
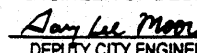
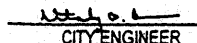
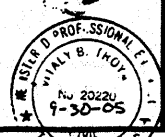


## INTRODUCTION

- A. THIS STANDARD PLAN MODIFIES THE PROVISIONS IN THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (SSPWC), 2000 EDITION.
- B. THIS STANDARD PLAN SHALL TAKE PRECEDENCE IN THE EVENT OF A CONFLICT WITH ANY OTHER STANDARD PLANS.
- C. REFERENCES TO AN S-SERIES STANDARD PLAN (E.G., S-251) SHALL MEAN THE LATEST ADOPTED VERSION OF THAT STANDARD PLAN (E.G., S-251-1) UNLESS OTHERWISE SPECIFIED ON THE PLANS OR THE SPECIAL PROVISIONS.

BUREAU OF ENGINEERING		DEPARTMENT OF PUBLIC WORKS		CITY OF LOS ANGELES									
<b>NOTICE TO CONTRACTORS - COMPREHENSIVE</b>				<b>STANDARD PLAN S-610-27</b>									
SUBMITTED <u>10-2</u> 2001  ENGINEER OF DESIGN  DEPUTY CITY ENGINEER APPROVED <u>10/11</u> 2001  CITY ENGINEER		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NO.</th> <th style="width: 80%;">REVISIONS DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">26</td> <td>Changed, added or deleted portions of sections 1-1, 1-3.2, 2-5.2, 2-5.3.1, 2-5.3.2, 2-8, 2-9.1, 2-9.3, 2-10, 3-1, 3-2.2.1, 3-2.2.4, 5-2, 7-8.6, 7-8.7, 7-8.7, 7-10.1, 7-10.2, 200-2.5, 200-2.6.1, 203-1.3, 203-5, 203-6.1, 203-6.8, 203-7.2.5, 200-7.3.2, 203-7.8, 210-6, 214-6, 300-1.3, 302-4.3.1, 302-5.1, 302-5.9.1, 303-5.4.1, 306-1.1.1, 306-6, 307-1.5.</td> </tr> </tbody> </table>		NO.	REVISIONS DESCRIPTION	26	Changed, added or deleted portions of sections 1-1, 1-3.2, 2-5.2, 2-5.3.1, 2-5.3.2, 2-8, 2-9.1, 2-9.3, 2-10, 3-1, 3-2.2.1, 3-2.2.4, 5-2, 7-8.6, 7-8.7, 7-8.7, 7-10.1, 7-10.2, 200-2.5, 200-2.6.1, 203-1.3, 203-5, 203-6.1, 203-6.8, 203-7.2.5, 200-7.3.2, 203-7.8, 210-6, 214-6, 300-1.3, 302-4.3.1, 302-5.1, 302-5.9.1, 303-5.4.1, 306-1.1.1, 306-6, 307-1.5.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">SUPERSEDES</th> <th style="width: 50%;">REFERENCES</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">B-4238 B-4304 B-4384 B-4425</td> <td></td> </tr> </tbody> </table>		SUPERSEDES	REFERENCES	B-4238 B-4304 B-4384 B-4425	
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**PART 1**  
**GENERAL PROVISIONS**  
**SECTION 1 - TERMS, DEFINITIONS,**  
**ABBREVIATIONS, UNITS OF MEASURE AND SYMBOLS**

**1-1 TERMS** *Modify by the addition of the following terms:*

**Allowance** - An amount established in the Bid by the Agency to reimburse the Contractor for its actual expenses for an item of work.

**Board** - Board of Public Works, City of Los Angeles.

**Chief Engineer** - City Engineer of the City of Los Angeles or Director of the Bureau of Street Lighting for Street Lighting Projects.

**Claim** - A separate written demand by the Contractor for:

- (A) A time extension.
- (B) Payment of money or damages arising from Work done by or for the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled. . . .
- (C) An amount, the payment of which is disputed by the Agency.

**Inspector** - Inspector of Public Works, City of Los Angeles.

**Private Developer** - A private party developing a parcel of land with private funds.

**Permittee** - The Private Developer, his or her agent and/or the Contractor that obtains the permits that are required to do the Work.

**Quality Assurance** - Those standards and procedures exercised by the Agency, Inspector and the Engineer to ensure that the Contractor constructs the Work in accordance with the Contract Documents.

**Quality Control** - Those standards, systems, processes, procedures and activities exercised by the Contractor, Subcontractors and Suppliers to ensure that the Work is constructed in accordance with the Contract Documents.

**1-3. ABBREVIATIONS**

**1-3.2 Common Usage** *Modify by the addition of the following abbreviations:*

<u>Abbreviation</u>	<u>Word or Words</u>
ABUT .....	Abutment
ADA .....	Americans with Disabilities Act

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	AGB	Alley grating basin
I	AL	Allowance
I	ARHM	Asphalt-rubber hot-mix
	AQMD	Air Quality Management District
	ATSAC	Automated Traffic Surveillance and Control System
I	BAGR	Bridge approach guard railing
	BB	Beginning of Bridge
I	BMP	Best Management Practice
	BPW	Board of Public Works
	BSJ	Bell and spigot joint
	BSL	Bureau of Street Lighting
	CGB	Curbside grating basin
	CIDH	Cast-in-drilled-hole
	CLSM	Controlled Low Strength Material
I	CQC	Contractor Quality Control
	DBE	Disadvantaged Business Enterprise
	DMBB	Double metal beam barrier
	DWPPS	Los Angeles Department of Water & Power, Power System
	DWPWS	Los Angeles Department of Water & Power, Water System
	EB	End of bridge
	FTA	Fully traffic actuated
	GC	Grade change
I	GR	Grade or Guard railing
	GTE	General Telephone Company
	HS	High strength
	IPW	Inspector of Public Works
	LADGS	Los Angeles Department of General Services
	LADOT	Los Angeles Department of Transportation
	LACDPW	Los Angeles County Department of Public Works
I	LAMC	Los Angeles Municipal Code
	MA	Mast Arm
	MB	Metal beam
	MBB	Metal beam barrier
	MBGR	Metal beam guard railing
	MBE	Minority Business Enterprise
	MED	Median
	MSM	Mandatory subcontracting minimum
	MTA	Metropolitan Transportation Authority (of L.A. County)
	MTH	Month
	MTL	Material
	MWD	Metropolitan Water District
I	NPDES	National Pollutant Discharge Elimination System
	OH	Overhead
	OSA	Office of the State Architect
	OBE	Other Business Enterprise
	PACBELL	Pacific Bell (Pacific Telesis Group)
I	QA	Quality Assurance

- I QC ..... Quality Control
- RCC ..... Rail Construction Corporation
- SCAQMD ..... South Coast Air Quality Management District
- SCG ..... Southern California Gas Company
- SCHED ..... Schedule
- SCRRA ..... Southern California Regional Rail Authority
- SOCB ..... Side opening catch basin
- SRJ ..... Steel ring joint (for RCP)
- I SWMP ..... Storm Water Management Plan
- I SWPPP ..... Storm Water Pollution Prevention Plan
- SWRCB ..... State Water Resources Control Board
- TCP ..... Traffic control plan
- I TF ..... Top of footing
- TH ..... Test hole
- I VECP ..... Value Engineering Change Proposal
- VT ..... Variable thickness
- WBE ..... Women Business Enterprise
- WUT ..... Western Union Telegraph

## SECTION 2 - SCOPE AND CONTROL OF THE WORK

### 2-3 SUBCONTRACTS.

- I **2-3.2 Additional Responsibility.** *Replace the first sentence of the second paragraph with the following:*

On contracts within the public R/W, the Contractor shall perform, with its own organization, contract work amounting to at least 50 percent of the Contract Price. On contracts outside the public R/W, such as municipal buildings, fire stations, parks, etc., the Contractor shall perform work amounting to at least 30 percent of the Contract Price. Any designated specialty items may be performed by subcontract. The amount of any such specialty items so performed may be deducted from the Contract Price before computing the amount of work required to be performed by the Contractor with its own forces.

- 2-4 CONTRACT BONDS.** *Replace the first paragraph with the following:*

Before the execution of the Contract by the Agency, the Bidder shall file with the Agency surety bonds satisfactory to the Board in the amounts and for purposes noted below. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California. Bonds shall be issued by a surety who is listed in the latest revision of U.S. Department of Treasury Circular 570, who is authorized to issue bonds in California, whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract. The Bidder shall pay all bond premiums, costs, and incidentals. On contracts estimated by the City Engineer to be less than \$2 million, bonds may be obtained from an insurance company with a certificate of authority from the California Insurance Commissioner authorizing the company to write surety insurance within the

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## 2-5 PLANS AND SPECIFICATIONS.

### 2-5.1 General. *Add the following to the end of second paragraph:*

All work on traffic signal installations shall conform to the latest edition including amendments of the LADOT "Special Provisions and standard drawings for the installation and modification of traffic signals." All work on parking meter posts shall conform to the Department of Transportation Specifications No. 82-012-02, "Detail of Parking Meter Posts" available at 221 N. Figueroa Street, Suite 500, Los Angeles, CA 90012.

### 2-5.1 General. *Add this paragraph after the last paragraph of this section:*

Unless otherwise indicated, the applicable Standard Plans designated in the Contract Documents are the City of Los Angeles, Bureau of Engineering Standard Plans. These standard plans are available from BNI Building News, Inc. 10801 National Boulevard, Suite 100, Los Angeles, California 90064, or 1612 South Clementine Street, Anaheim, California 92802. The toll-free telephone number to order these standard plans is (800) 873-6397. These standard plans are also available from The Builders Book, Inc. Bookstore, 8001 Canoga Avenue, Canoga Park California 91304, telephone number (818) 887-7828. These standard plans can also found on the Internet at [www.cityofla.org/boe/index.htm](http://www.cityofla.org/boe/index.htm).

**2-5.2 Precedence of Contract Documents.** *Replace the entire subsection after the first sentence with the following:* Unless otherwise specified the precedence shall be:

1. Federal and State requirements.
2. Permits from other agencies as may be required by law.
3. Addenda, Change Orders, Supplemental Agreements, and approved revisions to plans and specifications.
4. Special Provisions.
5. Standard Plan S-610, Notice to Contractors - Comprehensive
6. Plans (detailed plans shall have precedence over general plans).
7. Standard Plans.
8. Standard Specifications for Public Works Construction.
9. Reference Specifications
10. Reference Drawings

In case of a conflict within the Specifications, the provision with the more restrictive interpretation shall govern. The Contractor may request clarification of the governing provision. The Contractor shall not be entitled to extra compensation due to possible conflicts between the provisions of these documents.

### 2-5.3 Shop Drawings and Submittal.

#### 2-5.3.1 General. *Replace the third paragraph with the following:*

The contractor shall allow a minimum of 30 working days for each review of shop drawings and submittals for temporary bridges. For all other shop drawings and submittals, the Contractor shall allow a minimum of 20 working days for each review, unless otherwise mutually agreed to by

the Contractor and the Engineer. Review periods are not cumulative. These time frames begin anew upon each submission of shop drawing and/or submittal whether it is the initial submission or a resubmission after review by the Engineer. Each set of shop drawings or submittals shall be accompanied by a letter of transmittal describing exactly what is being transmitted.

On B-permit projects, the private engineer is responsible for obtaining the review and approval of shop and other supplemental drawings from the Bureau of Engineering except those concerning street lighting facilities that are to be approved by the Bureau of Street Lighting. The private engineer shall transmit four copies of the approved drawings directly to the Bureau of Contract Administration, Suite 700, 221 North Figueroa Street, Los Angeles, California 90012.

**2-5.3.2 Shop Drawings.** *Add the following to Table 2-5.3.2(A)*

Layout diagrams or schedules are required for pipelines using pipe materials conforming to the indicated subsections. The diagrams or schedules will be submitted for reference only, but curve layouts are required for approval.

**TABLE 2-5.3.2(A)**

Item	Section Number	Title	Subject
18	306-1.2.2	Pipe laying	Pipeline shop drawings.
19	5-2	Protection	Utility supports
20	7-10.3.7	Temporary Bridges	Temporary Bridge Construction
21		Dewatering	

The diagrams shall be of a size and scale to show clearly all necessary details. Pipeline layouts, for reference only, may be submitted in tabulated form in increasing order of alignment stationing.

Pipeline layout diagrams or schedules required for approval shall be submitted in accordance with 2-5.3.

**2-8 RIGHT-OF-WAY.** *Add to end of paragraph*

The Contractor shall not allow his employees to use private property for any reason or to use water or electricity from such property without written permission from the owner. The Contractor shall provide evidence of such permission in writing to the Engineer before entering upon such lands. In performing any work or doing any activity on lands outside the public rights of way, the Contractor shall comply with all applicable Federal, state and local laws, ordinances, codes and regulations. The Contractor shall indemnify and hold the City harmless from all claims or suits for damages occasioned by such work or activity, whether done according to this subsection and with permission from the owner or in violation of this subsection without permission from the owner.

**2-8 RIGHT-OF-WAY.** *Add the following paragraph (applicable to asphalt emulsion-aggregate slurry projects only):*

The Contractor shall be fully responsible for locating and obtaining permission to use stockpile sites. Aggregate may be stockpiled on City streets if the Contractor has received a permit from the Street Use Division of the Bureau of Street Services. Where the Contractor may find it advantageous to use private property, it shall arrange for its use and assume full

responsibility for its rental, preparation, maintenance and cleanup in a manner satisfactory to the City and the property owner.

## 2-9 SURVEYING

**2-9.1 Permanent Survey Markers.** *Delete the second sentence of the first paragraph:*

**2-9.3 Private Engineers.** *Replace the section title and the paragraph with the following:*

**Private Engineers or Land Surveyors.** For permit Work the Contractor shall be responsible for the preservation of survey monuments and bench marks except as noted herein. At least two (2) working days before the start of construction, the Contractor shall submit acceptable preconstruction survey tie notes to the City Engineer's office. These survey tie notes will be for all survey markers or bench marks that may be lost or disturbed due to construction. Lost or disturbed monuments shall be replaced at the Contractor's expense by a California licensed land surveyor or registered civil engineer authorized to practice land surveying. Post construction survey monument ties acceptable to the City Engineer shall be submitted to the City Engineer's office before the completion of the Work (see "Monuments," Section 8771, Land Surveyors Act, Division 3, Chapter 15 of the Business and Professions Code).

The City Engineer will reestablish the monuments and bench marks where the City Engineer provides survey services, providing the Contractor protects the preconstruction reference points. In the case, where monuments are to be removed or damaged by the Contractor, the Contractor shall notify the City Engineer in writing seven (7) days before starting the Work. Surveying shall be performed by a California licensed land surveyor or registered civil engineer authorized to practice land surveying. Surveying work shall conform to the quality and practice required by the City Engineer.

Unless otherwise specified, stakes will be set and stationed for curbs, headers, SS, SD, structures, and rough grade and corresponding cut-or fill-to-FG (or FL) indicated on a grade sheet.

**2-10 AUTHORITY OF BOARD AND ENGINEER.** *Add the following to the end of the last paragraph:*

The Inspector is authorized to enforce compliance with the Plans and Specifications, and to determine the acceptability of materials and quality of work. The Inspector is also authorized to administer requirements with respect to subcontracts, and to approve accredited testing laboratories and to prepare and process progress payment estimates. In case of a dispute between the Contractor and the Inspector, the latter is authorized to reject materials or suspend the Work until any questions at issue can be referred to and decided by the BPW or, in engineering matters, by the City Engineer.

The IPW is authorized to sample and test all materials to be incorporated into the Work. The IPW may delegate the authority to sample materials for construction and request the LADGS, Standards Laboratory, or an approved private testing laboratory to perform any necessary tests.

The Director of the Bureau of Street Lighting is authorized to perform the functions of the City Engineer in street lighting matters.

**2-11 INSPECTION.** *Add the following as the last paragraph:*

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All work and materials are subject to inspection. Call (213) 580-5080 for projects in the metropolitan area, and (818) 756-8335 for projects in the San Fernando Valley. All calls for inspection shall be made before noon of the working day before inspection is required.

When shop fabrication is required, call (213) 580-1390, 24 hours in advance. However, when the fabrication site is more than 80.46 Kilometers (50 miles) from City of Los Angeles boundaries, call two (2) weeks in advance.

## SECTION 3 - CHANGES IN WORK

**3-1 CHANGES INITIATED BY THE CONTRACTOR.** *Add the following Subsection:*

### **3-1.3 Value Engineering Change Proposal (VECP).**

The Contractor may submit to the Engineer, in writing, proposals for modifying the Plans, Specifications or other requirements of the Contract. This submittal shall be for the sole purpose of reducing the total cost of construction without impairing the functionality of the design. The VECP shall not impair, in any manner, the essential functions or characteristics of the Project. The essential functions or characteristics that are not to be impaired include, but are not limited to, service life, economy of operation, ease of maintenance, desired appearance, or design and safety standards. The VECP shall contain the following information:

1. A description of both the existing Contract requirements for performing the work and the proposed changes.
  2. An itemization of the Contract requirements that must be changed if the VECP is adopted.
  3. A detailed estimate of the cost of performing the work under the existing Contract and under the proposed change. The estimates of cost shall be determined in the same manner as if the work were to be paid for as basis per 3-3, Extra Work.
  4. A statement of the time within which the Engineer must make a decision thereon.
  5. The Contract items of work affected by the proposed changes, including any quantity variation attributable thereto.
  6. A list of each subcontractor's affected by the proposed changes. The list shall include:
    - Subcontractor's name,
    - work address,
    - contact person,
    - telephone number,
    - description and value of each subcontractor's work,
    - subcontracting participation percentage level.
- If applicable the list shall also include:
- minority business enterprise (MBE) percentage,
  - women business enterprise (WBE) percentage
  - other business enterprise (OBE) percentage

The MBE, WBE and/or OBE percentages shall be for performing the Work under the existing Contract and the proposed VECP for any subcontractor who will perform Work or render services in an amount in excess of \$10,000 or ½ of 1 percent of the existing Contract and proposed VECP whichever is greater.

The provisions of this Subsection shall not be construed to require the Engineer to consider



any VECP that may be submitted hereunder. Proposed changes in basic design of a bridge, pavement type or substitution of a type of pipe will not be considered as an acceptable VECP. The City will not be liable to the Contractor for failure to accept or act upon any VECP. If a VECP is similar to a change in the Plans or Specifications under consideration by the City for the Project at the time the VECP is submitted, or if the VECP is based upon or similar to the Standard Specifications, or Standard Plans adopted by the various departments of the City after the advertisement of the Contract, the Engineer will not accept the VECP. The City reserves the right to make the changes without compensation to the Contractor under provisions of this subsection.

The Contractor shall continue to perform the Work in accordance with the requirements of the Contract until an executed Change Order, incorporating the VECP, has been issued. If an executed Change Order has not been issued by the date upon which the Contractor's VECP specifies that a decision thereon should be made, or such other date as the Contractor may subsequently have specified in writing, the VECP shall be deemed rejected.

The Engineer shall be the sole judge of the acceptability of a VECP and of the estimated net savings in construction costs from adoption of all or part of the VECP. In determining the estimated net savings, the right is reserved to disregard the Contract Unit Prices. The City shall disregard the Contract Unit Prices if, in the judgement of the Engineer, they do not represent a fair measure of the value of work to be performed or to be deleted.

The City reserves the right where it deems such action appropriate, to require the Contractor to share in the City's costs of investigating a VECP submitted by the Contractor as a condition of considering the VECP. Where this condition is imposed, the Contractor shall indicate acceptance thereof in writing. The written acceptance shall constitute full authority for the City to deduct amounts payable to the City from any monies due or that may become due to the Contractor under the Contract.

If the City accepts the Contractor's VECP in whole or in part, the acceptance will be by a Change Order, which will specifically state that it is executed pursuant to this subsection. The Change Order shall incorporate the changes in the Plans and the Specifications that are necessary to permit the VECP or that part of it as has been accepted to be put into effect. The Change Order shall also include any conditions upon which the City based its approval if the approval of the City is conditional. The Change Order shall set forth the estimated net savings in construction costs attributable to the VECP effectuated by the Change Order. The Change Order shall further provide that the Contractor be paid 50 percent of the estimated net savings amount. The Contractor's cost of preparing the VECP and the City's costs of investigating the VECP, including any portion thereof paid by the Contractor, shall be excluded from consideration in determining the estimated net savings in construction costs.

Acceptance of the VECP and performance of the Work thereunder shall not extend the time of completion of the Contract unless specifically provided for in the Change Order authorizing the use of the VECP.

The amount specified to be paid to the Contractor in the Change Order that effectuates a VECP shall constitute full compensation to the Contractor for the VECP and the performance of the work thereof pursuant to the Change Order.

The City expressly reserves the right to adopt a VECP for general use on contracts administered by the City when it determines that the VECP is suitable for application to other contracts. When an accepted VECP is adopted for general use, only the Contractor who first submitted that VECP will be eligible for compensation pursuant to this subsection, and then only

as to those contracts awarded to that Contractor before submission of the accepted VECP and as to which the VECP is also submitted and accepted. VECPs, either identical or similar to previously submitted VECPs, will be eligible for consideration and compensation under the provisions of this subsection if the identical or similar previously submitted VECPs were not adopted for general application to other contracts administered by the City. Subject to the provisions contained herein, the City or any other public agency shall have the right to use all or any part of any submitted VECP without obligation or compensation of any kind to the Contractor.

This Subsection shall apply only to contracts awarded by the Board.

### 3-2 CHANGES INITIATED BY THE AGENCY.

#### 3-2.2 Payment.

##### 3-2.2.3 Agreed Prices. *Add the following after the first sentence:*

Agreed prices shall be negotiated before commencement of the Work.

##### 3-2.2.4 Allowances. *Add this Subsection:*

The Board may establish an allowance in the Bid for items in which there is insufficient information for the Contractor to submit a Contract Unit Price or for which a basis of bidding may not be established for any reason.

The Contractor shall submit to the Inspector an estimate for each element to be furnished or provided under the Bid item for which an allowance has been established. Upon approval of the estimate, the City will reimburse the Contractor for its actual costs. Reimbursement will be made upon presentation to the Inspector of original, itemized invoices. The Contractor shall not be entitled to full payment for the amount of the allowance should it not be utilized. Should the Contractor's actual costs exceed the allowance, the difference will be considered as extra work per 3-3.

### 3-3 EXTRA WORK.

#### 3-3.2 Payment.

##### 3-3.2.3 Markup. *Replace subparagraphs (a) and (b) with the following:*

(a) **Work by Contractor.** The following percentages shall be added to the Contractor's costs and shall constitute the markup for all overhead and profits:

- 1) Labor . . . . . 20
- 2) Materials . . . . . 15
- 3) Equipment Rental . . . . . 15
- 4) Other Items and Expenditures . . . . . 15

To the sum of the costs and markups provided for in this subsection, 1 percent shall be added as compensation for bonding.

(b) **Work by Subcontractor.** When all or any part of the extra work is performed by a Subcontractor, of any tier, the markup established in 3-3.2.3(a) shall be applied to the Subcontractor's actual cost of such work. A markup of 10 percent on the first \$5,000 of the subcontracted portion of the extra work and a markup of 5 percent on work added in excess of \$5,000 of the subcontracted portion of the extra work may be added

by the Contractor.

The markups specified in Parts (a) and (b) above shall be considered as including, but not limited to, the Contractor's labor costs for personnel not working directly on the "extra work," including the cost of any tools, equipment, and supervisors/superintendence that they may use. Such costs shall not be reported as labor or equipment costs elsewhere except when they are actually used to physically construct the "extra work." Labor costs shall then be reported for the labor classification corresponding to the type and nature of "extra work" done.

**3-3.3 Daily Reports by Contractor.** *Add the following as the first sentence:*

The Contractor shall notify the Inspector at the beginning of each day when extra-work is in progress.

## SECTION 4 - CONTROL OF MATERIALS

### 4-1 MATERIALS AND WORKMANSHIP.

**4-1.1 General.** *Add the following after the last paragraph:*

No product containing asbestos shall be used for any purpose. When removing asbestos products, the Contractor shall comply with the requirements of Title 8, CCR, General Industry Safety Orders and Construction Safety Orders.

**4-1.3 Inspection Requirements.**

**4-1.3.1 General.** *Add in the first sentence of the first paragraph, between the words structural concrete and metal fabrication, the following: "precast concrete street lighting poles, PCC pullboxes,".*

**4-1.3.1 General.**

*Delete the following from the third sentence of the second paragraph: "normally only for the performance testing."*

**4-1.3.2 Inspection of Materials Not Locally Produced.** *Replace the fourth sentence in the first paragraph with the following:*

The approved inspector or laboratory shall forward all required reports to the Inspector.

**4-1.3.2 Inspection of Materials Not Locally Produced.** *Add the following at the end of the first paragraph:*

The City retains the right to perform inspection or testing at such remote sites with City personnel. If the City exercises this right, the contractor will be required to pay for all costs associated with this inspection and testing, except the Inspectors' wages.

**4-1.3.3 Inspection by the Agency.** *Replace with the following:*

When the Contractor intends to purchase materials, fabricated products, or manufactured equipment from sources located within 80 km (50 miles) of the geographical limits of the City, the Contractor shall notify the IPW at least 24 hours before the scheduled date of tests at all stages of manufacture specified herein. For private contracts, all cost of inspection at the source, including salaries and mileage costs, shall be paid by the permittee.

*Add the following as a new subsection:*

**4-1.3.4 Third Party Inspection Requirements.**

The Contractor shall obtain written approval from the IPW for proposed use of third party inspectors or testing agency before the start of production of materials or fabrication of any product or equipment. The Contractor's request for approval of a proposed third party inspection agency and/or test laboratory shall be submitted in writing to the IPW. The IPW will respond to the Contractor's request in writing.

An approved testing laboratory/inspection agency shall not sublet or assign its work to any other agency and shall take direction from, and be responsible to the IPW. The work and activities of the third party testing laboratory/inspection agency shall be subject to examination and inspection by the IPW to ensure strict compliance with the Specifications.

**4-1.4 Test of Materials.** *Add the following after the first paragraph:*

All frame and covers used with or installed on vaults, MH, pullboxes, tree wells, and similar structures in sidewalks, parkways, driveways, streets, and alleys in the public way shall be designed, manufactured and tested according to the latest version of Standard Plan S-601.

**4-1.4 Test of Materials.** *Add the following paragraph:*

The City's materials testing laboratory is located at 2319 Dorris Place, Los Angeles, California 90031, telephone (213) 485-2242.

## SECTION 5 - UTILITIES

**5-1 LOCATION.** *Add the following after the last paragraph:*

The Contractor, in conformance with Los Angeles City Ordinance No. 150,478 shall pothole existing subsurface installations carrying unstable substances to determine their locations and elevations before commencing excavation.

Before commencing any excavation, the Contractor shall obtain an Underground Service Alert (USA) inquiry I.D. number by calling 1-800-227-2600. Two working days shall be allowed after the I.D. number is obtained and before the excavation work is started so that utility owners can be notified. If the utility owner is the City of Los Angeles, a confirmation number indicating the City has been notified shall be obtained by USA and/or the Contractor from the appropriate City Department. The I.D. number together with the date acquired shall be reported to the Bureau of Contract Administration when calling for inspection: Metro, (213) 580-5080; Valley, (818) 756-8335. I.D. numbers will not be given more than 10 days before starting excavation work.

**5 - 2 PROTECTION,** *Add following the after the fifth paragraph:*

Whenever necessary, trenches and excavations shall be bridged with steel plates to permit an unobstructed flow of traffic and pedestrians. The Contractor shall provide and install the steel plates. The steel plates shall:

1. Be secured against movement by using holding devices such as adjustable cleats, angles, bolts, tack welding or other devices.
2. Be installed to operate with a minimum of noise.
3. Extend 0.3m (1ft.) minimum beyond the edges of the trench.
4. Be 2.54cm (1 in.) thick for trenches up to 0.91m (3ft.) span and 3.18cm

- (1 1/4 in.) for a 1.22 m (4ft.) span. For spans greater than 1.22m (4ft.) a structural design by a registered civil engineer shall be submitted and approved in accordance with 2-5.3.
5. Have a surface that is roughened, taped, coated or otherwise modified to provide a non-skid surface. The surface shall have the coefficient of friction required in Standard Plan S-601.

The trench shall be adequately shored, if necessary, to support the steel plates, traffic and pedestrians. Temporary paving materials shall be used to feather the edges of the steel plates to minimize wheel impacts. The temporary paving material shall be placed with 10.16cm (4in) run for each 0.91cm (1in.) thickness of steel plate.

Advanced traffic warning signs are required when steel plates are used in the traveled way. The signs shall be type "P" as shown on page 28 of the 2001 edition of the "WATCH." They shall be placed in conformance with Chart A on page 49 of the 2001 edition of the "WATCH."

**5 - 5 DELAYS.** *Add the following at the end of the last paragraph:*

Payment to the Contractor for actual loss due to a protracted utility delay shall be calculated based on wage increases, price increases of material and equipment, additional insurance costs and actual direct costs of maintaining the Work site incurred because of the utility delay.

## **SECTION 6 - PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK**

**6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK.** *Replace the first sentence with the following:*

After notification of the award of the contract and before the start of any work, the Contractor shall submit its proposed construction schedule to the Engineer and Inspector of Public Works. The construction schedule and any changes to it are subject to approval by the Engineer and the Inspector of Public Works.

**6-6.1 General** *Delete the first sentence of the second paragraph and substitute the following:*

No extension of time will be granted for a delay caused by the inability to obtain materials unless the Contractor obtains from the supplier and furnishes to the Engineer documentary proof that such materials could not be obtained due to war, government regulations, labor disputes, strikes, fires, floods, adverse weather necessitating the cessation of work, or other similar action of the elements.

**6-8 COMPLETION, ACCEPTANCE, AND GUARANTEE.** *Add the following after last paragraph:*

Upon request of the Contractor to the IPW for final inspection – Metro: (213) 580-1394, East Valley: (818) 756-9199, or West Valley: (818) 756-9990 – and upon determination that the Work has been completed in accordance with the Plans and Specifications as provided herein, including cleanup, as provided in 7-8.1, a "Statement of Completion" will be issued to the Contractor.

On Cash Contracts, the improvements shall be placed in service upon issuance of the "Statement of Completion," unless otherwise provided in the statement. The Contractor will then

be relieved of its contractual liability for subsequent injury or damage to persons, property, or the Work, and relieved of the duty to maintain and protect the Work. However, in no event shall the Contractor be relieved of its obligation to have performed the Work completely and in strict accordance with the Plans and Specifications.

On Assessment Act Contracts, the Contractor shall maintain and protect the Work and remain fully liable for injury or damage to persons, property, or the Work until confirmation of the assessment by the City Council, unless the Contractor has submitted to the City its written consent authorizing the City to use the improvement before such confirmation of assessment. Upon receipt of such consent and issuance of the "Statement of Completion," the improvement shall be placed in service. The Contractor will be relieved of the duty to maintain and protect the Work and of its contractual liability for subsequent injury or damage to persons, property, or the Work provided, however, that in no event shall the Contractor be relieved of its obligation to have performed the Work completely and in strict accordance with the Plans and Specifications.

On Class B permits, the permittee, Contractor or its Surety will be held responsible for maintaining and protecting the Work until issuance of a "Certificate of Acceptance" by the City Engineer, as provided in section 62.113 of the Municipal Code, except that after issuance of the "Statement of Completion" or "Statement of Partial Completion" and the completed improvements in dedicated areas are placed in service, the permittee will be relieved of the duty to maintain and protect such completed improvements resulting from public use, action of the elements, or other cause not due to the permittee's own operations or negligence. Any dangerous or hazardous condition created by a permittee or its Contractor as found and determined by the IPW, shall immediately be corrected upon demand by the City. Upon failure to correct as required, the City may make the correction without further notice to the permittee-Contractor or its Surety, and all costs incurred shall be paid by the permittee-Contractor or its Surety.

## SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

### 7-3 LIABILITY INSURANCE. *Add as the last paragraph:*

The Contractor shall obtain and maintain an additional insurance coverage for Pollution Liability with limits and requirements set forth in the General Instruction and Information for Bidders, Part IV of the Proposal. The limits and requirements for Pollution Liability shall be in an amount sufficient to cover potential losses from an incident. All costs associated with this additional insurance, shall be included in the prices bid for other related bid items. However, Contractors will be required to submit, with their bid, a cost breakdown for the items required to comply with the "Sewage Spill Prevention and Response Requirements" in 7-8.4.

### 7-7 COOPERATION AND COLLATERAL WORK. *Add the following at the end of second paragraph:*

Paving of roadway areas shall be withheld until planned utility changes or installations have been made under City permits and until verifications of completion of all such changes or installations have been received by the Bureau of Contract Administration. The Contractor is responsible for assuring that the utility companies submit the verifications.

Underground final inspection and acceptance of SS and SD installations shall precede paving operations.

The Contractor is required to notify affected City offices of work to be done as specified in the following Table 7-7(A):

**TABLE 7-7(A)**

Item	Office of LADOT to be notified	Cost to be borne by	Required Notice (working days)
Work on signal - controlled intersection	Traffic Signal Inspector: Central Area: (213) 485-1071 Western Area: (213) 485-6834 Valley Area: (818) 756-7852 ATSAC Project Engineer: (213) 485-2815	Contractor	3
Traffic Signal and Interconnect damage	Signal Superintendent Daytime: (213) 847-2991 After Hours: (213) 485-2046		Immediate
Parking meter damage	Parking Meter Supervisor: (213) 485-2273		
Parking meter removal and replacement	Parking Meter Planning Supervisor: (213) 847- 4230	City**	5
Material and labor by LADOT	Scheduling: Sign/Striping: (213) 485-2185 Signal: (213) 485-2194		
Traffic Sign removal, relocation and replacement	Appropriate District Transportation Engineer*:		
Parking restrictions, changes relating to temporary striping	Central District: (213) 485-2284		10
Final traffic striping and pavement marking	East Valley District: (818)756-8441		5
Temporary Traffic Control Plan	Hollywood District: (213) 485-4282		30
Temporary striping installation mark out	West Valley District:(818)756-8784		2
Offsite Detour Signs	Western District: (310) 575-8138		5
Placement of temporary "No Parking" signs	Southern District: (310) 548-7651		4
	Special Traffic Control Section: (213) 485-2298		Contractor

\* For B-Permit projects, notify citywide investigations, (213)580-5211.

\*\* On B-Permit projects, the costs shall be charged to the permittee as required by Section 62.110 of the Los Angeles Municipal Code.

## 7-8 PROJECT SITE MAINTENANCE

**7-8.1 Cleanup and Dust Control.** *Add the following two paragraphs after the first paragraph.*

The road(s) on the construction site shall be paved immediately after the installation of planned utilities and the construction and underground/final inspection of SS, SD, curbs, and gutters. The exit road on the construction site shall be paved first.

Vehicles exiting the construction site shall have all dirt clods and mud removed from their tires.

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**7-8.4 Sanitation.** *Add the following after the second paragraph:*

The Contractor is responsible for any sewage spills, in accordance with the "Sewage Spill Prevention and Response" requirements.

The Contractor is responsible for preventing and containing any sewage spillage. The Contractor is also responsible for the recovery and legal disposal of any spilled sewage, any fines, penalties, claims, and liability arising from negligently causing a sewage spillage. The Contractor is additionally responsible for the violation of any law, ordinance, code, order or regulation as a result of the spillage.

The Contractor shall exercise care not to damage existing public and private improvements, interrupt existing services and/or facility operations that may cause a sewage spill. Any reasonably anticipated utility and/or improvement damaged by the Contractor shall be immediately repaired at the Contractor's expense. If the construction operations damage an existing utility or damage or interrupt an existing service which causes a sewage spill, the Contractor shall immediately notify the City representatives. Before the start of construction, the Contractor shall request and obtain from the Engineer an emergency roster of designated City representatives with their respective phone numbers, pager numbers, and cellular phone numbers. The Contractor shall take all measures necessary to prevent further damage or service interruption to an impacted utility or service. The Contractor is responsible for any resulting sewage spill(s), as mentioned in the next paragraph.

Before the start of construction, the Contractor shall develop and submit to the Engineer, for review and approval, a written Spill Response Plan. The Spill Response Plan shall be developed to respond to any construction related sewage spills. This includes, but is not limited to:

1. Identifying all nearby waterways, channels, catch basins and entrances to underground existing storm drains.
2. Furnishing all necessary materials, supplies, tools, equipment, labor, and other services for spill containment and cleanup.
3. Arranging for an emergency response unit that will be immediately dispatched to the job site in the event of a sewage spill(s). The emergency response unit shall consist of emergency response equipment and personnel trained in its use.
4. Developing and including an emergency notification procedure. The procedure will include an emergency response roster with telephone numbers and arrangements for backup personnel and equipment, and an emergency notification roster of the designated City representatives.
5. Designating a primary and secondary representative and include their respective phone numbers, pager numbers, and cellular phone numbers. The Contractor representatives shall be accessible and available at all times to respond immediately to any construction related emergencies.

If a sewer bypass is called for in the Plans and/or, Specifications, or is needed to construct the project, the Contractor is responsible for continuously monitoring the flow levels downstream and upstream of the construction location. This will allow the Contractor to make the earliest possible determination of a system failure that may result in a sewage backup and spill. The Contractor shall include the means and methods of monitoring the flow in the Spill Response Plan.

In case of a sewage spill, the Contractor shall, without instructions from the City, act immediately to control the spill and take all appropriate steps to contain it in accordance with the Spill Response Plan. The Contractor shall immediately notify the City representatives of the spill



and all actions taken. The Contractor shall, within three working days from the occurrence of the spill, submit to the Engineer a written confirmation describing the following information related to the spill:

1. The location on a "Thomas Guide Map."
2. The nature and volume of the spill.
3. The date and time of the spill.
4. The duration of the spill.
5. The cause of the spill.
6. The type of remedial and/or clean up measures taken and the date and time of implementation.
7. The corrective and/or preventive action taken to eliminate the possibility of a recurrence.
8. The water body affected.
9. The results of any necessary monitoring.

Requests for additional compensation for the handling of the spill shall be submitted to the Engineer as a construction claim. The Contractor shall assure the validity, accuracy, and correctness of the claim under penalty of perjury. The Engineer may institute further corrective actions, as deemed necessary, to fully comply with existing law, ordinance, code, order, or regulation. The Contractor shall be responsible for all costs incurred for the corrective actions.

It shall be the Contractor's responsibility to assure that all field forces, including subcontractors, know and obey all safety and emergency procedures, including the Spill Response Plan, to be maintained and followed at the job site.

**7-8.6 Water Pollution Control.** *Add the following to the end of paragraph:*

"Water Pollution" shall mean an alteration of the quality of waters by fuels, oils, and other harmful materials. The alteration shall be to a degree that adversely affects such waters for beneficial uses, or facilities that serve such beneficial uses. "Beneficial Uses" shall include, but not necessarily be limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; esthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Water pollution control work shall consist of implementing good housekeeping pollution control measures to reduce the discharge of pollutants from construction sites to the maximum extent practicable.

For construction sites with less than 0.8 hectares (2 acres) of disturbed soil, the Contractor shall implement the following water pollution control measures:

1. Minimum Water Quality Protection Requirements
  - A. Eroded sediments and other pollutants must be retained on site and may not be transported from the site via sheet flow, swales, area drains, or natural drainage.
  - B. Stockpiles of earth and other construction-related materials must be protected from being transported from the site by water.
  - C. Fuels, oils, solvents, and other toxic substances originating from the Contractor's operations shall not be allowed to enter the ground water or be placed where they will enter a live stream, channel, drain, or other water conveyance facility. Spills may not be washed into the live streams, channels, drains, or other water conveyance facilities.

- D. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete wastes onsite until it can be appropriately disposed of or recycled.
  - E. Trash and construction-related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
  - F. Sediments and other materials may not be tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public ways. Accidental depositions must be swept up immediately and may not be washed down by rain or by any other means.
  - G. After the completion of the Work, the Work site shall be cleared of debris and restored to a condition equal to or better than that existing before construction.
2. Wet Weather Erosion Control Plan (WWECP)

Pursuant to Section 61.02 of the LAMC whenever it appears that the construction site will have grading during the rainy season (from October 15 to April 15), the Contractor shall submit a WWECP to the Engineer for approval within 30 days after execution of the contract or get approval 30 days prior to the beginning of the rainy season, whichever is longer.

Guidance on preparing the WWECP can be found in the Development Best Management Practices Handbook - Part A, Construction Activities adopted by the Board of Public Works, as authorized by Section 64.72 of the LAMC. This handbook can be obtained, at cost, at the public/permit counters of the Bureau of Engineering or on the Internet at [www.cityofla.org/bos/index.htm](http://www.cityofla.org/bos/index.htm).

When required, the Contractor shall obtain permits for erosion and water pollution control from the appropriate jurisdictional agency before the start of construction. The Contractor shall also conform to the following provisions with respect to water pollution control when work in live streams:

- 1. Where working areas encroach on live streams, barriers shall be constructed or other means provided to prevent muddying or polluting of such streams.
- 2. Removal of materials from beneath a flowing stream shall not be started until adequate means, such as a bypass channel around the removal operations, are provided to carry the stream free from mud or silt.
- 3. Should the Contractor's operations require transportation of materials across live streams, such operations shall be conducted without muddying the stream. Mechanized equipment shall not be operated in the stream channels of such live streams, except as may be necessary in the opinion of the Engineer. The Engineer will judge such work to be necessary only if construction cannot be done reasonably using other means or methods.
- 4. Fresh portland cement or fresh portland cement concrete shall not be allowed to enter the flowing water in streams, channels or drains.
- 5. Material derived from the Work shall not be deposited in a live stream channel.

The Contractor shall also prepare and implement a SWPPP and also implement Best Management Practices (BMP's) in addition to the other requirement of this subsection for any construction sites that meet any one of the following conditions:

- 1. Has between 0.8 hectare (2 acres) and 2 hectares (5 acres) of disturbed soil.
- 2. Has less than 2 hectares (5 acres) of disturbed soil and:
  - A. Is located in or adjacent to an environmentally sensitive area (ESA).

- B. Is located in a designated hillside area.
- C. A City Engineer's Estimate of \$500,000.00 or more.
- D. A contract completion time of 90 working days or 120 calendar days or longer.

A work site that is located in a designated hillside area and has less than 0.8 hectares (2 acres) of disturbed soil and is not in or adjacent to an ESA is exempted from the preparation of a SWPPP, if a grading permit is not required. Guidance on preparing the SWPPP can be found in the Development Best Management Practices Handbook - Part A, Construction Activities.

The SWPPP document for permit work shall include the following information:

1. The name, location, period of construction, and a brief description of the Work.
2. Contact information for the Contractor, including name, address, and telephone number.
3. Name, location, and description of any environmentally sensitive areas located on or adjoining the project.
4. A list of major construction materials, waste, and activities.
5. A list of BMP's to be used to control pollutant discharge from major construction materials, waste and activities.
6. A site plan (a copy of the plans may be used) indicating the location of the BMP's where appropriate.
7. A developer's certification statement that all required and selected BMP's will be effectively implemented.

The SWPPP document for publicly finaced work shall include the following information:

1. A list of BMP's to be used to control pollutant discharge from major construction materials, waste and activities.
2. A site plan (a copy of the plans may be used) indicating the location of the BMP's where appropriate.

When the Contractor is required to get any type of permit from the Department of Building and Safety, the Contractor shall submit the SWPPP document to the Department of Building and Safety for review and approval before obtaining the permit as prescribed in LAMC Section 91.106. If the Contractor does not need any type of permit from the Department of Building and Safety, the Contractor shall submit the SWPPP document to the Engineer for review and approval. At least one copy of the approved SWPPP shall be kept at the construction site and accessible to the City Inspectors.

For any project that involves grading or disturbing two (2) hectares (5 acres) or more of surface drainage area, the affected City department or permittee will apply for coverage under the General Construction Activity Stormwater Permit (GCASP) (NPDES No. CA000002) by filing a Notice of Intent (NOI) with the State Water Resources Control Board. The address is: State Water Resources Control Board, Division of Water Quality, Attention Storm Water Permit Unit, P.O. Box 1977, Sacramento, Ca. 95812-1977. The Contractor shall comply with all of the requirements of the GCASP, including the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Whenever the Contractor is required to get any type of permit from the Department of Building and Safety, the Contractor shall show a Waste Discharge Identification Number (WDID) to the Department of Building and Safety as proof of submittal of the NOI.

Such features as drainage gutters, slope protection blankets, and retention basins shall be constructed concurrently with other work and at the earliest practicable time. The Contractor shall exercise care to preserve vegetation beyond the limits of construction.

Should the Contractor violate any of the provisions of this subsection, or if pollution occurs

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in the work area for any reason, the Contractor shall immediately notify the Inspector. In addition the Contractor shall, within 10 days, submit written confirmation to the Engineer describing the incident and corrective actions taken. If pollution, for whatever reason, is detected by the Inspector/Engineer before notification by the Contractor, the required written confirmation shall also include any explanation of why the Contractor had not notified the Inspector.

The City may make any further corrective actions, as deemed necessary, for abatement of water pollution if the Contractor has violated any of the provisions of this subsection. The Contractor shall be responsible for all costs incurred for the corrective actions.

Failure to comply with the requirements of this Subsection may result in the suspension of work per 6-3.

Compliance with the requirements of this Subsection shall in no way relieve the Contractor from its responsibility to comply with other provisions of the Contract, in particular its responsibility for repair of damage and for preservation of property.

All costs for work required to comply with the requirements of this Subsection shall be considered as included in the prices bid for the various items of work.

**7-8.7 Drainage Control.** *Add the following as the first paragraph.*

The Contractor shall ensure that storm and drainage water does not pond due to the temporary blockage of existing drainage facilities. To this end, the Contractor shall provide temporary works that allow for the passage of storm and drainage water in a manner equivalent to the existing drainage system.

**7-8.8 Graffiti Control.** *Add the following new section:*

Throughout all phases of work, including suspension of work, and until final acceptance, the Contractor shall keep all equipment, field offices, storage facilities, and other facilities free of graffiti. Graffiti shall be painted over, masked, or cleaned off within 24 hours after notification by the Inspector.

**7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS.** *Add before the first paragraph:*

Except as may otherwise be provided in specific instances, nothing in the Contract or any permit shall be construed as vesting in the Contractor any property rights in any material, article, or structure existing at the time of award of the Contract within the area in which the Work is to be done, other than those items indicated for removal in the Plans or Specifications. The Contractor shall not have any property rights in any material or article subsequently furnished for the Work by the Contractor after having been accounted for on an approved estimate supporting the Contractor's demand for payment, as provided in Section 9-3. In the latter event, any such material, article, structure, or work shall become the property of the City after being accounted for.

*Revise the first sentence of the second paragraph as follows:*

The Contractor shall repair or replace all existing improvements within the right-of-way that are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, traffic striping, pavement markings, etc.) which are damaged or removed because of its operations.

*Add the following to the end of third paragraph:*

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When existing planted areas are regraded, or removed and replaced because of the Contractor's operations, the soil in these areas shall be adequately prepared and the area replanted-in-kind. All materials shall conform to SSPWC 212. Soil preparation, planting, and plant maintenance during the establishment period shall conform to SSPWC 308. Topsoil shall be Class C. If the Contractor does not reuse the existing topsoil in the planted areas, Class "B" topsoil shall be used. The soil for ground cover and lawn areas shall be conditioned by mixing 14 kg (30 lbs.) per 93 m<sup>2</sup> (1000 sq. ft) of commercial fertilizer, having an 8-8-4 analysis, with the top 150 mm (6 in) of soil. The Contractor shall provide mulch and it shall be Type 5 for ground cover and Type 1 or 2 for lawn areas.

For unplanted parkway areas, the upper 300 mm (12 in) of all topsoil shall be Class C.

*Add the following after the fourth paragraph:*

Fire and police call boxes and conduits shall be protected by the Contractor. Should said facilities be damaged by Contractor's operations, immediate notification shall be given to the Department of General Services (213) 485-7299. The City will replace damaged facilities at the Contractor's expense.

When provided for in a permit, Plans or Specifications, civil defense sirens shall be removed by the Contractor and delivered to the LADGS South District Yard at 3330 West 36th Street, Los Angeles, CA 90018, telephone (213) 485-5848. Contact DWPPS to have the electric power disconnected.

The Contractor shall protect and maintain all existing traffic warning, regulatory and guide signs, street name signs (both of the intersection and advance types), and signal equipment including those temporary control devices that may be required by the Work. The Contractor shall notify the appropriate District Transportation Engineer of any signs maintained by LADOT that will interfere with the completion of its work that cannot be properly protected. The Department will remove, relocate, or reinstall signs at the appropriate times at no expense to the Contractor except for Class B permits, in which case the permittee shall bear said expenses as required by section 62.110 of the Los Angeles Municipal Code. The Contractor shall bear the cost of installation by the Department of all signs in place at the start of construction that are necessary to the traffic operation of the completed improvements that are missing or damaged upon the completion of this work.

The Contractor shall protect and maintain all existing parking meters and post mounted signs. The Contractor shall notify Parking Meter Planning and Administration at (213) 847-4230 or the Parking Meter Maintenance Shop at (213) 485-2273 of any parking meters or post mounted signs maintained by LADOT that will interfere with the completion of its work that cannot be properly protected. The Department will remove or reinstall parking meters and post mounted signs at the appropriate times at no expense to the Contractor except for Class "B" permits, in which case the permittee shall bear said expenses as required by Section 62.110 of the Los Angeles Municipal Code. The Contractor shall bear the costs for any parking meters and post mounted signs that are missing or damaged upon the completion of the work.

The Contractor shall protect all existing traffic signal equipment and interconnect systems, including any existing Automated Traffic Surveillance and Control (ATSAC) system. This may be achieved by installing temporary facilities, which may include overhead spans of fiber optic, communication cables and signal conductors, and any equipment necessary to maintain such facilities. The temporary facilities are expressly to maintain normal traffic and interconnect operations. If temporary facilities are installed, the Contractor shall maintain the facilities until

the complete restoration of the permanent traffic signal and interconnect system. At no time during the construction period is the traffic signal system to be "off-line" from the ATSAC system. All Temporary and Restoration Traffic Signal plans shall be designed by a Civil Engineer registered in the State of California. These plans are also subject to approval by LADOT prior to their implementation.

The Contractor shall maintain all existing traffic signal loop detectors. In case of damage to existing loop detectors, the ATSAC Project Engineer shall be notified and repairs made within 24 hours. If the Contractor fails to make repairs, any work done by City forces to restore the operation of damaged loop detectors will be at the Contractor's expense.

## 7-10 PUBLIC CONVENIENCE AND SAFETY.

**7-10.1 Traffic and Access.** *Modify second paragraph by adding "residences" to the list of facilities to which access shall be provided, and by adding the following after the second paragraph:*

At least 10 days before the start of construction, the Contractor is required to notify, in writing, abutting property occupants of the proposed construction start date. A copy of said written notification shall be provided to the Inspector.

The Contractor shall notify the MTA Superintendent of Transportation Services office (213) 922-4646 at least 48 hours before any work that will affect normal bus operations.

*Modify third paragraph by adding the following:*

If required by the construction, the Contractor may close only one crosswalk at a time at intersections having four crosswalks. If construction requires closure of two or more crosswalks at an intersection, the Contractor shall obtain LADOT approval before implementation of the closure. LADOT approval is required prior to closing of any crosswalk at intersections having fewer than four crosswalks.

*Replace seventh paragraph with the following:*

Work shall be performed in only one-half of the roadway at one time. One-half shall be kept open and unobstructed until the opposite side is ready for use by traffic. The Contractor shall phase the removal operations so as to maintain the specified traffic lanes on the existing pavement until sufficient new pavement is constructed to accommodate the traffic requirements. If one-half of a street is only being improved, a smooth, even surface and a condition satisfactory for traffic shall be maintained on the other one-half.

Where no pavement exists in a roadway and traffic is to be maintained through the worksite, the Contractor shall conduct its operations in a manner to provide a smooth, even surface satisfactory for traffic, reasonably free of mud or dust.

**7-10.2 Storage of Equipment and Materials in Public Streets.** *Add the following paragraph (applicable to asphalt emulsion-aggregate slurry projects only):*

The Contractor shall be fully responsible for locating and obtaining permission to use stockpile sites. Aggregate may be stockpiled on City streets if the Contractor has received a permit from the Street Use Division of the Bureau of Street Services. Equipment and materials, stockpiled on City streets, shall not obstruct pedestrian or vehicular traffic, traffic lines of sight, or drainage paths.

The Contractor shall not park nor store equipment at a religious facility on their sabbath days.

**7-10.3 Street Closures, Detours, Barricades.** *Add the following after second paragraph:*

When specified on the Plans or permit, the Contractor shall install advance construction notice signs per Standard Plan S-791 not less than seven (7) days before the start of construction. The Contractor shall maintain the signs for the duration of construction, removing them only after final acceptance of the project by the Engineer. All costs incurred in furnishing, installing, maintaining and removing the signs shall be included in other items for which bids are entered.

*Add the following after the last paragraph:*

The Contractor shall comply with the requirements of the latest adopted edition of the "Work Area Traffic Control Handbook," obtainable from Building News, Inc., 10801 National Blvd., Los Angeles, CA 90064, (800) 873-6397 or the LADOT Worksite Traffic Control Plan (S-488.0) available from LADOT, 221 N. Figueroa Street, Suite 500, Los Angeles California 90012.

A street with local traffic that crosses a street in which work is being performed may be closed to traffic, providing the adjacent cross streets are kept open. The Contractor shall notify the Police and Fire Departments whenever such a street is to be closed to traffic, but the 48-hour requirement is waived. If the closing is to be one of long duration, a single notification by phone to each department the last working day before the closing will suffice. A similar notification shall then be made at the time the street is again opened to traffic. If the closing is to be of short duration or different sections of the street are to be closed at different times, the notification to the Police and Fire Departments shall be on a day-by-day basis, giving information regarding the conditions expected to prevail on the next working day. The Contractor shall notify the Inspector which streets are to be closed, duration of closures, and person(s) and telephone numbers contacted in the Fire and Police Departments.

All signs, including offsite detour signs, lights, or devices installed by the Contractor shall be approved by LADOT before use. Offsite detour signs shall be installed, maintained, and removed by the Contractor. "No Parking" signs shall be posted and removed only by LADOT upon request from the Contractor. LADOT will charge and collect its actual cost for each temporary sign installed and for each sign replaced during the authorized period. To be enforceable, temporary "No Parking" signs shall be installed by LADOT 24 hours before the time when needed. Their removal by LADOT shall take place as the work progresses to restore parking spaces. See Table 7-7(A).

**7-10.4 Safety.** *Add the following:*

**Agency worker protection.** The Contractor shall provide safety equipment, material, and assistance to Agency personnel to properly inspect all phases of the Work, including final inspection. Such equipment, material, and assistance shall include, but not be limited to testing for the presence of explosive or toxic gases and oxygen deficiency in confined spaces, blowers, ventilators, first aid supplies and equipment, ladders, scaffolds, shoring, harnesses, self-contained breathing apparatus, and personnel for standby assistance, as required. Personal equipment and clothing, such as hard hats, safety glasses, traffic vests and earplugs are not subject to these provisions. When asbestos is being removed, the requirements of the CCR, Title 8, Div. 1, Chapter 4, Subchapter 4, "Construction Safety Orders," and Subchapter 7, "General Industry Safety

Orders," shall be implemented.

In all cases involving exposure of City Agency personnel to toxic/hazardous materials and/or elements, the City of Los Angeles Office of Finance, Risk Management and Safty Division, Workplace Safty Section, shall have field review authority over the Contractor's operations.

**7-10.4.1 Safety Orders.** *Add the following to the end of the subsection:*

The Contractor shall completely fence all excavations to provide protection against anyone falling into the excavation and to the satisfaction of the IPW. The fencing shall be in place at all times, except when workers are present and actual construction operations are in progress.

The fencing material shall be chain link fabric or welded wire fabric (6x6-W9xW9 minimum) and 1.5 m (5 ft) high, constructed according to one of the following:

- a) Tensioned fencing material with top and bottom tension wires securely fastened to driven steel posts or other equally rigid elements at a maximum spacing of 3.6 m (12 feet); or
- b) Untensioned fencing materials securely fastened to extended trench shoring elements at a maximum spacing of 2.4 m (8 ft) and fastened to continuous top and bottom rails constructed of nominal 50 mm x 100 mm (2 in x 4 in) lumber or equally rigid material. Framed panels with suitable supporting elements fastened together to form a continuous fence may also be used.

**7-10.4.4 Confined Spaces.** *Add the following to the end of section:*

The IPW will provide a competent person trench/excavation certification form to the Contractor. It shall be completely filled out before any worker access to trench or excavation and returned to the Inspector before the end of the first working day. The Contractor shall certify by this form the name of the competent person administering the Work, the soil classification, and the type of excavation protective system provided and/or installed.

**7-15 AUDITS AND RECORDS,** *Add this section:*

The Contractor shall maintain all data and records pertinent to the Work performed under the Contract, following generally accepted accounting principles. The Contractor shall also preserve and make available all data and records until the expiration of four (4) years from the date of final payment under the Contract. The authorized representative of the City shall have access to all such data and records for such time periods to inspect, audit, and make copies thereof during normal business hours. The Contractor shall covenant and agree that it shall require any subcontractor used in the performance of the Contract to permit the authorized representatives of the City, to similarly inspect and audit all data and records of said subcontractors relating to the performance of said subcontractors under Contract for the same period.

## SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

**8 - 6 BASIS OF PAYMENT.** *Add the following:*

Payment for Office facilities will be made as follows: 25% when completely installed, 75% prorated over the remainder of the Contract duration.



## SECTION 9 - PAYMENT

**9 - 3.4 Mobilization.** *Add this paragraph at the end of the section:*

Mobilization shall consist of preparatory work and operations including, but not limited to that necessary for the movement of personnel, equipment, supplies, and incidentals to the Project site, and for all other work and operations that must be performed or costs incurred before beginning work on the various contract items on the Project site.

# PART 2

## CONSTRUCTION MATERIALS

### SECTION 200 - ROCK MATERIALS

#### 200-1 Rock Products

**200-1.4 Coarse Aggregate for Portland Cement Concrete.** *Add the following after Table 200-1.4(B):*

The Engineer may at anytime select samples for testing of Specific Gravity (SG). SG of the coarse aggregate for AC and PCC shall be 2.58 (min.), and 2.70 (max). If the SG of the coarse aggregate is greater than 2.70, the Engineer may allow its use subject to the following provisions:

- a) The weight of coarse aggregate to be furnished by the Contractor shall be increased by:  
$$\frac{(\text{Tested SG} - 2.65)}{2.65} \times 100 = \text{percent}$$
- b) If the coarse aggregate furnished is not a separate Bid item but included as part of another Bid item, the Contractor shall not receive any additional compensation for the additional coarse aggregate required to be furnished by the provisions of this note; and
- c) If the coarse aggregate furnished is a separate Bid item measured by a unit of weight, the actual weight of coarse aggregate furnished by the Contractor pursuant to subnote (a) above shall be, for purposes of determining the weight of coarse aggregate for which the Contractor shall be compensated as a Bid item, reduced by subnote (a) above.

#### 200-2 UNTREATED BASE MATERIALS

**200-2.1 General.** *Replace first sentence of the second paragraph with the following:*

When base material without further qualification is specified, the Contractor shall supply Crushed Miscellaneous Base (CMB) or higher classification.

#### 200-2.5 Processed Miscellaneous Base

**200-2.5.1 General.** *Insert the following in the first sentence:*

“brick materials” between portland cement concrete, and railroad ballast.

#### 200-2.6 Select Subbase

**200-2.6.1 General.** *Insert the following in the first sentence:*

“broken or crushed brick materials,” between cement concrete, and slag.

## SECTION 201-CONCRETE MORTAR AND RELATED MATERIALS

#### 201-1 PORTLAND CEMENT CONCRETE.

## 201-1.1 Requirements.

**201-1.1.4 Test of Portland Cement Concrete.** *Replace last two paragraphs with the following:*

PCC compressive cylinder strength tests representing PCC that has been poured-in-place, shall attain the 28-day compressive strength specified.

In place PCC represented by a compressive cylinder strength test that fails to meet the requirements herein shall be removed from the Work. As an alternative to the removal of PCC represented by a failed cylinder compressive strength test and subject to the approval of the Engineer, the PCC represented by the failed compressive strength cylinder tests may be cored-in-place. The corings shall be completed no later than 10 days from notification of failure by the Engineer. The cores shall be made by the Contractor in the presence of the Engineer and tested at the Contractor's expense in accordance with ASTM C 42 by a certified laboratory acceptable to the Engineer. The cores shall be 100 mm (4 in) in diameter minimum, unless otherwise directed by the Engineer. At least three cores shall be taken in each area represented by a failed 28-day PCC compressive strength cylinder test. Unless otherwise directed by the Engineer, the cores shall be immersed/water-cured 40 hours immediately before a compressive test. If each core tests at least 85 percent of the specified 28-day PCC compressive strength, the PCC represented may be accepted provided the Contractor accepts the conditions in 201-1.1.5 and 302-6.8, 303-2.11 or 303-5.9 as modified herein.

*Add the following new subsection:*

### **201-1.1.5 Correction of Mix Design for failed Concrete Tests.**

If the compressive cylinder strength test for in place PCC yields test results below the specified 28-day PCC compressive strength and the Engineer determines a corrective change is necessary, the Contractor shall at its own expense make corrective changes in the mix proportions. The changes in the mix proportions or PCC placement procedures shall be approved by the Engineer, before any additional PCC is poured on the job.

## SECTION 203 - BITUMINOUS MATERIALS

### **203-1 PAVING ASPHALT.**

**203-1.3 Mix Design** *Add the following as the first paragraph:*

When requested by the City, the Contractor shall furnish, without charge, samples of the aggregate, emulsion and slurry it proposes to use. Such materials shall be tested in accordance with the procedures described in the Contract Documents.

### **203-5 EMULSION-AGGREGATE SLURRY.**

**203-5.2 Materials.** *Add as item No. 6*

No. 6 The Contractor shall take precautions to insure that stockpiles do not become contaminated with oversize rock clay, silt, or excessive amounts of moisture. Segregation of the aggregate will not be permitted. The Inspector will take aggregate samples from field stockpile locations before the addition of mineral fillers, such as cement or lime, to determine the sand equivalent value in accordance with this subsection. The Contractor shall notify the Bureau of Contract Administration by noon of the previous working day when and where the aggregate materials will be delivered.

The Contractor shall deliver the aggregate at least one (1) working day before incorporation into the work. Mineral fillers, such as cement, lime, or sulphate, may be added during application of the slurry mixture to the City streets in accordance with the approved mix design. The Contractor shall provide suitable facilities for the asphalt emulsion. Suitable heat shall be provided to maintain the asphalt emulsion between 10°C and 55°C (50°F and 130°F) temperature range.

## 203-6 ASPHALT CONCRETE.

**203-6.1 General.** *Delete the first and second sentences of the third paragraph and substitute the following:*

An asphalt concrete pavement with 15 percent or less reclaimed asphalt pavement (RAP) may be substituted for a virgin asphalt concrete pavement by the Contractor. The asphalt concrete pavement that contains 15 percent or less RAP shall meet all of the requirements in this subsection and the applicable portions of 203-7.

### 203-6.2 Materials.

**203-6.2.2 Aggregate.** *Add the following after the last paragraph:*

The Engineer may at anytime select samples for testing of Specific Gravity (SG). SG of the coarse aggregate for AC and PCC shall be 2.58 (min.) and 2.70 (max). If the SG of the coarse aggregate is greater than 2.70, the Engineer may allow its use subject to the following provisions:

- a) The weight of coarse aggregate to be furnished by the Contractor shall be increased by:

$$\frac{(\text{Tested SG}-2.65)}{2.65} \times 100 = \text{percent}$$

- b) If the coarse aggregate furnished is not a separate Bid item but included as part of another Bid item, the Contractor shall not receive any additional compensation for the additional coarse aggregate required to be furnished by the provisions of this note; and
- c) If the coarse aggregate furnished is a separate Bid item measured by a unit of weight, the actual weight of coarse aggregate furnished by the Contractor pursuant to subnote (a) above shall be, for purposes of determining the weight of coarse aggregate for which the Contractor shall be compensated as a Bid item, reduced by subnote (a) above.

### 203-6.3 Asphalt Concrete Mixtures.

**203-6.3.2 Composition and Grading.** *Add the following after the last paragraph:*

For any asphalt concrete mixture required by the Plans or itemized proposal, the Contractor shall formulate, and submit to the Engineer for approval, a job-mix formula. The optimum asphalt binder content for the proposed gradation shall be determined by the Contractor using the procedures contained in Chapter 5 of the Asphalt Institute's Manual Series No. 2 (MS-2) current edition for Marshall Method of Mix Design in accordance with ASTM D 1559-89. The job-mix formula submittal shall include the following data, at a minimum: (Applicable to all classes of AC or RAC)

- a) The Job Mix formula, the gradation of each Bin (percent passing each sieve size) and the percentages of each Bin used in the Job Mix formula.
- b) Source of the aggregate, Bulk Specific Gravity, Percent fractured faces, and percent

- natural sand.
- c) Plot of the combined gradation on a Federal Highway Administration 0.45 power gradation chart.
  - d) Source of the Asphalt cement, Asphalt Grade, Percent of Asphalt cement by weight of aggregate and weight of total mixture, asphalt cement viscosity and bulk specific gravity.
  - e) Temperature - viscosity chart of the asphalt cement, mixing temperature and compaction temperatures.
  - f) Number of blows of compaction hammer per side of a molded specimen.
  - g) Worksheet for volumetric analysis of compacted paving mixture by weight of total mixture, which shall include the following data for each trial:
    1. Coarse Aggregate percent by weight of aggregate.
    2. Fine Aggregate percent by weight of aggregate.
    3. Total Aggregate percent by weight of total mix.
    4. Asphalt Cement Content percent by weight of total mix.
    5. Bulk Specific Gravity of Total Aggregate
    6. Maximum Specific Gravity of Paving Mix.
    7. Bulk Specific Gravity of Compacted Mix.
    8. Unit Weight (Density pcf)
    9. Effective Asphalt Content.
    10. Percent of VMA in Compacted Paving Mixture.
    11. Percent Air Voids in Compacted Mixtures.
    12. Percent Voids Filled with Asphalt (VFA) in Compacted Mixture.
    13. Stability (Marshall, lbs.)
    14. Flow (Marshall 0.01 in.)
    15. Dust to Asphalt Ratio
  - h) Test property curves of Air Voids, VFA percent, VMA percent, unit weight (pcf), stability, and flow.
  - I) Recommended asphalt content by weight of aggregate and weight of total mixture.

The job mix formula submitted by the contractor shall be within the "Master Grading Band" established in Table 203-6.3.2 and the following Marshall properties:

**Marshall Mix Method - ASTM D 1559-89 (AASHTO T245-97)**

Applicable to all Classes of AC or RAC

<u>Test Item</u>	<u>Residential and</u>	<u>Major, Secondary,</u>
	<u>Local alleys</u>	<u>and Collector Streets</u>
	min - max	min - max
Marshall Method ASTM 1559 <sup>2</sup>		
Stability Value, N (lbs.)	8 006 - 22240 (1,800 - 5,000)	9 786 - 22240 (2,200 - 5,000)
Flow, 0.25 mm (0.01 in.)	8 - 16	8 - 14
Number of blows each side of specimen	50	75
Percent Air Voids, per ASTM D 3203, ASTM D 2041, D 2726, or D 1188	3 - 5	3 - 5

Test Item	Residential and	Major, Secondary,
	<u>Local alleys</u>	<u>and Collector Streets</u>
	min - max	min - max
Dust to Asphalt Ratio	0.6 - 1.2	0.6 - 1.2

**NOTE**

1. The stability value of the Marshall Method may be replaced by the stability value of the Hveem method per California Tests 304 and 366; the minimum stability value shall be as described in SSPWC 203-6.3.2. The test requirements shall be substantiated by the Contractor/supplier through LADGS Standards Division (213) 485-2242.
2. For mix design verification, the asphalt concrete sample shall be initially heated in a conventional oven for sample splitting purposes. A microwave oven (such as output power 1.0 KW minimum) is recommended for heating the mixture to obtain the compaction temperature. At no time shall the mixture temperature exceed the maximum limits determined by 203-1.4 and 302-5.5. Marshall specimens shall be compacted with mechanical lifting of a flat faced compaction hammer as indicated in AASHTO T245-97.

**203 - 6.8 Miscellaneous Requirements. Insert between paragraphs 4 and 5:**

On projects where 363 tonnes (400 tons) or more of asphalt concrete are to be placed, the Contractor shall make available, without cost to the City, a production sample of the asphalt concrete to be used in the project. The Contractor shall notify the LADGS, Standards Division (213) 485-2242, 48 hours prior to the start of paving, to allow for sampling of the production mix. The production sample shall be tested for verification of mix parameters, per 203 - 6.3. The Contractor shall not begin paving operations until the production sample has been approved in writing by the Materials Control Group as complying with the specified requirements. At least one sample will be provided for each project.

Samples of Hot Asphalt Concrete Mix taken at the plant shall be provided by plant personnel, as requested by the agency plant inspector. Samples of Hot Asphalt Concrete Mix taken at the Job Site shall be provided by the paving contractor and taken from the uncompacted mat behind the paver or from the hopper of the paver, as requested by the agency field inspector.

**203-7 RECYCLED ASPHALT CONCRETE - HOT MIXED.**

**207-7.2.5 Recycling Agent. Modify the RA 5 requirements in Table 203-7.2.5 (A) as follows:**

TEST	ASTM Test Methods	RA 5	
		Min.	Max.
Kinematic Viscosity at 60°C (140°F) (cSt) mm <sup>2</sup> /s	D2170 or D 2171	400	800
Flash Point COC °C (°F), Min.	D92	400	---
Flash Point PMCT, (°F),	D93	Report	
Residue from RTFO @ 163°C (325°F) Viscosity Ratio	D2872	---	2
Specific Gravity	D70 or D1298	Report	
Saturates Wt. %	D2007	---	30

### 203-7.3 Recycled Asphalt Concrete (RAC) mixtures.

#### 203-7.3.2 Composition and Grading. *Replace the Second paragraph with the following:*

Asphalt Concrete Mixtures that contain less than 15 percent RAP shall meet the following requirements in addition to the requirements in Subsection 203-6.3.2. The job-mix formula submitted by the Contractor for approval shall fulfill the general limits imposed by the "Master Grading Band" in Table 203-6.3.2(A). In addition, the formula shall show the amount of RAP in the total mix and RAC binder composition. These tests shall be in addition to the tests for RAP stockpile, specified in 203-7.2.2.

#### 203-7.3.2 Composition and Grading. *Replace the third paragraph with the following:*

A RAC mixture is a Hot Mix Asphalt Pavement Mixture that contains more than 15 percent RAP in the mix. For any RAC mixture required by the Plans or itemized proposal, the Contractor shall formulate and submit to the Engineer for approval a job-mix formula that fulfills the general limits imposed by Table 203-7.3.2(A), RAC mixtures. In addition, the formula shall show the amount of Recycled Asphalt Pavement (RAP) in the total mix, RAC binder composition, the mineral aggregate sources, and mixing and compacting temperatures. The target viscosity for the blend of recovered asphalt and the new asphalt and/or the recycling agent, shall not be higher than AR-8000. The optimum RAC binder content for the proposed gradation shall be determined by the Contractor. The Contractor shall use the procedures contained in Appendix E of the Asphalt Institute Research Report No. 84-2 (RR-82-2) "Mix Design Method for Reclaimed Asphalt Concrete using Mashall," and in accordance with ASTM D 1559. The Contractor shall include the same minimum data requirements and Marshall Mix Design Criteria shown in 203-6.3.2. These tests shall be in addition to the tests for RAP stockpile specified in 203-7.2.2. The job mix formula submitted by the contractor shall be within the "Master Grading Band" established in Table 203-7.3.2(A) and the Marshall properties in 203-6.3.2.

The source of RAP shall be from Los Angeles City streets if it is available. If RAP from Los Angeles City streets is not available then RAP from other sources may be used.

#### 203-7.8 RAC Miscellaneous Requirements. *Insert between paragraphs 4 and 5:*

On projects where 363 tonnes (400 tons) or more of RAC are to be placed, the Contractor shall make available, without cost to the City, a production sample of the RAC to be used in the project. The Contractor shall notify the LADGS, Standards Division (213) 485-2242, 48 hours before the start of paving, to allow for sampling of the production mix. The production sample shall be tested for verification of mix parameters, per 203 - 6.3. The Contractor shall not begin paving operations until the production sample has been approved in writing by the Materials Control Group as complying with the specified requirements. At least one sample will be provided for each project.

Samples of RAC taken at the plant shall be provided by plant personnel, as requested by the agency plant inspector. Samples of RAC taken at the Job Site shall be provided by the paving contractor and taken from the uncompacted mat behind the paver or from the (Added by Jerry Ellison, Quality and Standards Group at the request of the Standards Lab. after review.) hopper of the paver, as requested by the agency field inspector.

## SECTION 207 - PIPE

### 207-2 REINFORCED CONCRETE PIPE (RCP)

**207-2.5 Joints.** *Replace third paragraph with the following:*

**SD Pipes.** RCP joint deflection shall not exceed 5 degrees, except that 10 degrees is permissible for horizontal curves where a radius of 6.8 m (22.5 ft) is specified on the Plans and for CB pipes at grade breaks and vertical curves. Either one or both ends may be beveled to provide a well-fit joint.

**SS Pipes.** RCP shall be beveled at the spigot end of the pipe. The bevel shall be limited to a maximum of 4 degrees. Pipe shall be furnished with cast in place plastic liner conforming to 210-2, Standard Plan S-121, and the project Plans and Special Provisions.

### 207-2.9 Basis of Acceptance.

**207-2.9.2 D-Load Bearing Strength Test.** *Delete last paragraph.*

**207-2.9.5 Acceptance of Stockpiled Pipe.** *Replace first paragraph with the following:*

Stockpiled pipe (pipe that was not inspected during manufacture) may be used only for culverts and SD. Not more than 48 m (160 ft) of stockpiled pipe may be used on any one project and only in sizes smaller than 900 mm (36 in.) ID. Such pipe must be properly identified and certified by the Inspector at the plant prior to shipment to the jobsite. One pipe section per lot shall be tested and the pipe shall meet applicable requirements, including 115 percent of specified D-Load.

**207-15 ABS SOLID WALL PIPE.**

**207-16 ABS OR PVC COMPOSITE PIPE.**

**207-17 PVC PLASTIC PIPE.**

**207-19 POLYETHYLENE (PE) SOLID WALL PIPE AND LINER.**

**207-20 CENTRIFUGALLY CAST FIBERGLASS REINFORCED PLASTIC MORTAR (CCFRPM) PIPE.**

**207-22 CENTRIFUGALLY CAST FIBERGLASS REINFORCED PLASTIC MORTAR (CCFRPM) MICROTUNNELING PIPE.**

*All above sections (207-15 thru 207-17, 207-19, 207-20, and 207-22) are modified by the addition of the following paragraphs:*

**General.** These provisions establish the requirements for plastic pipe for SS and SSHC. The general term "plastic pipe" refers to acrylonitrile butadiene styrene (ABS) pipe (solid wall or composite), polyvinyl chloride (PVC) pipe (solid wall or composite), high density polyethylene (HDPE) solid wall pipe, and centrifugally cast fiberglass reinforced plastic mortar (CCFRPM) pipe. Only those pipe products approved by the City Engineer, a list of which is on file in the office of the City Engineer-Engineer of Design, shall be used. Material that does not conform to the physical properties stated in the contract shall be removed and replaced at no additional cost to the City. A time extension will not be granted to rectify the noncompliance. The pipe shall be tested per 306-1.2.12 and installed per 306-1.2.13.

**Verification.** At least 20 working days before installation, the Contractor shall submit written "Material Certification" and "Testing Data" to the Engineer, in accordance with the following guidelines:

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Material Certification: Shall state that the pipe that satisfied the Chemical Resistance Test continues to be the supplied pipe, and that no changes in formulation, compound, constituent, supplier, or material source has since occurred.

*Testing Data:* Shall include test results performed and reported by a laboratory approved by the Engineer for the following:

- 1) Initial Tensile Strength and Elongation (ASTM D638);
- 2) Initial Flexural Modulus (ASTM D790);
- 3) Specific Gravity;
- 4) Impact Strength (ASTM D256) or Shore D Hardness (ASTM D2240);
- 5) Apparent Cell Classification (ASTM D1784, D3262, or D3350, as applicable).

The Engineer will evaluate the Testing Data and compare them to archived samples of pipe formulations that have satisfied the sewer chemical resistance tests. The Engineer will accept reports by an approved laboratory performed within the previous 24 months. Otherwise, the Contractor shall engage the services of an approved laboratory, at no cost to the City, to perform the specified tests and provide current Testing Data.

Pipe that has Testing Data that does not conform to the archived samples are rejected and shall not be delivered to the job site.

## SECTION 208 - PIPE JOINT TYPES AND MATERIALS

**208-3 GASKETS FOR CONCRETE PIPE.** *Table 208-3(A), seventh element is modified as follows:*

The ozone concentration of the physical requirements after exposure test is reduced from 150 pphm to 50 pphm.

## SECTION 209 - ELECTRICAL COMPONENTS

**209-2 MATERIALS.** *Add the following new subsection:*

### **209-2.5 Pullboxes (PBs).**

All electrical PBs shall conform to the Bureau of Street Lighting's Special Specifications for the Construction of Street Lighting Systems, Standard Drawing No. L-201 and shall be subject to shop inspection by the Bureau of Contract Administration. However, the structural elements shall conform to the Bureau of Engineering Standard Plan S-601.

## SECTION 210 - PAINT AND PROTECTIVE COATINGS

**210-2 PLASTIC LINER.**

**210-2.1 General.** *Add the following after the first paragraph:*

Only those liners or coating approved by the City Engineer shall be used. Liners that satisfy

210-2 are classified as Type I Protective Linings. Except as permitted below, a Type I Lining shall be installed wherever Standard Plan S-121 is referenced on the Plans or in the Special Provisions.

The Contractor may, at its option and expense, provide a Type II Lining/Coating for SSMH. Except for the underside of the MH cover, all interior surfaces of the SSMH shall be protected with either a Type I or a Type II Lining/Coating.

Type II Lining/Coatings shall be installed per the manufacturer's recommendations and the Special Provisions. The minimum installed lining thickness or spray-applied dry film thickness shall meet or exceed the product samples submitted to the Engineer for qualification testing. Apply sprayed coatings only after all components of the SSMH are assembled and all joints are mortared. Submit a field repair procedure to the Engineer for approval before application.

All linings and coatings shall satisfy chemical resistance tests at a laboratory approved by the Engineer. A list of approved linings and coatings that satisfy Type I and Type II along with their minimum required thickness is available in the office of the City Engineer.

Upon completion, the surface will be spark-tested by the Engineer using a holiday detector set to 9,000 volts (minimum) for protective coatings, and 20,000 volts (minimum) for plastic liners. All areas failing to meet the test shall be repaired and retested.

### 210-2.3 Tests.

#### 210-2.3.3 Chemical Resistance Test (Pickle Jar Test) *Add the following after Table 210-2.3.3(A):*

Whenever the formulation, compound, constituent, supplier or material changes, the Contractor shall, at no cost to the City, re-qualify the product for the Chemical Resistance Test. The Contractor shall engage the services of a laboratory approved by the Engineer. No extension of time will be granted for product requalification.

**Verification.** At least 20 working days before installation, the Contractor shall submit written "Material Certification" and "Testing Data" to the Engineer, in accordance with the following guidelines:

*Material Certification:* Shall state that the liner (or lining or coating) which satisfied the Chemical Resistance Test continues to be the supplied liner (or lining or coating), and that no changes in formulation, compound, constituent, supplier, or material sources have since occurred.

*Testing Data:* Shall include test results performed and reported by a laboratory approved by the Engineer for the following:

- 1) Initial Tensile Strength and Elongation (ASTM D638);
- 2) Initial Flexural Modulus (ASTM D790);
- 3) Specific Gravity;
- 4) Impact Strength (ASTM D256) or Shore D Hardness (ASTM D2240);
- 5) Apparent Cell Classification (ASTM D1784, D3262, or D3350, as applicable).

The Engineer will evaluate the Testing Data and compare them to archived samples of product formulations that have satisfied the sewer chemical resistance tests. The Engineer will accept reports by an approved laboratory performed within the previous 24 months. Otherwise, the Contractor shall engage the services of an approved laboratory, at no cost to the City, to perform the specified tests and provide current Testing Data.

All products whose Testing Data does not conform to the archived samples are rejected and shall not be delivered to the jobsite.

**210-2.3.6 Spark Test, *Replace the first sentence with the following:***

All PVC liners shall be field tested for holes with a holiday spark tester set to provide 20,000 volts (minimum). The Contractor shall notify the Standards Division, LADGS, telephone (213) 485-2242, at least 48 hours before delivery of the PVC lined SSMH sections to the jobsite so that the spark test can be conducted above ground before installation.

**210-3 GALVANIZING.**

**210-3.2 Requirements of Coating. *Add the following after Table 210-3.2(A):***

Mechanical galvanizing per ASTM B 695 and electro-deposited galvanizing per ASTM B 633 and included in 210-3.2 shall not be permitted when the items are to be installed:

- a) In any wastewater treatment or wastewater reclamation plant;
- b) In any SS pumping plant or lift station;
- c) In connection with any SS; or
- d) Within 1 mile of any body of seawater, including bays, harbors, or any estuary containing seawater.

*Add the following new subsection:*

**210-6 Coal-tar epoxy coating.**

The Engineer shall approve the formulation of the coating material. The coating shall be applied to surfaces that are clean and dried to the extent practicable and, in any event, free of surface moisture. The approved system manufacturer's directions shall be followed. All surfaces to be coated shall be given one prime coat and at least two additional coats. The thickness of the two additional coats shall be checked by the Inspector using a wet-film thickness gauge. The sum of thicknesses shall be at least 380  $\mu\text{m}$  (15 mils.) each for a total thickness of at least 760  $\mu\text{m}$  (30mils). The Engineer will specify the voltage to be used for spark testing. The worksite shall be properly ventilated. All necessary provisions shall be made for the safety of workers and inspection, including the furnishing of ointments, protective clothing, masks, and facilities for washing at the immediate site.

## SECTION 211 - SOILS AND AGGREGATE TESTS

### 211-2 COMPACTION TESTS.

*Replace the entire subsection 211-2.1 with the following:*

**211-2.1 Laboratory maximum dry density.**

Compaction test will be performed in accordance with ASTM D 1557 Method A, except that rock retained on the 4.75 mm (No. 4) sieve shall not be discarded. If rock is retained on the 4.75 mm (No. 4) sieve, the relative compaction will be the ratio  $C/C''$  where:

C = field dry density in kilogram per cubic meter (pounds per cu. ft.)

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$C'' = \frac{PC'}{MC' + NP}$  = corrected laboratory maximum dry density for (+4) material

$C'$  = laboratory maximum dry density in kilogram per cubic meter (pounds per cu. ft.) of the portion of the test material that passes the 4.75 mm (No. 4) sieve

$M$  = dry weight of (+4) rock/dry weight of entire sample

$N$  = dry weight of (-4) material/dry weight of entire sample

$P$  = dry density of (+4) rock in kilogram per cubic meter (pounds per cu. ft.) or specific gravity of (+4) x 1000 kg/m<sup>3</sup> (62.4 pounds per cu. ft.)

(+4) material = all rock retained in 4.75 mm (No. 4) sieve

(-4) material = all material passing 4.75 mm (No. 4) sieve

**211-2.3 Relative Compaction:** *Replace the entire paragraph with the following:*

The term "relative compaction" shall mean the ratio of the field dry density to the laboratory maximum dry density, or corrected laboratory density, expressed as a percentage.

## SECTION 214 - PAVEMENT MARKERS

### 214-6 EPOXY ADHESIVE.

**214-6.1 General.** *Add the following:*

Adhesives, including epoxy resin types used in bonding extruded AC curb, PCC, and mortar to existing surfaces, or used to attach precast PCC units to existing surfaces, shall be approved by the Engineer. Any surface to which the adhesive is applied shall be dry, clean, free of loose material, prepared in conformance with the adhesive manufacturer's approved instructions/recommendations, and shall be approved by the Inspector before application. Mixing and application shall be done by the approved manufacturer's recommendations in the presence of the Inspector.

# PART 3 CONSTRUCTION METHODS

## SECTION 300 - EARTHWORK

### 300-1 CLEARING AND GRUBBING.

#### 300-1.1 General. *Add the following to the end of third paragraph:*

No tree shall be removed, except as shown on the Plans, by permit, or ordered by the BPW. The cutting down or removal of trees is prohibited between 6:00 P.M. and 7:00 A.M. and on any Saturday, Sunday or legal holiday, unless permission is obtained from the BPW.

### 300-1.3 Removal and Disposal of Materials.

#### 300-1-3.1 General. *Add the following to the end of paragraph:*

When removing asbestos products, current requirements of the California General Industry Safety Orders and Construction Safety Orders shall be complied with.

For Work done under permit, it is the responsibility of the Contractor to coordinate any street pavement removal with the Bureau of Street Services' Resurfacing Division (213) 485-5691. Removals in streets that have been resurfaced within one year or less from the date of the removal are prohibited, unless the contractor resurfaces the entire block or intersection that the removal were made in. Removals made more than one year from the date of the removal are subject to the Street Restoration Fee Ordinance.

#### 300-1.3.2 Requirements. *Insert the following before paragraph (a):*

Removals on bridges and culverts and close to other structures shall be performed carefully to prevent damage to the facility. Stomping will not be permitted in these locations.

#### *Replace paragraph (a) with the following:*

- (a) **Bituminous Pavement.** Bituminous pavements shall be removed to clean, straight lines. Saw cutting of edges to be joined is optional. Where only the surface of existing bituminous pavement is to be removed, the removal shall be by cold planing or other approved method. Sufficient removal shall be made to allow a minimum laying depth of 25 mm (1 in.) of new AC material. Where the existing pavement is to be resurfaced by overlay, a minimum width of 1.5 m (5 ft) of the surface shall be removed by cold planing adjacent to existing PCC gutters and other join lines. Unless the resurfacing immediately follows the removal of the existing wearing surface, a temporary pavement shall be placed. The temporary pavement shall be maintained-in-good condition adjacent to all stepped edges and in rough areas within the area to be resurfaced to provide a safe surface for traffic. In any event, the removal of existing the wearing surface shall be coordinated with the resurfacing schedule to meet the time limitation of 302-5.1, as modified. When a trench is to be resurfaced, the pavement edges adjacent to the trench shall be trimmed to neat, straight lines before resurfacing. This will ensure that all areas to be resurfaced are accessible to the rollers used to compact the subgrade or paving

materials.

If the edge of the trench is within 300mm (12 inches) of the edge of an existing concrete gutter (including integral curb and gutter) or edge of a concrete pavement, the existing bituminous pavement shall be completely removed and replaced to join the existing concrete edge of the gutter (including integral curb and gutter) or edge of the concrete pavement.

*Add the following after the second sentence of paragraph (b):*

Saw cuts shall be a minimum of one-half of the pavement thickness.

*Add the following to the end of paragraphs (a) and (b):*

When saw cutting bituminous or PCC pavements, the maximum overrun allowed for any saw cut beyond the boundary removal limits of existing the pavement shall be 50 mm (2 in.). Correction for exceeding this 50 mm (2 in.) limit shall be at the Contractor's expense and shall be corrected either by:

- a) Enlarging the removal area to limit the overrun to 50 mm (2 in.), maximum, at all corners of the saw cut boundary; *or*,
- b) Installing an Engineer approved epoxy sealant and completely filling the excess saw cut. The epoxy sealant shall conform with current Caltrans' Standard Specifications.

**300-1.4 Payment.** *Add the following to the end of last paragraph:*

When pavement is to be removed, an adjustment in Contract payments shall be made only when the existing pavement thickness exceeds, or is less than, the thickness indicated on the Plans or in the Specifications by more than 50 mm (2 in.). Payment adjustments shall then be for the entire difference, in accordance with stipulated prices.

## SECTION 301 - TREATED SOIL, SUBGRADE PREPARATION AND PLACEMENT OF BASE MATERIALS

**301-2.4 Measurement and Payment.** *Add after the last paragraph:*

When the subbase materials are to be covered by material paid for by the square meter (square yard), the surface of the finished subbase shall not project above the grade established by the Engineer at any point. At locations where the planned thickness of subbase, less allowable tolerance, is not obtained and is not compensated for by an equivalent thickness of base, the Contractor will take such corrective measures as are necessary to obtain that thickness. If requested by the Contractor and permitted by the Engineer, a deduction will be made from contract payments for subbase materials instead of correcting the deficient thickness. The deduction will be computed as the product of

- a) The deficient thickness less the allowable tolerance;
- b) The planned width
- c) The longitudinal distance between locations showing specified thickness as determined by the Engineer.

The result will be multiplied by a fixed price of \$14.50 per cubic meter (\$11.09 per cubic yard), or the contract bid price whichever is higher. No additional payment will be made for subbase materials that are thicker than the planned thickness.

**301-4.6 Compacting.** *Add the following after the third paragraph:*

If the AC base course is 150 mm (6 in.) or thicker, the Contractor may, at its option, construct the base course in one paving operation using one 7.2- to 9.1 tonne (8- to 10-ton) tandem roller; one 12.6-tonne (14-ton) 3-axle tandem roller; and one 10.8-tonne (12-ton) tandem roller for each mechanical spreading machine used, with no limitation on daily tonnage laid. Partial breakdown shall be accomplished by the 7.2- to 9.1-tonne (8- to 10-ton) tandem roller immediately after the base material is laid. The 3-axle tandem roller shall complete the compaction of the base material within 30 minutes of laying. Subsequent rolling to smooth the surface and complete the densification shall be accomplished by the 10.8-tonne (12-ton) tandem roller.

## SECTION 302 - ROADWAY SURFACING

### 302-4 EMULSION-AGGREGATE SLURRY.

**302-4.3.1 General.** *Add the following to the start of the first paragraph:*

The Contractor shall thoroughly sweep or clean the surface before the application of the slurry. The Contractor shall resweep the street not less than 48 hours, nor more than 168 hours, following the placement of slurry seal to remove the gravel rebound caused by vehicular traffic.

### 302-5 ASPHALT CONCRETE PAVEMENT.

**302-5.1 General.** *Add the following to the end of first paragraph:*

The Contractor shall use the "Job Control Grading Band" to perform quality control of aggregate gradation at the production plant.

Before and during construction, the City will request samples of each mixture (AC or RAC), proposed to be used by the Contractor, for testing to assure compliance with the applicable specifications.

For projects that require 1089 tonnes (1200 tons) or more of asphalt concrete pavement, a lot size shall be a continuous run of 1089 tonnes (1200 tons). For projects that require more than a continuous run of 1089 tonnes (1200 tons) additional samples shall be taken for every additional 363 tonnes (400 tons). The Engineer may designate sublots as required. For each lot or subplot, the City will require that six samples be taken per class, per day, by the contractor, at the direction of the City Inspector. The samples of AC or RAC mix shall be taken in the field during construction. The samples taken at the job site shall be taken from the uncompacted mat behind the paver or from the hopper of the paver. The samples shall be placed in proper containers, which shall be supplied by the contractor.

For projects that require less than a continuous run of 1089 tonnes (1200 tons) of asphalt concrete pavement, the City will require six samples be taken per class, per day, at the asphalt plant. The samples shall be placed in proper containers which shall be supplied by the contractor. Samples of Hot Mix Asphalt Concrete or RAC Mix (Wet Sample) taken at the plant shall be provided by plant personnel at the direction of the City plant Inspector.

Each sample shall be clearly marked showing the date, time, location it was taken from, source, project title, work order number, name of person taking the sample, class and grade of the asphalt concrete pavement.

The containers may be picked up by the Contractor from the LADGS, Standards Division after

all testing is complete.

The "Master Grading Band" per class will be used by Los Angeles Department of General Services, Standards Division as reference for all classes of mixtures. However, deviation from the final approved design job-mix formula shall not be greater than the "Job Control Grading Band" and shall be based on daily plant extraction in accordance with ASTM D 2172, or CT 382 Ignition method. Aggregate gradation shall be determined in accordance with ASTM C136 (Dry Sieve) if ASTM 2172 is used. However ASTM 117 shall be performed if CT 382 is used.

Test requirements shall be substantiated by the Contractor/supplier through LADGS, Standards Division (213) 485-2242.

The AC mixes in the following table shall be used:

**Table 302-5.1(A)**

Class <sup>1</sup>	Usage	Viscosity Grade <sup>1</sup>
A	Base course for streets (machine-laid)	AR-8000 <sup>2</sup> : Major, Secondary, and Collector streets and commercial alleys
B	Base course for streets (machine- or hand-laid) Base course for alleys (machine- or hand-laid) Base course for trench resurfacing (machine-laid)	
C2	Wearing surface for streets and alleys (machine-laid) Leveling course (machine-laid) Overlay (capping) 38 mm (1½ in.) minimum thickness (machine-laid) Surfacing for streets, 100 mm (4 in.) total thickness (machine-laid) Base coarse for trench (hand-laid)	AR-4000: Residential streets and alleys <sup>3</sup>
D2	Wearing surface for streets and alleys (hand-laid) Wearing surface for trench resurfacing (machine-laid) Overlay (capping) less than 38 mm (1½ in.) thick (machine-laid)	AR-8000
D2	Extruded curb	
E	Restricted areas Feather edging Wearing surface for trench (hand-laid) AC sidewalks	AR-4000

1) The Inspector may alter the mix to meet field conditions.

2) For grades over 10 percent, use AR-8000 and the next coarser aggregate grade.

At least two courses shall be laid when the new AC pavement is thicker than 100 mm (4 in.). The top course shall be a wearing surface course 50 mm (2 in.) thick.

Where a new ACWS is to be laid over a pavement from which the wearing surface has been removed, no more than 10 days shall elapse between that removal and the placing of the resurfacing. When resurfacing is to be done at separate, widely spaced areas, the Contractor shall schedule sufficient equipment and labor to meet this time limitation.

**302-5.1 General.** *Add the following after the first:*

The Contractor shall schedule the paving work such that no longitudinal dropoffs on the pavement will remain overnight in the traveled way. Any transverse dropoffs on the pavement over 25mm (1in.) in height that will remain overnight shall be ramped with temporary AC pavement. The ramp shall be 100mm (4in) run for each 25mm (1in) of height.

**302-5.2 Cold Milling Asphalt Concrete Pavement.** *Add the word "cold planing" as a synonym for "cold milling."*

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**302-5.5 Distribution and Spreading.** *Replace the first sentence of the first paragraph with the following:*

Wherever AC pavement does not terminate against a curb, gutter, or another pavement, the Contractor shall provide and install a redwood or pressure treated Douglas Fir header at the line of termination.

**302 - 5.5 Distribution and Spreading,** *Add at the end of Paragraph 3:*

The contractor shall perform all breakdown Rolling when the A. C. Mat temperature is not less than 121 °C (250 °F). All longitudinal joints and transverse joints shall be rolled before the temperature of the edge of the mat falls below 88° C (190° F). All longitudinal joints and transverse joints rolled at a temperature below 88 ° C (190°F) shall be trimmed to a neat straight edge 0.30 meters (1 foot) back from the edge to provide a straight vertical join line before paving against the new joint.

**302 - 5.6.2 Density and Smoothness,** *Add to end of third Paragraph:*

All longitudinal joints shall have a Field Density of 95%, as described above. When the test results of the field cores are less than 95% Relative Compaction, the Contractor shall remove a 0.30 meter (1 foot) wide section on each side of the longitudinal joint. The Contractor shall replace the removed pavement with an asphalt mix that meets the job specification at no additional cost to the City.

**302-5.8 Manholes (and other structures).** *Add the following to the end of third paragraph:*

The placement of the ACWS shall be completed within four (4) working days after a MH frame has been set to grade.

**302 - 5.9 Measurement and Payment,** *Add after first Paragraph:*

Asphalt Concrete Pavement will be accepted in accordance with Table No. 302 - 5.9. However the Engineer may approve acceptance of Asphalt Concrete Pavement with Total Percent Air Voids, from the A. C. field core sample, equal to 11% and a relative compaction of 95% or more. The Contractor shall apply an emulsion-aggregate slurry coat to the Asphalt Concrete pavement with the 11% Total Percent Air Voids at no additional cost to the City.

**TABLE NO. 302 - 5.9  
ASPHALT CONCRETE IN - PLACE AIR VOIDS FIELD TESTS RESULTS  
ASPHALT CONCRETE ACCEPTANCE TABLE**

Relative Compaction of Field Core	Percent Air Voids in Laboratory Sample (Wet Sample)								
	1	2	Per Specifications			6	7	8	9 or Greater
			3	4	5				
95			8	9	10	11			
96			7	8	9	10	11		
97			6	7	8	9	10	11	
98			5	6	7	8	9	10	
99			4	5	6	7	8	9	
100			3	4	5	6	7	8	

 Acceptable Total Air Voids

deducted from any moneys due, or that may become due, the Contractor under the contract.

### 302-6 PORTLAND CEMENT CONCRETE PAVEMENT.

#### 302-6.7 Traffic and Use Provisions. *Replace the second paragraph with the following:*

When approved by the Engineer, PCC 390-A-26 (660-A-3750) with a 0.5 maximum water-cement ratio may be substituted to allow vehicular traffic on the PCC pavement 72 hours after finishing. Calcium chloride or other admixture or accelerators shall not be permitted, unless specifically approved by the Engineer in writing.

#### 302-6.8 Measurement and Payment, *Add after first paragraph;*

Payment to the Contractor for PCC accepted by the Engineer based on core test results in accordance with 201-1.1.4 as modified hereinbefore, but represented by a failed compressive cylinder strength test, shall be reduced as follows:

- a) When the result of a single-PCC compressive cylinder strength test is less than the specified 28-day PCC compressive strength but at least 95 percent, the Contractor shall pay the City \$19.61 per cubic meter (\$15 per cubic yard) for each in-place cubic meter (cubic yard) represented by the deficient PCC compressive strength cylinder test, as determined by the actual sampling interval; and,
- b) When the result of a single-PCC compressive strength cylinder test is less than 95 percent of the specified 28-day PCC compressive strength but is alternatively accepted per 201-1.1.4 as modified hereinbefore, the Contractor shall pay the City \$26.15 per cubic meter (\$20 per cubic yard) for each in-place cubic meter represented by the deficient PCC compressive strength cylinder test, as determined by the actual sampling interval. PCC rejected in accordance with the conditions of 201-1.1.4 as modified hereinbefore, shall not be paid for and shall be removed from the jobsite work.

#### 302-6.8 Measurement and Payment, *Add this subsection;*

##### 302-6.8.1 Pavement Thickness

It is the intent of these specifications that the concrete pavement shall be constructed in accordance with the thickness requirements of the plans and specifications. Tolerances allowed for subgrade construction and other provisions of these specifications that may affect thickness shall not be construed to modify those thickness requirements. It is agreed by the parties that compliance with the thickness requirements will be determined by the Engineer in accordance with the provisions of this subsection. It is further agreed by the parties that the liability of the Contractor for failure to comply with the thickness requirements and the right of the City in the event of that failure shall also be governed by the provisions of this subsection.

For the purposes of this subsection, a primary unit of pavement will be 1,858m<sup>2</sup> (20,000SF) of pavement placed or the amount of pavement placed in each day's pavement operation, whichever is smaller. Within the primary unit of pavement there may be an area or areas that have been determined to be secondary units of pavement. Secondary units of pavement are the panels of pavement areas bounded by longitudinal and transverse joints and pavement edges. If either longitudinal or transverse joints, or both are eliminated by the special provisions or plans, the limits of panels will be determined by the Engineer as if the joints had been constructed. When it is

determined that secondary units of pavement are required, the primary unit area will be reduced by the secondary unit area included therein.

At such time after the concrete pavement has been placed, as is determined by the Engineer to be appropriate, thickness measurements will be made in each primary unit. The exact location and number of thickness measurements, both longitudinally and transversely, within each primary unit will be determined by the Engineer. However, there will not be less than one thickness measurement per primary unit.

Pavement thickness measurements will be made in accordance with California Test 531 to the nearest 2.5mm (3/32in.).

Pavement thickness variations, if any, from the thickness requirements of the plans and specifications will be determined by comparing the actual thickness measurements with the thickness specified at the location where the measurement was made. The variation will be determined to the nearest 2.5mm (3/32in.) as either excess or deficient thickness.

It is anticipated that when Portland Cement Concrete pavement is placed over treated permeable base, the concrete will penetrate the treated permeable base an average of 10 mm (3/8in.). Volumes of Portland Cement Concrete pavement that penetrates the treated permeable base will not be included in the volume of concrete pavement to be paid for.

When cores are taken to determine the thickness of Portland Cement Concrete pavement, it is anticipated a layer of treated permeable base will adhere to the bottom of the core. Before determining the thickness of the Portland Cement Concrete pavement, all particles of treated permeable base will be removed from the bottom of the core.

All holes remaining in the concrete pavement after the thickness measurements are made shall be completely filled by the Contractor, at the Contractor's expense, with concrete of the same quality as used to construct the pavement.

If the thickness measurement is deficient in thickness by 2.5mm (3/32in.) or more but 15mm (9/16in.) or less, the Contractor shall pay the City, and the City may deduct from any moneys due or that may become due the Contractor under the contract, a sum computed by applying the deficiency adjustment from the following table to the area of that panel.

Thickness Deficiency in millimeters (inches)	Deficiency Adjustment in Dollars per square meter (Dollars per square foot)
2.5 (3/32")	\$0.40 (\$0.04)
5.0 (3/16")	0.95 ( 0.09)
7.5 (9/32")	1.65 ( 0.15)
10.0 ( 3/8" )	2.50 ( 0.23)
12.5 (15/32")	3.55 ( 0.33)
15.0 (9/16")	4.70 ( 0.44)

For each thickness measurement in a primary area that is deficient by more than 15mm (9/16in.), the Engineer will determine from secondary thickness measurements the dimensions of the secondary unit area where the apparent thickness deficiency is more than 15mm (9/16in.). The determination of the limits of the secondary unit area will be made by making secondary thickness measurements in each panel of pavement next to the panel in which the original measurement in the primary unit was made. This procedure will continue, regardless of unit boundaries, until the

secondary unit area is bounded by panels in which the secondary measurements are deficient in thickness by 15mm (9/16in.) or less. The Engineer will determine the location, within the secondary unit, of the additional cores both longitudinally and transversely.

The thickness of the additional cores will be determined in the same manner as the original core. Each secondary unit for which thickness measurements are made in accordance with this paragraph will be deemed to be, in its entirety, of the thickness of the core taken in the secondary unit. For those secondary units with cores that are less than 15mm (9/16in.) deficient, the Contractor shall pay the City, and the City may deduct from any moneys due, or that may become due the Contractor under the contract, a sum computed by applying the deficiency adjustment from the above table to the area of that secondary unit. For those secondary units that are more than 15mm (9/16in.) deficient, the Engineer will determine which secondary units, if any, will be required to be removed and replaced in accordance with procedure (1) below and the secondary units, if any, which will remain in place in accordance with procedure (2) below:

1. The Contractor shall, at the Contractor's expense, remove and replace the concrete pavement in the secondary unit with concrete pavement meeting the thickness and all other requirements of the plans and specifications. Subgrade shall be lowered as necessary to meet the full thickness requirements. Replaced pavement will be tested for thickness compliance in the same manner as the original pavement was tested and will be subject to the same thickness requirements of the specifications.
2. The Contractor shall leave the panels of pavement in place if they meet all of the other requirements of the plans and specifications, and the Contractor shall pay to the City \$32.30 per square meter (\$27.00 per square yard) for the panels of pavement left in place and the City may deduct that amount from any moneys due, or that may become due, the Contractor under the contract.

The cost of all of the thickness measurements made in accordance with these provisions will be deducted from any moneys due, or that may become due, the Contractor under the contract. The Contractor shall not be entitled to any additional compensation nor extension of time due to any of the provisions in this subsection. No additional compensation will be allowed the Contractor for any pavement constructed in excess of the thickness requirements of the plans and specifications.

If the Contractor believes that the number of thickness measurements made in a secondary unit by the Engineer in accordance with this subsection are insufficient to fairly indicate the actual thickness of the pavement placed, the Contractor may request that additional thickness measurements be made by the Engineer. The additional thickness measurements will be used in determining the average thickness variation. The location of the additional thickness measurements will be determined by the Engineer. The cost of all the additional measurements made will be deducted from any moneys due, or that may become due, the Contractor under the contract.

## SECTION 303 - CONCRETE AND MASONRY CONSTRUCTION

### 303-1 CONCRETE STRUCTURES.

**303-1.3 Forms.** *Replace condition (1) in the last paragraph with the following:*

- 1) If the concrete is placed directly against the faces of the excavation then the excavation

limit faces shall be firm, compact, able to stand without sloughing, and outside the PCC lines at all points. If the surfaces ravel/slough, the PCC structure shall be formed or the excavation faces gunited per Method "A" of 303-2.1.2 to prevent the raveling/sloughing.

*Add new condition (7) to the end of the last paragraph:*

- 7) PCC wall and invert slab thickness shall not exceed 150 percent of the thickness shown on the Plans.

### **303-1.7 Placing Reinforcement.**

#### **303-1.7.1 General.** *Replace the first paragraph with the following:*

The Contractor shall submit reinforcing steel placing plans in accordance with 2-5.3, only if the reinforcing details differ from that shown on the Plans.

### **303-1.9 Surface Finishes.**

#### **303-1.9.1 General.** *Replace the second paragraph with the following:*

The invert of cast-in-place SS and SD structures shall be given a steel trowel finish. The invert of a circular section is the unlined portion of lined construction or the bottom 60 degrees of unlined construction. Untrowelled PCC inverts shall be 390-B-26 (660-B-3750). A wood-float finish will be permitted on cast-in-place rectangular main line SD structures 600 mm (24 in.) or higher in interior height.

#### **303-1.11 Payment,** *Add after first paragraph:*

Payment to the Contractor for PCC accepted by the Engineer based on core test results in accordance with 201-1.1.4 as modified hereinbefore, but represented by a failed compressive cylinder strength test, shall be reduced as follows:

- a) When the result of a single PCC compressive cylinder strength test is less than the specified 28-day PCC compressive strength but at least 95 percent, the Contractor shall pay the City \$19.61 per cubic meter (\$15 per cubic yard) for each in place cubic meter (cubic yard) represented by the deficient PCC compressive strength cylinder test, as determined by the actual sampling interval; and,
- b) When the result of a single PCC compressive strength cylinder test is less than 95 percent of the specified 28-day PCC compressive strength but is alternatively accepted per 201-1.1.4 as modified hereinbefore, the Contractor shall pay the City \$26.15 per cubic meter (\$20 per cubic yard) for each in place cubic meter (cubic yard) represented by the deficient PCC compressive strength cylinder test as determined by the actual sampling interval. PCC rejected in accordance with the conditions of 201-1.1.4 as modified hereinbefore, shall not be paid for and shall be removed from the jobsite work.

### **303-2 AIR-PLACED CONCRETE**

#### **303-2.11 Measurement and Payment.** *Add after second paragraph;*

Payment to the Contractor for PCC accepted by the Engineer based on core test results in accordance with 201-1.1.4 as modified hereinbefore, but represented by a failed compressive cylinder strength test, shall be reduced as follows:

- a) When the result of a single PCC compressive cylinder strength test is less than the specified 28-day PCC compressive strength but at least 95 percent, the Contractor shall pay the City \$19.61 per cubic meter (\$15 per cubic yard) for each in place cubic meter (cubic yard) represented by the deficient PCC compressive strength cylinder test, as determined by the actual sampling interval; and,
- b) When the result of a single PCC compressive strength cylinder test is less than 95 percent of the specified 28-day PCC compressive strength but is alternatively accepted per 201-1.1.4 as modified herein before, the Contractor shall pay the City \$26.15 per cubic meter (\$20 per cubic yard) for each in place cubic meter (cubic yard) represented by the deficient PCC compressive strength cylinder test, as determined by the actual sampling interval.

PCC rejected in accordance with the conditions of 201-1.1.4 as modified hereinbefore, shall not be paid for and shall be removed from the jobsite work.

**303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS.**

**303-5.4 Joints.**

**303-5.4.1 General.** *Remove and replace the paragraph with the following:*

Joints in concrete curb, gutter, and walk shall be designed as expansion joints, weakened plane joints, and contact joints. A contact or cold joint is an expansion joint without the filler material.

**303-5.4.2 Expansion Joints.** *First, second and third paragraphs are replaced with the following:*

Expansion joint filler 6 mm (¼ in.) thick shall be placed only around utility poles in sidewalks and around all structures projecting through the pavement on PCC bikeways. The joint filler shall conform with 201-3.2.

**303-5.4.3 Weakened Plane Joints.** *Replace the first and second paragraphs of subsection (a) with the following and delete subsection (b):*

Weakened plane joints shall be straight and constructed in accordance with subsection (c) below, unless otherwise shown on the Plans.

In sidewalks, joints shall be perpendicular to the curb and at regular intervals not exceeding 3 m (10 ft). Joints at a BCR or ECR shall be full sidewalk width, except at alleys when the sidewalk is not the full width of the parkway. They shall be located for the full sidewalk width each side of tree wells, CBs, and other structures measuring more than 760 mm (30 in.) along the curb. Joints shall also be placed on each side for the full sidewalk width at locations where the sidewalk is to be omitted or removed for the installation of street lighting or traffic signal facilities. Where the sidewalk is wider than 6 m (20 ft), a weakened plane joint shall be installed longitudinally at the midpoint.

In bikeways, the joints shall be at 3 m (10 ft) o.c. and at the BCR/ECR. Joints may be saw cut.

**303-5.5 Finishing.**

**303-5.5.3 Walk.** *Delete the fourth sentence in the fourth paragraph, and add the following as the last paragraph:*

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The PCC bikeway finish shall be a stiff broom finish transverse to the centerline.

**303-5.5.5 Alley Intersections, Access Ramps, and Driveways.** *Add the following to the end of paragraph:*

Access ramps shall be referred to as curb ramps and shall be constructed per Standard Plan S-442-2M, as shown on the Plans, or as directed by the Engineer.

**303-5.9 Measurement and Payment,** *Add as the second paragraph;*

Payment to the Contractor for PCC accepted by the Engineer based on core test results in accordance with 201-1.1.4 as modified hereinbefore, but represented by a failed compressive cylinder strength test, shall be reduced as follows:

- a) When the result of a single PCC compressive cylinder strength test is less than the specified 28-day PCC compressive strength but at least 95 percent, the Contractor shall pay the City \$19.61 per cubic meter (\$15 per cubic yard) for each in place cubic meter (cubic yard) represented by the deficient PCC compressive strength cylinder test, as determined by the actual sampling interval and,
- b) When the result of a single P.C.C. compressive strength cylinder test is less than 95 percent of the specified 28-day P.C.C. compressive strength but is alternatively accepted per 201-1.1.4 as modified hereinbefore, the Contractor shall pay the City \$26.15 per cubic meter (\$20 per cubic yard) for each in place cubic meter (cubic yard) represented by the deficient PCC compressive strength cylinder test, as determined by the actual sampling interval.

P.C.C. rejected in accordance with the conditions of 201-1.1.4 as modified hereinbefore, shall not be paid for and shall be removed from the jobsite work.

**303-5.9.1 Concrete Thickness,** *Add this subsection;*

It is the intent of these specifications that the concrete shall be constructed in accordance with the thickness requirements of the plans and specifications. Tolerances allowed for subgrade construction and other provisions of these specifications that may affect thickness shall not be construed to modify those thickness requirements. It is agreed by the parties that compliance with the thickness requirements will be determined by the Engineer in accordance with the provisions of this subsection. It is further agreed by the parties that the liability of the Contractor for failure to comply with the thickness requirements and the right of the City in the event of that failure shall also be governed by the provisions of this subsection.

For the purposes of this subsection, a unit of pavement will be a 19 m<sup>2</sup> (200 SF) area of driveway or 111 m<sup>2</sup> (1200SF) other concrete placed.

At such time after the concrete has been placed, as is determined by the Engineer to be appropriate, thickness measurements will be made in each area of concrete. The exact location and number of thickness measurements, both longitudinally and transversely, within each area of concrete will be determined by the Engineer. However, there will not be less than one thickness measurement per area of concrete.

Concrete thickness measurements will be made in accordance with California Test 531, to the nearest 2.5mm (3/32in.).

Concrete thickness variations, if any, from the thickness requirements of the plans and specifications will be determined by comparing the actual thickness measurements with the thickness specified at the location where the measurement was made. The variation will be

determined to the nearest 2.5mm (3/32in.) as either excess or deficient thickness.

It is anticipated that when Portland Cement Concrete is placed over treated permeable base, the concrete will penetrate the treated permeable base an average of 10 mm (3/8in.). Volumes of Portland Cement Concrete pavement that penetrates the treated permeable base will not be included in the volume of concrete to be paid for.

When cores are taken to determine the thickness of Portland Cement Concrete, it is anticipated a layer of treated permeable base will adhere to the bottom of the core. Before determining the thickness of the Portland Cement Concrete, all particles of treated permeable base will be removed from the bottom of the core.

All holes remaining in the concrete after the thickness measurements are made shall be completely filled by the Contractor, at the Contractor's expense, with Portland Cement Concrete of the same quality as used to construct the original concrete.

If the thickness measurement is deficient in thickness by 2.5mm (3/32in.) or more but 15mm (9/16in.) or less the Contractor shall pay the City, and the City may deduct from any moneys due, or that may become due, the Contractor under the contract a sum computed by applying the deficiency adjustment from the following table to the area of the concrete.

<b>Thickness Deficiency in millimeters (inches)</b>	<b>Deficiency Adjustment in in Dollars per square meter (Dollars per square foot)</b>
2.5 (3/32)	\$0.40 (\$0.04)
5.0 (3/16)	0.95 ( 0.09)
7.5 (9/32)	1.65 ( 0.15)
10.0 ( 3/8 )	2.50 ( 0.23)
12.5 (15/32)	3.55 ( 0.33)
15.0 (9/16)	4.70 ( 0.44)

For those areas of concrete that are more than 15mm (9/16in.) deficient the Engineer will determine which areas of concrete, if any, will be required to be removed and replaced in accordance with procedure (1) below and the areas of concrete, if any, which will remain in place in accordance with procedure (2) below:

1. The Contractor shall, at the Contractor's expense, remove and replace the Portland Cement Concrete in the areas of concrete with Portland Cement Concrete meeting the thickness and all other requirements of the plans and specifications. Subgrade shall be lowered as necessary to meet the full thickness requirements. Replaced concrete will be tested for thickness compliance in the same manner as the original concrete was tested and will be subject to the same thickness requirements of the specifications.
2. The Contractor shall leave the areas of concrete in place if they meet all of the other requirements of the plans and specifications, and the Contractor shall pay to the City \$32.30 per square meter (\$27.00 per square yard) for the areas of concrete left in place and the City may deduct that amount from any moneys due, or that may become due, the Contractor under the contract.

The cost of all of the thickness measurements made in accordance with these provisions will be deducted from any moneys due, or that may become due, the Contractor under the contract. The Contractor shall not be entitled to any additional compensation nor extension of time due to any of



the provisions in this subsection. No additional compensation will be allowed the Contractor for any area of concrete constructed in excess of the thickness requirements of the plans and specifications.

If the Contractor believes that the number of thickness measurements made in an area of concrete by the Engineer in accordance with this subsection are insufficient to fairly indicate the actual thickness of Portland Cement Concrete placed, the Contractor may request that additional thickness measurements be made by the Engineer. The additional thickness measurements will be used in determining the average thickness variation. The location of the additional thickness measurements will be determined by the Engineer. The cost of all the additional measurements made will be deducted from any moneys due, or that may become due, the Contractor under the contract.

### **303-6 STAMPED CONCRETE.**

**303-6.1 General.** *Add the following as the last paragraph:*

Coloring, stamping, or special material for sidewalk, driveway, bikeway, or pavement shall require prior approval by the Engineer. See 2-5.3.

## **SECTION 304 - METAL FABRICATION AND CONSTRUCTION**

### **304-1 STRUCTURAL STEEL.**

**304-1.11 Bent Plates.** *Add the following after the last paragraph:*

The CB curb inlet and support details 8 mm (5/16-in.) thick steel support plate per Standard Plan S-340 shall be milled smooth free of burrs at the exposed top edge and rounded 1.6 mm (1/16-in.) on the leading edge toward the curb face before bending and galvanizing.

## **SECTION 306 - UNDERGROUND CONDUIT CONSTRUCTION**

### **306-1 OPEN TRENCH OPERATIONS.**

#### **306-1.1 Trench Excavation.**

**306-1.1.1 General.** *Add the following after the first sentence of the first paragraph:*

Shoring and bracing shall be required when the depth is greater than 1.5m (5 feet). In cases where there are unstable soil conditions, shoring or bracing may be required for depths less than 1.5m (5 feet).

**306-1.1.1 General.** *Add the following as the last paragraphs:*

Unless otherwise provided, all existing SS, SD, and laterals thereof which cross or partially cross trenches shall be supported as shown on Standard Plan S-253.

**306-1.1.5 Removal and Replacement of Surface Improvements.** *Add the following as a second paragraph:*

The Contractor shall remove and replace all loose or overhanging pieces of PCC/AC pavement within the limits of any trench or excavation and up to 0.30m (1 ft.) beyond. The cost for such removal and replacement shall be included in the Bid price for the trench or excavation items and/or operations.

**306-1.2 Installation of Pipe.** *This subsection is modified in part by the addition of the following regarding plastic pipe (per 207-15 through 207-20 of this Standard Plan):*

**Main Line Pipe.** When the Contractor selects the option of installing plastic pipe, such option shall apply to all pipe between any two MHs and shall include the SSHCs in that reach. Also, in that reach, a Type "Z" Joint per 208-5, or other approved flexible joint shall, be constructed at the join with any existing stub.

**House Connections.** SSHCs shall be constructed of the same material as main line SS, unless approved fittings and flexible adapters are used. All materials shall meet the requirements of the appropriate specifications, Section 210-2.3.3, and be approved by the Engineer before installation. Wye connections shall be used when connecting to a main line of a material other than VCP or DIP. Tee connections will not be permitted when the main line SS is other than VCP or DIP.

**306-1.2.2 Pipe Laying.** *Add the following to the end of the third paragraph:*

The Contractor may, with the approval of the Engineer, change the location of a SS or SD MH up to ½ a standard pipe length or 1.2 m (4 ft), whichever is less, to avoid cutting a standard pipe length. The MH shall not be placed in an existing or future pedestrian crosswalk.

*Add the following to the end of the fourth paragraph:*

Monolithic connections per Standard Plan S-331 shall be used to join all connector pipes to all CBs and SDMHs. Monolithic connections may be extended up to 1.2 m (4 ft) to avoid cutting standard lengths of pipe.

*Add the following after the last paragraph:*

Removal of RCP SD shall be in full pipe lengths to the nearest pipe joint beyond the removal limits. Connection between the remaining pipe and new pipe shall be made with a PCC collar, per Standard Plan S-333. The join between remaining pipe and a new structure shall be made with a connection cast monolithically with the structure. Except that new pipe shall be used between the remaining pipe and the structure if the length of the gap is more than 1.2 m (4 ft).

Any cutting of new or existing RCP in the field shall be governed by the following:

- a) Cutting operations shall be so conducted that the pipe will be reasonably free-of-spalling. Interior spalls with thickness less than 5 percent of the pipe wall thickness need not be repaired. Spalls of thickness between 5 percent and 20 percent inclusive, of the pipe wall thickness shall be repaired before joining other construction. Pipe with spalls of thickness exceeding 20 percent of the pipe wall thickness shall not be used. Repairs shall be made by filling with an approved epoxy resin compound or an epoxy resin bonded cement mortar. Surfaces to be repaired shall be prepared in accordance with 207-3.3.3.
- b) Acceptability of cracks in the pipe caused by cutting will be limited by 207-2.8.

Where storm drain or sewer pipe is to be placed within an area to be filled, a minimum of 1.42m (36 in.) of compacted fill over the top of a storm drain or 1.65m (42 in) of compacted fill over the top of a sewer pipe shall be placed before trench excavation for the pipe.

**306-1.2.3 Field Joining of Clay Pipe.** *Add the following:*

Type "Z" joints may also be used for VCP SS.

For Type "D" joints used on 6-inch plain-end VCP SSHC, the maximum deflection at each joint shall be 2½ degrees.

**306-1.2.4 Field Joining of Reinforced Concrete Pipe.** *Add the following:*

**SD Pipe.** Pipe with square or beveled ends may be pulled to provide a smooth curve. Pulling of joints shall be limited to 19 mm (¾-in.) from normal closure for pipe 36-inch or smaller ID, and to 25 mm (1 in.) from normal closure for pipe 975 mm (39 in.) or larger ID.

A PCC collar will be permitted only at locations shown on the Plans and where a joint cannot be made within allowable pull limitations. PCC collars shall be per Standard Plan S-333.

**SS Pipe.** Pulling of joints for lined RCP shall be limited to 13 mm (½-in.) from normal closure for use around curves when pipe does not have beveled ends and for adjusting beveled ends to meet field conditions.

**306-1.2.9 Field Joining of Solvent-Welded ABS and PVC Pipe.** *Add the following to the end of the first paragraph:*

The ends of ABS and PVC composite pipe shall be thoroughly and completely coated with solvent cement after application of any required primer or cleaner.

**306-1.2.12 Field Inspection for Plastic Pipe and Fittings.** *Add the following after the last paragraph:*

After the mandrel test has been satisfactorily conducted, or whenever requested by the Engineer, the Contractor shall provide access and assistance to the Engineer for the purpose of allowing the Engineer to test the pipe by pulling a deflectometer through the pipe. The deflectometer and the personnel required to operate it shall be provided by the City at no cost to the Contractor. All costs incurred by the Contractor attributable to mandrel or deflectometer testing, including delays, shall be borne by the Contractor and at no cost to the City.

The Contractor shall furnish a mandrel for each type, size, and designation of solid wall ABS or PVC pipe, and for ABS or PVC composite pipe, in sizes 8-inch (nominal) and larger. The mandrel shall be calibrated by LADGS, Standards Laboratory, and approved by the Engineer.

**306-1.3 Backfill and Densification.**

**306-1.3.1 General.** *Add the following paragraph between the second and third paragraphs:*

Permits that have continuous backfill inspection shall use the provisions of the SSPWC or if called for on the plan, the provisions of Standard Plan S-251. Other excavations performed under permit within the roadway portion of all streets and alleys shall be backfilled with a ¾-sack cement-sand slurry. Alternate backfill may be approved by the Engineer when a written request is submitted by the permittee with specifications stating the type of backfill and method of compaction.

**306-1.3.3 Water-Densified Backfill.** *Add the following:*

Jetting shall use a continuous supply of water at a minimum of 272 kPa gauge (40 psig) pressure through a 38 mm (1½-in.) minimum ID pipe. Jetting shall start within 600 mm (2 ft) of the bottom of the excavation and rising at a rate that will *totally saturate* and densify the backfill material. A water truck with a pump will be considered as meeting this requirement providing the truck capacity exceeds the trench jetting requirement without a refill. The densification shall be accomplished in one continuous operation. For cuts smaller than 1.2 m (4 ft) square by 1.2 m (4ft) deep, a minimum of 19 mm (¾-in.) ID pipe may be used for jetting.

*Add the following new subsection:*

**306-1.3.7 Soil Cement Backfill.**

Backfilling of trenches on steep slopes may be done with soil cement when permitted on the Plans or Special Provisions. The soil cement backfill shall consist of a mixture of 45 kg (100 pounds) of Portland cement to 0.76 m<sup>3</sup> (1 cu. yd.) of soil, shall be thoroughly mixed and moistened with water, and placed and compacted in 150 mm (6 in.) lifts. The soil used in the soil-cement backfill shall have a minimum sand equivalent of 20. Relative compaction shall be 90 percent (minimum).

**306-1.4 Testing Pipelines.**

**306-1.4.1 General.** *In the first paragraph, after the phrase "All leakage tests" insert the following:*

"and all post installation closed the circuit television (CCTV) inspections"

*In the second paragraph, last sentence, after the phrase "Leakage tests" insert the following:*

"and post installation CCTV inspection"

*Eliminate items 2-5 and replace with the following:*

(2) Gravity SS pipe 525 mm (21 in.) ID or smaller - An Air Pressure Test shall be required. If the Engineer determines that it is not feasible to air pressure test a rehabilitated or repaired sewer, then post installation CCTV inspection shall be done according to 500-1.1.5.

(3) Gravity SS pipe greater than 525 mm (21 in.) ID - If the Engineer determines that person-entry inspection is not feasible for a rehabilitated or repaired sewer, then post installation CCTV inspection shall be done according to 500-1.1.5.

(4) Pressure SS (force mains) - A Water Pressure Test shall be conducted at 150 percent of the maximum operating pressure specified on the Plans or in the Special Provisions.

(5) Water Pipelines - Water pressure test: Pipe Specified-----

Payment for testing, post installation CCTV inspection/reinspection and the repairs necessary to bring the pipeline within acceptable limits shall be considered as included in the items for which bids are entered.

**306-1.4.4 Air Pressure Test.** *Replace first and second paragraphs with the following:*

For gravity SS 200 mm to 300 mm (8 in. to 12 in.) ID, the Contractor shall furnish all materials, equipment, and labor for making an air test. Air test equipment shall be approved by the Engineer.

For gravity SS 375 mm to 525 mm (15 in. to 21 in.) ID, the City will furnish main line plugs, air hoses, and air gauges. The Contractor shall furnish at the test sites all other equipment, including but not limited, to air compressors, main line plug bracing, ladders, and barricades, and furnish the necessary labor to help in the performance of the test. The air compressor shall be capable of delivering 11.3 m<sup>3</sup>/min (400 cfm) at 680 kPa gauge (100 psig.) pressure.

Payment for furnishing any necessary equipment and labor for air-pressure testing of SS shall be considered as included in other items for which bids are entered.

**306-1.5 Trench Resurfacing.**

**306-1.5.1 Temporary Resurfacing.** *Add the following as the last paragraph:*

Payment for temporary resurfacing material will be limited to that quantity used to resurface the nominal trench width. Nominal trench width shall be defined as the outside width of the conduit or structure plus 900 mm (3 ft) measured at the pavement surface. Excavation beyond the nominal trench width shall be deemed to be for the Contractor's convenience. Material ordered placed outside the nominal trench width shall be at no cost to the City.

**306-1.5.2 Permanent Resurfacing.** *Add the following to the end of first paragraph:*

When slurry backfill is used in trench replacement, the final resurfacing shall be per Table 306-1.5.2(A):

**TABLE 306-1.5.2(A)**

Existing Pavement		Final Pavement	
Type	Thickness "T <sub>E</sub> "	Type	Thickness "T <sub>F</sub> "
AC	T <sub>E</sub> < 180 mm (7 in.)	AC	Thicker of: <ul style="list-style-type: none"> <li>■ T<sub>E</sub> + 25mm (1 in.); or</li> <li>■ 100 mm (4 in.)</li> </ul>
	T <sub>E</sub> ≥ 180 mm (7 in.)	AC	200 mm (8 in.)
PCC	T <sub>E</sub> < 180 mm (7 in.)	PCC	Thicker of: <ul style="list-style-type: none"> <li>■ T<sub>E</sub> + 25mm (1 in.); or</li> <li>■ 100 mm (4 in.)</li> </ul>
	T <sub>E</sub> ≥ 180 mm (7 in.)	PCC	200 mm (8 in.)
AC+PCC	T <sub>E</sub> < 180 mm (7 in.)	AC	Thicker of: <ul style="list-style-type: none"> <li>■ T<sub>E</sub> + 25mm (1 in.); or</li> <li>■ 100 mm (4 in.)</li> </ul>
	T <sub>E</sub> ≥ 180 mm (7 in.)	AC	200 mm (8 in.)

The resurfacing schedule shown on the Plans may not necessarily show the type or thickness of

the existing pavement.

**306-1.6 Basis of Payment for Open Trench Installations.** *Add the following to the end of second paragraph.*

The price per lineal foot of SD or SS installed in areas where street paving is a part of the project shall exclude permanent resurfacing. The permanent trench resurfacing shall be included in the quantities shown for street improvement items.

**306-5 ABANDONMENT OF CONDUITS AND STRUCTURES.** *Replace first and second sentences in the first paragraph with the following:*

When SS or SD conduits have been or are to be abandoned, and are found to interfere with construction, the interfering portion shall be removed. Both ends of the abandoned conduits shall be sealed. Where the greatest internal dimension of the conduit is 1.2 m (4 ft) or less, the seal shall consist of a minimum of 300 mm (12 in.) thick PCC wall. If existing pipe is ACP, see modification to 300-1.3.1.

*Add the following to the end of the fifth paragraph:*

Grating sets shall be salvaged and delivered by the Contractor, at its expense, to any City sewer maintenance yard. Yard locations may be obtained by telephoning (213) 485-5884.

**306-6 REMODELING EXISTING SEWER FACILITIES.** *Add the following after the first paragraph and delete the forth paragraph:*

When new work is to be constructed inside a SS structure, against an existing brickwork or a PCC surface exposed to sewage or a hostile aerial environment, the existing surface shall be prepared as follows:

- a) All soft and loose materials shall be removed and the surface cleaned by sandblasting;
- b) Joints of existing brickwork shall be repointed. Loose brick shall be replaced with new bricks if the surface is to be plastered;
- c) The surface shall be washed with a 3 percent solution of soda ash ( $\text{Na}_2\text{CO}_3$ ) followed by a rinsing with domestic-supplied water; and
- d) The surface shall then be washed with a 3 percent solution of hydrochloric acid followed by a final rinsing with domestic-supplied water.

Any existing SS to be intercepted by a new SS shall be maintained-in-service or bypassed until authority to connect to the new SS is granted by the BPW. Such authority is contingent upon final inspection and acceptance of all new SS construction downstream from the required point of connection.

*Replace the last sentence of the second paragraph and with the following:*

The Contractor shall implement a permit space program in accordance with 7-10.4.4.

*Add the following after the third paragraph:*

Whenever it is proposed to remodel the base of an existing sewer maintenance hole, or repair (incl. removal, rehabilitation) part of an existing sewer maintenance hole shaft, or adjust a sewer maintenance hole to grade, the remaining portion of all of the existing steps inside the maintenance hole shall be removed to a depth of 5 cm (2 in.) beyond the inside face of the maintenance hole, and

the hole shall be filled with Class "C" mortar.

**306-6.1 Sewer Bypass Systems: Add this new subsection:**

The Engineer, in concurrence with the Division Manager II of the Wastewater Collection Systems Division of the Bureau of Sanitation (located at 2335 Dorris Place, Los Angeles, CA 90031, phone [213] 485-5888), shall have approval responsibility for the procedures to be used and the schedule. If any emergency should arise during the bypass activities, the Wastewater Collection Systems Division should be contacted at (310) 823-5507.

The Contractor shall provide a temporary means to maintain and handle the sewage flow in the existing system as required to complete the necessary construction. The Contractor shall submit the details of the proposed control operations to be used for the bypass and the proposed schedule of activities to the Engineer for approval in accordance with 2-5.3. The Contractor shall prepare and submit a detailed bypass plan to the Engineer for approval by the Engineer and the facility Owner before the bypass is installed. The Contractor shall size the bypass system to handle the peak flow of the system. The Contractor shall include a 100% backup in the system. The Contractor shall use the backup system to mitigate any additional wet weather flows, perform the necessary maintenance and repairs on the bypass system, and exercise and ensure the operability of the backup system. Each pump, including the backup pumps, shall be a complete unit with its own suction and discharge pumping. The Contractor shall operate the backup bypass system for a minimum of 25% of the time on a weekly basis. The backup bypass system shall be fully installed, operational, and ready for immediate use.

Before the full operation of the bypass system, the Contractor shall demonstrate to the satisfaction of the Engineer and Inspector that both the primary and backup bypass systems are fully functional and adequate. The Contractor shall certify the same, in writing, to the Engineer in a manner acceptable to the Engineer.

The Contractor shall provide one dedicated fuel tank for every pump/generator, if fuel/generator driven pumps are used. The Contractor shall provide a fuel level indicator outside each fuel tank. The Contractor shall continuously (while in use) monitor the fuel level in the tanks and ensure that the fuel level does not drop below a level equivalent to two hours of continuous bypass system operation. The Contractor shall take the necessary measures to ensure the fuel supply is protected against contamination. This includes, but is not limited to, fuel line water traps, fuel line filters, and protecting fuel stores from precipitation. The Contractor shall provide an emergency standby power generator, if electric power driven pumps are used.

The Contractor shall continuously (while in use) monitor the operation of the bypass system and all impacted facilities. The Contractor shall submit, as part of their bypass plan their monitoring procedure and frequency. The Contractor shall maintain a log of the monitoring in a manner acceptable to the Engineer and Inspector. The Contractor shall continuously monitor the flow levels downstream and upstream of the bypass to detect any possible failure that may cause a sewage backup and spill. The Contractor shall include the means and methods of monitoring the flow in their Spill Response Plan. The Contractor shall routinely inspect and maintain the bypass system, including the backup system. The Contractor shall submit, as part of their bypass plans, their maintenance procedures and frequency. The Contractor shall maintain a log of all pertinent inspection, maintenance, and repair records in a manner acceptable to the Engineer and Inspector.

All costs associated with sewer bypass requirements shall be included in the Bid Item "Sewer

I Bypass System.”

I All open trenches shall be protected by steel plates which are in compliance with 5-2.

**306-7 CURB DRAINS.** *Replace third paragraph with the following:*

Curb drains and fittings shall be constructed of pipe per SSPWC:

- a) Plain PCC (207-1);
- b) VCP (207-8);
- c) CIP or DIP (207-9); and
- d) Solid wall PVC (207-17) except that only PVC pipe conforming to ASTM D 3034, SDR 23.5; or ASTM D 2241, SDR 21; or ASTM D 1785, Schedule 80 shall be permitted.

Curb drains and fittings shall be joined in accordance with approved manufacturers' recommendations or as approved by the Engineer.

## SECTION 307 - STREET LIGHTING AND TRAFFIC SIGNALS

### 307-1 GENERAL

**307-1.1 Description.** *Add the following to the end of last paragraph:*

All work on street lighting installations shall conform to the provisions of street lighting special specifications and applicable amendments-in-effect on the date of advertisement of the project for bids. Copies of such special specifications are available at the offices of the BSL, telephone (213) 847-5410.

**307-1.5 Maintenance of Existing Systems.** *Add the following to the end of first paragraph:*

The Contractor shall protect and maintain all street lighting facilities existing in the work area. Should any damage to an existing street lighting system occur, the Contractor shall immediately notify the BSL, Field Operations Division (FOD), at (323) 913-4743. The Contractor shall arrange for the immediate repair and restoration to service of the damaged lighting system at no cost to the City. Electrical safety clearance shall be obtained before performing any work on existing energized street light circuits. The Contractor shall obtain clearance for emergency repairs from the DWPPS, Street Light Maintenance Section, telephone (213) 367-9966. The BSL (FOD) at (323) 913-4743 shall be notified of location, date, and time of the circuit clearance before performing work on any street lighting circuits. All temporary or permanent street lighting repairs shall be made by a licensed electrical Contractor. All equipment and materials used for repair of the street lighting system shall be approved by the street lighting construction and repair superintendent before the re-energizing of the affected lighting circuits, telephone (323) 913-4743. Whenever the word "Approved" appears in 307-2 and 307-3, it shall mean "Approved by the Engineer." Should the Contractor fail to perform the required repairs or replacements promptly, the BSL (FOD) will perform such repairs and replacements and the costs thereof will be deducted from any monies due or that will become due the Contractor.

In cases where a temporary removal or relocation of street lighting equipment (not shown on the Plans) is required, the Contractor shall submit a detailed plan. This plan shall show the changes

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to be made and it shall be submitted to the BSL, Construction Engineer, (213) 847-5419, for review and approval before doing any such work. All such work shall be accomplished by a licensed electrical Contractor at no cost to the City, or upon deposit for estimated costs with the BSL, the Bureau of Street Lighting's FOD will perform the work.

**307-4 TRAFFIC SIGNAL CONSTRUCTION.**

**307-4.2 Temporary Signal Systems.** *Add the following after the first sentence in the first paragraph:*

"If a mast arm is required, then a temporary mast arm shall be installed."

**307-5 INSPECTION AND TESTING.**

**307-5.2 Testing.** *Add the following to the end of paragraph:*

Traffic signal equipment installed by the Contractor shall be inspected by the Traffic Signal Inspector before signal circuits are energized. Call (213) 485-1071 (Central Area), (213) 485-6834 (Western Area), or (818) 756-7852 (Valley Area) for inspection.

**SECTION 308 - LANDSCAPE AND IRRIGATION INSTALLATION**

**308-1 GENERAL.** *Add the following as the last paragraph:*

When existing planted areas are to be widened, the soil shall be prepared and planting shall be done as required for restoration of existing plant able areas as modified. For unplanted areas that are widened, the upper 300 mm (12 in) of topsoil shall be Class B. All costs to the Contractor for work done in accordance with this paragraph shall be considered as included in the other work for which Bid items are entered.

**308-4 PLANTING.**

**308-4.6 Plant Staking and Guying.**

**308-4.6.1 Method "A" Tree Staking.** *Replace the first sentence with the following:*

The tree shall be staked with a 38 mm (1½ in.) (nominal diameter) by 10ft long steel (ASTM F 1083) pipe. The pipe shall be new galvanized Schedule 40, or new second class (pipe disqualified during manufacture) ungalvanized pipe with a minimum wall thickness of 3.4 mm (0.135 in.). Second class pipe that meets material and thickness requirements and is straight, free of dents, pits, rust, scale, or other foreign matter is acceptable. Ungalvanized pipe and pipe with galvanizing defects shall be painted with a green colored enamel recommended by the manufacturer as suitable for steel surfaces. The minimum paint coat (or coats) thickness shall be 76µm (3 mils). The stake shall be installed vertically. The stake shall be positioned at least 150 mm (6 in.) from the trunk at ground level and 760 mm (30 in.) into the soil in a manner to avoid injury to the roots or breaking the root ball.

**308-6 MAINTENANCE AND PLANT ESTABLISHMENT.** *Add the following to the end of*

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*first paragraph:*

Maintenance shall include continuous operations of watering, weeding, mowing, rolling, trimming, edging, cultivation, fertilization, spraying, control of pests, insects, rodents, reseeding, plant replacement (irrespective of cause), or any other operations necessary to assure normal plant growth.

*Add the following to the end of second paragraph:*

Unless otherwise approved by the Engineer, each ground planted tree not watered by an automatic system shall receive approximately 75 liters (20 gallons) of water every seven (7) days. Water shall be applied at a rate that will avoid erosion or loss of water.

*Add the following paragraph before the last paragraph:*

As a part of the Work required under the plant maintenance period, the Contractor shall provide and apply commercial fertilizer as specified under 212-1.2.3, with an 8-8-4 analysis to lawns and ground cover areas only, at the rate of 7.3 kg per 100 m<sup>2</sup> (15 pounds per 1000 square feet.). This material shall be applied no later than 15 days before the end of the establishment period. The Inspector shall be notified to inspect the project before the application of the 8-8-4 fertilizer, to confirm the amount delivered and applied and to approve the method of application.

*Add the following to the end of last paragraph:*

The maintenance period is a part of, but may extend beyond, the period specified for completion of the Work under the Contract.

## SECTION 310 - PAINTING

### 310-5 PAINTING VARIOUS SURFACES

#### 310-5.6 Painting Traffic Striping, Pavement Markings, and Curb Markings

**310-5.6.1 General.** *Replace first and second paragraphs with the following:*

**Temporary Striping.** Temporary or detour striping, as specified on the plan, shall be performed by the Contractor or permittee. The Contractor shall submit a Comprehensive Traffic Control Plan (TCP) for approval to LADOT at the appropriate District Office. The TCP shall be submitted not less than 30 calendar days before the start of construction and shall be signed by the LADOT District Engineer before construction. The plan shall be prepared by and signed by a traffic Engineer registered in the State of California. The plan shall include all regulatory, warning and guidance devices conforming to the requirements of the latest adopted edition of the WATCH Handbook or LADOT Worksite Traffic Control Plan (S - 488.0) and the State Traffic Manual.

The Contractor shall be responsible for all work related to the approved temporary striping plan, including, but not limited to, sandblasting, detour striping tape, mark out, striping, delineators, nonregulatory signing, and barricading. LADOT shall be responsible for detour-related regulatory signing. For detours of six (6) months or less, black detour tape should be used to cover old striping and "detour grade" tape shall be installed to delineate temporary striping. For detours longer than six

(6) months, old striping shall be sandblasted and temporary striping painted. Paint cover of old striping is not acceptable. The installation of each striping stage and the removal of the previous stage shall be performed on the same day. During striping implementation, traffic may be restricted to one lane in each direction between 8:30 A.M. and 4:00 P.M., unless otherwise specified in the Special Provisions.

Necessary removal of existing and temporary striping and markings shall be performed by the Contractor or permittee. The removal of striping and markings shall be performed before the mark out of detour or final striping. Quantities for painted, taped, or thermoplastic striping removal and the installation of temporary striping shall be bid and paid in a lump sum.

Mark-out shall be by heavy paint brush markings over a pulled rope in the respective white and yellow colors of the proposed striping (striping gaps shall be dotted). If the mark-out is to remain overnight before final striping, temporary reflectorized overlay markers shall be installed per LADOT Standard Drawing S-453.0. All temporary striping and pavement markings require LADOT approval.

**Final Striping.** The mark-out and installation of final striping and pavement markings shall be performed by the Contractor. Quantities for painted or plastic striping removal of existing striping and installation of permanent striping shall be bid as shown on the LADOT approved final striping plan or as indicated elsewhere in the Contract Documents. Mark-out shall be by heavy paint brush markings over a pulled rope in the respective white and yellow colors of the proposed striping (striping gaps shall be dotted). If the mark-out is to remain overnight before final striping; temporary reflectorized overlay markers shall be installed per LADOT Standard Drawing S-453.0. Striping and pavement markings shall be in hot applied alkyd thermoplastic in accordance with LADOT Specification Numbers 51-005-04 and 76-012-09. All final striping and pavement markings require LADOT approval.

**310-5.6.4 Geometry, Stripes and Traffic Lanes.** *Replace first paragraph with the following:*

Permanent and temporary striping and marking shall be in accordance with 310-5.6.1 as modified above.

Refer to LADOT standard drawings S-401.0, S-401.1, S-402.0 and S-414.4 for geometry, stripes, and traffic lanes.

## PART 5

### SECTION 500 - PIPELINE SYSTEM REHABILITATION

#### 500-1 PIPELINE REHABILITATION

##### 500-1.1 Requirements.

###### 500-1.1.1 General. *Modify and add after the second sentence;*

The type of rehabilitation materials and methods for a given project will be designated on the Plans and/or in the Specifications. Only those liners or coatings approved by the City Engineer, a list of which is on file in the office of the City Engineer, shall be used.

**500-1.1.5 Television Inspection.** *Modify the second sentence of the first paragraph as follows:* Substitute the phrase "work was completed" for the phrase "rehabilitation method selected was installed"

*Modify the last two paragraphs as follows:*

After the phrase "post rehabilitation," add the phrase "or post installation"

###### 500-1.1.6 Sampling, Testing, and Installation *Replace the entire section with following:*

**Field Sampling.** All materials are subject to sampling and testing in accordance with 4-1. Material that does not conform to the physical properties stated in the contract shall be removed and replaced at no additional cost to the city. A time extension will not be granted for the construction required to rectify this noncompliance.

**Verification.** At least 20 working days before installation, the Contractor shall submit a written Material Certification and Testing Data to the Engineer.

**Material Certification:** A Statement that the rehabilitation system that satisfied the Chemical Resistance Test, continues to be the supplied rehabilitation system and that no changes in formulation, compound or constituent has since occurred.

**Testing Data:** Tests performed and reported by a laboratory approved by the Engineer for the following:

- 1) Initial Tensile Strength and Elongation (ASTM D638);
- 2) Initial Flexural Modulus (ASTM D790);
- 3) Specific Gravity;
- 4) Impact Strength (ASTM D256) or Shore D Hardness (ASTM D2240);
- 5) Apparent Cell Classification (ASTM D1784, D3262 or D3350).

The results of the tests shall meet or exceed the control chemical resistance and physical properties tests archived with the City. Reports by an approved laboratory that performed the above tests within the previous 24 months are acceptable. Otherwise, the Contractor shall engage the services of an approved laboratory, at no cost to the City, to perform the above specified tests and provide current Testing Data.

Rehabilitation systems whose test values do not conform to the control test data shall not be

installed. The material will be rejected and shall not be delivered to the jobsite.

### **500-1.3 High-Density Polyethylene (HDPE) Solid-Wall Pipe Liner.**

**500-1.3.5 Chemical Resistance and Physical Testing.** *Delete the last sentence of the paragraph and add the following;*

The Chemical Resistance (Pickle Jar) Test is a qualification test.

### **500-1.4 Cured-in-Place Pipe (CIPP) Liner**

**500 - 1.4.2 Material Composition and Testing:** *Replace entire section with the following:*

The Contractor shall provide field samples to the Engineer for verification. Unless otherwise specified, samples shall be provided at the entrance, terminating maintenance holes and at each intermediate maintenance hole. If samples cannot be provided from the maintenance holes then samples shall be provided from within the line.

The samples taken from the maintenance holes shall be taken from the CIPP installed through a mold and cured in a manner representative of the actual installation. The sample will be approximately 0.5 m (19.68 in.) long. The mold shall be 0.5 mm (0.02 in.) or thinner sheet metal, the same diameter as the actual inside the diameter of the host pipe, laid along the maintenance hole trough and supported by sandbags or equivalent means. The vertical (12 o'clock) position of the sample shall be marked. Samples that cannot be supplied from the maintenance holes will be provided by a radial cut approximately 0.5 m (19.68 in.) from the nearest maintenance hole. The resulting section will be removed for testing. A local repair shall be provided to repair the CIPP where the sample was removed. The repair procedure shall be submitted to the Engineer for approval before removing the CIPP sample. The vertical (12 o'clock) position of the sample shall be marked.

The samples will be used to verify compliance or noncompliance. Test bars will be taken along the CIPP near the middle of each sample. Five test bars will be taken at the 10, 11, 12, 1 and 2 o'clock positions. The average shall satisfy the dimensional and physical properties specified in the contract. Noncompliant CIPP shall be immediately removed and replaced at no additional cost to the City. No time extensions will be granted to rectify the noncompliance. Additional testing may be requested by the Contractor. However, the cost of the additional testing will be deducted from any moneys that are due or may become due to the Contractor.

The CIPP liner shall have, as a minimum, the initial structural properties per Table 500 - 1.4.2(A).

### **500-1.5 Polyvinyl Chloride (PVC) Pipe Lining System.**

**500-1.5.5 Chemical Resistance and Physical Testing.** *Replace the entire paragraph with the following:*

The PVC and cured sealant/adhesive material furnished shall conform to the chemical resistance test requirements of 210-2.3.3.

### **500-1.7 Deformed/Re-formed HDPE Pipe Liner.**

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**500-1.7.5 Chemical Resistance and Physical Testing.** *Replace the entire paragraph with the following:*

The HDPE pipe specimens shall conform to 207 - 19.5, except the requirements shall be met with samples from pipes subjected to the deformation and reforming process. The Chemical Resistance (Pickle Jar) Test is a qualification test.

**500-1.10 Folded and Re-formed PVC Pipe Liner.**

**500-1.10.2 Type A Folded and Re-formed PVC Pipe Liner.**

(e) **Chemical Resistance and Physical Testing.** *Delete the last sentence of the paragraph*

*And Add;*

For Vylon Pipe, refer to Section 500 - 1.12 Polyvinyl Chloride (PVC) Closed Profile Liner Pipe.