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# SECTION ONE

## PROPOSAL REQUIREMENTS

### 1.01 GENERAL INFORMATION

The City Administrator will receive at the City Hall until the hour and day specified in the "Notice to Bidders", sealed proposals for furnishing of material, supplies, equipment and labor for performing the work as specified in the plans, special provisions and these specifications, each of which is intended to compliment the others and to be an integral part of the whole.

### 1.02 PROPOSAL FORM

All proposals must be made upon blank forms to be obtained from the office of the Engineer and/or at City Hall. All proposals must give the prices proposed and must be signed by the bidder with his address. If the proposal is made by an individual, his name and mailing address must be shown. If made by a firm or partnership, the name and mailing address of each member of the firm or partnership must be shown. If made by a corporation, the proposal must indicate the state in which the corporation was incorporated and the names, titles, and business addresses of the president and the secretary. All proposals shall list the bidder's state contractor license number, and shall also bear the corporation seal, if any.

### 1.03 DESIGNATION OF SUBCONTRACTORS

Contractor shall file with his bid the name and address of each subcontractor who will perform more than one half of one percent of the work. Only one subcontractor shall be listed for each portion of the work, which portion shall be defined as to its nature and extent. Designation of subcontractors must be made upon blank forms furnished with the contract documents and must be signed by the bidder.

Failure of Contractor to specify a subcontractor shall constitute a statement that Contractor is qualified and intends to perform the work himself.

### 1.04 WITHDRAWAL OR MODIFICATION OF BID

Any bid may be withdrawn at any time prior to the time fixed for the opening of bids. Any bid may be modified after delivery to the City Hall on or before the time fixed for the bid opening by submission of a written sealed supplement to the original bid marked "Supplement to (designation of original bid)". Such supplement shall clearly identify the bid item, the original bid price, and the modified price. The City Council may reject any supplemental bid which, in their opinion, does not set forth the proposed modification clearly enough to determine with definiteness and certainty the price or prices offered by the bidder.

## 1.05 BIDDERS GUARANTEE

No bid proposal will be considered for award unless the bidder has complied with either (1) or (2):

1. Bidders must deposit with their bid proposals a Cashier's or Certified Check or a Bidder's Bond of a corporate surety authorized to do business in the State of California and acceptable to the City and made payable to the City in the amount specified in the specifications. Such deposit shall be retained by the City as a guarantee that the bidder, if awarded all or any part of the bid, shall within ten calendar days from the date notice of award is mailed to the bidder, enter into a contract and furnish such bond or bonds as may be required by the specifications. All bid deposits will be returned when contracts have been entered into for all units awarded, or if all bids are rejected.
2. If the bidder contemplates submitting bids from time to time during a period of one year for the furnishing of certain materials, supplies or services to the City, the bidder may cover all such bids by a single Annual Bidder's Bond instead of a separate bond for each bid. If such an Annual Bidder's Bond is registered with the City, and is currently valid, it shall be deemed to accompany each and every bid submitted, provided such bond is in sufficient amount to provide the required deposit for all of the bidder's proposals then outstanding. It shall be stated upon the bid proposal that such an Annual Bidder's Bond is registered with the City.

## 1.06 RETURN OF BIDDER'S GUARANTEES

Within ten (10) days after the award of the contract, the City will return the proposal guarantees accompanying those proposals which are not awarded any portion of the work. All other guarantees will be held until the contract has been fully executed, after which they will be returned to the respective bidders whose proposals they accompanied.

## 1.07 CONTRACT BONDS

The Contractor shall furnish a Faithful Performance Bond in an amount equal to one hundred percent (100%) of the contract price to guarantee to the City the faithful performance of the contract by the Contractor, and shall also furnish a Labor and Material Bond in an amount equal to one hundred percent (100%) of the contract price. Both bonds shall be executed by corporate sureties authorized to do business in the State of California and acceptable to the City Attorney, and shall be payable to the City.

Whenever any surety or sureties on any such bonds, or on any bonds required by law for the protection of the claims of laborers and material suppliers become insufficient or the City has cause to believe that such surety or sureties have become

insufficient, a demand in writing may be made upon the Contractor by the City for additional surety, as may be necessary in the opinion of the City, considering the extent of the work remaining to be done, but said additional surety shall not cause the total to exceed one hundred fifty percent (150%) of the anticipated cost of the work then remaining to be completed. Thereafter, no payment shall be made upon such contract to the Contractor or any assignee of the Contractor until such further bond or bonds or additional surety has been furnished.

#### **1.08 REJECTION OF PROPOSALS CONTAINING ALTERATIONS, ERASURES OR IRREGULARITIES**

The right is expressly reserved to accept or reject any and all proposals, and to waive any informality in the bidding.

Proposals may be rejected if they show any alterations of form, additions, conditional or alternative bids not called for, incomplete bids, erasures or irregularities of any kind. Proposals in which the prices obviously are unbalanced may be rejected.

#### **1.09 AWARD OF CONTRACT**

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements described in the contract documents. The award, if made, will be made within thirty (30) days after the opening of the bids. All bids will be compared on the basis of the Engineer's estimate of quantities of work to be done.

#### **1.10 EXECUTION OF CONTRACT**

The contract shall be signed by the successful bidder and returned, together with the contractor bonds, within ten (ten) calendar days after the bidder has received notice that the contract has been awarded. No proposal shall be considered binding upon the City until the execution of the contract.

In case of default in executing the required contract or furnishing necessary bonds within the time limitation as set forth in the preceding paragraph, the proceeds of the check or bond accompanying the bid shall become property of the City as liquidated damages.

#### **1.11 EXAMINATION OF PLANS, SPECIFICATIONS AND SITE OF WORK**

No bidder shall submit a bid without first carefully examining the site of the work contemplated, the plans and specifications and the proposal forms. The submission of a bid shall be conclusive evidence that the bidder has so investigated and is satisfied as to the conditions to be encountered with regard to the character, quality and scope of work to be performed, the quantities of materials to be furnished and the requirements of the proposal, plans, specifications and the contract documents.



## 1.12 DEFINITIONS

When used in the contract documents, the terms, phrases and abbreviations listed shall have the following meanings:

**A.S.A. -**

American Standards Association (now U.S.A.S.I., U.S.A. Standards Institute) and its standard specifications.

**A.S.T.M. -**

American Society for Testing and Materials Specifications.

**A.W.W.A. -**

American Water Works Association and its Standard Specifications.

**N.B.S. -**

National Bureau of Standards and its Standard Specifications.

**BIDDING REQUIREMENTS -**

Submittals and/or actions on the part of a bidder as mandated by the contract documents in order to qualify a bid proposal.

**CITY -**

The City of Selma, California.

**CONTRACT DOCUMENTS -**

All those documents pertaining to the description of the work and the contract for the performance of the work, including the notice inviting bids, instructions to bidders, the proposal, the specifications, change orders and any special orders or instructions to the Contractor.

**CONTRACT PRICE -**

The total amount of money for which the contract is awarded.

**CONTRACT UNIT PRICE -**

The Contractor's bid for a single unit of an item of work in the proposal.

**DEPARTMENT OF PUBLIC WORKS -**

City Administrator and/or his duly authorized agents.

**DIRECTOR OF PUBLIC WORKS -**

Same as above.

**ENGINEER -**

City Engineer acting either directly or through properly authorized agents, acting within scope of the particular duties entrusted to him.

**OWNER -**

The City of Selma.

**CONTRACTOR -**

The person or persons, co-partnership or corporation, private or municipal, who have entered into contract for this work as party or parties of the second part, or his or her legal representatives.

**LABORATORY -**

Any laboratory of a public agency or a recognized commercial testing laboratory.

**APPROVED, REQUIRED, DIRECTED -**

Approved, Required, Directed or words of similar import, refer to and indicate that the work or materials shall be “approved”, “required” or “directed” by the owner or his duly authorized representative.

**APPROVED EQUAL -**

Approved Equal or words of like import refer to and indicate material which has been approved by the Engineer as similar and equal in all respects and acceptable for use in lieu of the particular materials as specified in the contract documents. No substitute material shall be used in any of the work unless approval to use same is first obtained in writing from the Engineer. The owner reserves the right to reject any and all materials, either before or after installation that are not as specified or approved by the Engineer in writing. In all cases where proprietary articles are specified, it is the intent of the specifications to permit the use of approved equals, unless specifically prohibited. Requests for “Approved Equal” status for proposed substitutions shall be submitted within thirty (30) days after the award of the contract. Such requests shall include the reason for substitution (availability, price, etc.), data to substantiate the equal quality and proposed credit to the contract price for the use of such substitutions, should it be approved.

**DRAWINGS -**

Plans, working drawings, etc., which are made a part of the contract documents to facilitate completion of the project.

**UTILITY -**

Tracks, overhead or underground wires, pipelines, conduits, ducts, or structures, sewers, storm drains or water lines owned, operated, or maintained in or across a public right-of-way or private easement.

**WORK -**

That which is proposed to be constructed or done under the contract or permit, including the furnishing of all labor and materials.

**COUNCIL -**

The City Council of the City of Selma.

**DAYS -**

Days shall mean consecutive calendar days unless otherwise specified.

**PERSONS -**

Any individual, association, partnership, corporation, trust, joint venture or other legal entity.

**PLANS -**

The drawings, profiles, cross sections, working drawings and supplemental drawings or reproductions thereof, approved by the Engineer which show the locations, character, dimensions or details of the work.

**PROPOSAL -**

The offer of a bidder when submitted on the proposal form, properly signed and guaranteed.

**REFERENCE SPECIFICATIONS -**

Those bulletins, standards, rules, methods of analysis or test, codes and specifications of other agencies, engineering societies or industrial associations, referred to in the contract documents. These refer to the latest edition, including amendments in effect and published at the time of advertising the project or issuing the permit, unless specifically referred to by edition, volume or date.

**ROADWAY -**

The portion of street reserved for vehicular use.

**SERVICE CONNECTION -**

Service connections are all or any portion of the conduit, cable or duct, including meter, between a utility distribution line and an individual consumer.

**SPECIAL PROVISIONS -**

Any provisions which supplement or modify these Standard Specifications.

**SPECIFICATIONS -**

Standard specifications, reference specifications, special provisions, general conditions and specifications in supplemental agreements between the Contractor and the City.

**STANDARD DRAWINGS -**

Drawings showing the details of standard structures, devices, or facilities frequently constructed by the City and adopted by the council as the approved design.

**STATE -**

The State of California or the State Department of Transportation (Caltrans).

**STATE STANDARD SPECIFICATIONS -**

The Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.

**STORM DRAIN -**

Any conduit and appurtenance intended for the reception and conveyance of storm water.

**STREET -**

Any public road, highway, parkway, freeway, alley, walk or right-of-way.

**SUBCONTRACTOR -**

The person entering into a contract with the Contractor to perform a portion of the work.

**SUPERVISION -**

Where used to indicate supervision by the Contractor, shall mean the active and direct superintendence of the details of the work by the Contractor, the job foreman, superintendent, project coordinator or other person delegated to represent the Contractor on the job site.

Except as specifically stated in the contract, supervision by the City shall not mean active and direct superintendence of details of the work.

**SURETY -**

Any individual, firm or corporation, bound with and for the contractor for the acceptable performance, execution and completion of the work, and for the satisfaction of all obligations incurred.

**1.13 UNIT PRICES**

Excepting the items for which lump sums are called for, the unit prices inserted in the bid form by the bidder will be considered to be the bid prices for the various units of work and shall be used in the calculation of the amount due the Contractor for work performed. In case of a discrepancy between the unit price bid and the calculated total for the item, the unit price shall govern.

**1.14 MORE THAN ONE PROPOSAL FROM A BIDDER**

More than one proposal from an individual, a firm or partnership, a corporation, or an association under the same or different names, will not be considered. Reasonable ground for believing that any bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such bidder is interested. If there is reason to believe that collusion exists among the

bidders, none of the participants in such collusion will be considered in future proposals.

## SECTION TWO

### SCOPE OF WORK

#### 2.01 WORK TO BE DONE

The work to be done consists of furnishing all labor, materials, methods and processes, implements, tools and machinery, except as otherwise specified which are necessary and required to construct and put in complete order for use the proposed improvements designated in the contract, and to leave the grounds in a neat and safe condition.

#### 2.02 ALTERATIONS

By mutual consent in writing of the parties signatory to the contract, alterations, deviations, increases or decreases in quantities, additions to, or omission from the plans and specifications may be made and shall in no way affect or invalidate the contract, provided the aggregate of such alterations does not change the total contract cost or the total cost of any major contract item by more than 25 percent (total cost being based on unit prices and estimated quantities in the awarded contract). Alterations which do not exceed the 25 percent limitation, and which are for work within the general scope of the contract shall be covered by "Change Orders" issued by the Engineer. Change orders for altered work shall include extensions of contract time where, in the opinion of the Engineer, the amount and difficulty of added work warrants such extension.

Should the aggregate amount of altered work exceed the above specified 25 percent limitation, such excess altered work shall be covered by supplementary agreement. If the Owner and the Contractor are unable to reach a supplemental agreement for any contract item requiring such an agreement, the Owner reserves the right to terminate the contract.

#### 2.03 EXTRA WORK

New and unforeseen work will be classed as extra work when such work cannot be covered by any of the various items or combination of items for which there is a bid price.

The Contractor shall do no extra work except upon written order from the Engineer. For such extra work, the Contractor shall receive payment in accordance with the unit prices or as previously agreed upon in writing or he shall be paid on force account as set forth in Section 7 of these Specifications.

#### 2.04 REMOVAL OF OBSTRUCTIONS

The Contractor shall remove and dispose of all structures, debris, or other obstructions of any character including such trees as are specifically designated by

the Engineer for removal if (in the sole opinion of the Engineer) such obstructions would hinder the proper completion of the work.

## 2.05 FINAL CLEANING UP

Upon completion and before making application for acceptance of the work, the Contractor shall clean the street or road, borrow pits and all ground occupied by him in connection with the work, of all rubbish, excess materials, temporary structures and equipment. All parts of the work shall be left in a neat and presentable condition.

## SECTION THREE

### CONTROL OF THE WORK

#### 3.01 AUTHORITY OF THE ENGINEER

The Engineer shall decide any and all questions which may arise as to the quality or acceptability of materials furnished and work performed, the manner, performance and rate of progress of the work; the interpretation of the plans and specifications; claims and compensation.

The Engineer's decision shall be final and he shall have executive authority to enforce and make effective such decisions.

#### 3.02 ALTERATION OF PLANS

All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made of any plan or drawing after the same has been approved by the Engineer, except by direction of the Engineer.

Working drawings or plans for any structure not included in the plans furnished by the Engineer shall be approved by the Engineer before any work involving these plans shall be performed, unless approval is waived in writing by the Engineer.

It is mutually agreed, however, that the approval by the Engineer of the Contractor's working plan does not relieve the Contractor of any responsibility for accuracy of dimensions and details, and that the Contractor shall be responsible for agreement and conformity of his working plans with the approved plans and specifications.

#### 3.03 CONFORMITY WITH PLANS AND ALLOWABLE DEVIATION

Finished surfaces in all cases shall conform with the lines, grades, cross-sections and dimensions shown on the approved plans. Any deviation from the approved plans must be authorized by the Engineer.

#### 3.04 COORDINATION OF PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS

These specifications, the plans, special provisions and all supplementary documents are essential parts of the contract and a requirement occurring in one is as binding as if occurring in all.

Specifications shall govern over plans; special provisions shall govern over both specifications and plans.



### 3.05 INTERPRETATION OF PLANS AND SPECIFICATIONS

Should it appear that the work to be done or any matter relative thereto is not sufficiently detailed or explained in these specifications, the plans, or the special provisions, the Contractor shall apply to the Engineer for such further explanation or interpretation as part of the contract. In the event of doubt or question relative to the true meaning of the contract documents, the Engineer's decision shall be final.

In the event of any discrepancy between any drawings and the figures written thereon, the figures shall be taken as correct.

### 3.06 SUPERINTENDENCE

Whenever the Contractor is not present on any part of the work he shall have present a superintendent or foreman in charge of the particular work. Instructions issued by the Engineer to the man in charge of the work shall be deemed to have been issued to the Contractor.

### 3.07 LINES AND GRADES

Surveying adequate for construction will be performed by the City prior to the start of construction. The Contractor shall be responsible for preserving construction survey stakes and marks for the duration of their usefulness. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement shall be at the expense of the Contractor.

All distances and measurements will be made and given in a horizontal plane. Stakes will be set and stationed for curbs, headers, storm drains, structures and rough grade (or flow line) indicated on a grade sheet. Three consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the Engineer. Any deviation from the grades as shown on the plans shall be the responsibility of the Contractor.

Grades for underground conduits will be set at the surface of the ground and the Contractor shall be responsible for transferring such grades to the bottom of the trench.

In the event that survey work is performed by crews other than those employed by the Engineer, such work shall conform to the quality and practice required by the Engineer but the professional liability for such work shall remain with the Employer. The Engineer shall be notified before the stakes are set and cut sheets will be furnished to the Engineer immediately after the setting of the grades.

### 3.08 INSPECTION

The Engineer shall at all times have access to the work during construction and shall be furnished with all information regarding the progress, workmanship and quality of the materials used in the work.

Whenever the Contractor varies the period during which works is carried on each day, he shall give due notice to the Engineer so that proper inspection may be provided. Any work done in the absence of the Engineer will be subject to rejection.

The inspection of the work shall not relieve the Contractor of any obligation to fulfill the contract as prescribed. Defective work shall be made good, and unsuitable materials may be rejected notwithstanding the fact that such defective work and unsuitable materials have been previously overlooked by the Engineer and accepted or included in progress payments.

Projects financed in whole or in part with funds from sources other than the City shall be subject to inspection at all times by the agency providing said funds or its authorized agent.

### **3.09 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK**

All work which is defective in its construction or deficient in any of the requirements of these specifications shall be remedied or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed for such correction.

Any work done beyond the lines and grades shown on the plans or any extra work done without written authority of the Engineer will be considered as unauthorized and will not be compensated.

Should the Contractor fail to immediately comply with any order of the Engineer made under the provisions of this article, the Engineer shall have authority to order defective work to be removed by other parties and to deduct such costs from any monies due or to become due to the Contractor.

### **3.10 FINAL INSPECTION**

After the work specified in the contract has been satisfactorily completed and the final clean-up has been performed, the Engineer will make the final inspection. Any deficiencies noted during such inspection shall be corrected prior to acceptance of the project.

### **3.11 SEQUENCE OF WORK**

The Engineer shall have the power to direct the sequence of the work as necessary to insure that the construction of one part will not interfere with the proper completion of other parts. If at any time before the commencement or during the progress of the work, the materials and appliances used or to be used appear to the Engineer as insufficient or improper for securing the quality of work or rate of progress required, he may order the Contractor to make appropriate corrections to his operation, and the Contractor shall conform to such order. However, the failure of the Engineer to demand any increase of such efficiency or any improvement shall

not release the Contractor from his obligation to secure the quality of work or the rate of progress specified.

### 3.12 SANITARY REGULATIONS

Necessary housing accommodation shall be provided for the workmen for changing clothes and for protection during inclement weather. Toilet accommodations shall also be maintained for the use of employees on the work. The accommodations shall be in approved locations properly screened from public observation and shall be maintained in a strictly sanitary manner. The Contractor shall obey and enforce all other sanitary regulations and orders against infectious diseases and the spread of same and shall maintain at all times satisfactory sanitary conditions around all shanties, tool and supply houses, and on all other parts of the work.

### 3.13 EXISTING STRUCTURES IN RELATION TO PLANS

Where underground and surface structures are shown on the plans, the locations, depth and dimensions of such structures are believed to be reasonably correct but are not guaranteed. Such structures are shown for the information and convenience of the Contractor but such information so given is not to be construed as a representation that such structures will, in all cases, be found or encountered just where shown or that they represent all the structures which may be encountered. It shall be the Contractor's responsibility to locate and protect or remove all structures as the case may be.

### 3.14 PROTECTION OF WORK

The Contractor must provide and maintain proper barricades, fences or signal lights to protect the work, persons, animals, or private property from injury. He shall also furnish and maintain appropriate traffic control signs lettered in large, readable type, on all approaches leading to his work as may be directed by the Engineer. These statements of specific duties of the Contractor shall not be construed as a limitation of the general duties imposed by the contract or specifications. See also section 10.05.

The Owner reserves the right to remedy any neglect on the part of the Contractor as regards the protection of the work, after twenty-four (24) hours' notice in writing except in case of emergency, when he shall have the right to remedy any neglect without notice, and in either case to deduct the cost of such remedy from money due the Contractor.

### 3.15 CARE OF STRUCTURES

The Contractor shall be liable for all damage done to any structure arising through his operations. He shall take care not to damage and shall maintain in good condition all sewers, drains, culverts, conduits, house services and other underground structures encountered in the performance of the work.

The Contractor shall repair all damage done to any of the said structures through his acts or neglect and shall keep them in repair during the life of this contract. He shall in all cases leave them in as good condition as they were prior to the commencement of the work.

Care shall be taken not to move, without the consent of the Engineer, any storm drains, culverts, water, gas, or other pipes, poles, or structures. In crossing or running parallel with such structures, Contractor shall securely hang, brace and support such structures in place as required by the affected utilities until the work is completed.

### **3.16 OMISSIONS IN PLANS AND SPECIFICATIONS**

Any materials or work mentioned in the specifications and not shown on the drawings or that is shown on the drawings but not mentioned in the specifications shall be of the same effect as if shown or mentioned in both.

Omission from the drawings or the specifications of the materials or details of work which are manifestly or obviously necessary to carry out the intent of the drawings and specifications, or which are customarily furnished or performed, shall not relieve the Contractor of his responsibility for furnishing such omitted materials or performing such omitted work; such materials or work shall be furnished or performed as if fully shown or described in the drawings or specifications.

### **3.17 MAINTAINING TRAFFIC**

Unless otherwise authorized by the contract documents, the Contractor shall arrange his work so as to allow two way vehicular traffic at all times, and will direct and supervise traffic as instructed by the Engineer.

The Contractor shall also keep the Police and Fire Departments informed at all times as to the exact locations and progress of the work and shall notify them immediately of any streets closed to traffic or impassable for emergency equipment.

### **3.18 WATERING**

Payment for the application of water used in the construction shall be included in the various other bid items unless specifically called for as a separate item. If a bid item for applying water is included, the Contractor shall obtain a water meter from the water company to measure the amount used.

## SECTION FOUR

### CONTROL OF MATERIALS

#### 4.01 MATERIALS AND WORKMANSHIP – GENERAL

All materials, parts and equipment furnished by the Contractor in the work shall be new, first quality and free from defects. Workmanship shall be in accordance with generally accepted standards. Both materials and workmanship shall be subject to the approval of the Engineer. Any materials and workmanship not conforming to the requirements of these specifications shall be considered defective and will be subject to rejection. Defective work or materials, whether in place or not, shall be removed immediately from the site by the Contractor, at his expense, when so directed by the Engineer. If the Contractor fails to replace any defective or damaged work or material after notice from the Engineer, the Engineer may order such work or materials to be replaced. The replacement expense shall be deducted from the amount to be paid to the Contractor.

Used or secondhand materials, parts and equipment may be installed only if specifically permitted in the Special Provisions or Technical Specifications.

#### 4.02 PROTECTION OF WORK AND MATERIALS

The Contractor shall provide and maintain storage facilities and employ such measures as will preserve the specified quality and fitness of materials to be used in the work. Stored materials shall be reasonably accessible for inspection. The Contractor shall also adequately protect new and existing work and all items of equipment for the duration of his contract.

#### 4.03 TESTS OF MATERIALS

Before incorporation in the work, the Contractor shall submit samples of materials, as the Engineer may require, at no cost to the City. The Contractor, at his own expense, shall deliver the materials for testing to the place and at the time designated by the Engineer. Unless otherwise provided, all testing shall be performed under the direction of the Engineer. Any retesting required because of failure of materials to pass the initial test shall be done at the expense of the Contractor.

The Contractor shall notify the City in writing at least fifteen (15) days in advance of his intention to use materials for which tests are specified to allow sufficient time to perform the tests. The notice shall name the proposed supplier and source of material.

#### 4.04 TRADE NAMES OR EQUALS

It is the intent of these specifications to permit the Contractor to supply any of the materials specified or offer an equivalent. The Engineer shall determine whether the material offered is equivalent to that specified. Adequate time shall be allowed for the Engineer to make this determination.

Whenever any particular material, process, or equipment is indicated by patent, proprietary or brand name, or by name of manufacturer, such wording is used for the purpose of facilitating its description and shall be deemed to be followed by the words "or equal". A listing of materials is not intended to be comprehensive, or in order of preference. The Contractor may offer any material, process, or equipment which he considers to be equivalent to that indicated. Unless otherwise authorized by the Engineer, the offer must be submitted in sufficient time before the normal use or installation of the material, process or equipment, for the Engineer to determine the equivalency and the Contractor to make any required purchases (including delivery) and to make the use or installation without delay beyond the time of such normal use or installation.

The Contractor shall, at his expense, furnish data concerning items offered by him as equivalent to those specified. He shall have the material tested as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service and suitability are such that the item will fulfill its intended function.

Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results and determine if the substitute item is equivalent. His findings shall be final. Installation and use of a substitute item shall not be made until approved by the Engineer in writing.

If a substitute offered by the Contractor is found to be not equal to the specified material, the Contractor shall furnish and install the specified material. The specified contract completion time shall not be affected by any circumstance developing from the provisions of this subsection.

## SECTION FIVE

### LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

#### 5.01 LAWS TO BE OBSERVED

The Contractor shall keep himself fully informed of all existing State and National laws and all municipal ordinances and regulations of the City which in any manner affect those engaged or employed in the work or the materials used in the work or which in any way affect the conduct of the work.

#### 5.02 HOURS OF LABOR

Eight (8) hours per day and forty (40) hours per week shall constitute legal work hours under City contracts, and the Contractor and subcontractor shall keep accurate records showing the name of and the hours worked each calendar day and each calendar week by each workman employed by him on said work. Overtime shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1 ½ ) times the basic rate of pay as provided in Section 5.04.

#### 5.03 LABOR DISCRIMINATION

No discrimination shall be made in the employment of persons upon public works because of the race, color or religion of such persons and every Contractor for public works violating this section is subject to all the penalties imposed for such violation in accordance with the provisions of the Labor Code.

#### 5.04 PREVAILING WAGE

In accordance with the provisions of Section 1770 of the Labor Code, the Director of the Department of Industrial Relations of the State of California has determined the general prevailing rates of wages and employer payments for health and welfare, pension, vacation, travel time and subsistence pay as provided for in Section 1773.8, apprenticeship or other training programs authorized by Section 3093, and similar purposes applicable to the work to be done. Said wages are on file with the City Clerk of the City of Selma and are incorporated herein by reference. Copies of the wage rates may be obtained upon request at the Office of the City Clerk, 1711 Tucker Street, Selma, California 93662.

The Contractor shall comply with the Labor Code and in accordance with said code, the Contractor shall forfeit, as a penalty to the City, twenty-five dollars (\$25.00) for each calendar day or portion thereof for each workman paid less than the prevailing wage so ascertained for such work or craft in which such workman is employed for work done under the contract. In addition to said penalty and pursuant to said Labor Code, the difference between the ascertained prevailing wage rate and the rate actually paid shall be paid to each workman by the Contractor.

## 5.05 REGISTRATION OF CONTRACTORS

Before submitting bids, Contractors shall be licensed in accordance with the provisions of the California Business and Professions Code.

## 5.06 PERMITS AND LICENSES

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the prosecution of work.

## 5.07 PATENTS

The Contractor shall assume all responsibilities arising from the use of patented materials, equipment, devices or processes used on or incorporated in the work.

## 5.08 PUBLIC CONVENIENCE AND SAFETY

The Contractor shall conduct his operations so as to cause the least possible obstruction and inconvenience to public traffic. Unless other existing streets are stipulated in the special provisions to be used as detours, all traffic shall be permitted to pass through the work.

Access to residences and businesses along the road or street shall be maintained and temporary crossings shall be provided and maintained in good condition. No cross or intersecting street or road shall be closed at any time without the approval of the Engineer. Pedestrian walks will be provided and maintained during construction.

The Contractor shall provide all detours, furnish and erect all signs, barriers, and lights in accordance with these specifications, the Standard Specifications of the State of California, or as required by the Engineer.

## 5.09 RESPONSIBILITY FOR DAMAGE

Any contract awarded shall be expressly conditioned that the City Council, or the Engineer shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; or for any material or equipment used in performing the work; or for injury or damage to any person or persons, either workman or the public; or for damage to adjoining property from any cause whatsoever during the progress of the work at any time before final acceptance, and the Contractor shall hold the City, the Engineer and their agents harmless therefrom.

## 5.10 CONTRACTOR'S LIABILITY INSURANCE

The Contractor will indemnify and hold harmless the City, all other participating public agencies, whether or not said participating agencies are named herein, and all officers and employees of the City and said participating agencies, against any and all claims, demands, causes of action, damages (including damages to City property and property of said participating agencies), costs of liabilities (including cost of



liabilities of the City employees), in law or inequity, of every kind and nature whatsoever, directly or proximately resulting from or caused by the performance of the contract, whether such performance be by the Contractor, his subcontractor or anyone directly or indirectly employed by him. The Contractor shall, at his sole risk and expense, defend any and all suits, actions or other legal proceedings which may be brought or instituted by third persons against the City, said participating agencies, their officers and employees on any such claim, demand or cause of action, and the Contractor shall pay and satisfy any judgment or decree which may be rendered against the City, said participating agencies, their officers and employees in any such suit, action or other legal proceedings. "Participating public agency" as used in this paragraph, shall mean any agency of the United States, the State of California or any City, County or District which has contributed or agreed to contribute money or services in the preparation of plans and specifications for or to defray the cost of the work, or which has jurisdiction over all or any part of the area in which the work is to be performed.

#### WORKER'S COMPENSATION INSURANCE

Before the Contract is entered into, the bidder to whom it is awarded shall furnish the City satisfactory proof that he has taken out, for the entire period covered by the proposed Contract, full compensation insurance with an insurance carrier satisfactory to the City, for all persons whom he may employ directly or through subcontractors in carrying out the work contemplated under this Contract, in accordance with the Labor Code.

Should the Contractor fail to keep the insurance in force, the City may take out the required insurance at the Contractor's expense.

#### PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE

The contractor shall take out and maintain, during the life of the contract, such public liability and property damage insurance as shall provide him and any subcontractor performing work covered by this contract from claims for property damages which may arise because of the nature of the work or from operations under this Contract, whether such operations be by himself or by any subcontractor, or anyone directly or indirectly employed by either of them, even though such damages be not caused by the negligence of the Contractor or any subcontractor, or anyone employed by either of them. The public liability and property damage insurance shall also directly protect the City, its officers, agents, and employees, as well as the Contractor and his subcontractors, and all insurance policies issued hereunder shall so state, and name the above as additional insureds on the policy. The amount of such insurance shall be a combined, single limits policy in the minimum limits of \$1,000,000 for personal injury or death of any one person arising out of any one occurrence, and for property damage limits including automobile liability arising out of any one occurrence.

Before the execution of the Contract, the successful bidder shall file with the City a certificate or certificates of insurance, covering the specified insurance and written with such a company or companies as may be acceptable to the City. Each such certificate shall bear an endorsement precluding the cancellation, or reduction in coverage, of any policy evidenced by such certificate, before the expiration of ten (10) days after the City shall have received notification by registered mail from the insurance carrier.

If the Contractor fails to maintain the required insurance, the City will maintain the required insurance at the Contractor's expense. Nothing herein contained shall be construed as limiting the liability of the Contractor.

#### **5.11 NO PERSONAL LIABILITY**

No member of the City Council or any employee or agent of the City or any member of the governing body or any employee or any participating agency, as defined in subparagraph 10 of this section, shall be held responsible for any liability arising under this Contract.

#### **5.12 CONTRACTOR'S RESPONSIBILITY FOR WORK**

Until the formal acceptance of the work by the City, the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good on all damages to any portion of the work occasioned by any and all causes before final acceptance and shall bear the expense thereof.

#### **5.13 RESPONSIBILITY OF THE CITY**

The City shall not be held responsible for the care or protection of any material or parts of the work prior to final acceptance, except as expressly provided in these specifications or the special provisions.

#### **5.14 FINAL PAYMENT TO RELEASE OWNER**

The acceptance by the Contractor of the final payment shall be and shall operate as a release to the Owner of all claims and all liability to the contractor for all things done or performed for or relating to the work or arising out of the work, excepting only Contractor's claims, if any, for amounts withheld by the Owner upon final payment. No payment, final or otherwise, shall operate to release the Contractor or his sureties from any obligation under this Contract or the Contractor's bond, provided by warranty as specified in Section 5.21.

#### **5.15 VERBAL STATEMENTS NOT BINDING**

It is understood and agreed that the written terms and provisions of this agreement shall supersede all prior verbal statements of the Engineer or other representatives

of the Owner and such statements shall not be effective, or be construed as entering into or forming a part of, or altering in any way, whatsoever, the written agreement.

#### **5.16 AMENDMENTS TO CONTRACT**

Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and this Contract shall be read and enforced as though it were included therein, and if through mere mistake, or otherwise, any such provision is not inserted, or it is not correctly inserted, then upon the application of either party hereto, the Contract shall forthwith be physically amended to make such insertion.

#### **5.17 ASSIGNMENT OF CONTRACT**

The Contractor shall not assign this contract, or any part thereof, without the approval of the Owner, nor without the consent of surety unless the surety has waived its right to notice of assignment. All assignments of funds are subject to the prior lien for services rendered or materials supplied for the performance of the work called for in favor of all persons, firms, or corporations rendering such services or supplying materials.

#### **5.18 ACCIDENT PREVENTION**

It shall be the duty of the Contractor to exercise precaution at all times for the protection of all persons and property. The safety provisions of applicable laws, and building and construction codes shall be observed. Machinery, equipment and each and every potential hazard shall be guarded or eliminated in accordance with the safety provisions of the "Manual of Accident Prevention in Construction", published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable law.

#### **5.19 OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF**

In addition to the payment to be retained by the Owner under the preceding provisions of these General Clauses, the Owner may withhold a sufficient amount of any payment otherwise due to the Contractor to cover (a) payments that may be past due and payable for just claims for labor or materials furnished and payable for just claims for labor or materials furnished in and for the performance of the work under this contract; (b) for defective work not remedied, and (c) for failure of the Contractor to make proper payments to his subcontractor. The Owner shall disburse and shall have the right to act as agent for the Contractor in disbursing such funds as have been withheld pursuant to this paragraph to the party or parties who are entitled to payment therefrom. The Owner will render to the Contractor a proper accounting of all such funds disbursed in behalf of the Contractor.

## 5.20 REMOVAL OF TEMPORARY STRUCTURES

On or before acceptance of the work, the Contractor shall, without charge therefor, tear down and remove all buildings and other structures built by him for facilitating the carrying out of the work, and shall remove all surplus material and rubbish of all kinds from the grounds which he has occupied and shall leave the site of work clean and in good condition.

## 5.21 GUARANTEE

The Contractor shall guarantee the proper installation and performance for all equipment and facilities for a period of one year from the date of filing the notice of completion. In the event that such facilities fail to perform properly during such one year period, they shall be repaired or replaced at Contractor's expense in accordance with the instructions of the Engineer. To the extent that such facilities are out of service during the warranty period for reason of improper performance, then the warranty period shall be extended for an equivalent period of time on all portions of the project that are not operational due to such improper performance.

The Contractor shall furnish a warranty bond in the amount of twenty-five percent (25%) of the contract price to guarantee to the City the performance of repairs during this period. Such bond shall be executed by a corporate surety authorized to do business in the State of California and acceptable to the City Attorney, and shall be made payable to the City.

## SECTION SIX

### PROSECUTION AND PROGRESS

#### 6.01 SUBLETTING AND ASSIGNMENT

The Contractor shall give his personal attention to the administration of the contract and shall keep the work under his control. Subcontractors will not be recognized as such and all persons engaged in the work of construction will be considered as employees of the Contractor, and their work shall be subject to the provisions of the Contract and Specifications.

Where a portion of the work sublet by the Contractor is not being prosecuted in a manner satisfactory to the Engineer, the subcontractor shall be removed immediately on the request of the Engineer and shall not again be employed on the work.

The contract may be assigned only upon written consent of the City.

#### 6.02 PROGRESS OF THE WORK AND TIME EXTENSIONS

The Contractor shall commence work under the contract within ten (ten) working days from the date of "Notice to Proceed" and shall diligently prosecute the same to completion.

Prior to commencing work, the Contractor shall provide a proposed schedule in an acceptable form to the Engineer. Said schedule shall indicate the anticipated date upon which each major portion of the work shall begin and be completed. Failure of the Contractor to execute the work substantially in accordance with said schedule shall be evidence of unsatisfactory progress.

A working day is defined as any day, except Saturdays, Sundays, legal holidays, and days on which the Contractor is specifically required by the Special Provisions to suspend construction operations. Also excepted are days on which the Contractor is prevented by inclement weather or conditions resulting immediately therefrom from proceeding with at least 75 percent (75%) of the normal labor and equipment force for at least five (5) hours toward the completion of operations on the Critical Path. Should the Contractor prepare to begin work at the regular starting time in the morning of any day on which inclement weather or the conditions resulting from the weather prevents the work from beginning at the usual starting time and the Contractor dismisses the crew and does not proceed with at least 75 percent (75%) of the normal labor and equipment force engaged in the current controlling operation or operations, the Contractor will not be charged for a working day whether or not conditions should change thereafter during said day and the major

portion of the day could be considered to be suitable for such construction operations.

The current controlling operation or operations is to be defined as any feature of the work which, in the opinion of the Engineer, will delay the time of completion of the contract if delayed.

Determination of each non-working day, except Saturdays, Sundays, legal holidays and days on which the Contractor is specifically required by the Special Provisions to suspend construction operations, shall be made and agreed upon during such day by conference between the Engineer and the Contractor. In the event of failure to agree, the Contractor will be allowed one week in which to file a written protest setting forth in what respects he differs from the Engineer. Otherwise, the decision of the Engineer shall be deemed to have been accepted by the Contractor as correct.

### 6.03 CHARACTER OF WORKERS

If any subcontractor or person employed by the Contractor shall fail or refuse to carry out the direction of the Engineer or shall appear to the Engineer to be incompetent or act in a disorderly or improper manner, he shall be discharged immediately on the request of the Engineer and such person shall not again be employed on the work.

### 6.04 TEMPORARY SUSPENSION OF WORK

The Engineer shall have the authority to suspend the work wholly or in part, for such periods as he may deem necessary due to unsuitable weather or to such other conditions as are considered unfavorable for the suitable prosecution of the work or for such time as he may deem necessary due to the failure on the part of the Contractor to carry out orders given or to perform any provisions of the work. The Contractor shall immediately obey such order of the Engineer and shall not resume the work until ordered to do so in writing by the Engineer.

### 6.05 TIME OF COMPLETION AND LIQUIDATED DAMAGES

Time of performance is of the essence of the contract entered into pursuant to the specifications. The City and the Contractor, by executing the contract, each agree that actual damages to the City, and actual damages for the inconvenience and loss which will flow to the inhabitants of the City from any delay in completion beyond the date or dates provided herein for the completion of the work, or portions thereof, are extremely difficult or impossible to determine, and accordingly, it is agreed that the Contractor shall be liable for and shall pay to the City, the sums and rates stated in the Bidding requirements or Special Provisions for each calendar day of delay in the completion of the work from the date for completion as specified in the contract or in any written extension of time granted by the City.

If the Contractor is delayed in said work by any acts or neglect of the City or its employees, or others acting under authority of the City by contract or otherwise, or

by acts of God which the Contractor could not have reasonably foreseen and provided for, or by weather conditions which, in the sole opinion of the Engineer as certified by him in writing, require temporary cessation of the work or any part thereof to a degree that the specified date of completion cannot be met, or if delays are caused by boycotts or like obstructive action by employee or labor organizations, or by any general lockouts or other defensive action by employers, whether general or by organizations of employers, the Contractor shall have no claim for damages against the City for any such cause of delay. Contractor shall in such cases be entitled to such extension of time for the completion as shall reasonably compensate for actual loss of time occasioned thereby, upon application to the City for such extension; provided, that no extension of time shall be granted unless the Contractor shall have notified the City in writing of the condition or event which is expected to cause a delay in completion, within one week after the commencement or occurrence of the condition or event, and in the case of delay for weather conditions, shall have notified the Engineer of any such weather conditions on the first day of cessation of work on account thereof.

In case the work called for under the contract is not finished and completed in all parts and requirements within the time specified, the City Council shall have the right to extend the time for completion or not, as may seem best to serve the interest of the City, and if it decides to extend the time limit for completion of the contract, it shall further have the right to charge to the Contractor, his heirs, assign, or sureties, and to deduct from the final payment for the work, all or any part, as it may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses which occur during the period of such extension, except that the cost of final surveys and preparation of final estimate shall not be included in such charges.

The City may conditionally accept the work and occupy and use the same if there has been such a degree of completion as shall in the City's opinion render the same safe, fit and convenient for the use for which it is intended. Subsequent to such conditional acceptance and occupation by the City, the City may elect to assess actual damages caused by failure of the Contractor to fully complete the work within the time specified herein for completion thereof.

## 6.06 SUSPENSION OF CONTRACT

If at any time in the opinion of the Engineer, the Contractor has failed to supply an adequate working force, or material of proper quality, or has failed in any other respect to prosecute the work with diligence and force as specified in the terms of the contract, notice thereof in writing will be served upon him. Should the Contractor neglect or refuse to provide means for a satisfactory compliance with the contract, as directed by the Engineer, within the time specified in such notice, the Engineer in any such case shall have the power to suspend the operation of the contract. Upon receiving notice of such suspension, the Contractor shall discontinue said work or such parts of it as the Engineer may designate. Upon such suspension, the Contractor's control shall terminate and thereupon, the City Council or its duly

authorized representative may take possession of all or any part of the Contractor's materials, tools, equipment, and appliances upon the premises and use the same for the purpose of completing said contract and hire equipment and such additional materials and supplies at the Contractor's expense as may be necessary for the proper conduct of the work and for completion thereof. The City may employ other parties to carry the contract to completion, employ the necessary workmen, substitute other machinery or materials, and purchase the materials contracted for, in such manner as the City Engineer may deem proper; or the City Council may annul and cancel the contract and relet the work or any part thereof. Any excess of cost arising therefrom over and above the contract price will be charged against the Contractor and his sureties, who will be liable therefor. In the event of such suspension, all money due the Contractor or retained under the terms of the contract shall be forfeited to the City, but such forfeiture will not release the Contractor or his sureties from liability or failure to fulfill the contract. The Contractor and his sureties will be credited with the amount of money so forfeited toward any excess cost of completing the work by the City as above provided and the Contractor will be credited with any surplus remaining after all just claims for such completion have been paid.

#### 6.07 RIGHT-OF-WAY

The right-of-way for the work to be constructed will be provided by the City. The Contractor shall make his own arrangements and pay all expenses for additional area required by him outside of the limits of right-of-way, unless otherwise provided in the Special Provisions.



## SECTION SEVEN

### MEASUREMENT AND PAYMENT

#### 7.01 EXTRA AND FORCE ACCOUNT WORK

Extra and force account work shall conform to Section 9 of the Standard Specifications of the State of California.

#### 7.02 PROGRESS PAYMENTS

The City shall, on the first of each month, unless otherwise specified, cause an estimate in writing to be made by the City Engineer of the total amount of work done and the acceptable materials furnished and delivered by the Contractor on the ground and not used, to the time of such estimate and the value thereof. The City shall retain ten percent (10%) of such estimated value of the work done and fifty percent (50%) of the value of materials so estimated to have been furnished and delivered unused as aforesaid as part security for the fulfillment of the contract by the Contractor and shall monthly pay to the aforesaid, after deducting therefrom all previous payments and all sums to be kept or retained under the provisions of the contract. No such estimate or payment shall be required to be made when in the judgment of the City Engineer the work is not proceeding in accordance with the provisions of the contract or when in his judgment the total value of the work done since the last estimate amounts to less than one thousand dollars (\$1,000).

#### 7.03 FINAL PAYMENT

The City Engineer shall, after the completion of the contract make a final estimate of the amount of work done thereunder and the value of such work. The City, upon acceptance of the work shall pay a sum equal to ninety percent (90%) of the total value of said final estimate. The ten percent (10%) retained shall constitute the final payment and shall not be due and payable until the expiration of thirty-five (35) days from the date of filing "Notice of Completion".

It is mutually agreed between the parties to the contract that no certificate given or payments made under the contract, except the final certificate or final payment, shall be conclusive evidence of the performance of the contract, either wholly or in part and no payment shall be construed to be an acceptance of any defective work or improper materials.

The Contractor further agrees that the payment of the final amount due under the contract and the adjustment and payment for any work done in accordance with any alterations of the same, shall release the City, the City Council and the Engineer from any and all claims or liability on account of the work performed under the contract or any alteration thereof.

#### 7.04 DATE OF PAYMENTS

Any payment to be made under these specifications shall not become due and payable until the date of the next regular meeting of the City Council at which time bills are allowed and ordered paid following the date of the Engineer's estimate of the work completed.

## SECTION EIGHT

### INCORPORATION OF STANDARD SPECIFICATIONS

#### 8.01 GENERAL

The work embraced herein shall be done in accordance with the City of Selma Standard Specifications and Drawings and the appropriate provisions and construction details of the specifications entitled "State of California, Department of Transportation, Standard Specifications", latest date, insofar as the same may apply, which specifications are hereinafter referred to as the Standard Specifications of the State of California and in accordance with the following provisions:

In case of conflict between the Standard Specifications of the State of California and the Standard Specifications of the City, those of the City shall take precedence over and be used in lieu of such conflicting portions.

## SECTION NINE

### CLEARING AND GRUBBING

#### 9.01 GENERAL SCOPE

Clearing and grubbing shall consist of the removal and disposal of all materials, roots, existing concrete, existing paving and/or other obstructions not specified above as required by the plans and specifications within the entire right-of-way.

#### 9.02 OBSTRUCTIONS

Attention is directed to Sections 8 and 15 of the State Standard Specifications. The Contractor shall be wholly responsible for the preservation and protection of all underground pipes, conduits and other improvements, whether shown on the plans or not.

The Contractor shall make such investigations and examinations as are required to determine the existence and locations of all pipes, conduits, and other underground improvements and shall consult with and advise the owners of the utilities before undertaking any work that might endanger them.

At locations where lawn sprinkler systems exist, the Contractor shall cut and cap water lines at the property lines or at such points as may be directed by the Engineer. All heads and pipe, so removed, shall be salvaged and returned to their respective owners. Full compensation for cutting and capping water lines shall be considered as included in the prices paid for various other items of work and no additional allowance will be made therefor.

The City does not guarantee the accuracy or completeness of any data shown on the plans relative to the locations, sizes, dimension, depths, and character of pipes, conduits, poles, or any other structures or utilities located above ground or underground.

The Contractor shall assume full responsibility for any damage to pipes, conduits, poles, or any other structures or utilities, and he shall not make any claim for inconvenience, delay or added cost of performing the work which may be attributed in any degree to inaccuracy of information furnished by the City relative to the locations, sizes, dimensions, depths, and character of any pipes, conduits, poles, or other structures and utilities or for failure of the City to furnish any information relative thereto.

Existing land subdivision monuments and stakes shall be fully protected from damage or displacement and they shall not be disturbed unless directed by the Engineer. Full compensation for conforming to this section shall be included in the

prices paid for the various items of work and no additional allowances will be made therefor unless specifically set forth as a separate bid item.

### 9.03 WORK IN CITY STREETS

All of the work shown on the plans and included in these specifications that is located in the public streets in the City shall be done in accordance with City Ordinances regulating the use of public streets within the City, except as otherwise provided herein.

The Contractor shall inform himself as to all regulations and requirements of the Engineer and Director of Public Works of the City, and shall conduct his operations in compliance therewith.

### 9.04 TRAFFIC CONTROL SIGNS AND STREET SIGNS

All traffic signs and street signs within the limits of the improvement, if required, to facilitate the work, shall be removed, salvaged and stockpiled at locations designated by the Engineer. Traffic control signs and street signs shall be replaced upon completion of the work and the cost of removal and replacement shall be included in various bid items and no separate payment will be made.

The Contractor shall install such temporary traffic control devices, as may be required, to properly control traffic in a safe manner. The cost of such installations shall be deemed included in the various bid items and no separate payment will be therefor.

### 9.05 REMOVING CONCRETE

Removing concrete shall conform to the provisions in Section 15 of the State Standard Specifications and these Special Provisions.

All concrete within the right-of-way, not otherwise designated on the plans, shall be removed by the Contractor. This includes all drain wells and drainage structures.

Existing manholes to be abandoned shall be removed to within two (2) feet below the surface and backfilled.

Where existing house foundations overlap the right-of-way, the entire foundation shall be removed. That portion beyond and outside the right-of-way shall be considered within the right-of-way and included in the bid price of removing concrete.

Attention is directed to the provisions in Section 73-1.03 of the State Standard Specifications, which section pertains to saw cutting.

## 9.06 IMPORTED BORROW

Imported borrow shall be material required for backfill or embankments. It shall be taken from a location secured by the Contractor, at his expense and approved by the Engineer. Imported borrow shall be clean material free from vegetation and deleterious material and shall have no lumps or chunks over 2 inches in diameter. Such material shall have sand equivalent of no less than 20 and a minimum R value of 65.

## SECTION TEN

### EXCAVATION AND GRADING

#### 10.01 SCOPE

Excavation and grading shall consist of the removal and disposal of all earth and rock, existing concrete and paving as required on the plans and as hereinafter specified. This item shall also include the construction of roadway or area fills to conform to the line and grades given on the plans.

#### 10.02 EARTHWORK

Earthwork shall conform to the provisions in Section 19 of the State Standard Specifications and Special Provisions.

Rounding of cut slopes shall be required.

Unsuitable and surplus material shall be disposed of outside the right-of-way in accordance with the provisions in Section 7-1.13 of the State Standard Specifications.

The limits of excavation for compacting original ground as provided for in Section 19-5.03 of the State Standard Specifications shall be changed to the limits shown on the plans. Center islands shall require a minimum relative compaction of 85%, as determined by Test Method No. California 216.

#### 10.03 STREET CONSTRUCTION

At all times during construction the Contractor shall grade to and provide safe, smooth connections between all new street construction and any adjacent existing streets and driveways, to the satisfaction of the Engineer, and in accordance with the provision of Section 7-1.08 of the State Standard Specifications.

#### 10.04 ROADWAY EXCAVATION

Roadway excavation shall include the removal and replacement of materials required within the travel way for compaction purposes. Roadway compaction shall have a minimum relative compaction of ninety five percent (95%) as determined by Test Method No. California 216. The cost of compaction will be included in the various bid items for the construction of the pavement section.

The compacting shall extend to and include all areas where concrete improvements are to be constructed except that the relative compaction under concrete improvements shall be not less than ninety percent (90%) as determined by Test Method No. California 216. The cost of such compaction will be included in the various bid items for concrete improvements.

## 10.05 DUST CONTROL

The Contractor shall be responsible for applying either water or dust palliative or both for the alleviation or prevention of dust nuisance whether such nuisance be from Contractor's operation or public traffic. Such dust control shall be applied when required to prevent nuisance including Saturdays, Sundays and holidays as directed by the Engineer. No separate payment will be made for any work performed or material applied for dust control. Full compensation for such dust control will be considered as included in the price bid for the various items of work involved. If, in the opinion of the Engineer, dust control is not adequate, the Engineer shall order the work to be done by others and the cost shall be deducted from monies due or to become due the Contractor.

## 10.06 MISCELLANEOUS STREET FACILITIES

The removing, reconstruction, adjusting, remodeling and salvaging of the various street facilities shall conform to the provisions in Section 15 of the State Standard Specifications revised as follows:

All manholes that are to be lowered shall be removed as directed by the Engineer, to an approximate depth of two (2) feet below finished grade and shall then be reconstructed with the proper taper to finish grade.

## 10.07 EXPANSIVE SOILS

Where expansive soils are encountered, the Contractor shall provide a 6 inch thick sand cushion between the soil and any concrete improvement. Any concrete slab (i.e. sidewalks, driveways, approaches, etc.) shall be reinforced with a minimum of 6 inch x 6 inch – 10 gauge W.W.F.

Expansive soils shall be determined as follows:

- A. Obtain representative sample of soil and compact sample to 90 percent relative compaction. Confine the sample laterally.
- B. Dry sample to moisture content below shrinkage limit.
- C. Impose a vertical load intensity of 625 psf.
- D. Saturate and allow swelling for 24 hours.
- E. Determine total swell as a percentage of dried soil height.
- F. Soil with a swell in excess of 3 percent shall be considered "expansive".

A soils report will be required prior to the approval of any subdivision improvements.



## SECTION ELEVEN

### MATERIALS FOR STREET IMPROVEMENTS

#### 11.01 AGGREGATE SUBBASE

##### A. GENERAL

Aggregate subbase material shall consist of mineral aggregate, spread and compacted on a prepared subgrade or subbase in conformance with the lines, grades and dimensions shown on the plans, standard details and as hereinafter specified.

##### B. MATERIALS

Aggregate subbase shall be Class 2 and shall conform to the provisions in Section 25 of the State Standard Specifications and the Special Provisions.

##### C. ADDITIONAL THICKNESS

In the event that soil conditions are encountered such that a satisfactory base for pavement may not be obtained, the material lying below the subgrade shall be removed and the additional subbase material, as directed by the City Engineer, shall be compacted in accordance with the provisions of this section. All such extra work shall be paid for on a cubic yard basis excavated as calculated by the "Average End Area" method. Additional subbase material shall be paid for as per bid item.

##### D. MEASUREMENT OF MATERIALS

In lieu of conflicting provisions of Section 9-1.01 of the State of California Standard Specifications, the following shall apply whenever the Engineer's Estimate indicates that material is to be paid for by the ton.

The City will not furnish or compensate a weighmaster or a representative to witness weighing and to check compiling of weight records.

The Contractor shall be responsible for furnishing the Engineer with a daily record of the weight of all material which is to be paid for by the ton and which has been delivered to the project site. Said record shall be certified for authenticity of Scale Weights by a Public Weighmaster and shall become the basis of payment for the material itemized therein.

In addition, each delivery truck shall carry to the project site a load slip for the material transported in said truck. The load slip shall be delivered to the Engineer by

the driver at the time and site of delivery of the truckload of material covered by the load slip.

Full compensation for conforming to the requirements of this article shall be considered as included in the contract unit prices paid for the material involved and no separate payment will be made therefor.

## 11.02 ASPHALT CONCRETE PAVEMENT

### A. SCOPE

Asphalt Concrete Pavement shall consist of the furnishing and placing of mineral aggregate blended with bituminous binder at an approved central mixing plant, in accordance with Section 39 of the State Standard Specifications and as hereinafter specified. The item shall also include prime coat, paint binder and seal coat.

### B. AGGREGATE MATERIAL

Aggregate material shall conform to the specifications of Section 39-2.02 of the State Standard Specifications for  $\frac{3}{4}$  inch maximum aggregate (medium) or  $\frac{1}{2}$  inch maximum aggregate (medium). Where more than 2 inches of A.C. are required, the first course shall be  $\frac{3}{4}$  inch maximum aggregate (medium), the final course shall be  $\frac{1}{2}$  inch maximum aggregate (medium). Where only 2 inches of A.C. are required, the gradation shall conform to  $\frac{1}{2}$  inch maximum aggregate (medium).

### C. ASPHALT CONCRETE

Asphalt Concrete shall be Type B and shall conform to the provisions in Section 39 of the State Standard Specifications and the Special Provisions.

The amount of asphalt binder to be mixed with the mineral aggregate shall be between 3 percent and 7 percent by weight, of the dry mineral aggregate. The exact amount of asphalt binder to be mixed with the mineral aggregate will be determined by the Engineer.

The paving asphalt shall be AR4000 or AR8000 as determined by the Engineer.

Full compensation for furnishing and applying asphaltic paint binder as a "tack coat" to all vertical surfaces of existing pavement, curbs, gutters and construction joints in the surfacing against which additional material is to be placed shall be considered as included in the contract unit price paid per ton for asphalt concrete and no separate payment will be made therefore.

Aggregate for asphalt concrete placed in medians and other miscellaneous areas shall conform to the grading specified for  $\frac{1}{2}$  inch maximum, medium grading.

#### D. SAND APPLICATIONS

Where ordered by the Engineer, sand cover shall be applied to driveways and public road approaches, and to areas where prime coat has failed to penetrate, in conformance with the provisions in Section 36 of the State Standard Specifications.

#### E. COMPACTING SMALL AREAS

At locations where miscellaneous areas are to be surfaced in accordance with the provisions in Section 39-7.01 of the State Standard Specifications and where the width of asphalt concrete to be placed is less than eight (8) feet, or the total thickness of asphalt concrete to be placed is less than 0.1 foot, the required minimum rolling equipment specified in Section 39-5.02 of the State of California Standard Specifications may be reduced to one, 8 ton, 2 axle tandem roller for each 100 tons, or fraction thereof of asphalt concrete placed per hour by each asphalt paver. Areas which are inaccessible to an 8 ton, 2 axle roller shall be thoroughly compacted to the lines, grades and cross section by means of pneumatic tampers or by other methods that will produce the same degree of compaction.

#### F. FINISHING ROADWAY

Finishing roadway shall conform to the provisions of Section 22 of the State Standard Specifications and shall include transitions between pavement and bituminous surfaces at cross streets and alleys. Payment for finishing roadway shall be included in the bid items involved and no separate payment will be made.

#### G. FOG SEAL

Fog seal shall be applied to all new asphalt concrete pavements in accordance with the requirements of Section 37 of the State Standard Specifications and payment therefore shall be included in the cost of asphalt concrete pavement unless otherwise specified.

### 11.03 CONCRETE IMPROVEMENTS

#### A. SCOPE

Portland cement concrete curb, gutter, sidewalk, driveway approaches, alley approaches and valley gutters shall be constructed complete and in place in accordance with Section 73 of the State Standard Specifications, the plans, standard details and as hereinafter specified. This item shall also include the necessary base material.

#### B. PORTLAND CEMENT CONCRETE

Portland Cement Concrete shall have a compressive strength of 2500 psi at 28 days, and shall have a maximum slump of four (4) inches.

### C. MIXING AND TRANSPORTING

The requirements for mixing and transporting concrete shall be as set forth in Section 90-6 of the State of Californian Standard Specifications.

### D. CONSTRUCTION

Concrete curbs, gutters and sidewalks shall conform to the provisions in Section 73 of the State Standard Specifications and these Specifications.

The subgrade shall be constructed true to grade and cross section, as shown on the plans or directed by the Engineer. It shall be thoroughly watered and rolled or hand tamped to obtain 90% compaction. All soft and spongy material shall be removed to a depth of not less than six (6) inches below subgrade elevation for curbs, gutters, local depressions and driveways, and three (3) inches below the sidewalks and the resulting space filled with approved earth, sand or gravel, moistened and rolled or tamped to form a firm and solid foundation.

Expansion joints for curb and gutter shall be constructed a minimum of every 45 feet and at the ends of curb returns with weakened plane joints placed every 15 feet.

Where adjacent curb, gutter and sidewalk is called for they shall either be monolithic, or if non-monolithic, the sidewalk shall be doweled in accordance with Standard Drawing No. 0-1.

Extruded curb or curb and gutter construction, if used, shall be in accordance with Section 73-1.06 of the State Standard Specifications using concrete with a compressive strength of 2500 psi as tested at 28 days.

Attention is also directed to Section 73-1.06 of the State Standard Specifications regarding reconstruction of existing curbs and sidewalks.

Adhesives shall not be used in place of dowels.

### E. SIDEWALK PATTERNS

Sidewalk patterns shall be constructed as listed below unless written permission from the Engineer has been given to modify said patterns. Commercial sidewalk pattern shall be constructed from back of curb to property line.

Residential sidewalk pattern shall be approved by City Engineer as to type and width.

Planter strips shall be filled with clean top soil level with the top of curb and sidewalk.

1. Residential pattern shall be used for all property zoned R except R-O.
2. Commercial pattern shall be used for all property zoned commercial and R-O.
3. Commercial pattern shall be used for all property zoned industrial unless otherwise exempt from constructing sidewalks as provided in the Municipal Code.
4. Sidewalks are not required in the RA zone except on major streets. The pattern on major streets shall be residential unless specifically designated on the plans as commercial pattern as determined by the Engineer.

#### F. TREE WELLS

All commercial sidewalks shall have provisions for trees by the construction of tree wells in accordance with the Standard Drawings unless waived by the Engineer in writing.

#### G. DRIVEWAYS

Minimum width of commercial driveways shall be 12 feet and maximum width shall be 35 feet. Minimum width of residential driveways shall be 12 feet and maximum shall be 24 feet. Driveways shall not be closer than 3 feet to the nearest street fixture (i.e. fire hydrants, electroliers). No driveway shall cover more than 40% of lot frontage. No driveway shall be located within three (3) feet of the adjacent property line, except adjacent to an alley where the minimum distance shall be 10 feet. See Standard Drawing No. 0-4.

#### H. FINISH

All concrete work shall be finished with a steel trowel and given a brush finish except concrete gutter, valley gutters and approaches which may be given a wood float finish.

#### I. CURING

An approved curing compound shall be placed in accordance with the State Standard Specifications on all surfaces and the cost of curing compound shall be included in the various bid items.

#### J. BACKFILLING

After removal of forms, the area between the sidewalk and curb shall be cleaned of all surplus concrete and other debris and the area filled with clean earth suitable for planting.

The Contractor shall repair all excavations for gutter and shall backfill and pave with similar surfacing material thoroughly tamped into place and leveled off to meet the existing street surface and the gutter.

If more than 2 inches cut or fill is required behind the curb, the Contractor shall construct a slope not steeper than 4:1 between the top of the curb and the adjacent property.

#### K. PROTECTING CONCRETE

Installation of any concrete facility subject to rain or freezing weather conditions shall be constructed in accordance with Section 90-8.01 of the State Standard Specifications.

#### L. ROCK POCKETS

Immediately upon stripping curb forms and prior to backfill, all rock pockets or honeycombs shall be repaired to the satisfaction of the Engineer.

#### M. CLEANING UP

During the progress of the work as may be directed by the Engineer and before acceptance and final payment, the Contractor shall remove all surplus earth and other material from the site of the work and then complete the cleanup by sweeping or washing the street or work area and leave the whole site in a neat and finished condition.

## SECTION TWELVE

### STORM DRAIN PIPE AND APPURTENANCES

#### 12.01 GENERAL

Storm drain pipe and manholes shall be furnished in accordance with the requirements established in these specifications.

#### 12.02 MATERIALS

Asbestos cement pipe and fittings for storm drains shall be the Class as designated on the plans, and shall be lined with an epoxy resin base lignin of one hundred percent (100%) solids content (solvent free). Pipe fittings shall conform to the current revisions of A.S.T.M. Designation C428.

Subject to prior written approval of the City Engineer, Asbestos Cement storm drain pipe meeting the requirements of A.S.T.M. C663 specifications may be used. Such pipe shall be equipped with flexible plastic couplings conforming to the requirements of A.S.T.M. D-2952, Grade 337000.

Reinforced concrete pipe shall be manufactured in accordance with the current revisions of A.S.T.M. Specifications C76 and to "D" load, class and size as shown on the plans with the following addition: The joints shall be round rubber gasket type. The pipe shall be self-centering and the gasket or gaskets shall not be required to support the weight of the pipe.

#### 12.03 EXCAVATION

All excavations shall be made in accordance with the trench construction safety orders issued by the Division of Industrial Safety of the State of California.

The width of trenches at approximately the level of the top of the pipe to be installed shall be not more than the outside diameter of the barrel of the pipe plus sixteen (16) inches, maximum. The above clearances shall be increased to accommodate shoring and also provide space for banding at points required.

If the Contractor is unable to maintain the trench width allowed in the previous paragraph, the Engineer shall specify the bedding requirement to compensate for the additional loading of the pipe. Such additional bedding may require crushed rock or other suitable granular bedding material or concrete encasement as necessary to obtain satisfactory pipe support.

The bottom of the trench shall be excavated or backfilled so that the barrel of the pipe shall have uniform bearing along its entire length, except for the area necessary for bell holes. All adjustment of pipe to line and grade must be made by scraping

away for filling and tamping. The use of blocks as support is forbidden. An additional depth and width shall be hand dug at joint or bell locations of sufficient depth to relieve the bell of any load and to allow ample space for making the joint.

Where hardpan is encountered, it shall be removed to a depth of 4 inches below the grade of the bottom of the pipe and the space refilled with earth containing sufficient moisture to produce maximum compaction and free from lumps or unsuitable material. The imported earth shall be compacted by means of mechanical tampers to the grade of the pipe. Where a firm foundation is not encountered due to soggy, spongy or other unsuitable material, such unsuitable material under the pipe and for a width of at least ½ diameter on each side of the pipe shall be removed to a depth as directed by the Engineer and replaced with a suitable material. No additional payment will be made for such excavation and/or backfill.

Where the pipe is to be laid on sand having less than optimum moisture, as determined by the Engineer, the Contractor shall apply sufficient water and compact the sand prior to placing the pipe.

All existing gas pipes, water pipes, conduits, sewers, drains, fire hydrants, and other structures which are not, in the opinion of the Engineer, required to be changed in location shall be carefully supported and protected from injury, by the Contractor, and in case of injury, they shall be restored by the Contractor without additional compensation, to as good a condition as that in which they were found.

If all excavated material cannot be stored on the roadway in such a manner as to maintain access to property along side of the work, the surplus material shall be removed from the work and stored until needed for backfill, at which time it shall be returned. If the surplus material is to be stored, prior approval must be obtained from the Engineer for the site to be used. The cost of removing material shall be at the Contractor's expense.

## 12.04 INSTALLATION OF PIPE

Proper facilities shall be provided for stringing and lowering sections of pipe into the trench. The pipe shall be laid carefully to lines and grades given.

The grade line shown on the plans indicates the flow line or invert of the pipe and all cuts, unless otherwise indicated, refer to this line.

The pipe sections shall be laid commencing at the downstream or outlet end with the spigot or tongue end in the direction of flow. Pipe with elliptical reinforcement shall be placed with the minor axis in a vertical position.

Contractor shall provide a laser device for setting sewer grades. Alternative methods must be approved by the Engineer in advance of starting construction.



Each joint of pipe must be fully pressed into place so that there will be no unevenness or settlement of one length of pipe with the other at the joint. The interior of the pipe shall be kept free from dirt and other foreign material as the laying progresses. Any pipe which shows undue settlement or is damaged shall be taken up and replaced or re-laid at the Contractor's expense.

All pipe shall be laid to true line and grade. Occasional variations as follows will be permitted: Above grade ¼ inch, below grade not to exceed ¼ inch; alignment not to exceed 2 inches if gradual and regular over a distance of 20 feet.

The Engineer, at his sole discretion, may require the inspection of a sewer line by means of a television camera prior to acceptance. If such inspection reveals faults such as broken pipe, misalignment, or improper grades, such faulty areas will be promptly removed and replaced. Both the cost of the inspection and the repair of the faulty line will be at the Contractor's expense. If the inspection reveals no faults in the line, then the cost of the inspection will be paid by the City.

## 12.05 BACKFILL

After the pipe has been laid to line and grade, the trench shall be backfilled to the spring line with select native material placed by hand and jetted around the pipe. From the spring line to one foot above the top of pipe, select native material shall be placed by hand. Compaction around the pipe and to within two feet of the finished grade shall be ninety percent (90%). Select excavated material at optimum moisture and free from all rocks, hardpan and any other lumps over 2 inches in diameter, shall be used as backfill.

The method of obtaining the density requirements shall be such that the backfill material shall be completely compacted around the lower haunches of the pipe and the pipe's line and grade is not disturbed.

That portion of the backfill within two feet of the finish grade shall have a relative compaction of ninety five percent (95%).

No free water will be allowed in the top 24 inches of backfill.

### 12.051 ALTERNATIVE DENSITY TEST METHOD

At the City Engineer's sole discretion, the Contractor may be allowed to use California Test Method No. 231 to determine relative compaction, with the following restriction.

Under the Engineer's supervision, a density test shall be made using both California Test Method Nos. 216 and 231. The results of these tests, which shall be immediately adjacent, shall be compared, and the appropriate correction shall be applied to all further testing utilizing Method No. 231.

Example: Adjacent tests yield results of 93% relative compaction by Method 231, and 91% by Method 216. The results of all further tests by Method 231 shall then be decreased by 2%.

At the discretion of the Engineer, further comparison tests may be required.

## 12.06 MANHOLES

Manholes shall be constructed in accordance with Standard Drawings 0-15 and 0-16, the plans, and as specified herein or directed by the Engineer.

Elliptical single-line reinforcement will not be allowed. Single-line circular reinforcement will be allowed and the minimum steel area shall equal the minimum steel area required for the inner-cage reinforcement.

Tapered sections shall conform to the requirements for pipe of the size equal to the largest internal diameter of the tapered sections.

Concrete for the base section shall have a 28-day strength of 2800 psi.

The inside of the manhole shall be formed to the flow line of the storm drain line.

If a storm drain line is laid through a manhole, the top of the pipe shall be carefully broken out and removed so the bottom half of the pipe forms the flow line.

Manholes abandoned in place shall be broken out within two feet of the finish grade. The pipelines entering the manhole shall be sealed with concrete and the manhole backfilled with sandy soil, compacted to a relative density of 90% using optimum moisture. The manhole frame and cover shall be delivered to the City Corporation Yard.

“Jiffy Rings” for raising manholes will be allowed. See Standard Drawing No. 0-15.

If existing manholes are to be removed and replaced, such removal shall be included in the bid price for new manholes unless otherwise specified in the Special Provisions.

The bid price for adjusting manholes to a new street elevation shall include surface restoration.

## 12.07 THIMBLES

Thimbles shall be installed in the manholes at the locations and of the size shown on the plans. All thimbles shall be sealed with a plug of a type approved by the manufacturer of the pipe for use with his product.

## 12.08 PAYMENT

Payment for laying pipe shall be per lineal foot, in place, and shall include all material, labor and equipment to trench, lay pipe, backfill and compact the trench.

Payment for manholes shall include full compensation for furnishing all labor, material and equipment required to complete the manhole including the cover and ring and thimbles, if required by the plans.

## SECTION THIRTEEN

### JACKING PIPE

#### 13.01 GENERAL

The type of pipe as shown on the Plans or Special Provisions shall be jacked into place at the location and between the limits shown on the plans.

#### 13.02 MATERIALS

The pipe designated in the contract item will be determined for vertical load only. Any other facilities required or any additional reinforcement or strength of pipe required to withstand jacking pressure shall be determined and furnished by the Contactor at his expense.

#### 13.03 CONSTRUCTION

Variations from plan alignments and grades shall not exceed 0.1 feet for each 100 feet of pipe jacked.

Jacking pits shall be adequately sheathed and braced for the work in accordance with the Safety Regulations of the State of California, Department of Industrial Relations, Division of Industrial Safety.

It shall be the Contractor's responsibility to provide stress transfer across the pipe joints which is capable of resisting the jacking forces involved.

#### 13.04 PAYMENT

Jacking pipe shall be bid per lineal foot and such price shall include all labor, material and equipment required to install the pipe between the limits required by the plans and specifications.

## SECTION FOURTEEN

### STORM DRAINAGE STRUCTURES

#### 14.01 SCOPE

This item consists of the construction of drainage inlets, outlets, and junction boxes complete and in place in conformance with the plans, specification, the Standard Specifications and Drawings, and Section 51 of the Standard Specifications of the State of California.

#### 14.02 MATERIALS

Concrete shall have a compressive strength of 3000 psi at 28 days. All metal parts shall be of A36 structural grade steel.

Deformed steel bars of size called for in the plans and specifications shall meet requirements of A.S.T.M. A15 and A.S.T.M. A305.

#### 14.03 CONCRETE FORMS

The forms shall be smooth, mortar tight, true to the required lines and grade, and of sufficient strength to resist springing out of shape during the placing of the concrete. All dirt, chips, sawdust, nails, and other foreign matter shall be completely removed from forms before any concrete is deposited therein. Forms previously used shall be thoroughly cleaned of all dirt, mortar and foreign matter before being reused. Before concrete is placed in forms all inside surfaces of the forms shall be thoroughly coated with form oil.

#### 14.04 PLACING CONCRETE

All concrete shall be used while fresh and before it has taken an initial set. Retempering any partially hardened concrete with additional water shall not be permitted.

All concrete shall be compacted by means of high frequency internal vibrators.

Mixed concrete, after being deposited, shall be consolidated until all voids are filled and free mortar appears on the surface.

## SECTION FIFTEEN

### DOMESTIC WATER MATERIALS

#### 15.01 SCOPE

Domestic water materials, including any component for the use of supplying domestic water therein, shall be supplied complete and in working condition in accordance with the specifications and requirements of the California Water Service Company, or the designated water purveyor.

## SECTION SIXTEEN

### HYDROLOGIC DESIGN

#### 16.01 DESIGN

Drainage systems shall be designed to carry runoff created by storms of the following frequencies, and as are shown and described in the City of Selma Master Plan for Storm Drainage dated September 1973 and as amended:

- A. Central Commercial Area: Ten (10) year return frequency
- B. Outlying Commercial and Industrial Areas: Five (5) year return frequency
- C. Residential Areas: Two (2) year return frequency

The developer's engineer shall submit calculations for flows in drain systems. Such design flows shall be computed by the Rational Formula:

$$Q = C I A$$

Where:      Q = cubic feet per second  
                  C = runoff coefficient  
                  I = intensity of rainfall, inches per hour  
                  A = tributary area, acres

The values of "C" and "I" shall be obtained from Design Table 16-1 and Standard Drawing No. 0-39, respectively. Minimum values of "C" are shown for various types of land use.

## DESIGN TABLE 16-1

LAND USE CLASSIFICATION	RUNOFF COEFFICIENT "C"
Agricultural	0.10
Rural Residential and Single Family Residential with lot size minimum of 12,000 sq. ft., Recreation and Cemeteries	0.20
Low Density Residential	0.30
Medium-High Density Residential, Professional Office Sites, Schools and Hospitals	0.50
Industrial	0.70
Commercial	0.80
Mobile Home Parks	0.95