

**CONSTRUCTION OF**

**PROJECT NAME**

**PROJECT NO. ##-####**

**SPECIAL PROVISIONS**

**SECTION F – FLOOD CONTROL**

The following Special Provisions supplement and amend the Standard Specifications for Public Works Construction 2021 Edition (Greenbook). These Special Provisions have been arranged into a format that parallels the Greenbook.

Bidders with pre-bid inquiries regarding the Work covered in this Section should be directed to **Project Manager at email or (951) ###-####**.

Prepared By:

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\_\_\_\_\_ Date

Reviewed:

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\_\_\_\_\_ Date

## SECTION F – FLOOD CONTROL PROVISIONS

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## **PART 2 – CONSTRUCTION MATERIALS**

All as provided in Part 2 of the Standard Specifications for Public Works Construction except as otherwise provided hereinafter.

### **SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS**

#### **201-1 PORTLAND CEMENT CONCRETE.**

##### **201-1.1.1 General.**

*Insert the following as the second paragraph:*

The Contractor shall furnish the Engineer in the field with a copy of the mix design to be used and with legible certified weight-master's certificate for each load of PCC delivered to the Project. Portland cement concrete delivered to the site having a water content and/or slump greater than that specified in the mix design shall be rejected and removed from the Work site.

##### **201-1.1.2 Concrete Specified by Class and Alternate Class.**

*Revise paragraph three as follows:*

The concrete class, alternate class, and maximum slump for the various types of construction shall be as specified in Table 201-1.1.2 unless otherwise shown on the Plans.

#### **201-2 REINFORCEMENT FOR CONCRETE.**

##### **201-2.2 Steel Reinforcement.**

##### **201-2.2.1 Reinforcing Steel.**

*Replace the first sentence in the first paragraph with the following:*

Unless otherwise specified, reinforcing steel, except longitudinal steel shall be Grade 60 billet steel conforming to ASTM A615.

#### **201-4 CONCRETE CURING MATERIALS.**

##### **201-4.1.1 General.**

*Replace the first sentence in the fourth paragraph with the following:*

Unless otherwise stated on the Plans, Type 2, white pigmented curing compound shall be applied to all finish concrete work immediately after the finishing work has been completed.

### **SECTION 211 – MATERIAL TESTS**

#### **211-1 COMPACTION TESTS.**

##### **211-1.1 Laboratory Maximum Density.**

*Add the following:*

Laboratory maximum density tests shall be performed at the Agency's expense. An approved Geotechnical Engineer shall perform all compaction tests under roadway, sidewalk, curb and gutter, and asphalt removal and replacement areas.

### **SECTION 217 – BEDDING AND BACKFILL MATERIALS**

#### **217-2 TRENCH BACKFILL.**

##### **217-2.1 General.**

*Insert the following after the first paragraph:*

Storm drain pipe bedding and installation shall conform to Los Angeles County Department of Public Works Standard Plan No. 3080-0, Case 3. Locally excavated native materials may be

blended to the required sand equivalency of 30 or greater. The cost of providing and installing said bedding material shall be included in the Unit Price bid for RCP. In any case, where rock bedding under the pipe is required by the Engineer for stabilizing unstable subgrade due to existing ground conditions (not attributable to the Contractor's operations or methods), such rock bedding materials shall be paid for at the job site delivered price as Extra Work, as provided by Subsection 3-3 of the Standard Specifications and amended by these Contract Documents.

Where a manhole is to be constructed on unstable native material, a stable base shall first be constructed with additional bedding material as specified in Section 306-6.1 to the dimensions specified in writing by the Engineer.

#### 217-2.1.1 Stones, Boulders, and Broken Concrete.

Backfill used for trenches shall not contain particles greater than 4 inches in the largest dimension.

Insert the following subsection:

#### **217-2.2 Imported Trench Backfill.**

If the Contractor elects to import material from a source outside the project limits for use as backfill, said materials shall be clean soil, free from organic material, trash, debris, rubbish, broken Portland cement concrete, bituminous materials, or other objectionable substances.

Whenever the Contractor elects to use imported material for backfill, it shall deliver, not less than 10 days prior to intended use, a sample of the material to the Engineer. The sample shall have a minimum dry weight of 100 pounds (45 kg) and shall be clearly identified as to source, including street address and community of origin. The Engineer will determine the suitability, the minimum relative compaction to be attained, and the placement method.

Should the imported material not be substantially the same as the approved sample, it shall not be used for backfill and shall be removed from the Work site at the Contractor's expense.

The densification method for imported backfill material shall be the same as the method described in Section 306-12.3.2.

The City has the option to require concrete backfill during construction when the pipe has less than 1 foot of cover and is subjected to heavy equipment traffic, or when sheeting and unstable trench side conditions occur. The concrete backfill shall consist of 1:3:5 mix concrete placed from wall to wall of trench and from bottom of trench to a minimum of 4 inches over the top of the pipe.

### **PART 3 – CONSTRUCTION METHODS**

All as provided in Part 3 of the Standard Specifications for Public Works Construction except as otherwise provided hereinafter.

#### **SECTION 303 – CONCRETE AND MASONRY CONSTRUCTION**

##### **303-1 CONCRETE STRUCTURES.**

###### **303-1.1 General.**

*Insert the following after the first sentence of the first paragraph:*

Concrete drainage facilities including but not limited to concrete junction structures, catch basins, concrete pipe inlets, manholes, manhole safety ledges, drainage transitions, concrete collars, and concrete pipe anchors shall be constructed in conformance with the Plans and Specifications.

The Contractor shall match the finish grade of the sidewalk and top of curb at all four corners of the basin top slab. Contractor shall provide an initial survey to determine the proposed

elevations at the four corners of the basin top slab. After the basin top slab is in place and before the top slab is grouted to the base unit, the Contractor shall provide a final survey to verify that the four corners are at the correct elevations.

### **303-1.8.2 Grouting.**

*Add at end of first paragraph:*

Mortar for joining manhole sections shall consist of 1 part cement to 2-1/2 parts of sand by volume.

Products shall be manufactured by one of the following (or approved equal):

- a) Manhole Sections: Ameron; Associated Concrete Products, or Southwest Concrete Products.
- b) Frames and Covers: Vulcan Foundry, Inc., South Bay Foundry, or Alhambra Foundry.
- c) Warning Sign: W.H. Brady Company; Seton Nameplate Corporation

### **303-1.12 Payment.**

*Insert the following as the second paragraph:*

Payment for concrete drainage facilities shall be at the **Contract Unit Prices shown in the Bid** and shall include full compensation for furnishing all labor, materials, including, but not limited to manhole frame and cover, concrete aprons, concrete rings, ladders and steps, pipe rails, miscellaneous metal, reinforcement, expansion and control joints, weep holes, water stops, dowel joints, and adhesives.

*Insert the following Subsections:*

### **303-1.13 PreCast Concrete Manholes.**

#### **303-1.13.1 General.**

The Work of this Section includes providing precast concrete manholes and related appurtenances. Precast concrete manhole risers, grade rings, tops, cones, and base sections shall be designed and constructed in accordance with the requirements of ASTM C 478. Manhole frames and covers shall be non-rocking and shall conform to the requirements of ASTM A 48, Class 30.

#### **303-1.13.2 Manhole Installation and Protection.**

When constructing a precast manhole, the Contractor shall adhere to the following:

- a) Use false bottoms to prevent damage to manhole and debris from entering pipe.
- b) Place circular steel plate over shaft or opening.
- c) Delineate around manhole to protect by using delineators, barricades, tape or any other physical barrier deemed necessary.
- d) Check manholes at the end of each day for debris which may have fallen in.
- e) If manholes need to be field core drilled, then the Contractor must adhere to the following requirements:
  1. After hole is cored, install pipe and temporary mechanical plug.
  2. Coring must be performed by an experienced Contractor approved by the Engineer.

#### **303-1.13.3 Manhole Inspection.**

Upon request, the Contractor shall provide the Engineer a workman with ladder or other safe and adequate means for inspection access. Inspection will be a visual inspection by the Engineer.

Any offsets or debris, steps or any other infraction will be listed and given to the Contractor with a correction notice. A clean set of blueline plans will be used for redline marks and dated. Any corrections will be marked in red and dated with the date of inspection. If corrections are to be made, a date of re-inspection will be written on the plans. Visual confirmation of repair will be made and documented by the Engineer.

### **303-1.13.4 Payment.**

Payment for PreCast Manholes shall be at the **Contract Unit Prices shown in the Bid** and shall include full compensation for furnishing all labor, materials, installation, protection and inspection.

## **SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION**

### **306-3 TRENCH EXCAVATION.**

*Add the following subsection:*

#### **306-2.9 Existing Utilities.**

Existing utilities have been located as accurately as can be determined from utility companies, office records, and potholing and are shown on the Plans. However, as stated in Section 5-1, the Contractor shall contact Underground Service Alert at 811 for mark-out before excavating and shall coordinate his work with utility owners.

Where a possible at grade conflict with existing underground utilities appears on the Plans, unless prior pothole information is shown, the Contractor shall determine their location prior to trenching. **The Contractor shall utilize the Move-in period to perform exploratory excavations to verify utility locations prior to start of the Work.** These results must be provided to the Engineer at the end of each day exploratory excavations are complete. The Project schedule shall include the dates the Contractor anticipates performing exploratory excavations and providing the pothole information to the Engineer. Grade and/or alignment changes shall be made only if approved by the Engineer.

Except for those locations identified to pothole specifically on the Plans and listed in the Bid Proposal, **the cost shall be included in the Contract Unit Price bid for the storm drain being installed.**

Where existing underground utilities are undercut, particular care shall be exercised in selecting, placing, and compacting the backfill material under and around such utility to assure firm support. For at least 12 inches all around the undercut utility, the backfill material shall have a sand equivalent of 50 and be compacted to 90% relative density. The Contractor is responsible for ensuring all service connections are properly protected in place and shall immediately repair any service that is damaged.

Where, in the opinion of the Engineer, the native soil is unsuitable for supporting the undercut utility, suitable backfill material shall be used and **payment therefore shall be included in the Unit Price bid for the storm drain being installed.**

Where a 1-inch or smaller water service is damaged during trenching operations, a minimum 4-foot section of such service shall be removed and replaced with two compression couplings and new type "K" copper tubing. No sweat type fittings will be allowed. Wrap service repair to be with two layers of 8-mil polyethylene.

The Contractor is advised to be careful to avoid damage to water services, sewer laterals, water, and sewer mains during excavation operations. The Contractor shall assume that every property parcel will be served by a service connection for each type of utility and be aware that service connections are not necessarily marked from the main line in the field. In the event the Contractor damages existing service connections and new service connections are required, such as water main repairs, etc., the Contractor shall immediately repair these lines or be responsible

to pay for the work required to be done by City forces.

Existing water mains, unless specifically identified otherwise, shall remain in service during the entire period of construction. Water mains require vertical and horizontal support at tees, crosses, bends, etc. In the event of water main failure due to Contractor's failure to provide necessary support (vertical and/or horizontal), the Contractor shall make immediate repairs or City forces may perform the necessary work and the costs will be subtracted from the Contractor's progress payment.

### **306-3.2 Removal of Surface Improvements.**

*Add the following after the first sentence:*

Full compensation for removal and disposal of bituminous and concrete pavement, curb, gutter, and spandrel not included in other bid items shall be included in the items of work which require removal and disposal.

### **306-4 SHORING AND BRACING.**

*Insert the following after the second paragraph:*

The Contractor shall be required to supply a copy of shoring plans and specifications and any permit required by the Division of Industrial Safety at the time of the preconstruction meeting. All material used for protection shall be removed from the Work unless it has been approved to remain in place by the Engineer.

Shoring is considered to be adequate sheeting, shoring, bracing, or equivalent method for (1) protection of life and limb which shall conform to applicable safety orders; (2) protection of existing underground and above-ground private and public improvements; and (3) the remedy of any and all conditions encountered, regardless of depth, (including, but not limited to trench sluffing, pavement separation, etc.) during the construction of the Work.

Excavation for any trench 5 feet or more in depth shall not begin until the Contractor has received approval from the Engineer of the Contractor's detailed plan for worker protection from hazards of caving ground. Such plan shall be submitted at least **three weeks** before the Contractor intends to begin excavation and shall show the details of the design of shoring, bracing, sloping or other provisions to be made for worker protection during excavation. No such plan shall allow the use of shoring, sloping or a protective system less effective than required by Construction Safety Orders of the Division of Industrial Safety. All plans for bracing the excavation must be prepared and signed by a registered Civil or Structural Engineer in the State of California.

Prior to the beginning of excavations requiring shoring, the Contractor shall designate in writing to the Engineer someone whose responsibility it is to supervise the project safety measures and someone whose responsibility it is to supervise the installation and removal of sheeting, shoring and bracing.

In addition to shoring the excavations in accordance with the minimum requirements of Industrial Safety Orders, it shall be the Contractor's responsibility to provide any and all additional shoring required to support the sides of the excavation against the effects of loads which may exceed those desired by using the criteria set forth in the Industrial Safety Orders. The Contractor shall be solely responsible for any damages which may result from his failure to provide adequate shoring of the excavation under any and all of the conditions of loading which may exist or which may arise during construction.

### **306-5 DEWATERING.**

Replace the last sentence of the first paragraph with the following:

Removal of ground water shall be performed to a level sufficiently below the structure subgrade to ensure a firm and stable subgrade for the construction of structures. The Contractor shall provide and maintain at all times during construction ample means and devices to promptly remove and properly dispose of all water entering the excavations or other parts of the Work. No concrete footing or floor shall be laid in water, nor shall water be allowed to rise over them until the concrete or mortar has set at least 8 hours. Water shall not be allowed to rise unequally against walls for a period of 28 days. Dewatering for the structures and pipelines shall commence when ground water is first encountered and shall be continuous until such time as water can be allowed to rise in accordance with the above. Dewatering shall be accomplished by well points or some other method which will ensure a dry hold and preservation of final lines and grade of the bottoms of excavation, all subject to the approval of the Engineer.

Disposal of water from dewatering operations shall be at the sole responsibility of the Contractor. Disposal methods shall conform to the Porter-Cologne Water Quality Control Act-1974, the Federal Water Pollution Control Act Amendments of 1972, and the California Administrative Code, Title 23, Chapter 3.

### **306-7.3 Reinforced Concrete Pipe (RCP).**

Insert the following subsection:

#### **306-7.3.4 Pipe Laying.**

Pipe will be inspected in the field before and after laying of the pipe. If any cause for rejection is discovered in a pipe after it has been laid, it shall be subject to rejection. Any corrective work shall be approved by the Engineer and shall be at no cost to the Agency.

When connections are to be made to any existing pipe, conduit, or other appurtenances, the actual elevation or position of which cannot be determined without excavation, the Contractor shall excavate for, and expose, the existing improvement before laying any pipe or conduit. The Engineer shall be given the opportunity to inspect the existing pipe or conduit before connection is made. Any adjustments in line or grade which may be necessary to accomplish the intent of the Plans will be made, and the Contractor will be paid for any additional work resulting from such change in line or grade in the manner provided in 3-2.

Pipe shall be laid up-grade with the socket or collar ends of the pipe up-grade unless otherwise authorized by the Engineer.

Where the proposed piping will connect to existing piping, the Contractor shall excavate the point of connection to verify size, layout, and depth. Prepare a sketch of the proposed point of connection for submittal to the Engineer. The Contractor shall give the Engineer a minimum of two hours to inspect the existing piping before connection is made and backfilling.

Except for short runs, which may be permitted by the Engineer, sections of pipe shall be laid in a sequence moving in an upgrade direction on grades exceeding 10 percent. Pipe, which is laid in a downgrade direction, shall be blocked and held in place until sufficient support is furnished by the following pipes to prevent movement.

Closures and corrections pieces shall be provide as required to adjust the pipe laying to conform to pipe stationing shown. Any change in location or number of said items shall be subject to acceptance by the Engineer.

#### **306-12.3.2 Compaction Requirements.**

*Replace the entire Section with the following:*

All backfills and fills to be used as subgrade shall be compacted to a relative density of 90 percent unless otherwise specified. Upon completion of the required bedding, the trench backfill shall be placed and mechanically compacted. Only lightweight tamping equipment shall be used within 3 feet of pipe and appurtenances.

Backfill shall be placed in loose lifts less than 8 inches thick, moisture conditioned to a minimum of 2% above optimum moisture content, and compacted to at least 90 percent relative compaction except where noted otherwise. Backfill shall be mechanically compacted using vibratory or impact-type equipment. Jetting will not be permitted unless specifically approved in advance by the Engineer.

**306-13 TRENCH RESURFACING.**

**306-13.2 Permanent Resurfacing.**

*Add with the following after the last paragraph:*

All testing of underground installation at any given point shall be completed before the surface course is placed at that point.

**306-15 PAYMENT.**

**306-15.3 Dewatering.**

*Replace the entire section with the following:*

Payment for removal of water shall be included in the items of work which require the dewatering.