

**Specifications for:**

**Park  
Improvements  
Layne Park**

**4-21-22**



**109 W. Union Ave.  
Fullerton, CA 92832  
(714) 871-3638**

# TABLE OF CONTENTS

## Contractor=s Qualifications

### Divisions 1 - General Requirements

01010	Summary of Work
01030	Alternates
01045	Cutting and Patching
01200	Project Meetings
01310	Construction Schedule
01340	Shop Drawings, Project Data and Samples
01370	Schedule of Values
01410	Testing
01420	Inspection of Work
01500	Temporary Facilities and Controls
01600	Products and Materials
01700	Project Closeout
01720	Project Record Documents

### Division 2 - Site Work

02100	Site Preparation
02280	Soil Treatment
02530	Court Surfacing
02547	Granular Surfacing
02660	Domestic Water Services and Sanitary Sewer
02860	Play Equipment
02870	Site Furnishings
02900	Landscape Planting

### Division 3 - Concrete

03100	Concrete Formwork
03200	Concrete Reinforcement
03310A	Concrete (title 24)

Division 5 - Metals

05010      Miscellaneous Metals

Division 7 - Thermal and Moisture Protection

07900      Caulking and Sealants

Division 9 - Finishes

09860      Anti-Graffiti Coatings

Miscellaneous – Off Stie Street Improvements

## **SECTION 01010 - SUMMARY OF WORK**

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

### **A. Work covered by Contract Documents:**

The work covers park improvements to Layne Park, San Fernando, California. Work includes clearing, grading, paving, site utilities, electrical service and security lighting, Fencing, game court, site furnishings, steel edging, walks, slabs and curbs, decomposed granite paving, restroom buildings, shade shelter, landscape planting, automatic irrigation system, 30 day plant establishment period and 60 day project maintenance. The work to be performed shall include, but not be limited to, the items described. All work shall include the furnishing of labor, services, tools, equipment, materials, appurtenances and incidentals necessary to install and complete the work contemplated per the plans and specifications.

### **B. Related Work Specified Elsewhere:**

Construction Schedule: Section 01310  
Schedule of Values: Section 01370  
Temporary Facilities and Controls: Section 01500  
Products and Materials: Section 10600  
Landscape Planting: Section 02900

### **C. Contractor's Duties:**

Arrange and pay for all off-site inspection of the work required by ordinance or governing authorities. The Contractor shall also arrange and pay for other inspections, including tests in connection therewith, as may be assigned to it in other sections of the specifications.

Comply with codes, ordinances, rules, regulations orders, and other legal requirements of public authorities which bear on performance of work.

### **D. Contracts:**

Construct entire work under single lump sum price contract.

### **E. Allotted Working Space:**

A reasonable space will be assigned. All materials and equipment shall be kept within this space with no liability to the Agency.

### **F. Acceptance of Site:**

The Contractor shall accept the site and the character of the work as they exist on the first day of work under this contract.

### **G. Survey and Layout:**

Contractor shall verify all dimensions on the drawings and shall report to the Agency Representative any discrepancies before proceeding with related work. Contractor shall perform all survey and layout work.

### **H. Maintenance of Existing Plantings:**

The Contractor shall protect and maintain all existing trees and plantings to remain from the first day of work under this contract to acceptance.

**I. Not in Contract:**

Items shown on the contract drawings, but marked N.I.C., are not included in this contract.

**J. Limits of Work:**

Limits of work shall be the legal property boundaries unless modified by Contract limit lines indicated on the plans or as noted otherwise.

**End of Section**

## **SECTION 01030 - ALTERNATES**

### **I. GENERAL**

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

The contractor shall review and become familiar with pertinent specifications affected by listed Alternates.

This section describes the changes to be made under each Alternate.

Additional specification sections contain the pertinent requirements for materials and methods affecting the described Alternates.

Coordinate pertinent related work and modify surrounding work as required to complete the project under each Alternate designated in the Agreement.

#### **A. Description of Alternates:**

ADDITIVE ALTERNATE. Provide all labor, materials, services and equipment necessary for completion of the construction of additive alternates

**End of Section**

**SECTION 01045 - CUTTING AND PATCHING**

**I. GENERAL**

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

**A. Related Work Specified Elsewhere:**

Summary of Work: Section 01010  
Earthwork and Grading: Section 02200  
Site Drainage: Section 02720  
Site Utilities: Section 02600  
Asphalt Concrete Paving: Section 02510  
Concrete: Division 3

**B. Description:**

Execute cutting (including excavating), fitting or patching of work required to:

Make several parts fit properly;  
Uncover work to provide for ill-timed work;  
Remove and replace defective work;  
Remove and replace work not conforming to the Contract Documents;  
Remove samples of installed work as required for testing;  
Install specified work in existing construction;  
Properly join work by others.

In addition to contract requirements, upon written instructions of the Agency Representative:

Uncover work to provide for Agency Representative's observation of covered work;  
Remove samples of installed materials for testing;  
Remove work to provide for alteration of existing work.

Do not endanger any work by cutting or altering work or any part of it.

**C. Submittals:**

Prior to cutting which affects structural safety of work or work of another Contractor, submit written notice to the Agency Representative requesting consent to proceed with cutting, including:

Identification of the work;  
Description of affected work;  
Necessity for cutting;  
Effect on other work, on structural integrity of the project;  
Description of proposed work.  
Designate:  
Scope of cutting and patching;  
Contractor and trades to execute work;  
Products proposed to be used;  
Extent of refinishing;  
Alternatives to cutting and patching;  
Designation of party responsible for cost of cutting and patching.

Prior to cutting and patching done on instruction of Agency Representative, submit cost estimate.

Should conditions of work or schedule indicate change of materials or methods, submit written recommendations to Agency Representative, including:

Conditions indicating change;  
Recommendations for alternative materials or methods;  
Submittals as required for substitutions.

Submit written notice to Agency Representative, designating time work will be uncovered, to provide for observation.

**D. Payment for Costs:**

Costs caused by ill-timed or defective work, or work not conforming to Contract Documents, including costs for additional services of the Landscape Architect shall be borne by Contractor.

Work done on instructions of the Agency Representative, other than defective or non-conforming work shall be borne by Agency.

**II. PRODUCTS**

Materials for replacement of work removed shall comply with specifications for type of work to be done.

**III. EXECUTION**

**A. Inspection:**

Inspect existing conditions of work, including elements subject to movement or damage during cutting and patching or excavating and back-filling.

After uncovering work, inspect conditions affecting installation of new products.

**B. Preparation:**

Before cutting provide shoring, and support as required to maintain structural integrity of project; provide protection for other portions of project; and provide protection from the elements.

**C. Performance:**

Execute fitting and adjustment of products to provide finished installation complying with specified tolerances and finishes.

Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs and new work.

Execute excavating and backfilling as specified in Section 02200 - Earthwork and Grading.

Restore work which has been cut or removed; install new products to provide completed work conforming to Contract Documents.

Refinish entire surfaces as necessary to provide an even finish:

Continuous surfaces - to nearest intersections.  
Assembly - entire refinishing.



**End of Section**

## SECTION 01200 - PROJECT MEETINGS

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

#### A. Related Requirements Specified Elsewhere:

Summary of Work: Section 01010  
Construction Schedules: Section 01310  
Shop Drawings, Project Data, and Samples: Section 01340  
Project Record Documents: Section 01720

#### B. Pre-Construction Meeting:

Schedule within 15 calendar days after date of award by Agency.

Minimum Attendance:

Prime Contractor  
Major Subcontractors  
Landscape Architect  
Utility Representatives  
City Building and Safety Department  
City Engineer

#### C. Progress Meetings:

Schedule regular meetings at work site. Hold called meetings as progress of work dictates.

The Contractor and any or all of its subcontractors shall attend these meetings as directed by the Agency Representative.

**End of Section**

## SECTION 01310 - CONSTRUCTION SCHEDULE

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

#### A. Related Requirements Specified Elsewhere:

Summary of Work: Section 01010

Products: Individual Sections - Divisions 2-16.

Provide projected construction schedule for entire work. Revise periodically.

#### B. Form of Schedule:

Horizontal bar chart with separate horizontal bar column for each trade or operation. Identify each column by distinct delineation. Identify the first work day of each week. Allow space for updating. Identify each part separately unless all work is concurrent.

#### C. Content of Schedule:

Provide complete sequence of construction by activity.

Shop drawings, project data and samples;

    Submittal date and date review copies required.

Decision dates;

    Product substitutions;

    Selection of finishes.

Product procurement and delivery dates;

Dates for beginning and completion of each element of construction, including equipment installation dates;

Testing of equipment on systems.

Show projected percentage of completion for each item of work as of first day of each month.

Provide sub-schedules to define critical portions of entire schedule.

#### D. Updating:

Show all changes occurring since previous submittal of schedule.

Indicate progress of each activity; show completion dates.

Include major changes in scope, modified activities, revised projections, and other identifiable changes.

Provide description of current and anticipated delay factors and their impact.

#### E. Submittals:

Submit initial schedule within **15 calendar days after date of Notice to Proceed**. Agency Representative will review schedule and return review copy within 10 calendar days after receipt.

If required, resubmit within 7 calendar days after return of review copy.

Submit periodically updated schedules accurately depicting progress to first day of each month.

Submit 4 copies to Agency Representative.

**F. Distribution:**

Distribute copies of reviewed schedules to job site file, subcontractors, and other concerned parties, with instructions to coordinate.

**End of Section**

## SECTION 01340 - SHOP DRAWINGS, PROJECT DATA AND SAMPLES

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

#### A. Submit:

Submit to the Agency shop drawings, project data and samples required by specification sections.

#### B. Related Requirements Specified Elsewhere:

General Conditions  
Construction Schedules: Section 01310  
Summary of Work: Section 01010  
Project Closeout: Section 01700  
Products and Materials: Section 01600

#### C. Construction Schedule:

Designate dates for submission and dates reviewed shop drawings, project data and samples will be needed for each product.

### II. SHOP DRAWINGS

Original drawings, prepared by Contractor, subcontractor, supplier or distributor which illustrate some portion of the work, showing fabrication, layout, setting or erection details.

Furnished at Contractor's expense by Contractor.

Prepared by qualified detailer.

Identify details by reference to sheet and detail numbers on Contract Drawings.

Minimum sheet size: 8 2" by 11".

#### A. Reproduction for Submittals:

Reproducible transparency with three opaque diazo prints.

### III. PROJECT DATA

#### A. Manufacturer's Standard Schematic Drawings:

Modify to delete information which does not apply.

Supplement standard information where applicable to work.

#### B. Manufacturer's Catalog Sheets, Brochures, Diagrams, Schedules, Performance Charts, Illustrations and other Standard Descriptive Data:

Clearly mark each copy to identify pertinent information.

Show dimensions and clearances required.

Show performance characteristics and capacities.

Show wiring diagrams and controls.

### IV. SAMPLES

Physical examples to illustrate materials, equipment or workmanship, and to establish standards by which completed work is judged.

**A. Office Samples:**

Of size and quantity to clearly illustrate:

Functional characteristics of product or material, with integrally related parts and attachment devices.

Full range of color samples.

After review, samples may be used in construction project.

**B. Field Samples and Mock-Ups:**

Erect at project site at location acceptable to Engineer.

Construct complete, including work of all trades required in finished work.

**V. CONTRACTOR'S RESPONSIBILITIES**

Review shop drawings, project data and samples prior to submission.

Verify field measurements, field construction criteria, catalog numbers and similar data.

Coordinate each submittal with requirements of work and of Contract Documents.

**A. Responsibility for Errors and Omissions in Submittals:**

Not relieved by Landscape Architect's review of submittals.

**B. Responsibility for Deviations in Submittals from Contract Documents:**

Not relieved by Landscape Architect's review unless Landscape Architect gives written acceptance of specific deviations.

Notify Agency in writing at time of submission of deviations in submittals from requirements of Contract Documents.

Begin no work requiring submittals until return of submittals with Landscape Architect's stamp and signature indicating review.

Distribute copies after Landscape Architect's review.

**VI. SUBMISSION REQUIREMENTS**

Schedule all submittals not later than **42 days after Award of Contract**.

The Agency will not be responsible for delays to the Contractor for any submittal not received within the specific time.

Contractor's distribution shall be as required, plus three copies for Agency's retention, or number of samples specified in pertinent section.

Transmittal letter shall be in duplicate, containing date, project title and number, Contractor's name and address, the number of each shop drawing, project data and sample submitted, notification of deviations from Contract Documents, and other pertinent data.

Submittal shall include:

Date and revision date;  
Project title, number, park name or names.  
Names of : Agency, Contractor, Subcontractor, Supplier, Manufacturer, separate detailer, where pertinent;  
Identification of material;  
Relation to adjacent structure or materials;  
Field dimensions, clearly identified;  
Specification section number;  
Applicable standard, such as ASTM # or Federal Specification;  
Space for Landscape Architect's stamp;  
Identification of deviations from Contract Documents;  
Contractor's stamp, initialed or signed, certifying review of submittal, verification of field measurements and compliance with Contract Documents.

**VII. RESUBMISSION**

**A. Shop Drawings:**

Revise initial drawings as required and resubmit as specified for initial submittal.

Indicate on drawings any changes which have been made other than those requested by Landscape Architect.

**B. Project Data and Samples:**

Submit new datum and samples as required for initial submittal.

**VIII. DISTRIBUTION AFTER REVIEW**

Distribute stamped copies of shop drawings and project data to:

Contractor's file  
Job site file  
Record Documents file  
Subcontractor  
Supplier  
Fabricator.

**A. Samples:**

Distribute as directed.

**End of Section**

## SECTION 01420 - INSPECTION OF WORK

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

#### A. Inspection:

The Agency will inspect and approve all installations and operations. All submittals to, and communication between, the Agency and the Contractor related to the work of this Contract shall be directed to the Agency Representative.

#### B. Notice:

The Contractor shall give the Agency Representative or an authorized representative a twenty-four (24) hour notice prior to work inspections required elsewhere in these specifications or by public agencies.

The work shall be ready for inspection at the scheduled times arranged by the Contractor. If, in the Agency Representative's sole judgment, the work is not ready and the inspection must be rescheduled, the Contractor shall be notified, shall reschedule the inspection, and shall provide twenty-four (24) hours notice of the rescheduled inspection.

In order to allow for inspection, and in addition to any inspection required by the City Building and/or Safety Department or any inspection required elsewhere in these specifications, the Contractor shall notify the responsible agency sufficiently in advance of the permanent concealment of any materials or work.

If any work is concealed or performed without the prior notice specified above, then the work shall be subject to such tests or exposure as may be necessary to prove to the Agency Representative or responsible agency that the materials used and the work done are in conformity with the plans and specifications. All labor and equipment necessary for exposing and testing shall be furnished by the Contractor at his expense. The Contractor shall replace, at his own expense, any materials or work damaged by exposure or testing.

Any inspection or approval by any representative or agent of the Agency will not relieve the Contractor of the responsibility of incorporating in the work only those materials which conform to the specifications, and any non-conforming materials shall be removed from the project site whenever identified.

#### C. Final Inspection:

Upon the completion of the work, the Contractor shall notify the Agency Representative seven (7) days in advance of when he desires a final inspection of the work. Engineer will make such inspection as soon thereafter as possible.

#### D. Defective Work:

No work which is defective in its construction or deficient in any of the requirements of the specifications shall be considered as accepted. The Contractor shall correct any imperfect work whenever discovered, before the final acceptance of the work.

#### E. Inspection Overtime:

The Contractor shall compensate the Agency, either upon receipt of a bill therefor or by deduction from the final amount due the Contractor, for all hours worked by the Inspector or other authorized Agency employees on Saturdays, Sundays, or legal holidays at one and one-half (1 2) times the employees basic rate of pay, plus current rate for overhead.



**End of Section**

## **SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS**

### **I. GENERAL**

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

The Contractor shall be responsible for all specific safety requirements promulgated by any governmental authority, including the requirements of the Occupational Safety and Health Act of 1970 (OSHA) and CAL OSHA.

### **II. ACCESS AND FACILITIES**

#### **A. Access:**

Provide and maintain an adequate access to the site of the project. Also provide temporary roads if any are required for prosecution of the work.

#### **B. Temporary Fencing:**

Contractor shall erect a temporary chain link fence around the entire perimeter of the construction area for his own security. Location and limits of fencing shall be approved by Agency and Architect at initial site meeting. Fence shall be a minimum 6'-0" in height and shall have appropriate access gates. Fence shall have a good appearance. At completion of project (or sooner), Contractor shall remove fence from property with Agency permission.

#### **C. Storage Sheds:**

Provide and maintain on the premises, where directed, watertight storage sheds for all materials which might be damaged by weather, including storage facilities for concrete test samples or other material samples required for the work.

#### **D. Sanitary Facilities:**

1. The Contractor shall provide temporary toilet facilities which may consist of portable chemical toilets. Number of toilets shall be based on number of workers - 1 per 15 workers.
2. Toilet facilities shall be kept supplied with toilet paper and be kept in a clean and sanitary condition until completion of the work and then be removed from the work site. Upon removal, that portion of the site shall be properly cleaned and graded.

### **III. TEMPORARY SIGNBOARDS**

#### **A. Identification Sign:**

If so required by Agency, provide and maintain an identification sign in a prominent location approved by the Agency Representative, as directed. Signs shall be constructed of 3/4" exterior marine plywood, 4' x 8', with 1" x 4" D.F. stiffeners around all edges. Sign shall be mounted 3 feet above grade on 4" x 4" posts and adequately braced to withstand wind pressures.

Sign shall be constructed by a professional sign painter.

Sign colors shall be as selected by the Landscape Architect. Paints shall be exterior grade to maintain high quality appearance throughout construction period.

Contractor shall be responsible for layout of sign subject to approval of the Agency Representative. Sign shall contain the following:

(PROJECT NAME, CLIENT)  
COUNCIL MEMBERS' NAMES  
UNDER CONSTRUCTION.  
SCHEDULED OPENING DATE \_\_\_\_\_

MIG, LANDSCAPE ARCHITECT  
\_\_\_\_\_, GENERAL CONTRACTORS

**IV. FIRE PROTECTION**

Provide general temporary fire protection for the work under this contract.

**V. TRASH REMOVAL AND CLEANING**

Provide trash receptacles for collecting debris. Remove debris from job site at regular intervals.

**End of Section**

**SECTION 01600 - PRODUCTS AND MATERIALS**

**I. GENERAL**

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

**A. Work Included:**

Transportation and storage.  
Products list.  
"Or equal" and reference to trade names.  
Contractor's options.  
Substitutions.

**B. Related Requirements Specified Elsewhere:**

Schedule of Values: Section 01700.  
Shop Drawings, Project Data and Samples: Section 01340.  
Testing: Section 01410.  
Inspection: Section 01420.

**II. HANDLING**

**A. Transportation and Storage:**

Products or materials to be incorporated in the work shall be transported, handled, and stored in such a manner as to assure the preservation of their quality and fitness for the work and to facilitate inspection.

**III. PRODUCTS LIST**

Within 35 days after date of Contract, submit to Engineer five (5) copies of complete list of all products which are proposed for installation.

Tabulate list by each specification section. For products specified under reference standards, include with listing of each product:

Name and address of manufacturer;  
Trade name;  
Model or catalog designation;  
Manufacturer's data:  
    Performance and test data  
    Reference standards

**IV. "OR EQUAL" AND REFERENCE TO TRADE NAMES**

Whenever in the specifications any material or process is indicated or specified by patent or proprietary name or by name of manufacturer, such specifications shall be deemed to be used for the purpose of facilitating description of the material or process desired and shall be deemed to be followed by the words "or equivalent". However, if the material, process, or article offered by the Contractor is not, in the opinion of the Engineer, equal to that specified, then the Contractor must furnish the material, process or article specified, or one which in the opinion of the Agency Representative is the equal thereof in all essential characteristics.

If the Agency Representative shall decide to accept for use in the project a material which is not the equal of that specified, authority for the substitution shall be made in the manner described for "Extra Work and Changes", with appropriate monetary allowance for the difference in value.

**V. CONTRACTOR'S OPTIONS**

For products specified only by reference standards, select any product meeting standards, by any manufacturer.

For products specified by naming several products or manufacturers, select any product and manufacturer named.

For products specified by naming one or more products, but indicating the option of selecting equivalent products by stating "or equal" after specified product, Contractor must submit request, as required for substitution, for any product not specifically named.

**VI. SUBSTITUTIONS**

**A. General:**

The Contractor may offer any material or process which he believes to be equal in all essential characteristics to that so indicated or specified; and it shall be incumbent upon the Contractor to furnish sufficient evidence to the Agency Representative to support his claim of equality. Said offer and supporting evidence must be submitted to the Agency Representative within 20 days after the Award of Contract or Contractor will be deemed to have waived his right to offer substitute materials and processes.

**B. Submittal:**

Submit five (5) copies of request for substitution. Include in request:  
Complete data substantiating compliance of proposed substitution with Contract Documents.

For products:

Product identification, including manufacturer's name and address.

Manufacturer's literature:

Product description

Performance and test data

Reference standards

Samples.

Name and address of similar projects on which product was used, and date of installation.

For construction methods:

Detailed description of proposed method.

Drawings illustrating methods.

Itemized comparison of proposed substitution with product or method specified. Data relating to changes in construction schedule.

Relation to separate contracts.

Accurate cost data on proposed substitution in comparison with product or method specified.

**C. Contractor Warrants:**

It has personally investigated proposed product or method, and determined that it is equal or superior in all respects to that specified.

It will provide the same guarantee for substitution as for product or method specified.

It will coordinate installation of accepted substitution into work, making such changes as may be required for work to be complete in all respects.

It waives all claims for additional costs related to substitution which consequently becomes apparent.

Cost data is complete and includes all related costs under its contract, but excludes:

Costs under separate contracts.  
Landscape Architect's re-design.

**D. Limitations:**

Substitutions will not be considered if:

They are indicated or implied on shop drawings or project data submittals without formal request submitted within 20 days of award.

Acceptance will require substantial revision of Contract Documents.

Delays in delivery of specified materials will not be considered justification for substitutions.

**End of Section**

## **SECTION 01700 - PROJECT CLOSEOUT**

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

### **I. NOTICE**

At least seven (7) working days notice shall be required for final inspection; such notices shall be given to the Agency Representative.

### **II. REMOVAL OF PLANT AND CLEAN-UP**

Upon completion of the work, the Contractor shall remove all its plant, tools, materials, and other articles from the property of the Agency. Should it fail to take prompt action to this end, the Agency, at its option and without waiver of such other rights as it may have, may on seven (7) days' notice treat them as abandoned property. The Contractor shall also sweep all floors broom clean, clean all exterior work and windows and remove all rubbish from the property of the Agency.

### **III. DAMAGE**

Damage to existing utilities, trees, pavements or other property caused by the Contractor shall be restored to original condition at the Contractor's expense, prior to final inspection.

### **IV. GUARANTEES**

All guarantees required by the following Divisions of these Specifications shall be presented in writing to the Agency prior to final acceptance of the work and shall be in addition to the requirements set forth in the Special Provisions of these Specifications.

### **V. RECORD DOCUMENTS**

Submit to the Agency prior to final acceptance all record documents required by the other Divisions of these Contract Documents.

**End of Section**

## SECTION 01720 - PROJECT RECORD DOCUMENTS

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

#### A. Related Requirements Specified Elsewhere:

Project Meetings: Section 01200.  
Construction Schedules: Section 01310.  
Shop Drawings, Project Data, and Samples: Section 01340.  
Products and Materials: Section 01600.  
Project Closeout: Section 01700.

### II. MAINTENANCE OF DOCUMENTS

Maintain at job site, one copy of:

Contract Drawings;  
Specifications;  
Addenda;  
Reviewed Shop Drawings;  
Change Orders;  
Other Modifications to Contract;  
Field Test Records;  
Construction Schedules;  
"As-Built" Drawings.

#### A. Storage:

Maintain documents in clean, dry, legible condition.

#### B. Use and Availability:

Not for construction purposes.  
Available at all times for inspection by Engineer.

### III. RECORDING

#### A. General:

Provide red ballpoint pen for all marking.  
Label each document "PROJECT RECORD" in large, printed letters.  
Keep record documents current.  
Do not permanently conceal any work until required information has been recorded.  
These drawings shall be up-to-date and so certified by the Project Inspector at each progress payment request submittal.

#### B. Marking:

Contract Drawings. Legibly mark to record actual construction:

Depths of various elements of foundation in relation to finish floor elevation;



Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements;  
Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure;  
Field changes of dimension and detail;  
Changes made by Change Order or Field Order;  
Details not on original contract drawings.

Specifications and Addenda. Legibly mark up each section to record:

Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed;  
Changes made by Change Order or Field Order;  
Other matters not originally specified.

Shop Drawings. Maintain as record documents; legibly annotate drawings to record changes made after review.

"As-Built" Drawings. Agency will furnish the Contractor with one set of ozalid transparencies and one set of blue line prints showing all work required for the use of the Contractor as "as-built" drawings. The Contractor shall clearly mark on each set as specified above.

#### **IV. SUBMITTAL**

At completion of project, deliver record documents to Engineer. Accompany submittal with transmittal letter, in duplicate, containing:

Date;  
Project title and number;  
Contractor's name and address;  
Title and number of each record document;  
Certification that each document as submitted is complete and accurate;  
Signature of Contractor or its authorized representative.

NOTE: Prior to final payment, Contractor shall submit all Record Documents for review, correct all deficiencies, obtain required approvals, and deliver all approved Record Documents to the Engineer.

**End of Section**

## SECTION 02100 - SITE PREPARATION

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction, Section 300, latest Edition, apply except as modified herein.

#### A. Scope:

Protection of all improvements to remain.

Protection of all light poles, fire hydrants, and other utilities to remain.

Protection of trees indicated on drawings to remain.

Clearing and grubbing of the site of work as noted on drawings.

Removal and disposal of all deleterious materials.

Furnishing, developing, applying and providing watering equipment as required for the project.

Demolition and removal from the site of all materials, as shown on the drawings and as required for the new work, including the following:

(1) All structures, appurtenances, ball backstops, footings and improvements. All fencing, as noted, with footings.

(2) All concrete, concrete bumpers and asphalt paving, curbs, and all play equipment with footings, etc., as shown and/or as needed for grading operations and other improvements.

Removal and disposal of any additional items not specifically mentioned herein which may be found within the work limits.

Electrical removals.

Special handling and disposal of any toxic wastes (including asbestos).

#### B. Related Work Specified Elsewhere:

Earthwork and grading: Section 02200.

Landscape work: Section 02900.

Electrical work: Section 16000.

Irrigation systems: Section 02810.

#### C. Acceptance of Site:

Contractor shall accept the site and the character of the work as they exist on the first day of work under this contract. All existing conditions are not necessarily shown on the drawings or noted herein and can be determined only by actual examination of the sites and adjoining premises by the Contractor.

#### D. Responsibility and Coordination:

Contractor shall secure and maintain all required permits and licenses, and pay all fees necessary to legally complete the work of this section.

Contractor shall notify utility companies for all utilities to be cut off, modified or relocated, and shall maintain and protect all active utilities.

#### E. Protection and Safety:

Conform to all requirements of CAL OSHA "Construction Safety Orders" of the State of California Division of Industrial Safety, and applicable ordinances of the County of Los Angeles and City of San Fernando.

Contractor shall provide signs in necessary places to exclude persons, except those connected with the work, from entering the working area. Contractor is responsible for preventing unauthorized persons from entering work area.

Protect the project site and adjacent properties from dirty water, mud and water accumulated due to Contractor's operations, rainfall runoff or water that enters the project site from any other source.

**F. Salvage Materials:**

All salvage material remaining on the site after official notification of vacation by the Agency shall be property of the Contractor, except as noted on the plans and herein.

**II. EXECUTION**

**A. General Removal Work:**

Demolition and removal work shall be carefully performed to avoid damage to existing facilities as indicated on the plans to remain.

All removal work (except as noted) shall be disposed of off-site, in legal manner, at Contractor's expense.

**B. Site Clearance and Disposal:**

Clear the site to be improved of grass, weed growth, rubbish, debris, pavement, concrete, inactive or abandoned facilities (verified by the Agency), etc., that are to be removed for construction of improvements to the limits and depths shown on the plans.

Abandoned underground facilities (verified by the Agency), roots three inches in diameter, rocks and broken masonry larger than four inches in any dimension shall be removed to a minimum depth of 12" below finish grade.

Miscellaneous inactive or abandoned underground facilities located 12 inches or more below finish grade may be removed with Agency approval.

Miscellaneous active lines within 12 inches of finish grade that are uncovered during the grading operations shall be protected.

All deleterious materials within the limits of the work shall be disposed of off the site by the Contractor, who shall make all necessary arrangements and pay all related costs.

**C. Utilities:**

Active utilities shall be protected by and at expense of the Contractor. Keep any required utility in operating condition during entire period of work, including irrigation system for landscape maintenance.

Inactive or abandoned utilities shall be disconnected, removed, and plugged or capped subject to the local governing ordinances.

Should the Contractor encounter any existing underground utilities not shown on the drawings, he shall at once notify the Agency Representative who will determine further procedure.

**D. Debris Burning:**

Burning of debris will not be permitted.

**E. Sawcut Paving:**

The Contractor shall carefully saw cut existing concrete or a.c. paving in the location shown on the drawings, and shall carefully remove the designated portion without damage to facilities to remain.

**F. Special Handling and Disposal of Any Toxic Wastes:**

Existing improvements are to be demolished on the project. It is the responsibility of the Bidders to ascertain for themselves (by thorough site inspection) the presence of any toxic materials (including any products containing asbestos). They shall make proper allowances in their Bid Proposals to cover all contingencies (as required by public agencies) including health hazard in handling and required and proper disposal off site.

**G. Turf Eradication:**

Existing turf shall be killed with a City approved contact/systemic herbicide (Roundup or equal) applied by a certified applicator. After the treatment has been confirmed effective by the Agency representative, the dead material shall be removed from the site and properly disposed by the Contractor. The subsurface dead material shall be processed with grading and soil preparation operations.

**End of Section**

## SECTION 02280 - SOIL TREATMENT

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

#### A. Scope:

All areas to be surfaced with asphaltic concrete, decomposed granite, and brick dust shall be treated.

#### B. Related Work Specified Elsewhere:

Earthwork - Section 02200.  
A.C. Paving - Section 02510.  
Decomposed Granite - Section 02547.  
Infield Surface - Section 02547.

### II. MATERIALS

#### A. Product and Application Rate:

Oust XP (75% Sulfometuron-Methyl) (50% Active Dichlobenil) or equally effective physiologic-phytopathic equivalent chemical. Oust XP available through Target Specialty Products, phone number 562-802-2238.

Per manufacturers specifications.

### III. EXECUTION

#### A. General:

Notify Agency Representative two days prior to application of chemical.

#### B. Equipment:

All solution mixed applications shall be applied with a paddle agitator spray rig.

#### C. Treatment:

Apply after the subgrade has been completed and just prior to placing the aggregate base course. The time lapse between soil treatment and placing of cover shall be the practicable minimum. After the chemical treatment has been made, the area shall be thoroughly sprinkled so as to distribute the chemical through the first two or three inches of the subgrade.

#### D. Protection:

The Contractor shall provide all necessary protection to prevent injury to animal or adjacent plant life and property occasioned by the application of the soil sterilant. The Contractor will be held responsible for all personal injury or property damage caused by the application of soil sterilants or the storage of the same.

**End of Section**

## SECTION 02530 - COURT SURFACING

### I. GENERAL

#### A. Scope of Work:

Observation of placing, finishing, and curing concrete courts.  
Preparation of surfaces.  
Court surfacing system.  
Striping.

#### B. Related Work Specified Elsewhere:

Concrete: Section 03310.

### II. MATERIALS

#### A. Court Surfacing and Striping:

Court surfacing shall be an acrylic surfacing system designed for "slow" play, as manufactured by one of the following:

"Courtmaster"  
Sealmaster, Inc.  
1-(800) 395-7325

Deco Color Multipurpose Coating  
Koch Materials Company  
(909) 829-0505

California Products "Plexipave"  
California Products Corp.  
Available through Gary Lindstrom @ (714) 361-1003 or  
Dunn Edwards @ (415) 826-9595

#### B. Color:

Surface colors shall be selected from manufacturer's samples. Submit to Agency Representative within 20 days of Notice to Proceed.

Courts shall be colored as shown on plans.

Materials are to be of surfacing manufacturer's system. Use of traffic paints (oil or alkyd) is prohibited.

NOTE: All color materials are to be of one manufacturer's system.

### III. EXECUTION

#### A. Construction Observation and Certification:

The Court Surfacing Subcontractor shall observe the placing, finishing, and curing operations of court construction. Advise the General Contractor concerning methods and quality of work.

Prior to commencing any of the work of this section, the Surfacing Subcontractor shall certify in writing to the General Contractor and to the Agency that the courts are in a condition acceptable for the work of this section.

**B. Preparation of Surfaces:**

Concrete shall be thoroughly cured before any surface treatment is applied. Existing surfaces shall be prepared for surfacing as per manufacturer's written recommendations. All surfaces shall be cleaned of foreign matter and thoroughly acid washed.

**C. Surfacing:**

The surfacing manufacturer's written instructions shall be strictly adhered to. The manufacturer's representative shall be present during application.

**D. Finish Coat:**

On a thoroughly dried surface, apply at least two coats of finish by roller or brush. Allow finish to dry thoroughly between coats. Aggregate of proper size to achieve "slow" play shall be incorporated in each coat for uniform application. Apply in strict accord with manufacturer's written instructions.

**E. Striping:**

Court striping and playing lines shall be applied after the surface finish is thoroughly dry.

**IV. QUALITY CONTROL**

**A. On-Site Meeting:**

Prior to the start of any work of this section, the Contractor shall arrange a meeting at the job site with the following representation:

Contractor  
Surfacing Subcontractor  
Color System Manufacturer's Representative  
Consultant  
Agency Representative

**End of Section**

**SECTION 02547 GRANULAR SURFACING**

**I. GENERAL**

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

**A. Work Included in this Section:**

Fine finish grading.  
Furnishing and installing stabilized decomposed granite

**B. Related Work Specified Elsewhere:**

Soil Treatment, Section 02280.

**C. Approvals:**

All rough and finish grading shall be inspected and approved before start of any work of this section.

All sprinkler work affecting the work of this section shall be inspected and approved before installation of topping.

**II. MATERIALS**

**A. Stabilized Decomposed Granite for Trail:**

Decomposed granite shall meet the following Sieve Analysis (Cal Trans 202) as follows:

<u>Sieve Size</u>	<u>% Passing</u>
2" (12.5 mm)	100
3/8" (9.5 mm)	97
No. 4 (4.75 mm)	78
No. 8 (2.36 mm)	61
No. 16 (1.18 mm)	46
No. 30	33
No. 50	23
No. 100	15
No. 200	9

The R value shall be a minimum of 70.

The dry static coefficient of friction shall be greater than .60.

Stabilizer® organic binder supplied by Stabilizer Solutions, Inc. (800)336-2468, info@stabilizersolutions.com, shall be incorporated with granite fines by the use of a pug mill that includes a weight belt feeder to insure proper ratio of Stabilizer® to granite fines (12 pounds per ton of granite fines). Blending procedures are performed only by a licensed Stabilized Decomposed Granite blender by Stabilizer Solutions, Inc.

For the trail the stabilized granite shall be placed to a minimum depth of 4" compacted.



Decomposed granite shall be 1/4" Gold as supplied by Stabilizer Solutions, Inc.(800)336-2468, info@stabilizersolutions.com. Stabilized Decomposed Granite with Stabilizer can only be sold through a licensed Stabilizer® dealer.

Prior to installation, samples shall be taken from each 300 tons delivered on site and submitted for Stabilizer® Content Test by Turf Diagnostic & Design, 613 E. 1<sup>st</sup> Linwood, KS 66052.

D. Submittals:

Contractor to furnish conformance tests and obtain approval of material prior to delivery.

**III. EXECUTION**

**A. Stabilized Decomposed Granite**

Install proper drainage to ensure no standing water on surface or adjacent to stabilized decomposed granite.

Place stabilized decomposed granite on prepared base at a 4" thickness. Level to desired grade and cross section.

Water heavily for full-depth moisture penetration of the stabilized decomposed granite profile. Water activates Stabilizer®. To achieve saturation of Stabilized pathway profile, 25 to 45-gallons of water per 1-ton must be applied. During water application randomly test for depth using a probing device, which reaches full depth.

Compact stabilized decomposed granite to 85%-95% relative compaction by equipment such as; a 2 to 4-ton double drum roller. DO NOT use a vibratory plate compactor or vibration function on roller as vibration separates large aggregate particles. Do not begin compaction for 6 hours after placement and up to 48 hours.

Allow surface to dry completely before permitting heavy traffic.

**B. Maintenance:**

Remove all vegetation in decomposed granite areas as it appears. Contractor may use a contact weed killer that does not stain or leave a residue to control vegetation.

**End of Section**

## SECTION 02660 - DOMESTIC WATER SERVICE AND SANITARY SEWER

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.

#### A. Scope:

Furnish and install all site sanitary sewer pipe and domestic water pipe shown on site utility drawings and as follows:

Domestic water from water meter to P.O.C. five feet (+/-) from building.

Sanitary sewer connection to service main.

Sanitary sewer to P.O.C. five feet (+/-) from building.

#### B. Related Documents:

Section 15400: Plumbing

Section 02810: Irrigation

### II. MATERIALS

#### A. Sanitary Sewer Pipe:

Sanitary sewer pipe shall be Vitrified Clay Pipe conforming to Section 207-8 of the Standard Specifications.

#### B. Domestic Water Pipe:

Plastic pipe for use with solvent weld socket or threaded fittings shall be rigid unplasticized polyvinyl chloride PVC 1220 (Type I, Grade 2), conforming to ASTM D-1785. Plastic pipe marked with product standard PS-21-70 conforms with this requirement.

Plastic pipe for use with rubber ring gaskets shall be rigid unplasticized polyvinyl chloride PVC 1120 (Type I, Grade 1), manufactured in accordance with ASTM D-2241. Plastic pipe marked with product standard PS-22-70 conforms with this requirement.

Plastic pipe and fittings smaller than 2" shall be Schedule 80.

Plastic pipe and fittings 2" and larger shall be Class 315 solvent weld or Class 160 for use with rubber ring gaskets.

### III. INSTALLATION

#### A. Water Supply Lines:

Install in accordance with the drawings, and Section 306 of the Standard Specifications for Public Works Construction.

#### B. Sanitary Sewer:

All PVC plastic sewer pipe shall be laid in accordance with applicable portions of Sections 306 of the Standard Specifications.

PVC plastic sewer pipe shall be installed of the dimensions and to the lines and grades shown upon the plans. The pipe shall have full bearing upon the bottom of the trench throughout its length with the bottom of the trench recessed to relieve all load from the bell of the pipe.

**C. Maximum Length of Open Trench:**

Shall be as per Section 306-1.1.2 of the Standard Specifications.

**End of Section**

**SECTION 02860 - PLAY EQUIPMENT**

**I. GENERAL**

**A. Work Included:**

Furnish and install items of play equipment in quantities and in locations as shown on the drawings.

**B. Shop Drawings or Catalogs:**

Shop drawings which show complete details shall be furnished as per Sections 01600 and 01340.

Contractor shall have the manufacturer review the play area plans and mark in ink the minimum dimensions allowed between pieces of play equipment, and between curbs, walls, etc. Any discrepancies noted shall be brought to the attention of the Landscape Architect immediately.

**C. Location Inspection:**

No playground equipment or apparatus or foundations for same shall be placed until location stakes have been verified by the Agency Representative at a regularly scheduled project meeting as per Section 01310 of these specifications.

**II. PRODUCTS**

**A. Play Equipment:**

As shown on the drawings, or approved equals.

**III. EXECUTION**

**A. Installation:**

All items shall be installed according to the manufacturer's written instructions which will be furnished with the equipment.

Equivalent methods of fabrication and installation differing from those employed by the manufacturer specified, may be accepted providing all variations are clearly shown on shop drawings or in catalogs which show complete details, and same are approved by the Consultant prior to fabrication or placing order for delivery.

**B. Concrete Foundations:**

All equipment specified shall be set in concrete footings which shall be the size recommended in writing on printed matter furnished by the manufacturer or as shown on the drawings. All footings shall be flush with the sub-grade. Contractor shall extend any post or pipe at no additional cost to the City so that the equipment is installed at the Manufacturer's designated elevations. Method of extension shall be equal to or better than Manufacturer's material on equipment being installed. Remove all burrs on welds and paint according to Standard Specification, Section 210-3.5.3.

**End of Section**

## SECTION 02870 - SITE FURNISHINGS

### I. GENERAL

- A. Scope of Work:**  
Furnishing and installing benches.  
Furnishing and installing drinking fountains.  
Furnishing and installing trash containers.  
Furnishing and installing picnic tables.  
Furnishing and installing barbecues.  
Furnishing and installing team benches.
- B. Work not Included:**  
Play equipment.

### II. PRODUCTS

- A. Benches:**  
Per Plan. Install units according to manufacturer's specifications.
- B. Drinking Fountain:**  
Per Plans. Install units according to manufacturer's specifications. Install pressure regulator on all water lines to drinking fountains where pressure exceeds 60 psi, set regulator at 50 psi.
- C. Litter Receptacles:**  
Per Plan. Install units according to manufacturer's specifications.
- D. Picnic Tables:**  
Per Plan. Install units according to manufacturer's specifications.
- E. Team Benches:**  
Per Plan. Install units according to manufacturer's specifications.
- F. Barbecues:**  
Per Plan. Install units according to manufacturer's specifications.

### III. INSTALLATION

- A. General:**  
Installation shall be in the locations shown on the drawings after approval of precise location by City Rep. Install according to manufacturer's written instructions or according to approved shop drawings. Install all metal supports and post in footings prior to installing any concrete slabs.  
Any item not imbedded shall be surface mounted to a concrete slab min. 2'x2' for each mounting location using minimum 3/8" x 3" long lag screws in expansion shields.
- B. Pre-Cast Concrete Planters, Bollards, Trash Receptacles, Etc.:**  
Centering: All wood centering required for the setting of precast concrete work under this contract will be furnished and erected by the General Contractor.
- Setting: The precast concrete shall be set accurately, true to line and level by competent precast concrete setters, with full flush joints, filling all anchor holes, welding or bolting as required. Heavy projecting courses to be propped up until mortar has set and the walls above same have been set. All beds and vertical joints to be of maximum width of 1/4 inch. Mortar to be raked out to a depth of 2 inch from the face to allow for pointing.

Backing: Space between back of the cast stone to be filled with semi-dry, coarse sand and cement grout - 1 inch minimum.

Protection: Precast concrete shall be properly protected from damage by means of boards or other suitable covering where necessary until completion of the work. This Contractor shall cooperate with the Carpentry Contractor, who will furnish and erect the necessary protection for this work.

Cleaning: The face of all precast concrete shall be thoroughly cleaned upon completion with the weak acid solution applied vigorously with fiber brushes and then drenched with clean water.

Pointing: All face joints shall be brushed out clean 2 inch in depth and after a thorough wetting of the face shall be pointed flush with mortar composed of one part stainless cement to two parts clean, fine white sand and sufficient cold lime putty to make a mixture as stiff as can be worked.

Caulking: When required joints shall be caulked with sealant compound according to manufacturer's directions, backing to be approved compressible filler. Conform to Section "Caulking", including guarantee.

Concrete Footings: All site furnishings which are embedded in the ground shall have a 12" x 18" minimum concrete footing. If the manufacturer has a specified method of installation, it shall take precedence over the above footing.

**End of Section**

## SECTION 02900 - LANDSCAPE PLANTING

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, Sections 212 and 308 apply except as modified herein.

#### A. Work Included in this Section:

Finish grading (fine).  
Weed abatement.  
Soil preparation.  
Tree supports, trunk protectors, and root barriers.  
Furnishing plants and planting.  
Fertilizer, soil amendment.  
Watering.  
Project maintenance period.  
Soils analysis.  
Steel headers.

#### B. Work not Included in this Section:

Rough grading.  
Finish grading.  
Irrigation system.

#### C. Approvals:

All sprinkler work shall be inspected and approved before starting any work of this section, except that specimen trees shall be installed prior to beginning sprinkler work.

All turf areas shall be planted and all landscape planting shall be installed and approved prior to the commencement of the plant establishment period.

### II. MATERIALS

#### A. Landscape Finish Grading:

Site topsoil material shall be used.

#### B. Tree Supports:

Stakes for trees shall be round, of Lodge Pole pine, made from the entire bole of the tree with bark removed and completely treated in a solution of pentachlorophenol. They shall be at least 2" or 2 2" in diameter, conically pointed at one end. 10" long tapered point and chamfered at the other end.

Ties shall be "Wonder Tree-Tie" or equal, black in color, install according to manufacturer's specifications.

#### C. Tree Trunk Protector:

Contractor shall supply and install an approved tree trunk protector device for trees in turf area only, equal to "Tree Boot".

#### D. Root Barrier:

Root barrier shall be installed on all planted trees within 5'-0" of concrete or asphalt paving. Contractor to supply and install "deep root" barrier by Deep Root Corp.: (415) 437-9700 or Shawtown Root Barrier by NDS: (800) 726-1994 or approved equal with a minimum depth of 24". Where root barriers parallel curb face or concrete pavement, the barrier shall extend 5' on either side of the tree trunk 10' in length.

**E. Plant Materials:**

All plant material shall meet requirements in the Standard Specifications, Section 212-1.4. Plant list is on landscape plan. The planting plans are only accurate for planting location and quantities. The Contractor shall verify all quantities by plan check. The planting legend is accurate only for plant size. In the event of a discrepancy, the Contractor shall adjust the quantities of the smallest plant size specified in the legend to conform with the quantities required by the plan.

Plants not approved are to be removed from site immediately and replaced with suitable plants.

Inspection and approval of specimens required before delivery to site; all others on delivery. Agency may reject entire lot of plants represented by defective samples. Random samples will be inspected for root condition.

**F. Soil Amendments and Fertilizer for Bid Purposes:**

All turf and groundcover areas shall receive soil amendments per soil analysis recommendations. See specs. (Use the following quantity per 1,000 sq. ft. for bidding purposes).

1. 6 cubic yards nitrogen stabilized organic amendments.
2. 15 lbs. commercial fertilizer (6-20-20 either incorporated into the soil or incorporated into the hydromulch slurry as specified).
3. 20 lbs. of gypsum

or

1. 6 cubic yards nitrogen stabilized organic amendments
2. 200 pounds Gro-Power Plus (5-3-1) incorporated into the soil and 12 pounds Gro-Power Plus (5-3-1) incorporated into the hydromulch slurry as specified.

**G. Turf Seed Mixes:**

All seed shall be fresh, clean, new crop seed, premixed by mechanical mixer to proportions specified. Minimum purity and germination as follows:

<u>Turf Mix</u>	<u>Proportion</u>		
	<u>by Weight</u>	<u>Purity</u>	<u>Germination</u>
Ryegrass (50% Pennfine, 50% Derby by count)	20%	95%	90%
Bluegrass (50% Rugby, 50% Parade by count)	40%	98%	80%
Bermuda grass* (certified Arizona Common)	40%	98%	85%

\* Hulled seed shall be used if planted April through September. Unhulled seed shall be used if planted October through March.

Seeding rate: 350 pounds per acre. (8 pounds per 1000 square feet).

**H. Sod:**

Sod shall be as called out on the drawings. Prior to delivery to the site, the Contractor shall submit a square yard sample of proposed sod with the name of the supplier to the landscape architect for review and approval.



**I. Commercial Fertilizers:**

Planting Tablets. Tightly compressed, long-lasting, slow-release fertilizer tablets weighing 21 grams, with a potential acidity of not more than 5% by weight and having an analysis of 20-10-5 derived from the sources listed in the following guaranteed analysis:

Guaranteed Analysis

Total Nitrogen .....	20.0%
Derived from urea-formaldehyde.	
7.0% water soluble Nitrogen, 13.0% water insoluble Nitrogen	
Available Phosphoric Acid .....	10.0%
Derived from calcium phosphate.	
Soluble Potash .....	5.0%
Combined Calcium .....	2.6%
Derived from calcium phosphates.	
Combined Sulfur .....	1.6%
Derived from ferrous and potassium sulfates.	
Iron (expressed as elemental Fe) .....	.35%
Derived from ferrous sulfate.	
Potential Acidity: 5% or 100 lbs. Calcium Equivalent per ton.	

OR Planting Tablets. Gro-Power 7 gram tablets, or approved equal, tightly compressed, long-lasting, slow-release fertilizer tablets weighing 7 grams and having an analysis of 12-8-8 derived from the sources listed in the following guaranteed analysis:  
(Available from Gro-Power 909/393-3744).

Guaranteed Analysis

Total Nitrogen .....	12.0%
Available Phosphoric Acid .....	8.0%
Soluble Potash .....	8.0%
Sulphur .....	3.5%
Iron .....	2.0%
Manganese .....	.05%
Zinc .....	.05%
Humic acids .....	4.0%

Fertilizer 6-20-20 XB (for turf & groundcover areas): Premium high performance pre-plant fertilizer compound having an N-P-K ratio of 6-20-20, and shall be derived from the sources listed in the following analysis in a high quality homogeneous pellet.

Guaranteed Analysis

Total Nitrogen .....	6.0%
Ammoniacal Nitrogen	
Available Phosphoric Acid .....	20.0%
Soluble Potash .....	20.0%
Sulfur .....	5.5%
Iron (Fe) expressed as Elemental .....	1.5%
Potential Zinc .....	0.75%

OR Fertilizer 12-8-8 (for turf & groundcover areas): Gro-Power Controlled Release (3 to 4 month formulation) or approved equal. Fertilizer shall be a long-lasting, slow-release fertilizer compound having an N-P-K ratio of 12-8-8 and shall be derived from the sources listed in the following analysis:

Guaranteed Analysis

Total Nitrogen .....	12.0%
9.0% Slow release Nitrogen.	
3.0% Urea Nitrogen	
Available Phosphoric Acid .....	8.0%
Derived from Triple Super Phosphate.	
Soluble Potash .....	8.0%
Derived from Compost and muriate of Potash.	
Humus (composed organic and mineral matter) .....	25.0%
Humic Acid (derived from compost) .....	5.0%
Sulfur.....	7.0%
Iron (Fe) expressed as Elemental .....	2.0%
Manganese (expressed as elemental Mn) derived from Manganese Sulfate .....	.05%
Zinc (expressed as elemental Zn) derived from Zinc Sulfate.....	.05%

Fertilizer 12-12-12 (for Plant Backfill): Fertilizer shall be rapidly soluble prills containing equal amounts of nitrogen, phosphorus, and potash plus sulfur and calcium and derived from the following sources:

Guaranteed Analysis

Total Nitrogen .....	12.0%
As Ammoniacal derived	
Available Phosphoric Acid .....	12.0%
Soluble Potash .....	12.0%
Sulfur.....	15.0%

OR Fertilizer/soil conditioner 5-3-1 (for Plant Backfill): Gro-Power Plus or approved equal. Fertilizer/soil conditioner shall be a humus base fertilizer/soil conditioner derived from the following sources:

Guaranteed Analysis

Total Nitrogen .....	5.0%
Available Phosphoric Acid .....	3.0%
Soluble Potash .....	1.0%
Humus.....	50.0%
Humic Acids.....	15.0%
Iron.....	1.0%
Manganese.....	.05%
Zinc.....	.05%
Soil Penetrant.....	1.25%
Bacteria (common soil and airborne organisms) yeast and mold.....	60,000 per 100 grams

Fertilizer 16-6-8: (for Maintenance) Fertilizer shall be a fertilizer compound having an N-P-K ratio of 16-6-8, and shall be derived from the sources listed in the following analysis in a high quality homogeneous pellet.

Guaranteed Analysis

Total Nitrogen .....	16.0%
Ammoniacal Nitrogen	
Available Phosphoric Acid .....	6.0%
Soluble Potash .....	8.0%

Sulfur.....	16.0%
Iron (Fe) expressed as Elemental .....	1.5%
Potential Zinc .....	0.1%

Ammonium Sulfate: Conforming to the requirements of the Agricultural Code of the State of California.

Iron Sulfate: Ferric sulfate or ferrous sulfate in pelleted or granular form containing not less than 18.5% iron expressed as metallic iron, and shall be registered as an agricultural mineral with the State Department of Agriculture in compliance with Article 2, "Fertilizing Materials", Section 1030 of the Agricultural Code.

Soil Amendment: Standard Specifications Section 212-1.2.4 shall apply. Soil amendment shall be an organic wood base product, Type I, composted Redwood or Cedar only.

**J. Shredded Wood Mulch:**

Shredded Wood Mulch shall be a minimum of 1" thickness in all shrub and groundcover areas. Type: Forest Floor 0-2, Supplied by: Aguinaga Fertilization Products Phone 949-786-9558. or equal. Submit sample to landscape architect for approval prior to installation.

**III. EXECUTION**

**A. Agronomic Soils Tests Prior to Amending Soil:**

After completion of fine grading and prior to soil preparation, the Agency shall obtain agronomic soils tests for all planting and turf areas. A minimum of one sample per two acres of lawn shall be required. Tests shall be performed by an approved agronomic soils testing laboratory and shall include a fertility and suitability analysis with written recommendations for soil amendment, fertilizer, and chemical conditioner application rates for soil preparation, auger hole requirements, and maintenance and post-maintenance fertilization program for all areas.

The agronomic soils report recommendations shall take precedence over the minimum amendment and fertilizer application rates specified herein or on the plans only when they exceed the specified minimums. Additional materials required by the soils report shall be paid for by Change Order.

**B. Agronomic Soil Test After Amending Soil:**

After the soil amendment procedure has been completed and prior to commencement of planting the Agency Representative will take one sample per two acres of turf of amended soil.

The Agency Representative shall deliver the samples to an approved agronomic soils testing laboratory for analysis and report. Costs of analysis and report shall be borne by the Contractor.

If any deficiencies are found, the elements required to be added to the planting areas to comply with these specifications shall be borne by the Agency. The additional soil testing costs to insure conformance will be borne by the Contractor.

After certification by the laboratory that amendment procedures have been complied with, the Contractor may proceed with planting.

Permissible limits of analytical deviation are as follows:

<u>Items</u>	<u>Permissible Limits</u>
Percentage organic matter.....	Plus or minus 20%

Mineral nutrients:  
 available nitrate plus ammoniac nitrogen..... Plus or minus 20%  
 available phosphate phosphorus ..... Plus or minus 20%  
 available potassium ..... Plus or minus 20%

**C. Finish Grading:**

Before any planting operations start in any area, all trash and deleterious materials on the surface of the ground shall be removed and disposed of. After completion of fine grading and prior to soil preparation, the Contractor shall adhere to the Agronomic Soils Test and Report recommendations as required, except for the minimums specified herein.

Turf areas shall be graded so that after cultivation, amendment and settlement, the soil shall be 1" below the top of curb or paving. All flow lines shall be maintained to allow for free flow of surface water. Displaced material which interferes with drainage shall be removed and placed as directed. Low spots and pockets shall be graded to drain properly.

All turf planting areas shall be cultivated until the soil is brought to a loose friable condition to a depth of 6". Remove all rocks and debris 1" or larger in size. Evenly distribute soil amendments, and thoroughly incorporate into upper 6" of soil with mechanical tiller.

or

All turf areas and planting areas (excluding hydroseeded slope areas) shall be cultivated until the soil is brought to a loose friable condition to a depth of 6". Remove all rocks 1" or larger in size and debris. Evenly distribute soil amendments at six (6) cubic yards per 1,000 sq. ft. and Gro-Power Plus (or approved equal) at 200 lbs./1,000 sq. ft. and thoroughly incorporate into upper 6" of soil with mechanical tiller.

All planting areas shall be finish graded per Standard Specifications, Section 308-2.4. Finish grades shall be so graded that required tolerances are met after settlement at the end of the project maintenance period.

**D. Weed Abatement:**

All weed growth in planting areas shall be removed. Common Bermuda grass found growing in areas not designated to be planted with Bermuda grass, shall be killed with an approved herbicide or fumigant with materials approved by the Agency.

Contractor shall irrigate for a minimum of twenty-one (21) days all banks and other areas that will be hydroseeded with plants other than turf to germinate existing weeds. Weeds shall be removed or killed by a contact herbicide to provide a complete kill. Soil surface shall be free of excessive vegetative material so that hydromulch is in contact with the soil surface.

**E. Tree Supports:**

All trees shall be supported at time of planting as called for on planting plan.

**F. Planting:**

All trees shall be planted, staked and tied as noted on drawings and in accord with U.C. Agricultural Extension Service Bulletin AXT-311. Plants shall be planted where shown on plans or as directed by Agency Representative.

Trees, shrubs and ground covers shall be planted before seeding.

Plant pits for container plants shall have vertical sides and shall be the size noted on drawings.

Backfill material for plant pits shall be a mixture as noted below. The materials shall be thoroughly mixed to the bottom of the pit so that they are evenly distributed and without clods or lumps. Backfill shall be so placed in the pits that the plant will be at its natural growing height and the backfill material will be level one inch below surrounding soil after settlement.

Amended backfill for plant holes shall be:

- A. 6 parts by volume on site soil.
- B. 4 parts by volume organic amendment.
- C. 2 lbs. iron sulfate per cubic yard.
- D. 1 lb. 12-12-12 commercial fertilizer per cubic yard or 17 lb. 5-3-1 Gro-Power).

Install 21 gram planting tablets as follows:

Size

1 gallon.....	1 tablet
5 gallon.....	3 tablets
15 gallon.....	5 tablets
24 inch box specimen and larger	

Use one tablet for each 2 inch of tree trunk diameter or for each one foot of height. Sink tablets 6 to 8 inches deep evenly spaced around the drip line.

or

Install 5 gram planting tablets as follows:

Size

1 gallon.....	3 tablet
5 gallon.....	8 tablets
15 gallon.....	15 tablets
24 inch box specimen and larger	

Use 4 tablets for each 2" of tree trunk diameter or for each one foot of height. Sink tablets 6 to 8 inches deep evenly spaced around the drip line.

Position the plant in the hole and backfill no higher than halfway up the rootball. Place the recommended number of tablets evenly around the perimeter of, and immediately adjacent to, the root ball at a depth which is between the middle and the bottom of the rootball. Complete the backfilling, tamp and water.

Before plants are transported to the planting area, they shall be properly pruned by thinning out to reduce damage by wind and to protect lateral growth.

No plants shall be transported to the planting area that are not thoroughly wet throughout the ball of earth surrounding the roots. Plants should not be allowed to dry out, nor shall any roots be exposed to the air except during the act of placement. Any plants that in the opinion of the Agency Representative are dry or in a wilted condition when delivered or thereafter, whether in place or not, will not be accepted and shall be replaced at the Contractor's expense.

**G. Turf Installation:**

Grade smooth all surfaces to be seeded. Soil surface shall be 1" below adjacent walks after settling. Roll lightly and fill in all soil depressions. Under mechanical seeding method incorporate 15 lbs./1,000 sq. ft. 6-20-20 in the upper 6" of soil.

or

Incorporate 200 lbs./1000 sq. ft. Gro-Power Plus 5-3-1 in the upper 6" of soil.

Soil shall be level, smooth and moist before seeding.

The seed bed shall be inspected by the Agency Representative to determine its suitability prior to seeding. The Contractor shall obtain such approval before seeding grass. No seeding shall be performed until all other construction operations have been completed, except by authorization of the Agency Representative.

Seed bed mulch will be required according to the seeding method selected by the Contractor, which shall be approved by the Agency Representative.

**H. Sodding:**

Sod shall be as specified on plan and shall be installed within 24 hours after harvesting.

Sod area shall be rolled lightly and watered to a depth of 6" the day prior to installing sod. Fill or regrade any areas as necessary. Lightly water again just prior to laying sod.

Sod shall be laid in staggered pattern, with tight joints and in the same direction each time. On slopes, install sod from the bottom up. Protect the newly laid sod by walking on boards as the installer moves upward, sod on slopes shall be pinned down with wooden pegs.

Roll sod with adequately weighted roller to smooth out sod bed.

Keep sod thoroughly moist to a depth of 6" until established. No foot traffic should be allowed for 2 to 3 weeks after installation.

**I. Watering:**

Apply water to all planted areas during operations and thereafter, until acceptance of work.

Plants which cannot be watered efficiently with the existing water system shall be watered by means of a hose.

Immediately after planting, apply water to each tree and shrub. Apply water in a moderate stream in the planting hole until the material about the roots is completely saturated from the bottom of the hole to the top of the ground.

Apply water in sufficient quantities and as often as seasonal conditions require to keep the planted areas wet at all times, well below the root system of grass and plants.

All ground cover planting shall be immediately sprinkled to avoid drying out until the entire planted area is thoroughly watered and the soil soaked to the full depth of each plant hole.

All hydromulch and seeds should be kept damp at all times and irrigation should be adjusted accordingly. This normally would involve four to six watering periods daily; each watering period (ON) regulated to just dampen the mulch and seed, without creating runoff. Intervals between irrigations (OFF) should be judged by the length of the time mulch and seeds remain damp. Once mulch and seeds begin to dry out, the watering (ON) should be repeated.

**J. Turf Mowing:**

The turf shall be edged whenever necessary. The turf shall be mowed with a sharp mower before it exceeds 2" in height. The turf will be cut to not less than 1 2" and, during the period of maintenance, the turf will not be allowed to exceed 2" in height. Hybrid bermuda turf shall be cut using a reel type mower. A rotary type mower is not acceptable.

**K. Project Maintenance:**

Project maintenance consists of a minimum 30 day plant establishment period and a subsequent 60 day maintenance period, constituting a total minimum 90 day maintenance period.

The plant establishment period commences when all plants and all turf (grass) has been planted. The establishment period will continue until all turf areas have been mowed to the specified height at least once, but not less than 30 days.

Water turf until acceptance of work. The areas shall be kept moist, but not glistening wet, until time for the first cutting of turf. After first cutting, water turf to maintain a thriving condition. Any areas where the seeds fail to germinate satisfactorily shall be immediately reseeded. The Contractor shall maintain the turf areas until an even, close stand of turf is obtained.

Where sod has been installed, the Contractor shall topdress with Agency approved silica sand and roll as necessary to fill seams between sod strips and/or low points in order to produce a firm even stand of turf. The contractor shall repeat this process as necessary to achieve a uniform turf condition to the satisfaction of the Agency representative.

The establishment period shall be extended beyond the 30 day minimum at no cost to the City until all turf areas have been mowed to the specified height and a close stand of turf is attained to the satisfaction of the Agency Representative.

Project maintenance work shall commence after the Agency Representative has approved plant establishment and shall continue for 60 additional days.

Project maintenance work shall consist of applying water, fertilizing all areas, weeding, caring for plants, sweeping walks, litter pickup, and performing all general project maintenance.

The Contractor shall be responsible for detecting nutrient deficiencies and turf diseases and pests as soon as their presence is manifested. He shall take immediate action to identify the problem and shall immediately apply remedies. If the above and following conditions are not complied with, the Contractor shall re-plant the grass and maintain the turf until a healthy, mature turf is re-established, and shall maintain that area for an additional 60 days at no additional cost to the Owner.

During the project maintenance period, all plants and planted areas shall be kept well watered and kept weed free at all times. Weeds, Dallas and Johnson grass, and Bermuda grass shall be removed and disposed of (except Bermuda grass will be allowed to remain in turf areas). Provide special attention for watering slopes planted to lawn on the windward and/or sunny side so that turf will adequately be watered at all times.

Immediately after the second cutting of turf, where trees occur in turf areas, the turf shall be turned under and neatly edged 18" away from the plants. The turf edges shall be maintained in a neat condition until acceptance of the work.

Workmen shall not be allowed to walk on turf areas unnecessarily before, during or after seeding operations. Turf areas that have been damaged or compacted shall be recultivated and reseeded at the Contractor's expense.

The Contractor shall provide supplemental feedings of fertilizer as required by the agronomic soils test to maintain a healthy turf and all other plantings including slope areas. Minimum requirement: 16-6-8 at 6.2 lbs. per 1000 s.f. 35 days after initial planting, and just prior to final inspection.

In order to carry out the project maintenance work the Contractor shall maintain a sufficient number of personnel and adequate equipment to perform the work herein specified from the time any planting is done until the end of the project maintenance period or until the final approval.

The Contractor may be relieved from maintenance work required in these special provisions when the project maintenance work has been satisfactorily completed.

Damage to planting areas shall be repaired immediately.

Contractor shall continue to pick up rocks that surface and are 1" or greater in diameter.

**L. Replacement of Plants:**

All plants that show signs of failure to grow at any time during the life of the contract, or those plants so injured or damaged as to render them unsuitable for the purpose intended, shall be immediately replaced in kind at the expense of the Contractor.

**M. Tree Guarantee:**

The Contractor shall guarantee all trees from disease or death and injury resulting from improper planting for a period of one year after final acceptance of the project.

The Contractor shall replace at no expense to the Agency as soon as possible plants that are dead or not in a vigorous, healthy growing condition. Replacement shall be of the same kind and size as originally specified and shall be planted as described on the drawings and in the specifications.

The Contractor shall not be held liable for loss of plant materials during the guarantee period due to lack of care, vandalism or accidental causes.

**N. Inspections:**

A written notice requesting an inspection should be submitted to the Agency Representative at least ten (10) days prior to the anticipated date. Prior to this inspection, the site must be thoroughly cleaned up and all excess material and debris removed.

The following inspections are required:

Prior to the start of the 90 calendar day plant establishment and project maintenance period, the Contractor will be required to have a complete inspection and approval of all landscape construction items.

At 30th calendar day.

At 60th calendar day.

At completion of the maintenance period.

**O. Certification:**

Written certifications required which are to be submitted to the Agency Representative upon delivery to the job site include:



Quantity of commercial fertilizer used.  
Quantity of soil amendments.  
Quantity of seed.  
Quantity of iron sulfate.  
Quantity of soil sulfur.  
Quantity of agricultural gypsum.  
Quantity of hydromulch materials.  
Quantity of sod.  
Quantity of shredded wood mulch.

**End of Section**

## SECTION 03100 - CONCRETE FORMWORK

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC) latest edition apply except as modified herein.

#### A. Work Included in this Section:

Deliver and store all material in such a manner as to protect it from damage and deterioration.

Design, construction, and safety of all formwork shoring and reshoring shall be the complete responsibility of the Contractor.

It shall be the responsibility of the Contractor to insure that all applicable safety laws are strictly enforced and to maintain a safe construction project.

#### B. Related Work Specified Elsewhere:

Concrete reinforcement: Section 03200

Cast-in-place concrete: Section 03300

#### C. Quality Assurance:

The following codes and standards apply to, and form a part of, this section, where applicable:

Product Standard PS 1-74 for Softwood Plywood.

American Concrete Institute Standard Recommended Practice for Concrete Formwork, ACI 347.

### II. PRODUCTS

#### A. Materials:

Where finish concrete is below grade or scheduled to be plastered, plywood or sawed lumber formwork shall be constructed of substantial material as selected by the Contractor.

Where finished concrete is above grade and scheduled to be exposed, use Plyform Class I and II B-B, EXT-DFPA or approved equal.

Form coating shall be a non-grain-raising and non-staining type that will not leave residual matter on the surface of the concrete or adversely affect bonding to concrete of paint, plaster, or other applied materials.

### III. EXECUTION

#### A. Erection:

All concrete above grade shall be cast-in-plywood forms.

All concrete below grade shall be cast-in-plywood or sawed lumber forms.

Concrete below grade may be poured directly against earth in open trenches where specifically approved by the Structural Engineer.

All forms shall be constructed true to line and level, sufficiently tight to prevent leakage of mortar, and shall conform exactly to the dimensions of the finished concrete as shown on the drawings.

In walls and columns over 8' high, clean out panels shall be provided at the bottom of forms to facilitate cleaning prior to pour.

Where studs in formwork are spaced not over 12" o.c., 5/8" minimum plywood shall be used. Where studs are spaced not over 16" o.c., 3/4" minimum plywood shall be used.

For cheek walls Contractor shall form and pour all stairs first. Cheek walls shall be formed and poured after acceptance of the step construction. Cheek walls shall be a minimum of 10" wide.

Place long dimension of plywood sheets perpendicular to direction of studs.

**B. Removal of Forms:**

Do not disturb or remove forms until the concrete has developed sufficient strength to safely sustain its own weight and the superimposed loads above. After concrete is placed, the following minimum time periods shall elapse before the removal of forms:

	<u>Forms</u>	<u>Shores</u>
Sides of walls and edges of slabs and footings.	3 days	5 days

**End of Section**

## SECTION 03200 - CONCRETE REINFORCEMENT

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC) latest edition apply except as modified herein.

#### A. Work Included in this Section:

Bundle reinforcement and tag with suitable identification to facilitate sorting and placing.  
Store all reinforcement to protect from rust, oil, dirt, and splash.

#### B. Related Work Specified Elsewhere:

Concrete formwork: Section 03100  
Cast-in-Place Concrete: Section 03300  
Miscellaneous Metals: Section 05010

#### C. Quality Assurance:

Material quality standards and testing procedures shall be in accordance with the American Society for Testing Materials, hereinafter referred to as "ASTM". All ASTM standards and testing procedures shall be the latest requirements.

Fabrication and installation of reinforcing steel shall be in conformance with the Manual of Standard Practice for Detailing Reinforced Concrete Structures ACI 315.

Tests and Inspections:

Tests and inspections shall be made by a testing laboratory approved by the Structural Engineer.

The cost of sampling and testing required by these Specifications shall be borne by the Owner.

Sampling of reinforcing steel shall be done by a representative of the testing laboratory.

One tensile and one bend test shall be made of each ten tons or fraction thereof for each size reinforcing steel bar #5 and larger. These tests shall be performed only if required by the Test and Inspection Request Form prepared by the Structural Engineer.

Prepare and distribute copies of test reports to City Engineer.

Additional tests shall be made when and as directed by the Structural Engineer. Costs of test shall be borne by the Contractor.

#### D. Submittals:

The Contractor is not required to submit placing drawings for approval. All reinforcing will be checked in its installed position.

### II. PRODUCTS

#### A. Materials:

Reinforcing steel bars shall be of the Intermediate Grade conforming to ASTM A615, Grade 40, and shall be rolled from new billets. All bars shall be identified by mill. heat numbers.

Steel reinforcing bar supports shall be CMU support (ADobi@) blocks with attached wire ties or approved equal.

Tie wire shall be 16 gauge annealed wire.

Welded wire fabric shall conform to ASTM A-185.

**B. Fabrication:**

Fabricate bars of indicated size. Accurately form to shapes and lengths indicated by methods not injurious to the materials. Do not heat reinforcement for bending. Bars with kinks or bends not scheduled will be rejected.

**III. EXECUTION**

**A. Placing:**

Coordinate all work with other trades.

All bars shall be as shown on the drawings, accurately placed and wired in position by 16 gauge annealed wire. Tie stirrups to bars at both top and bottom. Bend wire ties away from forms.

Maintain proper distance and clearance between parallel bars and forms. Provide metal spreaders and spacers to hold steel in position as necessary.

Support steel at proper height upon approved support system, transverse steel bars with hangers, or in other manner as necessary to accurately place and secure bars. Maintain clear spacing between parallel bars of not less than 1 2 times the bar diameter, but in no case less than 1 2". Lap and splice bars in the manner and at the locations shown on the drawings.

Bars on footings or slabs on grade shall be supported on concrete blocks. Reinforcing steel in beams and suspended slabs shall be supported on steel chairs.

Provide additional reinforcing bars at sleeves and openings.

Before placing reinforcing and again before concrete is placed, clean reinforcement of loose mill scale, oil or other coating that might destroy or reduce bond.

Splices shall be made with a lap of 30 bar diameters unless noted otherwise.

**End of Segment**

## SECTION 03310A - CONCRETE

### I. GENERAL

The provisions of Title 24 CCR 1991 Edition, except as modified herein.

#### A. Work Included in This Section:

Exterior walks and slabs, as shown on drawings.  
Forms.  
Reinforcing steel and wire mesh for concrete.  
Cement finish, joints, saw cuts and patching.  
Wall footings and building foundations.  
Footings for fence post.  
Setting of items to be inserted into concrete.  
Curing.  
Testing.  
Miscellaneous concrete items.

#### B. Related Work Specified Elsewhere:

Concrete finishes - Section 03350.  
  
Furnishing and determining location of items to be inserted into concrete.  
Subgrade preparation.  
Aggregate base - Earthwork & Grading - Section 02200.  
Miscellaneous Metals.

#### C. Standards:

Testing, materials and workmanship shall conform to the requirements of the Standard Specifications and the applicable Building Code. The most stringent requirement shall apply.

### II. MATERIALS

#### A. Reinforcing Steel and Wire Mesh:

Reinforcing steel shall conform to Section 201-2.2 of the Standard Specifications and shall be Grade 40.  
  
Wire mesh shall conform to Section 201-2.4, Standard Specifications.

#### B. Portland Cement Concrete:

All materials shall conform to the requirements of Title 24 Part 2 Chapter 26 CCR.

#### C. Crack Joint Control:

Shall be "Quick Joint" or approved equal. Submit samples of preformed materials for approval of the Agency Representative.

#### D. Curing Compound:

Type 1 per Section 201-4, Standard Specifications.

E. Concrete Formwork:

Tie wire: Black annealed, not lighter than No. 12.

Forms shall be constructed of approved materials. Lumber for studs, wales, and other structural components shall be No. 2 or better Douglas fir, SISIE, or S4S, not less than 2" in nominal thickness. Plywood shall be Plyform, Grade B-B, either exterior or interior type conforming to Commercial Standard CS45-48 for Douglas fir plywood, not less than 5/8" in thickness when used without sheathing and of any standard thickness when used as a lining.

General. Forms shall be constructed true to line and grade; shall conform to the shape and dimensions of the required concrete and shall be sufficiently tight to prevent the leakage of mortar and sufficiently rigid to prevent displacement or sagging between supports. Forms shall be so constructed that they can be removed without damage to the concrete. Forms for curved surfaces shall be so constructed and placed that the finished surface will not deviate from the arc of the curve, flat spots shall not be permitted.

Approval of Forms and Reinforcement. Forms and metal reinforcement shall be checked and approved by the Engineering or Building Inspector before concrete is placed.

III. EXECUTION

A. General:

All work shall conform to the requirements of Title 24, Part 2, Chapter 26 CCR.

Install concrete and cement finish work true to lines, dimensions and levels, exterior finishes specified on plans.

Remove and replace defective concrete or cement work with new materials. Permission to patch any defective area shall not be a waiver of the Engineer's right to require complete removal of defective work if patching does not restore quality and appearance of work.

No advertising impression, stamp, or mark of any description will be permitted on surface of concrete or cement finish.

Any site furnishings, such as benches, fountains, etc., shall be installed prior to placing any surrounding slab. Sleeves may be used upon approval of shop drawings by Agency Representative.

B. Miscellaneous Items of Concrete Work:

The Contractor shall thoroughly study the plans to determine the extent of concrete curbs, gutters, and mowing strips, all of which shall be included in the work of this Section.

The Contractor shall thoroughly study the Mechanical and Electrical plans to determine the extent of the following and similar items of concrete work which may occur, all of which shall be included in the work of this Section (unless otherwise specified):

- Valve or yard boxes (except pre-cast).
- Foundations or bases for mechanical and electrical equipment.
- Concrete pads for exterior cleanouts.

Where structural details for the minor structures listed above are not complete, the walls, floors and covers shall be 6" in thickness and reinforced with 3/8" round bars, 6" on centers both ways in center of the members.

The Mechanical and Electrical subcontractors shall provide the Contractor with detailed information concerning the location, size and elevation of any and all of the items of the work listed above. They shall also provide all anchor bolts and other inserts that may be required and shall check the setting thereof prior to the pouring of concrete.

C. Cement finish:

Compact and tamp concrete as specified to bring 3/8" of mortar to surface, wood float to straight edges and screeds, and apply following finishes. Do not use steel or plastic floats of any kind for initial floating operations. Unless otherwise specified, do not apply following finishes until surface water disappears and surface is sufficiently hardened. Remove any bleed water and laitance as it appears.

D. Slabs and Walks:

1. Broom Finish:

Apply steel float finish as specified hereinbefore. While surface is still sufficiently soft, apply broom finish using approved wire broom. Apply finish perpendicular to direction of traffic.

2. Formed Concrete Stairs and Landings:

Form angles neatly and run nosings straight and level to template. Cut risers back as shown. Apply abrasive finish on treads and landings, and give risers a burnished monolithic trowel finish.

3. Expansion joint materials shall be the non-extruding and resilient type consisting of premolded stripe of a durable resilient compound composed of mineral or vegetable matter or a stable mixture of these elements. The surface of the previously constructed concrete shall have a trowel coat of an approved bituminous cement. The filler shall extend to the bottom of the slab and shall be approximately 1/2" below the top of the finished surface. The filler strip shall be secured to insure against movement during placing of the concrete. Adjacent strips shall be clipped together to insure continuity and to avoid the possibility of the concrete getting into the expansion joint space. Before the pavement is opened to traffic, the groove above the filler shall be cleaned and then sealed with an approved joint sealing compound, in accordance with paragraph for "Caulking" below.

E. Location of Expansion and Control Joints:

Locate expansion and control joints to least impair the strength and appearance of the structure. In no case place an intersecting construction joint in such a way that two intersecting walks are separated by a construction or control joint at the point of intersection. Transition curves shall be part of a continuous pour of the intersection slab. Expansion joints shall be a maximum of 20 feet apart, with control joints a maximum of 10 feet apart. Exception to this are specialty work joints which will be laid out as shown on the drawings. Contractor shall obtain Agency Representative's approval of layout showing proposed location of joints before pouring concrete.

F. Caulking:

Caulking of expansion joints where called for on drawings, shall be done with a non-tracking, multi-part flow type, self-leveling, polyurethane sealant manufactured by Chem-Seal, W.R. Grace, 3-M or approved equivalent. Color shall be medium gray. Caulking shall be done by an experienced applicator in a workmanlike manner, in smooth straight runs, after thoroughly cleaning and priming joints. All work shall be done in strict accordance with manufacturer's printed recommendations. Do not permit traffic to travel over sealed joints until sealer has fully cured.

G. Curing:

All concrete slabs on grade shall be covered within 24 hours after troweling with a strong waterproof, non-staining, 2-ply kraft paper with an asphalt membrane in the center, reinforced with crossed fibers embedded in the asphalt. The paper shall be lapped 3 inches at the joints and sealed at joints and edges in an



approved manner. The paper shall remain in place until removal is authorized. Heavy boards shall be provided when necessary to protect the paper and slabs from damage by other construction work.

#### IV. QUALITY CONTROL

##### A. Smoothness Tolerance:

Interior and exterior cement finish surfaces shall be of such smoothness and evenness that they shall contact the entire length of a 10' straight edge laid in any direction, with an allowable tolerance of 1/8 inch. Any operations necessary to achieve this result shall be performed by the Contractor at no additional cost to the Agency.

##### B. Inspections:

Inspections will be provided as necessary. Call for inspection two (2) working days prior to need.

The Contractor shall call for inspection during specific phases of construction. They shall include:

All form work prior to pouring.  
All footings prior to pouring.  
Subgrade prior to pouring.

Contractor shall notify the Engineer twenty-four (24) hours prior to pouring any concrete.

Any work covered prior to inspection shall be opened to view by the Contractor at his expense.

##### C. Testing:

Tests required. Compression tests of concrete shall be made as required by Title 24 CCR (refer to Section 01410-01420) tests of any grade of concrete shall be made whenever the quantity of that grade used in the project exceeds 25 cubic yards. At least two identical cylinders of each grade of concrete shall be taken of each 100 cubic yards of concrete or fraction thereof placed in the work. The cylinders shall be tested in a testing laboratory and test reports submitted to the Engineer.

Storage of test cylinders on the site and after delivery to the testing shall be in accordance with A.S.T.M. Designation C31.

All concrete not covered by the Building Code will be tested according to Standard Specifications.

Should the strength by test fail, the mix shall be adjusted so that the resulting concrete will comply with the minimum requirements, and all additional expense resulting from such adjustment shall be borne by the Contractor. Further, should the strength of any grade by test fall below minimum, concrete from the defective pours which is in place may be tested by the core method, and if such tests show the concrete to be defective, the concrete shall be removed and replaced or adequately strengthened as required under the governing Code; and all expenses involved shall be borne by the Contractor.

**End of Section**

## SECTION 05010 - MISCELLANEOUS METALS

### I. GENERAL

The provisions of the Standard Specifications for Public Works Construction (SSPWC) latest Edition, Sections 206 and 210, apply except as modified herein.

#### A. Scope:

Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified, and as necessary to complete the Contract, including, but not limited to, these major items:

Shapes, sleeves, anchors, connectors, plates, backing plates, supports and fastenings required, but which are not specified in other sections.

Steel tube fences and gates.

Woven wire panels and gates.

Prime coating ungalvanized steel items.

Welding.

#### B. Related Work Specified Elsewhere:

Setting of items to be embedded in concrete.

Finish hardware for trash area wood gates - Finish Hardware, Section 08710.

Prefabricated metal items - Pertinent sections.

#### C. General Requirements:

Field Conditions. Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces. Report to the Agency Representative all conditions which prevent proper execution of this work.

Shop Drawings. Submit six (6) sets in accordance with Sections 01340 and 05120, showing in complete detail all information required for fabrication, finishing and installation of this work.

Codes. Materials and work shall conform to the governing Building Code. In case of conflict between these specifications and the Building Code, the more stringent shall govern.

General. Examine all drawings and specifications and include all miscellaneous metal which is specified in other sections. Provide all connections, anchors, bolts, and other fastenings as required. Do all cutting, punching, drilling and tapping required for proper assembly of the work.

Delivery. Insure that items to be set in concrete or masonry are delivered at the proper time.

### II. EXECUTION

#### A. Steel Shapes:

Conform to ASTM A36.

#### B. Steel Pipe:

Conform to ASTM A53, Grade B.

#### C. Malleable Iron Castings:

Conform to ASTM A47.

**D. Welding Rods:**

Conform to requirements of AWS for intended use.

**E. Galvanizing:**

Conform to ASTM A123.

**F. Bolts, Nuts, Screws:**

Conform to ASTM A307, Grade A.

**G. Steel Plate:**

Conform to ASTM A283, Grade A.

**H. Steel Tubing:**

Conform to ASTM A501.

**I. Bars, Flats, Rounds:**

Conform to ASTM A36, standard grade mild steel.

**J. Paint-Shop Prime Coat for Ferrous Metal:**

"X-60 Red Bare Metal Primer," "769 Damp-Proof Red Primer," or "960 Zinc Chromate Primer," as manufactured by Rust-O-Leum Corporation, or Themec #99 Metal Primer.

**K. Touch-up for Galvanized Surfaces:**

All State #321 Galvanizing Powder (30% tin, 30% zinc, 40% lead and flux).

**L. Miscellaneous Material:**

As indicated or specified.

**M. Shop Prime Coat:**

Ferrous Metal. Properly clean and prepare for painting in compliance with the paint manufacturer's instructions and apply one shop coat of material of the type specified. Thoroughly and completely cover all exposed surfaces as well as surfaces concealed after assembly. Apply primer by brush or spray gun, as best adapted to the paint material and surface conditions. Allow primer to become dry and hard before handling. Apply second coat primer to 1 mil minimum dry coat thickness and touch up after installation and leave in proper conditions to receive finish coats.

**N. Galvanizing:**

Galvanize all exterior items and those interior items so specified or indicated on plans. Use the hot dip process, conforming ASTM A123. Galvanizing shall be done after fabrication.

Average weight of zinc coating per square foot of actual surface: Not less than 2.0 ounces, with no individual specimen showing less than 1.8 ounces. (One ounce of zinc corresponds to a coating thickness of 0.0017 inch.)

**O. Fabrication:**

Using skilled mechanics, form and fabricate items of work as indicated and as required to meet installation conditions. Make provisions to connect with or receive the work of other trades.

Unless otherwise indicated weld or bolt connections between members. Where possible, conceal connections in the finished work. Where exposed screw fastenings are required, use phillips ovalhead screws to match parent material. Fit or miter exposed joints to hairline tolerance or use welded joints. On finished surfaces, grind all welds smooth and flush with base metal.

Bend pipe or tubing without collapsing or deforming the walls, and so as to produce a smooth uniform curved section and maintain uniform sectional shape.

Where items are to be embedded in concrete or masonry, provide welded-on anchors or lugs as indicated or required.

**P. Items Embedded in Concrete:**

Provide bolts, eyebolts, dowels, anchors, plates, inserts, and other miscellaneous items that are to be installed in forms before concrete pouring, or for building into masonry, as indicated. Examine and check the drawings for the number type and location of such items.

**Q. Installation:**

Install all items plumb, level and square, securely and rigidly attached to supporting construction and as detailed.

**R. Description of Items:**

Those items which are standard or stock design which are sufficiently detailed or described on the drawings to permit their fabrication and installation are not covered herein even though they may be included in the scope.

Channel jambs for wood gates, straps, anchors and plates for timbers.

**1. Wire mesh panels and gates:**

All galvanized and conforming material and manufacturing standards of Acorn Wire & Iron Works.

Fabric: 1-1/2" diamond mesh; 10-gauge.

Frames:

For toilet room enclosures in restroom building: 1-1/2" X 3/4" X 1/8" closed channel type. Clinch wire thru channels for each panel.

For gable end clerestory panels in restroom building and service building: 1-1/2" X 3/4" X 1/3" channels; clinch wire through channels for each panel.

Hardware: Provide galvanized track for horizontal sliding gate, bolts, mortise-type locks (less cylinders) and all other required operating hardware, as shown on shop drawings and details.

All steel shall be hot dipped galvanized in sections, after fabrication.

**2. Iron Grating & Frame:**

Shall be Neenah Foundry Co. #R-4999-AX Bolted Trench Drain of cast iron, as detailed or equivalent by Campbell or McKinley. Grate type "P" with Perma-Grip surface.

**3. Vehicle Access Gate:**

Shall be of galvanized standard pipe as detailed on drawings with pipe cap ends welded on. All welds shall be ground smooth and assembly shall be hot-dip galvanized after fabrication.

**4. Chains:**

Shall be galvanized and as detailed on drawings.

**5. Welding:**

All welding shall conform to requirements of the Committee for Standard Tests for Welds of the American Welding Society. All welding shall be electric arc process. Welds exposed in finish work shall be filled out flush, ground and dressed. Welders for structural shall be certified.

**6. Inspection of Welding:**

Inspection of all welding shall be done under the direct supervision of an approved and licensed welding inspector. Steel fabricator shall notify the welding inspector prior to and shall not commence any welding without the welding inspector present. The Agency Representative shall be furnished a report by the welding inspector verifying that the welds conform to the drawings and specifications. (See Inspector of Work - Section 01420.)

**End of Section**

## SECTION 07900 - CAULKING AND SEALANTS

The provisions of the Standard Specifications for Public Works Construction (SSPWC) latest Edition apply except as modified herein.

### I. GENERAL

#### A. Scope:

This section contains general specifications pertaining to all weather-sealing and caulking throughout the project and becomes a part of all sections containing reference hereto, or where materials of the types specified in this section are required by the drawings.

#### B. General Requirements:

Guarantee. Provide written guarantee for all caulking and sealants against all defects of material or application for a period of two years after date of acceptance. All failures that may occur within this period due to defective application or materials shall, upon written notification of such failure, be repaired or replaced with proper materials and labor as approved by the Landscape Architect, at no additional cost to the City.

Submit to the Landscape Architect samples of various types (and colors where applicable) of materials specified, prior to delivery of materials to the job.

Deliver materials to the job in original unopened containers bearing manufacturer's name, product designation and date of manufacture.

Install proprietary materials specified herein in compliance with manufacturer's instructions. Send copies of manufacturer's instructions to Architect at least two (2) weeks before installation.

### II. MATERIALS

Use sealants of the following types and manufacture. Unless specified or directed otherwise, use materials to match color of adjacent materials. Where adjacent materials on each side of the joint are different colors, the Landscape Architect will select sealant colors. If the desired color is not available from one manufacturer, select proper color from another manufacturer. Use those sealants from the following list as appropriate for the application, per manufacturer's recommendations.

#### A. Incidental Materials:

Staining Characteristics. All joint filler, primers, or other materials used in conjunction with sealant shall be of such composition as to not cause staining of the sealant or the materials to which they are applied.

Compressible Joint Filler. Closed cell neoprene, plastic foam, or urethane, as recommended by the sealant manufacturer for use in conjunction with the sealant.

Primers. As recommended by the sealant manufacturer for uses in conjunction with the sealant for application onto the various types of materials to which the sealer is applied.

Cleaners, where required in lieu of primers. As recommended by the sealant manufacturer.

#### B. Material Types:

Type #1 - One part polysulfide, FS TT-S-00230C.

Elastoseal #230 by Pacific Polymers, 15081 Moran Street, Unit E, Westminster, California.

Uniparmastic by Parr, Inc., distributed by C.R. Laurance Co., 720 Mateo Street, Los Angeles, California.

PTI 747, by Protective Treatments of Dayton, Ohio.

Type #2 - Two parts polysulfide, FS TT-S-00227E.

Elastoseal #227 by Pacific Polymers, 15081 Moran Street, Unit E, Westminster, California.  
Parmastic by Parr, Inc., distributed by C.R. Laurence Co., 720 Mateo Street, Los Angeles, California.  
PTI 748, by Protective Treatments of Dayton, Ohio.

Type #3 - One part silicone sealant, FS TT-S-1543.

General Electric 1200 non-paintable, distributed by C.R. Laurence Co., 720 Mateo Street, Los Angeles, California.  
Dow Corning 780 and 781, Dow Chemical, Midland, Michigan.

Type #4 - Two parts silicone.

General Electric 1600, distributed by C.R. Laurence Co., 720 Mateo Street, Los Angeles, California.

Type #5 - Multi-part urethane sealant, FS TT-S-00227E, non-sag or pourable consistency, non-staining.

Elastothane 227 by Pacific Polymers, 15081 Moran Street, Unit E, Westminster, California 92683.  
PRC 270 by Products Research, 2900 Empire Street, Burbank, California.

Type #6 - Latex acrylic caulk for drywall and interior caulking.

Parr Latex Caulk by Parr, Inc., distributed by C.R. Laurence Co., 720 Mateo Street, Los Angeles, California.  
Elastoseal Latex by Pacific Polymers, 15081 Moran Street, Unit E, Westminster, California 92683.

### **III. APPLICATION**

Joint Filler. Accurately position within the joint to establish and control the uniform designated thickness of sealant.

Apply material with sufficient pressure to completely fill the void space and to assure complete wetting of contact area to obtain uniform adhesion. During application, keep tip of nozzle at bottom of joint, forcing sealant to fill from bottom to top. Finish joints smooth and flush with adjacent surface unless detailed to be finished below the surface.

Perform joint preparation, including cleaning and priming, in accordance with manufacturer's instructions.

Provide manufacturer's inspection of conditions prior to start of the work and initial supervision at the start of each application, in order to insure that any physical conditions which would result in defective work are properly corrected before materials are applied, that properly instructed personnel are available to do the work, and that proper procedures are being followed. Provide such inspection and supervision by qualified personnel. Report all unsatisfactory conditions existing at the time of inspection in writing to the Landscape Architect for correction before proceeding with the work.

Notify the manufacturer at least 72 hours prior to the time inspection is required.

Failure or refusal of the manufacturer to provide the inspection and supervision as required hereunder constitutes grounds for non-acceptability of materials manufactured by him even though such materials have been specified or approved.

## **End of Section**

## SECTION 09860 - ANTI-GRAFFITI COATINGS

### I. GENERAL

#### A. Summary:

1. Section includes Graffiti Resistant Coatings
2. Related Sections: Section 09900 - Painting: Applicable preparation and application requirements.

#### B. Submittals:

##### 1. Product Data

In accordance with the provisions of Section 01340, submit complete manufacturer's literature and specifications. Include complete lists of materials proposed for use, giving the manufacturer's name, product numbers, and product information sheets for each specified item (four copies).

##### 2. Samples

When specified system requires that the graffiti resistant coating be applied over a paint color, submit sample of system showing each coat. The architect will use this sample to approve color.

##### 3. Application and Safety

Submit the manufacturer's recommended methods of installation, including limitations, safety and environmental cautions, material safety data sheets, and application rates.

#### C. Quality Assurance

##### 1. Qualifications

- a. Use products by manufacturers regularly engaged in manufacturing of this product and with a history of at least three successful applications within the last three years.
- b. Use skilled workers who are thoroughly trained and experienced and who are complete familiar with the specified requirements and methods.

##### 2. Regulatory Requirements

Comply with applicable codes and regulations. All products must comply with current VOC requirements for the air quality management district where application takes place. Where those requirements conflict with this Specification, comply with the more stringent provisions.

##### 3. Field Samples

Apply the system as specified in a designated area in accordance with Section 01340. This will serve as an indication that applicator can provide acceptable results and will be used as the standard for the rest of the work.

#### D. Delivery, Storage, and Handling

##### 1. Acceptance at Site

Materials shall be delivered to Project in original containers, complete sealed and bearing name of coating contained therein.

##### 2. Storage and Protection



Use all means necessary to protect the materials of this Section before, during, and after installation.

E. Project Conditions

1. Project Conditions

Do not apply coatings when surface temperature is more than 90°F in the shade, or when the relative humidity is more than 70 percent. Do not apply coating when adverse weather conditions are imminent.

II. PRODUCTS

A. Manufacturers

1. Prosoco Blok-Guard & Graffiti Control II (800) 255-4255 "or equal" apply per manuf. specifications.

B. Materials

1. Clear Finish Over Paint Color

- a. Primer as recommended for substrate. Finish coat shall be 100% acrylic in composition.
- b. Clear Finish. A two component aliphatic urethane polyester based mixture.

2. Clear Finish Over Concrete, Brick, and Stone

- a. Waterborne sealer with an active solids content of 6% ASTM D 5090.
- b. Clear Finish. A water based- silicone emulsion. Prosoco Blok-Guard & Graffiti Control II or Equal. Clean surfaces and apply per manuf. specs. Supply Defacer Eracer Graffiti Wipe or Enviro Klean SafStrip during contractor maint. Period and additional material for City use after maint. period.

3. Clear Finish Over Block Masonry Types

- a. Waterborne sealer with an active solids content of 6% ASTM D 5090.
- b. Clear Finish. A water based- silicone emulsion. Prosoco Blok-Guard & Graffiti Control II or Equal. Clean surfaces and apply per manuf. specs. Supply Defacer Eracer Graffiti Wipe or Enviro Klean SafStrip during contractor maint. Period and additional material for City use after maint. period.

4. Colors and Quantities

- a. Check with manufacturer as to the ability to match selected colors.
- b. Product may not be available in small quantities
- c. Finish paint colors containing organic yellow colorants will bleed. Avoid selecting these colors.

III. EXECUTION

A. Examination:

1. Verification of Conditions

Prior to the commencement of the Work of this Section, examine the installed work of other trades and verify that all such work is completed or properly corrected to the points where this installation may properly commence. Commencement of work will indicate that applicator has accepted the conditions.

B. Preparation:

1. Protection

Protect and cover finished work and materials of all other trades that may be affected by work of this Section during coating application. Protect all surrounding vegetation and adjacent areas from overspray.

2. Surface Preparation

- a. Substrates to receive sealers or primers prior to graffiti resistant coatings must be cleaned of all dirt, bondbreakers, and all other foreign materials that will adversely affect the required appearance of the finished product.
- b. Power wash all surfaces in accordance with manufacturer's recommendations.

C. Application:

1. General

- a. Apply primers, paints, and coatings in strict accordance with the manufacturer's recommendations as accepted by the Agency.
- b. The number of coats specified is the minimum that will be applied. Apply additional coats when undercoats, stains, or other conditions show through final paint coat, until paint film is of uniform color and appearance.
- c. When additional coats of the graffiti resistant coating are required, allow no more than 48 hours between coats.
- d. Apply a total dry film thickness of not less than 1.2 mils for primers and paint finishes and not less than 1.5 mils for graffiti resistant coatings.

D. Cleaning, Touch-Up, and Refinishing

1. General

- a. Carefully remove all splatters, spots, and blemishes caused by work of this Section.
- b. Upon completion of the work, remove all rubbish, cans, and accumulated materials. All areas must be left in a clean and orderly condition.
- c. Runs, sags, misses, holidays, stains, and other defects in the coated surfaces, including inadequate coverage and mil thickness will be satisfactorily touched-up or refinished.

2. Removal of Graffiti

- a. Defacer Eracer Graffiti Wipe or Enviro Klean SafStrip by Prosoco

3. Curing of Polyurethane Enamels.

- a. Seven to ten days curing time required in order for coating to resist graffiti

E. Finish Schedule:

Stucco, Concrete, Brick (Clear semi gloss over Paint)

One Coat	EFF-STOP, Concrete Sealer (W 709)
One Coat	EVERSHIELD, Exterior Masonry Finish (W 701)
One Coat	Prosoco Blok-Guard & Graffiti Control II or Equal.

Block Masonry Types (Clear Gloss over Paint)

Filler	BLOCFIL, Prepared Block Filler, Latex (smooth) (W 305)
One Coat	EVERSHIELD, Exterior Masonry Finish (W 701)
One Coat	Prosoco Blok-Guard & Graffiti Controll II or Equal.

Stucco, Concrete, Brick, and Stone (Clear Gloss Finish)

One Coat	OKON, Masonry Sealer (W 1)
One Coat	Prosoco Blok-Guard & Graffiti Controll II or Equal.

Block Masonry Types (Clear Gloss Finish)

One Coat	OKON, Masonry Sealer (W 2)
Two Coats	Prosoco Blok-Guard & Graffiti Controll II or Equal.

Stucco, Concrete, Brick (Pigmented Finish)

One Coat	EFF-STOP, Concrete Sealer (W 709)
One Coat	Prosoco Blok-Guard & Graffiti Controll II or Equal.

Block Masonry Types (Pigmented Gloss Finish)

One Coat - Filler	BLOCFIL, Prepared Block Filler, Latex (smooth) (W 305)
Two Coats	Prosoco Blok-Guard & Graffiti Controll II or Equal.

**End of Selection**

## MISCELLANEOUS - OFF-SITE STREET IMPROVEMENTS

The requirements of the General conditions of the Contract and of Division 1, "General Requirements", shall apply to all work of this Section with the same force and effect as though repeated in full herein. These specifications shall apply to only the off-site street improvements.

### ITEM 1 - CLEARING AND GRUBBING

Clearing shall consist of clearing natural ground surfaces of all shrubs, vegetable growth and objectionable materials within the limits of construction in accordance with the plans and these Special Provisions and as directed by the Engineer.

Within the limits of clearing, all trees, stumps, roots one and one-half inches in diameter or larger, buried logs and all other objectionable material shall be removed at least three feet below the existing ground surface or subgrade, whichever is deeper.

Clearing shall also include the removal and disposal of all asphalt concrete pavement, miscellaneous concrete, pipes, hardware, timber, rubble or any other objectionable material encountered beneath the ground surface as a result of grading operations connected with the construction of the project improvements, except those items for which specific payment is included in Item 4, "Removals" (A.C. Pavement and Concrete Improvements).

The Contractor shall be responsible for obtaining a suitable disposal site for this material and pursuant to Subsection 300-2.6 of the Standard Specifications, shall, upon request, file with the engineer the written consent of the owner of the property upon which he intends to dispose of such material.

The Contractor shall protect all existing structures or facilities which are adjacent to, or fall within, the limits of the work to be done under this contract in accordance with Subsections 7-9 and 300-1 of the Standard Specifications. This item shall also include those structures and facilities which the plans show or these Specifications indicate to be protected. Any structure or facility to be protected which is damaged as a result of the Contractor's construction operation shall be repaired or replaced by the Contractor, at his cost, to the satisfaction of the Engineer.

In addition to the above items, clearing shall include, but not be limited to, the following items:

- a. Deleterious materials resulting from clearing operations shall be hauled away and disposed of at a site obtained by the Contractor.
- b. Sawcutting of concrete and asphalt concrete at joints.
- c. The removal and disposal of any additional items not specifically mentioned which may be found within the work limits.
- d. Furnishing and applying water.
- e. Dust control.
- f. Maintenance of project appearance.
- g. Control of water and dewatering during construction and erosion control.
- h. Clean-up of project area upon completion of work.
- i. Protection of all existing improvements within the project area including all materials and labor required in connection with the protection of existing improvements.

Payment for clearing and grubbing shall be at the contract lump sum price and shall be full compensation for furnishing all labor, materials, equipment and incidentals necessary to perform the items of work.

### ITEM 2 - ROADWAY EXCAVATION

Roadway excavation shall include excavating, removing, hauling and disposing of all materials to the subgrade elevations indicated on the plans as required to construct the new roadway improvements to grade the sloped embankments. This item involves removal and disposal of all soils and miscellaneous items (including loose or dumped materials) which are within the grading and excavation section, except those items for which specific payment is included in Item 4, "Removals" (A.C. Pavement and concrete Improvements). Roadway excavation shall be done in accordance with Subsection 300-2 of the Standard Specifications.

The quantities for roadway excavation are based on cross-sections taken at 50-foot intervals and payline details shown on the improvement plans. The Engineer's Estimate for roadway excavation quantities is believed to be accurate.

The Contractor shall be responsible for obtaining a suitable disposal site for this excavated material and pursuant to Subsection 300-2.6 of the Standard Specifications, shall, upon request, file with the Engineer the written consent of the owner of the property upon which he intends to dispose of such material.

If the removed material is suitable for use as embankment material (conforming to the requirements of Item 3, "Roadway Compacted Fill"), it may be replaced and recompacted at the option of the contractor. Removal of the material will be paid for as roadway excavation and recompacting of the material (if allowed) will be paid for as roadway compacted fill.

Payment for roadway excavation shall be at the Contract unit price per yard and shall be full compensation for furnishing all labor, materials, equipment and incidentals necessary to perform the work.

Subgrade preparation for the roadway improvements shall be done in accordance with Subsection 301-1 of the Standard Specifications and these Special Provisions.

Subsections 301-1.2 and 301-1.3 of the Standard Specifications shall be revised as follows:

In areas where pavement is to be constructed, the subgrade shall be scarified, brought to optimum moisture content and compacted to a minimum of 95% relative compaction as determined by ASTM D1557-70 for a depth of 12 inches below the existing or stripped surface, unless otherwise noted.

Payment for preparation of subgrade shall be considered included in the Contract unit price per cubic yard for roadway excavation and no additional compensation will be allowed therefor.

### ITEM 3 - ROADWAY COMPACTED FILL

Roadway compacted fill shall consist of all fill required to construct the embankment for the roadway improvements to the lines and grades indicated on the plans. Quantities shown in the Engineer's Estimate are based on cross sections taken at fifty foot intervals and payline details shown on the improvement plans.

All embankment operations shall conform to Subsection 300-4 of the Standard Specifications for Public Works construction.

In areas to receive fill, the ground surface shall be scarified, brought to optimum moisture content and compacted to a minimum of ninety percent (90%) relative compaction for a depth of six inches below the existing or stripped surface, unless otherwise noted. The maximum dry density and optimum moisture shall be determined by ASTM D1557. Payment is to be included with the compacted fill pay item and no additional payment shall be made therefor.

All other fill should consist of approved earth material free of trash or debris, roots, vegetation or other deleterious material. All fill shall be spread in six to eight inch lifts, brought to near optimum moisture content and compacted to at least ninety percent (90%) of maximum density, as determined by ASTM D1557 using approved compaction equipment.

All excavation material to be used for compacted fill shall be approved by the Engineer prior to placement of the fill. Unsuitable material shall be removed from the project area and disposed of by the contractor. When mud or other soft or spongy material is encountered, it shall be removed and the space filled with rock or gravel or approved select natural material which shall be placed and compacted in layers not exceeding four inches until the surface ceases to move or creep under the roller. Where the area or areas in which this soft or spongy material is encountered are localized or so restricted in size that it is impractical to use power rollers, backfill shall be brought up in layers not exceeding four inches in thickness, with each layer being pneumatically tamped until it ceases to move before the next layer is placed. Removal of soft or spongy material, as described herein, shall be paid for as

roadway excavation. Placement of rock or gravel or approved material to fill the space where soft or spongy material is removed shall be paid for as roadway compacted fill.

The Contractor shall take all measures necessary to protect embankment slopes from erosion or other damage and shall be solely responsible for any necessary repairs during the duration of the contract. Where necessary or where directed by the Engineer, slopes shall be protected with plastic sheeting or other approved means. Payment for conforming to the requirements of this paragraph shall be considered as included in the contract bid price paid for compacted fill and no additional compensation will be allowed therefor.

Payment for roadway compacted fill shall be at the contract unit price per cubic yard and shall be considered as full compensation for all labor, materials, tools, equipment and for doing the work involved in all of the above items of this section.

#### ITEM 4 - REMOVALS (A.C. PAVEMENT AND CONCRETE IMPROVEMENTS)

The removal of asphalt concrete pavement shall include paved slopes and dikes, and the removal of concrete improvements shall include curb and gutters, sidewalks, driveway approaches, spandrels and curb returns, and shall be done in accordance with Subsection 300-1.3.2 of the Standard Specifications. Where existing asphalt concrete and/or concrete improvements are to be joined by new pavement or concrete improvements, the edges of the existing improvements to be joined shall first be sawcut.

Payment for sawcutting, excavation and removal of asphalt concrete pavement and concrete improvements shall be at the contract lump sum price and shall include full compensation for furnishing all labor, materials, equipment and incidentals necessary to perform the work.

#### ITEM 5 - PULVERIZING EXISTING PAVEMENT

The existing asphalt concrete surfacing, underlying base materials and native soils shall be ripped and pulverized to the specified depths and widths in conformance with the Plans, Special Provisions and as directed by the Engineer.

Pulverization of the existing asphalt surface, aggregate base and native soil shall be mixed to a depth of 12 inches by a rotary, horizontal shaft, pug-type soil stabilizer approved by the Engineer. The surface and underlying base materials shall be pulverized so that one hundred percent (100%) will pass a two inch (2") sieve and a minimum of ninety-five percent (95%) will pass a one and one-half inch (1-1/2") sieve. The material mixture shall be deposited so that the pulverized asphalt will be evenly and thoroughly distributed with the aggregate base and native soil and shall not be concentrated or nested in any one position or location. The Engineer shall approve the pulverized mixture.

After pulverization and mixing the existing pavement base and native soils, the mixture shall be trimmed and graded to elevations shown on the plans. Excess material may be used for base material in those areas calling AS/AB. Material used for this purpose shall be placed in maximum compacted lifts of six (6) inches. The Contractor shall ensure that the excess recycled material remains free of other material, thus preventing contamination of the material. Remaining material not used shall be removed from the site and disposed of by the Contractor.

The treated material shall be compacted to not less than ninety-five percent (95%) relative density. Compacting equipment shall be adequate to produce the required compaction.

Rolling shall commence at the outer edge of the pulverized area and progress towards the center. Rolling shall be performed in such a manner that the finished surface shall be true to the required grade and cross section within the surface tolerance specified. Areas inaccessible to rollers shall be within the surface tolerance specified. Areas inaccessible to rollers shall be compacted the required compaction by other means satisfactory to the Engineer.

The finished surface of material shall not vary more than .02 feet above or below the grade established by the Engineer and such variations shall be compensating.

Payment for "Pulverizing Existing Pavement" shall be at the Contract unit price per square foot and include full compensation for furnishing all labor, materials, tools, equipment and incidentals for pulverizing, mixing, spreading, shaping, trimming, compacting and disposing of excess material.

#### ITEM 6- COLD-PLANING

The work will consist of cold-planing the pavement adjacent to the concrete gutter and joint lines where shown on the plans and as directed by the Engineer. A strip of existing pavement nine feet minimum width along the gutter shall be planed by a continuous moving asphalt cold-planer. This strip shall be tapered from one inch below the gutter lip to zero, providing a key for construction of asphalt concrete resurfacing and to create a smooth transition at the gutter. The surface of pavement after planing shall be uniformly rough grooved or ridged. The grade shall not deviate from a suitable straight-edge more than 3/8 inch at any point. The machine used for cold-planing shall have performed satisfactorily on similar work prior to this project and meet the following requirements:

The planing machine shall be specially designed and built to perform cold-planing of bituminous pavement with the ability to plane concrete patches; the cutting drum shall be a minimum sixty inches with carbide tip cutting teeth placed in variable lacing pattern to produce a grooved, but uniform, finish. The machine shall be capable of operation at speeds from 0 to 40 FPM. It shall be self-propelled and have water spray at the cutting drum to minimize dust; the machine shall be capable of removing the material adjacent to the concrete gutter. The planer shall be so designed that the operator thereof can, at all times, observe the planing operation without leaving the controls. The cutting drum shall be adjustable as to slope and depth, and shall deep cut in one (1) pass a maximum of three inches without producing fumes or smoke.

The Contractor shall provide a small machine to trim areas inaccessible to the larger machine at curb returns and intersections. The smaller machine shall be maneuverable and shall be equipped with a twelve inch wide cutting drum mounted on a three (3) wheel chassis, allowing it to be positioned without interrupting traffic or pedestrian flow.

During and after the planing operation, the Contractor shall sweep the street with mechanical equipment and remove all loosened material from planed areas. The Contractor shall abate dust nuisance by cleaning, sweeping and sprinkling with water, and other means, as necessary.

Payment for cold-planing shall be at the Contract unit price per square foot and shall be full compensation for furnishing all labor, materials, equipment, cleaning and incidentals necessary to cold-plane the areas shown on the plan and as directed by the Engineer.  
ITEM 7- AGGREGATE BASE

Aggregate base shall be crushed aggregate base and shall conform to Subsection 200-2.2 of the Standard Specifications. Processed miscellaneous base will not be allowed.

Payment for crushed aggregate base shall be the Contract unit price per ton in place and shall include full compensation for furnishing all labor, materials, equipment and incidentals necessary to perform the items of work.

#### Subgrade Preparation.

Subgrade preparation in areas of asphalt concrete pavement reconstruction shall be one in accordance with Subsection 301-1 of the Standard Specifications.

Subgrades for asphalt concrete pavement shall be compacted to the specified minimum relative compaction at a moisture content within 2% of optimum.

Payment for preparation subgrade will be considered included in the various items of work for which the subgrade is prepared and no extra payment shall be made therefor.

#### ITEM 8- ASPHALT CONCRETE

Asphalt concrete shall be in conformance with Subsections 203-6, 302-5, and 400-4 of the Standard Specifications, except as amended herein.

The provisions of Subsection 302-5.4 of the Standard Specifications shall be supplemented by the following:

Asphalt concrete of 0.20-foot thickness or less may be placed in one (1) lift. Asphalt concrete of greater than 0.20-foot thickness shall be placed in a minimum of two (2) lifts. When placed in two (2) lifts, the compacted thickness of the final surface course of asphalt concrete shall not be greater than 0.20-foot or less than 0.10-foot.

Asphalt concrete used for overlay and finish course shall be Type 1, Class D Asphalt Concrete in conformance with Subsection 203-6 of the Standard Specifications. Asphalt binder shall be Paving Asphalt AR GRADE 4000 and shall be mixed with the mineral aggregate in conformance with Subsection 203-6 of the Standard Specifications.

Asphalt concrete used for the base course of pavement reconstruction shall be Type 1, Class A Asphalt Concrete in conformance with Subsection 203-6 of the Standard Specifications. Asphalt binder shall be Paving Asphalt AR GRADE 4000 and shall be mixed with the mineral aggregate in conformance with Subsection 203-6 of the Standard Specifications.

Asphalt concrete base material shall be placed on prepared subgrade by means of approved spreading devices which will deposit a uniform windrow or layer, and shall be spread and shaped with motor graders. The use of asphalt pavers for laying the base course mixture may be permitted upon approval of the Engineer.

Subsection 302-5.4 of the Standard Specifications is supplemented as follows:

For placing of asphalt concrete overlay and finish courses, the Contractor may be allowed to deposit the asphalt concrete material from bottom-dump trucks into a uniformly sized windrow, then pick up said material and convey it into the paving machine by an elevating device (CO-Cal of Clark Company).

If the bottom-dump operation is utilized, the Contractor shall furnish a rubber-tired skip loader for distribution of any misplaced material.

Each lane of the surface course shall be placed continuously between terminals by a paving machine approved by the Engineer.

The Contact surfaces of all cold-pavement joints, edge of gutter, manholes, cold-planed areas and the like shall be painted with a tack coat, as designated below, immediately before the adjoining asphalt concrete is placed:

Liquid asphalt used for a tack coat shall be Grade SS-1h Emulsified Asphalt in conformance with Subsection 203-3 of the Standard Specifications. Tack coat shall be applied to all asphalt concrete and concrete surfaces to be joined by new asphalt concrete pavement. The rate of application shall be as designated in Subsection 302-5.3 of the Standard Specifications. Care should be taken to prevent tracking the tack coat on finished concrete surfaces such as driveways and gutters.

At the end of each day's work, the distance between the ends of adjacent surfaced lanes shall not be greater than ten feet nor less than five feet.

Payment for asphalt concrete shall be at the Contract unit price per ton in place and shall be full compensation for furnishing all labor, materials, equipment and incidentals necessary to construct asphalt concrete overlay resurfacing and reconstruction of asphalt concrete pavement.

Payment for liquid asphalt shall be included in the unit price per ton in place bid for asphalt concrete and no other compensation will be made therefor.

#### ITEMS 9-13 - CONCRETE CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, SPANDRELS AND WHEELCHAIR RAMPS

Concrete curbs, curb and gutters, sidewalks, driveway paving, curb return, spandrels, and wheelchair ramps shall be constructed in accordance with Subsection 303-6 of the Standard Specifications, except that all expansion joints shall be constructed with 1-4 inch thick joint material. Expansion joints shall be constructed in all concrete curbs, curbs and gutters, sidewalks at sixty feet maximum spacing, and at locations as directed by the Engineer.

Payment for concrete curb, and curb and gutter shall be at the Contract unit price per linear foot, including transition sections where the height of the curb face varies and across driveways.

Payment for P.C.C. driveways shall be at the Contract unit price per square foot.

Payment for P.C.C. sidewalk shall be at the Contract unit price per square foot.



Payment for spandrels and curb return shall be at the Contract price per square foot.

Payment for sidewalk landings, curb returns, and wheelchair ramps shall be at the Contract unit price per square foot.

Payment for expansion joint material is considered included in the various bid items for which the material is used and no additional compensation shall be made for expansion joint material.

#### ITEM 14- STREET LIGHTING TRENCHING

Street lighting trenching shall be performed in accordance with Subsection 306-1 of the Standard Specifications, Southern California Edison company requirements, and City of Rancho Cucamonga excavation permit conditions.

Trenching may include placement of lighting diagram for this project. Copies of this diagram will be made available by the City of Rancho Cucamonga prior to the bid date.

Trenching may include placement of lighting conduit and /or direct burial of cable in accordance with the subject lighting diagram.

Trenching shall include shading of the conduit or cable with suitable granular material, backfill, and compaction to 90% relative compaction in accordance with Subsection 306-1.3.2 of the Standard Specifications or as directed by the Engineer.

Payment for street lighting trenching shall be at the Contract unit price per linear foot and shall include compensation for furnishing all labor, tools, equipment and doing all work involved in trenching, placing conduit or cable, shading, backfilling and compaction, and all other work involved in providing the item complete in place. The Contractor shall be responsible for requesting cable or conduit materials from the Southern California Edison Company, and no additional compensation shall be allowed for delays in delivery of conductor cable to the jobsite.

#### ITEMS 15 - 16 - ADJUST SEWER MANHOLES, SEWER CLEANOUT, AND WATER VALVE SLIP CANS TO GRADE.

All existing sewer manholes and sewer cleanout, where shown on the plan or directed by the Engineer, shall be constructed or adjusted to the grade of the new surface. The work of adjusting manholes and cleanout to grade shall be done in accordance with Subsections 301-1.6 and 302-5.7 of the Standard Specifications and in accordance with Water DISTRICT Standard Specifications and Standard Drawings No.

All existing water valve slip cans and valve box lids where shown on the plan or directed by the Engineer, shall be constructed or adjusted to the grade of the new surface. The work of adjusting water valve slip cans and valve box lids to grade shall be done in accordance with Water District Standard Specifications and Standard Drawing No.

Payment for adjusting sewer manholes and sewer cleanout shall be at the Contract unit price and payment for adjusting water valve slip cans and valve box lids shall be at the Contract unit price. Payment shall include compensation for furnishing all labor, materials, tools, and equipment in doing all work involved including paving around the adjusted sewer manhole and sewer cleanout forms and covers, and water valve box lids.

#### ITEM 18 - RELOCATE FIRE HYDRANT/GATE VALVE

Relocation of fire hydrant and gate valve at Station .7 respectively, shall be performed at the direction of the Engineer and in accordance with Water District Standard Specifications and Standard Drawings No.

Relocation of fire hydrant and gate valve shall include all necessary removals, relocation, re-installation and any other work and materials required to relocate the fire hydrant and gate valve to clear proposed sidewalk construction. Pertinent sections of the Cucamonga County Water District Technical Provisions are 1-6 inclusive.

Payment for relocation of fire hydrant and gate valve shall be at the Contract lump sum price and shall be full compensation for furnishing all labor, materials, equipment and incidentals to perform this item of work.

#### ITEM 17- ASPHALT CONCRETE DIKE

Asphalt concrete materials to be used to construct asphalt concrete dikes shall be Type C2-AR-8000 in conformance with Subsection 203-6 of the Standard Specifications.

The material shall be placed and compacted to the required lines, grades and cross sections as depicted on the plans. The curb shall be shaped and compacted with an extrusion machine capable of providing the finished curb in place to the required dimensions.

Payment for asphalt concrete dike shall be at the Contract lump sum price and shall include full compensation for furnishing all labor, materials, tools, equipment and doing all work involved in providing the item complete in place.