

CITY OF WESTLAKE VILLAGE
CONTRACT DOCUMENTS
SPECIFICATIONS AND STANDARD DRAWINGS
FOR THE
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION



**MANDATORY
JOB WALK**

November 4, 2016
10:00 AM

All Questions Due

November 14, 2016
2:00 PM

**Final Addendum Issued
(if needed)**

November 18, 2016

Bid Opening

November 22, 2016
10:00 AM

Contractor's shall understand that the Job Walk is Mandatory and only those who attend will be qualified for and allowed to bid on this project. See Page C-11.
Job Walk Address: 31107 Thousand Oaks Blvd, Westlake Village, CA 91362

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AGENCY SIGNATURE PAGE



Prepared By: _____

Project Engineer

Approved By: _____

John F. Knipe, P.E.
City Engineer



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CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

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**NOTICE INVITING SEALED BIDS
FOR THE
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

NOTICE IS HEREBY GIVEN that the City of Westlake Village as AGENCY, invites sealed bids for the above stated project and will receive such bids in the office of the City Clerk, 31200 Oak Crest Drive, Westlake Village, California 91361, up to the hour of **10:00 AM on November 22, 2016**, at which time they will be publicly opened. Copies of the Contract Documents and Specifications are available, from the AGENCY's Website at www.wlv.org. PDF documents are available for download free of charge. Hard copies are available at AGENCY, 31200 Oak Crest Drive, Westlake Village, California 91361 upon payment of a \$60.00 non-refundable fee if picked up, or payment of a \$80.00 non-refundable fee, if mailed. If a FedEx number is provided or alternative shipping fees are paid, the City will send out for the pickup price.

Any contract entered into pursuant to this notice will incorporate the provisions of the State Labor Code. Compliance with the prevailing rates of wages and apprenticeship employment standards established by the State Director of Industrial Relations will be required. Affirmative action to ensure against discrimination in employment practices on the basis of race, color, national origin, ancestry, sex, or religion will also be required. The AGENCY hereby affirmatively ensures that all business enterprises will be afforded full opportunity to submit bids in response to this notice and will not be discriminated against on the basis of race, color, national origin, ancestry, sex, or religion in any consideration leading to the award of contract.

Bids must be prepared on the approved Bid forms in conformance with the Instructions to Bidders and submitted in a sealed envelope plainly marked on the outside, "**SEALED BID FOR THE CITY OF WESTLAKE VILLAGE WESTLAKE VILLAGE COMMUNITY PARK – PHASE IIB – LANDSCAPE & IRRIGATION, DO NOT OPEN WITH REGULAR MAIL.**" The bid must be accompanied by certified or cashier's check, or bidder's bond, made payable to the AGENCY. The bid guaranty shall be an amount equal to ten percent (10%) of the total maximum amount bid with their proposals as required by California law.

The contract will not be awarded to a bidder who does not hold a valid Class "A" or "C-27" license, in accordance with the provisions of the California Business and Professions Code at the time of the bid submittal and contract award. The award of contract, if made, will be to the lowest responsive and responsible bidder as determined solely by the AGENCY. Responsibility of bidders shall be determined in accordance with the criteria set forth in the Instructions to Bidders. The AGENCY reserves the right to reject any or all bids, to waive any irregularity, and to take all bids under advisement for a period of sixty (60) days. **Contractor's shall understand that the Job Walk is Mandatory and only those whom attend will be considered qualified for bidding this project. Qualified personnel from the Contractor's staff shall attend job walk. Qualified staff include: Owner, Project Supervisor, Project Manager, Head Estimator. See Page C-9 of Project Specifications. Job Walk Address: 31107 Thousand Oaks Blvd, Westlake Village, CA 91362**

By order of the City Council of Westlake Village, California

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**INSTRUCTIONS TO BIDDERS
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

BID FORMS

Bids shall be submitted in writing on the bid forms provided by the AGENCY. All information requested therein must be clearly and legibly set forth in the manner and form indicated. The AGENCY will not consider any bid not meeting these requirements. For additional information, please contact Beau Thompson at bthompson@willdan.com Only written or emailed questions will be accepted.

BID GUARANTEE

Bids must be accompanied by a bid guarantee consisting of a certified check, cashier's check or bidder's bond payable to the AGENCY or cash deposit in the amount not less than 10 percent of the (*lowest*) total amount bid. Any bid not accompanied by such a guarantee will be deemed nonresponsive and will not be considered. If a bidder to whom a contract is awarded fails or refuses to execute the contract documents or furnish the required insurance policies and bonds as set forth in those documents, its bid guarantee shall be forfeited to the AGENCY. The bid guarantee of each bidder will be held until the successful bidder has properly executed all contract documents.

DELIVERY OF BID

Bids shall be enclosed in a sealed envelope plainly marked on the outside, “**SEALED BID FOR THE CITY OF WESTLAKE VILLAGE WESTLAKE VILLAGE COMMUNITY PARK – PHASE IIB – LANDSCAPE & IRRIGATION, DO NOT OPEN WITH REGULAR MAIL.**” Bids may be mailed or delivered by messenger. It is the bidder’s responsibility alone to ensure delivery of the bid to the hands of the AGENCY’s City Clerk prior to the bid opening hour stipulated in the Notice Inviting Sealed Bids. Late bids will not be opened or considered.

WITHDRAWAL OF BIDS

A bid may be withdrawn by a written request signed by the bidder. Such requests must be delivered to the AGENCY’s City Clerk prior to one hour in advance of the bid opening hour stipulated in the Notice Inviting Sealed Bids. Bids may not be withdrawn after such hour without forfeiture of the bid guarantee. The withdrawal of a bid will not prejudice the right of the bidder to submit a new bid, providing there is time to do so.

IRREGULAR BIDS

Unauthorized conditions, limitations, or provisions attached to a bid will render it irregular and may cause its rejection. The completed bid forms shall be without interlineations, alterations, or erasures without dated acknowledgment by the principal for the bidder. Alternative bids will not be considered unless specifically requested. No oral, telegraphic, or telephonic proposal, modification, or withdrawal will be considered.

TAXES

No mention shall be made in the bid of Sales Tax, Use Tax, or any other tax, as all amounts bid will be deemed and held to include any such taxes which may be applicable.

DISQUALIFICATION OF BIDDERS

In the event that any bidder acting as a prime contractor has an interest in more than one bid, all such bids will be rejected, and the bidder will be disqualified. This restriction does not apply to subcontractors or suppliers who may submit quotations to more than one bidder, and while doing so, may also submit a formal bid as a prime contractor. Bids will not be accepted from bidders who are not licensed in accordance with the provisions of the State Business and Professions Code; and who do not possess a State Contractor's License, Class "A" or "C-27" at the time of bid submittal.

Effective January 1, 2015, in order to be awarded and to perform work on public works projects, prime contractors and subcontractors must possess and maintain registration with the Department of Industrial Relations (DIR) at <https://efiling.dir.ca.gov/PWCR>. This is a separate requirement from the Contractors State License Board (CSLB) licensing requirement. See the Special Provisions for additional details.

DISCREPANCIES AND MISUNDERSTANDINGS

Bidders must satisfy themselves by personal examination of the work site, Plans, Specifications, and contract documents and by any other means as they may believe necessary, as to the actual physical conditions, requirements and difficulties under which the work must be performed. No bidder shall at any time after submission of a bid make any claim or assertion that there was any misunderstanding or lack of information regarding the nature or amount of work necessary for the satisfactory completion of the job. Any errors, omissions, or discrepancies found in the Plans, Specifications, or contract documents shall be called to the attention of the AGENCY and clarified prior to the submission of a bid.

EQUIVALENT MATERIALS

Approval of equipment and materials offered as equivalents to those specified must be obtained in writing from the Engineer. Requests for consideration of equivalents must be

submitted in writing within 35 days after award of agreement and must allow sufficient time for complete consideration of all specifications, samples, references, tests, and other details to the full satisfaction of the Engineer without delaying the work.

LEGAL RESPONSIBILITIES

All bids must be submitted, filed, made, and executed in accordance with State and Federal laws relating to bids for contracts of this nature whether the same are expressly referred to herein or not. Any bidder submitting a bid shall by such action thereby agree to each and all of the terms, conditions, provisions, and requirements set forth, contemplated, and referred to in the Plans, Specifications, and other Contract Documents, and to full compliance therewith.

AWARD OF CONTRACT

The award of contract, if made, will be to the lowest responsive and responsible bidder as determined solely by the AGENCY. The lowest bid will be determined based on the lowest Total Amount Bid. The AGENCY retains the sole discretion on choice of which bid option to construct. Additionally, the AGENCY reserves the right to reject any or all bids, to waive any irregularity, and to take the bids under advisement for a period of sixty (60) days, all as may be required to serve the best interests of the AGENCY. In no event will an award be made until all necessary investigations are made as to the responsibility and qualifications of the bidder to whom the award is contemplated. All bids will be compared with the Engineer's Cost Estimate.

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**BID
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

TO THE CITY OF WESTLAKE VILLAGE, as AGENCY:

In accordance with AGENCY s Notice Inviting Sealed Bids, the undersigned BIDDER hereby proposes to furnish all materials, equipment, tools, labor, and incidentals required for the above stated project as set forth in the Plans, Specifications, and Contract Documents therefore, and to perform all work in the manner and time prescribed therein.

BIDDER declares that this proposal is based upon careful examination of the work site, Plans, Specifications, Instructions to Bidders, and all other Contract Documents. If this proposal is accepted for award, BIDDER agrees to enter into a contract with AGENCY at the unit and/or lump sum prices set forth in the following Bid Schedule. BIDDER understands that failure to enter into a contract in the manner and time prescribed will result in forfeiture to AGENCY of the guarantee accompanying this proposal.

BIDDER understands that a bid is required for the entire scope of work, that the estimated quantities set forth in the Bid Schedule are solely for the purpose of comparing bids, and that final compensation under the contract will be based upon the actual quantities of work satisfactorily completed. **THE AGENCY RESERVES THE RIGHT TO INCREASE OR DECREASE THE AMOUNT OF ANY QUANTITY SHOWN AND TO DELETE ANY ITEM FROM THE CONTRACT.** It is agreed that the unit and/or lump sum prices bid include all appurtenant expenses, taxes, royalties, and fees. In the case of discrepancies in the amounts bid, unit prices shall govern over extended amount, and words shall govern over figures.

If awarded the Contract, the undersigned further agrees that in the event of the BIDDER's default in executing the required contract and filing the necessary bonds and insurance certificates **WITHIN TEN WORKING DAYS**, not including Saturdays, Sundays and legal holidays, after the AGENCY has mailed notice of the award of contract to the BIDDER, the proceeds of the security accompanying this bid shall become the property of the AGENCY and this bid and the acceptance hereof may, at the AGENCY s option, be considered null and void.

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**BID
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

Bids will be received until 10:00 AM on November 22, 2016 at the City of Westlake Village, City Hall Building, 31200 Oak Crest Drive, Westlake Village, CA 91361 (818) 706-1613.

For any questions regarding the Contract Documents, Specifications, proposal or other bidding documents, please contact Beau Thompson at bthompson@willdan.com or fax 805-643-0791. Only written or emailed questions will be accepted.

Forfeiture Due to Delay \$1,500.00 Per Calendar Day (Section 6-9).

The project insurance requirements are per Section 7-3 of the project standard specifications.

Contract Period:

- One Hundred Twenty (120) working days – Construction Period

BIDDER SHALL COMPLETE:

Bidder's Name _____
 Street Address _____
 City _____ State _____ Zip Code _____
 Telephone Number _____ Fax Number _____

The following addenda are acknowledged:	Number	Dated	Initials
(Bidder must fill in number and date of each addendum or may enter the word "none" if appropriate)	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

 BIDDER'S NAME

 DATE

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**SCHEDULE OF WORK AND UNIT PRICES
FOR
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION
BASE BID**

ITEM No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL BID PRICE
1	Mobilization (General Conditions and Provisions)	LS	1	N/A	
2	Water Connections to Irrigation Mainline	LS	1	N/A	
3	Export of Miscellaneous Spoils	CY	35		
4	Purchase Split Rail Fencing	LF	3,300		
5	Install Split Rail Fencing	LF	3,300		
6	Purchase and Install Vehicle Bar Gate at Baseball Field #1	LS	1	N/A	
7	Concrete Edging for Split Rail Fencing	LF	3,000		
8	Decomposed Granite Trail	SF	30,000		
9	6" Concrete Edging for Decomposed Granite Trail and Planting Areas	LF	2,600		
10	Install Owner Furnished Park Benches for Pedestrian Pathway	EA	14		
11	Install Owner Furnished Trash Receptacle for Pedestrian Pathway	EA	7		
12	Purchase and Install Drinking Fountain at Baseball Field #1 Trail	EA	1		
13	Purchase and Install Drinking Fountain at Soccer Field Trail	EA	1		
14	Entry Monument Sign	LS	1	N/A	

ITEM No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL BID PRICE
15	Install Owner Furnished Tot Lot #2 Play Equipment	LS	1	N/A	
16	Tot Lot #2 Rubber Surfacing	SF	1,800		
17	Tot Lot #2 CMU Entry Wall and Decorative Entry Seat	LF	40		
18	6" Concrete Mowcurb at Tot Lot #2	LF	85		
19	Purchase Tot Lot #2 Fencing	LF	85		
20	Install Tot Lot #2 Fencing	LF	85		
21	Tot Lot #2 Signage	LS	1		
22	Install Owner Furnished Tot Lot #2 Shade Shelter	LS	1	N/A	
23	Tot Lot #2 Seat Wall	LS	1	N/A	
24	Tot Lot #2 Play Area Sumps	LS	1	N/A	
25	Spilt Rail Fence at Skate Park Access Road	LF	100		
26	Concrete Curb at Skate Park Access Road	LF	310		
27	Install Owner Furnished Picnic Table at Skate Park	EA	2		
28	6" Concrete Mowcurb at East Edge of Baseball Field #3	LF	150		
29	Directional Signage	EA	1		

ITEM No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL BID PRICE
30	Trailhead Construction	LS	1	N/A	
31	General Irrigation	LS	1	N/A	
32	General Sleeving Under Hardscape	LS	1	N/A	
33	Tree Plantings	LS	1	N/A	
34	Shrub Plantings	LS	1	N/A	
35	Install Owner Furnished Tree Grates	EA	9		
36	Install Owner-Furnished Bike Rack at One Acre Park Area	EA	1		
37	Groundcover, Mulch, Amendments, Fertilizers	LS	1	N/A	
38	Turf (Hydroseed) at One Acre Park Area	SF	26,090		
39	Plant Establishment Period (6 Months)	LS	1	N/A	
40	Release of Contract	LS	1	N/A	\$1.00
TOTAL BASE BID =		\$ _____ (Figure)			

BID ALTERNATE

ITEM No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL BID PRICE
1	Tot Lot #1 Signage	LS	1	N/A	
2	Tot Lot #1 Entry Feature	LS	1	N/A	
3	Tot Lot #1 Rubber Surfacing	SF	4,250		
4	Tot Lot #1 Concrete Paving	SF	1,200		
5	Tot Lot #1 Sand Play Area	SF	165		
6	12" Concrete Mowcurb at Tot Lot #1	LF	260		
7	Tot Lot #1 Drainage Sumps Under Play Equipment	LS	1	N/A	
8	Install Owner Furnished Tot Lot #1 Rock Boulders	LS	1	N/A	
9	Install Owner Furnished Tot Lot #1 Shade Shelter	LS	1	N/A	
10	Install Owner Furnished Tot Lot #1 Playground Equipment	LS	1	N/A	
11	Install Owner Furnished Tot Lot #1 Park Benches	EA	9		
12	Install Owner Furnished Tot Lot #1 Trash Receptacles	EA	3		
13	Purchase Tot Lot #1 Fencing	LF	130		
14	Install Tot Lot #1 Fencing	LF	130		

ITEM No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL BID PRICE
15	Concrete Paving Picnic Area at 1 Acre Park Area	SF	630		
16	Install Owner Furnished Picnic Table for Picnic Area	EA	7		
17	Install Owner Furnished Trash Receptacle at Picnic Area	EA	2		
18	Fitness Area Rubber Surfacing	SF	2,506		
19	6" Concrete Mowcurb at Fitness Area	LF	181		
20	Purchase and Install Drinking Fountain at Fitness Area	EA	1		
21	Concrete Paving at Fitness Area	SF	50		
22	Install Owner Furnished Trash Receptacles at Fitness Area	EA	1		
23	Fitness Area Signage	LS	1	N/A	
24	Install Owner Furnished Fitness Equipment at Fitness Area	LS	1	N/A	
25	Purchase and Install Plop Bench at Fitness Area	EA	3		
26	4" Thick Concrete Paving at One Acre Park Area	SF	1,200		

ITEM No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL BID PRICE
27	6" Thick Concrete Paving at One Acre Park Area	SF	530		
28	Volleyball Court	LS	1	N/A	
29	Credit to City for Replacing Hydroseed Area with Volleyball Court	SF	6,600	()	()
TOTAL BID ALTERNATE=		\$ _____ (Figure)			

TOTAL AMOUNT BID (BASE BID TOTAL + BID ALTERNATE TOTAL)	\$ _____ (Figure)
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TOTAL AMOUNT BID (IN WRITING):

Contractor's Name:

THE TOTAL AMOUNT BID ABOVE IS SUBJECT TO THE FOLLOWING:

1. The award of contract, if made, will be to the lowest responsive and responsible bidder based on the lowest Total Amount Bid which shall include both Base Bid and Bid Alternate.
2. The Total Amount Bid shall include all work shown on the plans and requirements contained in the specifications.
3. **Contractor's shall understand that the Job Walk is Mandatory and only those whom attend will be considered qualified for bidding this project. Qualified personnel from the Contractor's staff shall attend job walk. Qualified staff include: Owner, Project Supervisor, Project Manager, Head Estimator.**
4. Contractor is expected to independently determine all work to be done and to verify any quantities stated herein and to submit a bid based on Contractor's own independent calculation and review of the contract plans. The City shall not be responsible for nor will it agree to any increase or additional sums for any miscalculation in the quantity of materials by the contractor required to complete all aspects of the construction called for in the plans and specifications.
5. The City retains the sole discretion on choice of which bid items(s) from both Base Bid and Bid Alternate Bid Items to construct. The City makes no guarantee or assurances as to the amount of work this contract will entail.
6. **Note: all unit costs/lump sums shall include prevailing wage rates.**
7. Contractor shall be required prior to release of retention to provide
 - a. final releases from all vendors, suppliers and subcontractors
 - b. certified payroll records for all prime and subcontractor employees
8. The Schedule of Work and Prices shall be used for Progress Payment purposes only.
9. Measurement and Payment sections for all bid items within Bid Schedule can be found starting on page C-12.

**MEASUREMENT AND PAYMENT
FOR
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION
BASE BID**

BID ITEM NO 1: Mobilization shall consist of preparatory work and operations, including, but not limited to: insurance, bonds, required permits and fees, shop drawings, submittals, the movement of personnel, equipment, supplies, and incidentals to the project site (mobilization), as-built plans, coordination with other contractors, meetings, moving off the project, clean up, removal of spoils, and the establishment of any temporary facilities. Temporary stockpiling of export materials is subject to City approval. **Measurement and Payment for Mobilization** shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete mobilization in accordance with the Contract Documents, and no additional compensation will be allowed therefor. Progress payments for Mobilization will be the lesser amount from columns B and C of Table A - Bid Item #1 as follows:

Table A – Bid Item #1

IF A IS	B AMOUNT IS	C AMOUNT IS
05	0.2 x Mobilization Bid Item	0.02 x CONTRACT PRICE
10	0.4 x Mobilization Bid Item	0.04 x CONTRACT PRICE
20	0.5 x Mobilization Bid Item	0.05 x CONTRACT PRICE
50	0.7 x Mobilization Bid Item	0.07 x CONTRACT PRICE
70	0.8 x Mobilization Bid Item	0.08 x CONTRACT PRICE
90	0.9 x Mobilization Bid Item	0.09 x CONTRACT PRICE
100% OR MORE	1.0 x Mobilization Bid Item	0.10 x CONTRACT PRICE

Notes:

1. A is the monthly pay estimate as a % of the original Contract Price not including amount earned for mobilization, bonds, and permits.
2. One hundred percent or more of the original Contract Price and final cleanup operations have been satisfactorily completed.

The total amount of mobilization shall not exceed 10% of the original Contract Price.

BID ITEM NO 2: Measurement and Payment for Water Connections to Irrigation Mainline shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete all connections to mainline for use of irrigation system, and all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 3: Measurement and Payment for Export of Miscellaneous Spoils shall be at the price bid per cubic yard and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the export of all miscellaneous spoils located throughout the entire project area that may be designated by the City Engineer to be removed including disposal to an approved offsite location, and all items necessary to be complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 4: Measurement and Payment for Purchase Split Rail Fencing shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase of all split rail fencing and material needed to install the fencing and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 5: Measurement and Payment for Install Split Rail Fencing shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of all split rail fencing (including footings, wire mesh, posts, rails) with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 6: Measurement and Payment for Purchase and Install Vehicle Bar Gate at Baseball Field #1 shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of vehicle bar gate complete with connections, footings, locking plate, and all items necessary to be complete in place in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 7: Measurement and Payment for Concrete Edging for Split Rail Fencing shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete edging including staking, excavation, forming, pouring, and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 8: Measurement and Payment for Decomposed Granite Trail shall be at the price bid per square foot and shall include, but not limited to, all labor, materials,

equipment, and incidentals required to complete the installation of the decomposed granite trail (including fine grading, site preparation, placing material, compaction) with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 9: Measurement and Payment for 6” Concrete Edging for Decomposed Granite Trail and Planting Area shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete edging including staking, excavation, forming, pouring, and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 10: Measurement and Payment for Install Owner Furnished Park Benches for Pedestrian Pathway shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished park benches at various locations adjacent to the decomposed granite walking trail and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 11: Measurement and Payment for Install Owner Furnished Trash Receptacle for Pedestrian Pathway shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished trash receptacles at various locations adjacent to the decomposed granite walking trail and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 12: Measurement and Payment for Purchase and Install Drinking Fountain at Baseball Field #1 Trail shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of drinking fountain at the location adjacent of the decomposed walking trail next to Baseball Field #1 (including waterline connection, drain pipe, filter cloth, sand trap) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 13: Measurement and Payment for Purchase and Install Drinking Fountain at Soccer Field Trail shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of drinking fountain at the location adjacent of the decomposed walking trail next to the Soccer Field (including waterline connection, drain pipe, filter cloth, sand trap) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 14: Measurement and Payment for Entry Monument Sign shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment,

and incidentals required to complete the construction of the entry monument (including excavation, staking, compaction, footing, form and pour, brick veneer, wire mesh, sign lettering, brushed steel wings, pedestal) and for a fully functional system in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 15: Measurement and Payment for Install Owner Furnished Tot Lot #2 Play Equipment shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished play equipment at tot lot #2 and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 16: Measurement and Payment for Tot Lot #2 Rubber Surfacing shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation rubber surfacing at tot lot #2 including excavation, re-compaction, base placement, base mat, and wearing course per manufacturers specs and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 17: Measurement and Payment for Tot Lot #2 CMU Entry Wall and Decorative Entry Seat shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of the tot lot entry wall (including excavation, staking, compaction, footing, form and pour, reinforcement, brick veneer, wire mesh, CMU block, entry seat) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 18: Measurement and Payment for 6" Concrete Mowcurb at Tot Lot #2 shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete edging including staking, excavation, forming, pouring, and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 19: Measurement and Payment for Purchase Tot Lot #2 Fencing shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase of all tot lot #2 decorative fencing and material needed to install the fencing and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 20: Measurement and Payment for Install Tot Lot #2 Fencing shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of all tot lot #2 decorative fencing (including footings, welded wire, posts, rails) with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 21: Measurement and Payment for Tot Lot #2 Signage shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of all tot lot #2 signage and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 22: Measurement and Payment for Install Owner Furnished Tot Lot #2 Shade Shelter shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished shade shelter at tot lot #2 (including handling, storage, excavation, re-compaction, base, footings, posts, connections) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 23: Measurement and Payment for Tot Lot #2 Seat Wall shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of the decorative seat wall at tot lot #2 (including excavation, re-compaction, reinforcement, sandblast finish, color hardener) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 24: Measurement and Payment for Tot Lot #2 Play Area Sumps shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of all play area sumps at tot lot #2 (including excavation, re-compaction, PVC drainpipe, filter fabric, concrete valve box, connection to drain line, cast iron grate, reinforcement) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 25: Measurement and Payment for Split Rail Fencing at Skate Park Access Road shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of all split rail fencing at skate park access road (including footings, wire mesh, posts, rails) with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 26: Measurement and Payment for Concrete Curb at Skate Park Access Road shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete curb including staking, excavation, forming, pouring, and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 27: Measurement and Payment for Install Owner Furnished Picnic Table at Skate Park shall be at the price bid per each and shall include, but not limited

to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished picnic tables at skate park and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 28: Measurement and Payment for 6” Concrete Mowcurb at East Edge of Baseball Field #3 shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete mowcurb including staking, excavation, forming, pouring, and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 29: Measurement and Payment for Directional Signage shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation directional signage at the southeast corner of Baseball Field #3 and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 30: Measurement and Payment for Trailhead Construction shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the (including grading, site preparation, DG trail, split rail fence, wood steps, placement of boulders, installation of owner furnished bench and trash receptacle, connection to existing trail) with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 31: Measurement and Payment for General Irrigation shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of irrigation lines as shown on the project plans (including excavation, compaction, POC, heads, valves, pipes, fittings, wires, controllers) with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 32: Measurement and Payment for General Sleeving Under Hardscape shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete all general sleeving under hardscape of irrigation lines with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 33: Measurement and Payment for Tree Plantings shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete all tree plantings as shown on the project plans with all

items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 34: Measurement and Payment for Shrub Plantings shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete all shrub plantings as shown on the project plans with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 35: Measurement and Payment for Install Owner Furnished Tree Grates shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished tree grates throughout the one-acre park area and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 36: Measurement and Payment for Install Owner Furnished Bike Rack at One Acre Park Area shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished bike rack at one-acre park area and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 37: Measurement and Payment for Groundcover, Mulch, Amendments, Fertilizers shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete all groundcover, mulch, amendments, and fertilizers as shown on the project plans with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 38: Measurement and Payment for Turf (Hydroseed) at One Acre Park Area shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete all turf installation within the one-acre park area (including grading, compaction, placement, connections to concrete edging) with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ITEM NO 39: Measurement and Payment for Plant Establishment Period (6 Months) shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to ensure all plants, shrubs, and trees establish properly where planted and any that fail through this establishment period shall be replaced and established appropriately with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

**MEASUREMENT AND PAYMENT
FOR
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION
BID ALTERNATE**

BID ALTERNATE ITEM NO 1: Measurement and Payment for Tot Lot #1 Signage shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of all tot lot #1 signage and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 2: Measurement and Payment for Tot Lot #1 Entry Feature shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of the tot lot entry wall (including excavation, staking, compaction, footing, form and pour, reinforcement, steel posts and beams, flagstone paving, wire cloth/metal panels) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 3: Measurement and Payment for Tot Lot #1 Rubber Surfacing shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation rubber surfacing at tot lot #1 (including excavation, re-compaction, base placement, base mat, and wearing course) per manufacturers specs and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 5: Measurement and Payment for Tot Lot #1 Sand Play Area shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of sand play area within the limits of tot lot #1 (including staking, excavation, placement of sand) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 6: Measurement and Payment for 12” Concrete Mowcurb at Tot Lot #1 shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete mowcurb within the limits of tot lot #1 (including staking, excavation, forming, pouring) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 7: Measurement and Payment for Tot Lot #1 Drainage Sumps Under Play Equipment shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the

construction of all play area sumps at tot lot #1 (including excavation, re-compaction, PVC drainpipe, filter fabric, concrete valve box, connection to drain line, cast iron grate, reinforcement) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 8: Measurement and Payment for Install Owner Furnished Tot Lot #1 Rock Boulders shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished rock boulders at tot lot #1 and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 9: Measurement and Payment for Install Owner Furnished Tot Lot #1 Shade Shelter shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished shade shelter at tot lot #1 (including handling, storage, excavation, re-compaction, base, footings, posts, connections) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 10: Measurement and Payment for Install Owner Furnished Tot Lot #1 Play Equipment shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished play equipment at tot lot #1 and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 11: Measurement and Payment for Install Owner Furnished Tot Lot #1 Park Benches shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished park benches at tot lot #1 and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 12: Measurement and Payment for Install Owner Furnished Tot Lot #1 Trash Receptacles shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished trash receptacles at tot lot #1 and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 13: Measurement and Payment for Purchase Tot Lot #1 Fencing shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase of all tot lot #1 fencing and material needed to install the fencing and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 14: Measurement and Payment for Install Tot Lot #1 Fencing shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of all tot lot #1 fencing (including footings, posts, caps) with all items necessary to be a fully functional system complete in place and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 15: Measurement and Payment for Concrete Paving Picnic Area at One Acre Park Area shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete paving within the limits of picnic area at the north east corner of baseball field #3 (including staking, excavation, forming, pouring) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 16: Measurement and Payment for Install Owner Furnished Picnic Tables for Picnic Area shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished picnic tables at picnic area at the northeast corner of baseball field #3 and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 17: Measurement and Payment for Install Owner Furnished Trash Receptacles at Picnic Area shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished trash receptacles at picnic area at the northeast corner of baseball field #3 and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 18: Measurement and Payment for Fitness Area Rubber Surfacing shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation rubber surfacing at fitness area (including excavation, re-compaction, base placement, asphalt base, rubberized surface) per manufacturers specs and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 19: Measurement and Payment for 6” Concrete Mowcurb at Fitness Area shall be at the price bid per linear foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete mowcurb within the limits of the fitness area (including staking, excavation, forming, pouring) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 20: Measurement and Payment for Purchase and Install Drinking Fountain at Fitness Area shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of drinking fountain at the fitness area (including waterline connection, drain pipe, filter cloth, sand trap) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 21: Measurement and Payment for Concrete Paving at Fitness Area shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete paving within the limits of fitness area (including staking, excavation, forming, pouring) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 22: Measurement and Payment for Install Owner Furnished Trash Receptacles at Fitness Area shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished trash receptacles at fitness area and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 23: Measurement and Payment for Fitness Area Signage shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of all fitness area signage and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 24: Measurement and Payment for Install Owner Furnished Fitness Equipment at Fitness Area shall be at the lump sum price bid and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of City furnished fitness equipment at fitness area and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 25: Measurement and Payment for Purchase and Install Plop Bench at Fitness Area shall be at the price bid per each and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the purchase and installation of plop bench at the fitness area (including excavation, re-compaction, footing, install) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 26: Measurement and Payment for 4" Thick Concrete Paving at One Acre Park Area shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the

construction of concrete paving within the limits of one acre park area just south of the proposed volleyball court (including staking, excavation, forming, pouring) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 27: Measurement and Payment for 6” Thick Concrete Paving at One Acre Park Area shall be at the price bid per square foot and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the construction of concrete paving within the limits of one acre park area just south of the proposed volleyball court (including staking, excavation, forming, pouring) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 28: Measurement and Payment for Volleyball Court shall be at the lump sum price bid and shall include, but not limited to, all labor, purchase and installation of all equipment, and incidentals required to complete the construction of volleyball court (including staking, excavation, concrete mowcurb, placement of beach sand, volleyball nets and poles, volleyball court edging, extending and relocating drain line, installation, connection and bedding of perforated pipe) and be in accordance with the Contract Documents, and no additional compensation will be allowed therefor.

BID ALTERNATE ITEM NO 29: Measurement and Payment for Credit to City for Replacing Hydroseed Area with Volleyball Court shall be at the price bid per SF and shall include, but not limited to, all labor, materials, equipment, and incidentals required to complete the installation of the turf within the volleyball court area. This credit will be for removing the turf from the contract since it will be replaced with the volleyball court, if the City decides to build Bid Alternate No 28.

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BIDDER'S REFERENCES

The following are the names, addresses, and phone numbers for three public agencies for which BIDDER has performed similar work within the past two years:

1. _____
Name and address of public agency

Name and telephone number of person familiar with project

Contract amount	Type of work	Date Completed
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2. _____
Name and address of public agency

Name and telephone number of person familiar with project

Contract amount	Type of work	Date Completed
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3. _____
Name and address of public agency

Name and telephone number of person familiar with project

Contract amount	Type of work	Date Completed
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The following are the names, addresses, and phone numbers for all brokers and sureties from whom BIDDER intends to procure insurance bonds:

1. _____
Name and address

Telephone number

2. _____
Name and address

Telephone number

3. _____
Name and address

Telephone number

EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE

BIDDER certifies that in all previous contracts or subcontracts, all reports which may have been due under the requirements of any Agency, State, or Federal equal employment opportunity orders have been satisfactorily filed, and that no such reports are currently outstanding.

CONTRACTOR S LICENSE REQUIREMENT

The undersigned certifies that he/she is aware that this contract cannot be awarded to him/her unless, at the time of the bid submission and contract award, he/she is the holder of a valid California Contractor's License (Class "A" or "C-27") proper and adequate for the work required by this contract, and that the failure to obtain proper and adequate licensing for an award of the contract shall result in the forfeiture of the bidder's security.

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ELIGIBILITY TO CONTRACT

The successful BIDDER shall be prohibited from performing work on this project with a subcontractor who is ineligible to perform work on the project pursuant to Section 1777.1 or 1777.7 of the Labor Code.

BIDDER S INFORMATION

BIDDER certifies that the following information is true and correct:

Bidder's Name _____

Business Address _____

Telephone _____

State Contractor's License No. and Class _____

Original Date Issued _____ Expiration Date _____

The following are the names, titles, addresses, and phone numbers of all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest in this proposal:

The date of any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal are as follows:

All current and prior DBA's, alias, and/or fictitious business names for any principal having an interest in this proposal are as follows:

I declare under penalty of perjury under the laws of the State of California that the above representations are true and correct. Executed this _____ day of _____, 20__, at _____ California.

Signature and Title of Bidder
or Authorized Representative

(SEAL)

**BID BOND
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

KNOW ALL PERSONS BY THESE PRESENTS that Bidder _____ as PRINCIPAL, and _____, a SURETY, are held and firmly bound unto the City of Westlake Village as AGENCY, in the penal sum of _____ Dollars (\$_____), which is ten percent of the total amount bid by PRINCIPAL to AGENCY for the above stated project, for the payment of which sum, PRINCIPAL and SURETY agree to be bound, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, whereas PRINCIPAL is about to submit a bid to AGENCY for the above stated project, if said bid is rejected, or if said bid is accepted and a contract is awarded and entered into by PRINCIPAL in the manner and time specified, and PRINCIPAL provides the required payment and performance bonds and insurance coverages to AGENCY in the manner and time specified, then this obligation shall be null and void, otherwise it shall remain in full force and effect in favor of AGENCY.

In case suit is brought upon this bond, SURETY further agrees to pay all court costs incurred by AGENCY in the suit and reasonable attorneys' fees in an amount fixed by the court. Surety hereby waives the provisions of California Civil Code Section 2845.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this _____ day of _____, 20__.

PRINCIPAL: _____

BY: _____
(Signature of authorized officer)

SURETY: _____

BY: _____
(Signature of authorized officer)

Note: All signatures must be acknowledged before a notary public. Attach appropriate acknowledgment. Also, evidence of the authority of any person signing as attorney-in-fact must be attached.

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**NON-COLLUSION AFFIDAVIT
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

State of California)
County of _____) ss.

_____, being first duly sworn, deposes and says that he or she is

of
the party making the foregoing bid, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly, colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signature

Date

Note: Signature must be acknowledged before a notary public. Attach appropriate acknowledgment.

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BIDDER'S VIOLATION OF LAW/SAFETY QUESTIONNAIRE

In accordance with Government Code Section 14310.5, the Bidder shall complete, under penalty of perjury, the following questionnaire.

QUESTIONNAIRE

Has the Bidder, any officer of the Bidder or any employee of the Bidder who has a proprietary interest in the Bidder ever been disqualified, removed or otherwise prevented from bidding on or completing a Federal, State, or local government project because of a violation of law or a safety regulation?

Yes _____

No _____

If the answer is yes, explain the circumstances in the space provided.

Note: This questionnaire constitutes a part of the Bid, and a signature portion of the Bid shall constitute signature of this questionnaire.

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**STATEMENT ACKNOWLEDGING PENAL AND CIVIL PENALTIES
CONCERNING THE CONTRACTOR S LICENSING LAWS**

[Business & Professions Code § 7028.15]

[Public Contract Code § 20103.5]

I, the undersigned bidder, certify that I am aware of the following provisions of California law and that I, or the company/individual on whose behalf this proposal is being forwarded, hold a currently valid California contractor s license as set forth below:

Business & Professions Code § 7028.15:

- a) It is a misdemeanor for any person to submit a bid to a public agency to engage in the business or act in the capacity of a contractor within the State of California without having a license therefore, except in any of the following cases:
 - (1) The person is particularly exempted from this chapter.
 - (2) The bid is submitted on a state project governed by Section 10164 of the Public Contract Code or on any local agency project governed by Section 20104 [now § 20103.5] of the Public Contract Code.

- b) If a person has been previously convicted of the offense described in this section, the court shall impose a fine of 20 percent of the total amount bid of the contract under which the unlicensed person performed contracting work, or four thousand five hundred dollars (\$4,500), whichever is greater, or imprisonment in the county jail for not less than 10 days nor more than six months, or both.

In the event the person performing the contracting work has agreed to furnish materials and labor on an hourly basis, "total amount bid" for the purposes of this subdivision means the aggregate sum of the cost of materials and labor furnished and the cost of completing the work to be performed.

- c) This section shall not apply to a joint venture license, as required by Section 7029.1. However, at the time of making a bid as a joint venture, each person submitting the bid shall be subject to this section with respect to his or her individual licensure.

- d) This section shall not affect the right or ability of a licensed architect, land surveyor, or registered professional engineer to form joint ventures with licensed contractors to render services within the scope of their respective practices.
- e) Unless one of the foregoing exceptions applies, a bid submitted to a public agency by a bidder who is not licensed in accordance with this chapter shall be considered nonresponsive and shall be rejected by the public agency.

Unless one of the foregoing exceptions applies, a public agency shall, before awarding a contract or issuing a purchase order, verify that the bidder was properly licensed when the bidder submitted the bid.

Notwithstanding any other provision of law, unless one of the foregoing exceptions applies, the registrar may issue a citation to any public officer or employee of a public entity who knowingly awards a contract or issues a purchase order to a contractor who is not licensed pursuant to this chapter. The amount of civil penalties, appeal, and finality of such citations shall be subject to Sections 7028.7 to 7028.13, inclusive. Any contract awarded to, or any purchase order issued to, a contractor who is not licensed pursuant to this chapter is void.

- f) Any compliance or noncompliance with subdivision (e) of this section, as added by Chapter 863 of the Statutes of 1989, shall not invalidate any contract or bid awarded by a public agency during which time that subdivision was in effect.
- g) A public employee or officer shall not be subject to a citation pursuant to this section if the public employee, officer, agent or volunteer of the public agency made an inquiry to the board for the purposes of verifying the license status of any person or contractor and the board failed to respond to the inquiry within three working days. For purposes of this section, a telephone response by the board shall be deemed sufficient.

Public Contract Code § 20103.5:

In all contracts subject to this part where federal funds are involved, no bid submitted shall be invalidated by the failure of the bidder to be licensed in accordance with the laws of this state. However, at the time the contract is awarded, the contractor shall be properly licensed in accordance with the laws of this state. The first payment for work or material under any contract shall not be made unless and until the Registrar of Contractors verifies to the agency that the records of the Contractors State License Board indicate that the contractor was

properly licensed at the time the contract was awarded. Any bidder or contractor not so licensed shall be subject to all legal penalties imposed by law, including, but not limited to, any appropriate disciplinary action by the Contractors State License Board. The agency shall include a statement to that effect in the standard form of prequalification questionnaire and financial statement.

Failure of the bidder to obtain proper and adequate licensing for an award of a contract shall constitute a failure to execute the contract and shall result in the forfeiture of the security of the bidder.

Bidder: _____

License No.: _____ Class _____ Expiration date: _____

Date _____ Signature _____

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DECLARATION OF ELIGIBILITY TO CONTRACT
[Labor Code Section 1777.1; Public Contract Code Section 6109]

The undersigned, a duly authorized representative of the Consultant, certifies and declares that:

1. The Consultant is aware of Sections 1771.1 and 1777.7 of the California Labor Code, which prohibit a contractor or subcontractor who has been found by the Labor Commissioner or the Director of Industrial Relations to be in violation of certain provisions of the Labor Code, from bidding on, being awarded, or performing work as a subcontractor on a public works project for specified periods of time.
2. The Consultant is not ineligible to bid on, be awarded or perform work as a subcontractor on a public works project by virtue of the foregoing provisions of Sections 1771.1 or 1777.7 of the California Labor Code or any other provision of law.
3. The Consultant is aware of California Public Contract Code Section 6109, which states:
 - "(a) A public entity, as defined in Section 1100 [of the Public Contract Code], may not permit a contractor or subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to Section 1771.1 or 1777.7 of the Labor Code to bid on, be awarded, or perform work as a subcontractor on, a public works project. Every public works project shall contain a provision prohibiting a contractor from performing work on a public works project with a subcontractor who is ineligible to perform work on the public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code.
 - (b) Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract, and any public money that may have been paid to a debarred subcontractor by a contractor on the project shall be returned to the awarding body. The contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project."

4. The Consultant has investigated the eligibility of each and every subcontractor the contractor intends to use on this public works project, and determined that none of them is ineligible to perform work as a subcontractor on a public works project by virtue of the foregoing provisions of the Public Contract Code, Sections 1771.1 or 1777.7 of the Labor Code, or any other provision of law.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed this _____ day of _____, 20__, at _____, California.

Signature: _____

Name: _____

Title: _____

Name of Company: _____

**CONSTRUCTION AGREEMENT
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

1. IDENTIFICATION

THIS CONSTRUCTION AGREEMENT (“Agreement”) is entered into this ___ day of _____, 20___, by and between the City of Westlake Village (“City”) and _____, a California corporation holding California contractor’s license number _____ (“Contractor”).

2. RECITALS

2.1. City owns certain real property (“the Project Site”) upon which it desires performance of the following work: **CITY OF WESTLAKE VILLAGE WESTLAKE VILLAGE COMMUNITY PARK – PHASE IIB – LANDSCAPE & IRRIGATION** (“the Project”).

2.2 City has complied with all competitive bid solicitation laws applicable to the Project.

NOW, THEREFORE, for and in consideration of the mutual covenants herein contained, City and Contractor agree as follows:

3. CONSTRUCTION DOCUMENTS

The Construction Documents consist of the Notice Inviting Sealed Bids, Instructions to Bidders, Contractor’s Bid, City’s Standard Specifications, and all referenced specifications, details, drawings and appendices. The Construction Documents are attached hereto and incorporated herein by reference.

4. WORK

4.1 Scope of Work. Contractor shall furnish all necessary labor, tools, materials, appliances, equipment, utilities, transportation and facilities for the construction of the Project (“the Work”).

4.2 Independent Contractor. Contractor is and shall at all times remain as to City a wholly independent contractor. The personnel performing the Work on behalf of Contractor shall at all times be under Contractor’s exclusive direction and control. Neither City nor any of its officers, employees or agents shall have control over the conduct of

Contractor or any of Contractor's officers, employees or agents, except as set forth in this Agreement. Contractor shall not at any time or in any manner represent that it or any of its officers, employees or agents are in any manner officers, employees or agents of City. Contractor shall not incur or have the power to incur any debt, obligation or liability whatever against City, or to bind City in any manner.

5. SCHEDULE

Contractor shall complete the Work in accordance with the number of working days specified in Contractor's Bid. Time is of the essence in this Agreement.

6. COMPENSATION

6.1 Contract Sum. Contractor guarantees that, subject to any adjustment pursuant to a Change Order, City's maximum obligation for Contractor's performance of this Agreement shall not exceed \$_____ ("the Contract Sum").

6.2 Progress Payments. Contractor shall deliver to City itemized applications for payment in such detail as required by City. Within thirty (30) days after receipt of a properly submitted and correct application for payment, City shall make payment to Contractor. In connection with each progress payment, City shall retain ten percent (10%) of all sums otherwise due to Contractor for work performed.

6.3 Representations. By submitting a payment application, Contractor represents to City that: (i) to the best of Contractor's knowledge, information and belief, the construction has progressed to the point indicated; (ii) the quality of the portion of the Work covered by the application is in accordance with the Construction Documents; and (iii) Contractor is entitled to payment in the amount requested.

6.4 Payment of Subcontractors. Contractor shall pay each subcontractor from payments received from City, and Contractor's payments to subcontractors shall be made promptly after receipt of payment from City. City shall have no obligation to pay a subcontractor except as required by law.

6.5 Contractor's Warranties. Contractor warrants that: (i) the portions of the Work, materials and equipment covered by a previous payment application are free and clear of liens, claims, security interests or encumbrances; and (ii) no portion of the Work, materials or equipment covered by a payment application will have been acquired by Contractor, or any other person performing construction at the Project Site or furnishing materials or equipment for the Work, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by Contractor or such other person.

6.6 Final Payment. Neither final payment nor the retention shall become due until Contractor submits to City all of the following: (i) a release in a format satisfactory to City; (ii) a certificate that insurance required by the Construction Documents is in force following completion of the Work; and (iii) if required by City, other data establishing payment or satisfaction of obligations such as receipts, releases and waivers of liens.

7. CHANGE ORDERS

City approval of Change Orders may be given as authorized by Westlake Village Municipal Code Section 2.6.080.

8. CORRECTIONS

8.1 Correction of Work. Contractor shall promptly correct any portion of the Work that is rejected by City or that is known by Contractor to be defective or failing to conform to the Construction Documents, whether or not fabricated, installed or completed. Additionally, Contractor shall correct any portion of the Work found to be defective or nonconforming within a period of one (1) year after the date of completion, or within such longer period provided by any applicable special warranty in the Construction Documents.

8.2 No Limitation. This Section 8 shall not be construed to establish a period of limitation with respect to other obligations of Contractor under this Agreement. Section 8.1 relates only to the specific obligation of Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Construction Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish Contractor's liability with respect to its obligations other than correction of the Work.

8.3 Stop Work. If Contractor fails to correct a defective portion of the Work as required, or if Contractor persistently fails to carry out the Work in accordance with the Construction Documents, then City may order Contractor to stop the Work or any portion thereof until the problem has been eliminated. A stop work order shall be in writing and shall be signed by the Westlake Village City Manager.

9. PREVAILING WAGES

9.1 Acknowledgement. Contractor acknowledges that this Agreement is subject to California Labor Code Section 1770 et seq. and the regulations implementing such statutes. Contractor agrees to be bound by those provisions (including the provisions of California Labor Code Sections 1774 and 1775 concerning the payment of prevailing rates of wages to workers and the penalties for failure to pay prevailing wages) as though set forth in full herein.

9.2 Payroll Records. Contractor agrees to comply with the provisions of California Labor Code Section 1776, which require Contractor and each subcontractor to: (i) keep accurate payroll records; (ii) certify and make such payroll records available for inspection as provided by Section 1776; and (iii) inform City of the location of the records. Contractor is responsible for compliance with Section 1776 by itself and all of its subcontractors. Contractor shall provide a copy of such payroll records to City.

9.3 Apprentices. Contractor agrees to comply with the provisions of California Labor Code Section 1777.5 concerning the employment of apprentices on public works projects, and further agrees that Contractor is responsible for compliance with Section 1777.5 by itself and all of its subcontractors.

9.4 Overtime. Contractor agrees to comply with the provisions of California Labor Code Section 1813 concerning penalties for workers who work excess hours.

10. INSURANCE

Contractor shall obtain and maintain insurance meeting the requirements set forth in Exhibit A attached hereto and incorporated herein by reference.

11. INDEMNIFICATION

11.1 Requirement. To the full extent permitted by law, Contractor shall indemnify, hold harmless and defend City, its officials, agents and employees from claims, demands, damages, liabilities, losses, costs or expenses for any damage whatsoever (including death or injury to any person and injury to any property) resulting from willful misconduct, negligent acts, errors or omissions of Contractor or any of its officers, employees, agents or subcontractors in connection with the Work or this Agreement. The foregoing shall not apply to claims or actions caused by the sole negligence or willful misconduct of City.

11.7 Survival. The obligations of Contractor under this Section shall survive the expiration or termination of this Agreement.

12. MISCELLANEOUS

12.1 Notice. Notices required or desired to be served by either party upon the other party shall be deemed received on: (i) the day of delivery, if delivered by hand during the receiving party's regular business hours or by facsimile or e-mail before or during the receiving party's regular business hours; or (ii) on the second business day following deposit in the mail, if delivered by United States mail postage prepaid. Notices delivered by mail shall be sent to the address set forth below for the receiving party unless such party has previously given notice of a different address:

City:
City of Westlake Village
Attn: City Engineer
31200 Oak Crest Drive
Westlake Village, CA 91361
Facsimile: (818) 706-1391
E-mail: john@wlv.org

Contractor:

Facsimile: (____) _____
E-mail: _____

12.2 Litigation. This Agreement shall be governed by the laws of the State of California. In the event that litigation arises from any dispute between the parties as to their respective rights and duties under this Agreement, venue shall be Los Angeles County and the prevailing party shall be entitled to recover its reasonable attorneys' fees and expenses.

12.3 Rules of Interpretation. This Agreement shall be deemed to have been jointly prepared by City and Contractor, and any ambiguities herein shall not be construed for or against either party.

12.4 Required Provisions Deemed Inserted. Each and every provision of law and clause required by law to be inserted in the Contract Documents shall be deemed to be inserted and the Contract Documents shall be read and enforced as though such provision were included. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon application of either party the Contract Documents shall promptly be physically amended to make such insertion or correction.

12.5 Assignment. This Agreement shall be binding on successors, assigns and legal representatives of the persons in privity of contract with City or Contractor. Neither party shall assign or transfer an interest in this Agreement or any part hereof without written consent of the other.

12.6 No Third Party Beneficiary. This Agreement is not intended or designed to create any benefit or right for any person or entity of any kind that is not a party to this Agreement.

12.7 No Waiver. The acceptance of any portion of the Work or the payment of any money by City shall not operate as a waiver of any provision of this Agreement or of any right to damages or indemnity stated in this Agreement.

12.8 Severability. In case a provision of this Agreement is held to be unenforceable by a court of competent jurisdiction, the enforceability of the remaining provisions shall not be affected.

12.9 Integration. This Agreement (including the Construction Documents and Exhibit A) represents the entire contract between City and Contractor and supersedes

any prior negotiations, representations or contracts, whether oral or written. Except as allowed by Section 7 above, this Agreement may be amended only by written instrument signed by both City and Contractor, and authorized by the Westlake Village City Council.

12.10 Counterparts. This Agreement may be executed in any number of original counterparts. Any such counterpart, when executed, shall constitute an original of this Agreement, and all such counterparts together shall constitute one and the same.

TO EFFECTUATE THIS AGREEMENT, the parties have caused their duly authorized representatives to execute this Agreement by signing below.

“City”
City of Westlake Village

“Contractor”

By: _____
Ned E Davis, Mayor

By: _____

Date: _____

Title: _____

Attest:

By: _____

By: _____
Beth Schott, City Clerk

Title: _____

Approved as to form:

By: _____
Richards, Watson & Gershon
A Professional Corporation

EXHIBIT A

Insurance Requirements

I. Coverage Level Requirements

Contractor shall obtain and maintain insurance having at least the following limits of liability:

- (a) \$1,000,000 for each occurrence (combined single limit for bodily injury and property damage).
- (b) \$2,000,000 general aggregate (combined for bodily injury and property damage).

II. Miscellaneous Requirements

Primary insurance shall be provided on ISO-CGL form No. CG 00 01 11. All coverages for City and its officers, employees and agents shall be added as additional insured using ISO additional insured endorsement form CG 20 10 07 04 or its equivalent. Coverage shall apply on a primary non-contributing basis in relation to any other insurance or self-insurance, primary or excess, available to City or its officers, employees or agents. Coverage shall not be limited to the vicarious liability or supervisory role of any additional insured. Coverage shall be provided on a "pay on behalf" basis, with defense costs payable in addition to policy limits. There shall be not cross liability exclusion. Policies shall have concurrent starting and ending dates.

III. Automobile Coverage

- (a) \$2,000,000 for each occurrence (combined single limit for bodily injury and property damage).

IV. Pollution Liability

- (a) \$2,000,000 for each occurrence (combined single limit for bodily injury and property damage).
- (b) Environmental Impairment Liability Insurance shall be written on a Contractor's Pollution Liability form or other form acceptable to Agency providing coverage for liability arising out of sudden, accidental and gradual pollution and remediation. The policy limit shall be no less than \$1,000,000 dollars per claim and in the aggregate. All activities contemplated in this agreement shall be specifically scheduled on the policy as "covered operations." The policy shall provide coverage for the

hauling of waste from the project site to the final disposal location, including non-owned disposal sites.

- (c) Products/completed operations coverage shall extend a minimum of three years after project completion. Coverage shall be included on behalf of the insured for covered claims arising out of the actions of independent contractors. If the insured is using subcontractors, the Policy must include work performed "by or on behalf" of the insured. Policy shall contain no language that would invalidate or remove the insurer's duty to defend or indemnify for claims or suits expressly excluded from coverage. Policy shall specifically provide for a duty to defend on the part of the insurer. The Agency, its officials, officers, agents, and employees, shall be included as insureds under the policy.

**PERFORMANCE BOND
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

KNOW ALL PERSONS BY THESE PRESENTS that as CONTRACTOR and, a SURETY, are held and firmly bound unto the City of Westlake Village, as AGENCY, in the penal sum of _____ Dollars (\$_____), which is one hundred (100) percent of the total contract amount for the above stated project, for the payment of which sum, CONTRACTOR and SURETY agree to be bound for themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, whereas CONTRACTOR has been awarded and is about to enter into the Contract Agreement with AGENCY for the above stated project, if CONTRACTOR faithfully performs and fulfills all obligations under the contract documents in the manner and time specified therein, and shall indemnify and hold harmless AGENCY and its officers, agents, and employees as specified therein, then this obligation shall be null and void, otherwise it shall remain in full force and effect in favor of AGENCY; provided that any alterations in the obligations or time for completion made pursuant to the terms of the contract documents shall not in any way affect or release either CONTRACTOR or SURETY, and notice of such alterations is hereby waived by SURETY. In case suit is brought upon this bond, SURETY agrees to pay all court costs and reasonable attorney's fees to the owner in an amount to be fixed by the court. SURETY hereby waives the provisions of California Civil Code Sections 2845 and 2849.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this day of _____, 20_____.

CONTRACTOR*

BY:

SURETY*

BY:

_*Provide CONTRACTOR/SURETY name, address and telephone number and the name, title, address and telephone number for authorized representative. All signatures must be acknowledged before a notary public. Attach appropriate acknowledgment. Evidence of the authority of any person signing as attorney-in-fact must also be attached.

(EXECUTE IN DUPLICATE)

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**MAINTENANCE BOND
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

KNOW ALL PERSONS BY THESE PRESENTS that, as CONTRACTOR and, a SURETY, are held and firmly bound unto the City of Westlake Village, as AGENCY, in the penal sum of _____ Dollars (\$_____), which is ten (10) percent of the total contract amount for the above stated project, for the payment of which sum, CONTRACTOR and SURETY agree to be bound for themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, whereas CONTRACTOR has been awarded the Contract Agreement with AGENCY for the above stated project, if CONTRACTOR faithfully performs and fulfills all maintenance, warranty, repair and replacement obligations under the contract documents in the manner and time specified therein, and shall indemnify and hold harmless AGENCY and its officers, agents, and employees as specified therein, then this obligation shall be null and void, otherwise it shall remain in full force and effect in favor of AGENCY; provided that any alterations in the obligations or time for completion made pursuant to the terms of the contract documents shall not in any way affect or release either CONTRACTOR or SURETY, and notice of such alterations is hereby waived by SURETY. In case suit is brought upon this bond, SURETY agrees to pay all court costs and reasonable attorneys' fees to the owner in an amount to be fixed by the court. SURETY hereby waives the provisions of California Civil Code Sections 2845 and 2849.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this day of _____, 20_____.

CONTRACTOR*

BY:

SURETY*

BY:

*Provide CONTRACTOR/SURETY name, address and telephone number and the name, title, address and telephone number for authorized representative. All signatures must be acknowledged before a notary public. Attach appropriate acknowledgment. Evidence of the authority of any person signing as attorney-in-fact must also be attached.

(EXECUTE IN DUPLICATE)

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**PAYMENT BOND
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

WHEREAS, the City of Westlake Village, as AGENCY has awarded to _____ as Contractor, a contract for the above stated project. AND WHEREAS, said Contractor is required to furnish a bond in connection with said contract, to secure the payment of claims of laborers, mechanics, material persons, and other persons as provided by law;

NOW THEREFORE, we, the undersigned Contractor and Surety, are held and firmly bound unto AGENCY in the sum of _____ Dollars (\$) _____ which is one hundred (100) percent of the total contract amount for the above stated project, for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said CONTRACTOR, its heirs, executors, administrators, successors, assigns or subcontractors, shall fail to pay any of the persons named in Section 3181 of the California Civil Code, or any amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to work or labor performed under the Contract, Surety will pay for the same in an amount not exceeding the penal sum specified in this bond; otherwise, this obligation shall become null and void.

This bond shall inure to the benefit to any of the persons named in Civil Code Section 3181 so as to give a right of action to such persons or their assigns in any suit brought upon this bond. In case suit is successfully brought upon this bond, Surety further agrees to pay all court costs and reasonable attorneys' fees in an amount fixed by the court.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said agreement or the specifications accompanying same shall in any manner affect its obligations under this bond. The surety hereby waives notice of any such change, extension, alteration or addition and hereby waives the requirements of Sections 2845 and 2849 of the Civil Code.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this _____ day of _____, 20_.

CONTRACTOR*

BY:

SURETY*

BY:

*Provide CONTRACTOR/SURETY name, address and telephone number and the name, title, address and telephone number for authorized representative. Signatures must be acknowledged before a notary public. Attach appropriate acknowledgment form. Also, evidence of the authority of any person signing as attorney must be submitted.

(EXECUTE IN DUPLICATE)

**CITY OF WESTLAKE VILLAGE
GENERAL SPECIFICATIONS**

SECTION 0 – GENERAL PROVISIONS

0-1 STANDARD SPECIFICATIONS

Except as hereinafter provided, the provisions of the 2009 edition of the "Green Book," Standard Specifications for Public Works Construction (SSPWC) with the latest Supplements, prepared and promulgated by the Southern California Chapters of the American Public Works Association and the Associated General Contractors of America and these modifications thereto are adopted as the Standard Specifications for the Agency. They will be referred to in the Special Provisions as the "Standard Specifications".

The Standard Specifications set forth above will control the general provisions, construction materials, and construction methods for this contract, except as amended by the Plans, Special Provisions, or other contract documents. The following provisions are supplementary and in addition to the provisions of the Standard Specifications unless otherwise noted. Only those sections requiring elaboration, amendments, specifying of options or additions are called out.

0-2 NOTIFICATION

The Contractor shall notify the City Engineer and the owners of all utilities and substructures not less than 48 hours prior to starting construction. The following list of names and telephone numbers is intended for the convenience of the Contractor and is not guaranteed to be complete or correct:

CITY OF WESTLAKE VILLAGE
Attention: Mr. John Knipe (818) 706-1613

AT&T (TRANSMISSION)
Attention: Mr. Walter Werstiuk (Transmission) (714) 963-7964
Ms. Rosemary Burnett (Local) (626) 570-5454
Repair Center 611

THE GAS COMPANY
Attention: Mr. Eric Eng (Distribution) (818) 701-3326
Mr. Sam Sifuentes (Transmission) (818) 701-3448

SOUTHERN CALIFORNIA EDISON
Attention: Mr. Conrad Reynado (818) 494-7065

LAS VIRGENES MUNICIPAL WATER DISTRICT
Attention: Mr. Doug Barrow (818) 251-2100

TIME WARNER
Attention: Mr. Paul Georgia (805) 477-4427

LA COUNTY DEPT. OF HEALTH SERVICES
Attention: Bob Saleh (818) 880-4121

LA COUNTY DEPT. LUMINAIRE FLOOD CONTROL
Attention: Mr. Dennis Hunter (818) 896-0594

UNDERGROUND SERVICE ALERT (800) 227-2600

0-3 EMERGENCY INFORMATION

The names, addresses, and telephone numbers of the Contractor, subcontractors, or their representatives, shall be filed with the Engineer prior to beginning work.

0-4 ENVIRONMENTAL PROVISIONS

The Contractor shall, as appropriate, comply with all provisions of Public Contracts Code Section 7104 (SB1470). The requirements of this code are summarized as follows:

In the event Contractor is required to dig any trench or excavation that extends deeper than 4 feet below the surface in order to perform the work authorized under this contract, Contractor agrees to promptly notify Agency in writing and before further disturbing the site if any of the conditions set forth below are discovered:

1. Materials that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law.
2. Subsurface or latent physical conditions at the site differing from those indicated.
3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in the work of the character provided for in this Contract.
 - a. Agency agrees to promptly investigate the conditions, and if Agency finds that the conditions do materially differ, or do involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the work, shall issue a change order under the procedures described in this Contract.
 - b. That, in the event a dispute arises between Agency and Contractor as to

whether the conditions materially increase in Contractor's cost of, or time required for, performance of any part of the work, Contractor shall not be excused from any scheduled completion date provided for in this Contract, but shall proceed with all work to be performed under the Contract. Contractor shall retain any and all rights provided either by this contract or by law, which pertain to the resolution of disputes and protests between contracting parties.

SECTION 1 - DEFINITIONS AND TERMS

1-2 TERMS AND DEFINITIONS

AGENCY: City of Westlake Village

CITY: City of Westlake Village

Board: City Council of the City of Westlake Village

Caltrans: State of California, Department of Transportation

County: County of Los Angeles

Engineer: The City Engineer of the City of Westlake Village, Willdan Engineering or an authorized representative

Federal: United States of America

Contractor: The word Contractor is implemented by adding thereto the following:

The term Contractor means Contractor as defined herein or an authorized representative.

Acceptance--The formal written acceptance by the Agency of a project which has been completed in all respects in accordance with the plans and specifications and any modifications thereof.

Due Notice--A written notification, given in due time, of a proposed action where such notification is required by the contract to be given a specified interval of time (usually 48 hours or two working days) prior to the commencement of the contemplated action.

Prompt--The briefest interval of time required for a considered reply, including time required for approval by a governing body.

State Standard Specifications (SSS)--Standard Specifications prepared by the State of California, Business and Transportation Agency, Department of Transportation.

State Standard Plans (SSP)--Standard Plans prepared by State of California, Business and Transportation Agency, Department of Transportation.

Working Days--A working day is defined as any day, except Saturdays, Sundays, legal holidays on which Westlake Village City Hall is closed for business and except days when work is suspended by the Engineer for reasons unrelated to the performance of the contractor, and provided in Subsections 6-3 and 6-3.1 and days determined to be non-working in accordance with Section 6-7 "Time of Completion".

1-3.3 INSTITUTIONS

Add the following:

AAN	American Association of Nurserymen
ACI	American Concrete Institute
AGCA	Associated General Contractors of America
APWA	American Public Works Association
ASME	American Society of Mechanical Engineers
CRSI	Concrete Reinforcing Steel Institute
CSI	Construction Specifications Institute
IEEE	Institute of Electric and Electronic Engineers
NEC	National Electric Code
NFPA	National Fire Protection Association
SSS	State of California Standard Specifications, latest edition, Department of Transportation
SSP	State of California Standard Plans, latest edition, Department of Transportation.
SSPWC	Standard Specifications for Public Works Construction, as specified in Subsection 0-1
NEMA	National Electrical Manufacturers Association

SECTION 2 – SCOPE AND CONTROL OF WORK

The following Section shall be added:

2-1 AWARD AND EXECUTION OF THE CONTRACT

The following paragraph of the Standard Specifications is hereby amended to include the following:

The bidder shall examine carefully the entire site of the work, including but not restricted to the conditions and encumbrances related thereto, the Plans and Specifications, and the proposal and contract forms therefore. The submission of a bid shall be conclusive evidence that the bidder has investigated and is satisfied as to the conditions to be

encountered, as to the character, quality, and scope of the work to be performed, the quantities of material to be furnished and as to the requirements of the proposal, Plans, Specifications, and the contract.

The Agency reserves the right to waive any irregularities.

A corporation to which an award is made may be required, before the Contract agreement is executed by the Agency, to furnish evidence of its corporate existence, of its right to enter into contracts in the State of California, and that the officers signing the contract and bonds for the corporation have the authority to do so.

2-3 SUBCONTRACTS

2-3.1 GENERAL

Delete the third paragraph and replace with the following:

Subcontracting of work for which no Subcontractor was designated in the original Bid, and which is more than one-half of one percent of the Work, will be allowed only in cases of public emergency or necessity, and then only after a finding by the Engineer reduced to writing as to the circumstances constituting the emergency or necessity.

Delete the fourth paragraph and replace with the following:

The Contractor must have a written consent of the City Council to substitute a Subcontractor other than was designated in the original Bid, to permit any subcontract to be assigned or transferred, or to allow a subcontract to be performed by other than the original Subcontractor.

Delete the fifth paragraph and replace with the following:

A violation of any of the above provisions will be considered a violation of the Contract, and the City may cancel the Contract and collect appropriate damages or assess the Contractor a penalty of not more than ten (10) percent of the subcontract involved.

Add the following:

When subcontracted work is not being prosecuted in a satisfactory manner, the Contractor will be notified to take corrective action. The Engineer may report the facts to the City Council. If the City Council so orders, and on receipt by the Contractor of written instructions from the Engineer, the Subcontractor shall be removed immediately from the Work. He/she shall not again be employed on the Work.

2-3.2 STATUS OF SUBCONTRACTORS

Delete the paragraph and replace with the following:

All persons engaged in the Work, including Subcontractors and their employees, will be considered as employees of the Contractor. The Contractor will be held responsible for their work. The Agency will deal directly with, and make all payments to the Contractor.

Maintenance Bond and shall remain in force for one (1) year in accordance with guarantee required by Subsection 4-1.1 and Subsection 6-8.1.

All Bonds Must Be Accompanied By the Power Of Attorney

2.4 CONTRACT BONDS

The following paragraph of the Standard Specifications is hereby amended to include the following:

The Faithful Performance Bond shall remain in force until the date of recordation of the Notice of Completion. The Payment (Material and Labor) Bond shall remain in force until 60 days after the date of recordation of the Notice of Completion. The Maintenance Bond shall remain in force for One Year after the date of recordation of the Notice of Completion.

2-4.1 EXECUTION OF CONTRACT

The following paragraph of the Standard Specifications is hereby added to Section 2-4:

Within 10-workings days after the date of the AGENCY's notice of award, the Contractor shall execute and return the following contract documents to the AGENCY:

- Contract Agreement (In Triplicate)
- Performance Bond (In Triplicate)
- Maintenance Bond (In Triplicate)
- Payment Bond (In Triplicate)
- Public Liability and Property Damage Insurance Certificate (One Original)
- Worker's Compensation Insurance Certificate (One Original)

Failure to comply with the above will result in annulment of the award and forfeiture of the Proposal Guarantee.

The Contract Agreement shall not be considered binding upon the AGENCY until executed by the authorized AGENCY officials.

A corporation to which an award is made may be required, before the Contract Agreement is executed by the AGENCY, to furnish evidence of its corporate existence, of its right to

enter into contracts in the State of California, and that the officers signing the contract and bonds for the corporation have the authority to do so.

2-5 PLANS AND SPECIFICATIONS

2-5.5 Record Drawings:

All corrections on record drawings shall be done in red ink. Record drawings shall be a control set of the construction plans kept on the site for daily recording of "as built" conditions. Show dimensioned location of all buried facilities, such as drains, sumps, pipe, valves, electrical conduit, and irrigation wire.

Dimensions must be taken from above ground permanent, architectural objects, not plants or irrigation heads. All dimensions, notes, etc., shall be eligible.

Record drawing shall be reviewed prior to all progress payment requests, and submitted prior to final inspection.

The following paragraph of the Standard Specifications is hereby added to Section 2-9:

2-9 SURVEY

Delete Section 2-9.2. Add the following:

The Contractor shall be responsible for all survey and layout of work.

The line and grades for construction will be parallel to and offset from the position of the work. From the established lines and grades, the Contractor shall extend the necessary lines and grades for construction of the work and shall be responsible for the correctness of same.

For this improvement work, the Contractor shall furnish all labor, equipment, and services, and be responsible for all surveying, staking, and layout necessary for the improvements. In the event of a substantial discrepancy between information shown on the Plans and actual field conditions, the Contractor shall cease any affected work and notify the Engineer at that time. Following receipt and review of this information, the Engineer will then provide direction and authority to proceed. Consequently, any reference to the Engineer providing such services in Subsection 2-9 shall be disregarded.

The following paragraph of the Standard Specifications is hereby added to Section

2-9:

2-9.5 PLANS AND WORKING DRAWINGS

The Contractor shall maintain a control set of Plans and Specifications on the project site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show the as-built conditions. Upon completion of all work, the Contractor shall return the control set to the Engineer. Final payment will not be made until this requirement is met.

2-11 INSPECTION

Add the following:

The Agency shall provide inspection for an 8-hour day and 40-hour week on normal working days. The Contractor shall reimburse the Agency at rates established by the Agency for inspection in excess to the foregoing, including legal holidays.

The following paragraph of the Standard Specifications is hereby added to Section 2:12

2-12 REMOVAL OF REJECTED AND UNAUTHORIZED WORK

The Contractor and all subcontractors, suppliers, and vendors shall guarantee that the entire work will meet all requirements of this contract as to the quality of materials, equipment, and workmanship. The Contractor, at no cost to the AGENCY, shall make any repairs or replacements made necessary by defects in materials, equipment, or workmanship that become evident within 1 year after the date of recordation of the Notice of Completion. Within this 1-year period, the Contractor shall also restore to full compliance with the requirements of this contract any portion of the work which is found to not meet those requirements. The Contractor shall hold the AGENCY harmless and defend and indemnify the AGENCY from claims of any kind arising from damages due to said defects or non-compliance. The Contractor shall make all repairs, replacements, and restorations within 30 days after the date of the Engineer's written notice.

SECTION 3- CHANGES IN WORK

3-3.2.3 MARKUP

Add the following after part b):

Pursuant to subparts a) and b) above, Contractor's mark-up shall not exceed 12%.

3-4 CHANGED CONDITIONS

Add the following:

The Contractor shall notify the Engineer of the following Work site conditions (hereinafter called "changed conditions"), within ten (10) calendar days, by written notice, upon their discovery and before they are disturbed

SECTION 4 – CONTROL OF MATERIALS

The following paragraph of the Standard Specifications is hereby added to Section 4-1.3.3:

4-1.3.3 Inspection by the Agency

Except as elsewhere specified, the AGENCY will bear the cost of testing material and/or workmanship which meet or exceed the requirements indicated in the Standard Specifications and the Special Provisions. The cost of all other tests, including the retesting of material or workmanship that fails to pass the first test, shall be borne by the Contractor.

4-1.6 TRADE NAMES OR EQUALS

Delete the fourth sentence of the second paragraph and replace with the following:

Approval of equipment and materials offered as equivalents to those specified must be obtained prior to the opening of bids as set forth in the Instructions to Bidders.

5-1 LOCATION

Add the following:

The location and existence of any underground utility or substructure was obtained from a search of available records. No guarantee is made or implied that the information is complete or accurate and the Contractor shall not rely on that information. It shall be the Contractor's responsibility alone to determine the exact location of underground utilities or substructures of every nature and to protect them from damage.

The Contractor shall notify the owners of all utilities and substructures as set forth in the Standard Specifications.

5-2 PROTECTION

Delete the following text from the last sentence of the fourth paragraph of Section 5-2: "if located as noted in 5-1".

5-4 RELOCATION

Delete the second sentence of the fourth paragraph and replace with the following:

When not otherwise required by the plans and specifications and when directed by the Engineer, the Contractor shall arrange for the relocation of service connections as necessary between the meter and property line, or between the meter and limits of construction.

SECTION 6 –PROSECUTION, PROGRESS, AND ACCEPTANCE OF WORK

6-1 CONSTRUCTION, SCHEDULE AND COMMENCEMENT OF WORK

Add the following:

Prior to issuing the Notice to Proceed, the Engineer will schedule and conduct a preconstruction meeting with the Contractor to review the proposed construction schedule and delivery dates, arrange utility coordination, discuss construction methods, and clarify inspection procedures.

The contractor is required to bring to the preconstruction meeting, the Contractor's Project Manager, Project Superintendent, and Field Foreman. These positions are subject to the City's review and approval. Any changes in these positions are subject to City approval. Contractor will submit prior to or at the preconstruction meeting the following submittals;

- Project Schedule - showing critical path
- Traffic Control Plan
- Storm Water Pollution Prevention Plan
- 24 hour emergency contact list

Contractor shall ensure that an employee at the level of a foreman or supervisor will be present at the site of the project each working day.

6-2 PROSECUTION OF WORK

Add the following:

The Contractor shall submit monthly progress reports to the Engineer by the 25th day of each month. The report shall include an updated construction schedule. Any deviations from the original schedule shall be explained. Progress payments will be withheld pending receipt of any outstanding reports.

6-6 DELAYS AND EXTENSION OF TIME

Delete the title and text of Section 6-6.4 and replace it with the following:

6-6.4 WRITTEN NOTICE AND REPORT

Requests for an extension of time must be delivered to the Agency within ten (10) consecutive calendar days following the date of the occurrence which caused the delay. The request must be submitted in writing and must state the cause of the delay, the date of the occurrence causing the delay, and the amount of additional time requested. This shall be included as part of a revised construction schedule required in Section 6-1. Requests for extensions of time shall be supported by all evidence reasonably available or known to the Contractor which would support the extension of time requested. Requests for extensions of time which are not received within the time specified above shall result in the forfeiture of the Contractor's right to receive any extension of time requested.

If the Contractor is requesting an extension of time because of weather, he/she shall supply daily written reports to the Agency's representative describing such weather, and the work which could not be performed that day because of such weather or conditions resulting therefrom and which he otherwise would have performed.

6-8 COMPLETION AND ACCEPTANCE

The following subsection is added to Subsection 6-8 of the SSPWC.

6-8.1 General Guaranty

The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the work unless a longer period is specified. The Agency will give notice of observed defects with reasonable promptness.

6-9 LIQUIDATED DAMAGES

Delete the title and text of Section 6-9 and replace with the following:

6-9 FORFEITURE DUE TO DELAY

The Contractor shall complete all or any designated portion of the Work called for under the Contract within the time set forth in Part C (Proposal) of these Specifications.

In accordance with Government Code 53069.85, and all other applicable law, the Contractor agrees to forfeit and pay the Agency the amount shown in the proposal for each and every day of unauthorized delay beyond the completion date, which shall be deducted from any monies due the Contractor. This payment shall be considered liquidated damages. Contractor agrees that such liquidated damages are reasonable under the circumstances existing at the time of execution of the contract, that such liquidated damages are to compensate Agency for losses that are difficult to measure and that such damages are not a penalty.

Failure of the Contractor to perform any covenant or condition contained in the Contract Documents within the time period specified shall constitute a material breach of this Contract entitling the Agency to terminate the Contract unless the Contractor applies for, and receives, an extension of time in accordance with the procedures set forth in Section 6-6.

Failure of the Agency to insist upon the performance of any covenant or conditions within the time period specified in the Contract Documents shall not constitute a waiver of the Contractor's duty to complete performance within the designated periods unless the Agency has executed a waiver in writing. The Agency's agreement to waive a specific time provision or to extend the time for performance shall not constitute a waiver of any other time provision contained in the Contract Documents.

Failure of the Contractor to complete performance promptly within the additional time authorized in a waiver or extension of time agreement shall constitute a material breach of this Contract entitling the Agency to terminate this agreement.

The Contractor shall not be deemed in breach of this Contract and no forfeiture due to delay shall be made because of any delays in the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor provided the Contractor requests an extension of time in accordance with the procedures set forth in Section 6-6. Unforeseeable causes of delay beyond the control of the Contractor shall include acts of God, acts of a public enemy, acts of the government, acts of the Agency, or acts of another contractor in the performance of a contract with the Agency, fires, Luminare Floods, epidemics, quarantine restrictions, strikes, freight embargoes, and weather, or delays of subcontractors due to such causes, or delays caused by failure of the owner of a utility to provide for removal or relocation of existing utility facilities. Delays caused by actions or neglect of Contractor or his/her agents, servants, employees, officers, subcontractors, directors, or of any party contracting to perform part of all of the Work or to supply any equipment or materials shall not be excusable delays. Excusable delays (those beyond the Contractor's control) shall not entitle the Contractor to any additional compensation. The sole recourse of the Contractor shall be to seek an extension of time.

6-11 DISPUTES AND CLAIMS

6-11.1 GENERAL

Any and all decisions made on appeal pursuant to this Subsection 6-11 shall be in writing. Any "decision" purportedly made pursuant to this Subsection 6-11 which is not in writing shall not be binding upon the Agency and should not be relied upon by the Contractor.

Nothing in this subsection shall be considered as relieving the Contractor from his/her duty to file the notice required under Subsection 6-12 or other duties required by the Contract Documents.

6-11.2 ADMINISTRATIVE REVIEW

Request for review made to the Construction Inspector or Project Engineer may be either oral or written. Request for review made to the Deputy City Engineer and City Engineer shall be made in writing with supporting evidence attached.

Each request for review shall be submitted by the Contractor within twenty-one (21) calendar days of receipt of the decision which he/she wishes.

Prior to demand for arbitration, the Contractor shall exhaust his/her administrative remedies by attempting to resolve his/her dispute or claim with Agency's staff in the following sequence:

1. Project Engineer
2. Deputy City Engineer
3. City Engineer

Should the Project Engineer or the Deputy City Engineer fail to address a request by the Contractor for review of a disputed decision within fourteen (14) calendar days after receiving such request, the Contractor may proceed directly to the City Engineer. At the option of the Agency, the person to whom the request for review is directed may elect to take such request to a higher level and the Contractor's request shall be deemed to be properly submitted to such higher level.

The City Engineer shall address disputes or claims within twenty eight (28) calendar days after receiving such request and all necessary supporting data. The City Engineer's decision on the dispute or claim shall be the Agency's final decision.

6-11.3 ARBITRATION

Claims and disputes arising under or related to the performance of the contract, except for claims which have been released by execution of the "Release on Contract" as provided in Subsection 9-4, shall be resolved in arbitration unless the Agency and the Contractor agree in writing, after the claim or dispute has arisen, to waive arbitration and to have the claim or dispute litigated in court of competent jurisdiction. Arbitration shall be conducted, to the extent feasible, pursuant to Chapter 3 (Sections 301-393, inclusive) of Division 2 of Title 1 of the California Code of Regulations except that references therein to the "State Contract Act" shall be construed to mean "applicable law" and "Public Agency", or "Department" shall be construed to mean "Agency" as defined in Subsection 1.2. The arbitration decision shall be decided under and in accordance with California law, supported by substantial evidence, and in writing, contain the basis for the decision, findings of fact, and conclusions of law.

Arbitration shall be initiated by a Demand for Arbitration. A Demand for Arbitration by the Contractor shall be made not later than one hundred eighty (180) calendar days after the date of the final written decision of the Agency on the claim or dispute.

All contracts valued at more than \$15,000 between the Contractor and his/her Subcontractors and Suppliers shall include a provision that the Subcontractors and Suppliers shall be bound to the Contractor to the same extent that the Contractor is bound to the Agency by all terms and provisions of the Contract, including these arbitration provisions.

6-12 NOTICE OF POTENTIAL CLAIM

The Contractor shall not be entitled to the payment of any additional compensation for any cause, including any act, or failure to act, by the Engineer, or the happening of any event, thing or occurrence, unless the Contractor shall have given the Engineer due notice in writing within ten (10) calendar days of the event, of the potential claim as hereinafter specified, provided, however, that compliance with this Subsection 6-12 shall not be a prerequisite as to any claim which is based on differences in measurements or errors of computation as to the Contract quantities.

Additionally, this Subsection 6-12 shall not supersede the specific notice and protest requirements of Subsection 3-4 "Changed Conditions" and Subsection 6-7.3 "Contract Time Accounting" respectively.

A written notice of potential claim shall set forth the reasons for which the Contractor believes additional compensation will or may be due, the nature of the costs involved, and, insofar as possible, the amount of the potential claim. A notice as above required must have been given to the Engineer prior to the time that the Contractor shall have performed

the Work giving rise to the potential claim for additional compensation, if based on an act or failure to act by the Engineer, or in all other cases within fifteen (15) days after the happening of the event, thing or occurrence giving rise to the potential claim.

It is the intention of this Subsection 6-12 that differences between the parties arising under and by the virtue of the Contract be brought to the attention of the Engineer at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. The Contractor hereby agrees that he/she shall have no right to additional compensation for any claim that may be based on any such act, failure to act, event, thing or occurrence for which no written notice of potential claim as herein required was filed.

SECTION 7 –RESPONSIBILITIES OF THE CONTRACTOR

7-1 CONTRACTORS EQUIPMENT AND FACILITIES

Add the following:

A noise level limit of 85 dba at a distance of fifty (50) feet shall apply to all construction equipment on or related to the job whether owned by the Contractor or not. The use of excessively loud warning signals shall be avoided except in those cases where required

for the protection of personnel.

The Contractor shall arrange and maintain a secure storage site for all equipment and materials. All equipment and unused materials shall be returned to this site at the end of each work day.

7-2 LABOR

7-2.2 LAWS

Delete the last sentence of the second paragraph and replace with the following:

Failure to file any report due under said orders will result in suspension of periodic progress payments.

Add the following:

The Contractor shall ensure unlimited access to the job site for all Equal Opportunity Compliance officers.

Every Contractor and Subcontractor shall keep an accurate record showing the name, occupation, and the actual per diem wages paid to each worker employed by him/her in connection with the public work. The record shall be kept open at all reasonable hours to the inspection of the body awarding the Contract and to the Division of Labor Law Enforcement.

7-1.12 INDEMNIFICATION AND INSURANCE

Section 7-3 is hereby amended to provide the following:

Contractor shall only obtain Special Project Insurance for the following limits of liability:

- (a) \$1,000,000 for each occurrence (combined single limit for bodily injury and property damage).
- (b) \$2,000,000 general aggregate (combined for bodily injury and property damage).

Primary insurance shall be provided on ISO-CGL form No. CG 00 01 11. All coverages for City and its officers, employees and agents shall be added as additional insured using ISO additional insured endorsement form CG 20 10 07 04 or its equivalent. Coverage shall apply on a primary non-contributing basis in relation to any other insurance or self-insurance, primary or excess, available to City or its officers, employees or agents. Coverage shall not be limited to the vicarious liability or supervisory role of any additional insured. Coverage shall

be provided on a “pay on behalf” basis, with defense costs payable in addition to policy limits. There shall be not cross liability exclusion. Policies shall have concurrent starting and ending dates.

All other portions of this Section shall remain valid and in full force.

7-3.1 GENERAL CONTRACTOR and AGENCY agree that AGENCY, its employees, agents and officials should, to the extent permitted by law, be fully protected from any loss, injury, damage, claim, lawsuit, cost, expense, attorneys fees, litigation costs, defense costs, court costs or any other cost arising out of or in any way related to the performance of this Agreement. Accordingly, the provisions of this indemnity provision are intended by the parties to be interpreted and construed to provide the fullest protection possible under the law to the AGENCY. CONTRACTOR acknowledges that AGENCY would not have entered into this Agreement in the absence of the commitment of CONTRACTOR to indemnify and protect AGENCY as set forth here.

7-3.2 To the full extent permitted by law, CONTRACTOR shall defend, indemnify and hold harmless AGENCY, its employees, agents and officials, from any liability, claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged, or threatened, actual attorneys fees incurred by AGENCY, court costs, interest, defense costs including expert witness fees and any other costs or expenses of any kind whatsoever without restriction or limitation incurred in relation to, as a consequence of, arising out of or in any way attributable actually, allegedly or impliedly, in whole or in part to the performance of this Agreement. All obligations under this provision are to be paid by CONTRACTOR as they are incurred by the AGENCY.

7-3.3 Without affecting the rights of AGENCY under any provision of this agreement or this section, CONTRACTOR shall not be required to indemnify and hold harmless AGENCY as set forth above for liability attributable to the sole fault of AGENCY, provided such sole fault is determined by agreement between the parties or the findings of a court of competent jurisdiction.

This exception will apply only in instances where the AGENCY is shown to have been solely at fault and not in instances where CONTRACTOR is solely or partially at fault or in instances where AGENCY's fault accounts for only a percentage of the liability involved. In those instances, the obligation of CONTRACTOR will be all-inclusive and AGENCY will be indemnified for all liability incurred, even though a percentage of the liability is attributable to the conduct of the AGENCY.

7-3.4 CONTRACTOR acknowledges that its obligation pursuant to this section extends to liability attributable to AGENCY, if that liability is less than the sole fault of AGENCY. CONTRACTOR has no obligation under this Agreement for liability proven in a court of competent jurisdiction or by written agreement between the parties to be the sole fault of AGENCY.

7-3.5 The obligations of CONTRACTOR under this or any other provision of this Agreement will not be limited by the provisions of any workers compensation act or similar act. CONTRACTOR expressly waives its statutory immunity under such statutes or laws as to AGENCY, its employees, agents and officials.

7-3.6 CONTRACTOR agrees to obtain executed indemnity agreements with provisions identical to those as set forth here in this section from each and every subcontractor, sub-tier contractor or any other person or entity involved by, for, with or on behalf of CONTRACTOR in the performance or subject matter of this Agreement. In the event CONTRACTOR fails to obtain such indemnity obligations from others as required here, CONTRACTOR agrees to be fully responsible according to the terms of this section.

7-3.7 Failure of AGENCY to monitor compliance with these requirements imposes no additional obligations on AGENCY and will in no way act as a waiver of any rights hereunder. This obligation to indemnify and defend AGENCY as set forth herein is binding on the successors, assigns or heirs of CONTRACTOR and shall survive the termination of this Agreement or this section.

7-3.10 Primary coverage shall be written on ISO Business Auto Coverage form CA 00 01 03 06 including symbol 1 (Any Auto). Limits shall be no less than two million dollars (\$2,000,000.00) per accident. Starting and ending dates shall be concurrent. If CONTRACTOR owns no autos, a non-owned auto endorsement to the General Liability policy drafted above is acceptable.

Contractor shall obtain and maintain an umbrella or excess liability insurance policy that will provide bodily injury, personal injury and property damage liability coverage at least as broad as the primary coverages set forth above, including commercial general liability and employer's liability. Such policy or policies shall include the following terms and conditions:

- A drop down feature requiring the policy to respond in the event that any primary insurance that would otherwise have applied proves to be uncollectable in whole or in part for any reason;
- Pay on behalf of wording as opposed to reimbursement;
- Concurrency of effective dates with primary policies; and
- Policies shall "follow form" to the underlying primary policies.
- Insureds under primary policies shall also be insureds under the umbrella or excess policies.

Workers' Compensation/Employers' Liability shall be written on a policy form providing workers' compensation statutory benefits as required by law. Employers' liability limits shall be no less than one million dollars per accident or disease. Employer's liability coverage shall be scheduled under any umbrella policy described above. Unless otherwise agreed, this policy shall be endorsed to waive any right of subrogation as respects the AGENCY, its officers, agents or employees.

7-8 PROJECT SITE MAINTENANCE

The following is hereby added to the Standard Specifications, Section 7-8.1:

The Contractor shall provide security and facilities to protect the work and existing facilities from unauthorized entry, vandalism, or theft, during all phases of construction. All equipment and material left on the construction site will be left at the Contractors sole risk. The City takes no responsibility or liability for any damage or theft to any equipment and/or material furnished by the Contractor during all phases of construction.

The following is hereby added to the Standard Specifications, Section 7-8.2:

The City Engineer shall, at his sole discretion, determine the need for and type of cleanup of adjacent properties.

The following is hereby added to the Standard Specifications, Section 7-8.6:

7-8.6.1 GENERAL

This item shall consist of preparation, implementation and compliance with a storm water pollution prevention plan (SWPPP) for the project.

7-8.6.2 SWPPP Preparation

Contractor shall submit to the engineer a completed and signed SWPPP at the preconstruction conference. The plan may utilize the practices recommended in the latest California Storm Water Best Management Practices Construction Handbook available at www.casqa.com, and shall be consistent with the State's Construction General Permit Order No. 2009-0009-DWQ, issued by the State Water Resources, Control Board.

If construction will occur between October 1 and April 15 (considered as the rainy season per the Agency's Ordinance), the Best Management Practices (BMPs) implemented shall include but not be limited to those appropriate for wet weather conditions.

7-8.6.3 STORM WATER POLLUTION PREVENTION MEASURES

All storm water pollution prevention measures shall be in accordance with the submitted SWPPP. In the event circumstances during the course of construction require changes to the original SWPPP, a revised plan shall be promptly submitted to the Agency's representative in each instance. No responsibility shall accrue to the Agency as a result of the plan or as a result of knowledge of the plan. All work installed by the contractor in connection with the SWPPP but not specified to become a permanent part of the project shall be removed and the site restored in so far as practical to its original condition prior to completion of construction or when directed by the Agency's representative.

7-8.6.4

Unless otherwise indicated in the Special Provision, measurement and payment for Storm Water Pollution Prevention Measures, as described herein, shall be included in the items of work requiring storm water pollution prevention measures as indicated in the project Special Provisions. Such payment shall be considered full compensation for all labor, materials, tools, and equipment for completion, and implementation and compliance with the SWPPP.

The following is hereby added to the Standard Specifications, Section 7-10:

7-10 PUBLIC CONVENIENCE AND SAFETY

7-10.1 TRAFFIC AND ACCESS

Add the following:

Vehicular and pedestrian access to street intersections, public and private parking lots, commercial businesses, residences, and other public and private properties must be maintained at all times except at locations where the Engineer determines that certain items of work cannot be accomplished without access restriction. At those locations, access restriction shall be limited to the time period required to accomplish the particular item of work. At least 72 hours in advance of starting any work that may affect the access to private properties, the Contractor shall provide written notice to such property owners.

Unless otherwise approved, the Contractor shall maintain at least one lane of traffic in each direction through the project area at all times in a manner satisfactory to the Engineer.

7-10.3 STREET CLOSURE, DETOURS, BARRICADES

Add the following:

7-10.3.1 TRAFFIC CONTROL DEVICES AND PROCEDURES

All traffic control barricades, signs and devices used by the Contractor and all subcontractors, as well as flagging and other Contractor or subcontractor operations, shall, as a minimum, conform to the most recent *Manual on Uniform Traffic Control Devices*, adopted by and in current use by the State of California, Department of Transportation. The Contractor shall take additional precautions as may be necessary under the circumstances.

7-10.3.2 TRAFFIC CONTROL SUBCONTRACTOR REQUIRED

All traffic control for the entire project shall be designed and implemented by one qualified subcontractor that satisfies both of the following criteria: (i) holds an active C31 contractor's license; and (ii) has no involvement with the project other than traffic control

design and implementation. This specification precludes the Contractor from performing traffic control design and implementation even if the Contractor holds an active C31 contractor's license. The Contractor shall acknowledge this requirement and identify the subcontractor in the Contractor's proposal.

If, in the City's sole discretion, the Contractor or subcontractor fails to provide adequate traffic control and the City deems it necessary to call out other forces to provide adequate traffic control, the City will, at its option, provide traffic control it deems appropriate or engage a private firm to provide said traffic control, and all related costs shall be borne by the Contractor.

7-10.3.3 TRAFFIC CONTROL PLAN

The Contractor shall submit a traffic control plan to the City for review and approval prior to the preconstruction meeting, and shall not proceed with the work until the City has reviewed and accepted the plan. **The Contractor must anticipate and provide for a review/revision/approval process of at least 2-3 weeks.**

The traffic control plan shall be prepared by a qualified subcontractor per General Provisions Section 7-10.3.2.

The plan shall indicate in detail how vehicular and pedestrian traffic will be maintained and controlled throughout the construction period. The traffic control plan shall address how traffic control will be set up for deliveries. The traffic control plan for deliveries shall also show or define proposed travel/haul routes; said routes are subject to the Traffic Engineer's approval. The traffic control design shall conform to the most recent *Manual on Uniform Traffic Control Devices*, adopted by and in current use by the State of California, Department of Transportation.

Review of the traffic control plan by the City is only for general conformance with the applicable traffic control standards and guidelines. The City does not assume the responsibility for choosing, placing, and/or maintaining traffic control devices. The Contractor shall be solely responsible for any accidents directly or indirectly related to the implementation of traffic control through work zones.

7-10.3.4 TRAFFIC FLOW

Full street closures will not be allowed without express approval of the Engineer.

Unless otherwise approved, whenever a left turn pocket is closed, the nearest upstream left turn pocket and nearest downstream left turn pocket shall be kept open.

Under no circumstance will the Contractor be allowed to divert traffic to the opposite side of the median.

It is very important to the City to minimize traffic delays, even during night time and other

off-peak periods. Traffic stoppages shall not occur unless approved by the Engineer. If approved, such **stoppages shall not exceed five (5) minutes**. The Contractor shall plan the work tasks and mobilize sufficient labor and material resources to avoid stoppages exceeding this limit.

7-10.3.5 DUMPSTERS AND STORAGE TRAILERS

Dumpsters, storage trailers, and/or roll-off storage boxes shall be allowed to be stored in public right of way only when and where specifically authorized by the Engineer. Unless otherwise approved, the following shall apply:

1. Each dumpster, storage trailer, and/or roll-off box shall be provided with the following safety markings:
 - a) Alternating red and white diamond grade 2-inch wide retroreflective conspicuity tape applied across at least 50% of the exterior sides and across the entire front and back ends.
 - b) Two 2-inch by 12-inch segments of white retroreflective conspicuity tape shall be placed together to form an inverted "L" on the exterior of each upper corner.
2. Dumpsters, storage trailers, and roll-off storage boxes shall be placed as close as possible to the curb and shall not be placed:
 - a) Within 50-feet of an intersection
 - b) Within 15-feet of a fire hydrant
 - c) Within a travel lane unless specifically approved and appropriate safety measures have been implemented.
3. Dumpsters, storage trailers, and roll-off storage boxes will be clean of graffiti at all times.
4. Storage of dumpsters, storage trailers, and/or roll-off storage boxes shall be limited to the minimum time actually needed to support work at the adjacent site.
5. Additional restrictions and/or safety measures may be required at the discretion of the Engineer.

7-10.3.6 NOTIFICATION

Five (5) days prior to the start of construction operations, the Contractor shall notify the Sheriff's Department and Fire Department in whose jurisdiction the project lies, giving the expected starting date, completion date, and the name and telephone number of a responsible person who may be contacted at any hour in the event of a condition requiring immediate correction.

7-12 ADVERTISING

This section is hereby rescinded and replaced with the following:

The names, addresses and specialties of Contractors, Subcontractors, architects or engineers shall not be displayed on any signage within the public right-of-way. This signage prohibition includes advertising banners hung from truck beds or other contractor's equipment.

7-15 ADDITIONAL PROVISIONS

The following is hereby added to the Standard Specifications:

7-15 CONTRACTOR and AGENCY further agree as follows:

- 15.1 This Section supersedes all other sections and provisions of this Agreement to the extent that any other section or provision conflicts with or impairs the provisions of this Section.
- 15.2 Nothing contained in this Section is to be construed as affecting or altering the legal status of the parties to this Agreement. The insurance requirements set forth in this Section are intended to be separate and distinct from any other provision in this Agreement and shall be interpreted as such.
- 15.3 All insurance coverage and limits provided pursuant to this Agreement shall apply to the full extent of the policies involved, available, or applicable. Nothing contained in this Agreement or any other agreement relating to the AGENCY or its operations limits the application of each insurance coverage.
- 15.4 Requirements of specific coverage features or limits contained in this Section are not intended as a limitation on coverage, limits or other requirements, or a waiver of any coverage normally provided by any insurance. Specific reference to a given coverage feature is for purposes of clarification only and is not intended by any party to be all-inclusive, or to the exclusion of other coverage, or a waiver of any type.
- 15.5 For purposes of insurance coverage only, this Agreement shall be deemed to have been executed immediately upon any party hereto taking any steps that can be deemed to be in furtherance of or towards performance of this Agreement.
- 15.6 All general or auto liability insurance coverage provided pursuant to this Agreement, or any other agreements pertaining to the performance of this Agreement, shall not prohibit CONTRACTOR, and Contractors' agents, officers or employees from waiving the right of subrogation prior to a loss. Contractor hereby waives all rights of subrogation against AGENCY.

- 15.7 Unless otherwise approved by AGENCY, Contractors' insurance shall be written by insurers authorized to do business in the State of California and with a minimum "Best's" Insurance Guide rating of "A:VII." Self-insurance will not be considered to comply with these insurance specifications.
- 15.8 In the event any policy of insurance required by this Agreement does not comply with these requirements or is canceled and not replaced, AGENCY has the right but not the duty to obtain the insurance it deems necessary and any premium paid by AGENCY will be promptly reimbursed by CONTRACTOR. Upon Contractors' failure to make such reimbursement within 30 days of written demand, AGENCY may deduct that sum from any monies due CONTRACTOR hereunder or otherwise.
- 15.9 CONTRACTOR agrees to provide evidence of the insurance required herein, satisfactory to AGENCY, consisting of certificate(s) of insurance evidencing all of the coverages required and an additional insured endorsement to Contractors' general liability and umbrella liability policy (if any) using ISO form CG 20 10 07 04. Certificate(s) are to reflect that the insurer will provide 30 days' notice of any cancellation of coverage. CONTRACTOR agrees to require its insurer to modify such certificates to delete any exculpatory wording stating that failure of insurer to mail written notice of cancellation imposes no obligation, and to delete the word "endeavor" with regarding to any notice provisions. CONTRACTOR agrees to provide complete copies of policies to AGENCY upon request.
- 15.10 CONTRACTOR shall provide proof that policies of insurance required herein expiring during the term of this Agreement have been renewed or replaced with other policies providing at least the same coverage. Such proof shall be furnished within 72 hours of the expiration of the coverages.
- 15.11 Any actual or alleged failure on the part of AGENCY or any other additional insured under these requirements to obtain proof of insurance required under this Agreement in no way waives any right or remedy of AGENCY or any additional insured, in this or any other regard.
- 15.12 CONTRACTOR agrees to require all subcontractors or other parties hired for this project to provide general liability insurance naming as additional insureds all parties as required in Section 7 of this Agreement. CONTRACTOR agrees to obtain certificates evidencing such coverage and make reasonable efforts to ensure that such coverage is provided as required here. CONTRACTOR agrees to require that no contract used by any subcontractor, or contracts CONTRACTOR enters into on behalf of AGENCY, will reserve the right to charge back to AGENCY the cost of insurance required by this Agreement. CONTRACTOR agrees that upon request, all agreements with subcontractors or others with whom CONTRACTOR contracts on behalf of AGENCY will be submitted to AGENCY for review. Failure of AGENCY to request copies of such

agreement will not impose any liability on AGENCY, its officers, agents, or employees.

15.13 If CONTRACTOR is a Limited Liability Company, general liability coverage must be amended so that the Limited Liability Company and its Managers, Affiliates, employees, agents and other persons necessary or incidental to its operations are insureds.

15.14 CONTRACTOR agrees to provide immediate notice to AGENCY of any claim or loss against CONTRACTOR that includes AGENCY as a defendant. AGENCY assumes no obligation or liability by such notice, but has the right (but not the duty) to monitor the handling of any such claim or claims.

7-16 CONSTRUCTION SCHEDULE

Add the following:

At the pre-construction meeting, the Contractor shall submit a complete construction schedule to the Engineer for approval. Requests for changes to the schedule shall be submitted by the Contractor to the Engineer for approval at least forty eight (48) hours prior to the scheduled Work.

SECTION 9- MEASUREMENT AND PAYMENT

9-3 PAYMENT

9-3.2 PARTIAL and FINAL PAYMENT

The following is hereby added to this section:

Delete the last paragraph of this subsection and replace with the following:

The closure date for period progress payments will be the twenty-fifth day of each month. Authorization to pay is commonly received on the second Wednesday of the following month. However, payments will be withheld pending receipt of any outstanding reports required by the Contract Documents. In addition, the final progress payment will not be released until the Contractor returns the control set of plans and specifications showing the as-built conditions.

Each Progress Payment shall be determined based on the value shown for each type of work shown in the List of Values as contained in the Contractor's Bid.

The full ten (5) percent retention will be deducted from all payments. The final retention will be authorized for payment sixty (60) days after the date of recordation of the Notice of Completion.

The Contractor may substitute securities for any monies withheld by the Agency to ensure performance under the Contract as provided in Public Contract Code Sections 10263 and 22300.

Prior to receiving final payment, the Contractor shall execute a "Release on Contract" form which shall operate as, and shall be a release to the Agency, the City Council, and each member of the City Council and their agents, and the Engineer from all claims and liability to the Contractor for anything done or furnished for, or relating to, the work or for any act of neglect of the Agency or of any person relating to or affecting the work, except the claim against the Agency for the remainder, if any there be, of the amounts kept or retained as provided in Subsection 9-3 of the SSPWC and except for any unsettled claims listed on said form which have been filed in compliance with the requirements for making claims.

A payment of \$1.00 will be made to the Contractor for executing this document.

Add the following subsection:

9-3.3 DELIVERED MATERIALS

Materials and equipment delivered but not incorporated into the Work will not be included in the estimate for progress payment.

9-3.4 Mobilization. The following is hereby added to Section 9-3.4 of Standard Specifications:

Up to fifty (50) percent of the mobilization cost shall be paid to the Contractor as part of the first progress payment. The remainder of the mobilization cost shall be paid in even increments over the remaining construction period.

The cost to comply with all requirements of Sections 0-9 inclusive, shown herein or in the Standard Specifications including all Contractor construction survey, shall be included in the Contractor's Mobilization Bid Item and no additional compensation will be allowed therefore.

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Special Provisions

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**WESTLAKE VILLAGE COMMUNITY PARK
PARK IMPROVEMENT PLANS
PHASE 2B - LANDSCAPE & IRRIGATION
WESTLAKE VILLAGE, CA**

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SECTION 01010
SUMMARY OF WORK

PART 1 – GENERAL

- 1.1 Work covered by Contract Documents:
- a. The work covers all site improvements to WESTLAKE VILLAGE COMMUNITY PARK project in Westlake Village, CA. Work includes, but not limited to, landscape planting, automatic irrigation system, 60 day plant establishment period, monument signage, split rail fencing, fitness area, tot lot #2, volleyball area, mowcurbs, decomposed granite trails. 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. All work shall be coordinated with Electrical, Phase 2B Park Improvements, and Phase 2C Contractor's.
- 1.2 Related Work Specified Elsewhere:
- a. General Conditions, Special Provisions or such other Conditions/Provisions as may be applicable to this Contract and required by the County.
 - b. Construction Schedule: Section 01310
 - c. Schedule of Values: Section 01370
 - d. Temporary Facilities and Controls: Section 01500
 - e. Products and Materials: Section 10600
 - f. Landscape Planting: Section 02900
- 1.3 Contractor's Duties:
- a. Comply with codes, ordinances, rules, regulations orders, and other legal requirements of public authorities which bear on performance of work.
- 1.4 Testing:
- a. The City will 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.
- 1.5 Allotted Working Space:
- a. A reasonable space will be assigned. All materials and equipment shall be kept within this space with no liability to the City.
 - b. Provide temporary chain link fence and gate construction barricade to remain in operation during new project, as indicated on the drawings or instructed by City Inspector.
 - c. All existing utilities serving above-noted temporary facilities shall remain in place and fully operational until their removal is allowed and will not hinder their operation.
- 1.6 Bid Schedule/Bid Form
- a. Per Section 1.9, the contractor's bid schedule shall NOT take precedence over the construction drawings and specifications (contract drawings).

- b. Contractor RFI for bid items shall be submitted to City 5 working-days prior to bid opening date.
- c. City/Agency acceptance of bid schedule by contractor does not relieve contractor from providing what is detailed on the Contract Drawings.

1.7 Owner-furnished, Owner-installed work

- a. Items shown on the Drawings as Owner-Furnished, Owner-Installed shall be furnished by the Owner and installed by the Owner. Work indicated as Owner-Furnished, Owner -Installed will be performed under separate Contract, employed by the Owner at its discretion
- b. Where work of this Contract adjoins or conflicts with Owner-Furnished, Owner-Installed work, the Contractor shall cooperate with the Owner and its employees in a manner which will provide for a reasonable and accurate completion of this Contract and work under separate Contract.

1.8 Owner-furnished, Contractor-installed work

- a. The Contractor shall verify exact sizes and services required for each item of equipment indicated on the Drawings or in the Project Manual as Owner-Furnished, Contractor-Installed and shall obtain from the Owner rough-in drawings, diagrams, setting templates, and other necessary information to assure proper mating of assemblies.
- b. The Contractor shall receive at the project site each item of equipment from the Owner and from that time on, shall assume full responsibility for the items and equipment until one year from Date of Notice of Completion.
- c. The Contractor shall give the Owner 90 days prior notice of the requirement for delivery to the site of all Owner-Furnished, Contractor-Installed equipment.
- d. Contractor shall be responsible for receiving Owner-Furnished, Contractor-Installed items and equipment and shall uncrate, inspect and notify the Owner in writing within 7 days of receiving said items or equipment of the acceptance or rejection of the items or equipment.
 - 1. The Owner, after receiving notice, will take appropriate action to have the items or equipment made acceptable for the Contractor's use.
 - 2. Rejected items shall be carefully stored and protected from damage by the Contractor until the Owner takes appropriate action.
- e. The Contractor shall be responsible for final placing, installation, connection, start-up, checking, testing and demonstrated satisfactory operation.
- f. The Owner will provide names of manufacturer's representatives, who shall assist the Contractor in checking, testing and demonstrating the equipment.

1.9 Current Contract Documents

- a. Order of Precedence:
 - 1. Change Orders, Supplemental Agreements and Approved Revisions to Plans and Specifications.
 - 2. Agreement.
 - 3. Addenda.
 - 4. Specifications.
 - 5. Plans (Contract Drawings).
 - 6. Contractor's Bid (Bid Forms).

7. Special Provisions (PSA Document).
8. General Conditions (City Document).
9. Standard Specifications for Public Works Construction (Greenbook).
10. Notice Inviting Bids.
11. Instructions to Bidders.
12. Standard Plans
13. Reference Documents.

1.10 Contract Drawings

- a. The Drawings provided with and identified in the Project Manual are the Drawings referenced in the Agreement.
- b. The location, extent and configuration of the required construction and improvements are shown and noted on Drawings. The Drawings may be referenced in the Agreement. An index of Drawings is included on the title page of the Drawings.
- c. Drawings are arranged into series according to design discipline. Such organization and all references to trades, sub-contractors, specialty contractors or suppliers shall not control the Contractor in assigning the Work among sub-contractors or in establishing the extent of the work to be performed by any trade.
- d. Where the terms “as shown,” “as indicated,” “as noted,” “as detailed,” “as scheduled,” or terms of like meaning are used in the Drawings or Specifications, it shall be understood that reference is being made to the Drawings referenced in the Agreement.
- e. Where reference to the word “plans” is made anywhere in Drawings, Specifications and related Contract Documents, it shall be understood to mean the Drawings referenced in the Agreement.

1.11 Contract Specifications

- a. The Specifications provided in the Project Manual are the Specifications as may be referenced in the Agreement.
- b. Specifications are organized by Divisions and Sections in accordance with the recommended practices of the Construction Specifications Institute. Such organization shall not control the Contractor in assigning the work among subcontractors or in establishing the extent of work to be performed by any trade.
- c. Specifications are included in the Project Manual, which also may include other documents related to the project, including, but not limited to, Information For Bidders, Proposal Form or Bid Form, Agreement, Certifications and Attachments, Soils and Geotechnical Data, Sample Forms and Schedules.

1.12 General Construction Considerations

- a. Provide all Work identified in Divisions 2 through 16 except Work specifically assigned to other Contractors as may be specified or directed by the Owner.

1.13 Maintenance of Existing Plantings:

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

1.14 Not in Contract:

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

1.15 Limits of Work:

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

PART 2 – PRODUCTS

Not used

PART 3 – EXECUTION

Not used

END OF SECTION - 01010

SECTION 01030 –
BASE BID AND PHASED CONSTRUCTION

PART I - GENERAL

1.1 SUMMARY

- A. The contractor shall review and become familiar with pertinent specifications affected by listed phase construction bid items.
 - a. Phase 2B – Landscape planting, Irrigation, Split rail fencing, decomposed granite trail, Entry Monument Sign, fitness area, tot lot #2, volleyball area, and miscellaneous landscaping at various locations throughout the entire project site. A full list of work items is included in section 4.3.B of this specification and also included in the bid schedule.
 - b. Phase 2C - All work in this Phase will be performed by Hellas, Inc.
- B. Coordinate pertinent related work with other on-site contractors and modify surrounding work as required to complete this work as well as maintain cooperation with other on-site contractors on the project. This cooperation applies to each bid item designated.
- C. The bidding contractor shall review all drawings and related specification sections pertaining to each part of the phased construction plan.

PART 2 – BASE BID

2.1 Summary Notes for Construction Items.

- A. This items below are a partial list and is no way a complete list of all the construction activities and/or amenities associated with the entire project. Contractor shall review complete specifications and construction drawings for applicable construction items associated with the respective bid items contained in the Bid Schedule.

2.2 Description of Construction Related Items

- A. Items considered as base bid, as follows but not limited to;
 - 1. Park Amenities, including but not limited to;
 - a. Split rail Fencing – west field and skate park road
 - b. Decomposed granite trail
 - c. Entry Monument sign
 - d. Tot Lot #2
 - e. Fitness Area
 - f. Volleyball Area
 - 2. Sports Fields #1, (Westside); including but not limited to;
 - a. Landscape Planting
 - b. Irrigation System
 - 3. Soccer Fields (Eastside), including but not limited to;
 - a. Landscape Planting
 - b. Irrigation System
 - 4. Site Utilities, including but not limited to;
 - a. Irrigation POC
 - b. Storm drain POC

5. Landscape Areas, including but not limited to;
 - a. Trees, Shrubs, groundcovers
 - b. Mulch, tree ties, stakes, root barriers
 - c. Irrigation System
 - d. Fertilizing, soil amendments, etc.
 - e. Maintenance Period
 - f. Plant Establishment Period
 - g. Twice wire installation to central controllers

PART 3 – OWNER FURNISHED, CONTRACTOR INSTALLED

3.1 Owner-furnished, Contractor-installed work

- a. The Contractor shall verify exact sizes and services required for each item of equipment indicated on the Drawings or in the Project Manual as Owner-Furnished, Contractor-Installed and shall obtain from the Owner rough-in drawings, diagrams, setting templates, and other necessary information to assure proper mating of assemblies.
- b. The Contractor shall receive at the project site each item of equipment from the Owner and from that time on, shall assume full responsibility for the items and equipment until one year from Date of Notice of Completion.
- c. The Contractor shall give the Owner 90 days prior notice of the requirement for delivery to the site of all Owner-Furnished, Contractor-Installed equipment.
- d. Contractor shall be responsible for receiving Owner-Furnished, Contractor-Installed items and equipment and shall uncrate, inspect and notify the Owner in writing within 7 days of receiving said items or equipment of the acceptance or rejection of the items or equipment.
 1. The Owner, after receiving notice, will take appropriate action to have the items or equipment made acceptable for the Contractor's use.
 2. Rejected items shall be carefully stored and protected from damage by the Contractor until the Owner takes appropriate action.
- e. The Contractor shall be responsible for final placing, installation, connection, start-up, checking, testing and demonstrated satisfactory operation.
- f. The Owner will provide names of manufacturer's representatives, who shall assist the Contractor in checking, testing and demonstrating the equipment.
- g. Contractor shall provide Owner with all technical data, operation manuals, etc. pertaining to all items and equipment for this project.

PART 4 - PHASED CONSTRUCTION

4.1 Summary Notes of phase construction

- A. Bidding Contractor responsible for reviewing Phase 2B Plans – Landscape & Irrigation.

4.2 Phased Utility Construction

- A. All utilities for the respective phased construction area shall be designed per the construction documents for size, depth and location per the overall site plan.

- B. Contractor responsible for stubbing, capping utilities for all future connection to other phases that run through their respective bidding area.
 - 1. Utilities stubs and caps shall be placed 5' beyond phased limit of work in approved concrete pull boxes (lockable).
 - 2. Where applicable, place stub in landscape area, outside any hardscape improvements for future phases.
 - 3. Final stub locations shall be approved by City of Westlake Village prior to final placement.
 - 4. Mark all stub locations on as-built/red-line plans per specifications

4.3 Description of Proposed Phased Improvements:

- A. PHASE 2B – LANDSCAPE & IRRIGATION – Shall include, but is not limited to the following: All general conditions applicable to the scope of work, project management, City Standard Specifications and Section 01 of Specifications. Split rail fencing, DG trail, entry monument, fitness area, tot lot #2, volleyball area. Water line connections for irrigation main line. All planting materials identified in Phase 2B- Landscape and Irrigation plans, including plants, amendments, fertilizers, mulch, tree ties, tree stakes, etc. Mainlines, equipment, POC, all control conduit/wiring for controllers. All piping, fittings, stub all lines outside limit of work 5' beyond. Final connections and hookup from Phase 1A installation. Bid shall include all testing and equipment necessary for a fully operational/workable irrigation system.
- B. THESE ITEMS MAY BE SELECTED IN WHOLE OR PARTIAL AT THE CITY'S DESCRETION.

END OF SECTION 01030

SECTION 01060
REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Required regulatory requirements.

1.2 CODES AND REGULATIONS

- A. All work pertaining to and all materials supplied for executing and completing this contract shall comply with provisions specified in the contract documents and with all applicable laws, regulations and ordinances governing work including, but not necessarily limited to, those of:
 - 1. 2010 California Building Code (CBC).
 - 2. 2010 California Electrical Code (CEC)
 - 3. 2010 California Mechanical Code (UMC).
 - 4. 2010 California Plumbing Code (UPC).
 - 5. California Energy Code (CEC).
 - 6. 2010 California Fire Code (UFC).
 - 7. Title 24, California Code of Regulations.
 - 8. National Fire Protection Association - NFPA 101 Life Safety Code.
 - 9. Applicable ordinances of City of Tustin, California.
- B. Requirements for accessibility shall conform to California Title 24 and ADA (Americans with Disabilities Act), Title II.
- C. Enforcement includes all other codes or regulations referenced in the above listed codes.
- D. The preceding listed codes, regulations and ordinances of the regulatory agencies are hereby made a part of this Contract. Nothing in the Contract shall be construed as allowing any violation of any provision of any of the above listed documents.

1.3 PUBLICATION DATES

- A. Unless specified otherwise, specific references to codes, regulations, standards, manufacturer's instructions or requirements of regulatory agencies, when used to specify requirements for materials or design elements, shall mean the latest edition of each in effect at the date of the Contract or the edition in effect on the date of subsequent change orders or field orders, as applicable.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION - 01060

SECTION 01090
REFERENCE STANDARDS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Quality assurance.
 - 2. Partial list of reference standards and abbreviations.

1.2 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Comply with reference standard by date of issue current on date of Owner-Contractor Agreement.
- C. Obtain copies of standards when required by the Contract Documents.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Date of Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.
- F. The contractual relationship, duties, and responsibilities of the parties in Contract nor those of the Architect shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
- G. Reference standards and abbreviations noted herein may be contained in Sections of the Technical Specifications and are so referenced for brevity and to connote prevailing industry usage.

1.3 USE OF REFERENCES

- A. References: The Drawings and Specifications contain references to various standards, standard specifications, codes, practices and requirements for products, execution, tests and inspections. These reference standards are published and issued by the agencies, associations, organizations and societies listed in this Section or identified in individual product specification Sections.
- B. Relationship to Drawings and Specifications: Such references are incorporated into and made a part of the Drawings and Specifications to the extent applicable.
- C. Referenced Grades Classes and Types: Where an alternative or optional grade, class or type of product or execution is included in a reference but is not identified on the Drawings or in the Specifications, provide the highest, best and greatest of the alternatives or options for the intended use and prevailing conditions.
- D. Copies of Reference Standards:

1. Reference standards are not furnished with the Drawings and Specifications because it is presumed that the Contractor, subcontractors, manufacturers, suppliers, trades and crafts are familiar with these generally-recognized standards of the construction industry.
 2. Copies of reference standards may be obtained from publishing sources. The Architect will furnish, upon request, information on how to obtain copies.
- E. Jobsite Copies:
1. Contractor shall obtain and maintain at the project site copies of reference standards identified on the Drawings and in the Specifications in order to properly execute the Work.
 2. At a minimum, the following shall be readily available at the site, as applicable to the Work:
 - a. Local and State Building Codes: As referenced in Section 01060.
 - b. Safety Codes: State of California, California Code of Regulations (CCR), Title 8 Industrial Relations, Chapter 4, Subchapter 7, General Industry Safety Orders (CAL/OSHA).
- F. General Standards:
1. California Building Code (CBC) Standards (as amended and adopted by authorities having jurisdiction), other model code standards.
 2. Underwriters Laboratories, Inc. (UL) or Warnock-Hersey International (WHI) publications.
 3. Factory Mutual Research Organization (FM) Approval Guide.
 4. American Society for Testing and Materials (ASTM) publications.
 5. Fire and Life Safety Standards: All referenced standards pertaining to fire rated construction and exiting.
 6. Other Common Materials Standards Referenced in the Technical Specifications Sections:
 - a. American Concrete Institute (ACI).
 - b. American Institute of Steel Construction (AISC).
 - c. American Welding Society (AWS).
 - d. Gypsum Association (GA).
 - e. National Fire Protection Association (NFPA).
 - f. Tile Council of America (TCA).
 - g. Woodwork Institute of California (WIC).
 7. Research Reports: ICC-ES Evaluation Service (ICC-ES). Research Reports and National Evaluation Service Reports (NER), for products not in conformance to prescribed requirements stated in Building Code.
 8. Product Listings: Approval documentation, indicating approval of authorities having jurisdiction for use of product within the applicable jurisdiction.
- G. Edition Date of References:
1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of the permit issued by authorities having jurisdiction.
 2. All amendments, changes, errata and supplements as of the effective date shall be included.
- H. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision or amendment. It is presumed that the Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.4 DEFINITIONS OF TERMS

- A. Words and Terms Used on Drawings and in Specifications: Words and terms as may be used in the Drawings and Specifications and are defined as follows:
1. "Applicable." As appropriate for the particular condition, circumstance or situation.
 2. "Agency." Shall include the City of Westlake Village
 3. "Approve(d)." Limited to duties and responsibilities of the Architect for actions performed in the professional judgment of the Architect or the Architect's responsible design consultant, in conjunction with submittals, applications, and requests. Approvals shall be valid only if obtained in writing and shall not apply to matters regarding the means, methods, techniques, sequences and procedures of construction. Approval shall not relieve the Contractor from responsibility to fulfill Contract requirements.
 4. "And/or." If used, shall mean that either or both of the items so joined are required.
 5. "Directed." Limited to duties and responsibilities of the Architect, meaning as instructed by the Architect or the Owner, in writing, regarding matters other than the means, methods, techniques, sequences and procedures of construction. Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean "approved" by the Architect, "requested by the Architect," and similar phrases. No implied meaning shall be interpreted to extend the Architect's responsibility into the Contractor's supervision of construction.
 6. "Equal" or "Equivalent." As determined by Architect as being equivalent, considering such attributes as durability, finish, function, suitability, quality, utility performance and aesthetic features.
 7. "Furnish." Means "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."
 8. "Indicated." The term indicated refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the reader locate the reference. There is no limitation on location.
 9. "Install." Describes operations at the project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations.
 10. "Installer:"
 - a. "Installer" refers to the Contractor or an entity engaged by the Contractor, such as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 - b. "Experienced installer." The term "experienced," when used with "installer" means having a minimum of 5 previous projects similar in size to this project, knowing the precautions necessary to perform the Work, and being familiar with requirements of authorities having jurisdiction over the Work.
 11. "Jobsite." Same as site.

12. "Necessary." With due considerations of the conditions of the project and as determined in the professional judgment of the Architect as being necessary for performance of the Work in conformance with the requirements of the Contract Documents, but excluding matters regarding the means, methods, techniques, sequences and procedures of construction.
13. "Noted." Same as "Indicated."
14. "Owner". The term Owner shall mean City of Tustin
15. "Per." Same as "in accordance with," "according to" or "in compliance with."
16. "Products." Material, system or equipment.
17. "Project Site." Same as "Site."
18. "Proper." As determined by the Architect as being proper for the Work, excluding matters regarding the means, methods, techniques, sequences and procedures of construction, which are solely the Contractor's responsibility to determine.
19. "Provide." Means "furnish and install, complete and ready for the intended use."
20. "Regulation." Includes laws, ordinances, statutes and lawful orders issued by authorities having jurisdiction, as well as codes and rules, conventions and agreements within the construction industry that control performance of the Work.
21. "Required." Necessary for performance of the Work in conformance with the requirements of the Contract Documents, excluding matters regarding the means, methods, techniques, sequences and procedures of construction, such as:
 - a. Regulatory requirements of authorities having jurisdiction.
 - b. Requirements of referenced standards.
 - c. Requirements generally recognized as accepted construction practices of the locale.
 - d. Notes, schedules and graphic representations on the Drawings.
 - e. Requirements specified or referenced in the Specifications.
 - f. Duties and responsibilities stated in the Bidding and Contract Requirements.
22. "Scheduled." Same as "Indicated."
23. "Selected." As selected by Architect or Owner from the full selection of the manufacturer's products, unless specifically limited in the Contract Documents to a particular quality, color, texture or price range.
24. "Shown." Same as "Indicated."
25. "Site." Same as "Site of the Work" or "Project Site," the area or areas or spaces occupied by the project and including adjacent areas and other related areas occupied or used by the Contractor for construction activities, either exclusively or with others performing other construction on the project. The extent of the project site is shown on the Drawings, and may or may not be identical with the description of the land upon which the project is to be built.
26. "Inspector." Individual or entity engaged by the Owner to perform inspection services.
27. "Testing Laboratory." An independent entity engaged by the Owner or Contractor, to perform specific inspections or tests of materials, systems, or components, at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

1.5 ABBREVIATIONS, ACRONYMS, NAMES AND TERMS, GENERAL

- A. Abbreviations, Acronyms, Names and Terms: Where acronyms, abbreviations names and terms are used in the Drawings, Specifications or other Contract

Documents, they shall mean the recognized name of the trade association, standards generating organization, authority having jurisdiction or other entity applicable.

- B. Abbreviations: Refer to Drawings for commonly-used abbreviations.
- C. Undefined Abbreviations, Acronyms, Names and Terms: Words and terms not otherwise specifically defined in this Section, on the Drawings or elsewhere in the Specifications, shall be as customarily defined by trade or industry practice, by reference standard and by specialty dictionaries such as the following:
1. Dictionary of Architecture and Construction (Cyril M. Harris, McGraw-Hill Book Company, 1975).
 2. The American Institute of Architects (AIA) Document M101, "Glossary of Construction Industry Terms."
 3. The Construction Specifications Institute (CSI) Technical Document TD 2-4, "Abbreviations."
 4. Encyclopedia of Associations, published by Gale Research Co., available in most libraries.

1.6 PARTIAL SCHEDULE OF REFERENCES AND ABBREVIATIONS

AA	Aluminum Association, Washington, DC
AABC	Associated Air Balance Council, Washington, DC.
AAIEE	American Institute of Electrical and Electronics Engineers.
AAMA	Architectural Aluminum Manufacturers Association.
AASHTO	American Association of State Highway and Transportation Officials, Washington, DC.
ACI	American Concrete Institute, Detroit MI.
AIA	American Institute of Architects, Washington, DC.
AI	Asphalt Institute, College Park MD.
AISC	American Institute of Steel Construction, Englewood CO.
AISI	American Iron and Steel Institute, Washington, DC.
AITC	American Institute of Timber Construction, Englewood CO.
ANSI	American National Standards Institute, New York NY.
APA	American Plywood Association, Tacoma WA.
APWA	American Public Works Association.
ARI	Air Conditioning and Refrigeration Institute, Arlington VA.
AISC	American Institute of Steel Construction.
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers, Atlanta GA.
ASME	American Society of Mechanical Engineers, New York NY.
ASSE	American Society of Sanitary Engineering.
ASTM	American Society for Testing and Materials, Philadelphia PA.
AWI	Architectural Woodwork Institute, Arlington VA.
AWPA	American Wood Preservers' Association, Bethesda MD.
AWS	American Welding Society, Miami FL.
AWWA	American Water Works Association, Denver CO.
BHMA	Builders Hardware Manufacturers Association.
BIA	Brick Institute of America, Reston VA.
CAL/OSHA	Title 8, California Code of Regulations - Construction Safety Orders.
CalTrans	State of California Department of Transportation.
CARB	California Air Resources Board.
CAS/CAR	California Accessibility Statutes/California Accessibility Regulations, Books 1 and 2, May, 1994.

CBC	California Building Code
CCR	California Code of Regulations.
CDA	Copper Development Association, New York NY.
CEC	California Electrical Code
CISCA	Ceiling and Interior Systems Contractors Association.
CLFMI	Chain Link Fence Manufacturers Institute, Washington, DC.
CMC	California Mechanical Code
CPC	California Plumbing Code
CRSI	Concrete Reinforcing Steel Institute, Schaumburg IL.
CS	US Commercial Standards.
CSI	Construction Specifications Institute, Alexandria VA.
CTI	Ceramic Tile Institute.
DHI	Door and Hardware Institute, McLean VA.
DFPA	Douglas Fir Plywood Association.
EGMA	Expansion Joint Manufacturers Association, Tarrytown NY.
FGMA	Flat Glass Marketing Association, Topeka KS.
FIA	Factory Insurance Association.
FLIB	Furring and Lathing Information Bureau, Los Angeles CA.
FM	Factory Mutual System, Norwood MA.
FS	Federal Specification General Services Administration, Washington, DC.
GA	Gypsum Association, Evanston IL.
HMMA	Hollow Metal Manufacturers Association, Chicago IL.
ICBO	International Conference of Building Officials, Whittier CA.
IEEE	Institute of Electrical and Electronics Engineers, New York NY.
IES	Illuminating Engineering Society.
IMIAC	International Masonry Industry All-Weather Council, International Masonry Institute, Washington, DC.
LSGA	Laminators Safety Glass Association
MFMA	Maple Flooring Manufacturers Association, Northbrook IL.
MIL	Military Specification Naval Publications and Forms Center, Philadelphia PA.
ML/SFA	Metal Lath/Steel Framing Association, Chicago IL.
NAAMM	National Association of Architectural Metal Manufacturers, Chicago IL.
NACA	National Acoustical Contractors Association.
NBS	National Bureau of Standards.
NAGDM	National Association of Garage Door Manufacturers.
NCMA	National Concrete Masonry Association, Herndon VA.
NEBB	National Environmental Balancing Bureau, Vienna VA.
NEC	National Electrical Code.
NEMA	National Electrical Manufacturers Association, Washington, DC.
NFC	National Fire Code.
NFPA	National Fire Protection Association, Quincy MA.
NLMA	National Lumber Manufacturers Association.
NRCA	National Roofing Contractors Association.
NSF	National Sanitation Foundation.
NTMA	National Terrazzo and Mosaic Association, Des Plaines IL.

NWMA	National Woodwork Manufacturers Association, Park Ridge IL.
PCA	Portland Cement Association, Skokie IL.
PCI	Prestressed Concrete Institute, Chicago IL.
PDCA	Painting and Decorating Contractors of America.
PPI	Plastics Pipe Institute.
PS	Product Standard, US Department of Commerce, Washington, DC.
RCRBJ	Research Council of Riveted and Bolted Joints.
RIS	Redwood Inspection Service, San Francisco CA.
RCSHSB	Red Cedar Shingle and Handsplit Shake Bureau, Bellevue WA.
SCAQMD	South Coast Air Quality Management District, Los Angeles CA.
SDI	Steel Deck Institute, Canton OH.
SDI	Steel Door Institute, Cleveland OH.
SFPA	Southern Pine Forest Products Association.
SIGMA	Sealed Insulating Glass Manufacturers Association, Chicago IL.
SJI	Steel Joist Institute, Myrtle Beach SC.
SMACNA	Sheet Metal and Air Conditioning Contractors National Association, Vienna VA.
SPIB	Southern Pine Inspection Bureau.
SSPC	Steel Structures Painting Council, Pittsburgh PA.
SSPWC	Standard Specifications for Public Works Construction.
SWRI	Sealant, Waterproofing and Restoration Institute.
TCA	Tile Council of America, Princeton NJ.
IBC	International Building Code.
IFC	International Fire Code.
UL	Underwriters Laboratories, Northbrook IL.
IMC	International Mechanical Code.
IPC	International Plumbing Code.
WCLIB	West Coast Lumber Inspection Bureau, Portland OR.
WHI	Warnock Hersey International.
WI	Woodwork Institute, Fresno CA.
WWPA	Western Wood Products Association, Portland OR.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION - 01090

SECTION 01200
PROJECT MEETINGS

PART 1 – GENERAL

1.1 Summary:

- a. To enable orderly review during progress of the work and to provide for systematic discussion of requirements for interpretation and clarification of the Contract Documents, meetings will be conducted as required herein.

1.2 Related Requirements Specified Elsewhere:

- a. Summary of Work: Section 01010
- b. Construction Schedules: Section 01310
- c. Shop Drawings, Project Data, and Samples: Section 01340
- d. Project Record Documents: Section 01720

1.3 Related Work :

- a. The Contractor's relations with his subcontractors and materials suppliers, and discussions relevant thereto, are the Contractor's responsibility and normally not part of project meetings content.

1.4 Quality Assurance

- a. The Owner, Landscape Architect, Landscape Architect's consultants and Contractor will designate their representatives to attend and participate in project meetings. They shall be provided the authority to commit to solutions agreed upon in the project meetings that do not require change orders.

1.5 Submittals

- a. Agenda Items: To the maximum extent practicable, Contractor shall advise the Architect by telephone or email agenda at least 24 hours in advance of project meetings regarding items to be addressed in the meeting.
- b. Contractor shall notify Owner a minimum 48 hours in advance of project meetings if any of the prime design consultant's sub consultants shall be in attendance of meeting or available by phone/conference call.

1.3 Pre-Construction Meeting:

- a. Schedule within 15 calendar days after date of award by Owner.
- b. Minimum Attendance:

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

PART 2 – PRODUCTS

Not used

PART 3 - EXECUTION

3.1 MEETING SCHEDULE

A. Project meetings will be scheduled and held weekly.

3.2 MEETING LOCATION

A. Meetings will be held at the jobsite, within the Contractor’s field office.

3.3 PRECONSTRUCTION MEETING

A. Owner will schedule a preconstruction meeting after issuance of Notice Of Award.

B. Prior to preconstruction meeting, the Contractor shall submit following documentation, to the approval of the Owner:

1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates by Contractor, when required under terms of the Agreement.
3. Distribution of Contract Documents.
4. Submission of list of Subcontractors, list of products when required, schedule of values, and progress schedule by Contractor.
5. Designation of personnel representing the parties in Contract.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
7. Submittal of project schedule by Contractor.

C. Attendance Required: Owner, Architect, Contractor and subcontractors related to the Work.

D. Preconstruction Meeting Agenda, Including, But Not Limited To:

1. Method of, and responsibility for, recording minutes and distribution of copies after project meetings, to affected participants.
2. Use of premises by Owner and Contractor.
3. Owner's requirements and partial occupancy, when required by Owner.
4. Construction facilities and controls provided by Owner.
5. Temporary utilities if provided by Owner.
6. Survey and civil information when available.
7. Security and housekeeping procedures as may be required by the Owner.
8. Progress schedules.
9. Procedures for testing and inspections.
10. Procedures for maintaining record documents as required in Section 01700.
11. Requirements for start-up of equipment as required in Section 01650.
12. Inspection and acceptance of equipment put into service during construction period.

E. The Architect will advise other interested parties including building authorities or local agencies, where applicable, and request their attendance.

3.4 CONSTRUCTION PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum twice monthly intervals.
- B. Attendance Required: Contractor's job superintendent, major sub-contractors and suppliers when requested, Owner, Architect, Consultants when requested and those as appropriate to agenda topics for each meeting.
- C. To the maximum extent practicable, all participants will be required to assign the same person or persons to represent their respective discipline at project meetings throughout progress of the Work.
- D. Sub-contractors, materials suppliers and others may be invited to attend only those project meetings in which their aspect of the Work is involved.
- E. Agenda, Including But Not Limited To:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems which impede planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of off-site fabrication and delivery schedules.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to Work.
- F. Minutes will be distributed in the agreed-upon number of copies to participants and those affected by decisions made.

3.5 PREINSTALLATION MEETING

- A. When required in individual specification sections, Contractor shall convene a pre-installation meeting at work site prior to commencing work of the Section.
- B. Required Attendance: Parties directly affecting, or affected by, work of the specific Section.
- C. Contractor shall notify all affected parties three (3) days in advance of meeting and shall prepare agenda and preside at meeting:
 - 1. Items To Be Reviewed: Conditions of installation, preparation and installation procedures and coordination with related work.
- D. Contractor will record minutes prior to date of next scheduled project meeting and will distribute copies of meeting to participants and those affected by decisions made.

END OF SECTION - 01200

SECTION 01310
CONSTRUCTION SCHEDULE

PART 1 – SUMMARY

- 1.1 To assure adequate planning and execution of the Work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Architect in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare and maintain the schedules and reports described in this Section
- A. In general, the following elements are covered under this Section:
1. Provide Qualification of Scheduler and/or Scheduling Consultant
 2. Utilize the latest Version of Primavera Project Planner
 3. Develop the 90-day Preliminary Schedule
 4. Develop the Initial (Baseline) Schedule
 5. Develop the 3 Week Look-ahead Schedule
 6. Update/Revise the Progress Schedule
 7. Format and Submittal/Review Procedures
 8. Time-Impact Evaluation Preparation
 9. Request for Time Extension
 10. Submission of a Recovery Schedule

PART 2 – QUALIFICATIONS

- 2.1 Contractor shall employ experienced scheduling personnel qualified to use the latest version of Primavera Project Planner. Scheduling Personnel must have a minimum of three (3) years experience using Primavera Project Planner whose experience shall include at least two (2) projects of similar nature, scope and value not less than three-fourths the Total Bid Price of this Project. Contractor may employ such personnel directly or may employ a consultant for this purpose and shall provide a written statement shall identify individual/firm who will perform CPM scheduling identifying the capability and experience on which the individual/firm has successfully applied computerized CPM Scheduling. The City reserves right to approve Contractor's scheduler, or Contractor's Consultant, and right to reject them at any time.

PART 3 – 90-DAY PRELIMINARY SCHEDULE

- 3.1 Contractor shall develop a 90-day preliminary schedule indicating a detailed plan for the WORK to be completed in first ninety (90) calendar days of the Contract with work beyond ninety (90) days in summary form with special emphasis on the critical path.
- 3.2 The 90-day preliminary schedule shall be submitted within 14 calendar days after Notice to Proceed or at the Pre-construction Conference, whichever is later
- 3.3 As part of the 90-day preliminary schedule, Contractor shall include an activities necessary to start work, including, but not limited to:
- a. Site mobilization
 - b. Temporary facilities,
 - c. Submittal of the Site Safety Work Plan
 - d. Storm Water Pollution Prevention Program

- e. Site Utilities
 - f. Submittal of the Baseline Project Schedule
 - g. Submittal of Long Lead Items
- 3.4 The preliminary schedule shall be cost-loaded for the first 90-days as it will serve as the basis for the initial (first) progress payment. This schedule shall follow the schedule guidelines as stated within this section which include the showing of activity interdependency and identify the manner in which Contractor intends to complete all work within Contract Time.
- 3.5 Due to the critical nature of this project, the City will not process any request for payment until the 90-day schedule is submitted and approved. In addition, no contract work may be pursued at the site without an approved 90-Day Preliminary Schedule.

PART 4 - INITIAL (BASELINE) SCHEDULE

- 4.1 The Initial (baseline) Schedule shall be based on and incorporate Contract milestone and completion dates specified in Contract Documents. The Initial (baseline) Schedule shall be submitted within 30 calendar days after Notice to Proceed or 20 days after the 90-day preliminary schedule approval, whichever is later.
- 4.2. The activities included in the Contractors scheduled are to be described so that the work is readily identifiable and the progress of each activity can be readily measured. For each activity, Contractor shall identify the trade or subContractor performing the work, the duration of the activity in work days, the manpower involved by trade, and the location of the work and a dollar value of the activity. The dollar value assigned to each activity is to be reasonable and based on the amount of labor, materials, and equipment involved when added together, the dollar value of activities is to equal the contract price.
- 4.3. Contractor is responsible for assuring that the work sequences are logical and the network shows a coordinated plan for complete performance of the work. Failure of the Contractor to include in the schedule any element of work required for the performance of the contract shall not relieve the Contractor from completing the work within the time limit specified in the contract. City's acceptance of schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon City, or act to relieve Contractor of its responsibility for means and methods of construction.
- 4.1 Schedule Development - Specific:
- a. Include all Contract Milestones as separate activities
 - b. Include City-furnished materials and equipment, outside agency, and all work by others Contractors/entities as separate activities.
 - c. Include submittal review/approval by City as separate activities. Allow 21 Calendar Days to review all submittals, Resubmittals.
 - d. Include Procurement and Long Lead Items as separate activities
 - e. Scheduled activities shall be cost and manpower loaded
 - f. Progress payment will be generated using the schedule
 - g. Schedule is to be set to calculate on retained logic.
 - h. Schedule shall not contain negative lags or artificial constraints
 - i. Scheduled Activities at a minimum shall be coded to Area, Responsibility, and Work Type
- 4.2 Other Activities to be included in schedule. In order to assist the City in tracking the progress of work, contractor is to include the following activities within the Initial Baseline Schedule. Contractor is to determine the logic and duration of the activities specified below:

Submittal of all Long Lead Items (over 30 days)
Procurement of all Long Lead Items (over 30 days)
Inspection by City and Other Agencies
Completion Milestones for:
Underground Utilities
Light Pole Foundations
Delivery of Long Lead Items (over 30 days)
Permanent Power Available
Each Facility Ready for Use

- 4.3 Contract Times: Work Schedule shall be based on and incorporate Contract milestone and completion dates specified in Contract Documents.
- 4.4 Early Completion Schedule: Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in Contract Agreement, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by the City. A Change Order shall formalize any such agreement.
- 4.5 The City is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion dates for the Contract Times.
- 4.6 Contractor shall not be entitled to extra compensation in event agreement is reached on an earlier (advanced) schedule and Contractor completes its Work, for whatever reason, beyond the completion date shown in earlier (advanced) schedule but within the Contract Times.
- 4.7 Contractor shall include in its bid price, all direct and indirect costs associated with performing the work from the time of Notice to Proceed the date shown at Substantial Completion and at Final Completion in the Contract Documents.
- 4.8 A schedule showing the work completed in less than the Contract Times, which the City has accepted shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and Contract Substantial Completion. Project Float is a resource available to both the City and the Contractor.
- 4.9 Float Ownership: Neither the City nor the Contractor owns float. The Project owns the float. As such, liability for delay of the Substantial Completion Date rests with the party whose actions, last in time, actually cause delay to the Substantial Completion Date.
- 4.10 For example, if Party A uses some, but not all of the float and Party B later uses remainder of the float as well as additional time beyond the float, Party B shall be liable for the time that represents a delay to the Substantial Completion Date.
- 4.11 Party A would not be responsible for the time since it did not consume the entire float and additional float remained; therefore, the Substantial Completion Date was unaffected.
- 4.12 The City has the final determination on the appropriate use of float and on the total float calculation. The City will routinely check float calculations provided by the Contractor and resolve disputes regarding allocation of float.
- 4.13 Time Periods / Calendar Assignments: Work schedule duration's and calendars for scheduled activities shall be scheduled on the following Calendars:
- a. Calendar 1 – 5 Day Work Week with Holiday and Non-working periods
 - b. Calendar 2 – 7 Day Calendar Week
 - c. Calendar 3 (optional) – 5 Day Work Week with Holidays and Non-working periods (excluding adverse weather days)
- 4.14 Standard Work Week: The schedule is to be developed and submitted utilizing a 5-day workweek. The standard workweek shall be based on 40 hours (Monday through Friday) and the standard workday shall be 8 hours per. Extended Work Periods may only be used upon prior written authorization by the Engineer

- 4.15 Non-working Periods: Non-working periods are those days in which Contractor anticipated work would not be performed and are to be excluded from Contractors working calendar.
- 4.16 Holidays, Weekends and Black Fridays: The Contractor shall submit a list of anticipated non-Working days for weekends, holidays and Black Fridays. The Contract schedule shall exclude in its Working day calendar the above days on which Contractor anticipates work will not be performed.
- 4.17 Rain days: Workday Delays due to adverse weather conditions will not be allowed for weather conditions which fall within parameters listed herein. Adverse weather delays may only be allowed if the number of days of adverse weather exceeds these parameters and Contractor can verify that adverse weather caused delays. Rain days shall be excluded from the Contractors CPM Schedule Calendar 1 and be excluded from the working days (WD) – Monday thru Friday. Contractor may choose what days in the following month he/she wishes to exclude. The parameters are as follows: January – 3 WD; February – 3 WD; March – 2 WD; April – 2 WD; May – 1 WD; October – 2 WD; November – 2 WD; December – 3 WD. If the adverse weather day does not occur within the month specified, then the excluded day (rain day duration) becomes float to the project. If excess weather days are encountered per Caltrans Standards, the Contractor shall be entitled to a time extension for the excess days experienced. The excess or scarcity of adverse weather days shall be calculated over a calendar year extending from June 1 through May 31.
- 4.18 The adverse weather day duration shall not be used in calculating the Contractors' productivity rate. The Contractor may choose which specific days in the month are to become non-working within the given month to the extent the adverse weather/rain day does not fall on a Holiday, Weekend, Black Friday, or previously excluded day.
- 4.19 If operations are not weather dependent, the Contractor may use an alternate calendar for those activities. This calendar may also be used for activities not weather dependent which occur prior to dry-in. Calendar 3 (optional) may be used as a 5-day work week calendar w/out adverse weather days.
- 4.20 Submittal Reviews / Approvals: Submittal review and approval time for all required submittals shall be included in the schedule. Activities that are dependent on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates and shall have a relationship between them. Contractor shall include a 21 calendar day review period for all submittals. Contractor is responsible for all impacts resulting from rejected or resubmitted items.
- 4.21 Cost Loading: Identify the total cost of performing each activity. This cost shall be total of labor, material, equipment, including overhead and profit. Sum of cost for activities shall equal total Contract value. Each cost account shall be defined in the cost account dictionary and shall match the schedule of values. The Contractor is to establish a methodology which to identify the sum total of all activity cost as it relates to the schedule of values and Contract Price. Separate cost accounts shall be maintained for all change order work. Progress payments shall be generated from the schedule and updated activity percent complete. Should the contractor wish to establish a Schedule of Values, the cost loaded activities shall be directly related to such a schedule.
- 4.22 Punch-List / Closeout: Contractor shall include 15 working days for developing punch list(s), completion of punch list items, and final clean up prior to substantial completion. No other activities shall be scheduled during this period, except for parking system control verification.
- 4.23 Activity Duration / Total Float: A total of not more than 35 percent of the Contract Schedule activities shall be critical or near critical, unless otherwise approved by the Engineer. Activities shall have duration of no more than 20 working days, unless otherwise approved by the Engineer

unless they relate to procurement, cure-time, delivery, or similar activity types. The activities in the Contract Schedule, with the exception of the first and last activities, shall have a minimum of one predecessor and a minimum of one successor, unless otherwise specified. The schedule will clearly identify the activities that constitute the controlling operations or critical path. There shall be no negative float in the initial (baseline) schedule.

- 4.24 Written Narrative: The initial (baseline) schedule shall be accompanied by a written narrative discussing basic assumptions, historic project comparisons, productivity and installation rates, construction staging plans, maintenance of traffic, quantities, manpower and crew development, construction equipment planned, and other elements related to developing the schedule

PART 5 – MONTHLY PROGRESS UPDATE

- 5.1 Following acceptance of Contractor's Initial CPM Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any anticipated changes to planned activities. Each schedule update shall include updated information for all items required for the initial (baseline) Schedule submittal. Each update shall continue to show all work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
- 5.2 It is anticipated that the contract will meet with Owner to discuss the agreed upon percent complete for each activity prior to the preparation of the schedule submittal and application for payment. See Schedule Review and Approval under this section for anticipated review times and submission requirements.
- 5.3 Updating the Schedule to reflect actual progress shall not be considered as a revision to the Schedule. Since scheduling is a dynamic process, revisions to activity duration's and sequences are expected on a monthly basis.
- 5.4 Neither submission nor updating of Contractor's original schedule submittal nor submission, updating, change or revision of any other report, curve, schedule or narrative submitted to the County by Contractor under this Contract, nor the City's review or acceptance of any such report, curve, schedule or narrative shall have the effect of amending or modifying, in any way, Contract completion date or milestone dates or of modifying or limiting, in any way, Contractor's obligations under this Contract. Only a signed, fully executed change order can modify these contractual obligations.

PART 6 – SCHEDULE REVIEW AND APPROVAL

- 6.1 90-Day Preliminary Schedule: Within 14 calendar days of receipt of the 90-day preliminary schedule, County will review and accept the Contractor's schedule or return to the Contractor with comments. If the preliminary schedule is returned to the Contractor with comments the Contractor shall revise the preliminary Schedule to incorporate these comments and resubmit the schedule for approval within seven (7) calendar days after receiving it and the owner will review it within (7) calendar days until an acceptable schedule can be produced.
- 6.2 Initial (Baseline) Schedule: Within 14 calendar days of receipt of the Initial (Baseline) Schedule, County will review and accept the Contractor's initial (baseline) Schedule or return to the Contractor with comments. If the Contract Schedule is returned to the Contractor with comments the Contractor shall revise the Contract Schedule to incorporate these comments and resubmit the schedule for approval within seven (7) calendar days after receiving it and the owner will review it within (7) calendar days until an acceptable schedule can be produced. The accepted schedule shall become the Contract Baseline Schedule.
- 6.3 Monthly Progress Schedule Update: It is anticipated that the contract will meet with Owner to discuss the agreed upon percent complete for each activity prior to the preparation of the schedule submittal and application for payment. As such, seven (7) calendar days prior to the

Contractor submitting his Request for Payment, the Contractor shall submit to owner the requested percentage complete for each activity. Upon Contractor/owner agreeing to the percent complete for each activity, Contractor will prepare his monthly progress payment application and progress schedule submittal. Within two (2) working days following Contractor Submission of the request for payment, Contractor will submit his updated progress schedule. In the event Contractor fails or refuses to submit the required progress schedule, Owner may withhold up to 50% of the current and all subsequent requests for payment.

- 6.4 In addition, the Contractor agrees that, in accordance with the Contract Documents, liquidated damages for failure to submit any progress schedule within the time specified is Two Hundred Dollars (\$200.00) per Calendar Day.
- 6.5 Acceptance of Contractor's schedule by the County will be based solely upon schedule's compliance with Contract requirements. By way of Contractor assigning activity duration's and proposing sequence of Work, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with schedule. Submission of Contractor's progress schedule to the County shall not relieve Contractor of total responsibility for scheduling, sequencing, and pursuing Work to comply with requirements of Contract Documents, including adverse effects such as delays resulting from ill-timed work.

PART 7 – SUBMITTALS

- 7.1 For the preliminary, initial, and each progress schedule submitted the following will be submitted to the County in the specified quantities which include the following tabular, graphic, and narrative reports:
- a. Three (3) separate Tabular Reports shall be submitted and are as follows:
 - (1) Tabular Schedule Listing – Sorted by Area, Early Start Total Float.
 - (2) Detailed Predecessor / Successor Listing – Sorted by Area, Early Start, Total Float. At a minimum, the report shall show all predecessor, all successors, early start, early finish, late start, late finish, original duration, remaining duration, and total float.
 - (3) Critical Path Listing – Sorted by Early Start, Total Float
 - (2) Graphic Report as follows: The time-scaled network diagrams shall show a continuous flow of information from left to right. The primary path(s) of criticality shall be clearly and graphically identified on the network(s). The network diagram shall be prepared on E-size sheets, 34" x 44", and shall have a title block in the lower right-hand corner and a timeline on each page.
 - b. Two (2) narrative reports shall be submitted and organized as follows:
 - Contractor's Transmittal Letter;
 - Work completed during the period;
 - Identification of unusual resources: manpower, material, or equipment restrictions or use, including multiple shifts, 6-day work weeks, specified overtime, or work at times other than regular days or hours;
 - Description of the current critical path;
 - Changes to the critical path since the last schedule submittal;
 - Description of problem areas;
 - Current and anticipated delays to include: Cause of delay;
 - Impact of delay on other activities, milestones and completion dates;
 - Corrective action and schedule adjustments to correct the delay.
 - Contract completion date status, and whether the schedule is ahead or behind schedule and number of days,
 - Reproduction / Copies: The Schedule network diagrams, tabular reports and narrative reports shall be submitted to the Engineer for acceptance in the following quantities:
 - Two (2) sets of originally plotted, time-scaled network diagram(s) (in-color) E-Size
 - Two copies of each of the three sorts of the CPM software-generated tabular reports (8 1/2" x 11");

- Three compact disks (CD) containing the schedule data, in P3 format, compressed, without access restrictions, or DVD.
- Two copies of the narrative report.
- 1 electronic copy sent to the Construction Manager

PART 8 – THREE-WEEK LOOK AHEAD SCHEDULE

- 8.1 The Contractor shall provide, in addition to the monthly schedule update, a weekly schedule update at each project progress meeting. Weekly schedule updates will include one week's past activities and three weeks future activities. Updates will be derived from the master schedule and be consistent in format with the Contract Schedule. The weekly schedule update shall directly relate to the Master Schedule by Activity Number. All activities identified on the three week look-ahead shall have an activity number associated with the Master Schedule, should they be different.

PART 9 – SCHEDULE REVISIONS

- 9.1 Upon approval of a change order or upon receipt by Contractor of authorization to proceed with additional work (e.g. Force Account, Change Order, Changed Condition), change shall be reflected in next submittal of CPM schedule by Contractor. Contractor is to clearly code these activities from the base contract work as to be able to identify them by change, force account, or changed condition.
- 9.2 Contractor shall utilize a separate activity or series of activities (sub-network) in schedule depicting changed work and its effect on other activities. This sub-network shall be tied to main network with appropriate logic so that a true analysis of Critical Path can be made. This shall be performed in accordance with the Time Impact Evaluation Procedures as described under this section.

PART 10 – TIME IMPACTS EVALUATION (TIE)

- 10.1 When the Contractor is directed to proceed with changed work, the Contractor shall prepare and submit, within 14 days after the date of the direction to proceed, a time impact evaluation (TIE) that includes both a written narrative and a schedule diagram depicting how the changed work affects other schedule activities. The schedule diagram shall show how the Contractor proposes to incorporate the changed work in the schedule, and how it impacts the current schedule update critical path. The Contractor is also responsible for requesting time extensions based on the TIE's impact on the critical path. The diagram must be tied to the main sequence of schedule activities to enable the City to evaluate the impact of changed work to the scheduled critical path.
- 10.2 Once agreement has been reached on a TIE, the Contract Times will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Times may be extended in an amount the County allows, and the Contractor may submit a claim for additional time.
- 10.3 Scheduling of approved changes (e.g. force account, change orders) is responsibility of Contractor. The Contractor is responsible for all costs associated with the preparation of TIE's and the process of incorporating the TIE's, changes, and revisions into the current schedule update and as such no additional payment for incorporation of these items into the schedule will be made.
- 10.4 The City shall have no obligation to consider any time extension request unless requirements of Contract Documents are complied with. The City shall not be responsible or liable to Contractor for any constructive acceleration due to failure of the County to grant time extensions under Contract Documents, or if Contractor should fail to substantially comply with submission requirements and justification requirements of this Contract for time extension requests.
- 10.5 Contractor is to provide 2 copies of the TIE to the City for review with accompanying diskette of change in Primavera Project Planner.

PART 11 – RECOVERY SCHEDULE

- 11.1 If the Schedule Update shows a substantial completion date 21 calendar days or more beyond the Contract Substantial Completion date, or individual milestone completion dates, the Contractor shall, within seven (7) days after submittal of the updated schedule showing such delay, submit to the City the proposed revisions to recover the lost time. As part of this submittal, the Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work and as described within this section. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed and accepted by the County.

PART 12 – TIME EXTENSION

- 12.1 The Contractor is responsible for requesting time extensions for time impacts that, in the opinion of the Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in writing.
- 12.2 Where an event for which the City is responsible impacts the projected Substantial Completion date, the Contractor shall, within fourteen (14) days from the date of discovery of said impact, submit a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor, equipment and material the Contractor would expend to mitigate the City caused time impact. The Contractor is responsible for the cost of preparing the mitigation plan.
- 12.3 The City will not be obligated to consider any time extension request unless requirements of Contract Documents are complied with. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.

PART 13 – INITIAL AND ALL RELATED PROGRESS PAYMENTS

- 13.1 Progress payments shall be made monthly, based on Contractor's monthly update of Contract Schedule.
- 13.2 Payment for amount of work completed in current progress payment period shall be sum of activity cost multiplied by percentage of work completed for each activity in progress minus previous payments, less retainage.
- 13.3 The progress payment application shall be generated from the computerized monthly schedule update. Retainage calculation will be made on the payment request form. Request for payment for accepted materials delivered shall be limited to invoice value of materials or equipment shown on Contractor's procurement log, less retainage. Payment may be made for materials which Contractor stores off-site when materials are stored and insured in manner acceptable to the Engineer. However, in no event will more than 50% of the specified activity value will be paid for offsite stored material. All payment for offsite material is subject to the sole discretion of the Engineer.
- 13.4 No payment shall be made for materials or equipment which do not have accepted submittals.
- 13.5 If material or equipment is not identified, it is responsibility of Contractor to submit necessary cost adjustments to Contract Schedule.

- 13.4 Incorporation of such revisions to computerized version of Contract Schedule and payments on such requests are at discretion and acceptance of the Engineer.
- 13.5 Payment for mobilization shall not exceed 1 ½ percent of the total contract value and will not be made until the 90-day schedule is submitted and approved.

PART 14 – DEFAULT

- 14.1 Failure of Contractor to substantially comply with requirements of this Section shall constitute reason that Contractor is failing to prosecute Work with such diligence as will ensure its completion within Contract times and shall be considered grounds for termination or other remedy pursuant to terms of this Contract.

PART 15 - PRODUCTS (Not Used)

PART 16 - EXECUTION (Not Used)

END OF SECTION - 01310

SECTION 01340
SHOP DRAWINGS, PROJECT DATA AND SAMPLES

PART 1 – GENERAL

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

Submit to the Owner 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.

PART 2 - SHOP DRAWINGS

- 2.1 Original drawings, prepared by Contractor, subcontractor, supplier or distributor which illustrates some portion of the work, showing fabrication, layout, setting or erection details.
- a. Furnished at Contractor's expense by Contractor.
 - b. Prepared by qualified detailer.
 - c. Identify details by reference to sheet and detail numbers on Contract Drawings.
 - d. Minimum sheet size: 8 ½" by 11"
- 2.2 Reproduction for Submittals:
- a. Reproducible transparency with three opaque diazo prints.

PART 3 – PROJECT DATA

- 3.1 Manufacturer's Standard Schematic Drawings:
- a. Modify to delete information which does not apply.
Supplement standard information where applicable to work.
- 3.2 Manufacturer's Catalog Sheets, Brochures, Diagrams, Schedules, Performance Charts, Illustrations and other Standard Descriptive Data:
- a. Clearly mark each copy to identify pertinent information.
 - b. Show dimensions and clearances required.
 - c. Show performance characteristics and capacities.
 - d. Show wiring diagrams and controls.

PART 4 – SAMPLES

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

PART 5 – OFFICE SAMPLES:

- 5.1 Of size and quantity to clearly illustrate:
- a. Functional characteristics of product or material, with integrally related parts and attachment devices.
 - b. Full range of color samples.
 - c. After review, samples may be used in construction project.
- 5.2 Field Samples and Mock-Ups:
- a. Erect at project site at location acceptable to Engineer.
 - b. Construct complete, including work of all trades required in finished work.

PART 6 – CONTRACTOR'S RESPONSIBILITIES

- 6.1 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.
- 6.2 Responsibility for Errors and Omissions in Submittals:
- a. Not relieved by Landscape Architect's review of submittals.
- 6.3 Responsibility for Deviations in Submittals from Contract Documents:
- b. Not relieved by Landscape Architect's review unless Landscape Architect gives written acceptance of specific deviations.
- 6.4 Notify Owner in writing at time of submission of deviations in submittals from requirements of Contract Documents.
- 6.5 Begin no work requiring submittals until return of submittals with Landscape Architect's stamp and signature indicating review.
- 6.6 Distribute copies after Landscape Architect's review.

PART 7 – SUBMISSION REQUIREMENTS

- 7.1 Schedule all submittals not later than 60 days after Award of Contract.
- 7.2 The Owner will not be responsible for delays to the Contractor for any submittal not received within the specific time.
- 7.3 Contractor's distribution shall be as required, plus three copies for Owner's retention, or number of samples specified in pertinent section.

7.4 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.

7.5 Submittal shall include:

- Date and revision date;
- Project title, number, park name or names.
- Names of: Owner, 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.

PART 8 – RESUBMISSION

8.1 Shop Drawings:

- a. Revise initial drawings as required and resubmit as specified for initial submittal.
- b. Indicate on drawings any changes which have been made other than those requested by Landscape Architect.

8.2 Project Data and Samples:

Submit new datum and samples as required for initial submittal.

PART 9 – DISTRIBUTION AFTER REVIEW

9.1 Distribute stamped copies of shop drawings and project data to:

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

9.2 Samples:

Distribute as directed.

END OF SECTION - 01340

SECTION 01370
SCHEDULE OF VALUES

PART 1 – GENERAL

- 1.1 The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.
- 1.2 Related Requirements Specified Elsewhere:
- a. Project meetings: Section 01200
 - b. Construction schedule: Section 01310
- 1.3 Submit to Owner:
- Schedule of Values, at least twenty 20 calendar days prior to first progress payment estimate. Upon Owner Representative's request, support values given with substantiating data. Quantities of designated materials.
- 1.4 Schedule of Values:
- Used only as a basis for Progress Payment.
- 1.5 The contract item values submitted on the schedule of values shall be used to calculate the debt or credit amount for any change in scope by the Engineer where an entire item or section of work is added or deleted from the Contract. The value listed in the schedule of values shall be considered the appropriate addition or deduction. If the item of work is not identifiable on the schedule of values, then the amount to be added or deducted from the Contract amount shall be the estimated value as determined by the Engineer

PART 2 – FORM OF SUBMITTAL

- 2.1 Typewritten on 8 ½" x 11" white bond paper.
- 2.2 Use Table of Contents of this Specification for format for listing costs of work for Sections under Divisions 2 through 16.
- 2.3 Identify each line item with number and title.

PART 3 – PREPARING SCHEDULE OF VALUES

- a. Itemize separate line item cost for work required by each section of this specification.
- b. Break to indicate total installed cost, with overhead and profit.
- c. Round off figures to nearest dollar.
- d. Make sum of total costs of all items listed in schedule equal to total Contract sum.

PART 4 – REVIEW AND RESUBMITTAL

- 4.1 After review by Owner Representative, revise and resubmit schedule as required. Resubmit revised schedules in same manner.

END OF SECTION - 01370

SECTION 01420
INSPECTION OF WORK

PART 1 – GENERAL

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

a. Inspection:

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

b. Notice:

The Contractor shall give the Owner 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 Owner 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 County 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 Owner 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 Owner 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 Owner 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 Owner, either upon receipt of a bill therefore or by deduction from the final amount due the Contractor, for all hours worked by the Inspector or other authorized Owner employees on Saturdays, Sundays, or legal holidays at one and one-half (1 ½) times the employees basic rate of pay, plus current rate for overhead.

END OF SECTION - 01420

SECTION 01600
PRODUCTS AND MATERIALS

PART 1 – GENERAL

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Products.
 - 2. Transportation and handling.
 - 3. Storage and protection.
 - 4. Product options.
 - 5. Equals
 - 6. Substitutions.
 - 7. Contractor warranties
 - 8. Limitations

1.3 RELATED REQUIREMENTS SPECIFIED ELSEWHERE:

- A. Schedule of Values: Section 01370.
- B. Shop Drawings, Project Data and Samples: Section 01340.
- C. Inspection of Work: Section 01420.

1.4 PRODUCTS

- A. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- B. Provide interchangeable components of the same manufacture, for components being replaced.

1.5 TRANSPORTATION AND HANDLING:

- A. 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.
- B. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.6 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturers' instructions, with seals and labels intact and legible.
- B. Store sensitive products in weather tight, climate controlled enclosures.
- C. For exterior storage of fabricated products, place on sloped supports, above ground.
- D. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation or potential degradation of product.
- F. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- G. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.7 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One Manufacturer: Provide products of manufacturer named and meeting specifications, unless it is no longer available, is incompatible with existing work, or does not comply with specified requirements or governing regulations. Where only one manufacturer is named, the product indicated is the preferred product, however, substitution of equal products is allowed under the provisions of Section 01300 and this Section.
- C. Products Specified by Naming More Than One Manufacturer: The selection is at Contractor's option provided the product selected complies with specified requirements.
- D. "Or Equal" Provisions: Where products or manufacturers are specified by name accompanied by the term "or equal" or such "or equal" provision as specified below, provide either the product named, or comply with the requirements for gaining approval of substitutions for the use of an unnamed product.

1.8 EQUALS

- A. 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 Owner Representative is the equal thereof in all essential characteristics.
- B. If the Owner 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.

1.9 SUBSTITUTIONS

- A. Architect will consider requests for substitutions only in accordance with the following criteria:
 - 1. Proposals for substitutions shall be made only by the Contractor. The Architect will not review direct submittals by manufacturers, suppliers or Subcontractors.

2. All substitutions relating to a particular Section of the Specifications shall be submitted at one time, listing item for item on the Contractor's letterhead, including physical samples, brochures and technical data supporting compliance for all items.
 3. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
 4. Substitutions for the specified product, brand or manufacture that have been submitted and disapproved by the Architect shall not be subsequently resubmitted in any modified form, and the Contractor will be required to furnish the specified materials.
 5. Submission of data substantiating a request for substitution shall take place within 35 days after award of Contract. Requests submitted after this time will be considered only at the discretion of the Architect.
- B. Burden of proof as to equality of any material submissions or "or equal" justification data shall not in any way authorize an extra cost or extension of time to the Contract.
- C. In the event Contractor furnishes materials, processes or articles more expensive than that specified, the difference in cost of such materials, processes or articles so furnished shall be borne by Contractor, at no extra cost or time to the Contract.
- D. Substitutions shall, without exception, be manufactured of same basic materials, and comply with or exceed all specification requirements of dimension, function, structure and appearance, without deviation.
- E. Use of approved substitutions shall in no way relieve Contractor from responsibility for compliance with the Contract Documents after installation.
- F. In the event materials are substituted and installed without proper authorization, the Contractor shall remove such materials and install those specified at not extra cost or time to the Contract.
- G. Contractor shall determine the effect approved substitutions will have on other portions of the Work and so inform his subcontractors, suppliers and employees of these effects. Any extra costs incurred by the Contractor, subcontractors, suppliers or employees as a consequence of the substitution shall be included in the Contractor's costs, with no extra cost or time added to the Contract.
- H. The admissibility of a proposed substitution shall be determined solely by the specifying Architect. The Architect's decision shall be final.
- I. Substitutions may be subject to approval by an enforcement agency, and in such case the requirements of the enforcement agency shall be followed, at no extra cost or time to the Contract.
- J. A request for substitution constitutes a representation that the Contractor:
1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 2. Will provide the same Warranty for the substitution as for the specified product.
 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost or time to the Contract.
 4. Waives claims for additional costs or time extension to the Contract which subsequently may become apparent.
 5. Will reimburse Owner and Architect for review of substitutions or redesign services associated with re-approval by any enforcement agency.

- K. Substitutions will not be considered when they are indicated or implied on shop drawings or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- L. Substitutions may be considered after the 35 day limitation when a product becomes unavailable through no fault of the Contractor.
- M. Substitution Submittal Procedure: In accordance with Section 01300.

1.10 CONTRACTOR WARRANTIES:

- a. It has personally investigated proposed product or method, and determined that it is equal or superior in all respects to that specified.
- b. It will provide the same guarantee for substitution as for product or method specified.
- c. It will coordinate installation of accepted substitution into work, making such changes as may be required for work to be complete in all respects.
- d. It waives all claims for additional costs related to substitution which consequently becomes apparent.
- e. Cost data is complete and includes all related costs under its contract, but excludes:
 - 1. Costs under separate contracts.
 - 2. Design Team's re-design.

1.11 LIMITATIONS:

- a. Substitutions will not be considered if:
 - 1. They are indicated or implied on shop drawings or project data submittals without formal request submitted within 30 days of award;
 - 2. Acceptance will require substantial revision of Contract Documents.
 - 3. Delays in delivery of specified materials will not be considered justification for substitutions.

PART 2 – PRODUCTS LIST

- 2.1 Within 60 days after date of Contract, submit to Architect five (5) copies of complete list of all products which are proposed for installation.
- 2.2 Tabulate list by each specification section. For products specified under reference standards, include with listing of each product:
 - a. Name and address of manufacturer;
 - b. Trade name;
 - c. Model or catalog designation;
 - d. Manufacturer's data:
 - 1. Performance and test data
 - 2. Reference standards

PART 3 - EXECUTION

Not Used.

END OF SECTION - 01600

SECTION 01700
CONTRACT CLOSE-OUT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Close-out procedure.
 - 2. Adjusting.
 - 3. Project record documents.
 - 4. Operation and maintenance data.
 - 5. Spare parts and maintenance materials.

1.2 FINAL COMPLETION REVIEW

- A. When the Contractor determines that the Work is complete in accordance with Contract Documents, the Contractor shall submit to the Owner and Architect written certification that the Contract Documents have been reviewed, the Work has been inspected by the Contractor and by authorities having jurisdiction and the facility is ready for Final Completion review.
- B. Architect will prepare a list of items to be completed and corrected (punch list).
- C. Contractor shall distribute corrected punch list to Subcontractors and suppliers.
- D. The punch list shall include all items to be completed or corrected prior to Application for Final Payment.
- E. The punch list shall identify items by location and consecutive number.
- F. Contractor shall prepare separate lists according to categories used for Drawings.
- G. Architect's consultants and Owner's consultants will conduct a walk-through of project with the Contractor to review scope and adequacy of the punch list.
- H. Verbal comments will be made to the Contractor by the Architect or Owner, and the Architect's and Owner's consultants. These comments will indicate generally the additions and corrections to be made to the punch list. Such comments shall not be considered to be comprehensive. Contractor shall use the comments as guidance in preparing the punch list for the Final Completion review.

1.3 FINAL COMPLETION MEETING

- A. On a date mutually agreed to by Owner, Architect and Contractor, a meeting shall be conducted at the project site to determine whether the Work is complete in accordance with the Contract Documents.
- B. Architect and the Architect's and Owner's consultants, as authorized by the Owner, shall attend the Final Completion meeting.
- C. In addition to conducting a further walk-through of the facility and reviewing the punch list, the purpose of the meeting shall include submission of warranties, guarantees and bonds to the Owner, submission of operation and maintenance

manuals, provision of specified extra stock to the Owner, and submission of other Contract close-out documents and materials as required, if not already submitted.

- D. Contractor shall make corrections to the punch list and record additional items as may be identified during the walk-through, including notations of corrective actions to be taken.
- E. If additional site visits by the Architect and the Architect's and Owner's consultants are required to review completion and correction of the Work, the costs of additional visits shall be reimbursed to the Owner by the Contractor by deducting such costs from the final payment. Reimbursement to the Architect or consultants, when justified, will be by Owner.

1.4 UNCORRECTED AND NON-CONFORMING WORK

- A. The Owner and Architect shall have the right to reject materials and workmanship which are defective or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected material shall be removed from the premises. If the Contractor fails to correct such reject work within a reasonable time, fixed by written notice, the Owner will correct same and charge the expense to the Contractor by change order.
- B. Should it be considered necessary or advisable by the Owner or Architect at any time before Date of Final Completion of the entire work to make an examination of work already completed by removing or tearing out the same, the Contractor shall on request promptly furnish all necessary facilities, labor and material. If such work is found to be defective in any respect due to fault of the Contractor or his subcontractor, all extra expenses shall be included in the Contractor's costs.

1.5 CLEANING

- A. Prior to Date of Final Completion, Contractor shall conduct cleaning operations described in Section 01710, including removal of construction facilities and temporary controls.

1.6 INSPECTIONS AND TESTING

- A. Prior to the Final Completion review, complete inspection and testing required for the Work, and when required as a part of the Contractor's responsibilities, secure approvals by testing agencies or authorities having jurisdiction. Testing and inspection requirements shall include, but are not limited to:
 - 1. Inspections, tests, balancing, sterilization and cleaning of plumbing and HVAC systems.
 - 2. Inspections and tests of electrical power and signal systems.
 - 3. Inspections and tests of conveying systems, as applicable.

1.7 CERTIFICATE OF FINAL COMPLETION

- A. When Architect determines that the list of items to be completed and corrected (punch list) is sufficiently complete for Owner to occupy the premises for the use to which it is intended, Owner will file a Notice of Completion with the City Recorder's Office.
- B. Provide submittals that are required by governing or other authorities.

- C. Submit final application for payment for 100 percent completion, less retainage, if any, identifying total adjusted Contract sum, previous payments, and sum remaining due.

1.8 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

1.9 PROJECT RECORD DOCUMENTS

- A. Requirements for Project Record Documents are addressed in Section 01720 of this specification.

1.10 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.
- B. Deliver not less than two sets to project site, bound in three-ring binders and indexed. Obtain receipt prior to final payment.

1.11 FINAL PAYMENT

- A. After completion of all items listed for completion and correction, after submission of all documents and products, and after final cleaning, submit final Application for Payment, identifying total adjusted Contract Sum, previous payments and sum remaining due. Payment will not be made until the following are accomplished:
 - 1. Project record documents have been transferred and approved by the Owner.
 - 2. Extra stock and maintenance materials have been transferred and received by Owner.
 - 3. Warranty, guarantee and bonding documents and operation and maintenance data have been received and approved by Owner.
 - 4. All lien releases have been received by the Owner.
 - 5. All mechanics' liens not released have been legally bonded by Contractor.
 - 6. Contractor's surety has consented to final payment.
- B. Final Payment will be made in accordance with Section 9, General Conditions.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION - 01700

SECTION 01720
PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

- 1.1 The provisions of the Standard Specifications for Public Works Construction (SSPWC), latest Edition, apply except as modified herein.
- 1.2 Related Requirements Specified Elsewhere:
- a. Project Meetings: Section 01200.
 - b. Construction Schedules: Section 01310.
 - c. Shop Drawings, Project Data, and Samples: Section 01340.
 - d. Products and Materials: Section 01600.
 - e. Contract Closeout: Section 01700.

PART 2 – MAINTENANCE OF DOCUMENTS

- 2.1 Maintain at job site, one copy of:
- a. Contract Drawings;
 - b. Specifications;
 - c. Addenda;
 - d. Reviewed Shop Drawings;
 - e. Change Orders;
 - f. Other Modifications to Contract;
 - g. Field Test Records;
 - h. Construction Schedules;
 - i. "As-Built" Drawings.
- 2.2 Storage:
- a. Maintain documents in clean, dry, legible condition.
- 2.3 Use and Availability:
- a. Not for construction purposes.
 - b. Available at all times for inspection by Engineer.

PART 3 – RECORDING

- 3.1 General:
- a. Provide red ballpoint pen for all marking.
 - b. Label each document "PROJECT RECORD" in large, printed letters.
 - c. Keep record documents current.
 - d. Do not permanently conceal any work until required information has been recorded.
 - e. These drawings shall be up-to-date and so certified by the Project Inspector at each progress payment request submittal.
- 3.2 Marking:
- a. Contract Drawings. Legibly mark to record actual construction:
 - 1. Depths of various elements of foundation in relation to finish floor elevation;
 - 2. Horizontal and vertical location of underground utilities and appurtenances referenced

- to permanent surface improvements;
 - 3. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure;
 - 4. Field changes of dimension and detail;
 - 5. Changes made by Change Order or Field Order;
 - 6. Details not on original contract drawings.
- b. Specifications and Addenda. Legibly mark up each section to record:
- 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed;
 - 2. Changes made by Change Order or Field Order;
 - 3. Other matters not originally specified.
- c. Shop Drawings. Maintain as record documents; legibly annotate drawings to record changes made after review.
- d. "As-Built" Drawings. Contractor will be provided a spare plan set for "As Built" drawings from phase 1a, parking lot and slope plantings for their purposes.

PART 4 – SUBMITTAL

- 4.1 At completion of project, deliver record documents to Engineer. Accompany submittal with transmittal letter, in duplicate, containing:
- a. Date;
 - b. Project title and number;
 - c. Contractor's name and address;
 - d. Title and number of each record document;
 - e. Certification that each document as submitted is complete and accurate;
 - f. 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 - 01720

SECTION 02100
SITE PREPARATION

PART 1 – GENERAL

- 1.1 The provisions of the Standard Specifications for Public Works Construction, Section 300, latest Edition, apply except as modified herein.
- 1.2 Scope:
- a. Protection of all improvements to remain.
 - b. Clearing and grubbing of the site of work as noted on drawings.
 - c. Removal and disposal of all deleterious materials.
 - d. Furnishing, developing, applying and providing watering equipment as required for the project.
 - e. Demolition and removal from the site of all materials, as shown on the drawings and as required for the new work.
 - f. Removal and disposal of any additional items not specifically mentioned herein which may be found within the work limits.
 - g. Electrical removals.
 - h. Special handling and disposal of any toxic wastes (including asbestos).
- 1.3 Related Work Specified Elsewhere:
- a. Landscape planting: Section 02900.
 - b. Irrigation systems: Section 02810.
- 1.4 Acceptance of Site:
- a. 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.
- 1.5 Responsibility and Coordination:
- a. Contractor shall secure and maintain all required permits and licenses, and pay all fees necessary to legally complete the work of this section.
 - b. Contractor shall notify utility companies for all utilities to be cut off, modified or relocated, and shall maintain and protect all active utilities.
- 1.6 Protection and Safety:
- a. Conform to all requirements of CAL OSHA "Construction Safety Orders" of the State of California Division of Industrial Safety, and applicable ordinances of the City.
 - b. 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.
 - c. 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.
- 1.7 Salvage Materials:

- a. 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.

PART 2 – EXECUTION

2.1 General Removal Work:

- a. Demolition and removal work shall be carefully performed to avoid damage to existing facilities as indicated on the plans to remain.
- b. All removal work (except as noted) shall be disposed of off-site, in legal manner, at Contractor's expense.

2.2 Site Clearance and Disposal:

- a. 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.
- b. 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.
- c. Miscellaneous inactive or abandoned underground facilities located 12 inches or more below finish grade may be removed with Agency approval.
- d. Miscellaneous active lines within 12 inches of finish grade that are uncovered during the grading operations shall be protected.
- e. 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.

2.3 Utilities:

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

2.4 Debris Burning:

- a. Burning of debris will not be permitted except by written permission of the Air Pollution Control Authorities and governing fire authorities.

2.5 Special Handling and Disposal of Any Toxic Wastes:

- a. 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.

END OF SECTION - 02100

SECTION 02225
TRENCHING, EXCAVATION AND BACKFILLING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Excavating trenches, holes and pits for constructing the Work.
- B. Compacted fill from top of utility bedding to subgrade or finish grade elevations.
- C. Backfilling and compaction.

1.02 RELATED SECTIONS

- A. Contract General Conditions.
- B. Section 02230 – Site Clearing.
- C. Drawings and general provisions of Contract, including General and Supplementary Conditions and Specifications sections, apply to the work of this section.

1.03 WORK NOT INCLUDED IN THIS SECTION

- A. Earthwork (including excavation, filling, and compacting): See Section 02300.

1.04 REFERENCES

- A. ASTM D 1557.

1.05 DEFINITIONS

- A. Utility: Any buried or aboveground pipe, conduit, cable, associate devices or appurtenances, or substructure pertaining hereto.

1.06 COORDINATION

- A. Coordinate work with City of Westlake Village representative.
- B. Verify that the location of existing utilities have been indicated at work site by utility authorities and City of Bakersfield representative.

1.07 EXISTING UTILITIES

- A. The Engineer has made a diligent attempt to indicate on the plans the location of all main and trunkline utility facilities, which may affect the Work. In most cases, however, the only available information relative to the existing location of said facilities was small-scale undimensioned plats. The locations of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- B. Service laterals and appurtenances have also been shown where information was available as to their location. In most cases, however, the only available information relative to the existing location of said facilities was small-scale undimensioned plats. The locations of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- C. At new work location, expose by hand methods all existing utilities along the route of the new

work prior to using any mechanical equipment. If mechanical equipment is allowed at a particular location, it may only be used after the completion by the Contractor of a successful exhaustive search by hand methods to locate all existing facilities as indicated on the plans, and as indicated on the ground by City of Bakersfield representative.

- D. Maintain all existing utility mains and service lines in constant service during construction of the Work.

PART 2 - PRODUCTS

2.01 FILL MATERIALS

- A. Fill Type S1: As specified in Section 02205.
- B. Fill Type S2: As specified in Section 02205.
- C. Fill Type S3: As specified in Section 02205.
- D. Fill Type S4: As specified in Section 02205.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Protect plant life, lawns, trees, shrubs, and other features not authorized for removal.
- B. Protect existing structures, fences, sidewalks, paving, curbs, and other improvements from excavation equipment and vehicular traffic.
- C. Maintain and protect above and below grade utilities, which are to remain.
- D. Comply with all provisions of the Construction Safety Orders and General Safety Orders of the California Division of Industrial Safety, as well as all other applicable regulations as they pertain to the protection of workers from the hazard of caving ground in excavations.

3.02 EXCAVATION

- A. Excavate soil required to locate existing utilities and install the work.
- B. Use hand methods of excavation to locate existing utilities, and to excavate trenches, pits and holes in congested areas.
- C. Employ equipment and methods appropriate to the work site. Small mechanical excavators may be used only in areas where there is sufficient space so as not to damage adjacent improvements, and where the locations of all existing utilities have been determined by hand methods of excavating.
- D. Cut trenches just wide enough to enable installation and proper backfill, and to allow inspection.
- E. Do not interfere with 45 degree bearing splay of foundations.
- F. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.
- G. Excavate trenches, pits or holes bottoming in hardpan to a minimum of 6 inches below the grade for the bottom of the pipe and any couplings, and then backfill to the pipe grade with

Type S2, S3 or S4 material, thoroughly compacted. No additional payment will be made for such over-excavation and refill.

- H. In all trenches or excavation sites where a firm foundation is not encountered, such as soft, spongy, or otherwise unsuitable material, remove the material to a minimum of 12 inches, or to a depth determined by the Engineer, below the bottom of the proposed pipe or structure, and backfill the space with Type S2, S3 or S4 material containing sufficient moisture to produce maximum compaction. No additional payment will be made for such additional excavation or backfill.
- I. Excavate trenches to provide the minimum cover required.
- J. Stockpile excavated material to be returned to trench adjacent thereto in location, which will not be detrimental to existing improvements, or pedestrian or vehicular traffic. Remove unsuitable or excess material not being used, from site.
- K. When excavating through tree roots, perform work by hand and cut roots, where authorized, with a saw.

3.03 BACKFILLING

- A. After installation of pipes and appurtenances and placement of pipe bedding material at any location, backfill trenches and excavations to finish grade, or to the subgrade upon which replacement surface improvements are to be placed.
- B. Backfill trenches above pipe bedding material and to within 6 inches of finish subgrade with Type S1, S2, S3 or S4 soils.
- C. Employ a placement method that does not disturb or damage existing or proposed pipes or other Utilities or Improvements.
- D. Place and compact all soil backfill in continuous layers not exceeding 8 inches in uncompacted thickness.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Backfill final 6 inch thickness to finish subgrade in areas to receive concrete, asphalt-concrete, aggregate base, or other non-vegetative surface improvement, with Type S1, S2 or S4 soils.
- G. Backfill final 6-inch thickness to finish subgrade in areas to receive sod, other vegetation, or bare soil, with Type S2 or S3 soils.
- H. Obtain minimum of 85% relative compaction of backfill from bottom of backfill to a level 1.5 feet below finish subgrade, and obtain minimum of 95% relative compaction of backfill in top 1.5 feet below finish subgrade, in areas to receive concrete, asphalt-concrete, aggregate base, or other non-vegetative surface improvement.
- I. Obtain minimum of 85% relative compaction of backfill in areas to receive sod, other vegetation, or bare soil.

3.04 TOLERANCES

- A. Top Surface of Backfilling Under Paved or Concrete Areas: Plus or minus 0.05 feet from required elevations.

- B. Top Surface of General Backfilling: As required for finish surface to match adjacent improvements or ground.

3.05 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of City Standard Specifications.
- B. Compaction testing will be performed in accordance with ASTM D 1557.
- C. If tests indicate work does not meet specified requirements, recompact, and retest.

3.06 PROGRESS AND PROSECUTION

- A. Backfill any excavation opened in any day on that same day.

END OF SECTION - 02225

SECTION 02230
SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Protect existing trees, shrubs, groundcovers, plants and grass to remain.
2. Removing existing trees, shrubs, ground covers, plants and grass designated for removal.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing and disposing above – and below-grade site improvements.
6. Disconnecting and capping or sealing site utilities.
7. Temporary erosion and sedimentation control measures.

1.2 RELATED SECTIONS

A. City Standard Spec. – CLEARING AND GRUBBING

1.3 REGULATORY REQUIREMENTS

- A. Conform to all applicable codes, including requirements for disposal of debris, air quality control, etc.
- B. Coordinate clearing work with the Construction Inspector.

1.4 MATERIAL OWNERSHIP

A. Except for stripped topsoil or other materials indicated to remain for re-use on City's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from City and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- B. Salvagable Improvements: Carefully remove items indicated to be salvaged and store as directed by City Representative.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

- D. Do not commence site-clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 2 Section "Soil Materials"
 - 1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Thoroughly examine all contract documents and verify that areas of demolition are consistent with areas and requirements for new improvements. Reconcile any differences prior to starting work.
- B. Protect and maintain benchmarks and survey control points from disturbance during construction.
- C. Locate and clearly flag trees and vegetation to remain or to be relocated.
- D. Protect existing site improvements to remain from damage during construction. Restore damaged improvements to their original condition, as acceptable to City Representative.
- E. No allowance will be made for extra work resulting from negligence or failure to meet requirements of this section.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- D. Comply with all provisions of the SWPP for this project.

3.3 TREE PROTECTION

- A. Before starting site clearing, erect and maintain temporary fencing at drip-line of all trees not marked for removal on plan. Tree protection fencing locations shall be approved by City Representative before work begins. Remove fence when construction is complete.
- B. Do not excavate within tree protection zones, unless otherwise indicated. Any work to be performed within tree protection zones shall be done by hand and under supervision of City Representative.
- C. Do not cut tree roots unless authorized by City Representative, and then only cut with a saw.
- D. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by City.

3.4 UTILITIES

- A. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.
 - 1. Arrange with utility companies to shut off indicated utilities.
- B. Existing Utilities: Do not interrupt utilities serving facilities occupied by City or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Provide advance notification of intent to disrupt utilities not less than 3 weeks prior to scheduled date of proposed utility interruptions.
 - 2. Notify City not less than two days in advance of actual proposed utility interruptions.
 - 3. Do not proceed with utility interruptions without City's written permission.

3.5 CLEARING AND GRUBBING

- A. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200mm), and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL EXCAVATION

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
- C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.

3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

3.8 DISPOSAL

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off City property.
 - 1. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 02230

SECTION 02300**EARTHWORK****PART 1 – GENERAL****1.1 RELATED WORK**

- A. Description: Perform earthwork in accordance with Contract Documents.
- B. Standard Specifications:
 - 1. All work to be performed and materials to be used shall be in accordance with the Standard Specifications for Public Works Construction, latest edition and supplements.
 - 2. The Contractor shall have one copy of the Standard Specifications at the job site.
 - 3. The Standard Specifications apply only to performance and materials and how they are to be incorporated into the Work. The legal/contractual relationship sections and the measurement and pavement sections do not apply to this document.

1.2 DEFINITIONS

- A. Classified Excavation: Removal and disposal of materials not defined as rock.
- B. Unclassified Excavation: Removal and disposal of materials encountered regardless of nature of materials, including rock.
- C. Unauthorized Excavation: Removal of materials beyond indicated sub-grade elevations or dimensions without Architect's authorization. No payment will be made for unauthorized excavation or remedial work.
- D. Authorized Additional Excavation: Removal of material authorized by Architect based on determination by Testing Agency that the material is soil not capable of supporting design load, or otherwise unsuitable material. Payment will be made for authorized additional excavation and remedial work in accordance with applicable provisions of Contract Documents.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Excavation Work: Perform in compliance with applicable requirements of laws, codes, ordinances and regulations of Federal, State, County and Municipal authorities having jurisdiction over work.
 - 2. Shoring and Bracing: Comply with requirements of County and Municipal Codes having jurisdiction over work. Secure approval by authorities administering this code before proceeding with work.
 - 3. When such laws, codes or ordinances contain more stringent requirements than Contract Documents, the more stringent requirements govern.

1.4 REFERENCES

- A. Except as modified by governing codes and by Contract Documents, comply with applicable provisions and recommendations of the following:
 - 1. ANSI A10.2 "Safety Code for Building Construction."
 - 2. AASHTO "American Association of State Highway and Transportation Officials."
 - 3. Part 1926, subpart P, "Excavation, Trenching and Shoring," CONSTRUCTION SAFETY AND HEALTH REGULATIONS (OSHA), including Sections relative to protection of public; sheet piling, shoring and bracing; trenches and excavating equipment.
 - 4. Cal/OSHA.
 - 5. "Standard Specifications for Public Works Construction," latest edition.

1.5 SUBMITTALS

- A. Testing Laboratory Soil Reports: The following reports are to be submitted directly to Architect by Soils Testing Laboratory, with copy to Contractor and others where indicated:
 - 1. Report and certification of Granular Fill and Drainage Fill.
 - 2. Test reports on borrow material.
 - 3. Report on actual unconfined compressive strength or field density test for sub-grades.
 - 4. Verification of each footing sub-grade.
 - 5. One optimum moisture-maximum density curve for each type of soil encountered.
 - 6. Field density test reports.

1.6 PROJECT CONDITIONS

- A. Examine site, Drawings, records of existing utilities and construction, record of test borings, and subsurface exploration report available from Owner. Records of test borings are for information only and are not guaranteed to represent all conditions that will be encountered.

1.7 PROTECTION

- A. Soils Consultant: Retain services of qualified Soils Consultant licensed in the State of California, at the approval of Owner, to advise on construction techniques involved in work, including design, checking and approving of temporary bracing, sheeting, shoring, underpinning and other items pertinent to work, and encountered during prosecution of work. Consultant shall be primarily concerned with construction methods, which will prevent settlement or damage to surrounding structures, sidewalks, embankments, utilities and roads on Owner's property and adjoining property.
- B. Existing Utilities:
 - 1. Maintain existing utilities that are to remain in service. Before excavating over or adjacent to existing utilities, notify Utility Owner to ensure protective work will be

coordinated and performed in accordance with Utility Owner's requirements. If existing service lines, utilities and utility structures, which are to remain in service, are uncovered or encountered during these operations, safeguard and protect from damage.

2. Within limits of excavation, remove existing piping, subsoil drainage systems, conduit, manholes and relocated items, which are to be abandoned. Plug open ends of utilities to remain with concrete.
 3. Re-route existing subsoil drains which obstruct work around new construction, or incorporate them into new drainage systems.
 4. Consult Architect immediately for directions, should uncharted or incorrectly charted piping or other utilities be encountered during excavation. Cooperate with Owner and public and private utility companies in keeping their respective services, utilities and facilities in operation. If damaged, repair utilities to satisfaction of Architect and Utility Owner concerned.
- C. Existing Facilities: Protect and maintain in satisfactory manner, existing pavements, curbs, gutters, structures, conduits, fences, walls and other facilities to remain above and below grade. Restore facilities damaged by construction operations.
- D. Pumping and Draining: Excavate areas in such manner as to afford adequate drainage. Control grading in vicinity of excavated areas so ground surface will slope to prevent water running into excavated areas. Until work is completed, remove water from areas of construction that may interfere with proper performance of work or that may result in damage to the soil sub-grade and provide sumps, pumps, well points, electric power and attendance required for this purpose on a 24-hour basis if necessary. Protect construction from water during construction, including prevention of erosion of completed work during construction and until permanent drainage and erosion controls are operational. Repair adjoining properties, facilities and streets damaged due to improper protection.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. General Fill: Sand, gravel, friable earth, or non-expansive clays, subject to Testing Laboratory's approval. Fill and backfill material shall be free of organic material, slag, cinders, expansive soils, trash, or rubble and stones having maximum dimension greater than 6 inches. In these Specifications, expansive soil is as defined in the project's geotechnical report.
1. Material used for fill and backfill under paved areas, within 10 feet of pavement sub-grade: Non-expansive as determined by Soils Testing Laboratory.
 2. Top 18 inches of sub-grade fill under lawn areas: Earth containing no more than 10 percent stones or lumps larger than 1-1/2 inches.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Reference Points: Provide and maintain throughout construction, bench marks and other reference points on and off site.

- B. Site Preparation: Clean areas within Contract Limit Lines as required. Remove trees (except trees indicated to remain or to be relocated), shrubs and vegetation. Prior to removal of trees or other existing items, verify removal with Owner in writing.
1. Strip topsoil in areas of building and paving construction and stockpile on site at a location approved by Owner. Remove subsoil, stones, clods of hard earth, plants and their roots, sticks and other matter not conducive to plant growth.
 2. Remove existing concrete, masonry, rubble, and paving to a depth of at least 24 inches below sub-grade in paved and graded areas. In areas to be paved, spread leveling courses of crushed material acceptable to Architect over surface of remaining rubble and compact with vibrating compactors. Provide additional crushed material and compact as required to produce a dense uniform surface. Lift thickness, measured before compaction, shall not exceed 8 inches.
 3. Remove rubble beneath areas where building slabs are to be supported on grade. Remove abandoned slabs, footings, foundation walls, pits, manholes, conduit, pipes and other existing below-grade construction that may obstruct new work. Demolish and remove such obstructions as required to provide at least 24 inches horizontal and vertical clearance from new construction, including excavation and placement of engineered fill beneath footing and slabs-on-grade.
 4. Beneath areas where building slabs, walks and paving are supported on grade, excavate existing fill soils and loose, soft, or disturbed natural soils and replace with properly compacted fill per Soils Testing Laboratory's recommendations.
- C. Fill above described areas to sub-grade with acceptable material as specified.

3.2 EXCAVATION

- A. Excavation for General Grading: In addition to requirements for clearing, excavate to sub-grades indicated on grading plan. Over-excavation for building pads is shown in Soils Report. Fill and compact excavations made below elevations indicated unless authorized by Architect, as specified for filling and compacting at no additional cost to Owner.

3.3 ROCK EXCAVATION

- A. Rock Estimate: Should rock be encountered, total amount of rock in place to be excavated shall be determined as hereinafter specified. Adjustment for excavation of such rock will be made as provided by Contract Documents.
- B. Rock Classification: Rock is classified as solid rock in ledges, bedded deposits or conglomerate deposits so firmly cemented as to present characteristics of solid rock and which cannot be removed with a $\frac{3}{4}$ cubic yard capacity power shovel without drilling and blasting, and boulders having volume of more than $\frac{1}{2}$ cubic yard. Rocks over 6 inches shall be removed.
- C. Rock Survey: Before excavating material which Contractor may claim as rock excavation, uncover and expose material to permit accurate measurements and notify Architect before proceeding. No payment will be allowed for rock or cemented materials, which have not been uncovered and measured as specified, nor for boulders that have not been separated from earthwork for proper measurements. Material uncovered shall then be cross-sectioned and measured and quantities within rock payment lines hereinafter specified shall be computed and certified by a registered professional engineer or registered land surveyor engaged and paid for by Contractor.

1. Submit complete current records of quantities of rock excavated, methods of excavation used, and extent of labor and equipment involved, date and sign record by professional engineer or land surveyor, and send copies to Architect for approval. Such records shall also include plot plans at suitable scale, showing elevations and other measurements of rock excavation and location and measurements of computed volumes of boulders encountered. Provide labor and equipment necessary to make these records. No payment will be considered for rock which has been removed without obtaining required data.

3.4 FILLING

- A. Materials for fills shall consist of acceptable material, as specified in Paragraph, MATERIALS, obtained from required excavation on site, or from borrow sources. Materials shall be reviewed by Soils Testing Laboratory and may be reviewed by Architect.
- B. Utilization of Excavated Materials: Suitable excavated material, as specified in the Paragraph, MATERIALS, may be used in formation of fills and for backfilling. Separate unsuitable material from material that is suitable for fill. Separate material suitable for fill under slabs and paving and for backfill from material that is only suitable for general grading.
- C. Borrow: Acceptable borrow shall consist of suitable material specified in the Paragraph, MATERIALS. Submit representative samples of each type of borrow material to Soils Testing Laboratory for approval prior to importing to site.
- D. Fill Under Paved Areas, Building Slabs and Structural Members: Place fill materials in horizontal loose layers, spread, mix and place in such manner as to produce uniform thickness of material. Start placement in deepest area and progress approximately parallel to finished grade. Layers shall not exceed 8 inches in thickness prior to compaction.
 1. Do not place fill material on areas where free water is standing, or on surfaces that have not been approved by Soils Testing Laboratory.
- E. Compaction: Compact each layer of fill with acceptable equipment to achieve the following minimum percentages of maximum dry density at the moisture content specified in these Specifications. Compact all fill to at least 90%. Compaction or consolidations by soaking or jetting with water are not acceptable alternative methods to utilization of mechanical equipment.
- F. Moisture Control for Fill and Sub-grade:
 1. Maintain moisture content by wetting or drying manipulation. Suspend compacting operations when satisfactory results cannot be obtained because of rain or other unsatisfactory conditions.
 2. Sprinkle with water fill and sub-grade material which does not contain sufficient moisture to be compacted in accordance with requirements of Specifications.
 3. Dry fill and sub-grade material containing excess moisture prior to or during compaction to moisture content not greater than two percentage points (2%) above optimum. Reduce moisture content of material which displays pronounced elasticity or deformation under action of loaded rubber tired conveyances to optimum if necessary to secure stability. For sub-grade material, these requirements for maximum moisture apply at time of compaction of sub-grade.

4. In lieu of drying by manipulation-hydrated lime, monohydrated lime or similar beneficial ingredients may be used to reduce moisture content, reduce plasticity index or improve workability. Apply such ingredients in manner and quantity recommended by manufacturer or as required by Soils Testing Laboratory.
- G. Fill Under Areas of General Grading: Obtain material for fill from excavation or from borrow sources as specified.
1. Place fill in 8-inch layers (maximum) to suitable elevation above sub-grade to provide for anticipated settlement to elevation indicated. Compact layers to specified density at optimum moisture content as determined by ASTM D1557.

3.5 QUALITY CONTROL

- A. General Requirements:
1. Owner will employ, at his expense, Soils Testing Laboratory, to perform tests and submit reports specified in this Section.
 2. The Soils Testing Laboratory will conduct and interpret tests; state in reports whether test results indicate conformance with Contract Document requirements, and note deviations.
- B. Tests: Soils Testing Laboratory will perform tests herein specified and additional tests required, and submit test reports to Architect, including the following:
1. Optimum Moisture-Maximum Density Curve shall be supplied by the Soils Testing Laboratory. Determine maximum densities by ASTM D1557.
 2. Should borrow material be required, each type shall receive mechanical analysis, plasticity index determination, moisture-density curve determination and expansion index analysis by Soils Testing Laboratory as required.
- C. Sub-grade and Fill Layers: Soils Testing Laboratory shall approve Sub-grades and fill layers before construction of further work thereon. Tests of sub-grades and fill layers will be taken as follows:
1. Make at least one field density test of sub-grade for every 500 cubic yard minimum or when specified by the Soils Testing Laboratory.
 2. Backfill: Take field density tests along walls at 150-foot maximum centers at elevations to be determined but no greater than two feet vertical intervals.
- D. Cooperate with Soils Testing Laboratory in performance of required tests.
- E. If, in Architect's opinion, based on Soils Testing Laboratory's reports, fill that has been placed is found to be below specified density, Architect will require additional compaction and testing at Contractor's expense.

3.6 DISPOSAL OF EXCAVATED MATERIALS

- A. Dispose of the following material off Owner' property:
1. Unsuitable excavated materials.
 2. Excess excavated material.
 3. Stripped topsoil which is not being stockpiled for future work, unless disposition on site is directed by Owner.

- B. Do not burn material resulting from clearing and grubbing operations on site. Remove from Owner's property.

END OF SECTION 02300

SECTION 02547
 GRANULAR SURFACING

PART 1 – GENERAL

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

a. Work Included in this Section:

- 3. Fine finish grading.
- 4. Furnishing and installing batter's box clay and conditioner
- 5. Furnishing and installing Stabilized Decomposed Granite

1.2 Work not Included:

- a. Site demolition.
- b. Rough and finish grading.
- c. Irrigation.
- d. Fencing.
- e. Concrete.
- f. Play Equipment.

1.3 Related Work Specified Elsewhere:

- a. Earthwork, Section 02300

1.4 Approvals:

- a. All rough and finish grading shall be inspected and approved before start of any work of this section.
- b. All sprinkler work affecting the work of this section shall be inspected and approved before installation of topping.

PART 2 – MATERIALS

2.1 Granular Surfacing

a. Decomposed Granite for Trail:

1. Decomposed granite shall meet the following Sieve Analysis as follows per ASTM C136

<u>Sieve Size</u>	<u>% Passing</u>
1/2" (12.7 mm)	100
3/8" (9.5 mm)	90-100
No. 4 (4.75 mm)	50-100
No. 16 (1.18 mm)	55-65
No. 30	25-55
No. 100	10-25
No. 200	5-18

The R value shall be a minimum of 70.

2. A Non-toxic, organic binder/stabilizer that is colorless and odorless concentrated powder that binds decomposed granite or crushed aggregate 3/8" or 1/4" minus.
 - a. Swell Volume: 35 ml/gm minimum in accordance with USP procedures
 - b. 90% minimum shall pass a No. 40 mesh screen
 - c. Provide NexPave Organic-Lock™ by Gail Materials or approved equal
 3. Factory Blending:
 - a. Mix decomposed granite and NexPave Organic-Lock™ with a pug mill that includes a weigh-belt feeder.
 - b. Pedestrian Paths Mix 12 lbs. of binder per 2000 lbs. of aggregate.
 - c. No on-site bucket blending is acceptable
 4. For the trail the stabilized granite shall be placed to a minimum depth of 4" compacted for pedestrian pathways and groundcover. Place decomposed granite to a minimum depth of 6" for vehicular pathways.
 5. Decomposed granite color shall be selected from a pre-approved material pallet as supplied by Gail Materials, Corona, contact: Dave Dzwleski (951) 667-6106
 6. Strictly adhere to manufacturer's specifications and recommendations for the blending of materials and subgrade preparations.
- d. Submittals:
1. Contractor to furnish conformance tests and obtain approval of material prior to delivery.
- e. Substitutions:
1. "Or Equal" Substitutions will be reviewed for acceptance/compliance prior to approval, and are encouraged to be pre-approved during the bidding process by the Construction Manager to alleviate incorrect materials being used for bidding purposes.

PART 3 – EXECUTION

3.1 Blending Stabilizer

- a. Blend 12 to 16 lbs (call manufacturer for exact blend) of Stabilizer per 1-ton of decomposed granite or crushed 3/8" or 1/4" minus aggregate screenings. It is critical that Stabilizer be thoroughly and uniformly mixed throughout decomposed granite or crushed 1/4" or 3/8" minus aggregate screenings. Bucket blending is not acceptable. Blending with a rake and or shovel is not acceptable.

3.2 Watering

- a. Water heavily to achieve full depth moisture penetration of the Stabilized D.G. Trail Mix Profile. Water activates Stabilized Material. To achieve saturation of Stabilized Profile, 25 to 45 gallons of water per 1-ton must be applied. During water application randomly test for depth using a probing device to the final depth.

3.3 Compaction

- a. Upon thorough moisture penetration, compact aggregate screenings to 85% relative compaction by compaction equipment such as; a 2 to 4-ton double drum roller or a 1,000 lb. Single drum roller with vibratory plate tamp. Do not begin compaction for 6 hours after placement and up to 48 hours.
- b. Take care in compacting decomposed granite or crushed 3/8" or 1/4" minus aggregate screenings when adjacent to planting and irrigation systems. Hand tamping with 8" or 10" hand tamp recommended.

3.4 Inspection

- a. Finished surface of pathway shall be smooth, uniform and solid. There shall be no evidence of chipping or cracking. Cured and compacted pathway shall be firm throughout profile with no spongy areas. Loose material shall not be present on the surface. Any significant irregularities in path surface shall be repaired to the uniformity of entire installation.

3.5 Maintenance

- a. Remove debris, such as paper, grass clippings, leaves or other organic material by mechanically blowing or hand raking the surface as needed. Any plowing program required during winter months shall involve the use of a rubber baffle on the plow blade or wheels on the plow that lifts the blade 1/4" off the paving surface.
- b. During the first year, a minor amount of loose aggregate will appear on the paving surface (1/16" to 1/4"). If this material exceeds a 1/4", redistribute the material over the entire surface. Water thoroughly to the depth of 1". Compact with power roller of no less than 1000 lbs. This process should be repeated as needed.
- c. If cracking occurs, simply sweep fines into the cracks, water thoroughly and hand tamp with an 8" – 10" hand tamp plate.

3.6 Repairs

- a. Excavate damaged area to the depth of the Stabilized aggregate and square off sidewalls.
- b. If area is dry, moisten damaged portion lightly.
- c. Pre-bend the dry required amount of Stabilizer powder with the proper amount of aggregate in a concrete mixer.
- d. Add water to the pre-blended aggregate and Stabilizer. Thoroughly moisten mix with 25 to 45 gallons per 1-ton of pre-blended material or to approximately 10% moisture content.
- e. Apply moistened pre-blended aggregate to excavated area to finish grade.
- f. Compact with an 8" to 10" hand tamp or 250 to 300 pound roller. Keep traffic off areas for 12 to 48 hours after repair has been completed.

- 3.7 On Going Maintenance for remainder of Construction Activity (prior to final acceptance)
- a. Remove debris, such as paper, grass clippings, leaves or other organic material by mechanically blowing or hand raking the surface as needed. Any plowing program required during winter months shall involve the use of a rubber baffle on the plow blade or wheels on the plow that lifts the blade 1/4" off the paving surface.
 - b. If cracking occurs, simply sweep fines into the cracks, water thoroughly and hand tamp with an 8" – 10" hand tamp plate.
 - c. On going maintenance is the responsibility of the contractor until final acceptance by owner. Maintenance includes, but not limited to the following:
 1. Continued watering to ensure proper moisture levels during the entire maintenance period. At no time shall the DG be allowed to "dry-up" due to lack of water/moisture in the mix.
 2. Debris and waste removal, as necessary
 3. Import of additional material for grade deviations and settling of material over the maintenance time.

END OF SECTION 02547

**SECTION 02750
CONCRETE PAVING**

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The work includes concrete paving and reinforcement.

1.2 STANDARD SPECIFICATIONS

- A. All work to be performed and materials to be used shall be in accordance with the Standard Specifications for Public Works Construction, latest edition and supplements.
- B. The Contractor shall have one copy of the Standard Specifications at the job site.
- C. The Standard Specifications apply only to performance and materials and how they are to be incorporated into the Work. The legal/contractual relationship sections and the measurement and pavement sections do not apply to this document.

PART 2 – PRODUCTS

2.1 CONCRETE

- A. Portland Cement: ASTM C150, Type II, low alkali.
- B. Aggregate Base Course: SSPWC Section 200-2.2, Crushed Aggregate Base.
- C. Water: Clean, fresh and potable.
- D. Strength: Minimum ultimate compressive strength of 2,500 psi. For testing requirements see Division 1.

2.2 FORM MATERIALS

- A. Side Forms: Douglas fir, construction grade or better, or metal forms.
- B. Stakes: Douglas fir, construction grade or better, or metal stakes.

2.3 REINFORCING: Use only where called for:

- A. Bars: ASTM A615, Grade 40.
- B. Wire: ASTM A82.
- C. Wire Mesh: ASTM A185.

2.4 EXPANSION AND CONTROL JOINTS

- A. Curb & Gutters: Asphalt impregnated fiber filler material, ½ inch thick.
- B. Control Joints for Exterior Concrete Pavement: As shown on plan or details. Control joints shall be a formed joint. Tops of joints shall be installed flush with the concrete surface. Depth of joint shall be a minimum of ¼ of the thickness of slab. Use control joints on all curb & gutters, and cross-gutters at maximum intervals of 15 feet on center. Sawed joints may be used in lieu of the above.

PART 3 – EXECUTION**3.1 ON-SITE CONCRETE WORK**

- A. Construct all site concrete of 2,500 psi concrete unless otherwise indicated or specified. Provide reinforcing bars or mesh where indicated. Form accurately to profiles shown, using wood, metal or plastic forms as approved. Place and handle concrete in manner that will avoid segregation of ingredients.
 - 1. Light standard footings, fence footings and sign footings (below ground) and similar structures may be deposited directly to holes in the ground conforming to their required sizes.
- B. Concrete Curb & Gutters: Provide ½" thick expansion joints at beginning and at end of curves and all angle points. Set plumb, square, and to same profile as the curbs. Edge curb tops to radius indicated.
- C. Concrete Walks: Provide ½" thick expansion joints as specified for curb and gutter and where walks abut rigid structures.
- D. Control Joints: Provide for exterior concrete pavement as indicated. Provide "Zip Strip" as distributed by S.C.A. Construction Supply, Santa Fe Springs, California or equal. Install tops of the joints flush with the concrete surface and depth of joint a minimum of ¼ of the thickness of slab.

3.2 FINISH

- A. Walks and Pavement: Light broom finish perpendicular to longitudinal direction of the walk. Score walks in direction and pattern indicated.
- B. Gutters: Light broom finish with 3-inch wide steel trowel finish at flowlines.
- C. Curbs: Steel trowel finish, followed by fine hairbrush finish.

3.3 CURING

- A. Concrete work shall be properly cured and protected against injury and defacement of any nature during construction operations. If weather is hot or surface has dried out, spray surface with fine mist of water, starting not later than 2 hours after final troweling. Surface of finish shall be kept continuously wet for at least 10 days. Wetting is considered emergency work and shall be performed on weekends and holidays if necessary.
- B. In lieu of water curing, within 24 hours after finishing, the concrete may be cured with an approved clear liquid during compound, applied in accordance with the manufacturer's recommendations.

3.4 FLOOD TEST

- A. All concrete gutters and concrete pavement shall be given a flood test. All concrete work where water ponds and does not run off in a reasonable amount of time, shall be removed to the nearest score or join line and replaced to provide proper drainage.

END OF SECTION 02750

SECTION 02791
PLAYGROUND SAFETY SURFACING

PART 1 – GENERAL

1.1 SCOPE

- a. Provide and install poured-in-place synthetic safety surfacing as shown and specified for playground surfaces.

1.2 RELATED SECTIONS

- a. Section 02750 – Concrete Paving
- b. Section 02880 – Playground
- c. Section 03300 – Cast-in-Place Concrete

1.3 REFERENCES

The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by basic designation only.

- a. American Society for Testing and Materials (ASTM)
 - ASTMC136 Sieve Analysis of Fine and Coarse Aggregates
 - ASTM D412 Standard Test Method Vulcanized Rubber and Thermal Plastic Rubbers and Thermal Plastic Elastomers – Tension
 - ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
 - ASTM D1682 Breaking Load and Elongation of Textile Fabrics
 - ASTM D2047 Standard Test Method for Static coefficient of Friction of Polish – Coated Floor Surfaces as Measured by the James Machine
 - ASTM D2240 Rubber Property—Durometer Hardness
 - ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials
 - ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
 - ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment
 - ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
 - ASTM D3776 Mass per Unit Area (Weight) of Woven Fabric
 - ASTM D4491 Water Permeability of Textiles by Permeability
 - ASTMD 4533 Trapezoid Tearing Strength of Geotextiles
 - ASTMD 4632 Grab Breaking Load and Elongation of Geotextiles
 - ASTM D 5199 (Measuring Nominal Thickness of Geotextiles and Geomembranes
 - ASTM F 1292 (1995) Impact Attenuation of Surface Systems Under and Around Playground Equipment
 - ASTM F 1487 (1995) Playground Equipment for Public Use
- b. Code of Federal Regulations (CFR)
 - CFR 28 Part 36 (1991) Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, Final Rule

- c. U.S. Consumer Product Safety Commission (CPSC)

CPSC (1991) Handbook for Public Playground Safety, U.S. Consumer Product Safety Commission, Washington, D.C. 20207, 301-504-0494

1.4 PERFORMANCE REQUIREMENTS

- A. Safety

Safety surfacing within playground equipment use zones shall meet or exceed the performance requirements of CPSC and ASTM F 1292 that a surface yield both a peak deceleration of no more than 200g, and a Head Injury Criteria (HIC) value of no more than 1,000g, for a head-first fall from the highest accessible portion of play equipment being installed. The highest accessible portion of playground equipment shall be as specified in Section 02880 Playground Equipment.

The Contractor is responsible for obtaining a determination (Certificate of Compliance) from the safety surfacing manufacturer of the product depth required to meet performance requirements for all play equipment.

For the existing equipment play area, the contractor is responsible for contacting the existing play equipment manufacturer to determine the depth of the synthetic safety surfacing required to meet all requirements cited above.

- B. Accessibility

Safety surfaces intended to serve as accessible paths of travel for persons with disabilities shall be firm, stable and slip resistant and shall meet the requirements of FEDSTD 795, 28 CFR Part 36 ASTM F 1487, 1292.

1.5 SUBMITTALS

For synthetic safety surface:

- a. Submit supplier's descriptive data and installation instructions, including cleaning and preventive maintenance instructions.
- b. Submit shop drawings showing depth of the safety surfacing system, including depths of material, sub-base materials, hardware, and drainage.
- c. Submit a list of materials and components to be installed as part of the system, by weight and/or volume and recommended coverage, including manufacturer's name, shipment date, storage requirements, and precautions, and that shall state chemical composition and test results to which material has been subjected in compliance with these Specifications.
- d. Certificates of Compliance

The impact attenuation performance of the synthetic safety surfacing proposed for installation shall be documented by certificates of compliance, as specified in paragraphs 1.04, A. An official authorized to certify on behalf of the synthetic safety surfacing and manufactured wood product manufacturer shall sign a statement attesting that the surfacing meets the requirements of ASTM F 1292 for a head-first fall from the highest accessible portion of installed play equipment. The impact attenuating qualities of the surfacing system shall not be diminished in the surface areas covering hardware.

Testing of product shall include tests conducted over hardware. The statement shall be dated after the award of the Contract, shall state the Contractor's name and address, and shall name the project and location. The statement shall also provide the name, address, and telephone number of the testing company, the date of the test, and the test results.

e. Manufacturer's Certification of Installation

The authorized manufacturer's representative shall certify upon completion of the installation that the safety surfacing has been installed in accordance with manufacturer's instructions and complies with all specifications.

f. A Certificate of Insurance shall be provided by manufacturers of synthetic safety surfacing, covering both product and general liability, of not less than \$1,000,000. The issuing underwriter shall be AA rated.

g. Supplier must provide a \$10 million product liability insurance certificate with project owner named as certificate holder, prior to delivery.

h. Submit a sample of each type of synthetic safety surfacing, minimum size 150 mm by 150 mm (6" by 6"), of the color specified, proposed for this Project.

1.6 DELIVERY, STORAGE, AND HANDLING

a. Materials and equipment shall be delivered and stored, if necessary, in accordance with the manufacturer's recommendations, in an area as directed by the County.

1.7 SITE CONDITIONS

a. Synthetic safety surfacing shall be installed on dry subsurfaces. Temperatures and weather conditions shall be as recommended by the manufacturer, with no prospect of rain within the initial drying period.

1.8 SEQUENCING AND SCHEDULING

a. Safety surfacing shall be installed after the playground equipment is installed. The installation shall be coordinated with playground equipment and site element installation.

1.9 WARRANTY

a. Safety surfacing shall maintain required impact attenuation characteristics and be guaranteed against defects in workmanship or materials for a period of seven (7) years, after final acceptance by the County of Riverside

PART 2 – PRODUCTS

2.1 SYNTHETIC SAFETY SURFACING

a. Synthetic safety surfacing shall be a poured-in-place system, consisting of an impact attenuating substrate and a wear surface bonded to produce a uniform material installed on compacted aggregate base.

MFG: TotTurf
Contact: Vince Brantly (714)904-8219

b. Impact Attenuating Substrate

Substrate shall consist of shredded styrene butadiene rubber (SBR) adhered with a

100% solids polyurethane binder to form a resilient, porous material. Strands of SBR may vary from 0.5 mm to 2 mm in thickness, by 3 mm to 20 mm in length. Foam rubber shall not be permitted in substrate. Binder shall be not less than 12%, or more than 16%, of the total weight of rubber, and shall provide 100% coating of the particles. The substrate shall be compatible with the wear surface, shall be mixed and poured-in-place, and shall meet requirements herein for impact attenuation.

c. Wear Surface

Wear surface shall be a durable, weather-resistant, ultraviolet stable, water permeable material, which shall be the topcoat of a poured-in-place system. The wear surface shall meet ASTM D 2047 for minimum 0.8 coefficient of friction. Wear surface shall consist of ethylene propylene diene monomer (EPDM) particles adhered with a polyurethane binder formulated to produce an even, uniform surface. EPDM particles shall meet requirements of ASTM D 412 for tensile strength and elongation, ASTM D 2240 (Shore A) hardness of 50-70, not less than 25% rubber hydrocarbons. EPDM shall be peroxide or sulfur cured. Size of rubber particles shall be not less than 1 mm nor greater than 3 mm across. Binder shall be not less than 16% nor greater than 20% of total weight of rubber used in the wear surface, and shall provide 100% coating of the particles. Thickness of wear surface shall be a minimum 13 mm (1/2"). The wear surface shall be porous.

d. Binder

Binder for synthetic surfacing shall be nontoxic, weather-resistant, ultraviolet stable, non-hardening, retaining impact-attenuating qualities, and shall be 100% solids polyurethane, methylene diphenyl isocyanate (MDI), or as recommended by the manufacturer. No toluene diphenyl isocyanate (TDI) shall be used. Weight of polyurethane shall be no less than 1.02 kg/l (8.5 lb/gal), or more than 1.14 kg/l (9.5 lb/gal). Binder shall be aliphatic type only. Coloring pigments, if used, shall be inorganic oxides.

e. Color

Specific colors samples to be cast and to be submitted at least twice and approved by the City of Westlake Village before installation. Colors will be mixtures of color granules - (no black) for each color.

See Drawings for color schedule - locations and number of different colors.

2.2 AGGREGATE BASE ROCK

a. Aggregate base rock for synthetic surfacing shall be 20 mm (3/4") minus sharp crushed rock conforming to the following grading requirement:

SIEVE SIZE	PERCENT PASSING
25 mm (1")	100 percent
20 mm (3/4")	90-100 percent
10 mm (3/8")	55-75 percent
6 mm (1/4") or #10	40-60 percent

Fraction Pass 6 mm (1/4")

Where a tolerance range is set forth in the above grading requirements, the midpoint of

the tolerance range is the target value and the product shall conform as closely as realistically possible to this target value. The purpose of the tolerance range is only to permit the occasional minor variations from the target value that are, for practical reasons, unavoidable.

b. Thickness

The minimum thickness of aggregate base rock shall be 100 mm (4") or as required by the manufacturer.

c. Compaction

Compaction shall be 95% or shall meet manufacturer's requirements.

2.3 GEOTEXTILE FABRIC

a. Geotextile fabric shall be a non-woven polypropylene sheet or a 100% polyester sheet, meeting the following requirements:

Weight:	0.085 kg/m ² (3.0 oz/sy)	ASTM D 3776
Tensile strength:	40 kg (90 lbs)	ASTM D 1682
Elongation at break:	60% (percent)	ASTM D 1682
Permeability:	2 mm/sec (2/25"/sec)	

PART 3 – EXECUTION

3.1 PREPARATION

a. The contractor is responsible to coordinate the sequence of construction around playground safety surface work and related construction improvements.

b. Finished Grade

Finished elevations of adjacent areas shall be as indicated on the Drawings and the safety surfacing manufacturer's directions. The appropriate subgrade elevation shall be as established for the particular safety surfacing to be installed. The subsurface shall be installed in a true, even plane, and sloped to drain. Subsurface irregularities shall be corrected.

c. Synthetic Safety Surfacing

Subsurface shall be compacted aggregate, and meet requirements of the safety surface manufacturer. Tolerance of aggregate subsurfaces shall be within 13 mm (1/2") in 3 m (10'-0"). Aggregate subsurfaces shall be fully compacted to 95%.

d. Curing of Concrete

Prior to installation of synthetic surfacing, verify that concrete subsurfaces have fully cured a minimum of thirty (30) days (or as recommended by manufacturer) and that all concrete curing compounds and other deleterious substances that might adversely affect adhesion have been removed. Surface shall be clean and dry.

e. Drainage

The Contractor shall verify that subsurface drainage, including piped drainage systems, if required, has been installed to provide positive drainage.

3.2 SYNTHETIC SAFETY SURFACING INSTALLATION

a. Poured-in-Place System

Components of the poured-in-place safety surface system shall be mixed mechanically on site in accordance with manufacturer's recommendations to ensure a uniform distribution of binder. Hand-mixing shall not be allowed. Installation of poured-in-place surfacing shall be seamless and completely bonded to subsurface. Material shall cover all foundations and fill around all elements penetrating the surface.

b. Geotextile Fabric

When poured-in-place safety surfacing is installed over a compacted aggregate base, geotextile fabric shall be installed as shown on Drawings. Fabric shall cover the entire area to receive safety surface, and be lapped a minimum 100 mm (4") at seams. Seams shall be adhered in accordance with manufacturer's recommendations.

c. Poured-in-Place Substrate

The substrate layer of poured-in-place surfacing material shall be installed in one continuous pour on the same day.

d. Poured-in-Place Wear Surface

Wearing surface shall be bonded to substrate. Apply adhesive to substrate in small quantities so that wearing surface can be applied before adhesive dries. Surface shall be hand troweled to a smooth, even finish. Except where wearing surface is composed of different color patterns, pour shall be continuous and seamless. Where seams are required due to color change, adjacent color shall be placed as soon as possible, before initial pour has cured. The edge of initial pour shall be coated with adhesive and wearing surface mixture immediately applied.

e. Thickness

1. Construction methods, such as use of measured screeds 1 mm (1/16") thicker than the required surfacing depth, shall be employed to ensure full depth of specified surfacing material is installed.
2. Surfacing system thickness throughout the playground equipment use zone shall be as required to meet the impact attenuation requirements for a head-first fall from the highest accessible portion of installed play equipment. For the purpose of this specification for these installations, the highest accessible portion is determined to be eight feet (8'), equivalent to the top of the guardrail on a 4' high platform, plus a ten-inch (10") safety margin. The contractor shall verify that there are no higher accessible designated play surfaces, as specified in ASTM 1487. If equipment with higher accessible points is installed, safety surface thickness shall be increased accordingly.

f. Clean-up

Do not allow adhesives on adjacent surfaces. Immediately clean up spills or excess adhesive.

g. Protection

The synthetic safety surfacing shall be allowed to fully cure in accordance with manufacturer's instructions. The surface shall be protected from all traffic during the curing period for forty-eight (48) hours or as instructed by the manufacturer.

3.3 MANUFACTURER'S SERVICES

- a. Services of a manufacturer's representative, or manufacturer's certified or authorized installer, who is experienced in installation of the specified playground safety surface, shall be provided. The representative shall supervise or inspect the installation to ensure that the safety surfacing meets the impact attenuation requirements as specified herein.
- b. The manufacturer's representative shall certify that, regardless of the installer, the installation complies with the manufacturer's instructions and specifications, as specified in paragraph 1.4.1.

END OF SECTION- 02791

CERTIFICATION OF LANDSCAPE DESIGN

I hereby certify that:

(1) I am a professional appropriately licensed in the State of California to provide professional landscape design services.

(2) The landscape design and water use calculations for the property located at _____
_____ (provide street address or parcel number(s)) were prepared by me or under my supervision.

(3) The landscape design and water use calculations for the identified property comply with the requirements of the City of _____ Water Efficient Landscape Ordinance (Municipal Code Sections _____) and the City of _____ Guidelines for Implementation of the City of _____ Water Efficient Landscape Ordinance.

(4) The information I have provided in this Certificate of Landscape Design is true and correct and is hereby submitted in compliance with the City of _____ Guidelines for Implementation of the City of _____ Water Efficient Landscape Ordinance.

Print Name

Date

Signature

License Number

Address

Telephone

E-mail Address

Landscape Design Professional's Stamp
(If applicable)

LANDSCAPE INSTALLATION CERTIFICATE OF COMPLETION

I hereby certify that:

(1) I am a professional appropriately licensed in the State of California to provide professional landscape design services.

(2) The landscape project for the property located at _____ (provide street address or parcel number(s)) was installed by me or under my supervision.

(3) The landscaping for the identified property has been installed in substantial conformance with the approved Landscape Documentation Package and complies with the requirements of the City of _____ Water Efficient Landscape Ordinance (Municipal Code Sections _____) and the City of _____ Guidelines for Implementation of the City of _____ Water Efficient Landscape Ordinance for the efficient use of water in the landscape.

(4) The information I have provided in this Landscape Installation Certificate of Completion is true and correct and is hereby submitted in compliance with the City of _____ Guidelines for Implementation of the City of _____ Water Efficient Landscape Ordinance.

Print Name

Date

Signature

License Number

Address

Telephone

E-mail Address

Landscape Design Professional's Stamp
(If Appropriate)



SECTION 02810
IRRIGATION SYSTEM

I. GENERAL

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

A. Work Included in this Section:

Landscape Irrigation System, including all work materials, appliances, tools, equipment, facilities, transportation, and services necessary to install the complete irrigation system. Record drawings.

Irrigation work shall be coordinated with all other trades.

B. Work Not Included in this Section:

Grading
Landscaping
Electrical

C. Related Work Specified Elsewhere:

Cutting and Patching, Section 01045.

D. Quality Assurance:

Permits: Obtain and pay for all permits and inspections required by outside agencies.

Ordinances and regulations: Local, municipal and state laws and rules and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications, and their provisions shall be carried out by the Contractor. Anything contained in the specifications shall not be construed to conflict with any of these rules and regulations or requirements of the same. However, when the specifications and drawings call for or describe materials, workmanship, or construction of a better quality, higher standard, or larger size than is required by these rules and regulations, the provisions of the specifications and drawings shall take precedence.

Protection: Erect and maintain barricades, warning signs and lights and provide guards as necessary or required to protect all persons on the site.

Underwriters Laboratories: Electrical wiring, controls, motors and devices shall be U.L. listed and so labeled.

Installer qualifications (for solvent and rubber gasket joints): Each person shall be trained by the manufacturer's representative in techniques for making correct joints prior to performing work on the site.

Work of this Section which is allied with the work of other trades shall be coordinated as necessary.

Superintendent: A superintendent satisfactory to the Agency's Representative shall be present on the site at all times during the progress of the work.

The Superintendent shall not be changed, except with the consent of the Agency's Representative.

The Superintendent shall be authorized to represent the Contractor.

Discrepancies: When discrepancies exist between drawings and specifications, and no specific interpretation is issued prior to bidding, the decision regarding this interpretation will rest with the Agency's Representative. The Contractor will be compelled to act on this decision as directed. In the event the installation deviates from the directions given, it shall be corrected at the Contractor's expense.

Manufacturer's directions: Manufacturer's directions and detailed drawings shall be followed in all cases where the manufacturers used in this Contract furnish directions covering points not shown in the drawings and specifications.

Work called for on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications.

The Contractor shall not install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in equipment usage or area dimensions exist that might have been considered in the engineering. Such obstructions or differences shall be brought to the attention of the Agency's authorized representative. In the event this notification is not performed, the Contractor shall assume full responsibility for any revision necessary at no cost to the Agency.

E. Water Meters:

Water meters are existing. See Plans for size and location.

Contractor shall pay for all fees required to make connection to meter and water costs during construction and maintenance.

F. Point of Connection:

Make connection of irrigation system main line at 4" P.O.C of existing main in approximate location shown. See Plans for details.

G. Electrical Meters:

New electrical meters required by this contract shall be provided under the Electrical Section.

H. Drawings:

The drawings are diagrammatic only. It is the intent of the plans and specifications that the irrigation system shall efficiently and uniformly irrigate all areas according to horticultural and soil requirements, and that it shall be complete in every respect and shall be ready for operation to the satisfaction of the Agency.

Due to the scale of drawings, it is not possible to indicate all offsets, fittings, sleeves, etc. which may be required. Carefully investigate the structural and finished conditions affecting all of this work and plan this work accordingly, furnishing such fittings, etc. as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting and architectural features.

Materials List and Manufacturer's Catalogs. Within 15 days after award of contract, submit four (4) copies of a complete materials list, including manufacturer's name and number covering all material required under this Division, together with four (4) copies of descriptive literature.

I. Record Drawings:

Record dimensioned locations and depths for each of the following:

Point of connection.

Sprinkler pressure line (mainline) routing. (Provide dimensions for each 100 lineal feet [maximum] along each routing and for each change in direction.)

Flow meters.

Gate valves.

Sleeves/Conduits.

Remote control valves.

Quick coupling valves.

Fertilizer injection system.

Control wire routing.

Other related items as may be directed by the Agency representative.

Locate all dimensions from two permanent points (buildings, monuments, sidewalks, curbs or pavements).

Record all changes which are made from the Contract Drawings, including changes in the pressure and non-pressure lines.

Record all required information on a set of blackline prints of the drawings. Do not use these prints for any other purpose.

Maintain information daily. Keep drawings at the site at all times and available for review by the Agency representative.

When record drawings have been approved by the Agency representative, transfer all information to a set of reproducible prints using permanent India ink. Changes using ballpoint pens are not acceptable.

Make dimensions accurately at the same scale used on original drawings or larger. If photo reduction is required to facilitate controller chart housing, notes or dimensions must be a minimum 1/4 inch in size.

Reproducible prints (5 maximum) will be furnished by the Agency representative at cost for printing and handling.

Use appropriate eradicating fluid for removing original lines and dimensions where changes are made. Completed reproducible shall be equal to the original drawings.

Controller Charts. On the inside surface of the cover of each automatic controller, the Contractor shall prepare and mount a chart showing the valves and sprinkler heads serviced by that particular controller. All valves shall be numbered to match the operation schedule and the drawings. Only those areas controlled by that controller shall be shown. This chart shall be a plot plan, entire or partial, showing building, walks, roads and walls. A photostatic

print of this plan, reduced as necessary, and legible in all details, shall be made to size that will fit into the controller cover. Do not prepare charts until record drawings have been approved by the Agency's Representative. Provide one controller chart for each automatic controller installed. Identify the area of coverage of each remote control valve, using a distinctly different pastel color, drawn over the entire area of coverage. Charts must be completed and approved prior to final review of irrigation system. This print shall be approved by the Campus representative and shall be hermetically sealed in 20 mil plastic (2-10 mil Pieces). This shall then be secured to the inside of the cover. Show controller designation on each chart.

J. Miscellaneous Items to be Furnished by Contractor:

Provide the following tools as a part of this contract:

Six (6) wrenches for disassembling each type sprinkler head used;

Two (2) operating keys suitable to operate each type of valve used;

Six (6) quick coupler valve keys to fit type of couplers used (complete with hose bibb);

Six (6) quick coupler lock type cover keys;

One (1) set of automatic controller cabinet keys for each controller used;

Provide Three (3) sets of maintenance and parts manuals for controller, remote control valves, shut-off valves, quick coupler valves, rotary heads, and all other mechanical devices with moving parts used in this contract.

Present in hardback three-ring binders.

K. Checklist:

Provide a signed and dated checklist and deliver to the Agency's Representative prior to final review of the work.

Use the following format:

Confirmation of service pressure: psi, by whom and date.

Plumbing permits: if none required, so noted.

Materials approvals: approved by and date.

Pressure line tests: by whom and date.

Record drawings: received by and date.

Controller charts: received by and date.

Materials furnished: received by and date.

Operation and maintenance manuals: received by and date.

System and equipment operation instructions: received by and date.

Manufacturer's warranties if required: received by and date.

Written guarantee: received by and date.

Lowering of heads in lawn areas: if incomplete, so state.

L. Guarantee:

A letter of guarantee from each manufacturer shall be submitted to the Agency guaranteeing his materials for a period of one year against material defects and workmanship. In cases where longer guarantees are required by these specifications, such guarantees shall be submitted.

II. MATERIALS

A. Specifying by Name:

Whenever any material is specified by name and number thereof, such specifications shall be deemed to be used for the purpose of facilitating a description of the materials and established quality, and shall be deemed and construed to be followed by the words "or approved equal". No substitution will be permitted which has not been submitted for approval to the Agency within 30 days after the contract has been awarded. Three (3) copies of descriptive literature, including pressure loss curves, nozzle performance characteristics, etc., shall be furnished for any materials submitted as "equal" substitutes. No item will be considered as "equal" if it is constructed of different materials or alloy or is of a different principle of operation. Piping, tubing, conduit, valve, or any device through which the flow of water must pass shall not cause a greater resistance, turbulence, or pressure loss due to friction than that material as engineered and designed into this system.

Pressure loss curves shall be certified by an impartial commercial testing laboratory with all costs for tests and reports being paid for by the Contractor wishing to make the substitution.

Contractor shall submit letter (with material list) stating his reasons for any substitution and showing amount of credit offered if substitution should be acceptable.

B. General:

All materials shall be new and of size and type as called out on the drawings. All materials of like kind shall be of one manufacture.

C. Valve Boxes for Main Shut-Off Valves:

Size and type as called out on the drawings.

D. Backflow N/A

E. Fittings - Steel:

150 lb. galvanized malleable iron, banded & shall be compliant to AB 1953 lead free requirements.

F. Unions - Steel:

Galvanized steel with brass to iron seat, minimum 300 lb. WOG, ground joint & shall be compliant to AB 1953 lead free requirements.

G. Risers - Ferrous Metal:

Shall be galvanized steel pipe (to strainer assembly). Material for sprinkler head risers shall be as called out on the drawings & shall be compliant to AB 1953 lead free requirements.

H. Pipe Wrap:

Galvanized steel pipe to strainer assemblies shall be field wrapped as detailed or to 6 inches above finished grade. Use ten mil PVC tape, two layers (half-lapped) to equal forty mil thick total wrapping. Clean surfaces and prime with solution required by manufacturer of tape. Field wrap all joints with same materials leaving identification marks visible, re-apply wrap as recommended by tape manufacturer. All wrapping to be tested in the presence of the Agency Representative using approved detector.

I. PVC Pipe (General):

All pipe to be permanently and continuously marked with manufacturer's name, pipe size (IPS) and schedule (D-1785-68 for schedule pipe), manufacturer's lot number and NSF approval. Pipe with dents, ripples, wrinkles, die or heat marks is not acceptable. Pipe shall be delivered to the site in 20 foot lengths.

K. Tracer Wires:

A No. 12. Green Type TW plastic-coated copper tracer wire shall be installed with non-metallic main lines.

L. Reclaimed Water PVC Pipe, Valves, Heads, and Valve Boxes (General):

Pipe, valves, heads and valve boxes being used to transport reclaimed water shall be purple in color and meet the special requirements of the Water Agency and Health Department.

M. Threaded PVC Nipples:

Schedule 80, Type 1, 3 inch minimum length, except where detailed otherwise on drawings. PVC domestic main to drinking fountains shall be PVC Schedule 80 solvent welded plastic pipe; gray in color, meeting ASTM D-1785.

N. PVC Mainline:

Shall be 1120/1220 normal impact, 2" through 12" use Schedule 40 with integrally thickened bell ends, solvent weld type meeting ASTM D-1785, 2 through 2-1/2", use Class 315, solvent weld type meeting ASTM D-1785, 3" and larger use Class 200 O-ring gasketed pipe. All pressure supply lines under vehicular paving shall be installed in a PVC Schedule 40 sleeve.

O. PVC Laterals (Non-Pressure Piping):

Normal impact, Schedule 40, solvent weld type meeting ASTM D-1785.

P. Fittings - PVC:

For make-up shall be of same chemical compound as pipe on which it is installed. Use Schedule 40 medium-wall fittings for any "all socket" connections. Use Schedule 40 heavy-wall fittings for all fittings with one or more threaded outlets. Fittings for ring-type connections shall be compatible with the pipe on which they are used. Sealing rings shall be procured from the Manufacturer of the pipe and meet configuration of grooves and diameters provided.

Q. Fitting for O-Ring Gasketed Pipe:

Fitting shall be ductile iron, slanted, deep bell, gasketed style make in accordance with ASTM A-536, Grade 65-45-12. Fittings shall have four lugs to accommodate joint restraints and other fittings. Bell section shall allow 5-degree freedom of pipe deflection within the bell end. Gasket design shall be re-enforced "U-Cup" configuration to seal and assist in restraining pipe at all pressures. Fittings shall be as manufactured by Leemco, Inc. or approved equal.

R. P.V.C. Pipe Compound:

Plastic pipe and threaded fittings: Assemble using teflon tape applied to male threads only.

S. Primer:

For PVC solvent weld connections shall be as recommended by the manufacturer of the PVC pipe. Primer shall be chemically compatible with the pipe, fittings and solvent. No primer need be used if "Christy's Red Hot Blue Glue" is used as solvent material.

T. Solvent:

For PVC solvent weld connections shall be as recommended by the manufacturer of the PVC pipe. Solvent shall be chemically compatible with the pipe, fittings and primer.

U. Sprinkler Risers:

The riser shall be PVC Schedule 80 to fit sprinkler opening in swing joint assembly and proper length as detailed on the drawings.

V. Valves:

1. Ball Valve:

2 inches and smaller bronze ball valve (unless otherwise noted on drawings); ASTM B-584 Alloy-844, 150 PSI saturated steam-600 WOG rating. 2 piece body, chrome plated ball, blowout-proof stem UL listed.

2. Check Valves:

Swing check valve, 2 inches and smaller on non-pressure lines: bronze or plastic construction, 100 pound S.W.P. female i.p.s.

Swing check valves, 2-1/2 inches and larger on pressure lines: cast iron, 150 pound class with no-slam feature.

3. Couplers:

Same manufacturer as quick coupling valve; cast bronze, machined shank, coupler to include operating handle. Top of coupler equipped with 3/4" hose swivel.

4. Gate Valves:

2 inches and smaller (unless otherwise noted on drawings): ASTM B62 brass body, 150 pound saturated steam rated; with screwed joints; non-rising stem; screwed bonnet solid disc. Provide with brass or bronze handwheel.

3 inches and larger shall be spigot x bell and bell x bell with restrained ends to mechanically attach to a fitting or PVC pipe, operating nut shall be shrouded, non-rising stem style conforming to AWWA C-515 standards, rated for 250 PSI, exterior and interior of all ductile iron parts shall be coated with 14-16 mil fusion bonded epoxy that exceed AWWA C550 Standard. Valves shall be manufactured in the U.S.A. or as otherwise approved.

5. Quick Coupler Valves:

150 lb. cast bronze body, self-closing metal cover with purple rubber protective caps, locking type. Threaded track, one inch size.

6. Remote Control Valves:

All bronze globe type, Glass-filled nylon, contamination proof, slow closing, 150 lb.; electrically operated, 24 volt, epoxy encapsulated waterproof, solenoid to be an integral part of the unit; throttling device with cross arm on top; manual operated to cause valve to open and close with out use of electricity. Manual operator shall be provided by the factory and not fabricated by the Contractor. Valves shall be of same manufacture as automatic controller unless noted otherwise. Valves shall have one year manufactures warranty.

7. Master Valve:

Shall be normally open master valve, with a voltage range from 17 to 40 VAC self cleaning slow closing iron and bronze construction with a 5 year warrantee.

W. Sprinkler Heads:

Make, size, type and performances as called out on the drawings.

X. Automatic Controller:

120 volt, single phase, 60 cycle electric clock control unit in weatherproof, vandal-resistant metal cabinet, hinged locking door. Shall incorporate the following features: 8 day variable cycle, 0 to 99 minutes timing integrally variable; automatic, semi-automatic, and manual operation; manual immediate-station-advance; station-in-operation indicator; 24-hour start clock; on-off and repeat device. No delay between stations. To operate 24 volt valves. Contains pump-starting-stopping circuit. Master switch cuts all power circuits except starting clock. Controller shall be as called out on the drawings.

Y. Automatic Controller Enclosure:

The enclosure shall be vandal and weather resistant by nature and be manufactured entirely in the U.S.A. Louvers shall be spaced and at different heights to ensure cross ventilation. Louvers shall be covered with vent screens. Doors and lids shall have a hemmed edge providing strength and smooth surfaces. Top opening shall have two gas springs for supports during lifting. Lids and doors shall have piano style hinges with three point locking mechanisms to provide security. The heavy duty enclosure line shall be manufactured with domestically produced 14 gauge stainless steel and shall use recycled materials whenever possible, with doors providing provisions for concealed padlocks. All enclosures shall be UL listed and rated NEMA type 3R weather proof and the manufacturing process shall conform to the American Standard Testing ASTM A240/240M. Enclosures shall have removable back panels and templates for new installations. The enclosure shall be supported with a 10 year warranty. Enclosure shall be manufactured my "Strongbox" (800-729-1314) or equal.

Z. Valve Boxes:

Valve boxes unless otherwise noted shall be fabricated from a durable plastic material resistant to weather, sunlight and chemical action of soils. They shall be purple in color. The cover shall be hinged & secured with a stainless steel bolt mechanism. The cover shall be capable of sustaining a load of 1500 PSI. Valve box extensions shall be by the same manufacturer as the valve box. All valve boxes shall be as manufactured by Brooks, Carson or an approved equal.

Quick coupling valve boxes shall be round. The cover shall be heat branded with the letters

"QCV," 2" high.

Gate valve boxes shall be round. The cover shall be heat branded with the letters "GV," 2" high.

Remote control valves shall be 12" X 18". The cover shall be heat branded with the letters "RCV" and the valve number in characters 2" high.

Splice boxes shall be 12" X 18". The cover shall be heat branded with the letters "SB," 2" high.

Valve boxes for moisture sensing stations shall be 12" X 18". The cover shall be heat branded with the letters "MSS," two inches high.

Traffic area boxes: concrete cast iron lid designed for vehicular traffic use.

AA. Electrical Requirements to Automatic Controllers - (120 v):

Service to automatic controllers and final hook up shall be provided by electrical subcontractor.

Electrical equipment installed outside building shall be NEMA 4 type.

All connections between electrical services and equipment shall be in rigid galvanized electrical conduit, with conduit and wiring size as required.

To be complete in every respect to City Electrical Code, ready for use and in accordance with manufacturer's requirements. Provide separate power shut-off switch at panel for each controller. All wiring in galvanized conduit and fittings from source provided under the electrical section. No running threads accepted; use nipples. Conduit system shall be 660 volt insulation, NEC standard annealed copper wire and shall be minimum AWG #12 TW or RW. Protect each controller by a code approved ground connection. Supply to be 120 volts, 60 cycle, single phase, one amp. Use only galvanized steel fasteners in securing controllers in position. Install new controller as detailed on drawings.

BB. Electrical Requirements from Automatic Controllers (24 volts):

1. Control and Common Wire

To remote control valves wires shall be U.F. type, U.L. approved, AWG number 14 solid strand copper wire with minimum 4/64" PVC coating, 600 volt, 75 C. "Common" wire to be white coated. Each controller to have a different color pilot wire where more than 2 controllers are on a site.

2. Flow Sensor Cable:

A PVC jacketed, two conductor cable. The conductors shall be 16 AWG 7 strand annealed copper, conforming to ASTM B-3 and B-8 with heat and moisture resistant PVC, covered with a .004 wall of stabilizing nylon conforming to UL 83 heated at 90 degrees Celsius. The conductors shall be twisted and encased in a single outer jacket of .050" nominal wall of sunlight and moisture resistant PVC conforming to UL, ICEA and NEMA standards. The two conductors shall be color coded with one conductor yellow and the other gray as manufactured by Arizona Electrical Fabricators model #9516-2SP or approved equal.

It is recommended that the flow sensor cable be installed in a 1" PVC schedule 40 conduit to protect it from rodents and physical abuse.

3. Wire Connectors for Direct Burial Conductors (24 volt):

Splices, where permitted, shall be waterproofed 3M brand #DBY-6 wire connectors.

4. Di-Electric Isolation:

Provide between all connections joining ferrous and non-ferrous metals, or old (existing) ferrous and new ferrous metals. Submit for approval type intended for use.

5. Concrete:

2,500 lb. strength at 28 days. Fine aggregate may be granular sand. All rock and gravel for use in concrete shall be mechanically washed and free from injurious amounts of deleterious substances.

CC Solar Collector / Irrigation controller

N/A

III. INSTALLATION

A. General:

All work shall be performed by competent, experienced workmen and in a manner to coincide with methods as set forth by the manufacturers of the equipment to be used and as acceptable to the Agency Representative. No consideration will be given to any design changes unless called for by the Agency Representative.

Contractor shall be responsible for damages caused during his operations to any existing underground utility lines including existing irrigation control wires, storm sewers, sanitary sewer systems, gas lines, potable water lines, irrigation lines, telephone cables, gasoline or oil lines, electrical cables, or any other systems (buried or overhead). If such damage should occur, Contractor shall immediately notify Landscape Architect, Agency, and department affected by such damages and shall pay all ensuing costs.

Where it is necessary to excavate adjacent to existing trees, use all possible care to avoid injury to trees and tree roots. Excavation in areas where 2 inches and larger roots occur shall be done by hand. Roots 2 inches and larger in diameter, except directly in the path of pipe or conduit, shall be tunneled under and shall be heavily wrapped in burlap, to prevent scarring or excessive drying. Where a ditching machine is run close to trees having roots smaller than 2 inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making clean cuts through. Roots 1 inch and larger in diameter shall be painted with two coats of Tree Seal, or equal. Trenches adjacent to trees would be closed within 24 hours. Where this is not possible, the side of the trench adjacent to the tree shall be kept shaded with burlap or canvas.

Comply with all governing construction and plumbing ordinances for all work under this contract.

All work shall be assembled to conform to details and notes on the drawings, whether or not mentioned in the specifications.

B. Site Reviews:

Before any work commences, a conference shall be held with the Agency's Representative and Contractor regarding general requirements of this work.

Prior to trenching, Contractor shall be responsible for verifying existing pressure at point of connection. If pressure varies from what is indicated on drawings, the Contractor shall immediately notify Agency representative.

Contractor's responsibility:

Examine surfaces for conditions that will adversely affect execution, permanence and quality of work.

Verify that grading has been completed and the work of this section can properly proceed.

Exercise extreme care in excavating and working near existing utilities. Contractor is responsible for damages to utilities which are caused by his operations or neglect. Check existing utility drawings for locations.

Notify the Agency's Representative in writing, describing unacceptable conditions.

Do not proceed with work until unacceptable site conditions are corrected or existing utilities are located.

C. Verification of Dimensions:

Verify all horizontal and vertical site dimensions prior to staking of heads. Do not exceed spacings shown on drawings for any given area. If such modified spacings demand additional or less materials than shown on the drawings, notify Architect before commencing work.

D. Irrigation System Refurbishment:

N/A

E. Manufacturer's Requirements:

Manufacturer's requirements for installation of products shall apply:

1. When no other direction is given;
2. When it is a more stringent requirement than the Standard Specifications and these Special Provisions.

F. Work Space:

The Contractor shall erect fences or guards as are required for the protection of the public and protection of construction materials, and maintain same in good repair until the completion of the work under the contract.

G. Drawings of Record:

Obtain electronic drawing with bond sheets from the Agency Representative and maintain daily records showing every change from the contract drawings of all locations of main lines, buried valves, conductors, quick coupler valves, and plugged or capped outlets. Locate each

item from two points of architectural permanence, i.e., curbs, walls, light standards, etc. Do not measure from sprinkler heads or other parts of the irrigation system. Keep record drawings on site for daily observation by the Agency Representative. All dimensions to be taken prior to backfill. On date of final observation, deliver corrected electronic drawings with 2 bond copies to the Agency Representative. Final electronic drawings shall be prepared by the Contractor. The electronic disc with 2 bond print copies of each shall be turned over to the Agency Representative, showing all field notes finalized by a competent draftsman. Delivery of prints does not relieve the Contractor of responsibility for providing any information that may be omitted from the prints.

H. Trenching:

Do all excavation for installation of all work included in contract. Mechanical trenching machines shall be type to cut trenches with straight, parallel sides. Trenches to be only wide enough as may be required to lay the pipe and control wires. "Pulling" of main line pipe and/or control wires will not be permitted. Contractor shall use all possible care to protect existing trees and plants during trenching. Roots 2" or larger shall be tunneled under and wrapped with wet burlap to prevent scarring with two coats of approved sealer manufactured for this purpose. Cover all trenches in root areas (only while open) with wet burlap, and backfill within 24 hours after opening the trench. Obtain Agency Representative's approval before cutting any root over one inch diameter. All trenching in such areas shall be done by hand.

I. Backfill:

After the work has been installed to depths as detailed on the drawings, flushed, tested, and proven tight in the presence of the Agency Representative, backfill with fine granular materials as approved by the Agency representative. Allow no rocks or other objects larger than one inch diameter to fall in the first 6" of cover. Backfill carefully and tamp properly to avoid any voids. Flooding of trenches shall be done only with the approval of the Agency Representative; however, all sandy soils shall be flooded during the backfill-compaction operation.

After compacting backfill over all pipe lines to equal density of adjoining undisturbed soils, Contractor shall remove all remaining debris caused by his operation from the site and dispose of same in legal manner. All trenches shall be left flush to the adjoining undisturbed grades. Any work covered prior to field observations by the Agency Representative shall be uncovered at the expense of the Contractor to allow for such observations.

J. Laying of Lines:

Lines shall be staked and installed in the locations shown on the drawings. Discrepancies between drawings and site shall be brought to the attention of the Agency Representative prior to trenching. Do not exceed maximum spacings shown on drawings, nor exceed the GPM on the pipe sizes shown. Assemble all pipes free from dirt and scale; ream and deburr. Piping and electrical sleeves under concrete shall be set in place prior to paving work. If pipe must be laid after paving is in place, it shall be done by jacking, boring, or hydraulic driving.

If cutting or breaking of any paving is necessary, it shall be done and replaced with like material at the expense of the Contractor. Obtain approval of Agency Representative prior to any cutting or breaking. Hydraulic driving will not be permitted under asphalt paving. All sleeves set in place under paving shall extend 18" minimum beyond such paving and be capped handtight. No fittings, including couplings, will be permitted under surfaces to be paved except where the length of the line under the paving exceeds 20 feet or where lines are encased in sleeves.

Unless installed in a PVC sleeve, all pipes under pavement surface to be installed a minimum of 24 inches below A.C. paving with a 6-inch bedding and a 6-inch cover of sand backfill.

Replace and restore all surfaces to original condition, including grade and landscaping.

Restoration work shall match the original work in every respect, including type, strength, texture and finish.

In new paved areas, coordinate installation of piping and wires under paved areas with General Contractor.

If the only piping installed is over 20 feet long, pressure testing is required for that section at the time of installation. Upon completion of piping installation, the entire system must be tested.

If wire under paved areas cannot be continuous, all splices shall be enclosed in an approved box.

K. Assembly of Metal Pipe:

Do not bend or spring pipe; make all offsets or changes in direction with fittings. Cut threads with sharp, clean dies to conform to ASA specifications B2. Make up joints by applying oil base compound to male threads only. Remove excessive compound after makeup.

L. Assembly of PVC Pipe:

Handle with care when loading, unloading, transporting and storing to avoid damage. Store pipe and fittings under cover before using. Transport in vehicle with bed of sufficient length to carry pipe flat and fully supported. Store pipe in same manner. Notify Agency Representative when each pipe and fittings shipment reaches the site, for observation. Rejected materials shall be immediately removed from the site and replaced with new shipment of different batch number.

M. Joining by Ring Seals:

Provide for expansion and contraction at each end. Use rubber ring and lubricate with non-toxic lubricant. Centerload, leaving all connections exposed. Do not lay pipe in trench containing water or at less than 32 degrees F. Pipe shall not be allowed to deflect any greater than 5 degrees in the fitting.

N. Joint Restraints for O-ring gasketed pipe only:

Ductile iron joint restraints shall be installed on all fittings and gate valves for all IPS-Size, ring joint PVC pipe. The joint restraint shall be capable of securing the PVC pipe directly to the lugs on the Leemco and HARCO deep bell ductible iron fittings without the use of bolts, links, and adapters. The joint restraint shall be capable of securing PVC pipe to PVC pipe and PVC pipe to ring joint gate valves without the use of threaded linkages.

All ductible iron fittings shall be secured to full-length pipes and on all bends and tee branches, the next joint of the pipe shall be secured. At least two full lengths of pipe must be secured when attached to bends and tee branched 8" and larger, and at least three full lengths when attached to a fitting shall also be secured.

The joint restraint must be similar in all respects to the joint restraints as manufactured by Leemco, Corona, California.

O. Joining by Solvent Weld:

Use non-synthetic brush to spread primer and solvent using no larger than pint-sized cans. Clean and refill cans each day. Cut pipe square, ream, chamfer outside end at 10 degrees. Clean and dry pipe and fitting socket. PVC solvent weld connections shall be made as recommended by the manufacturer of the PVC pipe. Bottom the pipe in socket and turn 90 degrees. Hold joint together 30 seconds. Wipe off excess solvent. Allow to set 30 minutes before moving. Snake pipe side to side in trench bottom, keeping 4" horizontal clearance between two pipes in same trench. Do not lay pipe in trench containing water or at less than 32 degrees F. Center load immediately leaving joints exposed.

P. Locating Assemblies and Valves:

Install backflow assemblies in shrub areas at minimum height permitted by local code. Paint assemblies with 2 coats of flat black enamel.

Hose bibbs: Locate bibbs in shrub areas within 12 inches of header or hardscape.

Quick coupling valves: Unless otherwise indicated, locate valves within 12 inches of hardscape.

Remote control valves: Locate as indicated on Drawings within 12 inches of hardscape, with access sleeve, unless otherwise noted.

Fill area under valve box with minimum 3 cubic feet of pea gravel before box is installed.

Q. Flushing of Lines:

Mains shall be flushed before attaching remote control valves, quick coupler valves and with pipe centerloaded. All water being discharged shall be temporarily piped up and out of the trenches. Trenches to be kept dry for pressure tests to follow. Install all valves after approval of flushing procedure by the Agency Representative.

Laterals shall be flushed before sprinkler heads are in place. Cap all risers, apply pressure, remove caps in sequence starting at the control valve. Replace caps before removing caps to follow. Continue to end of each lateral. Flush until all foreign matter and mud is cleared of the system. Contractor to provide all materials required for flushing operations.

R. Pressure Tests:

Do not backfill over any line more than is necessary for testing until it has been inspected, tested, and approved.

Perform all hydrostatic tests in presence of the Agency Representative after flushing lines. Maintain 125 psi on main lines for four (4) hours with all air expelled from line without quick coupler and control valves in place. All leaks shall be corrected in mechanical manner without use of epoxy fillers or other filler compounds. Provide all equipment for tests including force pump and pressure gauges. No pressure test shall be required for lateral lines unless otherwise noted.

If pressure tests are noted, lateral lines shall be pressure tested at 100 psi for two (2) hours where they are providing water to street trees only and will be primarily buried under concrete or asphalt paving. Swing joints do not need to be tested.

S. Earth Grounding

Contractor shall connect all electronic irrigation equipment for which he is responsible to earth ground in accordance with Article 250 of the National Electrical Cod (NEC). Use grounding electrodes that are UL listed or manufactured to meet the minimum requirements of Article 250 of the 2005 edition of the NEC. At the very minimum, the grounding circuit will include a copper clad steel rod, a solid copper ground plate and 100 pounds of PowerSet earth contact material, as defined by ground detail in the irrigation detail sheet. This detail is the minimum requirement for supplementary grounding of any electronic equipment. Other details for multitude of field situations, are available from the American Society of Irrigation Consultants.

T. Laying of Control Wires (24 volt):

Lay wires in common trench with main lines unless otherwise approved. Splicing allowed only every 500 feet. Provide 2 feet expansion loop at splice. Use concrete electrical junction box with bolt down lid at each splice point. White coated common wire in junction boxes to be tagged with 1/4" wide embossed plastic labeling tape showing controller designation. Use plastic electrical tape and bind all control wires in bundles at 10 foot intervals. All approved splices, including splices at remote control valves, shall be waterproof and enclosed in an acceptable box. Install PVC sleeve where wire is not installed with main lines.

U. Laying of Tracer Wires:

Tracer wire shall be placed on bottom of trench under vertical projection of pipe, paved carefully to avoid stress from backfilling, and shall be continuous throughout length of pipe with spliced joints soldered and covered with insulation type tape.

Tracer wire shall follow main line pipe and branch lines and terminate in yard box with gate valve that controls these main irrigation lines. Provide enough length of wire to reach surface grade, bend back end of wire to make a loop and attach a Dyno-tape plastic label with designation of ATracer Wire@.

Location of tracer and its termination shall be recorded on Project Record Documents.

V. Protection during Hydromulching:

If seeding of any portion of the site is to be done by hydromulching methods, Contractor shall protect all sprinkler heads in the areas to be hydromulched by slipping plastic bags of appropriate size over each head prior to hydromulching operation. All bags shall be removed after cessation of hydromulching and properly disposed of.

W. Adjusting System

Adjust entire system prior to coverage test and again at conclusion of maintenance period.

1. Set all shut-off valves in the system to full open position.
2. Adjust all stationary heads to equal and uniform coverage using adjusting screws in each sprinkler head and by control of the throttle device in each remote control valve.
3. Adjust all rotary head systems using pitot tube with pressure gauge attached. Set most critical head in each system to meet nozzle pressure as called out on the legend by regulating the remote control valve while pitot tube-gauge assembly is inserted in nozzle. Adjust all radii to fit requirements on drawing if heads are equipped with such a device.
4. Adjust arcs of all adjustable arc type heads so as to prevent overspray on areas to be kept dry. This can also mean the replacement of nozzles or arcs in stationary heads to nozzles of difference cut, i.e., 180° nozzles to change to 120° nozzles, etc.

5. At proper time of plant growth, or when directed by the Agency Representative, Contractor shall set automatic controller to operate as noted on the drawings and shall at that time readjust all remote control valves in the system to operate heads at optimum performance based on night time pressures and simultaneous demands through the supply lines. This may call for repeat of the pitot tube-pressure gauge tests described above if the Agency Representative calls for such procedure, at no additional cost to the Agency.

X. Site Cleaning:

Clean all debris from site, remove all storage rooms and all other constructions and make site ready for planting work to follow. Work or debris not cleared for landscape work may be backcharged to this subcontractor by the landscape subcontractor.

Y. Observations:

Observations will be performed by the Agency Representative at the following times and at random visits when the observer may be on the site.

1. Pre-work conference. To be conducted prior to any irrigation work under this contract.
2. Observation of flushing.
3. Observation of pressure test.
4. Observation of coverage performance.
5. Final observations of the completed installation.
6. Contractor shall not cover any work prior to observation by the Agency Representative.
7. All observances called for by the Contractor shall be requested in writing, at least 48 hours prior to the anticipated observation.

Contractor shall provide "walkie-talkie" equipment and/or personnel to maintain communication from review area to automatic controllers.

All work shall meet the approval of the Agency Representative or be rectified by the Contractor to a condition that does meet this acceptance at no additional cost to the Agency. If the Contractor calls for observations and is not ready for the observations, it shall be backcharged, hourly, including travel time for all members of the team of observers involved.

Z. Lowering of Heads, Valve Boxes, Quick Coupler Valves, etc.:

All equipment that may be damaged by mowing shall be set flush to finished grade as called out on the drawings, prior to final acceptance of the work.

AA. Guarantee:

The Contractor shall guarantee the entire irrigation system against defects in materials and workmanship for a period of one (1) year from the date of acceptance of the work. The Contractor shall furnish a Faithful Performance Bond in the amount of 10% of the amount bid for the installation of the irrigation system to be in force for the one (1) year guarantee period.

A copy of the guarantee form shall be provided at the time of contract award and shall also be included in the Operations and Maintenance Manual.

The guarantee form shall be retyped onto the Contractor's letterhead and contain the following information.

GUARANTEE FOR IRRIGATION SYSTEM

IV. Assembly Bill 1881 Minimum Requirements

The following are just the minimum requirements that the contractor shall be responsible for. It shall be the contractor's responsibility to familiarize himself with all local laws that support his amendment.

1.1 Certification of Completion

- (a) Landscape project installation shall not proceed until the *Landscape Documentation Package* has been approved by the City and any ministerial permits required are issued.
- (b) The *project applicant* shall notify the City at the beginning of the installation work and at intervals, as necessary, for the duration of the landscape project work to schedule all required inspections.
- (c) *Certification of Completion* of the landscape project shall be obtained through a Certificate of Use and Occupancy or a *Permit Final*. The requirements for the Final Inspection and *Permit Closure* include submittal of:
 - (1) *A Landscape Installation Certificate of Completion* in the form included as Appendix D (above) of the *Guidelines*, which shall include: (i) certification by a *landscape professional* that the *landscape project* has been installed per the approved *Landscape Documentation Package*; and (ii) the following statement: "The landscaping has been installed in substantial conformance to the design plans, and complies with the provisions of the *Water Efficient Landscape Ordinance* for the efficient use of water in the landscape."
 - (2) Documentation of the irrigation scheduling parameters used to set the *controller(s)*;
 - (3) An irrigation audit report from a certified irrigation auditor, documentation of enrollment in regional or local water purveyor's water conservation programs, and/or documentation that the MAWA and EAWU information for the *landscape project* has been submitted to the local water purveyor, may be required at the option of the City.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

1.2 Post-Installation Irrigation Scheduling

- (a) For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:
 - (1) Irrigation scheduling shall be regulated by automatic irrigation controllers.
 - (2) *Overhead* irrigation shall be scheduled in accordance with the local water purveyor's Water Conservation Ordinance. Operation of the irrigation system outside the normal *watering window* is allowed for auditing and system maintenance.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

1.3 Post-Installation Landscape and Irrigation Maintenance

- (a) Landscapes shall be maintained to ensure water use efficiency in accordance with existing local agency code.

[LOCAL AGENCY MAY REFERENCE CODE HERE]

2. Provisions for Existing Landscapes

- (a) Irrigation of all *landscaped areas* shall be conducted in a manner conforming to the rules and requirements and shall be subject to penalties and incentives for water conservation and water waste prevention, as determined and implemented by the *local water purveyor* and as may be mutually agreed by the *City*.
- (b) The City and/or the regional or *local water purveyor* may administer programs such as irrigation water use analyses, irrigation surveys and/or irrigation audits, tiered water rate structures, water budgeting by parcel, or other approaches to achieve landscape water use efficiency community-wide to a level equivalent to or less than would be achieved by applying a *MAWA* calculated with an *ETAF* of 0.8 to all *landscaped areas* in the *City* over one acre in size.
- (c) The architectural guidelines of a *common interest development*, including apartments, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

We hereby guarantee that the irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the Drawings and Specifications. We agree to repair or replace all defects in material or workmanship which may develop during the period of one year from date of acceptance and also to repair or replace all damages resulting from the repair of such defects at no additional cost to the Agency. We shall make such repairs or replacements within a reasonable time, as determined by the Agency, after receipt of written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of written notice from the Agency, we authorize the Agency to proceed to have said repairs or replacements made at our expense, and we will pay the costs and charges therefore upon demand.

PROJECT:
 LOCATION:
 CONTRACTOR/COMPANY:
 LICENSE NO.:
 ADDRESS:
 PHONE:
 DATE OF FINAL ACCEPTANCE:
 SIGNED:
 DATE:

END OF SECTION 02810

SECTION 02860A
EXERCISE EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Documents:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section.
- B. Section Includes:
 - 1. Install exercise equipment identified in these specifications or shown on the drawings.
 - 2. Equipment will be purchased under separate contract by City of Westlake Village, contractor responsible for equipment off-load and complete installation as recommended by the manufacturer.
- C. Related Sections:
 - 1. SECTION 03301 - SITE CAST-IN-PLACE CONCRETE, for footings

1.2 SUBMITTALS

- A. General:
 - 1. Comply with General Conditions
- B. Submit complete Manufacturer's information, including catalog cuts, installation procedures and diagrams, maintenance instructions, etc. Provide two copies to the City Representative.
- C. Should it be necessary to propose equipment other than that specified, written justification for selecting the alternate product, including proof of equal or better quality, shall be provided in addition to the Manufacturer data.
- D. Contractor shall have the manufacturer review the exercise area plans and mark in ink the minimum dimensions allowed between pieces of equipment, and between curbs, walls, etc. Any discrepancies noted shall be brought to the attention of the landscape architect immediately.

PART 2 - PRODUCTS

2.1 PRODUCTS - GENERAL

- A. Products named are indicative of the features, form, finish, and quality of the furnishings desired. Products of Manufacturers other than those named may be acceptable upon proof of equality. Submit data as specified above for approval by City Representative.
- B. All products provided by contractor shall be new, delivered to the site in Manufacturer's original containers, and protected at all times from damage during shipping, storage, and handling prior to and during installation.
- C. Products provided by City Representative shall be protected as if new.

2.2 Exercise Equipment

- A. Install exercise equipment as indicated on the drawings and in accordance with Manufacturer's instructions and specifications.
- B. Exercise Equipment shall be the HealthBeat Outdoor Fitness System by Landscape Structures. Available through RecWest Outdoor Products. Tel 805-794-6131. Contact: Carolyn Jones. Color: Graphite (to be verified by City prior to placing order). Direct Bury.

<u>Description/Model#</u>	<u>Quantity</u>
Welcome Intro Sign #161437-A	1
Tai Chi Wheels #16131-A	1
Assisted Row / Push Up #161316-A	1
Balance Steps #161315-A	1
Chest/Back Press #161309-A	1
Squat Press #161310-A	1
Pull-Up/Dip #161313-A	1
Ab Crunch / Leg Lift #161314-A	1
Cardio Stepper #161312-A	1
Plyometrics #161317 -A	1

EXECUTION

2.3 INSTALLATION - GENERAL

- A. Installation of products shall be according to Manufacturer's instructions.
- B. If discrepancies are found, or if information is lacking, consult with City Representative immediately, prior to beginning the work.
- C. All equipment specified shall be set in concrete footings which shall be the size recommended in writing on printed matter furnished by the manufacturer. 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 the manufacturer's material on equipment being installed. Remove all burrs on welds and paint according to Standard Specifications.

2.4 PROTECTION OF INSTALLED EQUIPMENT

- A. Protect equipment from damage at all times, until final acceptance of the Work.
- B. If damage occurs to any equipment prior to final acceptance, Contractor shall, at his own expense, make replacement to satisfaction of the City Representative.

END OF SECTION 02870

SECTION 02870
SITE FURNISHINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Documents:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section.
- B. Section Includes:
 - 1. Provide and install drinking fountains, benches, picnic tables, bike racks, and other equipment identified in these specifications or shown on the drawings.
 - 2. Install equipment and furnishings provided by the City Representative.
- C. Related Sections:
 - 1. SECTION 03300 – CEMENT CONCRETE PAVEMENT
 - 2. SECTION 03301 - SITE CAST-IN-PLACE CONCRETE, for footings

1.2 SUBMITTALS

- A. General:
 - 1. Comply with General Conditions
- B. Submit complete Manufacturer's information, including catalog cuts, installation procedures and diagrams, maintenance instructions, etc. Provide two copies to the City Representative.
- C. Should it be necessary to propose equipment other than that specified, written justification for selecting the alternate product, including proof of equal or better quality, shall be provided in addition to the Manufacturer data.

PART 2 - PRODUCTS

2.1 PRODUCTS - GENERAL

- A. Products named are indicative of the features, form, finish, and quality of the furnishings desired. Products of Manufacturers other than those named may be acceptable upon proof of equality. Submit data as specified above for approval by City Representative.
- B. All products provided by contractor shall be new, delivered to the site in Manufacturer's original containers, and protected at all times from damage during shipping, storage, and handling prior to and during installation.
- C. Products provided by City Representative shall be protected as if new.

2.2 DRINKING FOUNTAINS

- A. Install drinking fountains as indicated on the drawings and in accordance with Manufacturer's instructions and specifications.
- B. Drinking fountains shall be:
 - 1. Murdock, Model: M-43-CSA with CH30 and Jug filler, hose threads. Shop drawings, Color: Black. Ph: (800) 453-7465
 - 2. Murdock, Model: M-23-PF (High/Low with pet bowl), with push self closing spigot. Shop drawings, Color: Black. Ph: (800) 453-7465
 - 3. Or equal

2.3 PICNIC TABLES

- A. Install picnic tables as indicated on the drawings and in accordance with Manufacturer's instructions and specifications.
- B. Picnic tables shall be:
 - 1. Picnic tables 4-seat: Landscape Forms, 4-seat, Carousel Table, powder-coated, perforated backed seats. Table top Color: Black, Steelhead perforated with umbrella hole, Surface mount, submit shop drawings for approval, Ph: (800) 521-2546
 - 2. Picnic tables 5-seat (ADA): Landscape Forms, 5-seat ADA, Carousel Table, black powder-coated, perforated backed seats. Table top color: Black, Steelhead perforated with umbrella hole. Surface mount, submit shop drawings for approval, Ph: (800) 521-2546
 - 3. Or equal

2.4 BENCHES & TOT LOT BENCHES

- A. Install benches as indicated on the drawings and in accordance with Manufacturer's instructions and specifications.
- B. Benches shall be:
 - 1. General Bench – Landscape Forms, Townsquare with vertical strap, Frame Color: Black, Surface Mount, Ph: (800) 521-2546
 - 2. Tot Lot Bench – Landscape Forms, Lakeside Picket Fence, backed, steel color, metallic steel wood, Jarah, Ph: (800) 521-2546
 - 3. Or equal

2.5 TRASH RECEPTACLES

- A. Install trash receptacles as indicated on the drawings and in accordance with Manufacturer's instructions and specifications. Not all trash receptacles shown on plans.
- B. All trash receptacles to be:
 - 1. Victor Stanley Inc., Model: SD-42 & DYN-236, shop drawings, Color: Black (not all trash receptacles shown on plans), Contact: David Skalka Ph. (951) 299-9394
 - 2. Or approved equal

2.6 TREE GRATES

- A. Install tree grates as indicated in the drawings and in accordance with Manufacturer's instructions and specifications.

- B. Tree Grate to be:
 - 1. Ironsmith, model: 4840F, Market Street, 48" SQ. with 18" tree opening, Frame: Black. Provide frame for installation adjacent conc. Color: Powder Coat Black. Ph: (800) 338-4766
 - 2. Or equal
- 2. Reliance Foundry, model: R-7538 Ph. (800)338-4766
- 3. Or equal

2.7 VOLLEYBALL PACK

- A. Install volleyball pack as indicated in the drawings and in accordance with Manufacturer's instructions and specifications.
- B. Volleyball pack to be:
 - 1. Tomark Sports, Model: TM-K40607, Model includes post, net, volleyballs and sleeves
 - 2. Or equal

PART 3 -EXECUTION

3.1 INSTALLATION - GENERAL

- A. Installation of products shall be as shown on the drawings, or according to Manufacturer's instructions.
- B. If discrepancies are found, or if information is lacking, consult with City Representative immediately, prior to beginning the work.

3.2 PROTECTION OF INSTALLED EQUIPMENT

- A. Protect equipment from damage at all times, until final acceptance of the Work.
- B. If damage occurs to any equipment prior to final acceptance, Contractor shall, at his own expense, make replacement to satisfaction of the City Representative.

END OF SECTION 02870

SECTION 02875
SHADE FABRIC STRUCTURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

1.2 SUMMARY

- A. The shade structure contractor shall be responsible for the design, engineering, fabrication, supply and installation of the work specified herein. The intent of this specification is to have only one contractor be responsible for the above functions.

1.3 SUBMITTALS

1.3.1 Award of Contract Submittals:

- A. Provide wet sealed structural engineering drawings and calculations.
- B. Provide fabric samples and powder coat colors for final order selection.

1.4 QUALITY ASSURANCE

- A. Manufacturer shall have at least 12 years experience in the design, engineering, manufacture, and installation of structures, engineered to California Building Code requirements with similar scope and a successful construction record of in-service performance.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify layout information for shade structures shown on the Drawings in relation to the property survey and existing structures, and verify locations by field measurements prior to construction.

1.6 WARRANTY

1. The successful bidder shall provide a 12 month warranty on all labor and materials.
2. A supplemental warranty from the manufacturer shall be provided for a period of 10 years (pro rated) on fabric and 10 years on the structural integrity of the steel from date of substantial completion.
3. The warranty shall not deprive the Owner of other rights the Owner may have under the provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Pre-Engineered Package: The proposed structure(s) manufactured by USA SHADE & FABRIC STRUCTURES, Inc., or approved equal shall be modular and pre-fabricated, and include the structural steel frame, fabric roof, steel cables, all fasteners, and installation of structure(s) including foundations.
- B. Contact USA SHADE & FABRIC STRUCTURES, Inc., 350 Kalmus Drive, Costa Mesa CA 92626, Phone:(714) 427-6981, Fax: (714) 427-6982; Attn: Patti Abrecht
- C. The shade structure shall conform to the current adopted version of the California Building Code 2007 including local agency amendments and additions to the code.
- D. All shade structures are engineered and designed to meet a 80 mph wind load, Exposure C and seismic (earthquake) load based on Zone 4
- E. Steel:
 - 1. All steel members of the shade structure shall be designed in strict accordance with the requirements of the "American Institute of Steel Construction" (AISC) Specifications and the "American Iron and Steel Institute" (AISI) Specifications for Cold Formed Members.
 - 2. All connections shall have a maximum internal sleeving tolerance of .0625 inches using high tensile strength steel sections with a minimum sleeve length of 6 inches.
 - 3. All non-hollow structural steel members shall comply to ASTM A-36. All hollow structural steel members shall be cold formed, high strength steel and comply with ASTM A-500, Grade C. All steel plates shall comply to ASTM A-572, Grade 50. All galvanized steel tubing shall be triple coated for rust protection using an in-line electro-plating coat process. All galvanized steel tubing shall be internally coated with zinc and organic coatings to prevent corrosion.
- F. Bolts:
 - 1. All structural field connections of the shade structure shall be designed and made with high strength bolted connections using ASTM A-354, Grade B or SAE J249, Grade 8.
 - 2. All stainless steel bolts shall comply with ASTM F-593, Alloy Group 1 or 2. All bolt fittings shall include rubber washer for water tight seal at joints. All nuts shall comply with ASTM F-594, Alloy Group 1 or 2.
- G. Welding:
 - 1. All shop welded connections of the shade structure shall be designed and performed in strict accordance with the requirements of the "American Welding Society" (AWS) Specifications. Structural welds shall be made in compliance with the requirements of the "Prequalified" welded joints where applicable and by certified welders. No onsite or field welding shall be permitted.
 - 2. All full penetration welds shall be continuously inspected by an independent inspection agency and shall be tested to the requirement of 2007 CBC.

H. Powder coating:

1. Galvanized steel tubing preparation prior to powder coating shall be executed in accordance to solvent cleaning SSPC-SP1. Solvent such as water, mineral spirits, xylol, toluol, which are to be used to remove foreign matter from the surface. A mechanical method prior to solvent cleaning prior to surface preparation shall be executed according to Power Tool Cleaning SSPC-SP3 and utilizing wire brushes abrasive wheels and needle gun, etc.
2. Carbon structural steel tubing preparation prior to powder coating shall be executed in accordance to commercial blast cleaning SSPC-SP6 or NACE #3. A commercial blast cleaned surface, when viewed with out magnification, shall be free of all visible oil, grease, dirt, mill scale, rust, coating, oxides, corrosion, products and other foreign material.
3. Powder coating shall be sufficiently applied, with a minimum 3 mils thickness, and cured at the recommended temperature to provide proper adhesion and stability to meet salt spray and adhesion tests as defined by the American Society of Testing Materials.
4. Powder used in the powder coat process shall have the following characteristics:
 - a. Specific Gravity: 1.68 +/- 0.05.
 - b. Theoretical coverage: 114 +/- 4ft²/lb/mil
 - c. Mass loss during cure: <1%
 - d. Maximum storage temperature: 75°F

I. Tension Cable: Steel cable is determined based on calculated engineering load.

1. For light and medium loads; ¼" (nominal) galvanized 7x19 strand cable to be used.
2. For heavy loads; 3/8" (nominal) galvanized 7 x 19 cable to be used.

K. Fabric Roof Systems:

1. UV Shade Fabric:
 - a. UV Shade fabric is made of a UV stabilized high-density polyethylene. Mesh shall be rachel knitted with monofilament and tape yarn filler to ensure that material will not unravel if cut. Panels to be 10ft wide.
 - b. Fabric shall meet the following fire resistance tests:
 - 1) ASTM E84
 - 2) NFPA 701-97 (Weathered or unweathered)
 - 3) CA Fire Marshall Rating (Reg. # FA-52001)
2. Stitching & Thread:
 - a. All sewing threads are to be double stitched.
 - b. Thread shall be GORE Tenara Sewing Thread manufactured form 100% expanded PTFE; mildew resistant exterior approved thread. Thread shall meet or exceed the following:
 - 1) Flexible temperature range
 - 2) Very low shrinkage factor
 - 3) Extremely high strength, durable in outdoor climates
 - 4) Resists flex and abrasion of fabric
 - 5) Unaffected by cleaning agents; acid rain, mildew, salt water and rot resistant, unaffected by most industrial pollutants.

- 6) Treated for prolonged exposure to the sun.
- 3. Shade and UV Factors:
 - a. Shade protection and UV screen protection factors shall be as follows:

<u>Color</u>	<u>UV Block %</u>	<u>Shade %</u>
Pacific Blue	84%	82%
Rain Forest Green	83%	81%
Red	84%	85.5%
Brown	88%	88.5%
Silver	85%	81%
Desert Sand	86%	84.5%
Terracotta	85%	81%
Yellow	86%	84%

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Installations of shade structures shall be performed by a State of CA licensed and bonded contractor with certified Rope Access Technicians on staff with experience in tension fabric structures.
- B. The contractor installing the structure shall comply with manufactures instructions for assembly, installation, and erection per approved drawings.
- C. Concrete:
 - 1. Concrete work shall be executed in accordance with the latest edition of American Concrete Building Code ACI 318.
 - 2. Concrete specifications shall comply in accordance with the section 03300, and detailed as per plans, shall be as follows:
 - a. 28 Days Strength F'c = 3000 psi
 - b. Aggregate: HR
 - c. Slump: 3 – 5
 - d. Portland Cement shall conform to C-150
 - e. Aggregate shall conform to ASTM C-33
 - 3. All reinforcement shall conform to ASTM A-615 grade 60.
 - 4. Reinforcing steel shall be detailed, fabricated, and placed in accordance with the latest ACI Detailing Manual and Manual of Standard Practice.
 - 5. Whenever daily ambient temperatures are below 80 degrees Fahrenheit, the contractor may have mix accelerators and hot water added at the batch plant (See Table 1).
 - 6. The contractor shall not pour any concrete when daily ambient temperature is below 55 degrees Fahrenheit.

TABLE 1

Temperature Range	% Accelerator	Type Accelerator
75-80 degrees	1%	High Early (non calcium)
70-75 degrees	2%	High Early (non calcium)
Below 70 degrees	3%	High Early (non calcium)

C. Foundations:

1. All Anchor Bolts set in new concrete shall be ASTM A-325.
2. All Anchor Bolts shall be Hot Dipped Galvanized.
3. Footings shall be placed in accordance with and conform to manufactures engineered specifications and drawings.

END OF SECTION 02875

SECTION 02880
PLAYGROUND EQUIPMENT

PART 1 GENERAL

1.1 SCOPE

- A. Provide and install all playground equipment as identified in these specifications or identified on the drawings.
- B. Contractor is to furnish and install new play equipment as shown on plans.

1.2 RELATED SECTIONS

- A. Section 03300 – Cast-In-Place Concrete
- B. Section 02791 – Playground Safety Surfacing

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 135 (1989a; R 1993) Electric-Resistance-Welded Steel Pipe

ASTM A 153 (1982; R 1987) Zinc Coatings (Hot-Dip) on Iron and Steel Hardware

ASTM A 385 (1980; R 1991) High-Quality Zinc Coatings (Hot-Dip)

ASTM A 500 (1990a; R 1993) Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

ASTM A 513 (1991a; R 1992) Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing

ASTM B 117 (1990) Salt Spray Resistance Test

ASTM B 221 (1992a; R 1993) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes

ASTM D 822 (1989) Conducting Tests on Paint and Related Coatings and Materials Using Filtered Open-Flame Carbon Arc Light and Water Exposure Apparatus

ASTM D 1248 (1984; R 1989) Polyethylene Plastics Molding and Extrusion Materials

ASTM D 1734 (1993) Flexibility Mandrel Test

ASTM D 2454 (1991) Overbake Hardness Test

ASTM D 2794 (1992; R 1993) Resistance of Organic Coatings to the Efforts of Rapid Deformation (Impact)

ASTM D 3359 (1992a; R 1993) Measuring Adhesion by Tape Test

ASTM D 3363 (1992a) Pencil Hardness Test

ASTM F 1292 (1993) Impact Attenuation of Surface Systems Under and Around Playground Equipment

ASTM F 1487 (1993) Playground Equipment for Public Use

FEDERAL STANDARDS

FED-STD-795 (4/1/88) Uniform Federal Accessibility Standards (UFAS)

FEDERAL SPECIFICATIONS

FS L-P-390 (1987) Plastic Molding Material FEP Fluorocarbon, Molding and Extrusion (Low, Medium and High) Density

FS QQA-200/8F (11/8/83) Aluminum Alloy 6061, Bar, Rod, Shapes, Tubes, and Wire Extruded

CODE OF FEDERAL REGULATIONS

CFR 28 Part 36 (1991) Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, Final Rule

36 CFR Part 1191 (2000) Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Play Areas, Final Rule

UNITED STATES CONSUMER PRODUCT SAFETY COMMISSION (CPSC)

CPSC (1997) Handbook for Public Playground Safety, Publication No. 325, U.S. Consumer Product Safety Commission, Washington, D.C. 20207, 301-504-0494

CALIFORNIA CODE OF REGULATIONS

Title 22. Social Security; Division 4. Environmental Health; Chapter 22. Safety Regulations for Playgrounds (2000)

Public Resources Code, Part B, Public Playground Equipment, Sections 5410 and 5411

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

9001 Quality Standards certifying manufacturers processes

14001 Standards for Environmental Protection and Natural Resource Preservation

1.4 PERFORMANCE REQUIREMENTS

A. Safety

- 1 Playground equipment and installation shall meet the safety requirements of CPSC and ASTM F 1487.

B. Accessibility

- 1 Playground equipment intended for access by children with disabilities shall meet the requirements of 36 CFR Part 1191 (2000) Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities, Play Areas, Final Rule; California Code of Regulations, Title 22. Social Security; Division 4. Environmental Health; Chapter

22. Safety Regulations for Playgrounds (2000), which are based on the 1997 CPSC guidelines and ASTM F 1487-98; and California Public Resources Code, Part B, Public Playground Equipment Sec. 5410 and 5411. Wherever a conflict arises between specific provisions of the above regulations, the option that provides greater accessibility shall apply.

C. Definitions:

- 1 Elevated Play Component: An elevated play component is a play component that is approached above or below grade and is part of a composite play structure. Play components that are attached to a composite play structure and that can be approached from a platform or deck area shall be considered elevated play components.
- 2 Ground-Level Play Component: Ground level play components are items that can be approached and exited at ground level.
- 3 Type of Play Component: Different types of play components shall be based on the general experience provided by the play component including (but not limited to) experiences such as rocking, swinging, climbing, spinning, and sliding.
- 4 Elevated Accessible Route: An elevated accessible route is defined as the path used for connecting elevated play components.

D. Requirements for Number and Variety of Play Components:

- 1 Ground-Level Play Components: At least one of each type of ground-level play component that is present in the play area shall be on an accessible route. The number and variety of ground-level play components required to be on an accessible route shall be determined by the number of elevated play components provided in accordance with Table 15.6.2.2 of 36 CFR Part 1191 (2000).
- 2 Elevated Play Components: At least 50 percent of the elevated play components shall be on an accessible route.

E. Requirements for Elevated Accessible Routes:

- 1 The elevated accessible route shall connect the entry and exit points of at least 50 percent of the elevated play components provided in the play area.
- 2 Elevated accessible routes shall have a minimum 36" clear width (narrowing to a minimum of 32" for a 24" length), a 12" rise maximum per ramp run, and handrails with a top gripping surface (0.95" to 1.55" diameter or width) between 20" and 28" above the ramp surface.
- 3 Ramps and transfer systems may be used for providing access to elevated play components. Ramps shall be provided on composite structures with 20 or more elevated play components and they shall connect to at least 25% of the elevated play components.
- 4 Landings at the top and bottom of each run are required and shall be as wide as the ramp they connect to and at least 60" long.
- 5 Handrails shall comply with ADAAG 4.8.5 except that they shall have no extensions.

F. Requirements for Transfer Systems:

- 1 Transfer platforms shall be between 11" and 18" high, minimum 24" wide, and minimum 14" deep.

- 2 Clear ground space at least 48" by 30" shall be provided, with the 48" long side parallel to the 24" side of the transfer platform.
 - 3 Transfer steps shall be a minimum 24" wide by 14" deep. Steps shall be maximum 8" high. Steps on site-built and custom units shall be 6" for preschool-age play components.
 - a. Transfer supports shall be provided on transfer platforms and transfer steps at each level where transferring is the intended method of access.
- G. Clear Floor or Ground Space:
- 1 Clear ground space at least 48" by 30" shall be provided at ground-level play components and elevated play components accessible by ramp.
 - 2 Clear ground spaces may overlap accessible routes and maneuvering spaces.
 - 3 Clear ground spaces shall have slopes not steeper than 1:48 in all directions.
- H. Maneuvering Space:
- 1 Maneuvering spaces shall comply with ADAAG section 4.8.
 - 2 Maneuvering spaces at least 60" diameter or 60" T-shaped shall be provided at ground-level play components and elevated play components accessible by ramp.
 - 3 Maneuvering spaces shall be provided adjacent to swings.
 - 4 At least one maneuvering space shall be provided on the same level as elevated play components accessible by ramp.
 - 5 Maneuvering spaces shall have slopes not steeper than 1:48 in all directions.
- I. Entry Points and Seats:
- 1 Entry points and seats shall be between 11" and 24" high, with a recommended height of 18".
- J. Play Tables:
- 1 The wheelchair knee clearance for play tables shall be minimum 24" high, minimum 30" wide, and minimum 17" deep.
 - 2 Play tables designed for preschool-age children may provide a parallel approach instead of knee clearance if the rim is maximum 31".
- K. Reach Ranges for Manipulative Features
1. Manipulative features on ground-level play components or elevated play components accessible by ramp shall be located as follows:
Preschool-age equipment- 20" to 36" above adjacent accessible surface
School-age equipment- 18" to 40" above adjacent accessible surface.
 2. Manipulative features on elevated play components accessible only by transfer systems shall be located as follows:
Preschool-age equipment as above, less 15"
School-age equipment as above, less 18"

L. Test Report:

1. Submit two bound copies of product manufacturer's test report indicating compliance with the latest U.S. Consumer Product Safety Commission's Technical Guidelines for Public Playground Safety with regard to thickness of product beneath various equipment height ranges. Test reports shall be by a certified laboratory, to ASTM- F-1292-91 specifications using the f355-Procedure C Test Method.

1.5 SUBMITTALS

- A. Submit two bound copies of play equipment product data, catalog cuts, photo brochures, specifications, and installation procedures, (including diagrams, instructions, scale models) or other printed information in sufficient detail and scope to verify compliance with requirements of the contract documents.
- B. Submit drawings showing scaled shop details of playground equipment, including equipment layout, platform heights, protective barriers, play events and use zones, in relationship to the playground design. If playground equipment other than what is shown on the drawings is proposed, shop drawings shall be provided to illustrate how the playground design and layout is modified to accommodate equipment installation and use zones.
- C. Submit a listing of at least five installations where the brand of play equipment with similar units to those proposed has been installed and has been in successful service for at least five years. This list shall include owner or purchaser; address of installation; service or maintenance organization; date of installation; and contact person and phone number.
- D. Submit two copies of the statement by the material supplier or equipment manufacturer asserting that the supplied material or equipment meets and is installed according to the specified requirements.
- E. A Certificate of Insurance, shall be provided by the manufacturer, covering both product and general liability, of not less than \$1,000,000. The issuing underwriter shall be AA rated.
- F. Submit two copies of color charts displaying manufacturer's color selections and finishes, and identifying those colors and finishes proposed for use.
- G. Submit two bound copies of procedures and instructions pertaining to frequency of preventive maintenance, inspection, adjustment, lubrication, and cleaning necessary to minimize corrective maintenance and repair for play equipment. A list of all parts and components for the system, by manufacturer's name, part number, and nomenclature, shall be attached.
- H. Submit a copy of product manufacturer's test report indicating compliance with the latest U.S. Consumer Product Safety Commission's Technical Guidelines for Public Playground Safety with regard to thickness of product beneath various equipment height ranges. Test reports shall be by a certified laboratory, to ASTM- F-1292-91 specifications using the f355-Procedure C Test Method.
- I. Contractor shall provide warranty against all defects in materials and workmanship for play equipment. Warranty shall include but not be limited to such defects as bubbling, peeling, loss of integrity, poor ultraviolet stability, lack of permeability, or general deterioration due to weather.

- J. The installer of the play equipment must submit proof of liability insurance of at least \$1,000,000 from a reputable insurance company covering defects in materials, workmanship, and installation. This liability shall cover any bodily harm resulting from a failure of play equipment due to installation defects.
- K. The installer of the play equipment must submit proof that said installer is a certified installer of the play equipment manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Equipment shall be delivered and stored in accordance with the manufacturer's recommendations.
- B. Contractor is responsible for loading, delivering and storing equipment as needed to ensure products are in perfect condition upon commencement of assembly.
- C. The contractor is responsible to inspect each order and verify that all necessary hardware is available to complete the installation. If all pieces are not available, the contractor is responsible to inform the County's Construction Manager.

1.7 WARRANTY

- A. Contractor shall furnish maximum warranty from play equipment manufacturer (equal or greater than warranty provided by equipment manufacturer listed under Products below) to guard against defects in materials and fabrication.

1.8 CERTIFICATION

- A. Contractor shall furnish original-signed written certification that the play equipment has been installed in accordance with Manufacturer's requirements and complies with ASTM F-1487 and CPSC standards.

PART 2 PRODUCTS

2.1 Manufacturers: The play area equipment layout, as shown on the drawings, is based on the use of the manufacturers listed. This list is not meant to exclude other suppliers able to furnish equal products (see 3.3 Play Area Layout below).

- A. Contractor shall receive approval of color selection (see 1.5 Submittals, Section F, and 2.2 below) for all equipment prior to placing the order for the equipment.

2.2 Playground Equipment

- A. As listed in Materials List, sheet LM-1 and LM-2 in contract drawings.

PART 3 EXECUTION

3.1 PREPARATION

- A. Prior to start of excavation, contractor shall lay out the entire outdoor play area and stake location of all elements, including playground equipment, use zones, pathways, planters, and hard surfaces, based on actual playground equipment supplied to be installed. Use zones shall not overlap hard surfaces and shall meet criteria of ASTM F 1292. City's Construction Manager reserves the right to adjust the equipment locations and other elements to meet field conditions and use zone safety requirements.

3.2 INSTALLATION

- A. General: Playground equipment shall be installed according to the manufacturer's installation specifications and as shown on the drawings to meet the requirements of CPSC and ASTM F 1487.
- B. All play equipment to be in-ground installation.
- C. Playground Equipment Manufacturer's Services:
A manufacturer's representative who is experienced in the installation, adjustment, and operation of the playground equipment shall be on-site during installation. Manufacturer's certified installer shall be acceptable to meet this requirement. The representative shall supervise the installation and adjustment of the playground equipment to ensure that the equipment meets the requirements of CPSC and ASTM F 1487.
- C. Measurement of Heights:
Play equipment installation height shall be measured from the finish elevation of the playground safety surface.
 - 1. Maximum Accessible Height: For the purpose of meeting the impact attenuation requirements of the playground safety surface in accordance with ASTM F 1292 and Section 02880 PLAYGROUND SAFETY SURFACES, the maximum accessible height of playground equipment shall be as specified by the manufacturer.

3.3 PLAY AREA LAYOUT

The play area equipment layout, as shown on the drawings, is based on the use of above specified equipment. The use of other equipment suppliers with different configurations will require the Contractor to provide a revised play equipment layout and obtain approval of both the equipment and the play area layout. Contractor shall be responsible for all costs to revise the layout including review of the layout and documentation of the revised layout by City's consultant. The revised play equipment layout shall include appropriate safety use zone clearances for the equipment selected. The equipment shall be similar in material, size, and appearance, and shall provide a range of different activities and be appropriate for different physical and social levels within each play area, as intended by the selected equipment listed in the Schedule.

3.4 PLAY AREA SECURITY

The contractor shall provide means to keep the public from using any play equipment until safety surfaces have been properly installed, the area cleaned and cleared, and all installation reviewed by the City's Construction Manager. The area shall be secured until authorized by City's Construction Manager to be opened.

3.5 LEVEL OF SAFETY SURFACING

All play equipment shall be clearly marked to indicate the finished level of safety surfacing material to meet impact attenuating requirements. All metal posts shall be as marked by the manufacturer.

END OF SECTION - 02880

SECTION 02900
LANDSCAPE PLANTING (non ball field areas)

PART 1 – GENERAL

1.1 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.

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 and subsequent 60 day maintenance period, no exceptions will be made without written authorization from Agency Representative.

All planting material shall be approved by Landscape Architect per part 2-Materials, e-planting materials, this section

PART 2 – MATERIALS

a. Landscape Finish Grading:

Site topsoil material shall be used.

b. Landscape header board:

Shall be "Trek" 2x6 recycled wood board or equal, color: TBD from manufacturer standard color options. Use (2) "Trek" 1x6 recycled wood board or equal on all curves and radii. Stake and attach per plans.

c. 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.

d. Tree Trunk Protector:

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

e. Root Barrier:

Root barrier shall be installed on all planted trees within 5'-0" of concrete or asphalt paving and located in all planters in parking lot, regardless of distance to hardscape. 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.

f. 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.

Tree specimens shall be tagged at tree farm prior to arrival to site. Contractor to notify Landscape Architect two weeks prior to arrival of trees.

All shrub material shall be inspected upon off load at site. Any specimen deemed unacceptable shall be removed from site and replaced with same size and species. Root bound, nutrient deficiencies, plants material too small for specified container size will be deemed unacceptable. Final decision shall be based solely on Landscape Architect or Agency Representative.

g. 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.

h. Bio Swale Growing Medium

All bio swale areas identified on plans shall receive mix as follows:

1. Coarse Sand: Washed Concrete Sand per ASTM C33
2. Lassenite Rotary Kiln Fired Pozzolan: ASTM 330 #14, ASTM C29 Dry Weight (37 pcf – 46 pcf, Specific Gravity 1.35 – 1.68, ASTM F 726-99 Absorbency 92-102%, ASTM F 1815 Capillary Porosity, Non-Capillary 17.7%, Saturated Hydraulic Conductivity 10.9 in/hr, Water Holding at 30 cm 62.1%.
3. Reed Sedge Peat Moss.
4. Tri C Humate blended at the rate of 4lbs per ton.
5. Tri C Endo 120 blended at the rate of 4lbs per ton.
6. Mix Proportions: 85% sand: 10% Lassenite Pozzolan: 5% Reed Sedge Peat Moss.
7. Blending; Material shall be blended prior to delivery by a twin screw pug mill of equal. Bucket blending is not equal.
8. Growing Medium shall be placed at a uniform depth of 18” below finish grade and compacted per manufacturer’s recommendations.
9. Supplier: Gail Materials (951) 279-1095

i. Turf Seed Mixes:

All seed shall be fresh, clean, new crop seed, premixed by mechanical mixer to proportions specified. Seed shall be hydroseeded as recommended by the manufacturer. Turf mix: Triple Crown, Fescue Blend, available thru: Stover seed (800)621-0315. Seeding rate: 10-12 pounds per 1,000 square feet.

j. Sod:

See Section 02910 – Natural Turf Ballfields. During the Winter months (October – February), the hybrid bermuda sod shall be overseeded with perennial Grand Slam Rye Blend @ 8 pounds per 1,000 s.f., available thru Stover Seed (800)621-0315 or as recommended by sod manufacturer.

k. Hydroseeding:

Native Grass in Bioswale Mix: S & S Seeds, (805)684-0436 or equal. Apply at 30 lbs per acre.

Species	Common Name	Bulk #'s/Acre
Distichlis spicata	Salt Grass	2.0
Deschampsia cespitosa	Tufted Hair Grass	6.0
Festuca idahoensis	Idaho Fescue	6.0

Leymus triticoides 'Rio'	Creeping Wild Rye	8.0
Lasthenia glabrata	Yellowray Goldfields	2.0
Lupinus bicolor	Lupine	4.0
Sisyrinchium bellum	Blue-Eyed Grass	2.0
	Total	30.0

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.

I. Shredded Wood Mulch:

Shredded Wood Mulch shall be a minimum of 2" 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.

PART 3 – 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.

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.

All hydroseeded turf/Common Turf Areas within the Big League Dreams fence line (excluding parking lots) shall be established first at a minimum of 60 days prior to the date of substantial completion by the contractor. It is the goal of the owner to have the interior of the park completed for the grand opening. No seeding shall be performed until all other construction operations have been completed, except by authorization of 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. Hydroseeding:

Slurry Mixtures, Binders, Mulch, pre-emergent etc: Shall be as recommended by manufacturer of seed of each seed mix. Follow manufacturers recommendations for installation.

After Planting: Apply adequate moisture to germinate seed. Best applied via several short durations. It is important to keep the seed moist, not wet.

Fertilize with 21-7-14 fertilizer 10-14 days after planting. Apply at the rate of 3# 1,000 sq. ft.

Do not apply any post-emergent herbicide for 45-60 days after planting

Evidence of compliance to these specifications, such as invoice or tag is required. Any changes or alterations must be approved

j. Jute Mesh Installation:

Install 48" wide X 225' rolls in accordance with the manufacturer's recommendations.

k. 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.

l. 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.

m. 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.

If 90 day maintenance period extends into dormancy period of Hybrid Bermuda SportsTurf and common Bermuda turf areas (sod and/or hydroseed) (October 1st – February 28th), contractor shall be responsible for overseeding with perennial Rye, Grand Slam Rye Blend @ 8 pounds per 1,000 s.f., available thru Stover Seed (800)621-0315. (if Sod has not been overseeded). Contractor shall supply all necessary fertilization for establishment of overseeded Rye. Follow manufacturer's recommendation for applicable mowing height and fertilization rates during the establishment period.

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 County 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.

n. 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.

o. 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.

p. 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.

q. 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 - 02900

SECTION 02960
ROCKWORK

PART 1 - GENERAL

A. Scope of Work:

1. Furnishing and installing natural stone/rock, veneer, paving and cobble groundcover where shown on drawings.

PART 2 - MATERIALS

A. Rock Cobble:

Rock cobble shall be rounded river rock selected for appearance and durability. Quality of stone shall meet the requirements of Section 200-1.6 of the Standard Specifications.

1. Product Name: Riverside Cobble, mfg: KRC Rock (760)744-1036 Color: light grays, very smooth and rounded rustic cobble. Size: (2"-4"), palletized. Geology: Granitic in origin
2. Approximate extent of rock cobble is shown on the drawings. Rockwork symbol on the drawings illustrates area of surface to be covered with rockwork. It does not indicate the actual number of rocks to be placed. Major rock sizes are indicated on drawings.

B. Rock Boulders:

Rock boulders shall be angular quarried rock selected for appearance and durability. Quality of stone meet the requirement of:

1. Product Name: "OJAI BOULDER", mfg: KRC Rock, Ph 760-744-1036. Color: Rich gray base overlaid with a rust brown finish. Size: various from (3')(4')(5')(6'). Geology: Granitic in origin
2. Approximate extent of rock boulders shown on the drawings. Rockwork symbol on the drawings illustrates area of surface to be covered with rockwork. Major rock sizes are indicated on drawings.

C. Rock Flagstone Paving:

Flagstone Paving shall be angular quarried rock selected for appearance and durability. Quality of stone meet the requirement of:

1. Product Name: TBD: Flagstone shall match Boulder for section 'B', Size: varies. Thickness: min. 2"
2. Approximate extent of Flagstone Paving shown on the drawings. Rockwork symbol on the drawings illustrates area of surface to be covered with rockwork.
3. Flagstone shall meet all ADA requirements for acceptable lifting tolerances between stone and grout. Contractor shall be responsible for all unacceptable work, including, but not limited to, removing all unacceptable work, replacing material, installation of new work and any special inspection that may be required to meet ADA guidelines and specifications.

4. Contractor shall submit samples to Landscape Architect for final approval. If samples are at a materials yard, contractor shall notify Landscape Architect a minimum of 48 hours prior.

D. Brick Veneer:

Stone veneer shall be angular quarried natural rock selected for appearance and durability. Quality of stone shall meet the requirement of:

1. Product Name: Sunset Red, mfg: Pacific Clay, Ph 760-744-1036. Color: Sunset Red Size: Thin Brick Modular with Corners
2. Provide complementing Thin Veneer Corners: Pacific Clay Sunset Red, mfg: Pacific Clay ph. 760-744-1036.
3. Approximate extent of stone veneer shown on the drawings. Rockwork symbol on the drawings illustrates area of surface to be covered with rockwork. It does not indicate the actual number of rocks to be placed

E. Grout:

1. Grout shall conform to the requirements of Section 201-1 and shall be Class 560-C-3250 with 5 inch maximum slump. The concrete mixture shall be modified so that the quantity of coarse aggregate in the mix larger than pea gravel size is one-half the amount required for Class C P.C.C. as specified in Section 201-1.3.2 of the Standard Specifications.
2. Color: #382 Bone, by Custom Building Products. Submit colors to Landscape Architect for final approval before commencing work.

PART 3 - EXECUTION

A. Rock/Stone:

1. Rock shall be transported and handled in a manner to prevent scarring, chipping, flaking and breakage.
2. The Owner's Construction Manager shall be notified 48 hours prior to placing of rock and will be present to provide direction during this operation. The Owner's Construction Manager's opinion concerning the aesthetic placement of boulders shall be final. No additional compensation will be allowed for operations required to satisfy the Construction Manager's artistic judgment.
3. Rock boulders at the base of rock formations and at shoreline areas shall be buried at least 1/4 of their total mass, and shall be positioned to resemble natural occurrence.
4. Rock boulders shall have no sharp edges or protrusions exposed above subgrade.
5. Stacked boulders shall be placed so that no tilting or rocking of any boulder occurs. Boulders shall be firmly butted against each other, and wedged when possible.
6. All stacked boulders shall be firmly grouted together. All voids between rocks shall be filled. Surface of grouting shall be left rough.

7. Contractor shall coordinate off-haul and crane with rock manufacturer.

B. Sealer/Enhancer:

1. All stone shall be sealed with a low-gloss natural stone sealer specially formulated for use on natural stone. Sealer shall be non-yellowing acrylic that provides protection against oil, water and acid.
2. Sealer shall be a film forming, water based sealer.
3. Contractor shall provide Landscape Architect a finish color sample for final approval prior to commencing work. Sample can be on finish work in an inconspicuous area.
4. Contractor to follow all written manufacturer's recommendation for applying, handling, preparation and coverage of product on all surfaces.

END OF SECTION 02960

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:

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 03231
ORNAMENTAL WELDED FENCING

PART 1 - GENERAL

1.1 WORK INCLUDED

- a. The contractor shall provide all labor, materials and appurtenances necessary for installation of the welded ornamental steel fence system defined herein at Perris Valley – Big League Dreams

1.2 RELATED WORK

- a. Section 02300 – Earthwork
- b. Section 03100 - Concrete

1.3 SYSTEM DESCRIPTION

- a. The manufacturer shall supply a total fence system of Montage II ATF® Welded Ornamental Steel Classic design. The system shall include all components (i.e., panels, posts, gates and hardware) required. Or equal.

1.4 QUALITY ASSURANCE

- a. The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

1.5 REFERENCES

- a. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
- b. ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
- c. ASTM D523 - Test Method for Specular Gloss.
- d. ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint.
- e. ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.
- f. ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
- g. ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.
- h. ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- i. ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.

1.6 SUBMITTAL

- a. The manufacturer's literature shall be submitted prior to installation.

1.7 PRODUCT HANDLING AND STORAGE

- a. Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

PART 2 - MATERIALS

2.1 MANUFACTURER

- a. The fence system shall conform to Montage II ATF® Welded Ornamental Steel, Classic™ design, extended picket bottom rail treatment, 2-Rail style manufactured by Ameristar Fence Products, Inc., in Tulsa, Oklahoma, or equal.

2.2 MATERIAL

- a. Steel material for fence panels and posts shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi (344 MPa) and a minimum zinc (hot-dip galvanized) coating weight of 0.90 oz/ft² (276 g/m²), Coating Designation G-90.
- b. Material for pickets shall be 1" square x 14 Ga. tubing. The rails shall be steel channel, 1.75" x 1.75" x .105". Picket holes in the rail shall be spaced 4.715" o.c. For fence systems up to and including 6 feet tall, posts shall be a minimum of 2-1/2" square x 12 Ga. For fence systems 7 feet tall and 8' tall, posts shall be a minimum of 3" square x 12 Ga. Gate posts shall meet the minimum requirements of Table 1.

2.3 FABRICATION

- a. Pickets, rails and posts shall be pre-cut to specified lengths. Rails shall be pre-punched to accept pickets.
- b. Pickets shall be inserted into the pre-punched holes in the rails and shall be aligned to standard spacing using a specially calibrated alignment fixture. The aligned pickets and rails shall be joined at each picket-to-rail intersection by Ameristar's proprietary fusion welding process, thus completing the rigid panel assembly (Note: The process produces a virtually seamless, spatter-free good-neighbor appearance, equally attractive from either side of the panel).
- c. The manufactured panels and posts shall be subjected to an inline electrodeposition coating (E-Coat) process consisting of a multi-stage pretreatment/wash (with zinc phosphate), followed by a duplex application of an epoxy primer and an acrylic topcoat. The minimum cumulative coating thickness of epoxy and acrylic shall be 2 mils (0.058 mm). The color shall be Black. The coated panels and posts shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2.
- d. Gates shall be fabricated using welded ornamental panel material and gate ends having a 1-3/4" square cross-sectional size. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding.

PART 3 - EXECUTION

3.1 PREPARATION

- a. All new installation shall be laid out by the contractor in accordance with the construction plans.

3.2 INSTALLATION

- a. Fence posts shall be set according to Table 3, plus or minus 1/2". Fence panels shall be attached to posts with brackets supplied by the manufacturer. Gate posts shall be spaced according to the gate openings specified in the construction plans. The "Earthwork" and "Concrete" sections of this specification shall govern post base material requirements.

3.3 CLEANING

- a. The contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.

Table 1 – Minimum Sizes for Montage II Gate Posts

Gate Opening	Gate Height		
	Up To & Including 4'	Over 4', Up To & Including 6'	Over 6', Up To & Including 8'
Up To 4'	2-1/2" x 12 Ga.	3" x 12 Ga.	4" x 11 Ga.
4'-1" To 6'	3" x 12 Ga.	3" x 12 Ga.	4" x 11 Ga.
6'-1" To 8'	3" x 12 Ga.	4" x 11 Ga.	6" x 3/16 Ga.
8'-1" To 10'	3" x 12 Ga.	4" x 11 Ga.	6" x 3/16 Ga.
10'-1" To 12'	3" x 12 Ga.	4" x 11 Ga.	6" x 3/16 Ga.
12'-1" To 14'	3" x 12 Ga.	4" x 11 Ga.	6" x 3/16 Ga.
14'-1" To 16'	3" x 12 Ga.	4" x 11 Ga.	6" x 3/16 Ga.

Quality Characteristics	ASTM Test Method	Performance Requirements
Adhesion	D3359 – Method	Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).
Corrosion Resistance	B117, D714 & D1654	Corrosion Resistance over 1,500 hours (Scribed per D1654; failure mode is
Impact Resistance	D2794	Impact Resistance over 60 inch lb. (Forward impact using 0.625" ball).

Weathering Resistance	D822, D2244, D523	Weathering Resistance over 1,000 hours (Failure mode is 60% loss of gloss)
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END OF SECTION - 03231

SECTION 03300
CEMENT CONCRETE PAVEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes exterior cement concrete pavement for the following:
 - 1. Walkways
 - 2. Site Furnishing pads
- B. Related work specified elsewhere:
 - 1. City Standard Specifications – PORTLAND CEMENT CONCRETE
 - 2. SECTION 02300—EARTHWORK
 - 3. SECTION 03301—SITE CAST-IN-PLACE CONCRETE, for footings

1.2 SUBMITTALS

- A. Comply with GENERAL CONDITIONS – SUBMITTALS.
- B. Product Data: For each type of product indicated.
- C. Design Mixtures: For each concrete pavement mixture.
- D. Sample Finish: Provide 6' square sample finish for each specified finish.
- E. Manufacturer's sample of synthetic fiber reinforcement.

1.3 REFERENCES

- A. ASTM C 94 – Standard Specification for Ready-mixed Concrete
- B. ASTM C 1116 – Standard Specification for Fiber-Reinforced Concrete and Shotcrete
- C. Southwest Certification Services (SWCS), Omega Point Laboratories No. 8662-1
- D. UL Report File No. R8534-11

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 2. Synthetic fiber reinforcement manufactured in ISO 9001:2000 certified facility
 - 3. Minimum 10-year satisfactory performance history of specified synthetic fiber reinforcement.
- B. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.

- C. Installed paving shall match approved sample finish.

PART 2 - PRODUCTS

2.1 REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- C. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420); deformed.
- D. Plain Steel Wire: ASTM A 82, as drawn.
- E. Deformed-Steel Wire: ASTM A 496.
- F. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice."
- G. Synthetic Fiber Reinforcement: Fibermesh 150 (or approved equal)
 - 1. Material: 100% virgin homopolymer polypropylene multifilament fibers, containing no reprocessed olefin materials.
 - 2. Conformance: ASTM C 1116, Type III
 - 3. Fire Classifications:
 - a. U.L. Report File No. R8534-11.
 - b. Southwest Certification Services (SWCS), Omega Point Laboratories No. 8662-1
 - 4. Fiber Length: graded
 - 5. Alkali Resistance: Alkali proof
 - 6. Absorption: Nil.
 - 7. Specific Gravity: .91
 - 8. Melt Point: 324 degrees F

2.2 CONCRETE MATERIALS

- A. See City Standard Specifications

2.3 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, ½" asphalt-saturated cellulosic fiber with removable joint cap.
- B. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.
 - 1. For concrete areas designated Color #1 on plan, Color to be DAVIS color #5084, Omaha Tan, 1 pound of color per sack of cement (or approved equal).
 - 2. For all other concrete areas, comply with City Standard Specifications SECTION 31.

2.4 CONCRETE MIXTURES

- A. Prepare design mixtures in accordance with City Standard Specifications SECTION 31.
- B. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions.
- C. Add fiber mesh reinforcing according to manufacturer's written instructions.
 - 1. Add synthetic fiber reinforcement into concrete mixer before, during, or after batching other concrete materials.
 - 2. Add synthetic fiber reinforcement at standard application rate of 1.5 pounds per cubic yard of concrete
 - 3. To ensure uniform distribution and random orientation of fibers throughout concrete, mix synthetic fiber reinforcement in concrete mixer in accordance with mixing time and speed of ASTM C 94.

2.5 JOINT SEALANT

- A. GENERAL:
 - 1. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint sealant manufacturer based on testing and field experience.
- B. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
 - 1. Type NS Silicone Sealant for Concrete:
 - a. Roadsaver Silicone-SL; Crafcro Inc.
 - b. #888; Dow Corning.

2.6 JOINT - SEALANT BACKER MATERIALS

- A. GENERAL: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint sealant manufacturer based on field experience and laboratory testing.
- B. Round Backer Rod for Cold – and Hot – Applied Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depths and prevent bottom-side adhesion of sealant.

2.7 PRIMERS

- A. Primers: Product recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint- sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness.
- E. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

3.5 CONCRETE PLACEMENT

- A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.
- B. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

- D. Screed pavement surfaces with a straightedge and strike off.
- E. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.6 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 - 1. Medium-to-Fine Textured Broom Finish:
 - 2. After screeding, floating, and steel troweling, and when concrete is properly set for the purpose, brush surface with a stiff bristle brush to create a finely textured non-skid surface.
 - a. For all picnic tables and pavilion pads, provide light broom finish.
 - b. For all walkways and other concrete pads, provide a medium broom concrete finish.

3.7 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Refer to City Standard Specifications SECTION 31 – PORTLAND CEMENT CONCRETE

3.8 INSTALLATION OF JOINT SEALANT

- A. EXAMINATION
 - 1. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. PREPARATION
 - 1. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions.
 - 2. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. INSTALLATION

1. General: Comply with joint sealant manufacturer's written installation instructions applicable to products and applications indicated, unless more stringent requirements apply.
2. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
3. Install backer materials of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - a. Do not leave gaps between ends of backer materials
 - b. Do not stretch, twist, puncture, or tear backer materials.
 - c. Remove absorbent backer materials that have become wet before sealant application and replace them with dry materials.
4. Install sealants by proven techniques to comply with the following and at the same time backings are installed:
 - a. Place sealants so they directly contact and fully wet joint substrates.
 - b. Completely fill recesses provided for each joint configuration.
 - c. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
5. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing beings, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - a. Remove excess sealants from surfaces adjacent to joint.
 - b. Use tooling agents that are approved in writing by joint sealant manufacturer and that do not discolor sealants or adjacent surfaces.
6. Provide joint configuration to comply with joint sealant manufacturer's written instructions, unless otherwise indicated.
7. Provide recessed joint configuration for silicone sealants of recess depth and at locations indicated.

D. CLEANING

1. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

E. PROTECTION

1. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

3.9 PAVEMENT TOLERANCES

A. Comply with tolerances of ACI 117 and as follows:

1. Elevation: 1/4 inch (6 mm).
2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).
3. Surface: Gap below 10-foot- (3-m-) long, unlevelled straightedge not to exceed 1/4 inch (6 mm).
4. Joint Spacing: 3 inches (75 mm).
5. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
6. Joint Width: Plus 1/8 inch (3 mm), no minus.

- B. Sweep and clean surface to eliminate loose material and dust.
- C. Apply paint with mechanical equipment to produce pavement markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).

3.10 REPAIRS AND PROTECTION

- A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.
- B. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement.
- C. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 03300

SECTION 03301
SITE CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Related Documents:

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section

B. Section Includes:

1. Provide all materials, labor and equipment to complete installation of all site cast concrete work, including but not limited to:
2. All concrete curbs, seat walls, transfer platform, footings for play equipment, site furnishings, and fencing.

C. Related Sections:

1. SECTION 03300 – CEMENT CONCRETE PAVING
2. SECTION 02870 – SITE FURNISHINGS

1.2 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

B. Reference Data:

1. If the year of the adoption or latest revision is omitted from the designation, it shall mean the specification, manual or test designation in effect the date the Notice to Proceed with the Work is given

C. U.S. Department of Commerce Product Standard (PS) Publication:

1. 1-74 Construction and Industrial Plywood

D. American Concrete Institute (ACI) Publications:

1. 211.1 Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete
2. 301 Specifications for Structural Concrete for Buildings
3. 301 Manual of Standard Practice for Detailing Reinforced Concrete Structures
4. 318 Building Code Requirements for Reinforced Concrete
5. 347 Recommended Practice for Concrete Formwork

E. American Society for Testing and Materials (ASTM) Publications:

1. A 185 Welded Steel Wire Fabric for Concrete Reinforcement
2. A 615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
3. C 31 Making and Curing Concrete Test Specimens in the Field
4. C 33 Concrete Aggregates
5. C 39 Compressive Strength of Cylindrical Concrete Specimens
6. C-94 Ready-Mixed Concrete
7. C 143 Slump of Portland Cement Concrete
8. C 150 Portland Cement
9. C 171 Sheet Materials for Curing Concrete
10. C172 Sampling Fresh Concrete

11. C 231 Air Content for Freshly Mixed Concrete by the Pressure Method
12. C 260 Air-Entraining Admixtures for Concrete
13. C 309 Liquid Membrane-Forming Compounds for Curing Concrete
14. D 98 Calcium Chloride
15. D1190 Concrete Joint Sealer, Hot Poured Elastic Type
16. D1751 Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)
17. D1752 Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
18. D1850 Concrete Joint Sealer, Cold-Application Type

1.3 SUBMITTALS

- A. General:
 1. Comply with SECTION 01300 – SUBMITTALS.
- B. Mix Design and Tests:
 1. Submit mix designs and compressive strength test reports from previous applications for specified types of concrete.
 2. Submit test reports for projects within 12 months of this projects contract date.
 3. The concrete mixes shall be based on designs of a professional testing laboratory, verified by test

1.4 DELIVERY

- A. Do not deliver concrete until forms, reinforcement, and embedded items are in place, ready for concrete to be placed, and approved by City Representative.

1.5 STORAGE

- A. Store reinforcement in a manner that will avoid excessive rusting or coating with grease, oil, dirt, and other objectionable materials.
- B. Store in separate piles or racks sorted by type and size for ready identification.

PART 2 - PRODUCTS

2.1 CONCRETE MIX DESIGN

- A. General:
 1. Comply with ACI 211.1.
 2. Slump shall be between 3 and 4 inches.
 3. The concrete shall have a 28-day compressive strength of 2,500 PSI.
- B. Air-Entrained Concrete:
 1. Provide for all concrete exposed to the weather.
 2. Use air-entraining admixture, not air-entraining cement.
 3. If the entrained air content falls below the specified limit, add a sufficient quantity of admixture to bring the entrained air content within the specified limits.
 4. Dissolve the admixture in a portion of the mixing water and add to the mix in the drum in a manner that will ensure uniform distribution of the agent throughout the batch.

5. The air content of freshly mixed air-entrained concrete shall be as follow:

<u>Maximum aggregate size</u>	<u>Amount of air (percent volume of concrete)</u>
1-1/2 inch	between 4 and 5-1/2
1 inch	between 4 and 6
3/4 inch	between 5 and 7
1/2 inch	between 6 and 8
3/8 inch	between 7 and 9

2.2 MATERIALS

- A. Cement:
1. ASTM C 150, Type I or II for all concrete.
 2. All cement for exposed concrete surfaces shall be of the same manufacture.
- B. Water:
1. Water, including free moisture and water in the aggregates, shall be fresh, clean, and potable.
- C. Aggregates:
1. ASTM C 33, 3/4" maximum size, except as noted, clean and free of debris.
 2. Obtain all aggregates for exposed concrete surfaces from one source.
- D. Admixtures:
1. Accelerating: ASTM D 98, Type I or Type II. Use only when approved.
 2. Color: On all surface elements; one pound of 'Davis' integral color pigments per sack of cement, color to be selected by City Representative.

2.3 FORMS

- A. Materials:
1. Masonite, coated plywood, steel, or other suitable material may be used provided form does not imprint concrete with grain or pattern.
 2. Plywood shall be free from loose knots, holes, and other defects, grade B-B concrete form panels conforming to PS-1.
 3. Surfaces of steel forms shall be free from irregularities, dents, and sags.

2.4 REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615, Grade 60 deformed bars.
- B. Welded Wire Fabric: ASTM A 185, 6" by 6", #10/10, unless otherwise indicated.

2.5 CURING MATERIALS

- A. Impervious Sheeting:
1. Waterproof paper, polyethylene sheeting, or polyethylene coated burlap conforming to ASTM C171.
- B. Liquid Chemical Compound:
1. A suitable sealer-hardener designed for sealing and hardening in addition to curing of the concrete, applied as recommended by manufacturer.

2. It shall be free of petroleum resins or waxes and shall not reduce the adhesion of tile, paint, roofing waterproofing, or other material to be applied to the concrete.

2.6 PREFORMED JOINT FILLER

- A. Conforming to ASTM D 1751 or ASTM D 1752.

2.7 VAPOR BARRIER

- A. Polyethylene sheeting, not less than 6-mil nominal thickness.

PART 3 - EXECUTION

3.1 FORMS

- A. General:
 1. Set forms true to line and grade.
 2. Construct forms so that they can be removed without damaging the concrete.
 3. Provide $\frac{3}{4}$ inch chamfer at all exposed joints, edges, and external corners of concrete, unless otherwise indicated.
- B. Coating:
 1. Before placing concrete, coat forms with a non-staining mineral oil or non-staining form coating compound.
 2. Do not use mineral oil on forms for surfaces which are to be painted.
- C. Tolerances and Variations: Adhere to tolerances specified in ACI 347.

3.2 PLACING REINFORCEMENT AND MISCELLANEOUS MATERIALS

- A. General:
 1. Provide all bars, wire fabric, and other reinforcing materials as indicated or specified, together with all necessary wire ties, supports and other devices necessary to install and secure the reinforcement properly.
 2. All reinforcement, when placed, shall be free from rust, scale, oil, grease, clay, and other coating, and foreign substances that would reduce or destroy the bond.
- B. Placing:
 1. Place reinforcement accurately and secure in place on suitable chairs, spacers, or metal hangers.
 2. On the ground, use concrete or other non-corrodible material for supporting reinforcement. Do not allow reinforcement closer than 2" to forms or subgrade.
- C. Splicing: Conform to ACI 318, except as otherwise indicated or specified.
- D. Setting Miscellaneous Material:
 1. Place and secure anchors and bolts, pipe sleeves, conduits, and other such items in position before the concrete is placed.
 2. Plumb anchor bolts, check for location and elevation, and secure rigidly in position.
 3. Fill voids in sleeves temporarily with readily removable material to prevent the entry of concrete into the voids.
- E. Expansion Joints and Cleavage Joints:
 1. Make joints 1/2 inch wide except as indicated otherwise.

2. Do not extend reinforcement or other embedded metal items bonded to the concrete through any expansion joint; use smooth dowels with a bond breaker.

3.3 MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE

- A. General: In accordance with ACI 301, Chapters 7 and 8, except as modified herein.
- B. Measuring:
 1. Allowable tolerances for measuring cement and water shall be one percent; for aggregates, 2 percent; and for admixtures, 3 percent.
- C. Mixing:
 1. Machine mix all concrete. Begin mixing within 30 minutes after the cement has been added to the aggregates.
 2. Introduce all mixing water in the drum before one-fourth of the mixing time has elapsed.
 3. Elapsed time between the introduction of the mixing water to the cement and aggregates, and the start of final placing of the concrete in the forms shall not exceed 60 minutes if the air temperature is less than 85 degrees Fahrenheit, and 45 minutes if the air temperature is equal or greater than 85 degrees F.
 4. On arrival at the job site, no addition of water will be allowed other than that required initially to adjust to the specified slump.
 5. Such an addition must not exceed the limits of the specified maximum water-cement ratio.
- D. Color Admixture:
 1. Mix with concrete per manufacturer's instructions. Add to water prior to adding cement and aggregates. Guarantee even distribution throughout mix.
- E. Conveying:
 1. Convey concrete from the mixer to the forms as rapidly as practicable and so as not to cause segregation or loss of ingredients.
 2. Deposit concrete as close as practicable to its final position in the forms.
 3. At any point in the conveying the free vertical drop of the concrete shall not exceed 3 feet.
 4. Clean conveying equipment thoroughly before each run. Do not use aluminum pipe or chutes.
 5. Place concrete as soon as practicable after the forms and the reinforcement have been inspected and approved.
 6. Remove any concrete which has segregated in conveying and dispose of as directed.
- F. Placing:
 1. Do not place concrete when weather conditions prevent proper placement and consolidation, or when rain is expected.
 2. Do not place concrete in water.
 3. Prepare subgrades of earth or other material properly and, if necessary, cover with heavy building paper or other suitable material to prevent the concrete from becoming contaminated.
 - 4.ampen porous subgrades as required to prevent water of hydration from being absorbed into the subgrade.
 5. Clean forms of dirt and construction debris.
 6. Place concrete in one continuous operation except where construction joints are provided.
 7. Remove water which accumulates on the surface of the concrete during placing by absorption with porous materials in a manner that prevents removal of cement.
- G. Vibration:

1. Compact all concrete, with the exception of concrete slabs 4 inches or less in depth, with high frequency, internal, mechanical vibrating equipment supplemented by hand spading and tamping.
2. Consolidate concrete slabs 4 inches or less in depth by wood tampers, spading, and settling with a heavy leveling straight edge.
3. Vibrators shall be designed to operate with vibratory element submerged in the concrete, and shall have a frequency of not less than 6,000 impulses per minute when submerged.

H. Cold Weather:

1. Except with authorization, do not place concrete when the ambient temperature is below 40 degrees F. or when the concrete is likely to be subjected to freezing temperatures within 24 hours.

3.4 SLAB FINISHES

A. Finishing:

1. Place, consolidate and immediately strike off concrete to bring the top surface of the slab to proper contour, grade, and elevation.
2. Immediately darby or bull float the surface with wooden tools so as to correct any unevenness.
3. Complete striking-off and darbying before bleed water appears on the surface of the freshly placed concrete.
4. Permit the concrete to attain a set sufficient for floating and sufficient to support the weight of the finisher and equipment.
5. If the bleed water has not disappeared by the time floating of the surface is to start, drag the excess water off using a rubber hose. Do not use dry cement to absorb bleed water.

B. Floated finish:

1. At the proper time, float the surface by hand with a wood or magnesium float, or by a power-driven float.
2. Floating of any one area shall be the minimum necessary to produce an even finish, level within 1/4 inch in 10 feet.

C. Troweled Finish:

1. First, provide a floated finish.
2. When slab has attained a proper set, hand or machine trowel to a smooth, hard, dense finish, level within 1/8 inch in 10 feet.

D. Broomed Finish:

1. Provide a floated finish and a steel troweled finish, as specified herein, and then broom with a flexible bristle broom.
2. At time of brooming the troweled surface shall have hardened sufficiently to retain the scoring or ridges.
3. Broom in a direction transverse to that of traffic or at right angles to the slope of the slab.

3.5 CURING AND PROTECTION:

A. General Requirements:

1. Protect concrete adequately from injurious action by sun, rain, flowing water, frost, mechanical injury, tire marks or oil stains, and do not allow it to dry out during the curing period.

B. Impervious-Sheeting Curing:

1. Wet the entire exposed surface thoroughly with a fine spray of water and then cover with impervious sheeting.

2. Lay sheets directly on the concrete surface and overlap 12 inches.
 3. Make sheeting not less than 18 inches wider than the concrete surface to be cured, and weight down on the edges and over the transverse laps to form closed joints.
 4. Repair or replace sheets if torn or otherwise damaged during curing.
- C. Curing Periods:
1. Cure not less than 7 days.
- D. Removal of forms:
1. Remove forms in a manner that will prevent damage to the concrete.
 2. Do not remove forms without approval, nor sooner than 24 hours after placement of concrete.

PART 4 - MEASUREMENT AND PAYMENTS

4.1 PAYMENT

- A. Full compensation for conforming to the requirements of this section shall be considered as included in the unit prices paid for various items of work and no additional compensation will be allowed therefor.

END OF SECTION 03301

SECTION 033619
PENETRATING REACTIVE CONCRETE STAIN

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Water-based reactive stained concrete floor finish.
2. Sealer.

B. Related Sections:

1. Section 03301 "Cast-In-Place Concrete" for general concrete applications.
2. Section 07900 "Joint Sealants" for colored sealant installed in paving joints.

1.2 REFERENCES

A. ASTM International (ASTM):

1. ASTM C 171: Standard Specification for Sheet Materials for Curing Concrete.
2. ASTM C 309: Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.

B. International Concrete Repair Institute (ICRI):

1. ICRI Technical Guidelines: Series 300 - Concrete, Designation 310 - Surface Preparation.

1.3 SUBMITTALS

A. Product Data: Manufacturer's technical data, including Material Safety Data Sheet (MSDS) and installation instructions, for each product specified.

B. Samples for Initial Selection: Manufacturer's color charts showing full range of colors available.

C. Qualification Data: For manufacturer and Installer.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum 10 years of documented experience producing the specified products.

B. Installer Qualifications: Minimum 5 years of documented experience with work of similar scope and complexity required by this Project and acceptable to, or certified by, concrete stain manufacturer.

C. Regulatory Requirements:

1. Products to comply with United States Clean Air Act for maximum Volatile Organic compound (VOC) content as specified in this Section.
- D. Material Source Limitations: Obtain each specified material from the same source.
- E. Notification: Give a minimum 7 calendar days' notice to manufacturer's authorized field representative before date established for commencement of concrete stain work.
- F. Concrete Stain Mockups:
1. Construct a 5 foot by 5 foot mockup at location selected by Architect.
 2. Provide individual mockups for each color required.
 3. Construct mockup using materials, processes, and techniques required for the work, including curing procedures. Incorporate representative control, construction, and expansion joints according to Project requirements. Installer for the work to construct mockup.
 4. Mockup to be stained and sealed by the Installer who will actually perform the work for the Project. Record the amount of chemical stain needed per square foot of application to establish coverage rates for the work.
 5. Notify Architect and Owner a minimum of seven calendar days in advance of the date scheduled for each mockup construction.
 6. Obtain the Architect's and Owner's acceptance of each mockup prior to commencement of the work.
 7. Each mockup to remain until completion of the work to serve as a quality control standard for the work. Provide suitable protections to preclude damage to mockup.
 8. Approved mockup may become part of the completed Work if undisturbed at time of Substantial Completion.
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Deliver products in original factory unopened, undamaged packaging bearing identification of product, manufacturer, batch number, and expiration date as applicable.
 - B. Store products in a location protected from damage, construction activity, and adverse environmental conditions, and away from combustible materials and sources of heat, according to manufacturer's printed instructions and current recommendations.
 - C. Handle products according to manufacturer's printed instructions.
- 1.6 PROJECT CONDITIONS
- A. Environmental Conditions: Maintain an ambient temperature between 50 deg F and 90 deg F during application and at least 48 hours after application. Do not proceed with exterior applications during rainy, foggy, or very humid weather.
- 1.7 PREINSTALLATION CONFERENCE
- A. Seven calendar days prior to scheduled date of installation, conduct a meeting at Project site to discuss requirements, including application methods. Attendees to include Architect, Owner, Contractor, Installer, and manufacturer's authorized field representative.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Basis of Design: Provide products specified herein manufactured by L. M. Scofield Company (Scofield).

2.2 MATERIALS

- A. Water-Based Reactive Chemical Concrete Stain: Penetrating reactive water-based staining product that chemically bonds to cured concrete or cementitious topping substrates to produce permanent translucent color effects. Less than 100 g/L VOC content.
 - 1. Product: Scofield's "LITHOCHROME Tintura Stain."
 - 2. Color(s): To be selected by Owner
 - 3. Sealer:
 - a. SCOFIELD® Selectseal Plus™

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions under which the concrete stain work will be performed and identify conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. New Concrete: Comply with the following:
 - 1. Newly placed concrete to sufficiently cure for concrete to become reactive. Minimum cure time is 28 days.
 - 2. Do not use liquid curing materials. Cure concrete flatwork with new, unwrinkled, non-staining, high quality curing paper complying with ASTM C 171. Do not overlap curing paper.
- B. Surface Preparation for New or Existing Concrete:
 - 1. Concrete surfaces should be completely penetrable before applying the initial application of chemical stain. The surface of the concrete should be lightly mechanically abraded to remove weak cement paste and contaminants. The final surface preparation should approximate a Concrete Surface Profile of 1, (CSP1 as designated by the International Concrete Repair Institute, Alexandria, Virginia). Methods for mechanical abrasion include:
 - a. Pressure Washing: Use a pressure washer equipped with a fan tip and rated for a minimum pressure capability of 4000 psi.
 - b. Scrubbing with a rotary floor machine with a Mal-Grit Brush from the Malish Corporation.
 - c. Light sanding of the surface.

Surfaces should be tested to receive stain by spotting with water. Water should immediately darken the substrate and be readily absorbed. If water beads and does not

penetrate or only penetrates in some areas, perform additional surface preparation and testing. On denser concrete floors, sand lightly to open up surfaces. Retest and continue surface preparation until water spots immediately darken and uniformly penetrate concrete surfaces.

2. Rinse concrete substrates until rinse water is completely clean.

C. Completed preparation to result in concrete surfaces that are uniformly slip-resistant and profiled to meet a Concrete Surface Preparation (CSP) of 1-2 according to referenced ICRI guidelines.

3.3 CONCRETE STAIN APPLICATION

A. Protect surrounding areas, landscaping, and adjacent surfaces from overspray, runoff, and tracking. Divide surfaces into small work sections using walls, joint lines, or other stationary breaks as natural stopping points.

B. Apply concrete stains full strength (undiluted) at the coverage rate recommended by the manufacturer and use application equipment according to the concrete stain manufacturer's printed instructions. Note the color of the liquid chemical stain will not be the final color produced on the concrete substrate.

1. Thoroughly power mix concrete stain base and tint materials immediately prior to use. For mixing stain materials, use an acceptable metal blade mixer.

C. Apply water-based reactive stain to substrates with an airless sprayer or High Volume Low Pressure (HVLP) sprayer, with a maintained and overlap controlled wet edge. A roller may also be used to apply material. If an airless sprayer or HVLP sprayer is used, the material may be manipulated mechanically to create a variegated appearance similar to that of an acid stain. If a roller is used an opaque monochromatic appearance will result.

1. Airless Sprayer: 1500 to 2500 psi variable outlet fluid pressure. 0.013 to 0.018 inch tip.

2. HVLP Sprayer: 5 to 40 psi spray pressure capability.

D. Reaction time will depend of wind conditions, temperature, and humidity level.

E. If required, apply a second coat after first coat has sufficiently dried and can be walked on without damage; normally two to four hours after application depending on temperature and humidity. Apply a third coat, if required, not less than two to four hours after the second coat application.

F. On vertical surfaces, start spray applications of reactive stain at the bottom and proceed upward. Apply stain material in light coats while maintaining a wet edge to ensue penetration into the surface.

3.4 SEALER APPLICATION

A. Concrete substrate must be completely dry.

B. After the final penetrating stain application has dried sufficiently, normally 8 to 24 hours at 75 degrees F and 50 percent relative humidity, remove all contaminants from surfaces by dry mopping if required.

- C. Apply sealer according the sealer manufacturer's printed instructions at a rate of 300 to 500 square feet per gallon per coat, maintaining a wet edge at all times. Two coats are required. Maintain a wet edge at all times.
- D. Allow sealer to completely dry before applying additional coats.
- E. Apply second coat of sealer at 90 degrees to the direction of the first coat using the same application method and rates.
- F. Seal horizontal joints in areas subject to pedestrian or vehicular traffic.

3.5 PROTECTION

- A. The General Contractor is responsible for using Temporary Floor Protection throughout the project to safeguard the surface quality of concrete slabs before and after application of decorative finishes or installations of other materials.
- B. All concrete floors that will be not be covered by other materials will be protected throughout the project. The concrete slab must be treated as a finished floor at all times during construction.
- C. Temporary Floor Protection will be removed only while finish work to the concrete is being performed and will be replaced after the final finish has cured sufficiently.
- D. Temporary Floor Protection will be Proguard Duracover as manufactured by L. M. Scofield Company, Douglasville, GA (800-800-9900). Seaming of the temporary floor protection will be performed with Scofield Proguard Heavy Duty Seaming Tape. Both products will be installed following the manufacturer's published installation procedures.
- E. DO NOT APPLY THE HEAVY DUTY SEAMING TAPE TO BARE OR FINISHED FLOORS OR WALL SURFACES AT ANY TIME. IT WILL PERMANENTLY DAMAGE THE FLOOR
- F. No substitutions will be allowed.

3.6 MAINTENANCE

- A. Maintain water-based reactive stained and sealed floors by sweeping. Clean spills when they occur and rinse dirt off with water. Wet-clean heavily soiled areas by mopping or by scrubbing with a rotary floor machine equipped with a scrubbing brush and a suitable, high quality commercial detergent. Maintain interior floors that require polishing by using a compatible, premium-grade, emulsion-type, commercial floor polish, according to manufacturer's printed instructions and safety requirements.

END OF SECTION 033619

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SECTION 04200
MASONRY (Site)

PART 1 – GENERAL

- 1.1 All materials and work shall conform to the Standard Specifications for Public Works Construction (SSPWC) latest edition, Sections 201 and 303, except as modified herein.
- a. Scope:
- Furnishing and installing concrete masonry units.
- Protective measures for the prevention of damage to completed masonry and other work.
- Removal of and disposal of surplus materials, debris, dirt, stains, etc., caused by the work, leaving the premises and all finished surfaces clean.
- Setting and incorporating steel reinforcing into the masonry.
- Setting and incorporating of steel inserts supplied by other trades.
- b. Related Work Specified Elsewhere:
1. Footing Concrete: Section 03300.

PART 2 – PRODUCTS

- 2.1 Steel Reinforcement:
- a. Steel reinforcement shall conform to Standard Specifications, Section 201-2.
- 2.2 Masonry Units:
- a. Hollow masonry units shall be precision block that conform to Section 202-2.1.1 of the Standard Specifications, compressive strength as required by structural drawings.
- b. Block dimensions shall be as indicated on plan and color shall be selected by County rep. All block shall be from same run. Cement, water, reinforcing steel shall conform to applicable sections of these specifications.
- c. Mortar for masonry units shall conform to Section 202-2.1.2 of the Standard Specifications, and shall be colored to match the block.
- d. Grout for masonry units shall conform to Section 202-2.1.2 of the Standard Specifications.
- e. Samples. Submit samples of block to Agency Representative for approval.

PART 3 – EXECUTION

- 3.1 Masonry:
- a. Construct a 4' x 4' sample panel for Agency Representative's approval.
- b. Work shall conform to Section 303-4 of the Standard Specifications, except as modified

herein.

- c. Masonry units shall be laid as reinforced filled cell hollow unit masonry. Block shall be laid in running bond with ½" full mortar bed on all face, shells, and on webs at cells to be filled. Vertical faces of head joints shall be buttered to a depth of 1 ½" minimum from each side and all joints shall be shoved tightly so that the mortar bonds well to both blocks. Furrowing of the mortar will not be permitted. All cells containing reinforcement shall be completely filled with grout or concrete using an aggregate consistent with the size of the cell. Where dowels do not occur in the same cells as the vertical wall reinforcement, grout cells at dowels to the same height as the dowels. Where block cutting is necessary, it shall be done with a motorized masonry saw. Refer to details to ascertain where smooth face blocks are required. (Where required on plans, grout all cells.)

3.2 Steel Reinforcement.

Keep all reinforcement ½" clear (minimum) of all surfaces to permit the grout to fully surround the reinforcement. See plans for placement of steel.

3.3 Joints.

Nearly as possible of uniform thickness, ½" thick horizontal joint at block, head joints may vary. All interior and exterior horizontal and vertical joints tooled with slightly concave profile.

3.4 Curing.

Keep masonry moist continuously for a minimum of 3 days after being laid.

3.5 Partial Blocks:

Saw cut all partial concrete blocks required for this construction.

3.6 Defective Workmanship and Materials:

All work which does not conform to the requirements of the specifications shall be deemed defective and shall be removed from the site, or shall be strengthened and/or replaced as directed by the Agency Representative.

3.7 Cleaning:

At the completion of masonry work, thoroughly clean all masonry walls and leave interior and exterior surfaces of walls free from mortar and other stains. Remove all scaffolding and equipment used in the work. Clean up all debris, refuse and surplus materials and remove them from the premises.

END OF SECTION - 04200

SECTION 05100
STRUCTURAL METAL

PART 1-GENERAL

A. Related Work Specified Elsewhere:

Concrete Reinforcement: Section 03200.
Masonry Reinforcement: Section 04200.

B. Work Furnished but Installed by Others:

Furnish connections and connectors necessary for the completion of the work of other sections of these specifications.

C. Quality Assurance:

1. 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.
2. All fabrication and erection of steel work shall be in conformance with the requirements of the American Institute of Steel Construction (AISC).
3. All welding and built-up welded members shall conform to the requirements of the American Welding Society (AWS).
4. Tests and Inspections: See Section 01410.
 - a. Tests and Inspections shall be made by a testing laboratory approved by the Structural Engineer.
 - b. The cost of sampling and testing shall be borne by the owner.
 - c. One tension and one bend test shall be made for each size and shape of steel designated in the Test and Inspection Request Form.
 - d. Prepare and distribute test reports as required by Section 01410.
 - e. Additional tests of material shall be made when, and as directed by the Structural Engineer. Cost of these tests shall be borne by the owner.
 - f. Inspection of welding designated on the Test and Inspection Request Form shall be made by an Inspector approved by the Structural Engineer who shall certify that the welding is in compliance with these drawings and specifications. The Contractor shall provide access to the work for inspection purposes, and shall notify the Inspector when work is to be performed. The cost of this inspection shall be borne by owner.

D. Submittals:

1. Submit six sets of shop drawings of work specified herein and as shown on drawings & details.

2. Fabrication and/or erection prior to receipt of Structural Engineer's approval is at Contractor's sole risk. All shop and fabrication drawings shall be referenced to the applicable sections or details on the Contract Drawings. Shop drawings not so referenced will be rejected.

PART 2-PRODUCTS

A. Materials:

1. All structural steel shall conform to the latest ASTM A36.
2. Pipe columns shall conform to ASTM A53, Grade B pipe.
3. Rectangular steel tubing shall conform to ASTM A501 and shall have a yield strength no less than 35 KSI.
4. All bolts shall conform to ASTM A307.

B. Fabrication and Manufacture:

1. All steel shall be fabricated in accordance with Specifications of the AISC. All workmanship shall be done in a first-class manner.
2. All welding shall be done by the shielded arc method. All welders shall be properly qualified. Surplus metal shall be dressed off to smooth, even surfaces where welds are exposed to view. All welding electrodes shall conform to AWS E70XX.

C. Painting:

1. Ferrous Metal. Properly clean and prepare for painting in compliance with SSPC-SP3 except where more aggressive cleaning is required use SSPC-SP6/NACE 3. 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.

PART 3-EXECUTION

A. Erection:

1. Erection shall be in accordance with first class practices, members level, properly aligned and columns plumbed. The Contractor shall provide erection bracing of the steel work to ensure the safety and security of the structure in accordance with California State Safety Codes.

SECTION 05120
STRUCTURAL STEEL

PART 1-GENERAL

- A. Scope:
1. 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:
 - a. All structural steel framing, including plates and channels; Furnishing of anchor bolts.
- B. Related Work Specified Elsewhere:
1. Miscellaneous metal work; Section 05100
 2. Setting of anchor bolts. Section 03300
- C. General Requirements:
1. Field Conditions. Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces.
 2. 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.
 3. Notes. General Notes on the drawings are part of this section.
 4. Shop Drawings. Prepare and submit for review six (6) sets of complete checked shop drawings as required for this work.
 5. Improper Correction: Should the Architect, in reviewing shop drawings, make corrections that would cause incorrect fittings or reduced strength, give written notice of such fact at once, so that the correction may be modified before the work affected is started.
 6. As-Built Drawings. After this work has been erected, correct or revise the originals of the approved shop drawings and erection diagrams to correspond with field changes.
 7. Tests and Inspections. The owner will pay for all tests and inspections of completed installation of this work. Costs of all tests and inspections at materials sources and costs or retests of rejected work shall be borne by the Contractor. Arranging for and scheduling of tests and inspections are responsibilities of the Contractor.

PART 2-MATERIAL

- A. Materials:
1. New tested stock of domestic manufacture complying with standard specifications hereinafter referenced. If foreign material is used, it shall meet or exceed the requirements of all authorities having jurisdiction.

- B. Structural Steel:
 - 1. Conform to ASTM A36.
- C. Machine Bolts:
 - 1. Conform to ASTM A307, Grade A and ANSI B18.2, square or hexagonal heads at Contractor's option.
- D. Arc-Welding Electrodes:
 - 1. Conform to requirements of AWS; as required for the conditions of intended use. Use E70XX electrodes.
- E. Steel Tubes:
 - 1. Conform to ASTM A501.
- F. Paint:
 - 1. Tnemec Series 10 or 18, or equivalent by Carboline or Porter Coatings.
- G. Test:
 - 1. Identified Material: If material is properly identified, mill report will be accepted.
 - 2. Unidentified Material: One tension and bend test for every 5 tons or fractional part thereof. Copies of all test reports shall be submitted to the Architect & structural engineer a reasonable time before starting fabrication.
- H. Tests of Welding and Bolting:
 - 1. Testing agency shall inspect all shop and field welding and furnish qualified Deputy Inspectors approved by the Architect/structural engineer and registered with the Building Department under which the project is constructed. Testing and inspection shall comply with all regulations of the Building Department having jurisdiction. Testing agency shall certify in writing upon completion of the work that the welding has been performed by fully qualified welders in accordance with drawing and specification requirements and with all applicable requirements of regulatory agencies having jurisdiction.

PART 3-EXECUTION

- A. Painting:
 - 1. Ferrous Metal. Properly clean and prepare for painting in compliance with SSPC-SP3 except where more aggressive cleaning is required use SSPC-SP6/NACE 3. 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.

B. Field Measurements:

1. Before starting work, obtain field measurements pertaining to or affecting this work, and verify the locations and exact positions of concrete and anchor bolts occurring therein.

C. Workmanship:

1. Workmanship. Equal to the best standard practices in modern structural shops and conforming to applicable provisions contained in the AISC Code of Standard Practice, except where these requirements govern.
2. Injury and Excessive Stress. Transport, handle and erect structural steel in shop and field to preclude injury. In no case shall it be subject to excessive stress in any part or connection.

D. Fabrication and Assembly:

1. Before being fabricated or worked, material shall be thoroughly wire brushed, cleaned of loose mill scale and rust, and straightened by methods that will not injure it. After punching or working the component parts of a member, remove twists or bends before the parts are assembled. Finished members shall be free from twists, bends, and open joints when erected.
2. Field Joining. Members and sections shall be of sizes, weights, shapes, and arrangements indicated, closely fitted, and finished true to line and in precise position necessary to allow accurate erection and proper joining of parts in the field. Drifting to enlarge unfair holes will not be allowed. Rolled sections, except for minor details, shall not be heated without prior approval.
3. Contact. Component parts of built-up members shall be well pinned and rigidly maintained in close contact using clamps or temporary bolting during welding. Compression joints depending upon contact bearing shall have bearing surfaces accurately milled perpendicular to their axes, or as detailed.

E. Gas Cutting:

1. Use of a cutting torch is allowed where the metal being cut is not carrying stress during the operation, and provided stresses will not be transmitted through a flame-cut surface. Make gas cuts smooth and regular in contour. To determine the effective width of members so cut, deduct 1/8 inch from the width of the gas cut edges. Make the radius or re-entrant gas cut fillets as large as practicable, but in no case less than one inch. Grind smooth and paint.

F. Punching, Drilling and Reaming:

1. Material may be punched 1/16 inch larger than the nominal diameter of the bolt, wherever the thickness of the metal is equal to or less than the diameter of the

bolt plus 1/8 inch. Where the metal is thicker than the diameter of the bolt plus 1/8 inch, holes shall be drilled or sub-punched or reamed. The diameter for sub-punched holes and the drill for sub-drilled holes shall be 1/16 inch smaller than the nominal diameter of the bolt to be accommodated. Precisely locate finished holes to insure passage of bolts through assembled materials without drifting. Enlarge holes, where necessary, to receive bolts by reaming. Poor matching of holes is sufficient cause for rejection.

G. Welding:

1. Welding and welded joints. Detail and execute in accordance with the requirements of the American Welding Society standards and as modified by AISC Specifications or as detailed and noted on the drawings. In the event of conflict, the notes and details on the drawings shall take precedence. Structural welding shall be done by Innershield or Submerged arc.

H. Erection:

1. Erect structural steel by professional riggers, carefully planned and laid out so that a minimum of cutting will be necessary. Erect the work plumb, square and true to line and level, and in precise positions as indicated. Provide temporary bracing and guys wherever necessary to provide for loads and stresses to which the structure may be subjected, including those due to erection equipment and its operation, and leave in place as long as necessary to safeguard all parts of the work.
2. Temporary Connections. As erection progresses, the work shall be securely bolted up as necessary to maintain the steel in proper position while field bolting and welding is being done, and as necessary to take care of dead loads, wind and erection stresses. No field welding or high strength bolting shall be done until the work has been properly aligned, plumbed and leveled.
3. Sequence. Carry out the erection of structural steel in proper sequence with the work of other trades. Frame, bed, and anchor to the concrete and related work in strict accordance with the detailed drawings and approved setting diagrams.
4. Erection Tolerance. In accordance with the latest AISC Code of Standard Practice of Steel Buildings and Bridges.

I. Anchor Bolts:

1. Furnish to the site when and as required to maintain job progress, for installation under Concrete or Masonry Section, all anchor bolts to be embedded in the concrete or masonry for the securing of structural steel in proper position. Provide the necessary drawings and templates for the setting of such anchor bolts in the concrete forms. Be jointly responsible with others for the proper location and installation, and make good deficiencies and errors. Setting of anchor bolts in hardened concrete, necessitated through error or oversight, shall be made under direction of the Architect.

J. Grouting of Plates:

1. Be responsible for maintaining bearing plates in proper location and in proper level while they are being grouted and be jointly responsible for a perfect job.

Refer to Concrete Section for materials, mix and procedures for grouting of plates.

K. Cutting Structural Steel:

1. Provide cuts in structural steel for mechanical, plumbing and electrical pipes as approved by Architect/structural engineer. Locate as shown on Mechanical, Plumbing and Electrical drawings. Grind smooth and paint.

END OF SECTION 05120

SECTION 06100
ROUGH CARPENTRY

PART 1-GENERAL

A. Scope:

1. 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:
 - a. Wood structural framing and partitions;
 - b. Roof sheathing;
 - c. Furring and stripping;
 - d. Opening framing and curbs;
 - e. Bridging, blocking, backing, nailers, ledger, bucks and grounds;
 - f. Miscellaneous rough carpentry items as indicated and required for complete installation;
 - g. All rough hardware.

B. Related Work Specified Elsewhere:

1. Concrete forms work: Section 03100.
2. Finish carpentry and millwork: Section 06200.

C. General Requirements:

1. Field Conditions. Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces.
2. Notes. General notes on the drawings are part of this section.

I. MATERIALS

A. Lumber:

1. Manufactured, graded and grade-marked in compliance with the following reference specifications and grading rules. Grades and species as noted on drawings.

B. Glued Laminated Lumber:

1. All glued laminated members shall be as specified on the structural drawings.

C. Rough Cut Lumber:

1. All lumber referred to on the drawings as "rough cut" or "rough sawn" shall comply with the size and specifications for "full sawn" full dimension lumber, or "standard mill rough" lumber before surfacing four sides to net dimensions of standard finished lumber. Re-sawn or re-manufactured lumber from standard finished lumber sizes is not acceptable.

D. Douglas Fir:

1. Grade in compliance with one of the following:
 - a. "Standard Grading and Dressing Rules No. 16 for Douglas Fir, West

Coast Hemlock, Sitka Spruce, Western Red Cedar", by the West Coast Lumber Inspection Bureau.

- b. "1970 Grading Rules", issued by the Western Wood Products Association, Portland, Oregon.
- c. Refer to notes on the Structural drawings for additional information.

E. Plywood:

- 1. U.S. Department of Commerce, Product Standard PS-177, graded and grade-marked by the American Plywood Association.
- 2. Roof Sheathing. As noted on drawings, with waterproof glue.
- 3. Wall Sheathing. As noted on drawings, with waterproof glue.

F. Bolts:

- 1. Conform to ASTM A307, Grade A, square or hexagonal head, sizes and spacing as required by the drawings. All heads and nuts bearing on wood shall be fitted with washers.
- 2. Bolts, nuts and washers for use in locations subject to moisture, for outside use or in portions of the structure which are not completely enclosed, or elsewhere as specified or indicated: Galvanize in compliance with ASTM A153.

G. Nails:

- 1. Sizes and types indicated, specified or required for the purpose, in compliance with FS FF-N-105A. Unless specified otherwise, use galvanized or aluminum nails for nailing redwood.
- 2. Special Purpose Nails. As manufactured by the Independent Nail Corp., Bridgewater, MA, or similar and equal as manufactured by Philstone Nail Corp., Needham Heights, MA, or other as approved by the structural engineer. Requirements for galvanizing or other types of non-corrosive coating as specified above.
- 3. "Screw-Tite" common spiral thread nails.
- 4. "Screw-Tite" hardened steel, knurled masonry nails (0.148"-0.177 dia.) masonry nails (0.250" dia.).
- 5. Concrete stub nails (0.148" dia.).
- 6. Powder-actuated fasteners may be used only where specifically permitted hereinafter, or when subsequently approved, provided all available safety features and guards are used.
- 7. Use low velocity equipment, if adequate. Submit detailed list of equipment and type of fasteners for owner's approval prior to use.

H. Timber Connectors:

- 1. Refer to drawings.

I. Miscellaneous Materials:

1. As hereinafter specified.

J. Lumber Seasoning:

1. Air or kiln dry lumber of grades better than No. 1 before surfacing to a moisture content not exceeding 19%. Before incorporation of Douglas Fir No. 1 or lower grades into the work, allow all lumber to attain a state of equilibrium with the local atmosphere. Air season all lumber not less than 30 days before covering with finish materials.
2. If specifications for pressure treating state the maximum percentages of moisture content at the time of treatment, comply with those requirements.

K. Pressure Treatment - Material in Contact with Concrete:

1. Lumber in contact with concrete or masonry: Either Douglas Fir, Larch or Hemlock pressure treated in compliance with FS TT-W-5711. When treated members are cut to shape or size, perform such cutting or shaping before treatment. Where members are cut after treatment or countersunk for flush installation of bolt heads, paint the cut surfaces with two saturating coats of treating liquid before installation. Studs in contact with concrete floors shall be dipped in treatment solution to a height of 6'.
2. Accepted Treatments:

<u>Preservative</u>	<u>Applicable FS for Formula</u>	<u>Final Retention lbs./cu.ft.</u>
Chromated Zinc Chloride	TT-W-551	0.75
Wolman Salts	TT-W-573	0.35
Acid Cupric Chromate	TT-W-546	0.50
Chemonite	TT-W-571c	0.30

II. EXECUTION

A. Carpentry Installation:

1. Workmanship. Perform entire work in accordance with the best standards of practices relating to the trade and carefully plan and lay out the required work as required. Properly accommodate the work of other trades. Accurately saw-cut and fit lumber into the respective locations, true to line, grade, and level, as indicated or required, and permanently secure in proper position with spikes, nails, lag screws, bolts, hangers, or other fastenings to make the work substantial and rigid in all parts and connections.
2. Connections. Make connections between members tight, accurate and secure. Place fastenings without splitting wood; pre-drill when required. Drill bolt holes same size as bolt diameter. Drill holes for lag screws same size as thread root diameter; and counterbore, same depth and diameter as shank. Turn lag screws into place, do not drive. Provide bolts and lag screws with washers under every head and nut bearing on wood. Tighten bolts and lag screws at installation; carefully retighten just prior to closing in or at completion of project.

B. Roof:

1. Joist, beams and girders. Use longest practicable lengths, place with crown side up. Splice only over bearings. Cut in solid blocking at ends and over bearings. Double up all headers and trimmers wherever normal joist spacing is interrupted by mechanical work or any other penetration.
2. Rafters. Place crown side up. Cut in solid blocking at ends and over bearings.
3. Ledgers, headers and nailers. Accurately cut to required sizes and securely fasten to structure. Fasten wood nailers on steel frames with recessed bolt heads, installed with washers.
4. Bridging. Provide bridging spaced 8' o.c. maximum, using full depth 2" thick solid blocking. Place at mid-span where span is greater than 8' and less than 16', or as otherwise shown.
5. Plywood. All plywood nailing shall be inspected and approved before covering. Refer to drawings for nailing. Stagger joints.
6. Framing Devices. Provide stock framing devices including joists hangers, 3-way framing anchors, clips, shear plates, metal straps, timber connectors, post caps, post anchors, and other stock iron work. Securely fasten to structure using size and quantity of nails, screws and bolts recommended by manufacturer of device, unless otherwise indicated. Drill holes for bolts in steel plates and angles 1/16" greater than bolt diameter.

C. Wood Stud Partitions and Walls:

1. Plates. Doubled, with splices staggered at least 4' and with corners and intersections lapped and nailed.
2. Studs adjacent to concrete or masonry. Attach with power-driven fasteners (three to each stud), unless otherwise indicated.
3. Openings. Frame openings with full height stud at each jamb with adjacent cripple supporting header and nailed to stud. Use single member headers, full width of studs, vertical dimension as indicated on drawings.
4. Blocking. Provide fire stops at ceiling line, either composed of continuous plate or blocking of 2" x width of stud installed between studs. Provide intermediate blocking between floor and ceiling where required by code.
5. Provide 2" thick blocking cut between studs and properly located where required for attachment of handrails, wall hung equipment, and similar accessories and equipment.
6. Provide horizontal blocking installed at proper height above floor for installation of electrical switch boxes, receptacle boxes and similar items of equipment. This blocking may be omitted only where a stud is properly located for attachment of

the box. Provide blocking to receive pail hook braces of service sinks.

7. Frame out openings as required for installation of recessed equipment. Verify sizes from the trade furnishing the equipment.
8. Corners and Intersections. Frame with at least three (3) studs.
9. Cutting Limitations for Pipes and Conduits. (All cutting, boring, and metal reinforcing shall be performed by the sections affected.)
10. Install all piping and conduit on the centerline of the partition. Do not install in notches cut in the face of the stud or plate except where reinforced with metal straps. Bore holes for passage of pipes and conduit no larger than 1/4" more than the outside diameter of the pipe or conduit and in no event larger than to leave a minimum of 1" of wood between the hole and face of stud.
11. Where horizontal runs of piping are required, such horizontal piping may be installed in notches provided the pipe is located no closer than 1" from the face of the stud on either side and the notch bridged over with a metal strap or angle on plastered partitions or an angle on drywall partitions.
12. Metal Strap. 13 gage x 12" long carbon steel, drilled or punched to receive three 8d "Holdfast" or "Screw Tite" spiral shank nails each end.
13. Steel Angle. 1" x 1" x 1/8" steel angle nailed to face of stud as above specified. Install angle flush or slightly back from edge of stud to avoid interference with gypsum board of lath.
14. Where necessary, plates may be cut in two, provided the cut is bridged with a metal strap or angle per Agency Representative's direction and the alignment of the plate is maintained.
15. Furring and Strapping. Provide and shim where indicated or where necessary to align faces of finished materials in a single plane.
16. Pedestrian Bridges: Shall be constructed of timbers and planks as detailed on drawings.

END OF SECTION 06100

SECTION 07900
CALKING AND SEALANTS

PART 1-GENERAL

A. Scope:

1. 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:

1. 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.
2. Submit six samples of various types (and colors where applicable) of materials specified, prior to delivery of materials to the job.
3. Deliver materials to the job in original unopened containers bearing manufacturer's name, product designation and date of manufacture.
4. Install proprietary materials specified in compliance with manufacturer's instructions. Send copies of manufacturer's instructions at least two (2) weeks before installation.

PART 2-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:

1. 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.
2. Compressible Joint Filler. Closed cell neoprene, plastic foam, or urethane, as recommended by the sealant manufacturer for use in conjunction with the sealant.
3. 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.

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

B. Material Types:

1. 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. Laurence Co., 720 Mateo Street, Los Angeles, California.
PTI 747, by Protective Treatments of Dayton, Ohio.
2. Type #2 - Two-part 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.
3. 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.
4. Type #4 - Two-part silicone.

General Electric 1600, distributed by C.R. Laurence Co., 720 Mateo Street, Los Angeles, California.
5. 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.
6. Type #6 - Latex acrylic calk for drywall and interior calking.

Parr Latex Calk 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.

I. APPLICATION

1. Joint Filler. Accurately position within the joint to establish and control the uniform designated thickness of sealant.
2. 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.

3. Perform joint preparation, including cleaning and priming, in accordance with manufacturer's instructions.
4. 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 Architect for correction before proceeding with the work.
5. Notify the manufacturer at least 72 hours prior to the time inspection if required.
6. 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 7900

SECTION 09900
PAINTING AND FINISHING (SITE)

PART - 1 GENERAL

1.1 SUMMARY

- A. Related Documents:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to this Section.
- B. Section Includes:
 - 1. Surface preparation and field painting of the following:
 - a. Fencing

1.2 RELATED SECTIONS

- A. SECTION 05500 - METAL FABRICATIONS for shop priming of steel fabrications.

1.3 SCOPE OF WORK UNDER THIS SECTION

- A. Paint exposed surfaces, except:
 - 1. Where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the City Representative will select from standard colors and finishes available.
 - 2. Where the section specifying the item indicates that the item of work is to be primed and painted at the shop or place of fabrication.

1.4 DEFINITIONS

- A. General
 - 1. Standard coating terms defined in ASTM D 16 apply to this Section.
 - 2. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 - 3. Semigloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.

1.5 REFERENCES

- A. Reference Data:
 - 1. If the year of the adoption or latest revision is omitted from the designation, it shall mean the specification, manual or test designation in effect the date the Notice to Proceed with the Work is given.
- B. American Society for Testing and Materials:
 - 1. ASTM D 16-84 Standard Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products
- C. Painting and Decorating Contractors of America:
 - 1. PDCA P1-92 Touch-up Painting and Damage Repair – Financial Responsibility

- 2. PDCA P5-94 Benchmark Sample Procedures for Paint and Other Decorative Coating Systems
- D. Steel Structures Painting Council
 - 1. SSPC-SP 10 1982 Near-White Blast Cleaning
 - 2. Surface Preparation Specifications
 - 3. Steel Structures Painting Manual, vol. I, Good Painting Practice.
- E. California Air Resources Board Regulations.

1.6 SUBMITTALS

- A. General Requirements:
 - 1. Comply with General Conditions – SUBMITTALS.
- B. Product Data:
 - 1. Submit for each paint system specified. Include primers.
 - 2. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 - 3. Manufacturer's Information: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.
 - 4. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).
- C. Samples for Verification:
 - 1. Following the selection of colors and glosses by the City Representative, submit samples for the City Representative's review.
 - a. Provide 3 samples of each color and each gloss for each material on which the finish specified is to be applied.
 - b. Make samples approximately 8-inches by 10-inches in size.
 - c. If so directed by the City Representative, provide field mock-ups during progress of the Work in the form of actual application of the materials on actual surfaces to be painted for approval by the City Representative. Areas shall be minimum one fence panel (post to post)
 - 2. Resubmit samples as requested by City Representative until acceptable sheens and colors are achieved. Do not commence finish painting until samples are approved.
- D. Quality Assurance Submittals:
 - 1. Qualification Data: Submit for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Architects and owners, and other information specified.
- E. Project Closeout Submittals:
 - 1. Maintenance Data: For special coatings, submit two copies of manufacturer's recommended maintenance practices for each type of finish system used.

1.7 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Products shall comply with any San Joaquin Valley Air Pollution Control District requirements and other environmental regulations as applicable.
- B. Applicator Qualifications:
 - 1. Engage an experienced applicator that has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.
- C. Source Limitations:

1. Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.
- D. Pre-Application Meeting:
 1. Conduct a pre-installation conference with the painting manufacturer representative, applicator and other parties involved, to discuss application procedures
- E. Mockup Samples
 1. Provide a full-coat benchmark finish sample of each type of coating and substrate required on the Project. Comply with procedures specified in PDCA P5. Duplicate finish of approved prepared samples.
 2. The City Representative will select one surface to represent surfaces and conditions for each type of coating and substrate to be painted.
 - a. Small Areas and Items: The City Representative will designate an item or area as required.
 3. After finishes are accepted, the City Representative will use the surface to evaluate coating systems of a similar nature.
 - a. Final approval of colors will be from job-applied samples.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Packaging:
 1. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information as applicable to each product:
 - a. Product name or title of material.
 - b. Product description (generic classification or binder type).
 - c. Manufacturer's stock number and date of manufacture.
 - d. Contents by volume, for pigment and vehicle constituents.
 - e. Thinning instructions.
 - f. Application instructions.
 - g. Color name and number.
 - h. VOC content.
- B. Storage:
 1. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
 2. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.9 PROJECT CONDITIONS

- A. Environmental Requirements:
 1. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 and 90 degrees F.
 2. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95 degrees F.
 3. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
 4. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.10 MAINTENANCE

A. Extra Materials:

1. Furnish extra paint materials in the quantities indicated below from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the City.
2. Quantity: Furnish the City with an additional 5 percent, but not less than 1 gal. or 1 case, as appropriate, of each material and color applied.

1.11 WARRANTY

A. Manufacturer's Warranty:

1. Colors of surfaces painted as part of the work of this Section shall, at the end of one year, have remained free from abnormalities.
2. Paint shall have its original adherence at the end of one year, and there shall be no evidence of blisters, running, peeling, scaling, chalking, streaks, or stains at the end of this period.

PART - 2 PRODUCTS

2.1 MANUFACTURERS

A. Paint Systems:

1. Paint system scheduled at the end of this section are by Tnemec, and are base products. Base products establish the standards of type, function, dimension, in-service performance, physical properties, appearance, warranty, cost, and other characteristics required by the Project.
2. If "No substitutions" is indicated next to the product name, provide only products of listed manufacturers.
3. Products of manufacturers not listed may be proposed for substitution, provided that they are comparable to the products specified.
4. The burden of proof of equality of proposed products is on the Contractor. Similar systems by other manufacturer will be considered for approval subject to match of color, sheen, texture, and performance with materials specified:

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility:

1. Provide primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality:

1. Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

C. Proprietary Names:

1. Use of manufacturer's proprietary product names to designate colors is not intended to imply that products named are required to be used in lieu of the products scheduled at the end of the section.

D. Substitutions:

1. If substitutions are proposed, furnish the following along with the Substitution

Request Form:

- a. Manufacturer's material data and certificates of performance for proposed substitutions.
- b. Schedule of proposed materials arranged in identical manner as schedule at the end of this section, including substrate and number of coats information.

E. Colors:

City Standard "Tan" (to match Fuller O'Brien #662-10 "Colonial Tan")
 City Standard "Brown" (to match Fuller O'Brien "Hershey Brown")
 City Standard "Aluminum"
 Black

F. Mixing:

1. Materials shall be factory or supplier mixed to proper application consistency. Perform job mixing and tinting only as approved by the City Representative.
2. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.

G. Coordination:

1. Refer to Schedule of Finishes, Finish Notes on the Drawings.
2. Review other sections in which primers are specified to ensure compatibility of the total system for various substrates. If requested, furnish information on characteristics of finish materials to ensure use of compatible primers.
3. Notify the City Representative about anticipated problems using the materials specified over substrates primed by others or under separate contracts.

PART - 3 EXECUTION

3.1 EXAMINATION

A. Site Conditions:

1. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.
2. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
3. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

B. Coordination:

1. Refer to Finish Notes on the Drawings.
2. Review other sections in which primers are specified to ensure compatibility of the total system for various substrates. If requested, furnish information on characteristics of finish materials to ensure use of compatible primers.
3. Notify the City Representative about anticipated problems using the materials specified over substrates primed by others.

3.2 PREPARATION

A. General:

1. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.
2. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning:

1. Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and

- grease before cleaning.
2. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

3.3 SURFACE PREPARATION

A. General:

1. Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
2. Provide barrier coats over incompatible primers or remove and reprime.

B. Ferrous Metals:

1. Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with the Steel Structures Painting Council's (SSPC) recommendations.
2. Blast steel surfaces clean as recommended by paint system manufacturer and according to requirements of the SSPC-SP Specifications:
 - a. Exteriors: Clean ferrous metals to SSPC SP3.
3. When specified by coating manufacturer or required by standards, treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
4. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with the same primer as the shop coat.

C. Galvanized Surfaces:

1. Clean galvanized surfaces with non-petroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

D. Field Touchup:

1. Touch-up abrasions in factory-applied prime coat immediately after products arrive on job-site and as required prior to application of finish coats.

3.4 MATERIALS PREPARATION

A. Mixing:

1. Mix and prepare paint materials according to manufacturer's written instructions.
2. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
3. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
4. Use only thinners approved by paint manufacturer and only within recommended limits.

3.5 APPLICATION

A. General:

1. Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
2. Paint colors, surface treatments, and finishes are indicated in the schedules.
3. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
4. Provide finish coats that are compatible with primers used.
5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
6. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
7. Finish exterior gates on all faces.

8. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting:
1. Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
 2. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 3. Omit primer on metal surfaces that have been shop primed and touchup painted.
 4. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 5. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
- C. General Application Procedures:
1. Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
 2. Where indicated in the Paint Systems Schedules at the end of this section, apply coats using method specified only.
 3. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
 4. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
 5. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.
- D. CMU Paint Finish Application
1. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
 - a. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 - b. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.
 - c. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.
 2. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled. Follow all manufacturer's instructions.
 3. Second and Third Coats: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable. Follow all manufacturer's instructions.
 4. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.
 5. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Owner's Representative.
 6. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 - a. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

7. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
 - a. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.
- E. Minimum Coating Thickness:
 1. Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- F. Prime Coats:
 1. Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- G. Pigmented (Opaque) Finishes:
 1. Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- H. Transparent (Clear) Finishes:
 1. Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.
 2. Provide satin finish for final coats.
- I. Completed Work:
 1. Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.6 FIELD QUALITY CONTROL

- A. Testing:
 1. The City reserves the right to invoke the test procedure described below at any time and as often as the City deems necessary during the period when paint is being applied.
 2. The testing agency will perform appropriate tests for the following characteristics as required by the City:
 - b. Quantitative material analysis.
 - c. Abrasion resistance.
 - d. Apparent reflectivity.
 - e. Flexibility.
 - f. Washability.
 - g. Absorption.
 - h. Accelerated weathering.
 - i. Dry opacity.
 - j. Accelerated yellowness.
 - k. Recoating.
 - l. Skinning.
 - m. Color retention.
 - n. Alkali and mildew resistance.
- B. City's Action:
 1. The City may direct the Contractor to stop painting if test results show material being used does not comply with specified requirements. The Contractor shall remove noncomplying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with

specified paint, the 2 coatings are incompatible.

3.7 CLEANING

A. Cleanup:

1. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
2. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.8 PROTECTION

A. General:

1. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by City Representative.
2. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
3. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.9 EXTERIOR PAINT SCHEDULE

A. Steel Pipe for Vehicle Control Gate and Bollards

1. Prime Coat Tnemec-Zinc 90-97; Tnemec Company, Inc.
(In addition to shop prime coat)
2. Second Coat Tnemec Series 1075 Endurashield-II.
3. Finish Coat Tnemec Series 1075 Endurashield-II.
4. Color: to match City Standard Aluminum; see notes on details

B. Unit Masonry Walls

1. First Coat: BLOCFIL Smooth
 - a. Manufacturer: Dunn-Edwards Corp., 4885 E. 52nd Place, Los Angeles, CA 90040, (888) 337-2468, www.dunnedwards.com, or approved equal.
 - b. Color: Standard White.
2. Second and Third Coats: ENDURACYL®
 - a. Manufacturer: Dunn-Edwards Corp., 4885 E. 52nd Place, Los Angeles, CA 90040, (888) 337-2468, www.dunnedwards.com, or approval equal.
 - b. Color: to match City Standard Tan.

C. Steel Pipe for Safety Netting Posts

1. Prime Coat Tnemec-Zinc 90-97; Tnemec Company, Inc.
(In addition to shop prime coat)
2. Second Coat Tnemec Series 1075 Endurashield-II.
3. Finish Coat Tnemec Series 1075 Endurashield-II.
4. Color: Tnemec Black #35GR

PART - 4 MEASUREMENT AND PAYMENTS

4.1 PAYMENT

- A. Full compensation for conforming to the requirements of this section shall be considered as included in the unit prices paid for various items of work and no additional compensation will be allowed therefor.

END OF SECTION 09900

Appendices

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APPENDIX A
RELEASE ON CONTRACT FORM

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**RELEASE ON CONTRACT
FOR
CITY OF WESTLAKE VILLAGE
WESTLAKE VILLAGE COMMUNITY PARK –
PHASE IIB – LANDSCAPE & IRRIGATION**

The City of Westlake Village (“Agency”) and [Insert Contractor Name] (“Contractor”) entered into WESTLAKE VILLAGE COMMUNITY PARK – PHASE IIA – GRADING AND RETAINING WALLS (“Agreement”) on [Month] [Day], [Year].

Pursuant to Section 9 of the General Specifications of the Agreement, Contractor shall, prior to receiving final payment, execute a “Release of Claims,” which shall release the Agency, the City Council, each member of the City Council and their agents, and the Engineer (collectively, “Releases”) from all claims against the Releases arising by virtue of the Agreement related to the payment of undisputed contract amounts.

Contractor represents that the work performed pursuant to the Agreement is complete and final payment is due.

Contractor therefore agrees as follows:

Release of Claims. In consideration of my receipt of payment from City of the sum of One Dollar (\$1.00), and to the fullest extent permitted by Section 7100 of the California Public Contract Code and the law, Contractor, hereby releases and discharges the Releases from all claims, in law or in equity, against the Releases arising by virtue of the Agreement related to the payment by City to Contractor of all undisputed contract amounts pursuant to the Agreement.

Exclusion of Disputed Contract Claims from Release. The following disputed contract claim amount(s) is/are specifically excluded from the operation of this Release of Claims:

\$_____ kept or retained by City pursuant to Subsection 9-3 of the Standard Specifications for Public Works Construction.

I/we, as Contractor’s authorized signatory(ies), have read this Release of Claims, fully understand its terms, understand that Contractor has given up substantial rights by signing it, and sign it freely and voluntarily without any inducement.

Contractor:

[Contractor Name],
a [Insert Legal Status of Entity]

By: _____
Name: _____
Title: _____
Date: _____

By: _____
Name: _____
Title: _____
Date: _____

State of California
County of _____ On _____
before me, _____ (insert name and title of officer),
personally appeared _____, who proved to me on the
basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the
within instrument and acknowledged to me that he/she/they executed the same in
his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the
instrument the person(s), or the entity upon behalf of which the person(s) acted, executed
the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the
foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (SEAL)

APPENDIX B

CONSTRUCTION DETAILS

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CONTEMPORARY DRINKING FOUNTAINS

GS Series

MODEL GSM55

BARRIER FREE, BI-LEVEL,
PEDESTAL MOUNTED
DRINKING FOUNTAIN

STANDARD FEATURES

- Resistant to sunlight, heat, moisture and wear
- 18 gage, 304 stainless steel bowl
- 12 gage, heavy duty stainless steel, corrosion and scratch resistant finish
- Polished stainless steel, anti-rotation non-squirt bubbler
- 100 mesh inlet strainer
- Access door, heavy duty steel, vandal resistant
- Vandal resistant stainless steel bottom plate

SUGGESTED SPECIFICATIONS

Model GSM55 is a barrier free pedestal mounted, vandal resistant, bi-level square drinking fountain made from 18 gage, 304 stainless steel bowls mounted into a green powder coated 12 gage, heavy duty stainless steel pedestal. Unit shall be activated by front mounted self-closing buttons, by using less than 5 pounds of force, which activates internally mounted valves with adjustable stream regulators controlling the water flow. Bubblers shall be polished stainless steel with non-squirt features and operate on water pressure range of 20-105 psig. Fountain is certified to ANSI A117.1, Public Law 111-380 (NO-LEAD), CHSC 116875 and NSF/ANSI 61, Section 9. Fixture meets ADA, ADA Standing Person, and ADA Child requirements when mounted appropriately.



MODEL:

(Must Specify)

- GSM54 Satin stainless finish
- GSM55 Green powder-coated (Shown)
- GSM56 Red powder-coated
- GSM57 Blue powder-coated

Custom color finishes available upon request

OPTIONS

(additional costs may be incurred)

- CH30 Child height, 30" bubbler height
- FRU2 Freeze resistant, 2 valves ¹
- FRU3 Freeze resistant, 3 valves ¹
- FRU4 Freeze resistant, 4 valves ¹
- FS Foot spray
- HB1 Hose bibb, compression, with hose threaded outlet/VB ^{1 2}
- HB2 Hose bibb, loose key, with hose threaded outlet/VB ^{1 2}
- HB3 Hose bibb, loose key, vandal resistant, with hose threaded outlet/VB ^{1 2}
- IGM In-ground 14" mounting
- JF1 Jug filler, spigot, self-closing valve with plain end ^{1 2}
- JF2 Jug filler, pushbutton, self-closing valve with plain end ¹
- NP2 Non-pollutable, freeze resistant, 2 valves
- NP3 Non-pollutable, freeze resistant, 3 valves
- NP4 Non-pollutable, freeze resistant, 4 valves
- PF Pet fountain receptor ¹

Options Notes:

¹ See separate option sheet.

² This option is not available freeze-resistant.



Member of
U.S. Green
Building
Council



Recyclable
Product



Water
Conserving
Product

Please visit www.murdockmfg.com
for most current specifications.

Complies
with the
following
standards:



Federal
Public Law
111-380
(No Lead)



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Phone 800-453-7465 or 626-333-2543 • Fax 626-855-4860 • www.murdockmfg.com

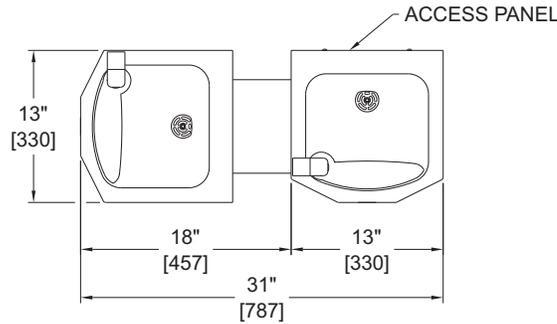
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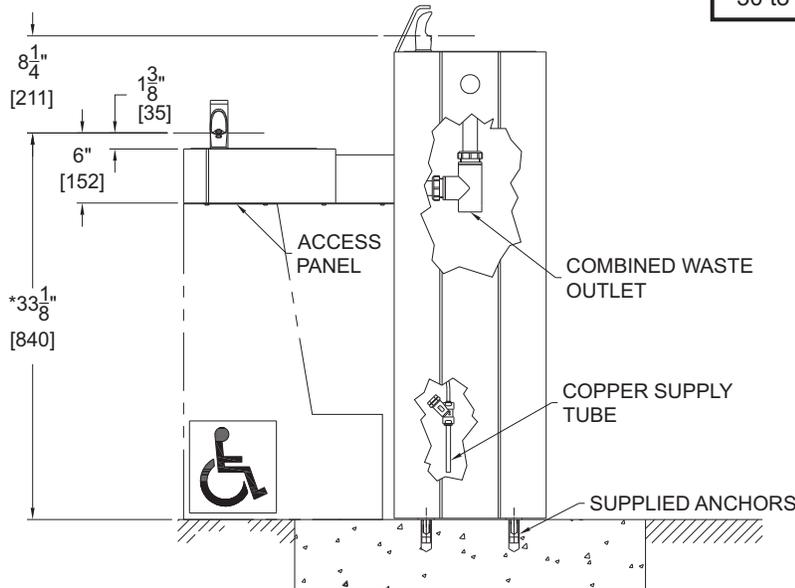
CONTEMPORARY DRINKING FOUNTAINS

All dimensions are subject to manufactures tolerance of plus or minus 1/8" nominal and subject to change without notice. Murdock Mfg. assumes no responsibility for use of void or superseded data. Dimensions may change with the addition of optional accessories. Murdock Mfg.™, Member of Morris Group International™. Please visit www.Murdockmfg.com for most current specifications.

GS Series MODEL GSM55 BARRIER FREE, BI-LEVEL PEDESTAL MOUNTED DRINKING FOUNTAIN



* Valve specifications:
Minimum/Maximum Pressure
30 to 100 psi.



GENERAL NOTES:

1. ALL DIMENSIONS ARE IN INCHES [MM].
- *2. STANDARD ADULT HEIGHT MODEL SHOWN. OPTIONAL -CH30 CHILD HEIGHT MODEL AVAILABLE.
3. STOP VALVE NOT PROVIDED.

Murdock Mfg.™ warrants that its products are free from defects in material or workmanship under normal use and service for a period of one year from date of shipment. Murdock's liability under this warranty shall be discharged solely by replacement or repair of defective material, provided Murdock™ is notified in writing within one year from date of shipment, F.O.B. Industry, California.

SELECTION SUMMARY & APPROVAL FOR MANUFACTURING

Model Number & Options _____ Quantity _____

Company _____

Contact _____ Title _____

Signature (Approval for Manufacturing) _____ Date _____

All dimensions are subject to manufactures tolerance of plus or minus 1/8" nominal and subject to change without notice. Murdock assumes no responsibility for use of void or superseded data. Dimensions may change with the addition of optional accessories. Murdock Mfg.™, Member of Morris Group International™. Please visit www.murdockmfg.com for most current specifications.

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Member of
MORRIS GROUP
INTERNATIONAL

landscapeforms®



towne square™





The welcoming gesture of a roll back sofa, the comfort of a gently curved seat, and reflections on a traditional park bench meet in Towne Square.

The Landmark Collection offers three distinct outdoor furniture groups created by award-winning designers and architects and inspired by familiar themes in historic furniture design, architecture and nature. Designer Brian Kane found the familiar in classic metal strap benches and married that traditional motif with state-of-the-art plasma cutting to create what he calls "craft through technology." Towne Square applies Kane's signature vocabulary of forms, from interior furniture to benches and chairs for the exterior urban environment. It renders robust tubular and sheet steel into graceful furniture with a fluid profile and transparency to the surrounding landscape. Optional perforated steel seats lend Towne Square a contemporary character.



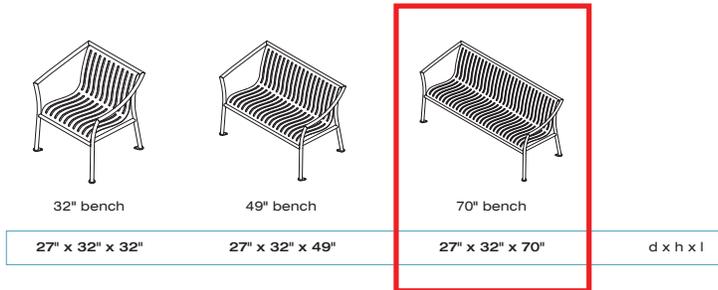
Our Purpose Is To Enrich Outdoor Spaces

We believe in the power of design and its ability to influence and elevate the quality of public space. High quality products and outstanding customer experience makes us one of the world's premier designers and manufacturers of outdoor commercial furnishings.

Towne Square™ Bench Specifications

Strap and perforated seat styles offered in 32", 49" or 70" lengths. One divider is available for the 49" bench; the 70" bench, may be specified with two intermediate dividers.

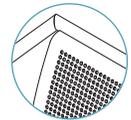
A single panel is formed to make a comfortable seat. Seating panels are vertical steel straps (1-1/2" x 1/8"), or perforated steel. The Towne Square bench comes standard with freestanding glides. Bench may be surface mounted with glides in place.



one intermediate divider



two intermediate dividers



perforated seat panel

Finishes

Metal is finished with Landscape Forms' proprietary Pangard II® polyester powdercoat, a hard yet flexible finish that resists rusting, chipping, peeling and fading. Call for standard color chart.

To Specify:

Specify bench length, vertical strap or perforated seat style, with or without center/intermediate dividers, and powdercoat color.

landscapeforms.com

Visit our website for product details, color charts, technical sheets, sales office locations. Download JPG images, brochure PDF, CAD details, CSI specifications.

Specifications are subject to change without notice.
 Towne Square is manufactured in U.S.A.
 Towne Square is designed by Brian Kane, IDSA.
 Towne Square meets ANSI/BIFMA performance and safety standards.
 Location photography: Watercolor Resort, Santa Rosa Beach, FL.
 Landscape Forms supports the LAF at the Second Century level.
 ©2009 Landscape Forms, Inc. Printed in U.S.A.

Metal is the world's most recycled material and is fully recyclable. Consult our website for recycled content for this product. Powdercoat finish on metal parts contains no heavy metals, is HAPS-free and has extremely low VOCs.

Landscape Forms is proud to specify FSC and Green-e certified paper. This paper meets the Forest Stewardship Council's standards for responsible forest management and is made using certified renewable energy.

landscapeforms®

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 431 Lawndale Ave., Kalamazoo, MI 49048
 landscapeforms.com



nal space in public settings, marry informality and order, function and flair.



Carousel varies its style to suit the setting.





Our Purpose Is To Enrich Outdoor Spaces

We believe in the power of design and its ability to influence and elevate the quality of public space. High quality products and outstanding customer experience makes us one of the world's premier designers and manufacturers of outdoor commercial furnishings.

Carousel™ Specifications

Seats and Supports

Carousel tables are available with 3, 4, 5 or 6 seats. Three-seat is ADA compliant and five-seat styles are wheelchair accessible. Seats are available in backed or backless styles. Supports are formed of 2" steel tubing. Umbrella holder is a built in feature on all supports.



Outside dimensions across table to back of seats is approximately 82" for backless and 85" for backed seats

Tabletop

42" in diameter and 29" high. Steelhead and Catena tabletops are formed of heavy gauge steel reinforced with channels beneath.

Catena features a rolled edge; Steelhead is framed by a 1-1/2" diameter metal tube and may be specified with solid or perforated top.

Marneaux tabletops are made from a 100% acrylic resin solid surface material. Its been a designer-preferred material for countertops because it resists scratching, staining, chipping and cracking. Weather, harsh chemicals, and UV rays have virtually no effect on the "throughbody" color or structural integrity.

All tabletops are available with or without umbrella holes. Umbrella hole must be specified when ordered; cannot be retrofitted on site.



Finishes

All metal is finished with Landscape Forms' proprietary Pangard II® polyester powdercoat, a hard yet flexible finish that resists rusting, chipping, peeling, and fading. Call for standard color chart.

Seat Panels

Select metal grid or perforated metal.



Mounting Options

Three-seat style must be surface mounted. Four, five and six seat styles may be freestanding with glides or surface mounted. All tables must be surface mounted when used with Solstice or Shade umbrellas.



To Specify

1. Select Carousel table with backed or backless seats.
2. Select 3, 4, 5 or 6 seats; metal grid or perforated metal.
3. Select tabletop: Steelhead (solid or perforated), Catena powdercoat or stainless steel, or Marneaux.
4. Specify with or without umbrella hole (may not be retrofitted).
5. Choose powdercoat color for metal parts or Marneaux color if applicable.
6. Specify freestanding with glides, or surface mount.

www.landscapeforms.com

Download product photos, brochures, color charts, SketchUp components, technical information, CAD details, CSI specifications, assembly instructions.

Carousel is designed by Arno Yurk AIA, IDSA.

Specifications are subject to change without notice.

Carousel is manufactured in U.S.A.

Location photography: Millenium Park, Chicago & Brook Lodge, Augusta, MI.

Landscape Forms supports the LAF at the Second Century level.

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Metal is the world's most recycled material and is fully recyclable. Powdercoat finish on metal parts contains no heavy metals, is HAPS-free and has extremely low VOCs. Consult our website for recycled content for this product.



Landscape Forms is proud to specify FSC and Green-e certified paper. This paper meets the Forest Stewardship Council's standards for responsible forest management and is made using certified renewable energy.

landscapeforms®

800.521.2546 269.381.3455 fax

431 Lawndale Avenue, Kalamazoo, MI 49048

www.landscapeforms.com





Solstice performs variations on the shape of shade.



Sirius harbors sitters under a generous domed canopy. Cygnus hovers, gesturing gracefully in the surrounding air. Altair quietly shields with a form as simple as a traditional parasol. All three Solstice variations provide protection and create a sense of destination. Their modular structure of metal frames and panels makes them easy to assemble, highly durable, wind and weather resistant, and maintenance free. They are as elegant on the inside as they are out; as whimsical and colorful as the setting calls them to be.

Our Purpose Is To Enrich Outdoor Spaces

We believe in the power of design and its ability to influence and elevate the quality of public space. High quality products and outstanding customer experience makes us one of the world's premier designers and manufacturers of outdoor commercial furnishings.

Solstice Specifications

Solstice™ shade panels are solid or perforated aluminum, mounted in a frame extruded from recycled aluminum. Struts are also extruded from recycled aluminum. Top cap, strut ring and end caps are recycled aluminum castings. Single-piece pole, fasteners and hardware are stainless steel. Surface mount stand is steel.

Solstice Collection Styles

				
	Altair	Cygnus	Sirius	
Table mount	84" x 87"	84" x 90"	91" x 85"	h x dia.
Stand mount	91" x 87"	91" x 90"	98" x 85"	
Clearance under shade panels for all styles is 6'2"				

Panel Mount

Aluminum panels are mounted in notched, extruded recycled aluminum frame pieces. End caps are aluminum castings.



Surface Mount Stand

Stand includes two stainless steel bolts to hold the Solstice pole in place and must be used when Solstice sun shade is not mounted to a Landscape Forms table. Anchoring hardware not included.



Metal Finishes

All metal parts are finished with Landscape Forms' exclusive Pangard II® polyester powdercoat – a hard, yet flexible, finishing process that resists rusting, chipping, peeling and fading.

Mounting

When used with a Landscape Forms table, Solstice must be mounted to the table, which in turn must be mounted to, or embedded in, a hard surface. If used with a table other than those offered by Landscape Forms, Solstice must be anchored to our surface mount stand. Solstice may also be used without a table, but must be secured in our surface mount stand.

To Specify:

Specify Altair, Cygnus or Sirius sun shade. Select perforated or solid panels, and powdercoat color(s). Specify to mount in Landscape Forms surface mount or embedded table. Specify surface mount stand if using with table other than those supplied by Landscape Forms, or if used without a table. Specify color for stand.

landscapeforms.com

Visit our website for product details, color charts, technical sheets, sales office locations. Download JPG images, brochure PDF, CAD details, CSI specifications.

Solstice is designed by Robert Chipman, ASLA.
Specifications are subject to change without notice.
Solstice collection is manufactured in U.S.A.
Solstice design is protected by U.S. Patent Nos. D373,467; D373,465; D373,466.
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Landscape Forms is proud to specify FSC and Green-e certified paper. This paper meets the Forest Stewardship Council's standards for responsible forest management and is made using certified renewable energy.

4840

**MARKET STREET
TREE GRATE**

48" x 48" tree grate in two sections.

1/2 Maximum square opening for pedestrian safety and A.D.A Compliance.

Cast from 100% recycled Iron, Aluminum, or Bronze for pedestrian loads only.

Tree opening: 12" x 18" 30"

Grates can be ordered with or later expanded to these openings. please specify when ordering.

Finish: unfinished or Black dip or Enamel paint or Polyurethane Paint or Powder coat

Specify finish and color

Use frame model: 4800F

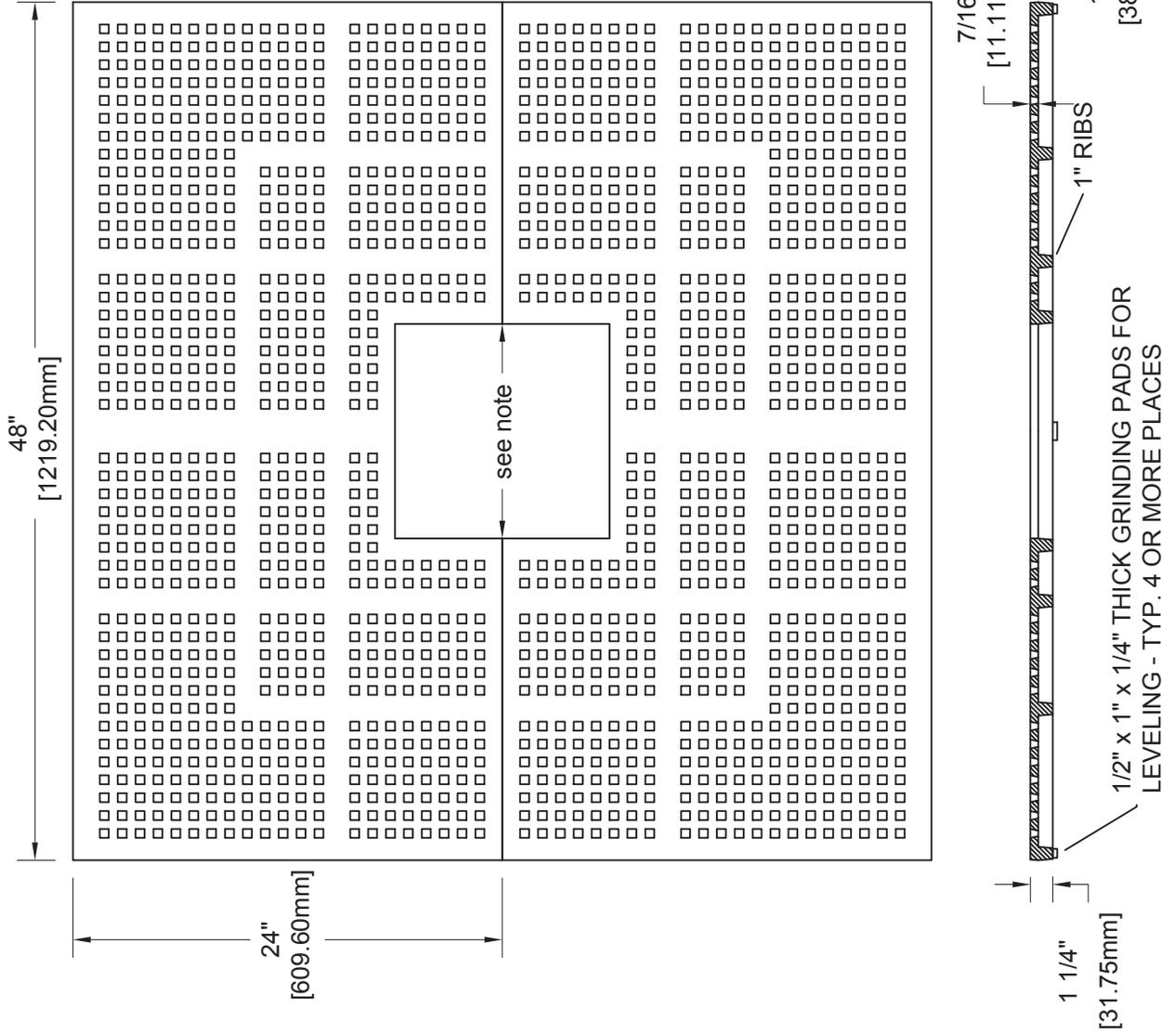
Weight:

Iron= 296 lb/ 135 Kg

Aluminum= 95 lb/43 Kg

IRONSMITH

41-701 Corporate Way #3
Palm Desert, CA 92260
800.338.4766



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**TOP-LOADING LITTER RECEPTACLES
& COORDINATING FURNISHINGS**
Delicately shaped vertical 1.5 in (38 mm) steel bars.



DYN-36

DYN-16

Gracefully fits in virtually any décor, sized to unobtrusively serve its purpose. Interior black plastic liners for our litter receptacles offer substantial value and are produced on custom molds designed for us. They are reinforced, ribbed and molded for durability, ease of use and greater capacity.



DYN-13*
with wood slats.

DYN-7*
with wood slats.



DYN-18

*Natural wood colors will vary. Weathering may occur on site which will alter the color of the wood over time.

**Time-honored classic vase form.
A complete series of site furnishings.**

DYN-36 Litter Receptacle 36 gal (136 L)**
DYN-45 Litter Receptacle 45 gal (170 L)**

Vertical 1.5 in (38 mm) wide solid steel bars. Standard tapered formed lid. Black plastic liner. Leveling feet. Options: Dome lid (ashtrays available). Convex lid (self-close door available). Rain bonnet lid (ashtrays available). Recycle lids. Half-Moon liners. Custom decals.

DYN-236 "MegaCan" Recycling Station**

Available (not shown). Design is similar to DYN-242 page 13 except with vertical 1.5 in (38 mm) wide solid steel bars.

DYN-336 "MegaCan" Recycling Station**

Available (not shown). Design is similar to DYN-342 page 13 except with vertical 1.5 in (38 mm) wide solid steel bars.

DYN-13 Bench**

DYN-7 Backless Bench**

Length: 6 ft (1.8 m). End frames: vertical 1.5 in (38 mm) wide solid steel bars.

Options: Philippine mahogany or ipe wood slats. Maple, cherry, walnut or gray 2nd Site Systems® recycled plastic slats.

DYN-13 Bench**

DYN-7 Backless Bench**

Steel scroll seating available (not shown).

DYN-18 Planter**

Capacity: 18 gal (68 L). Vertical 1.5 in (38 mm) wide solid steel bars. Standard wide-mouth formed lid. Black plastic liner. Four leveling feet.

DYN-16 Stand-Alone Ash Urn**

Vertical 1.5 in (38 mm) wide solid steel bars. Stainless-steel ashtray is 16-gauge solid stainless-steel with 2 in (51 mm) depth and 10 in (254 mm) diameter. Black plastic liner. Leveling feet. Option: Covered ashtray.

**One or more of the following apply: US Patent(s) D542,993 S; D573,766 S; D561,967 S; D553,821 S; D579,694 S; D582,169 S; D578,792 S; D595,916 S; D621,295 S; Canada © 125912; 125913; 125914; EC Reg. Des. 000475579-0001; US patent(s) pending; Canada reg. des. pending; EC reg. des. pending.



DYN-342

MEGACAN

RECYCLING STATION & LITTER RECEIPTACLE

Top-loading with 1-in (25 mm) wide vertical steel bars. Shown with "MegaCan decal package" including top band and lid decals. Specify lid position. Custom decals available.

DYN-342 "MegaCan" Recycling Station**

Capacity: three 36 gal (136 L) liners. Vertical 1 in (25 mm) wide solid steel bars. Includes three lids in any combination: standard tapered formed lid, recycle lid and/or slotted lid. Black plastic liners. Leveling feet. MegaCan decal package.
Options: Dome lid (ashtrays available). Rain bonnet lid (self-close door available). Rain bonnet lid (ashtrays available). NEW Enclosed dome lid. NEW Dual-flow lid. Half-Moon liners. Custom decals.

DYN-242 "MegaCan" Recycling Station**

Capacity: two 36 gal (136 L) liners. Vertical 1 in (25 mm) wide solid steel bars. Includes two lids in any combination: standard tapered formed lid, recycle lid and/or slotted lid. Black plastic liners. Leveling feet. MegaCan decal package.
Options: See DYN-342 Options above.



DYN-242



DYN-423 bench

Narrower closely spaced
1-in (25 mm) vertical steel bars.



DYN-426

Optional covered ashtray.

DYN-424 Litter Receiptacle 36 gal (136 L)**

Vertical 1 in (25 mm) wide solid steel bars. Standard tapered formed lid. Black plastic liner. Leveling feet. Options: Dome lid (ashtrays available). Convex lid (self-close door available). Rain bonnet lid (ashtrays available). Recycle lids. Half-Moon liners. Custom decals.

DYN-425 Litter Receiptacle 42 gal (170 L)**

Vertical 1 in (25 mm) wide solid steel bars. Standard tapered formed lid. Black plastic liner. Leveling feet. Options: Dome lid (ashtrays available). Convex lid (self-close door available). Rain bonnet lid (ashtrays available). Recycle lids. Half-Moon liners. Custom decals.

DYN-426 Stand-Alone Ash Urn**

Vertical 1 in (25 mm) wide solid steel bars. Stainless-steel ashtray is 16-gauge solid stainless-steel with 2 in (51 mm) depth and 10 in (254 mm) diameter. Black plastic liner. Leveling feet. Option: Covered ashtray.

DYN-428 Planter**

Capacity: 18 gal (68 L). Vertical 1 in (25 mm) wide solid steel bars. Standard wide-mouth formed lid. Black plastic liner. Four leveling feet.

DYN-423 Bench**

DYN-427 Backless Bench**

Length: 6 ft (1.8 m). End frames: vertical 1 in (25 mm) wide solid steel bars.

Options: Mahogany or pine wood slats. Maple, cherry, walnut or gray 2nd Site Systems® recycled plastic slats.

DYN-423 Bench**

DYN-427 Backless Bench**

Steel scroll seating available (not shown).



DYN-42



DYN-428

**One or more of the following apply: US Patent(s) D542,993 S; D586,062 S; D579,694 S; D582,169 S; D578,792 S; D595,916 S; Canada 2,125,912; 1,259,131; 1,259,134; EC Reg. Des. 000762638-0001; Mexico Reg. Des. 001871; US patent(s) pending; Canada reg. des. pending.

SIDE-DOOR

36 & 45 gal (136 & 170 l) LITTER RECEPTACLES & ASH URN
Delicately shaped vertical 1.5 in (38 mm) steel bars.

DYN-SD-16 Stand-Alone Ash Urn**

Stainless-steel ashtray. Vertical 1.5 in (38 mm) wide solid steel bars. Canopy lid. Black plastic liner. Latch. Leveling feet.

DYN-SD-36 Side-Door Litter Receptacle 36 gal (136 l)**

Vertical 1.5 in (38 mm) wide solid steel bars. Standard tapered formed lid. Black plastic liner. Latch. Leveling feet.

Options: Dome lid (ashtrays available). Convex lid (self-close door available). Rain bonnet lid (ashtrays available). Recycle lids. Half-Moon liners. Custom decals.

**One or more of the following apply: US Patent(s) D542,993 S; D573,766 S; D573,769 S; D606,271 S; EC Reg. Des. 000475579-0001; Canada reg. des. pending; EC reg. des. pending.



DYN-SD-16** shown above with side door open.



DYN-SD-45
& DYN-SD-36

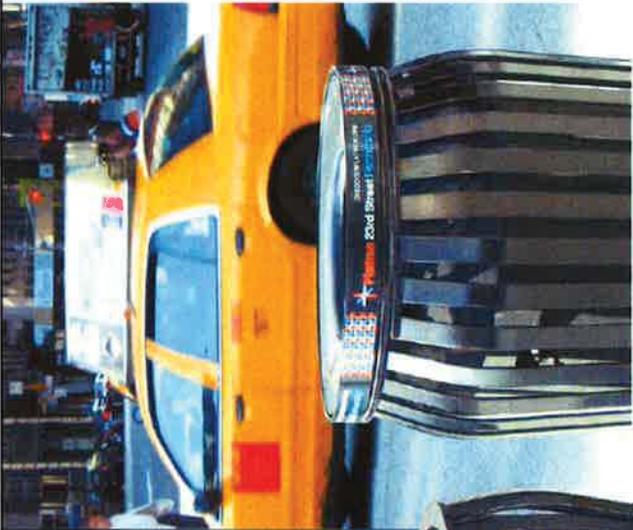


DYN-SD-36

small footprint GRAND STYLE

Designed to solve the conflicting requirements of capacity, footprint, precision, ease of use and beauty. Crafted from vertical **1.5 in (38 mm) STEEL BARS**. Side-door receptacles feature superb door hardware with oil-impregnated bronze bushings and stainless-steel pivot pins, standard with inboard positive latch with easy-release action.

CUSTOM DECALS
FOR TOP STEEL BANDS OF BOTH
SIDE-DOOR & TOP-LOADING MODELS



DYN-SD-45** Optional custom decal

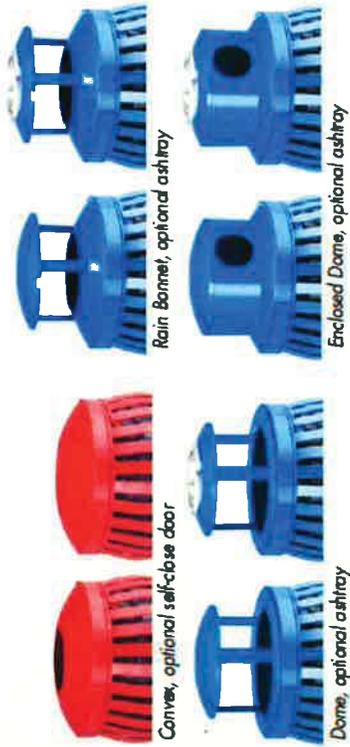


DYN-SD-45**
Optional custom decal



DYN-36**
Optional custom decal

DYN-SD-36 with
OPTIONAL LIDS**



Convey, optional self-close door

Rain Bonnet, optional ashtray

Dome, optional ashtray

Enclosed Dome, optional ashtray

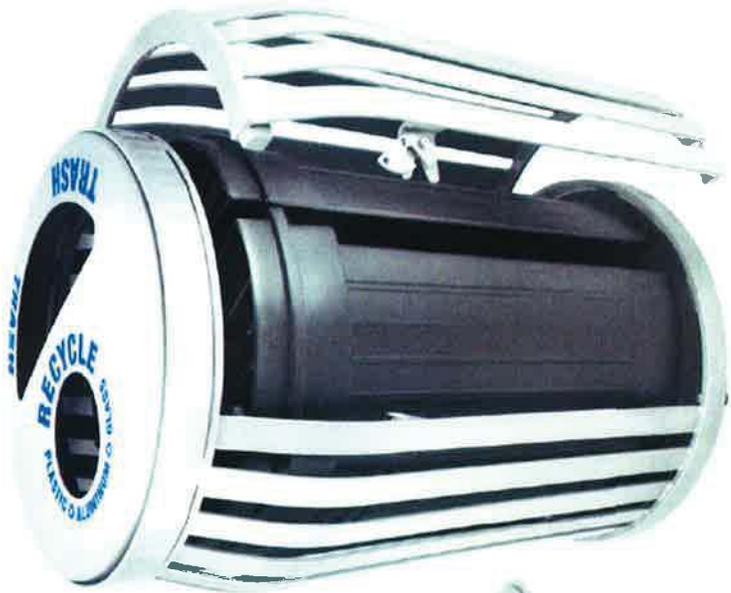
Optional DUAL-FLOW LID,
Half/Moon lines and silver metallic
For additional
recycling lids see page 64



Standard Heavy-Duty Ashtray



Optional Covered Ashtray



**One or more of the following apply: US Patent(s) D542,993 S; D573,766 S; D606,271 S; EC Reg. Des. 000475579-0001; Canada reg. des. pending; EC reg. des. pending



Dynasty Series™

DYN-236

[print](#) | [close window](#)

Model DYN-236: Dynasty Series™ Recycling Station.

Model DYN-236: (Covered by one or more of the following: US Patent D595,916 S; other patents pending).

An all-in-one solution for promoting recycling and litter containment. Top-loading with 1 1/2 in. (38 mm) wide vertical steel bars meticulously crafted and fitted to do justice to the classic vase form. Shown with optional "standard decal package" including top band and lid decals. Includes two 36 gallon (136 liter) liners and two lids in any combination: standard tapered formed lid, recycle lid and/or slotted lid.

Standard:

All fabricated metal components are steel shot-blasted, etched, phosphatized, preheated and electrostatically powder-coated with TGIC polyester powder coatings.

Other standard features include formed lids attached to the frame, high-density plastic liners, and rubber-tipped leveling feet on the base.

Interior black plastic liners for our litter receptacles offer substantial value and are produced on custom molds designed for us. They are reinforced, ribbed and molded for durability, ease of use and greater capacity.

Coordinating Products



Dynasty Series™
DYN-36



Dynasty Series™
DYN-13



Dynasty Series™
DYN-18

Half-Moon Liners

Half-Moon high-density black plastic liners:

Half-Moon liners for our 36 and 45 gallon receptacles make it easier and more cost effective than ever to separate different waste streams without sacrificing capacity or durability.

Our Half-Moon liners are manufactured to the same high standards as our regular liners: they are strong, lightweight and reinforced at the corners to prevent deformation and securely hold plastic bags. When used in pairs, our Half-Moon liners form a full circle that matches the footprint of our standard liner, allowing them to be dropped into any existing 36 or 45 gallon Victor Stanley receptacle.

Available in pairs for 36 or 45 gallon replacement sizes.



Lid Options

Lid Options:

Please specify lid type when order is placed.

Standard Tapered Formed Lid



Optional Dome Lid



Optional Rain Bonnet Lid



Optional Convex Lid with (or without) Self-Closing Door



Optional Stainless Steel Ashtray (for Dome)



Optional Stainless Steel Ashtray (for Rain Bonnet)



Standard Recycle Lid



Standard Slotted Lid



Optional Dual-Flow Lid



Ashtray Options:

Choose from the two ashtrays below when specifying lids with optional ashtrays.

Optional Stainless Steel Ashtray (for Dome)



Optional Stainless-Steel Covered Ashtray (Open/Closed)



Powder Coating Color Options

Powder Coating Colors



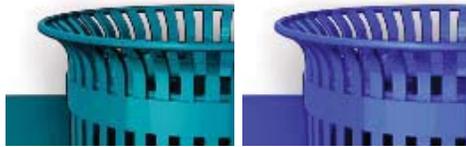
Bronze

Black



Green

Tavern Square Green



Teal

Blue



Burgundy

Red

All steel products are available in a choice of ten standard powder-coating colors, including black, bronze, teal, green, tavern square green, white, red, blue, gray and burgundy. Optional silver and titanium metallics are available at an additional cost. We also offer many other colors (including the RAL range) at a small additional cost.

Publicote™ is our name for an elaborate powder coating process that provides a baked resin coating on all exposed steel frames, bench legs, table assemblies, mounting pipe brackets and on all finished steel products. This process includes steel shotblasting, thorough cleaning and surface preparation, and a final coating of nontoxic sealer that makes the subsequent powder coating dramatically more effective. The thickness of the resulting finish coat averages 8-10 mils (200-250 microns), 3x the thickness generally found in our industry. The entire process utilizes no toxic solvents and represents our ongoing commitment to operating a modern, effective manufacturing process in a responsible and environmentally sound manner.

Standard Colors: Sample images may not be accurate representations of actual colors. Color representations vary from monitor to monitor.



Gray

White

Optional Silver

Optional Titanium

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Most VSI benches are ADA compliant. Member of the ASLA. Member of the USGBC.





Lakeside benches and accessories are part of the Landmark Collection of outdoor furniture created by distinguished architects and designers and inspired by familiar themes in nature, architecture and historic design. Lakeside is contemporary in form and materials, traditional and pastoral in motifs. The universal formed steel frame, which recalls the platform swing of another time, is sturdy and strong, and offers a comfortable flat surface for resting the arms. In the first of two bench styles, low-tech pickets are rendered in high-tech Polysite to form the slat seat and back. Wood pickets are offered as an option. McCurry's inspiration was a staggered picket fence discovered around a Victorian era cottage. In the Lakeside bench, as in her architecture, the linkage is artfully transformed so, as she puts it, "the history and memory are there, but they're joggled a bit."



Lakeside Specifications

Benches

Benches are made with dual 1/4" thick steel frames, welded and bolted together with stainless steel hardware. Benches are 67" in length and available backed or backless. End arms standard on backed benches.

Picket fence panels may be specified in Polysite™ or wood. All picket fence boards are attached to the steel bench frame with stainless steel hardware.

Metal seats and seat backs are available in grass, leaf or custom designs which are plasma-cut steel panels, bolted to the bench frame with stainless steel hardware. Bench comes standard with freestanding/surface mount support.

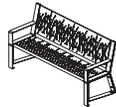
Metal panels may be designed with a custom pattern for a minimal up-charge. Ask your Landscape Forms representative for details.

grass & leaf



grass backless

19" x 18" x 67"



grass backed

24" x 35" x 67"



leaf backed

24" x 35" x 67"

d x h x l

picket fence/garden fence



backless

19" x 18" x 67"



backed

24" x 35" x 67"



backed garden fence

24" x 35" x 67"

d x h x l

Finishes

Exterior woods are unfinished and will weather to a soft pewter gray, requiring no future maintenance.

Metal is finished with Landscape Forms' proprietary Pangard II® polyester powercoat, a hard yet flexible finish that resists rusting, chipping, peeling and fading. Call for standard color chart. A wide array of optional colors may be specified for an upcharge.

Visit landscapeforms.com; click Design Tools, Materials/Colors link for standard offerings, including FSC wood options.



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We believe in the power of design and its ability to elevate experience and help create a sense of place in public environments. Our high quality products and outstanding customer service have earned us a reputation as one of the world's premier designers and manufacturers of outdoor commercial furnishings.

Litter Receptacles

Lakeside litter receptacles are available in side, or top-opening designs. Side-opening litter receptacle has a 30 gallon capacity, top-opening has a 35 gallon capacity. Steel panels are available in grass, leaf, custom or plain designs which are plasma-cut steel. Litters come standard with a removable black polyethylene liner. Receptacles are standard with freestanding/surface mount support.



grass side-opening

21" x 36"



leaf top-opening

21" x 36"



plain top-opening

21" x 36"

dia x h

To Specify

Metal bench specify model, backless or backed, and select panel design: grass or leaf. *Picket fence* specify model, backless or backed and select Polysite color or wood type. *Garden fence* specify Polysite color or wood type.

Custom metal design Contact your Landscape Forms sales representative for details.

Litter Select top or side-opening litter, and metal panel design. Specify powdercoat color.

www.landscapeforms.com

Download product photos, brochures, color charts, SketchUp components, technical information, CAD details, CSI specifications, assembly instructions.

Lakeside is designed by Margaret McCurry, FAIA, ASID, IIDA.

Specifications are subject to change without notice.

Lakeside is manufactured in U.S.A.

Lakeside design is protected by U.S. Patent Nos.

D529,736; D530,548; D532,210; D536,549; D543,330; D543,329

Lakeside meets ANSI/BIFMA performance and safety standards.

Location photography: Watercolor Resort, Santa Rosa Beach, FL.

Landscape Forms supports the LAF at the Second Century level.

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- * INSTALLATION IS REQUIRED BY OTHERS.
- * ALL EDGES TO HAVE 1/4" RADIUS MIN.
- * MANUFACTURING TOLERANCE $\pm 1/4"$.
- * PRODUCT: QR-URN3648P
- * QUANTITY:
- * CONCRETE COLOR:
- * CONCRETE TEXTURE:
- * SEALER: STANDARD GLOSS SEALER
- * INCLUDES INTERIOR WATER SEALANT
- * STD. 2"DIA. DRAIN HOLE
- * STD. COLOR & TEXTURE OPTIONS

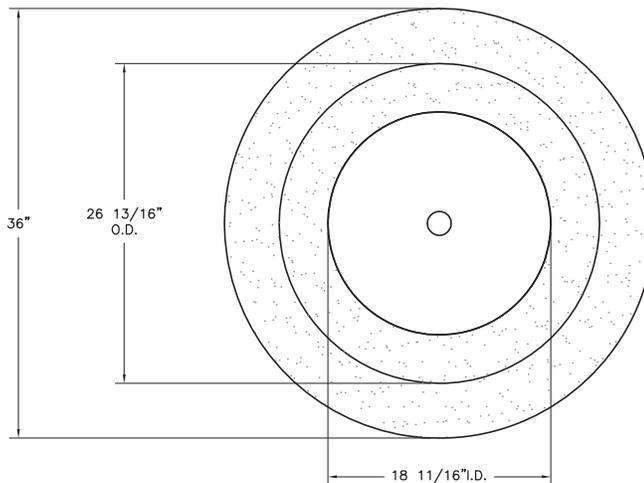
APROX. WT. 2,120 LBS.
(CUSTOMER TO OFFLOAD IF OVER 8000 Lbs.)

Authorized Signature Date
By signing above or stamping this drawing "approved" or
"no exception taken" authorization is given to Quick Crete
to produce this drawing as shown within a 1/4" tolerance.

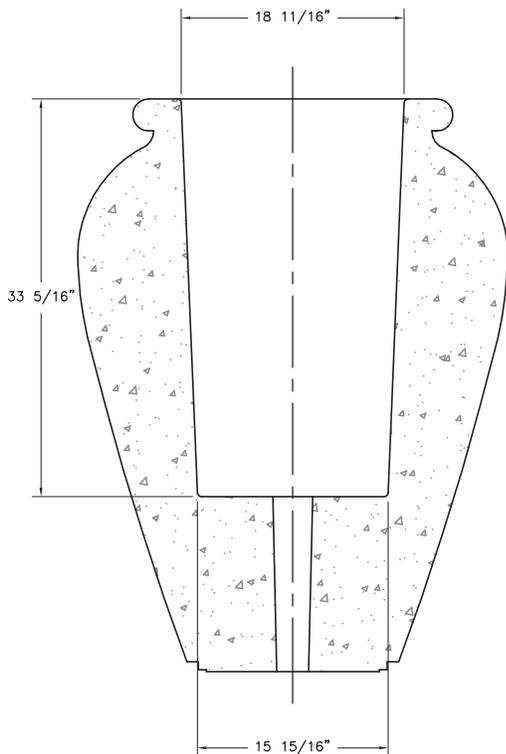
FINISH:
PLEASE SPECIFY YOUR CHOICE
BY CHECKING THE BOX BELOW.

- MEDITERRANEAN QUARRY
 VERENDE ROMA

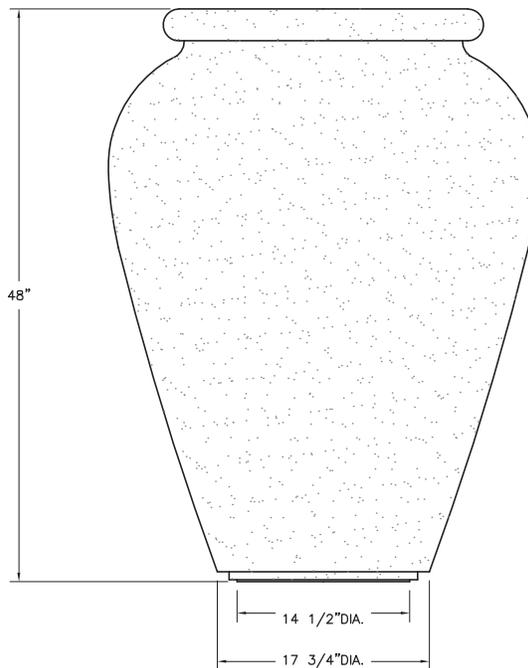
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FINISHES AT ADDITIONAL COST.



PLAN VIEW



SECTION VIEW



ELEVATION VIEW



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PRODUCTS CORP.
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P.O. BOX 639
NORCO, CA 92860
(951) 737-6240 FAX (951) 737-7032
WWW.QUICKCRETE.COM

PLAN TYPE:
PRODUCT:
PROJECT NAME:

CONSTRUCTION PLAN
URN PLANTER (QR-URN3648P)

DATE:
SCALE:

FILE NO.
DRAWN BY:

SHEET
OF

APPENDIX C
PLAY AND FITNESS EQUIPMENT
INSTALLATION

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