CITY OF SAND CITY
CONTRACT DOCUMENTS FOR

CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT

FORMAL BID

City Hall
1 Pendergrass Way
Sand City, CA 93955
(831) 394-3054

TECHNICAL SPECIFICATIONS APPROVED BY:

Leon D. Gomez
ENGINEER

DATE: 8/2/22

APPROVED FOR CONSTRUCTION:

Leon D. Gomez
CITY ENGINEER

DATE: 9/27/22

Master Specification Revision: 05.25.2020

Project Specification Revision: 09.27.22

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CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT

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CITY OF SAND CITY
SAND CITY, CALIFORNIA

PART I: NOTICE TO CONTRACTORS

Sealed, unbound bid proposals for furnishing all labor, materials, tools, equipment and incidentals for the construction of ***Calabrese Park, Pendergrass Way and City Hall Improvement Project*** in Sand City, California, in accordance with these plans and specifications, will be received until ***2:00pm, Tuesday, October 18, 2022*** ("Bid Opening Date"), at which time they will be publicly opened and read in the City Council Chambers.

Proposals shall be addressed as follows and mailed or hand-delivered to:

Attention; Vibeke Norgaard, City Manager
1 Pendergrass Way
Sand City, CA 93955

In general, the work consists of, but is not limited to, *the demolition and construction of new park play structures and features, walkways, steps, concrete retaining walls, Keystone retaining wall, fencing, accessible parking space, concrete curb, gutter, sidewalk, and curb ramp at Calabrese Park, driveways, and cross gutters, signage and striping, asphalt pavement widening and rehabilitation including hot mix asphalt, micros surfacing, and minor drainage improvements..*

At the time of the bid opening, the successful Bidder must be legally entitled to perform contracts requiring a Class "B" or "A" Contractor's license. The successful bidder will be required to secure a City Business License before commencing work on the Project. Any Bidder or contractor not so licensed shall be subject to all penalties imposed by law including, but not limited to, any appropriate disciplinary action by the Contractors' State License Board. All contractor and sub-contractor license(s) must remain in good standing throughout the term of the Contract. The Contractor shall notify the City in writing in the event its license is suspended, expires, or has a change in signatory.

Preference will be given to prospective bidders that can begin construction of the Project as soon as possible after award of a construction contract and in no instance later than early November 2022.

SPECIFICATIONS AND BID FORMS

Specifications, including instructions to Bidders and all necessary contract documents and forms, are available on-line from the City's website located at https://www.sandcity.org under the "Bids/RFPs" tab on the home page. Potential bidders, subcontractors and suppliers are responsible for reviewing the complete bidding documents, including all addenda, prior to submitting their bid. They are also advised to check the City's web site noted above periodically and prior to submitting their bid. Submit unbound bid proposals using the forms in Appendix A, in sealed envelopes clearly marked on the exterior with the project name, bid opening date and bid opening time for which the bid proposal is being submitted. When submitting a bid in a sealed envelope within another sealed envelope, such as an envelope provided by an overnight carrier, be sure to also mark the exterior of the outermost envelope or overnight carrier's envelope clearly with the project name, bid opening date and bid opening time.

PRE-BID CONFERENCE

A non-mandatory pre-bid conference is scheduled for *11:00am, Thursday, October 6, 2022* at the City Hall, 1 Pendergrass Way, Sand City, CA 93955. This conference will allow bidders to review and inspect project conditions. Failure to attend the pre-bid conference will not result in your bid being deemed non-responsive. However, the City strongly encourages that all prospective bidders attend the pre-bid conference

PREVAILING WAGES

Local prevailing wage rates shall be paid in accordance with Sections 1770, 1773, and 1782, as amended, of the California Labor Code, and Section 12.18.060 of the Sand City Municipal Code, on all public works construction contracts exceeding twenty-five thousand dollars ($25,000) and all public works contracts for alteration, demolition, repair or maintenance work exceeding fifteen thousand dollars ($15,000). Local wage rates may be obtained from City Hall, 1 Pendergrass Way, Sand City, CA, (831-394-3054) or the Director, Department of Industrial Relations,

State of California, 455 Golden Gate Avenue, San Francisco, California (415-703-4774). Any Bidder or contractor awarded a public works contract that uses a craft or classification not in the general prevailing wage determinations may be required to pay the wage rate most closely related in the general determinations, effective at the time of the call for bids.

In accordance with the provisions of Sections 1725.5, 1771.1, 1771.3, and 1771.4 of the Labor Code, this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal (subject to the requirements of Section 4104 of the Public Contract Code), or engage in the performance of any contract for public work, as defined by that chapter of the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the Labor Code. **See Part III of these Specifications for additional requirements**.

In accordance with the provisions of Section 1773.3 of the Labor Code, the City of Sand City shall provide notice to the Department of Industrial Relations (DIR) of the award of any public works contract subject to the requirements of Chapter 1 of the Labor Code, within five days of the award. The notice shall be transmitted electronically in a format specified by the DIR (see https://www.dir.ca.gov/pwc100ext/) and shall include the name of the contractor, any subcontractor listed on the successful bid, the bid and contract award dates, the contract amount, the estimated start and completion dates, job site location, and any additional information the DIR specifies that aids in the administration and enforcement of this chapter.

BID BOND

A true and correct copy of a certified check or cashier's check payable to the order of the City of Sand City, or a satisfactory bid bond executed by the Bidder and an acceptable surety in an amount equal to ten percent (10%) of the bid amount shall be provided with each bid, as a guarantee that the bidder, if its bid is accepted, will promptly execute the Agreement. The bid bond must be notarized, include the embossed surety seal, and include a Power of Attorney if the signee is not an officer of the surety.

The three lowest bidders must also MAIL the original certified check, cashier's check, or bid bond, which must be received by the City no later than five (5) calendar days following the Bid Opening Date. If the last day for submission falls on a holiday or weekend, the period is extended to the next business day. The original shall be addressed to:

City of Sand City
Attention: Finance Director
1 Pendergrass Way
Sand City, CA 93955

Please have the Bidder Name, Contract Title ("Project Title"), and Contract Number ("Project ID") listed clearly on the outside of the sealed envelope.

Bidder's failure to submit the certified check, cashier's check, or bid bond in accordance with the terms herein may result in the bid being deemed non-responsive. Further, the amount so posted shall be forfeited to the City if the Bidder does not, within fifteen (15) calendar days after written notice that the contract has been awarded to said Bidder, enter into a contract with the City for the work.

BID VALIDITY

No Bidder may withdraw their bid for a period of **ninety (90) days** from the Bid Opening Date, which time shall be used by the City for reviewing the bids and investigating the qualifications of Bidders, prior to awarding of the contract. Any bid withdrawal before the expiration of such time period shall result in the forfeiture of Bidder's Bid Bond. In the event of a bid mistake resulting from a clerical error made by the Bidder, withdrawal of such bid without forfeiture of the Bid Bond may only be allowed if the criteria set forth in California Public Contracts Code Sec. 5103 are met and the procedures set forth therein are followed; any such approval by City of bidders request to withdraw bid shall be at the sole discretion of the City.

RESPONSIBLE BIDDER

Responsible bidder as it pertains to this contract shall be as follows:

1. Standards of Responsibility: The City may reject bids on the basis of non-responsibility. A responsible bidder is one that has the capacity in all respects to perform fully the contract requirements, and the integrity and reliability which will assure good faith performance of the contract. Factors to be considered in determining whether the standard of responsibility has been met include whether a bidder has:

    a. The appropriate financial, material, equipment, facility, capacity (adequate workforce to complete the job in a timely fashion) and personnel resources, including all required certifications, licenses, and expertise necessary to indicate its capacity to meet all contractual requirements, including the following specific requirements:

        i. Adequate workforce to meet multiple critical work schedules at once;

        ii. Ability to start projects on the commencement dates set forth by the City and satisfactorily complete them within the City's stated time limits;

    b. A satisfactory record of performance, including but not limited to any prior work performed by bidder for the City or other agency;

    c. Evidence of bidder's ability to provide the required bonding and insurance capacity. Apparent low bidder with cash or cashier's check as bid bond is required to submit a pre-qualification letter from an acceptable surety or cashier's check as performance bond within fourteen (14) calendar days of the bid opening;

    d. A satisfactory record of integrity, diligence, and professionalism in the specific contract work;

    e. The legal qualifications to contract with the City; and

    f. Supplied all information requested by the City in connection with the inquiry concerning responsibility.

2. Information Pertaining to Responsibility. The prospective contractor shall supply any information requested by the City concerning the responsibility of such contractor, including the qualifications and performance records of contractor's employees and proposed subcontractors. If the prospective contractor fails to supply the requested information, the City shall base the determination of responsibility in award of the Contract upon any available information, or may find the prospective contractor non-responsible on the basis of its failure to provide the requested information to the City.

3. The City's Duty Concerning Responsibility. Before awarding a contract, the City must be satisfied that the prospective contractor is responsible. The City may use the information provided by prospective contractor as well as information obtained from other legitimate sources, including City staff's own experience with the prospective contractor and prospective contractor's employees.

4. Written Determination of Non-responsibility Requirements. If a bidder or offeror who otherwise would have been awarded the Contract is found non-responsible, a written determination of non-responsibility setting forth the basis determination shall be prepared by the City and sent to the non-responsible bidder or offeror. The bidder or offeror shall have an opportunity to appeal the City's determination on non-responsibility.

BID REJECTION

The City reserves the right to reject any or all bids as the best interests of the City may dictate and, to the extent permitted by law, waive any irregularity in any bid. If there is any reason for believing that collusion exists among the bidders, the City may reject any or all bids.

UNBALANCED BID

Bids which are obviously unbalanced may be rejected. For the purposes of this section, an unbalanced bid is one that (a) has unit prices based on nominal prices for some items of work and enhanced unit prices for other items of work, and (b) the amount and manner in which the unit prices are distributed is not reflective of the true cost to

perform the work. Any unbalanced bid may be rejected by the City whether or not the result of the unbalanced bid increases the cost of the project to the City.

BIDDER PROTEST

All bid protests shall follow the procedures set forth in Sand City Municipal Code §12.18.100, available on-line on the City's website located at https://www.sandcity.org. Payment of a bid protest filing fee in the amount set forth in the City's Municipal Code shall be prerequisite to the filing of any such protest.

INTERPRETATION OF SPECIFICATIONS

Should a Bidder be in doubt as to the true meaning of any item in the Plans or Specifications or discover items containing discrepancies or omissions, the Bidder is responsible for immediately notifying the City. All questions must be submitted in writing via e-mail to John Kuehl, Project Manager at: jkuehl@4leafinc.com on or before the deadline for submittal of questions which is 4:00pm Tuesday, October 11, 2022. Please include the section title of this Specification for each question, if applicable, in order to ensure that questions asked are responded to correctly.

If found necessary, interpretation or correction will be made by written addendum, which will be posted to the City's website at https://www.sandcity.org under the "Bids/RFPs" tab on the home page. It is the bidder's responsibility to check the City's web site frequently to obtain any and all addenda. Failure of any Bidder to receive any such addenda or interpretation shall not relieve such Bidder from any obligation under their bid as submitted. All addenda so issued shall become part of the contract documents, and the Bidder shall acknowledge this condition by listing each addendum by number in his or her bid proposal by completing the Acknowledgement of Addenda form in Part II Proposal of these specifications. The Engineer shall not be held responsible for any oral interpretations or instructions. No addenda can be issued less than forty-eight (48) hours before bid opening without an accompanying bid time extension. The Engineer reserves the right to make decisions on extending the bid period.

DEFINITIONS

For the purposes of this document, the following definitions shall apply:

CITY:	The term City refers to and indicates the City of Sand City, Monterey County, State of California.
ENGINEER OR CITY ENGINEER	The term Engineer or City Engineer refers to and indicates the City Engineer of the City of Sand City or his/her duly authorized representative.
BIDDER:	Party submitting a bid for consideration by the City of Sand City.
CONTRACTOR:	The term Contractor refers to and indicates the party or parties contracting to perform the work to be done in pursuance of this contract and specifications.
COUNCIL OR CITY COUNCIL:	The City Council of the City of Sand City.
PLANS:	The project plans referred to herein.
SPECIAL PROVISIONS:	Part IV of these Specifications.
SPECIFICATIONS:	This document, in its entirety.
STANDARD SPECIFICATIONS:	Specifications entitled "State of California, Department of Transportation, Standard Specifications" of latest publication on file in the office of the City Clerk of the City of Sand City.
STANDARD PLANS:	Plans entitled "State of California, Department of Transportation, Standard Plans" of latest publication.

ADA:	Americans with Disabilities Act of 1990, Titles II and III, latest revision.
CBC:	California Building Codes, latest edition as adopted by the City of Sand City.
IBC:	International Building Codes, latest edition.

CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT

CITY OF SAND CITY

PART II: PROPOSAL

To the Honorable City Council
City of Sand City
City Hall
Sand City, California

The undersigned declares to have carefully examined the location of the proposed work, that the Plans and Specifications as set forth herein have been examined, and hereby proposes to furnish all materials and equipment and do all the work required to complete the said work in accordance with said Plans and Specifications for the lump sums and unit prices set forth in the following schedule:

BID SCHEDULE

BASE BID

Item No.	Item Description	Unit	Estimated Quantity	Unit Cost	Total Cost
1	Mobilization	LS	1		
2	Traffic Control System	LS	1		
3	Water Pollution Control	LS	1		
4	CPM Schedule	LS	1		
5	Lead Compliance Plan	LS	1		
6	Wedge Grind and Conform Grind	SY	0		
7	Hot Mix Asphalt (Type A) - 1.5" Overlay	TON	0		
8	Hot Mix Asphalt (Type A) - New Pavement Section 3" AC	TON	0		
9	Hot Mix Asphalt (Type A) - New Pavement Section 3.5" AC	TON	81		
10	Class II Aggregate Base Material - Agg Base New Pavement Section	CY	52		
11	Grind Remove, Remove, and Dispose Existing AC and AB	CY	152		
12	Polymer Modified Slurry Seal Treatment, Type II	SY	0		
13	Crack Seal	LF	0		
14	Remove Concrete	SF	0		
15	Minor Concrete (Curb and Gutter)	LF	107		
16	Minor Concrete (Vertical Curb)	LF	80		
17	Minor Concrete (Sidewalk and Bulb-Outs)	SF	663		
18	Minor Concrete (6" Thick Concrete at Curb Ramp and Driveways)	SF	493		
19	Minor Concrete - Valley Gutter	SF	130		
20	Minor Concrete - Stairs	EA	0		
21	New Retaining Wall	LF	0		
22	Hot Mix Asphalt Dike, Type F	LF	135		
23	Detectable Warning Surface	SF	30		
24	Adjust Storm Drain Manhole Cover to Grade (SDMH)	EA	0		
25	Adjust Sanitary Sewer Manhole Cover to Grade (SSMH)	EA	0		

26	Adjust Water Valve Cover to Grade (WV)	EA	0		
27	Adjust Utility Vault Cover to Grade	EA	0		
28	Relocate Water Riser	EA	0		
29	Thermoplastic Traffic Stripe - Detail 2	LF	157		
30	Thermoplastic Traffic Stripe - Detail 38A	LF	0		
31	Pavement Marking (White)	SF	70		
32	Pavement Marking (Blue)	SF	10		
33	Curb Markings (Green with White Text)	SF	80		
34	Curb Markings (Blue)	SF	70		
35	Pavement Marker - Blue Reflective Marker	EA	0		
36	Parking Tire Stops Removal	EA	0		
37	New Parking Tire Stops	EA	0		
38	Sign Removal	EA	1		
39	Sign Relocation	EA	1		
40	Install New Sign	EA	1		
41	Remove Retaining Wall	LF	46		
42	Remove Existing Wooden Walkway	SF	150		
43	Remove Existing Fence	LF	15		
44	Install 2"pvc sleeve	LF	10		
45	Rough Grading	LS	1		
46	Park Demolition	LS	1		
47	Park Rough Grading	CY	180		
48	Park Drainage	LS	1		
49	Granitecrete Walks w.Excavation & Agg Base	SF	850		
50	Concrete Playground Curb Flush	LF	96		
51	Concrete Playground Curb 4"High	LF	150		
52	Park Curb Ramp	EA	1		
53	Keystone Wall	LF	107		
54	Boulders - 4' x 6'	EA	10		
55	Springer & Springer Installation	EA	1		
56	Rope Climb Feature	EA	1		
57	Engineered Wood Fiber	SF	1700		
58	Perimeter Fence - Split-Rail	LF	215		
59	Wall Guardrail Fence - Grapestake	LF	77		
60	Timber Steps	LF	108		
61	Handrails	LF	100		
62	Picnic Tables	EA	2		
63	Swing Play Area	LS	1		

Total Base Bid Amount $_____

Total Base Bid Amount in Words:_____

BID ALTERNATE 1

Item No.	Item Description	Unit	Estimated Quantity	Unit Cost	Total Cost
6	Wedge Grind and Conform Grind	SY	209		
7	Hot Mix Asphalt (Type A) - 1.5" Overlay	TON	49		
8	Hot Mix Asphalt (Type A) - New Pavement Section 3" AC	TON	5		
9	Hot Mix Asphalt (Type A) - New Pavement Section 3.5" AC	TON	78		
10	Class II Aggregate Base Material - Agg Base New Pavement Section	CY	53		
11	Grind Remove, Remove, and Dispose Existing AC and AB	CY	99		
12	Polymer Modified Slurry Seal Treatment, Type II	SY	0		
13	Crack Seal	LF	0		
14	Remove Concrete	SF	217		
15	Minor Concrete (Curb and Gutter)	LF	2		
16	Minor Concrete (Vertical Curb)	LF	31		
17	Minor Concrete (Sidewalk and Bulb-Outs)	SF	0		
18	Minor Concrete (6" Thick Concrete at Curb Ramp and Driveways)	SF	42		
19	Minor Concrete - Valley Gutter	SF	438		
20	Minor Concrete - Stairs	EA	0		
21	New Retaining Wall	LF	0		
22	Hot Mix Asphalt Dike, Type F	LF	147		
23	Detectable Warning Surface	SF	25		
24	Adjust Storm Drain Manhole Cover to Grade (SDMH)	EA	1		
25	Adjust Sanitary Sewer Manhole Cover to Grade (SSMH)	EA	1		
26	Adjust Water Valve Cover to Grade (WV)	EA	1		
27	Adjust Utility Vault Cover to Grade	EA	1		
28	Relocate Water Riser	EA	0		
29	Thermoplastic Traffic Stripe - Detail 2	LF	0		
30	Thermoplastic Traffic Stripe - Detail 38A	LF	20		
31	Pavement Marking (White)	SF	283		
32	Pavement Marking (Blue)	SF	0		
33	Curb Markings (Green with White Text)	SF	0		
34	Curb Markings (Blue)	SF	0		
35	Pavement Marker - Blue Reflective Marker	EA	0		
36	Parking Tire Stops Removal	EA	12		
37	New Parking Tire Stops	EA	11		
38	Sign Removal	EA	0		
39	Sign Relocation	EA	2		
40	Install New Sign	EA	0		
41	Remove Retaining Wall	LF	0		
42	Remove Existing Wooden Walkway	SF	0		
43	Remove Existing Fence	LF	0		

44	Install 2"pvc sleeve	LF	0		
45	Rough Grading	LS	0		

Total Alternate 1 Bid Amount $_____

Total Alternate 1 Bid Amount in Words:_____

BID ALTERNATE 2

Item No.	Item Description	Unit	Estimated Quantity	Unit Cost	Unit Cost
6	Wedge Grind and Conform Grind	SY	0		
7	Hot Mix Asphalt (Type A) - 1.5" Overlay	TON	0		
8	Hot Mix Asphalt (Type A) - New Pavement Section 3" AC	TON	0		
9	Hot Mix Asphalt (Type A) - New Pavement Section 3.5" AC	TON	42		
10	Class II Aggregate Base Material - Agg Base New Pavement Section	CY	27		
11	Grind Remove, Remove, and Dispose Existing AC and AB	CY	13		
12	Polymer Modified Slurry Seal Treatment, Type II	SY	512		
13	Crack Seal	LF	1315		
14	Remove Concrete	SF	0		
15	Minor Concrete (Curb and Gutter)	LF	144		
16	Minor Concrete (Vertical Curb)	LF	0		
17	Minor Concrete (Sidewalk and Bulb-Outs)	SF	647		
18	Minor Concrete (6" Thick Concrete at Curb Ramp and Driveways)	SF	0		
19	Minor Concrete - Valley Gutter	SF	0		
20	Minor Concrete - Stairs	EA	6		
21	New Retaining Wall	LF	119		
22	Hot Mix Asphalt Dike, Type F	LF	57		
23	Detectable Warning Surface	SF	0		
24	Adjust Storm Drain Manhole Cover to Grade (SDMH)	EA	0		
25	Adjust Sanitary Sewer Manhole Cover to Grade (SSMH)	EA	0		
26	Adjust Water Valve Cover to Grade (WV)	EA	0		
27	Adjust Utility Vault Cover to Grade	EA	0		
28	Relocate Water Riser	EA	1		
29	Thermoplastic Traffic Stripe - Detail 2	LF	0		
30	Thermoplastic Traffic Stripe - Detail 38A	LF	0		
31	Pavement Marking (White)	SF	53		
32	Pavement Marking (Blue)	SF	0		
33	Curb Markings (Green with White Text)	SF	0		
34	Curb Markings (Blue)	SF	0		
35	Pavement Marker - Blue Reflective Marker	EA	1		
36	Parking Tire Stops Removal	EA	0		
37	New Parking Tire Stops	EA	0		

38	Sign Removal	EA	4		
39	Sign Relocation	EA	1		
40	Install New Sign	EA	0		
41	Remove Retaining Wall	LF	0		
42	Remove Existing Wooden Walkway	SF	92		
43	Remove Existing Fence	LF	50		
44	Install 2"pvc sleeve	LF	0		
45	Rough Grading	LS	0		

Total Alternate 2 Bid Amount $_____

Total Alternate 2 Bid Amount in Words:_____

Bid Summary Table

Base Bid Amount	$
Alternate 1 Bid Amount	$
Alternate 2 Bid Amount	$
Total plus Alternates (Base Bid+Alt 1+ Alt 2)	$

BASIS OF AWARD

Award of contract, if any be made, shall be made to the Contractor with the lowest responsive responsible bid based on the Total Base Bid Schedule (items 1 through 63). The City reserves the right to award, in addition to the Base Bid, any, all, or none of the additive alternate bid schedules.

BID ITEM DESCRIPTIONS

This section covers details of individual items of the Bid Schedule to insure that it is clear as to what is to be included in each item. The costs submitted with each item are to reflect the work to be completed under that bid item only. Payment of all the following items shall be for actual materials installed on the job and for actual work accomplished.

Mobilization (Bid Item No. 1)
The lump sum price paid for "Mobilization" shall be considered as full compensation for mobilization as specified herein, including but not limited to notifications, project records and documents, obtaining all required permits, licenses, and paying all fees, moving on the site any equipment required for the operations, preparatory work, coordination and cooperation, inquiring information about other anticipated projects in the project areas and coordination to minimize delays, project meetings, developing construction water supply, providing on-site sanitary facilities, preparing and updating project schedule, preparing and adhering to quality control plan, developing a temporary construction staging area, subcontractor insurance and bonds, Contractor insurance and bonds, demobilization and all other mobilization work, and no additional payment shall be allowed therefor.

Traffic Control System (Bid Item No. 2)
The contract lump sum price paid for “Traffic Control System” shall include full compensation for traffic control plans, including revisions to the satisfaction of the Engineer, furnishing all labor, including traffic control supervision, materials (including signs and barricades), flaggers, tools, equipment and incidentals, and for doing all the work involved in placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of traffic control system including all lane closures necessary for any activities during the life of the project and as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer and no additional compensation will be allowed therefor. All flagging costs will be paid as part of “Traffic Control” in lieu of provisions in Section 12-1.03, “Flagging Costs," of the Standard Specifications. The City does not share costs. Contractor is responsible for full cost of flagging. Furnishing and installing funding signs as shown on the plans, as specified in these special provisions, and as directed by the Engineer is paid as part of “Traffic Control” and no additional compensation will be allowed therefor. The Contractor shall submit two (2) final signed copies of all Contractor obtained permits to the Engineer prior to beginning any work. Once obtained, the Contractor shall be responsible for complying with all permit conditions.

Water Pollution Control (Bid Item No. 3)
"Water Pollution Control" will be paid for as a lump sum. Payment will be made according to Section 13-2.04 of the Standard Specifications, with 75% of the item total paid upon authorization of the WPCP and the final 25% of the item paid upon project acceptance.

Critical Path Method (CPM) Schedule (Bid Item No. 4)
Preparing, maintaining and implementing of the "Critical Path Method (CPM) Schedule" is paid for as a lump sum. The CMP schedule shall be kept up to date and coordinated with the City and the Engineer. A 3 week look ahead shall be provided at every weekly meeting in order to discuss the specific upcoming activities and any changes that may occur. The CPM schedule shall be updated immediately upon request from the City and/or Engineer.

Lead Compliance Plan (Bid Item No. 5)
"Lead Compliance Plan" is paid as lump sum on submission of final Lead Compliance Plan. Full compensation for removal and disposal of yellow traffic stripe and markings shall be considered as included in the contract price for the various bid items and no separate payment will be made therefor.

Wedge Grind and Conform Grind (Bid Item No. 6)
"Wedge Grind And Conform Grind" is measured and paid per square yard and shall include furnishing all labor, equipment, transportation, and materials necessary to perform the work complete in place in conformance with these special provisions, project plans, and as directed by the engineer. Refer to project plans for allowable wedge grind lengths and maximum allowable slopes. Full compensation for furnishing asphalt concrete for temporary tapers and for constructing, maintaining, removing and disposing of the tapers shall be considered as included in the contract price paid per square yard for grinding pavement and no additional compensation will be allowed therefor.

Hot Mix Asphalt (Type A) – 1.5" Overlay (Bid Item No. 7)
Payment for "Hot Mix Asphalt (Type A) – 1.5" Overlay" shall be at the contract price per TON and shall be considered full compensation for all labor, materials, tools, equipment, transportation, and incidentals to do all the work involved. The contractor shall supply weight tags to the Engineer on a daily basis. Quantities of asphalt concrete will be determined and approved by the Engineer by using the tags. Asphalt concrete weight tags shall contain the project name and indicate tonnage used on each street. Payment for Tack Coat shall be considered as included in the contract prices bid for various items of work shown on the bid schedule and no additional compensation shall be allowed therefor. HMA Overlay Treatments shall be installed at a depth of 1.5 inches for all proposed locations shown in the project plans. Refer to the Geotechnical Report by Moore Twining dated December 20, 2021 and the construction details in the project plans for exact location and depths of proposed HMA Overlays.

Hot Mix Asphalt (Type A) – New Pavement Section 3" AC (Bid Item No. 8)
Payment for "Hot Mix Asphalt (Type A)-New Pavement Section 3" AC" shall be at the contract price per TON and shall be considered full compensation for all labor, materials, tools, equipment, transportation, and incidentals to do all the work involved. The contractor shall supply weight tags to the Engineer on a daily basis. Quantities of asphalt concrete will be determined and approved by the Engineer by using the tags. Asphalt concrete weight tags shall contain the project name and indicate tonnage used on each street. Payment for Tack Coat shall be considered as included in the contract prices bid for various items of work shown on the bid schedule and no additional compensation shall be allowed therefor. HMA for New Pavement Sections (HMA/AB Sections) shall be installed at a depth of 3 inches for all proposed locations shown in the project plans. Refer to the Geotechnical Report by Moore Twining dated December 20, 2021 and the construction details in the project plans for exact location and depths of HMA for proposed new pavement sections.

Hot Mix Asphalt (Type A) – New Pavement Section 3.5" AC (Bid Item No. 9)
Payment for "Hot Mix Asphalt (Type A)-New Pavement Section 3.5" AC" shall be at the contract price per TON and shall be considered full compensation for all labor, materials, tools, equipment, transportation, and incidentals to do all the work involved. The contractor shall supply weight tags to the Engineer on a daily basis. Quantities of asphalt concrete will be determined and approved by the Engineer by using the tags. Asphalt concrete weight tags shall contain the project name and indicate tonnage used on each street. Payment for Tack Coat shall be considered as included in the contract prices bid for various items of work shown on the bid schedule and no additional compensation shall be allowed therefor. HMA for New Pavement Sections (HMA/AB Sections) shall be installed at a depth of 3.5 inches for all proposed locations shown in the project plans. Refer to the Geotechnical Report by Moore Twining dated December 20, 2021 and the construction details in the project plans for exact location and depths of

HMA for proposed new pavement sections.

Class II Aggregate Base Material – Agg Base New Pavement Section (Bid Item No. 10)
The Contract unit price per cubic yard for "Class II Aggregate Base Material – Agg Base New Pavement Section" shall be considered full compensation for all labor, materials, tools, equipment, transportation, and incidentals to do all the work involved as specified in these Special Provisions, as shown in the Plans, and as directed by the Engineer and no additional compensation will be allowed therefore. All Class II Aggregate Base shall comply with the requirements and installation procedures outlined in Section 26 "Aggregate Bases" of the Standard Specifications and these Special Provisions. Class II Aggregate Base Material sections vary in depths from 4 inches to 4.5 inches for all proposed locations of New Pavement as shown in the project plans. Refer to the Geotechnical Report by Moore Twining dated December 20, 2021 and the construction details in the project plans for exact location and depths of Class II Aggregate Base Material.

Grind, Remove, And Dispose of Existing AC and AB (Bid Item No. 11)
The Contract unit price per cubic yard for "Grind, Remove, and Dispose of Existing AC and AB" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals, and for doing all the work including excavation, grinding, removal, and disposal of materials such as fabric and road mesh, grading and compaction, complete in place as specified in these Special Provisions, as shown on the Plans and as directed by the Engineer and no additional compensation will be allowed therefor. "Grind, Remove, and Dispose Existing AC and AB" includes the removal of existing asphalt and existing aggregate base for all areas identified in the plans. Refer to construction details in project plans for grind and removal locations. Depths of existing asphalt and existing pavement vary and will be determined in the field by the engineer. This item is revocable if not used and Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply to this bid item.

Polymer Modified Slurry Seal Treatment, Type II (Bid Item No. 12)
The contract price paid per square yard for "Slurry Seal Treatment" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals and for doing all the work involved in applying the slurry seal treatment, complete in place, as specified in the State Standard Specifications and these special provisions, and as directed by the Engineer. The unit price shall also include cleaning the surface and protecting the slurry mix until it has set, all as shown on the plans, as specified in these specifications and as directed by the City Engineer. Changed quantity payment adjustments under Section 9-1.06 if the Standard Specifications shall not apply to this bid item.

Crack Seal (Bid Item No. 13)
The contract price paid per linear foot for "Crack Seal," shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals and for doing all the work involved in sealing cracks, complete in place, as specified in the State Standard Specifications and these special provisions, and as directed by the Engineer. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply to this bid item.

Remove Concrete (Bid Item No. 14)
The contract price paid per square foot for "Remove Concrete" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all of the work involved for removal and disposal of existing concrete curb, gutter, sidewalk, driveway, valley gutter and other concrete features as detailed in the Standard Specifications, these Special Provisions, and the plans. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply to this bid item.

Minor Concrete (Curb and Gutter) (Bid Item No. 15)
The contract price paid per linear foot for curb and gutter concrete improvements under "Minor Concrete (Curb and Gutter)" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections. The price for Minor Concrete (Curb and Gutter) bid item includes subgrade quantity and preparation, furnishing, placing and compaction of aggregate base, all costs associated with incidental work such as construction staking, the cost of restoring adjacent pavement and backfilling the adjacent area with native material to accommodate curb ramp as shown on plans shall be included in the unit cost of the work and no additional compensation will be allowed therefor. Hot Mix Asphalt used for the HMA plug adjacent to concrete curbs is paid as part of the respective bid item and no additional compensation will be allowed therefor. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Minor Concrete (Vertical Curb) (Bid Item No. 16)
The contract price paid per linear foot for curb and gutter concrete improvements under "Minor Concrete (Vertical Curb)" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections. The price for Minor Concrete (Vertical Curb) bid item includes subgrade quantity and preparation, furnishing, placing and compaction of aggregate base, all costs associated with incidental work such as construction staking, the cost of restoring adjacent pavement and backfilling the adjacent area with native material to accommodate curb ramp as shown on plans shall be included in the unit cost of the work and no additional compensation will be allowed therefor. Hot Mix Asphalt used for the HMA plug adjacent to concrete curbs is paid as part of the respective bid item and no additional compensation will be allowed therefor. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Minor Concrete (Bid Item No. 17 through 19)
The contract price paid per square foot for concrete improvements under "Minor Concrete (Sidewalk and Bulb-outs)" "Minor Concrete (6" Thick Concrete at Curb Ramps and Driveways)", "Minor Concrete – Valley Gutter" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections. The price for Minor Concrete bid items includes subgrade quantity and preparation, furnishing, placing and compaction of aggregate base, all costs associated with incidental work such as construction staking, the cost of restoring adjacent pavement and backfilling the adjacent area with native material to accommodate the minor concrete items as shown on plans and shall be included in the unit cost of the work and no additional compensation will be allowed therefor. Hot Mix Asphalt used for the HMA plug adjacent to concrete curbs is paid as part of the respective bid item and no additional compensation will be allowed therefor. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Minor Concrete – Stairs (Bid Item No. 20)
"Concrete Stairs" shall be measured and paid for by each unit designated in the contract Bid Schedule. All quantities will be determined from actual counts. The unit costs include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections. The price for "Minor Concrete – Stairs" includes subgrade quantity and preparation, furnishing, placing and compaction of aggregate base, furnishing and placing steel rebar and steel hand-railing, all costs associated with incidental work such as construction staking, the cost of restoring adjacent pavement and backfilling the adjacent area with native material to accommodate the stairs as shown on plans shall be included in the unit cost of the work and no additional compensation will be allowed therefor. The price shall also include the cost for applying the nonskid abrasive finish on the stair treads and landings. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Retaining Wall (Bid Item No. 21)
The contract price paid per linear foot "Retaining Wall" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections. The price for "Retaining Wall" shall include subgrade preparation, furnishing, placing and compaction of base material, installing subdrains, installing wall footings and foundations, furnishing and placing steel rebar, as well as all costs associated with incidental work such as construction staking, the cost of restoring adjacent pavement and backfilling the adjacent area shall be included in the unit cost of the work and no additional compensation will be allowed therefor. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Hot Mix Asphalt Dike, Type F (Bid Item No. 22)
The contract price paid per linear foot for improvements under "Hot Mix Asphalt Dike, Type F" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections. The price for "Hot Mix Asphalt Dike, Type F" bid item includes subgrade preparation, furnishing, placing and compaction of asphalt concrete, all costs associated with incidental work such as construction staking, the cost of restoring adjacent pavement and backfilling the adjacent area with native material as shown on plans and shall be included in the unit cost of the work and no additional compensation will be allowed therefor. Hot Mix Asphalt used for the HMA plug adjacent to concrete curbs is paid as part of the respective bid item and no additional compensation will be allowed therefor. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications

shall not apply.

Detectable Warning Surface (Bid Item No. 23)
The contract price paid per square foot for "Detectable Warning Surface" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, installation, complete in place, as shown on the plans, as specified in the Standard Specifications, these special provisions, and as shown on the project plans. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Adjust Utility Covers to Grade (Bid Item No. 24 through 27)
"Adjusting Utility Covers to Grade" shall be measured and paid for by each unit designated in the contract Bid Schedule. All quantities will be determined from actual counts. The unit costs shall govern regardless of the method used to make the adjustments. No compensation will be allowed for the work performed by the owners of the facilities. Facilities to be adjusted to finish grade after paving operations shall include, but not be limited to, monument covers, storm drain manhole covers, sanitary sewer manhole covers, gas valve covers, water valve covers, sewer cleanout covers, telephone box covers, and electrical vault covers. In the event that existing utility covers are in inadequate condition, contractor must replace existing utility covers and boxes with new. Contractor shall request new utility covers and boxes from the local utility agencies. If utility agencies are not able to provide new covers and boxes, Contractor shall purchase new covers and boxes and install. Inadequate condition is determined by the Engineer. New utility covers and boxes purchased by Contractor after approval of Engineer will be paid by unit each. "Inadequate Condition" of existing utility covers and boxes is at the discretion of the engineer. Any adjustments to survey monuments shall include the cost to tie out the monuments and record with the County recorder as well as re-establishing the monument after construction. The above contract unit costs shall be considered full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all of the work involved as detailed in the Standard Specifications, these Special Provisions, and the plans and typical sections and no additional compensation will be allowed therefore. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Relocate Water Riser (Bid Item No. 28)
"Relocate Water Riser" shall be measured and paid for by each unit designated in the contract Bid Schedule. All quantities will be determined from actual counts. The unit costs shall govern regardless of the method used to relocate the facilities. No compensation will be allowed for the work performed by the owners of the facilities. The contract unit price paid for "Relocate Water Riser" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in relocating the utilities, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer. Additional costs due to damage of existing facilities to be relocated shall be borne by the Contractor and shall be replaced with an equal or better facility with approval by the Engineer. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Thermoplastic Traffic Stripe (Bid Item No. 29 through 30)
Payment for "Thermoplastic Traffic Stripe" shall be measured per lineal feet. Layout and placement of temporary tabs will be included in the unit price bid for each striping detail and no additional compensation will be allowed therefor. Measurement and payment for traffic striping, characters, arrows, pavement markers, raised pavement markers and reflective pavement markers shall be paid on a unit cost basis as identified in the Bid Schedule. Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved with placing thermoplastic or and markings, including pavement markers, as specified in these Special Provisions, as shown on the plans and as directed by the Engineer, shall be considered as included in the contract lineal foot price for Thermoplastic of the various kinds identified in the Bid Schedule, and the contract square unit price for Thermoplastic or Painted Markings, as identified in the Bid Schedule, and no additional compensation will be allowed.

Pavement Marking (Bid Item No. 31 through 32)
Payment for "Pavement Marking (Blue) and (White)" shall be measured per square feet. Layout and placement of temporary tabs will be included in the unit price bid for each striping detail and no additional compensation will be allowed therefor. Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved with placing thermoplastic markings, including pavement markers, as specified in these Special Provisions, as shown on the plans and as directed by the Engineer, shall be considered as included in the contract square foot price for Thermoplastic of the various kinds identified in the Bid Schedule, and no additional compensation will be allowed.

Curb Marking (Bid Item No. 33 through 34)
Payment for "Curb Marking (Green with White Text) and (Blue)" shall be measured per square feet. Layout and placement of temporary tabs will be included in the unit price bid for each striping detail and no additional compensation will be allowed therefor. Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved with placing thermoplastic markings, including pavement markers, as specified in these Special Provisions, as shown on the plans and as directed by the Engineer, shall be considered as included in the contract square foot price for Thermoplastic of the various kinds identified in the Bid Schedule, and no additional compensation will be allowed.

Pavement Marker – Blue Reflective Marker (Bid Item No. 35)
Payment for "Pavement Marker-Blue Reflective Marker" shall be quantified per each. All quantities will be determined from actual counts. Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved with placing new blue reflective marker as specified in these Special Provisions, as shown on the plans and as directed by the Engineer, shall be considered as included in the contract price per each.

Parking Tire Stops Removal (Bid Item No. 36)
"Parking Tire Stops Removal" shall be measured and paid for by each unit designated in the contract Bid Schedule and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in removing the existing parking tires stops as noted in the plans. All quantities will be determined from actual counts. The unit costs shall govern regardless of the method used to remove the parking tire stops. No compensation will be allowed for the work performed by the owners of the facilities. Additional costs due to damage of existing facilities nearby during the removal shall be borne by the Contractor and shall be restored to original conditions or better with approval by the Engineer. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

New Parking Tire Stops (Bid Item No. 37)
The Contract Unit Price Paid per each for "Parking Tire Stops" shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all work involved in installing parking tire stops and attaching them to the pavement as specified in these Special Provisions, and as directed by the Engineer, and no additional allowances shall be made therefore.

Sign Removal (Bid Item No. 38)
"Sign Removal" shall be measured and paid for by each unit designated in the contract Bid Schedule and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in removing the existing parking tires stops as noted in the plans. All quantities will be determined from actual counts. The unit costs shall govern regardless of the method used to remove the Detector Loops. No compensation will be allowed for the work performed by the owners of the facilities. Additional costs due to damage of existing facilities nearby during the removal shall be borne by the Contractor and shall be restored to original conditions or better with approval by the Engineer. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply

Sign Relocation (Bid Item No. 39)
"Sign Relocation" shall be measured and paid for by each unit designated in the contract Bid Schedule. All quantities will be determined from actual counts. The unit costs shall govern regardless of the method used to relocate the facilities. No compensation will be allowed for the work performed by the owners of the facilities. Facilities to be relocated due to conflict with proposed improvements shall include all signs as noted in the plans. The contract unit price paid for "Sign Relocation" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in removing and installing sign, including post, foundation, panel, hardware, complete in place as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer. Multiple sign panels installed on one post will count as one sign. Additional costs due to damage of existing facilities to be relocated shall be borne by the Contractor and shall be replaced with an equal or better facility with approval by the Engineer. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Install New Sign (Bid Item No. 40)
"Sign" shall be measured and paid for by each unit designated in the contract Bid Schedule. All quantities will be determined from actual counts. The unit costs shall govern regardless of the method used to install the facilities. No compensation will be allowed for the work performed by the owners of the facilities. New facilities to be installed shall

include all signs as noted in the plans. The contract unit price paid for "New Sign" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in installing sign, including post, foundation, panel, hardware, complete in place as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer. Multiple sign panels installed on one post will count as one sign. Additional costs due to damage to surrounding existing facilities shall be borne by the Contractor and shall be replaced with an equal or better facility with approval by the Engineer. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Park Demolition (Bid Item 46)
The contract lump sum price paid for "Park Demolition" shall include full compensation for furnishing all labor, material, equipment, tools, and incidentals necessary for Demolition work as shown on the Drawings and as specified in this Section. The work includes:

Demolition of concrete walks and asphalt paving, including associated curbs, gutters, and aggregate base.
Demolition of steps, ramps, and walls including handrails, concrete footings and aggregate base.
Demolition of chain-link fence including posts and concrete footings.
Saw-cutting of existing concrete and asphalt as required.
Removal of irrigation equipment for salvage and reuse
Irrigation adjustment

Park Rough Grading (Bid Item 47)
The Contract unit price per cubic yard for "Park Rough Grading" shall be considered full compensation for all labor, materials, tools, equipment, for rough grading and excavation, transportation, processing, placement, and compaction of any fill materials necessary to meet the designed lines and grades, and incidentals to do all the work park earthwork and grading as specified in these Special Provisions, as shown in the Plans, and as directed by the Engineer and no additional compensation will be allowed therefore.

Park Drainage (Bid Item 48)
The contract lump sum price paid for "Park Drainage" shall include full compensation for furnishing all labor, material, equipment, tools, and incidentals necessary for the installation of Drainage Facilities as shown on the Drawings and as specified in this Section. The work includes but is not limited to constructing / installing area drains and sub-surface drains, constructing / installing solid and perforated PVC drain-lines, including trace wires, trenching, excavation, backfill, including base and backfill materials.

Granitecrete Walks with Excavation & Aggregate Base (Bid Item 49)
The Contract square foot price paid for "Granitecrete Walks with Excavation and Aggregate Base" shall be full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals and for doing all work involved in necessary for the installation of Class II aggregate base and stabilized decomposed granite (DG) paving known as GraniteCrete as supplied by GraniteCrete, Inc. (the supplier) paving as shown on the Drawings and as specified in the Technical Specifications. Class II Aggregate Base shall comply with the requirements and installation procedures outlined in Section 26 "Aggregate Bases" of the Standard Specifications and these Special Provisions. Class II Aggregate Base Material sections vary in depths as shown in the project plans. Refer to the Geotechnical Report by Moore Twining dated December 20, 2021 and the construction details in the project plans for exact location and depths of Class II Aggregate Base Material.

Concrete Playground curb - Flush (Bid Item 50)
The Contract linear foot price paid for "Concrete Playground curb - Flush" shall include furnishing all labor, material, equipment, tools, and incidentals necessary for the installation of miscellaneous concrete, including where reinforced, as shown on the Drawings and as specified in this Section. The linear foot price paid for "Concrete Playground curb - Flush" Deep" includes furnishing all labor, materials, tools, equipment, transportation, and incidentals and for doing all work involved in necessary for the installation of Class II aggregate base for the walk edge as shown on the Plans and no additional compensation will be paid, therefore. Refer to the Geotechnical Report by Moore Twining, dated December 20, 2021, and the construction details in the project plans for exact location and depths of Class II Aggregate Base Material.

Concrete Playground curb – 4" High (Bid Item 51)
The Contract linear foot price paid for "Concrete Playground curb – 4" High" shall include furnishing all labor, material, equipment, tools, and incidentals necessary for the installation of concrete walls, including where reinforced, as shown on the Drawings and as specified in this Section. The linear foot price paid for "Concrete Playground curb – 4" High" includes furnishing all labor, materials, tools, equipment, transportation, and incidentals and for doing all work involved in necessary for the installation of Class II aggregate base for the curb wall as shown on the Plans and no additional compensation will be

paid, therefore. Refer to the Geotechnical Report by Moore Twining, dated December 20, 2021, and the construction details in the project plans for exact location and depths of Class II Aggregate Base Material.

Park Curb Ramp (Bid Item 52)
The Contract unit price paid for "Park Curb Ramp" shall include furnishing all labor, material, equipment, tools, and incidentals necessary for the installation of concrete ramps, including where reinforced, as shown on the Drawings and as specified in this Section. The uni price paid for "Curb Wall 24" High" includes furnishing all labor, materials, tools, equipment, transportation, and incidentals and for doing all work involved in necessary for the installation of Class II aggregate base for the curb ramp as shown on the Landscape Plans and no additional compensation will be paid, therefore.

Keystone Wall (Bid Item 53)
The contract price paid per linear foot "Keystone Wall" shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, and incidentals; and for performing all work involved as detailed in the Standard Specifications, these Special Provisions, and as shown on the Plans, and as directed by the engineer. The price for "Keystone Wall" shall include subgrade preparation, furnishing, placing and compaction of leveling pad and drain rock material, installing perforated HDPE pipe subdrains, installing Geosynthetic reinforcement grid and reinforced soil, furnishing and placing post anchor sleeves and fiberglass block pins, as well as all costs associated with incidental work such as construction staking, the cost of restoring adjacent native soil and backfilling the adjacent area shall be included in the linear foot cost of the work and no additional compensation will be allowed therefor. Changed quantity payment adjustments under Section 9-1.06 of the Standard Specifications shall not apply.

Boulders 4'x6' (Bid Item 54)
The Contract unit price paid for Landscape Boulders shall be considered full compensation for furnishing all labor, material, equipment, tools, transportation, and incidentals, for all work involved as specified in this Section, as shown on the Drawings, and as directed by the Owners Representative, and no separate payment shall be made.

Springer & Springer Installation (Bid Item 55)
The Contract Unit Price for "Springer & Springer Installation" shall include furnishing all labor, material, equipment, tools, transportation, field assembly, and incidentals necessary for the provision and installation of Playground Equipment (also referred to as Play Equipment or Play Structures) as shown on the Drawings and as specified in this Section. The work includes all miscellaneous hardware, foundations, footings, and miscellaneous appurtenances associated with the installation as shown on the plans and in the special provisions and as directed by the engineer, and no additional compensation will be paid, therefore.

Rope Climb Feature (Bid Item 56)
The Contract Unit Price for "Rope Climb Feature" shall include furnishing all labor, material, equipment, tools, transportation, field assembly, and incidentals necessary for the provision and installation of Playground Equipment (also referred to as Play Equipment or Play Structures) as shown on the Drawings and as specified in this Section. The work includes all miscellaneous hardware, foundations, footings, and miscellaneous appurtenances associated with the installation as shown on the plans and in the special provisions and as directed by the engineer, and no additional compensation will be paid, therefore.

Engineered Wood Fiber (Bid Item 57)
The Contract square foot Price for "Engineered Wood Fiber" shall include furnishing all labor, material, equipment, tools, transportation, and incidentals necessary for the provision and installation of Engineered Wood Fiber System as shown on the Drawings and as specified in this Section. The contract square foot price includes all miscellaneous hardware, fittings, incidentals, and miscellaneous appurtenances associated with the installation of flat drains, geotextile fabric and wear mats as shown on the plans and in the special provisions and as directed by the engineer, and no additional compensation will be paid, therefore.

Perimeter Fence – Split Rail (Bid Item 58)
The Contract linear foot price for "Perimeter Fence – Split Rail" shall include furnishing all labor, material, equipment, tools, transportation, and incidentals necessary for construction and installation of timber Perimeter Fence – Split Rail shown an the Plans and as specified in this Section and other Sections of these Specifications.

Wall Guardrail Fence – Grapestake (Bid Item 59)
The Contract Linear foot price for "Wall Guardrail fence – Grapestake" shall include furnishing all labor, materials, equipment, tools, transportation, and incidentals necessary for construction and installation of Wood Guardrail fence – Grapestake on the Drawings and as specified in this Section and other Sections of these Specifications.

Timber Steps (Bid Item 60)
The Contract linear foot price for "Timber Steps" shall include furnishing all labor, material, equipment, tools, transportation, rebar, subgrade compaction, footings, and incidentals necessary for construction and installation of "Timber Steps" on the Drawings and as specified in this Section and other Sections of these Specifications.

Handrails (Bid Item 61)
The Contract linear foot price for "Handrails" shall include furnishing all labor, material, equipment, tools, transportation, galvanized pipe, hanger brace, lag bolts, wood posts, footings, and incidentals necessary for construction and installation of "Timber Steps" on the Drawings and as specified in this Section and other Sections of these Specifications.

Picnic Tables (Bid Item 62)
The Contract Unit Price for "Picnic Tables" shall include furnishing all labor, material, equipment, tools, transportation, and incidentals necessary for the provision and installation of picnic tables and BBQ grill as shown on the Drawings and as specified in this Section. The work includes all miscellaneous hardware, foundations, footings, finishes, field assembly, and miscellaneous appurtenances associated with the installation of Dumor Picnic Table and BBQ Grill.

Swing Play Area (Bid Item 63)
The Contract lump sum price for "Swing Play Area" shall include furnishing all labor, material, equipment, tools, transportation, and incidentals necessary for the provision and installation of Playground Equipment (also referred to as Play Equipment or Play Structures) as shown on the Drawings and as specified in this Section. The work includes all miscellaneous hardware, foundations, footings and miscellaneous appurtenances associated with the installation.

ANCILLARY ITEMS

Payment for any items that do not have instruction indicating where expenses for said items are to be accounted for are to be considered ancillary to the work and accounted for in every one of the lump sum or unit price items and no additional compensation will be allowed therefor.

LUMP SUM PRICE BREAKDOWN

Immediately after award of the contract, the contractor shall submit a cost breakdown list to the Engineer for all Lump Sum Bid items. The list shall consist of major elements of work that make up the item and shall be used for determining progress pay estimates.

BID CLARIFICATION

Pursuant to the provisions of the California Public Contract Code Section 20103.8, City reserves the option to award any or all the additive bid items in addition to the original contract after the lowest responsive responsible Bidder has been determined, should the City later obtain additional funding for additive alternatives not awarded with the original contract.

For responsible bidder as it pertains to this contract, see Part I, Responsible Bidder.

Unit and lump sum prices shall be for items in place, as shown on the Plans, including all labor, materials, equipment, taxes, and incidentals necessary for a complete job.

Whenever unit prices are required and there is an incorrect extension thereof, the unit price correctly extended shall prevail and the total bid shall be corrected to reflect the correct extension. If a bid item amount is zero, enter zero. If a bid item is included elsewhere, enter "included". Do not enter "N/A" into the Bid Schedule.

The foregoing quantities are approximate only, being given as a basis for comparison of bids, and the City of Sand City does not, expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of work by twenty-five percent (25%) or to omit portions of the work as may be deemed necessary by the Engineer.

Bidders may withdraw or revise their bid personally, or upon a written request, at any time prior to the hour set for the opening of bids, but not thereafter; however, the City shall not accept faxed copies of bid bonds, affidavits or any

other documents where an original document or signature is required by these Specifications. Bids may not be withdrawn for the time period specified in BID VALIDITY of Part I.

The **Noncollusion Declaration** included in this document shall be executed and submitted with each bid. The **Local Hire Certification** included in this document shall be executed and submitted with each bid, except in the following cases: 1) informal bids (i.e., under $40,000); 2) whenever a state or federal law or regulation applicable to a particular contract prohibits the provision of a local hire requirement; or 3) whenever the City, in accordance with the requirements of the City Code or state law, determines that the contract is necessary to respond to an emergency which endangers the public health, safety, or welfare; or 4) whenever the City determines that a suitable pool of persons providing specialized skills does not exist locally for a specific public works project.

DECLARATION OF BIDDER

Only an individual who is authorized to bind the bidding firm contractually shall sign this Declaration of Bidder. The signature must indicate the title or position the individual holds in the firm and be submitted with an original signature. **FAILURE TO PROVIDE ANY OF THE INFORMATION REQUIRED HEREIN INCLUDING CONTRACTOR SIGNATURES MAY RESULT IN YOUR BID BEING DEEMED NON-RESPONSIVE.**

Bidder certifies he/she possesses a license in accordance with a State Act providing for the registration of Contractors. License No. :_____, Class: _____, Expiration date: _____.

In accordance with California Labor Code (SB 854), bidder certifies that he/she is registered with the Department of Industrial Relations. Registration No.: _____.

Name of Firm: _____

Address: _____

Telephone: _____

Email: _____

Indicate your organization type (sole proprietorship, partnership, corporation, LLC):

_____

I, the official named below, certify that I am duly authorized to legally bind the prospective Contractor to the clause(s) listed herein.

I further certify that, ALL OF THE INFORMATION CONTAINED IN THIS BID PROPOSAL IS TRUE AND CORRECT and this bid is a firm offer for a 90-day period.

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__, in _____ County, California.

_____ _____

Authorized Signatory Printed Name and Title

ACKNOWLEDGEMENT OF ADDENDA

The Bidder shall list below any and all addenda issued for this project and acknowledge receipt with signature. Failure to acknowledge issued addenda will result in a non-responsive bid:

ADDENDA	DATE RECEIVED
1. _____ Authorized Signatory	_____
2. _____ Authorized Signatory	_____
3. _____ Authorized Signatory	_____
4. _____ Authorized Signatory	_____
5. _____ Authorized Signatory	_____
6. _____ Authorized Signatory	_____

BIDDER'S STATEMENT OF QUALIFICATIONS

The Bidder shall list below a minimum of three (3) jobs of a similar nature recently completed by Bidder's organization:

Project Name	Owner Name	Address	Telephone Number/Email	Contact Name

SUBCONTRACTOR'S LIST

The Bidder shall list below the name, the location of the place of business, and the California contractor license number of any subcontractors proposed to perform work or labor or render service on this project, or a subcontractor licensed by the State of California who will specially fabricate and install a portion of the work or improvement according to detailed drawings contained in the plans and specifications of this project, whose work is in excess of one-half of 1 percent of the Bidder's total bid or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the Bidder's total bid or ten thousand dollars ($10,000), whichever is greater:

Name of Subcontractor	California Contractor License Number	California DIR Registration Number	Location of Place of Business	Trade or Portion of Work

NONCOLLUSION DECLARATION
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. 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. All statements contained in the bid are true. 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, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on this _____ day of _____, 20__ in _____ [city], _____ County, California.

_____
Signature

_____
Printed Name and Title

DEBARMENT AND SUSPENSION CERTIFICATION

The Bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- Is not currently under suspension, debarment, voluntary exclusion, disqualification, or determination of ineligibility by any state, federal, or local agency;
- Has not been suspended, debarred, voluntarily excluded, disqualified or determined ineligible by any state, federal, or local agency within the past 3 years;
- Does not have a proposed debarment or disqualification pending; and
- Has not be indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining Bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions.

I declare under penalty of perjury that the foregoing is true and correct and that this certification is signed this

_____ day of _____, 20__ in _____ [city], _____ County, California.

_____
Signature

_____
Printed Name and Title

LOCAL HIRING REQUIREMENT

All Contractors who submit bids, or proposals, to construct or provide work on any City of Sand City project, or for any other Public Works construction, or improvement, on City property must comply with Sand City Municipal Code Chapter 12.20, available on Sand City's website, which sets forth the requirements regarding the Local Hiring Requirement for Public Works Projects. Bidders are responsible for familiarizing themselves with the contents thereof before signing the certifications required below.

Among other requirements, this ordinance requires that the Contractor promise to make a good-faith effort to hire qualified individuals who are residents of the Monterey Bay Area (Monterey, Santa Cruz and San Benito Counties), in sufficient numbers so that no less than eighty percent (80%) of the Contractor's total construction work force, including subcontractor work force, measured in labor work hours, is comprised of Monterey Bay area residents. This same requirement applies to all subcontractors.

Every Bidder must complete and sign under penalty of perjury a Certification of Good-Faith effort to Hire Monterey Bay Area Residents, on the form provided, and submit said Certification with the sealed bid no later than the date and time of the bid opening. Bidder shall attach to the Certification documentary evidence supporting Bidder's promise to meet, or to make a good-faith effort to meet, the local hiring goal.

Contractor shall include in each and every subcontract relating to the project the requirement that the subcontractor promises to make a good faith effort to hire qualified individuals who are residents of the Monterey Bay Area. Contractor shall be responsible for subcontractor's compliance.

Prior to submitting bids, Bidders shall ensure that any and all subcontractors listed in their bids are not disqualified at that time pursuant to Section 12.20.060 of the City ordinance referenced above. Prospective contractors may consult the list, available from the City Clerk, of contractors and subcontractors, if any, who are currently disqualified.

The local hiring requirement shall not apply under the following circumstances:

(a) Informal Bids, or

(b) Whenever a state or federal law or regulation applicable to a particular contract prohibits the provision of a local hire requirement; or

(c) Whenever the City, in accordance with the requirements of the Code or state law, determines that the contract is necessary to respond to an emergency which endangers the public health, safety, or welfare; or

(d) Whenever the City determines that a suitable pool of persons providing specialized skills does not exist locally for a specific public works project.

CERTIFICATION OF GOOD-FAITH EFFORT TO HIRE MONTEREY BAY AREA RESIDENTS
(Prime Contractor – To be Submitted with Bid)

I, _____, a licensed contractor, or responsible managing officer, of the company known as _____, do hereby certify, under penalty of perjury, that I have met, or made a good-faith effort to meet, the requirements set forth in Sand City Municipal Code Chapter 12.20. Further, I certify that during the performance of the contract, I shall keep an accurate record on a standardized form showing the name, place or residence, trade classification, hours employed, proof of qualified individual status, per diem wages and benefits of each person employed by the company on the specific public works project, including full-time, part-time, permanent, and temporary employees, and provide such records to the City upon request, within five working days. I understand that I am responsible for insuring that any subcontractor working under my direction, complies with this ordinance, including submitting a Certification of Good Faith Effort to Hire Monterey Bay Residents, and to keeping accurate records as described above.

_____
Signature

_____
Printed Name and Title

_____
Date

CERTIFICATION OF GOOD-FAITH EFFORT TO HIRE MONTEREY BAY AREA RESIDENTS
(Subcontractor – To be Completed by Subcontractor After Bid is Awarded)

I, _____, a licensed contractor, or responsible managing officer, of the company known as _____, do hereby certify, under penalty of perjury, that I have met, or made a good-faith effort to meet, the requirements set forth in Sand City Municipal Code Chapter 12.20. Further, I certify that during the performance of the contract, I shall keep an accurate record on a standardized form showing the name, place or residence, trade classification, hours employed, proof of qualified individual status, per diem wages and benefits of each person employed by the contractor on the specific public works project, including full-time, part-time, permanent, and temporary employees, and provide such records to the City upon request, within five working days. I understand that I am responsible for insuring that any subcontractor working under my direction, complies with this ordinance, including submitting a Certification of Good Faith Effort to Hire Monterey Bay Residents, and to keeping accurate records as described above.

_____
Signature

_____
Printed Name and Title

_____
Date

BID BOND
(To be Submitted with Bid)

KNOW ALL MEN BY THESE PRESENTS that the undersigned, _____, as Principal, and _____, as Surety, a corporation organized and existing under and by virtue of the laws of the State of _____ and authorized to do business as a surety in the State of California, are held and firmly bound unto the City of Sand City ("the Obligee") in the sum of Ten Percent (10%) of the Basis of Award ($_____) in lawful money of the United States, for the payment of which sum well and truly be made, we hereby bind ourselves and each of our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS, the Principal has submitted the accompanying Bid Proposal to the Obligee for the Work commonly described as:

CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT

NOW THEREFORE, if the bid or proposal submitted by the Principal is accepted and the Principal is awarded the Contract, and the Principal, within the period specified therefore or if no period be specified, within fifteen (15) days after the prescribed forms are presented to the Principal for signature, enter into a written contract with the Obligee, in accordance with the Bid Proposal as accepted and give such bond(s) with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Bid Proposal within the period specified or the failure of the Principal to enter into such Contract and give such bonds within the time specified, if the Principal shall pay the Obligee the difference between the amount specified in said Bid Proposal and the amount for which the Obligee may procure the required Work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the Obligee in again calling for Bids, then the above obligation shall be void and of no effect; otherwise to remain in full force and effect. The full payment of the sum stated above shall be due immediately if Principal fails to execute the Contract within fifteen (15) days of the City's Notice of Award to Principal.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or the Call for Bids, the Work to be performed there under, the Drawings or the Specifications accompanying the same, or any other portion of the Contract Documents shall in any way affect its obligations under this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of said Contract, the Call for Bids, the Work, the Drawings or the Specifications, or any other portion of the Contract Documents.

In the event suit or other proceeding is brought upon this Bond by the Obligee, the Surety and Principal shall be jointly and severally liable for payment to the Obligee all costs, expenses and fees incurred by the Obligee in connection therewith, including without limitation, attorney's fees.

[CONTINUED NEXT PAGE]

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 20___ by their duly authorized agents or representatives.

_____
(Bidder/Principal Name)

By: _____
(Signature)

_____
(Typed or Printed Name)

Title: _____

_____
(Surety Name)

By: _____
(Signature of Attorney-In-Fact for Surety)

_____
(Typed or Printed Name of Attorney-In-Fact)

Contact name, address, telephone number and email address for notices to the Surety

_____
(Contact Name)

_____
(Street Address)

_____
(City, State & Zip Code)

(_____) _____ (_____) _____
Telephone Fax

_____
(Email address)

ALL SIGNATURES MUST BE NOTARIZED. POWER OF ATTORNEY IN FACT AND SEAL OF SURETY MUST BE ATTACHED.

CERTIFICATION OF WORKERS' COMPENSATION INSURANCE

I,_____ the _____of
(Name) (Title)

_____, declare, state and certify that:
(Contractor Name)

1. I am aware that California Labor Code § 3700(a) and (b) provides:

   "Every employer except the state shall secure the payment of compensation in one or more of the following ways:

   a. By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state.

   b. By securing from the Director of Industrial Relations a certificate of consent to self-insure either as an individual employer, or one employer in a group of employers, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his or her employees."

2. I am aware that the provisions of California Labor Code §3700 require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of this Contract.

_____
(Contractor Name)

By:_____
(Signature)

_____

SPECIFIED OR APPROVED EQUAL PRODUCT SUBMITTALS

In certain instances, product submittals for Bidder proposed "Approved Equal" products must be submitted in writing for pre-qualification fourteen (14) calendar days prior to the scheduled bid opening date. In these instances, those products are listed below. Indicate the product for which the bid is based on by placing a checkmark by the product specified or the proposed "approved equal". If proposing with an "approved equal" product, provide the information on the spaces under the specified product. See Special Provisions for additional information relating to those products listed:

[For Preparer: Information shown is an example of how to complete this section, edit accordingly.]

√	Product	Model Number	Manufacturer	Product Rating/Certification
___	_____	_____	_____	_____
___	_____	_____	_____	_____
___	_____	_____	_____	_____
___	_____	_____	_____	_____
___	_____	_____	_____	_____

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[Use this page when needed to ensure Part III begins on an odd numbered page]

PART III: GENERAL PROVISIONS
FORMAL BID ($100,000 and over)

BIDDING

JOB SITE AND DOCUMENT EXAMINATION

The bidder is required to thoroughly examine the job site, Plans and Specifications including Contract Form (See Part III, Page 2) for the work contemplated, and it will be assumed that the bidder has investigated and is satisfied as to the requirements of the plans and specifications, including the contract. It is mutually agreed that submission of a proposal shall be considered prima facie evidence that the bidder has made such examination.

BID DOCUMENT COMPLETION

Proposals to receive consideration shall be made in accordance with the following instructions:

1. The proposal shall be made upon the form provided therefor with all items filled out (Appendix A of these specifications). The completed form must be without interlineations, alterations, or erasures. All submitted documents must be in original form (no photocopies or faxes).

2. Each bid shall be accompanied by cash, a cashier's check, a certified check, or a bidder's bond executed by the bidder and an acceptable surety in original form, or any negotiable instruments in original form that are not cancelable amounting to ten percent (10%) of the bid, payable to the City of Sand City. The amount so posted shall be forfeited to the municipality if the bidder does not, within fifteen (15) calendar days after written notice that the contract has been awarded to said bidder, enter into a contract with the municipality for the work.

The City shall have the right to hold all bid bonds until award of the contract. However, the City Manager may order the return of all bid bonds except that of the two (2) lowest bidders prior to the award.

CONTRACT AWARD AND EXECUTION

CONTRACT AWARD

The contract shall be awarded, if an award is made, to the lowest responsive responsible bidder as defined in Part II, Bid Clarification, of these specifications, within ninety (90) calendar days from the date bids are publicly opened, examined and declared unless a different bid validity period is specified in Part I, Bid Validity. If the award is not made within the specified period, then all of the bids submitted shall be deemed to have been rejected by the legislative body.

CONTRACT EXECUTION

A contract shall not be deemed to have been made between the Contractor and the City of Sand City until all of the following steps have been completed:

1. Award of the contract by the City Council,

2. Within fifteen (15) calendar days after written notice that a contract has been awarded to him (Notice of Award), the Contractor shall submit two (2) signed original contracts, required bonds or alternative security, evidence of insurance that conforms to the contract, and City of Sand City Business License or evidence of application for said license.

3. Upon approval of the foregoing documents, the City will execute the contract and return an original to the Contractor.

SAMPLE PUBLIC WORKS CONTRACT (Formal Bid)

CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT

THIS AGREEMENT, hereinafter referred to as the "Agreement", made and entered into this____ day of___ __ 201__, by and between the CITY OF SAND CITY, a municipal corporation, hereinafter referred to as the "City", and [*INSERT CONTRACTOR NAME*] hereinafter referred to as the "Contractor";

WITNESSETH:

WHEREAS, the Council of the City has awarded a contract to the Contractor for performing the work hereinafter described in accordance with the City's *[Plans and]* Specifications and Contractor's sealed proposal;

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. SCOPE OF WORK. The Contractor shall perform all of the work and furnish all labor, materials, equipment and transportation necessary for the Calabrese Park, Pendergrass Way and City Hall project. Work is to be as set out in the *Plans and* Specifications on file in the Office of the City Engineer and as in the Contractor's Proposal attached hereto, dated Month, Day, Year, in an **amount not to exceed [*Insert amount in words*] dollars ($###,###.00)** plus a sum of up to [*10%*] for such contingencies as the City Manager, or his designee, deems appropriate.

2. TIME OF PERFORMANCE. The work under this contract **shall commence within *[fourteen (14)]* calendar days from the effective date of the Notice to Proceed and shall be completed on or before the expiration of 80 calendar days** from the effective date of the Notice to Proceed.

3. If any provision in this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions will continue in full force without being impaired or invalidated in any way.

4. Contractor agrees that in the performance of this Agreement, it will comply with all applicable state, federal and local laws, codes and regulations. This Agreement shall be governed by and construed in accordance with the laws of the State of California and the City of Sand City.

5. In accordance with the provisions of Sections 1725.5, 1771.1, 1771.3, and 1771.4 of the Labor Code, this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined by that chapter of the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the Labor Code. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1735.5 at the time the contract is awarded.

6. The Sand City City Council awarded this contract on [*Month Day, Year*] by Resolution [*##-###*] C.S.

7. This Agreement shall consist of this Public Works Contract document and the following items, all of which are on file in the office of the City Clerk and are incorporated herein and made a part hereof by reference:

   A. *Plans and* Specifications
   B. Accepted Proposal
   C. Performance Bond
   D. Payment Bond (Labor and Materials)
   E. Non-Collusion Declaration
   F. Debarment and Suspension Certification
   G. Certification(s) of Good Faith Effort to Hire Local Residents

IN WITNESS WHEREOF, said Contractor and said City have hereunto set their hands, all on the day and year first above written.

ATTEST:	CITY OF SAND CITY:	[*INSERT CONTRACTOR NAME*]:
By: _____	By: _____	By: _____
City Clerk	City Manager, or his designee	[*Insert Name, Title*]

PERFORMANCE BOND

BOND NO. _____

PREMIUM: _____

WHEREAS, The _____, (hereinafter designated as "Obligee") and _____ (hereinafter designated as "Principal") have entered into an agreement whereby principal agrees to install and complete certain designated public improvements, which said agreement, dated _____ , and identified as project _____ is hereby referred to and made a part hereof; and

WHEREAS, Said principal is required under the terms of said agreement to furnish a bond for the faithful performance of said agreement;

NOW, THEREFORE, We, the principal and _____ as surety, are held and firmly bound unto the hereinafter called "The Obligee," in the penal sum of _____ dollars ($ _____) lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally firmly by these presents.

As part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by county in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specification accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the principal and surety above named, on _____ of 20__.

By _____
PRINCIPAL

By: _____
PRINCIPAL

By: _____
ATTORNEY-IN-FACT

ALL SIGNATURES MUST BE NOTARIZED. POWER OF ATTORNEY IN FACT AND SEAL OF SURETY MUST BE ATTACHED.

PAYMENT (LABOR AND MATERIALS) BOND

BOND NO.: _____

KNOW ALL MEN/WOMEN BY THESE PRESENT that we,_____ as Principal (also referred to herein as “CONTRACTOR”), and _____ as Surety, are held and firmly bound unto City of Sand City, hereinafter called "OWNER," in the sum of _____ Dollars ($_____), for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

The condition of the above obligation is such that, whereas said Principal has been awarded and is about to enter into the annexed Contract with the City of Sand City for the **CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT,** in accordance with OWNER’s Call for Bids documents and Principal’s Bid Dated August 2, 2022, and to which reference is hereby made for all particulars, and is required by said City of Sand City to give this bond in connection with the execution of said Contract;

NOW, THEREFORE, if said CONTRACTOR, its Subcontractors, its heirs, executors, administrators, successors, or assigns, shall fail to pay (a) for any materials, provisions, equipment, or other supplies used in, upon, for or about the performance of the WORK contracted to be done under the Contract, or (b) for any work or labor thereon of any kind contracted to be done under the Contract, or (c) for amounts due under the Unemployment Insurance Code with respect to work or labor performed pursuant to the Contract, or (d) for 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 under Section 13020 of the Unemployment Insurance Code with respect to such work and labor, in each case, as required by the provisions of Sections 9550-9566 inclusive, of the Civil Code of the State of California and acts amendatory thereof, and sections of other codes of the State of California referred to therein and acts amendatory thereof, and provided that the persons, companies, corporations or other entities so furnishing said materials, provisions, provender, equipment, or other supplies, appliances, or power used in, upon, for, or about performance of the Work contracted to be executed or performed, or any person, company, corporation or entity renting or hiring implements or machinery or power for or contributing to said Work to be done, or any person who performs work or labor upon the same, or any person, company, corporation or entity who supplies both work and materials therefor, shall have complied with the provisions of said laws, then said Surety will pay in full the same in an amount not exceeding the sum hereinabove set forth and also will pay, in case suit is brought upon this bond, a reasonable attorney's fee, as shall be fixed by the Court. This bond shall inure to the benefit of any and all persons named in Section 9100 of the Civil Code of the State of California so as to give a right of action to them or their assigns in any suit brought upon this bond.

PROVIDED, that any alterations in the WORK to be done or the materials to be furnished, or changes in the time of completion, which may be made pursuant to the terms of said Contract Documents, shall not in any way release said CONTRACTOR or said Surety thereunder, nor shall any extensions of time granted under the provisions of said Contract Documents release either said CONTRACTOR or said Surety, and notice of such alterations or extensions of the Agreement is hereby waived by said Surety.

IN WITNESS WHEREOF, the Principal and the Surety have executed this instrument in duplicate this

_____ day of _____, 20_____.

_____	_____
Surety	Principal
By:_____	By: _____
_____	_____
Print Name/Title	Print Name/Title
_____	_____
Address	Address
(_____)_____	(_____)_____
Telephone Number	Telephone Number
_____	_____
Email Address	Email Address

ALL SIGNATURES MUST BE NOTARIZED. POWER OF ATTORNEY IN FACT AND SEAL OF SURETY MUST BE ATTACHED.

SCOPE OF WORK

INTENT

The work to be done consists of furnishing all labor, materials, methods and processes, implements, tools, equipment, incidentals and machinery except as otherwise specified, which are necessary and required to complete the contract in a satisfactory and workmanlike manner.

The intent of the plans and specifications is to prescribe the details for the construction and completion of the work which the Contractor undertakes to perform in accordance with the terms of the contract. Where the plans or specifications describe portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the best quality are to be used.

CHANGES AND EXTRA WORK

Changes and extra work shall be in accordance with Section 4-1.05, Changes and Extra Work, of the Standard Specifications.

The Engineer reserves the right to make such alterations, deviations, additions to or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work or to omit any items or portion of the work, as may be deemed by the Engineer to be necessary or advisable, and to require such extra work as may be determined by the Engineer to be necessary for the proper completion or construction of the whole work contemplated.

When special conditions arise, such as mitigation of unforeseen conditions or additional work, the work shall be negotiated as “extra work” in accordance with the Standard Specifications. Approved Change Orders shall describe the changes or extra work, contract time adjustments and payment basis for such work as applicable. Change Orders are valid contract amendments when approved and signed by the City and Contractor. All changes and extra work must be negotiated and approved before the work is performed.

The City may require the Contractor to work outside approved construction hours noted in Part IV, Construction Procedure. For work done during these times, when required by the City, payment to the Contractor may be adjusted per General Prevailing Wage Rate provisions.

CLEANUP

All work sites shall be kept as clear of equipment, material and waste material as is practicable at all times. The City of Sand City and/or government Representative shall make the determination that this requirement is being complied with.

If the City is required to provide cleanup of the work sites due to failure of the Contractor to so provide, or in case of emergency, the City shall charge the Contractor the actual cost of labor and materials and may deduct said costs from any monies due and owing the Contractor.

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

CONTROL OF WORK

CONTRACT COMPONENTS

These specifications, the plans and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all; they are intended to be cooperative, to describe, and to provide for a complete job.

Shop drawings required by the plans, specifications or the Engineer shall be furnished by the Contractor and approved by the Engineer before any work relating to the shop drawings is performed unless approval is waived in writing by the Engineer.

It is mutually agreed that shop drawing approval by the Engineer does not relieve the Contractor of any responsibility for accuracy of dimensions and details, and that the Contractor shall be responsible for agreement and conformity of the shop drawings with the approved plans, specifications and site conditions.

Submittal review and approval by the Engineer does not relieve the Contractor from compliance with the requirements and intentions of the plans and specifications.

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

In the event of discrepancy, written dimensions shall take precedence over scaled dimensions.

ENGINEER'S AUTHORITY

The Engineer shall respond to any and all inquiries as to the quality or acceptability of materials furnished and work performed, and as to the manner of performance and rate of progress of the work; all inquiries as to the interpretation of the plans and specifications; all inquiries as to the acceptable fulfillment of the contract on the part of the Contractor; and all inquiries as to claims and compensation. The Engineer's response shall be final and the Engineer shall have executive authority to enforce and make effective such responses.

Should it appear that the work to be done, or any matter relative thereto, is not sufficiently detailed or explained in the plans and specifications, the Contractor shall submit a written Request for Information (RFI) to the Engineer. Responses to RFI's shall be in writing and deemed part of the contract documents. Contractor shall comply with response explanation or interpretation so far as may be consistent with the intent of the plans, specifications and amendments thereto.

In the event of doubt or question relative to the true meaning of the plans and specifications, reference shall be made to the City Manager, or his/her designee, whose decision thereon shall be final.

ASSIGNMENT

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

SUBCONTRACTING

Any Proposed substitution of subcontractors must comply with the requirements of the Subletting and Subcontracting Fair Practices Act, California Public Contract Code §4100, et seq.

The Contractor shall give his personal attention to the fulfillment of the contract and shall keep the work under his control.

Subcontractors will not be recognized as such, and all persons engaged in the work of construction will be considered as employees of the Contractor, and their work shall be subject to the provisions of the contract, plans and specifications.

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

REPRESENTATIVE

The Contractor shall assign a representative per Section 5-1.16, Representative, of the Standard Specifications and submit contact information (name, telephone number) to the City of Sand City Engineering Division. If the after-hours representative is different than the on-site representative, provide contact information for both.

The Contractor shall be constantly on the work during its progress or shall be represented by a foreman who is competent to receive and carry out instructions which may be given by the proper authorities, and the Contractor shall be held liable for the faithful observance of any lawful instructions of the Engineer not in conflict with the contract, and which may be delivered to the Contractor, contractor's superintendent, foreman, or other representatives on the work. If the Contractor believes the Engineer's instructions are in conflict with the contract, the Contractor shall immediately bring it to the attention of the Engineer in writing.

EQUIPMENT

While certain sections of these specifications may provide that equipment of a particular size and type is to be used to perform portions of the work, it is to be understood that the development and use of new or improved equipment is to be encouraged.

The Contractor may request, in writing, permission from the Engineer to use equipment of a different size or type in place of the equipment specified.

The Engineer, before considering or granting such request, may require the Contractor to furnish, at Contractor's expense, evidence satisfactory to the Engineer that the equipment proposed for use by the Contractor is capable of producing work equal to, or better than, that which can be produced by the equipment specified.

PROPERTY AND FACILITY PRESERVATION

Attention is directed to Section 5-1.36, Property and Facility Preservation, Section 7-1.05, Indemnification and Section 7-1.06, Insurance, of the Standard Specifications. Due care shall be exercised to avoid injury to existing street improvements or facilities, utility facilities, adjacent property, roadside trees and shrubbery that are not to be removed.

The Contractor shall be held responsible for any damages to existing streets, highways, roads, driveways, sidewalks, curbs, gutters, utilities, other public facilities or private property caused by Contractor's operations. Where the work calls for cutting into or disturbing existing materials, the Contractor shall patch or repair the existing area to a neat, finished product. This shall include touch up or repair of the existing which was disturbed, and repair to the same structural capacity as the existing facility or better.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in protecting or repairing property, shall be considered as included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefor.

POTENTIAL CLAIMS AND DISPUTE RESOLUTION

Potential claims and dispute resolution shall be in accordance with Section 5-1.43, Potential Claims and Dispute

Resolution, of the Standard Specifications.

CONTRACTOR'S RESPONSIBILITY FOR WORK

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

The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill the contract as prescribed. Defective work shall be made good, and unsuitable materials may be rejected, notwithstanding the fact that such defective work and unsuitable materials have been previously overlooked or approved by the Engineer and accepted or estimated for payment.

All work done beyond the lines and grades shown on plans or established by the Engineer, or any extra work done without written authority, will be considered as unauthorized and will not be paid for.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this article, the Engineer shall have authority to cause defective work to be remedied, or removed and replaced, and unauthorized work to be removed. The cost of removing, replacing, or repairing said defective or unauthorized work may be deducted from any monies due and owing the Contractor but said right of set-off shall be an alternative and not the sole remedy of the City.

Until the formal acceptance of the work by the City (as constituted by the filing of the Notice of Completion), the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof, except such injuries or damages occasioned by the acts of the federal government or the public enemy.

Should the City elect to occupy a project before acceptance, the City will issue a Notice of Substantial Completion designating those portions of the work that will be occupied or utilized. Contractor shall be relieved from maintenance and from the responsibility of injury and damage to this work. However, any guarantees will not begin until acceptance of the entire project, and the Contractor shall retain responsibility for making good defective work or materials.

EMPLOYEES

All workmanship shall be fully up to the highest standard of modern construction and practice. The employment of labor shall comply with the prevailing local labor conditions and the Contractor shall employ only competent, careful, orderly persons upon the work. If at any time it shall appear to the Engineer that any person employed upon the work is incompetent, careless, reckless, or disorderly, or disobeys or evades orders and instructions, such person shall be immediately discharged and not again employed upon the work.

CONTROL OF MATERIALS

GENERAL

The Contractor shall furnish without charge such samples of materials and tests of materials as are required by the plans, specifications or the Engineer. No material shall be used until it has been approved by the Engineer.

All tests of materials ordered by the Engineer and made by the Contractor shall be made in accordance with commonly recognized standards of national organizations, and such special methods of tests as are prescribed in the plans and specifications.

All materials not conforming to the requirements of the plans and specifications shall be considered defective, and all such materials, whether in place or not, shall be rejected and shall be removed immediately from the site of the work unless otherwise permitted by the Engineer. No rejected materials, the defects of which have been subsequently corrected, shall be used until approved in writing by the Engineer.

Upon failure on the part of the Contractor to comply with any order of the Engineer made under the provisions of this article, the Engineer shall have authority to remove and replace defective material. The cost of removing, replacing or repairing said defective or unauthorized material may be deducted from any monies due and owing the Contractor but said right of set-off shall be an alternative and not the sole remedy of the City.

For convenience in designation on the plans or in the specifications, certain articles or materials to be incorporated in the work may be designated under a trade name or the name of a manufacturer and his catalog information. The use of an alternative article or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, provided that the burden of proof as to the quality and suitability of alternatives shall be upon the Contractor who shall furnish, at the contractor's expense, all information necessary as required by the Engineer. The Engineer shall be the sole judge as to the quality and suitability of alternative articles or materials and that decision shall be final.

MATERIAL SOURCE

At the option of the Engineer, the source of supply of each of the materials shall be approved by the Engineer before delivery is started and before such material is used in the work. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor or producer of all materials to be used in the work, for testing or examination by the Engineer.

QUALITY

Except as otherwise provided, sampling and testing of all materials, and the laboratory methods and testing equipment required under the plans and specifications shall be in accordance with the latest requirements of the State of California, Department of Transportation, Office of Materials Engineering and Testing Services. Sampling and testing of materials not covered by CalTrans specifications and not otherwise provided for, shall be in accordance with the latest Test Methods and Standards of the American Society for Testing and Materials (ASTM).

GUARANTEE

All materials supplied and all work done under this contract shall be guaranteed by the Contractor for a period of one (1) year from the date of formal acceptance by the City of Sand City. Upon receipt of notice from the Engineer of failure of any part of the guaranteed materials during the guarantee period, the affected parts shall be replaced promptly and at the expense of the Contractor.

The Contractor shall maintain the performance bond (See Part IV, Contract Bonds) in full force and effect during the guarantee period for the purpose of insuring that said repairs or replacements will be made, or may, at the Contractor's option, replace said performance bond for a similar bond in the amount of twenty percent (20%) of the total contract amount including adjustments or the original performance bond, whichever is greater.

LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

LAWS

The Contractor shall keep fully informed of all existing and future state and federal laws and all municipal ordinances and regulations of the City of Sand City which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

All work shall comply in every respect with all the governing laws, regulations, and ordinances of the City of Sand City, which shall be considered for the purpose of contract to which the plans and specifications refer, a part thereof. The Contractor shall give to the proper authorities all necessary notices relative to the work, and shall obtain and pay for all such permits, licenses, notices, inspections, or tests required as part of the contract price. All permits issued by the City for work done under this contract shall be issued at no charge.

All bidders and contractors shall be licensed in accordance with the laws of this State, specifically the provisions the Business and Professions Code, Division 3, Chapter 9. Any bidder or contractor not so licensed is subject to the penalties imposed by such laws. In accordance with the requirements in Public Contract Code Section 10164, in all contracts where Federal funds are involved, the Contractor shall be properly licensed at the time the Contract is awarded.

NONDISCRIMINATION

The Contractor shall comply with Section 1735 of the Labor Code, which reads as follows:

"No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter."

The Contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform Work under the contract.

LABOR CODE

In accordance with the provisions of Sections 1725.5, 1771.1, 1771.3, and 1771.4 of the Labor Code, this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal (subject to the requirements of Section 4104 of the Public Contract Code), or engage in the performance of any contract for public work, as defined by that chapter of the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the Labor Code.

An inadvertent error in listing a subcontractor that is not registered shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive, provided that any one of Section 1771.1(c)(1)-(3) applies. Failure of a listed subcontractor to be registered shall be grounds for the contractor to substitute a registered subcontractor for the unregistered subcontractor. The City shall not accept any bid, nor shall the City or bidder enter any contract or subcontract, without proof of the contractor or subcontractor's current registration to perform public work pursuant to Section 1725.5 of the Labor Code. The prime contractor shall post job site notices, as required by Section 1771.4(a) (2) of the Labor Code and regulations. The prime contractor shall submit records to the Labor Commissioner, as required by Sections 1771.4(a) (3), 1771.4(c) (2), and 1776 of the Labor Code.

WAGES

Local prevailing wage rates shall be paid in accordance with Sections 1770, 1773, and 1782, as amended, of the California Labor Code, and Section 12.18.060 of the Sand City Municipal Code, on all public works construction contracts exceeding twenty-five thousand dollars ($25,000) and all public works contracts for alteration, demolition, repair or maintenance work exceeding fifteen thousand dollars ($15,000).

The Contractor and any subcontractor under the Contractor shall comply with Labor Code Sections 1774 and 1775. Pursuant to Section 1775, the Contractor and any subcontractor under the Contractor shall forfeit to the State or political subdivision on whose behalf a contract is awarded a penalty of not more than two hundred dollars ($200), or such other amount as may be amended from time to time by the Department of Industrial Relations, for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of Industrial Relations for the Work or craft in which the worker is employed for any public (City) Work done under the contract by the Contractor or by any subcontractor under the Contractor in violation of the requirements of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. The amount of this forfeiture shall be determined by the Labor Commissioner and shall be based on consideration of the mistake, inadvertence, or neglect of the Contractor or subcontractor in failing to pay the correct rate of prevailing wages, or the previous record of the Contractor or subcontractor in meeting their respective prevailing wage obligations, or the willful failure by the Contractor or subcontractor to pay the correct rates of prevailing wages. A mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages is not excusable if the Contractor or subcontractor had knowledge of the obligations under the Labor Code. In addition to the penalty and pursuant to Labor Code Section 1775, the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor or subcontractor. If a worker employed by a subcontractor on a public works (City) project is not paid the general prevailing per diem wages by the subcontractor, the prime contractor of the project is not liable for the penalties described above unless the prime contractor had knowledge of that failure of the subcontractor to pay the specified prevailing rate of wages to those workers or unless the prime contractor fails to comply with all of the following requirements:

1. The contract executed between the contractor and the subcontractor for the performance of Work on the public works (City) project shall include a copy of the requirements in Sections 1771, 1775, 1776, 1777.5, 1813 and 1815 of the Labor Code.

2. The contractor shall monitor the payment of the specified general prevailing rate of per diem wages by the subcontractor to the employees, by periodic review of the certified payroll records of the subcontractor.

3. Upon becoming aware of the subcontractor's failure to pay the specified prevailing rate of wages to the subcontractor's workers, the contractor shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for Work performed on the public works (City) project.

4. Prior to making final payment to the subcontractor for Work performed on the public works (City) project, the contractor shall obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages to the subcontractor's employees on the public works (City) project and any amounts due pursuant to Section 1813 of the Labor Code.

Pursuant to Section 1775 of the Labor Code, the Division of Labor Standards Enforcement shall notify the Contractor on a public works (City) project within 15 days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a subcontractor on that public works (City) project to pay workers the general prevailing rate of per diem wages. If the Division of Labor Standards Enforcement determines that employees of a subcontractor were not paid the general prevailing rate of per diem wages and if the City did not retain sufficient money under the contract to pay those employees the balance of wages owed under the general prevailing rate of per diem wages, the contractor shall withhold an amount of moneys due the subcontractor sufficient to pay

those employees the general prevailing rate of per diem wages if requested by the Division of Labor Standards Enforcement. The Contractor shall pay any money retained from and owed to a subcontractor upon receipt of notification by the Division of Labor Standards Enforcement that the wage complaint has been resolved. If notice of the resolution of the wage complaint has not been received by the Contractor within 180 days of the filing of a valid notice of completion or acceptance of the public works (City) project, whichever occurs later, the Contractor shall pay all moneys retained from the subcontractor to the City. These moneys shall be retained by the City pending the final decision of an enforcement action.

Pursuant to the requirements in Section 1773 of the Labor Code, the City has obtained the general prevailing rate of wages (which rate includes employer payments for health and welfare, pension, vacation, travel time and subsistence pay as provided for in Section 1773.8 of the Labor Code, apprenticeship or other training programs authorized by Section 3093 of the Labor Code, and similar purposes) applicable to the Work to be done, for straight time, overtime, Saturday, Sunday and holiday Work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned.

The general prevailing wage rates and any applicable changes to these wage rates are available at the City of Sand City, City Hall, Sand City, CA, (831-394-3054). General prevailing wage rates are also available from the California Department of Industrial Relations' Internet Web Site at: http://www.dir.ca.gov.

The wage rates determined by the Director of Industrial Relations for the project refer to expiration dates. Prevailing wage determinations with a single asterisk after the expiration date are in effect on the date of advertisement for bids and are good for the life of the contract. Prevailing wage determinations with double asterisks after the expiration date indicate that the wage rate to be paid for Work performed after this date has been determined. If Work is to extend past this date, the new rate shall be paid and incorporated in the contract. The Contractor shall contact the Department of Industrial Relations as indicated in the wage rate determinations to obtain predetermined wage changes. Pursuant to Section 1773.2 of the Labor Code, general prevailing wage rates shall be posted by the Contractor at a prominent place at the site of the Work.

Changes in general prevailing wage determinations which conform to Labor Code Section 1773.6 and Title 8 California Code of Regulations Section 16204 shall apply to the project when issued by the Director of Industrial Relations at least ten (10) days prior to the date of the Notice Inviting Bids for the project.

The City will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining the bid, and will not under any circumstances be considered as the basis of a claim against the City on the contract. The Contractor shall make travel and subsistence payments to each workman, needed to execute the Work, in conformance with the requirements in Labor Code Section 1773.8.

CERTIFIED PAYROLL RECORDS

The Contractor shall conform to the requirements in Labor Code Section 1776 concerning payroll records. Regulations implementing Labor Code Section 1776 are located in Sections 16016 through 16019 and Sections 16207.10 through 16207.19 of Title 8, California Code of Regulations. The Contractor and each subcontractor shall preserve their payroll records for a period of 3 years from the date of completion of the contract.

APPRENTICES

The Contractor and subcontractors shall comply with the provisions in Sections 1777.5, 1777.6 and 1777.7 of the California Labor Code and Title 8, California Code of Regulations Section 200 et seq. To ensure compliance and complete understanding of the law regarding apprentices, and specifically the required ratio thereunder, the Contractor and each subcontractor should, where some question exists, contact the Division of Apprenticeship Standards, 455 Golden Gate Avenue, San Francisco, CA 94102, or one of its branch offices prior to commencement of Work on the contract. Responsibility for compliance with this section lies with the Contractor.

It is State and City policy to encourage the employment and training of apprentices on public works contracts as may be permitted under local apprenticeship standards.

WORKING HOURS

Eight hours labor constitutes a legal day's Work. The Contractor or any subcontractor under the Contractor shall forfeit, as a penalty to the State of California, twenty five dollars ($25) or such other amount as may be amended by the Department of Industrial Relations from time to time for each worker employed in the execution of the contract by the respective Contractor or subcontractor for each calendar day during which that worker is required or permitted to Work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the requirements of the Labor Code, and in particular, Section 1810 to Section 1815, thereof, inclusive, except that Work performed by employees of Contractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than one and one-half times the basic rate of pay, as provided in Section 1815 thereof.

OCCUPATIONAL SAFETY AND HEALTH STANDARDS

The Contractor shall conform to all local, state and federal rules and regulations pertaining to safety. Furnished equipment, material and services shall comply with all OSHA Standards and regulations and all applicable governmental laws and orders. The Contractor shall post an OSHA poster in a conspicuous location as required by law.

EXCAVATION SAFETY

Per California Labor Code Section 6500, Contractor shall possess a valid Construction Activity Permit for construction of trenches or excavations which are five (5) feet or deeper and into which a person is required to descend. When trenches or excavations five (5) feet or deeper are anticipated as part of the contract, Contractor shall possess a valid permit at the time of bidding and for the life of the contract. Contractor shall furnish copies of valid permits to the City Engineer. When required in Part I, Notice to Contractors, Contractor must provide evidence of a current T1 Annual Trench/ Excavation Permit at the time of bidding.

Contractor shall comply with California Labor Code Section 6705 which provides that prior to the commencement of excavation of any trench or trenches five (5) feet or more in depth, Contractor shall submit to the Engineer a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards established by the Construction Safety Orders, the plan shall be prepared by a registered civil or structural engineer.

Plans must be submitted to the Engineer at least five (5) working days prior to the commencement of excavation. If said plans are not submitted five (5) days prior to the commencement of said excavation, the City shall not be liable to Contractor for any delay in work caused by delinquent submission of said plans.

Trenching of more than four (4) feet below the surface shall require the Contractor to promptly notify the Engineer if unknown hazardous wastes, subsurface or latent physical site conditions different from those indicated or unusual site conditions are encountered, and inform the City as to its duty to investigate those conditions. The Contractor may file for a change order for any conditions different from those indicated.

PUBLIC CONVENIENCE AND PUBLIC SAFETY

Attention is directed to Section 7-1.03, Public Convenience, and Section 7-1.04, Public Safety, of the Standard Specifications for the provisions relating to the Contractor's responsibility for providing for the convenience and safety of the public in connection with his operations. Standard Specifications are on file in the office of the City Engineer.

Contractor is to notify the Engineer of the start date and construction schedule at least nine (9) calendar days prior to the planned start of construction unless otherwise noted in Part IV.

The Contractor shall conduct his operations as to cause the least possible inconvenience to public traffic. The Contractor shall provide traffic control devices or personnel where necessary in conformance with good traffic safety standards. The Contractor shall provide sufficient warning signs or devices to give adequate notice to the public of dangerous or changed conditions existing during construction.

The City Engineer shall determine the adequacy of said devices and, in cases of dispute, his determination shall be final.

If the City is required to provide traffic direction, signs or devices, due either to failure of the Contractor to so provide or in case of emergency, the City shall charge Contractor the actual cost of labor and materials and may deduct said costs from any monies due and owing the Contractor.

WORKER'S COMPENSATION

Pursuant to the requirements in Section 1860 of the Labor Code, the Contractor will be required to secure the payment of workers' compensation to the Contractor's employees in conformance with the requirements in Section 3700 of the Labor Code.

PATENTS

If any material, composition, process, method of construction or any other thing called for or required by the plans and specifications or used in the work is covered by letter patent, all royalties and expenses thereof, all litigation thereupon, or anything whatsoever which may develop as a cost from the use of such materials, composition, process, method, or any other thing which is covered by letter patent, shall be borne by the Contractor.

RIGHT OF PROPERTY

Nothing in the contract shall be construed as vesting the Contractor with any right of property in the materials furnished and used in the work herein provided for after they have been attached to the work and have become an integral portion of the work herein provided. All such materials shall, upon their becoming an integral part of the work herein provided, be, and remain, the property of the City of Sand City.

INCREASED FORCE

In case of emergency involving danger to life or property, continuous work with increased force may be required by the Engineer.

LIABILITIES

Right of general supervision by the City shall not make the Contractor an agent of the City, and the liability of the Contractor for all damages to persons or to public or private property arising from the Contractor's execution of the work shall not be lessened because of such general supervision.

PROSECUTION AND PROGRESS

GENERAL

If at any time in the opinion of the Engineer, the Contractor has failed to supply an adequate working force, or material of proper quality, or has failed in any other respect to prosecute the work with the diligence and force

specified and intended in and by the terms of the contract, notice thereof in writing shall be served upon the Contractor. Should the Contractor neglect or refuse to provide means for a satisfactory compliance with the contract, as directed by the Engineer, within the time specified in such notice, the Engineer in any such case shall have the power to suspend the operation of the contract. Upon receiving notice of such suspension, the Contractor shall discontinue said work, or such parts of it as the City may designate.

Upon such suspension, the Contractor's control shall terminate, and thereupon the Engineer or duly authorized representative may take possession of all or any part of the Contractor's materials, tools, equipment, and appliances upon the premises, and use the same for the purpose of completing said contract, and hire such force and buy or rent such additional machinery and appliances, tools, and equipment and buy or rent such additional materials and supplies at the Contractor's expense as may be necessary for the proper construction of the work and for the completion thereof; or may employ other parties to carry the contract to completion, employ the necessary workers, substitute other machinery or materials and purchase the materials contracted for in such manner as the City may deem proper; or the City may annul and cancel the contract and re-let the work or any part thereof.

Any excess of cost arising therefrom over and above the contract price will be charged against the Contractor and his sureties, who will be liable therefor. In the event of such suspension, all money due the Contractor or retained under the terms of this contract shall be forfeited to the City, but such forfeiture will not release the Contractor or his sureties from liability for failure to fulfill the contract. The Contractor and his sureties will be credited with the amount of money so forfeited toward any excess of cost over and above the contract price, arising from the suspension of the operations of the contract and the completion of the work by the City as above provided, and the Contractor will be so credited with any surplus remaining after all just claims for such completion have been paid.

In the determination of the question whether there has been any such noncompliance with the contract as to warrant the suspension or annulment thereof, the decision of the City Manager shall be binding on all parties to the contract.

SUSPENSIONS AND DELAYS

Suspensions of work and delays shall be in accordance with Section 8-1.06, Suspensions, and Section 8-1.07, Delays, of the Standard Specifications.

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

Any act of, or any omission of anything required to be done by the City, its officers, agents or employees which shall cause the Contractor delay in the completion of the work shall be a ground for extension of time on the part of the Contractor to complete the work but shall not grant the Contractor any monetary damages for such delay.

RIGHTS OF WAY

Rights-of-way or easements for work to be constructed will be provided by the City. The Contractor shall make his own arrangements and pay all expenses for additional area required by him outside of the limits of rights-of-way or easements unless otherwise especially provided. In the event of delay on the part of the City, its officers, agents or employees in obtaining any such rights-of-way or easements for the work to be constructed, then the Contractor shall have time for the completion of his contract for the period or periods caused by such delay or delays but shall have no damages against the local entity, its officers, agents or employees.

PAYMENT

GENERAL

Attention is directed to Section 9, Payment, of the Standard Specifications on file in the office of the City Engineer, the provisions of which shall govern unless other and conflicting provisions are set forth in these specifications and/or the plans.

The City pays for the Contractor furnishing the resources and activities to complete the work. The Contractor shall accept the City's payment as full compensation for furnishing the resources and activities, including, but not limited to all labor, materials, tools, equipment, taxes and incidentals necessary to complete the work and for performing all work contemplated, and embraced under the contract; also for loss or damage arising from the nature of the work or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the work until the formal acceptance by the City, and for all risks of every description connected with the prosecution of the work; also for all expenses incurred in consequence of the suspension or discontinuance of the work as herein specified, and for completing the work according to the plans and specifications.

The City shall not be obligated to process any payment request until thirty (30) calendar days after receipt of a correct, complete and undisputed progress payment request or sixty (60) calendar days after receipt of a correct, complete and undisputed final payment request. Payments not made within the specified time periods are subject to an interest rate of two percent (2%) per month. A payment request shall not be deemed complete unless all related documentation has been supplied and verified, and all related contract requirements have been satisfactorily met.

PROGRESS PAYMENTS

The Contractor may, once each month, make an estimate in writing of the total amount of work done to the time of such estimate and the value thereof, and request payment for that work.

Upon approval of the progress payment request, the Engineer shall cause to be paid to the Contractor the progress payment, after deducting therefrom all previous payments and all sums to be withheld or retained under the provisions of the contract. No such estimate or payment shall be required to be made when, in the judgment of the Engineer, the work is not proceeding in accordance with the provisions of the contract, or when in the judgment of the Engineer, the total value of the work done since the last estimate amounts to less than one thousand dollars ($1,000.00).

Except as set forth in the following paragraph, the Engineer shall retain from all progress payments five percent (5%) of the value of the materials so estimated to have been furnished and delivered and unused, or furnished and stored as aforesaid, as part security for the fulfillment of the contract by the Contractor. The Engineer shall also retain five percent (5%) of the value of all work done. In addition to the retentions and as provided in Part IV, *infra*, the City may deduct from each progress payment an amount necessary to protect the City from loss because of liquidated damages that have accrued as of the date of the application for payment.

The Contractor may elect to receive 100% of payments due under the contract from time to time, without retention of any portion of the payment by the City, by depositing approved securities of equivalent value with the City or in an escrow account with an approved bank in accordance with the provisions of Section 4590 of the Government Code. Such securities, if deposited by the Contractor, shall be valued by the City's Finance Director, whose decision on valuation of the securities shall be final.

No such estimate or payment shall be construed to be an acceptance of any defective work or improper materials.

PAYMENT AFTER CONTRACT ACCEPTANCE

Upon receipt of written notice that the work is ready for final inspection and acceptance, the Engineer shall promptly make such inspection, and when the work is found to be acceptable under the contract and the contract fully

performed, the Engineer shall file a Notice of Completion.

Final payment, including all sums withheld or retained as herein before specified as partial security for the fulfillment of the contract, shall be paid by the City within 60 days after the filing of the Notice of Completion.

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[Use this page when needed to ensure Part III begins on an odd numbered page]

CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT

PART IV: SPECIAL PROVISIONS

GENERAL

The work, in general, consists of **roadway and park improvements**. The work shall include, but not be limited to, *the demolition of existing park play equipment, walkways, timber steps, tables, concrete retaining walls and pads, fencing, concrete curbs, gutters, sidewalks, driveways, asphalt pavement, signs, striping, and related features and the construction of new park play equipment, walkways, timber steps, tables, concrete retaining walls and pads, fencing, engineered wood fiber, asphalt concrete pavement, aggregate base, widening and rehabilitation including hot mix asphalt, overlays, seals, concrete curbs, gutters, sidewalks, ramps, driveways, and cross gutters, signage and striping, accessible parking and minor drainage improvements.*

PLANS AND SPECIFICATIONS

A component in one Contract part applies as if appearing in each. The parts are complementary and describe and provide for a complete work. The work embraced herein shall be done in accordance with the appropriate provisions of the Standard Specifications insofar as the same may apply, and in accordance with the specifications and plans. In case of conflict between the **Standard Specifications, Standard Plans,** and these **Special Provisions** and the **Plans,** the order of precedence shall be as follows:

Special Provisions shall take precedence over **Plans** and the **Plans** shall take precedence over **Standard Specifications** and **Standard Plans**. These **Special Provisions** shall also take precedence over conflicting portions of the "General Provisions, Part III" of these project specifications.

CONTRACT BONDS

For Bid Bond requirements, see Part I, Bid Bond, of these Specifications.

The Contractor, at the time of signing and executing the contract, shall execute and file with the City a performance bond to the satisfaction and approval of said City, in a sum of not less than one hundred percent (100%) of the amount of the contract conditional upon the faithful performance of the contract. For additional information, see Guarantees elsewhere in these specifications.

The Contractor, at the time of signing and executing any contract in excess of twenty-five thousand dollars ($25,000), shall execute and file with the City a payment bond (public works labor and materials bond) to the satisfaction and approval of said City, in a sum of one hundred percent (100%) of the amount of the contract in accordance with Public Contract Code §9550 et seq.

All bonds must be signed by principal(s) of the Contractor. All required signatures on the bond must be notarized. The surety's Attorney-in-Fact must sign all copies of the bonds, impress or affix the corporate seal on each copy, and provide one current copy of the Power of Attorney for the Attorney-in-fact.

The surety shall be an admitted carrier in California with a valid surety license and possess a minimum rating from A. M. Best Company of A-VII. The Surety and /or co-sureties must be listed as an acceptable surety on federal bonds by the United Stated Department of the Treasury, subject to the maximum amount shown in the listing. If co-sureties are used, their bonds shall be on a joint and several basis.

Please refer to Part III, Page 3, for sample bond forms.

Notwithstanding the above, the Contractor may substitute adequate securities for any bond called for under the provisions of these Specifications as set forth in Public Contracts Code Section 22300. Alternate security substitutions shall be submitted to the City no later than ten (10) days after written notice that a contract has been awarded to the contractor to allow processing and escrow agreement for in lieu security.
The Contractor shall submit the contract with his signature affixed thereto, required bonds or alternate security and evidence of insurance that conforms to the contract within fifteen (15) calendar days after written notice that a contract has been awarded to him.

The Contractor shall maintain the performance bond in full force and effect during the guarantee period for the purpose of insuring that said repairs or replacements will be made, or may, at the Contractor's option, replace said performance bond for a similar bond in the amount of twenty percent (20%) of the total contract amount, including adjustments, or the original performance bond, whichever is greater.

TIME LIMITS

Within fifteen (15) calendar days after written notice that a contract has been awarded (Notice of Award), the Contractor shall submit two (2) signed original contracts, required bonds or alternative security, evidence of insurance that conforms to the contract, and City of Sand City Business License or evidence of application for said license.

A Notice to Proceed will be issued upon receipt of the foregoing documents. The Contractor shall begin work within fourteen (14) calendar days after the effective date of the Notice to Proceed.

The Contractor shall diligently prosecute the contract to completion on or before the expiration of **80 calendar days** from the effective date of the Notice to Proceed.

LICENSES AND PERMITS

Prior to the execution of any contractual agreements, the successful Bidder shall obtain a City of Sand City Business License, and all applicable permits (except Coastal Zone Conservation permits) for construction.

City permits shall be issued at no charge.

Contractor shall be required to obtain and hold a Public Works Permit (Encroachment Permit) and/or Building Permit from the Building Permit and Inspection Division. Contractor shall provide a copy of the completed permit(s) to the Engineering Division no later than three (3) days prior to the start of construction. The permit application fee(s) shall be waived. Where applicable, the City shall submit permit applications.

SITE INSPECTION

It shall be the Contractor's responsibility to inspect the site and become thoroughly familiar with all aspects of the work to be done.

The submission of a bid shall be conclusive evidence that the Bidder has investigated the site and is thoroughly satisfied as to the conditions to be encountered, as to the character, quality, and scope of the work to be performed; the quantity of materials to be furnished; and as to all the requirements of these specifications.

It shall be the Contractor's responsibility to be aware of surface and subsurface drainage conditions that may exist at the site. The Contractor is further responsible for work necessary to rectify any resulting drainage problems; labor, materials, equipment, and incidentals necessary to achieve the solution shall be borne by the Contractor.

SUBMITTALS

The review of submittals and approval thereof by the City does not relieve the Contractor from compliance with the requirements and intentions of the plans and specifications to which the submittals pertain.

Submittal Format:

1. Contractor shall submit individually bound copies of all submittals and revised submittals to the City's construction manager. A minimum of two (2) copies shall be submitted unless otherwise directed. Submittal submission may be done in pdf form via email.

2. All submittals shall have a cover sheet containing the following:

    a. Submittal date, submittal number and submittal revision number (as applicable),
    b. City project name,

3. Each submittal item shall clearly identify the specification section(s) and paragraph(s) for with the submittal item pertains to.

4. Contractor is not guaranteed a specific review time period. If Contractor requires a quick submittal turnaround of specific submittal items, Contractor must indicate which submittal items require a quick turnaround by attaching a memo to the submittal indicating such and the requested turnaround period. The City shall make every effort to meet the requested review period.

5. Contractor shall place orders for all materials or equipment in time to prevent any delays to the construction schedule or project completion. If any materials or equipment are not ordered in a timely fashion, any additional charges made by equipment manufacturers and/or suppliers to complete the manufacturer and/or delivery in time to meet the construction schedule or project completion, together with any special handling charges shall be borne by the Contractor.

Submittal Content and Product Data:

1. Contractor shall review and accept submittals prior to submission.

2. Submittals shall contain all required information such as shop drawings, product data, etc.

3. Each submittal item shall be identified by manufacturer, brand name, trade name, model number, size, rating and additional information as is necessary to properly identify and verify the materials and equipment. The phrase “as specified” is not considered sufficient.

4. Where possible, submittal information shall be limited to the specific item being submitted. In the event multiple materials or equipment are described in one submittal, Contractor shall clearly identify the pertinent information being submitted on.

5. Accessories, controls, finish, etc. not required to be submitted or identified with the submittal shall be furnished and installed as specified.

CONSTRUCTION SURVEYS

Construction surveys, when required, shall be provided by and paid for by the contractor and no additional compensation shall be made.

All distances and measurements are given and will be made in a horizontal plane. Grades will be given from the top of stakes or nails, unless otherwise noted.

Finished surfaces in all cases shall conform to the lines, grades, cross-sections and dimensions shown on the approved plans and specifications. Deviations from the approved plans and specifications must be approved by the Engineer and authorized in writing.

The Contractor shall give at least seventy-two (72) hours’ notice in writing to the Construction Manager when construction stakes will be required.

Such stakes or marks will be set by the Engineer as he or she determines to be necessary to enable the Contractor to establish the lines and grades required for the completion of the work specified in the Standard Specifications, Plans and Specifications. This staking will include one set of stakes or marks at about twenty-five feet on center (25' O/C) which shall be used for excavation, filling, and alignment of improvements.

The Contractor shall preserve all stakes and points set for lines, grades, or measurement of the work in their proper places until authorized to remove them by the Engineer. All expenses incurred in replacing stakes that have been removed without proper authority shall be paid by the Contractor.

The City shall be given the opportunity to check forms for line and grade prior to any concrete being placed.

PROTECTION OF PRIVATE PROPERTY

Private property grounds and facilities, if damaged or removed because of the Contractor's operations, shall be restored or replaced to same or better than the original condition and located in the same position and alignment as is reasonably possible. Contractor shall comply with the applicable portions of Section 5-1.36, “Property and Facility Preservation”, Section 7-1.05, “Indemnification”, and Section 7-1.06, “Insurance” of the Standard Specifications.

CONSTRUCTION QUALITY CONTROL

Definitions

Quality Management (QM) - All control and assurance activities instituted to achieve the product quality established by the contract requirements.

Contractor Quality Control (CQC) - The construction contractor's system to manage, control, and document contractor's, suppliers', and subcontractor's activities to comply with contract requirements.

Contractor Responsibility

General: The Contractor shall establish and maintain an effective quality control system in compliance with the Plans and Specifications. The quality control system shall consist of plans, procedures, and organization necessary to provide materials, equipment, workmanship, fabrication, construction, and operations which comply with contract requirements. The system shall cover construction operations both onsite and offsite, and shall be keyed to the proposed construction sequence.

The Quality Control Plan

Quality Control Plans and Procedures.

The Contractor will be required to prepare a Quality Control Plan. This plan shall include, as a minimum, the following:

1. A description of the quality control procedures, including a chart showing lines of authority and acknowledgement that the Contractor shall implement the control system for all aspects of the work specified and shall report to the project manager or someone higher in the Contractor's organization.

2. The name, qualifications, duties, responsibilities, and authorities of each person assigned a QC function.

3. A copy of the letter to the Engineer signed by an authorized official of the firm which describes the responsibilities and delegates the authority to implement the QC plan shall be furnished.

4. Procedure for scheduling and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents.

5. Control testing procedures for each specific case. Note that in the case of federally-funded projects, QA/QC testing must be performed by the city by a Caltrans-certified lab.

6. Reporting procedures including proposed reporting formats.

QC Plan Implementation

1. Preconstruction Conference. During the pre-construction conference, a mutual understanding of the CQC system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's management with the Engineer's inspection. Minutes of the conference shall be prepared by City staff, and be signed by both the Contractor and the Engineer. The minutes shall become a part of the contract file. There may also be occasions when subsequent conferences will be called to reconfirm mutual understandings.

2. General. After issuance of the Notice to Proceed, and prior to the start of construction, the Contractor shall furnish, for acceptance by the Engineer, the Contractor Quality Control (CQC) Plan with which he proposes to implement the requirements of Contract Clause entitled "Construction Quality Control". The plan shall identify personnel, procedures, instructions, records, and forms to be used. If the Contractor fails to submit an acceptable QC plan within the time herein prescribed, the Engineer may refuse to allow construction to start if an acceptable interim plan is not furnished.

3. Control of Materials, Tests, and Inspections. As listed below, and noted elsewhere in the specifications but not limited to the following items, the Quality Control Plan will include the dates for the Contractor to furnish certificates for product, or product test compliance, shop drawings or catalog cuts and requests for inspection or review.

   a. Tests and Inspections:
      Sub-grade compaction
      Aggregate placement and compaction
      Forms Placement
      Trench backfill and bedding
      Reinforcing bar placement
      Fill Material (if applicable)
      Pipe placement
      Lateral Connections
      Welding
      High Strength Fasteners and Bolts
      Epoxy
      Fire Proofing
      Street Light Bases

   b. Materials and Materials Certification:
      Aggregate Base
      Hot Mix Asphalt/Asphalt Concrete
      Concrete
      Catch Basin and Manhole Casting
      Reinforcing Bar
      Pipe Material
      Trench backfill material
      Lumber
      RC pipe
      Slurry backfill

   c. Daily Reports

      The Contractor shall provide copies of daily reports which describe the work performed, weather conditions, personnel and equipment on site, and quality control activities performed.

      The Contractor will not be paid for work prior to Engineer reviewing and accepting daily reports for the period of time payment is requested.

4. Acceptance of Plan. Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Engineer reserves the right to require the Contractor to make changes in the CQC plan and operations as necessary to obtain the quality specified.

5. Notification of Changes. After acceptance of the QC plan, the Contractor shall notify the Engineer in writing of any proposed change. Proposed changes are subject to acceptance by the Engineer.

6. Testing and Certification. The Contractor shall pay for all tests and inspections as required by the Plans and Specifications. The Contractor shall furnish certification of materials being used, upon request of the Engineer, without additional charge.

GUARANTEE

Materials and labor guarantees shall be per Part III of these specifications. All warranty shall be to the satisfaction of the City. Final payment will not be released without submission of warrantees.

REGULATIONS

The Contractor and all subcontractors shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work, safety and hiring/employment practices. Nothing in the Plans and Specifications shall be construed to permit work not conforming to the regulations and codes set forth herein which include, but are not limited to the following:

1. Americans with Disabilities Act (ADA) accessibility and employment standards. In the event of conflicting federal and state standards, the standard that provides greater access will take precedence.
2. Sand City Municipal Code, as amended,
3. California Building Code, latest edition as adopted by the City of Sand City,
4. California Electrical Code, latest edition as adopted by the City of Sand City,
5. California Mechanical Code, latest edition as adopted by the City of Sand City,
6. California Plumbing Code, latest edition as adopted by the City of Sand City,
7. California Green Building Standards Code, latest edition as adopted by the City of Sand City,
8. California Historic Building Code, latest edition as adopted by the City of Sand City,
9. California Occupational Safety and Health Administrative Code, latest edition,
10. California Government Code Section 4216, Protection of Underground Infrastructure,
11. National Fire Protection Associations NFPA 1 Fire Code, latest edition,
12. The California Labor Code,
13. Federal Water Pollution Control Act (Clean Water Act), and,
14. Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.).

PUBLIC SAFETY AND PROTECTION OF THE WORK

The Contractor shall furnish, erect and maintain such fences, barricades, guards, lights and other devices as are necessary to prevent accidents and avoid damage to the construction work or injury to the public. No separate payment shall be made for such work. If in the opinion of the Engineer, adequate barricades or warning devices are not maintained by the Contractor, the City may furnish and erect same and charge the Contractor therefor. Attention is directed to Sections 7-l.03 "Public Convenience" and 7-l.04, "Public Safety", of the Standard Specifications published by the State of California Department of Transportation.

INDEMNIFICATION AND HOLD HARMLESS

To the fullest extent permitted by law, Contractor agrees to indemnify, investigate, defend (at Contractor's sole cost and expense and with legal counsel reasonably approved by City), protect and hold harmless, the City of Sand City, its officials, officers, employees, agents, and representatives from and against any and all claims [including, without limitation, claims for bodily injury or death (including but not limited to Contractor, persons employed by Contractor, persons acting on behalf of Contractor, and third parties) or damage to property], demands, obligations, losses,

damages, actions, causes of action, suits, judgments, fines, penalties, liabilities, defense costs, and expenses (including, without limitation, reasonable attorneys' fees, disbursements, and court costs, and all other professional, expert, or Contractors' fees and costs) of every kind or nature arising out of or in connection with or relating to any work or activities of Contractor (or Contractor's contractors or subcontractors, if any) conducted under this Agreement or arising out of the failure on Contractor's part to perform their obligations under this agreement. Except as provided by law, the indemnification provisions stated above shall apply regardless of the existence or degree of fault of the City, except for those claims which arise out of the active negligence, sole negligence, or willful misconduct of the City of Sand City.

Notwithstanding the provisions of the above paragraph, Contractor agrees to assume all risk and to indemnify and hold harmless the City from and against any and all claims, demands, defense costs, liability, expense, or damages of any kind or nature arising out of or in connection with damage to or loss of any property belonging to Contractor or Contractor's employees, contractors, representatives, patrons, guests, or invitees.

Contractor further agrees to indemnify City for damage to or loss of City property arising out of or in connection with Contractor's work associated with this Agreement or arising out of any act or omission of Contractor or any of Contractor's employees, agents, contractors, representatives, patrons, guests, or invitees; excepting such damage or loss arising out of the negligence of the City.

INSURANCE

Contractor shall procure and maintain for the duration of the contract, *and for* [#x] *years thereafter*, the insurance as required by the Public Works Contract attached hereto against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.

MINIMUM SCOPE AND LIMITS OF INSURANCE

Coverage shall be at least as broad as:

1. **Commercial General Liability** (CGL): Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **$5,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location **(ISO CG 25 03 or 25 04)** or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability**: Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits no less than **$5,000,000** per accident for bodily injury and property damage.
3. **Workers' Compensation** insurance as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than $1,000,000 per accident for bodily injury or disease.
4. **Builder's Risk** (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions.

   Contractor may submit evidence of Builder's Risk insurance in the form of Course of Construction coverage. Such coverage shall **name the Entity as a loss payee** as their interest may appear.

   If the project does not involve new or major reconstruction, at the option of the Entity, an Installation Floater may be acceptable. For such projects, a Property Installation Floater shall be obtained that provides for the improvement, remodel, modification, alteration, conversion or adjustment to existing buildings, structures, processes, machinery and equipment. The Property Installation Floater shall provide property damage coverage for any building, structure, machinery or equipment damaged, impaired, broken, or destroyed during the performance of the Work, including during transit, installation, and testing at the Entity's site.
5. **Surety Bonds** as described in Part III.

If the contractor maintains **broader coverage and/or** higher limits than the minimums shown above, the Entity requires and shall be entitled to **the broader coverage and/or** higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Entity.

SELF-INSURED RETENTIONS

Self-insured retentions must be declared to and approved by the Entity. At the option of the Entity, either: the contractor shall cause the insurer shall reduce or eliminate such self-insured retentions as respects the Entity, its officers, officials, employees, and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Entity guaranteeing payment of losses and related investigations, claim administration, and defense expenses. **The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or Entity**.

OTHER INSURANCE PROVISIONS

The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. **The Entity, its officers, officials, employees, and volunteers are to be covered as additional insureds** on the CGL policy with respect to liability arising out of with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or **both** CG 20 10, **CG 20 26, CG 20 33, or CG 20 38**; and CG 20 37 forms if later revisions used).
2. For any claims related to this project, the **Contractor's insurance coverage shall be primary** insurance **coverage at least as broad as ISO CG 20 01 04 13** as respects the Entity, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the Entity, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall provide that coverage shall not be canceled, except with notice to the Entity.

CLAIMS MADE POLICIES

If any coverage required is written on a claims-made coverage form:

1. The retroactive date must be shown, and this date must be before the execution date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of contract work.
3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective, or start of work date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work.
4. A copy of the claims reporting requirements must be submitted to the Entity for review.
5. If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.

ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers with a current A.M. Best rating of no less than A: VII, unless otherwise acceptable to the Entity.

WAIVER OF SUBROGATION

Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation. **The Workers' Compensation policy shall be endorsed with a waiver of subrogation** in favor of the Entity for all work performed by the Contractor, its employees, agents and

subcontractors.

VERIFICATION OF COVERAGE

Contractor shall furnish the Entity with original certificates and amendatory endorsements, or copies of the applicable insurance language, effecting coverage required by this contract. All certificates and endorsements are to be received and approved by the Entity before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The Entity reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

SUBCONTRACTORS

Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that Entity is an additional insured on insurance required from subcontractors. For CGL coverage subcontractors shall provide coverage with a format least as broad as CG 20 38 04 13.

SPECIAL RISKS OR CIRCUMSTANCES

Entity reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

RESOLUTION OF CONSTRUCTION CLAIMS – ALL CONTRACTOR CLAIMS

Applies to ALL Contractor Claims for Time Extension, Payment Not Expressly Provided for, and Payment of Disputed Amounts (Public Contract Code §9204)

1. The following provisions applies to contracts entered into on or after January 1, 2017.

2. In accordance with Section 9204 of the California Public Contract Code, this Section applies to any claim by a contractor in connection with a public works project for:

   a. A time extension, including, without limitation, for relief from damages or penalties for delay assessed by the City under a contract for a public works project.

   b. Payment by the City of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

   c. Payment of an amount that is disputed by the City.

3. Upon receipt of a claim pursuant to this section:

   a. The City shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, the City and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

   b. The claim shall be in writing, include reasonable documentation to substantiate the claim as specified in subsection d below, and be accompanied by the following certification:

      "CONTRACT PROVISION REQUIRING PERSONAL CERTIFICATION OF ALL CLAIMS:
      I, _____, BEING THE _____
      (MUST BE AN OFFICER) OF _____ (GENERAL Contractor), DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA, AND DO PERSONALLY CERTIFY AND ATTEST THAT: I HAVE THOROUGHLY REVIEWED THE ATTACHED CLAIM FOR ADDITIONAL COMPENSATION AND/OR EXTENSION OF TIME, AND KNOW ITS CONTENTS, AND SAID CLAIM IS

MADE IN GOOD FAITH; THE SUPPORTING DATA IS TRUTHFUL AND ACCURATE; THAT THE AMOUNT REQUESTED ACCURATELY REFLECTS THE CONTRACT ADJUSTMENT FOR WHICH THE CONTRACTOR BELIEVES THE CITY IS LIABLE; AND, FURTHER THAT I AM FAMILIAR WITH CALIFORNIA PENAL CODE SECTION 12650, ET SEQ. PERTAINING TO FALSE CLAIMS, AND FURTHER KNOW AND UNDERSTAND THAT SUBMISSION OR CERTIFICATION OF A FALSE CLAIM MAY LEAD TO FINES, IMPRISONMENT AND/OR OTHER LEGAL CONSEQUENCES."

c. Claims must be filed on or before the date of final payment. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by Contract for the filing of claims.

d. The claim must include actual cost documentation, including hours of work performed, equipment operation costs, and labor and overhead costs, which should be established at a standard percentage. Any overhead costs listed when paid, shall provide full and complete payment for any and all overhead, including jobsite overhead, home office overhead, as well as additional costs arising from disruption, re-sequencing or acceleration. Contractor shall provide prompt notification of any disagreement in quantities of work performed along with a detailed accounting by means of a schedule update demonstrating any delays incurred.

e. If the City needs approval from the City Council to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the City Council body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the City shall have up to three days following the next duly publicly noticed meeting of the City Council after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

f. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the City issues its written statement. If the City fails to issue a written statement, paragraph 5 of this section shall apply.

4. Following City's written response:

a. If the claimant disputes the City's written response, or if the City fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the City shall schedule a meet and confer conference within 30 days for settlement of the dispute.

b. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the City shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the City issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the City and the claimant sharing the associated costs equally. The City and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

c. For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

d. Unless otherwise agreed to by the City and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

e. This section does not preclude the City from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

5. Failure by the City to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the City's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

6. Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

7. If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a City because privity of contract does not exist, the contractor may present to the City a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the City shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the City and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

8. A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the City may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

RESOLUTION OF CONSTRUCTION CLAIMS – CLAIMS UNDER $375,000

Applies to claims under $375,000 for Time Extension, Payment Not Expressly Provided for, and Payment of Disputed Amounts (California Public Contract Code §20104 et seq.)

1. In addition to the provisions of California Public Contract Code §9204 set forth in Section Q above which applies to all construction claims for: a) a time extension; b) payment of money or damages arising from work done by, or on behalf of, the Contractor pursuant to this Contract which is not otherwise expressly provided for or the Contractor is not otherwise entitled; and c) payment of an amount that is disputed by the City, the following provisions shall also apply to said construction claims of three hundred seventy-five thousand dollars ($375,000) or less.

2. If, following the meet and confer conference set forth in Section Q.4.a. above, the claim or any portion remains in dispute, the Contractor may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Contractor submits its written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

3. The following procedures are established for all civil actions filed to resolve claims subject to this Section:

a. Responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court.

b. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

c. In addition to Chapter 2.5 (commencing with Section 1141.10 of Title 3 of Part 3 of the Code of Civil Procedure (A) arbitrators shall, when possible, be experienced in construction law, and (B) any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, also pay the attorney's fees on appeal of the other party.

d. The City shall not fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in this Contract.

e. In any suit filed under Section 20104.4 of the California Public Contract Code, the City shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

PRE-CONSTRUCTION CONFERENCE

Prior to the beginning of any work on this project, a pre-construction conference shall be held at City Hall, Sand City, CA. The date and time of this conference shall be established by the Contractor contacting that office at 831-394-3054 not less than forty-eight (48) hours in advance of the meeting date and time.

An itemized list of materials and equipment the Contractor proposes to use on the project shall be submitted to the City prior to or during the preconstruction conference.

A preliminary project timeline shall be submitted to the City prior to or during the preconstruction conference.

LIQUIDATED DAMAGES

Unless stated otherwise in the Specifications, it is agreed by the parties to the contract that in case all the work called for under the contract is not completed before or upon the expiration or the time limit as set forth in these specifications, damage will be sustained by the City of Sand City and that it is and will be difficult or impossible to ascertain and determine the actual damage which the City will sustain in the event of and by reason of such delay; and it is therefore agreed that the Contractor will pay to the City of Sand City the sum of **Five Hundred dollars ($500)** per day for each and every day's delay beyond the time prescribed to complete the work or the actual damages ascertained, whichever will be greater; and the Contractor agrees to pay such liquidated damages as herein provided; and in case the same are not paid, agrees that the City of Sand City may deduct the amount thereof from any money due or that may become due the Contractor under the contract.

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

The contractor shall not be assessed with liquidated damages nor the cost of engineering and inspection during any delay in the completion of the work caused by Acts of God or of the public enemy, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather or delays of subcontractors due to such causes; provided that the Contractor shall within ten (10) days from the beginning of any such delay notify the Engineer in writing of the causes of delay, who shall ascertain the facts and the extent of delay, and his findings of the facts thereon shall be final and conclusive. "Unusually severe weather" means that which is considered outside the normal average for the Monterey area as determined by historical weather records. The Contractor will not receive a time extension for normal or below normal precipitation.

CONSTRUCTION PROCEDURE

An outline of the proposed construction procedure shall be submitted by the Contractor to the Engineer for review and shall obtain his approval before beginning work. The Engineer will be especially interested in:

1. Minimizing any interruption to use of driveways (no more than 4 hour interruption). Any interruption more than 4 hours shall be prearranged with the Engineer. Residence occupant shall be notified with a written notice a minimum of three (3) business days in advance.

2. Adjacent property owners shall be notified with a written notice a minimum of three (3) business days in advance of any construction impacts.

3. Minimizing any interruption to building operations and parking lots. Contractor shall notify the Engineer a minimum of one week in advance of any interruptions to building operations and parking lots.

4. Minimizing any hazard to the general public.

5. Proper handling of hazardous materials.

6. All work will occur between 7 am and 7 pm unless otherwise approved in writing.

7. Contractor shall notify the Engineer a minimum of twenty-four (24) hours in advance of concrete placement for checking and acceptance of forms by the Engineer prior to concrete placement. Mitigation of concrete placement done without acceptance of forms by the Engineer prior to concrete placemat shall be the sole responsibility of the Contractor. The costs of such mitigation shall be borne by the Contractor.

Traffic control requirements cited elsewhere in these Specifications must be considered in the construction procedure submitted to the Engineer.

TRAFFIC CONTROL

Pursuant to the authority contained in Vehicle Code Section 591, the City has determined that within those areas that are within the limits of the project and are open to traffic, the Contractor shall comply with all the requirements set forth in Divisions 11, 12, 13, 14 and 15 of the Vehicle Code. In accordance with the statement in Vehicle Code Section 591, this section shall not relieve the Contractor or any person from the duty of exercising due care. The Contractor shall take all necessary precautions for safe operation of the Contractor's equipment and the protection of the public from injury and damage from the Contractor's equipment.

Traffic control shall conform to the provisions of Section 12, "Temporary Traffic Control" of the Standard Specifications and the 2014 California Manual on Uniform Traffic Control Devices (CA MUTCD) as adopted by Caltrans.

A Traffic Control Plan (TCP) shall be submitted to the Engineer for approval prior to construction and must be applicable to existing site conditions. Contractor shall notify all emergency services, affected residences, affected businesses, and the Engineer's Office (831) 394-3054 a minimum of three (3) business days in advance as to proposed closures and alternate routes available.

The following shall be incorporated into the Traffic Control Plan:

1. Two (2) travel lanes shall be open during non-working hours.

2. At least one (1) travel lane shall remain open during working hours. Flag persons or other appropriate traffic control devices as approved by the Engineer shall be used during periods of one-way travel.

3. Access to driveways shall be left open unless work is actually being performed in areas fronting the driveway. All driveways shall be accessible during non-working hours. See Construction Procedure elsewhere in these specifications.

4. No trench shall be left open during non-working hours.

5. Parking restrictions will be acceptable when and where needed. (All require prior approval of the Engineer).

The following requirements apply to Traffic Control Plans:

1. All Traffic Control Plans shall follow the CA MUTCD Chapter 6. Examples may be found at: http://www.dot.ca.gov/trafficops/camutcd/docs/2014r3/CAMUTCD2014-Part6_rev3.pdf
2. The contractor shall submit a TCP using legible lettering. Show location and dimensions of the work zone, lanes, tapers, parking and any staging areas.
3. Label streets and proposed traffic control area. Show all nearby streets with street names to assure proper orientation.
4. Show all affected sidewalks, crosswalks, bike lanes, driveways and intersections in the construction work zone including areas affected by taper transition.
5. If a sidewalk or path is obstructed, contractor must then submit an ADA compliant pedestrian detour plan in accordance with the CA MUTCD chapter 6D and the Public Rights-of-Way Accessibility Guidelines (PROWAG). Please refer to: http://www.dot.ca.gov/trafficops/camutcd/docs/2014r3/CAMUTCD2014-Chap6D.pdf
6. Label all taper lengths and widths, delineator spacing and sign spacing. Indicate location of construction signs, barricades and delineators.
7. Show all parking restriction zones and signs, as appropriate. Telephone the Police Department (831.394.1451) if restricting parking in time-limit or metered zones. Temporary “NO PARKING” signs shall be posted seventy-two (72) hours prior to commencing work.
8. Indicate on the TCP the duration of the construction work, including dates and times.
9. Indicate on the TCP the Contractor’s name, address and telephone number. Include the Contractor’s during and after hours Representative’s contact information (name, telephone number).
10. It is the Contractor’s responsibility to assure that all Traffic Control Plans (TCP) and traffic control devices are in compliance with the 2014 CA MUTCD as adopted by Caltrans.

Traffic Control Plans shall contain the following notes:

1. Minimum width of temporary traffic lanes is ten (10) feet clear (from delineator or cone base, not center.
2. The City Traffic Engineer or his representative has the authority to make any field changes to assure public safety.
3. All traffic control devices shall be removed from view when not in use. Signs shall not be facing traffic when not in use.
4. Spacing of channelizing devices shall not exceed twenty-five (25) feet.
5. Any road closure also requires notification be provided to the City of Monterey Fire Department and Sand City Police Department. Notifications may be made at the non-emergency telephone number, 831.646.3914.
6. All temporary traffic delineation (delineators and cones) used shall be a minimum of thirty-six (36) inches tall. Retroreflective bands are required for night time traffic.
7. Any work that disturbs normal traffic signal operations shall be coordinated with the Signal Traffic Technician.
8. The Contractor is responsible for restoring the road back to satisfactory condition including, but not limited to, paving, striping, markings, signs and traffic signal loop detectors within five (5) calendar days of

completion of work at affected intersections or road segments.

9. Any work that created an undue safety risk or creates severe congestion may be shut down by the City Traffic Engineer, his/her representative, Field Inspector or Police Department personnel.

The Contractor is to notify residences and/or businesses a minimum of three (3) business days in advance of closing access to any driveways or providing any detours or changes in on-street parking. Notifications shall be in writing.

Contractor shall provide all labor and facilities required for safe and expeditious handling of traffic during the course of construction. Contractor shall provide all flaggers, signs, delineators, and barricades required for traffic control and shall modify or remove same at appropriate times. The Engineer shall be the sole judge as to the adequacy of the Contractor's traffic control measures. If such measures are found to be inadequate by the Engineer, the City may furnish and install same and charge the Contractor therefor.

The Contractor shall, at his/her own expense, construct and maintain in good condition, such detours, detour bridges and temporary crossings for use by the public as deemed necessary or expedient by the Engineer for the proper execution of the work.

The Contractor shall designate a representative who can be reached immediately (24 hours per day) in the event of traffic control device failures.

REMOVAL OF OBSTRUCTIONS

The Contractor shall remove and dispose of all structures, debris or other obstructions of any character to the construction called for in the plans, specifications, and as required by the Engineer.

If archeological items or hazardous wastes are discovered during construction operations, the Contractor shall cease operations in those areas and the Contractor shall immediately notify the Engineer.

The Contractor shall remove and dispose of all trees designated for removal as shown on the plans, designated by the specifications and as required by the Engineer for the proper completion of the work. See Tree Protection Requirements elsewhere in these specifications.

UNDERGROUND UTILITIES

Contractor shall locate all underground obstructions and utilities, (electric, gas, water lines, etc.). Prior to any trenching operation, Contractor shall pothole underground obstructions and utilities that appear to be in conflict with the new construction. The Plans show the approximate location of underground facilities in the project area as they have been provided to the City. Repair of damage to any utility line shown on the Plans with reasonable accuracy shall be made at the Contractor's expense. However, the City shall fairly compensate the Contractor for costs of locating and repairing damage not due to failure of the Contractor to exercise reasonable care, and removing or relocating such facilities not indicated or in a location different from that indicated on the Plans and Specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay in completion of the project when such delay was caused by the failure of the City or utility company to provide for removal or relocation of such utility facilities. Contractor shall notify all utility companies of trenching operations forty-eight (48) hours in advance to enable the utility companies to take any action they deem appropriate.

UTILITY COMPANY COORDINATION

Contractor shall coordinate construction activities with the utility companies as required and shall adjust the construction schedule to accommodate utility relocation as necessary.

CONTRACT PLANS AND SPECIFICATIONS

The Contractor will be supplied with five sets of plans and specifications at no expense. One of these sets of plans is to be used for the purpose of recording record (as-built) conditions. Additional sets will be furnished on request at the cost of reproduction. The work shall conform to the contract plans and specifications, all of which form a part of

the contract documents and are available at City Hall, Sand City, California.

DUST CONTROL

The Contractor shall minimize dust generation from the jobsite and shall spray the site with water or dust palliative as required, in accordance with Section 14-9, "Air Quality", of the Standard Specifications.

CONNECTION TO EXISTING UTILITIES

The City shall permit the Contractor to use available existing utilities at the City's expense, excluding telephone; however, if the Contractor chooses to make use of said utilities, Contractor shall assume full responsibility for any changes made by Contractor related thereto, and for any consequences caused thereby. Upon completion of the work, Contractor shall remove any modifications to existing utilities made by Contractor, and shall restore existing utilities to conditions existing at time of award.

SANITARY FACILITIES

Contractor may provide his/her own portable sanitary facilities on-site, for the duration of the work. Coordinate location(s) with the Engineer. Existing City-owned sanitary facilities may be used.

INSPECTION OF WORK

It is the responsibility of the contractor to call for all required inspections within the required time lines. The City of Sand City reserves the right to perform random inspections at any time.

The Engineer shall at all times have access to the work during construction, and shall be furnished with every reasonable facility for ascertaining full knowledge respecting the progress, workmanship and character of materials used and employed in the work.

Whenever the work provided and contemplated by the contract shall have been satisfactorily completed and the final cleanup performed, the Engineer will make the final inspection.

RECORD DRAWINGS

A set of marked-up prints, clear, legible, and made with standard drafting tools and indicating all changes, added work, and deviations from the design and reflecting the record (As-Built) condition of the work must be received before the work is considered complete. Existing utilities exposed during construction are to be located, including invert or top elevation, and shown on the Record (As-Built) drawings.

The Record (As-Built) Drawings shall be completed for the Engineer's acceptance before final payment and Notice of Completion on this contract will be made.

ENVIRONMENTAL/POLLUTION PREVENTION REQUIREMENTS

Contractor shall comply with all air pollution and environmental control rules, regulations, ordinances and statutes that apply to the project and any work performed pursuant to the contract. Additionally, Sand City Municipal Code Chapter 13:05 Storm Water Management Section 13.05-060. Prohibition of Illegal Discharges, states,

> "*No person shall discharge or cause to be discharged into the municipal storm drain system or water courses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water…"*

Regardless of project size, the Contractor shall submit a site-specific Erosion and Sediment Control Plan or Storm Water Pollution Prevention Plan for City review and approval prior to start of work. The Contractor shall effectively implement and properly maintain storm water best management practices (BMPs) during construction to prevent discharges of pollutants, and including trash, to local drainages and waterways. Contractor shall comply with all water quality regulations in Sand City Municipal Code Chapter 13:05 Storm Water Management, and City Phase II Storm Water Permit requirements as prescribed by the State Water Resources Control Board (SWRCB) and Central Coast

Regional Water Quality Control Board (RWQCB) regulations for the prevention of construction site discharges of pollutants, illicit discharges, and enforcement of prohibited and illicit discharges. The contractor shall employ at all times storm water runoff controls and BMPs at the site, including but not limited to erosion prevention, sediment controls, site stabilization, good housekeeping practices, proper materials storage, handling, and waste management, and similar pollution prevention measures to prevent dumping or illegal discharges during construction into the street and/or storm drain system. Storm water management and control practices shall result in the following outcomes on all construction sites, regardless of size:

- Protection of storm drain inlets and adjacent waterways must be implemented at all times to prevent illicit discharges of sediment, construction debris and fluids, and waste of any kind;

- No release of hazardous substances, such as oils, paints, thinners, fuels, and other chemicals; if such a spill occurs that may threaten local water quality, contractor must call 911 immediately and notify City Public Works staff;

- Minimization of site disturbance shall be kept to that portion necessary for construction only, and perimeter controls shall be implemented at all times during all weather conditions;

- Soil stabilization of graded areas shall be in place at all times where construction activities have temporarily and/or permanently ceased;

- No deposit of mud, soil, sediment, concrete washout, trash, dewatering, or other similar construction-related material or waste shall occur on or into public rights of way, private streets, or into the City's storm water system and related natural resources, either by direct deposit, dropping, discharge, erosion, or tracking by construction vehicles. Any such discharge shall be cleaned-up promptly if an immediate threat to water quality exists, or if not immediate, at the end of the current work shift or workday in which the deposit occurred, whichever comes first;

- No runoff from graded areas or stockpile areas shall contain sediments and/or pollutants. Stockpiles shall be adequately and securely covered to avoid contact with rainfall and wind to prevent soil and stockpile movement by water and/or wind;

- Runoff containing sediments shall be captured in secondary containment structures and either treated to remove sediments prior to discharge or infiltrated in the soil on-site;

- No exposure of graded areas and stockpile areas to storm water run-on shall occur. Run-on shall be controlled by diversion structures such as dikes, secondary containment, or stockpile covers; and,

- All hard-surfaced areas are to be swept regularly and free of dirt and construction debris such that the surface of the pavement is clearly visible at all locations, and construction entrance/exist(s) shall be adequately stabilized to prevent tracking of soil/sediment from reaching streets/paved surfaces and drainage pathways.

Best management practices (BMPs) are required to be illustrated in construction Plans and employed on all construction sites as applicable to the construction activity and shall provide for, and not be limited to: inlet protections, perimeter protections, erosion prevention and soil control measures, soil stabilization measures, spill prevention and discharge control measures; solid waste containment; concrete waste management; proper vehicle and equipment cleaning, fueling, and maintenance; and proper materials management and storage. Detailed procedures to accomplish these protections can be found through the California Storm Water Quality Association's *Construction BMP Handbook Portal*, U.S. EPA *Construction BMP Database and Factsheets*, *Caltrans Storm Water Quality Manuals and Handbooks*, and the *Erosion and Sediment Control Field Manual* by San Francisco Bay Regional Water Quality Control Board. Referenced documents are available for viewing at the City of Sand City City Hall.

Activities to be performed by Contractor include, but are not limited to:

- Development and submittal of an Erosion and Sediment Control Plan or Storm Water Pollution Prevention Plan for City review and approval prior to construction start.

- At all times, Contractor shall implement and maintain the temporary and permanent vegetation (if any), erosion and sediment control measures, and other protective BMP measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness of BMPs, restoration needs for destroyed vegetative cover, and by repair of erosion, sediment, and other protective measures.

- Contractor shall inspect the following areas at least once every seven (7) calendar days, unless otherwise necessary based on current weather conditions or as directed by City inspector, and always within 24 hours prior to and after any predicted storm:

    - Inlet protections and perimeter controls;
    - Vehicle entry and exist locations;
    - Vehicle parking and storage areas;
    - Disturbed areas of the construction site,
    - Areas that have not been finally stabilized,
    - Areas used for storage of materials that are exposed to wind or precipitation,
    - Equipment and staging areas that are exposed to wind or precipitation; and,
    - All waste storage and handling devices and areas.

    Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

- Areas noted above shall be inspected for proper BMP implementation and necessary BMP maintenance, as well as evidence of, or the potential for:

    - Erosion, or
    - Sediments entering waterways or the drainage system, or
    - Pollutants entering waterways or the drainage system.

    Erosion and sediment control measures shall be observed and maintained to ensure that they are operating correctly. Discharge locations or points shall be inspected regularly to ascertain whether erosion control measures are effective in preventing sedimentation and subsequent degradation of receiving water quality in violation of receiving water quality standards. Vehicle entry and exist locations shall be inspected for evidence of offsite sediment and pollutant tracking and need for cleanup and improved BMP protection measures

- Deficiencies observed during inspections shall be noted and rectified before the end of the workday.

Additionally, the Contractor shall comply with the State Water Resources Control Board's Construction General Permit (CGP), as applicable to the project. Projects subject to the CGP include those that disturb one or more acres of soil, are less than one acre and are part of a common plan of development or sale, or applicable Linear Underground/Overhead Projects, and are required to obtain coverage under the State's CGP for Discharges of Storm Water associated with Construction Activity Construction General Permit Order 2009-0009-DWQ, and subsequent amendments thereto. Construction activities subject to this permit include clearing, grading, and disturbances to the ground such as stockpiling, or excavation, but do not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. Application for CGP coverage is made by the Contractor through a Notice of Intent (NOI) to the SWRCB and involves much interaction with the applicable RWQCB as CGP regulator. The Contractor shall develop and supply the City with NOI and associated Storm Water Pollution Prevention Plan (SWPPP) for review and records purposes.

CGP coverage requires the development and implementation of a SWPPP. The SWPPP contents are mandated by the SWRCB and are subject to change, and typically contain site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must illustrate the placement of BMPs for the construction project and list pollution prevention BMPs the discharger will use to protect storm water runoff. Additionally, applicable SWPPPs must contain a visual monitoring program and a chemical monitoring program for "non-visible" pollutants to be implemented. All SWPPPs must be developed by a Qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP), and supplied to the City for review and comment. Additional CGP information on can be found at the State Water Resources Control Board CGP website:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Construction site storm water management and control measures shall be implemented year-round regardless of "season". All construction site BMPs shall be implemented at the appropriate level for the construction activity at hand and in a proactive manner during all seasons while construction is ongoing.

In addition to inspections performed by the City, the City's representative may perform periodic site monitoring visits to ensure the contractor complies with the requirements specified herein. The City shall provide copies of the completed site monitoring reports to the Contractor. In the event work is found non-compliant, a follow up site monitoring visit will be conducted to ensure non-compliant items have been corrected to the satisfaction of the City. If non-compliant items are not properly addressed prior to the follow up site monitoring visit, the costs associated with additional follow up site monitoring visits shall be deducted from the Contractor's final payment.

CALABRESE PARK, PENDERGRASS WAY, AND CITY HALL IMPROVEMENT PROJECT

TECHNICAL SPECIFICATIONS

1. MOBILIZATION

Refer to California Public Contracts Code §10104 for Mobilization requirements, Section 1-1.07B of the Standard Specifications for the definition of Mobilization and Section 9-1.16D of the Standard Specifications.

Mobilization includes preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site, for the establishment of all offices, staging areas and other facilities necessary for work on the project, and for all other work and operations which must be performed, or costs incurred prior to beginning work on the various items on the project site.

The contractor shall photograph or video the entire site(s), and each existing improvement prior to construction.

Note that the City has not provided a laydown area for the Contractor. The Contractor shall be responsible for establishing a laydown area and coordinate such location with the City.

Contractor shall document all design changes and prepare red lined plans representing the finished field conditions.

On a daily basis, the Contractor shall clean all portions of the project area. This work includes removing all debris, street sweeping, clearing Underground Service Alert marks, and power washing sidewalks.

2. TRAFFIC CONTROL SYSTEM

Attention is directed to Sections 7-1.03, "Public Convenience," 7-1.04, "Public Safety," 12, "Temporary Traffic Control," of the Standard Specifications and Traffic Control in Part IV of the Special Provisions. The most stringent requirements shall apply.

All traffic control will be provided by the Contractor. Nothing in these Special Provisions shall be construed as relieving the Contractor from his/her responsibility as provided in said Section 7-1.03 of the Standard Specifications.

Any deviation in traffic control from the references mentioned above will not be allowed unless advance written approval is granted by the Engineer. Minor deviations from the traffic requirements of this section, which do not significantly change the cost of the work, may be permitted upon the written request of the Contractor, if in the opinion of the Engineer public traffic will be better served and work expedited. Such deviations shall not be adopted until the Engineer has indicated his written approval. All other modifications will be made by contract change order.

Contractor shall provide all markers, signs, delineators, barricades, portable flashing beacons, flaggers, etc. necessary to ensure the safe passage of traffic through the work zone.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

The Traffic Control System shall be placed, maintained and removed under the direct supervision of a person who is certified by either the Institute of Transportation Engineers (ITE), the American Traffic Safety Services Association (ATSSA), the International Municipal Signal Association (IMSA) or the State of California Department of Transportation (Caltrans) as having successfully completed training in the design and operation of work zone traffic control.

The Contractor shall designate in writing the person who shall have the responsibility for supervising the activities associated with the Traffic Control System. Traffic Control Plan as per Section 7-1.04 Public Safety of the Standard Specifications, along with proof of certification, shall be submitted in writing at the Preconstruction meeting to the Engineer for approval. Any changes to plan, shall be provided to the Engineer for his approval, two (2) working days in advance of any planned activity, which requires traffic control.

Construction Area Signs

Construction area signs shall be furnished, installed, maintained, and removed, when no longer required, in accordance with the provisions in Section 12, “Temporary Traffic Control,” of the Standard Specifications and these Special Provisions.

The Contractor shall notify the appropriate regional notification center for operations of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to commencing any excavation for construction area sign posts.

All excavations required to install construction area signs shall be performed by hand methods without the use of power equipment.

The location for each sign shall be approved in advance by the Engineer. Signs shall be mounted on 4" x 4" new wood posts, 7' above grade. The required size of each of the signs shall be 36” x 36” for W20-1, “Road Work Ahead,” and 48” x 48” for G20-2, “End Road Work.” The sign panels for all construction area signs, including temporary signs, shall conform to Section 12-3.11 of the Standard Specifications.

Full compensation for complying with the provisions of this section shall be included in the lump sum bid for “Traffic Control System.”

3. WATER POLLUTION CONTROL

Refer to the Environmental/Pollution Prevention Requirements in Part IV of the Special Provisions of these Specifications for establishing and maintaining water pollution control.

4. CRITICAL PATH METHOD (CPM) SCHEDULE)

Refer to Section 8-1.02C (1) of the Standard Specifications for preparing and maintaining a critical path method schedule. The schedule must be submitted for approval during the pre-construction meeting.

5. LEAD COMPLIANCE PLAN

Yellow thermoplastic and yellow paint traffic stripe exist along certain lengths of the project. Residue produced when yellow thermoplastic and yellow paint are removed may contain heavy metals in concentrations that exceed thresholds established by the California Health and Safety Code and may produce toxic fumes when heated. The existing pavement markings must be tested for lead content. If the evaluation indicated elevated levels of lead and chromium, residue from the removed markings must be treated as a hazardous waste, and must be handled and disposed of in accordance with the requirements outlined below.

Prepare and submit a Lead Compliance Plan in accordance with Section 7-1.02K (6) (j) (ii) of the Standard Specifications. Before submission to the Engineer, the Lead Compliance Plan must be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The Plan must be submitted to the Engineer at least 7 days prior to beginning removal of yellow thermoplastic and yellow paint. Perform all removal work according to the Plan.

The removed yellow thermoplastic and yellow paint must be disposed of at a Class 1 disposal facility or a Class 2 disposal facility permitted by the Regional Water Quality Control Board in conformance with the requirements of the disposal facility operator within 5 days after accumulating 220 pounds of residue and dust.

Where grinding or other methods approved by the Engineer are used to remove yellow thermoplastic and yellow painted traffic stripe, the removed residue, including dust, must be contained and collected immediately. Sweeping equipment must not be used. Collection must be by a high efficiency particulate air (HEPA) filter equipped vacuum attachment operated concurrently with the removal operations or other equally effective methods approved by the Engineer.

ROADWAY IMPROVEMENTS

6. PROTECTION, REMOVAL, AND RELOCATION OF EXISTING FACILITIES

The work performed in connection with existing facilities shall conform to the provisions in Section 15, "Existing Facilities," of the Standard Specifications and these special provisions.

General
The Contractor's attention is directed to the existence of certain underground facilities which may require that special precautions be taken by the Contractor to protect the health, safety and welfare of workmen and of the public. The Contractor shall notify the Engineer at least forty-eight (48) hours prior to performing any work in the vicinity of such facilities.

The Contractor shall call USA at (800) 227-2600 to mark the locations of all underground utilities at least forty-eight (48) hours before the intended start of excavation. The Contractor shall remove all project USA markings, Engineer markings, and Survey markings, prior to project completion.

Any damage to any utility due to the Contractor's operations shall be repaired or replaced by the Contractor to the satisfaction of the Engineer. Contractor shall use extra caution prior to excavating where utility lateral locations are not known, and shall repair property damage caused by damage to any utility.

Delays
The Contractor shall receive no additional compensation for delays or inconvenience caused by utility relocations and/or adjustments. The delay caused by these relocations and/or adjustments shall not count towards the Contractor's "working days."

Relocation of Water Riser
The Contractor must coordinate relocation with Cal Am prior to start of construction as noted in the project plans in accordance with these specifications. Contact CalAm representative, Leslie Sylva, at (831) 646-3224 or
E-mail: lesley.silva@amwater.com

Removal of Existing Pavement
The Contractor shall remove and dispose of existing pavement in accordance with these specifications.

Removal of Concrete
The Contractor shall remove and dispose of existing Portland cement concrete curb, gutter, sidewalk, driveway, curb ramp, and valley gutter, at the locations shown on the Plans in accordance with Section 15-1.03B "Removing Concrete" of the Standard Specifications. When curb and gutter are removed, the Contractor shall immediately place portable delineators along the edge of the pavement. Portable delineators shall be 36-inch minimum height, orange with white reflectors. The delineators shall be maintained by the Contractor until new curb and gutter are placed. All materials removed shall be legally disposed of in accordance with Section 7-1.04, "Public Safety," of the Standard Specifications.

Existing concrete to be removed shall be sawcut at the nearest joint or score line. Any existing concrete damaged by reason of the Contractor's operations outside this limit shall be repaired at the Contractor's expense. The repair shall be made by removing and replacing the entire portion between weakened plane joints or score lines.

Nothing in these Special Provisions shall relieve the Contractor of the Contractor's responsibility as specified in Section 7-1.04, "Public Safety," of the Standard Specifications.

Removal of Existing Storm Drain Inlet
Storm Drain Inlets to be removed shall be transported offsite and disposed of in a legal manner. Dismantling of the existing facilities in the trench or at the project site shall not be done by impact from driver mounted equipment (backhoe, loader, etc.) without prior approval of the Engineer.

Removal of existing storm drain inlets may require additional excavation and backfilling, beyond the limits of the excavation for the proposed facilities, so that the complete structure can be removed. No extra compensation shall be considered for such additional excavation to remove structures.

The Contractor shall submit to the Engineer a plan and coordinated construction schedule for removal of existing active drainage facilities and reconnecting existing system elements to the permanent facilities as shown on the drawings. The plan shall address the matter of interim handling of drainage as appropriate for dry (May-October) or wet (November-April) weather months until the permanent works are constructed and ready to handle drainage.

Removal of Parking Tire Stops

Existing tire stops to be removed are identified in the project plans. Contractor must coordinate the removal of the tire stops with the engineer.

7. WEDGE GRIND AND CONFORM GRIND

Cold planing in accordance with Section 39-3.04 of the Standard Specifications shall be used for pavement wedge removal and conform grinding at pavement transitions. Planing machine shall have cutter head at least 4 feet wide. On streets designated for overlay, contractor shall have a wedge of pavement removed to facilitate placement of overlay by wedge grinding the full length of the pavement adjacent to lip of existing gutters, and conform grinding at cross streets and at other locations shown on plans or as designated by the Engineer. Cold planing at edge of pavement shall be to depth noted on plans, below existing lip of gutter or adjacent asphalt concrete pavement.

Final cut shall result in uniform surface. Outside lines of planed area shall be neat and uniform.

If utility castings are encountered within wedge grind or conform grind area, said castings shall be protected by performing wedge removal using hand tools or other approved method and shall be adjust to finished grade as shown on plans and in conformance with these special provisions.

Wedge Grind shall be 8 feet maximum at HMA overlay conditions. Refer to Construction Details in the project plans.

8. HOT MIX ASPHALT

General

This work includes producing and placing hot mix asphalt (HMA) Type A for Overlay Conditions and new pavement sections. The contractor shall place hot mix asphalt (HMA) Type A with the thickness shown on the plans.

Comply with Section 39, "Hot Mix Asphalt," of the Standard Specifications except as modified herein.

Submittals

Submit JMF information on Form CEM-3511 and Form CEM-3512. Submit Form CEM-3513 for mixes that have been verified within last 12 months. For unverified mixes, coordinate mix verification with Engineer.

Submit Quality Control Plan that conforms to the current Caltrans Quality Control Plan Review Checklist for Hot Mix Asphalt. Allow 20 calendar days for review.

Materials

The grade of asphalt binder mixed with aggregate for HMA Type A must be PG 64-10.

The aggregate for HMA Type A must comply with the 3/8” gradation for leveling course, 1/2” gradation for the final lift and 3/4” gradation for the lower lifts and base repair areas as shown on the plans.

The tack coat shall be emulsified asphalt of grades RS1, RS2, SS1, or SS1h, conforming to Section 94, ‘Asphaltic Emulsions’, of the Standard Specifications.

Construction

SURFACE PREPARATION

This work consists of preparing the existing street surface prior to the commencement of paving. Such work shall include compacting and removing loose and broken asphalt concrete pavement and foreign material as specified in the Standard Specifications and these Technical Provisions, and as directed by the Engineer.

SAMPLING

The City’s Engineer will have the right to obtain samples of all materials to be used in the work and to test such samples for the purpose of determining specification compliance. The City reserves the right to obtain said samples at the point of delivery and/or at the point of manufacture. The City shall also have the right to inspect sources of materials to be used in the work to determine workmanlike procedures used by the materials supplier. The contractor shall facilitate the sampling process.

TRANSPORTATION AND PLACEMENT

The asphalt concrete shall be delivered in a thoroughly blended condition and shall be spread by an asphalt paving

machine in such a manner as to avoid segregation during the placing operations. Areas inaccessible to spreading and compaction equipment may be paved by such methods as may be approved by the Owner's Engineer. Initial rolling shall be performed immediately after placement. No asphalt concrete is to be placed when the atmospheric temperature is below 50 degrees Fahrenheit.

EQUIPMENT*:*

Paving Machine
Asphalt pavers shall be mechanical spreading and finishing equipment, provided with a screed or strike off assembly capable of distributing the material to not less than eight (8) feet. Screed action shall include any cutting, crowding or other practical action which is effective on the mixture without tearing, shoving, or gouging, and which produces a surface texture of uniform appearance. The screed shall be adjustable to the required section and thickness. The paver shall be provided with a full width roller or tamper or other suitable compacting devices. Pavers that leave ridges, indentations or other marks in the surface shall not be used unless the ridges, indentations or other marks are eliminated by rolling or prevented by adjustment in operations.

Compaction Rollers
The Contractor shall furnish equipment capable of producing the required compaction. Vibratory rollers shall be double steel drum and have adjustable amplitude settings.

Hand Equipment
Sufficient vibraplates and hand tampers shall be provided to assure their immediate availability when placing asphalt concrete around planters, inside corners, or irregular areas. Torches for heating cold joints or making repairs shall be available during every paving operation. Lack of such hand equipment shall be cause to prevent paving from starting or continuing.

TACK COAT
The work to be performed shall consist of furnishing and applying tack coat in conjunction with asphalt concrete overlays and other asphalt concrete paving work.

Tack coat shall be emulsified asphalt of grades RS1, RS2, SS1, or SS1h, conforming to Section 94, 'Asphaltic Emulsions', of the Standard Specifications.

The tack coat shall not be applied until the preparation of the existing surface has been completed, and then only so far in advance of placing the asphalt concrete as permitted by the Engineer. Preparation of the surface shall be performed as described in these Technical Provisions. No tack coat shall be left exposed overnight. Immediately in advance of placing the asphalt concrete, additional tack coat shall be applied as directed by the Engineer to areas where previously applied tack coat has been destroyed or otherwise rendered ineffective, and no additional compensation will be allowed for such work.

Tack coat shall be applied to all vertical surfaces of existing pavement, curbs, gutters, and construction joints, against which additional material is to be placed, to a new or old pavement to be overlaid, and to other surfaces as designated by the Owner's Engineer. Shields for protecting curb faces shall be provided and used during tacking of curb faces. The Contractor shall protect concrete surfaces that are not to be paved against from tack coat spray or splash. Any tack coat more than one inch above the paving surface shall be removed by power washing or other means.

The Engineer will determine if the pavement is sufficiently dry for the application of the tack coat. Tack coat shall not be applied when the temperature of the surface to be tacked is below 40 degrees Fahrenheit in the shade.

WORKMANSHIP

Finished Surface
The completed surfacing shall be thoroughly compacted, smooth, and free from ruts, humps, depressions, irregularities, rock pockets, excessive coarse aggregate, and roller marks.

Any ridges, indentations, or other objectionable marks left in the surface of the asphalt concrete shall be eliminated by rolling or other means. The use of any equipment that leaves ridges, indentations, or other objectionable marks

in the asphalt concrete shall be discontinued.

The Contractor shall provide sufficient manpower and manual compacting equipment to perform all handwork compaction in unison with the initial compaction rolling. If the handwork compaction begins to lag for whatever reason, the Contractor shall cease paving operations until the handwork compaction is caught up with the rest of the paving operation.

Areas of hand work at joints and miscellaneous structures shall match the smooth surface texture of all other areas of the new pavement. Any areas which have a rough surface texture shall be reworked with heat and asphalt concrete fines shall be placed. Coarse aggregate removed during raking shall not be returned to the finished mat surface. Such coarse aggregate may be returned to the hopper of the paving machine or spread immediately in front of the paver. Cold coarse aggregate shall not be reused, but discarded.

Finished areas of asphalt concrete adjacent to concrete drainage facilities shall be placed in such a manner that the finished surface is no greater than 1/4 inch higher than the facility and no lower than flush with the facility.

Cold Joints
The contractor shall heat by torch or other acceptable methods paving joints which do not receive an adjacent pass within 3 hours of placement. If the cold joint goes unpaved against overnight, the contractor shall heat the joint and place tack coat prior to placing the adjacent pass. Longitudinal pavement joints shall be on, or as close as possible to, the lane lines.

9. CLASS II AGGREGATE BASE MATERIAL

General
The work covered by this section shall consist of furnishing, spreading and compacting aggregate base required during utility operations, pavement works, and concrete works, in accordance with the provisions of Standard Specifications Section 26, "Aggregate Bases", and as specified herein.

Materials
Class II Aggregate Base sizes shall be comply with the project's Geotechnical Report prepared by Moore Twining dated December 20, 2021. All aggregate base shall be placed and compacted conforming to the provisions in Section 26, "Aggregate Bases," of the Standard Specifications.

Compaction and Tolerance
95% minimum relative compaction as shown on the Plans and as determined by State of California compaction test No. 216G. The finished surface of the base course shall meet the grade and cross section of the existing pavement. Grading tolerance shall be 0.02' or less.

Testing
The City may contract with and pay for initial compaction tests for Quality Assurance. Contractor shall pay the cost for retesting and re-inspections of failed work until such work is accepted. Quality control inspecting and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

10. GRIND, REMOVE, AND DISPOSE OF EXISTING AC AND AB

General
This work shall consist of uniform and variable depth cold planing (or "milling" or "grinding") the existing asphalt concrete pavement and removing and disposing of grinded material as shown on the project plans. "Grind, Remove, and Dispose of Existing AC and AB" includes the grind, removal, and dispose of existing pavement and aggregate base for new pavement sections (HMA/AB Sections) as identified in the plans.

The Contractor shall grind existing pavement as shown on the Plans. The presence of pavement fabric within the depth to be cold milled shall be noted on the Plans or in the Special Provisions. The surface after cold milling will be uniformly grooved or ridged unless otherwise specified in the Special Provisions. The outside lines of the milled pavement shall be neat and uniform.

The milled pavement shall be true to grade and cross section. When a straightedge is laid on the finished surface parallel to the centerline of the roadway, the surface shall not vary from the edge of the straightedge more than 3/8 inch (9.5 mm) at any point, except at intersections or at changes of grade. Any areas that are not within tolerance

shall be brought to grade within 1 Working Day following initial cold milling.

Cold milling operations shall be performed without damage to the remaining pavement. Whenever cold milling is adjacent to existing Portland cement concrete curbs, gutters or pavement the Contractor shall protect these improvements from damage. Any Portland cement concrete curbs gutters or pavement damaged during cold milling operations shall be repaired as directed by the Engineer at the Contractor's expense. Any Portland cement concrete curbs, gutters or pavement that is cracked or displaced shall be removed and replaced at the Contractor's expense. Replaced sections of Portland cement concrete curb, gutter or pavement shall be a minimum of 5 feet (1500 mm) in length or to the next joint.

The Contractor shall remove existing asphalt concrete overlay from gutters adjacent to any area Specified to be cold milled, as directed by the Engineer.

Milling machines shall be specially designed for cold milling of asphalt concrete, Portland cement concrete, or a combination of asphalt and Portland cement concrete pavement. Milling machines shall conform to the following:

6. The cutting drum shall be a minimum 60 inches (1500 mm) wide and shall be equipped with carbide-tipped cutting teeth placed in a variable pattern to produce the desired finish.

7. Be self-propelled and capable of removing the pavement to the depth shown on the Plans.

8. Be equipped with a conveyor system that will immediately convey the milled material into a transport vehicle for disposal as specified in the Special Provisions.

9. Have the capability of spraying water at the cutting drum to minimize dust.

10. Be designed so that the operator can observe the milling operation, at all times, without leaving the controls.

11. Be adjustable for slope and depth.

12. Be able to deep cut, in one pass, to the maximum depth recommended by the manufacturer without producing fumes or smoke.

The Contractor shall provide smaller machines if required to cold mill areas that are inaccessible to the larger machine and to provide the surface specified in the Special Provisions.

The cold planing machine shall be specifically designed for automatically controlled profiling. The automatic controls shall provide for accurately establishing profile grades at each edge of the machine by referencing from the existing pavement or an independent grade reference, where required, or be capable of automatically maintaining a designated cross slope from a single reference.

The machine shall be self-propelled and shall have sufficient power, traction and stability to maintain an accurate depth of cut. The machine shall also be equipped with means to effectively control dust generated by the cutting operation.

Immediately following the milling process the Contractor shall have all milled material removed from the job site and disposed of. The milled section shall be cleaned of all loose material. Power-brooming shall be supplemented by hand brooming when necessary, until the surface is free of deleterious material. Each street shall be swept immediately after the cold planning operation has been completed. Streets shall not be washed to the extent that debris may enter the storm drain system. All streets, gutters and local depression areas of catch basins shall be kept free of dirt, rocks or other debris at all times. During cold planning operations, all catch basin inlets shall be covered with a fabric which will allow the passage of water but will not allow debris to enter storm drain.

Temporary pavement markings shall be provided on all cold planed surfaces if section will be opened to traffic. Refer to Traffic Striping section of these Specifications for pavement striping and marking. Refer to Section 12, Traffic Control, of the Standard Special Provisions for additional information.

The longitudinal surface deviation of the finished cold planed surface shall not exceed 1/4" inch in 10 feet.

Hand-operated cold plane equipment may be required in areas not accessible to self-propelled machinery.

A motorized street sweeper shall follow within 50 feet (15 m) of the cold milling machine unless otherwise approved by the Engineer.

Unless otherwise specified in the Special Provisions all material removed shall be considered the property of the Contractor and shall be disposed of by the Contractor.

Payment for various cold mill items shall be at the contract price per Cubic Yard and shall be considered full compensation for cold milling, removal and disposing of all milled material, temporary pavement markings, sweeping and for furnishing all labor, materials, equipment and incidentals to accomplish the work as specified herein and no additional compensation will be allowed.

11. POLYMER MODIFIED SLURRY SEAL TREATMENT

General

The work to be done consists of furnishing all labor, equipment and materials and performing all operations necessary for the application of a polymer modified asphalt slurry seal surface over the existing AC pavement surfaces.

The slurry seal shall consist of a mixture of a polymer modified asphalt emulsion, mineral aggregate, mineral filler, water, and specified additives. The materials shall be properly proportioned, mixed and uniformly spread over a properly prepared surface as specified in the Standard Specifications, these Special Provisions, and as directed by the City Engineer. The slurry seal shall conform to the requirements of Section 37-3, “Slurry Seals And Micro-Surfacings” of the Standard Specifications of the California Department of Transportation except where specified otherwise in these provisions.

The completed slurry seal shall leave a homogeneous mat, adhere firmly to the prepared surface, and have a friction resistant surface texture throughout its service life.

PRE-CONSTRUCTION MEETING

The Contractor shall meet with the City Engineer in a pre-construction meeting to present a written schedule for the work listing dates on which streets, roadways or other locations are to be closed to traffic. In addition, issues regarding safety, traffic control and access by public services shall be discussed.

The Contractor shall present a mix design and laboratory reports and calibration reports as required by these specifications during the pre-construction meeting.

Material Sampling

The City Engineer or his representative shall be permitted to take samples of materials from the project at any time. The city may elect to perform testing on the samples to verify compliance of the materials with the specifications.

Testing - Testing shall be undertaken by the City Engineer whenever deemed necessary. The City Engineer, or his representative, may suspend the application of the slurry seal whenever changes in the materials or quality of the applied slurry are noted. Work shall resume only when the noted deficiencies are corrected to the satisfaction of the City Engineer. When work is suspended for this reason, samples will be taken immediately.

The City Engineer may send samples to a testing laboratory. Testing will be at the City's expense unless deficiencies are verified by the testing. The Contractor shall reimburse the City for the cost of any testing required by deficient materials or application of the slurry mix.

Aggregate, if tested, should at a minimum be tested for the following:

Gradation	CTM 202; AASHTO T11, T27; ASTM C117, C136

Sand Equivalent ASTM D2419

Moisture Content CTM 226, 231; AASHTO T265; ASTM D2216

Slurry Seal Application

MATERIALS

Asphalt Emulsion

1. The emulsified asphalt shall be designated as grade PMCQS-1h, in conformance with Section 94, "Asphaltic Emulsions" of the Standard Specifications.

2. The polymer within the asphalt emulsion shall be, at the option of the Contractor, either Neoprene, SBR, EVA or SBS. Solid polymers such as EVA or SBS shall be adequately blended into the asphalt prior to emulsification. If a liquid latex such as Neoprene, SBR or similar is used, the latex shall be "co-milled" into the emulsion through the water phase during manufacturing. Each load of polymer asphaltic emulsion shall have a certificate from the asphalt emulsion manufacturer guaranteeing that either asphalt blending or "co-milling" processes were used. The certificate shall also state the percentage of the solid rubber polymer added by weight of the asphalt as well as the composition of the polymer. The addition of latex to the emulsion after emulsion manufacturing is prohibited. The certificate shall state if the emulsion supplied is the same as that used in the mix design.

3. The polymer modified asphalt emulsion shall conform to the following specifications:

TEST	TEST METHOD	REQUIREMENT	
Tests on emulsion:			
		Minimum	Maximum
Viscosity SSF, @ 77°F, seconds	AASHTO T 59	15	90
Settlement, 5 days, %	AASHTO T 59	--	5
Storage Stability Test, 1 day, %	AASHTO T 59	--	1.0
Distillation:			
Oil distillate by volume of emulsion, %	AASHTO T 59	--	3
Residue by Evaporation, %	CTM 331	60	--

Tests on residue from Evaporation using CTM 331:			
		Minimum	Maximum
Penetration, 77°F, 100 grams for 5 seconds, dmm	AASHTO T 59	40	65
Ductility, 77°F, 5 cm/min, cm (RTFO Aged Residue)	AASHTO T 51	60	--
Ring & Ball Softening Point, °F	AASHTO T 53	123	--

TEST	TEST METHOD	REQUIREMENT	
Polymer Content *, % *Solid polymer content based on weight of asphalt	CTM 401	3.0%	--
OR			
Torsional Recovery, %	CTM 332	18	--

Mineral Aggregate

1. Aggregate shall consist of sound, durable, crushed stone or crushed gravel and approved mineral filler. The material shall be free from vegetable matter and other deleterious substances. Aggregates shall be 100% crushed with no rounded particles, volcanic in origin and black in color, as supplied by George Reed, Table Mountain Plant, Sonora, CA., or Equal. The use of gray or light-colored aggregate will not be allowed.

2. When tested in accordance to AASHTO T27 (ASTM C136) and AASHTO T11 (ASTM C117), the aggregate gradation (including the mineral filler) shall be within following bands:

   Type II

Sieve Sizes	Percentage Passing	Stockpile Tolerance
9.5 mm (3/8")	100	± 5%
4.75 mm (#4)	90-100	± 5%
2.36 mm (#8)	65-90	± 5%
1.18 mm (#16)	40-70	± 5%
600 um (#30)	25-50	± 5%
330 um (#50)	18-30	± 4%
150 um (#100)	10-21	± 3%
75 um (#200)	5-15	± 2%

3. After the target gradation has been submitted and identified in the mix design then the percent passing each sieve shall not vary by more than the stockpile tolerance and still remain within the gradation band during the application of slurry seal.

4. The mineral aggregate shall also conform to the following:

Test	Test Method	Requirements
Sand Equivalent	ASTM D 2419	60 Minimum
Loss in L.A. Rattler (100 Revolutions)	CTM 211	10% Maximum
Loss in L.A. Rattler (500 Revolutions)	CTM 211	35% Maximum
Durability Index	ASTM D 3744	55 Minimum

Mineral Filler

Mineral Filler shall be either Portland cement, hydrated lime, limestone dust, fly ash or other approved filler meeting the requirements of ASTM D242 and shall be used if required by the mix design. The mineral filler shall be considered as part of the aggregate in calculations regarding slurry seal asphalt content.

Water
The water added to the slurry seal shall be potable and be free of harmful salts and contaminates.

Additives
Additives may be used to accelerate or retard the mixing and setting characteristics of the slurry seal, or improve the resulting finished surface. The use of additives in the slurry mix (or individual materials) shall be made initially in quantities predetermined by the mix design with field adjustments if required. If the use of additive during application requires a greater than + or - 1.0% deviation from the recommendations of the mix design, a new mix design will be performed to verify system performance at higher or lower additive levels.

MIX DESIGN AND PRE-QUALIFICATION OF MATERIALS
During the pre-construction meeting, the Contractor shall submit a signed mix design covering the specific materials to be used on the project. Compatibility of the aggregate, emulsion, mineral filler, and other additives shall be verified by the mix design. The mix design shall be made with the same aggregate gradation that the contractor shall provide on the project.

The mix design shall be performed and dated within 30 days prior to the application of slurry seal. This mix design testing shall be performed by a laboratory capable of performing all tests listed in these specifications. The laboratory shall certify on the mix design that it has had at least two years of experience in the design of slurry seals.

After the mix design has been approved, no substitution or changes of materials shall be permitted, unless approved by the City Engineer. If changes in materials are approved by the City Engineer, a new mix design shall be performed by the Testing Laboratory before the application of new materials. All costs associated with a change in materials proposed by the Contractor shall be borne by the Contractor.

Required tests and values are as follows:

TEST	DESCRIPTION	SPEC
ISSA TB-113	Mix Time (Mixing test and set time test shall be done at the highest temperatures expected during construction.)	Controllable to 180 sec min
ISSA TB-139	Wet Cohesion	
	30 minutes min 60 minutes min	12kg-cm min 20kg-cm min
ISSA TB-109	Excess Asphalt by LWT Sand Adhesion	50g/ft ^{2} max (538 g/m^2 max)
ISSA TB-114	Wet Stripping	Pass (90% min)
ISSA TB-100	Wet Track Abrasion Loss	50g/ft ^{2} max
	One hour soak	(807 g/m ^{2} max)

The Wet Track Abrasion test is used to determine the minimum asphalt content.

The laboratory shall also report the quantitative effects of moisture content on the unit weight of the aggregate (bulking effect). The report must clearly show the proportions of aggregate, mineral filler (min. and max.), water (min. and max.), additive(s) (usage), and asphalt emulsion based on the dry weight of the aggregate.

The percentages of each individual material required shall be shown in the laboratory report. Adjustments may be required during the construction, based on the field conditions. The City Engineer shall give final approval for all such adjustments.

The City Engineer shall approve the mix design and all slurry seal materials and methods prior to use. The component materials shall be within the following limits:

RESIDUAL ASPHALT	7.5% - 13.5% (approx. 12.0 - 22.0% emulsion) Based on dry weight of aggregate.
MINERAL FILLER	0.0% - 2.0% Based on dry weight of aggregate.
ADDITIVES	As needed to control mixing and setting times.
WATER	As needed to achieve proper mix consistency.

PROPORTIONING
Proportioning shall conform to the provisions in Subsection 37-3.01C(2), “Proportioning” of the State Standard Specifications and these special provisions.

The aggregate shall be proportioned using a belt feeder operated with an adjustable cutoff gate. The height of the gate opening shall be readily determinable. The emulsion shall be proportioned by a positive displacement pump. Any variable rate emulsion pump, if used, shall be equipped with a means to seal the adjusting unit in its calibrated condition.

The delivery rate of aggregate and emulsion per revolution of the aggregate feeder shall be calibrated at the appropriate gate settings for each mixer-spreader truck used on the project. The calibration shall demonstrate that delivery rates of dry aggregate and emulsion residue are within the recommended percentages stated in the laboratory mix design. The Contractor shall provide written calibration documentation for each application truck which has been performed within the last calendar year. The Contractor shall further provide a short calibration demonstrating gate settings and liquids are delivering job materials within the mix design recommended ranges.

MIXING AND SPREADING EQUIPMENT
Mixing and spreading equipment shall conform to the provisions in Section 37-3.03C, “Mixing and Spreading Equipment” of the State Standard Specifications and these provisions. A minimum of two slurry seal machines shall be on the job and in good operating condition at all times.

The following equipment will be required:

The slurry seal shall be mixed in a self-propelled mixing machine equipped with a continuous flow pugmill, capable of accurately delivering and automatically proportioning the aggregate, emulsified asphalt, mineral filler, water and admixtures to a double shafted, multi-blade pugmill mixer capable of minimum speeds of 200 revolutions per minute. Mix retention time in the pugmill shall be less than three seconds. The mixing machine shall have sufficient storage capacity of aggregate, emulsified asphalt, mineral filler and water to maintain an adequate supply to the proportioning controls and make 15 tons of emulsion mix.

The mixing machine shall be equipped with hydraulic controls for proportioning the material by volume to the mix. Each material control device shall be calibrated, properly marked, pre-set and lockable.

The mixing machine shall be equipped with a water pressure system and nozzle type spray bars to provide a water spray immediately ahead of the spreader box. The mixing machine shall be equipped with an approved fines feeder that provides a uniform, positive, accurately metered, pre-determined amount of the mineral filler at the same time and location that the aggregate is fed.

PLACING

Placement of slurry seal shall conform to the provisions in Section 37-3.03C(5), “Placing” of the State Standard Specifications and these provisions.

The slurry mix shall be placed over the surface by means of a spreader box equipped with augers to distribute the material uniformly throughout the full width with flexible seals to prevent loss of mixture from the box. The box shall have 6 to 8 foot skids to provide for leveling and filling of uneven depressed areas. The strike off assembly shall be adjustable metal plate to ensure uniform placement on super elevated sections and shoulder slopes. There shall be a walkway across the rear of the screed to facilitate strike-off and texturing adjustments along with material sample taking.

The emulsion mix shall not be placed when the atmospheric temperature is below 50°F and falling or during unsuitable weather. The expected high temperature must be at least 65°F within 24 hours after placement.

Do not place emulsion mix if rain is imminent or the air temperature is expected to be below 36°F within 24 hours after placement.

Immediately prior to placing the latex emulsion mix, the surface shall be thoroughly cleaned of all vegetation, loose materials, dirt, mud and all other extraneous materials by a combination of sweeping and blowing. The latex emulsion mixture shall fill all minor cracks, depressions or low areas and leave a uniform surface free from ruts, humps, depressions or irregularities. Any ridges, indentations or other objectionable marks left in the surface shall be eliminated by rolling or other means.

The City Engineer shall approve all surface preparation prior to application of the slurry seal.

Utility covers, manholes, and other permanent fixtures shall be protected from coverage by the slurry seal and referenced for prompt location and cleaning following application. The Contractor shall be responsible for locating, removing, and cleaning protection from the above items following the slurry seal operations. The methods of protection and referencing, locating and cleaning shall be submitted by the Contractor and shall be subject to approval by the City Engineer. **The Contractor will be assessed a penalty of $200 for each manhole or valve cover that is slurry sealed over as a result of Contractor’s failure to protect these facilities from coverage by the slurry seal.** All penalties will be deducted from payments due the Contractor.

Slurry sealing of driveway aprons, returns, and other incidental work shall be accomplished concurrently with application of the street proper. The joint between the pavement and the PCC gutter shall be sealed with slurry seal and the gutter edge overlapped by approximately two inches. When slurry starts or finishes, a straight line cut-off shall be obtained by laying down a strip of building paper or other approved material. Such paper and any excess slurry shall be removed by the Contractor after application of the slurry. Edge limits of the slurry on both sides of the street shall be maintained in a neat and uniform line.

Construction joints shall be neat in appearance and shall be tapered or feathered to conform to the existing surfacing. All excess material shall be removed from surfaces upon completion of each run.

Areas which cannot be reached with slurry seal machines shall be surfaced using hand squeegees to provide complete and uniform coverage. The area to be hand worked shall be lightly dampened prior to mix placement and the slurry worked immediately. Care shall be exercised to leave no unsightly appearance from hand work. The same type finish as applied by the spreader box shall be required. Hand work shall be completed during machine applying process.

Once the slurry seal has cured and is open to traffic, any excessive raveling of the aggregate from the mixture shall be swept up by the Contractor. The surface shall be maintained and re-swept as required by the City Engineer until such time as the raveling ceases or the surface is rejected by the City Engineer. Sweeping shall be provided when required within 48 hours’ notice.

Spread Rates - Ranges for spread rates shall be as follows:

Type II 5.44 - 9.07 kg/m2 (12 - 20 lbs/yd2)

The exact rate will be as determined by specific weight of aggregate, the surface demand of the pavement, and the size of the largest particle size of the aggregate. The application rate will produce finished slurry seal as defined elsewhere in these specifications.

At the end of each day's production, the Contractor will provide to the Inspector a report containing the following information:

1. Tons of dry aggregate consumed that day;
2. Tons of asphalt emulsion consumed that day; and
3. Footage covered that day.

This report shall be received no later than 10:00 a.m. of the following day.

PROCEDURE
The Contractor shall perform the service in a safe, acceptable, workmanlike manner, and in accordance with the requirements of Section 37-3, Slurry Seals and Micro-Surfacings, of the State of California Standard Specifications.

1. Personnel shall be experienced, knowledgeable and capable in all aspects of performing the service. The same personnel that start the project shall remain on the project for the life of the contract.

2. The equipment shall be in good repair and serviceable to operate in a reliable and safe manner.

3. Tack Coat - When slurry is being placed over a brick, concrete, or other highly absorbent or polished surface, a 1-part emulsion, 3-part water tack coat of the same asphalt emulsion (if possible) type and grade as specified for the slurry is recommended. This can be applied with an asphalt distributor. The normal application rate is 0.05 to 0.10 gal./sq. yd. of the diluted emulsion.

4. The Contractor shall place slurry seal to the beginning and ending limits of the work as directed by the City Engineer.

5. The Contractor shall be responsible for providing the street cleaning, "No Parking" posting, and traffic control.

6. The Contractor shall be responsible for all cleanup of the work areas and staging areas.

7. The Contractor shall be responsible for covering and uncovering all structure covers, such as manholes, valve and monument covers.

8. All streets (full width and gutters) shall be swept by mechanical means no sooner than 5 days and no later than 15 days after slurry placement is complete.

12. CRACK SEAL

General
Comply with Section 37-5 "Crack Treatment" of the Standard Specifications except as modified herein.

The work shall consist of cleaning and filling cracks prior to placement of HMA overlay or Slurry Seal with asphalt joint seal as specified in these special provisions, and as directed by the Engineer. Crack sealing will not be performed in areas designated to receive new pavement sections Cracks less than ½ inch in width shall be routed to a depth of ½ inch by ½ inch in width. The contractor shall remove all debris from the roadway.

Materials
Crack sealant shall be a mixture of paving asphalt and ground rubber and shall conform to ASTM D 5078, Type II. The crack seal product shall conform to the following requirements:

Test	Specification Limit
Cone Penetration 77° F(25° C)(ASTM D5329)	35-55
Resilience (ASTM D5329)	40% min.
Softening Point (ASTM D36)	200° F(93° C) min.
Ductility 77° F(25° C)(ASTM D5113)	30 cm min.

Flexibility (ASTM D3111 Modified)	Pass at 20° F(-7° C)
Flow 140° F(60° C)(ASTM D5329)	3 mm max.
Brookfield Viscosity 400° F(204° C)(ASTM D2669)	100 Poise max.
Asphalt Compatibility (ASTM D5329)	Pass
Bitumen Content (ASTM D4)	60% min.
Tensile Adhesion (ASTM D5329)	500% min.
Safe Heating Temperature	400° F(204° C)
Recommended Pour Temperature	380° F(193° C)

The pre-emergent herbicide shall be an E.P.A. approved herbicide composed of glyphosate and oryzaline, combined and applied according to label directions. The Contractor shall submit a product information sheet on the sterilent to be used.

Construction

All cracks indicating weed growth are to be sprayed and cleaned as follows: the Contractor shall apply herbicide to all existing weed growth within the roadway area from curb to curb including the joint between the gutter lip and asphalt pavement. A minimum of two applications shall be made with a minimum period of 7 calendar days between applications. The second application shall be applied to treated areas and any additional new weed growth between applications. Any new weed growth shall be treated a third time after a minimum of 7 days from the second application. The herbicide shall be applied by a licensed applicator and shall comply with the manufacturers' recommendations.

Seven days after the last application of herbicide (either the second or third), all remaining vegetation in the cracks shall be mechanically removed.

All existing vegetation, outside the areas to be cleared and grubbed, shall be protected from the Contractor's operations unless specifically shown on the plans to be removed.

Immediately prior to applying the sealant, the cracks shall be cleaned with high pressure air jets to remove all residue and foreign material. Any weed growth shall be physically removed. Water jets will not be allowed. Crack surfaces shall be surface dry at the time the sealant is applied.

During all construction operations, the Contractor shall protect cracks cleaned for sealing from intrusions of solid foreign materials into the groove or into the sealant.

Crack seal materials shall be placed in conformance with the manufacturer's recommendations. Crack seal materials shall not be placed when the surface temperature is below 50 degrees Fahrenheit.

The finished crack seal shall be bonded to the crack such that there is no separation or opening between the sealant and the crack edge and there shall be no cracks, separation or other opening in the sealant.

The Contractor shall remove crack seal material that is not placed within the conformance of these provisions, clean cracks as specified herein and then reseal the cracks at his expense.

SEQUENCING

After filling the cracks with the sealant, they are to be squeegeed with a "U" shaped squeegee so as to strike off excess material and to provide a band aid effect with the sealant. After the sealant has cooled, there should be a slight depression of not more than 1/8th-inch below the adjacent pavement. Bulging as a result of overfilling of cracks must be corrected.

13. MINOR CONCRETE IMPROVEMENTS

General

New concrete facilities including curbs, gutters, sidewalks, ramps, and valley gutters shall be constructed at the locations indicated on the plans or as directed by the Engineer. Concrete curbs, sidewalks, and stairs shall comply with Section 73 "Concrete Curbs and Sidewalks" of the Standard Specifications. Concrete stairs shall comply with Section 51 "Concrete Structures" of the Standard Specifications.

Refer to Caltrans Standard Plan A88A and A88B for curb ramp design requirements. All curb ramps shall have a 6-inch PCC concrete slab with a 4-inch Class 2 Aggregate Base. All other concrete outside of the ramp footprints shall be 4-inch PCC over 4-inch Class 2 Aggregate Base.

Materials
Minor Concrete for curbs, curb and gutter, sidewalks, and stairs must comply with Section 90-2 Minor Concrete of the Standard Specifications.

Aggregate base shall be Class 2, ¾" maximum conforming to the provisions in Section 26, "Aggregate Bases," of the State Standard Specifications.

CONCRETE MIX DESIGN
The Contractor shall furnish a concrete mix design to the Engineer at least ten working days prior to the start of the work, based on the following guidelines.

Minor Concrete Facilities including curb, gutter, sidewalk, driveways, access ramps, stairs, etc. shall meet the following requirements:

Min. Compressive Strength:	3500 psi @ 28 days
Maximum Slump:	5 inches

The Contractor shall be responsible for all costs associated with the required mix design.

QUALITY CONTROL/ACCEPTANCE TESTING
Field testing shall include testing for concrete slump as per ASTM C-143 and compressive strength (C39). Such testing shall be at a frequency determined by the Engineer and shall be performed by the Owner's laboratory at the Owner's expense. The Contractor shall furnish the concrete necessary for casting test cylinders.

Construction
The construction of concrete curb, gutter and sidewalk marked in the field or shown on the plans shall conform to the provisions in Section 73 "Concrete Curbs and Sidewalks" of the Standard Specifications and these special provisions. Standard construction tolerances shall not apply to curb ramps.

Boundaries of concrete curb, gutter, and sidewalk removal have been noted on the plans and shall be removed according to the remove concrete section noted elsewhere in these special provisions, and as directed by the Engineer.

Expansion joints, control joints and scoring shall match adjacent existing improvements or shall be as directed by the Engineer. The new improvements shall match the existing improvements at each end. Provide constant slope between ends if no other elevations are shown on the plans. Installation shall conform to the State Standard Specifications and the details shown in the Plans and herein in these special provisions.

The existing concrete shall be sawcut full depth prior to removal. Any concrete broken due to the Contractor's failure to comply with these requirements shall be removed and replaced at the Contractor's expense.

The line and grade of the replaced facilities shall conform to the existing facilities. In most instances, this will consist of a straight line between existing facilities.

Class 2 aggregate base, ¾ in. size, shall be placed under curb, gutter and sidewalks after excavating existing subgrade, as noted on plans, and be compacted to 95% relative compaction (ASTM D-1557)

The Contractor shall water test all repaired curbs and gutters, cross gutters, and other repaired drainage facilities in the presence of the City's Inspector.

Commercial driveway and alley approaches, including the adjacent curb and gutter section, shall be removed and replaced within twenty-four hours. Curing time shall be seventy-two hours.

PROTECTION OF EXISTING FACIILITIES

The contractor shall protect existing facilities from damage, and discoloration from concrete splash. Adjacent concrete facilities shall be covered during concrete placement to prevent concrete splash and excess concrete from staining the adjacent concrete. After initial placement, strikeoff and finishing, the protection shall be removed and the adjacent concrete cleaned.

Vertical existing facilities such as light poles, walls, fences, etc. shall be protected with plastic extending a minimum of three feet above the concrete surface. After initial placement, strikeoff and finishing, the protection shall be removed and the vertical surfaces cleaned.

It shall be the contractor's responsibility to protect the existing improvements adjacent to new concrete improvements such as fences, landscaping, irrigation, hardscaping, etc.

SUBGRADE
After the subgrade is prepared, moisture conditioned, and compacted to 90% relative compaction at zero to three percent over optimum, the Contractor shall continuously maintain the sub-grade in a uniform condition at the moisture content obtained during sub-grade compaction until the concrete is placed.

FORMING
Wooden forming shall be of two-inch nominal thickness staked at two-foot intervals. The maximum gap at the bottom of the forms shall be 1-3/4 inches.

TOLERACES
The maximum variation from design elevation shall not exceed +/- 0.02 feet. In some instances, particularly in critical drainage areas, tolerances may be reduced to zero. Concrete facilities shall be installed to maintain or provide positive drainage. Questions regarding applicable tolerances shall be directed to the Engineer forty-eight hours in advance of the work.

When shown on the drawings, the concrete shall be set at the design elevations. When existing facilities are to be removed and replaced, they shall conform to the existing elevations and grades. Generally, this will be at a straight line between the start and end points of the removal.

PLACING AND FINISHING
General
The concrete shall be deposited on a moist grade in such a manner as to require as little re-handling as possible. Workmen shall not be allowed to walk in the freshly mixed concrete with boots or shoes coated with earth or foreign substances.

Strikeoff, Consolidation, and Finishing
In general, adding water to the surface of the concrete to assist in finishing operations shall not be permitted.

Before final finishing is completed and before the concrete has taken its initial set, the edges shall be carefully finished with the radius shown on the plans or a radius to match the existing construction.
Concrete shall be thoroughly consolidated against and along the faces of all forms and adjacent concrete. After the forms are removed, excess concrete below the form surface shall be removed to be flush with the form face.

All new concrete shall match existing facilities in texture, color, and appearance.

Concrete Protection
The Contractor shall always have materials available to protect the surface of the fresh concrete against rain. These materials shall consist of burlap, curing paper, or plastic sheeting. If plastic sheeting is used, it shall not be allowed to contact finished concrete surfaces.

The Contractor shall also protect the concrete against traffic and vandalism. If the concrete is damaged or vandalized, the Contractor shall make the necessary repairs at its own expense. The repair procedure for damaged or vandalized concrete shall be approved in advance by the Engineer.

Curing
Concrete shall be cured by protecting it against loss of moisture, rapid temperature change, and mechanical injury

for at least three days after placement. White or clear liquid membrane compound shall be used. After finishing operations have been completed, the entire surface of the newly placed concrete shall be covered by the curing medium. The edges of the concrete exposed by the removal of forms shall be protected immediately to provide these surfaces with continuous curing treatment.
The concrete shall be allowed to cure for seventy-two hours prior to placing adjacent asphalt concrete.

Joints
Control joints shall be placed at a maximum spacing of ten feet unless shown otherwise on plans.

Control joints in all PCC facilities, except sidewalks, shall be formed by tooling a deep joint or by using expansion joint material. If expansion joint material is used, a minimum of two 1/2 inch by eighteen inch dowels shall be used with additional dowels placed every twenty-four inches.

Control joints in sidewalks may be made using a tooled joint which shall extend a minimum of 1/4 of the depth of the concrete and shall not be less than 1-1/2 inches in depth.

Expansion joints shall be required at a maximum of sixty-foot intervals on curbs, curbs and gutters, cross gutters, swales, and sidewalks. Expansion joints shall also be required on all corners of curbs, curbs and gutters, sidewalks, at the outside boundary of access ramps, and other locations with discontinuities or reentrant corners which may cause cracking.

Nonskid Abrasive Finish
For the stairs, nonskid abrasive finish shall be applied to the treads and landings per Section 51-1.03E(6) of the Standard Specifications.

Cleanup and Backfill
After the concrete is placed, cured, and the forms have been removed, the Contractor shall clean the site of all concrete and forming debris.

After curing has been completed and the forms have been removed from the new curb and gutter or sidewalk, the resulting void after excavation shall be backfilled with clean native material.

The Contractor shall remove all USA markings, Engineer markings, and Surveyor markings (created for the purpose of the work being done) when work in a particular area is complete by water blasting or other non-destructive method as approved by the Engineer. Sandblasting or grinding to remove markings will not be allowed.

Payment for removing USA painted markings shall be considered as included in the cost of the various items of work shown on the Bid Proposal and no additional compensation will be allowed therefor.

14. RETAINING WALL SYSTEM

General:
Work shall consist of furnishing all materials, labor, equipment, and supervision to install system in accordance with these specifications and in reasonably close conformity with dimensions shown on the plans or as established by the City Engineer.

The contractor shall construct Retaining Wall, Type 6B (Case 2) per the dimensions specified in 2018 Caltrans Standard Plan B3-7B in compliance with Section 47-5, "Type 6 Retaining Walls," of the Standard Specifications except as modified herein.

15. HOT MIX ASPHALT DIKE, TYPE F

General
This work includes constructing Hot Mix Asphalt Dike, Type F at the locations shown on the plans. The contractor shall construct Hot Mix Asphalt Dike, Type F with the dimensions specified in 2018 Caltrans Standard Plan A87B.

Comply with Section 39-2.01B (11), "Miscellaneous Areas and Dikes," of the Standard Specifications except as modified herein.

Asphaltic concrete binder shall be PG64-10.

16. DETECTABLE WARNING SURFACE

General

The contract price paid per square foot for “Detectable Warning Surface” shall include full compensation for furnishing all labor, materials, tools, equipment, transportation, installation, complete in place, as shown on the plans, as specified in the Standard Specifications, these special provisions, and as shown on the project plans.

Detectable Warning Surface shall be installed on a 4” thick concrete surface with a 6” minimum apron around the detectable warning surface for visual contrast. Detectable Warning Surfaces shall be made of Armor-Tile surface mounted truncated domes, or approved equivalent, color Colonial Red. These truncated domes surfaces shall match the slopes of the surrounding pathway. These truncated domes shall be consistent with other truncated domes installed throughout the project. All requirements for installation of truncated domes on curb ramps and these special provisions shall apply insofar as they apply.

Surface Applied Truncated Domes Material:

1. Fasteners: Color matched, corrosion resistant, flat head drive anchor: ¼” diameter x 1 ½” long as supplied by Engineered Plastics Inc., or approved equal.
2. Adhesive: Armor-Bond as supplied by Engineered Plastics Inc., or approved equal.
3. Sealant: Armor-Seal as supplied by Engineered Plastics Inc., or approved equal.

17. ADJUST UTILITY COVERS TO GRADE

The work covered by this Section shall include all work and materials needed to adjust existing utility frame and covers to grade.

All work and materials for raising water valve boxes and valve covers to finished grade shall conform to the Provisions in Section 15 of the State Standard Specifications and the project plans. Final acceptance of the work shall be inspected by Cal Water.

All work and materials for raising electrical and gas valves, covers, manholes, and vaults to finished grade shall conform to the Provisions in Section 15 of the State Standard Specifications and these Special Provisions. Final acceptance of the work shall be inspected by PG&E.

All work and materials for raising utility vaults shall conform to the Provisions in Section 15 of the State Standard Specifications and these Special Provisions.

All existing manholes, valves, boxes, covers, and vaults are to be reset to the new finished grade conforming to the finish paving elevations. All items are to be inventoried and located whether shown on the Plans or not. Contractor shall wait until the finished paving is complete and then locate, cut out, and expose the existing covers to the new finished grade.

For manholes adjustments, the manhole base shall be covered during the entire operation so that no debris can fall into the sewer and storm drain system. Extreme care shall be taken to prevent spilling foreign material into the drainage or sanitary sewer system. The Engineer may require the Contractor to immediately remove manhole covers for inspection to determine if any foreign material has fallen into the manhole. The Contractor shall be required to immediately remove all foreign material from the manhole's interior.

For adjusting survey monuments, the contractor shall tie out the monument and record with the County surveyor. Once construction is complete, the monument shall be re-established.

18. SANITARY SEWER REMOVAL AND REPLACEMENT

General

This section covers removal and replacement and construction of new sanitary sewer services by the open trench method.

If any debris or foreign materials enter the sanitary sewer system due to the Contractor's operation, the Contractor will clean and flush the lines at the Contractor's expense.

Trench sheeting, shoring, and bracing required for point repair trenching excavations shall be per the “Trench Sheeting, Shoring, and Bracing” meet the requirements of 29 CFR 1926.651 and 1926.652 or comparable OSHA approved state plan requirements.

Connections of new sanitary sewer pipe to existing pipe of a different material shall be made with an adjustable repair coupling, as specified herein. Adjustable repair couplings shall not be used for any connections between new piping of the same material.

No payment shall be made for repair of sewer facilities which are not in conflict with the proposed improvements, and are damaged by the Contractor's operation.

Materials

Sanitary sewer piping shall be polyvinyl chloride (PVC) pipe and fittings for sanitary sewer lines shall conform to ASTM 3034, SDR 26. Nominal size as shown on the plans. Gaskets shall meet the requirements of ASTM F477. Joints shall meet the Requirements of ASTM D3212.

The residue form the ignition of the PVC compounds must not exceed 30 percent as determined under ASTM D2584 except the muffle furnace temperature must be 840 ± degrees F.

Pipes and fittings must be homogeneous throughout and uniform in color, opacity, density, and other properties. The inside and outside surfaces must be semimatte or glossy in appearance and free of chalky, sticky, or tacky material. The pipe walls must be free of cracks, holes, blisters, voids, foreign inclusions, or other defects affecting the pipe wall integrity or visible to the naked eye. Do not use pipes or fittings with abrasions or scratches deeper than 10 percent of the wall thickness. The joint surfaces where the gaskets bear must be smooths and free of imperfections, ridges, fractures, or cracks that could adversely affect the joint seal.

Store pipes in unit packages and protect the bell of the pipes from damage. Support unit packages with racks or dunnage to prevent damage and bending. If unit packages are stacked, do not allow the weight of the upper units to cause deformation to the pipes in the lower units. Do not store pipes adjacent to heat sources. Do not allow pipes to overhang vehicles or storage areas unsupported by more than 3 feet.

Cover pipes to provide temporary sun block protection. Provide adequate air circulation around the covered pipes to reduce excessive heat accumulation. Protect gaskets from exposure to weather, heat, ozone, oil, grease, and sunlight for any time period exceeding 48 hours. Do not store gaskets near electrical or exhaust heat sources. The City reject pipes with cracked or split gaskets. Protect pipes and fittings from damage when handling and installing.

Pipe Laying

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

When connections are to be made to any existing pipe, conduit, or other appurtenances, the actual elevation or position of which cannot be determined without excavation, the Contractor shall excavate for, and expose, the existing improvement before laying any pipe or conduit. The Project Inspector shall be given the opportunity to inspect the existing pipe or conduit before connection is made. Any adjustments in line or grade which may be necessary to accomplish the intent of the Plans will be made.

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

Pipe shall be laid to Plan line and grade, with uniform bearing under the full length of the barrel of the pipe. Suitable excavation shall be made to receive the socket or collar, which shall not bear upon the subgrade or bedding. Any pipe which is not in true alignment or shows any undue settlement after laying shall be taken up and re-laid at the Contractor's expense.

Connections of plastic pipe and fittings to a manhole shall be done as shown in the Drawings and in the following manner:

The pipe shall be carefully chipped out of the manhole wall and removed, and a new section of pipe installed and grouted watertight.

The use of manhole water stops per manufacturer's requirements shall be used only on new manhole construction, and be approved by the Project Inspector prior to the installation of any pipe or fitting.

Existing pipe vertical alignment is assumed to be at a uniform grade. The Contractor shall make adjustments to new pipe gradient if local dips or sags are encountered at service lateral connections to ensure positive flow gradient.

All existing laterals shall be reconnected to the sanitary sewer line with suitable fittings, adapters or couplings. All junctions connecting any pipe or fitting to a plastic pipe shall utilize a "Wye" fitting. "Tee" connections or "Taps" will not be permitted on any new pipe.

Unless otherwise noted, the limit of Contractor's work shall include the lateral wye fitting, lateral replacement, and the cleanout. All lateral runs shall have a minimum 1/4"/ft. slope for 4" pipe.

The Contractor shall provide written notification of work activities to all local users and provide interim sewer service, as specified by the City.

Service connections shall be re-established as quickly as possible, not to exceed 4 hours, after completion of each pipe installation.

Following the placement and densification of backfill and prior to the placing of permanent pavement, all pipe shall be cleaned, tested for deflection, air pressure tested, and television inspected.

The sanitary sewer pipe shall be installed without interruption of service or inconvenience to the public at all times. Existing flow of sewage shall be rerouted during construction by the Contractor using satisfactory bypass facilities at his expense and with the approval of the engineer. Temporary rerouting of sewage flow shall be done in a safe and sanitary manner without creating health and safety problems, and without allowing sand, silt, rock, or any debris to enter the system. Use of storm drains, gutters, or the pipe trench for sewage flow is strictly prohibited. The Contractor shall be held responsible for any damages resulting from rerouting the sewage and from the use of any bypass facilities in rerouting the sewage.

Sewage shall not be allowed to escape or leak from the sewer system or from any rerouting facilities during or after construction.

Pipe Testing

Contractor shall perform pipe leakage testing and deflection testing for all piping installed by open trench.

The Contractor shall perform required pipe testing at no additional cost to the City. Testing can be done before or after lateral reconnection at the Engineer or Construction Manager's option. Repairs of defects that are discovered as a result of inspection or tests shall be made with new materials. Caulking of screwed joints, cracks, or holes will not be accepted. Tests shall be repeated after defects have been eliminated at no additional cost to the City.

19. TRAFFIC STRIPING, PAVEMENT MARKINGS, AND PAVEMENT MARKERS

General

Traffic Stripes and Pavement Markings shall be Thermoplastic.

Thermoplastic traffic stripes (traffic lines) shall conform to the provisions in Sections 84-1, "General" and 84-2, "Traffic Stripes and Pavement Markings", of the Standard Specifications and these Special Provisions.

Refer to Caltrans Standard Plan A90A and A90B for accessible parking striping requirements. All striping for parking stalls shall be 4" wide unless otherwise noted.

Materials

THERMOPLASTIC

The thermoplastic material shall conform to Section 84-2.02B "Thermoplastic" of the Standard Specifications. Glass beads to be applied to the surface of the molten thermoplastic material shall conform to the requirements of Section 84-2.02D "Glass Beads" of the Standard Specifications.

Standard Specifications for thermoplastic material and glass beads may be obtained from the Transportation Laboratory, P.O. Box 19128, Sacramento, CA. 95819, (916) 739-2400.

Thermoplastic material for traffic stripes shall be applied at a minimum thickness of 0.125-inch.

A primer of the type recommended by the manufacturer of the thermoplastic material shall be applied over all existing painted stripes and pavement legends to be covered with thermoplastic material as shown on the plans.

Construction
All construction shall conform to the respective provisions of the Standard Specifications, manufacturer's installation requirements, and the Special Provisions.

EXISTING STRIPING AND MARKINGS
In areas where the existing striping to be replaced and updated, the contractor shall remove and replace all striping using methods as specified in the Standard Specifications by the Engineer.

The Contractor shall replace all striping which has been damaged or obliterated by or during the work. This shall include striping replacement completely across the street even in the event that the Contractor's work may not extend that far. Both lines of each crosswalk shall be completely restriped even if only a portion of a line has been obliterated.

When the Contractor's work removes or reduces the visual appearance of a lane or centerline, the Contractor shall replace all striping between the adjacent intersections in both directions. Where a median exists, this work will be required only in the roadway where the work has occurred, unless a detour which altered the pavement markings occurred in the other roadway. In such cases, the striping will be replaced in both directions.

LAYOUT FOR TEMPORARY AND PERMANENT STRIPING
The Contractor shall be responsible for compiling an existing striping and marking plan including but not limited to stop bars, legends, parking stall stripes, crosswalks and other traffic delineation markings within the project prior to removing, obliterating, covering any existing striping, or starting work on the affected street. This plan must be submitted to the Engineer and approved prior to commencing any striping and marking operations on the affected street**.**

All alignments and layout measurements, and other work necessary to locate and replace traffic stripes and pavement markings shall be performed by the Contractor.

The City will not provide any assistance, information, or materials to the Contractor. It will be entirely the responsibility of the Contractor to perform all necessary pre-construction and construction layout work, obtain all necessary measurements and information, and marking work as specified. All traffic control systems necessary for performing striping and marking, as directed by the Engineer, shall be the responsibility of the Contractor.

The Contractor shall physically tie down the location of the beginning and ending of each paint or thermoplastic marking type in the adjacent curb top. The marking location shall not exceed 50 square inches each. Any locations exceeding this limit shall be removed by the Contractor prior to acceptance of the work. The Contractor shall contact the City Engineer for review of tie downs.

The Contractor shall be responsible for accurately referencing out and replacing the lines and positions of all traffic lines, directional lines, arrows, and other markings in accordance with the plans and City standard markings by cat tracking with painted marks. This shall occur no later than 2 hours behind the final surface course paving operation.

Cat tracking shall consist of stretching a rope on a straight line between control points on tangent alignment and on a true arc through control points on curved alignment and placing spots of paint along the rope. Temporary tab markers shall be placed not more than 12' apart on curves nor more than 24' apart on straight segments.

Temporary tab markers shall be the same color as the traffic stripe that they are replacing, shall measure 2" tall by 3-1/2" wide, and have a reflective lens across the width of the marker.

Prior to application of permanent striping and markers, the Contractor shall call for review and approval of the proposed striping by the City's Traffic Engineer or agent. The City shall have the right to make changes in the location and alignment of line stripes. Striping and traffic markings shall not be applied until after approval is granted by the Traffic Engineer. The Contractor shall allow a minimum of 3 working days for review of the layout by the City.

SCHEDULE
Raised pavement markers (RPM's) shall be placed as specified in Subsection 81-3.02C, "Retroreflective Pavement Markers", of the Standard Specifications. When utilizing hot melt bituminous adhesive, RPM's shall be placed after the surface has been open to traffic for at least 7 days. When utilizing epoxy adhesive, RPM's shall be placed after the surface has been open to traffic for at least 14 days. Regardless of which adhesive is utilized, the RPM's shall not be placed more than 21 days after paving or surfacing.

Permanent traffic striping and markings including legends and arrows shall be placed within 21 days after paving or surfacing, unless otherwise directed by the Engineer.

Temporary yellow marking tape denoting school crosswalks shall be placed the same day that the pavement surfacing is placed.

Failure to comply with these requirements shall result in liquidated damages of $1,000 per day for each street that has not received permanent installation of the required raised pavement markers, traffic striping, and markings.

PAVEMENT STENCILS
The Contractor shall use stencils that conform to Caltrans Standard Plans and Details.

REFLECTIVE AND RAISED PAVEMENT MARKERS CERAMIC NON-REFLECTIVE PAVEMENT MARKERS NO PLASTIC
Installation of both reflective and raised pavement markers shall conform to the provisions of Section 81-3 "Pavement Markers" of the Standard Specifications. Pavement markers shall be placed in the same pattern and locations as they were previously, except as shown on the plans or modified herein.

PAVEMENT DELINEATION – EXTRUDED THERMOPLASTIC NO SPRAY
Pavement temperature shall be measured at the beginning of the shift on each working day and this information shall be provided to the Traffic Engineer.

No primer or thermoplastic shall be installed within 48 hours from the last measurable rain report as provided by the City.

Thermoplastic traffic striping, legends, and arrows shall conform to the provisions of Section 84-1, "General"; Section 84-2, "Traffic Stripes and Pavement Markings"; and refer to Section 81-3, "Pavement Markers".

PAVEMENT MARKERS CERAMIC NON-REFLECTIVE PAVEMENT MARKERS NO PLASTIC
Pavement markers shall be placed to the line established by the Contractor and approved by the Engineer, which will consist of temporary painted line or new or existing stripes one for each line of markers.

All additional work necessary to establish satisfactory lines for markers shall be performed by the Contractor.

At the option of the Contractor, a hot melt bituminous adhesive may be used to cement the markers to the pavement instead of the Rapid Set Type or Standard Set Type epoxy adhesive. Bituminous adhesive material shall conform to the following:

Specification	ASTM	Requirement
Flash Point, COC, ºF	D 92	550 Min.

Softening Point, ºF	D 36	200 Min.
Brookfield Thermosel Viscosity, Centipoise, No. 27 Spindle, 20 RPM,400ºF	D 4402	3,000-6,000
Penetration dmm, 100g, 55 seconds, 77ºF	D 5	10 - 20
Filler Cement, percent by weight (Insoluble in1,1,1 Trichloroethane)	D 2371	65 - 75

Filler material used in bituminous adhesive shall be Type PC, Grade III, calcium carbonate conforming to ASTM D1199, and shall conform to the following gradation:

Sieve Size	Percent Passing
No. 100	100
No. 200	95
No. 325	75

Bituminous adhesive shall be heated indirectly in an applicator with continuous agitation or recirculation. Bituminous adhesive shall not be heated above the maximum safe heating temperature recommended by the manufacturer and shall not be applied at temperatures greater than 425ºF. nor less than 375ºF.

Immediately after application of the adhesive, pavement markers shall be placed in position and pressure applied until firm contact is made with the pavement.

Placement of pavement markers using bituminous adhesive shall conform to the requirements of Section 81-3.03B, "Hot Melt Bituminous Adhesive" of the Standard Specifications except blast cleaning shall be required.

The adjustment provisions in Section 9-1.06B of the Standard Specifications shall not apply.

20. CURB MARKING

General

Curbs shall be painted in conformance with State Standard specification Section 59 6, as shown on the plans and as directed by the Engineer. Application shall consist of two separate coats of traffic paint of the appropriate color applied to the face and top of the curb.

21. PAVEMENT MARKER – BLUE REFLECTIVE MARKER

General

Blue two-way reflective markers are to be placed on the new AC pavement near all fire hydrant locations as directed by the Fire Department or replaced in kind. If a fire hydrant has more than one existing reflector placed near it, the Contractor shall replace the same number of reflectors at that location.

22. PARKING TIRE STOPS AND BUMPERS

General:

New tire stops and bumpers shall conform to the provisions in section 78-5 "Parking Bumpers" of the Standard Specifications and these provisions. Traffic Stripes and Pavement Markings shall be Thermoplastic.

Refer to improvement plans for locations of parking bumpers.

Submittals

Submit product sheets for parking bumpers

Materials:

CONCRETE

The concrete used for Parking Tire Stops and Bumpers shall comply with section 78-5.02 "Materials" of the Standard Specifications. Do not reference section 90 "Concrete" for concrete used in Parking Tire Stops and Bumpers.

GALVANIZED STEEL
Galvanized steel anchors shall be used for securing parking bumpers

Construction:
All construction shall conform to the respective provisions of the Standard Specifications, manufacturer's installation requirements, and the Special Provisions.

As space permits, install tire stops and bumpers two (2) feet from face of curb perpendicular to the parking stall striping lines.

23. STAMPED ASPHALT CROSSWALK

General:
Contractor shall install stamped asphalt crosswalk at locations indicated in plans, which shall match to the greatest extent possible stamped asphalt at adjacent crosswalks.

Submittals
Submit product data sheets and mix design for asphalt to be used at crosswalk.

Materials:
PIGMENT
The pigment system must not contain any heavy metals nor any carcinogen, as defined in CFR 1910.1200, in amounts exceeding permissible limits as specified in relevant Federal Regulations.

SLIP AND SKID RESISTANCE
The surface of the crosswalk material shall contain factory-applied anti-slip/anti/skid elements with a minimum hardness of 6 (Mohs scale). Upon application the product shall provide a minimum skid resistance of 60BPN when tested in according to ASTM E 303, a minimum static coefficient of 0.6 when tested according to ASTM C 1028 (wet and dry), and a minimum static coefficient of 0.6 when tested in accordance with ASTM D 2047

ENVIRONMENTAL RESISTANCE
Crosswalk material must be resistant to deterioration due to exposure to sunlight, water, salt, adverse weather conditions, and must be impervious to oil and gasoline. Crosswalk shall be resistant to the detrimental effects of motor fuels, antifreeze, lubricants, hydraulic fluids, etc.

Construction:
Stamped asphalt shall be one color: chestnut brown and shall match the adjacent cross walks on Hickory Street to the satisfaction of the Engineer. Color samples shall be presented to the engineer in advance for approval. The samples must be cured sufficiently to accurately represent the final post cure color.

Crosswalks shall be stamped with herringbone pattern. Size and orientation of pattern shall be presented to the engineer in advance for approval.

All construction shall conform to the respective provisions of the Standard Specifications, manufacturer's installation requirements, and the Special Provisions.

24. TRAFFIC SIGNS

General:
Traffic Signs shall conform to the provisions in Section 82 "Signs and Markers" of the Standard Specifications, these Special Provisions, and as directed by the Engineer. All traffic signs must follow the latest CA MUTCD guidelines.

Signs to be relocated shall be moved to their new location in a timely manner to ensure that signage is available at all times. The proposed location for each sign shall be verified in the field and approved by City staff prior to installation.

All new signposts shall be 2-inch inside diameter galvanized Schedule 40 steel pipe. The post shall be of sufficient length to fasten the specified number of signs with minimum ground clearance, and 2.5 -foot foundation depth. All post tops shall be fitted with a slip-on aluminum cap.

Concrete for roadside sign bases shall be Minor Concrete to the Standard Specifications. Portland cement concrete structures shall conform to the provisions in Section 51, "Concrete Structures," of the Standard Specifications and these special provisions.

Sign panels shall be constructed from 0.080 gauge new sheet aluminum alloy 5052 H38 or 6061-T6 conforming to the requirements of ASTM B-209. Shape, color, legend, and size shall conform to the current Caltrans sign specifications.

Sign panel fastening hardware and mountings including straps and saddle brackets necessary for mounting signs panels to electroliers shall conform to Caltrans Standard Plan RS4 and be stainless steel conforming to the specifications of ASTM A 167, Type 302 or 304. Theft-proof bolts shall be provided for all signs.

The various materials and fabrication thereof shall conform to the provisions of Section 56-2.01 B "Materials" of the State Standard Specifications.

Construction and installation methods shall conform to the provisions of Sections 56-2.01C "Construction" of the State Standard Specifications.

All signs shall use "Diamond Grade - DG3" sign sheeting or approved equivalent. Posts shall be as specified in the standard details.

CALABRESE PARK IMPROVEMENTS

SECTION 05 51 70

MISCELLANEOUS METALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the fabrication and installation of miscellaneous metalwork as shown on the Drawings and as specified in this Section and other Sections of these Specifications. The work includes but is not limited to:
Installation of handrails.
Galvanizing and/or painting metalwork items as specified.

Related work includes but is not limited to:
Site Concrete
Wood Construction

1.03 STANDARDS AND DEFINITIONS

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
A123 Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
A153 Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
F2329 Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners

B. Applicable American Welding Society (AWS) Standards (latest revisions) as they apply to this work including:
D1.1 Structural Welding Code - Steel

1.04 QUALITY ASSURANCE

Qualifications of Welder: Use only certified welders for all welding performed in connection with the work of this Section.

Coordination & Protection: Coordinate with the work of other trades to ensure timely progress of the work covered under this Section. Protect the installed work and materials of other trades.

Corrosion Control: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner's Representative and at no additional cost to the Owner.

1.05 SUBMITTALS

Shop Drawings: of the items listed below. Show all locations, markings, quantities, materials, sizes, and shapes, and indicate all methods of connecting, anchoring, fastening, bracing, and attaching to the work of other trades.
Handrail and Brackets

1.06 DELIVERY, STORAGE AND HANDLING

Package, deliver, unload, and store metalwork items so as not to be damaged or deformed. Store prefabricated components and materials in accordance with Manufacturer's recommendations.

PART 2 - PRODUCTS

2.01 METAL MATERIALS

General: metals shall be new material, free of rust with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
Brackets, flanges, and anchors: cast or formed metal of the same type of material and finish as the supported posts or rails.

Marine Environments: all steel at sea-front conditions – that is not stainless steel - is to be hot-dip galvanized (HDG) prior to painting or powder-coating if applicable.

2.02 FASTENERS AND ADHESIVES

General: ASTM A307. All bolts, nuts, washers and other fasteners shall be free from rust. Surface fasteners that are not countersunk shall be button-head type unless otherwise shown on the Drawings.
Ungalvanized steel: ASTM B633 or ASTM F1941, Class Fe/Zn5 for zinc coating. For interior use only.
Galvanized steel: ASTM A153 or ASTM F2329. Hot-dip galvanized fasteners suitable for exterior use.
Aluminum components: Type 316 stainless steel fasteners
Stainless steel components: Type 316 stainless steel fasteners
Dissimilar metals: Type 316 stainless steel fasteners

2.03 OTHER MATERIALS

General: All other materials not specifically described but required for a complete and proper installation of miscellaneous metal, shall be new, free from rust, the best quality of their respective kinds; they shall be subject to the approval of the Owner's Representative.

Galvanizing Compound: Zinc-rich galvanizing primer containing 97% pure zinc dust pigment blended with epoxy resin. Sprayon WL740 Zinc-Rich Galvanizing Compound, by Sprayon Products, Cleveland OH, (800)777-2966 or approved equal.

Field Galvanizing Alloy: Weld-co Gal-viz" galvanizing alloy (known in the trade as "Hot Stick" galvanizing" or equal, as approved by the Owner's Representative.

2.04 HANDRAILS

Structural Steel Tube: ASTM A500 Grade C (50 ksi yield) Finish: painted per Specifications / galvanized.

Handrail Bracket: Galv. Steel as shown on the Drawings.

PART 3 - EXECUTION

3.01 GENERAL

Examination: Examine work of other Sections upon which work of this Section depends. Report any unsatisfactory conditions to Owner's Representative in writing. Do not start work until unsatisfactory conditions are corrected.

Compliance: Fabricate all miscellaneous metal in strict accordance with the approved Shop Drawings and the referenced standards.

Pre-fabrication: Insofar as possible, shop pre-fabricate all items complete and ready for installation.

Welding: Unless otherwise indicated on the Drawings, weld all connections.
Make all joints and intersections of metal tightly fitting and securely fastening.
Make all work square, plumb, straight, and true.
All welds to be continuous, unless otherwise noted, and ground smooth.

Holes: Drill or punch all holes required for the attachment of work of other trades and for bolted connections. Burned holes are not acceptable.

Brackets, Flanges, and Anchors: Provide brackets, flanges, and anchors for railing posts and for handrail supports. Furnish inserts and sleeves as required for anchorage to concrete work.

3.02 GALVANIZING

Galvanizing: Provide a galvanizing coating after fabrication for metalwork specified to be galvanized, or those items which will be exposed to the weather by the following guidelines:
ASTM A153 for galvanizing iron and steel hardware.
ASTM A123 for galvanizing rolled, pressed and forged steel shapes, plates, bar, tube and strips 22 ga thick and heavier.

3.03 INSTALLATION

Cutting, Fitting, and Placement:
Perform cutting, drilling, and fitting required for installation. Set the work accurately in location, alignment, and elevation; plumb, level, true, and free of rack, measured from established lines and levels.
Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop-welded because of shipping size limitations. Grind joints smooth and touch up shop paint coat. Do not weld, cut, or abrade the surfaces of units which have been coated or finished after fabrication, and are intended for field connections.
All welds for planters shall be on the inside faces. No welds shall be exposed on the exterior faces.

3.04 HANDRAILS / GUARDRAILS

General: Adjust railings prior to securing in place to ensure proper matching of butting joints and correct alignment throughout their length.

Post Mounting:

For steps space posts between the top and bottom risers no more than 60-inches on center unless otherwise noted on the Drawings.

For ramps space posts between the top and bottom or ramp no more than 60-inches on center unless otherwise noted on the Drawings.

Plumb posts in each direction.

Anchor posts in earth with concrete footings; or embed in sleeves installed in concrete paving / curbs / cheek walls, sizes as shown on the Drawings.

3.05 CLEAN-UP & REPAIR

Remove protective film from prefabricated components. Clean metal work surfaces in accordance with good industry practices.

Touching Up: After the erection and installation are complete, touch up all minor damage to shop galvanizing caused during transportation and erection, using the specified galvanizing compound. The Owner's Representative will determine what constitutes "minor damage" and what damage requires replacement.

Replace damaged metal work that, in opinion of the Owner's Representative, cannot be satisfactorily repaired.

SECTION 06 21 00

WOOD CONSTRUCTION

PART 4 - GENERAL

4.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

4.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for all wood construction and installation of wood items on the Drawings and as specified in this Section and other Sections of these Specifications. The work includes but is not limited to:

Timber Steps
Split-Rail Fence
Grapestake Fence

B. Related work includes but is not limited to:

Earthwork and Grading

4.03 STANDARDS

As applicable (latest revisions):

American Softwood Lumber Standard Voluntary Product Standard PS 20-05, U.S. Department of Commerce

Standard 17 Grading Rules for West Coast Lumber, West Coast Lumber Inspection Bureau

Standard grading and dressing rules for Douglas fir, Sitka spruce, west coast hemlock, western red cedar lumber, West Coast Lumbermen's Association.

Standard Specifications for Grades of California Redwood Lumber, Redwood Inspection Service.

Rules for the Measurement & Inspection of Hardwood & Cypress, National Hardwood Lumber Association
Overseas hardwood suppliers shall be certified by the Forest Stewardship Council (FSC) beyond the end date of the project. Imported lumber shall be FSC certified.

Applicable ASTM International Standards (latest revisions) as they apply to the performance, assembly and treatment of lumber and engineered wood products, fasteners and anchors, and all related test methods.

4.04 QUALITY ASSURANCE

Identification: Factory mark each piece of lumber with type, grade, mill and grading agency identification; except omit marking from surfaces to receive transparent finish, and submit mill certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface.

Coordination: Fit carpentry work to other work. Scribe and cope as required for accurate fit.

Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner's Representative and at no additional cost to the Owner.

4.05 SUBMITTALS

Product Data: Manufacturer's product literature describing all components. Include installation and maintenance recommendations and instructions. ***FOR MODIFIED WOODS***

Shop Drawings: of all wood construction showing dimensions of all wood which are cut, framed, or bored. Show all locations, markings, quantities, materials, sizes, and shapes, and indicate all methods of connecting, anchoring, fastening, bracing, and attaching to the work of other trades.

Samples: of all wood types. Samples shall be of a size appropriate to review grain pattern and quantity appropriate to review surface variation. Approved samples will become the standard for which wood is accepted or rejected. Wood samples shall not be color stained or treated with protective coatings unless otherwise noted.

MSDS (Material Safety Data Sheet): for the modified wood product(s) supplied on the project.

4.06 DELIVERY, STORAGE & HANDLING

Delivery and Storage:
For wood in bulk quantities, deliver to the site strapped to wood pallets or blocking of a minimum thickness to allow the egress of lift forks using high strength strapping.
Store wood materials in a safe area, out of the way of traffic, and shored up at least 4-inches off the ground surface.
Protect wood materials from weather using suitable coverings to protect from contact with materials which would cause staining or discoloration.
Protect wood materials and hardware from damage.

PART 5 - PRODUCTS

5.01 GENERAL

General: Wood materials uses shall be as indicated on the Drawings. Wood sourced from old growth forests is not permitted.

Sizing: Nominal sizes are indicated, except as shown by detailed dimensions. Provide actual sizes as required

Finish, unless otherwise noted:
Dimensional lumber: surfaced on all four sides (S4S).
Decking – surfaced on exposed side.

Seasoning checks: The width of any check shall not exceed 1/16".

5.02 WOOD MATERIALS

Wood types:
Redwood, stamped with a grade mark by the Redwood Inspection Service (RIS):
Construction Heart
Douglas Fir

5.03 FASTERNERS AND ANCHORS

Fasteners and anchors, including but not limited to nails, staples, screws, bolts, nuts, and washers shall confirm to applicable ASTM standards. Provide fasteners and anchors of size and type as indicated on the Drawings.
Fasteners and anchors shall be hot dipped galvanized.

5.04 WOOD TREATMENT

End sealer: Paraffin-based was sealer, Anchorseal Green Wood Sealer by U-C Coatings Corporation, Buffalo, NY 1421 (716) 833-9366 or approved equal.

PART 6 - EXECUTION

6.01 GENERAL

All workmanship shall be in accordance with the best practice known to the trade. Take all necessary measurements for accurate fitting of all work.

Pre-bore fastener holes where necessary to avoid splitting. Remove and replace split pieces.

Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.

6.02 CUTTING & SEALING

Use cutting tools appropriate to the wood type being installed.

End seal freshly cut wood immediately to minimize end checking or as recommended by the wood supplier. Apply sealer per manufacturer’s recommendations.

6.03 DRILLING & FASTENING

Use drilling tools appropriate to the wood type being installed.

Drill bolt holes 1/16" oversize. Use washers in all bearing of heads and nuts against wood.

Pre-drill all holes for wood screws and/or lag bolts to 3/4 of their diameter. Lag bolts are to have standard cut washers, or the equivalent thereof, under the head. The bolts shall be taken up snug and shall be re-tightened at the latest practicable time during the construction work.

Countersink larger head diameter fasteners, unless otherwise noted on the Drawings. Pre-drill the counter-bore for the head in addition to the pilot hole.

Tighten all nuts when placed and re-tightened at completion of job or immediately before finishing construction work which will make them inaccessible.

Finish nails and screws for temporary fastening are generally not permitted. If these must be used to hold the wood assembly, they shall be removed prior to completion and the holes sealed and the wood refinished to the Owners Representative's satisfaction, and at no additional cost to the Owner.

6.04 CLEANING

Clean finished wood surface with non-bleach cleaner if required. Lightly scrub surface with a medium to stiff bristle deck brush to remove dirt. Do not pressure wash surface.

SECTION 11 68 16

PLAYGROUND EQUIPMENT

PART 7 - GENERAL

7.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

7.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the provision and installation of Playground Equipment (also referred to as Play Equipment or Play Structures) as shown on the Drawings and as specified in this Section. The work includes all miscellaneous hardware, foundations, footings and miscellaneous appurtenances associated with the installation. Items to be installed include:
Playground Equipment
Wood Fiber Surfacing

Related work includes but is not limited to:
Earthwork and Grading
Site Concrete

7.03 STANDARDS

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
F1292 Specification for Impact Attenuation of Surface Systems under and around Playground Equipment.
F1487 Consumer Safety Performance Specification for Playground Equipment for Public Use
F1951 Specification for Determination of Accessibility of Surface Systems under and around Playground Equipment.
F2075 Specification for Engineered Wood Fiber for Use as a Playground Safety Surface under and around Playground Equipment.

U.S. Consumer Product Safety Commission, CPSC Publication #325: Handbook for Public Playground Safety, latest edition.

Department of Justice 2010 American Disabilities Act Standards for Accessible Design (ADAAG 28 CFR Part 36).

7.04 QUALITY ASSURANCE

Installer Qualifications & Experience: Use an installer certified by the manufacturer of the playground equipment who has a minimum of five (5) installations of similar size and scope over the past three (3) years and is specialized in installing work similar in material, design, and extent to that indicated for this Project.

Certification: All playground equipment supplied shall be certified by the International Play Equipment Manufacturers Association (IPEMA) Certification Service.

Substitutions: no substitutions permitted without prior written approval of the Owners Representative.
- Substitutions that will change the fall height, platform height, or maximum equipment height will not be considered.
- The proposed substitution shall not adversely affect other trades, construction schedule or specified warranty requirements.
- Request substitutions on an Owner approved form, along with complete submittal requirements listed below including renderings, plan view, accessibility information, certificates, except for shop drawings and structural calculations.
  - Include a detailed price quote itemizing every component of play equipment, installation of play equipment by a manufacturer certified installer at prevailing wage, and cost of removal of existing play structure.
  - Incomplete substitution requests will be rejected without further review.
- Should the substitution affect dimensions shown in the Drawings, provide a Shop Drawing(s) that accurately shows all required changes to the Contracts Documents as part of the substitution request.
- Submit documentation that maintenance and service parts are locally available for the proposed substitution as part of the substitution request. See clause on Closeout Submittals elsewhere in this Specification for details.
- Should the substitution be accepted, the Contractor shall pay for changes to the design including engineering design, detailing and construction costs caused by the requested substitution.

Modifications: Submit Drawings with proposed modifications clearly identified and sufficient information to determine compliance with specified criteria. Incomplete Drawings will be rejected.

Site Documentation: Maintain one copy of the latest edition of ASTM F1487 and CPSC publication #325 at project site.

Safety Audit: On completion of installation, provide a playground site investigation and safety assessment by a Certified Playground Safety Inspector (CPSI), at no additional cost to the Owner, and as described elsewhere in this Specification.

7.05 SUBMITTALS

Renderings: 3-D / isometric rendering of playground equipment. Minimum of (2) two views, showing all the play structure components.

Plan View: including overall dimensions, components labelled, deck heights relative to finished surface below shown, and required safety zone.
- Plan View shall indicate the ADAAG required and provided number of play components at ground level, and accessible by transfer and/or ramp.

Shop Drawings (Manufacturer Standard Playground Equipment): all the requirements of the Plan View plus locations and dimensions of footings and anchorage points.

Calculations and Drawings (Manufacturer Standard Playground Equipment): for playground equipment footings, prepared and stamped/signed by a Structural or Civil Engineer licensed in the State of California.

Listing of color and finish for posts, plastic components, decks and accessories if indicated on the Drawings. If color and finishes are to be selected through the submittal process, then a color chart showing the full range of colors and textures available for components with factory applied color finishes, for the bid price provided.

Certificates:
- Installer’s certification from the playground equipment manufacturer.
- IPEMA: Manufacturer’s Letter of Compliance with IPEMA.

Warranty: Manufacturer's five year full warranty for all components for coverage against structural failure due to corrosion, deterioration, or workmanship.

Insurance: Supplemental insurance coverage as offered by manufacturer and/ or manufacturer's sale representative for equipment and surfacing indicating a limit of product liability of not less than $5,000,000.

Sieve analysis, test data, and 1-quart sample of wood fiber to be used.

7.06 DELIVERY, STORAGE, AND HANDLING

Deliver products in manufacturer's unopened containers, fully identified with Manufacturer's name, brand, type and grade.

Protect products from weather, soiling and damage using handling equipment and storage techniques recommended by manufacturer.

PART 8 - PRODUCTS

8.01 PLAYGROUND EQUIPMENT

General: For playground equipment:

Posts shall be galvanized steel and shall have a corrosion-resistant coating applied to the inside walls and cut ends of the steel tubes. The top "domed" cap for posts shall be die cast aluminum and shall be installed and secured in place during manufacture.

Clamps shall be die-cast aluminum alloy.

Ladders, barriers, wheels, chains, and decks shall be ultraviolet resistant PVC coated to insulate against temperature extremes and provide a safer grip. Painted metal is not acceptable.

Posts, arches, clamps and other play components shall be painted with a specially formulated primer with high quality, architectural-grade powdercoat topcoat.

Colors shall be as shown on the Drawings or as selected by the Owners Representative via the submittals process. Posts and caps shall be powder-coated the same color.

Safety Labels: vinyl labels with ultraviolet inhibitors and tamper resistant slits on the edges, as supplied by Safety Play, Inc. St. Petersburg, FL 33716 (888) 878-0244, safetyplay@mindspring.com

Playground equipment as shown on the Drawings and as noted below and in Quote [number] dated [date] from [supplier/distributor] using equipment manufactured by [manufacturer], or approved equal via a substitution request.

~~8.02~~ PLAYGROUND EQUIPMENT LIST

Item: Tetragode 3850

Description: A fourfold suspended climbing net with border cables including a spatial net and a central steel mast. The four bracing devices with encapsulated clamping system are mounted on the surface of the outer foundations. The central mast is of galvanized steel. Ropes are U-Rope round strand ropes with galvanized and covered wires: external strands with non-abrasive UV-resistant Polyester-yarn. Rope crossing points are localized with durable, forged aluminum-alloy cloverleaf rings, aluminum-alloy ball-knots, T-connectors, and barrel-ferrule, in situ-replaceable rope strands.

Model #712.000.3850

Manufacturer: Berliner

Item: Dune Buggy Springer

Description: Rocking Buggy created from 19 mm EcoCore panels of 100% post-consumer recycled ocean waste. Buggy frame created from steel support posts and polypropylene handle, on anti-pinch steel spring.

Model #M170
Manufacturer: Kompan

8.03 WOOD-FIBER SURFACING

For engineered wood fiber at playground equipment see Specification Section Engineered Wood Fiber System

PART 9 - EXECUTION

9.01 GENERAL

Verification of Conditions

Prior to installation of playground equipment footings and sub-slabs, verify location of underground utilities and facilities in the playground area. Bring any anticipated conflicts to the notice of the Owners Representative prior to layout and excavation. Damage to underground utilities and facilities will be repaired at no additional expense to the Owner.

Prior to installation of playground equipment, verify that associated footings and sub-slabs have been installed in proper locations and at proper elevations.

Verify locations of playground perimeter and pathways. Verify that playground layout and equipment locations including use zones comply with requirements for each type and component of equipment.

Examine areas and conditions for compliance with requirements for site clearing, earthwork, site surface, sub-grade drainage, and other conditions affecting installation of playground equipment. Do not begin installation before final grading required for placing protective surfacing is complete, unless otherwise permitted by Owners Representative.

Review all playground equipment and accessory locations with the Owners Representative prior to installation.

Coordinate as required with the work of other trades, specifically with the resilient surfacing installer if applicable.

Protection of In-Place Conditions: Protect surrounding areas, surfaces and appurtenances already in place during installation of playground equipment.

9.02 INSTALLATION – PLAY EQUIPMENT

General: Install playground equipment and accessories per Manufacturer's instructions and as shown on the approved Shop Drawings.

Mount all playground equipment on concrete footings, unless otherwise noted on the Drawings.

Staking / Layout: Stake the location of all playground equipment, including entire use zone perimeters. Verify that use zone perimeters do not overlap existing or proposed paving, structures, or other obstructions.

Deviations: Notify Owners Representative if conflicts or obstructions exist. If deviations from specified dimensions, especially fall heights, are required, obtain Manufacturer's and Owners Representative's approval prior to proceeding; follow approval request procedure as specified for substitutions. Do not proceed until revised drawings have been provided, showing corrected layout, and obstructions have been removed.

Installation - Footings:

Excavate holes for posts and footings to dimensions, profile, spacings, and in locations indicated on Drawings, in firm, undisturbed or compacted sub-grade soil. Level bearing surfaces with drainage fill to required elevation.

Set equipment posts in concrete footings. Protect portion of posts above footing from concrete spatter. Place concrete around posts and vibrate or tamp for consolidation. Verify that posts are set plumb or at the correct angle and are aligned and at the correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

Top surface of concrete footings shall be a minimum of one half inch (1/2") below bottom of protective surfacing layer, with a smoothed top and shaped to shed water.

Installation – Play Equipment:

Install play equipment in accordance with CPSC Publication #325, ASTM F1487 and Manufacturer's instructions Anchor playground equipment securely, positioned at locations and elevations indicated on Shop Drawings.

Anchor play equipment securely below the bottom elevation of the protective surfacing layer.

Assemble play equipment without sharp points, edges, or protrusions; entanglement hazards; or pinch, crush, or shear points.

When installed in accordance with the manufacturer's instructions, fasteners, connecting devices, and covering devices shall be installed to minimize loosening, or not be removable without the use of tools. Lock washers, self-locking nuts, locking pins, or other locking means shall be provided for all nuts and bolts to protect them from detachment. Hardware in moving joints shall also be secured against unintentional loosening.

Coordinate installed heights of equipment and components with installation of protective surfacing. Set equipment so fall heights and elevation requirements for age group use and accessibility are within required limits. Verify that playground equipment elevations comply with requirements for each type and component of equipment.

Adjust movable playground equipment components to operate smoothly, easily, and quietly, free from binding, warp, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range.

Install play area age group designation sign outside the use zone of play equipment.

Safety Markings / Labels:

Install additional permanent labels in accordance with ASTM 1487 and as noted below and not provided by the play equipment manufacturer. Unless otherwise noted:

Each item of play equipment or play structure shall be labeled.

Labels shall be visible from both directions for equipment that can be approached from two directions such as swings.

Labels shall be visible from all directions for all other equipment, i.e. a minimum of three locations around the play equipment or play structure.

Manufacturer Identification: minimum one location per piece of play equipment or per play structure.

Age Group: age group separation that play equipment was designed for.

Hot Surface: caregiver warnings to check equipment before use to mitigate burn injuries.

Surfacing Level: Install Surfacing Level Marker labels so that installers and maintainers of protective surfacing can determine whether sufficient depth has been installed. Alternately, paint the portion of the support that is intended to be installed below the top surface of the protective surfacing (resilient, wood fiber, or sand) a different color, or mark in other permanent way.

9.03 INSTALLATION – WOOD FIBER SURFACING

See Specification Section Engineered Wood Fiber System.

9.04 PLAYGROUND SAFETY AUDIT

The playground site investigation and safety assessment (Audit) shall be performed by the CPSI as required by State law for the following types of public playground improvements: construction of new playgrounds, modifications to existing playground equipment and/or the installation of new equipment in an existing playground. Notify the Owners Representative forty eight (48) hours in advance of date and time of review by the CPSI.

The Audit shall assess the layout and condition of the playground equipment and surfacing and identify any and all equipment, surfacing and signage that are not in compliance with the latest editions of ASTM F1487 and CPSC publication #325.

The Audit shall be in a written report format, detailed and legible, utilizing checklists as recommended by the National Recreation and Park Association.

The Audit shall establish playground equipment and surfacing standard of care.

Non-Conforming Work: replace, modify or repair rejected work until compliance with the Audit is achieved. Any corrections necessary shall be to the satisfaction of the Owners Representative and at no additional cost to the Owner.

9.05 CLOSEOUT SUBMITTALS

Safety Compliance: Playground Safety Audit Report by CPSI.

Manufacturer's warranty: Submit manufacturer's warranty and ensure that forms have been completed in the Owner's name and registered with manufacturer.

Maintenance / Parts: Manufacturer's recommended maintenance instructions and list of replaceable parts for each equipment item, with address and phone number of source of supply.

9.06 REPAIR, CLEAN-UP AND PROTECTION

Repair damaged play equipment finishes to match original finish or replace damaged products prior to Substantial Completion.

Clean playground equipment of construction materials, dirt, stains, filings, and blemishes due to shipment or installation. Clean in accordance with manufacturer's instructions, using cleaning agents as recommended by manufacturer.

Restore adjacent areas that have been damaged from the installation of playground equipment.

Cleaning: After installation of play equipment, remove all excess soil, packaging, and other debris and legally dispose off-site. Clean all walks, walls, pavements, and planting areas leaving the entire area in a neat, orderly condition.

Graffiti Removal: Suggested product is available at https://www.graffitiremovalinc.com/ check with the play equipment manufacturer(s) as to whether this is appropriate for their surfaces.

Protect installed play equipment and accessories from damage or use until Final Completion.

SECTION 12 93 00

SITE FURNISHINGS

PART 10 - GENERAL

10.01 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

10.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the provision and installation of Site Furnishings as shown on the Drawings and as specified in this Section. The work includes all miscellaneous hardware, foundations, footings and miscellaneous appurtenances associated with the installation. Items to be installed include:
Dumor Picnic Table
BBQ Grill

Related work includes but is not limited to:

Site Concrete
Stabilized D.G. Paving

10.03 STANDARDS

Unless otherwise shown or specified, all materials and methods shall conform to the appropriate current sections of: the State of California Department of Transportation (CALTRANS) Standard Specifications, latest edition, except for measurement and payment requirements.

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
C1107 Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

Applicable ISO Testing Standards (latest revisions) as they apply to this work.

10.04 SUBMITTALS

Documentation: product data for all standard site furnishings and accessories. Include material descriptions, recycled content, dimensions of individual components and profiles, finishes, field-assembly requirements, and installation details as applicable.

Samples: manufacturer's sample chips of all finishes and colors specified.

Shop Drawings: for all custom site furnishings and accessories. Show all locations, markings, quantities, materials, sizes, and shapes and indicate all methods of connecting, anchoring, fastening, bracing, and attaching to the work of other trades. Revise and resubmit if required per review by the Owner's Representative.

Maintenance Data: At Substantial Completion submit maintenance information for site furnishings and accessories where applicable for inclusion in the Owner's maintenance manuals.

10.05 REVIEWS

Review and Adjustment: Review all site furnishing locations with the Owner's Representative prior to proceeding with any installation. Use stakes / flags in planting areas, tape / removable paint in paving areas. The Owner's Representative may require the site furnishings to be placed in their proposed locations to make visual adjustments. Make adjustments to locations as approved by the Owner's Representative.
Mark-up the as-built plans prior to project completion with final locations, unless the revisions were already recorded by the Owner's Representative.

10.06 QUALITY ASSURANCE

Manufacturer's Instructions: Materials, products, processes, equipment or the like shall be installed or applied in strict accordance with printed instructions furnished by the manufacturer of the material for use under conditions similar to those at the job site.

Perform all work in accordance with all applicable State and local laws, codes and regulations.

10.07 DELIVERY, STORAGE & HANDLING

Delivery & Handling: Transport and handle new site furnishings and accessories in a manner to avoid hairline cracks, staining or other damage.
Carefully salvage existing site furnishings and accessories in a manner so as not to scratch, damage or stain them in any way. Assume that all fasteners and related attachment mechanisms cannot be re-used and are to be provided new.

Storage & Protection: Store all site furnishings and accessories free of the ground and protected from mud or rain splashes. Cover units, secure covers firmly, and protect the units from dust, dirt or other staining material.

Coordinate with the Owner's Representative for appropriate locations to store existing salvaged site furnishings and accessories, until required for reinstallation.

PART 11 - PRODUCTS

11.01 GENERAL

11.02 FURNISHINGS

Dumor Picnic Table
Manufacturer: Dumor Accessible Picnic Table
Model #: 100
Description: Bolt down assembly available from Ross Recreation or approved equal
Finish / color: Cedar colored
Distributor/Contact: Ross Recreation (831) 689-9110

BBQ Grill
Manufacturer: Dumor pedestal grill
Model #: 21-00
Description: Permanent embedment
Finish / color: Black
Distributor/Contact: Ross Recreation (831) 689-9110

11.03 FOOTINGS

As shown on the Drawings. If not shown on the Drawings, then the furnishing manufacturer's standard footing design.

11.04 FASTENERS

Fasteners, Fittings, and Hardware: Stainless steel or noncorrodible materials; commercial quality; tamperproof, vandal and theft resistant; concealed, recessed, and capped or plugged. Provide as required for site furnishings' assembly, mounting, and secure attachment.

Anchors: Diameter as recommended by furnishing manufacturer or appropriately sized for bolt holes; length to leave 1" clear at the bottom of concrete paving.
Hilti Kwik Bolt 3 Wedge Anchor SS316
Simpson Titen-HD Screw Anchor SS316

11.05 GROUTS & ADHESIVES

Grout: Provide grout as specified by furnishings manufacturer for exterior applications. If not specified, then a premixed, factory-packaged, non-shrink, non-staining, non-metallic grout complying with ASTM C1107. Pre-approved product: Quikrete Non-Shrink General Purpose Grout.

Anchoring Cement: Factory-packaged, non-shrink, non-staining, hydraulic controlled expansion cement formulation for mixing with potable water at project site to create pourable anchoring, patching, and grouting compound. Formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by furnishings manufacturer for exterior applications.

PART 12 - EXECUTION

12.01 GENERAL

Pre measure: Measure installed features of the project critical to the correct off-site fabrication of custom furnishings.

Work Conditions: Examine areas and conditions for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance of the Work. Proceed with installation only after unsatisfactory conditions have been corrected.

Install all embedded site furnishings in concrete paving areas prior to the concrete pour. Schedule the receiving of equipment in conjunction with the concrete pour. Any block outs of concrete pour due to scheduling conflicts shall be approved by the Owners Representative and at no additional cost to the Owner. Finish of any block out areas shall match adjacent paving.

Furnishings damaged due to the concrete pour shall be replaced at the discretion and to the satisfaction of the Owners Representative, and not repaired or cleaned.

12.02 INSTALLATION

General: install site furnishings as shown on the Drawings and as specified herein.

Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.

Install site furnishings plumbed to the vertical and securely anchored. Provide spacers under the bases / legs, as acceptable to Owner's Representative, to level the furnishings.

Cast-in place posts: Set cast-in-place support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

Posts Set into Voids in Concrete or sleeves: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and maximum 3/4 inch larger than outer diameter of post, or use steel pipe sleeves preset and anchored into concrete for installing posts. Clean holes of loose material, insert posts, and fill annular space between post and concrete or sleeve with specified grout mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

12.03 REPAIR, CLEAN-UP AND PROTECTION

Repair damaged site furnishing finishes to match original finish or replace damaged products prior to Substantial Completion.

Clean site furnishings of construction materials, dirt, stains, filings, and blemishes due to shipment or installation. Clean in accordance with manufacturer's instructions, using cleaning agents as recommended by manufacturer.

Restore adjacent areas that have been damaged from the installation of playground equipment.

Cleaning: After installation of site furnishings, remove all excess soil, packaging, and other debris and legally dispose off-site. Clean all walks, walls, pavements, and planting areas leaving the entire area in a neat, orderly condition.

Graffiti Removal: Suggested product is available at https://www.graffitiremovalinc.com/ check with the furniture manufacturer(s) as to whether this is appropriate for their surfaces.

12.04 CLOSEOUT

Maintenance Data: cleaning and maintenance information for site furnishings and accessories.

SECTION 31 11 11

TREE PROTECTION

PART 13 - GENERAL

13.01 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

13.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the installation of Tree Protection measures as shown on the Drawings and as specified in this Section.
The work includes protection and replacements of trees and vegetation indicated to be protected on the Drawings that are affected by temporary or permanent construction.
For pruning of trees if required to install protection measures, see Specification Section Tree Removal and Pruning.

Related work includes but is not limited to:
Site Clearing
Demolition
Earthwork and Grading
Soil Preparation
Landscape Planting

13.03 DEFINITIONS

Vegetation: Shrubs, groundcovers, grass, and other plants.

Root Zone: The root zone diameter of a tree is determined to be that area located out a distance 15 times the trunk diameter in all directions or the drip line, whichever is greater, unless otherwise noted on the Drawings.

Protection Zone: Area surrounding individual trees, vegetation areas, and groups of trees and vegetation to be temporarily protected during construction, as shown on the Drawings.
Temporary protection shall extend till the edge of the Root Zone, unless otherwise noted

Topsoil: See Specification Section Earthwork and Grading / Soil Preparation

13.04 QUALITY ASSURANCE

Project Arborist: Engage a third-party / independent ISA certified arborist to direct plant-protection measures in the vicinity of trees and vegetation indicated to remain and to prepare inspection reports. Submit qualification data indicating proof of certification / license of the Project Arborist.

Conduct a pre-construction walk-through at Project site to review tree protection measures by the Owner's Representative. Notify the Owners Representative 24 hours in advance of this review.

Codes: The City of Sand City has an ordinance which calls for protection of trees. Willful violation of this ordinance by not exercising proper precautionary measures as ordained and as described herein can result in fines. Copies of the ordinance are available at http://qcode.us/codes/sandcity. Follow the guidelines of the ordinance or the specifications below, whichever is more stringent.

13.05 SUBMITTALS

Project Arborist Qualifications

Post-construction Certification: Submit from Project Arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

Submit from Project Arborist, recommendations for care and protection of trees affected by construction during and after completing the Work.

PART 14 - PRODUCTS

14.01 MATERIALS

Temporary Fencing (Steel): New or re-used 2" x 2" steel chain-link fence as approved by the Owners Representative, minimum 6-ft high. Fence material shall be mounted on 2" diameter galvanized steel poles with caps, maximum spacing 10-ft between poles. Posts shall be embedded minimum 24-in into the ground.

Temporary Mulch: Commercial recycled wood chip mulch or approved chippings from removed trees on site.

Warning Sign: Laminated card, rigid plastic or metal sheet, minimum 8.5"x11", with attachment holes, legibly printed with non-fading letters.

Sign text and graphics per the requirement of the permitting agency for the project.

If no requirements from the permitting agency exist, then the sign shall clearly state "WARNING – TREE & PLANT PROTECTION ZONE"

PART 15 - EXECUTION

15.01 PRE-CONSTRUCTION

Erosion and Sedimentation Control: Verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross Protection Zones.

Existing Conditions: Review trees and vegetation indicated to remain on site, and document preconstruction conditions that might be misconstrued as damage caused by construction activities.

Documentation: Prepare written report if necessary, endorsed by Project Arborist, listing conditions detrimental to the protection of trees and vegetation.

Preconstruction Meeting: Review methods and procedures related to temporary plant protection including, but not limited to:

Construction schedule. Verify availability of materials, personnel, and equipment needed to make progress and avoid delays.

Enforcing requirements for protection zones.

Project Arborist's responsibilities.

Field quality control.

Install all tree protection measures prior to any site preparation, demolition, or grading work. Protection may include fencing and/or tree trunk and individual branch protection at the discretion of the Owner's Representative.

Identification: Trees to be preserved shall be marked with a spot of paint. The marking is required to notify City Inspectors that the subject tree or tree(s) are to be protected at all times during construction.

Verification: Verify in writing that all preconstruction conditions noted in this Specification have been met and are in place. Submit verification to the Owners Representative for approval prior to any site preparation, demolition, or grading work.

15.02 PROTECTION ZONES

Protection Zones shall be maintained in a natural condition and not compacted. The following practices are prohibited within tree and Protection Zones:
Storage of construction materials, debris, or excavated materials.
Dumping of chemicals or garbage.
Parking vehicles or equipment.
Foot traffic.
Erection of sheds or structures.
Impoundment of water.
Excavation or other digging unless otherwise indicated.
Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

Prohibit heat sources, flames, ignition sources, and smoking within or near Protection Zones and mulch.

Signage: Install warning signs in visibly prominent locations in a manner approved by the Owners Representative or Project Arborist - in enough quantity so as to be visible from all accessible sides.

Root Buffer: for vehicular movement within the Protection Zone is to be constructed with a 6”-8” layer of 3/4-inch crushed rock placed over Mirafi-140N or equal filter fabric.

15.03 EXCAVATION

Utility and Drainlines: Shall be located outside the root zone of all trees scheduled for preservation. In cases where alternative routes are not available, utility conduit, pipe, wire and drain lines shall be tunneled under major roots. Major roots are determined to be those that exceed two (2) inches in diameter. In no case shall utility lines be permitted within six (6) feet of the trunk. Immediately contact the Owners Representative if the Drawings conflict with this.

All approved construction work within the root zone of trees scheduled for preservation shall observe the following minimum tree protection:
Hand trench at point or line of grade cuts closest to the trunk to expose major roots 2-inches in diameter or larger. In cases where rock or unusually dense soil prevents hand trenching, mechanical equipment may be approved by the Owners Representative, provided that work inside the drip-line is closely supervised by the Project Arborist to prevent tearing or other damage to major roots.

Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3-inches back from new construction and as required for root pruning.

Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

15.04 REPAIR & REPLACEMENT

Tree Repair: Repair trees damaged by construction operations within 24 hours. Treat damaged trunks, limbs, and roots as directed the Owner’s Representative. Aerate, water and mulch as directed by the Owner’s Representative.

Tree Replacement: Remove and replace trees that the Owner's Representative determines to have been damaged by construction, and incapable of being restored to a normal growth pattern. Replace removed trees with species and size as directed by the Owner's Representative.
Replacement planting shall conform to Specification Section Landscape Planting, and soil amendments shall conform to Specification Section Soil Preparation.

Disposal: Remove all tree removal / pruning debris, and associated waste, unsuitable, and excess material from the Owner's property and dispose of legally as directed by the Owners Representative. Burning of waste materials is not permitted.

15.05 CLEAN-UP

Remove waste materials and unsuitable and excess material from the Owner's property and dispose of legally.

SECTION 31 11 13

SITE CLEARING

PART 16 - GENERAL

16.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

16.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for Site Clearing work as shown on the Drawings and as specified in this Section. The work includes but is not limited to:
Clearing and Grubbing.

Related work includes but is not limited to:
Tree Protection
Demolition
Earthwork and Grading
Soil Preparation

16.03 DEFINITIONS

Existing Topsoil: The top layer of existing soil in unpaved / planting areas, containing minerals and organic materials including humus, and completely free of weeds, roots, rocks/clods over one cubic inch and other objectionable material. Depth of existing topsoil shall be taken to be 2-4 inches deep on average or as determined by the Owner's Representative at the time of construction after clearing and grubbing.
At turf areas, existing topsoil starts below the grass root zone.
At unpaved / planting areas other than turf, existing topsoil starts below the mulch layer.

PART 17 - PRODUCTS

Not Applicable

PART 18 - EXECUTION

18.01 SITE CLEARING

General

Protection measures for trees to be preserved are to be in place and reviewed by the Owner's Representative prior to any clearing and grubbing. See Specification Section Tree Protection.
For removal of trees see Specification Section Tree Removal and Pruning
Clear and grub only areas as necessary to construct improvements shown on the Drawings.
Use only hand methods for grubbing inside the drip line of trees indicated to be preserved, unless otherwise approved by the Owners Representative.

Clearing and Grubbing
Remove vegetation, improvements, and obstructions protruding through the ground surface and/or interfering with installation of new construction. Removal includes complete root systems.
Remove all organic matter in unpaved / planting areas to be replanted, to a sufficient depth to remove such material. Replanting includes areas with mulch-only applications. The depth of removal will vary with the type and density of vegetation across the project site and with the time of year.

Stripping
Remove all vegetation and grass before stripping existing topsoil.
Strip existing topsoil from all unpaved areas to be improved with paving, structures. Average depth of topsoil is specified elsewhere in this Specification. Additional topsoil may be required to be removed in localized areas to depths encountered to prevent intermingling with underlying subsoil or other waste materials.
Remove all vegetation matter from collected existing topsoil and stockpile for re-use in proposed planting areas unless otherwise instructed by the Owner's Representative. See Specification Section Soil Preparation. Do not use stockpiled existing topsoil as structural fill and/or under proposed paving.

18.02 CLEAN-UP

Disposal: All debris from clearing and grubbing, including stumps, rocks, vegetation and soil, shall be re-used on site or recycled for use offsite.
Plant material shall be delivered to a composting facility such as Vision Recycling, Z-Best, CCL Organics, or equal.
If offsite then submit a certificate signed by the destination agency, including nature and volume of debris accepted from this project.
Waste materials other than land clearing debris, not identified for salvage or reuse by the Owner, shall be disposed of legally offsite, or diverted from disposal as part of a project construction waste management plan if applicable.

SECTION 31 11 16

DEMOLITION

PART 19 - GENERAL

19.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

19.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for Demolition work as shown on the Drawings and as specified in this Section. The work includes:
Demolition of concrete walks and asphalt paving, including associated curbs, gutters, and aggregate base.
Demolition of steps, ramps, and walls including handrails, concrete footings and aggregate base.
Demolition of chain-link fence including posts and concrete footings.
Saw-cutting of existing concrete and asphalt as required.

Removal of irrigation equipment for salvage and reuse
Irrigation adjustment

Related work includes but is not limited to:
Tree Protection
Site Clearing
Earthwork and Grading

19.03 DEFINITIONS

Topsoil: See Specification Section Earthwork and Grading.

19.04 SUBMITTALS

Indicate on the project schedule submittal, proposed time for demolition work in this Section, including shut-off time and capping of utility service.

19.05 QUALITY ASSURANCE

Reviews: Prior to any site clearing or demolition work, prepare protection measures of items indicated to be preserved and protected for review by the Owner's Representative.

19.06 SITE CONDITIONS

Occupancy: Paving areas and structures to be removed or demolished will be vacated and discontinued in use prior to the start of work.

Explosives: Use of explosives for demolition work is not permitted.

Traffic: Conduct demolition operations and the removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied facilities without permission from Owner.

Protection: Ensure the safe passage of persons around the area of demolition. Conduct operations to prevent damage to adjacent buildings, structures, other facilities, and injury to persons. See Special Provisions for additional information regarding building access.

Construction Fence: Contractor is required to fence site and provide an adequate level of safety and protection at all times during construction

Protection of existing trees and vegetation – see Tree Protection.

Damage: Promptly repair damages caused to adjacent facilities by demolition operations at no cost to Owner.

PART 20 - PRODUCTS

Not Applicable.

PART 21 - EXECUTION

21.01 GENERAL

Clearing and Grubbing: See Specification Section Site Clearing.

Tree Removal: See Specification Section Tree Removal and Pruning.

21.02 DEMOLITION

Pollution Controls:

Use water sprinkling, temporary enclosures, and other suitable methods to limit the amount of dust and dirt rising and scattering in the air to the lowest practical level.

Comply with governing regulations pertaining to environmental protection. Do not use water when it may create hazardous or objectionable conditions such as flooding.

Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations, as directed by the Owner or governing authorities.

General: Remove above and below grade pavements, curbing and other conditions necessary to permit new construction and other work as indicated on the Drawings. Removal of underground pipe or conduit interfering with construction is included under this Section.

Damage: Return adjacent areas to condition existing prior to the start of the work.

Saw-cutting: Saw-cut all asphalt and concrete to interface with new planting or paving areas. Concrete interfaces are to be saw-cut with a diamond tipped blade. Use the correct blade for the application as determined by the Blade Application Code for Diamond Saw Blades, 2004 edition, developed by the Masonry and Concrete Saw Manufacturers Institute.

Salvaged Items: Deliver all items noted for salvage and not to be re-used on site to the Owner, unless directed otherwise by the Owners Representative.

21.03 IRRIGATION ADJUSTMENT

General:

Trench as required to access only those parts of the irrigation system to be adjusted.

Cap all sprinkler heads / lines as necessary.

Adjust, repair and/or replace sprinkler heads / lines as necessary.

Salvage irrigation equipment needed to be removed for new construction.

21.04 CLEAN-UP

Disposal Waste materials are defined as all materials generated by demolition or excavation that are not identified for salvage or re-use by the Owner. Dispose of waste materials legally off-site.

SECTION 31 22 13

EARTHWORK AND GRADING

PART 22 - GENERAL

22.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

Geotechnical Report by Moore Twining Assoc., INC. dated 10/29/2022.

22.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for Earthwork and Grading as shown on the Drawings and as specified in this Section. The work includes but is not limited to:
Rough grading and excavations

Providing, processing, placement, and compaction of any fill materials necessary to meet the designed lines and grades.

Related work includes but is not limited to:
Demolition
Site Clearing
Drainage Facilities
Electrical

22.03 STANDARDS AND DEFINITIONS

Unless otherwise shown or specified, all materials and methods shall conform to the appropriate current sections of the State of California Department of Transportation Standard Specifications (DTSS) as they reasonably apply to this work, except for measurement and payment requirements.

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
D1557 Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort

Relative compaction: is defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density determined in accordance with ASTM D1557, expressed as a percentage.

Finish Grade: is defined as the finished top surface of the soil after all grading and soil preparation activities, and prior to installation of mulch.

22.04 QUALITY ASSURANCE

Tolerances: No combination of high and low tolerances that compromise pavement cross-section shall be permitted. Final grades after compaction and/or excavation shall conform to the grades shown on the Drawings, with a maximum tolerance of 0.10 foot for non-paved areas and 0.05 foot for paved areas, plus or minus.

Geotechnical Monitoring / Testing: Coordinate with the Owner's Geotechnical Engineer for compaction testing for earth base under all paving areas and foundations. At the Owner's discretion, the Engineer may also monitor site preparation, foundation excavations, placement of engineered fill and trench backfill.

22.05 REVIEWS

Notify the Owners Representative at each stage of the operation indicated below and allow such reasonable time to observe excavation and trenching, and for testing and inspection as the Owners Representative may require. Do not proceed with any portion of the work until authorization has been received from the Owners Representative.

Site Preparation Review – Prior to any earthwork and grading. See Specification Section Landscape Irrigation for other items to be inspected during this review.

Preliminary Review - After all rough grading is complete and sub-grade is prepared.

Each review shall be conducted only after all items pertaining to that review as noted above and in related Sections have been completed.

22.06 SPILLAGE AND DUST CONTROL

Spillage: Prevent spillage when hauling on or adjacent to any public street or highway. In the event that such occurs, remove all spillage and sweep, wash, or otherwise clean such streets or highways as required by local City and County authorities and/or the State of California, and in compliance with applicable Best Management Practices (BMPs).

Dust: Take all precautions needed to prevent a dust nuisance to adjacent public and private properties and to prevent erosion and transportation of soil to downstream of adjacent properties due to their work under this contract. Correct or repair any damage caused in this manner at no additional cost to the Owner.

PART 23 - PRODUCTS

23.01 MATERIALS

Fill Material: Selected on-site excavated/sub-soil material is considered suitable fill material for embankment construction, subject to prior approval by the Owners Representative.

Inorganic on-site fill and sub-soil may be used as structural fill to achieve final grades, provided the fill contains no debris and is free of rocks or clods greater than 6-inches in maximum dimension, and no more than 15 percent by weight of rocks larger than 3-inches. Submit samples of any proposed imported fill to the Owners Representative for appropriate testing and approval no less than (5) five working days prior to the anticipated job site delivery. Fill material shall meet the following requirements:
Have a sand equivalent greater than 20%
Have not more than 15% passing the 200 sieve.
Have an R-Value of not less than 50.

Sand: for bedding and backfill for underground utilities including irrigation mainline and 1-inch water service line shall conform to the sieve analysis below:

Sieve Size:	Percent Passing:
#30 (600 um)	At least 75%
#100 (150 um)	Less than or equal to 5%

Topsoil: the top layer of existing soil in planting areas, containing minerals and organic materials including humus. Depth of topsoil shall be taken to be 4-6 inches deep or as determined by the Owners Representative at the time of construction after clearing and grubbing. See Specification Section Site Clearing.
Topsoil is a sand type.
At turf areas topsoil starts below the grass root zone.
At planting areas other than turf, topsoil starts below the mulch and organic matter layer.
Soil underneath paving and aggregate base areas shall not be considered as top soil.

Sub-soil: the remaining existing soil on the site after clearing & grubbing, after topsoil has been removed, and after all rocks over one cubic inch and all foreign debris and organic material have been removed.
Soil under paving and aggregate base areas can be considered as subsoil provided contamination testing as specified elsewhere in this section indicates that it is free of contaminants that are harmful to plant growth.

Imported topsoil: refer Specification Section Soil Preparation

PART 24 - EXECUTION

24.01 GENERAL

Keep all excavations (including, pits, trenches, footings, etc.) entirely free from water. Protect excavations from rain or water from any source during construction. Use suitable pumping equipment or other means as required by the conditions. Continue pumping as necessary until the completion of the project. When operations are interrupted by unfavorable weather conditions, prepare areas by grading and compaction to avoid ponding and prevent surface drainage over fill slopes, in order to avoid erosion. Grading operations for erosion control shall be as approved by the Owners Representative. Once excavation and grading commence, do not allow surface drainage to flow onto adjacent properties.

Seasonal Limits: Do not place, spread, or roll fill material during unfavorable weather conditions. When work is interrupted by heavy rains, do not resume fill operations until field density tests indicate the moisture content and density of fill meet the specified requirements and approved by the Owners Representative.

Unusual Conditions: In the event that any unusual soil conditions are encountered during grading operations, notify the Owners Representative immediately. Excavate and dispose of unsuitable material encountered below the natural grade as directed by the Owners Representative and paid for as Extra Work. Unsuitable material is defined in DTSS Section 19 Earthwork Clause 1.01B.

Provide satisfactory pollution and dust abatement and control measures continuously during the course of the work.

Utilize reclaimed water or dust palliatives if required by the applicable Water Conservation Ordinance.

24.02 TOPSOIL STOCKPILE & PROTECTION

Stripping: Strip the topsoil on the site after clearing and grubbing and stockpile it for future use in this project. Install topsoil in planting and turf areas as per finish grading directions in the Specification Section Soil Preparation. Stripping depth shall be as specified herein.

24.03 SITE PREPARATION, EXCAVATION & GRADING

Depressions, voids, or unsuitable material encountered shall be excavated to expose firm soil as directed by the Owners Representative. Backfill and compaction to design grade shall be approved by the Owners Representative. When earthwork or trenching conditions are determined by the Owners Representative to be unsuitable material, perform the work as defined in DTSS Section 19-2.02 Unsuitable Material.

Excavation work shall include sloping and rounding tops and ends of excavations.

24.04 FILL PLACEMENT AND COMPACTION

Place the fill in maximum 6-inch lifts (compacted layers) and compact the fill by mechanical means only. Fill shall be conditioned, at time of compaction, to 1% to 3% above the optimum moisture content of the soil.
For non-porous paving, compact each lift to minimum 95% relative compaction.
For porous paving, compact each lift to 90% relative compaction.
Carry out and document field density tests to ensure proper compaction.
The placement and spreading of fill materials and its processing and compaction of fill materials by flooding, ponding, or jetting shall not be permitted without the prior approval of the Owners Representative.

24.05 SUB-GRADE PREPARATION

A minimum of 8-inches of the in-place sub-grade soil shall be scarified, moisture conditioned to 1%-3% above optimum value, and compacted to a relative compaction of at least 95% under all paving including decomposed granite, concrete slabs-on-grade, asphalt concrete pavements, and foundations/footings. This depth of densified soils is in addition to additional fill material required to bring the sub-grade to grade.

Compact a minimum of 6-inch of sub-grade soil in all planting areas to maximum 85% relative compaction.

All soft or wet sub-grade soil encountered during earthwork and grading should be stabilized prior to placement of fill and further construction. This may involve scarifying and air-drying of the soil, or excavation and replacement of the wet soil with dry soil. Obtain prior approval of proposed method of stabilization from the Owners Representative.

In areas with existing irrigated planting to be regraded, irrigation should be terminated a minimum of one week prior to the start of grading to allow the soil to dry back.

24.06 TOPSOIL PLACEMENT

See Specification Section Soil Preparation for topsoil installation.

24.07 FINISH GRADING

Finish grade all areas, including those indicated to be planted on the Drawings, and remove all rocks and clods over one cubic inch. Grade all areas smoothly and uniformly. Repair all erosion damage during the construction period.

Unless otherwise shown on the Drawings, all soil finish grades shall be one-inch (1") below finish surface of walks, pavements, and curbs.

24.08 UTILITY TRENCHES

General: Trenching for underground piping, electrical conduits, etc. shall be done by the trade installing the pipe or conduit.

Excavation: Excavate trenches to the depth required for laying pipe or conduit plus required allowance for bedding material under the pipe. Over excavated areas shall be brought back to proper grade with compacted bedding material.

Excavate trenches wide enough to provide adequate working space to align and lay pipe or to construct the utility trench, make up and inspect joints, and allow placing and compaction of bedding material.

The maximum trench width at the top of the pipe shall not exceed the pipe outside diameter plus 12- inches on each side of the pipe.

See Specification Section Tree Protection for excavation within protection / root zones of trees to be preserved.

Bedding and Backfill: Bedding shall extend upwards from the bottom of the trench to the extent shown on the Drawings.

Bedding for underground utilities including irrigation and solid drain lines shall consist of sub-soil or sand as defined herein.

In planting areas sand bedding may be jetted or ponded into place and shall be compacted to equal that of the adjacent prepared sub-grade as specified herein. Mechanical compaction may be necessary to achieve this required density. If the bedding is jetted or ponded, the operation should be closely supervised and provisions should be made for the removal of excess water.

Maintain near surface soils as uniform as possible with existing upper stratum soils when backfilling in planting areas.

Compact backfill to equal that of the adjacent prepared sub-grade as specified herein.

24.09 EXCESS SOIL DISPOSAL

Excess excavation material shall be disposed of at an off-site location, disposal facility to be approved by the Owners Representative. Pay for any analytical testing of the excess material that may be required by the disposal facility. These tests may include

CAM-17 Testing Waste for Hazardous Metals

BTEX (Benzene, Toluene, Ethylbenzene, Xylene) Test

TPH (Total Petroleum Hydrocarbon) Test

SECTION 32 11 43

PERMEABLE AGGREGATE BASE

PART 25 - GENERAL

25.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

25.02 DESCRIPTION OF WORK

Extent: Work in this section includes, but is not limited to, providing all labor, materials, and equipment necessary for the complete installation of a stable, compacted, porous aggregate base layer, including sub-surface drainage and geotextile fabric, as shown on the Drawings.

Related Work:
Earthwork and Grading
Stabilized DG (Granitecrete)

25.03 STANDARDS

State of California, Department of Transportation Standard Specifications, referred to in this Specification as 'Caltrans Standard Specifications'.

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
D1557 Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
D2940 Specification for Graded Aggregate Material for Bases
F2898 Test Method for Permeability of Synthetic Turf Sports Field Base Stone and Surface System by Non-confined Area Flood Test Method

25.04 DEFINITIONS

Relative compaction or compaction: is defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density as determined by ASTM Test D1557 latest edition, expressed as a percentage.

25.05 SUBMITTALS

Contractor shall submit sieve analyses of the stone courses specified to verify conformance to these specifications. Submittals shall include permeability testing from a certified laboratory or Geotechnical Engineer, at compaction percentages specified, and shall verify stone materials to be 100% fractured.

25.06 DELIVERY, STORAGE, AND HANDLING

25.07 TESTING

General: After installation of the permeable aggregate base designed to conduct rainfall from the resilient rubber surface to an under-drain system, and prior to the installation of the rubber surface, test the finished base in situ for infiltration rate per ASTM F2898.
The finished permeable aggregate base is to have an infiltration rate of minimum 4-6 inches per hour.
The test is to be performed by a registered Geotechnical Engineer or certified agronomist, in at least 2 areas of each contiguous rubber surface as determined by the Owner's Representative. Non-contiguous surfaces will require separate tests.

If the permeable aggregate base does not meet the required permeability, correct or reinstall the non-conforming sections to the required grade, cross-section and density.

Testing fees and corrections to and/or reinstallation of the permeable aggregate base are at no additional cost to the Owner.

PART 26 - PRODUCTS

26.01 BASE MATERIAL - GENERAL

Aggregate: Durable crushed rock or gravel or sand that is washed and devoid of mineral fines. Material that is free from slaking and decomposition under the action of alternate wetting and drying. 100% fractured by mechanical means with elongated characters on each individual particle larger than 1/4". Rounded sands or aggregates are not permitted.

BASE MATERIAL – ALTERNATE 1

Permeable Aggregate Base: Class 2 Permeable, three fourths inch (3/4") maximum, gradation in accordance with Caltrans Standard Specifications 68-2.02F(3), thickness as shown on the Drawings.

Sieve Size	Percent Passing
1" (25.0 mm)	100%
3/4" (19.0 mm)	90-100%
3/8" (9.5 mm)	40-100%
#4 (4.75 mm)	25-40%
#8 (2.36 mm)	18-33%
#30 (600 um)	5-15%
#50 (300 um)	0-7%
#200 (75 um)	0-3%

R-value		78 Min.
Sand Equivalent CTM# 217		75 Min.
Durability Index CTM #229	Fine	40 Min.
	Coarse	40 Min.

26.02 GEOTEXTILE FABRIC

Geotextile fabric: high-tenacity polypropylene yarn, inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.
Mirafi FW300 by TenCate Geosynthetics, www.tencate.com
Approved Equal, with a flow rate of at least 100 gal/min/sq.ft

PART 27 - EXECUTION

27.01 JOB CONDITIONS

Protection: Take all steps necessary not to damage existing improvements. If damage occurs, repair immediately and if repair cannot be made to the satisfaction of the Owners Representative, remove and replace at no expense to the Owner.

27.02 SUB-GRADE PREPARATION

General: See Specification Section Earthwork and Grading / Geotechnical Report for sub-grade preparation and compaction requirements.

Verify that sub-grade preparation, compacted density and elevations conform to the Specifications.
In the event of over-excavation, use select-fill materials to achieve design sub-grade elevations. Materials and compaction as specified in Specification Section Earthwork and Grading.

Verify that subgrade is free of rocks, depressions, voids, organic materials, and irregularities. Remove any excess or contaminated backfill from the drainage trenches.

Geotextile Fabric: Excessive deflection in the base under loading may require the installation of a geotextile fabric as determined by the Owner's Representative based on field observation. Verify that geotextile fabric, if applicable, has been placed according to the Drawings and Manufacturer's Specifications.

27.03 PERMEABLE AGGREGATE BASE INSTALLATION

General: Install the permeable material over the entire sub-grade and the composite drain system if present, to a compacted thickness as shown on the Drawings. Take adequate care taken to maintain the designed sub-grade.

Base Material Alternate 1: Handling and Placement:
Maintain moisture content from the quarry throughout installation.
Should any separation of the permeable materials occur during any stage of the spreading, immediately remove and dispose of segregated material and correct or change handling procedures to prevent any further separation. Double handling of materials is not permitted.
Do not push the permeable material more than 30' from the point of discharge under any circumstances.
Spread each layer of permeable material uniformly with equipment that will not cause perceptible separation in gradation (segregation of the aggregates) using low ground pressure equipment.

Compaction and Planarity:
Base Material Alternate 1: Compact the permeable material to a minimum/maximum density of 85%-90% as determined by ASTM D1557.

Sub-surface Drains: Install in accordance with the manufacturer's instructions and as shown on the Drawings. Use manufacturers fittings for junctions and ends, do not wrap and tape fabric around the ends.

Drainage Verification: Verify that the sub-surface drainage system is performing correctly by flooding the permeable base and observing the outlet of the drainage system.

Finished surface of permeable material shall be dry.

27.04 PROTECTION

Protect the installed permeable base from contamination by the work of other trades, vehicular movement, and undue amounts of compaction.

SECTION 32 15 43

STABILIZED DG (GRANITECRETE) PAVING

PART 28 - GENERAL

28.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

28.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the installation of stabilized decomposed granite (DG) paving known as GraniteCrete as supplied by GraniteCrete, Inc. (the supplier) paving as shown on the Drawings and as specified in this Section.

Related work includes but is not limited to:
Earthwork & Grading

28.03 STANDARDS & DEFINITIONS

Unless otherwise shown or specified, all methods shall conform to the appropriate current sections of:
"Greenbook" Standard Specifications for Public Works Construction, latest edition.
State of California, Department of Transportation, Standard Specifications

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
D1140 Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing
D1557 Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
D2419 Test Method for Sand Equivalent Value of Soils and Fine Aggregate

Relative compaction: is defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density determined in accordance with ASTM D1557, expressed as a percentage.

28.04 QUALITY ASSURANCE

Installer qualifications:
GraniteCrete, Inc. recommended and Certified Installers can be found on the company website www.granitecrete.com.
Installations 500 sf and over up to 3000 sf – must be a recommended installer at a minimum.
Installations 3000 sf and over – must be a Certified Installer.
An installer not certified, but with sufficient experience for the project as determined by Granitecrete, Inc., may fulfill this requirement by providing a current letter from Granitecrete, Inc. verifying their ability to complete a successful installation for this specific project. For assistance, contact GraniteCrete, Inc. at (800) 670-0849
For installations 3000 sf and over, if the If the installer is not certified as noted above, GraniteCrete, Inc. requires a mandatory Pre-Construction Meeting on site with the company representative.
The installers foreman and supervisor managing the installation are required to attend the meeting.
A representative from GraniteCrete, Inc. will also observe the installation on-site until the company feels confident the installer will successfully install the product to their specifications and satisfaction.
The installation instructions in this Specification are meant as a guide for bidding purposes and will be superseded by the approved Submittal of installation instructions from GraniteCrete, Inc., and any field direction provided by the company representative.

Single Source: Supply decomposed granite from a single source for the entire quantity required. All materials to comply with suppliers' specifications.

Layout Review: Stake and layout all paving areas for review by the Owner's Representative prior to excavation.

Inspection: Notify the Owners Representative 24 hours prior to placement of any paving to inspect sub-grade and forms if applicable.

Tolerances: Install the paving to the minimum thickness shown. Tolerances for subgrade and finished grade shall be as specified by the Standard Specifications, and no combination of high and low tolerances will be permitted.

28.05 SUBMITTALS

Qualifications: as noted under Quality Assurance

GraniteCrete Math Sheet, Test Results, Specification Guide, and Color Chart - current versions.

GraniteCrete sieve analysis.

Sample: A one-quart sample of crushed aggregate with admixture in suppliers standard color[s] selected from the color chart. Deliver sample dry, damp or wet sample(s) may delay approval since the color changes as they dry out.

28.06 MOCK-UPS

Construct a mockup of 20 sq.ft minimum of GraniteCrete including base course and edging if applicable, at a location approved by Owners Representative. Intent of the mockup is to demonstrate surface finish, texture, color and standard of workmanship.

Provide up to one additional mock-up panel if the original mock-up(s) is/are not approved, at no additional cost to the Owner.

Keep approved mock-ups to serve as a demonstration for all finishes. Remove mock-ups at the completion of the paving work and restore surfaces below.

Remove and replace all paving work installed that does not conform to the approved mock-ups at the direction of the Owners Representative at no additional cost to the Owner.

Approved mock-up may remain as first in place construction at the discretion of the Owners Representative.

28.07 DELIVERY STORAGE AND HANDLING

Deliver all GraniteCrete Admixture materials in original, unopened packaging. Protect materials / aggregate from contamination with foreign matter. Store under waterproof cover and protect from dampness.

28.08 TESTS

General: All test results for aggregate base are to be documented and submit all tests for aggregate base to the Owner's Representative.
Cost of all tests to be borne by the Contractor.
If at any time the aggregate base does not meet the Specifications, restore the aggregate base, at no additional cost to the Owner, to the required grade, cross-section and density.

Porous Aggregate Base Tests:
Test porous aggregate base during installation at 800-ton increments of shipping for sieve conformance.
Submit results to the Owner's Representative prior to completion of the stone base installation.
Permeability rate: no less than 14” per hour per ASTM 2434 (constant head), or ASTM F2898.
For any porous aggregate base designed to conduct rainfall to the sub-soils and/or under-drain system, test the installed base for in-situ infiltration rate, per ASTM F2898.
Base to be tested by a registered Geotechnical Engineer or other qualified independent testing professional.
Submit results to the Owner’s Representative prior to installation of decomposed granite paving.

PART 29 - PRODUCTS

29.01 AGGREGATE BASE

Permeable Aggregate Base: Class 2 Permeable, three fourths inch (3/4") maximum, gradation in accordance with Standard Specifications 68-1.025:

Sieve:

Sieve Size	Percent Passing
1" (25.0 mm)	100%
3/4" (19.0 mm)	90-100%
3/8" (9.5 mm)	40-100%
#4 (4.75 mm)	25-40%
#8 (2.36 mm)	18-33%
#30 (600 um)	5-15%
#50 (300 um)	0-7%
#200 (75 um)	0-3%

Sand Equivalent (Cal 217)		75 Min.
Durability Index (Cal 229)	Fine	40 Min.
	Coarse	40 Min.

Aggregate - durable crushed rock or gravel or sand that is washed and devoid of mineral fines. Material that is free from slaking and decomposition under the action of alternate wetting and drying. 100% fractured by mechanical means with elongated characters on each individual particle larger than 1/4". Rounded sands or aggregates are not permitted.

Delivery Moisture Content: Aggregate base is to contain 90% to 110% of the optimum moisture content to ensure that fines do not migrate in transit or during placement and to facilitate proper compaction. Ensure that aggregate leaving the source plant meets this requirement. Apply water to the aggregate base on site to attain and maintain this minimum moisture content.

29.02 GRANITECRETE

Crushed aggregate blended with GraniteCrete Admixture, supplied by GraniteCrete Inc., Monterey CA, (800) 670-0849 www.granitecrete.com

29.03 CRUSHED AGGREGATE

Suppliers: Vineyard Rock Products, Hollister, CA (831) 637-6443, or approved equal.

Sieve: 3/8" maximum gradation, produced from naturally friable rock/granite with enough fines to produce a smooth walking surface. Materials should be free from clay lumps, organic matter and deleterious material. Blends of coarse sand and rock dust are not acceptable. Gradation in accordance with ASTM C136:

Sieve Size	Percent Passing by weight
3/8" (9.5 mm)	100%
#4 (4.75 mm)	90%
#8 (2.36 mm)	76%
#16 (1.18 mm)	55%
#30 (600 um)	38%
#50 (300 um)	24%
#100 (150 um)	15%
#200 (75 um)	9%

Sieve 200 – Non-expansive Clay Fines – not to exceed 13% (Sand equivalent from Russell Enz)

Test Method Criteria
LA Abrasion (Calif. Test 211) - Not to exceed 40
Durability Index (Calif. Test 229) - Not less than 40

Color: gold to yellow hues / to be selected by the Owner's Representative from suppliers' standard colors – Natural / Adobe / Sand / Ash Gray ***SELECT ONE***

Crushed aggregate to consist of 100% fractured stone on all sides with no rounded particles. Soft stone materials (i.e. sandstone, limestone and shale materials) are not suitable. Provide a certificate from the aggregate supplier that all supplied material will be clean of this type of stone.

In addition, if stone stability to water and vehicles is in question, Owner has the right to perform additional testing to ensure material shall adhere to requirements of Caltrans Section 68, as well as additional applicable ASTM tests. All testing fees to be paid for by the Contractor.

29.04 ADMIXTURE (BINDER)

Binder: GraniteCrete admixture is an all-natural product and does not contain oils, polymers, resins, or enzymes. Substitutions not permitted.

Follow manufacturer's recommendations for binder to GraniteCrete ratio. For bid-purposes only, estimate quantity of binder as follows:
Pedestrian pathways – 12 lbs per ton
Vehicular areas – 15 lbs per ton

29.05 WATER

Water: free from contaminants that would discolor or be deleterious to crushed aggregate blended with GraniteCrete Admixture.

29.06 EDGE RESTRAINT

Headerboard: Composite

PART 30 - EXECUTION

30.01 GENERAL

Pre-construction meeting: Arrange for a preconstruction meeting with GraniteCrete Inc., representative if required under Quality Assurance.

Examine grading and subsoil conditions.
Do not install work specified in this section prior to acceptance of earthwork and grading, and aggregate base if applicable.
Do not install GraniteCrete surfacing when sub-base or base is at saturated field capacity, during rainy conditions or below 33 degrees F and falling. Granitecrete may be installed 24 hours after the last rainfall, provided sub-base and base conditions are acceptable.

Excavation: Excavate to depth required so edges of GraniteCrete surfacing will match adjacent grades and have a maximum cross slope as shown on the Drawings.

Sub-grade: Comply with Greenbook Section 301-1 – "Sub-grade Preparation".
Compact subgrade to 95% relative compaction.

Aggregate Base: See Civil Drawings and Specifications

Compact permeable aggregate base to 90% relative compaction per ASTM D1557

Finished Surface: The finish grades of the paving shall conform to the lines, grades, and slopes on the Drawings. Edges of paving shall be flush with adjacent headers, concrete, or other paving. When work is complete, the surface must be smooth, compacted as specified, and uniform.

Protect adjacent work from damage due to GraniteCrete installation.

30.02 GRANITECRETE INSTALLATION – GENERAL

Mixing method:

Installations less than 500 sf may be mixed on site.

Installations 500 sf and over up to 3000 sf, must be delivered pre-mixed to the site from a GraniteCrete Inc. approved pre-mix facility. Approved retailers and pre-mix facilities can be found on the company website www.granitecrete.com.

Installations 3000 sf and over up to 5000 sf must be supplied by an approved pre-mix facility; GraniteCrete Inc. recommends the use of a volumetric truck.

Installations over 5000 sf require the use of a volumetric truck.

The volumetric truck must be calibrated for the GraniteCrete mixture. Contact GraniteCrete, Inc. at (800) 670-0849 for a list of approved volumetric truck operators.

Installation Depth (Lift):

Residential/pedestrian applications - install GraniteCrete as a 3-inch lift over a 4-inch aggregate base, compacted depths.

Mixing Ratios:

Residential/pedestrian applications - (2 bag mixture) Mix the DG with GraniteCrete Admixture in the ratio of eleven (11) units of DG to one (1) unit of GraniteCrete, measured by volume.

Depending on the mixing equipment available, it may be necessary to prepare GraniteCrete surfacing in batches, it is important to maintain the specified ratio.

Compaction: All applications – 88%-92% relative compaction per ASTM D1557

Confirm compliance with the specified tolerances prior to scheduling an inspection by the Owner's Representative.

Verify planarity and elevation by a licensed surveyor

Verify compaction, gradation, & permeability by a Geotechnical Engineer

30.03 GRANITECRETE INSTALLATION – DRY / MIXED ON-SITE

Thoroughly mix the GraniteCrete Admixture and DG together to the specified ratio. Moisten with water until the GraniteCrete mixture begins to marble or clump together Check for proper moisture content - clench a fist around the mixture - when the mixture just stays together and the color just starts to transfer to the hand, GraniteCrete is ready to install.

Follow the GraniteCrete Inc. Specification Guide for the installation of the surfacing.

30.04 GRANITECRETE INSTALLATION – DRY / PRE-MIXED

Transport the pre-mixed GraniteCrete mixture to the installation site.

Moisten compacted aggregate base on entire installation area. and place a layer of the GraniteCrete mixture to one-half of the desired final lift.

Lightly moisten the GraniteCrete surfacing mixture with a hose end sprayer, avoiding puddling. Rake the area lightly to evenly distribute water throughout the mix. Walking on the area is acceptable; initial compaction can be performed by walking on the edges and corners.

Install a second layer of GraniteCrete surfacing mixture as above and use a screed rake to level by eye. Ensure an even material height, and lightly mist to dampen mixture throughout.

Check for proper moisture content - clench a fist around the mixture - when the mixture just stays together and the color just starts to transfer to the hand, GraniteCrete is ready to compact.

After proper moisture is achieved for compaction, hand tamp using a 10” hand tamp around benches, sign posts, corners, boulders. Ensure tight compaction at all edges.

Make several passes with a 36” lawn roller filled with water, or for larger installations, a 36” walk-behind or riding-roller in static position. Hand tamp out any imperfections with a 6” wooden masonry float. Do not use vibratory plate compactors for pedestrian installations.

Ensure that the compaction implements are clean at all times. Fill in any divots with fresh, loose material, removing any larger stone, and hand tamp with the wooden floats to match existing finish.

When laying GraniteCrete in batches, use the cold joint method described below to ensure a blemish-free installation.

Lightly sweep finish surface with a medium bristled broom. Then make several more passes with the lawn roller until the desired surface texture is achieved. With larger installations, a roller in static position can be used, making sure to keep drum clean at all times. Remove spoils off the surface.

Do not allow the GraniteCrete surfacing to dry during installation. Mist lightly with a hose end spray head as necessary or cover with a plastic tarp.

30.05 GRANITECRETE INSTALLATION – WET / VOLUMETRIC TRUCK

Transport the prepared GraniteCrete mixture to the installation site.

Moisten compacted aggregate base on entire installation area. Place prepared GraniteCrete mixture to the full specified depth.

Initial compaction can be performed by walking on the edges and corners. Rake or grade area with the flat side of a landscape or asphalt rake (do not use tang side) until the GraniteCrete surfacing is one inch above finish grade.

Once initial compaction is achieved, hand tamp using a 10” hand tamp around benches, sign posts, corners, boulders. Ensure tight compaction at all edges.

Make several passes with a 36” lawn roller filled with water, or for larger installations, a 36” walk-behind or riding-roller in static position. Hand tamp out any imperfections with a 6” wooden masonry float. Do not use vibratory plate compactors for pedestrian installations.

Ensure that the compaction implements are clean at all times. Fill in any divots with fresh, loose material, removing any larger stone, and hand tamp with the wooden floats to match existing finish.

When laying GraniteCrete in batches, use the cold joint method described below to ensure a blemish-free installation.

Lightly sweep finish surface with a medium bristled broom. Then make several more passes with the lawn roller until the desired surface texture is achieved. With larger installations, a roller in static position can be used, making sure to keep drum clean at all times. Remove spoils off the surface.

Do not allow the GraniteCrete surfacing to dry during installation. Mist lightly with a hose end spray head as necessary or cover with a plastic tarp.

Completed, finished surface is to be of consistent quality and free of deleterious materials such as organic materials, nails, stones, and loose material. Surface shall not have depressions or humps greater than 1/4-inch in ten feet. Cold joints, if any, should be inconspicuous.

30.06 JOINTS

Control Joints: Saw cut/trowel control joints every 5-ft in narrower paths, every 12-ft in wider paths, and at all engineered stress areas.

Cold Joints - General: Cold joints can be used at the end of the work day using two methods.

Cold Joints - Method One:

Step 1: Between pours, stop at an area that makes the joint location look intentional. Take a chalk snap line just back from loose GraniteCrete mixture into the compacted area and create a chalk line. Use either a masonry blade or a square-nose shovel and cut a straight line across the installation.

Step 2: Place newly prepared GraniteCrete mixture into area, being careful not to overlap existing compacted material. With a concrete trowel or similar tool, tamp the new material at a tapered, 45-degree angle 1” above the finished grade and compact. If necessary, feather in with a medium-bristled broom.

Cold Joints - Method Two:

Place a 2x4 or 2x6 piece of wood across the installation, stake it, and finish compacting the material. Leave the board in place overnight. The next day, carefully lift the wood up and away from the installed GraniteCrete surfacing. Continue the installation process as per step 2 under Method One.

30.07 CURING & PROTECTION

Curing: dampen with water newly-installed and compacted GraniteCrete surfacing. Using a shower head/spray hose attachment, moisten the entire area and avoid puddling. Moisten all GraniteCrete surfacing a second time the following 1 to 5 days, as practical. Slow curing of GraniteCrete is important to avoid cracking. Cover finished surface, when practical, to achieve maximum curing period.

Protection: Do not allow foot traffic on any GraniteCrete surfacing for 24-hours after installation. Do not allow vehicular traffic on GraniteCrete surfacing, designed for vehicular use, for 5-7 days after installation. Do not allow heavy construction equipment on any GraniteCrete surfacing at any time.

Newly installed GraniteCrete paving surfaces are fully cured in 28 days. At that time clean the entire surface with a blower or by sweeping to eliminate loose surface materials. Minor cracking may take place. However, over time, the aggregate fines will fill in the minor cracks and they should disappear.

Protect GraniteCrete surfacing from damage until project completion. Repair damaged areas to match specified requirements.

30.08 HEADER BOARD

General: Alignment and grade of edge restraints shall be staked and limited to accurately reflect the plan layout prior to commencing work. After approval by the Owners Representative, edge restraints shall be assembled to form well-crafted and securely constructed lines.

Use single lengths per side, cut pieces will not be permitted. Butt joints may be used only when the length of a continuous run exceeds the standard stock length of the edge restraint product.

Recycled plastic / composite header board: install per Manufacturer’s instructions.

Allow for expansion at all joints. Do not screw joints together.

For Benda Board only, stake on either side of lap joint to be attached to board with one screw only, to allow the stake to ‘pivot’ during expansion.

Do not stake boards on one side only, unless against paving. Butt joints shall be staked on either side close to the joint.

Backfill all edge restraints prior to paving operations. Protect and repair all damaged header boards prior to final acceptance.

Building / retaining walls: Install root barrier fabric along wall foundations within 5-feet of tree trunk.
For existing trees, length of the root barrier fabric is to be 16-feet or the extent under the tree canopy, whichever is greater.

30.09 CLEAN UP

Waste Removal: remove all waste as a result of GraniteCrete paving construction from the site and dispose of legally. Remove all excess GraniteCrete mixture from adjacent planting and other hard surfaces.

SECTION 32 18 19

ENGINEERED WOOD FIBER SYSTEM

PART 31 - GENERAL

31.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

31.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the provision and installation of Engineered Wood Fiber System as shown on the Drawings and as specified in this Section. The work includes flat drains, geotextile fabric and wear mats.

Related work includes but is not limited to:
Earthwork and Grading
Site Furnishing

31.03 STANDARDS

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
F1292 Specification for Impact Attenuation of Surface Systems under and around Playground Equipment.
Test results must be for Engineered Wood Fiber and Mats including test performed on new material and test performed on 12-year-old Engineered Wood Fiber.
Test results for Engineered Wood Fiber must show G-max values of less than 155G for an 8” thick system or 120G for a 12” system with a 12’ drop height, and HIC values less than 1,000 for both new and 12-year-old materials.
Test results for Engineered Wood Fiber must show G-max values of less than 200G for a 12” system with a 14’ drop height, and HIC values less than 1,000 for both new and 12-year-old materials.
Test results for mats must show G-max values of less than 200G and HIC values of less than 1,000 for a 3’ drop height.
F1487 Consumer Safety Performance Specification for Playground Equipment for Public Use
F1951 Specification for Determination of Accessibility of Surface Systems under and around Playground Equipment.
F2075 Specification for Engineered Wood Fiber for Use as a Playground Safety Surface under and around Playground Equipment.

Material must undergo the test method described in Section 9.0 to determine the presence of tramp metal particles. Metal particles embedded or mixed in Engineered Wood Fiber may cause injury if a child were to fall on/or come in contact with them. The limit for tramp metal was set to reduce the potential of injury.

Standard wood chips, bark mulch or materials from recycled pallets will not be acceptable.

U.S. Consumer Product Safety Commission, CPSC Publication #325: Handbook for Public Playground Safety, latest edition.

Department of Justice 2010 American Disabilities Act Standards for Accessible Design (ADAAG 28 CFR Part 36).

31.04 QUALITY ASSURANCE

Installer Qualifications & Experience: Use an installer certified by the manufacturer of the playground equipment who has a minimum of five (5) installations of similar size and scope over the past three (3) years and is specialized in installing work similar in material, design, and extent to that indicated for this Project.

Certification: All products supplied shall be certified by the International Play Equipment Manufacturers Association (IPEMA) Certification Service.

Substitutions: no substitutions permitted without prior written approval of the Owners Representative.

Site Documentation: Maintain one copy of the latest edition of ASTM F1487 and CPSC publication #325 at project site.

Safety Audit: On completion of installation, provide a playground site investigation and safety assessment by a Certified Playground Safety Inspector (CPSI), at no additional cost to the Owner, and as described elsewhere in this Specification.

31.05 SUBMITTALS

Certificates:

Installer’s certification
IPEMA: Manufacturer’s Letter of Compliance with IPEMA.
Warranty: Manufacturer’s twenty-five-year warranty
Safety Testing Reports by a qualified independent testing laboratory, documenting that material passes ASTM F1292, F1951, and F2075 at the specified compacted depth.

Product data:

Engineered Wood Fiber
Fabric
Wear Mats

1-quart sample of wood fiber to be used.

Warranties:

Manufacturer's written 25-year warranty against loss of resiliency for the Engineered Wood Fiber System.
Manufacturer's written lifetime warranty on the FibarFelt geotextile fabric material.
Manufacturer's written 3-year warranty on the FibarMat wear mats.
Product Liability Insurance Certificate with project owner named as certificate holder.

31.06 STORAGE, AND HANDLING

Protect products from weather, soiling and damage using handling equipment and storage techniques recommended by manufacturer.

PART 32 - PRODUCTS

32.01 ENGINEERED WOOD FIBER

General: Pre-approved system: Fibar System 300 by The Fibar Group LLC, including Fibar chips, drainage system and 7 Fibar Mats. Reference quote 00029862 dated 7/12/2019 by Ross Recreation Equipment.

32.02 DRAINAGE SYSTEM

Geotextile Fabric: Fibarfelt Needle-punched 100% non-woven geotextile fabric, overlap seams by 3".

32.03 WEAR MATS

FibarMat

PART 33 - EXECUTION

33.01 GENERAL

Verification of Conditions

Prior to installation of engineered wood fiber system in the playground area. Bring any anticipated conflicts to the notice of the Owners Representative prior to layout and excavation.

Verify locations of playground equipment footings. Flat drains locations are to be modified to avoid conflict with playground equipment footings.

Examine areas and conditions for compliance with requirements for earthwork and sub-grade drainage, and other conditions affecting installation of engineered wood fiber system. All roots, stones and vegetation should have been removed. Do not begin installation before final grading required for placing engineered wood fiber system is complete.

Coordinate as required with the work of other trades, specifically with the resilient surfacing installer if applicable.

Protection of In-Place Conditions: Protect surrounding areas, surfaces and appurtenances already in place during installation of engineered wood fiber system.

33.02 INSTALLATION

General: Install and compact per Manufacturer's instructions and as shown on the approved Shop Drawings. Install so that minimum depth shown on plan is achieved after compaction.

Geotextile Fabric: Cover sub-grade and drainage trench with FibarFelt, allowing 3" overlap at all seams. Slit to fit around footings of equipment. Overlap all slits with either next piece of FibarFelt or scrap piece, to ensure complete coverage.

Wear Mats: Install FibarMat wear mats on FibarFelt.

Wood Fiber:

Permanently mark, with paint or other type of permanent marker, all the legs of the playground equipment with the compacted system design depth.

Spread Fibar®EngineeredWood Fiber using a Bobcat, small front-end loader or the manufacturers Express Blower Trucks.

Take adequate care when driving over FibarDrain. Do not make sharp turns on FibarFelt or FibarDrain.

Install all the wood fiber delivered. Additional wood fiber is supplied to account for natural compaction. Wood fiber may be several inches high, until it compacts. Feather edges to make smooth transition to border. Hand spread and rake for smooth, finished surface.

33.03 CLOSEOUT SUBMITTALS

Manufacturer's warranty: As noted under Submittals

33.04 REPAIR, CLEAN-UP AND PROTECTION

Restore adjacent existing areas that have been damaged from the construction.

Clean play areas of excess construction materials, debris, and waste.
Remove excess and waste material and legally dispose of off-site

SECTION 32 19 00

SITE CONCRETE

PART 34 - GENERAL

34.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

Geotechnical Report by Moore Twining Assoc., INC. dated 10/29/2022.

34.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the installation of plain Concrete, including where reinforced, as shown on the Drawings and as specified in this Section.
The work includes installation of aggregate base.

Related work includes but is not limited to:
Earthwork and Grading
Site Furnishings

34.03 STANDARDS AND DEFINITIONS

Unless otherwise shown or specified all materials and methods shall conform to the appropriate current sections of the State of California, Department of Transportation Standard Specifications (Caltrans Standard Specifications) as they reasonably apply to this work, except for measurement and payment requirements.

Portland Cement Association, Design and Control of Concrete Mixtures, latest edition.

American Concrete Institute (ACI) specifications, latest editions, including:
ACI 301 Specifications for Structural Concrete
ACI 302 Guide to Concrete Floor and Slab Construction
ACI 304 Guide for Measuring, Mixing, Transporting and Placing Concrete
ACI 318 Building Code Requirements for Structural Concrete
ACI 347 Guide to Formwork for Concrete

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
A615 Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
A1064 Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

C33 Specification for Concrete Aggregates
C39 Test Method for Compressive Strength of Cylindrical Concrete Specimens
C94 Specification for Ready-Mixed Concrete
C114 Test Methods for Chemical Analysis of Hydraulic Cement
C131 Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
C136 Test Method for Sieve Analysis of Fine and Coarse Aggregates
C143 Test Method for Slump of Hydraulic-Cement Concrete
C150 Specification for Portland Cement
C157 Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete
C171 Specification for Sheet Materials for Curing Concrete
C173 Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
C260 Specification for Air-Entraining Admixtures for Concrete
C309 Specification for Liquid Membrane-Forming Compounds for Curing Concrete
C311 Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete
C330 Specification for Lightweight Aggregates for Structural Concrete
C494 Specification for Chemical Admixtures for Concrete
C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
C881 Specification for Epoxy-Resin-Base Bonding Systems for Concrete
C920 Specification for Elastomeric Joint Sealants
C979 Specification for Pigments for Integrally Colored Concrete
C989 Specification for Slag Cement for Use in Concrete and Mortars
C1240 Specification for Silica Fume Used in Cementitious Mixtures
C1602 Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
C1603 Test Method for Measurement of Solids in Water
D448 Classification for Sizes of Aggregate for Road and Bridge Construction
D1557 Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
D1751 Specification for Preformed Expansion Joint Filler for Concrete Paving
D1883 Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils

California Air Quality Management District (AQMD) Rule 1113 Volatile Organic Compound (VOC) Limits.

California Building Code (CBC), Part 2 of California Code of Regulations, Title 24: Walking surface finishes are to comply with accessibility provisions of the CBC, applicable edition.

34.04 QUALITY ASSURANCE

Layout Review: Stake and layout all site concrete installations for review by the Owners Representative prior to excavation.

Inspection: Notify the Owners Representative 24 hours prior to placement of any concrete to inspect sub-grade, forms, and reinforcement.

Tolerances: Install the aggregate base and concrete to the minimum thickness shown and maintain tolerances for sub-grade, sub-base and finished grade as specified by Caltrans Standard Specifications. No combination of high and low tolerances will be permitted.

Substitutions: shotcrete / gunite will not be permitted as a substitute for cast-in-place concrete.

34.05 SUBMITTALS

Product data:
Steel reinforcement (mill certificates) / fiber reinforcement / expansion joint filler, metal-key joints

Concrete Mix**:** Proposed mix design of each class of concrete, indicating name of batch plant, date and # of mix design, project location, Contractor requesting delivery.

Mix design: state the following:
- Proportions of all materials used
- Compressive strength in PSI at 28 days.
- Slump
- Water-cement ratio
- Color, if applicable

Slump Test Data in support of submitted concrete mix
Cylinder Report in support of submitted concrete mix
Strength Performance Reports per ASTM C39 and ACI 301 of submitted concrete mix
Sieve data / certification for coarse and fine aggregate
Test report / certification for cement and fly ash.
Admixture data.
Water test report for ready mix concrete.

Schedule: schedule for saw-cutting concrete in relation to pour, see time period recommendation elsewhere in this Specification.

Detectable Warning Surfaces: Manufacturer's Certificate of compliance with ADAAG / CA-Title 24, and 5-year product warranty as noted herein.
Provide a sample of the Detectable Warning Surface if a substitution is requested.

34.06 MOCK-UPS

Site Reviews – Special Concrete: Prepare mock-ups of all at-grade and above-grade concrete work that is colored and/or has a special finish, as shown on the Drawings. Minimum 3-ft x 3-ft for paving. Minimum 10-ft length for curbs and gutters.
Mock-ups will be reviewed for color, form, pattern, jointing, and finish requirements and will be the basis of approval.
- Provide documentation of the coloring product and dosage used for each color of concrete.
- Mock-ups are to include expansion joint and control joints.
- Mock-ups are to include the specified cure and sealer, applied with the same equipment to be used in the final installation.

Provide up to one additional mock-up panel(s) if the original mock-up(s) is/are not approved, at no additional cost to the Owner.
Keep approved mock-ups at the job site to serve as a demonstration for all finishes. Remove mock-ups at the completion of the concrete work.
Remove and replace all concrete work installed that does not conform to the approved mock-ups at the direction of the Owners Representative and at no additional cost to the Owner.

Schedule:
Integral or surface color concrete: pour mock-up(s) at least 4-weeks before the scheduled pour, to allow for curing, and additional mock-up(s) if required. Each cured mock-up will be reviewed 7-10 days after pouring.
Painted or color-stained concrete: cure mock-up(s) for at least 3-weeks before application of the color.

34.07 DELIVERY, STORAGE, AND HANDLING

Store materials in a dry and protected location. Protect reinforcing steel, dowels, and welded wire mesh from rusting, deformation, staining, and moisture damage.

34.08 TESTS

Testing and analysis of concrete will be performed under provisions of Caltrans Standard Specifications Section 6-3.

Testing firm shall take cylinders and perform slump, compression strength, and air entrainment tests in accordance with ASTM C143, C39 and C173.

Testing shall be carried out for vertical surfaces equal to or greater than 48" as measured from bottom of footing to top of wall, and for vehicular concrete subject to increased loading conditions such as stress pads.

All testing shall be at no additional cost to the Owner.

PART 35 - PRODUCTS

35.01 AGGREGATE BASE

See Specification Section Earthwork and Grading

35.02 FORMWORK AND REINFORCEMENT

Formwork: Steel or wood, of size and strength to resist movement during concrete placement and to retain straight, true, and to proper elevation, horizontal and vertical alignment until removed. Use forms that are straight and free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required.

Form lumber: #2 or better grade wood. Do not use used form lumber.

Reinforcement Bars and Dowels: ASTM A615. Clean and free of paint, grease, oils, and loose rust scale. Deformed steel bars, Grade 60 for bars #5 and larger; Grade 40 for bars #4 and smaller, unless otherwise shown.

Tie Wire: 16-gauge plain cold-drawn steel conforming to ASTM A1064, clean and free of rust, dirt, grease or oils.

Supports: bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars in place.

Welded Wire Mesh: Welded plain cold-drawn steel wire fabric, ASTM A1064 by Davis Wire Corporation or approved equal. Clean and free of paint and rust. Furnished in flat panels, not rolls.

Supports: Steel mesh chairs specifically fabricated for welded wire mesh reinforcement.

Form-release: form release agent, California AQMD Rule 1113 VOC-limits compliant.

35.03 CONCRETE

Cementitious Materials:

Portland Cement: ASTM C150. Type-II. Use single source throughout entire project.

Fly Ash: ASTM C618 & C311. Class C, F, or N.

Source fly ash from an experienced producer, conforming to all applicable standards.

At no time during the course of the project will a change of fly ash source (plant) be permitted without the prior written consent of the Owners Representative.

Slag: ASTM C989 if specified in the concrete mix design.

Coarse Aggregate: ASTM C33 and Caltrans Standard Specifications Section 90. Gravel, crushed gravel, crushed rock, or combinations thereof, free from organic matter and other deleterious substances, from an approved source. Use single source throughout entire project.

Fine Aggregate: ASTM C33 and Caltrans Standard Specifications Section 90. Natural sand or a combination of not less than 50% natural and manufactured sand, free from deleterious coatings, roots, bark, sticks, rags, and other extraneous material. Thoroughly and uniformly washed. Use single source throughout entire project.

Water: ASTM C94, clear and free from injurious amounts of oil, salts, acid, alkali, organic matter, or other deleterious substances. For ready-mix concrete water density shall be monitored with an automated device conforming to ASTM C1603.

Chemical Admixtures:

All admixtures: California AQMD Rule 1113 VOC-limits compliant
Air Entraining: ASTM C260. Use five percent (5%) air entrainment: Manufactured by BASF, Sika, W.R. Grace or approved equal.
Water Reducing: ASTM C494, manufactured by BASF, Sika, W.R. Grace or approved equal.
Shrinkage Reducing: ASTM C494. Capable of reducing drying shrinkage up to 80% at 28 days per ASTM C157, BASF, W.R. Grace or approved equal.
Accelerating: ASTM C494, non-corrosive admixture manufactured by BASF, W.R. Grace or approved equal.
Hydration Controlling: ASTM C494, Type B, and Type D by BASF, or approved equal.
Calcium chloride is not permitted in the manufacture of chemical admixtures.
Admixtures batched, mixed and transported in accordance with ASTM C94

Cure: ASTM C309 Type 1, Class A&B, California AQMD Rule 1113 VOC-limits compliant, clear membrane curing compound, by W.R. Meadows, L.M. Scofield, or approved equal.
Do not use white liquid membrane curing compound.
For colored concrete, see clause on Concrete Colors in this Specification for cure-sealers that are applied to freshly placed concrete. Do not use this cure.

35.04 CONCRETE MIX DESIGN

Concrete mix: conform to applicable industry standards for concrete materials, admixtures, bonding materials, curing and other except as noted.
Concrete mixes shall be properly proportioned for yield.
Water / cement ratio: 0.50 max unless otherwise approved by the Owners Representative
Slump: maximum four (4") inches. A tolerance of up to one (1") inch above the maximum indicated is allowed for one batch in any five consecutive batches tested.

Strength: ASTM C39 designated by class based on 28-day compressive strengths when tested:
Class-2 (590 lbs of cementitious material per cubic yard) for curbs, footings, and all above-grade structures unless otherwise noted. Minimum compressive strength of 3000 PSI at 28-days.
Class-3 (505 lbs of cementitious material per cubic yard) for all sidewalks, pavements, sub-pavements, and sub-slabs unless otherwise noted. Minimum compressive strength of 2500 PSI at 28-days.

Fly Ash: Incorporation of fly ash into the concrete mix is at the Contractor's discretion. If fly-ash is to be used in the mix, substitute up to 25% of Portland cement with fly ash for all classes of concrete, final proportions to be determined by the concrete supplier.
Concrete mixtures with fly ash must be properly designed for the application, and finishing procedures must be appropriately applied.

Slag: Incorporation of slag into the concrete mix is at the Contractor's discretion. If slag is to be used in the mix, substitute up to 25% of Portland cement with slag for all classes of concrete, final proportions to be determined by the concrete supplier.
Concrete mixtures with slag must be properly designed for the application, and finishing procedures must be appropriately applied.

Chemical Admixtures
Concrete mixes for walls and/or structures equal to and over 4'-0" in height: do not include Air Entraining Mixtures.
Concrete mixes for walls and/or structures equal to and over 4'-0" in height: include Water Reducing Admixtures.
Chemical admixtures: at the Contractor's discretion or the mix design submitted by the concrete ready-mix supplier, with the two exceptions noted above.
Chemical admixtures: specified within the range of the manufacturer's recommended concentration.

35.05 CONTROL JOINTS

General: All adhesives, fillers, sealants: California AQMD Rule 1113 VOC-limits compliant

Epoxy Adhesive: ASTM C881, injectable two-component epoxy adhesive, where used for threaded anchor rods or dowels. HIT-RE 500-V3 epoxy adhesive anchoring system by Hilti Inc. USA (800)879-8000, www.us.hilti.com, or equal.

Expansion joint filler: ASTM D1751, 3/8" thick asphalt impregnated fiberboard, by W.R. Meadows or approved equal.

Diamond Dowels: as supplied by PNA Construction Technologies, www.pna-inc.com.
1/4" thick dowels for 4”-7” slab depths.
3/8” thick dowels for >7” and up to and including 9” slab depths.

PART 36 - EXECUTION

36.01 JOB CONDITIONS

Weather Conditions: Construct concrete surface course only when atmospheric temperature is above 40 degrees F., when the underlying base is dry, and when weather is not rainy.

Grade Control: Establish and maintain the required lines and grades, including cross-slope during construction operations.

Protection: Take all steps necessary not to discolor or damage existing improvements. If damage occurs, repair immediately and if repair cannot be made to the satisfaction of the Owners Representative, remove and replace at no expense to the Owner.

36.02 AGGREGATE BASE PREPARATION

Place and compact aggregate base as specified in Caltrans Standard Specifications Section 26, to at least 95% relative compaction in accordance with ASTM D1557, and to a depth as noted on the Drawings. Verify grades to allow for finish paving.

Clear aggregate base surface of all loose or unsuitable material.

36.03 INSTALLATION

Form Construction: Set forms to the required grades and lines, rigidly braced and secured; work conforming to ACI 347.
Construct walls and seat walls less than 18” above finish grade without form ties unless essential for stability of formwork. Align form ties horizontally and vertically.
Install sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.
Remove forms without damage to the placed concrete.
Do not use form ties for exposed portions of sand-blasted walls and structures where the holes will be visible after the form ties are removed. Use form braces only.
Install form ties and similar accessories such that all metal will be at least 1 inch from surface when forms are stripped.

Reinforcement: Install per the Drawings, and secure in place. Do not pour concrete prior to the inspection by the Owners Representative.
Use reinforcement chairs, concrete dobies, or other equivalent method to ensure that bar reinforcement / welded wire mesh has the required clearance off the bottom of the slab and installed parallel to the bottom of the slab and without dents.
Install reinforcement / welded wire mesh with minimum cover as shown on the Drawings. A single cut through reinforcing materials in full depth vertical joints in paving as a means of separation is not acceptable.

Placement: Moisten aggregate base as required to provide a uniform, dampened condition at the time concrete is placed. Place concrete using methods which prevent segregation of the mix, with as little re-handling as possible. Consolidate concrete along the face of forms and adjacent to transverse assemblies, reinforcement, or side forms. Use care to prevent dislocation of reinforcing, dowels, and joint devices. Deposit and spread concrete in a continuous operation between transverse joints. If interrupted for more than 1/2 hour, place a construction/cold joint.

Control Joints: Construct control joints true-to-line with face perpendicular to surface of the concrete, unless otherwise shown. Construct transverse joints at right angles to the centerline, unless otherwise noted. See Control Joint Types specified herein for specific guidelines.

Set all joints accurately to grade and straight in alignment as shown on the Drawings. Alignment shall not vary more than 1/8" in 10' length.

Finishing: After striking-off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Distribute concrete as required to remove surface irregularities, and re-float repaired areas to provide a continuous, smooth finish. Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to 1/2" radius, unless otherwise shown. Eliminate any tool marks on concrete surface.

After floating, test concrete surface for trueness - maximum 1/8" variation in 10’ length in any direction.

After completion of floating and when excess moisture or surface sheet has disappeared, complete surface finishing, as specified herein.

During finishing, do not apply cement to the dry concrete surface.

See Concrete Finishing elsewhere in this Specification

Curing: Protect and cure finished concrete, conforming to applicable requirements of Caltrans Standard Specifications.

Cure all concrete for at least 7 days after placing.

36.04 CONTROL JOINTS

General: Work under this Section to comply with ACI 302.

Expansion Joints: locate as shown on the Drawings.

Dowels: grease both ends.

Joint fillers: one-piece lengths for the full width being placed wherever possible. Where more than one length is required, lace or clip joint filler sections together. Form top edge of filler to conform to top profile of concrete.

Construction (Cold) Joints:

At old and new concrete pours. Drill the existing concrete to accept dowels and embed. Grease both ends of dowel, or epoxy end in existing concrete and grease end in new concrete.

At previous day’s pour and fresh pour: Grease both ends of dowel.

When curb and/or gutter and pedestrian paving are poured separately, provide #3 dowels, 8” length 24” O.C.

Diamond Dowel Joints: locate as shown on the Drawings, if not specified then at 24-inches on center. Use Manufacturer’s templates and follow instructions for dowel installation.

Weakened Plane Joints: locate as shown on the Drawings.

Pedestrian paving: construct as shown on the Drawings.

Joint Width & Depth: Per Drawings. Do not exceed 3/16-inch in width.

Do not end completed joints short of vertical surfaces.

Saw-cut joints:

Carry out saw cutting within the first 12 to 24 hours after pour, specific time within this time range is at the Contractor’s discretion. Raveling and cracking of joints due to saw cutting too early or too late is not acceptable.

Saw-cut joints in a straight line with no over-cutting.

Perform saw-cut jointing with a new diamond tip circular saw.
Use a hand tool to saw-cut up to vertical edges such as walls, steps, curbs and columns. No cutting into vertical surfaces will be allowed.

36.05 CONCRETE FINISHING

General: finishes as specified on the Drawings. Walking surfaces including curbs: slip-resistant and comply with accessibility provisions of CBC.
Prior to finishing, fill in form holes flush with concrete surface. Excludes Form Finish.
Remove all imperfections and blemishes that cannot be removed by specified finish type.

Finish types:
Broom finish - draw a stiff fine-hair broom across concrete surface, perpendicular to line of traffic. Repeat operation if required to provide a fine line texture. Texture must be true and straight across entire width of concrete slab.

36.06 REPAIR AND CLEAN-UP

Repair: repair or remove and replace defective work such as under-strength concrete, concrete out of line, level or plumb, or showing objectionable cracks, honeycomb, rock pockets, voids, spalling, exposed reinforcing, etc., directed by the Owners Representative and at no additional cost to the Owner. All cleaning, patching, and repairs shall be subject to approval and acceptance by the Owners Representative.

Protect new concrete from all construction activities for 72 hours; from construction material or equipment movement for 7 days; and from heavy vehicular movement for 28 days. Any activity on new concrete prior to 28 days is at the Contractor's discretion and risk.

Clean up and remove from the site all spillage, overpour, discarded forming materials, rejected work or materials, and any other refuse or debris resulting from the work. Sweep concrete and wash free of stains, discolorations, dirt and other foreign materials just prior to final inspection.
Clean step nosings of all cement or concrete.

Disposal: Segregate surplus material and debris remaining upon completion of the work as to type, and transport from the job site and dispose of in a legal manner.

KEYSTONE WALL

PART 37 - GENERAL

37.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

Section 31 22 13 EARTHWORK & GRADING

37.02 DESCRIPTION OF WORK

A. Work shall consist of designing, furnishing and construction of a KEYSTONE Compac III unit retaining wall system in accordance with these specifications and in reasonably close conformity with the lines, grades, design and dimensions shown on the plans. No alternate wall systems will be considered.

B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit facing system, unit drainage fill and reinforced backfill to the lines and grades shown on the construction drawings.

C. Work incudes furnishing and installing geogrid soil reinforcement of the type, size, location and lengths designated on the construction drawings.

37.03 Reference Documents

A. American Association of State Highway and Transportation Officials (AASHTO)

1. AASHTO M 252 Corrugated Polyethylene Drainage Pipe
2. AASHTO M 288 Geotextile Specification for Highway Applications

B. American Society for Testing and Materials (ASTM)

1. ASTM C140 Sampling and Testing Concrete Masonry Units
2. ASTM C1372 Specification for Dry-Cast Segmental Retaining Wall Units
3. ASTM D442 Particle Size Analysis of Soils
4. ASTM D698 Laboratory Compaction Characteristics of Soil – Standard Effort
5. ASTM D1556 Standard Test Method for Density and Unit Weight of Soil In Place by the Sand Cone Method
6. ASTM D1557 Laboratory Compaction Characteristics of Soil – Modified Effort
7. ASTM D2487 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)
8. ASTM D2922 Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
9. ASTM D3034 Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer pipe and Fittings
10. ASTM D4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils
11. ASTM D4475 Horizontal Shear Strength of Pultruded Reinforced Plastic Rods
12. ASTM D4476 Flexural Properties of Fiber Reinforced Pultruded Plastic Rods
13. ASTM D4595 Standard Test Method for Tensile Properties of Geotextiles by Wide-Width Strip Method
14. ASTM D4873 Standard Guide for Identification, Storage and Handling of Geosynthetics
15. ASTM D5262 Standard Test Method for Evaluating the Unconfined Tension Creep Behavior of Geosynthetics
16. ASTM D5321 Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method
17. ASTM D5818 Standard Practice for Obtaining Samples of Geosynthetics from a Test Section for Assessment of Installation Damage
18. ASTM D6637 Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Method
19. ASTM D6638 Standard Test Method for Determining Connection Strength Between Geosynthetic Reinforcement and Segmental Concrete Units
20. ASTM D6706 Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil
21. ASTM D6916 Standard Test Method for Determining the Shear Strength Between Segmental Concrete Units

C. National Concrete Masonry Association (NCMA)

1. NCMA SRWU-1 Test Method for Determining Connection Strength of SRW
2. NCMA SRWU-2 Test Method for Determining Shear Strength of SRW

37.04 Definitions

A. Compac III Unit – a dry-stacked concrete retaining wall unit machine made from Portland cement, water, aggregates, manufactured by a licensed manufacturer of Keystone.

B. Structural Geogrid – a polymeric material formed by a regular network of connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock or earth and function primarily as reinforcement.

C. Unit Drainage Fill – drainage aggregate that is placed within and immediately behind the Keystone concrete units.

D. Reinforced Backfill – compacted soil that is placed within the reinforced soil volume as outlined on the plans.

E. Retained Soil – the soil mass behind the reinforced backfill.

F. Foundation Soil – the soil mass below the leveling pad and reinforced backfill.

G. Leveling Pad – crushed stone, sand and gravel or unreinforced concrete material placed to provide a level surface for placement of the Keystone concrete units.

H. Geosynthetic Reinforcement – polymeric material designed specifically for soil reinforcement.

37.05 Submittals and Certification

I. Contractor shall submit a Manufacturer's certification, prior to the start of work, that the retaining wall system components meet the requirements of this specification and the structure design.

J. Contractor shall submit construction drawings and design calculations for the retaining wall system prepared and stamped by a Professional Engineer registered in the state of the project.

37.06 Quality Assurance

K. Contractor shall submit a list of five (5) previously constructed projects of similar size and magnitude by the wall installer where the Compac retaining wall system has been constructed successfully. Contact names and phone numbers shall be listed for each project.

L. Contractor shall provide evidence that the design engineer has a minimum of five years documented experience in the design of reinforced soil structures. The design engineer shall provide proof of current professional liability insurance with an aggregate coverage limit of not less than $2,000,000.

M. Owner shall/may provide quality assurance inspection and testing during earthwork and wall construction operations. Contractor shall provide all quality control testing and inspection not provided by the owner. Owner's quality assurance program does not relieve the contractor of responsibility for quality control and wall performance.

37.07 Delivery Handling and Storage

N. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification have been received.

O. Contractor shall protect all materials from damage due to jobsite conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 38 - PRODUCTS

38.01 Keystone Concrete Retaining Wall Units

A. Compac III retaining wall units shall conform to the following architectural requirements

1. Face color - concrete gray, unless otherwise specified. The Owner may specify standard manufacturers' color.
2. Tri-plane or Straight Face finish - hard split in angular tri-plane or straight face configuration. Other face finishes will not be allowed without written approval of Owner.
3. Bond configuration - running with bonds nominally located at midpoint in vertically adjacent units.
4. Exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 20 feet (6 m) under diffused lighting.

B. Keystone concrete units shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.

C. Keystone concrete units shall conform to the following structural and geometric requirements measured in accordance with ASTM C140 Sampling and Testing Concrete Masonry Units:

1. Compressive strength: ≥ 3000 psi (21 MPa).
2. Absorption: ≤ 8 % for standard weight aggregates.
3. Dimensional tolerances: ± 1/8" (3 mm) from nominal unit dimensions not including rough split face.
4. Unit Size: 8" (203 mm) (H) x 18" (457 mm) (W) x 12" (304 mm)(D) minimum.

D. Keystone concrete units shall conform to the following constructability requirements:

1. Vertical setback: 1/8 inch (3 mm) ± per course (near vertical) or 1 1/8 inch (28 mm) + per course, per the design.
2. Alignment and grid attachment mechanism - fiberglass pins, two per unit.
3. Maximum horizontal gap between erected units shall be ≤ 1/2 inch (13 mm).

38.02 Shear and Reinforcement Pin Connectors

E. Shear and reinforcement pin connectors shall be 1/2-inch (12 mm) diameter thermoset isopthalic polyester resin pultruded fiberglass reinforcement rods to provide connection between vertically and horizontally adjacent units and geosynthetic reinforcement, with the following requirements:

1. Flexural Strength in accordance with ASTM D4476: 128,000 psi (882 MPa) minimum.
2. Short Beam Shear in accordance with ASTM D4475: 6,400 psi (44 MPa) minimum.

F. Shear and reinforcement pin connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

38.03 Base Leveling Pad Material

G. Material shall consist of a compacted crushed stone base, sand and gravel or unreinforced concrete, as shown on the construction drawings.

38.04 Unit Drainage Fill

H. Unit drainage fill shall consist of clean 1 inch (25 mm) minus crushed stone or crushed gravel meeting the following gradation tested in accordance with ASTM D-422:

Sieve Size	Percent Passing
1 inch (25 mm)	100
3/4-inch (19mm)	75 – 100
No. 4 (4.75 mm)	0 – 10
No. 50 (300 um)	0 - 5

I. Drainage fill shall be placed within the cores of, between, and behind the units as indicated on the design drawings. Not less than 1.3 cubic foot (0.036 m^3), of drainage fill shall be used for each square foot (0.093 m^2) of wall face unless otherwise specified.

38.05 Reinforced Backfill

J. Reinforced backfill shall be free of debris and meet the following gradation tested in accordance with ASTM D-422:

Sieve Size	Percent Passing
1 1/2 inch (38 mm)	100
3/4-inch (19 mm)	75 – 100

No. 40 (425 um) 0 – 60
No. 200 (75 um) 0 – 35

Plasticity Index (PI) < 15 and Liquid Limit < 40, per ASTM D4318

K. The maximum aggregate size shall be limited to 3/4 inch (19 mm) unless installation damage tests have been performed to evaluate potential strength reductions to the geogrid design due to increased installation damage during construction.

L. Material can be site-excavated soils where the above requirements can be met. Soils not meeting the above criteria, including highly plastic clays and organic soils, shall not be used in the backfill or reinforced backfill soil mass.

M. Contractor shall submit reinforced fill sample and laboratory test results to the Architect/Engineer for approval, prior to the use of any proposed reinforced backfill material.

38.06 Geogrid Soil Reinforcement

N. Geosynthetic reinforcement shall consist of geogrids manufactured for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn or high density polyethylene. Polyester geogrid shall be made from high tenacity polyester filament yarn with a molecular weight exceeded 25,000 g/m and with a carboxyl end group value less than 30. Polyester geogrid shall be coated with an impregnated PVC coating that resists peeling, cracking and stripping.

O. Ta – Long Term Allowable Tensile Design Load. Ta of the geogrid material shall be determined as follows: Ta = Tult/(RFcr * RFd * RFid * FS). Ta shall be evaluated based on a 75 year design life.

1. Tult – Short Term Ultimate Tensile Strength. Tult shall be determined in accordance with ASTM D4595 or ASTM D6637. Tult is based on the minimum average roll values (MARV).

2. RFcr – Reduction Factor for Long Term Tension Creep. RFcr shall be determined from 10,000 hour creep testing performed in accordance with ASTM D5262. RFcr = 1.45 minimum.

3. RFd – Reduction Factor for Durability. RFd shall be determined from polymer specific durability testing covering the range of expected soil environments. RFd = 1.10 minimum.

4. RFid – Reduction Factor for Installation Damage. RFid shall be determined from product specific construction damage testing performed in accordance with ASTM D5818. Test results shall be provided for each product to be used with project specific or more severe soil types. RFid = 1.05 minimum.

5. FS – Overall Design Factor of Safety. FS hall be 1.5 unless noted for the maximum allowable working stress calculation.

P. The maximum design tensile load of the geogrid shall not exceed the laboratory tested ultimate strength of the geogrid/facing unit connection divided by a factor of safety of 1.5. The connection strength testing and computation procedures shall be in accordance with ASTM D6638 Connection Strength between Geosynthetic Reinforcement and Segmental Concrete Units or NCMA SRWU-1.

Q. Ci – Coefficient of Soil Interaction. Ci values shall be determined per ASTM D6706 at a maximum 0.75 inch (19 mm) displacement.

R. The geogrid manufacturer shall have a Manufacturing Quality Control program that includes QC testing by an independent laboratory. The QC testing shall include Tensile Strength testing, Melt Flow Index testing for HDPE geogrids and Molecular Weight testing for polyester geogrids.

38.07 Drainage Pipe

S. If required, drainage pipe shall be perforated or slotted PVC pipe manufactured in accordance with ASTM D3034 or corrugated HDPE pipe manufactured in accordance with AASHTO M252.

38.08 Geotextile Filter Fabric

T. When required, geotextile filter fabric shall be a needle-punched nonwoven fabric that meets the requirements of AASHTO M288.

PART 39 - EXECUTION

39.01 Excavation

A. Contractor shall excavate to the lines and grades shown on the construction drawings. The Owner or Contractors QA/QC representative shall inspect the excavation and test the foundation soils and approve prior to placement of the leveling pad material or fill soils. Any over-excavation required to remove unsuitable soils shall be oversized from the front of the leveling pad and back of the geogrid reinforcement.

B. Over-excavation and replacement of unsuitable soils and replacement with approved compacted fill will be compensated as agreed upon with the Owner.

39.02 Base Leveling Pad

C. Leveling pad material shall be placed to the lines and grades shown on the construction drawings to a minimum thickness of 6 inches (150 mm) and extend laterally a minimum of 6 inches in front and behind the Keystone wall unit.

D. Soil leveling pad materials shall be compacted to a minimum of 95% of Standard Proctor density per ASTM D697 or 92% Modified Proctor density per ASTM D1557.

E. Leveling pad shall be prepared to insure full contact with the base surface of the concrete units.

39.03 Keystone Unit Installation

F. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.

G. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.

H. Install shear/connecting pins per manufacturer's recommendations.

I. Place and compact drainage fill within and behind wall units. Place and compact reinforced backfill soil behind drainage fill.

J. Maximum stacked vertical height of wall units, prior to drainage fill and backfill placement and compaction, shall not exceed three courses.

39.04 Structural Geogrid Installation

K. Geogrid shall be installed with the highest strength direction perpendicular to the wall alignment.

L. Geogrid reinforcement shall be placed at the strengths, lengths and elevations shown on the construction drawings, or as directed by the engineer.

M. The geogrid shall be laid horizontally on compacted backfill and attached to the Keystone wall unit pins and within 1 inch of the face of the units. Place the next course of Keystone units over the geogrid. The geogrid shall be pulled taut and anchored prior to backfill placement on the geogrid.

N. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps greater than 2 inches between adjacent pieces of geogrid are not permitted.

39.05 Reinforced Backfill Placement

O. Reinforced backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage to the geogrid.

P. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches (150 mm) where hand operated compaction equipment is used, or 8 – 10 inches (200 to 250 mm) where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density, as needed.

Q. Reinforced backfill shall be compacted to a minimum of 95% of Standard Proctor density per ASTM D697 or 92% Modified Proctor density per ASTM D1557. The moisture content of the reinforced backfill material during compaction shall be uniformly distributed throughout each layer and shall be dry of optimum by 0 to 3 percentage points of moisture.

R. Only hand operated compaction equipment shall be allowed within 3 feet (1 M) from the back of the Keystone concrete units.

S. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches (150 mm) is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging or displacing the Keystone units or geogrid.

T. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and turning shall be avoided.

U. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from the wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

39.06 Cap Installation

V. Prior to placement of the cap units, the upper surface of the top course of wall units shall be cleaned of soil and any other material.

W. Cap units shall be adequately glued to the underlying wall units with an all-weather exterior construction adhesive.

39.07 As-built Construction Tolerances

X. Vertical alignment: ± 1.5 inches (40 mm) over any 10 foot (3 m) distance.

Y. Wall batter: within 2 degrees of design batter. Overall wall batter shall be ≥ 0 degrees.

Z. Horizontal alignment: ± 1.5 inches (40 mm) over any 10 foot (3 m) distance.

AA. Corners and curves: ± 1 foot (300 mm) to theoretical location.

BB. Maximum horizontal gap between erected units shall be ≤ 1/2 inch (13 mm).

39.08 Field Quality Control

CC. Quality Assurance – The owner shall/may engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction. This does not relieve the Contractor from securing the necessary construction quality control testing.

DD. Quality assurance should include foundation soil inspection and testing and verification of the geotechnical design parameters and verification that the contractor's quality control testing is adequate as a minimum. Quality assurance shall also include observation of the construction for general compliance with the design drawings and project specifications. Quality assurance is usually best performed by the site geotechnical engineer.

EE. Quality Control – The Contractor shall engage independent inspection and testing services to perform the minimum quality control testing described in the retaining wall design plans and specifications. Only qualified and experienced technicians and engineers shall perform quality control testing and inspection services.

FF. Quality control testing shall include soil and backfill testing to verify soil types and strengths, compaction and moisture conditions and verification that the retaining wall is being constructed in accordance with the design plans and specifications.

SECTION 32 41 16

LANDSCAPE BOULDERS

PART 40 - GENERAL

40.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

40.02 DESCRIPTION OF WORK

Extent: Furnish all labor, materials, equipment, tools and incidentals necessary for the installation of Landscape Boulders, also referred to as boulders, as shown on the Drawings and as specified in this Section.

Related work includes but is not limited to:
Earthwork and Grading

40.03 SUBMITTALS

Specimen Boulders: selected by the Owners Representative individually at the boulder supply yard, or at the quarry if the specified quantity, size, and style is not available at the yard.
Separate the selected boulders immediately for loading, or tag the selected boulders for later delivery, without damaging the surface of the rock.
Remove and replace incorrect boulder(s) delivered to the site with the correct boulder(s) as identified by the Owners Representative, at no additional cost to the Owner.

40.04 REVIEWS

Lay out all landscape boulder locations for review by the Owners Representative prior to placement. Revise locations and orientation of specific boulders as directed by the Owners Representative at no additional cost to the Owner.

PART 41 - PRODUCTS

41.01 LANDSCAPE BOULDERS

Boulders to be selected by the Owners Representative within the following dimension limitations:
Minimum 30" x 30" x 60"
Maximum 5’ x 5’ x 5’

PART 42 - EXECUTION

42.01 INSTALLATION

Grading: Grade finish grade to the design configuration as shown on the Drawings.

Excavation: Excavate the soil as required for placement as shown on the Drawings.

Placement: Place the landscape boulders as shown on the Drawings and or as directed by Owners Representative in field. Provide the Owners Representative 48 hours’ notice before placement.

42.02 CLEAN UP

Waste: remove all waste as a result of landscape boulder installation from the site and dispose of legally. Clean the boulders thoroughly with soft brushes and water.

42.03 PAYMENT

The Contract unit price paid for Landscape Boulders shall be considered full compensation for furnishing all labor, material, equipment, tools, and incidentals, for all work involved as specified in this Section, as shown on the Drawings, and as directed by the Owners Representative, and no separate payment shall be made.

SECTION 33 41 16

DRAINAGE FACILITIES

PART 43 - GENERAL

43.01 RELATED DOCUMENTS

Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to the work of this Section.

43.02 DESCRIPTION OF WORK

Extent: Furnish all labor, material, equipment, tools, and incidentals necessary for the installation of Drainage Facilities as shown on the Drawings and as specified in this Section. The work includes but is not limited to:
Constructing / installing area drains and sub-surface drains.
Constructing / installing solid and perforated PVC drain-lines, including trace wires. ***BFS***
All trenching, excavation, backfill including base and backfill materials.

Related work includes but is not limited to:
Tree Protection
Earthwork and Grading
Site Concrete

43.03 STANDARDS AND DEFINITIONS

Unless otherwise shown or specified all materials and methods shall conform to the appropriate current sections of the State of California, Department of Transportation Standard Specifications (DTSS) as they reasonably apply to this work, except for measurement and payment requirements.

Applicable ASTM International Standards (latest revisions) as they apply to this work and related test methods, including:
C76 Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

Relative compaction: is defined as the in-place dry density of the compacted soil divided by the laboratory compacted maximum dry density determined in accordance with ASTM D1557, expressed as a percentage.

43.04 QUALITY ASSURANCE

Tolerances: as specified in the applicable sections of DTSS.

Inspections: Notify the Owners Representative prior to placing backfill for any items of work in this section.

Testing: comply with applicable local health codes for tests on drain lines.

43.05 SUBMITTALS

Product data: all drainage equipment, including pipe manufacturer specifications.

Sieve data: sand backfill for sub-surface drains.

Samples: 1-quart sample of sand backfill for sub-surface drains.

PART 44 - MATERIALS

44.01 SURFACE DRAINS

General: As shown on the Drawings.
Provide traffic rated drain boxes and grates in vehicular traveled ways.
Provide ADA-compliant grates for drain boxes in turf areas, accessible planting areas and paved areas. ADA grates may be a standard item, or need to be custom ordered from the Manufacturer.
Provide lock-down grates, unless otherwise noted, for drain boxes 24” and smaller.
Provide extensions as required.

Area Drains in Planting Areas: NDS #1200NGB polyolefin drain or approved equal, openings as required, with extensions as required. For catch basins, extensions to extend 2 inches below invert elevations as shown on Drawings.
Grate: NDS #1290 12”X12” black atrium grate, for planting areas
Grate: NDS #1211 12”x12” black ADA compliant grate, for pedestrian paving
Junction Box Lid: NDS 1220 black sump box cover.

Area Drains in Planting Areas: Christy V05 (11” dia) pre-cast concrete drain with V05-71CT (cast iron bolt down ADA compliant) grate, with extensions as required. For catch basins, extensions to extend 2 inches below invert elevations as shown on Drawings.

Area Drains in Planters / Infiltration Planters: Zurn Z48 Dome-type planting area drain, cast-iron body and stainless steel mesh over dome.

Area Drains in Paving / Plazas: Zurn Z400S 8”x8” Heel-Proof Floor Drain, Polished Bronze (yellow shine) / Nickel Bronze (silvery shine), square slots / Prom-Deck Decorative Slots

Overflow Drains in Bioretention Planting Areas: Dura-Drain P-4, cast iron grate by Kristar Enterprises, Inc. or approved equal.

Area Drains / Catch Basins in Vehicular Paving & Sports Fields: Christy V12 (12”x12”) pre-cast concrete drain with V12-17W (welded steel, galvanized bolt-down, ADA compliant) grate with extensions as required. For catch basins, extensions to extend 2 inches below invert elevations as shown on Drawings.

44.02 SUBSURFACE DRAINS

Sub-surface Drains: Multi-flow, manufactured by Varicore Technologies, Inc. Prinsburg, MN, (800)978-8007, as available from Reed and Graham (800) 648-4646.
Size: 6” as shown on the Drawings
Include all end caps and inspection / flush plugs, and fittings to connect to each other or to solid drain pipe.

Inspection Boxes: Pre-cast plastic with bolt-down covers, by NDS, Carson Industries LLC, or approved equal, free of all cracks, chips or structural defects.
Inspection boxes in turf areas: green unless otherwise noted.
Inspection boxes in planting / mulch areas: black unless otherwise noted.

Sand backfill: clean sand with a uniform particle distribution, conforming to the sieve analysis below:

Sieve Size	Percent Passing
#10 (2mm)	>95%
#35 (500 um)	<15%
#60 (250 um)	<2%

Pre-approved product: TD-320 Sand by TMT Enterprises, Inc., San Jose, CA (408) 432-9040.

44.03 DRAIN PIPES (NON-TRAFFIC AREAS)

Solid and Perforated Drain Pipe: PVC SCH-40 storm drain pipe, with smooth interior wall (Manning's "n" rating of 0.010 or less) and ribbed exterior profile. DTSS, Section 64, "Plastic Pipe" Type S, and capable of withstanding fill loads plus traffic loads.
Pipe caps: per manufacturer, material to match pipe.

Drain Pipe: Corrugated HDPE storm drain pipe with smooth interior plastic wall (Manning's "n" rating of 0.012 or less). AASHTO M-294 and MP7. N-12 by ADS or approved equal.
Fabricated fittings and pipe caps: per manufacturer, material to match pipe.

Clean-out Box for drain lines:
Paved Areas: Christy F-8, with F8D concrete lid or approved equal in paved areas.
Planting Areas: Christy FL-08, with FL-8T polymer bolt-down lid or approved equal.
Emboss / stamp the lids 'Storm Drain'.

44.04 DRAIN PIPES (TRAFFIC AREAS)

Plastic Pipe: For on-site traffic areas only: SDR26 unless otherwise noted on the Drawings.

Concrete Pipe: For street right-of-way areas: XXX

44.05 OTHER MATERIALS

Drain Rock: 3/4" 100% clean crushed, Rounded sands or aggregates are prohibited.

Geotextile Fabric: needle-punched nonwoven geotextile fabric, Mirafi 140N by Tencate Geosynthetics, www.tencate.com, or approved equal.

PART 45 - EXECUTION

45.01 GENERAL

Plan the work to provide the best possible assembly of the combined work of all trades. No additional costs will be considered for work which has to be relocated due to conflicts with other trades.

Install drainage facilities to the line and grade shown on the Drawings or as directed by the Owners Representative.

Trenching, Excavation and Backfill for Drainage Structures: As specified under Specification Section Earthwork and Grading.

Conduct operations and schedule cleanup in a manner to cause the least possible obstruction and inconvenience to traffic, pedestrians, and any adjacent property owners, or tenants.

45.02 INSTALLATION

Pre-cast Concrete Drainage Structures: As specified herein and as shown on the Drawings.

Concrete Drop Inlets, Catch Basins and Miscellaneous Concrete Drainage Structures: Install in accordance with applicable provisions of DTSS Section 51 Minor Structures.

Solid and Perforated Drain Pipe: Install in accordance with applicable provisions of DTSS Section 68, per Manufacturers instructions, and as shown on the Drawings.
Ensure that all pipe joints are watertight after installation.
Pipes discharging into bioretention areas and swales are to be cut cleanly at edge of drainage area parallel to the wall or slope so that no pipe is visible from the outside. Use black PVC / HDPE for the last pipe section before the drainage area so that no other color is visible from the inside.

Clean-outs: Install in accordance with applicable provisions of DTSS Section 68 and as shown on the Drawings. Extend clean out tubing to the surface. Terminate 6” below finish grade. Install clean out box over clean out, flush to existing grade. Install brick bases at bottom of clean out box.

Sub-surface Drains: Install in accordance with the manufacturer’s instructions and as shown on the Drawings.
Provide and locate inspection / flush plugs at all high ends and turns of drains in addition to those required per manufacturer's instructions.
When located in sand or wood-fiber play areas, top of inspection / flush plug is to be flush with finish grade below sand or wood-fiber.
When located in planting areas, provide 8” dia. valve box for inspection / flush plug. Top of valve box is to be flush with finished grade.
When located in lawn areas, install sand backfill as specified in this Section to the top of soil grade, immediately below sod or to top of seed bed. Amend sand in sub-surface drainage trench separately from soil areas and protect it from general soil preparation and tilling operations to avoid contamination. See Specification Section Soil Preparation for amendment requirements.

Existing Drainage Structures: Any structures called out to be adjusted to grade on the Drawings may utilize the existing concrete surrounds if in planting areas. If in paving areas, cast a new concrete surround, color and finish to match new paving.
Replace existing grates with new ADA-compliant grates if in paving areas.

45.03 CONNECTIONS

Make all required connections to existing facilities and improvements.

Seal all connections to existing drain pipes all around to prevent ground water infiltration.

45.04 CLEAN UP

Upon completion of installation of drainage facilities, clean all lines and other related drainage structures of dirt, debris and obstructions of any kind. Clean the entire work site of all waste and construction debris related to the work, and dispose of in a lawful manner

Remove surplus materials remaining upon completion of the work from the work site.

Remove excess soil from the work site and dispose of legally off site.

APPENDIX A: BID PROPOSAL FORMS

CITY OF SAND CITY

BID PROPOSAL COVER SHEET

FOR

CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT

Submit the following items unbound:

ITEM	INCLUDED
1. Bid Proposal Cover Sheet (this sheet)	_____
2. Proposal and Bid Schedule	_____
3. Declaration of Bidder	_____
4. Acknowledgement of Addenda (if applicable)	_____
5. Bidder's Statement of Qualifications	_____
6. Subcontractor's List	_____
7. Noncollusion Declaration	_____
8. Debarment and Suspension Certification	_____
9. Certification of Good-Faith Effort (Prime)	_____
10. Bid Bond	_____
11. Certification of Workers' Compensation Insurance	_____
12. Specified or Approved Equal product Submittals	_____

Failure to include required items, including those identified above, may result in your bid being deemed non-responsive resulting in rejection of your bid.

The undersigned Bidder submits the following documents for consideration of the project. The Bidder certifies that all statements and information set forth below are true and accurate.

By: _____ _____ _____
Company Name Signature Date

CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT

CITY OF SAND CITY

PROPOSAL AND BID SCHEDULES

To the Honorable City Council
City of Sand City
City Hall
Sand City, California

The undersigned declares to have carefully examined the location of the proposed work, that the Plans and Specifications as set forth herein have been examined, and hereby proposes to furnish all materials and equipment and do all the work required to complete the said work in accordance with said Plans and Specifications for the lump sums and unit prices set forth in the following schedule:

BASE BID SCHEDULE

BASE BID					
Item No.	**Item Description**	**Unit**	**Estimated Quantity**	**Unit Cost**	**Total Cost**
1	Mobilization	LS	1		
2	Traffic Control System	LS	1		
3	Water Pollution Control	LS	1		
4	CPM Schedule	LS	1		
5	Lead Compliance Plan	LS	1		
6	Wedge Grind and Conform Grind	SY	0		
7	Hot Mix Asphalt (Type A) - 1.5" Overlay	TON	0		
8	Hot Mix Asphalt (Type A) - New Pavement Section 3" AC	TON	0		
9	Hot Mix Asphalt (Type A) - New Pavement Section 3.5" AC	TON	81		
10	Class II Aggregate Base Material - Agg Base New Pavement Section	CY	52		
11	Grind Remove, Remove, and Dispose Existing AC and AB	CY	152		
12	Polymer Modified Slurry Seal Treatment, Type II	SY	0		
13	Crack Seal	LF	0		
14	Remove Concrete	SF	0		
15	Minor Concrete (Curb and Gutter)	LF	107		
16	Minor Concrete (Vertical Curb)	LF	80		
17	Minor Concrete (Sidewalk and Bulb-Outs)	SF	663		
18	Minor Concrete (6" Thick Concrete at Curb Ramp and Driveways)	SF	493		
19	Minor Concrete - Valley Gutter	SF	130		
20	Minor Concrete - Stairs	EA	0		
21	New Retaining Wall	LF	0		
22	Hot Mix Asphalt Dike, Type F	LF	135		
23	Detectable Warning Surface	SF	30		
24	Adjust Storm Drain Manhole Cover to Grade (SDMH)	EA	0		
25	Adjust Sanitary Sewer Manhole Cover to Grade (SSMH)	EA	0		
26	Adjust Water Valve Cover to Grade (WV)	EA	0		

27	Adjust Utility Vault Cover to Grade	EA	0		
28	Relocate Water Riser	EA	0		
29	Thermoplastic Traffic Stripe - Detail 2	LF	157		
30	Thermoplastic Traffic Stripe - Detail 38A	LF	0		
31	Pavement Marking (White)	SF	70		
32	Pavement Marking (Blue)	SF	10		
33	Curb Markings (Green with White Text)	SF	80		
34	Curb Markings (Blue)	SF	70		
35	Pavement Marker - Blue Reflective Marker	EA	0		
36	Parking Tire Stops Removal	EA	0		
37	New Parking Tire Stops	EA	0		
38	Sign Removal	EA	1		
39	Sign Relocation	EA	1		
40	Install New Sign	EA	1		
41	Remove Retaining Wall	LF	46		
42	Remove Existing Wooden Walkway	SF	150		
43	Remove Existing Fence	LF	15		
44	Install 2"pvc sleeve	LF	10		
45	Rough Grading	LS	1		
46	Park Demolition	LS	1		
47	Park Rough Grading	CY	180		
48	Park Drainage	LS	1		
49	Granitecrete Walks w.Excavation & Agg Base	SF	850		
50	Concrete Playground Curb Flush	LF	96		
51	Concrete Playground Curb 4"High	LF	150		
52	Park Curb Ramp	EA	1		
53	Keystone Wall	LF	107		
54	Boulders - 4' x 6'	EA	10		
55	Springer & Springer Installation	EA	1		
56	Rope Climb Feature	EA	1		
57	Engineered Wood Fiber	SF	1700		
58	Perimeter Fence - Split-Rail	LF	215		
59	Wall Guardrail Fence - Grapestake	LF	77		
60	Timber Steps	LF	108		
61	Handrails	LF	100		
62	Picnic Tables	EA	2		
63	Swing Play Area	LS	1		

Total Base Bid Amount $_____

Total Base Bid Amount in Words:_____

BID ALTERNATE 1

Item No.	Item Description	Unit	Estimated Quantity	Unit Cost	Total Cost
6	Wedge Grind and Conform Grind	SY	209		
7	Hot Mix Asphalt (Type A) - 1.5" Overlay	TON	49		
8	Hot Mix Asphalt (Type A) - New Pavement Section 3" AC	TON	5		
9	Hot Mix Asphalt (Type A) - New Pavement Section 3.5" AC	TON	78		
10	Class II Aggregate Base Material - Agg Base New Pavement Section	CY	53		
11	Grind Remove, Remove, and Dispose Existing AC and AB	CY	99		
12	Polymer Modified Slurry Seal Treatment, Type II	SY	0		
13	Crack Seal	LF	0		
14	Remove Concrete	SF	217		
15	Minor Concrete (Curb and Gutter)	LF	2		
16	Minor Concrete (Vertical Curb)	LF	31		
17	Minor Concrete (Sidewalk and Bulb-Outs)	SF	0		
18	Minor Concrete (6" Thick Concrete at Curb Ramp and Driveways)	SF	42		
19	Minor Concrete - Valley Gutter	SF	438		
20	Minor Concrete - Stairs	EA	0		
21	New Retaining Wall	LF	0		
22	Hot Mix Asphalt Dike, Type F	LF	147		
23	Detectable Warning Surface	SF	25		
24	Adjust Storm Drain Manhole Cover to Grade (SDMH)	EA	1		
25	Adjust Sanitary Sewer Manhole Cover to Grade (SSMH)	EA	1		
26	Adjust Water Valve Cover to Grade (WV)	EA	1		
27	Adjust Utility Vault Cover to Grade	EA	1		
28	Relocate Water Riser	EA	0		
29	Thermoplastic Traffic Stripe - Detail 2	LF	0		
30	Thermoplastic Traffic Stripe - Detail 38A	LF	20		
31	Pavement Marking (White)	SF	283		
32	Pavement Marking (Blue)	SF	0		
33	Curb Markings (Green with White Text)	SF	0		
34	Curb Markings (Blue)	SF	0		
35	Pavement Marker - Blue Reflective Marker	EA	0		
36	Parking Tire Stops Removal	EA	12		
37	New Parking Tire Stops	EA	11		
38	Sign Removal	EA	0		
39	Sign Relocation	EA	2		
40	Install New Sign	EA	0		
41	Remove Retaining Wall	LF	0		
42	Remove Existing Wooden Walkway	SF	0		
43	Remove Existing Fence	LF	0		

44	Install 2"pvc sleeve	LF	0		
45	Rough Grading	LS	0		

Total Alternate 1 Bid Amount $_____

Total Alternate 1 Bid Amount in Words:_____

BID ALTERNATE 2

Item No.	Item Description	Unit	Estimated Quantity	Unit Cost	Unit Cost
6	Wedge Grind and Conform Grind	SY	0		
7	Hot Mix Asphalt (Type A) - 1.5" Overlay	TON	0		
8	Hot Mix Asphalt (Type A) - New Pavement Section 3" AC	TON	0		
9	Hot Mix Asphalt (Type A) - New Pavement Section 3.5" AC	TON	42		
10	Class II Aggregate Base Material - Agg Base New Pavement Section	CY	27		
11	Grind Remove, Remove, and Dispose Existing AC and AB	CY	13		
12	Polymer Modified Slurry Seal Treatment, Type II	SY	512		
13	Crack Seal	LF	1315		
14	Remove Concrete	SF	0		
15	Minor Concrete (Curb and Gutter)	LF	144		
16	Minor Concrete (Vertical Curb)	LF	0		
17	Minor Concrete (Sidewalk and Bulb-Outs)	SF	647		
18	Minor Concrete (6" Thick Concrete at Curb Ramp and Driveways)	SF	0		
19	Minor Concrete - Valley Gutter	SF	0		
20	Minor Concrete - Stairs	EA	6		
21	New Retaining Wall	LF	119		
22	Hot Mix Asphalt Dike, Type F	LF	57		
23	Detectable Warning Surface	SF	0		
24	Adjust Storm Drain Manhole Cover to Grade (SDMH)	EA	0		
25	Adjust Sanitary Sewer Manhole Cover to Grade (SSMH)	EA	0		
26	Adjust Water Valve Cover to Grade (WV)	EA	0		
27	Adjust Utility Vault Cover to Grade	EA	0		
28	Relocate Water Riser	EA	1		
29	Thermoplastic Traffic Stripe - Detail 2	LF	0		
30	Thermoplastic Traffic Stripe - Detail 38A	LF	0		
31	Pavement Marking (White)	SF	53		
32	Pavement Marking (Blue)	SF	0		
33	Curb Markings (Green with White Text)	SF	0		
34	Curb Markings (Blue)	SF	0		
35	Pavement Marker - Blue Reflective Marker	EA	1		
36	Parking Tire Stops Removal	EA	0		
37	New Parking Tire Stops	EA	0		

38	Sign Removal	EA	4		
39	Sign Relocation	EA	1		
40	Install New Sign	EA	0		
41	Remove Retaining Wall	LF	0		
42	Remove Existing Wooden Walkway	SF	92		
43	Remove Existing Fence	LF	50		
44	Install 2"pvc sleeve	LF	0		
45	Rough Grading	LS	0		

Total Alternate 2 Bid Amount $_____

Total Alternate 2 Bid Amount in Words:_____

Bid Summary Table

Base Bid Amount	$
Alternate 1 Bid Amount	$
Alternate 2 Bid Amount	$
Total plus Alternates (Base Bid+Alt 1+ Alt 2)	$

BASIS OF AWARD

Award of contract, if any be made, shall be made to the Contractor with the lowest responsive responsible bid based on the Total Base Bid Schedule (items 1 through 63). The City reserves the right to award, in addition to the Base Bid, any, all, or none of the additive alternate bid schedules.

DECLARATION OF BIDDER

Only an individual who is authorized to bind the bidding firm contractually shall sign this Declaration of Bidder. The signature must indicate the title or position the individual holds in the firm and be submitted with an original signature. **FAILURE TO PROVIDE ANY OF THE INFORMATION REQUIRED HEREIN INCLUDING CONTRACTOR SIGNATURES MAY RESULT IN YOUR BID BEING DEEMED NON-RESPONSIVE.**

Bidder certifies he/she possesses a license in accordance with a State Act providing for the registration of Contractors. License No. : _____, Class: _____, Expiration date: _____.

In accordance with California Labor Code (SB 854), bidder certifies that he/she is registered with the Department of Industrial Relations. Registration No.: _____.

Name of Firm: _____

Address: _____

Telephone: _____

Email: _____

Indicate your organization type (sole proprietorship, partnership, corporation, LLC):

_____

I, the official named below, certify that I am duly authorized to legally bind the prospective Contractor to the clause(s) listed herein.

I further certify that, ALL OF THE INFORMATION CONTAINED IN THIS BID PROPOSAL IS TRUE AND CORRECT and this bid is a firm offer for a 90-day period.

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__, in _____ County, California.

_____ _____

Authorized Signatory Printed Name and Title

ACKNOWLEDGEMENT OF ADDENDA

The Bidder shall list below any and all addenda issued for this project and acknowledge receipt with signature. Failure to acknowledge issued addenda will result in a non-responsive bid:

ADDENDA	DATE RECEIVED
1. _____ Authorized Signatory	_____
2. _____ Authorized Signatory	_____
3. _____ Authorized Signatory	_____
4. _____ Authorized Signatory	_____
5. _____ Authorized Signatory	_____
6. _____ Authorized Signatory	_____

BIDDER'S STATEMENT OF QUALIFICATIONS

The Bidder shall list below a minimum of three (3) jobs of a similar nature recently completed by Bidder's organization:

Project Name	Owner Name	Address	Telephone Number/Email	Contact Name

SUB-CONTRACTOR'S LIST

The Bidder shall list below the name, the location of the place of business, and the California contractor license number of any subcontractors proposed to perform work or labor or render service on this project, or a subcontractor licensed by the State of California who will specially fabricate and install a portion of the work or improvement according to detailed drawings contained in the plans and specifications of this project, whose work is in excess of one-half of 1 percent of the Bidder's total bid or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the Bidder's total bid or ten thousand dollars ($10,000), whichever is greater:

Name of Subcontractor	California Contractor License Number	California DIR Registration Number	Location of Place of Business	Trade or Portion of Work

NONCOLLUSION DECLARATION
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. 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. All statements contained in the bid are true. 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, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on this _____ day of _____, 20__ in _____ [city], _____ County, California.

_____
Signature

_____
Printed Name and Title

DEBARMENT AND SUSPENSION CERTIFICATION

The Bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- Is not currently under suspension, debarment, voluntary exclusion, disqualification, or determination of ineligibility by any state, federal, or local agency;
- Has not been suspended, debarred, voluntarily excluded, disqualified or determined ineligible by any state, federal, or local agency within the past 3 years;
- Does not have a proposed debarment or disqualification pending; and
- Has not be indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining Bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions.

I declare under penalty of perjury that the foregoing is true and correct and that this certification is signed this _____ day of _____, 20__ in _____ [city], _____ County, California.

_____
Signature

_____
Printed Name and Title

CERTIFICATION OF GOOD-FAITH EFFORT TO HIRE MONTEREY BAY AREA RESIDENTS
(Prime Contractor – To be Submitted with Bid)

I, _____, a licensed contractor, or responsible managing officer, of the company known as _____, do hereby certify, under penalty of perjury, that I have met, or made a good-faith effort to meet, the requirements set forth in Sand City Municipal Code Chapter 12.20. Further, I certify that during the performance of the contract, I shall keep an accurate record on a standardized form showing the name, place or residence, trade classification, hours employed, proof of qualified individual status, per diem wages and benefits of each person employed by the company on the specific public works project, including full-time, part-time, permanent, and temporary employees, and provide such records to the City upon request, within five working days. I understand that I am responsible for insuring that any subcontractor working under my direction, complies with this ordinance, including submitting a Certification of Good Faith Effort to Hire Monterey Bay Residents, and to keeping accurate records as described above.

_____
Signature

_____
Printed Name and Title

_____
Date

BID BOND
(To be Submitted with Bid)

KNOW ALL MEN BY THESE PRESENTS that the undersigned, _____, as Principal, and _____, as Surety, a corporation organized and existing under and by virtue of the laws of the State of _____ and authorized to do business as a surety in the State of California, are held and firmly bound unto the City of Sand City ("the Obligee") in the sum of Ten Percent (10%) of the Basis of Award ($_____) in lawful money of the United States, for the payment of which sum well and truly be made, we hereby bind ourselves and each of our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS, the Principal has submitted the accompanying Bid Proposal to the Obligee for the Work commonly described as:

CALABRESE PARK, PENDERGRASS WAY AND CITY HALL IMPROVEMENT PROJECT
NOW THEREFORE, if the bid or proposal submitted by the Principal is accepted and the Principal is awarded the Contract, and the Principal, within the period specified therefore or if no period be specified, within fifteen (15) days after the prescribed forms are presented to the Principal for signature, enter into a written contract with the Obligee, in accordance with the Bid Proposal as accepted and give such bond(s) with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Bid Proposal within the period specified or the failure of the Principal to enter into such Contract and give such bonds within the time specified, if the Principal shall pay the Obligee the difference between the amount specified in said Bid Proposal and the amount for which the Obligee may procure the required Work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the Obligee in again calling for Bids, then the above obligation shall be void and of no effect; otherwise to remain in full force and effect. The full payment of the sum stated above shall be due immediately if Principal fails to execute the Contract within fifteen (15) days of the City's Notice of Award to Principal.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or the Call for Bids, the Work to be performed there under, the Drawings or the Specifications accompanying the same, or any other portion of the Contract Documents shall in any way affect its obligations under this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of said Contract, the Call for Bids, the Work, the Drawings or the Specifications, or any other portion of the Contract Documents.

In the event suit or other proceeding is brought upon this Bond by the Obligee, the Surety and Principal shall be jointly and severally liable for payment to the Obligee all costs, expenses and fees incurred by the Obligee in connection therewith, including without limitation, attorney's fees.

[CONTINUED NEXT PAGE]

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 20___ by their duly authorized agents or representatives.

_____
(Bidder/Principal Name)

By: _____
(Signature)

_____
(Typed or Printed Name)

Title: _____

_____
(Surety Name)

By: _____
(Signature of Attorney-In-Fact for Surety)

_____
(Typed or Printed Name of Attorney-In-Fact)

Contact name, address, telephone number and email address for notices to the Surety

_____
(Contact Name)

_____
(Street Address)

_____
(City, State & Zip Code)

(_____) _____ (_____) _____
Telephone Fax

_____
(Email address)

ALL SIGNATURES MUST BE NOTARIZED. POWER OF ATTORNEY IN FACT AND SEAL OF SURETY MUST BE ATTACHED.

CERTIFICATION OF WORKERS' COMPENSATION INSURANCE

I,_____ the _____of
(Name) (Title)

_____, declare, state and certify that:
(Contractor Name)

1. I am aware that California Labor Code § 3700(a) and (b) provides:

   "Every employer except the state shall secure the payment of compensation in one or more of the following ways:

   c. By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state.

   d. By securing from the Director of Industrial Relations a certificate of consent to self-insure either as an individual employer, or one employer in a group of employers, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his or her employees."

3. I am aware that the provisions of California Labor Code §3700 require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of this Contract.

_____
(Contractor Name)

By:_____
(Signature)

_____

SPECIFIED OR APPROVED EQUAL PRODUCT SUBMITTALS

In certain instances, product submittals for Bidder proposed "Approved Equal" products must be in writing for pre-qualification fourteen (14) calendar days prior to the scheduled bid opening date. In these instances, those products are listed below. Indicate the product for which the bid is based on by placing a checkmark by the product specified or the proposed "approved equal". If proposing with an "approved equal" product, provide the information on the spaces under the specified product. See Special Provisions for additional information relating to those products listed:

✓	Product	Model Number	Manufacturer	Product Rating/Certification
___	_____	_____	_____	_____
___	_____	_____	_____	_____
___	_____	_____	_____	_____
___	_____	_____	_____	_____
___	_____	_____	_____	_____
___	_____	_____	_____	_____
___	_____	_____	_____	_____