

CITY OF CAPITOLA

PROJECT SPECIFICATIONS

FOR

2018 SLURRY SEAL PROJECT

For use in conjunction with the State of California, Department of Transportation Standard Specifications dated May 2015, and Standard Plans dated May 2015.

BIDS OPEN: 3:00 P.M., Wednesday, July 11, 2018



CITY OF CAPITOLA
420 Capitola Avenue
Capitola, CA 95010
(831) 475-7300 – Phone
(831) 479-8879 – Fax
www.cityofcapitola.org

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CITY OF CAPITOLA
SANTA CRUZ COUNTY, CALIFORNIA

NOTICE INVITING SEALED BIDS

2018 SLURRY SEAL PROJECT

NOTICE IS HEREBY GIVEN that sealed bids will be received by the Director of Public Works of the City of Capitola, California, on or before July 11, 2018 at the hour of 3:00 p.m. in his office at 420 Capitola Avenue, Capitola, California, 95010, for the following work and improvements in and for the City, at which time they will be publicly opened and read:

This project involves Type II Slurry Seal, thermoplastic striping and pavement markings, traffic control and construction area signage; and other incidental and appurtenant work necessary for the proper construction of the contemplated improvement, as indicated on the project plans.

The estimated cost of construction is \$ 240,000.00

Each bid must be accompanied by a cashier's check, certified check, or Bidder's Bond executed by a corporate surety authorized to engage in such business in the State of California, payable to the City of Capitola, in an amount not less than ten percent (10%) of the amount of the bid. The successful bidder will be required to furnish a Performance Bond in an amount equal to one hundred percent (100%) of the contract price, a Labor and Material Bond in an amount equal to one hundred percent (100%) of the contract price, and a Defective Materials and Workmanship Bond in an amount equal to ten (10%) percent of the contract price. Said bonds shall also be executed by a corporate surety authorized to engage in such business in the State of California and be made payable to the City of Capitola.

General requirements, plans, specifications and bid forms may be obtained at the office of the Director of Public Works, City Hall, 420 Capitola Avenue, Capitola, California 95010 or by calling (831) 475-7300, or on the City's website at www.cityofcapitola.org

The sealed bids must be addressed to the City of Capitola and must be submitted in a single sealed envelope endorsed: **"2018 Slurry Seal Project"**

If the successful bidder fails, neglects, or refuses for ten (10) calendar days after the award of the contract to enter into the contract to perform the work, the cashier's check, certified check, or Bidder's Bond accompanying the bid and the amount therein named, shall be declared forfeited to the City and shall be collected by it and paid into its general fund. After the bids have been opened, no bidder will be allowed to withdraw its bid without forfeiting the bid guaranty, unless permitted to do so by the Director of Public Works.

The Contractor shall possess a current Class A at the time of award of the contract.

The City Council reserves the right to reject any or all bids, waive any irregularities in any bids and its determination as to which bid is the lowest responsible bid and is for the best interest of the City shall be final. The City Council shall have fifteen (15) calendar days from and after the opening of the bids within which to make its determination.

The Contractor receiving the award of the contract shall begin work within fifteen (15) calendar days after receipt of the Notice to Proceed and shall diligently complete all work as specified or indicated in the contract documents for the contract sum and within the contract time, all in accordance with the contract documents.

The City of Capitola, in accordance with Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the regulations of the Department of Commerce (15 C.F.R., Part 8), issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the grounds of race, color, sex or national origin.

Prevailing Rate of Wages: In accordance with the provisions of the California Labor Code, the City Council hereby determines that the general prevailing per diem rate of wages in the locality in which the work is to be performed, for laborers and for each craft or type of worker and mechanic employed in the execution of the contract, is the Union Wage Scale established for Santa Cruz County, which wage scale as of the execution date of this contract is incorporated herein as if fully set forth. Overtime shall be not less than one and one-half (1-1/2) times the established rates. Sundays and holidays shall be not less than two (2) times the established rates. In payment of labor, the Contractor shall comply with the provisions of the Labor Code of the State of California, Sections 1770 to 1781 inclusive (Article 2, Chapter 1, Part 7, Division 2), and any acts amendatory thereto.

Department of Industrial Relations:

- No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code Section 1771.1(a)].
- No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.
- This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

For any moneys earned by the Contractor and withheld by the City to ensure the performance of the contract, the Contractor may, at Contractor's request and expense, substitute securities equivalent to the amount withheld in the form and manner and subject to the conditions provided in Chapter 13 (commencing with Section 4590), Division 5, Title 1 of the Government Code of the State of California.

Dated: 22 June 2018



Steven E. Jesberg
Public Works Director

CITY OF CAPITOLA
SANTA CRUZ COUNTY, CALIFORNIA
BID PROPOSAL FOR

2018 SLURRY SEAL PROJECT

The undersigned, as bidder, declares that all the contract documents herein contained have been thoroughly examined, that this bid proposal is made without collusion with any other person, firm or corporation and that all laws and ordinances relating to the interest of public officers in this contract have been complied with in every respect.

Bidder proposes and agrees, if this bid proposal is accepted, that Bidder will contract with the City of Capitola, Santa Cruz County, California, in the form of the copy of the agreement herein contained, to provide all necessary machinery, tools, apparatus and other means of construction; to furnish all materials, to provide all labor, and to construct the improvements in conformity with the specifications and drawings and other contract provisions herein contained or reasonably implied thereby or as necessary to complete the work in the manner and within the time named herein and according to the requirements and to the reasonable satisfaction of the Director of Public Works; to pay all charges of freight transportation and hauling and all applicable taxes; to indemnify the City against any loss or damage arising from any act of the undersigned as Contractors; and that Bidder will take in full payment therefore an amount computed by the Director of Public Works and based upon the unit prices as set forth in this bid proposal.

It is understood that the quantities set forth herein are approximate only and are for the purpose of comparing bids.

The amount to be paid the Contractor shall be the amount of work in each item actually constructed, multiplied by the unit prices set forth as follows:

See following page for bid items

Contractor's Name: _____

ITEM NO.	BID ITEM	UNIT	QTY	UNIT PRICE	UNIT TOTAL
1	Mobilization & Demobilization	LS	1		
2	Clearing & Grubbing & Environmental Protection	LS	1		
3	Traffic Control System	LS	1		
4	Public Posting & Notification	LS	1		
5	Over-Excavation (Revocable Item)	CY	95		
6	Asphalt Concrete Base Repair (4" Depth)	SF	5,701		
7	Asphalt Concrete Base Repair (6" Depth)	SF	1,026		
8	PCC Curb and Gutter (Standard)	LF	178		
9	PCC Valley Gutter	SF	221		
10	Crack Sealing	LS	1		
11	Type II Surry Seal	SY	38,300		
12	Thermoplastic Traffic Stripe – Detail 2	LF	3,000		
13	Thermoplastic Traffic Stripe – Detail 21	LF	160		
14	Thermoplastic Traffic Stripe – Detail 22	LF	2,041		
15	Thermoplastic Traffic Stripe – Detail 39	LF	3,776		
16	Thermoplastic Traffic Stripe – Detail 39A	LF	185		
17	Thermoplastic Traffic Stripe – 4" (White or Yellow)	LF	382		
18	Thermoplastic Traffic Stripe – Stop Bar	LF	241		
19	Thermoplastic Traffic Stripe – Basic Crosswalk	LF	122		
20	Thermoplastic Traffic Stripe – Ladder Crosswalk	LF	603		
21	Thermoplastic Traffic Stripe – Continental Crosswalk	LF	357		
22	Thermoplastic Pavement Marking	SF	953		
23	Blue Raised Fire Hydrant Pavement Marker	EA	18		
24	Remove & Replace Raised White Tubular Markers	EA	20		
25	Adjust Water Valve Boxes to Grade	EA	4		
26	Adjust Survey Monument Boxes to Grade	EA	1		
				TOTAL \$	

The City will award the contract to the lowest responsible bidder complying with the instructions in the Notice Inviting Sealed Bids. The lowest bidder will be determined on the basis of the total of the Base Bid items alone. In the event that the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern and the corrected product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more item totals in the bid schedule do not equal the total amount bid, the individual item totals shall govern and the corrected sum shall be deemed to be the amount bid.

The undersigned agrees, if this bid proposal is accepted by the City Council and if a contract for the performance of the work is entered into by and between the City of Capitola and the undersigned, to plan the work and prosecute it with such diligence complete all work as specified or indicated in the contract documents for the contract sum and within the contract time, all in accordance with the contract documents.

The undersigned further agrees that if this bid proposal is accepted, to sign the agreement and to furnish the required bonds with satisfactory surety or sureties within ten (10) calendar days after the award of the contract and if the undersigned fails to contract as aforesaid, it shall be understood that the contract has been abandoned and therefore that this bid proposal and the bid guaranty shall be forfeited to and become the property of the City. Otherwise, the bid guaranty accompanying this bid shall be returned to the undersigned.

Dated this _____ day of _____, 20_____.

Signature of Bidder

Bidder's Address

Printed Name of Bidder

City, State, Zip Code

Email:

Telephone No.

REQUIRED CONTRACTOR INFORMATION

NOTICE: In the case of a corporation, give below the address of the principal office thereof and the names and addresses of the president, secretary, treasurer and manager:

Tax ID No. or Social Security No _____

Contractor's License No. _____ Classification(s) _____

Expiration date: _____

Classification of workers used on job:

Acknowledgement of Addendum(s): Receipt of the following addendum(s) issued during the time of bidding is acknowledged and the information contained therein has been considered in the preparation of this bid proposal.

Note: Failure to execute the following may be considered as an irregularity in the bid proposal.

Addendum No. (None ___), (1 ___), (2 ___), (3 ___), (4 ___), (5 ___)

Check appropriate space(s).

I certify under penalty of perjury that the representations made herein are true and correct to the best of my knowledge.

Signature of Bidder

Printed Name of Bidder

LIST OF PROPOSED SUBCONTRACTORS

List the name and address of each subcontractor who will perform work or labor or render service to the Contractor on the project in an amount in excess of one half of one percent (1/2%) of the total bid, or, if it exceeds \$10,000.00, whichever is greater, and the portion of the work to be done by each subcontractor.

Work to be Performed	License Number and type	% Of Total Contract	Subcontractor's Name Address, Telephone & email address	Classification of Workers used on job
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Note: Attach additional sheets if required.

General Contractor shall perform a minimum of 30% of the contract work.

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER

State of California)
City of Capitola) ss.
County of Santa Cruz)

_____, being first duly sworn, deposes and says that he
(Bidder's Name)
or she is _____ of _____
(Title) (Company)

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

Note: Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Signature of Bidder

Title

Date

(NOTE: Signatures for those executing for the Non-collusion Affidavit must be properly acknowledged.)

BIDDER'S BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE, _____

_____ as SURETY, are held and firmly bound unto the CITY OF CAPITOLA, State of California, hereinafter called the CITY, in the penal sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal above-named, submitted by said Principal to the City, for the work described below for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the surety exceed the sum of _____

_____ (\$ _____) DOLLARS.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That whereas the Principal has submitted the above-mentioned bid to the City for certain construction specifically described as follows for which bids are to be opened at Capitola, California, on July 11, 2018, for:

2018 SLURRY SEAL PROJECT

NOW, THEREFORE, if the aforesaid Principal is awarded the contract, and within the time and manner required under the specifications after the prescribed forms are presented to him for signature enters into a written contract in the prescribed form, in accordance with the bid, and files two bonds: one to guarantee faithful performance, and one to guarantee payment for labor and materials, as required by law; then this obligation shall be null and void; or should the aforementioned contract be awarded to other than the herein-named Principal, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

As a 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 (or city) in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____, 20____.

PRINCIPAL: _____(Seal)

_____(Seal)

_____(Seal)

SURETY: _____(Seal)

_____(Seal)

_____(Seal)

ADDRESS

TELEPHONE NUMBER

(Note: Signatures of those executing for the Surety must be properly acknowledged.)

CITY OF CAPITOLA
SANTA CRUZ COUNTY, CALIFORNIA

AGREEMENT
2018 SLURRY SEAL PROJECT

THIS AGREEMENT, made this _____ day of _____, 201____, by and between the City of Capitola, a Municipal Corporation, in Santa Cruz County, California, hereinafter called the City, and _____ hereinafter called the Contractor.

WITNESSETH:

WHEREAS, the City has caused to be prepared in accordance with law, specifications, plans and other contract documents, for the work herein described and shown and has approved and adopted these contract documents, specifications and plans and has caused to be published in the manner and for the time required by law, a Notice Inviting Sealed Bids for doing the work in accordance with the terms of this Agreement and all other contract documents, and

WHEREAS, the Contractor in response to said notice has submitted to the City a sealed bid proposal accompanied by a bid guaranty in an amount not less than ten percent (10%) of the amount bid for the construction of all of the proposed work in accordance with the terms of this Agreement and all other contract documents, and

WHEREAS, the City, in the manner prescribed by law, has publicly opened, examined and canvassed the bids submitted and as a result has determined and declared the Contractor to be the lowest responsible bidder and has duly awarded to the Contractor a contract for all the work and for the sum or sums named in the bid and in this Agreement.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

ARTICLE I. WORK TO BE DONE:

That the Contractor shall provide all necessary labor, machinery, tools, apparatus and other incidentals and means of construction; shall furnish all materials, equipment, supervision, superintendence and overhead expenses of whatever nature necessary to construct all of the project and improvements for the City of Capitola in conformity with the specifications and plans and other contract documents and according to such instructions as may be given by the City of Capitola Director of Public Works or its authorized agent.

ARTICLE II. CONTRACT PRICES:

Except as provided and subject to the conditions in Section IV B of the Specifications ("Changes and Extra Work"), the City agrees to pay the Contractor according to the unit prices stated in the bid submitted by the Contractor or the total amount of the contract, whichever is less, which shall include all applicable taxes, for complete performance of the work.

The Contractor hereby agrees to accept such payment as full compensation for all labor, materials, equipment, and appliances necessary to complete the work; for all loss, costs, expenses, or damage arising from the work or from action of the elements, or from any unforeseen obstruction or difficulties which may be encountered in the prosecution of the work; or from any other unknowns or risks of any description connected with the work; for all cost, expenses, damages, and losses incurred in and in consequence of the suspension or discontinuance of the work; for all liability and other insurance; for

all fees or royalties or other expenses on account of any patent or patents; for all overhead and other expenses incident to the work and expected profits; and for well and faithfully performing and completing all work as specified or indicated in the contract documents for the contract sum and within the contract time, all in accordance with the contract documents.

ARTICLE III. PARTS OF THE CONTRACT:

That the complete contract document consists of the following:

1. Notice Inviting Sealed Bids
2. Hold Harmless Clause
3. Bid Proposal
4. Performance Bond
5. Non-Collusion Affidavit
6. Labor and Material Bond
7. Bidder's Bond or Bid Guaranty
8. Specifications
9. Agreement
10. Insurance Certificates

All of the provisions of said contract documents are made a part hereof as those fully set forth herein. In case of any conflict between this Agreement and any other part of the contract documents, this Agreement shall be binding. Collectively, these contract documents constitute the complete agreement between the City and Contractor and supersede any previous agreements or understandings.

IN WITNESS WHEREOF, the City has caused its corporate name to be hereunto subscribed and its corporate seal to be hereunto affixed by its City Manager and its City Clerk thereunto duly authorized and the Contractor has executed these documents the day and year herein above written.

This Agreement shall be effective at such time as each party is in possession of a copy (i.e. either an original or facsimile) executed by the other party.

SO AGREED,

CITY OF CAPITOLA
A Municipal Corporation

CONTRACTOR:

License No. _____

Tax ID or SSN _____

By:

By:

Benjamin Goldstein
City Manager

Title: _____

Date: _____

Date: _____

Awarded by the City Council on

By signing above on behalf of the corporation, the individual so signing warrants that he/she has authority to sign this agreement on behalf of the corporation and legally bind the company to all of the obligations contained therein.

ATTEST:

City Clerk

HOLD HARMLESS CLAUSE

WHEREAS, _____, (Contractor), has been awarded a contract with the City of Capitola to perform certain work described as follows:

This project involves Type II Slurry Seal, thermoplastic striping and pavement markings, traffic control and construction area signage; and other incidental and appurtenant work necessary for the proper construction of the contemplated improvement, as indicated on the project plans.

Contractor hereby agrees to indemnify, defend and hold harmless the City, its officers, agents and employees from any and all demands, claims or liabilities of any nature caused by or arising out of Contractor's negligent acts, errors, or omissions, or willful misconduct, or conduct for which the law imposes strict liability on Contractor in the performance or nonperformance of this agreement.

Dated _____, 20____.

Contractor

By _____

Title _____

Address _____

Telephone _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That _____(Contractor)

of _____
(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation/Partnership/Individual)

_____(Surety)

of _____
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto CITY OF CAPITOLA, 420 Capitola Avenue, Capitola, CA 95010, hereinafter called OWNER, in the penal sum of _____ DOLLARS (\$_____) (100% of contract amount), in lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 20____, a copy of which is hereto attached and made part hereof for the construction of Rosedale Area Paving Project.

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

As a 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 (or city) in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

PROVIDED, FURTHER, that the said surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder of the specifications accompanying the same shall in any ways affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in four (4) counterparts, each one of which shall be deemed an original, this _____ day of _____, 20_____.

ATTEST:

Principal/Secretary

Principal (type)

By: _____

Address: _____

Telephone No. _____

SEAL:

Witness as to Principal

Surety (type)

By: _____

Address: _____

Telephone No. _____

ATTEST:

Surety/Secretary

Attorney-in-fact (type)

By: _____

Address: _____

Telephone No. _____

SEAL:

Witness as to Surety

By: _____

Address: _____

Telephone No. _____

NOTE: Date of Bond must not be prior to date of Contract.
If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing bonds must be admitted sureties in possession of a valid current certification to that effect issued by the Commissioner of Insurance. (See Insurance Code Section 706.5.)

**BOND FOR SECURITY OF
LABOR AND MATERIALS**

WHEREAS, The City Council of the City of Capitola, State of California, 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 _____, 20____, and identified as project Rosedale Area Paving Project, is
hereby referred to and made a part hereof; and

WHEREAS, under the terms of said agreement, principal is required before entering upon the
performance of the work, to file a good and sufficient payment bond with the City of Capitola, 420
Capitola Avenue, Capitola, CA 95010, to secure the claims to which reference is made in Title 15
(commencing with Section 3082) of Part 4 of Division 3 of the Civil Code of the State of California.

Now, therefore, said principal and the undersigned as corporate surety, are held firmly bound unto the
City of Capitola and all contractors, subcontractors, laborers, material men and other persons
employed in the performance of the aforesaid agreement and referred to in the aforesaid Code of Civil
Procedure in the sum of _____
_____ dollars (\$_____), for
materials furnished or labor thereon of any kind, or for amounts due under the Unemployment
Insurance Act with respect to such work or labor, that said surety will pay the same in an amount not
exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay,
in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable
attorney's fees, incurred by county (or city) in successfully enforcing such obligation, to be awarded
and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall insure to the benefit of any and all
persons, companies and corporations entitled to file claims under Title 15 (commencing with Section
3082) of Part 4 of Division 3 of the Civil Code, so as to give a right of action to them or their assigns in
any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void,
otherwise it shall be and remain in full force and effect.

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

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

IN WITNESS WHEREOF, this instrument is executed in four (4) counter-parts, each one of which shall be deemed an original, this _____ day of _____, 20_____.

ATTEST:

Principal/Secretary

Principal (type)

By: _____

Address: _____

Telephone No. _____

SEAL:

Witness as to Principal

Surety (type)

By: _____

Address: _____

Telephone No. _____

ATTEST:

Surety/Secretary

Attorney-in-fact (type)

By: _____

Address: _____

Telephone No. _____

SEAL:

Witness as to Surety

By: _____

Address: _____

Telephone No. _____

NOTE: Date of Bond must not be prior to date of Contract.
If Contractor is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing bonds must be admitted sureties in possession of a valid current certification to that effect issued by the Commissioner of Insurance. (See Insurance Code Section 706.5.)

**ESCROW AGREEMENT TO SUBSTITUTE SECURITIES
FOR WITHHOLD MONEYS IN PUBLIC CONTRACTS
(OPTIONAL)**

THIS AGREEMENT, made this _____ day of _____, 20____, by and between the City of Capitola, hereafter called "City", and _____ hereafter called "Contractor", having its main office at _____

WHEREAS, Contractor has been awarded a contract by City for

2018 SLURRY SEAL PROJECT

and has executed a contract dated _____, 20____ with City under which contract the Contractor is obligated to construct the above project and for which City shall pay Contractor certain progress payments from which moneys will be withheld as retention to insure performance of the contract by Contractor; and

WHEREAS, Contractor elects to substitute, at Contractor's expense, certain securities as eligible under Section 16430 of the Government Code or bank or savings and loan certificates of deposit equivalent to the amount withheld from progress payments.

NOW, THEREFORE, the parties agree as follows:

1. City shall hold in escrow the sum of _____ Dollars for the account of Contractor as represented by securities identified below:

(Cash Rec. No. _____ dated _____)

2. Contractor shall be the beneficial owner of any securities held by City substituted for moneys withheld and Contractor shall receive any interest thereon.

3. City will not pay out or release any escrow funds or securities except as provided in this agreement.

4. In the event Contractor or Contractor's agents fail to perform each and every obligation of its contract with City in the manner and within the time set forth in the contract for the project, the entire amount of escrow funds or securities held in escrow shall become the property of City upon certification from the Director of Public Works that Contractor has failed to perform its contract with City and Contractor has been given thirty (30) days written notice of its default under the contract. The escrow funds and securities which become the property of City shall be used and retained by City for the purpose set forth in the contract regarding withholding and retention of funds from progress payments, and such provisions are incorporated herein as if fully set forth.

5. Upon satisfaction in full and the time expiration set forth in the contract regarding withholding and retention of funds from progress payments, the amount held in escrow or securities held by City for the benefit of Contractor shall be released to Contractor by City upon certification of the Director of Public Works that Contractor has fully performed all obligations under the contract with City.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed as of the day and year first above written.

CITY OF CAPITOLA:

By _____

CONTRACTOR:

By _____

Title _____

Address _____

Telephone _____

APPROVED AS TO FORM:

City Attorney

SPECIAL PROVISIONS

The following special provisions shall add to or modify the General Provisions of the State of California, Department of Transportation, Standard Specifications, dated 2010 as amended.

SECTION I. DEFINITIONS AND TERMS

Whenever the following terms or pronouns in place of them are used in these specifications or in any documents or instruments where these specifications govern, the intent and meaning shall be interpreted as follows:

- A. ADDENDUM. Written or graphic instrument issued prior to the opening of bid proposals which interprets, corrects, or changes the bidding or contract documents. The term "addendum" shall include bulletins and all other types of written notices issued to potential bidders prior to opening bid proposals.
- B. CITY. The City of Capitola, located in Santa Cruz County, California; also sometimes referred to as the "City."
- C. ENGINEER OR CITY ENGINEER. The City Engineer of the City of Capitola or the Director of Public Works, acting either directly or through properly authorized agents.
- D. BIDDER. Any individual, firm, or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.
- E. CONTRACTOR. The person or persons, co-partnership, or corporations who have entered into a contract with the City for performance of work covered by this contract, and its authorized agents or legal representatives.
- F. INSPECTOR. Shall mean the technical inspector or inspectors duly authorized or appointed by the Engineer.
- G. PLANS. The word "plans" shall denote drawings. The word "drawings" shall denote plans. Plans and/or drawings are a part of the specifications.
- H. SPECIFICATIONS. The directions, provisions and requirements contained herein and supplemented by such special provisions as may be necessary, pertaining to the method and manner of performing the work, or to the quantities and qualities of materials to be furnished under the contract.
- I. PROPOSAL FORM. The approved form on which the City Engineer requires formal bids to be prepared and submitted for the work.
- J. BID PROPOSAL. The offer of the bidder for the work when made out and submitted on the prescribed proposal form, properly signed and guaranteed.
- K. CONTRACT, AGREEMENT, OR CONTRACT DOCUMENTS. The written agreement covering the performance of the work and the furnishing of labor, materials, tools, and equipment in the construction of the work. The contract shall include the notice to contractors, proposal, plans, specifications, special provisions, and contract bonds; also any and all supplemental agreements amending or extending the work contemplated and which may be required to complete the work in a substantial and acceptable manner. Supplemental agreements are written agreements covering alterations, amendments, or extensions to the contract and include contract change orders.

- L. WORK. All the work specified in the special provisions, proposal and contract.
- M. INSTALL. Where the word install is used, it shall also mean that the Contractor shall provide all of the materials necessary to install the item as shown on the plans or in these specifications, unless stated otherwise.
- N. CONSTRUCT. Where the word construct is used, it shall also mean that the Contractor shall provide all of the materials necessary to construct the item as shown on the plans or in these specifications, unless stated otherwise.
- O. PLACE. Where the word place is used, it shall also mean to provide all of the materials for the complete installation of the item denoted.
- P. ADVERTISEMENT. The published Notice Inviting Sealed Bids for the construction of the project.
- Q. STANDARD SPECIFICATIONS. The State of California, Department of Transportation, Standard Specifications, dated 2010 as amended, also referred to as the State Specifications.
- R. STANDARD PLANS. The State of California, Department of Transportation, Standard Plans, dated 2010 as amended, also referred to as the State Standard Plans.
- S. STATE. The State of California, including the Department of Transportation (Caltrans), California Highway Patrol, or any other State of California agency whose action or oversight is related to the work.

SECTION II. BID REQUIREMENTS AND CONDITIONS

The bidder's attention is directed to the provisions of Section 2 of the State Specifications for the requirements and conditions which must be observed in the preparation of the bid proposal forms and the submission of the bid and these special provisions.

A. CONTENTS OF BID PROPOSAL FORMS. Prospective bidders will be furnished with forms which will state the location and description of the contemplated work to be performed, for which a bid is asked.

B. EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE OF WORK.
The bidder shall examine carefully the site of the work contemplated and the plans, specifications and proposal and contract forms thereof. It will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character and quality of work to be performed and as to the materials to be furnished, as to the requirements of these specifications, the special provisions and the contract.

For convenience in designation on the plans or in the specifications, certain materials or articles to be incorporated in the work may be designated under a trade name or the name of a manufacturer and the manufacturer's catalog information. The request for substitution of a similar or equivalent material or article shall not be made before the submission of a bid proposal and/or award of the contract. Attention is directed to the provisions under "Submittals," of Section VI elsewhere in the special provisions.

If any person contemplating submitting a bid proposal for proposed contract is in doubt as to the true meaning of or finds discrepancies in or omissions from any part of the plans, specifications, or other contract documents, the person may submit to the City a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the contract documents will be made only by addendum duly issued and a copy of such addendum will be delivered to each person receiving a copy of the contract documents. No person is authorized to make any oral interpretation or correction of any provision in the contract documents to any bidder, and no bidder shall rely on any such oral interpretation or correction.

C. BID PROPOSAL FORMS. **All bids shall be made upon the blank forms provided herein, which shall be void if detached from these specifications.** All items shall be properly filled out. Numbers shall be stated in figures. The signatures of all persons signing shall be in long hand. If the bid is submitted by an individual, the individual's name and post office address must be shown. If submitted by a firm or partnership, the name and post office address of each member of the firm or partnership must be shown. If submitted by a corporation, the bid proposal shall show the name of the State under the laws of which the corporation was chartered and the names, titles and business addresses of the president, secretary, treasurer and manager.

D. REJECTION OF BIDS CONTAINING ALTERATIONS, ERASURES OR IRREGULARITIES. Bids may be rejected if they show any alteration of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind.

E. BID GUARANTEE. All bids shall be presented under sealed cover and shall be accompanied by a cashier's check, certified check or Bidder's Bond made payable to the City of Capitola, for an amount equal to at least TEN PERCENT (10%) of the amount of said bid.

F. WITHDRAWAL OF BIDS. Any bid may be withdrawn by the bidder prior to but not after the time fixed for the opening of bids, provided that a request in writing for the withdrawal of such bid, executed by

the bidder or bidder's duly authorized representative, is filed with the Director of Public Works of the City of Capitola. The withdrawal of a bid shall not prejudice the right of a bidder to file a new bid.

- G. DISQUALIFICATIONS OF BIDDERS. More than one bid from an individual, a firm or partnership, a corporation or an association under the same or different names will not be considered. Reasonable grounds for believing that any bidder is interested in more than one bid for the work contemplated will cause the rejection of all bids in which said bidder is interested.
- H. COMPETENCY OF BIDDERS. With each and every bid and forming a part thereof, the City Council will require the bidder to furnish a statement of bidder's financial responsibility, technical ability, and experience.

SECTION III. AWARD AND EXECUTION OF CONTRACT

The bidder's attention is directed to the provisions in Section 3 of the State Specifications for the requirements and conditions concerning award and execution of contract and these special provisions.

- A. AWARD OF CONTRACT OR REJECTION OF BIDS. All bids shall be subject to the approval of the City Council, which reserves unto itself the right to accept or reject any or all bids and waive any irregularities or informalities of bids as it may deem for the best interest of the City, and whose determination as to whose bid is the lowest responsible bid shall be final and conclusive. The award, if made, will be made within fifteen (15) calendar days after the opening of the bids. City shall not be bound until the contract has been fully executed.
- B. RETURN OF BID GUARANTEES. Within thirty (30) calendar days after the award of the contract, the City will return the bid guarantees accompanying the bids, which are not being considered in making the award. All other bid guarantees will be held until the contract has been finally executed, after which they will be returned to the respective bidders whose bids they accompany.
- C. CONTRACT BONDS. The successful bidder simultaneously with the execution of the agreement will be required to furnish, on forms provided herein:
1. PERFORMANCE BOND in the amount equal to one hundred percent (100%) of the contract price, and must be by a corporate surety authorized to engage in such business in California, payable to the City of Capitola.
 2. LABOR AND MATERIAL BOND in an amount equal to one hundred percent (100%) of the contract price, and must be by a corporate surety authorized to engage in such business in California, payable to the City of Capitola.
 3. DEFECTIVE MATERIALS AND WORKMANSHIP BOND in an amount equal to ten (10%) of the contract price, and must be by a corporate surety authorized to engage in such business in California, payable to the City of Capitola and valid for a one (1) year period commencing on the date of contract completion.
- This bond shall be provided to the City prior to release of the five (5%) project retention.
- D. EXECUTION OF CONTRACT. The contract shall be signed by the successful bidder and returned, together with the contract bonds and insurance certificates, within fifteen (15) calendar days after the award of the contract. Bidder will honor its bid for a period of at least ninety (90) calendar days after the opening of bids.
- E. PENALTY FOR FAILURE TO SIGN CONTRACT. A successful bidder who fails, neglects or refuses to sign the contract and file acceptable bonds as required, within the time specified, shall have the bid guarantee forfeited to the City as liquidated damages.
- F. SUBSTITUTION OF SECURITIES FOR WITHHELD AMOUNTS. For any moneys earned by the Contractor and withheld by the City to ensure the performance of the contract, the Contractor may, at Contractor's request and expense, substitute securities equivalent to the amount withheld in the form and manner and subject to the conditions provided in Chapter 13 (commencing with Section 4590), Division 5, Title 1 of the Government Code of the State of California. This substitution shall be effected prior to submittal of Contractor's first progress billing to the City for work under this contract.

- G. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES. Attention is directed to the provisions of Section 8-1.04, "Start of Job Site Activities," Section 8-1.05, "Time," and Section 8-1.10, "Liquidated Damages," of the State Specifications and these special provisions.

The counting of calendar days shall commence on the date stated in the "Notice to Proceed." The Contractor shall begin work within fifteen (15) calendar days after receiving the Notice to Proceed and shall diligently complete all work as specified or indicated in the contract documents for the contract sum and within the contract time, all in accordance with the contract documents.

The Contractor shall pay to the City of Capitola the sum of \$800.00 (Eight Hundred Dollars and Zero Cents) per day for each and every calendar day's delay in finishing the work in excess of the number of calendar days prescribed herein.

SECTION IV. SCOPE OF WORK

- A. WORK TO BE DONE. The work to be done on this project consists, in general, of the following:

This project involves Type II Slurry Seal, thermoplastic striping and pavement markings, traffic control and construction area signage; and other incidental and appurtenant work necessary for the proper construction of the contemplated improvement, as indicated on the project plans.

- B. CHANGES AND EXTRA WORK. Changes and extra work, if found necessary, shall be done in accordance with the provisions of Section 4-1.05, "Changes and Extra Work," of the Standard Specifications and these special provisions.

The City may require changes in, additions to or deductions from, the work to be performed or the materials to be furnished under this Contract pursuant to the provisions of the Contract Documents.

No change to the work shall be made, extra work performed, or deduction from the work made unless in pursuance of a written change order from the City, signed by the Director of Public Works or its authorized representative, stating that the change, addition, deletion, or any combination thereof is authorized. Written field orders may be issued to the contractor pending the issuance of a formal change order. No claim for additional payment shall be considered unless so ordered.

Adjustments to the contract amount by reason of a duly authorized change order shall be determined on the basis of one of the following methods, at the option of the Director of Public Works:

1. On the basis of an acceptable lump sum proposal from the Contractor in response to a quotation request.
2. On the basis of unit prices specified in the Contractor's proposal.
3. On the basis of actual necessary cost plus fifteen (15) percent to cover superintendence, general expense and profit, hereinafter referred to as "Force Account Work."

Force Account Work, if ordered, shall be adjusted and certified daily on record sheets acceptable to the Director of Public Works and signed by both he and the Contractor. Such daily report sheets shall thereafter be considered as the true record of Force Account Work done. Computation of actual costs shall include wages paid for workers and any employer payment made to, or on behalf of, workers for health, welfare, pension, vacation plans or similar purposes. Equipment costs shall be on the basis of generally accepted rental schedules for the locality. Material costs shall be supported by supplier's invoices.

When a lump sum proposal for extra work is requested from the Contractor, such quotation request shall be furnished by the Contractor, and a quotation for the work involved delivered to the Director of Public Works within five (5) calendar days. If the Director of Public Works finds said proposal unacceptable, he may then proceed with such extra work by Force Account or such other means as are available under the provisions of the contract.

- C. INTERPRETATION OF SPECIFICATIONS AND DRAWINGS. The specifications and the contract drawings are intended to be explanatory of each other. Any work indicated in the contract drawings and not in the specifications, or vice versa, is to be executed as if indicated in both. Should it appear that the work to be done, or any of the matters relative thereto, are not sufficiently detailed or explained in these contract documents, including the contract drawings, the Contractor shall apply to the Engineer for such further explanations as may be necessary, and shall conform thereto as part of this contract,

so far as may be consistent with the terms of this contract. In the event of any doubt or question arising respecting the true meaning of the specifications, reference shall be made to the City and its decision thereon shall be final.

- D. FIGURED DIMENSIONS. All work shown on the contract drawings, the dimensions of which are not figured, shall be accurately followed to the scale to which the drawings are made, but figured dimensions where given are in all cases to be followed, though they may differ from scaled measurements. Large scale and full size drawings shall be followed in preference to small scale drawings.
- E. ERRORS OR DISCREPANCIES. If the Contractor, in the course of the work, discovers any discrepancies between the drawings and the conditions of the ground, or any errors or omissions in the drawings or in the layout given by stakes, points or instructions, it shall be Contractor's duty to inform the Engineer immediately in writing and the Engineer shall promptly verify the same. Any work done after such discovery until authorized will be done at the Contractor's risk.
- F. DRAWINGS TO BE FURNISHED BY CONTRACTOR. The bidder's attention is directed to the provisions in Section 5-1.23, "Submittals" of the State Specifications for the requirements concerning submittals. As soon as practicable and proper after the execution of this contract, the Contractor shall supply such working drawings or devices to be furnished hereunder as are called for herein or as are required by the Engineer, to make clear the details of construction and of devices and to demonstrate fully that all materials and equipment comply with the intent and provisions of this contract. Unless otherwise herein specified, such drawings shall be submitted to the Engineer for this approval upon Engineer's request. Should any drawings furnished by the Contractor not be approved by the Engineer, the Contractor shall make the revisions required and again submit them to the Engineer for approval. After due approval by the Engineer, these drawings shall become a part of this contract and the work shall be done in conformity therewith. No such work shall begin or devices purchased until the drawings covering it or they have been approved. The approval of the drawings shall not relieve the Contractor of responsibility or waive or modify any of the provisions or requirements of this contract.
- G. ADDITIONAL DRAWINGS BY CITY. The drawings made a part of this contract at the time of its execution are intended to be fairly specific and to indicate the detail of the scope of the work. In addition to these drawings, however, the Engineer shall furnish such additional drawings from time to time during the progress of the work as are necessary to make clear or to define in greater detail the intent of the specifications and contract drawings, and the Contractor shall make the work conform to all such drawings.
- H. CLEANING UP. The Contractor shall not allow the site of the work to become littered with trash and waste material, but shall maintain the same in a neat and orderly condition throughout the construction period in conformance with Section 5-1.31, "Job Site Appearance," of the Standard Specifications and these special provisions. The Engineer shall have the right to determine what is or is not waste material or rubbish and the place and manner of disposal.

On or before the completion of the work the Contractor shall, without charge therefore, tear down and remove all temporary structures built by Contractor, and shall remove rubbish of all kinds from any of the grounds which Contractor has occupied and leave them in a condition acceptable to the Engineer.

Full compensation for conforming to the provisions of "Cleaning Up," of this article shall be considered as included in the various contract items, and no additional allowance will be made therefore.

- I. SALVAGE FOR THE CITY. None

SECTION V. CONTROL OF WORK

The bidder's attention is directed to the provisions in Section 5 of the State Specifications for the requirements and conditions concerning Control of Work and these special provisions.

- A. AUTHORITY OF THE ENGINEER. The bidder's attention is directed to the provisions in Section 5-1.03 Engineer's Authority of the State Specifications. The Engineer shall decide any and all questions which may arise as to the quality and acceptability of the work performed, as to the quality and acceptability of materials furnished, and as to the manner of performance and the rate of progress of the work, and shall decide all questions which may arise as to the interpretation of the Plans and Specifications, and all questions as to the acceptable fulfillment of the contract on the part of the Contractor, and as to compensation. The Engineer's decisions shall be final; the Engineer shall have authority to enforce and make effective such decisions and orders as the Contractor fails to carry out promptly.
- B. COOPERATION OF THE CONTRACTOR. Whenever the Contractor is not present on any part of the work where it may be desired to give directions, orders will be given by the Engineer in writing and shall be received and obeyed by the Contractor's designated representative.

The representative must be present at the job site while work is in progress. The Contractor must submit the representatives contact information (name, telephone number) so the representative can be easily contacted to perform emergency work while work is not in progress.

- C. COOPERATION BETWEEN CONTRACTORS. Where two or more contractors are employed on related or adjacent work, each shall conduct their operation in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor or other entity performing work at or near the job or material site is responsible to the other for damage to work, persons, or property and for costs due to unnecessary delays.
- D. CHARACTER OF WORKERS. If any person employed by the Contractor, or by a subcontractor, shall fail or refuse to carry out the directions of the Engineer, or shall appear to the Engineer to be incompetent, or to act in a disorderly or improper manner, that person shall be discharged immediately upon the recommendation of the Engineer, and shall not again be employed on the work.
- E. PERMITS AND LICENSES. The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices incident to the lawful prosecution of the work.
- F. ACCESS TO WORK. The Engineer and the Engineer's authorized assistants shall at all times have access to the work during its progress. All work done and all materials furnished shall be subject to the inspection of the Engineer.
- G. SUBMITTALS. Attention is directed to Section 5-1.23, "Submittals," of the State Specifications. Within fifteen (15) calendar days after award of the contract, before any materials are purchased, brought to the site or installed, the Contractor shall submit to the Engineer a complete listing of the manufacturers each item of equipment or assembly fabricated off the site which the Contractor proposes to furnish on the project, together with sufficient information including shop assembly and detail drawings, manufacturers' specifications, and performance data to demonstrate clearly that the materials and equipment to be furnished comply with the provisions and intent of the contract specifications, contract drawings and contract documents. If the information shows any deviation from the contract requirements, the Contractor shall, by a statement in writing accompanying the submittal, advise the Engineer of the deviation and state the reason therefore.

Approval by the Engineer of shop drawings and other data submitted by the Contractor shall not relieve the Contractor from responsibility for any errors therein or of furnishing the materials and equipment of proper dimension, size, quantity, quality, and all performance characteristics to meet the requirements and intent of the contract documents. The Contractor shall have no claim for damages or extension of time on account of any delay in the work resulting from the rejection of materials or from revision and resubmittal of drawings and other data for approval. All submittals and shop drawings shall be furnished to the City in quadruplicate.

- H. INSPECTION. The inspection of the work shall not relieve the Contractor of its obligation to fulfill the contract as prescribed, and defective work shall be made good and unsuitable materials may be rejected, notwithstanding that such defective work and materials have been previously overlooked by the Engineer and accepted or estimated for payment.
- I. REMOVAL OF DEFECTIVE OR UNAUTHORIZED WORK. Contractor's attention is directed to the provisions in Section 5-1.30 "Noncompliant and Unauthorized Work," of the Standard Specifications. All work which has been rejected shall be remedied or removed and replaced in an acceptable manner by the Contractor at the Contractor's own expense, and no compensation will be allowed Contractor for such removal or replacement.
- J. LANDSCAPE DAMAGES. Repair slopes or other existing facilities that were damaged after starting job site activities and before starting plant establishment.

As ordered, replace plants that have been damaged from either or both of the following conditions:

1. Ambient air temperature falling below 32 degrees F during the plant establishment period
2. Department or its supplier restricting or stopping water delivery during the plant establishment period

This plant replacement work is change order work.

- K. EQUIPMENT. The use of equipment which is obsolete as to type, in bad condition or worn out will not be permitted on the work. The Contractor shall provide adequate and suitable equipment and plans to meet the requirements of the work, and when ordered by the Engineer shall remove unsuitable equipment from the work.
- L. FINAL INSPECTION. When the work performed by the Contractor shall have been satisfactory and the final cleaning up performed, the Engineer will make the final inspection.

SECTION VI. CONTROL OF MATERIALS

The Bidder's attention is directed to the provisions in Section 6 of the State Specifications for the requirements and conditions concerning Control of Materials and these special provisions.

- A. DEFECTIVE MATERIALS. All materials not conforming to the requirements of these specifications shall be considered as defective, and all such materials -- whether in place or not -- shall be rejected and shall be removed immediately from the site of the work.
- B. REMOVAL OF CONDEMNED MATERIALS AND STRUCTURES. The Contractor shall remove from the site of the work, without delay, all rejected and condemned materials or structures of any kind brought to or incorporated in the work; upon failure to do so or to make satisfactory progress in so doing within forty-eight (48) hours after the service of a written notice by the Engineer, the condemned materials or work may be removed by the City and the cost of such removal shall be taken out of the contract price. No such rejected or condemned material shall again be offered for use by the Contractor under this contract.
- C. TRADE NAMES, ALTERNATIVES, OR EQUALS. Attention is directed to Section 6-3.02, "Specific Brand or Trade Name and Substitution," of the State Specifications.
- D. STORAGE OF MATERIALS. Unless specifically authorized by the Engineer, no materials shall be stored overnight upon any public road or right of way within the City.

SECTION VII. LEGAL RELATIONS AND RESPONSIBILITY

The Bidder's attention is directed to the provisions in Section 7 of the State Specifications for the requirements and conditions concerning Legal Relations and Responsibility to the Public and these special provisions.

- A. LEGAL RESTRICTIONS. The Contractor shall stay fully informed of all existing and future state and national laws and municipal ordinances and regulations which in any manner affect those engaged or employed on the work, or which in any manner affect the conduct of the work. The Contractor shall at all times observe and comply with all such existing and future laws, ordinances and regulations.
- B. PATENTS. The Contractor shall assume all costs arising from the use of patented materials, equipment, devices or processes used on or incorporated in the work.
- C. SANITARY PROVISIONS. The Contractor shall comply with all of the sanitary regulations prescribed by the California Department of Health Services.
- D. PUBLIC CONVENIENCE AND SAFETY. Contractor's attention is directed to the provisions in Section 7-1.03, "Public Convenience" and Section. 7-1.04, "Public Safety" of the Standard Specifications. The Contractor shall so conduct its operations as to offer the least possible obstruction and inconvenience to the public. It shall be the responsibility of the Contractor to protect and guard the public from injury or damage due to any cause.
- E. RESPONSIBILITY FOR WORK. Accepting as herein otherwise provided, until the formal acceptance of all work by the City, the Contractor shall have the charge and care thereof, and shall take every necessary precaution against injury or damage to any part thereof from any cause whatever. The Contractor shall rebuild, repair, restore and make good all injuries or damages to any portion of the work occasioned by any cause before its acceptance, and shall bear the expense thereof.
- F. HOURS OF LABOR. The Contractor shall forfeit as penalty to the City, Fifty Dollars (\$50.00) for each laborer, worker, or mechanic employed in the execution of the contract by the Contractor, or by any subcontractor, upon any of the work hereinafter mentioned, for each working day during which said laborer, worker or mechanic is required or permitted to labor more than eight hours per day or forty hours per week in violation of the provisions of Labor Code §1815.
- G. PREVAILING WAGE. The Contractor shall, as a penalty to the City, forfeit Fifty Dollars (\$50.00) for each working day or portion thereof for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any public work done under the contract by the Contractor or any of Contractor's subcontractors. The difference between such stipulated prevailing wage rates and the amount paid to each worker for each working day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor. The provisions of Labor Code §1773, §1773.2, §1773.4 and §1775 of the will be complied with.

Pursuant to the State of California, or local law thereto applicable, the City Council hereby determines that the general prevailing per diem rate in the locality in which the work is to be performed, for laborers and for each craft or type of worker and mechanic employed in the execution of this contract, is the Union Wage Scale established for Santa Cruz County, which wage scale as of the execution date of this contract is incorporated herein as if fully set forth.

Copies of the prevailing rate of per diem wages prepared and available by the California State Department of Industrial Relations.

- H. COMPLIANCE WITH DIVISION OF APPRENTICESHIP STANDARDS. The Contractor to whom the contract is awarded shall, in compliance with the California Labor Code § 1777.5 , be required to adhere to the provisions of the ratio of apprentices to journeymen as more particularly defined in the aforementioned Labor Code section. Notice is given that the City of Capitola will, within five (5) days of awarding of contract, notify the Division of Apprenticeship Standards of such awarding and will notify said Division of any findings of any discrepancies regarding the ratio of apprentices to journeymen.
- I. CERTIFIED PAYROLL RECORDS. The Contractor and each subcontractor shall keep or cause to be kept an accurate record showing the names and occupations of all laborers, workers and mechanics employed by the Contractor in connection with the execution of this contract or any subcontracts thereunder and also showing the actual per diem wages paid to each of such workers, which record shall be open at all reasonable hours to the inspection of the City awarding this contract, its officers and agents, and to the Chief of the Division of Labor Statistics and Law Enforcement and the State Department of Industrial Relations, its deputies and agents.

All contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement).

- J. POSTING MINIMUM WAGE RATES/ JOB SITE POSTINGS. The Contractor shall post at conspicuous points on the site of the project a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned. The contractor shall post job site notices prescribed by regulation (See 8 Calif. Code Reg §16451 (d) for the notice that previously was required for project monitored by the CMU).
- K. PAYMENT OF EMPLOYEES. The Contractor and each subcontractor shall pay each employee engaged in work on the project under this contract in full (less deductions made mandatory by law) and not less often than once a week.
- L. REGISTRATION OF CONTRACTORS. At the time of award of the contract, the Contractor shall be licensed in accordance with the provisions of Chapter 9 of Division III of the Business and Professions Code.
- M. RESPONSIBILITY FOR DAMAGE. The City of Capitola, the City Council, or the Engineer shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof; or for any of the materials or other things used or employed in performing the work; or for injury to any person or persons, either workers or the public; for damage to property from any cause which might have been prevented by the Contractor, Contractor's workers, or anyone employed by the Contractor; against all of which injuries or damages to persons and property the Contractor having control over such work must properly guard. The Contractor shall be responsible for any liability imposed by law for any damage to any person or property resulting from defects or obstructions or from any cause whatsoever during the progress of the work or at any time before its completion and final acceptance, and shall indemnify and save harmless the City of Capitola, the City Council, and the Engineer from all suits or actions of every name and description brought forth or on account of any injuries or damages received or sustained by any person or persons by or from the Contractor, Contractor's servants or agents, in the construction of the work or by or in consequence of any negligence in guarding against such injuries or damages or on the account of any act or omission of the Contractor or Contractor's agents, and in addition to any remedy authorized by law so much as shall be considered necessary by the City Council may be retained by the City of Capitola until disposition has been made of such suits or claims for damages as aforesaid.

The Contractor shall be responsible for any liability imposed by law or for any damage to any person or property and shall indemnify and hold harmless the City of Capitola, its officers and employees, all in the same manner and to the same extent as provided above for the protection of the City, the City Council and the Engineer, except that no retention of money due the Contractor under and by virtue of the contract will be paid by the City of Capitola, pending disposition of suits or claims for damages brought against the City.

- N. TERMINATION OF CONTRACT. If the work provided for under this contract shall be abandoned, or if the contract shall be sublet or assigned without the consent of the City, or if at any time the Engineer shall be of the opinion that the conditions specified as to the rate of progress are not being fulfilled, or that the work or any part thereof is unnecessarily delayed, or that the Contractor is willfully violating any of the conditions or provisions of this contract or is executing the same in bad faith, the City shall notify the Contractor to fulfill the conditions of this contract. Should the Contractor fail to begin compliance with said notice within five (5) calendar days, the City may, at its discretion, notify the Contractor to discontinue all work under this contract or any part thereof, and thereupon the Contractor shall discontinue work, and the City may, by contract or otherwise, at its discretion, complete the work or such part thereof, and may take possession of the work and use therein such materials, machinery, implements and tools of every description as shall be found upon the work, or provide whatever is needed for the completion of the work and charge the expense thereof to the Contractor. In order to meet the expenses so incurred, the City is hereby authorized by the Contractor to draw a warrant in the name of the Contractor and in favor of these persons, firms or corporations doing the work or providing the materials or labor therefore, against the fund or appropriation set aside for the purpose of this contract. When a warrant is so drawn it shall be conclusive upon the Contractor and shall be to all intent and purposes the same as drawn by the Contractor in person. When any of the said demands have been audited and paid, the amount of the same shall be deducted from the fund or appropriation set-aside for the purposes of this contract being so terminated. The Contractor shall immediately, upon due notice from the Engineer to do so, remove from the premises all materials and personal property belonging to the Contractor which have not already been used in the construction of the work or which are not in place in the work, and the Contractor shall forfeit all rights under this contract, and both the Contractor and Contractor's sureties shall be liable for the bond for all damages caused the City by reason of Contractor's failure to complete this contract.

Neither the extension of time for any reason beyond the date fixed for the completion of this work, nor the doing and acceptance of any part of the work called for by the terms of this contract, subsequent to the said date, shall be deemed to be a waiver by the City of the right to abrogate, annul, or terminate this contract for abandonment or other cause as provided above.

During the performance of this contract, the Contractor, its assignees and successors in interest (hereinafter referred to as "Contractor") agree as follows:

1. COMPLIANCE WITH REGULATIONS. The Contractor will comply with the Regulations of the Department of Transportation relative to nondiscrimination in federally-assisted programs of the Department of Transportation (Title 15, Code of Federal Regulations, Part 8, hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
2. NONDISCRIMINATION. The Contractor, with regard to the work performed by it after award and prior to completion of the contract work, will not discriminate on the grounds of race, color, sex, or national origin, ancestry, physical handicap, medical condition, marital status, or religion in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor will not participate either directly or indirectly in the discrimination prohibited by Section 1735 of the Labor Code.

3. SOLICITATIONS FOR SUBCONTRACTS, INCLUDING PROCUREMENT OF MATERIALS AND EQUIPMENT. In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurement of materials or equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, sex, ancestry, physical handicap, medical condition, marital status, or religion.
4. INFORMATION AND REPORTS. The Contractor will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the City to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of the Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the City, and shall set forth what efforts it has made to obtain the information.
5. SANCTIONS FOR NONCOMPLIANCE. In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, the City shall impose such contract sanctions as it may determine to be appropriate, including but not limited to:
 - a. Withholding of payments to the Contractor under the contract until the Contractor complies, and/or
 - b. Cancellation, termination or suspension of the contract, in whole or in part.
6. INCORPORATION OF PROVISIONS. The Contractor will include the provisions of Paragraphs 1 through 5 in every subcontract, including procurement of materials and leases of equipment, unless exempt by the regulations, order or instructions issued pursuant thereto. The Contractor will take such action with respect to any subcontract or procurement as the City may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in or is threatened with litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the City to enter into such litigation to protect the interests of the City.
- O. WATER POLLUTION. Attention is directed to Section 13, "Water Pollution Control," of the Standard Specifications and Section 26, "Temporary Water Pollution and Erosion Control" elsewhere in the special provisions.
- P. CONSTRUCTION HOURS. Construction hours shall be limited between the hours of 8:00 a.m. and 5:00 p.m. on weekdays. Construction shall be prohibited on weekends except for emergency work approved by the Engineer.

SECTION VIII. PROSECUTION, PROGRESS AND PAYMENT

Attention is directed to Sections 8 and 9 of the State Specifications for the requirements and conditions concerning Prosecution and Progress, Payment and these special provisions.

- A. COMPLETION AND PAYMENT. All work completed under the contract shall be paid for in accordance with the provisions of these Special Provisions. The Contractor shall accept the compensation as provided in the contract in full payment for furnishing all materials, labor, tools and equipment, including all applicable taxes and fees, necessary to complete the work and for performing all work completed and embraced under the contract.
- B. PROGRESS ESTIMATE AND PAYMENT. The Engineer shall, on or around the twentieth (20th) day of each month, make an estimate of the value of the work performed and materials furnished in accordance with this contract. The first estimate shall be of the value of the work done and of the materials proposed and suitable for permanent incorporation in the work delivered and suitably and safely stored at the site of the work since the Contractor began the performance of this Contract.

Every subsequent estimate, except the final estimate, shall be of the value of the work done and materials delivered and suitably stored at the site of the work since the last preceding estimate was made; provided, however, that should the Contractor fail to adhere to the program of completion fixed in this contract, the Engineer shall deduct from the next and all subsequent estimates the full calculated accruing amount of the liquidated damages to the date of said estimate, until such time as the compliance with the program has been restored; and provided, further, that no estimate shall be required to be made when in the judgment of the Engineer the total value of the work done and materials incorporated into the work under this contract since the last preceding estimate amounts to less than One Thousand Dollars (\$1,000.00); and provided, also, that materials so delivered and estimated shall not be removed from the site of the work prior to its completion without the written consent of the Engineer.

The estimates shall be signed by the Engineer, and after approval by the City; the City shall pay or cause to be paid to the Contractor, in the manner provided by law, an amount equal to ninety-five per cent (95%) of the estimated value of the work performed and of the value of the materials furnished and delivered and unused, such materials to be those which are proposed and suitable for permanent incorporation in the work.

Items for which quantities are indicated lump sum shall be paid for at the unit price indicated in the bid proposal. Such payment shall be full compensation for the items of work and all work appurtenant thereto.

When required by the specifications or requested by the Engineer, the Contractor shall submit to the Engineer within ten (10) calendar days after award of contract, a detailed schedule in triplicate, to be used only as a basis for determining progress payments on a lump sum contract or designated lump sum bid item. This schedule shall equal the lump sum bid and shall be in such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the lump sum.

- C. SUBSTITUTION OF SECURITIES FOR WITHHELD AMOUNTS. Pursuant to Chapter 13 (commencing with Section 4590), Division 5, Title 1 of the Government Code of the State of California, securities may be substituted for any moneys withheld by public agency to ensure performance under a contract. At the request and expense of the Contractor, securities equivalent to the amount withheld shall be deposited with the public agency, or with a state or federally chartered bank as the escrow agent, who shall pay such moneys to the Contractor upon satisfactory completion of the contract.

Securities eligible for substitution under this section shall include those listed in Section 16430 of the Government Code of the State of California or bank or savings and loan certificate of deposit. The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon. Any escrow agreement entered into pursuant to this section shall contain as a minimum the following provisions: (a) The amount of securities to be deposited; (b) The terms and conditions of conversion to cash in case of the default of the Contractor; and (c) The termination of the escrow upon completion of the contract.

- D. FINAL ACCEPTANCE. The Engineer shall, as soon as practical after the final acceptance of the work done under this contract, make a final estimate of the amount of work done there under and the value thereof. Such final estimate shall be signed by the Engineer, and after approval the City shall pay or cause to be paid to the Contractor in the manner provided by law, the entire sum so found to be due hereunder, after deducting therefrom all previous payments and such other lawful amounts as the terms of this contract prescribe.

In no case will final payment be made in less than thirty-five (35) calendar days after the filing of a "Notice of Completion" in the County Recorder's Office, Santa Cruz County, California.

SECTION IX. INSURANCE

- A. PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE. The Contractor shall take out and maintain during the life of this contract such public liability and property damage insurance, by an insurer acceptable to the City, that shall protect Contractor and any subcontractor performing work covered by this contract from any claims for property damage which may arise because of the nature of the work or from operations under this contract, whether such operations are performed by the Contractor or by any subcontractor or anyone directly or indirectly employed by either of them, even though such damages may not be caused by the negligence of the Contractor or any subcontractor, or anyone employed by either of them. The public liability and property damage insurance shall name the City, its officers, agents and employees as insured's, and all insurance policies issued hereunder shall so state. The amounts of such insurance shall be as follows:
1. CONTRACTORS LIABILITY INSURANCE. Shall provide bodily injury liability limits of not less than \$1,000,000 for each person, and \$2,000,000 for each accident or occurrence, and property damage liability limits of not less than \$1,000,000 for each accident or occurrence with an aggregate limit of \$2,000,000 for claims which may arise from the operations of the Contractor in the performance of the work hereunder provided. This insurance must include coverage for contractual liability assumed by the Contractor under Paragraph F, Section VII, Responsibility for Work.
 2. AUTOMOBILE LIABILITY INSURANCE. Covering all vehicles used in the performance of the contract providing bodily injury liability limits of not less than \$500,000 for each person and \$1,000,000 for each accident or occurrence, and property damage liability limits of not less than \$500,000 for each accident or occurrence which may arise from the operations of the Contractor in performing the work provided for herein.

Before the execution of the contract, the successful bidder shall file with the City a certificate or certificates of insurance, covering the specified insurance. Each such certificate shall bear an endorsement precluding the cancellation or reduction in coverage of any policy evidenced by such certificate, before the expiration of thirty (30) calendar days after the City shall have received notifications by registered mail from the insurance carrier.

All policies shall name the City of Capitola as an insured under all terms of the policy.

- B. WORKER'S COMPENSATION INSURANCE. Before beginning the work, the Contractor shall furnish to the City satisfactory proof that Contractor has taken out for the period covered by the work under this contract, full compensation insurance for all persons employed directly by Contractor or through subcontractors in carrying out the work contemplated under this contract, in accordance with the "Worker's Compensation and Insurance Act," Division IV of the Labor Code of the State of California and any acts amendatory thereof. Such insurance shall be maintained in full force and effect during the period covered by this contract.

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GENERAL

The work to be done under this contract, except as modified or supplemented herein, shall conform to the following:

- The City of Capitola Standard Plans and Construction Standards.
- The State of California Department of Transportation (Caltrans) Standard Specifications, latest edition, and as periodically updated in the form of "Revised Standard Specifications," herein referred to as the "State Standard Specifications".
- The State of California Department of Transportation (Caltrans) Standard Plans, latest edition, herein referred to as the "State Standard Plans".
- The California Manual on Uniform Traffic Control Devices (California MUTCD), latest edition, herein referred to as the "CA MUTCD"

These Technical Specifications are additions, modifications, or clarifications to the State Standard Specifications.

Refer to Standard Specifications of the City of Capitola, Public Works Department, Plans and Specifications for the order of precedence of contract documents.

SECTION 10.1
PUBLIC POSTING & NOTIFICATION
(Bid Item No. 4)

PART 1 - GENERAL

1.1 DESCRIPTION

Work Includes

1. Advance notice door hangers shall be distributed to residents and businesses on all streets where work within this Contract is included.
2. **"NO PARKING TOW AWAY"** signs shall be posted on the street or parking lot in which the work is to be performed in accordance to the directions in this Section.

PART 2 - PRODUCTS

2.1 ADVANCE NOTICE DOOR HANGERS OR NOTICES

Advance notice door hangers or notices shall be provided by the Contractor after approval of the City.

2.2 NO PARKING SIGNS

"NO PARKING TOW AWAY" signs shall be provided by the Contractor.

PART 3 - EXECUTION

3.1 DISTRIBUTION

- A. Advance notice door hangers or notices will be hand delivered by the Contractor to businesses, residents, or others that will be impacted by the work, 14 days in advance of construction and/or street closure.
- B. Dated **"NO PARKING TOW AWAY"** signs shall be posted a minimum of 72- hours in advance of all work which requires that cars not be parked on the street. Date and time of work shall be written on these signs in 2" high letters with a 1/4" felt marker. These signs shall be placed on barricades per these specifications or located near the curb and gutter. All signs must be removed immediately after the specific work has been completed. Any cars which remain parked on the street in violation of the posted **"NO PARKING TOW AWAY"** sign shall be towed away under the direction of the Sheriff's Office.
- C. The Contractor shall call the Sheriff's Office Communications Dispatch Center prior to the start of work each day, to report all street closures for that day. For street closure notifications, also see 10.2 "Traffic Control" Section 3.5.
- D. Sign Posting
 1. No Parking Signs
 - a. All signs indicating a **"NO PARKING TOW AWAY"** zone shall be posted a minimum of 72-hours in advance.
 - b. Signs shall be properly filled out including dated time of posting, and initialed by the Contractor.

- c. Signs shall be posted on both sides of the barricade.
 - d. Signs shall be placed on both ends of the **"NO PARKING"** zone.
 - e. All signs indicating a **"NO PARKING"** zone, shall be removed the same day that the work requiring **"NO PARKING"** zone is completed.
 - f. The **"NO PARKING TOW AWAY"** signs (see above) shall be provided by the Contractor and shall be ordered immediately after the Notice to Proceed is issued.
 - g. The Inspector and the Capitola City's Public Works Department and Sheriff's Office shall be notified of the **"NO PARKING TOW AWAY"** zone, before the 72-hour period, for their approval.
2. Use of Barricades
- a. Shall be Type III barricades, with properly working and maintained flashing lights.
 - b. Shall be placed at intervals of no greater than 50feet.
 - c. Shall be placed in the street or in the parkway as close to the street as possible where it is easily visible.
 - d. Shall be removed from the street the same day the work is completed.
3. Certification of Posting
- a. After the **"NO PARKING"** zone is established, the Contractor shall provide the Engineer with a signed certificate stating when the signs were posted, what time periods the zone covers, and a sketch showing the location.
 - b. The Contractor shall also provide photographs of the posting to verify the condition of the "NO PARKING" at the time of posting.

PART 4 - MEASUREMENT AND PAYMENT

- A. Payment for Public Posting and Notification including all incidentals shall be made on a lump sum basis at the contract unit price. Payment shall include full compensation for all labor, materials, equipment and incidentals for doing all work specified in the Bid Item for Public Posting and Notification.

NOTE: IF POSTING PROCEDURES ARE NOT PROPERLY FOLLOWED, THE CONTRACTOR SHALL RESCHEDULE THE WORK FOR THAT SITE AND ABSORB ANY INCURRED COSTS.

* * *

SECTION 10.2
TRAFFIC CONTROL
(Bid Item No. 3)

PART 1 - GENERAL

1.1 OBJECTIVES

- A. The Contractor shall provide for safe movement of vehicular, bicycle and pedestrian traffic, including persons with disabilities in accordance with the American's with Disabilities Act of 1990 (ADA), through and around construction operations. Traffic control requirements set forth herein are the minimum requirements imposed. The Contractor shall be solely responsible for providing all protective measures necessary.
- B. Proper traffic movement through the work area depends upon the driver controlling and directing his/her vehicle properly under unexpected situations and pedestrian attention to signs. The means of clarifying such conditions to the public include signs, flaggers, pavement markings, barricades, lights, cones and delineators.
- C. No one standard sequence of signs or control devices will suit all conditions, which may result from construction operations. Even for the same work the conditions may vary from hour to hour, requiring adjustment and revision of the traffic control program in effect.
- D. The traffic control requirements specified herein are intended to establish general principles to be observed in the control and regulation of traffic through and around construction operations anticipated for the Project. All pedestrian and vehicular detours are subject to review by the sheriff or enforcement officer of the agencies having jurisdiction, and the Contractor shall revise the detours as ordered at no additional cost.
- E. Clean up site each day after completing work and remove all traffic hazards. Daily traffic control measures shall continue until cleanup activities have been satisfactorily completed and all of the Contractor's equipment has been removed from the traveled way area.

1.2 DESCRIPTION OF WORK

- A. Work Included:
 - 1. At all times, the Contractor shall provide safe and adequate passage for vehicular, bicycle, and pedestrian traffic through, around and adjacent to all construction operations by use of detours, bridging, backfilling, paving, traffic barriers or other favorably reviewed means.
 - 2. The Contractor shall establish and maintain detours and conduct his construction operations in such a manner as to minimize hazard, inconvenience and disruption to the public.
 - 3. Traffic control shall be directed equally to the regulation and protection of pedestrian traffic including pedestrians, bicyclists, joggers, skaters, skateboarders, etc.
 - 4. The Contractor shall provide for protection of pedestrians and separation of pedestrians from construction operations at all times.
 - 5. The Contractor shall direct, divert and detour traffic through, around and adjacent to construction operations in accordance with the traffic control plans as specified

herein or in accordance with favorably reviewed Traffic Control Plans. The Contractor may revise the Traffic Control Plan as necessary only with the favorable review of the Engineer.

1.3 REFERENCES

- A. 2015 State Standard Plans and Specifications, Revised Standard Specifications dated September 2, 2016.
- B. 2014 California Manual on Uniform Traffic Controls (CA MUTCD), California Department of Transportation, Revision 3.

1.4 SUBMITTALS

- A. Traffic Control Plans:
 - 1. The Contractor shall submit to the City Engineer project specific traffic control plans a minimum of 10 working days prior to implementing traffic control measures for road construction. Following City review any traffic control plans requiring revisions shall be submitted to the City within five (5) working days prior to implementing traffic control measures for road construction.
 - 2. Submit Traffic Control Plans to clearly describe proposed traffic control measures. The Traffic Control Plans shall be in accordance with the Standard Plans and Specifications and the CA MUTCD. Traffic Control Plans shall be prepared by a Professional Traffic Operations Engineer (PTOE) or Traffic Control Supervisor (TCS), unless otherwise approved by the City Engineer.
 - 3. The Traffic Control Plan shall provide a detailed approach for detours and to control traffic through the construction zone, shall conform to Caltrans and City standards, and will be approved by the City Engineer before construction begins.
 - 4. The submittals shall consist of scaled drawings for each situation anticipated to be encountered, i.e., intersections, mid-block (each during working and non-working hours), etc. and necessary details.
 - 5. The scaled drawings shall show signs, traffic control devices, and flaggers as required.

PART 2 - PRODUCTS

2.1 CONSTRUCTION SIGNS

- A. Construction signs shall conform to the standards of the State Standard Plans and Specifications and the CA MUTCD.
- B. Temporary warning signs in construction areas shall have a black legend and border on an orange background. Color for other signs shall follow the standard for all highway signs.
- C. All signs used during hours of darkness shall be retroreflective.

2.2 OTHER TRAFFIC CONTROL DEVICES

- A. General: Traffic control devices shall conform to the standards of the Standard Plans and Specifications, and the CA MUTCD.
- B. Cones or Delineators:

1. Cones or delineators shall consist of cylindrical or cone shaped plastic devices, which shall be 18 inches to 48 inches in height.
 2. Cones or delineators shall have a flexible base of suitable weight, which will ensure stability.
 3. Cones or delineators used during hours of darkness shall be affixed with retroreflective sleeves or be internally illuminated meeting the requirements of the CA MUTCD.
- C. Barricades:
1. Barricades shall be Type I, Type II or Type III barricades as set forth in the Standard Plans and Specifications, and the CA MUTCD.
 2. Barricades used during hours of darkness shall be equipped with flashers.

PART 3 - EXECUTION

3.1 DIVERTING PEDESTRIAN TRAFFIC

- A. Whenever construction operations obstruct the flow of pedestrian traffic or present a hazard to pedestrians, the Contractor shall take appropriate action to protect and separate pedestrians from the work area and to direct pedestrians to alternate routes.
- B. The Contractor, at the end of each day, shall provide pedestrian and vehicle crossings at all street intersections. If the Project is left open overnight, it shall be graded in such a way that pedestrians and vehicles can safely pass through the Project. Temporary concrete, asphalt, or wood ramps shall be installed and maintained at all locations where existing ramps have been temporarily removed.
- C. Such action may include placement of barricades between pedestrians and work areas, placement of warning signs, and provision of personnel as required to protect pedestrians as conditions warrant.

3.2 DIVERTING VEHICULAR TRAFFIC

- A. Whenever construction operations obstruct the flow of vehicular traffic or present a hazard to vehicles operating in the vicinity of construction operations, the Contractor shall take appropriate action to warn, detour and otherwise protect approaching drivers and vehicles.
- B. In general, the seal work shall be done in sections so that traffic disruption is minimized. Sealing in one section shall be completed before starting another section. It is expected that some locations will be closed to traffic during actual work operations.
- C. Complete closure of streets to through traffic will not be allowed on collectors and arterials.
- D. Full closure on low volume residential roadways and parking lots from 9AM to 5PM is permissible, however, no night time closure is allowed.
- E. All the necessary detour route signing shall be in place along with "Road Closure/Work Ahead" signs.

3.3 TRAFFIC CONTROL DEVICES

- A. General:
 1. Provide traffic control devices in sufficient quantities and types as required

providing safe and adequate traffic control.

2. During hours of darkness approved lights shall be included, in proper working order, to illuminate signs and hazards and alert approaching traffic.
3. Provide and maintain barricades along all open trenches in contact with traffic.
4. No work may begin on any day or at any time before traffic control devices have been placed, test driven and, if required, adjusted and revised.
5. Portable changeable message signs shall be installed as directed by the Engineer two (2) weeks prior to start of construction or as directed by the Engineer.

B. Placement:

1. Place all traffic control devices in accordance with the Standard Plans and Specifications, the CA MUTCD and approved Traffic Control Plan.
2. Adjust locations of devices to suit the conditions and circumstances of each detour situation. In all cases, place signs to most effectively convey their messages to approaching traffic.
3. The Contractor shall adjust and revise all traffic control devices if determined to be required by the City Engineer or Sheriff's Office.
4. The Contractor shall provide additional traffic control devices if required to maintain the safe flow of traffic through construction operation.

C. Maintenance of Devices:

1. The Contractor shall maintain all traffic control devices, at proper locations and in proper working order, at all times during construction operations and whenever a hazard resulting from Contractor's operations exists.
2. The Contractor shall adjust and revise traffic control devices, placement, etc., to suit changing conditions around construction operations.
3. Portable changeable message signs shall be maintained to the satisfaction of the Inspector.

D. Removal of Devices:

1. Traffic control devices shall remain in place at all times required to alert approaching traffic of upcoming hazards.
2. After hazard has been removed, remove all traffic control devices. Remove signs or completely cover their messages.

3.4 FLAGGERS

A. General: The Contractor shall employ flaggers:

1. As required for each specific detour.
2. At all locations on a construction site where barricades and warning signs cannot control the moving traffic.

B. Placement: Where flaggers are required, they shall be logically placed in relation to the equipment or operation so as to give adequate warning and shall be placed in accordance with the Standard Plans and Specifications, the CA MUTCD, and the approved Traffic Control Plan.

C. Warning Signs:

1. Place warning signs ahead of the flagger in accordance with the Standard Plans and Specifications, the CA MUTCD, and the approved Traffic Control Plan. The distance between signs and the flagger shall be based on the posted traffic approach speed.
 2. During hours of darkness, illuminate flagger stations such that the flagger will be clearly visible to approaching traffic. Lights for illuminating the flagger station shall comply with the Standard Plans and Specifications, the CA MUTCD, and the approved Traffic Control Plan.
- D. Equipment:
1. Provide flaggers with high-visibility safety apparel in accordance with the Standard Plans and Specifications, and the CA MUTCD at all times. Provide flaggers with hand signs in accordance with the Standard Plans and Specifications, and the CA MUTCD.
 2. Provide flaggers with two-way radios for communication when necessary. Red flags shall only be used for traffic control in emergency situations.

3.5 NOTICE TO AGENCIES

- A. The Contractor shall notify in writing all agencies having jurisdiction at least forty-eight (48) hours, excluding holidays and weekends, prior to instituting any lane closure or detour. At the end of each day's work, the Contractor shall inform the ambulance services, sheriff's office and fire departments of the status of all detours and/or lane or road closures that will be in effect after the next day.
- B. List of Agencies:
1. City of Capitola
 2. Fire District
 3. Sheriff's Office
 4. U.S. Postal Service
 5. School District Transportation Office, as appropriate
 6. Santa Cruz METRO for bus services
 7. Ambulance Companies

3.6 EMERGENCY VEHICLE ACCESS THROUGH DETOURS

- A. During construction in or adjacent to roadways in the Project site, Contractor shall maintain at least one lane open in each direction of the road to allow emergency vehicle access for sheriff, fire and ambulance to the Project vicinity.
- B. During all detours and/or street closures the Contractor shall provide for movement of emergency vehicles through the work area.
- C. When temporary traffic control is provided by flaggers they shall be instructed to give immediate passage to emergency vehicles with active lights or sirens.
- D. It is essential that the Contractor's work and equipment do not impede egress from any fire station or sheriff's office to other areas of their service area.

3.7 ACCESS TO PRIVATE PROPERTY

- A. General: The Contractor shall schedule operations to minimize disruption of access to private property.
- B. Notice to Residents: Prior to blocking access to any private driveway or parking lot entrance, the Contractor shall notify the resident or business owner or tenant of pending closure and allow resident to remove vehicles.
- C. Nights: During non-working hours no driveway, house or parking lot shall be denied access to a public roadway.

3.8 DETOURS DURING NON-WORKING HOURS

- A. General: The Contractor shall not be permitted to maintain any lane closure or road closure during non-working hours without first obtaining written approval of the Engineer.
- B. Restoration of Pavement:
 - 1. During non-working hours the Contractor shall restore travel lanes to their original alignment and configuration by means of backfilling and temporary pavement or bridging in accordance with City Standards and approved by the City Engineer.
 - 2. The Contractor shall place signs conforming to the Standard Plans and Specifications, and the CA MUTCD at uneven temporary pavement or bridging.

3.9 PARKING RESTRICTIONS

- A. General: The Contractor shall post approved **"NO PARKING – CONSTRUCTION TOW- AWAY ZONE"** signs at all locations necessary to establish work areas and detour traffic.
- B. Signs:
 - 1. Signs shall read: **"NO PARKING - CONSTRUCTION TOW-AWAY ZONE"**.
 - 2. Signs shall be placed at least 72 hours in advance of restriction.

3.10 BRIDGING OVER TRENCHES AND EXCAVATIONS

- A. General: Bridging shall be placed across all trenches and excavations in existing streets and at driveways when work is not in progress. Bridging shall be in accordance with the Standard Plans and Specifications and the CA MUTCD and approved by the City Inspector.
- B. Design of Bridging:
 - 1. Bridging for vehicular traffic shall be of sufficient width to accommodate the required number of travel lanes.
 - 2. Bridging shall be designed to support H-20 vehicular traffic.
 - 3. All bridging shall be set flush with travel surface or a satisfactory transition from travel surface to top of bridging shall be provided.
 - a. A satisfactory transition shall mean a change in elevation between the levels of not less than twelve (12) inches horizontal to one (1) inch vertical.
 - b. Transition may be accomplished by means of temporary pavement.

3.11 TEMPORARY TRAFFIC LANES

- A. Temporary traffic lanes shall be at least 10 feet wide. Provide an additional 2 feet of clearance from curbs. The length of temporary lanes should be limited to the area under construction and the distance necessary to divert traffic in accordance with the Standard Plans and Specifications, the CA MUTCD, and the approved Traffic Control Plan.

3.12 STAGING AREAS

- A. The Contractor shall provide his own staging areas.

PART 4 - MEASUREMENT AND PAYMENT

- A. Attention is directed to all bidders that this bid item for traffic control shall only include the necessary cost to provide traffic control per these specifications.
- B. Bidders shall not include miscellaneous project costs and “front load” all associated cost to this bid item.
- C. Payment for Traffic Control, including flagging costs, detour signs, construction work zone signs, barricades, traffic cones, required road closure personnel, street closure monitoring and all incidentals shall be made on a lump sum basis at the contract unit price.
- D. Payment shall include full compensation for all labor, materials, equipment and incidentals for doing all work as specified in the Bid Item for Traffic Control.

* * *

SECTION 10.3
TEMPORARY STORMWATER POLLUTION CONTROL
(No Bid Item)

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Prohibit illicit discharge (non-rainwater) into the storm drain system.
- B. Construct any and all necessary systems to eliminate contaminants from entering the storm water system.
- C. Clean up and control of work site materials, spoils and debris.
- D. Removal of contaminants produced by the Project.
- E. The work shall include the provision of all labor, materials, equipment and apparatus not specifically mentioned herein or noted on the Project Plans, but which are incidental and necessary to complete the work specified.

1.2 APPLICABLE PUBLICATIONS

- A. Municipal Regional Stormwater Permit, Order No. R2-2015-0049, adopted November 18, 2015.
- B. California Storm Water Best Management Practice Handbooks:
 - 1. Municipal
 - 2. Construction Activity
- C. C.3 Stormwater Technical Guidance Ver. 5.0, June 2016.

1.3 QUALITY ASSURANCE

- A. All work performed under this contract and all Contractors and their associates and/or employees are required to comply with all applicable storm water regulations and to implement Best Management Practices (BMP's) at all times.
- B. A plan shall be submitted for the proposed control of contaminants entering the storm water system. The plan must be approved by the Engineer prior to the commencement of work.
- C. All employees and sub-contractors shall be trained on the storm water pollution prevention requirements contained in these specifications.
- D. A supply of spill clean-up materials such as rags or absorbents shall be kept readily accessible on-site.

PART 2 - PRODUCTS

NONE

PART 3 - EXECUTION

3.1 RECYCLING

- A. At the end of each working day, all scrap, debris and waste material shall be collected and materials disposed of properly.

- B. Dry, empty paint cans/buckets, old brushes, rollers, rags and drop cloths shall be disposed of in approved waste collection.
- C. Dumpsters shall be inspected for leaks. As leaks are detected, the trash hauling Contractor shall be contacted to replace or repair dumpsters that leak.
- D. Water from cleaning dumpsters shall not be discharged on-site.
- E. Regular waste collection shall be arranged for before dumpsters overflow.

3.2 HAZARDOUS MATERIAL/WASTE MANAGEMENT/MATERIALS MANAGEMENT

- A. Designated areas of the Project site shall be proposed by the Contractor for approval by the Engineer suitable for material delivery, storage and waste collection as far from catch basins, gutters, drainage courses and creeks as possible.
- B. All hazardous materials such as pesticides, paints, thinners, solvents and fuels; and all hazardous wastes such as waste oil and antifreeze shall be labeled and stored in accordance with State and Federal regulations.
- C. All hazardous materials and all hazardous wastes shall be stored in accordance with secondary containment regulations, and it is recommended that these materials and wastes be covered as needed, to avoid potential management of collected rain water as a hazardous waste.
- D. The Contractor shall dispose of all excess thinners, solvents, chemicals, oil-based and water-based paint as hazardous waste.
- E. Regular hazardous waste collection shall be arranged for to comply with time limits on the storage of hazardous wastes.
- F. Granular materials shall be stored a minimum of ten feet from the closest catch basin and curb return. The Contractor shall not allow these granular materials to enter the storm drain or creek.
- G. An accurate up-to-date inventory, including Material Safety Data Sheets (MSDS) of hazardous wastes stored on site shall be kept and available to assist emergency response personnel in the event of a hazardous materials incident.
- H. Maintenance and fueling of vehicles and equipment shall be performed in a designated, bermed area, or over a drip pan that will not allow run-off of spills. Vehicles and equipment shall be regularly checked and have leaks repaired promptly. Secondary containment, shall be used to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed or poured.

3.3 DUST CONTROL

- A. Contractor shall contact Soquel Creek Water District for water to be used to control dust on a daily basis or as directed by the Engineer
- B. At the end of each working day, or as directed by the Inspector, the roadways and on-site paved areas shall be cleaned and swept of all materials attributed to or involved in the work. Streets shall not be washed down into a storm drain or creek in lieu of street sweeping. Water wash may be picked up by a vacuum unit in lieu of sweeping.

3.4 PAVING OPERATIONS

- A. Catch basins and manholes shall be covered when paving or applying tack coat.

- B. The Inspector may direct the Contractor to protect drainage courses by using control measures such as earth dike, straw bale and sand bag to divert run-off or trap filter sediment.
- C. Excess sand (placed as part of a sand seal or to absorb excess oil) shall not be swept or washed down into gutters, storm drains or creeks. The sand shall be collected and returned to the stockpile or disposed of in a trash container or hauled to an approved dump site. Water shall not be used to wash down fresh asphalt concrete.

3.5 SITE CLEANUP

- A. The cleaning of equipment or materials shall not be performed on-site or in the street using soaps, solvents, degreasers, steam cleaning or equivalent methods.
- B. All cleanup must be performed in a designated area that will not allow the cleaning rinse to flow off-site or into streets, gutters, storm drains, or creeks.

PART 4 - PAYMENT

- A. No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

* * *

SECTION 10.4
MOBILIZATION & DEMOBILIZATION
(Bid Item No. 1)

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The provisions of Section 9-1.16.D, "Mobilization," of the State Standard Specifications shall apply in their entirety except as modified or supplemented herein.
- B. This section includes reference to increase or decrease in bonding and staging area.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 INCREASE OR DECREASE IN BONDING

- A. When the final contract price for which the Contractor has bonded for a project increases by over twenty-five percent (25%) of the original base bid price due to change orders and/or increases in the quantities of items incorporated into the project, the Contractor shall be entitled to payment for additional bonding costs that have been paid to the surety company due to this increase. Payment for this cost shall be made via change order and included on the final project billing statement with supporting documentation from Contractor.
- B. When the final contract price decreases by over twenty-five percent (25%) of the original base bid price due to change orders and/or a decrease in the quantities of items incorporated into the project, the City shall be entitled to a reimbursement of the decrease in bonding costs paid by the Contractor. The refund of these costs shall be made via change order and deducted from the final payment for release of retention.

3.2 STAGING AREA

- A. It is the responsibility of the Contractor to locate a staging area for office setup, construction laydown areas, or the like, and is an appropriate area for mixing and storing materials and equipment. The staging area may be located inside or outside City Limits. Temporary utility controls shall be arranged solely by the Contractor. It is the Contractor's responsibility to inspect the site to determine its suitability for operations to execute this contract. Contractor is required to obtain and show proof of all permits required by the State and/or local agencies for use of the staging area.
- B. The City is not responsible for providing said staging area. However, the City will assist the Contractor in identifying City property available for staging area.
- C. It is the Contractor's responsibility to secure a staging area for contract work, and any associated costs are considered to be included in the various contract prices paid, with no additional compensation allowed therefor. However, if the Contractor only uses City property for staging area, no additional costs associated with securing a staging area shall be covered by the City. Contractor is not required to obtain permits for use of City property for staging area.
- D. The Contractor's proposed staging site(s) shall be approved by the Engineer. If Contractor utilizes private property for staging area, Contractor shall submit proof of an agreement for use of said staging area with private property owner(s) prior to

mobilization.

- E. The staging area(s) shall be maintained throughout the duration of the project such that it is not construed as visual blight in the opinion of the Inspector. All adjoining streets, sidewalks and gutters shall be swept free of construction materials tracked onto them at the end of each day. Failure to do so will result in City forces cleaning the area at the Contractor's expense. The City of Capitola labor rate to be used shall be \$150 per hour per person.
- F. Sanitary restroom facilities shall be provided and maintained by the Contractor. The Contractor's proposed locations for restroom facilities shall be reviewed with the Engineer prior to delivery of the restroom facility. If the Contractor and/or subcontractors are working at multiple sites simultaneously, then a restroom facility will be required at each site. Failure to provide sanitary restroom facilities is grounds for suspension of work. Contractor shall note that the count of working days will continue.

PART 4 - MEASUREMENT AND PAYMENT

Payment for mobilization and demobilization, including all incidental work shall be made on a lump sum basis as follows:

- A. When 5 percent (5%) of the original contract amount is earned, 50 percent (50%) of the amount bid for mobilization and demobilization, or 5 percent (5%) of the original contract amount, whichever is lesser, may be paid.
- B. When 10 percent (10%) of the original contract amount is earned, 75 percent (75%) of the amount bid for mobilization and demobilization or 7.5 percent (7.5%) of the original contract amount, whichever is lesser, may be paid.
- C. When 20 percent (20%) of the original contract amount is earned, 95 percent of the amount bid for mobilization and demobilization, or 9.5 percent (9.5%) of the original contract amount, whichever is lesser, may be paid.
- D. When 50 percent (50%) of the original contract amount is earned, 100 percent (100%) of the amount bid for mobilization and demobilization, or 10 percent (10%) of the original contract amount, whichever is lesser, may be paid.
- E. Upon completion of all work on the project, payment of any amount bid for mobilization and demobilization in excess of 10 percent (10%) of the original contract amount will be paid.

* * *

**SECTION 10.5
PAVING REMOVAL**
(No Bid Item)

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Aggregate base, asphalt, and concrete removal in specified areas.
- B. Disposal of demolished and removed items.
- C. Protection of landscaping, trees, and existing features to remain.
- D. Protect underground utilities.
- E. Coordinate with Engineer.

1.2 FIELD CONDITIONS

- A. Protect improvements, vegetation, and trees adjacent to work to be demolished and removed.

1.3 RELATED SECTIONS

- A. Section 10.3 Temporary Stormwater Pollution Control.
- B. Section 10.8 Fill and Backfill. Fill material for filling excavations generated as a result of removal operations.
- C. Section 10.10 Flexible Paving Repair (HMA Base Repair).
- D. Section 10.15 Utility Grade Adjustment.

PART 2 - PRODUCTS
NONE

PART 3 - EXECUTION

3.1 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Do not use water if that will result in flooding, sedimentation of waterways or storm sewers, or other pollution.
- B. Minimize production of dust.
- C. Perform removal of improvements in a manner that maximizes salvage and recycling of materials.
 - 1. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.
- D. Materials including failed street areas, pavement fabric, tree roots, sub grade, or base material which are removed from the worksite to accommodate the installation of new facilities shall become the property of the Contractor and shall be disposed of outside the road right-of-way at a legal dumpsite.
- E. Following paving removal, prepare subgrade or base material as described in Section 10.7 Grading and Subgrade Preparation.

PART 4 - PAYMENT

- A. No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

* * *

SECTION 10.6
CLEARING AND GRUBBING
(Bid Item No. 2)

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Clearing the entire area within the limits of work of all rubbish, debris and other objectionable material, and disposal of same.
- B. Removing thermoplastic striping, markings, and markers from the road surface before the application of slurry seal.
- C. Dust alleviation and control.
- D. The work shall include the provision of all labor, materials, equipment and apparatus not specifically mentioned herein or noted on the Project Plans, but which are incidental and necessary to complete the work specified.

1.2 JOB CONDITIONS

- A. The Contractor will be held responsible for any damage to trees injured during construction, i.e., limb breakage, tearing of bark along trunk or excessive root damage.
- B. Contractor shall provide adequate dust alleviation and control measures at all times during the course of the work.

1.3 APPLICABLE PUBLICATIONS

- A. Trees and Building Sites: Official Publication of the International Society of Arboriculture.

PART 2 - PRODUCTS

NONE

PART 3 - EXECUTION

3.1 PERFORMANCE

- A. Clearing, grubbing and stripping shall consist of the removal of organic matter of every nature including grass, shrubs, weeds, and vegetation that will otherwise impede construction operations, as approved by the Inspector.
- B. At sites where the excavation has taken place near trees to remain, and many living roots remain exposed to the air, the Contractor shall cover the exposed roots within 2 hours with sand, soil, moist burlap or other means acceptable to the Inspector.
- C. Spoils from the work site resulting from clearing, grubbing and stripping operations shall be removed from the entire limits of worksite and properly disposed of in accordance with applicable laws and regulations.

3.2 TREE PRUNING

- A. Tree pruning shall be performed to balance the crown and eliminate hazards. The main work performed shall be to reduce the sail effect through thinning, reducing end weights, shortening long heavy limbs, removing deadwood, weak limbs and sucker

growth. Limbs shall be pruned back to an appropriate lateral branch.

- B. The pruning work shall be performed in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards.
- C. The Contractor shall be responsible for the preservation of all public and private property. Pruning includes the cutting of limbs, cleanup, removal and disposal of cuttings and debris. Elm logs must be properly disposed of per State Quarantine. Work shall be performed by a two-man crew with one climber, one ground person, a dumping chipper truck and chipper, and any other necessary saws, lines, tools and safety equipment. The work area shall have appropriate cones and signs for safe pedestrian and vehicle traffic.

3.3 ROOT PRUNING

- A. Tree roots greater than 3" in diameter and less than 12" below ground level shall not be cut without approval of the Inspector.
- B. Roots shall be cut cleanly, as far from the trunk of the tree as possible, and not underneath the newly constructed sidewalk. Root pruning shall be to a depth of 18".
- C. Root pruning shall be performed using a Vermeer Root Cutting Machine. Alternate equipment or techniques must be approved by the Inspector.
- D. Root pruning shall be completed prior to base or subgrade preparation, or to any excavation adjacent to the tree.
- E. Excavation in an area where roots are present shall not cause the tearing or ripping of tree roots. Roots must first be cleanly severed prior to continuing with the excavation, or tunneled around to prevent damage to the root.
- F. Tree roots shall not remain exposed to drying out. Root ends shall be covered with soil or burlap and kept moist until the final backfill or grade is established.

3.4 TREE PROTECTION

- A. Construction materials, debris, washout water and stockpiles shall not be stored within the drip line or protective fencing area under any tree.
- B. Vehicles shall not be parked under any tree within the drip line or protective fencing area.
- C. Where vehicles or equipment must operate or travel under drip line or unpaved landscape areas, Contractor shall place a minimum 10-inch layer of woodchips or other cushioning surface material approved by the Inspector before starting work there. This mulch layer shall be replenished as necessary to maintain a ten- inch depth until operations in this area are complete and shall be removed upon completion of work unless directed by Inspector. Where crane outriggers or other heavy equipment must be positioned in drip line or unpaved landscape areas, Contractor shall provide additional protection against soil compaction and landscape damage. Means of providing additional protection may include placement of additional mulch, base rock, heavy timbers or steel plates. Contractor shall obtain Inspector's approval for protective measures prior to placing or operating heavy equipment in unpaved landscape over the root areas of trees to remain.

3.5 DUST ALLEVIATION AND CONTROL

- A. Contractor shall be responsible for providing pollution and dust abatement and control

measures continuously during the course of the work.

- B. Contractor shall utilize reclaimed water, or dust palliatives, in compliance with the City's Water Conservation Ordinance.

3.6 CLEANUP

- A. Upon completion of clearing and stripping operations, the entire work site shall be cleaned of all construction debris, waste, rubbish of any nature.
- B. Contractor shall repair any damage to the existing irrigation system caused by the work and replace any portion of the existing irrigation system that is removed as a result of work. Contractor shall incur these costs at own expense.
- C. Except where shown or specified otherwise, any lawn area or existing groundcover area disturbed by the work shall be restored to existing grade and replanted with sod or plants as those removed with Inspector's approval.
- D. Construction debris, waste and rubbish remaining on-site upon completion of clearing and stripping operations shall become the property of the Contractor, and shall be removed from the work site and disposed of in a lawful manner.

PART 4 - MEASUREMENT AND PAYMENT

Payment for Clearing and Grubbing will be made as follows:

- A. Fifty percent (50%) of the total amount bid for Clearing and Grubbing will be paid with the first progress payment after at least five percent (5%) of the original Contract Amount for other items of work has been performed.
- B. When at least ten percent (10%) of the original Contract Amount for other items of work has been performed, an amount will be included in the next monthly progress payment to increase the total amount of Clearing and Grubbing paid to seventy-five percent (75%) of the total amount bid for Clearing and Grubbing.
- C. When at least twenty percent (20%) of the original Contract Amount for other items of work has been performed, an amount will be included in the next monthly progress payment to increase the total amount of Clearing and Grubbing paid to ninety percent (90%) of the total amount bid for Clearing and Grubbing.
- D. Upon substantial completion, one-hundred percent (100%) of the remaining contract price paid for Clearing and Grubbing will be included in the estimate for payment.

* * *

SECTION 10.7
GRADING AND SUBGRADE PREPARATION
(No Bid Item)

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Grading and subgrade preparation for hot-mix asphalt (HMA) base repairs and placing of aggregate base.
- B. Grading and subgrade preparation for placing PCC curb and gutter.
- C. Grading for construction of ADA ramp.
- D. Grading for construction of driveway.
- E. Cleanup and disposal of excess material.
- F. Supplying all labor, materials, equipment and apparatus not specifically mentioned herein or noted on the plans, but which are incidental and necessary to complete the work specified.

1.2 RELATED REQUIREMENTS

- A. Section 10.8 Fill and Backfill.
- B. Section 10.10 Flexible Paving Repair (HMA Base Repair).
- C. Section 10.12 Aggregate Base Courses.
- D. Section 10.13 Concrete Improvements.

1.3 APPLICABLE PUBLICATIONS

- A. ASTM D1557-12e1 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort; 2012.

1.4 SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.5 PROJECT CONDITIONS

- A. Protect above- and below-grade utilities that remain.
- B. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs to remain from grading equipment and vehicular traffic.

PART 2 - PRODUCTS

2.1 GEOGRID

- A. Tensar TX 160, or equal, no known equal.
- B. Aggregate Base
- C. HMA (for alternative)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that intended elevations for the Work are as indicated.

3.2 PREPARATION

- A. Stake and flag locations of known utilities.
- B. Locate, identify, and protect from damage above- and below-grade utilities to remain.
- C. Protect site features to remain, including but not limited to bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs, from damage by grading equipment and vehicular traffic.
- D. Protect trees to remain by providing substantial fencing around entire tree at the outer tips of its branches.

3.3 GRADING AND COMPACTION

- A. Grading shall be done according to the slopes and grades shown on the plans.
- B. Materials shall be removed or placed to the lines and grades indicated for subgrade for roadway, curbs, gutters, driveways, walks or paths, and any other improvements called for on the plans and detail drawings. Materials shall be placed and compacted as specified above for fill material.
- C. Existing AC pavement and potentially portions of subgrade shall be removed to the depth specified.
- D. All concrete, soft, spongy, or deleterious materials, structures and other unsuitable material encountered during the excavation operation (whether shown or not shown on the plan) shall be removed and disposed of.
- E. When the planned excavation of subgrade is made, all undesirable material then encountered shall be removed and disposed of as directed by the Inspector.
- F. Pavement surfacing shall be blade cut, scored and broken ahead of the excavation operations, and shall be cut or trimmed to a neat edge after backfilling and prior to paving. The pavement surfacing shall be cut accurately and on neat lines parallel to the excavation. Any pavement damage outside these lines shall be re-cut and restored at the expense of the Contractor.
- G. Contractor shall field verify locations, elevations, etc. of existing underground utilities and to immediately notify the Inspector of any field conflicts. Contractor shall conduct potholing of shallow utilities that might potentially pose a conflict with the excavation work.
- H. Subgrade and or base materials below HMA base repairs shall be compacted with roller type equipment to achieve a firm and non-yielding pavement surface that is suitable to be paved.
- I. Care should be taken by the Contractor to not over work subgrade and/or base material. Over-working will result in pumping and yielding of subgrade and/or base materials. The Inspector and/or approved representative will approve the subgrade prior to paving operations. To approve the subgrade it shall be proof rolled by the Contractor with a fully loaded water truck or similar in the presence of a City representative. Areas that pump or yield under truck tire loading will be delineated in

the field with marking paint as unsuitable material and then over-excavated as described below.

- J. When encountered during roadway excavation or proof rolling for the construction of the HMA base repairs, unsuitable material shall be over-excavated to a depth of six (6) to 12 inches and replaced with aggregate base. Prior to replacing the void with aggregate base, the Contractor shall install a geogrid (i.e. Tensar TX 160). The aggregate base shall then be moisture conditioned, placed and lifts not to exceed six (6) inches when compacted to ninety-five (95%) relative compaction.
- K. The Contractor shall at all times maintain the subgrade surface in such condition as to readily drain effectively. Vehicular and equipment traffic shall be distributed across the prepared surface in such a manner as to prevent continual operation in one path. The Contractor shall repair any damage to the prepared subgrade.
- L. The maximum time allowed between exposing subgrade after removal of surfacing and base and placement of the first HMA lift shall be three (3) days.
- M. Storage or stockpiling of heavy loads on the roadway subgrade will not be permitted. Use only approved storage areas.
- N. The Contractor shall be responsible for any failure of the underlying native soils during the course of the work and shall repair any damage.
- O. Finished subgrade shall be subject to the approval of the Inspector and no select material or improvement shall be placed thereon until approval for same has been obtained.
- P. Moisture condition subgrade material to the optimum moisture content as obtained by ASTM D1557-12e1. Compact to 95 percent maximum dry density, or as approved by Inspector.
- Q. Yielding subgrade shall be over-excavated to a depth of 6 to 12 inches, and replaced with aggregate base or crushed rock and the use of a stabilizing geogrid to be placed on the subgrade. Maximum compacted lift thickness of replacement material shall be 6 inches.
- R. When excavating through roots, perform work by hand and cut roots with a sharp saw.
- S. See Section 10.8 Fill and Backfill for filling procedures.
- T. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

3.4 SOIL STOCKPILING

- A. Excess soils that will not be reused shall be hauled off site.
- B. Stockpile subsoil to be re-used on site; remove remainder from site.
- C. Stockpiles: Use areas approved by the Inspector; pile depth not to exceed 6 feet; protect from wind and water erosion.

3.5 FINISH GRADING

- A. Before Finish Grading:
 - 1. Verify subgrade has been contoured and compacted.
- B. Remove debris, roots, branches, stones, in excess of 1/2 inch in size. Remove and

dispose soil contaminated with petroleum products.

3.6 TOLERANCES

- A. Top Surface of Subgrade: Plus or minus 1/2 inch from required elevation.
- B. Top Surface of Finish Grade: Plus or minus 1/2 inch.

3.7 REPAIR AND RESTORATION

- A. Existing Facilities, Utilities, and Site Features to Remain: If damaged due to this work, repair or replace to original condition.
- B. Trees to Remain: If damaged due to this work, trim broken branches and repair bark wounds in coordination with Inspector; if root damage has occurred, obtain instructions from the City as to remedy.
- C. Other Existing Vegetation to Remain: If damaged due to this work, replace with vegetation of equivalent species and size.

3.8 FIELD QUALITY CONTROL

- A. As directed by the Inspector, the City will:
 - 1. Test any fill material from source designated by the Contractor and any site materials stockpiles for use as fill; observe excavation and check stability of subgrade, compacted fill, and backfill.
 - 2. Be present at the site intermittently during conduct of work to observe performance of work and soil conditions encountered.
 - 3. Perform laboratory and field density tests to evaluate compaction achieved.
 - 4. Observe and provide engineering opinions as to adequacy of excavation, compaction of subgrade, and placement and compaction of fill and backfill. Engineering opinions will be based on observations of work performed as well as tests and inspections deemed necessary by the Inspector to ensure compliance with Contract Documents.
 - 5. Observe methods of compaction and report findings to the Inspector.
 - 6. Issue final report to the Inspector on grading; include opinion regarding degree of compliance with specifications.
- B. The Contractor shall:
 - 1. Cooperate with the Inspector in all aspects of the work.
 - 2. Notify the Inspector at least 2 working days prior to required observation or testing.
 - 3. Be responsible for expense of all retesting of subgrade, fill, aggregate base, backfill, or other controlled material found to be inadequate at firsts testing, including fees for travel, personnel time, laboratory expenses, office work, supervision, and testing which may be incurred by reason of such retesting. The Engineer will deduct such expenses from monies due the contractor under the contract.
- C. No earthwork shall be performed without direct knowledge of the Inspector unless otherwise directed by the Inspector.

3.9 DUST ALLEVIATION AND CONTROL

- A. The Contractor shall be responsible for and shall provide pollution and dust abatement and control measures continuously during the course of the work.
- B. The Contractor shall utilize water obtained from Soquel Creek Water District, or dust palliatives, in compliance with the City's Water Conservation Ordinance.

3.10 CLEANING

- A. Remove stockpiled subsoil according to Inspector's instructions.
- B. Grade stockpile area to prevent standing water.
- C. Surplus material and debris becomes property of the Contractor for off-site disposal in accordance with applicable state and local codes, ordinances, and regulations.

PART 4 - PAYMENT

- A. No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

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SECTION 10.8
FILL AND BACKFILL
(Bid Item No.5)

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Filling, backfilling, and compacting for flexible pavement repair (HMA base repairs), paving removal, and aggregate base courses.
- B. Subgrade over-excavation for areas to receive HMA base repairs.

1.2 RELATED REQUIREMENTS

- A. Section 10.3 Temporary Stormwater Pollution Control
- B. Section 10.5 Paving Removal
- C. Section 10.7 Grading and Subgrade Preparation
- D. Section 10.10 Flexible Paving Repair (HMA Base Repair)
- E. Section 10.12 Aggregate Base Courses
- F. Section 10.14 Pavement Markings and Accessories

1.3 DEFINITIONS

- A. Subgrade Elevations: Depth of paving section.

1.4 REFERENCE STANDARDS

- A. ASTM C136-14 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2014.
- B. ASTM D1556-15 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method; 2015.
- C. ASTM D1557-12e1 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m³)); 2012.
- D. ASTM D2487-17 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2011. ASTM D6938-17a – Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2017.
- E. ASTM D4318-17e1 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; 2017.
- F. Standard Specifications Section 26 “Aggregate Bases”.

1.5 SUBMITTALS

- A. Samples: 50 pound sample of each type of fill; submit to testing laboratory.
- B. Materials Sources: Submit name of imported materials source.
- C. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- D. Compaction Density Test Reports.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When fill materials need to be stored on site, locate stockpiles as selected by the Inspector.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination.
 - 3. Protect stockpiles from erosion and deterioration of materials.

PART 2 - PRODUCTS

2.1 FILL MATERIALS

- A. General Fill: Imported borrow soil or soil-rock mixture hauled in from off-site sources, subject to acceptance by the Inspector, and conforming to the following:
 - 1. Predominantly granular, well graded, not showing excessive shrinkage or swelling when subjected to changes in water content.
 - 2. Free of organic matter, debris, or other deleterious substances.
 - 3. Thoroughly compactable and without presence of excessive voids.
 - 4. Plasticity Index between 4 and 12 (ASTM D4318-17e1)
 - 5. Have a minimum Resistance ("R") Value of 30.
 - 6. Free of rocks in excess of 2 inches in size.

2.2 SOURCE QUALITY CONTROL

- A. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.
- B. If tests indicate materials do not meet specified requirements, change material and retest.
- C. Provide materials of each type from same source throughout the work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that intended elevations for the work are as indicated.
- B. Identify required lines, levels, contours, and datum locations.

3.2 PREPARATION

- A. Scarify subgrade surface to a depth of 8 inches and proof roll to identify soft spots and until surface is free of ruts or other uneven surface features.
- B. Do not proceed with filling until the grade has been satisfactorily inspected.
- C. Cut out soft areas of subgrade not capable of compaction in place.
- D. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

- E. Compact subgrade for surface reconstruction to 95 percent of maximum dry density as determined by ASTM D1557-12e1.
- F. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.
- G. Remove forms, rubbish, and deleterious materials in areas to be backfilled and obtain acceptance from the Inspector that unsuitable materials have been removed.
- H. Subgrade and/or base materials below HMA base repair areas shall be compacted with roller type equipment to achieve a firm and non-yielding pavement surface that is suitable to be paved. Care should be taken by the Contractor to not overwork subgrade and/or base material that result in pumping and yielding of subgrade and/or base materials. The Inspector and/or approved representative will approve the subgrade prior to paving operations. To approve the subgrade it shall be proof rolled by the Contractor with a fully loaded water truck, or similar, in the presence of a City representative. Areas that pump or yield under truck tire loading will be delineated in the field with marking paint as unsuitable material and then over-excavated as described below.
- I. When encountered during excavation or proof rolling for the construction of the surface reconstruction, unsuitable material shall be over-excavated to a depth of six (6) inches and replaced with aggregate base. Prior to replacing the void with aggregate base, the Contractor shall install a geogrid (i.e. Tensar TX 160). The aggregate base shall then be moisture conditioned and placed in lifts not to exceed six (6) inches when compacted to ninety-five (95%) relative compaction. Alternatively to replacing the unsuitable subgrade material with a geogrid and aggregate base the Contractor may use HMA at the discretion of the Inspector. For the purposes of bidding, scheduling, traffic control, and notification to public, the Contractor should assume that unsuitable subgrade and/or base materials shall be over-excavated and replaced with geogrid and aggregate base.

3.3 FILLING

- A. Fill up to subgrade elevations unless otherwise indicated.
- B. Employ a placement method that does not disturb or damage other work.
- C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- D. Maintain optimum moisture content of fill materials to attain required compaction density. Mix each lift thoroughly before compaction.
- E. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- F. Correct areas that are over-excavated.
 - 1. Use structural fill, flush to required elevation, compacted to minimum 95 percent of maximum dry density as determined by ASTM D1557-12e1.
- G. Compaction Density Unless Otherwise Specified or Indicated:
 - 1. Under base repairs: (refusal density to be specified).
- H. Reshape and re-compact fills subjected to vehicular traffic.
- I. Any fill that does not meet the specification requirements shall be removed and/or re-

compacted until the requirements are satisfied at the sole expense of the Contractor.

3.4 FILL AT SPECIFIC LOCATIONS

- A. Use general fill unless otherwise specified or indicated.

3.5 TOLERANCES

- A. Top Surface of General Filling: Plus or minus 1/2-inch from required elevations.
- B. Top Surface of Filling under Paved Areas: Plus or minus 1/2-inch from required elevations.

3.6 FIELD QUALITY CONTROL

- A. Perform compaction density testing on compacted fill in accordance with ASTM D6938-17a.
- B. Evaluate results in relation to compaction curve determined by testing un-compacted material in accordance with ASTM D1557-12e1 ("modified Proctor").
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest.
- D. Frequency of Tests: 1 test per 500 square feet of fill area.

3.7 DUST ALLEVIATION CONTROL

- A. The Contractor shall be responsible for and shall provide pollution and dust abatement and control measure continuously during the course of the work.
- B. The Contractor shall utilize reclaimed water, or dust pallatives, in compliance with the City's Water Conservation Ordinance.

3.8 DISPOSAL OF EXCESS MATERIAL

- A. Surplus materials and construction debris remaining upon completion of the work shall become the property of the Contractor unless otherwise specified herein or noted on the Project Plans, and shall be removed from the work site by the Contractor and disposed of off- site in a lawful manner.

PART 4 - MEASUREMENT AND PAYMENT

- A. The contract price paid per cubic yard for Over-Excavation (revocable item) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work necessary to over-excavate where unsuitable subgrade is encountered, including but not limited to excavation, compaction, fill and backfill of aggregate course, as specified in the Standard Specifications and these Technical Specifications, and as directed by the Inspector. Basis for volume calculations shall be the area to be over-excavated and the specified depth. The depth for volume calculation is given by the actual field-measured depth and no increase will be allowed.

* * *

SECTION 10.9
TYPE II SLURRY SEAL
(Bid Item No. 11)

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Slurry seal after crack seal and base repairs.

1.2 FIELD CONDITIONS

- A. Slurry Seal shall be installed in the areas designated in the plans and shall be in accordance with Section 37-3, "Slurry Seal and Micro-Surfacing," of the 2015 State Standard Specifications and as modified herein.
- B. Latex emulsified asphalt shall be a quick traffic, quick cure (QT-QC) type, shall be homogeneous and show no separation after thorough mixing, shall break and set on the aggregate within five (5) minutes and be ready for cross-traffic within thirty minutes. No slurry shall be placed that will not be ready for vehicular traffic by 4:00 pm the day of the application. The latex asphalt emulsion shall conform to the requirements listed below.

1.3 SUBMITTALS

- A. Contractor shall submit a laboratory report of test results and proposed mix design at least ten (10) working days prior to construction, and in accordance with State Standard Specification 37-3.01C, Submittals.

PART 2 - PRODUCTS

2.1 LATEX ASPHALT EMULSION REQUIREMENTS

- | | | |
|---|-----------|-----------|
| A. Viscosity, SSF, @ 77 degrees F., sec | ASTM D244 | 15 – 100 |
| B. pH | | 2 +/- 1 |
| C. Distillation Residue percent, Minimum | | 60 |
| D. Penetration, 77 degrees F., 100g, 5s | ASTM D5 | 40 – 80 |
| E. Softening Point (Ring & Ball), degrees F. | ASTM D36 | 120 – 147 |
| F. Ductility, 75 degrees F., 5CM/Min, Minimum | ASTM D113 | 25 |
| G. Frass-Breaking Point (°C.) | DIN 52012 | -18 |

2.2 AGGREGATE

- A. Aggregate or a combination of aggregates shall be produced by crushing rock. All materials shall be free from vegetable matter and other deleterious substances, oversized particles, and caked lumps. The percentage composition by weight of the aggregate shall conform to the following grading (percent passing):

3/8 inch	100
No. 4	94 - 100
No. 8	65 - 90
No. 16	40 - 70

No. 30	25 - 50
No. 200	5 - 15
Asphalt content,	
Percent dry aggregate	7.5 - 13.5
Application rate (pound/sq. yd.)	12 - 15

B. The aggregate shall also conform to the following quality requirement:

<u>TEST ON EMULSION</u>	<u>METHOD OF TEST</u>	<u>REQUIREMENT</u>
Sand Equivalent	California Method 217, or ASTM D2419 -14	55 Min.
Durability	California Method 229,	55 Min.

2.3 MINERAL FILLER

A. The mineral filler shall be either Portland cement or other approved mineral fillers, if required. Portland cement, if used, shall be commercially available Type I-II and shall be free of lumps and clods.

2.4 WATER

A. Water shall be free of harmful, soluble salts and shall be of such quality that the asphalt shall not separate from the emulsion before the emulsion mix is in place in the work.

2.5 POLYMER LATEX

A. Styrene Butadiene Rubber latex shall be added to the water/soap phase by injection prior to the mill manufacture of the asphalt emulsion by the emulsion producer. The latex shall be BASF NX 1118 or equal. The amount of latex solids shall be between 3 and 4 percent of the asphalt residual content and shall be certified by the emulsion producer on each load of emulsion delivered to the job site.

B. No post or field addition of Polymer Latex will be allowed. Samples of latex shall be provided and shall conform to the following requirements:

<u>TEST</u>	<u>REQUIREMENT</u>
Total solids, min percent	60
Bound Styrene percent	24 - 60
pH at 25°C.	4.2 - 5.2
Brookfield Viscosity RVT	1000 - 4000
Residual Monomer percent	0.08 max.

PART 3 - EXECUTION

3.1 MIX DESIGN

A. At least ten (10) working days before slurry seal placement commences, the Contractor shall submit to the Engineer for approval a laboratory report of tests and proposed mix design covering the specific materials to be used on the Project. The percentages of asphalt emulsion proposed in the mix design shall be within the percentage range specified. The tests and mix design shall be performed by a laboratory capable of performing the applicable International Slurry Seal Association (ISSA) tests. The

proposed slurry seal mixture shall conform to the requirements specified when tested in accordance with the following tests:

<u>TEST</u>	<u>ISSA TEST METHOD</u>	<u>REQUIREMENT</u>
Slurry Seal Consistency	T106	3 max.
Wet stripping	T114	PASS
Compatibility	T115	PASS (a)
Cohesion Test (b), kg-cm within 1-hour	T139	20 min.
Wet Track Abrasion, g/sq. ft.	T100	75 max.

1. Mixing test must pass at the maximum expected air temperature at the Project site during application.
2. Using Project source aggregate and asphalt emulsion and set-control agents if used.
3. The laboratory report shall be signed by the laboratory that performed the tests and mix design and shall show the results of the tests on individual materials, comparing the test result to those required by the specifications. The report shall clearly show the proportions of aggregate, filler (as determined from the tests, minimum and maximum), water (minimum and maximum), and asphalt solids content based on the dry weight of aggregate and set-control agent usage. Previous laboratory reports covering the same materials may be accepted provided they are made during the same calendar year.

3.2 PROPORTIONING

- A. Asphalt emulsion shall be added at a rate determined by the mix design and in the range of the table above. A job mix design shall be submitted by the Contractor for approval by the Engineer that conforms to the specification limits, and that is suitable for the traffic, climate conditions, curing conditions and final use. This will include recommended application rate of slurry to suit the job conditions.
- B. The Slurry Seal mixture shall be proportioned by the operation of a single start/stop switch or lever, which automatically sequences the introduction of aggregate, emulsified asphalt, admixtures/fillers, if used, and water to the pug mill.
- C. Calibrated flow meters shall be provided to measure both the addition of water and liquid additives to the pug mill. If necessary for workability a retarding agent, that will not adversely affect the seal, may be used.
- D. Water, and retarder if used, shall be added to ensure proper workability and (a) permit uncontrolled traffic on the slurry seal no more than three (3) hours after placement without the occurrence of bleeding, raveling, separation or other distress; and (b) prevent development of bleeding, raveling, separation or other distress within fifteen (15) days after placing the slurry seal.

3.3 MIXING AND SPREADING EQUIPMENT

- A. The slurry seal shall be mixed in a self-propelled mixing machine equipped with a continuous flow pug mill capable of accurately delivering and automatically proportioning the aggregate, emulsified asphalt, water and additives to a double shafted, multi-blade pug mill mixer capable of minimum speeds of 200 revolutions per minute.

- B. A minimum of two operational mixing machines of 12 cubic yard capacity, or larger, shall be maintained on the Project. The slurry seal retention time in the pug mill shall be less than three (3) seconds, no retention of mixed slurry seal shall be allowed within the pug mill by gate shut-off or other mechanical means. The mixing machine shall have sufficient storage capacity of aggregate, emulsified asphalt, and water to maintain an adequate supply to the proportioning controls.
- C. The mixing machine shall be equipped with hydraulic controls for proportioning the material by volume of the mix. Each material control device shall be calibrated, properly marked, preset and lockable at the direction of the Inspector.
- D. The slurry mixture shall be uniformly spread by means of a controlled spreader box conforming to the following requirements:
- E. The spreader shall be capable of spreading a traffic lane width and shall have strips of flexible rubber belting or similar material on each side of the spreader box and in contact with the pavement to prevent loss of slurry from the box. The box shall have baffles, or other suitable devices, to ensure uniform application on super-elevated sections and shoulder slopes. Spreader boxes shall be maintained in such a manner as to prevent chatter (wash boarding) or other surface defects that will affect the esthetic value of the finished slurry seal mat.
- F. The rear flexible strike-off blade shall make close contact with the pavement and shall be capable of being adjusted to the various crown shapes so as to apply a uniform slurry seal.
- G. Slurry mixture, to be spread in areas inaccessible to the controlled spreader box may be spread by other approved methods.

3.4 PLACING

- A. The slurry seal shall not be placed if either the pavement or the air temperature is below 60 degrees F (13 degrees C) and falling, but may be applied when both the air and pavement temperature is 55 degrees F (7 degrees C) or above and rising and is expected to stay above 55 degrees F (7 degrees C) for the rest of the work day. The mixture shall not be applied if high relative humidity prolongs the curing beyond a reasonable time (i.e. 4 hours). If curing does not occur after four (4) hours and slurry seal is not black in color, slurry seal shall be replaced at no cost to the City. In addition, slurry seal placement shall not start if rain is imminent or freezing temperatures are anticipated within 24 hours and shall not be placed when the Inspector decides the weather to be unsuitable for applying slurry seal.
- B. Before placing the slurry seal, the pavement surface shall be cleaned by sweeping, flushing or other means necessary to remove all loose particles of paving, all dirt and all other extraneous material. Excess ponded water shall be removed. Removal of weeds and plant materials shall be done without using chemical weed killers in a manner that is acceptable to the Inspector.
- C. Immediately before commencing the slurry seal operations, all surface metal utility covers (including survey monuments) shall be protected by thoroughly covering the surface with an appropriate adhesive and paper or plastic. No adhesive material shall be permitted to cover, seal or fill the joint between the frame and cover of the structure. Covers are to be uncovered and cleaned of slurry material by the end of the same workday.
- D. Hand tools shall be available in order to remove spillage. Ridges or bumps in the

finished surface will not be permitted. The mixture shall be uniform and homogenous after spreading on the existing surface and shall not show separation of the emulsion and aggregate after setting.

- E. Adequate means shall be provided to protect the slurry seal from damage from traffic until such time that the mixture has cured sufficiently so that the slurry seal will not adhere to and be picked up by the tires of the vehicles.
- F. The Contractor shall exercise caution in placing material so that the material does not “bleed” onto the existing concrete curbs or sidewalks. The Contractor shall remove all material that does “bleed” onto the concrete surfaces at no cost to the City.
- G. All existing pavement markers, paint and thermoplastic traffic striping and markings shall be removed and disposed of by the Contractor. Said removal shall not occur sooner than two days prior to the day the slurry sealing is scheduled. Temporary markers (slurry tabs) shall be placed to delineate removed paint and thermoplastic as required by the Inspector. Slurry tabs must be cleaned immediately after slurry is placed.
- H. As required elsewhere in these Specifications, the Contractor shall place a tack coat of asphalt emulsion at a residual rate at 0.03 gallons per square yard minimum to the finished surfaces of all base repair areas prior to the application of the slurry seal.
- I. No lumping, balling or unmixed aggregate shall be permitted. No segregation of the emulsion and fines from the coarse aggregate shall be permitted. If coarse aggregate settles to the bottom of the mix, the slurry mix shall be removed from the pavement. No excessive breaking of emulsion shall be allowed in the spreader box. No streaks or drag marks caused by oversize aggregates will be left on the finished pavement, and ridges, wash boarding in the finished product shall not be allowed.
- J. The City Inspector will monitor and approve the application rate throughout the Project. Weight tags shall be furnished to the Inspector for all materials delivered to the site including aggregates, and emulsified asphalt for slurry retardant. Slurry mix shall be applied so that the joint between the asphalt and concrete gutter is filled but not overlapping. Any application spillage beyond this joint shall be removed or cleaned up by the Contractor to the satisfaction of the City Inspector. Gutter spills and any tracking of slurry seal onto concrete improvements shall be cleaned immediately.
- K. All lines of termination of slurry sealing shall be neat and straight. The Contractor shall use building paper, roofing felt, or equal header materials at all limits of work and when stopping/starting slurry application at a transverse joint. All transverse joints will be located in the field by the Inspector. Longitudinal joints shall be at the crown of the street or at the edge of the traveled lanes. No excessive buildup or unsightly appearance shall be permitted on longitudinal and transverse joints. Longitudinal joint overlap shall be no more than three (3) inches.
- L. Temporary lane line markers (slurry tabs) shall be installed as required by the Inspector and as required to maintain the new slurry surface. The lane markers shall be in place before two adjacent lanes are opened to public traffic. Temporary pavement markings shall be installed on the same work days as the slurry operations and shall delineate all centerlines, two-way left turn lanes, left turn pockets, right turn pockets, limit lines, and crosswalks. These shall be removed upon placement of permanent delineation.

3.5 STREET SWEEPING

- A. At least one (1) week after the slurry seal has cured and is open to traffic, any raveling

of the aggregate from the slurry seal shall be swept up by the Contractor. Sweeping shall continue until such time when the raveling ceases. Failure to provide adequate sweeping shall result in the City performing said work at the Contractor's sole expense, which shall be deducted from any monies due to the Contractor. Sweeping by City forces shall not relieve the Contractor of any liability arising from the Contractor's failure to comply with these requirements.

PART 4 - MEASUREMENT AND PAYMENT

- A. Type II Slurry Seal will be measured by the SQUARE YARD of pavement surface area sealed. The contract unit price paid for Type II Slurry Seal shall include full compensation for furnishing all labor, equipment, tools, materials and incidentals required for placing Type II Slurry Seal at the locations shown on the Plans, as required by the State Standard Specifications, these Technical Specifications, and the City Inspector. Slurry seal that, at the discretion of the Engineer/Construction Inspector, extends into adjacent cross streets is accounted for in Bid Item No. 14, and no additional compensation shall be allowed thereof.

* * *

SECTION 10.10
FLEXIBLE PAVING REPAIR (HMA BASE REPAIR)
(Bid Item No. 6 & 7)

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Removal of existing asphalt concrete pavement material and replacement with compacted hot-mix asphalt to the depth specified on the Plans.
- B. The dimensions of HMA base repair areas are summarized on the Project Plans.

1.2 RELATED SECTIONS

- A. Section 10.5 Paving Removal
- B. Section 10.7 Grading and Subgrade Preparation
- C. Section 10.8 Fill and Backfill
- D. Section 10.12 Aggregate Base Courses
- E. Section 10.14 Pavement Markings and Accessories
- F. Section 10.15 Utility Grade Adjustment

1.3 REFERENCE STANDARDS

- A. State Standard Specifications 2015, Section 39.

1.4 QUALITY CONTROL

- A. Perform work in accordance with State Standard Specifications (2015), Section 39.
 - 1. Base repair depth shall be four (4)-inch minimum, or as indicated on the Plans.

1.5 FIELD CONDITIONS

- A. Do not place asphalt when ambient air or base surface temperature is less than 50 degrees F, or surface is wet or frozen.

1.6 SUBMITTALS

- A. Submit Job Mix Formula for Hot Mix Asphalt for paving in accordance with State Standard Specification Section 39-2.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Asphalt concrete shall be Type A and be produced at a central mixing plant. The aggregate shall conform to the 1/2-inch gradation for **Flexible Paving Repair (4" Depth)** and 1/2-inch or 3/4-inch aggregate gradation for **Flexible Paving Repair (6" Depth)** as specified in Section 39-2.01B(4), "Aggregate," of the State Standard Specifications (2015).
- B. Asphalt binder to be mixed with the aggregate shall conform to the provisions of Section 92, "Asphalt Binders," of the Standard Specifications (2015) and shall be paving asphalt PG 64-10, unless otherwise requested by the Inspector.

- C. Reclaimed Asphalt Pavement according to Section 39-2.02B(5) Reclaimed Asphalt Pavement of the 2015 State Standard Specifications.
- D. Tack Coat: Type SS1h according to Section 94 Asphaltic Emulsions of the 2015 State Standard Specifications.
- E. Geogrid: Triaxial geogrid (Tensar TX160).
- F. Aggregate base: Class 2 Aggregate Base, 1/2 inch maximum for Flexible Paving Repair (4" Depth) and 3/4 inch maximum for Flexible Paving Repair (6" Depth), conforming to Section 26 of the 2015 State Standard Specifications.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prior to beginning HMA base repair work, the Contractor shall arrange for and conduct a mandatory site walk to determine each base repair location and dimension with the Inspector.
- B. The Inspector and Contractor shall record the agreed upon dimensions for each base repair at each location.
- C. The size of the base repairs shall not vary from this agreement unless specified in writing by the Inspector.
- D. Additional compensation shall not be allowed for base repairs in excess of the agreed upon size.

3.2 INSTALLATION

- A. The base repairs shall be performed prior to crack sealing and surface seal operations. The Contractor shall remove existing asphalt concrete pavement to the depth shown on the plans, either by milling or excavating after saw-cutting with a power-driven saw to a depth of not less than four (4) inches.
- B. Unsuitable base material, as determined by the Inspector, shall be removed to a depth of six (6) inches and replaced with class 2 aggregate base and Contractor shall install a triaxial geogrid (Tensar TX 160), as directed by the Inspector. The aggregate base shall then be moisture conditioned, placed in lifts not to exceed six (6) inches when compacted to ninety-five (95%) relative compaction.
- C. Existing asphalt concrete surfacing and underlying base materials removed from vehicular travel lanes during a work period shall be replaced before the lane is re-opened to public traffic.
- D. Surfacing and base materials shall be removed without damage to adjacent asphalt surfacing that is to remain in place. Damage to pavement that is to remain in place shall be repaired to a condition satisfactory to the Inspector, or the damaged pavement shall be removed and replaced with new HMA if requested by the Inspector. Repairing or removing and replacing pavement damaged outside the limits of pavement to be replaced shall be at the Contractor's sole expense and will not be measured nor paid for. If during any of the operations the Contractor damages a monument or manhole or other underground utility facility, the Contractor shall be responsible for the repair of those facilities. The Contractor shall return all facilities to their proper places at Contractor's sole expense.
- E. The subgrade shall be compacted to a minimum 95 percent (95%) of maximum dry

density as determined by ASTM D1557-12e1. The excavation shall be squared off, thoroughly cleaned out, primed with SS-1h asphalt emulsion.

- F. Hot-mix asphalt shall be placed in **maximum 3-inch compacted lifts**. The asphalt concrete shall be placed and compacted to a minimum of 91 percent and maximum of 97 percent RICE/TMD compaction and shall meet the elevation of the existing pavement.
- G. **Flexible Paving Repair (4" Depth)** shall be installed in two (2) – two (2) inch compacted lifts of 1/2-inch aggregate.
- H. **Flexible Paving Repair (6" Depth)** shall be installed in either two (2) – three (3) inch compacted lifts of 3/4-inch aggregate or three (3) – two (2) inch compacted lifts of 1/2-inch aggregate.
- I. The Contractor shall apply a tack coat to the vertical faces of the existing asphalt pavement and to the base material prior to placement of asphalt concrete.
- J. The Contractor shall apply a tack coat between each lift placed in the base repair area.
- K. Areas inaccessible to rollers shall be compacted by use of a power compactor of the high impact, vibra-plate type, capable of attaining the same compaction as the rolled areas. Relative compaction shall be determined by California Test Method 375. Laboratory specimens shall be compacted in conformance with California Test 304.
- L. The finished repair shall be tight, level, and shall match the grade and profile of the pavement surface. The excavation shall be accomplished with proper equipment and in such a manner that the stability of subgrade is not compromised and underground utilities are not damaged.
- M. Removed materials shall be disposed of at a licensed disposal or recycling facility (asphalt pavement).
- N. Contractor shall restore striping for crosswalks and stop bars within seven (7) calendar days of final lift of base repair. Temporary measures shall be installed within 24 hours of removal to maintain pedestrian and traffic safety, as approved by the Inspector.

PART 4 - MEASUREMENT AND PAYMENT

- A. The contract price paid per square foot for Flexible Paving Repair (4-inch Depth) and Flexible Paving Repair (6-inch Depth) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work necessary to repair failed areas of pavement, complete in place, including but not limited to excavation, compaction, asphaltic emulsion, fog seal, and HMA (Type A), as specified in the State Standard Specifications and these Technical Specifications, and as directed by the Engineer.
- B. Base repair areas are shown in tables on the plans and are based on a pavement condition survey performed in April 2018. No adjustment of unit prices will be made for any increase or decrease in the quantities stated in the bid schedule for Flexible Paving Repair (4-inch Depth) and Flexible Paving Repair (6-inch Depth) required, regardless of the reason for the increase or decrease. The provisions in Section 4-1.05 "Changes and Extra Work," of the State Standard Specifications shall not apply to Flexible Paving Repair (4-inch Depth) and Flexible Paving Repair (6-inch Depth).
- C. NOTE TO BIDDER: The bid unit price shall not be subject to adjustment should the

estimated quantities differ by more than 25% of the actual quantities.

* * *

SECTION 10.11
CRACK SEAL
(Bid Item No. 10)

PART 1 - GENERAL

1.1 SCOPE

- A. This specification covers the materials, equipment, construction and procedures for treating cracks in asphalt concrete pavement.
- B. Contractor shall apply crack sealant to Bay Avenue from the pavement change 200 feet north of Capitola Avenue to the Highway 1 on-ramp, as shown on the Plans.
- C. Crack sealant on the rest of the streets shall be applied prior to application of Type II Slurry Seal.

1.2 FIELD CONDITIONS

- A. Ensure that pavement surface is dry, free of dust and debris, and free of loose pavement aggregate.

1.3 RELATED WORK

- A. Section 10.6 Clearing and Grubbing
- B. Section 10.9 Type II Slurry Seal

1.4 SUBMITTALS

- A. Submit in accordance with Standard Specifications Section 37-5 "Crack Treatment".
- B. Product Data: Manufacturer's data sheets on product to be used, including:
 - 1. Preparation instructions and recommendations
 - 2. Storage and handling requirements and recommendations
 - 3. Installation methods
 - 4. Manufacturer's certified test reports.
- C. Certificates: A Certificate of Compliance conforming to Section 6-3.05E, "Certificate of Compliance," of the State Standard Specifications shall be supplied with each shipment.

PART 2 - PRODUCTS

2.1 CRACK SEALING MATERIALS

- A. The crack sealant shall be non-rubberized and be Crafcro Superflex HT Polymer Modified, or equal, which conforms to the following requirements:

Test	Test Method	Specification
Softening Point	ASTM D36	210 degrees Fahrenheit minimum
Cone Penetration at 77 degrees Fahrenheit	ASTM D5329	45 maximum
Flow at 140 degrees Fahrenheit	ASTM D5329	0 millimeters

- B. The modified asphalt material shall be furnished and premixed in containers with an inside liner of polyethylene. Packaged material shall not exceed 60 pounds in weight. Storage and heating instructions and cautions shall be supplied by the vendor with each shipment. The non-rubberized crack sealant shall be heated to a minimum temperature of 380°F, but not greater than 400°F, or as specified by the manufacturer and as approved by the Engineer. When heated, it shall readily penetrate cracks 1/4 - inch wide or larger.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Treat cracks from 1/4 to 1 inch in width for the entire length of the crack. Fill or repair cracks wider than 1 inch as directed by the Inspector.
- B. Cracks must be clean, free of dust, debris, or vegetation, and dry before treating using oil-free compressed air at a pressure of at least 90 psi, to the satisfaction of the Inspector, in accordance with Section 37-5.03, "Construction," of the State Standard Specifications.
- C. Air emitting from this nozzle shall be dry and clean – free of water, oil, and debris. Loose materials include vegetation, dust, dirt, moisture, old sealant, and foreign material.
- D. Sealant shall not be applied at ambient temperatures below 50°F and above 80°F or when inclement weather is pending – including rain or heavy fog.
- E. Crack sealing shall not proceed until all other preparation work is completed and approval to proceed is granted by the Inspector. Such other preparation work shall include, but not be limited to, HMA base repairs and clearing and grubbing.

3.2 APPLICATION AND WORKMANSHIP

- A. Crack sealing work shall be completed as specified herein prior to application of finish surface treatments, which treatments may include, but not be limited to, surface seal or microsurfacing.
- B. Equipment used by the Contractor shall be specifically built for this purpose and shall be capable of dispensing Crafcro Superflex HT or equivalent and operating procedures shall follow manufacturer's guidelines.
- C. Sealant material must not be higher than the adjacent surface. The crack sealant shall not be allowed to collect on the pavement and must be struck off with a guide-shoe, plate, or 'v' squeegee to produce a band of material 2 to 4 inches in width centered over the crack and flush to the existing grade.

- D. Heat hot-applied crack treatment material in compliance with the manufacturer's instructions. Comply with the manufacturer's application instructions.
- E. Traffic shall not be allowed on the material until it has cured or until it has been sanded to prevent tracking and damage to vehicles.
- F. Immediately remove crack treatment material spilled or deposited on the pavement surface.

PART 4 - MEASUREMENT AND PAYMENT

- A. The contract price paid for crack sealing shall include full compensation for performing the scope of work specified in the Crack Seal Technical Specifications section, including but not necessarily limited to, crack cleaning, crack filling and clean-up. Crack sealing shall be completed after grinding operations and before surfacing operations.
- B. Crack Sealing for all street segments combined shall be measured and paid as a lump sum. Payments for the lump sum item shall be determined based on the percentage of the bid item work completed as determined by the Engineer at the time the progress payment is prepared.

* * *

SECTION 10.12
AGGREGATE BASE COURSES
(No Bid Item)

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Aggregate base for over-excavated areas.
- B. Aggregate base for concrete improvements.

1.2 RELATED REQUIREMENTS

- A. Section 10.7 Grading and Subgrade Preparation
- B. Section 10.8 Fill and Backfill
- C. Section 10.10 Flexible Paving Repair (HMA Base Repair)
- D. Section 10.13 Concrete Improvements

1.3 REFERENCE STANDARDS

- A. ASTM C136-14 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ASTM D1557-12e1 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN m/m<sup>3- C. ASTM D2487-17 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- D. ASTM D4318-17e1- Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; 2010.
- E. ASTM D6938-17a - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).</sup>

1.4 SUBMITTALS

- A. Submit in accordance with 2015 Standard Specifications Section 26-1.01C "Submittals".
- B. Samples: 50 lb. sample of each type of aggregate; submit in air-tight containers to testing laboratory.
- C. Materials Sources: Submit name of imported materials source.
- D. Aggregate Composition Test Reports: Results of laboratory tests on proposed and actual materials used.
- E. Compaction Density Test Reports.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. When necessary, store materials on site in advance of need.
- B. When aggregate materials need to be stored on site, locate stockpiles where designated.
 - 1. Separate differing materials with dividers or stockpile separately to prevent

- intermixing.
- 2. Prevent contamination.
- 3. Protect stockpiles from erosion and deterioration of materials.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Class 2 Aggregate Base, 3/4 inch maximum, conforming to Section 26 of the 2015 State Standard Specifications.

2.2 SOURCE QUALITY CONTROL

- A. Where aggregate materials are specified using ASTM D2487-17 classification, test and analyze samples for compliance before delivery to site.
- B. If tests indicate materials do not meet specified requirements, change material and retest.
- C. Provide materials of each type from same source throughout the Work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify substrate has been inspected, gradients and elevations are correct, and subgrade is dry.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place aggregate on soft, muddy, or frozen surfaces.

3.3 INSTALLATION

- A. Under new asphalt pavement section:
 - 1. Place Class 2 Aggregate Base, 3/4-inch maximum to a total compacted thickness of 4 inches.
 - 2. Compact to 95 percent of maximum dry density as determined by ASTM D1557-12e1.
- B. Under HMA base repair over-excavation:
 - 1. Place Class 2 Aggregate Base, 3/4-inch maximum to a total compacted thickness of 6 inches.
 - 2. Compact to 95 percent of maximum dry density as determined by ASTM D1557-12e1.
- C. Place Aggregate Base and roller compact to specified density.
- D. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- E. Add water to assist compaction. If excess water is apparent, remove aggregate and

aerate to reduce moisture content.

- F. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

- A. Scheduled Compacted Thickness: Within 1/2 inch.

3.5 FIELD QUALITY CONTROL

- A. Compaction density testing will be performed on compacted aggregate base course in accordance with ASTM D6938-17a.
- B. Results will be evaluated in relation to compaction curve determined by testing un-compacted material in accordance with ASTM D1557-12e1 ("modified Proctor").
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest at no additional cost to the City.

PART 4 - PAYMENT

- A. No separate payment will be made for conforming to the provisions of this section. Full compensation for conforming to all the provisions of this section shall be considered as included in the prices paid for various contract items of work and no additional compensation will be allowed therefor.

* * *

SECTION 10.13
CONCRETE IMPROVEMENTS
(Bid Item No. 8 & 9)

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. This section includes exterior portland cement concrete for curbs and gutters and valley gutters.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
 - 1. Section 10.5 Paving Removal
 - 2. Section 10.7 Grading and Subgrade Preparation
 - 3. Section 10.10 Flexible Paving Repair (HMA Base Repair)
 - 4. Section 10.12 Aggregate Base Courses
 - 5. Section 10.15 Utility Grade Adjustment

1.2 APPLICABLE PUBLICATION

- A. Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation (CALTRANS), latest edition. In case of conflict between the State Standard Specifications and these specifications, these specifications shall govern.
 - 1. All work shall conform to State Standard Specifications Section 73, "Concrete Curbs and Sidewalks," except as modified in these Technical Specifications.
- B. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the general designation only.
- C. American Society for Testing and Materials (ASTM) Publication:
 - A1064 Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
 - A615 Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
 - C94 Ready-Mixed Concrete.
 - C114 Method for Chemical Analysis of Hydraulic Cement.
 - C150 Portland Cement.
 - C452 Test Methods for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate.
 - C618 Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
 - C2600 Air Entraining Admixtures for Concrete.
 - D1751 Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).

1.3 QUALITY ASSURANCE

- A. Compressive strength and cement content for the class of portland cement concrete herein designated shall be the minimum acceptable.
- B. No concrete for concrete improvements shall be placed until the subgrade, the forms, and reinforcement have been approved.
- C. The Contractor shall make all submittals in accordance with State Standard Specifications Section 73.
- D. Material Certificates and Submittals: Signed by manufacturers certifying that each of the following materials complies with requirements.
 - 1. Cementitious materials and aggregates.
 - 2. Steel reinforcement, keyways and reinforcement accessories.
 - 3. Admixtures.
 - 4. Curing compounds.
 - 5. Bonding agent or adhesive,
 - 6. Joint fillers.
 - 7. Detectable Warning Surface.

1.4 JOB CONDITIONS

- A. Temperature of mixed concrete, immediately prior to placement, shall not be less than 50 °F, nor more than 90 °F. Aggregates and water shall be heated or cooled at the mixing plant by supplier as necessary to produce concrete within these limits. Neither aggregates nor mixing water shall be heated to exceed 150 °F.
- B. Hand mixing of portland cement concrete shall not be allowed except upon prior written approval.
- C. Where a portion of existing concrete improvements is to be reconstructed, the section to be removed shall first be a cut with an approved concrete saw to a minimum depth of one-half the depth of the existing concrete at the first score line beyond the area to be replaced.
- D. Where concrete removal is required, it shall be removed to the nearest score line of joints.
- E. Prior to placing concrete for concrete structures, Contractor shall first secure approval of the forms and any required reinforcement.

PART 2 - PRODUCTS

2.1 AGGREGATE FOR PORTLAND CEMENT CONCRETE

- A. Aggregates for portland cement concrete shall conform to the requirements of Section 90-2.02C of the State Standard Specification.

2.2 WATER FOR PORTLAND CEMENT CONCRETE

- A. Water for mixing and curing concrete and for washing aggregates shall conform to the requirements of Section 90-2.02D of the State Standard Specifications.

2.3 CEMENT FOR PORTLAND CEMENT CONCRETE

- A. Cementitious material for minor concrete shall conform to the requirements of Sections 73-1.02A and 90-2.02B of the State Standard Specification, except as modified in these Technical Specifications.
- B. Proportion mixes for curbs, gutters, driveways, and curb ramps to provide concrete with the followings properties.
 - 1. Minor concrete as defined by the Capitola Standard Specifications for public improvements. Compressive Strength (28 days): 3,000 pounds per square inch (minimum).
 - 2. Minor concrete must contain at least 505 pounds of cementitious material per cubic yard.
 - 3. The cementitious material must be composed of one of the following, by weight:
 - a. A minimum of 20 percent natural pozzolan or fly ash with a CaO content of up to 10 percent.
 - b. A minimum 35 percent GGBFS.
 - 4. Slump Limit: Maximum 4 inches.

2.4 EXPANSION JOINT MATERIAL

- A. Joint Sealer: State Standard Specifications, Section 51-2.02 "Sealed Joints".
- B. Material for expansion joints in portland cement concrete improvements shall be pre-molded expansion joint fillers of the thickness called for on the plans and conforming to the requirements of ASTM Designation D1751. Expansion joint material shall be shaped to fit the cross section of the concrete prior to being placed. Suppliers certificates showing conformance with this specification shall be delivered with each shipment of materials delivered to the job site.

2.5 REINFORCEMENT AND DOWELS

- A. Bar reinforcement for concrete improvements shall be deformed steel bars of the size or sizes called for on the plans conforming to the requirements of ASTM Designation A615 for Grade 60 bars. Size and shape for bar reinforcement shall conform to the details shown or called for on the plans. Slip dowels, where noted or called for on the plans or detail drawings shall be smooth billet-steel bars as designated and conforming to the requirements of ASTM Designation A615 for Grade 60 bars. Dowel bars must be lubricated with an ASTM C309 pigmented, Type 3, Class A curing compound or paraffin based. Paraffin-based lubricant must be Bradley Coatings Group BCG 6116 or Valvoline Tectyl 506 or an authorized equal and must be factory-applied. If you are using curing compound as a lubricant, apply the curing compound to the dowels:
 - 1. In 2 separate applications. Apply the last application no more than 8 hours before placing the dowels.
 - 2. Such that each dowel is completely lubricated before placement.
 - 3. At a rate of 1 gallon per 150 square feet.
- A. Suppliers certificates showing conformance with this specification shall be delivered with each shipment of materials delivered to the job site.

PART 3 - EXECUTION

3.1 STRUCTURAL EXCAVATION

- A. The Contractor shall protect from damage, any utilities and other non-highway facilities that are to remain in place, be installed, relocated, or otherwise rearranged.
- B. The Contractor shall be responsible for adjusting to new finish grades, all utility boxes, public or private. The Contractor shall coordinate with affected agencies as necessary.
- C. Existing concrete to be removed shall be completely removed and disposed of in conformance with the provisions in Section 15-3, "Concrete Removal", of the Standard Specifications and these Technical Specifications, as shown on the plans, and as directed by the Inspector.
- D. Sawcuts shall be made on the nearest joint or score line. Sawcuts must go entirely through concrete. Cut concrete shall be removed without damaging the concrete that is to remain in place, or any other structures or improvements adjacent to the cut concrete. Damage to concrete or any adjacent existing structure or improvement, which is to remain in place, shall be repaired to a condition satisfactory to the Inspector. Repairing or removing and replacing structures, improvements, and/or the concrete to remain in place, that are damaged outside the limits of concrete to be replaced, shall be at the Contractor's expense and will not be measured nor paid for.
- E. If existing pavement is asphalt, sawcut line on the pavement in front of curb or gutter lip including gutter for curb ramps shall be at least twenty-four (24) inches beyond the concrete edge to allow for construction of forms.
- F. Slurry from sawcut operation shall be removed sufficiently by vacuuming or similar method from the concrete surface and shall be prevented from entering any waterway or storm drain system in accordance with best management practices (BMP's).
- G. Surplus excavation material remaining upon completion of the work shall be either removed from job site, or conditioned to optimum moisture content and compacted as fill at the site.

3.2 FORMS FOR CONCRETE

- A. Form work for minor concrete shall conform to the requirements of Sections 73-1.03 of the State Standard Specification, except as modified in these Technical Specifications.
- B. Concrete improvements shall be formed with a smooth and true upper edge and the side of the form shall be placed next to concrete with a smooth finish. Forms shall be constructed or made rigid enough to withstand the pressure of the fresh concrete to be placed without any distortion.
- C. All forms shall have been thoroughly cleaned prior to placement and shall be coated with approved form oil sufficient to prevent adherence of concrete prior to placing.
- D. Forms shall be carefully set to the alignment and grade established and shall conform to the required dimensions. Forms shall be rigidly held in place by stakes set at satisfactory intervals. Sufficient clamps, spreaders and braces shall be installed to insure the rigidity of the forms.
- E. Forms for back and face of curbs, curb ramps, lip of gutters and edge of walks, valley gutters or other surface slabs shall be equal to the full depth of the concrete as shown, noted or called for on the plans or detail drawings. Composite forms made up from benders or thin planks of sufficient ply to ensure rigidity of the form in the shape

required may be used on curves and curb returns.

- F. Curbs shall have forms removed and be backfilled within three (3) days after placement.

3.3 PLACING STEEL REINFORCEMENT AND DOWELS

- A. Steel reinforcement and dowels for minor concrete shall conform to the requirements of Sections 73-2.03 of the State Standard Specification.

3.4 PLACING CONCRETE

- A. Existing subgrade surface shall be re-graded (if necessary) and re-compacted.
- B. No concrete shall be placed until the subgrade, aggregate base, and the forms have been approved. Concrete placed without approval by the Inspector is subject to rejection.
- C. Class 2 Aggregate Base will be placed under curbs, gutters, curb ramps, and driveways per details on Plans and shall comply with Section 26, "Aggregate Bases," of the Standard Specifications and these Technical Specifications.
- D. Sidewalks and curb ramps shall be four (4) inches thick.
- E. Driveways shall be six (6) inches thick.
- F. Concrete shall be conveyed from mixer to final location as rapidly as possible by methods preventing separation of the ingredients and prior to initial set of concrete. Deposit concrete as nearly as possible in final position to avoid re-handling.
- G. Weakened plane joints at least 1-1/2 inches deep shall be placed to match joints in existing concrete pavement. If the pavement is not concrete, weakened plane joints at least 1-1/2 inches deep shall be placed at ten (10) feet on center.

3.5 FINISHING AND CURING

- A. Concrete curb and gutter shall be finished in conformance with the applicable requirements of Section 73-2.03A and 73-2.03B of the State Standard Specifications as modified herein. Water shall not be added to the concrete surface after concrete is placed on grade, nor applied at any time during finishing operations.
- B. Horizontal surfaces shall receive a medium broom finish unless otherwise shown.
- C. Concrete shall be cured using the curing compound method with pigmented curing compound in accordance with Section 73-1.03E of the State Standard Specifications. Curing compound shall be applied uniformly and in accordance with and at a rate in compliance with manufacturer's recommendations.

3.6 ROADWAY ACCESSORY CONSTRUCTION

- A. Concrete walkways, island paving, valley gutters and driveway approaches shall be formed, placed and finished in conformance with the applicable requirements of Section 73-3 of the State Standard Specifications, except as modified in these Technical Specifications.
- B. Where new concrete curb and gutter is to be constructed against existing AC remove 24" of the AC to form new gutter lip. Patch pave after gutter form is removed.
- C. HMA (Type A) placed adjacent to curb shall comply with Section 39, "Hot Mix Asphalt Concrete," of the Standard Specifications and these Technical Specifications.

3.7 CONNECTING TO EXISTING CONCRETE IMPROVEMENTS

- A. Whenever new curb, curb ramp, gutter, sidewalk, or driveway is to connect to existing improvements to remain, sawcut to existing sound concrete at the nearest score line or expansion joint. Drill and insert 3/4" diameter by 12" long smooth dowels at 18" on center into existing improvements. Install pre-molded expansion joint filler at the matching joint.
- B. A "cold" joint to the existing curb, gutter, driveway or sidewalk is not permitted.

3.8 FIELD QUALITY CONTROL

- A. Finish subgrade for concrete improvements shall be subject to approval prior to placement of forms.
- B. No concrete shall be placed prior to approval of forms.
- C. Appearance and finish of all concrete improvements constructed shall not contain "bird baths" or pond water and shall be smooth and ridge free.
- D. Finish grade at top of curb, flow line of gutter, and the finish cross section of concrete improvements shall conform to the design grades and cross sections.
- E. Comply with tolerances of ACI 117 and as follows.
 - 1. Elevation: 0.25 inch.
 - 2. Thickness: Plus 0.375 inch, minus 0.25 inch.
 - 3. Surface: Gap below 10 feet long, unlevelled straightedge not to exceed 0.25 inch.
 - 4. Lateral Alignment and Spacing of Dowels: 1 inch.
 - 5. Vertical Alignment of Dowels: 0.25 inch.
 - 6. Alignment of Dowel-Bar End Relative to line Perpendicular to Pavement Edge: Length of dowel 0.25 inch per 12 inches.
 - 7. Joint Spacing: 0.5 inch.
 - 8. Score Joint Depth: Plus 0.25 inch, no minus.
 - 9. Joint Width: Plus 0.125 inch, no minus.

3.9 RESTORATION OF EXISTING IMPROVEMENTS

- A. Existing pavement or other improvements removed or damaged due to the installation of concrete improvements shall be replaced in kind by the Contractor.
- B. Restoration work of disturbed grounds or improvements including pavement around new concrete must be done as soon as practicable but no later than seven (7) days after concrete placement.
- C. Existing landscaping or planting removed, damaged or disturbed due to the installation of concrete improvements shall be replaced in kind.

3.10 CURB RAMP CONSTRUCTION AND PEDESTRIAN AND BICYCLIST SAFETY

- A. The Contractor shall provide a safe path of travel for pedestrians when replacing curb, gutter, or sidewalks.

3.11 CLEANUP

- A. The Contractor shall dispose demolition debris offsite at the end of each day.
- B. Surplus material and debris remaining upon completion of the work shall be segregated as to type, and transported from the job site and disposed of in a legal manner.

PART 4 - MEASUREMENT AND PAYMENT

- A. The contract price paid for PCC Curb and Gutter and PCC Valley Gutter shall include full compensation for performing the scope of work specified in this Specification section, including, as appropriate, but not necessarily limited to sawcutting of existing concrete along existing score lines, removal and disposal of existing materials, excavation, subgrade preparation, compaction, grading, class 2 aggregate base, 24” HMA plug, conform, disposal of surplus materials, installation and removal of formwork, clearing & grubbing, tree trimming performed by a qualified arborist, installation of root control barrier, construction of concrete improvements, flowline test, inlet protection, adjustment of any utility boxes, valves, monuments, drain inlets, detector handholes (in asphalt concrete area removed for formwork and conforms), steel plates, vaults, and manholes to match finished grade, finishing, application of curing compound, restoration of surrounding improvements including planting, irrigation repairs, asphalt concrete repairs, asphalt joint sealing, etc., vehicular and pedestrian accommodations, clean-up and incidentals to complete work according to the plans and specifications.
- B. PCC curb and gutter shall be measured and paid for by the linear feet LF of PCC curb and gutter removed and replaced per the Plans.
- C. PCC Valley Gutter shall be measured and paid for by the square foot SF of PCC Valley Gutter removed and replaced per the Plans.

* * *

SECTION 10.14
PAVEMENT MARKINGS AND ACCESSORIES
(Bid Item No. 12-24)

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Inventory and record layout of existing traffic striping, pavement markings, and markers.
- B. Cleaning and sweeping of surface before application of markings and striping.
- C. Application of temporary and permanent stripes and pavement markings.
- D. Restoration of existing conditions per layout recorded prior to surface treatment.
- E. Replacing existing Caltrans Stripe Detail 10, Detail 23, and Detail 40A with Caltrans Stripe Detail 9, Detail 22, and Detail 40; respectively.
- F. Supplying all labor, materials, equipment and apparatus not specifically mentioned herein or noted on the Project Plans, but which are incidental and necessary to complete the work specified.

1.2 QUALITY ASSURANCE

- A. Manufacturer's certificates showing conformance with this specification shall be delivered with each shipment of materials and equipment delivered to the job site.
- B. Codes and Standards
 - 1. The standards, recommended methods and tests contained in the publications cited below shall determine the standards for the work to be done hereunder unless otherwise specifically designated on the plans:
 - a. *The California Manual on Uniform Traffic Control Devices (California MUTCD), 2014 edition Revision 3.*
 - b. The regulations, standards, and tests of the State of California Department of Transportation Materials and Research Division.
 - c. *The State of California Standard Plans and Standard Specifications*, and applicable related Standard Special Provisions.
 - 2. Traffic signs, roadway markers and delineators, traffic stripes, pavement markings, and signs & posts shall be placed in the locations shown on the plans and shall conform to the applicable sections of the CA MUTCD and the State of California Highway Design Manual.
 - 3. Reference by manufacturers, brands or models is to establish type and quality of materials desired. Substitutions of materials of equal quality will be permitted upon the prior written approval.

1.3 JOB CONDITIONS

- A. No striping, markings, markers, and sign & posts shall be applied until pavement surfaces have been approved.
- B. Concrete shall be thoroughly cured before application of striping, markings, markers, and sign & posts thereon.

1.4 SUBMITTALS

- A. Traffic striping, pavement marking, and markers inventory.
- B. For each lot or batch of thermoplastic and glass beads, submit:
 - a. Certificate of compliance, including the product name, lot or batch number, and manufacture date.
 - b. METS notification letter stating that the material is authorized for use.
 - c. SDS
- C. For glass beads used in drop-on applications and in thermoplastic formulations, submit a certificate of compliance and test results for each lot of beads specifying the EPA test methods used and tracing the lot to the specific test sample. The testing for lead and arsenic content must be performed by an independent testing laboratory.
- D. Submit retroreflectivity readings for traffic stripes and pavement markings at locations with deficient retroreflectivity determined by the Inspector.

PART 2 - PRODUCTS

2.1 TEMPORARY PAVEMENT MARKERS

- A. Short term, temporary pavement markers shall be day/night retroreflective raised pavement markers conforming to the requirements of Section 12 of the State Standard Specifications and Part 6 of the CA MUTCD.

2.2 THERMOPLASTIC STRIPES AND MARKINGS

- A. Traffic stripes and pavement markings shall be thermoplastic material. Thermoplastic stripes and markings shall be extruded thermoplastic conforming to Section 84-1 and 84-2 of the State Standard Specifications.
- B. Thermoplastic stripes and markings shall have a minimum skid friction value of BPN=35.
- C. Glass beads applied to molten thermoplastic material, or paint must comply with State Specification 8010-004.
- D. Submit certificates of compliance showing conformance with this specification for each load of material delivered to the job site.

2.3 PERMANENT PAVEMENT MARKERS AND ADHESIVES

- A. Pavement markers shall be the type and description shown, noted or called for on the plans and detail drawings, and shall conform to the requirements of Section 81-3 "Pavement Markers" of the State Standard Specifications and the State Standard Plans.
- B. Adhesive for pavement markers shall be either epoxy or hot melt bituminous adhesive conforming to the requirements of Section 81 of the State Standard Specifications.
- C. Submit certificates of compliance showing conformance with these specifications for each load of pavement markers delivered to the job site. Pavement markers must be on Caltrans' Authorized Material List of signing and delineation materials.

2.4 REFLECTORIZED MARKERS AND POSTS

- A. Retroreflective markers and delineators shall be of the size, type and description shown, noted, or called for on the plans and detail drawings and shall conform to the requirements of Section 82 of the State Standard Specifications, and the CA MUTCD.
- B. Posts for retroreflective markers shall be of the type shown, noted, or called for on the plans and detail drawings and shall conform to the requirements of Section 82-5 of the State Standard Specifications.
- C. Target plates for markers shall be of the type shown, noted, or called for on the plans and detail drawings and shall conform to the requirements of Section 82-5.02E of the State Standard Specifications.
- D. Reflectors for markers and delineators must consist of Type III or higher grade retroreflective sheeting on the State Authorized Material List for signing and delineation materials, and shall comply with requirements in the CA MUTCD.
- E. Mounting hardware shall conform to the requirements of Section 82-5.02G of the State Standard Specifications.

2.5 TRAFFIC CONTROL SIGNS

- A. Traffic control sign panels shall be of the type, size, shape, and pattern designated or called for on the plans and detail drawings. Where sign sizes are not specified in the plans, the designated Standard size sign in accordance with the CA MUTCD shall be used.
- B. Signs shall conform to the requirements of Section 82-2 of the State Standard Specifications.
- C. Signs must comply with the *California Sign Specifications and the Federal Standard Highway Signs and Markings Book*.
- D. Submit a certificate of compliance for:
 - 1. Aluminum sheeting
 - 2. Retroreflective sheeting
 - 3. Screened-process colors
 - 4. Nonreflective, opaque, black film
- E. Sign panels shall be constructed of aluminum, unless otherwise specified on plans. Aluminum panels shall conform to the requirements in Section 82-2.02B, 82-2.02C, and 82-2.02D of the State Standard Specifications.
- F. Retroreflective sign sheeting shall conform to the requirements in Section 82-2.02C of the State Standard Specifications and Part 2 of the CA MUTCD.
- G. Sign information must be imprinted in 1/4-inch upper case letters and numerals. Locate this information on the back, lower right of each sign panel. Sign information must include:
 - 1. Month and year of fabrication
 - 2. Type of retroreflective sheeting
 - 3. Sheeting manufacturer's identification and lot number for the retroreflective sheeting

- H. Posts for traffic control signs, unless designated to be mounted on traffic signal or electrolier standards, shall be as designated and detailed on the plans.
- I. Mounting hardware for traffic control signs shall conform to the details shown or called for on the plans. Mounting hardware for signal or electrolier standards or metal posts shall conform to the applicable requirements and specifications shown and noted on Plan RS4 of *State Standard Plans* and Section 56-4.02E of the State Standard Specifications.
- J. Concrete bases for traffic control sign posts shall be Portland cement concrete of the shape and dimensions shown or called for on the plans and detail drawings, and shall conform to the requirements of Section 10.13 of these specifications and Section 90-2 of the State Standard Specifications.

2.6 PROTECTION

- A. The Contractor shall protect the newly installed TP pavement markers, stripes, and signs & posts from damage until the material has cured.
- B. Replace any markers or signs & posts broken, misaligned or otherwise disturbed prior to opening road to traffic.

PART 3 - EXECUTION

3.1 TEMPORARY PAVEMENT MARKERS

- A. Temporary pavement markers shall be installed and replaced as directed.
- B. If permanent pavement markers cannot be installed immediately, short term, temporary pavement markers shall be installed on new surfaces before the road will be opened for traffic.

3.2 THERMOPLASTIC STRIPES AND MARKINGS

- A. Thermoplastic stripes and markings shall be applied in conformance with the manufacturer's recommended instructions and the applicable requirements of Section 84-2.03 of the State Standard Specifications.
- B. Use mechanical wire brushing to remove dirt, contaminants, and loose material from the pavement surface that is to receive the traffic stripe or pavement marking. Use abrasive blast cleaning to remove laitance and curing compound from the surface of new concrete pavement that is to receive the traffic stripe or pavement marking.
- C. Apply a traffic stripe or a pavement marking to a dry surface during a period of favorable weather when the pavement surface is above 50 degrees F. Apply extruded thermoplastic at a temperature from 400 to 425 degrees F, unless a different temperature is instructed by the manufacturer.
- D. Apply glass beads to the surface of the molten thermoplastic at a rate of at least 8 lb/100 sq ft. Glass beads must be embedded in the coat or thermoplastic to a depth of 1/2 their diameters.
- E. Apply extruded thermoplastic for a traffic stripe at a rate of at least 0.20 lb/ft of 4- inch wide solid stripe. The applied thermoplastic traffic stripe must be at least 0.06 inch thick. An applied thermoplastic pavement marking must be 0.10 to 0.15 inch thick.

3.3 PAVEMENT MARKERS

- A. Pavement markers shall be installed in conformance with the requirements of Section 81-3 of the State Standard Specifications.
- B. Remove undesirable material from the pavement surface. Clean the pavement surface by abrasive blast cleaning when directed by the Inspector.
- C. Markers shall be installed accurately to the line established by the Inspector. No markers shall be installed until the surface and layout have been approved by the Inspector.

3.4 REFLECTORIZED MARKERS

- A. ReflectORIZED markers shall be installed in conformance with the requirements of Section 82-5.03 of the State Standard Specifications, except that the metal marker posts shall not be driven in place without prior approval of the Inspector.
- B. ReflectORIZED markers shall be installed accurately at the locations called for on the plans and in the positions specified on the detail drawings.

3.5 TRAFFIC CONTROL SIGNS

- A. Traffic control signs shall be installed in conformance with the requirements of the CA MUTCD, and Section 56 of the State Standard Specifications.
- B. After erection, damage to traffic sign faces shall be repaired as required.

3.6 REMOVE, STORE, AND RELOCATE SIGN AND POST

- A. Prior to surface treatment or curb ramp replacement remove sign and post as indicated on the Plans. Contractor shall be careful when removing sign and post as not to damage them and record the location of the post. The sign and post shall be stored in an approved location.
- B. After paving and concrete operations the Contractor shall install sign and post per Plans. Any sign and post damaged by the Contractor while removing, transporting, or in storage shall be replaced at no cost to the City.

3.7 RESTORATION OF EXISTING IMPROVEMENTS

- A. Existing signs or other markings removed or damaged due to the installation of roadway markers or traffic control signs shall be replaced in kind.
- B. Existing landscaping or planting removed, damaged or disturbed due to the installation of roadway markers or traffic control signs shall be replaced in kind.

3.8 CLEANUP

- A. Upon completion of the installation of Pavement Markings and Accessories, Contractor shall thoroughly clean the work site of all waste, rubbish and construction debris of any nature.
- B. Upon removal of temporary signs, patch holes in walkway with portland cement concrete conforming to Section 10.13 of these Specifications.

PART 4 - MEASUREMENT AND PAYMENT

- A. Thermoplastic Traffic Stripes of the various Details listed in the Bid Schedule, Thermoplastic Traffic Stripe 4" (White or Yellow), Thermoplastic Traffic Stripe-Stop Bar, Thermoplastic Traffic Stripe Basic Crosswalk, Thermoplastic Traffic Stripe Ladder Crosswalk, and Thermoplastic Traffic Stripe Continental Crosswalk will be measured by the linear foot of traffic stripes and crosswalk/limit lines (white or yellow) installed.

Thermoplastic Pavement Marking will be measured by the square foot for the various types of pavement markings (legends) installed.

The contract unit prices paid for each of the various thermoplastic traffic stripes and pavement markings (legends) shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all of the work involved in painting thermoplastic traffic stripes, (regardless of the number, width, and patterns of individual stripes involved in each traffic stripe), and thermoplastic pavement markings including establishing alignment for stripes and layout work complete and in place, and for inventorying and recording the layout of existing traffic striping, pavement markings, and markers, as specified in these Technical Specifications and as directed by the Engineer/Inspector.

Blue Fire Hydrant Pavement Marker and Remove & Replace Raised White Tubular Markers will be measured as each by actual count replaced per the Plans. The contract unit price paid per each for Blue Fire Hydrant Pavement Marker and Remove & Replace Raised White Tubular Markers shall include full compensation for furnishing all labor, material, tools, equipment and incidentals, and for doing all the work involved in applying pavement markers, complete in place, including, epoxy as shown on the plans, as specified in the State Standard Specifications and these Technical Specifications, and directed by the Engineer.

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SECTION 10.15
UTILITY GRADE ADJUSTMENT
(Bid Item No. 25 & 26)

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Adjusting existing utility facilities (in general within HMA base repair areas) to grade.

1.2 RELATED SECTIONS

- A. 10.5 Paving Removal
- B. 10.8 Fill and Backfill
- C. 10.9 Type II Slurry Seal
- D. 10.10 Flexible Paving Repair (HMA Base Repair)

1.3 REFERENCE STANDARDS

- A. State Standard Specifications, Section 15.

1.4 SUBMITTALS

- A. Manufacturer's cut sheets for valve boxes and monument boxes.

PART 2 - PRODUCTS

2.1 MATERIALS

Materials for adjusting facilities to grade must be similar in character to the existing materials.

PART 3 - EXECUTION

3.1 FACILITY ADJUSTMENT PROCESS

- A. The work performed in connection with adjusting various existing utility surface features shall conform to the provisions in Section 15, "Existing Facilities," of the State Standard Specifications and these Specifications.
- B. Existing utility surface features to be adjusted are summarized on the Project Plans. The Contractor is responsible for locating and field verifying the location of all existing utilities and utility features prior to the start of construction activities and protecting all facilities during construction. All damage caused by the Contractor to existing facilities must be repaired within 24 hours at the sole expense of the Contractor.
- C. The Contractor shall notify and coordinate the work of identifying and marking utility facilities with the respective utility personnel. The Contractor shall coordinate with applicable utilities 48 hours in advance of any excavation activity so all existing underground facilities can be located and marked.
- D. The Contractor shall coordinate with the Engineer to perform the work after the Contract is awarded. The Contractor shall notify the Engineer prior to start of construction for any coordination effort.
- E. Within areas designated for HMA base repairs and mill and HMA overlay, all existing facilities (e.g. utility manhole frame and covers, water valve boxes) shall be lowered and adjusted/raised to final grade.
- F. The Engineer shall be notified by the Contractor of the schedule prior to the commencement of work. Before adjusting utilities, the Contractor shall reference the location of and inventory the

facilities to be adjusted. The Contractor shall record the exact location and type of facility by labeling the assembly with numbers at the location visible for verification. The labeling shall include facility site, collar, and lid to ensure proper match of hardware when facility adjustment is complete at the conclusion of the Project. Any hardware damaged by the Contractor's operations shall be replaced at the Contractor's sole expense.

- G. The Contractor shall submit the facility reference information and inventory list to the City and appropriate utility personnel upon completion of lowering facilities. The Contractor shall also keep a copy of the facility location reference information and inventory list on the Project site at all times for emergency shutoff purposes. The Contractor shall maintain the list at an approved location, such that the list is accessible 24 hours per day for the duration of the Project.
- H. Frames and covers shall be removed, transported and stored without damage. Any item damaged during the removal, transportation and storage shall be replaced at the Contractor's expense. Pre-existing damage must be brought to the City's attention prior to commencement of any work. The covers shall be removed by excavating around the frame and cover in a neat line with a dimension not greater than necessary to loosen and adjust the frame with the cover and the concrete collar.
- I. Adjustments shall be accomplished by removing the existing concrete collar around the frame, installing concrete adjusting rings (or others, as needed), raising the frame and cover, and construction of a new concrete collar. The concrete collar shall be constructed so that the top of the collar is no greater than three inches and no less than two inches below the existing pavement grade surrounding the facility. The void between the top of the concrete collar and the finish grade of the pavement around the collar shall be paved to finish grade with asphalt concrete (HMA).
- J. All existing valve and monument boxes shall be removed and replaced as indicated on the Plans at the time of construction. Water and gas valves must be accessible immediately after paving and water and gas valve covers must be raised within 48 hours of paving. All roads where structures were raised to grade must be paved within 24 hours or the Contractor shall be required to furnish temporary paving.
- K. Adjustment of survey monument casings by the use of extension rings will not be allowed. Casings to be adjusted shall be removed and replaced with new covers and frames. The covers shall be non-rocking, and designed for a wheel load of 15,000 pounds.
- L. If an existing monument is damaged or disturbed by the Contractor's operations, the Contractor shall bear the cost and responsibly for obtaining the services of a registered Land Surveyor or Civil Engineer to tie out the existing monument, remark, and reset the monument. The Contractor shall be responsible for filing the appropriate Corner Records and shall provide a copy of all recorded documentation to the City prior to Project acceptance.
- M. Existing survey monuments shall be preserved, referenced or replaced pursuant to the requirements of State of California Streets and Highways Code Sections 732.5, 1492.5, and 1810.5 and Business and Professions Code Section 8771.
- N. The Contractor shall not disturb permanent survey monuments or benchmarks without the consent of the City. The Contractor shall bear the expense of replacing any monuments or benchmarks that may be disturbed without permission. Replacement shall be done only with the direction of and in the presence of the City, and in accordance with City standards.
- O. Should the Contractor during the course of construction encounter a survey monument or benchmark not shown on the plans, the Contractor shall promptly notify the City so that the monument or benchmarks may be referenced accordingly.

PART 4 - MEASUREMENT AND PAYMENT

- A. The adjustment of existing utility facilities to finish grade as listed in the bid schedule (Bid Item No. 25 & 26) shall be measured per the actual count of each facility type adjusted.

- B. The contract unit prices paid for adjusting survey monument boxes, valve boxes, and other utility facilities shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and doing all of the work involved in referencing, lowering, installing temporary covers and surfacing over, adjusting to grade existing facilities, and installing new facilities (if required), as specified in these Technical Specifications and as directed by the Engineer.
- C. Full compensation for protecting any utility in place shall be considered as included in the contract prices for the various items of work and no additional compensation will be made therefor.

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