

# **CITY OF CAPITOLA**

## **SPECIAL PROJECT SPECIFICATIONS**

**FOR CONSTRUCTION OF**

# **CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

**FOR USE IN CONJUNCTION WITH  
STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION  
STANDARD SPECIFICATIONS AND STANDARD PLANS  
DATED 2018 WITH MOST RECENT REVISIONS**

**BIDS OPEN: Wednesday, August 5, 2020 at 11:00 AM**

**THIS IS A PREVAILING WAGE PROJECT**

**DO NOT DETACH THE PROPOSAL FROM  
THE SPECIAL PROJECT SPECIFICATIONS**



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





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SPECIAL PROVISIONS

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## NOTICE TO CONTRACTORS

### NOTICE INVITING SEALED PROPOSALS OR BIDS

NOTICE IS HEREBY GIVEN that the City of Capitola, County of Santa Cruz, State of California, hereby invites sealed proposals or bids for the following work, all as more particularly and in detail set forth in those certain plans, specifications, and contract documents adopted therefore, copies of which are on file with the City of Capitola, County of Santa Cruz, State of California, to wit:

### **CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

#### General work description:

This project will complete improvements on two structures located on Capitola Beach. The scope of work on the flume includes installing a liner, reconstructing the top of the outer end of the flume, and installing cutoff walls underneath the flume. The jetty work includes re-establishing the height and nose of the jetty to its originally constructed dimensions by restacking both existing and imported rock.

#### Construction timing:

The contractor is hereby advised that the construction window for this project shall extend from October 2020 through April 2021. All construction work on the flume and jetty may occur concurrently or separately. Flume repair is anticipated to occur after the Soquel Creek breaches the sand bar and flows directly to Monterey Bay, no longer flowing through the flume. This breaching typically occurs when stream flow exceeds 30 cubic feet per second (cfs), likely in October or November. Jetty repair is anticipated to occur during the lowest tides of the season, but outside of large winter wave events. Total project duration is anticipated to be 1 to 2 months if performed concurrently, or 3 to 4 months if performed sequentially.

The estimated cost of construction is \$868,500

The plans, and specifications and contract documents may be examined and copies secured from the Director of Public Works, City Hall, 420 Capitola Avenue, Capitola, CA 95010 or accessible from the City's website <http://www.cityofcapitola.org>

No contractor or subcontractor shall be qualified to bid on, be listed in a bid proposal, or enter into any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration to the City.

In accordance with California Labor Code Section 1771, all workers engaged in performance of the specified contract work shall be paid not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the project is to be performed, including for holiday

and overtime work as determined by the Director of Industrial Relations. Prevailing rate of per diem wages are available online at:

<http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm>

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Notice is also hereby given that all bidders shall submit, with their proposals or bids, a sworn statement of their financial responsibility, technical ability and experience.

No sealed proposal or bid will be accepted from a contractor who has not been licensed in accordance with the provisions of Chapter 9, Division III of the Business and Professions Code, as amended. In addition, the project requires a valid California contractor's license for the following classification(s):

California Class A license. Bidders must provide satisfactory evidence of such license at the time of bid.

Each sealed proposal or bid shall be accompanied by a certified check, cashier's check or bidder's bond made payable to the order of the City of Capitola, for an amount not less than 10 percent of the amount of the proposal. The above-mentioned bid deposit shall be given as a guarantee that the bidder will enter into a contract, if awarded, and will be declared forfeited if the successful bidder refuses, or fails, to enter into said contract, and furnish required bonds within the time specified after being notified to do so by the City of Capitola.

All proposals for the above-mentioned work will be received by the City of Capitola, County of Santa Cruz, State of California by

**Wednesday, August 5, 2020 at 11:00 AM**

at the Capitola City Hall, 420 Capitola Avenue, Capitola, California 95010. All proposals shall be in sealed envelopes plainly endorsed:

**CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

Proposals/bids will be opened publicly and read aloud on Wednesday, August 5, 2020 at 11:00 AM at Capitola City Hall, 420 Capitola Avenue. Capitola, CA 95010.

Closing time to receive bids will be determined by a clock designated by the City of Capitola. Bidder shall be responsible to check the designated clock.

The successful bidder will be required to furnish a Labor and Material Bond in the amount equal to 100 percent of the contract price, and a Faithful Performance Bond in an amount equal to 100 percent of the contract price, said bonds to be issued by a corporate surety company in the form approved by the City Attorney. The contractor will be allowed ten calendar days after she/he has received written notice that the contract has been awarded to him/her by the City within which to deliver the agreement with his/her signature affixed thereto, together with the completed aforementioned bonds and insurance certificates, to the Director of Public Works of the City of Capitola.

The City of Capitola reserves the right to reject any and all bids and waive any irregularity or minor defects in any proposal received. Unless otherwise required by law, no bidder may withdraw his/her bid for a period of thirty days after the date set for the opening thereof. Where possible, bids will be compared on the basis of the Engineer's estimate of the quantities of work to be performed.

The City of Capitola hereby notifies all bidders that it will affirmatively insure that in any agreement entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, national origin, religion, age, or disability in consideration for an award.

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## **INSTRUCTIONS TO BIDDERS**

### **CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

All bidders' attention is directed to the City of Capitola's Special Project Specifications, Part 1 – Standard Provisions, Section 2 "Proposal Requirements and Conditions," for requirements related to bidding and bid proposals. Bids shall be submitted in writing on the proposal forms provided by the City. All information requested therein must be clearly and legibly set forth in the manner and form indicated. The City will not consider any proposal not meeting these requirements.

By submitting a proposal/bid, each bidder represents that they have carefully examined and investigated the site of the work contemplated and the Plans, Drawings, and Specifications therefore, in accordance with the City's Special Project Specifications.

Failure of the bidder to fulfill requirements for submittals required to be furnished after bid opening, including but not limited to bonds or escrowed bid documents, where applicable, may subject the bidder to an adverse determination of the bidder's responsibility in the event it is the apparent low bidder on a future public works contracts.

Bid protests and procedures therefore are set forth in the City's Special Project Specifications.

In the event the bidder has any questions as to the meaning of any part of the plans and specifications, or if the bidder finds any error, inconsistency, or ambiguity in the Contract Documents, the bidder shall make a written request for clarification prior to submitting its bid. All questions and comments regarding the plans and specifications should be directed to the Project Manager indicated below and will only be responded to if received in writing at least five (5) working days before the bid opening. Questions received after this time and date may not be responded to.

Kailash Mozumder, Public Works Project Manager  
City of Capitola  
420 Capitola Avenue  
Capitola, CA 95010  
Email: [kmozumder@ci.capitola.ca.us](mailto:kmozumder@ci.capitola.ca.us)

These "Instructions to Bidders" are hereby made a part of the Contract Documents.

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**PROPOSAL FORMS**  
**BIDDER'S PROPOSAL**

Enclosed is Bidder's proposal to furnish and deliver all materials and to do and perform all work in accordance with the plans and contract documents of the City of Capitola for

**CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

and referred to the "Notice to Contractors/Notice Inviting Sealed Proposals of Bids" dated July 10, 2020, and to provide all necessary machinery, tools, apparatus, and other means of construction and do all work and furnish all materials required by said specifications, plans, and drawings in the manner prescribed therein.

The undersigned bidder understands that any quantities of work shown herein are approximate only and are subject to increase or decrease, and offers to do the work whether the quantities are increased or decreased at the unit prices, if required, as stated in the following tabulation. The undersigned bidder agrees to take in full payment for the work, including all applicable State and local taxes, the amount shown on the bid sheet.

The undersigned also agrees as follows:

IT IS UNDERSTOOD THAT THIS BID IS BASED UPON COMPLETION OF THE WORK AS SPECIFIED IN THE SPECIAL PROVISIONS,

To do any extra work, not covered by the schedule of price, which may be ordered by the City, and to accept as full compensation therefore such prices as may be agreed upon in writing by the City and the Contractor in accordance with the Standard Specifications.

If awarded the contract, the undersigned hereby agrees to execute said contract, with necessary bonds and insurance certificates, of which this Proposal and Notice Inviting Bids, Standard Specifications, Plans and any and all other Contract Documents shall be a part, within 20 calendar days after receipt of notice of the award of said contract, and to begin work within 10 working days after receiving Notice to Proceed with the contract.

THE UNDERSIGNED BIDDER HAS CAREFULLY EXAMINED THE FORM OF THIS CONTRACT, THE STANDARD SPECIFICATIONS, THE PLANS, THE DRAWINGS, PERMIT CONDITIONS, THE NOTICE TO CONTRACTORS/NOTICE INVITING SEALED PROPOSALS OR BIDS, AND ALSO THE SITE OF THE WORK, AND WILL PROVIDE ALL NECESSARY MACHINERY, TOOLS, APPARATUS AND OTHER MEANS OF CONSTRUCTION AND DO ALL THE WORK AND FURNISH ALL MATERIALS REQUIRED THEREIN.

No bid will be considered for less than all items of this schedule and one contract will be awarded for the entire project.

The undersigned has carefully checked the bid prices, and all computations involved in the preparation of this bid, and understands that the City of Capitola will not be responsible for any errors or omission on the part of the undersigned in making up this bid.

This proposal is made with a full knowledge of the kind, quantities and quality of the work and of the materials, equipment and plans required. This proposal is also made after a complete, careful and independent examination and investigation of the site of the work, local conditions affecting the same, and materials to be encountered.

The bidder furthermore agrees that in case of his/her default in executing said contract with necessary bonds and insurance certificates, the check or bond accompanying this Proposal and money payable shall become and remain the property of the City of Capitola.

Enclosed is bidder's bond, certified check or cashier's check no. \_\_\_\_\_

of the \_\_\_\_\_ Bank for \$\_\_\_\_\_ which is not less than 10 percent of the bid submitted by the undersigned, payable to the City of Capitola, California, and which is given as a guarantee that the undersigned will enter into the contract if awarded the work.

The City of Capitola will award one contract to the lowest responsible bidder for any combination of bid schedules; however, it is understood and agreed that the City may reject any or all proposals or waive any informalities or minor defects in proposals received.

It is agreed that this bid may not be withdrawn over a period of 30 days from the opening thereof.

NOTE: Bidders must not add any conditions of qualifying statement to this bid as otherwise the bid may be declared irregular as being not responsive to the Advertisement for Bids.

Firm Name: \_\_\_\_\_

Signature of Bidder: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Business Address: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_



Tax ID No. or  
Social Security No.

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State Contractor's License No.:

---

Expiration Date:

---

Classifications(s):

---

CA State DIR Registration No.:

---

Classification of Workers Used  
on Job:

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**REQUIRED CONTRACTOR INFORMATION**

NOTICE: In the case of a corporation, complete the following:

Corporation Name: \_\_\_\_\_  
Business Address: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
President: \_\_\_\_\_  
Business Address: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Secretary: \_\_\_\_\_  
Business Address: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Treasurer: \_\_\_\_\_  
Business Address: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Manager: \_\_\_\_\_  
Business Address: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_

**BID SCHEDULE**

ITEM NO.	BID ITEM	UNIT	QTY	UNIT PRICE	UNIT TOTAL
1	Mobilization and Demobilization to Site	LS	1		
2	Flume –Surface Preparation	LS	1		
3	Flume- Construct Fiberglass Liner	LS	1		
4	Flume-Eroded Concrete Repair Sta 1+80 to 2+17	LS	1		
5	Flume-Construct Cutoff Walls	EA	7		
6	Jetty-Reposition Existing Scattered Armor	LS	1		
7	Jetty-Furnish and Install Armor	Ton	600		
8	All Contract Items Not Included in Items 1-7	LS	1		
9	Contingency Bypass	LS	1		
				<b>Bid Amount</b>	<b>\$</b>

**Bid Amount in words:** \_\_\_\_\_

*The contingency is reserved for unforeseen project tasks. No payment will be made to the Contractor for any portion of the contingency unless a contract change order is approved by the City.*

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**BIDDER’S ACKNOWLEDGEMENT OF ADDENDUM(S)**

Acknowledgement of Addendums(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

\_\_\_\_\_

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**WORKERS' COMPENSATION ACKNOWLEDGMENT CERTIFICATE**

Labor Code section 1861 provides every contractor must submit the following certification prior to performing the work of the contract:

"I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract."

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_[date], at \_\_\_\_\_[city], \_\_\_\_\_[state].

On behalf of Contractor by: \_\_\_\_\_

Its: \_\_\_\_\_

\_\_\_\_\_  
Signature

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**NONCOLLUSION DECLARATION**

**TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID**

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_[date], at \_\_\_\_\_[city], \_\_\_\_\_[state].

\_\_\_\_\_  
Contractor/Bidder

**JURAT CERTIFICATE**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of \_\_\_\_\_)

County of \_\_\_\_\_)

Subscribed and sworn to (or affirmed) before me on this \_\_\_\_\_ day of \_\_\_\_\_, by \_\_\_\_\_, proved to me on the basis of satisfactory evidence to be the persons who appeared before me.

(This area for official notary seal)

Signature \_\_\_\_\_

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**BIDDER'S BOND**

KNOW ALL MEN BY THESE PRESENT:

THAT WE, \_\_\_\_\_

AS PRINCIPAL, AND \_\_\_\_\_

AS SURETY, are held and firmly bound unto the City of Capitola in the penal sum of 10 PERCENT OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to the City of Capitola for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made to the City of Capitola to which said bid was submitted, 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 hereunder exceed the sum of \$ \_\_\_\_\_  
\_\_\_\_\_.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS, the Principal has submitted the above-mentioned bid to the City of Capitola, aforesaid, for certain construction specifically described as follows, for which bids are to be opened at

**August 5, 2020 at 11:00 AM at Capitola City Hall, 420 Capitola Ave, Capitola CA 95010**

For:

**CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

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/her for signature enters into a written contract. In the prescribed form, in accordance with the bid, and files the certificate of insurance and two bonds with the City, one to guarantee faithful performance, and the other to guarantee payment for labor and materials as required by law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

\_\_\_\_\_(Seal) \_\_\_\_\_

\_\_\_\_\_(Seal)

\_\_\_\_\_(Seal) \_\_\_\_\_(Seal)

Principal

Surety

Address \_\_\_\_\_ Address \_\_\_\_\_

Note: Signatures of those executing for the surety must be properly acknowledged.

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**AGREEMENT**

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2020, by and between the CITY OF CAPITOLA, a municipal corporation, hereinafter called "City," and \_\_\_\_\_, hereinafter called "Contractor;"

WITNESSETH, that the parties hereto do mutually agree as follows:

**ARTICLE I**

That for and in consideration of the covenants and agreements herein contained and the payments at the prices stated in the bid proposal attached hereto, and by this reference made a part hereof, the Contractor hereby covenants and agrees to furnish any and all required supervision, labor, equipment, "Standard Provisions" as hereinafter defined, and will bear any and all other expense necessary or incidental to the performance of certain work hereinafter specified, and to build, construct, reconstruct, pave or repave and complete improvements for:

**CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

General work description:

This project will complete improvements on two structures located on Capitola Beach. The scope of work on the flume includes installing a liner, reconstructing the top of the outer end of the flume, and installing cutoff walls underneath the flume. The jetty work includes re-establishing the height and nose of the jetty to its originally constructed dimensions by restacking both existing and imported rock.

in strict conformity and compliance with the City's Special Project Specifications, the Plans, and Drawings, and to do everything required by this agreement, and by said Standard Specifications as hereinafter defined.

**ARTICLE II**

It is expressly agreed and understood by the Contractor that the City's Special Project Specifications consists of the documents on file at the Office of the Director of Public Works of the City of Capitola, entitled:

"City of Capitola Special Project Specifications"

All sections of the Standard Specifications of the State of California, Department of Transportation, dated 2018 with most recent revisions, ("State Specifications"), shall apply. Where conflicts arise between the City's Special Project Specifications and the State Specifications, the City's Special Project Specifications shall control and apply.

**ARTICLE III**

It is expressly agreed and understood by each and every party to this agreement that the Notice to Contractors/Notice Inviting Sealed Proposals or Bids, Instructions to Bidders, the City's Special Project Specifications, including the Standard Provisions, Technical Provisions, and Special Provisions, the City's Standard Details, the State Specifications, the Bid Proposal including all required forms and bonds, the Plans, and the Drawings are hereby incorporated and made a part of this contract

(hereinafter the "Contract Documents"). The parties to this agreement do hereby expressly acknowledge that they have read, understand, and promise to comply with each and every provision of Contract Documents.

ARTICLE IV

Contractor shall conform to all laws and regulations of the United States and the State of California, as well as laws of Capitola, as may be applicable to the project.

ARTICLE V

The City hereby contracts to pay said Contractor the prices provided for in the Bid Proposal in the manner, to the extent, and at the times set forth in the Contract Documents.

ARTICLE VI

It is agreed by the parties hereto that the acceptance of the Contractor's performance will be made only by an affirmative action of the City of Capitola, by approval of a Notice of Completion, and upon the filing by the Contractor of a Release of all Claims of every nature on account of work done under this contract, together with an affidavit that all claims have been fully paid. The acceptance by the Contractor of said final payment shall constitute a waiver of all claims against the City arising out of or in connection with this contract.

IN WITNESS WHEREOF, this contract is executed by the City Manager of the City of Capitola, and the Contractor has affixed his/her signature hereto the day and year first hereinabove written.

CITY OF CAPITOLA  
A Municipal Corporation

CONTRACTOR:

By:

By:

\_\_\_\_\_  
Benjamin Goldstein  
City Manager

\_\_\_\_\_  
Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Approved by the City Council on \_\_\_\_\_

**ATTEST:**

\_\_\_\_\_  
City Clerk

**FAITHFUL PERFORMANCE & MAINTENANCE BOND**

WHEREAS, the City of Capitola, a municipal corporation, in the County of Santa Cruz, State of California, has awarded to \_\_\_\_\_, hereinafter designated as the "Principal," a contract for constructing the work or improvement described in the contract documents entitled:

**CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

WHEREAS, said Principal is about to enter into the contract with the City of Capitola:

NOW, THEREFORE, we, the Principal, and \_\_\_\_\_, a corporation organized and existing under and by virtue of the laws of the State of California, as surety, are held and firmly bound unto the City of Capitola, a municipal corporation in the County of Santa Cruz, State of California, in the sum of \_\_\_\_\_ dollars (\$\_\_\_\_\_) being not less than one hundred percent (100%) of the estimated contract costs of the work, to be paid to the City of Capitola, for the payment of which sum, well and truly to be paid, we hereby jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns;

NOW, THEREFORE THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal, his/her heirs, executors, administrators, successors, or assigns shall in all things abide by and well and truly keep and perform the covenants, conditions and agreements in the said contract and any alteration thereof made as herein provided, on his/her or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to the true intent and meaning, and shall indemnify and save harmless the City of Capitola, its officers and agents as therein stipulated, that this obligation shall be discharged, otherwise it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the said contract, the above obligation in the amount of dollars \_\_\_\_\_dollars (\$\_\_\_\_\_), being not less than 10 percent of the estimated contract cost, shall remain in force for a period of one (1) year after the completion and acceptance of the said work, during which time if the Principal, his/her or its heirs, executors, administrators, successors or assigns shall fail to make full, complete and satisfactory repairs and replacements or totally protect the City of Capitola from loss or damage made evident during said period of one (1) year from the date of official acceptance of said work and resulting from or caused by defective materials or faulty workmanship in the prosecution of the work done, the above obligation in the sum of \_\_\_\_\_dollars (\$\_\_\_\_\_), shall remain in full force and effect, otherwise the obligation shall be discharged. However, notwithstanding any other provisions of this paragraph, the obligation of the surety hereunder shall continue so long as any obligation of the Principal remains.

The 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 or the specifications shall in any way effect its obligation on this bond, and it does hereby waive notice of any such changes, extensions of time, alterations, or additions to the terms of the contract or to the work or to the specifications, and the surety does hereby waive its rights under California Civil Code Section 2819.

IN WITNESS whereof, the parties have executed this instrument under their seals, this\_\_\_\_day of \_\_\_\_\_, 20\_\_\_\_, by its undersigned representative, pursuant to the authority of its governing body, the day and year first hereinabove written.

\_\_\_\_\_

PRINCIPAL

\_\_\_\_\_

SURETY

**LABOR AND MATERIAL BOND**

WHEREAS, the City of Capitola, a municipal corporation in the County of Santa Cruz, State of California, has awarded to \_\_\_\_\_, hereinafter designated as the "Principal," a contract for constructing the work or improvement described in the contract documents entitled:

**CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

WHEREAS, said Principal is required under the terms of said contract to furnish a Labor and Material Bond, the surety of this bond will pay the same to the extent hereinafter set forth; and

WHEREAS, the said Principal is about to enter into the annexed contract with the City of Capitola to complete the work or improvement referred to above for the City of Capitola, County of Santa Cruz, State of California, all as more particularly and in detail as shown upon the Special Project Specifications and Contract Documents filed in the Public Works Department of the City of Capitola;

NOW, THEREFORE, we the Principal, and \_\_\_\_\_ a \_\_\_\_\_ corporation organized and existing under and by virtue of the laws of the State of California, as surety, are held and firmly bound unto the City of Capitola in the sum of \_\_\_\_\_ dollars (\$\_\_\_\_\_) such sum being not less than one hundred percent (100%) of the estimated contract cost of the work, lawful money of the United States of America, to be paid to the City of Capitola, for the payment of which sum, well and truly to be made, we hereby bind ourselves, our heirs, administrators, executors, successors and assign jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal or its heirs, executors, administrators, successors or assigns, shall fail to pay for any materials, provisions, vendor supplies, or equipment as provided in the contract documents, upon, for, or about the performance of the work contracted to be done, or for any work or waiver thereon of any kind, or for amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or fails to pay any of the persons authorized under Civil Code Section 9100 to assert a claim against a payment bond, or fails to pay for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board for the wages of employees of the Principal or his/her subcontractor pursuant to Section 18806 of the Revenue and Taxation Code, or fails to pay for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the principal and all subcontractors with respect to such work and labor that the surety or sureties will pay for the same, in an amount not exceeding the sum specified in this bond, and also, in case suit is brought upon the bond, will pay, in addition to the face amount hereof, a reasonable attorney's fee, to be fixed by the Court.

The condition of this obligation is such that its terms inure to the benefit of any of the persons and entities authorized in Civil Code Section 9100 to assert a claim against a payment bond so as to give a right of action to such persons or entities or their assigns in any suit brought upon or action to enforce liability on the bond.

The 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 shall in any manner affect its obligation upon this bond, and it does hereby explicitly waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder, and further explicitly hereby waives its rights under Civil Code Section 2819.

IN WITNESS WHEREOF, the above parties have executed this instrument under their seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, and duly signed by its undersigned representation, pursuant to authority of its governing body.

\_\_\_\_\_

PRINCIPAL

\_\_\_\_\_

SURETY

**ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION**

This escrow agreement is made on \_\_\_\_\_ and entered into by and between; City of Capitola whose address is 420 Capitola Avenue, Capitola, CA 95010, hereinafter called "City", and \_\_\_\_\_ whose address is \_\_\_\_\_ hereinafter called "Contractor", whose address is \_\_\_\_\_, and \_\_\_\_\_ whose address is \_\_\_\_\_, hereinafter called "Escrow Agent"

For the consideration hereinafter set forth, the City, Contractor, and Escrow Agent agree as follows:

- (1) Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by City pursuant to the Construction Contract entered into between the City and Contractor for \_\_\_\_\_ project in the amount of \$\_\_\_\_\_ dated \_\_\_\_\_ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the City shall make payments of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the City and the Contractor. Securities shall be held in the name of the City of Capitola, and shall designate the Contractor as the beneficial owner.
- (2) The City shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.
- (3) When the City makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the contractor until the time that the escrow created under this contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the City pays the Escrow Agent directly.
- (4) The Contractor shall be responsible for paying all fees for the expenses incurred by the Escrow Agent in the administering the Escrow Account and all expenses of the City. These expenses and payment terms shall be determined by the City, Contractor and Escrow Agent.
- (5) The interest earned on the securities or the money market accounts held in Escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor t any time and from time to time without notice to the City.
- (6) Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to the Escrow Agent accompanied by written authorization from the City to the Escrow Agent that the City consents to the withdrawal of the amount sought to be withdrawn by the Contractor.
- (7) The City shall have the right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from the City of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the City.

(8) Upon receipt of written notification from the City certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payment of fees and charges.

(9) The Escrow Agent shall rely on the written notifications from the City and the Contractor pursuant to Sections (5) to (8), inclusive, of this Agreement and the City and Contractor shall hold the Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

(10) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the City and on behalf of the Contractor in connection with the foregoing, and examples of their respective signatures are as follows:

CITY	Contractor
_____	_____
Authorized Signer	Authorized Signer
Name: _____	Name: _____
Title: _____	Title: _____
Address: _____	Address: _____
City, State, Zip _____	City, State, Zip _____
Phone: _____	Phone: _____

On behalf of the Escrow Agent:

\_\_\_\_\_

Authorized Signer

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone: \_\_\_\_\_



## **PART 2: STANDARD PROVISIONS**

### **SECTION 1**

#### **DEFINITIONS AND TERMS**

Whenever in these specifications and other contract documents, the following abbreviations and terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

#### **ABBREVIATIONS**

AASHTO	American Association of State Highway and Transportation Officials
AAN	American Association of Nurserymen
ACI	American Concrete Institute
AGMA	American Gear Manufacturers Association
AIEE	American Institute of Electrical Engineers
AISI	American Iron and Steel Institute
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
AREA	American Railway Engineering Association
ASA	American Standards Association (United States of America Standards Instruction)
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditions Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing Materials
AWS	American Welding Society
AWPA	American Wood-Preservers' Association
AWWA	American Water Works Association
DIR	Department of Industrial Relations
FS	Federal Specification
IEEE	Institute of Electrical and Electronic Engineers
MUTCD	Manual on Uniform Traffic Control Devices
NBFU	National Board of Fire Underwriters
NEMA	National Electrical Manufacturers Association
SAE	Society of Automotive Engineers
SPSPWC	Special Project Specifications for Public Works Construction
UL	Underwriters Laboratories

All references to specifications, standards, or other publications of any of the above are understood to refer to the current issue as revised or amended at the date of receipt of bids/Contract.

**SECTION 1**  
**DEFINITIONS AND TERMS**

**1.01 Acceptance** - The formal written acceptance by the City of the Contract which has been completed in all respects in accordance with the Drawings and Specifications and any modifications thereof previously approved.

**1.02 Addendum** - A change in the Specifications or Drawings issued prior to the opening of Proposals.

**1.03 Approved, Directed, Ordered, or Required** - Whenever these words or their derivatives are used, it is the intent, unless otherwise clearly stated, that approval or direction by the Engineer is indicated

**1.04 Article** - A numbered portion of a title Section of the Specifications

**1.05 Bidder** - Any individual, firm, partnership, corporation or combination thereof, submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

**1.06 City** - The City of Capitola.

**1.07 Contract/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, Drawings, City Special Project Specifications, Addenda, and Contract Bonds; also, any and all supplemental agreements amending or extending the work in a substantial and acceptable manner. Supplemental agreements are written agreements signed by both parties covering alterations, amendments, or extensions to the Contract and include Contract change orders.

**1.08 Contractor** - The person or persons, firm, partnership, corporation, or combination thereof, private or municipal, who is the successful bidder and has entered into a contract with the City.

**1.09 Council, City Council** - The City Council of the City of Capitola.

**1.10 Days** - Working days, unless otherwise designated.

**1.11 Director** - The Director of the Public Works Department, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties delegated to them.

**1.12 Drawings** - The official drawings, working drawings, detail drawings, and supplemental drawings, or reproductions thereof, which show the location, character, dimensions, and details of the work to be done, and which are to be considered as part of the Contract.

**1.13 Engineer** - The City Engineer acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties delegated to them.

**1.14 Liquidated Damages** - The amount prescribed in the specifications, pursuant to the authority of Government Code Section 53069.85, and the Section 8.1.10 of the Standard Specifications of the State of California, Department of Transportation dated 2018, with the most recent revisions, to be paid to the City or to be deducted from any payments due or to become due the Contractor for each day's

delay in completing the whole or any specified portions of the work beyond the time allowed in the Specifications.

**1.15 Plans, Constructions Plans** - The Drawings which are a part of the Contract.

**1.16 Project** - The project, works of improvement, or other work identified in the Contract Documents.

**1.17 Proposal** - The offer of the Bidder for the work when made out and submitted on the prescribed Proposal Form, properly signed and guaranteed.

**1.18 Special Provisions** - The special provisions are specific clauses setting forth conditions or requirements peculiar to the work and supplementary to the Standard Provisions and Technical Provisions.

**1.19 Specifications** - The directions, provisions and requirements contained in the City's Special Project Specifications, including the Standard Provisions, Technical Provisions, and Special Provisions, and those incorporated by reference.

**1.20 State Specifications** - Wherever in these Specifications reference is made to the "State Specifications," reference shall be to specifications entitled, "State of California, Department of Transportation, Standard Specifications," 2018 edition with most recent revisions, and which are incorporated herein and made a part hereof by reference. Where the terms "State" or the "Engineer" are used in reference to the State Specifications, they shall be considered as meaning the "City" or "Director/Engineer" as defined hereinabove and as may be applicable.

**1.21 Subcontractor** - A person, firm or corporation that is obligated as a party to a contract with the Contractor to perform part of the Project work. For purposes of these General Conditions Subcontractors include, but are not limited to, those that are obligated as parties to a contract with the Contractor to specially fabricate and install a portion of the Project Work according to the Technical Specifications and/or Project Plans.

**1.22 Work** - All the work specified, indicated, shown or contemplated in the Contract to construct the improvements, including all alterations, amendments or extensions thereto made by supplemental agreements or written orders of the Director.

**SECTION 2**  
**PROPOSAL REQUIREMENTS AND CONDITIONS**

**2.01 OBTAINING PLANS AND SPECIFICATIONS** – The City’s Special Project Specifications, Plans, and Drawings may be obtained at the location indicated on the Notice to Bidders and/or the Office of the Engineer, Capitola City Hall, 420 Capitola Ave, Capitola, California 95010.

**2.02 CONTENTS OF PROPOSAL FORMS** – Prospective bidders will be furnished proposal forms which describe the contemplated construction and, where appropriate, show the approximate estimate of the quantities of the various kinds of work to be performed or materials to be furnished, with a schedule of items for which bid prices are asked. The unit prices or lump sum amounts bid shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work complete in place as shown on the Drawings or stipulated in the Specifications for that particular item of work.

**2.03 ESTIMATED QUANTITIES** – The quantities given in the Proposal are approximate only, being given as a basis for the comparison of Proposals, and the City does not, expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work, or to omit portions of the work, as may be deemed necessary or advisable. No allowance will be made for anticipated profit on work which is deleted or decreased.

**2.04 EXAMINATION OF DRAWINGS, SPECIFICATIONS, AND SITE OF WORK** – The Bidder shall examine carefully the site of the work contemplated and the Proposal, Drawings, and Specifications therefor. The submission of a Proposal will be conclusive evidence that the bidder has investigated and is fully aware of the conditions and difficulties to be encountered, of the character, quality and quantities of work to be performed and materials to be furnished, and of the requirements of the Proposal, Drawings, and Specifications; as to the nature and location of the work, the general and local conditions, particularly those bearing upon transportation, disposal, handling and storage of material, availability of labor, water, electric power, roads and uncertainties of weather, or similar physical conditions at the site; the conformation and conditions of the ground, the character and quality and quantity of surface and subsurface materials, including groundwater, to be encountered; the character of equipment and facilities needed preliminary to, and during the, prosecution of the work; and all other matters which can in any way affect the work or the cost thereof under this Contract. Any failure by the Contractor to acquaint themselves with all available information concerning these conditions will not relieve him/her from responsibility for estimating properly the difficulty or cost of successfully performing the work.

If there is any doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, or if discrepancies in, or omissions from, the Drawings or Specifications are found, a request should be made to the Director for an interpretation or correction thereof, which will be given in the form of addenda to all bidders, if time permits. Otherwise, in figuring the work, bidders shall consider that any discrepancies or conflict between Drawings and Specifications shall be governed by Article 5.17 of these Specifications.

No payment shall subsequently be made to the Contractor because of error on his/her part or of negligence or failure to acquaint himself/herself with the existing conditions, limitations, or features of the site or requirements of the contract documents; or by reason of any estimate, tests, or representations of any officer, employee or agent of the City.

Where investigation of subsurface conditions has been made by the City in respect to foundation or other design, bidders may inspect the records of the City as to such investigation, including examination of samples and drill cores, if any. When logs of test borings showing a record of the data obtained by the City's investigation of subsurface conditions are made available, said logs represent only the opinion of the City as to the character of materials encountered in its test borings and are made available only for the convenience of bidders.

Investigations of subsurface conditions are made for the purpose of design, and the City assumes no responsibility whatever in respect to the sufficiency of test borings or accuracy of the log of test borings, of other preliminary investigations, or of the interpretation thereof. There is no guarantee expressed or implied that the conditions indicated are representative of those existing throughout the work, or any part of it, or that unforeseen developments may not occur.

Making such information available to bidders is not to be construed in any way as a waiver of the provisions of the first paragraph of this Article and bidders must satisfy themselves through their own investigations as to conditions to be encountered.

No information derived from such inspection of records or preliminary investigation made by the City, or from the Director, or from his/her assistants, or from the maps, Specifications, profiles, or Drawings will in any way relieve the Contractor from any risk or from properly fulfilling all the terms of the Contract. Records of such preliminary investigations as may have been made by the City may be inspected at the office of the Director of Public Works, Capitola City Hall, 420 Capitola Ave, Capitola, California 95060, or at such other locations as may be stated in the Notice to Contractors.

**2.05 PROPOSAL FORM** – The Proposal forms furnished by the City or its representatives, when filled out by the bidder and executed, shall be submitted as his/her Proposal. Neither the Proposal form nor any other portion of the Contract Documents or Specifications shall be detached therefrom. Proposals submitted on forms detached shall be disregarded. All Proposals should give the prices proposed, both in writing and in figures in the respective spaces provided, and shall be signed by the bidder, who should fill out all blanks in the Proposal form as therein required. In the event of a discrepancy between writing and figures, the writing shall prevail over the figures. If the unit price and the total amount named for any item do not agree, the unit price will be considered as representing the Bidder's intention.

A copy of each addendum to the Specifications or Drawings shall be attached securely to the Specifications containing the Proposal (refer to Article 2.13).

**2.06 QUERIES ON BIDDING** – Questions regarding the Specifications or Drawings or any other portion of the Contract or any addenda thereto shall be directed to the Director, at Capitola City Hall, 420 Capitola Ave, Capitola, California 95060, in writing. No interpretation of the meaning of the Specifications, Drawings, or other pre-bid documents will be made to any bidder orally.

**2.07 REJECTION OF PROPOSALS** – Proposals may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. Proposals in which the prices, in the opinion of the City, are unbalanced, may be rejected. When Proposals are signed by an agent, other than the officer or officers of a corporation authorized to sign contracts on its behalf, or a member of a partnership, a written authorization or Power of Attorney should be on file with the City prior to opening Proposals or submitted with the Proposal; otherwise, the Proposal may be rejected as irregular and unauthorized.

**2.08 PROPOSAL GUARANTEE/BIDDER'S SECURITY** – All Proposals shall be presented under sealed cover and accompanied by one of the following forms of bidder's bond executed by an admitted surety, made payable to the City of Capitola. The security shall be in an amount equal to at least 10 percent of the total contract price in the Proposal. A Proposal will not be considered unless one such form of bidder's security is enclosed with it.

A bidder's bond will not be accepted unless it substantially conforms to the bond form included with the Proposal form and is properly filled out and executed. If desired, the bond form included therein, properly filled out as directed, may be executed and used as the bidder's bond. Blanks conforming to this form may be obtained by request from the City.

**2.09 WITHDRAWAL OF PROPOSALS** – Any Proposal may be withdrawn at any time prior to the time fixed in the Notice to Contractors for the opening of Proposals only by written request for the withdrawal of the Proposal filed with the Director of Public Works. The request shall be executed by the bidder or his/her duly authorized representative. The withdrawal of a Proposal does not prejudice the right of the bidder to file a new Proposal. This article does not authorize the withdrawal of any Proposal after the time fixed in the Notice to Contractors for the opening of Proposals.

**2.10 PUBLIC OPENING OF PROPOSALS** – Proposals will be opened and read publicly at the time and place indicated in the Notice to Contractors.

**2.11 JOINT PROPOSALS** – If two or more bidders desire to bid jointly on a single project or desire to combine their assets for so doing, they shall file an affidavit of joint venture with the City in the form approved by the City Attorney and such affidavit of joint venture will be valid only for the specified project for which it is filed. If such affidavit of joint venture is not filed as aforesaid and approved by the City prior to the time for opening Proposals on the specified project for which it is submitted, a joint proposal submitted by the same bidders may be disregarded.

**2.12 DISQUALIFICATION OF BIDDERS** – More than one Proposal form from an individual, firm, partnership, corporation, or a combination thereof under the same or different names will not be considered. If there is reason for believing that collusion exists among the bidders, none of the participants in such collusion will be considered for award for this Contract.

Contractors or subcontractors who are ineligible under Labor Code sections 1777.1 and 1777.7 are prohibited from working on the Project.

**2.13 ADDENDUM** – Addenda may be issued prior to opening of Proposals and shall become a part of the original Specifications and Drawings. The additions or changes contained in such addenda shall be considered by the bidder in preparation of his/her Proposal. These addenda will be sent to each prospective bidder at the address indicated in his/her application for a Proposal form. A copy of each addendum so issued shall be attached to the Specifications containing the Proposal submitted by the bidder to the City Clerk.

**2.14 LIST OF SUBCONTRACTORS** – The Contractor shall perform with his/her own organization and with workers under his/her immediate supervision work of a value not less than fifty percent (50%) of the value of all work embraced in the contract, except when certain items may be exempted by the Special Provisions from said fifty percent requirement.

In accordance with Public Contract Code sections 4100 *et seq.*, the Subletting and Subcontracting Fair Practices Act, each proposal shall have listed on the form provided with the Proposal, (a) the name, the location of the place of business, the California contractor license number, and public works contractor

registration number issued pursuant to California Labor Code Section 1725.5 of each subcontractor who will perform work or labor or render service to the general contractor in or about the construction of the work or improvement in an amount in excess of one-half of one percent (0.5%) of the general contractor's total bid or \$10,000.00, whichever is greater, and, (b) the portion of the work which will be done by each such subcontractor.

If a Contractor fails to specify a subcontractor for any portion of the work to be performed under this contract in excess of one-half of one percent of the total bid, s/he agrees to perform that portion him/herself.

No Contractor or Subcontractor may be listed on a bid or proposal for a public works project unless registered with the DIR pursuant to Labor Code section 1725.5. A Contractor or Subcontractor shall not be qualified to bid on, be listed in a bid proposal, or enter into any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration to the City as part of the Proposal.

A Contractor's inadvertent error in listing a Subcontractor who is not registered pursuant to Labor Code section 1725.5 in response to a solicitation shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply: (1) the Subcontractor is registered prior to bid opening; (2) within twenty-four hours after the bid opening, the Subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5; or (3) the Subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.

**2.15 COMPETENCY OF BIDDER** – The bidder shall be licensed under the applicable provisions of the Business and Professions Code of the State of California to do the type of work contemplated in the project, and shall be skilled and regularly engaged in the general class or type of work called for under this contract.

It is the intention to award a contract only to a bidder who furnishes satisfactory evidence that s/he has the requisite experience and ability and that s/he has sufficient capital, facilities, and plans to enable him/her to prosecute the work successfully and promptly, and to complete it within the time stated in the contract.

To determine the degree of responsibility to be credited to a bidder, any relevant evidence will be considered that the bidder, or personnel guaranteed to be employed in responsible charge of the work, has satisfactorily performed other contracts of like nature and magnitude or comparable difficulty at similar rates of progress.

**2.16 RELIEF OF BIDDERS** – Attention is directed to the provisions of Public Contract Code sections 5100 *et seq.*, which sections are incorporated herein by this reference, concerning relief of bidders and in particular to the requirement therein that if the bidder claims a mistake was made in his/her bid, the bidder shall give the City written notice within five (5) days after the opening of the bids of the alleged mistake, specifying in the notice in detail how the mistake occurred.

**2.17 BID PROTESTS** – Any contractor who unsuccessfully bids on a City contract awarded by the City in accordance with the provisions of the Capitola Municipal Code (CMC), Chapter 3.16, or any

trade association representing workers who would have potentially been employed by such a contractor, may file a bid protest.

The bid protest shall be in writing and filed with the Director of Public Works within five days of the bid opening date. The City Engineer or their designated representative shall hear the bid protest prior to award of the contract. The protesting party may protest the bid award for the City's or successful bidder's failure to comply with the requirements of CMC, Chapter 3.16, the bid documents, or any other applicable provision of the CMC. The bid protest shall clearly set forth the basis for the bid protest.

Grounds not set forth in the written protest may not be considered by the City at the bid protest hearing. The City shall sustain a bid protest if the protesting party demonstrates by clear and convincing evidence that, as specified above, the City would act improperly in awarding the bid. The decision of the City Engineer shall be considered by the City Council at time of award of contract.



### SECTION 3

#### AWARD AND EXECUTION OF CONTRACT

**3.01 CONSIDERATION OF PROPOSALS** – After the proposals have been opened and read, they will be checked for accuracy and compliance with these Specifications.

The right is reserved to reject any or all proposals; to waive an irregularity in a bid or bidding procedure; and to accept one schedule of a proposal and reject another, unless the bidder specifically stipulates to the contrary.

**3.02 AWARD OF CONTRACT** – The award of the Contract, if it is awarded, will be to the lowest responsible bidder whose Proposal complies with the requirements prescribed and who is appropriately licensed in accordance with law. Such award, if made, will be made within 30 days after the opening of the Proposals or as specified in the Proposal or Special Provisions. If the lowest responsible bidder refuses or fails to execute the Contract, the City may award the Contract to the second lowest responsible bidder. Such award, if made, will be made within 45 days after the opening of the Proposals. If the second lowest responsible bidder refuses or fails to execute the Contract, the City may award the Contract to the third lowest responsible bidder. Such award, if made, will be made within 60 days after the opening of the Proposals. The periods of time specified above within which the award of contract may be made shall be subject to extension for such further period as may be agreed upon in writing between the City and the bidder concerned.

All proposals will be compared on the basis of the City’s estimate of the quantities of work to be done.

**3.03 RETURN OF PROPOSAL GUARANTEES** – Within ten days after the award of the Contract to the lowest responsible bidder, the City will return the proposal guarantees, other than bidder’s bonds, accompanying such of the Proposals as are not to be further considered in making the award. Retained proposal guarantees will be held until the contract has been finally executed after which all proposal guarantees, except bidder’s bonds and any guarantees which have been forfeited, will be returned to the bidders whose Proposals they accompany.

**3.04 CONTRACT BONDS** – Prior to the execution of the Contract, the Contractor shall file with the City one or more surety bonds in the amounts and for the purpose noted below, duly executed by a solvent surety company satisfactory to the City, and (s)he shall pay all premiums and costs thereof and incidental thereto. The bonds shall contain a provision that the surety thereon waives the provisions of Section 2819 of the Civil Code of the State of California. Contractor and Surety shall warrant to the City that the Surety is licensed by the California Secretary of State to conduct business in the State of California and Surety shall provide proof of its authorization to conduct business in the State of California.

Each bond must be signed by both the Contractor and the Sureties.

The “**Bond for Labor and Material**” shall be in an amount of 100 percent of the contract price as determined from the prices in the Proposal form, and shall inure to the benefit of persons performing labor or furnishings materials in connection with the work of the proposed contract. This bond shall be maintained in full force and effect until all work under the Contract is completed and accepted by the City, and until all claims for materials and labor have been paid.

The “**Bond for Faithful Performance**” shall be in an amount of 100 percent of the contract price as determined from the prices in the Proposal form, and shall be so conditioned as to insure the faithful performance by the Contractor of all work under the Contract. It shall also insure the replacing of, or making acceptable, any defective materials or faulty work.

The Bond for Faithful Performance shall remain in effect to guarantee the repair and replacement of defective equipment, materials and work, discovered within one (1) year, after final payment has been accepted by the Contractor and the payment to the City of all damages sustained by it on account of such defects, discovered within one (1) year, or in lieu thereof, a bond equal to ten (10) percent of the full amount of the contract, may be substituted for the faithful performance bond upon completion and final acceptance and final payment for the work performed under the contract, which shall remain in effect for a period of one (1) year to guarantee the repair and replacement and payment of damage. In all respects, the substitute bond shall satisfy the requirements and conditions of the original Faithful Performance Bond.

Should any surety or sureties be deemed unsatisfactory at any time by the City, notice will be given the Contractor to that effect, and s(he) shall forthwith substitute a new surety or sureties satisfactory to the City. No further payment shall be deemed due or will be made under this Contract until the new sureties shall qualify and be accepted by the City.

All alterations, extensions of time, extra and additional work, and other changes authorized by these Specifications or any part of the Contract may be made without securing the consent of the surety or sureties on the contract bonds.

**3.05 EXECUTION OF CONTRACT** – The Contract shall be signed by the successful bidder and returned, together with the contract bonds, within twenty days, not including Sundays and legal holidays, after the bidder has received the Contract for execution or as specified in the proposal or Special Provisions.

**3.06 FAILURE TO EXECUTE CONTRACT** – Failure of the lowest responsible bidder, the second lowest responsible bidder, or the third lowest responsible bidder to execute the Contract and file acceptable bonds as provided herein within twenty days or as specified in the Proposal form or Special Provisions, not including Sundays and legal holidays, after such bidder has received the Contract for execution shall be just cause for the annulment of the award and forfeiture of the proposed guarantee.

**3.07 CONTRACTOR’S INSURANCE**

**3.07.01 General** - Without limiting the responsibility of the Contractor for damages as set forth in Article 7.18, the Contractor must obtain all insurance required under this Article, in a form approved by the City, and Contractor must not allow any Subcontractor to commence work on any Subcontract until all insurance required of Contractor has been likewise obtained by the Subcontractor, and such insurance is approved by the City. Approval of the insurance by City shall not relieve or decrease the liability of Contractor hereunder. Contractor shall procure and maintain for the duration of the Contract, and at least 5 years thereafter, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

**3.07.02 Minimum Scope and Limit of Insurance** - Without limiting any of the other obligations or liability of Contractor, Contractor shall provide and maintain, until the work is

completed and accepted by the City, the following minimum insurance coverages, unless otherwise specified in the particular specifications.

- a. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an “occurrence” basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than \$2,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. Such CGL shall include, or be endorsed to include, the following:
  - i. Cross Liability Coverage
  - ii. Blanket Contractual Liability Coverage
  - iii. Contractor's Protective Liability Coverage
  - iv. Products and Completed Operations Coverage
  - v. Broad Form Property Damage Coverage
  - vi. Explosion, Collapse and Underground Property Damage Liability Coverage
  
- b. **Workers' Compensation Insurance** as required by the State of California, with Statutory Limits. The Contractor and any subcontractors engaged in performance of the Work must secure payment of workers compensation in accordance with California Labor Code Section 3700 and other applicable law. The Contractor must verify that all Subcontractors comply with this requirement.
  
- c. **Employers' Liability Insurance** with a limit of no less than \$1,000,000 per accident for                   bodily                   injury                   or                   disease.
  
- d. **Automobile Liability Insurance** coverage all automobiles, trucks, tractors, trailers, motorcycles, or other automotive equipment, whether owned or rented by Contractor or owned by employees of Contractor. Such insurance shall be on Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits no less than \$1,000,000 per accident for bodily injury and property damage.
  
- e. **Professional Liability (Error's & Omissions)**, with limits no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.
  
- f. **Contractors Pollution Legal Liability and/or Asbestos Legal Liability** with limits no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.

**3.07.03**

**Insurance Provisions** - The insurance provided by the above insurance policies shall name as additional insured the City of Capitola, its officer, agents, and employees and shall be primary insurance to the full limits of liability stated above to said additional insured. If said additional insured have other insurance against the loss covered by said policy, that other insurance shall be excess insurance only. The comprehensive general liability policy shall be endorsed to provide insurance to said additional insured with respect to omissions and supervisory acts or omissions, including passive negligence with respect to said work, and shall not be subject to reduction or cancellation without thirty (30) days prior written notice to the City of Capitola.

In the event the work called for in this contract is to be performed as a joint project with the State of California, or a County, or any City within a County, or other agency, or is to be performed on lands under the jurisdiction of the State of California, or a County, or any City within a County, the policy of insurance required by paragraph 3.07.02, entitled "Minimum Scope and Limit of Insurance" shall name the State of California, that County, and/or that City or other agency additional insured in addition to naming City and the statement contained in paragraph 3.07.03, entitled, "Insurance Provisions," shall be modified accordingly.

**SECTION 4**  
**SCOPE OF WORK**

**4.01 WORK TO BE DONE** – The work to be done consists of furnishing all labor, methods or processes, implements, tools, machinery, construction equipment, materials of any kind, and installed manufactured equipment, except as otherwise specified herein to be furnished by the City or from sources provided by the City, which are required to construct in a good and professional manner all the work herein provided for.

**4.02 MAINTENANCE AND CLEAN-UP** – Throughout the construction period, the Contractor shall keep the site of the work in a neat and clean condition, shall dispose of any surplus materials in an approved manner off the site, keep debris out of drainage ditches, and maintain proper housekeeping practices to the satisfaction of the Director.

When any material is to be disposed of outside of the easement or street or highway right-of-way, the Contractor shall first obtain written permission from the owner on whose property the disposal is to be made. Disposal must conform to grading ordinances of the jurisdiction in which the work is performed.

Upon completion of the work, and prior to requesting final inspection, the Contractor shall thoroughly clean the site of the work of all rubbish, excess materials, falsework, temporary structures, and equipment, and all portions of the work shall be left in a neat and orderly condition. The final inspection, acceptance, and final payment will not be made until this has been accomplished.

**4.03 CHANGES & CHANGE ORDERS** – The City may increase or decrease quantities of work to be done under the Contract, make revisions to the Drawings or Specifications, or require the performance of extra work and furnishing of materials therefor by the Contractor as the City requires for the proper completion or construction of the whole work contemplated. The City, at its option, may furnish said materials.

When alterations in quantities of work for which unit prices are shown in the proposal are ordered and performed, the adjustment in the contract amount shall be determined on the basis of such unit prices for the actual quantities of work done. Adjustments, if any, in the amount to be paid the Contractor by reason of any other modifications of the work as set forth in a contract change order, shall be determined by one or more of the following methods:

- a. **Lump Sum Price.** By an acceptable lump-sum proposal from the Contractor. Said proposal shall be based on a cost estimate as to materials, equipment, and labor, to which total may be added a maximum of 15 percent for overhead, profit, and all other expenses; this 15 percent limitation shall apply for work done directly by the Contractor's organization or by his/her subcontractors, and shall be added only once.
- b. **Unit Prices.** By unit prices fixed by agreement between the City and the Contractor.
- c. **Force Account.** By ordering the Contractor to proceed with the work and to keep and present in such form as the Director may order, a correct account of the cost of the change, together with all vouchers therefor.

The changes will be set forth in written Contract Change Orders which specify the work to be done in connection with the changes, the basis of compensation for the work, and any adjustments of contract time. Such Change Orders shall be approved by the Director.

Upon receipt of an approved Contract Change Order, or of a written authorization from the Director setting forth a description of the change and agreed upon changes in contract price, the Contractor shall proceed with the work so ordered. The Contractor may request the issuance of Change Orders. In the absence of an approved Contract Change Order or written authorization, the Contractor shall not be entitled to payment for any changed or extra work or any adjustment of Contract time.

When the changes increase or decrease the cost of the work, an adjustment of the Contract price will be made as set forth in the Change Order. At the option of the City, the work which is changed may be paid for on the basis of force account.

New and unforeseen items of work will be classed as extra work when the item cannot be covered by any of the various items or combination of items for which there is a bid price. The Contractor shall do such work and furnish such materials and equipment as may be required in writing by Director, but shall do no extra work except upon written order from the Director, and in the absence of such written order, (s)he shall not be entitled to payment for such extra work. All bills for extra work done in any month shall be filed in writing with the Director before the fifteenth of the following month. For such extra work, the Contractor shall receive compensation at the prices previously agreed upon in writing, or upon a failure to agree upon prices, (s)he shall be paid on force account.

If the work is done on force account, compensation shall be in accordance with Article 9.04 of these Specifications. The City reserves the right to furnish any material deemed expedient and the Contractor shall have no claim for profit on the cost of such materials. All Contractors shall have no claim for profit on the cost of such materials. All extra work shall be adjusted daily upon report sheets furnished to the Director by the Contractor and signed by both parties, which daily reports shall thereafter be considered the true record of extra work done.

**4.04 PROTESTS** – If the Contractor considers any work demanded of him/her to be outside of the requirements of the Contract, or considers any record or ruling or act or omissions of the Director to be unfair, s/he shall immediately, upon such work being demanded, or such record or ruling being made, ask in writing for written instructions or decision, whereupon (s)he shall proceed without delay to perform the work or to conform to the record or ruling, within 30 days after the date of receipt of the written instruction or decision, (s)he shall file a written protest with the Director stating clearly and in detail the basis of his/her protest. Except for such protests as are made of record in the manner herein specified and within the time limit stated, the records, rulings, instructions, decisions, and acts or omissions of the Director shall be final and conclusive. Instructions and decisions of the Director contained in letters transmitting Drawings to the Contractor shall be considered as written instructions and decisions subject to protest in the manner herein described.

**4.05 DUST CONTROL** – During the performance of all work under this contract, the Contractor shall assume all responsibility for dust control and shall furnish all labor, equipment, and means required to carry out proper and efficient measures wherever and whenever dust control is necessary to prevent the operations from producing dust damage and nuisance to persons and property. Any claims resulting therefrom shall be borne solely by the Contractor.

Full payment for dust control shall be included in the unit price bid for other items of work and no additional allowance or direct payment will be made therefor.

**SECTION 5**  
**CONTROL OF WORK**

**5.01 AUTHORITY OF DIRECTOR** – The Director shall decide all questions which may arise as to the quality or acceptability of materials furnished and work performed and as to the manner of performance and rate or progress of the work; all questions which may arise as to the interpretation of the Drawings and Specifications; and all questions as to the acceptable fulfillment of the Contract on the part of the Contractor. His/her decision shall be final and s/he shall have authority to enforce and make effective such decision and orders which the Contractor fails to carry out promptly.

**5.02 DRAWINGS TO BE FURNISHED BY THE CONTRACTOR** – The Drawings listed in the Specifications shall be supplemented by the Contractor with such working drawings as may be required for the prosecution of the work and approval of equipment. Such data may include shop detail drawings, reinforcing steel details, fabrication drawings, falsework and formwork drawings, pipe layouts and similar classes of drawings, which shall be favorably reviewed by the Director before any work involving these drawings is performed. No change shall be made by the Contractor in any working drawing after it has been favorably reviewed by the Director. Drawings shall contain all required detailed information of reasonable scale with enough views to clearly show the work to be done or the item to be furnished and shall be properly checked.

Working drawings will be subject to approval insofar as the details affect the character of the finished work, but details of design will be left to the Contractor who shall be responsible for successful construction of the work and operation of the equipment.

It is expressly understood, however, that approval of the Contractor's working drawing shall not relieve the Contractor of any responsibility for accuracy of dimensions and details, or for mutual agreement of dimensions and details. It is mutually agreed, that the Contractor shall be responsible for agreement and conformity of his/her working Drawings and Specifications.

The sequence of submission of working drawings shall be such that all information is available to the Director for review of each drawing as it is received. A minimum of five prints of each working drawing shall be submitted. Three prints will be retained and the balance returned within 20 calendar days with the Director's action indicated thereon. The Contractor shall make any necessary corrections and revisions to returned Drawings and shall resubmit the Drawings in the same routine as before within 20 calendar days after receipt.

Responsibility will be upon the Contractor to furnish Drawings in sufficient time for approval action including resubmittal, without delaying construction.

The cost of furnishing all working Drawings shall be included in the Contract prices for work to which the Drawings are appurtenant.

**5.03 DRAWINGS AND DATA TO BE FURNISHED BY THE CITY** – The City may issue supplemental Drawings for the construction work under the Contract. These drawings will show additional details as required for construction purposes. Installation instructions for City furnished materials will be furnished if required.

**5.04 CONFORMITY WITH DRAWINGS AND ALLOWABLE DEVIATIONS** – Finished work in all cases shall conform with the lines, grades, cross sections, and dimensions shown on the approved

Drawings furnished by the City. Deviations from the drawings as may be required by the exigencies of construction will be determined by the Director.

**5.05 MAINTENANCE & OPERATION MANUALS** – For use in the subsequent operation, the Contractor shall furnish two copies of maintenance and operation instructions supplied by the manufacturer for all equipment items. They shall be bound and suitably indexed in heavy, loose leaf binders.

**5.06 SUPERINTENDENCE** – The Contractor shall designate in writing before starting work, an authorized representative who shall have complete authority to represent and act for the Contractor. Where the Contractor is comprised of two or more persons, partnerships or corporations, functioning on a joint venture basis, said Contractor shall designate in writing to the Director the name of their authorized representative who shall have full authority to direct the work and to whom orders will be given by the Director, to be received and obeyed by the Contractor. Said authorized representative of the Contractor shall normally be present at the site of the work at all time while work is suspended, arrangements acceptable to the Director shall be made for any emergency work which may be required.

Whenever the Contractor or his/her authorized representative is not present on any part of the work where it may be desired to give direction, orders will be given by the Director, which shall be received and obeyed by the Superintendent or foreman or authorized representative who may have charge of the particular work in reference to which the orders are given. Any order given by the Director, which shall be received and obeyed by the Superintendent or foreman or authorized representative who may have charge of the particular work in reference to which the orders are given. Any order given by the director, not otherwise required by the Specifications to be in writing, will, on request of the Contractor, be given or confirmed by the Director in writing.

**5.07 LAYOUT OF WORK AND SURVEYS** – The work performed in connection with “Survey Monumentation” shall conform to the requirements of the County Surveyor of the County of Santa Cruz, and shall consist of locating, referencing, resetting existing survey monuments to finish grade, and in conformance with these special provisions.

Attention is also directed to Section 8771 of the California Business and Professions Code for the requirements concerning survey monumentation. Existing survey monuments shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer prior to construction operations, and a corner record or record of survey shall be filed with the County Surveyor of the County of Santa Cruz. Existing survey monuments shall be reset to finish grade, and a corner record or record of survey shall be filed with the County Surveyor of the County of Santa Cruz prior to the recording of the certificate of completion for the project.

**5.08 INSPECTION** – The Director and his/her representatives shall at all times have access to the work during its construction, and shall be furnished with every reasonable facility for ascertaining that the materials and the work are in accordance with the requirements and intentions of the Drawings and Specifications. All work done and all materials furnished shall be subject to his inspection and approval.

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



The day-to-day inspection performed by the various inspectors employed by the City shall not constitute approval or ratification of work improperly done by the Contractor. The Director is the only person authorized to recommend acceptance or rejection of work and materials.

The presence or absence of an inspector during performance of the work shall not relieve the Contractor of any of his/her obligations to fulfill his/her Contract as prescribed. It shall be the duty of the Contractor to see that the provisions of these Specifications are complied with in detail, irrespective of the inspection given the work during its progress by the Director or his representatives. Any plan or method suggested to the Contractor by the Director or an inspector, but not specified or required, if adopted or followed in whole or in part, shall be used at the risk and responsibility of the Contractor; and the City and the Director will assume no responsibility therefor.

Defective work shall be made good, and unsuitable materials may be rejected notwithstanding that such defective work or unsuitable materials have been previously inspected by the Director or that payment therefor has been included in the progress estimate.

Projects financed in whole or part with Federal or State funds shall be subject to inspection at all times by the Federal or State Agency involved.

**5.09 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORKS** – All work which has been rejected shall be remedied, or removed and replaced by the Contractor in an acceptable manner at no additional cost to the City. Any work done beyond the lines and grades shown on the Drawings or established by the City, or any extra work done without written authority, will be considered as unauthorized and will not be paid for. Work so done may be ordered, remedied, removed, or replaced, in the City's sole discretion.

If the Contractor should fail to comply promptly with any order of the Director made under the provisions of this Article, the Director may cause rejected or unauthorized work to be remedied, removed, or replaced, and the costs thereof to be deducted from any monies due or to become due the Contractor.

If any portion of the work done or materials furnished under the contract shall prove defective or not in accordance with the specifications and contract drawings, and if the imperfection in the same shall not be of sufficient magnitude or importance to make the work dangerous or undesirable, the Director shall have the right and authority to retain the work instead of requiring it to be removed and reconstructed, but s/he shall make such deductions therefore in the payment due or to become due the Contractor as may be just and reasonable.

**5.10 CONSTRUCTION EQUIPMENT AND PLANTS** – Only equipment and plants suited to produce the quality of work required will be permitted to operate on the work. Plants shall be designed and constructed in accordance with general practice for such equipment and shall be of sufficient capacity and of such character to ensure the production of sufficient material to carry the work to completion within the time limit.

The Contractor shall provide adequate and suitable equipment and plants to meet the above requirements; and, when ordered by the Director, shall remove unsuitable equipment from the work and discontinue the operation of unsatisfactory plant.

Each machine or unit of equipment shall be operated by a person experienced in handling the particular make of machine or unit of equipment in use, and shall not be operated at a speed or rate of production in excess of that recommended by the manufacturer.

The Contractor shall identify each piece of equipment, other than hand tools, by means of an identifying number plainly stenciled or stamped on the equipment at a conspicuous location. In addition, the make, model number and empty gross weight of each unit of compacting equipment shall be plainly stamped or stenciled in a conspicuous place on the unit. The gross weight shall be either the manufacturer's rated weight or the scale weight.

**5.11 ALTERNATIVE CONSTRUCTION EQUIPMENT** – While certain of these Specifications may provide that equipment of a particular size and type is to be used to perform portions of the work, it is to be understood that the development and use of new or improved equipment is to be encouraged.

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

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

If such permission is granted by the Director, it shall be understood that such permission is granted for the purpose of testing the quality of work actually produced by such equipment and is subject to continuous attainment of results which, in the opinion of the Director, are equal to, or better than that which can be obtained with the equipment specified. The Director shall have the right to withdraw such permission at any time the Director determines that the alternative equipment is not producing work that is equal, in all respects, to that which can be produced by the equipment specified. Upon withdrawal of such permission by the Director, the Contractor will be required to use the equipment originally specified and shall, in accordance with the direction of the Director, remove and dispose of or otherwise remedy, at his/her expense, any defective or unsatisfactory work produced with the alternative equipment.

Neither the City nor the Contractor shall have any claim against the other for either the withholding or the granting of permission to use alternative equipment, or for the withdrawal of such permission.

Permission to use alternative equipment in place of equipment specified will only be granted where such equipment is new or improved and its use is deemed by the Director to be in furtherance of the purposes of this Article. The approval for use of particular equipment on any project shall in no way be considered as an approval of the use of such equipment on any other project.

Nothing in this Article shall relieve the Contractor of his/her responsibility for furnishing materials or producing finished work of the quality specified in these Specifications.

**5.12 USE OF COMPLETED PORTIONS** – The City shall have the right at any time during the progress of the work, to take over and place in service any completed or partially completed portions of the work, notwithstanding the fact that time for completion of the entire work or such portions may not have expired; but such taking possessions thereof shall not be deemed an acceptance of any other portions of the work, nor work on those portions not completed in accordance with the contract documents.

**5.13 LEGAL ADDRESS OF THE CONTRACTOR** – Both the address given in the proposal and Contractor's office in the vicinity of the work are hereby designated as places to either of which drawings, letters, notices, or other articles of communication to the Contractor may be mailed or delivered. The mailing or delivery at either of these places shall be deemed sufficient notice thereof upon the Contractor. Nothing herein contained shall be deemed to preclude the service of any drawing,

letter, notice, article or communication to or upon the Contractor or his/her representative personally. The address named in the proposal may be changed at any time by written notice, from the Contractor to the City.

**5.14 FINAL INSPECTION** – When the work authorized by the Contract has been completed, the Director will make the final inspection.

**5.15 ACCEPTANCE OF CONTRACT** – When the Director has made the final inspection in accordance with these Specifications and determines that the Contract has been completed in all respects in accordance with the Drawings and Specifications, the Director will recommend that the City Council formally accept the Work of Improvement.

**5.16 COORDINATION OF SPECIFICATIONS AND DRAWINGS** – The Standard Provisions, Technical Provisions, Special Provisions, Drawings, Contract Change Orders, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of conflict, the following shall be the rules of interpretation:

Drawings shall govern over the Standard Provisions; the Technical Provisions shall govern over both the Standard Provisions and the Drawings; the Special Provisions shall govern over the Technical Provisions, the Standard Provisions and the Drawings.

Detail Drawings shall govern over general Drawings. Figures written on Drawings shall govern over the drawings themselves.

**5.17 INTERPRETATION OF SPECIFICATIONS AND DRAWINGS** – The work herein provided for is to be done in accordance with the Specifications and Drawings on file in the Department of Public Works. All corrections of readily apparent errors or omissions in Specifications or Drawings may be made by the Director when such corrections are necessary for the proper fulfillment of their intention as construed by him/her. The misplacement, addition or omission of any work, letter, figure or punctuation mark which has no substantive legal effect will in no way change the due spirit, intent, or meaning of these Specifications.

Any part of the work which is not mentioned in these Specifications but is shown on the Drawings, or any part of the work not shown on the Drawings but described in these Specifications, or any part not shown on the Drawings or described in these Specifications but which is reasonably or ordinarily implied by either, shall be furnished and installed by the Contractor as if fully described in these Specifications and shown upon the Drawings.

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Specifications or on the Drawings, or if the Contractor discovers any discrepancies during the course of the work between the Contract Drawings and conditions in the field, or any errors or omissions in the Contract Drawings, the Specifications, or in the layout given by stakes, points, or instructions, the bidder or Contractor shall apply in writing to the Director for such further explanations as may be necessary and shall conform to them as part of the Contract. In the event of any doubt or questions arising respecting the true meaning of the Specifications or Drawings, reference shall be made in writing to the Director, whose decision thereon shall be final. Any work done after such discovery until authorized by the Director, will be done at the Contractor's risk.

**5.18 REMOVED.**

**5.19 REASONABLENESS OF INTERPRETATIONS** – All interpretations of these Specifications and the Drawings by the City and decisions made thereon by the Director will not be arbitrary, capricious, or unreasonable.

**5.20 POTENTIAL CLAIMS AND DISPUTE RESOLUTION** – No claims for extra work, materials, labor, equipment, or costs shall be considered or permitted if Contractor fails to timely notify the City of the claim and thereafter diligently pursue and exhaust all the administrative remedies and processes set forth in the Contract Documents and State Specifications, including but not limited to Change Orders, Differing Site Conditions, Initial Potential Claim Records, Supplemental Potential Claim Records, and Full and Final Potential Claims Records. Contractor must exhaust all such processes in order to preserve and pursue any claim, and failure to do so shall be deemed a waiver of the claim.

A. In accordance with California Public Contract Code Section 20104.2, presuming Contractor has diligently pursued and exhausted the administrative procedures of the Contract, the following procedures apply to claims of \$375,000 or less between the Contractor and the City:

1. The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.
2. For claims of less than fifty thousand dollars (\$50,000), the City shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the City may have against the Contractor.
  - i. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the City and the Contractor.
  - ii. The City's written response to the claim, as further documented, shall be submitted to the Contractor within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.
3. For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the City shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the City may have against the Contractor.
  - i. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the City and the Contractor.
  - ii. The City's written response to the claim, as further documented, shall be submitted to the Contractor within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by

the Contractor in producing the additional information or requested documentation, whichever is greater.

4. If the Contractor disputes the City's written response, or the City fails to respond within the time prescribed, the Contractor may so notify the City, in writing, either within 15 days of receipt of the City's response or within 15 days of the City's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the City shall schedule a meet and confer conference within 30 days for settlement of the dispute.
  5. Following the meet and confer conference, if the claim or any portion remains in dispute, the Contractor shall file a claim for money or damages as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code, prior to filing a civil action to resolve the disputed claim. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.
  6. This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
- B. In accordance with California Public Contract Code Section 20104.4, the following procedures apply to civil actions to resolve claims of \$375,000 or less between the City and the Contractor:
1. Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
  2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.
    - i. Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in

construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

- ii. In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

3. The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

C. In accordance with California Public Contract Code Section 20104.6:

1. The City shall not fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.
2. In any suit filed under Public Contract Code Section 20104.4 concerning this contract, the City shall pay interest at the legal rate on any arbitration award or judgment. Such interest shall accrue from date the suit was filed.

D. Claim for money or damages required. For any all claim not covered the procedures set forth in Article 5.20, Contractor shall file a claim for money or damages as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code, prior to filing a civil action to resolve the claim. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time that claim is denied by the City, including any period of time utilized by the meet and confer process.

## **SECTION 6**

### **CONTROL OF MATERIALS AND INSTALLED EQUIPMENT**

**6.01 FURNISHING AND QUALITY OF MATERIALS & EQUIPMENT** – The Contractor shall furnish all materials and equipment required to complete the work, except materials or equipment that are designated in the Special Provisions to be furnished by the City or materials furnished by the City in accordance with Article 4.03.

Notwithstanding any prior inspection or approval, only materials and equipment conforming to the requirements of the Specifications shall be incorporated in the work.

The materials and equipment furnished and used shall be new and unused and of the highest commercial quality currently available. The materials and equipment shall be manufactured, handled, and used in a workmanlike manner to ensure completed work in accordance with the Drawings and Specifications.

The Contractor shall be required to furnish a written guaranty covering certain items of material and equipment for varying periods of time from the date of acceptance of the Work of Improvement. The material and equipment to be guaranteed, the form of guaranty, and the time limit of the guaranty are as specified in Article 9.09. Said guaranty shall be signed and delivered to the Director before Acceptance of the Project. Upon completion of the Work of Improvement, the amounts of the Contract bonds required in Article 3.04 may be reduced to conform to the total amount of the Contract bid prices for the items to be guaranteed and this amount shall continue in full force and effect for the duration of the guaranty period.

**6.02 SOURCE OF MATERIAL AND EQUIPMENT SUBMITTALS** - The Contractor shall furnish a list of his/her sources of materials and equipment to the Director. The list shall be furnished on a City form and shall be furnished to the Director in sufficient time to permit proper inspection and testing of materials and equipment to be furnished from such listed sources in advance of their use. The Contractor shall furnish without charge such samples as may be required. Inspection and tests will be made and reports rendered, but it is understood that such inspection and tests shall not be considered as a guarantee of acceptance of any material or equipment which may be delivered later for incorporation in the work. No equipment or materials which, after approval, have in any way become unfit for use, shall be used in the work.

The Contractor shall submit five copies of approval data for the materials, and equipment proposed for installation. The data shall be submitted in the same routine as prescribed for working drawings in Article 5.02. Approval data shall consist of complete material and equipment lists accompanied by catalog data sheets, cuts, performance curves, diagrams or similar descriptive material. Material and equipment lists shall give, in each case, the name of the manufacturer, trade name, catalog reference, size, finish, and all other pertinent data. It is intended that approval data should not include such materials as small pipe and small pipe fittings, conduit and conduit fittings, or tubing. Data submitted as specified herein for each major subdivision of mechanical and electrical work shall be bound together under a hard cover, provided with a complete index, and properly identified on the cover. Individual sheets shall be easily removable without tearing or other damage. The Contractor shall furnish operation and maintenance manuals or instructions if required by the Technical Provisions.

At the option of the Director, the source of supply of each of the materials shall be approved by him/her before the delivery is started. All materials proposed for use may be inspected or tested at any time during their preparation and use. After trial, if it is found that sources of supply which appeared satisfactory do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall furnish approved material from other sources.

**6.03 STORAGE OF MATERIALS AND EQUIPMENT** - Materials and equipment shall be so stored as to ensure the preservation of their quality and fitness for the work. They shall be placed under cover when directed and shall be sorted in a manner that will facilitate prompt inspection. Unless specifically authorized by the Director, no materials shall be stored overnight upon any public right of way within the City.

**6.04 DEFECTIVE MATERIALS** - All materials not conforming to the requirements of the Specifications and Drawings shall be considered as defective and all such materials shall be rejected, whether in place or not. They shall be removed immediately from the site of the work, unless otherwise permitted by the Director. No rejected material, the defects of which have been subsequently corrected, shall be used unless approval in writing has been given by the Director. If the Contractor should fail to comply promptly with any order of the Director made under the provisions of this Article, the Director may cause defective materials to be removed and replaced, and the costs thereof to be deducted from any monies due or to become due the Contractor.

**6.05 TRADE NAMES AND ALTERNATIVES** - For convenience in designation on the Drawings or in the Specifications, certain equipment or materials to be incorporated in the work may be designated under a trade name or the name of a manufacturer and his/her catalog information. The use of alternative equipment or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the following requirements:

The burden of proof as to the comparative quality and suitability of alternative equipment or materials shall be upon the Contractor and s/he shall furnish, at their own expense, six copies of complete description, information and performance data showing the quality of the materials or equipment offered to those specified, and such other necessary or related information as may be required by the Director. The Director will be the sole judge as to the comparative quality and suitability of alternative equipment or materials and this decision shall be final. The Contractor, pursuant to Public Contract Code, Section 3400 et seq., shall have at least 35 days after award of the Contract for submission of data substantiating a request for a substitution of "or equal" item.

**6.06 REMOVED.**

**6.07 REMOVED.**

**6.08 CITY FURNISHED MATERIALS** - Materials furnished by the City will be available at locations designated in the Special Provisions. They shall be loaded, unloaded and hauled to the site of the work by the Contractor at his/her expense. The Contractor shall be held responsible for all materials furnished to him/her, and s/he shall pay all demurrage and storage charges. The cost of handling and placing City furnished material shall be considered as included in the price paid for the Contract item involving such City furnished material.



## SECTION 7

### LEGAL RELATIONS AND RESPONSIBILITY

**7.01 LAWS TO BE OBSERVED** – The Contractor shall remain fully informed of all existing and future State and Federal laws and County and Municipal ordinances and regulations which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. She shall at all times observe and comply with, and shall cause all his/her agents and employees to observe and comply with, all such applicable existing and future laws, ordinances, regulations, orders and decrees of bodies or tribunals having any jurisdiction of authority over the work; and shall protect and indemnify the City, the City Council, the Director and Consulting Engineer, and all of its and their officers and agents and servants against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by him or herself or his/her employees. If any discrepancy or inconsistency is discovered in the Drawings, Specifications, or Contract for the work in relation to any such law, ordinance, regulation order, or decree, the Contractor shall forthwith report the same to the Director in writing.

**7.02 LABOR DISCRIMINATION** – Attention is directed to the following sections of the Labor Code:

1735. No discrimination shall be made in the employment of persons upon Public Works because of race, color, national origin or ancestry, or religion of such persons and every Contractor for Public Works violating this section is subject to all the penalties imposed for a violation of this chapter.

1420. It shall be unlawful employment practice, unless based upon a bonafide occupational qualification, or except where based upon applicable security regulations established by the United States or the States or the State of California:

(a) For an employer, because of the race, religious creed, color, national origin, or ancestry of any person, to refuse to hire or employ him/her or to bar or to discharge from employment such person, or to discriminate against such person in compensation or in terms, conditions or privileges of employment.

Contractor agrees to abide by all of the foregoing statutes, regulations, ordinances and resolutions.

**7.03 REMOVED.**

**7.04 PREVAILING WAGES, APPRENTICESHIP, PAYROLL RECORDS** – In accordance with California Labor Code Section 1773.2, the City has determined the general prevailing wages in the locality in which the work is to be performed for each craft or type of work needed to be as published by the State of California Department of Industrial Relations, Division of Labor Statistics and Research, a copy of which is on file in the Public Works Department and shall be made available on request. The Contractor shall cause a copy of these wage rates to be posted at each job site. The Contractor and subcontractors engaged in the performance of the Work shall pay no less than these rates to all persons engaged in performance of the Work. These rates are set forth in the Notice to Contractors and excludes contracts for projects of \$25,000 or less for construction work, or projects of \$15,000 or less for alteration, demolition, repair, or maintenance work.

In accordance with California Labor Code Section 1777.5, the Contractor, on behalf of the Contractor and any subcontractors engaged in performance of the Work, will be responsible for ensuring compliance with California Labor Code Section 1777.5 governing employment and payment of apprentices on public works contracts.

In accordance with California Labor Code Section 1775, the Contractor and any Subcontractors engaged in performance of the Work shall forfeit a penalty of up to \$200 per day for each worker engaged in the performance of the Work that the Contractor or any subcontractor pays less than the specified prevailing wage. The amount of such penalty shall be determined by the Labor Commissioner. The Contractor or subcontractor shall pay the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate. If a subcontractor worker engaged in performance of the Work is not paid the general prevailing per diem wages by the subcontractor, the Contractor is not liable for any penalties therefore unless the Contractor had knowledge of that failure or unless the Contractor fails to comply with all of the following requirements:

1. The contract executed between the Contractor and the subcontractor for the performance of part of the Work must include a copy of the provisions of California Labor Code Sections 1771, 1775, 1776, 1777.5, 1813, and 1815.
2. The Contractor must monitor payment of the specified general prevailing rate of per diem wages by the subcontractor by periodic review of the subcontractor's certified payroll records.
3. Upon becoming aware of a subcontractor's failure to pay the specified prevailing rate of wages, the Contractor must diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for performance of the Work.
4. Prior to making final payment to the subcontractor, the Contractor must obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages employees engaged in the performance of the Work and any amounts due pursuant to California Labor Code Section 1813.

In accordance with California Labor Code Section 1776, the Contractor and each subcontractor engaged in performance of the Work, must keep accurate payroll records showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in performance of the Work. Each payroll record must contain or be verified by a written declaration that it is made under penalty of perjury, stating that the information contained in the payroll record is true and correct and that the employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by the employer's employees on the public works project. The payroll records required pursuant to California Labor Code Section 1776 must be certified and must be available for inspection by the City and its authorized representatives, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations and must otherwise be available for inspection in accordance with California Labor Code Section 1776. Contractor and their subcontractors shall furnish the payroll records specified in Labor Code section 1776 directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.

The work of installing, assembling, repairing or reconditioning, or other work of any nature on machinery, equipment, or tools used in or upon the work shall be considered a part of the work to be performed under the Contract any laborers, workers, or mechanics working on such machinery, equipment, or too

The construction, erection, and operation of material production, proportioning, or mixing plants from which material is used wholly on the Contract or on contracts under the supervision of the City, shall be considered a part of the work to be performed under the Contract and any laborers, workers, or mechanics working on such plants shall be subject to all of the requirements relating to labor set forth in the Contract.

In case it becomes necessary for the Contractor or any subcontractor engaged in performance of the Work to employ on the Work any person in a trade or occupation (except executive, supervisory, administrative, clerical, or other non-manual workers as such) for which no minimum wage rate has been determined by the Director of the Department of Industrial Relations, the Contractor must pay the minimum rate of wages specified therein for the classification which most nearly corresponds to Work to be performed by that person. The minimum rate thus furnished will be applicable as a minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

**7.05 HOURS OF LABOR** – Eight hours labor constitutes a legal day’s work. The Contractor shall forfeit as a penalty to the City up to \$25 for each worker employed in the execution of the Contract by the Contractor or by any subcontractor for each day during which such worker is required or permitted to labor more than eight hours in any one calendar day and 40 hours in any one calendar week in violation of Labor Code Sections 1810 to 1815, inclusive, except as provided for under Labor Code Section 1815.

**7.06 APPRENTICES** – The Contractor’s attention is directed to the provisions of 1770 *et seq.* of the Labor Code concerning the employment of apprentices by the Contractor or any Subcontractor under him\her.

Section 1777.5, as amended, requires the Contractor or subcontractor employing tradespersons in any apprenticeship occupation to apply to the joint apprenticeship committee nearest the site of the Public Works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen that will be used on the performance of the Contract. The ratio of apprentices to journeymen in such cases shall not be less than one to five except:

- A. When unemployment in the area of coverage by the Joint Apprenticeship committee has exceeded an average of 15 percent in the 3 months prior to the request for certificate,
- B. When the number of apprentices in training in the area exceeds a ratio of one to five,
- C. When the trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis statewide or locally, or
- D. When assignment of an apprentice to any work performed under a public works contract would create a condition that would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large, or the specific task to which the apprentice is to be assigned is of a nature that training cannot be provided by a journeyman.

The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if (s)he employs registered apprentices or journeymen in any apprenticeship trade on such contracts and if other Contractors on the Public Works site are making such contributions.

The Contractor and any subcontractor under him/her shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship standards and its branch offices.

**7.07 PERMITS AND LICENSES** – The City has procured all regulatory permits required for the project, see Special Provisions Section 11.02.1 and Appendix A. The Contractor shall be responsible to procure any permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work. The Contractor shall note and comply all permit conditions provided in the Special Provisions or Technical Provisions.

**7.08 PATENTS AND COPYRIGHTS** – The Contractor shall assume all costs arising from the use of, and shall indemnify, defend, hold harmless, and save the City and the Council, its officers, agents, and employees, harmless from liability of any nature and kind, including costs and expenses, for or on account of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, equipment, device, or appliance manufactured, furnished, or used by him/her in the performance of the Contract, including their use by the City, unless otherwise specifically stipulated in the Specifications.

**7.09 SANITARY FACILITIES** – The Contractor shall conform to the rules and regulations pertaining to sanitary provisions as established by the State of California, the County of Santa Cruz and the City of Capitola, as may be applicable.

**7.10 PUBLIC SAFETY** – In accordance with generally accepted construction practices and applicable law, the Contractor will be solely and completely responsible for conditions of the Work site, including safety of all persons and property during performance of the Work. This requirement will apply continuously and not be limited to normal working hours. For purposes of California Labor Code Section 6400 and related provisions of law the Contractor and the Contractor’s privities and any other entities engaged in the performance of the Work will be “employers” responsible for furnishing employment and a place of employment that is safe and healthful for the employees, if any, of such entities engaged in the performance of the Work. Neither the City nor its officials, officers, employees, agents, volunteers or consultants will be “employers” pursuant to California Labor Code Section 6400 and related provisions of law with respect to the Contractor, the Contractor’s privities or other entities engaged in the performance of the Work.

Furthermore, the Contractor shall, at his/her own expense, furnish, erect and maintain such fences, barriers, lights, bridges, and signs and provide such flaggers and guards as are necessary to give adequate warning to the public of the construction and of any dangerous conditions to be encountered as a result thereof.

No material or equipment shall be stored where it will interfere with the safe passage of public traffic, and at the end of each day’s work and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment and other obstructions from that portion of the roadway open for use by public traffic. Spillage resulting from hauling operations along or across any public traveled way shall be removed promptly.

Whenever the Contractor's operations require one-way traffic or creates a condition hazardous to the public traffic, s\he shall provide and station competent flaggers whose sole duties shall consist of directing the movement of public traffic through or around the work.

**7.11 ACCIDENT PREVENTION** – The Contractor shall comply with all pertinent safety orders of the State of California, Department of Industrial Relations, Division of Industrial Safety, and U.S. Department of Labor, OSHA, and will also take or cause to be taken such additional measures as may be necessary for the prevention of accidents.

Prior to commencement of work, the Contractor shall (1) submit in writing the proposals for effectuating his/her provisions for accident prevention, and (2) meet in conference with the Director to discuss and develop mutual understandings relative to administration of an overall safety program.

During the performance of work under the Contract, the Contractor shall institute controls and procedures for the control and safety of persons visiting the job site.

The Contractor shall maintain an accurate record of, and shall report to, the Director in writing, exposure data and all accidents resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies or equipment incident to work performed under the Contract.

The Director will notify the Contractor of any noncompliance with the foregoing provisions. The Contractor shall after receipt of such notice, immediately take corrective action. If the Contractor fails or refuses to comply immediately, the matter will be referred to the proper authority. No part of the time lost due to any stop order issued by proper authority shall be made the subject or claim for extension of time for extra costs or damages by the Contractor.

Compliance with the provisions of this Article by subcontractors will be the responsibility of the Contractor.

No direct payment will be made by reason of the provisions of this Article and all costs in connection therewith shall be included in the prices paid for various contract items of work.

**7.12 EXPLOSIVES AND STREAM POLLUTION** – When the use of explosives is necessary for the prosecution of work, the Contractor shall not endanger life or property, and will be required to obtain a permit for use of explosives within City limits. All explosives shall be stored in accordance with the provisions of Division XI of the Health and Safety Code, and any applicable County or local ordinances.

Attention is called to the necessity of obtaining a permit from the Department of Fish and Wildlife of the State of California in advance of use of underwater explosives. Attention is directed to the Fish and Game Code relating to stream pollution, particularly, Section 5650.

**7.13 FIRES** – The Contractor shall obtain any necessary fire permits from the properly constituted authority and comply with all regulations of the County in which the work is to be performed.

**7.14 INTERFERENCE WITH FIRE HYDRANTS, HIGHWAYS, AND FENCES** – The Contractor shall so conduct his/her operations so as not to close or obstruct any portion of any highway, road, or street, or prevent in any way free access to fire hydrants until s\he has obtained permits therefor from the proper authorities. If any highway required to be kept open shall be rendered unsafe by the Contractor's operation s\he shall make such repairs or provide such temporary guards as shall be acceptable to the authorities having jurisdiction and to the Director. Any highway or street maintenance or repair work required by local authorities in connection with necessary operations under the Contract shall be performed by the Contractor at his/her own cost and expense. Fences subject to interference shall be

maintained as effective barriers consistent with the original intent, but upon approval of the Director, they may be moved or rearranged to facilitate prosecution of the work until the work is finished, after which they shall be restored to their original or better condition.

**7.15 PRESERVATION OF PROPERTY** – Due care shall be exercised to avoid damage to existing improvements, utility facilities, and adjacent property. The fact that any pipe or underground facility is not shown on the drawings shall not relieve the Contractor of responsibility or ascertaining the existence of any underground improvements or facilities which may be subject to damage by reason of the operation.

Any obstruction along the line of work, such as posts, fences, culverts, improvements, etc., which interferes with the Contractor's operation shall be carefully removed and replaced by the Contractor as soon as possible in a satisfactory condition. Pole lines, fences, signs, survey markers and monuments, buildings and structures, conduits, under- or above-ground pipelines, and any other improvements and facilities adjacent to the work shall be protected from injury or damage, and if ordered by the Director, the Contractor shall provide and install suitable safeguards to protect such objects from injury or damage.

If such objects are injured or damaged by reason of the Contractor's operations they shall be replaced or restored at the Contractor's expense. The facilities shall be replaced or restored to a condition as good as when the Contractor entered upon the work, or as good as required by the Specifications accompanying the work being performed under the Contract.

The cost of such repairs shall be borne by the Contractor and may be deducted from any monies due or to become due the Contractor under the Contract.

No direct payment will be made by reason of the provisions of this article and all costs in connection therewith shall be included in the prices paid for the various contract items of work.

The Contractor, employee, and agents, shall at all times observe and comply with all conditions imposed by any instrument granting the right to enter upon property for the purpose of performing the work provided for herein, including, but not limited to, all conditions relative to the prevention and suppression of fires.

**7.16 PUBLIC CONVENIENCE** – Unless otherwise provided in the Special Provisions, all public traffic shall be permitted to pass through the work, and the Contractor shall so conduct operations as to offer the least possible obstruction and inconvenience to the public. The Contractor shall have under construction not greater length or amount of work than can be prosecuted properly with due regard to the rights of the public, and the Director shall be the sole judge of the length or amount of work which will afford proper convenience to the public.

In addition to the requirements for furnishing facilities for public safety as specified in Article 7.10, the Contractor shall erect such warning and directional signs as may be necessary, for expediting the passage of public traffic through or around the work and the approaches thereto. All such signs and traffic maintenance shall be subject to the approval of the Director, and (s)he shall be notified 24 hours in advance of any disturbance of existing traffic patterns. No changes shall be made until approved by the Director.

Traffic signs, existing within the limits of the project, such as STOP signs, shall be maintained in an upright secure position, and located so as to properly control traffic, whenever it is necessary to remove

them from their permanent location due to construction of the work, and shall be reinstalled in their permanent location at the earliest possible time.

Where pipelines are to be installed under the contract across certain designated streets or highways, as noted on the plans, the Contractor will only be permitted to open the trench one-half the width of the pavement at any one time so that one-way traffic can be maintained.

Construction operations shall also be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners. Water or dust palliative shall be applied if ordered by the Director for the alleviation or prevention of dust nuisance caused by the Contractor's operations. Convenient access to driveways, houses, and buildings along the line of work shall be maintained fully by the Contractor, and temporary approaches to crossings or intersecting roads or streets shall be provided and kept in good condition. When traffic control signals are shut down as provided in Section 86-1.05 of the State Specifications, the Contractor shall control traffic by use of flaggers, as directed by the Director, at those locations set forth in the Special Provisions. No STOP signs will be permitted at these locations. The flaggers required for this operation shall be paid for by the Contractor.

All of the foregoing requirements shall apply on weekends and holidays, if considered necessary by the Director. The Director may take action as necessary to provide for public convenience and charge the cost thereof to the Contractor if no representative of the Contractor is available to do same.

**7.17 CONTRACTOR'S RESPONSIBILITY FOR WORK** – Until the formal acceptance of the work, the Contractor shall have the charge and care of the work and of the materials to be used therein, and shall bear the risk of injury, loss, or damage, to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The materials to be used in the work include both those furnished by the City and those furnished by the Contractor, including materials for which the Contractor has received partial payment as provided in Article 9.06.

**7.18 RESPONSIBILITY FOR DAMAGES; INDEMNIFICATION** – The City, the City Council, the Engineer, and all officers and employees of the City shall not be answerable or accountable in any manner, for any loss or damage that may occur 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 or his/her workers, or anyone employed by his/her; 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 damage to any person or property resulting from defects or obstructions or from any cause whatsoever during the progress of work or at any time before its completion and final acceptance and during the period of the project guarantee. To the fullest extent permitted by law, Contractor shall defend, indemnify, and hold harmless the City and its Directors, officers, officials, members, managers, departments, divisions, agents, representatives, volunteers, and employees (collectively "Indemnitee(s)"), from and against any and all claims, suits, actions, legal or administrative proceedings, judgments, debts, demands, injuries (including, without limitation, injury or death to any person or persons), damages (including, without limitation, damage to any property including loss of use resulting therefrom, and incidental and consequential damages), liabilities, losses, debts, interest, penalties, costs, attorneys' fees, and expenses of whatsoever kind of nature (collectively "Loss(es)"), whether arising before, during, or after commencement or completion of this Contract, which in any manner, directly or indirectly, in whole or in part, result from, relate to, or arise from (or are claimed to result from, relate to, or arise from) the work called for by this Contract, or any act, omission, Part 2 | Standard Provisions

fault, recklessness, negligence (whether active or passive), or willful misconduct of Contractor or any of his/her/its subcontractors, or any of their respective officers, directors, agents, employees, or anyone acting under their direction, authority, control, or on their behalf or for whose acts or omissions either of them may be liable (collectively "Contractor Agent(s)"), or the condition of the premises while in the control of the Contractor or any Contractor Agent, even though the same may have resulted from the joint, concurrent, or contributory negligence, or from the passive negligence of an Indemnitee or any other person or persons. Except as provided in Section 3.07, this provision shall not be deemed to require the Contractor to indemnify the City or other Indemnitee for any Loss proximately caused by the sole negligence of an Indemnitee, or to the extent such Loss is proximately caused by the active negligence or willful misconduct of an Indemnitee. Notwithstanding anything to the contrary contained herein, Contractor's indemnification obligations shall not apply to the extent that such indemnity is void or otherwise unenforceable under applicable law in effect on or validly retroactive to the date of the Contract.

Contractor specifically acknowledges and agrees that he/she/it has an immediate and independent obligation to defend the City and the other Indemnitees from any Loss that falls within the scope of this Section 7.18 (Responsibility for Damages; Indemnification), which obligation arises at the time such Loss is tendered to Contractor by the Indemnitee and continues at all times until finally resolved.

Contractor's obligations under this Section 7.18 will survive the termination of the Contract.

**7.19 PAYMENT OF TAXES** – The Contract prices paid for the work shall include full compensation for all taxes which the Contractor is required to pay, whether imposed by the Federal, State or local government.

**7.20 COOPERATION BETWEEN CONTRACTORS** – Should construction be underway by other forces or by other Contractors within or adjacent to the limits of the work specified or should work of any other nature be underway by other forces within or adjacent to said limits, the Contractor shall cooperate with all such other Contractors or other forces to the end that any unnecessary delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including designated material sources) at any time by the use of other forces.

When two or more Contractors are employed on related or adjacent work, or are to obtain materials from the same designated material source, each shall conduct his/her operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each Contractor shall be responsible to the other for all damage to work, to person or property caused to the other by his/her operations, and for loss caused the other due to his/her unnecessary delays or failure to finish the work within the time specified for completion.

**7.21 PROPERTY RIGHTS IN MATERIAL** – Nothing in the contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the work or the soil, or after payment has been made for 80 percent of the value of materials delivered to the site of the work, whether or not they have been so attached or affixed. All such materials shall become the property of the City upon being so attached or affixed upon payment of such 80 percent of the value of materials delivered by the Contractor on the ground and not used, as provided in Article 9.06.

**7.22 RIGHTS IN LAND AND IMPROVEMENTS** – Nothing in these Specifications shall be construed as allowing the Contractor to make any arrangements with any person to permit occupancy or use of any land, structure, or building within the limits of the Contract for any purpose whatsoever, either with



or without compensation, in conflict with any agreement between the City and any owner, former owner, or tenant of such land, structure or building.

**7.23 TITLE TO MATERIALS FOUND ON THE WORK** – The title to all water and to the right to the use of all water, to all soil, stone, gravel, sand, minerals, and all other materials developed or obtained in the excavation or other operations by the Contractor or any subcontractor, or any of their employees, and the right to use or dispose of the same, are hereby expressly reserved in the City and neither the Contractor, nor any subcontractor, nor any of their employees shall have any right, title, or interest in or to any part thereof; neither shall they, nor any of them, assert or make any claim thereto. The Contractor may be permitted to use in the work without charge any such materials which meet the requirements of these Specifications.

**7.24 PERSONAL LIABILITY** – Neither the members of the City Council, the Director, the Consulting Engineer, nor any other officer or employee of the City shall be personally responsible for any liability arising under the Contract.

**7.25 TRESPASS** – The Contractor shall be responsible for all damage or injury which may be caused on any property by trespass by the Contractor, any subcontractor or their employees in the course of their employment, whether the said trespass was committed with or without the consent or knowledge of the Contractor.

**7.26 SUBCONTRACTING** – The Contractor shall comply with Public Contract Code Sections 4100 *et seq*, inclusive, relating to subletting and subcontracting.

No contractor or subcontractor may be listed on a bid or proposal for a public works project unless registered with the DIR pursuant to Labor Code section 1725.5. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, or enter into any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration to the City.

Space is provided in the Proposal for listing subcontractors, and their DIR registration information, to be employed on the Project.

In no case shall the use of subcontractors in any way alter the position of the Contractor or his/her sureties with relation to this Contract. When a subcontractor is used, the responsibility for every portion of the work shall still remain with the Contractor.

**7.27 PROTECTION OF PUBLIC UTILITIES** – In accordance with California Government Code Section 4215, the City assumes the responsibility for the timely removal, relocation or protection of existing main or trunk line utility facilities located on the Work site if such utilities are not identified in the plans and specifications made a part of the invitation for bids. The City will compensate the Contractor for the costs of locating, repairing damage not due to the Contractor's failure to exercise reasonable care, and removing or relocating existing main or trunk line utility facilities located at the Work site and not identified with reasonable accuracy in plans and specifications made a part of the invitation for bids. The City will also compensate the Contractor for the cost of equipment on the Project necessarily idled during such work. The Contractor will not be assessed liquidated damages for Work completion delays caused by the City's failure to provide for removal or relocation of such main or trunk line utility facilities.

Nothing in this provision or the Contract Documents will be deemed to require the City to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Work site can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the Work site; provided, however, that nothing in this provision or the Contract Documents shall relieve the City from identifying main or trunk lines in the plans and specifications made a part of the invitation for bids.

Nothing in this provision or the Contract Documents will preclude the City from pursuing any appropriate remedy against the utility for delays which are the responsibility of the utility.

Nothing in this provision or the Contract Documents will be construed to relieve the utility from any obligation as required either by law or by contract to pay the cost of removal or relocation of existing utility facilities.

If the Contractor while performing the Work discovers utility facilities not identified by the City in the plans and specifications made a part of the invitation for bids, the Contractor must immediately notify the City and utility in writing.

Either the City or the utility, whichever owns existing main or trunk line utility facilities located on the Work site, shall have sole discretion to effect repairs or relocation work or to permit the Contractor to perform such repairs or relocation work at a reasonable price

The Contractor will be required to work around public utility facilities that are to remain in place within the construction area or that are to be relocated and relocation operations have not been completed, and (s)he will be held liable to the owners of such facilities for any damage or interference with service resulting from his/her operations.

The exact locations of underground facilities and improvements within the construction area shall be ascertained by the Contractor before using equipment that may damage or interfere with service resulting from his/her operations. It shall be the Contractor's responsibility to notify public utilities that (s)he is working in the vicinity of their facilities.

Other forces may be engaged in moving or reconstructing utility facilities or maintaining service of utility facilities, and the Contractor shall cooperate with such forces and conduct his/her operation in such a manner as to avoid unnecessary delay or hindrance to the work being performed by such other forces.

The Santa Cruz City Municipal Utilities (SCMU) and Soquel Creek Water District (SCWD) owns, operates and maintains its own water distribution systems; the County of Santa Cruz owns, operates and maintains its own sewer collection systems, and will cooperate with the Contractor insofar as it is reasonable and practicable. Water, as required for City projects, may be obtained at SCMU or SCWD-owned fire hydrants provided that application is made to the SCMU or SCWD and permission obtained with provision for payment.

Full compensation for conforming to the requirements of this article, not otherwise provided for, shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made therefor.

**7.28 PUBLICATIONS** – The Contractor shall submit and obtain written approval from the Director prior to the publication of any technical articles, descriptions, or news releases, concerning this project. Approval shall be granted providing that the City is properly acknowledge, technical innovations are properly acknowledged, and such publication is in the best interest of the City.

**7.29 LANDS AND RIGHTS-OF-WAY** – The City shall provide the lands rights-of-way, and easements upon which the work under this contract is to be done, and such other lands as may be designated on the contract drawings for the use of the Contractor and the Contractor shall confine his/her operations to within these limits.

The Contractor shall provide at his/her own expense any additional land and access thereto that may be required for temporary construction facilities or for storage of materials.

**7.30 ASSIGNMENT OF UNFAIR BUSINESS PRACTICE CLAIMS** – In accordance with California Public Contract Code Section 7103.5, the Contractor and any subcontractors offer and agree to assign to the City all rights, title, and interest in and to all causes of action the Contractor or any subcontractors may have under Section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to this contract. This assignment shall be made and become effective at the time the City tenders final payment to the Contractor, without further acknowledgement by the parties.

**7.31 REMOVED.**

**7.32 THIRD PARTY CLAIMS** – The City shall timely notify Contractor of the receipt of any third-party claim relating to the Contract, and the City shall be entitled to recover its reasonable costs incurred in providing such notice.

## **SECTION 8**

### **PROSECUTION AND PROGRESS OF WORK**

**8.01 ASSIGNMENT** - The performance of the Contract may not be assigned except upon the written consent of the City. Consent will not be given to any proposed assignment which would relieve the original Contractor or his/her surety of their responsibilities under the Contract.

The Contractor may assign monies due or to become due him/her under the Contract and such assignment will be recognized by the City, if given proper notice thereof, to the extent permitted by law, but any assignment of moneys shall be subject to all proper setoffs in favor of the City and to all deductions provided for in the Contract and particularly all money withheld, whether assigned or not, shall be subject to being used by the City for the completion of the work in the event that the Contractor should be in default therein.

**8.02 COMMENCEMENT OF WORK** – The Contractor shall not begin work until s/he has received a Notice to Proceed from the City, and shall upon receiving notice, begin work within the time specified in the notice. After receipt of said notice, the Contractor shall provide written notice to the Director of the Contractor's intention to start work, specifying the date on which s/he intends to start at least 24 hours in advance.

**8.03 WORK IN PROGRESS SCHEDULE** – Unless not required by the Special Provisions, the Contractor or the bidder to whom the Contract is awarded shall, prior to beginning work, submit to the Director a practicable work schedule in the form required by the Special Provisions showing the order and dates within which the Contractor proposes to carry out the work.

**8.04 TEMPORARY SUSPENSION OF WORK** – The Director shall have the authority to suspend the work wholly, or in part, for such period as (s)he may deem necessary when work is being performed in unsuitable weather, or when any other conditions are considered unfavorable for the proper prosecution of the work. The Director shall also have authority to suspend the work wholly or in part because of failure on the part of the Contractor to carry out orders given or to perform any provisions of the Contract. The Contractor shall immediately comply with the written order of the Director to suspend the work wholly or in part. Work suspended wholly or in part shall be resumed by the Contractor on written order of the Director when conditions are favorable and methods corrected.

**8.05 TEMPORARY SUSPENSION OF WORK FOR THE CONVENIENCE AND BENEFIT OF THE CITY** – The Director may order the Contractor, in writing, to temporarily suspend all or any part of the work for such period of time as may be determined by the Director to be necessary or desirable for the convenience and benefit of the City. Where such suspension has been ordered in writing as above provided and where such suspension unreasonably delays the progress of the work, the Director may make an equitable adjustment in the contract price and contract time.

**8.06 SUSPENSION OF WORK BECAUSE OF CONDITIONS BEYOND CONTROL OF CITY OR CONTRACTOR** – Should the work of this contract be suspended for a period of over one (1) year due to war conditions, labor conditions, legal actions, or for any other reason beyond the control of either the City or the Contractor, the work may be terminated by mutual agreement subject to the following conditions. The City shall be responsible for payment for the actual work accomplished only, based on bid prices. The pro-rated cost of such work, where not fully covered by unit costs or bid items, shall be determined by the City's evaluation of the work done and the bid costs.

**8.07 TERMINATION OF UNSATISFACTORY SUBCONTRACTS** – When any portion of the work which has been subcontracted by the Contractor is not being prosecuted in a satisfactory manner, the subcontract for such work shall be terminated immediately by the Contractor upon written notice from the Director, and the subcontractor shall not again be employed on the type of work in which his/her performance was unsatisfactory.

**8.08 CHARACTER OF WORKERS** – If any subcontractor or person employed by the Contractor or subcontractor shall fail or refuse to carry out the directions of the Director or shall appear to the Director to be incompetent or to act in a disorderly or improper manner, (s)he shall be removed from the work immediately on the request of the Director, and such persons shall not again be employed on the work.

**8.09 TIME OF COMPLETION AND LIQUIDATED DAMAGES** – The Contractor shall complete all the work under the Contract within the number of days set forth in these Special Provisions or the Proposal form. When a delay occurs due to unforeseen causes beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of nature, acts of the public enemy, governmental acts, fires, floods, epidemics, strikes (except as caused by improper acts or omissions of the Contractor), the time of completion shall be extended for a period justified by the effect of such delay on the completion of the work. A delay of a subcontractor or supplier due to the above circumstances will be taken into consideration for extensions of time of completion.

Acts of nature means an earthquake, flood, cloudburst, cyclone, or other cataclysmic phenomena of nature beyond the power of the Contractor to foresee or to make preparation in defense against, but does not include ordinary precipitation. The number of days provided for the work as set forth in the Special Provisions includes a normal amount of days for downtime due to weather according to the time of year in which the Contract will be operational.

Should any of the unforeseen circumstances as described in the preceding portion of this Article occur, the Contractor shall file written notice with the Director within the 10 days of the beginning of such delay. The notification shall be accompanied by documentary evidence to the fact and effect of the circumstances. Circumstances of which no notification has been given within 10 days of their occurrence shall not afterward be claimed as grounds for extension of time of completion. The Director will determine the facts in the matter and his/her findings shall be final and conclusive.

If the Contract is revised by a Contract Change Order and the Director determines that such revision will cause delay in completion of the work, the Change Order will provide for extension of the time of completion.

It is agreed by the parties to the Contract that in case all the work called for under the Contract in all parts and requirements is not finished or completed within the number of days as set forth in the Special Provisions, damage will be sustained by the City, and that it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which the City will sustain in the event of a reason of such delay; and it is therefore agreed that the Contractor will pay to the City the sum set forth in the Special Provisions per day for each and every day's delay in finishing the work in excess of the number of days prescribed; and the Contractor agrees to pay said liquidated damages herein in the amount of \$1,900 per day herein provided for in the State Specifications, provided for, and further agrees that the City may deduct the amount thereof from any monies due or that may become due to the Contractor under the Contract.

For the purposes of this contract, liquidated damages will not be applied to this contract unless construction is not completed by April 30, 2021.

**8.10 TERMINATION OF CONTRACT** – If the Contractor should fail to supply sufficient workers, material, supplies, and equipment, the City shall give written notice to the Contractor, which notice shall require that the Contractor supply sufficient workers, supplies, materials, and equipment to diligently prosecute the project. If the Contractor fails to resume diligent prosecution of the work within 48 hours after such notice is delivered, the City may eject the Contractor from the job, take over all supplies, equipment and material of the Contractor on the job site, and may either obtain another Contractor to finish the project or the City may finish the project with its own forces. In such event, the Contractor shall be liable to the City for damages including but not limited to the full cost of completing the project.

**8.11 REMOVED.**

**8.12 CONTRACTOR'S COST DATA** – The City, or any of its duly authorized representatives shall, until the expiration of three years after final payment under this Contract or any subcontractor under it, have access to and the right to examine any of the Contractor's or subcontractor's payrolls, records of personnel, invoices of materials, records of plant and equipment costs, and any and all other directly pertinent books, documents, papers, and records of such Contractor or subcontractor, involving transactions related to said Contract or subcontracts. In the event State or Federal funds are involved in the financing of the project, the State or Federal Government shall have the same rights of inspection as the City.

**8.13 COORDINATION WITH UTILITIES** – The Contractor shall be required to coordinate the work with the removal or relocation of any utility facility by any utility company or public agency where the utility facility is shown on the plans or specified in the Special Provisions to be removed or relocated by such company or agency. It shall be the Contractor's sole responsibility to effect said coordination, and it shall be deemed, upon his/her submission of a Proposal and Schedule to do Work, that the Contractor has reviewed his/her working plans with, and coordinated any utility facility removal or relocation with, all appropriate utility companies and public agencies.

In general, the location of existing utility facilities as shown on the drawings are approximate. This information has been obtained from utility maps furnished by the various agencies involved, and the City does not guarantee either the correctness of locations or the extent of such location. Minor lines such as house water, gas and sewer facilities are not shown. It shall be the responsibility of the Contractor to ascertain the exact location of the utility facilities, and no additional compensation may be claimed for additional work involved because the actual location is different than that shown on the plans.

Unless otherwise indicated on the Drawings or specified in the Special Provisions, the Contractor shall maintain in service all drainage, water, gas, and sewer lines, including house services, power, lighting and telephone conduits, and any other surface or subsurface structure of facility of any nature that may be affected by the work; provided, however, that the Contractor for his/her convenience may arrange with the owner to temporarily disconnect house service lines or other facilities along the line of the work. The cost of disconnecting and restoring such utilities shall be borne by the Contractor.

The Contractor is responsible for the protection of and for any damage to any utility facility encountered on the project during the prosecution of the work. Any such damage to a utility facility shall be repaired to the satisfaction of the utility owning the same. The City reserves the right, if so requested by the owner, to permit the owner to repair such damage. All expenses of whatever nature arising from such damage shall be borne by the Contractor.

**8.14 RESPONSIBILITY FOR ACCURACY** – The Contractor shall obtain all necessary measurements for and from the Work, and shall check dimensions, elevations, and grades for all layout and construction work and shall supervise such work, for the accuracy of all of which s/he shall be responsible. Each subcontractor shall adjust, correct, and coordinate his/her work with the work of others so that no discrepancies will result in the whole work. Unless authorized by the Director, any work done without liens, levels, or grades established by the Director shall be done at the Contractor's risk.

**8.15 TEMPORARY FACILITIES AND SERVICES** - The Contractor shall be responsible for providing and maintaining the necessary storage places, field office, temporary roads, fences, guards, etc., and required utilities, such as telephone, electric, and water service, at his/her expense. No water shall be withdrawn from fire hydrants for construction purposes until the Contractor has approval of the owner for such a connection.

**8.16 UNFAVORABLE WEATHER AND OTHER CONDITIONS** - During unfavorable weather and other conditions, the Contractor shall pursue only such portion of the work as will not be damaged thereby. No portions of the work of which the satisfactory quality or efficiency will be affected by any unfavorable conditions shall be constructed while these conditions remain, unless the Contractor employs special means or precautions, approved by the Director to overcome them.

**8.17 CONSTRUCTION HOURS** – Typical Construction hours shall be limited between the hours of 8:00 a.m. and 5:00 p.m. on weekdays. Construction shall prohibited on weekends or legal holidays. Construction outside of these provisions may be allowed to facilitate working in favorable tide or weather conditions. Any work outside of these provisions by be approved by the Director in advance.

It is understood, however, that two or three shift operations may be established as a regular procedure by the Contractor if (s)he first obtains written permission from the Director. Such permission may be revoked by the Director at any time if the Contractor fails to maintain adequate force and equipment for reasonable prosecution and to justify inspection of the work or fails to provide sufficient artificial light to permit the work to be carried on properly and to permit proper inspection.

The Contractor shall give the Director 24 hours prior notice of any work to be done on weekends with the location and type of work to be done specified; and any work done without such notice and without the supervision of an inspector may be ordered removed and replaced at the Contractor's expense.

**SECTION 9**  
**MEASUREMENT AND PAYMENT**

**9.01 WORK TO BE DONE WITHOUT DIRECT PAYMENT** – Whenever it is specified that the Contractor is to do work or furnish materials of any class for which no price is fixed in the proposal, it shall be understood that s\he is to do such work or furnish such materials without extra charge or allowance or direct payment of any kind. The cost of doing such work or furnishing such materials is to be included in the price bid for such other items of work as s\he may consider appropriate, unless it is expressly specified in the Special Provisions that such work or materials is to be paid for as extra work.

**9.02 MEASUREMENT OF QUANTITIES** – Payment for all work bid at a price per unit of measurement will be based upon the actual quantities of work as measured upon completion. The City does not expressly or by implication agree that the actual amount of work or materials of any class will correspond to the estimated quantities given in the proposal. The Contractor shall make no claim for anticipated profits, for loss of profit, for damages, or for any extra payment whatever because of any difference between the amount of work actually done or materials furnished and the estimated amount.

Items bid on a "Lump Sum" or "Job" basis shall result in a complete structure, operating plant or system in satisfactory working condition with respect to the functional purposes of the installation, and no extra compensation will be allowed for anything omitted but fairly implied.

**9.03 REMOVED.**

**9.04 FORCE ACCOUNT WORK**

**9.04.01 General** – Where extra work is to be paid for on a force account basis, the extra work will be paid for at the actual necessary cost as determined by the Director, plus an allowance for superintendence, general expense, and profit. Such an allowance will be made in accordance with the following schedule:

<b><u>Actual Necessary Cost</u></b>	<b><u>Allowance</u></b>
Labor	20 Percent
Materials	15 Percent
Equipment	15 Percent

The actual necessary cost for labor, material or equipment will be computed in accordance with Articles 9.04.02, 9.04.03, and 9.04.04, respectively. Office expense, general superintendence, and other general expense will not be included in the computation of actual necessary costs.

It is understood that labor, materials, and equipment may be furnished by the Contractor or by the subcontractor or by others on behalf of the Contractor.

When extra work paid for on a force account basis is performed by forces other than the Contractor's organization, the Contractor shall reach agreement with such other forces as to the distribution of the payment made by the City for such work and no additional payment therefor will be made by the City.

The Contractor shall furnish the Director daily report sheets covering the direct costs of labor and materials and charges for equipment, whether furnished by the Contractor, subcontractor, or other forces and said report sheets shall be signed by the Contractor or his\her authorized agent. The daily



report sheets shall provide names or identifications and classifications of workers, and hours worked; size, type and identification number of equipment, and hours operated. Material charges shall be substantiated by valid copies of vendor's invoices.

The Director will make any necessary adjustments and compile the costs of force account work on daily extra work report forms furnished by the City. When these reports are agreed upon and signed by both parties they shall become the basis of payment for the work performed, but shall not preclude subsequent adjustment based on a later audit.

**9.04.02 Labor** – The cost of labor used in performing the work by the Contractor, a subcontractor, or other forces will be the sum of the following:

- a. The actual wage paid which shall include any employer payments to, or on behalf of, workers for fringe benefits including health and welfare, pension, vacation, and similar purposes.
- b. To the actual wages, as defined in Article 9.04.02(a), will be provided a percentage set forth in the Special Provision, which percentage shall constitute full compensation for all payment imposed by State and Federal laws including, but not limited to, compensation insurance, and social security payments.
- c. The amount paid for subsistence and travel required by collective bargaining agreements.

At the beginning of the Contract and as later requested by the Director, the Contractor shall furnish the Director three copies of a certificate from the insurance company showing labor compensation rates.

**9.04.03 Materials** – The cost of materials used in performing the work will be the cost to the purchaser, whether Contractor, subcontractor, or other forces, from the supplier thereof, except as the following are applicable:

- a. Cash or trade discounts available to the purchaser shall be credited to the City notwithstanding the fact that discounts may not have been taken.
- b. In materials secured by other than a direct purchase and direct billing to the purchase, the cost shall be deemed to be the price paid to the actual supplier as determined by the Engineer. Markup except for actual costs incurred in the handling of such materials will not be allowed.
- c. Payment for materials from sources owned wholly or in part by the purchaser for similar materials from said sources on Contract items or the current wholesale price for such materials delivered to the job site, whichever price is lower.
- d. If, in the opinion of the Director, the cost of materials is excessive, or the Contractor does not furnish satisfactory evidence of the cost of such materials, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned delivered to the job site less cash or trade discounts.

The City reserves the right to furnish materials for the work and no claim shall be made by the Contractor for costs and profit on such materials.

**9.04.04 Equipment** – The allowance made for such equipment used on force account work shall be determined from the latest schedule of equipment rental rates in use at the date hereof by the Part 2 | Standard Provisions

California State Transportation Department and incorporate herein by reference the same as though set out in full. Equipment shall be in good operating condition when starting work covered by the order. Rental time will not be allowed while equipment is inoperative due to breakdowns. Allowance for equipment ownership expense for use of items of equipment not listed with the Board shall be established in conformance with the items listed.

When extra work is ordered, the Contractor shall furnish a complete description of each item of equipment to be used on such extra work, listing the make, model, size, capacity, mounting, type of power and cost.

Allowance determined in accordance with this Article include all costs of operating equipment such as servicing labor and equipment, labor and parts for minor field repairs, fuel, oil, grease, and supplies, but not operating crew labor. No additional payment or allowance will be made in extra work orders for these items other than operating labor in addition to the amounts allowed for equipment use.

When equipment is obtained for the extra work from beyond the limits of the Contract, in addition to the rental rates paid while the equipment is actually in use on the work, the City will pay the cost of loading, unloading, and transporting to and from work subject to the following conditions:

- a. The point from which the equipment is to be transported shall be agreed to by the Director in advance.
- b. Transportation on low bed trailers shall not exceed rates of established haulers or applicable minimum rates of the Public Utilities Commission.
- c. Saturdays, Sundays, and Holidays will not be paid for unless directed by the Director.
- d. The City will pay an amount not to exceed the charge for moving the equipment to the work if the equipment is returned to a location other than from which it was obtained.
- e. Payment for transportation, loading, and unloading will not be made if the equipment is used on the work under the Contract in any other way than upon extra work paid for on a force account

**9.05 RETENTION** – In accordance with the Contract Documents and applicable law, the City may retain out of any payment due the Contractor up to 5% of the payment. In no event shall the City’s total retention proceeds exceed 5% of the contract price.

Under no circumstances shall any provision of this section be construed to limit the ability of the City to withhold 150 percent of the value of any disputed amount of work from the final payment, as provided for Public Contract Code section 7107(c). In the event of a good faith dispute, nothing in this section shall be construed to require a public entity to pay for work that is not approved or accepted in accordance with the proper plans or specifications.

**9.05.010 SECURITIES IN LIEU OF RETENTION** – In accordance with Public Contract Code Section 22300, except where federal regulations or polices do not permit substitution of securities, the Contractor may substitute securities for any moneys withheld by the City to ensure performance of the Work. At the Contractor’s request and expense, securities equivalent to the amount withheld will be deposited with the City, or with a state or federally chartered bank in California as the escrow agent, who will then pay those moneys to the Contractor under the terms of an Escrow for Security Deposit agreement. The Escrow for Security Deposit agreement is provided in the Contract Documents. Upon satisfactory completion of the Work, the securities will be returned to the Contractor.

Alternatively, at the Contractor's request and expense, the City will pay retentions earned directly to the escrow agent. At the Contractor's expense, the Contractor may direct investment of the payments into securities. Upon satisfactory completion of the Work, the Contractor will receive from the escrow agent all securities, interest, and payments received by the escrow agent from the City pursuant to this provision and the terms of the Escrow for Security Deposit agreement. The Contractor will, within 20 days of receipt of payment, pay to each subcontractor the respective amount of interest earned, less costs of retention withheld from each Subcontractor, on monies withheld to ensure the Contractor's performance of the Work.

Securities eligible for investment in accordance with this provision include those listed in Government Code Section 16430, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the City.

The Contractor will be the beneficial owner of any securities substituted for moneys withheld and will receive any interest thereon.

**9.06 PARTIAL PAYMENT** – At monthly intervals, as fixed by the City, the Contractor will prepare an estimate in writing of the total amount of work done and the acceptable materials furnished and delivered by the Contractor on the ground and not used, to the time of such estimate, and the value thereof. Acceptable materials shall be those materials which will become a part of the finished construction work. The basis for partial payments of lump sum or other unit Contract items will be determined by agreement between the Director and the Contractor. No such estimate of payment shall be required to be made when, in the judgment of the Director the work is not proceeding in accordance with the provisions of the Contract, or when in his/her judgment the total value of the work done since the last estimate amounts to less than \$500. No such estimate or payment shall be considered to be an acceptance of any defective work or improper materials. All progress estimates and payments shall be subject to correction in the final estimate.

**9.07 FINAL ESTIMATE AND PAYMENT** – As soon as practicable after completion of the work, the Director will prepare in writing and furnish to the Contractor the final estimate of the quantities of work done and all payments due under the Contract, which estimate will show deductions for prior payments and any other amounts to be retained. The amount determined due, less the amount retained, will be paid. This retained amount will not be due or payable until 35 days after the completion of the work and the filing of Notice of Completion and Acceptance in the manner provided by law and until after the Contractor has furnished the City a release by all claims by the Contractor against the City arising by virtue of the Contract except such claims in definite amounts as the Contractor may specifically exempt from the operation of the release.

At the earliest practicable time after having filed a claim, either during the performance of the work or after its completion as specified in the foregoing paragraph, it shall be the responsibility of the Contractor to submit in writing the basis for each claim, reference to the applicable provisions of the Specifications, the method of computation of the amount claimed due, and all other factual data pertaining thereto. Failure to submit such information and details within the 90 days after filing said claims will be sufficient cause for denying the claims. No claim will be considered where there has been a failure to comply with the requirements of Article 4.04.

**9.08 SCOPE OF PAYMENT** - Payment for all items of work at the unit or lump sum price shall be considered as full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the items of work, and no additional allowance will be made therefor.

**9.09 GUARANTEE** - Should any failure of the work occur within a period of one year after acceptance of the project by the City, which can be attributed to faulty materials, poor work, or defective equipment, or should discovery be made within this period of any non-compliance with the Plans and Specifications, the Contractor shall promptly make the needed repairs, replacement, or installation at his/her expense.

The City is hereby authorized to make such repairs if the Contractor fails to make or undertake with due diligence the aforesaid repairs within ten days after s\he is given written notice of such failure; provided, however, that in case of emergency where, in the opinion of the Director, delay would cause serious loss or damages, or a serious hazard to the public, the repairs may be made, or lights, signs, and barricades erected without prior notice to the Contractor, and the Contractor shall pay the entire costs thereof.

Unless otherwise set forth in the Special Provisions, as a condition precedent to the acceptance of the Contract, the Contractor shall furnish a corporate surety bond, of an acceptable surety company authorized to do business in the State of California, to protect the City against the results of such faulty materials, poor work, or defective equipment and to guarantee the Contractor's responsibility as outlined above, for period of one year after completion and acceptance of the project by the City. Said bond shall be a sum not less than ten (10%) of the Contract amount.

## **PART 3 : TECHNICAL PROVISIONS**

### **SECTION 10.01**

#### **FIBERGLASS LINER**

##### **PART 1 – GENERAL**

##### **1.1 SCOPE OF WORK**

- 1.1.1 The purpose of the fiberglass liner is to provide a waterproof barrier to the inner flume surface to prevent leakage through the flume walls.
- 1.1.2 This specification is intended to define the minimum requirements of structural strengthening using fiber reinforced polymer (FRP) composite systems.
- 1.1.3 The work includes the furnishing of all materials, labor, equipment and services for the supply, installation and finish of structural strengthening using a bonded FRP composite system.
- 1.1.4 The Contractor shall include all engineering, labor, materials, tools, equipment, appliances and services required to engineer, design, deliver, furnish all items necessary for the proper execution and completion of the work as shown on the Contract Documents, as specified herein and/or as required by job conditions. Detailed design of the FRP system is included with the installation of the FRP system by the installer selected by the Owner or General Contractor. All items not shown or specified, but which are necessary for the proper execution and completion of the Work shall be provided by the Contractor.

##### **1.2 REFERENCES**

- 1.2.1 ACI—American Concrete Institute
  - 1. 116R-00: Cement and Concrete Terminology.
  - 2. 117-90: Specifications for Tolerances for Concrete Construction and Materials, and Commentary.
  - 3. 224.1R-07: Causes, Evaluation, and Repair of Cracks in Concrete Structures.
  - 4. 224R-01: Control of Cracking in Concrete Structures.
  - 5. 440R-07: State-of-the-Art Report on Fiber Reinforced Plastic Reinforcement for Concrete Structures.
  - 6. 440.2R-17: Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening of Concrete Structures.
  - 7. 503R-93: Use of Epoxy Compounds with Concrete.
  - 8. 503.4-R92: Standard Specifications for Repairing Concrete with Epoxy Mortars.
  - 9. 503.5R-92: Guide for the Use of Polymer Adhesives in Concrete.
  - 10. 503.6R-97: Guide for the Application of Epoxy and Latex Adhesives for Bonding Freshly Mixed and Hardened Concretes
  - 11. 546R-04: Concrete Repair Guide.
- 1.2.2 ASTM- American Society for Testing and Materials
  - 1. D3039: Test Method for Tensile Properties of Polymer Matrix Composite Materials
  - 2. D3418: Test Method for Transition Temperatures of Polymers by Differential Scanning Calorimetry.

3. D5687: Guide for Preparation of Flat Composite Panels with Processing Guidelines for Specimen Preparation.
4. D7565: Standard Test Method for Determining Tensile Properties of Fiber Reinforced Polymer Matrix Composites Used for Strengthening of Civil Structures.
5. D7234: Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers
6. D7522: Standard Test Method for Pull-Off Strength for FRP Bonded to Concrete Substrate.
7. D7290: Standard Practice for Evaluating Material Property Characteristic Values for Polymeric Composites for Civil Engineering Structural Applications.
8. D638: Standard Test Method for Tensile Properties of Plastics.
9. D695: Standard Test Method for Compressive Properties of Rigid Plastics.
10. D790: Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

#### 1.2.3 ICRI- International Concrete Repair Institute

1. No. 03732: Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.
2. No. 03733: Guide for Selecting and Specifying Materials for Repairs of Concrete Surfaces.

### 1.3 PRE-QUALIFICATION OF FRP INSTALLER/CONTRACTOR

1.3.1 The Contractor must be prequalified by the Owner or its representative for each FRP system after providing the following necessary information:

1. A minimum of 5 years of documented FRP rehabilitation experience with a minimum of 1,000 LF (36 inches and above) of pipeline rehabilitation projects verifiable with reference letters from respective Owners.

### 1.4 SUBMITTALS

- 1.4.1 Submit certifications of applicator with written consent from the FRP manufacturer that the Contractor has been trained in proper application of manufacturer's systems.
- 1.4.2 Alternative materials submit installation procedures and general recommendations regarding each material to be used. Must receive approval by the Engineer of Record (EOR) 5 days prior to the bid date.
- 1.4.3 Submit test results conducted per the ASTM standards as applicable to the project.
- 1.4.4 Alternative materials submit FRP manufacturer's Safety Data Sheets (SDS) for all materials to be used, for approval.
- 1.4.5 For alternative materials, submit FRP manufacturer's product data sheet indicating physical, mechanical, structural, and chemical characteristics of all materials used in the FRP system. Include expected modulus of elasticity of strengthened composite system and expected yield strain.

## PART 2 – PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS & COMPOSITE STRENGTHENING SYSTEM

#### 2.1.1 General

Materials for the FRP system must be suitably qualified, compliant with industry standards, and supplied by a reputable manufacturer approved by the Owner. Before FRP materials are ordered or work is performed, Contractor must identify which materials are proposed to be utilized and from which manufacturer(s) Contractor proposes to obtain the materials.

The fiberglass liner pipe rehabilitation system as manufactured by QuakeWrap is deemed to comply with this specification, equivalents will be considered approval.

Quality Control Testing and Certification: Manufacturer shall certify that every batch or lot of material conforms to this specification and shall submit test results for every batch or lot of materials.

Labeling, packaging and storage shall include any health hazard warnings, precautions for handling and recommended first aid procedures in case of contact.

All materials used shall conform to this specification and other specifications referenced within and subject to the approval of the Engineer.

#### 2.1.2 Design Loads

The FRP/GFRP system shall be designed for the following loads:

- external pressure from ground water calculated at pipe invert (a long-term loading),  $P_{gw}$ ,
- earth load (a long-term loading),  $W_e$ ,
- live load (a short-term loading, usually will not occur simultaneously with other short-term loads),  $W_r$ ,
- water weight (a long-term loading),  $W_w$ ,
- PCCP weight plus the weight of FRP/GFRP laminae (a long-term loading),  $W_p$

### 2.2 FABRIC

2.2.1 Fabric shall be composed of high strength, high modulus fibers. The fibers shall be primarily oriented in the longitudinal ( $0^\circ$ ) direction or in the  $0^\circ$  and  $90^\circ$  direction for biaxial fabrics. The fabric shall be impregnated using two component high strength epoxy resin. The fabric total weight shall be no less than 27 oz/sq. yd.

2.2.2 Fiber sizing and coupling agent shall be compatible with the resin system used to impregnate the fibers. It is permissible to use FRP liners directly in cathodically protected PCCP. To avoid galvanic corrosion of steel in proximity to carbon fibers, a glass fiber fabric may be used to isolate the steel from the FRP laminate.

2.2.3 Fabric shall conform to the minimum physical and mechanical properties indicated below.

<b><i>Fabric and Laminate Properties</i></b>	
<b>Dry Fiber Properties</b>	
Tensile Strength	400 ksi
Tensile Modulus	30,000 ksi
Ultimate Elongation	1.64%
Density	0.065 lb/in <sup>3</sup>
Aerial Weight	27.8 oz/yd <sup>2</sup>
<b>Laminate Properties</b>	
Tensile Strength	100 ksi
Tensile Modulus	11,000 ksi
Ultimate Elongation	0.98%
Breaking Force	6,000 lb/in
Ply Thickness	0.05 in

**2.3 GLASS FABRIC**

2.3.1 Fiberglass fabric shall be Quakewrap VB2610G or approved equal high-strength bixial fabric.

2.3.2 Glass fabric shall be supplied in rolls with a minimum width of 24”.

**2.4 SATURATING RESIN – POLYMER**

2.4.1 Fabric shall be impregnated with a two component, high strength, and low viscosity structural epoxy, Quakebond J300SR or approved equal, to thoroughly and uniformly saturate the fabric. The resin shall have low viscosity and long pot life, with a fast cure time designed for high volume saturation of heavy reinforcement fabrics using an impregnator machine or hand tools as per project requirements

- The resin system shall be resistant to service environment conditions, including but not limited to moisture, elevated temperature, and chemicals in the fluid flowing inside PCCP.
- The resin system shall not be diluted with any organic solvents such as a thinner.
- The resin system shall not be used outside of the manufacturer's specified pot life.
- The resin system shall not be applied on cold or frozen.
- Only moisture tolerant resins (e.g., J333 by QuakeWrap) shall be allowed to be applied on wet surfaces.
- Temperature and moisture range for application shall be within the manufacturer's specified values.



**2.4.2 Primer**

For systems requiring a primer, the primer shall have sufficiently low viscosity to penetrate the concrete substrate and provide an adhesive bond for the thickened resin applied.

**2.4.3 Thickened Resin**

A thickened resin system, which consists of the saturating resin and silica fume supplied by the manufacturer as premixed, or mixed at the site according to the manufacturer's recommended procedure, shall be used to provide a smooth surface for the application of the FRP laminate. The thickened resin system shall be used to fill in surface voids and even out the concrete substrate. It is permissible to use thin coat of thickened epoxy between laminae to enhance adhesion.

2.4.4 Saturating resins shall be 100% solids formulation with low odor conforming to the following physical properties:

**Epoxy Resin Properties**

Viscosity Mixed at 770 F (250 C)	1,500 – 1,600 cps
Pot Life at 770 F (250 C)	3 – 4 hrs (thin film set time)
Full Cure time	48 hrs
Density at 392 °F (200 °C)	Part A: 70.5 lb/ft <sup>3</sup> (1.13 kg/L) Part B: 62.4 lb/ ft <sup>3</sup> (1.00 kg/L)
Tensile Strength (ASTM 638)	7,150 psi (49.3 MPa)
Tensile Modulus (ASTM 695)	289,000 psi (1,992.6 MPa)
Flexural Strength (ASTM D-790)	11,140 psi (76.8 MPa)
Flexural Modulus (ASTM D790)	252,400 psi (1,740.2 MPa)
Water Absorption (% gain) in 24 hours	< 1%
Expansion Coefficient [-37.40 – 40.10 °C]	78 x10-6 m/m °C
Expansion Coefficient [1,200 – 2,220 °C]	151.8 x10-6 m/m °C

2.4.5 The resin material shall be NSF/ANSI 61 certified for potable water use.

**2.5 OTHER MATERIALS**

Contractor to provide compatible primer, filler and other materials recommended by the manufacturer as needed for the proper installation of the complete surface bonded FRP composite system.

## **PART 3 – EXECUTION**

### **3.1 GENERAL PROCEDURES**

- 3.1.1 The FRP installation shall be performed in accordance with the manufacturer's specified procedure, which should be validated through past experience. The design of the FRP reinforcement shall conform to the design provisions given in ACI 440.7R and ACI 440.2R-17.

Contractor can propose alternative installation techniques and design improvements to meet the project goals and design requirements outlined in the drawings and technical specifications. Such proposed changes will be submitted as a Performance Work Statement (PWS) 30 days before the start of construction and is subject to the approval of Owner and EOR.

### **3.2 SURFACE PREPARATION**

- 3.2.1 The Contractor shall expose and inspect the interior of the pipe to be reinforced with FRP. Inspection shall check the location and inspect cracks and existing conditions of the concrete.

All necessary repair and restoration of a concrete section shall be approved by the Engineer prior to surface preparation. In these specifications, contact-critical applications are treated in the same way as bond-critical applications.

The Contractor shall examine the existing conditions to identify potential obstructions and constraints; shall verify dimensions, geometry and access locations; and shall map all visible voids and cracks in the concrete core.

An adhesive bond with adequate strength shall always be provided between FRP and concrete. Surface preparation shall also promote continuous intimate contact between FRP and concrete by providing a clean, and smooth surface.

#### **3.2.2 Surface Grinding/Blasting:**

All irregularities, unevenness, and sharp protrusions in the surface profile shall be ground away to a smooth surface with CSP 3/CSP 2 surface profile using hand tools. Disk grinders or other similar devices shall be used to remove stain, paint, or any other surface substance that may affect the bond. Voids or depressions with diameters larger than 2 in. or depths greater than 1/4 in., when measured from a 12-in. straight edge placed on the surface, shall be filled according to Section 3.2.4.

Any exposed steel reinforcement shall be cleaned with a wire brush.

#### **3.2.3 Crack Injection:**

All cracks in the surface of concrete or the substrate that are wider than 0.05 in. shall be filled using pressure injection of epoxy according to ACI 224R-01 and 224.1R-07. The fiberglass liner shall be installed no earlier than 12 hours after crack injection. Any surface roughness caused by injection shall be removed as per Section 3.2.1. The limit of crack injection shall be as indicated on the plans.

#### **3.2.4 Surface Profiling:**

After surface grinding, any remaining unevenness in the surface greater than that specified in Section 3.2.1, fins, protrusions, bug holes, eroded surfaces shall be filled and smoothed over by using putty made of epoxy resin mortar or polymer cement mortar with strength equal to or greater than the strength of the original concrete.

### 3.2.5 **Surface Cleaning:**

Substrate concrete and finished surface of concrete shall be cleaned prior to application of the FRP and allowed to dry fully. Cleaning shall remove any dust, laitance, grease, oil, curing compounds, wax, stains, coatings (as necessary), surface lubricants, foreign particles, weathered layers, or any other bond-inhibiting material. If power wash is used, the surface shall be allowed to dry thoroughly before installing the FRP system. The cleaned surface shall be protected against redeposit of any bond-inhibiting materials.

## 3.3 **STORAGE, HANDLING, AND DISPOSAL**

### 3.3.1 **Storage Requirements:**

All components of the FRP system must be delivered and stored in the original factory-sealed, unopened packaging or in containers with proper labels identifying the manufacturer, brand name, system identification number, and date. Catalysts and initiators should be stored separately. All components must be protected from dust, moisture, chemicals, direct sunlight, physical damage, fire, and temperatures outside the range specified in the system data sheets. Any component that has been stored in a condition different from that stated above must be disposed of, as specified in Section 3.3.7.

### 3.3.2 **Handling:**

All components of the FRP system, especially fiber sheets, must be handled with care according to the manufacturer recommendations to protect them from damage and to avoid misalignment or breakage of the fibers by pulling, separating, or wrinkling them or by folding the sheets. After cutting, sheets shall be either stacked dry with separators or at a radius no tighter than 12 in. or as recommended by the manufacturer.

### 3.3.3 **Safety Hazards:**

All components of the FRP system, especially resins and adhesives, must be handled with care to avoid safety hazards, including but not limited to skin irritation and sensitization and breathing vapors and dusts. Mixing resins shall be monitored to avoid firming and inflammable vapors, fire hazards, or violent boiling. The Contractor is responsible for ensuring that all components of the FRP system at all stages of work conform to the local, state, and federal environmental and worker's safety laws and regulations. The Contractor is advised that a forced ventilator system may be required inside enclosed sections and that provision for ventilation, if any, shall be included in the cost of the work.

### 3.3.4 **Safety Data Sheets:**

The SDS for all components of the FRP system shall be accessible to all at the project site. Specific handling hazards and disposal instructions shall be specified in the SDS section entitled *Personnel and Workplace Protection*. The Contractor is responsible for providing the proper means of protection for safety of the personnel and the workplace. The Contractor shall inform the personnel of the dangers of inhaling fumes of primer, putty, or resin and shall take all necessary precautions against injury to personnel. The resin mixing area shall be well vented to the outside.

### 3.3.5 **Clean-Up:**

The Contractor is responsible for the cleanup of the equipment and the project site from hazardous and aesthetically undesirable FRP components using appropriate solvents, as recommended in the system data sheet.

**3.3.6 Disposal:**

Any component of the FRP system that has exceeded its shelf life or pot life or has not been properly stored, as specified in Section 3.3.1, and any unused or excess material that is deemed waste shall be disposed of in a manner amiable to the protection of the environment and consistent with the SDS.

**3.4 WET LAY-UP INSTALLATION**

This section specifies general installation procedures for the wet lay-up of FRP and GFRP systems.

**3.4.1 Environmental Conditions:**

Environmental conditions for installation shall be examined before and during installation of the FRP system to ensure conformity to the contract documents and manufacturer's recommendations. Do not apply primers, putty, saturating resins, or adhesives on cold, frozen, damp, or wet surfaces, unless the resin is moisture tolerant. Ambient and concrete surface temperatures shall be within 45-95 °F. Moisture level on all contact surfaces shall be less than 10 percent at the time of installation of the FRP system, as evaluated according to ACI 503R-93. Moisture restrictions may be waived for resins that have been formulated for wet applications.

The work area is a confined space that will require an entry permit in accordance with OSHA regulations. The Contractor is responsible for the training of all personnel, air testing, safety equipment and complying with the requirements of OSHA

**3.4.2 Moisture Vapor Transmission:**

Application of bonded FRP systems shall not proceed if any moisture vapor transmission is present. Concrete dryness is necessary when using elevated temperature cure. Any bubble that develops from moisture vapor transmission can effectively be injected with the same adhesive material used for the FRP system following the procedure specified in Section 3.7.2.

**3.4.3 Applications in Inclement Weather:**

When inclement weather does not allow installation of the FRP system, as specified in Section 3.4.1, auxiliary measures may be employed to correct the conditions. An auxiliary heat source may be used in cold weather to raise the ambient and concrete surface temperatures to acceptable levels, as recommended by the manufacturer, but not higher than the glass transition temperature (Tg). Pressurized air may be used to dry the surface dampness.

**3.4.4 Equipment:**

The Contractor shall provide all necessary equipment in sufficient quantities and clean operating conditions for continuous uninterrupted FRP installation.

**3.4.5 Mixing of Resin Components:**

All resin components, including the main agent and hardener, shall be mixed at the proper temperature using the appropriate weight ratio and for a duration as specified by the manufacturer until thorough mixing with uniform color and consistency is achieved. Resins shall not be diluted with any organic solvents such as a thinner. Electrically powered mixing blades shall be used for mixing. Resin shall be mixed in quantities sufficiently small to ensure that it can be used within its pot life. Any mixed resin that exceeds its pot life or begins to generate heat or shows signs of increased viscosity shall not be used and shall be disposed of according to the SDS. Mixing of some resins may be accompanied by noxious fumes. Precautions must be taken

regarding the resin's impact on the environment, including emission of volatile organic compounds.

**3.4.6 Primer and Putty:**

When necessary, apply one or two coats of primer on the concrete surface to penetrate open pores. Ambient and concrete surface temperatures must be within the range specified in Section 3.4.1. The putty shall be applied as soon as the primer becomes tack free or is not sticky to the fingers. The putty shall be applied within 7 days after primer application; otherwise, the primer-coated surface shall be roughened with sandpaper or a similar tool. The resulting surface shall be cleaned according to Section 3.2.5 before applying the putty. Apply 40-mil (1 mm) thick coat of putty in one layer, and smooth over the surface to fill in any small voids, cracks, or uneven areas. Any swelling on the surface after applying the putty shall be corrected to meet surface profile as specified in Section 3.2.4. The surfaces of primer and putty shall be protected from dust, moisture, and any other contaminants before applying the FRP.

**3.4.7 Saturant:**

The saturant shall have sufficiently low viscosity to ensure full impregnation of the fiber sheets prior to curing. To maintain proper viscosity of the saturant, the ambient and concrete surface temperatures must be within the range specified in Section 3.4.1. Any mixed saturant that exceeds its pot life shall be disposed of according to Section 3.3.6.

**3.4.8 Applying Fiber Sheet and Saturant:**

The fabric will be uniformly saturated with the saturant using the saturating machine or hand saturated, where site conditions are not favorable for using the machine. The fabric will be cut to the length specified in the contract documents and shall be installed in place and gently pressed onto the wet putty. Any entrapped air between the fiber sheet and the concrete surface shall be released or rolled across the sheet in the direction parallel to the fibers while allowing the resin to impregnate the fibers and achieve intimate contact with the substrate. Rolling perpendicular to the fiber direction is not allowed. In bi-directional fabrics, rolling shall be initially in the fill (transverse) direction end to end and then in the warp (longitudinal) direction. Subsequent layers of fabric (if called for in the design) shall be properly saturated with saturant and applied on top of the first sheet of fabric with no interruption.

**3.4.9 Overlapping:**

A lap joint shall be constructed when an interruption occurs in the direction of the fibers. The length of the lap splice shall be as specified by the contract documents, but must be at least 12 in. Staggering of lap splices on multiple plies and adjacent strips shall be required unless permitted by contract documents. For unidirectional fabrics, no lap joint is necessary in the transverse direction unless specified in the contract documents.

**3.4.10 Alignment of FRP/GFRP Materials:**

The fiber plies shall be aligned on the PCCP according to the contract documents. Any deviation in the alignment more than 5 degrees (approximately 1 in./ft) is not acceptable. Once installed, the fibers shall be free of kinks, folds, and waviness.

**3.4.11 Termination Points**

The termination points of the FRP liner shall be designed such that internal water pressure is not allowed to get behind the inner core in the future as the PCCP continues to degrade and the adjacent pipes may become degraded. Degradation of the PCCP results in longitudinal cracks in the outer core that diminishes the outer core stiffness against radial movement of the pipe wall, and results in separation of the cylinder from inner core. If the FRP is not sealed at termination points and water pressure is allowed to build up behind the inner core, the inner core

and the FRP adhered to it will be stress-free and structurally ineffective. A termination detail in which FRP is extended into the next pipe segment shall not be used as such a detail allows water pressure to build up behind the inner core when the adjacent pipe degrades.

Elastomeric internal joint seals (Weko or approved equivalent) can be used at the termination points with the appropriate details included in the drawing set.

#### 3.4.12 **Curing:**

The fiberglass liner system shall be allowed to cure for 72 hours to comply with the NSF 61 requirements.<sup>1</sup> Field modification of resin chemistry for rapid curing is not allowed. Elevated cure temperature may be used, as specified in Section 3.4.3, if rapid curing is necessary. Cure of installed plies shall be monitored before placing subsequent plies. In case of any curing irregularity, installation of subsequent plies shall be halted. Unless otherwise noted in the contract documents and approved by the Engineer, the full load shall not be applied until curing is complete. Protect the FRP system while curing.

#### 3.4.13 **Protective Coating and Finishing**

It is permissible to use a top coat to the FRP laminate for abrasion resistance. The top coat shall be either thickened epoxy, with or without a pigment added to facilitate inspection, or neat resin. The top coat shall be compatible with exposure conditions including moisture, salt water, elevated temperature, abrasion, UV exposure, and chemical exposure. Applicability of the top coat to the FRP laminate in corrosive environments shall be verified by testing.

#### 3.4.14 **Protective Coating Field Application:**

Surface preparation shall be as recommended by the manufacturer. Solvent wipes shall not be used to clean the FRP surface unless approved by the FRP manufacturer. If abrasive cleaning is necessary, air pressure shall be limited to avoid any damage to fibers. Ambient and surface temperatures shall be within the range, prior to applying the protective coating.

### 3.5 **INSPECTION & QUALITY ASSURANCE**

A specific QA plan shall be developed from the tests identified in this section. All inspections and tests in this section will be performed by a trained inspector acting on behalf of Owner for QA of the project in the presence of the Contractor and Engineer. The Contractor may have its own inspector for QC.

#### 3.5.1 **Inspection of Materials:**

The manufacturer's certifications for all delivered and stored FRP components will be inspected for conformity to the contract documents before starting the project. Materials testing will be conducted on samples if specified in the contract documents. Any material that does not meet the requirements of the contract documents will be rejected. Additional inspection measures may be taken during the installation process if specified in the contract documents.

#### 3.5.2 **Daily Inspection:**

Daily inspection will include date and time of repair; relative humidity; general weather conditions; surface dryness per ACI 503.4-92; surface preparation and surface profile using ICRI surface profile chips; qualitative description of surface cleanliness; type of auxiliary heat source, if any; widths of cracks not injected with epoxy; fiber or procured laminate batch numbers and their locations in the structure; batch numbers, mixture ratios, mixing times, and qualitative descriptions of the appearance of all mixed resins, primers, putties, saturants, adhesives, and

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<sup>1</sup> The FRP system normally reaches its full structural strength within 48 hours or less.

coatings; observations of the progress of the cure of resins; conformance with installation procedures; adhesion test results of bond strength, failure mode, and location; FRP properties from tests of field sample panels or witness panels, if required; location and size of any delaminations or air voids; and the general progress of work.

**3.5.3 Inspection for Fiber Orientation:**

Fiber or ply orientation, fiber kinks, and waviness will be examined by visual inspection for conformity to the contract documents. Tolerances will follow Installation of the FRP System (Section 3.4.11). Any nonconforming FRP area will be removed and required as per Repair of Defective Work (Section 3.6).

**3.5.4 Inspection for Debonding:**

After at least 24 hours for the initial curing of the resin, a visual inspection of the surface will be performed for any swelling, bubbles, voids, or delamination. If an air pocket is suspected, an acoustic tap test will be carried out with a hard object to identify delaminated areas by sound, with at least one strike per one ft<sup>2</sup> (0.1 m<sup>2</sup>). Defects smaller than .5 in. (12 mm) in diameter will require no corrective action, unless as specified in Section 3.7.2. Defects larger than .5 in. (12 mm) but smaller than 2 in. (50 mm) in diameter will be repaired as per Section 3.6.2. Defects larger than 2 in. (50 mm) but smaller than 6 in. (150 mm) in diameter, and with a frequency of less than 5 per any unit surface area of 10-ft (3 m) length or width, will be repaired as per Section 3.6.3. Larger defects will be repaired as per Section 3.7.4.

**3.5.5 Inspection for Cure of Resin:**

If specified in the contract documents, the relative cure of resin in FRP systems will be examined by visual inspection or by third party laboratory testing of resin-cup samples using ASTM D3418. Follow recommendations of the resin manufacturer for acceptance criteria. If the cure of resin is found unacceptable, the entire area will be marked and repaired as per Section 3.6.

**3.5.6 Tests:**

Specimens from the installed FRP system or samples representative thereof, shall be tested for tensile and adhesive strengths.

Adhesion test — ASTM D7234 for adhesion to concrete and ASTM D4541 for adhesion to steel. In order to validate the adequacy of the surface preparation and the adhesion strength of the carbon fiber strengthening system, the Contractor shall perform random adhesion tests on the prepared concrete and steel substrate of pipe segments adjacent to repair pipes as directed by the Engineer and witnessed by the Owner's inspector. The Owner's inspector should designate the areas for trial adhesion tests prior to the surface preparation activities. These areas shall be cleaned, prepared, and covered with two-ply FRP system test patches with minimum dimensions of 2 ft x 2 ft for adhesion test to concrete substrate and minimum dimensions of 4 in. x 4 in. for adhesion to steel substrate. The patch shall consist of two orthogonal plies of FRP laminae, with a layer of GFRP first applied on any steel substrate. Adhesion test shall be performed and reported in accordance with ASTM D7234 for adhesion to concrete. Three adhesion tests shall be performed on each test patch. The remaining adhesion test patches shall be finish coated and remain in place for future testing purposes as needed. The Contractor shall log the location of the adhesion test and report the test results to the Owner.

Tensile test (ASTMD3039) Test panels shall be field fabricated using the carbon fiber fabric, resins and saturation equipment used in the. production runs for the field-installed carbon fiber strengthening system. Tensile test panels shall be approximately 12 in. by 24 in by one- or two-ply laminae with carbon fiber oriented in the same direction. The test panel shall be prepared on a smooth flat surface overlaid with plastic (polyethylene or vinyl) sheeting. Saturating resin shall

be used to prime the surface, followed by the saturated FRP system, and finally topped with more saturating resin. A cover of plastic sheeting shall be placed over the panel and the panel squeegeed to remove any bubbles and other surface irregularities to insure a smooth flat surface. The panel shall be labeled with time, date, and sample panel number, fabric lot numbers, and resin batch numbers, and stored in an environment representative of the pipeline inside condition to cure until collected for lab testing.

The test lab will perform a minimum of ten tensile tests with the fibers oriented in the strong direction for each tensile test panel in accordance with ASTM D3039, and report certified tests results for tensile strength, tensile modulus, related specimen dimensions, and percent elongation. For projects where multiple test panels with the same fabric batch are prepared, it is permissible to perform 5 tension tests per panel instead of 10 tests per panel, subject to review and approval by the Engineer.

The FRP system will be unacceptable if the average tensile strength is below that specified in the contract documents. If required, the minimum compressive strength values used for design shall be less than 60% percent of the average tensile strength of the FRP system.

### **3.6 REPAIR OF DEFECTS**

This section specifies the conditions and types of defects that require repair and the acceptable methods of repair. Defects are of different types and may be generally classified as aesthetic, short-term critical, or long-term critical. Repair procedure depends on the type, size, and extent of defects. Repair procedures for any conditions not addressed in these specifications or in the contract documents shall be submitted by the Contractor and approved by the Engineer prior to proceeding with the work.

#### **3.6.1 Repair of Protective Coating:**

Defects in protective coating can be of three types: small hairline cracks, blistering, and peeling. In all cases, moisture content of the substrate should be below 0.05% before applying a new coating. Prior to any repair of protective coating, the FRP system shall be examined visually or otherwise to ensure that no defect exists within or on the surface of the FRP. Defects in FRP, if found, shall be repaired as per Section 3.6.3 & 3.6.4. If protective coating appears to show small areas with cracks, the local surface shall be lightly sanded. Then, a new coating with appropriate primer shall be applied according to the manufacturer's recommendations. At the minimum, the coating shall be applied over an area extending 1 in. on either side of the defect. If the protective coating shows signs of blistering, the entire area of blisters as well as the surrounding area to a distance of at least 12 in. shall be carefully scraped clean. In no case should a blistered surface be recoated without complete removal of the existing coating. The area shall be wiped clean and dried thoroughly. Once dry, the area can be recoated after application of the primer coat if required by the manufacturer. If the surface shows signs of excessive peeling, the entire coating shall be scraped off and the surface lightly sanded, wiped clean, and thoroughly dried before applying a new coat according to the manufacturer's recommendations.

#### **3.6.2 Epoxy Injection of Small Defects:**

Small entrapped voids or surface discontinuities no larger than 0.5 in. (12 mm) in diameter shall not be considered defects and require no corrective action unless they occur next to edges or when there are more than five such defects in an area of 10 ft<sup>2</sup> (0.1 m<sup>2</sup>). Small defects of size between 0.5 and 2 in. (12 and 50 mm) in diameter shall be repaired using low-pressure epoxy injection as long as the defect is local and does not extend through the complete thickness of the laminate in case of multiple-ply FRP systems. If any delaminations growth is suspected between the FRP plies due to injection, the procedure shall be halted, and repair shall follow Section 3.6.3.



### 3.6.3 **Patching of Minor Damage:**

Minor defects are those with diameters between 2 and 6 in. (50 and 150 mm) and a frequency of less than five per any unit surface area of 10-ft (3 m) length or width. The area surrounding the defects to an extent of at least 1 in. (25 mm) on all sides shall be carefully removed. The area shall be wiped clean and thoroughly dried. The area shall then be patched by adding an FRP patch of the same type as original laminate and extending at least 1 in. (25 mm) on all sides of the removed area. Repair can also be conducted using the procedure in Section 3.6.4.

### 3.6.4 **Replacement of Large Defects:**

Defects larger than 6 in. (150 mm) in diameter shall be carefully marked and scarfed out extending to a minimum of 1 in. (25 mm) on all sides. Scarfing shall be progressing through the layers in the case of multiple-ply FRP systems until past the defective area. In case the defect extends to the first FRP ply adjacent to the concrete, the entire thickness of the FRP and primer shall be removed. The substrate shall be appropriately prepared and primer reapplied after ensuring that the surface and FRP are clean and dry. Application of a new FRP system within the scarfed area shall follow procedures for the original FRP system, except that an additional layer extending a minimum of 6 in. (150 mm) on all sides of the scarfed area shall be added as a patch. Once cured, the protective coating shall be applied over the entire area.

## 3.7 **PROJECT CLOSE-OUT AND MAINTENANCE**

### 3.7.1 **Documentation of the work.**

The Owner may provide specification language requiring documentation of the work be prepared and submitted by the Contractor on completion of the work. The documentation shall include the following:

- Information on the products and installation method used
- Pre- and post-inspection results
- Test results
- Any changes or deviations from the contract documents and possible corrective work

Owner's Inspector may also prepare documentation of the project and include the following:

- Purchaser's Inspector's tests and reports
- Material test reports
- Field test reports
- As-built drawings of the renewed or strengthened segments

### 3.7.2 **Verification/Basis for Rejection**

Materials not complying with the requirements of this specification shall be rejected. Repairs, replacements, and retesting shall be accomplished in accordance with the Owner's documents.

### 3.7.3 **Affidavit of Compliance**

The Owner may require an affidavit from the Manufacturer or Contractor, as applicable, that the material provided, or the installation performed complies with the applicable requirements of the specifications provided herein.

#### **PART 4 – WARRANTY**

The Contractor shall provide a 5-year warranty on the material and labor used for the installation of the FRP system. Any defects that affect the structural and hydraulic performance of the FRP system shall be repaired by the Contractor at no cost to the Owner. The methods to repair such defects include but are not limited to those outlined in Section 3.6. Cosmetic defects such as discoloration and minor undulations do not need to be repaired or included in the warranty. The material and labor warranty provided herein is subject to periodic inspection as agreed upon by the Owner and Contractor and does not include any damage caused by direct impact or pressures that are substantially higher than the normal operation. The Owner will provide all required access to the area to be repaired.

## **SECTION 10.02**

### **ROCK GROIN**

#### **PART 1 – GENERAL**

##### **1.1 SCOPE OF WORK**

- 1.1.1 The work under this Section consists of furnishing all labor, materials, equipment, transportation, services and supervision, and any incidentals required for the Capitola Beach Flume and Jetty Rehabilitation project. Rock work includes furnishing, delivery, retrieval and placement of armor rock.

##### **1.2 SUBMITTALS**

- 1.2.1 Rock source and rock test data:

A. Contractor shall submit information and documentation with bid, to demonstrate that the rock supplier is capable of providing rock of required quality for the work. Specific items in this submittal shall include:

- a. Name of Quarry and testing laboratory
- b. Specific Gravity
- c. Sulphate Soundness
- d. Abrasion resistance
- e. Absorption

- 1.2.2 Equipment list: A list of all major pieces of equipment that are to be used for performing the rock work shall be submitted with bid to demonstrate that the Contractor has available equipment capable of performing the work.

#### **PART 2 – PRODUCTS**

##### **2.1 ROCK**

- 2.1.1. Quality: All rock shall be close-grained, hard, sound, durable, clean, and free from laminations, cleavage planes, and other structural defects or imperfections and shall be of type that will not disintegrate from the action of air, sea water, handling or placing. The rock shall be angular quarried granite, igneous rock, or metamorphic rock, shall meet the Testing Requirements for Rock, and shall be free from rounded, worn or weathered surfaces.

- 2.1.2. Testing: Rock samples will be subjected to the following tests to demonstrate material to be furnished is acceptable for use on the project. All material shall meet the following requirements:

Minimum Quality Requirements For Rock

<u>Test</u>	<u>California Test Method</u>	<u>Requirements</u>
Apparent Specific Gravity	206	2.6 minimum
Absorption	206	4.2% Max *
Durability Index	229	52 min *

\* Based on the formula listed below, absorption may exceed 4.2 percent if DAR is greater than 10. Durability Index may be less than 52 if DAR is greater than 24.

$$\frac{\text{Coarse Durability Index}}{\% \text{ Absorption} + 1} = \text{Durability Absorption Ration (DAR)}$$

The Owner may elect to approve other materials based on service records. Service records may be considered in this context if stone from proposed source has remained sound and functional after at least 15 years of exposure on a project similar to this work.

- 2.1.3. Stone shall be clean without deleterious material such as oil or grease attached and shall be suitable for ocean dumping in accordance with the provisions of 40 CFR 227, EPA Ocean Dumping Permit.
- 2.1.4. Rock which does not conform to specified requirements shall be rejected. The presence of unsatisfactory rock or objectionable foreign material shall be reason for rejection of the entire load of rock. Such load of rock shall be removed from the work and disposed of at the Contractor's expense.
- 2.1.5. Approval of a rock source shall not be construed as a waiver of the right of Owner to require the Contractor to furnish rock which complies with these specifications. Materials produced from localized areas, zones or strata of an approved quarry will be rejected when such materials do not comply with these specifications

1. Armor Rock (3-Ton)

	<u>Rock Size</u>
Maximum	4 Ton
Rock Size	3 Ton
Minimum	2 Ton

2. Underlying Rock

	<u>Rock Size</u>
Maximum	600 lbs
Rock Size	200 lbs
Minimum	5 lbs

**PART 3 - EXECUTION**

**3.1 GENERAL**

3.1.1 Place armor rock to the lines and grades shown on the Drawings and meet the tolerances as specified in this Section. Final surface of each finished course shall follow with reasonable variation the indicated lines and grades without continuous underbuilding or overbuilding. Deviations in layer thickness, widths and elevation of final surfaces shall be no greater than the values given in the following table. Listed tolerances include all uncertainties inherent in placing and measuring rock sections to the design slope with respect to indicated neat lines. Either extreme of the tolerances listed in the table shall not be continuous over an area greater than 500 square feet.

Allowable Tolerances for Stone Construction with Respect to Neat Lines  
 (Dimensions in Feet Measured Normal to Surface)

Designation	Final Exposed Sloped Surfaces
Armor Rock (3-Ton)	-0' ~ +1'

3.1.2 Misplaced material: Any material that escapes or is lost at any time while loading, transporting or placing rock, or which is deposited other than in the area designated on the Drawings or as approved in writing by the Owner, shall be removed and re-deposited where directed by the Owner, at Contractor's expense.

### **3.2 DELIVERY**

- 3.2.1 Delivery Tickets: Copies of delivery tickets shall be submitted to the Owner during the progress of the work. The Contractor shall furnish to the Owner scale tickets for each load of material weighed. These tickets shall include tare weight, identification mark of each vehicle weighed, date, time, and location of the loading. Delivery tickets may be submitted with the Daily Report of Operations as specified elsewhere herein.
- 3.2.2. Prior to the final payment, the Contractor shall furnish written certification that the material recorded on the submitted certified tickets was actually used in the construction covered by the contract.

### **3.3 PLACEMENT OF UNDERLAYER ROCK**

- 3.3.1 Rock may be placed by dumping and may be adjusted by bulldozers or other suitable equipment.
- 3.3.2 Resetting of existing rock, as necessary for interlocking with new rock or to meet the required finish grades shown on the Drawings, will be considered as a part of the work to place new rock.

### **3.4 PLACEMENT OF 3-TON CLASS ROCK**

- 3.4.1 Existing rock in close proximity to the Jetty shall be retrieved and placed back onto the structure to the lines and grades shown on the Construction Drawings.
- 3.4.2 Rock shall be carefully placed, starting from the bottom of the slope upward, with the longitudinal axis of the rock positioned perpendicular to the face of the bluff. The rock shall be individually placed with a crane, excavator, or similar approved equipment. The rock shall not be dropped or tipped into position, but shall be placed piece by piece into the layer and shall be interlocked or keyed in with adjacent armor rock by rotating or setting them for maximum contact based on their angular shape with no continuous void where waves could work against inner layers of rock and cause damage. Larger rocks shall be placed at lower elevations. Smaller rocks shall be placed at higher elevations.
- 3.4.3 Adjusting Rock: To achieve slope uniformity and solid seating of rock, nudge all high-riding rocks with a normal-to slope strike of the placement bucket, rock grab, or another stone held in the rock grab. Nudging shall be carefully controlled to prevent dislodging of more distant rocks in the section, with impact sufficient only to consolidate the immediate area around the rock being nudged so as to bring it within tolerances and lock it firmly in to place. Where nudging fails to achieve this purpose, the rock shall be lifted and re-seated for better fit or replaced with better fitting rock.
- 3.4.4 Resetting of existing rock, as necessary for interlocking with new rock or to meet the required finish grades shown on the Drawings, will be considered as a part of the work to place new rock.

### **3.5 FINAL ACCEPTANCE**

- 3.5.1 Pre-Construction Survey: The Contractor shall perform a survey prior to rock placement. Surveyed sections shall be taken at 50-foot maximum spacing along the shoreline. Each section will define sufficient points to accurately represent the existing conditions.
- 3.5.2. Post-Construction Survey: The Contractor shall perform a survey after placing rock. Surveyed sections shall be taken at the same locations as the Pre-Construction Survey. Each section will define sufficient points to accurately represent rock in place. Deductions to measured quantity of rock will be made for rock occurring outside tolerances of the design cross-sectional area. The Contractor shall notify the Owner 3 days in advance of the scheduled survey so that the Owner's representative may be present.
- 3.5.3 If, in the opinion of the Owner, additional rock is required to conform to sections shown on Drawings, the Contractor shall, when directed by the Owner, return to points requiring additional rock and place rock at the contract unit price within the tolerances of design cross section.

## **PART 4 – MEASUREMENT & PAYMENT**

### **4.1 MEASUREMENT**

- 4.1.1 The weight of rock for payment will be measured as follows:
1. Rock shall be weighed on certified public scales or on private scales provided by the Contractor which have been recertified within the last ensuing 12-month period. Copies of weight certification shall be submitted to the Owner in duplicate. The scales shall be capable of producing a weight ticket including time, date, truck number, and weight. The tare weight shall be given to determine the net weight of material delivered per each certificate.
  2. The tare weight of each truck shall be established as often as requested by the Owner, but at a minimum of every two weeks, except during the rainy season or when the trucks operate in soft material. The driver may be on the truck during the time that the vehicle is being weighed, provided that the tare and gross weights are established in the same manner.
  3. If the scales are found to be defective in weight by five percent or more, and if the weights so obtained are greater than the correct weight, the percentage defectiveness shall be deducted from tonnage of rock delivered between the time the scale was discovered defective and the last prior time it was verified accurate. No correction in tonnage will be made for defective scales if the weights obtained are less than the correct weight.
  4. Conveyances and vehicles used for delivery of rock being paid for on a unit price basis shall be plainly identified by Owner numbers or symbols agreed upon by the Contractor and the Owner prior to delivery of rock. Such identification shall not be changed except by consent of the Owner during the term of the work.
- 4.1.2 Salvage and Reuse Existing Rock: No measurement of existing rock to be salvaged and reused will be made by the Owner.

## **4.2 PAYMENT**

- 4.2.1 Rock shall be paid for at the unit price for rock delivered and placed within the tolerances and meeting the requirements of these specifications for each size indicated.
1. Rock includes all required re-working of the existing armor rock and preparation required for the placement of the new rock.
  2. Rock includes any work done at the Contractor's option, including construction of a Temporary Construction Access Road.
  3. No payment will be made for rock placed outside the tolerance lines as indicated in the Contract Documents.
- 4.2.2 Progress payments will be based on progress surveys and records of weight of rock upon delivery. The weight records for each rock type will be corrected by deducting volume of rock placed outside of tolerance for cross section.
- 4.2.3 Final payment will be based on the Post-Construction Survey and records of weight of rock upon delivery for quantities not previously paid as a progress payment. The final payment will be adjusted by deducting any volume of rock placed outside of tolerance lines for cross section. This applies only to deductions not made as part of previous progress payments. If final survey indicates overpayment during progress payments, such overpayment will be deducted from final pay requests, demobilization, or retention.

END OF SECTION



## **PART 4 : SPECIAL PROVISIONS**

### **SECTION 11.01**

**11.01.1 Construction Timing** - The contractor is hereby advised that the construction window for this project shall extend from October 2020 through April 2021. All construction work on the flume and jetty may occur concurrently or separately. Flume repair is anticipated to occur after the Soquel Creek breaches the sand bar and flows directly to Monterey Bay, no longer flowing through the flume. This breaching typically occurs when stream flow exceeds 30 cubic feet per second (cfs), likely in October or November. Jetty repair is anticipated to occur during the lowest tides of the season, but outside of large winter wave events. Total project duration is anticipated to be 1 to 2 months if performed concurrently, or 3 to 4 months if performed sequentially.

**11.01.2 Contingency Bypass** - In the unlikely event of an extremely low rainfall year and flows above 30 cubic feet per second (cfs) do not occur, preventing a facilitated natural breach of the sand berm before the beginning of construction, the contractor shall install a temporary contingency bypass to divert flows from the flume, allowing for construction on the flume to advance. The decision to install the bypass would be based on the measured rainfall since September 30th and the short- and long-range forecasts for rainfall for the remainder of the season. The installation of the bypass would only be considered if the 30 cfs flow rate has not occurred by January 1, 2021. This parallel structure would serve the same function as the existing flume allowing the repair work to occur. Construction of the contingency bypass can only be authorized by the Engineer and the contractor shall not obtain materials or start work prior to authorization.

The temporary contingency bypass would be approximately 225-foot-long, 36-inch diameter high density polyethylene (HDPE) pipe constructed parallel approximately 30 feet west of the existing flume to redirect sand and water.

A step-by-step description of the Contingency Bypass culvert implementation is as follows: A trench would be excavated in the sand on Capitola Beach approximately 4 feet deep with a backhoe; sections of HDPE pipe would be delivered to the beach in a small truck, then be joined together on the beach prior to placement into the trench; the pipe would then be covered by the sand berm. The pipe inlet would have a 90-degree elbow facing upward, with the water intake set to the maximum lagoon pool level consistent with the flume where upon it will carry the creek flow. The pipe outlet would "T" at the end to discourage sand migration into the pipe; and screened to prevent entry by beachgoers. The temporary contingency bypass would be removed, and the beach returned to pre-existing contours immediately following completion of construction on the flume.

Upon placement of the temporary contingency bypass, the existing flume inlet and outlet would then be blocked, stopping streamflow into the flume. A sandbag dam with heavy-duty plastic sheeting (e.g., Visqueen), would be constructed around the existing flume inlet to prevent sand and water inflow from the lagoon to the flume. The flume outlet would be sealed to prevent water and sand migration into the flume from the bayside.

Authorization to complete the Contingency Bypass must be approved by the Director. Any work completed without this authorization will not be compensated. Final compensation for the Contingency Bypass, including all costs for installation, maintenance, and removal will be based on the lump sum price for the Contingency Bypass contained in the bid summary and no additional compensation will be allowed.

## **SECTION 11.02**

**11.02.1 Project Permits** - The City has obtained all necessary agency permits for the project. The Contractor shall be responsible for complying with all conditions specified in each agency permit, except for, the fisheries biologist work, for which the City shall be responsible.

All costs for agency permit compliance shall be included in the costs for various bid items. No additional compensation shall be allowed.

See Appendix A for the project permits.

**SECTION 11.03**

**11.03.1 COVID-19 Construction Guidance** - The Contractor shall be responsible for complying with the Santa Cruz County Health Officer Order of May 1, 2020 and all subsequent amendments. See Appendix B for COVID-19 Construction Guidance.

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**APPENDIX A**

**SECTION 11.02  
PROJECT PERMITS**

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**DEPARTMENT OF THE ARMY**  
**SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS**  
450 GOLDEN GATE AVENUE  
SAN FRANCISCO, CALIFORNIA 94102

AUG 19 2019

Regulatory Division

Subject: File Number 2018-00281S

Mr. Steve Jesberg  
City of Capitola  
420 Capitola Avenue  
Capitola, California 95010

Dear Mr. Jesberg:

This correspondence is in reference to the submittal of July 10, 2018, from Moffat & Nichol on your behalf, concerning Department of the Army (DA) authorization for the Capitola Beach Flume and Jetty Rehabilitation Project, on Capitola Beach in the City of Capitola, Santa Cruz County, California (36.971259°N, -121.951064°W)

Work within U.S. Army Corps of Engineers' (Corps) jurisdiction will include repairs to the existing concrete flume structure in the central portion of Capitola Beach and to the rock jetty at the east end of the beach. Flume repairs will temporarily impact approximately 375 square feet of the beach and will include placing approximately 13 cubic yards of concrete to repair degraded areas on the exterior of the flume, installing a fiberglass liner to the interior of the flume, and installing cutoff walls along the exterior of the flume. If needed to divert flows from the flume, a temporary bypass pipe may be placed which would temporarily impact an additional 660 square feet of the beach. Jetty repairs will temporarily impact approximately 13,700 square feet of the beach and will include placing up to 900 cubic yards of new rock during low tide to restore the jetty to its original design configuration. All work shall be completed in accordance with the plans and drawings titled "USACE File #2018-00281S, Capitola Beach Flume and Jetty Rehabilitation, October 10, 2018, 13 sheets," provided as enclosure 1.

Section 404 of the Clean Water Act (CWA) generally regulates the discharge of dredged or fill material below the plane of ordinary high water in non-tidal waters of the United States, below the high tide line in tidal waters of the United States, and within the lateral extent of wetlands adjacent to these waters. Section 10 of the Rivers and Harbors Act (RHA) generally regulates construction of structures and work, including excavation, dredging, and discharges of dredged or fill material occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States. Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

Based on a review of the information in your submittal, the project qualifies for authorization under Department of the Army Nationwide Permit (NWP) 3 - *Maintenance* (82 Fed. Reg. 1860, January 6, 2017), pursuant to Section 404 of the CWA of 1972, as amended (33 U.S.C. § 1344 *et seq.*) and Section 10 of the Rivers and Harbors Act (RHA) of 1899, as amended (33 U.S.C. § 403 *et seq.*). The project must be in compliance with the terms of the NWP cited on our website ([www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17\\_03.pdf](http://www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_03.pdf)), the general conditions of the Nationwide Permit Program ([www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17\\_GC.pdf](http://www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_GC.pdf)), and the San Francisco District regional conditions ([www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17\\_RC.pdf](http://www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_RC.pdf)). You must also be in compliance with any special conditions specified in this letter for the NWP authorization to remain valid. Non-compliance with any term or condition could result in the revocation of the NWP authorization for your project, thereby requiring you to obtain an Individual Permit from the Corps. This NWP authorization does not obviate the need to obtain other State or local approvals required by law.

This verification will remain valid until March 18, 2022, unless the NWP authorization is modified, suspended, or revoked. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon a NWP will remain authorized provided the activity is completed within 12 months of the date of a NWP's expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 C.F.R. § 330.4(e) and 33 C.F.R. § 330.5(c) or (d). This verification will remain valid if, during the time period between now and March 18, 2022, the activity complies with any subsequent modification of the NWP authorization. The Chief of Engineers will periodically review NWPs and their conditions and will decide to modify, reissue, or revoke the permits. If a NWP is not modified or reissued within five years of its effective date, it automatically expires and becomes null and void. It is incumbent upon you to remain informed of any changes to the NWPs. Changes to the NWPs would be announced by Public Notice posted on our website ([www.spn.usace.army.mil/Missions/Regulatory/Public-Notices.aspx](http://www.spn.usace.army.mil/Missions/Regulatory/Public-Notices.aspx)). Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance, enclosure 2, verifying that you have complied with the terms and conditions of the permit.

You shall comply with all terms and conditions set forth by the *Water Quality Certification Number 34418WQ10 for Capitola Beach Flume and Jetty Rehabilitation Project, Santa Cruz County* issued by the Central Coast Regional Water Quality Control Board on August 2, 2018 (enclosure 3). You shall consider such conditions to be an integral part of the NWP authorization for your project.



This authorization will not be effective until you have obtained a concurrence from the California Coastal Commission that your project will comply with California's Coastal Zone Management Act. If the Commission fails to act on a valid request for concurrence with your certification within six months after receipt, the Corps will presume a concurrence has been obtained. You shall submit a copy of the concurrence to the Corps prior to the commencement of work.

General Condition 18 stipulates that project authorization under a NWP does not allow for the incidental take of any federally-listed species in the absence of a biological opinion (BO) with incidental take provisions. As the principal federal lead agency for this project, the Corps initiated consultation with the United States Fish and Wildlife Service (USFWS) to address project related impacts to listed species, pursuant to Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531 *et seq.*). By letter of November 21, 2018, USFWS issued a BO (08EVEN-2018-F-0114) with an incidental take statement for tidewater goby (*Eucyclogobius newberryi*) (enclosure 4). In addition, the Corps had previously consulted with the National Marine Fisheries Service (NMFS) regarding lagoon management (including flume operation/maintenance) and associated impacts to ESA-listed fish, as well as to Essential Fish Habitat (EFH) for species managed under the Pacific Coast Salmon Fishery Management Plan, pursuant to the Magnuson-Stevens Fishery Conservation and Management Act of 1996, as amended (16 U.S.C. § 1801 *et seq.*). By letter of May 3, 2013, NMFS issued a BO (2013-9534) for lagoon management, with an incidental take statement for steelhead (*Oncorhynchus mykiss*) and coho salmon (*O. kisutch*) (enclosure 5), and also issued EFH conservation recommendations (enclosure 6).

General Condition 20 stipulates that any project affecting a historic property may not commence construction until the provisions of 33 C.F.R. § 325, Appendix C, have been satisfied. As the Federal lead agency for this project, the Corps initiated consultation with the State Historic Preservation Officer (SHPO) and requested review of the determination that the project would have no adverse effect on historic properties. No response was received from the SHPO within the 30-day review period provided by applicable regulations.

In order to ensure compliance with this NWP authorization, the following special conditions shall be implemented:

1. To remain exempt from the prohibitions of Section 9 of the Endangered Species Act, the non-discretionary Terms and Conditions for incidental take of federally-listed species shall be fully implemented as stipulated in the enclosed Biological Opinions dated November 21, 2018, from USFWS (enclosure 4), and May 3, 2013, from NMFS (enclosure 5). Project authorization under the NWP is conditional upon compliance with the mandatory terms and conditions associated with incidental take. Failure to comply with the terms and conditions for incidental take, where a take of a federally-

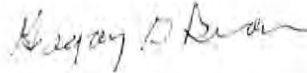
listed species occurs, would constitute an unauthorized take and non-compliance with the NWP authorization for your project. The USFWS and NMFS are, however, the authoritative federal agencies for determining compliance with the incidental take statement and for initiating appropriate enforcement actions or penalties under the Endangered Species Act.

2. The USFWS concurred with the determination that the project is not likely to adversely affect southern sea otters. This concurrence was premised, in part, on project work restrictions and the description of the proposed action outlined in enclosure 4. These work restrictions are incorporated as special conditions to the NWP authorization for your project to ensure unauthorized incidental take of this species does not occur.
3. Incidents where any individuals of steelhead or coho salmon listed by NOAA Fisheries under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States authorized by this NWP shall be reported to NOAA Fisheries, Office of Protected Resources, at (301) 713-1401 and the Regulatory Office of the San Francisco District of the U.S. Army Corps of Engineers at (415) 503-6795. The finder should leave the plant or animal alone, make note of any circumstances likely causing the death or injury, note the location and number of individuals involved, and, if possible, take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed by discharge exposure or some unnatural cause. The finder may be asked to carry out instructions provided by NOAA Fisheries, Office of Protected Resources, to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved.
4. The Corps previously consulted with the National Marine Fisheries Service (NMFS) to address potential impacts to EFH from beach and lagoon management activities. To minimize adverse effects from the proposed flume and jetty rehabilitation project, the EFH conservation recommendations previously issued by NMFS (enclosure 6) shall be fully implemented as stipulated.

You may refer any questions on this matter to me by telephone at 415-503-6791 or by e-mail at [gregory.g.brown@usace.army.mil](mailto:gregory.g.brown@usace.army.mil). All correspondence should be addressed to the Regulatory Division, South Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. The Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: <http://www.spn.usace.army.mil/Missions/Regulatory.aspx>

Sincerely,



Digitally signed by  
BROWN.GREGORY.GAVAN.1363545234  
Date: 2019.08.19 12:08:48 -07'00'

Greg Brown  
Senior Regulatory Project Manager

Enclosures

Digital Copies Furnished (w/ encls):

Moffatt & Nichol, Walnut Creek, CA ([stooley@moffattnichol.com](mailto:stooley@moffattnichol.com))  
US FWS, Ventura, CA ([chad\\_mitcham@fws.gov](mailto:chad_mitcham@fws.gov))  
US NMFS, Santa Rosa, CA ([darren.howe@noaa.gov](mailto:darren.howe@noaa.gov))  
CA RWQCB, San Luis Obispo, CA ([ashley.green@waterboards.ca.gov](mailto:ashley.green@waterboards.ca.gov))

# CAPITOLA BEACH FLUME AND JETTY REHABILITATION



VICINITY MAP  
SCALE: N15

SHEET REF.	SHEET LIST	TITLE
G-001	GENERAL NOTES	GENERAL NOTES
G-002	OVERALL SITE PLAN	OVERALL SITE PLAN
C-101	EXISTING FLUME PLAN AND PROFILE	EXISTING FLUME PLAN AND PROFILE
C-110	EXISTING FLUME PHOTOS	EXISTING FLUME PHOTOS
C-111	FLUME SECTION AND DETAILS	FLUME SECTION AND DETAILS
C-112	OUTLET WALL DETAILS	OUTLET WALL DETAILS
C-113	FLUME WATERPROOFING DETAILS	FLUME WATERPROOFING DETAILS
C-114	EXISTING FLUME REFERENCE DRAWINGS - OUTLET	EXISTING FLUME REFERENCE DRAWINGS - OUTLET
C-115	EXISTING FLUME REFERENCE DRAWINGS - INLET	EXISTING FLUME REFERENCE DRAWINGS - INLET
C-120	LETTY PLAN AND PROFILE	LETTY PLAN AND PROFILE
C-121	LETTY CROSS SECTIONS	LETTY CROSS SECTIONS
C-122	EXISTING LETTY REFERENCE DRAWINGS	EXISTING LETTY REFERENCE DRAWINGS



LOCATION PLAN  
SCALE: N15

TIDAL DATUM (MONTEREY GAUGE)

MEAN HIGHER HIGH WATER (MHHW) +5.33M

MEAN SEA LEVEL (MSL) +2.86M

MEAN LOWER LOWERS WATER (MLLW) 0M

NORTH AMERICAN VERTICAL DATUM (NAVD) 88 -0.13M



U.S. Army Corps  
of Engineers  
San Francisco District  
Regulation Division

USACE File # 2018-00281S

Capitola Beach  
Flume and Jetty Rehabilitation  
Santa Cruz County, California

October 10, 2018

13 Sheets

100% FOR REVIEW  
ISSUED: 10 OCT 2018  
NOT TO BE USED FOR CONSTRUCTION



CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION

TITLE SHEET

Designed by: DP Date: 10/15/2018 Rev: -  
Drawn by: GD, DM ST Main Project No: 8154-01  
Reviewed by: AJ Drawing Code:  
Submitted by: BRAD FORBES, P.E. Drawing Scale:  
Moffatt & Nichol Date: 10/15/2018 (0 SHEET)

2185 N CALIFORNIA BLVD  
SUITE 500  
WALNUT CREEK, CA 94596

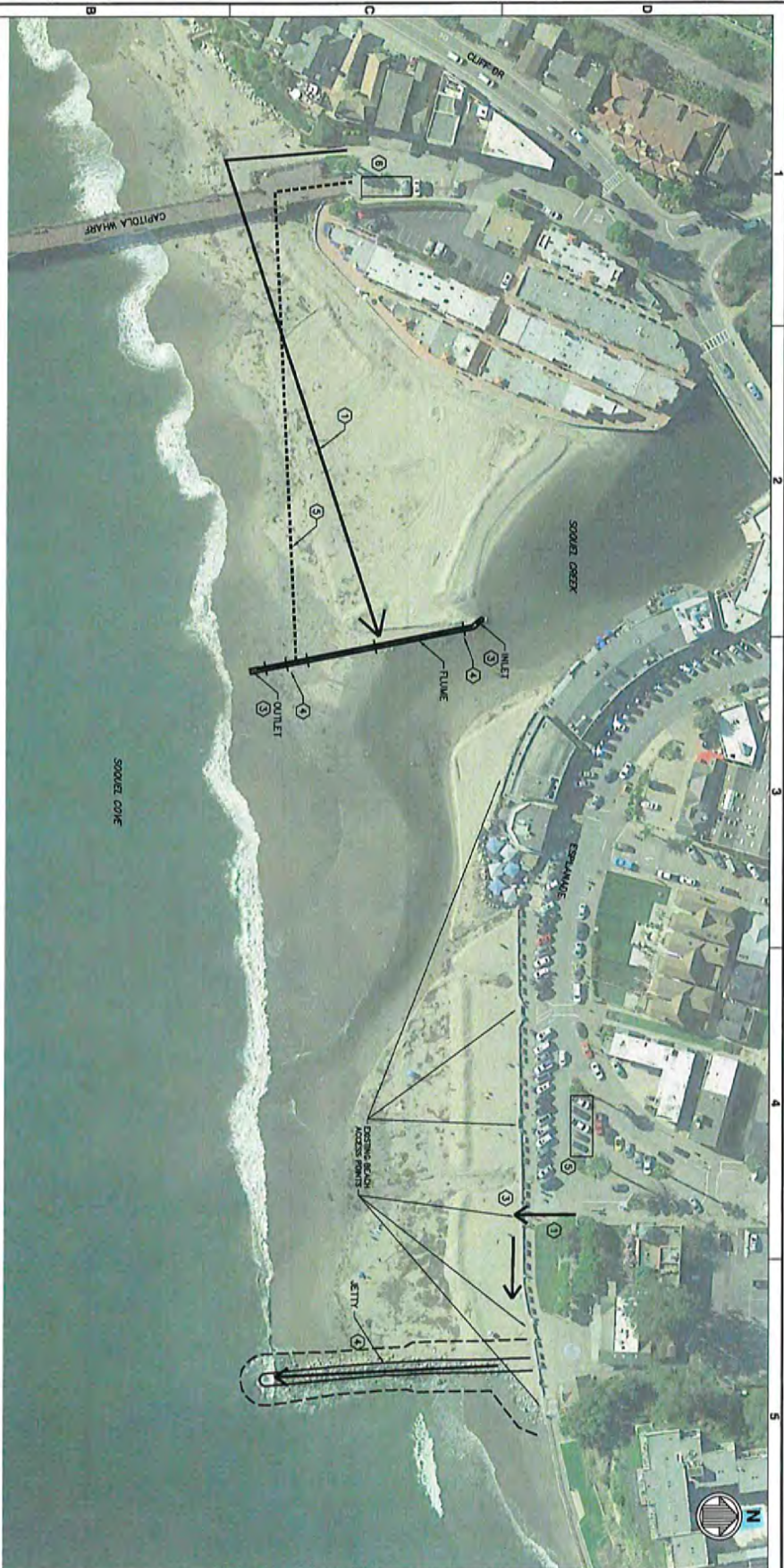
moffatt & nichol

Sheet  
Reference No.  
G-001  
INDEX 1 OF 13









**NOTES**  
 1. AERIAL SHOWS BEACH IN WINTER CONDITION.

**KEY NOTES - CONSTRUCTION ACCESS, DURATION, LIKELY METHODS**

- FLUME**
- ① ACCESS
  - ② DURATION ON SITE: 1-2 MONTHS
  - ③ EQUIPMENT METHODS: LUMER PLACED BY HAND INSIDE FLUME WITH HAND TOOLS
  - ④ BRITLES PLACED WITH BACKHOE TO EXCAVATE 4 FT SAND BELOW FLUME. BRITLES INSTALLED WITH HAND TOOLS
  - ⑤ CONCRETE REPAIR DONE WITH HAND TOOLS & CONCRETE PUMPED FROM TRUCK ON SHORE VIA PIPE LINE TO FLUME. STAGING AND LANDOWN
- JETTY**
- ① ACCESS
  - ② DURATION ON SITE: 1-2 MONTHS
  - ③ EQUIPMENT METHODS: ROCK DELIVERY AND MOVEMENT---180' END QUADTRUCK WITH LOADER (EXAMPLE: CATERPILLAR 969)--SEE PHOTO 1 FOR TYPICAL EXAMPLE
  - ④ PLACEMENT WITH TRACK MOUNTED EXCAVATOR WITH 4-8 CY BUCKET (EXAMPLE: CATERPILLAR 330)--SEE PHOTO 2 FOR TYPICAL EXAMPLE
  - ⑤ STAGING AND LANDOWN

SCALE: 1"=50'

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DRAWING SCALES SHOWN BASED ON 27"x36" DRAWING

<p>2185 N. CALIFORNIA BLVD.        SUITE 500        WALNUT CREEK, CA 94596</p>	Designed by: BN	Date: 10/10/2018	Rev: --
	Drawn by: CD, DM, ST	M&N Project No.: 8154-01	
	Reviewed by: JJ	Drawing Code: --	
	Submitted by: BRAD FORTER, P.E. MOFFATT & NICHOL	Drawing Scale: Plot scale: 1:1 (0 SHEET)	

**CAPITOLA BEACH  
 FLUME AND JETTY  
 REHABILITATION**

OVERALL SITE PLAN

Date	Description	Date	Appr.



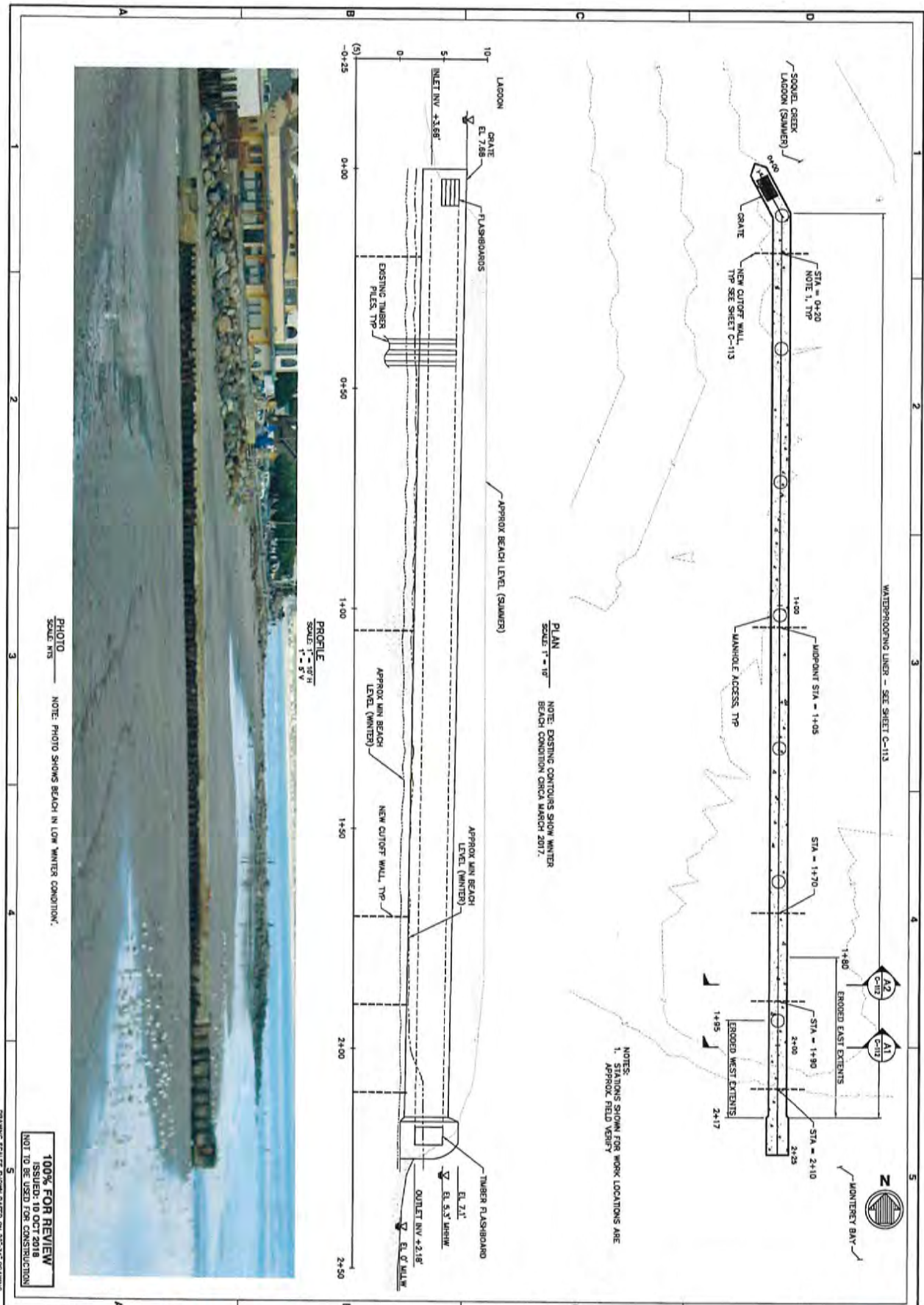


PHOTO  
SCALE: 1/8" = 10' H  
NOTE: PHOTO SHOWS BEACH IN LOW WINTER CONDITION.

100% FOR REVIEW  
ISSUED: 10 OCT 2018  
NOT TO BE USED FOR CONSTRUCTION

GRAPHIC SCALES SHOWN BASED ON 21" X 34" DRAWING

Sheet Reference No. <b>C-110</b> NO. 4 OF 13		2185 N. CALIFORNIA BLVD SUITE 100 WALNUT CREEK, CA 94596	Design by BP	Date 10/10/2018	<b>CAPITOLA BEACH FLUME AND JETTY REHABILITATION</b>	
			Drawn by ST	Scale 8154-01		
Designer CO, D.M.			Checked by JJ		Date 10/10/2018 11:26 AM by CDGKH01	
Submitted by SPAD PERITA, P.E. Moffett & Nichol			Drawing Scale Not under 1:1 (D 9420)		Date 10/10/2018 11:24 AM by CDGKH01	



PHOTO 1  
SCALE: NTS



PHOTO 2  
SCALE: NTS



PHOTO 3  
SCALE: NTS



PHOTO 4  
SCALE: NTS



PHOTO 5  
SCALE: NTS



PHOTO 6  
SCALE: NTS

NOTE: PHOTOS SHOWN WERE TAKEN ON 29 JUN 2010.



PHOTO LOCATION KEY PLAN  
SCALE: NTS



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ISSUED: 10 OCT 2018  
NOT TO BE USED FOR CONSTRUCTION

DRAWING SCALES SHOWN BASED ON 27" X 36" DRAWINGS

Sheet Reference No. <b>C-111</b>	INDEX 5 OF 13
-------------------------------------	---------------

**maffett & nichol**  
3188 N. CALIFORNIA BLVD  
SUITE 500  
WALNUT CREEK, CA 94596

Designed by: SP	Date: 10/18/2018	Rev: -
Drawn by: CD, DM, ST	Scale Project No: 8154-01	
Reviewed by: AJ	Drawing Code:	
Submitted by: BRAD PORTER, P.E.	Drawing Scale:	
Approved by: CAROLYN	Plot Scale: 1:1 @ SHEET	

**CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION**

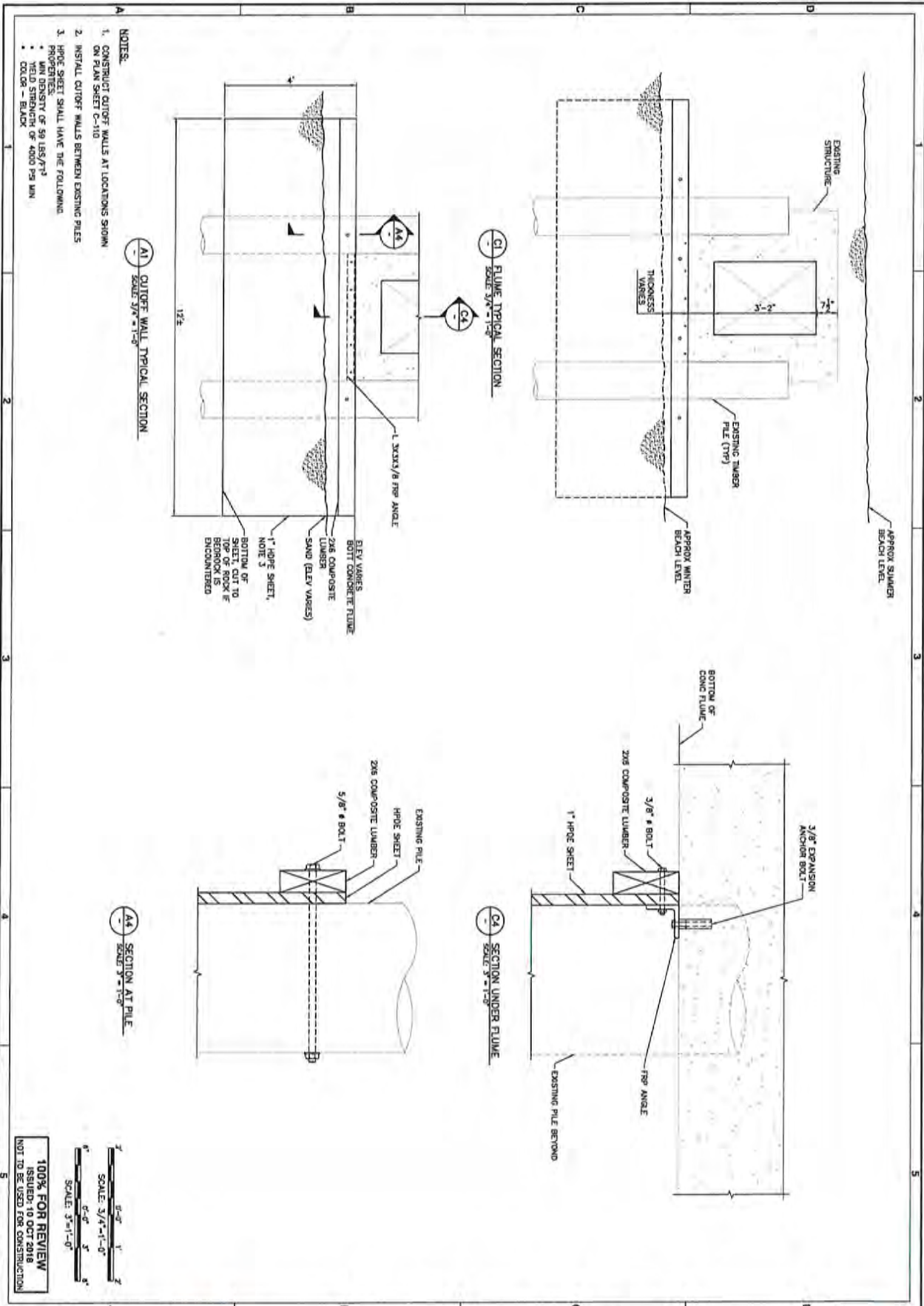
**EXISTING FLUME  
PHOTOS**

Date	Description	Date	Appr.









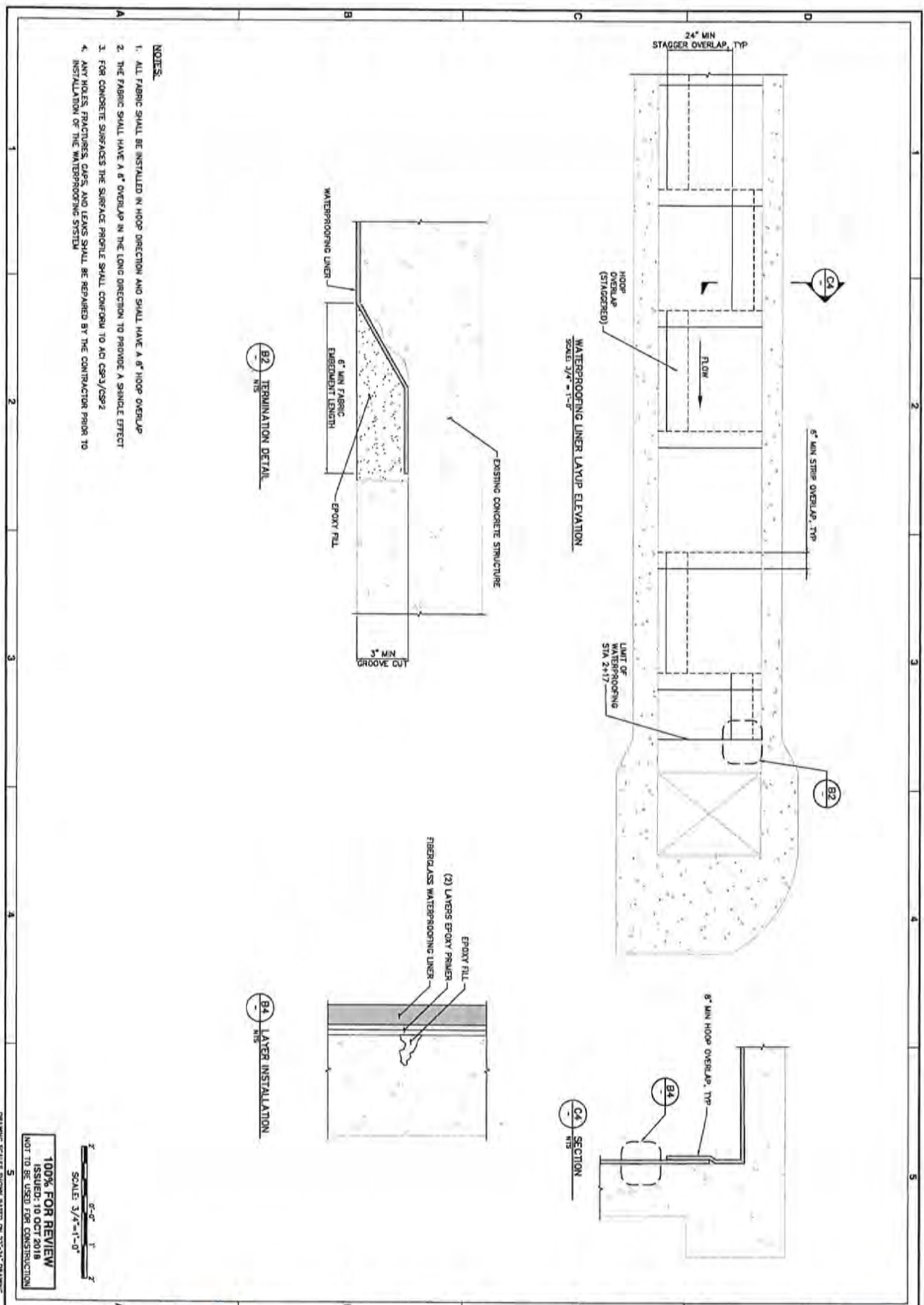
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ISSUED: 10 OCT 2018  
NOT TO BE USED FOR CONSTRUCTION

SCALE: 3/4" = 1'-0"

SCALE: 3/4" = 1'-0"

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

 3180 N. CALIFORNIA BLVD SUITE 500 WALNUT CREEK, CA 94596	Prepared by: SP	Date: 10/16/2016	<b>CAPITOLA BEACH          FLUME AND JETTY          REHABILITATION</b>  <b>CUTOFF WALL DETAILS</b>	
	Drawn by: SE, DM ST	Date: 10/16/2016		
	Checked by: AJ	Drawing Number: 8154-01		
	Submitted by: RANDY POPPEK, P.E. 10/16/2016	Drawing Scale: (See note 11 on sheet)		



- NOTES:**
1. ALL FABRIC SHALL BE INSTALLED IN HOOP DIRECTION AND SHALL HAVE A 6" HOOP OVERLAP
  2. THE FABRIC SHALL HAVE A 6" OVERLAP IN THE LONG DIRECTION TO PROVIDE A SHINGLE EFFECT
  3. FOR CONCRETE SURFACES THE SURFACE PROFILE SHALL CONFORM TO A4 CSP3/CSP2
  4. ANY HOLES, FRACTURES, CRACKS, AND LEAKS SHALL BE REPAIRED BY THE CONTRACTOR PRIOR TO INSTALLATION OF THE WATERPROOFING SYSTEM

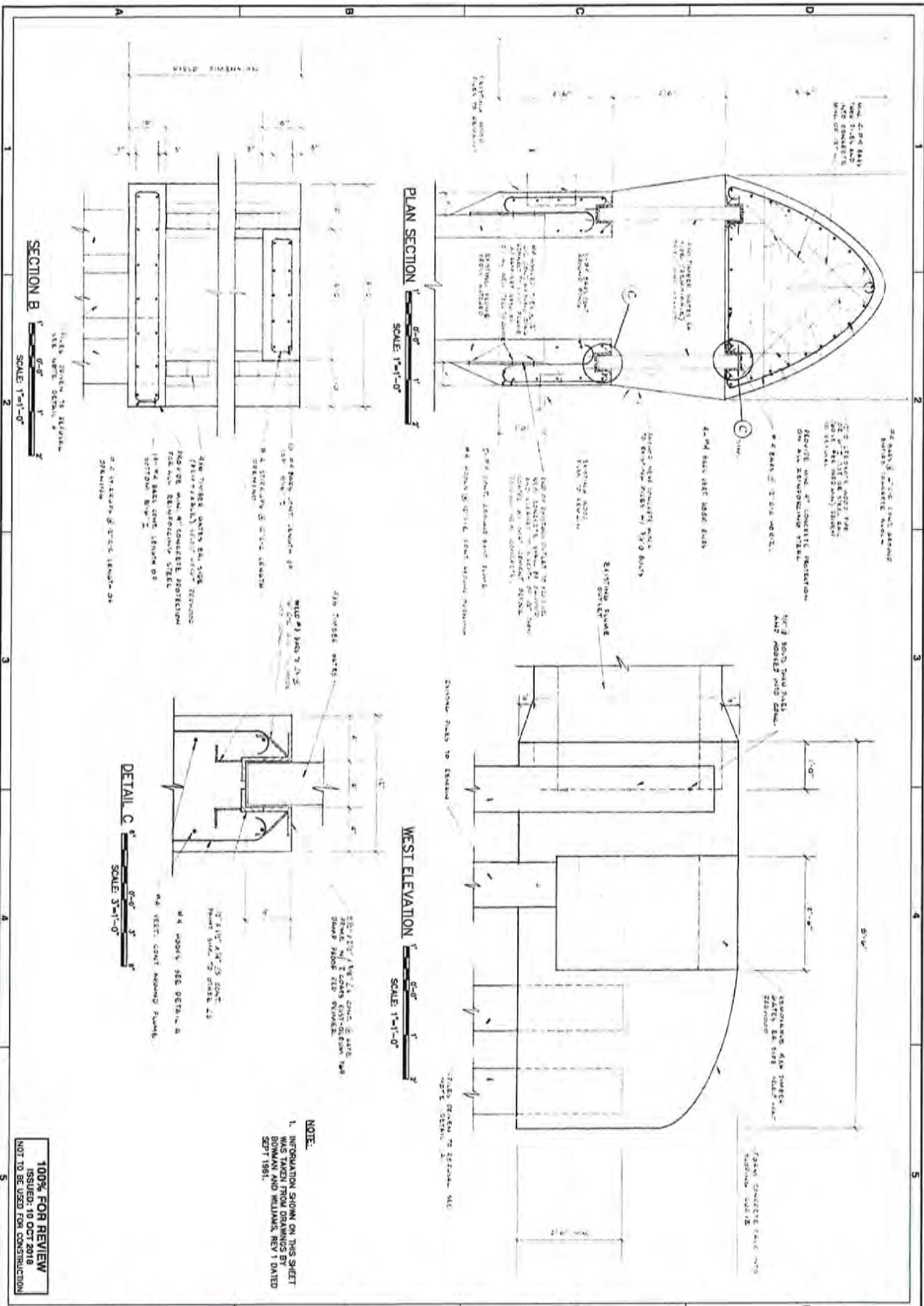
SCALE: 3/4"=1'-0"

**100% FOR REVIEW**  
ISSUED: 10 OCT 2018  
NOT TO BE USED FOR CONSTRUCTION

DRAWING SCALE: SHEET: 28" X 22" X 3/4" DRAWING

<p>2185 N. CALIFORNIA BLVD SUITE 503 WALKER CREEK, CA 94398</p>	Designed by: BN	Date: 10/19/2018	<p><b>CAPITOLA BEACH FLUME AND JETTY REHABILITATION</b></p> <p><b>FLUME WATERPROOFING DETAILS</b></p>	
	Drawn by: GD, SM, ST	Issue Project No: 6181-01		
Reviewed by: AJ	Submitted by: BING POWER, P.E. MOFFATT & NICCOLI	Drawing Status: 		





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 ISSUED: 19 OCT 2018  
 NOT TO BE USED FOR CONSTRUCTION

Sheet Reference No.  
**C-115**  
 INDEX: 9 OF 13

2185 N. CALIFORNIA BLVD  
 SUITE 500  
 WALNUT CREEK, CA 94596  
 maffei & nichol

Prepared by: JN  
 Date: 10/15/2018  
 Scale: Project No.: 8134-01  
 Drawing Code:  
 Checked by: MJ  
 Date:  
 Submitted by: SHAD FORTIS, P.E.  
 Maffei & Nichol  
 Plot scale: 11 D 9810

**CAPITOLA BEACH  
 FLUME AND JETTY  
 REHABILITATION**

**EXISTING FLUME  
 REFERENCE DRAWINGS -  
 OUTLET**

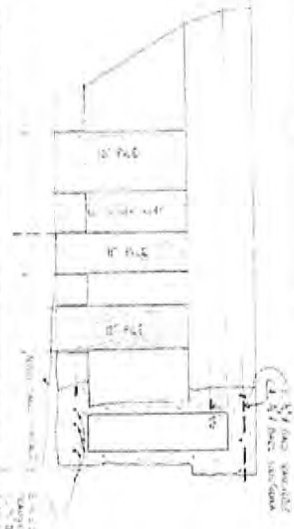
City of Capitola  
 1000 N. CAPITOLA BLVD  
 CAPITOLA, CA 95010  
 (408) 688-2200

1. INFORMATION SHOWN ON THIS SHEET IS THE PROPERTY OF MAFFEI & NICHOL AND SHALL REMAIN THE PROPERTY OF MAFFEI & NICHOL. NO PART OF THIS SHEET IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF MAFFEI & NICHOL.

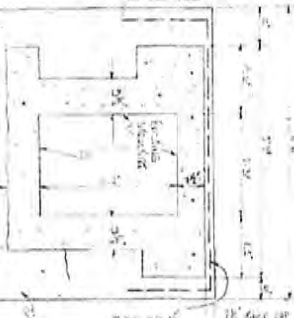
DATE: 10/15/2018  
 TIME: 11:23 AM  
 USER: GDRONHOE

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 ISSUED: 19 OCT 2018  
 NOT TO BE USED FOR CONSTRUCTION

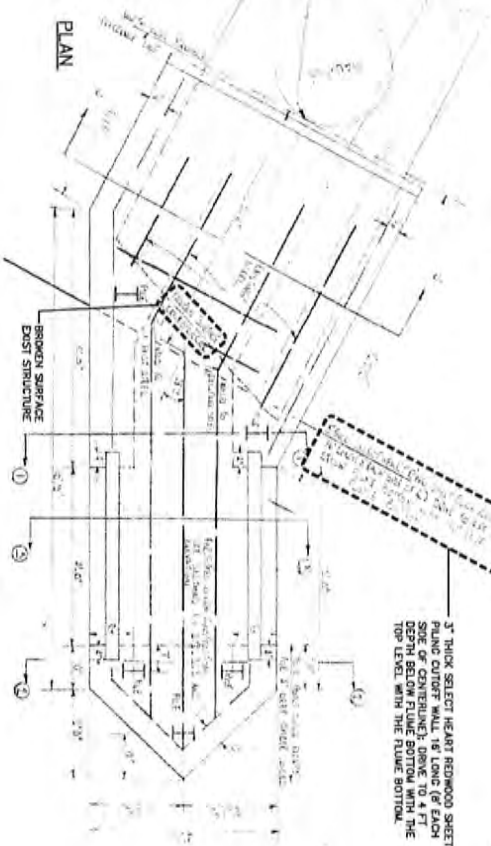
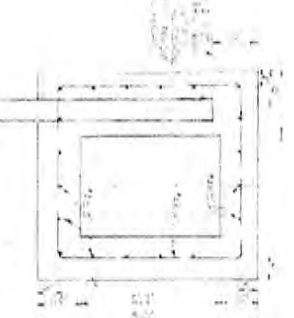
EAST ELEVATION - NORTH END EXISTING FLUME



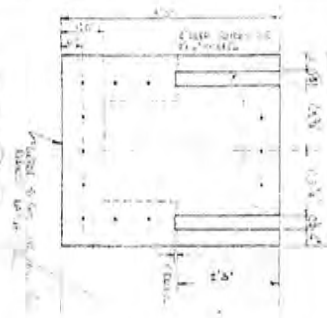
SECTION 4



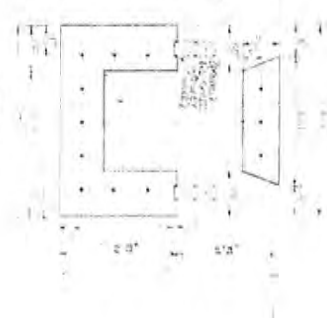
SECTION 1



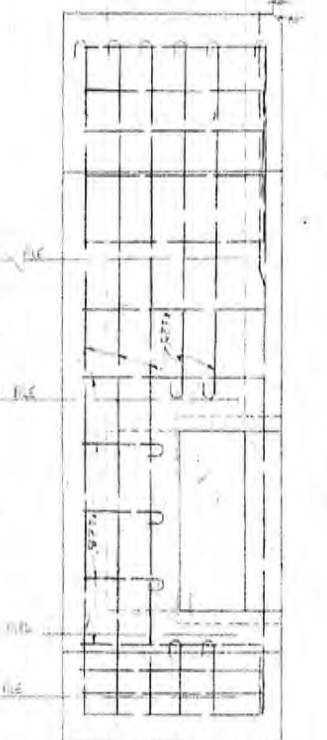
SECTION 2



SECTION 3



ELEVATION



3" THICK SELECT HEART REDWOOD SHEET PILING OUTLET WALL, 18" LONG (8' EACH DEPTH) BELOW FLUME BOTTOM WITH THE TOP LEVEL WITH THE FLUME BOTTOM.

NOTES:  
1. INFORMATION SHOWN ON THIS SHEET IS FOR REFERENCE ONLY. THE EXISTING STRUCTURE WAS DESIGNED BY BOWMAN AND WILLIAMS DATED FEB 1956.

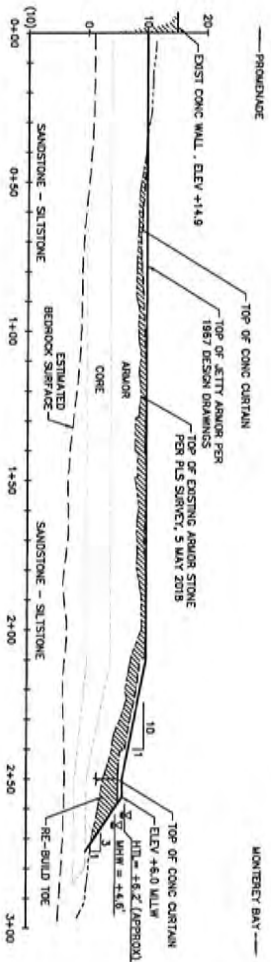
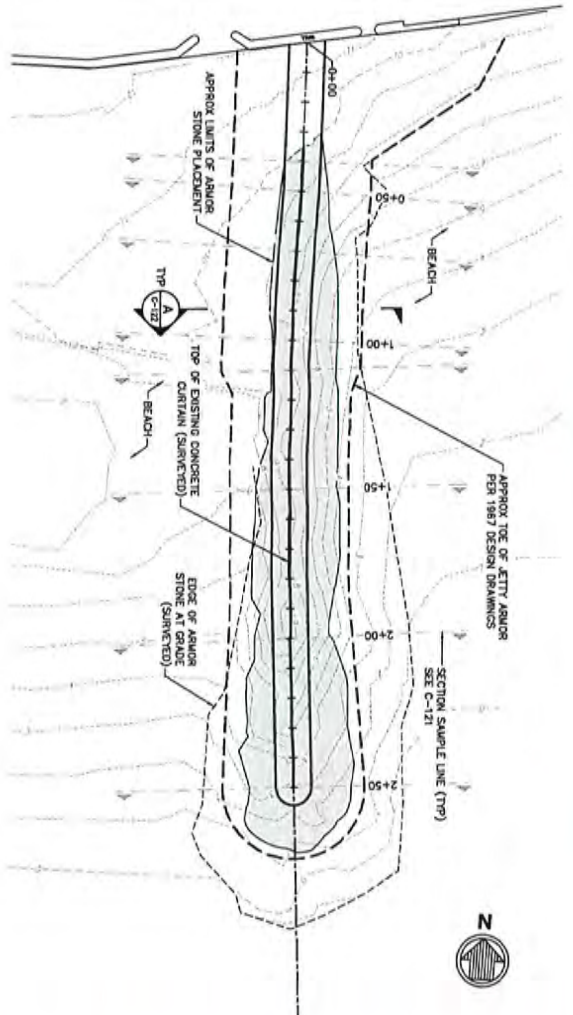
100% FOR REVIEW  
ISSUED: 10 OCT 2018  
NOT TO BE USED FOR CONSTRUCTION

SCALE: 3/4"=1'-0"

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

	2185 N. CALIFORNIA BLVD. SUITE 800 WALNUT CREEK CA 94596	Prepared by: SP Date: 10/10/2018 Drawn by: DJ, CLK Date: 07/14/14 Checked by: AJ Date: 10/10/2018 Approved by: BRUC FORDE, P.E. Date: 10/10/2018	Title: 10/10/2018 Sub Project No.: 2184-01 Drawing No.: Drawing Scale: Plot scale (1:0) SHEET:	CAPITOLA BEACH FLUME AND JETTY REHABILITATION  EXISTING FLUME REFERENCE DRAWINGS - INLET	
	Sheet Reference No. <b>C-116</b>	100% FOR REVIEW ISSUED: 10 OCT 2018 NOT TO BE USED FOR CONSTRUCTION	Scale: 3/4"=1'-0"	Drawing Title:	Date:





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ISSUED: 19 OCT 2018  
C-120  
NOT TO BE USED FOR CONSTRUCTION

SCALE 1" = 20'

DRAWING SCALES SHOWN BASED ON 27"x36" DRAWING

	2185 N. CALIFORNIA BLVD. SUITE 500 WALNUT CREEK, CA 94598	Designed by: DP	Date: 10/10/2018	Rev: -
		Drawn by: VT, OAM	Check by: ST	M&N Project No.: 8154-01
		Reviewed by: -	Drawing made: -	
		Submitted by: BRAD FORSTER, P.E. M&N	Drawing Scale: Plot scale: 1:1 (0 SHEET)	

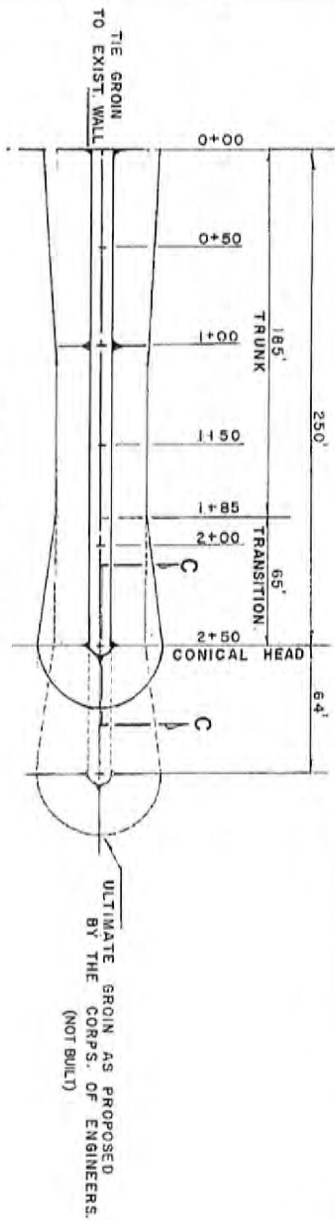
**CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION**

**JETTY PLAN AND PROFILE**



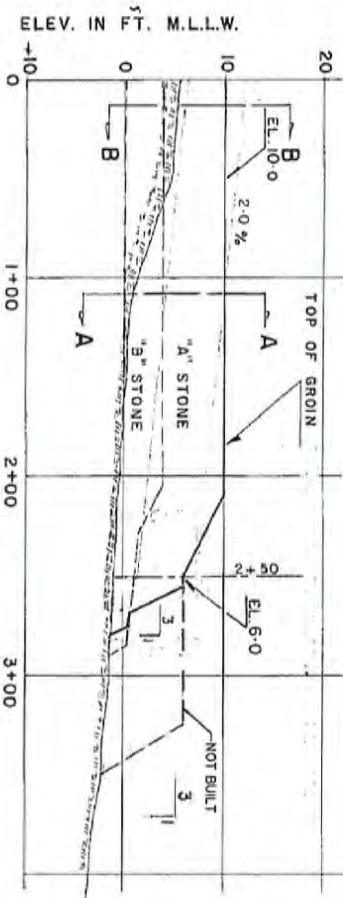




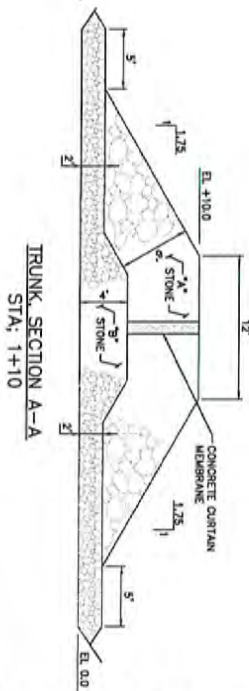


GROIN PLAN  
SCALE: 1"=30'

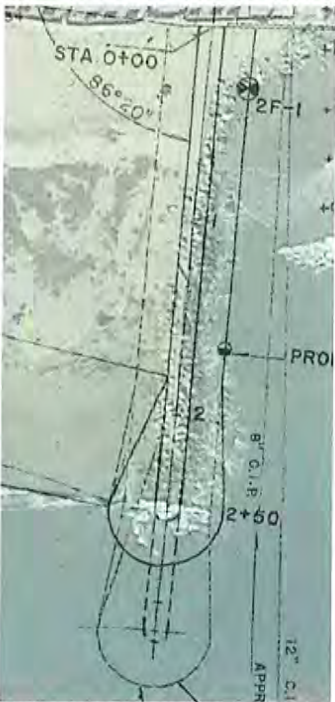
ULTIMATE GROIN AS PROPOSED BY THE CORPS. OF ENGINEERS. (NOT BUILT)



DESIGN CENTERLINE PROFILE  
SCALE: 1"=30' (VERT. EXAGG. 5:1)



TRUNK SECTION A-A  
STA. 1+10  
SCALE: 1"=5'



1967 DESIGN OVERLAY ON CURRENT AERIAL

- NOTES:
1. DRAWINGS ARE BY CITY OF CAPITOLA UNDATED. CIRCA 1967-68, BASED UPON BEACH EROSION STUDY BY CORPS OF ENGINEERS, APRIL 1968, MARCH 1957, (ADDENDUM NO. 1).
  2. JETTY WAS CONSTRUCTED IN 1968.
  3. APPROVAL TO BEACH EROSION STUDY, BUTLAND COUNTY, CALIFORNIA, DATED 12 NOV. 1971 DISCUSSION POSTPONEMENT OF EXTENSION BASED UPON POST CONSTRUCTION SURVEYS.

100% FOR REVIEW  
ISSUED: 10 OCT 2018  
NOT TO BE USED FOR CONSTRUCTION

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION

EXISTING JETTY  
REFERENCE DRAWINGS

Designed by	Date	Rev.
9"	10/16/2018	-
Drawn by	Scale	
V.F., D.M.	1/4" = 1'	
Submitted by	Drawn by	
ROAD PORTER, P.E.	ROAD PORTER, P.E.	
Checked by	Checked by	
W. J. J. & M. J.	W. J. J. & M. J.	
Project No.	Sheet No.	
8154-01	13	
Drawn on	Plot date	
	11/03/2018	

2185 N. CALIFORNIA BLVD  
SUITE 500  
WALNUT CREEK, CA 94596



Sheet No.  
Reference No.  
C-122  
NOV. 13 OF 13



Enclosure 2

Permittee: Mr. Steve Jesberg, City of Capitola

File Number: 2018-00281S

**Certification of Compliance  
for  
Nationwide Permit**

"I hereby certify that the work authorized by the above referenced File Number and all required mitigation have been completed in accordance with the terms and conditions of this Nationwide Permit authorization."

\_\_\_\_\_  
(Permittee)

\_\_\_\_\_  
(Date)

Return to:

Greg Brown  
U.S. Army, Corps of Engineers  
San Francisco District  
Regulatory Division, CESP-N-R-S  
450 Golden Gate Ave., 4<sup>th</sup> Floor  
San Francisco, CA 94102-3404



**Central Coast Regional Water Quality Control Board**

August 2, 2018

Steve Jesberg  
City of Capitola  
420 Capitola Avenue  
Capitola, CA 95010  
Email: [sjesberg@ci.capitola.ca.us](mailto:sjesberg@ci.capitola.ca.us)

**VIA ELECTRONIC MAIL**

Dear Mr. Jesberg:

**WATER QUALITY CERTIFICATION NUMBER 34418WQ10 FOR CAPITOLA BEACH FLUME AND JETTY REHABILITATION PROJECT, SANTA CRUZ COUNTY**

Thank you for the opportunity to review your July 12, 2018 application for water quality certification of the Capitola Beach Flume and Jetty Rehabilitation Project (Project). The application was completed on July 12, 2018. All supplemental information requested was received on August 1, 2018. The project, if implemented as described in your application and with the additional mitigation and other conditions required by this Clean Water Action Section 401 Water Quality Certification (Certification), appears to be protective of beneficial uses of State waters. We are issuing the enclosed Certification. Should new information come to our attention that indicates a water quality problem, we may require additional monitoring and reporting, issue Waste Discharge Requirements, or take other action.

Your Certification application and submitted documents indicate that project activities have the potential to affect beneficial uses and water quality. The Central Coast Regional Water Quality Control Board (Central Coast Water Board) issues this Certification to protect water quality and associated beneficial uses from project activities. We need reports to determine compliance with this Certification. All technical and monitoring reports requested in this Certification, or any time after, are required per Section 13267 of the California Water Code.

Failure to submit reports required by this Certification, or failure to submit a report of technical quality acceptable to the Executive Officer, may subject you to enforcement action per Section 13268 of the California Water Code. The Central Coast Water Board will base enforcement actions on the date of certification. Any person affected by this Central Coast Water Board action may petition the State Water Resources Control Board (State Water Board) to review this action in accordance with California Water Code Section 13320; and Title 23, California Code of Regulations, Sections 2050 and 3867-3869. The State Water Board, Office of Chief Counsel, PO Box 100, Sacramento, CA 95812, must receive the petition within 30 days of the date of this Certification. We will provide upon request copies of the law and regulations applicable to filing petitions.

If you have questions please contact **Ashley Green** at (805) 549-3876 or via email at Ashley.Green@waterboards.ca.gov or Phil Hammer at (805) 549-3882. Please mention the above certification number in all future correspondence pertaining to this project.

Sincerely,



Phillip Hammer  
2018.08.02 09:40:48 -07'00'

for  
John M. Robertson  
Executive Officer

Enclosure: Action on Request for CWA Section 401 Water Quality Certification

cc: With enclosures

Anna Johnson  
Moffatt & Nichol  
Email: ajohnson@moffattnichol.com

Jennifer Siu  
U.S. Environmental Protection Agency  
Region 9  
E-mail: siu.jennifer@epa.gov

Katerina Galacatos  
U.S. Army Corps of Engineers  
E-mail: Katerina.galacatos@usace.army.mil

CWA Section 401 WQC Program  
Division of Water Quality  
State Water Resources Control Board  
E-mail: Stateboard401@waterboards.ca.gov

Randi Adair  
California Department of Fish and Wildlife  
E-mail: Randi.Adair@wildlife.ca.gov

Ashley Green  
Central Coast Water Board  
E-mail: Ashley.Green@waterboards.ca.gov

Monica Oey  
California Department of Fish and Wildlife  
Email: Monica.Oey@wildlife.ca.gov

Action on Request for  
Clean Water Act Section 401 Water Quality Certification  
for Discharge of Dredged and/or Fill Materials

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**PROJECT:** Capitola Beach Flume and Jetty Rehabilitation

**APPLICANT:** Steve Jesberg  
City of Capitola  
420 Capitola Avenue  
Capitola, CA 95010

**ACTION:**

1.  Order for Standard Certification
2.  Order for Technically-Conditioned Certification
3.  Order for Denial of Certification

**STANDARD CONDITIONS:**

1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment per section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).
2. This Certification action is not intended to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed per 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license was being sought.
3. The validity of any non-denial Certification action (Actions 1 and 2) is conditioned upon total payment of the fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

**ADMINISTRATIVE CONDITIONS:**

1. This Certification is subject to the acquisition of all local, regional, state, and federal permits and approvals as required by law. Failure to meet any conditions contained herein or any conditions contained in any other permit or approval issued by the State of California or any subdivision thereof may result in the revocation of this Certification and civil or criminal liability.
2. In the event of a violation or threatened violation of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes of Section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.



3. In response to a suspected violation of any condition of this Certification, the Central Coast Water Board may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the Central Coast Water Board deems appropriate, provided that the burden, including costs, of the reports shall have a reasonable relationship to the need for the reports and the benefits obtained from the reports.
4. In response to any violation of the conditions of this Certification, the Central Coast Water Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.
5. The Central Coast Water Board reserves the right to suspend, cancel, or modify and reissue this Certification, after providing notice to the applicant, if the Central Coast Water Board determines that the Project fails to comply with any of the terms or conditions of this Certification.
6. A copy of this Certification, the application, and supporting documentation must be available at the Project site during construction for review by site personnel and agencies. A copy of this Certification must also be provided to the contractor and all subcontractors who will work at the Project site. All personnel performing work on the proposed Project shall be familiar with the content of this Certification and its posted location on the Project site.
7. The Applicant shall grant Central Coast Water Board staff, or an authorized representative, upon presentation of credentials and other documents as may be required by law, permission to enter the Project site at reasonable times, to ensure compliance with the terms and conditions of this Certification and/or to determine the impacts the Project may have on waters of the State.
8. The Applicant must, at all times, fully comply with the application, engineering plans, specifications, and technical reports submitted to support this Certification; all subsequent submittals required as part of this Certification; and the attached Project Information and Conditions. The conditions within this Certification and attachment(s) supersede conflicting provisions within applicant submittals.
9. The Applicant shall notify the Central Coast Water Board within 24 hours of any unauthorized discharge to waters of the U.S. and/or State; measures that were implemented to stop and contain the discharge; measures implemented to clean-up the discharge; the volume and type of materials discharged and recovered; and additional BMPs or other measures that will be implemented to prevent future discharges.
10. This Certification is not transferable to any person except after notice to the Executive Officer of the Central Coast Water Board. The Applicant shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new responsible party containing a specific date for the transfer of this Certification's responsibility and coverage between the current responsible party and the new responsible party. This agreement shall include an acknowledgement that the existing responsible party is liable for compliance and violations up to the transfer date and that the new responsible party is liable from the transfer date on.

- 11. This Certification expires if Project construction does not begin within five years from the date of this Certification. If this Certification does not expire as described above, it remains in effect until the Applicant complies with all Certification requirements and conditions.
- 12. The total application fee for this project is \$4,644. The remaining application fee payable to the Central Coast Water Board is \$0. Annual fees may apply.

**CENTRAL COAST WATER BOARD CONTACT PERSON:**


Ashley Green  
(805) 549-3876  
Ashley.Green@waterboards.ca.gov

Please refer to the above certification number when corresponding with the Central Coast Water Board concerning this project.

**WATER QUALITY CERTIFICATION:**

I hereby issue an order certifying that as long as all the conditions listed in this Certification are met, any discharge from the Capitola Flume and Jetty Rehabilitation Project shall comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated pursuant to State Water Board Water Quality Order No. 2003-0017-DWQ, which requires compliance with all conditions of this Certification.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information and Conditions, and (b) compliance with all applicable requirements of the Central Coast Water Board's policies and Water Quality Control Plan (Basin Plan).



Phillip Hammer  
2018.08.02 09:41:13 -07'00'

for \_\_\_\_\_  
John M. Robertson  
Executive Officer  
Central Coast Water Board

\_\_\_\_\_  
August 2, 2018  
Date

**PROJECT INFORMATION AND CONDITIONS**

Application Date	Received: July 12, 2018 Completed: July 12, 2018
Applicant	Steve Jesberg City of Capitola 420 Capitola Avenue Capitola, CA 95010 Email: sjesberg@ci.capitola.ca.us (830) 475-7300 ext. 217
Applicant Representatives	Anna Johnson Moffatt & Nichol 2185 N. California Boulevard, Suite 500 Walnut Creek, CA 94596 Email: ajohnson@moffattnichol.com (925) 944-5411
Project Name	Capitola Beach Flume and Jetty Rehabilitation
Application Number	34418WQ10
Type of Project	Non-Bioengineered Channel Construction, Maintenance, and/or Bank Stabilization
Project Location	Capitola Latitude: 36° 58' 17.52" N      Longitude: -121° 57' 8.21" W
County	Santa Cruz
Receiving Water(s)	Soquel Creek, Monterey Bay 304 – Big Basin Hydrologic Unit
Water Body Type	Ocean/Bay
Designated Beneficial Uses	Municipal and Domestic Supply (MUN) Agricultural Supply (AGR) Industrial Process Supply (PROC) Ground Water Recharge (GWR) Water Contact Recreation (REC-1) Non-Contact Recreation (REC-2) Wildlife Habitat (WILD) Cold Fresh Water Habitat (COLD) Migration of Aquatic Organisms (MIGR) Spawning, Reproduction, and/or Early Development (SPWN) Preservation of Biological Habitats of Special Significance (BIOL) Freshwater Replenishment (FRSH) Commercial and Sport Fishing (COMM) Marine Habitat (MAR)
Project Description (purpose/goal)	The purpose of this project is to repair the Soquel Creek flume and jetty to their original configuration.  Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff understands that the project includes the following activities: 1. Closing the flume with flashboards and repairing the eroded concrete on the lower end portion of the flume; 2. Placing concrete into forms with plastic sheeting lining to prevent water passage through the timber formwork;

	<ol style="list-style-type: none"> <li>3. Installing cutoff walls made of fiberglass sheets to reduce potential for water leaks;</li> <li>4. Constructing a temporary 225-foot-long, 36-inch diameter HDPE pipe contingency bypass to divert flows from the flume;</li> <li>5. Retrieving rocks displaced from the jetty with an excavator; and</li> <li>6. Placing underlying rock and armor rock on the jetty.</li> </ol>
U.S. Army Corps of Engineers Permit No.	Nationwide Permit 3(a)(b)(c) – Maintenance
Federal Public Notice	N/A
Status of CEQA Compliance	Categorical Exemption Lead Agency: City of Capitola
Total Certification Application Fee	\$4,644
Area of Disturbance	Approximately 0.35/700 (acres/linear feet) total Ocean/Estuary/Bay: 0.35/700 (acres/linear feet) permanent
Dredge Volume	N/A
Excavation Volume	N/A
Fill Volume	Approximately 924 total cubic yards Ocean/Estuary/Bay: 924 cubic yards permanent
Compensatory Mitigation Requirements	No mitigation required since project is repairing existing structures.
Project Requirements	<p><u>Project practices that are required to comply with 401 Water Quality Certification are as follows:</u></p> <ol style="list-style-type: none"> <li>1. All personnel who engage in construction activities or their oversight at the project site (superintendent, construction manager, foreman, crew, contractor, biological monitor, etc.) must attend trainings on the conditions of this Certification and how to perform their duties in compliance with those conditions. Every person shall attend an initial training within five working days of their start date at the project site and follow-up trainings every six months if the project construction time exceeds the predicted 3-4 month duration. Trainings shall be conducted by a qualified individual with expertise in 401 Water Quality Certification conditions and compliance.</li> <li>2. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat. Measures shall be employed to minimize land disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation.</li> <li>3. Any material stockpiled that is not actively being used during construction shall be covered and surrounded with a linear sediment barrier.</li> <li>4. The Applicant shall retain a spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite in case spills occur.</li> <li>5. The Applicant shall confine all trash and debris in appropriate enclosed bins and dispose of the trash and debris at an approved site at least weekly.</li> </ol>



	<ol style="list-style-type: none"><li>6. All construction vehicles and equipment used on site shall be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials.</li><li>7. The Applicant shall designate a staging area for equipment and vehicle fueling and storage at least 100 feet away from waterways, in a location where fluids or accidental discharges cannot flow into waterways.</li><li>8. All vehicle fueling and maintenance activity shall occur at least 100 feet away from waterways and in designated staging areas, unless a requested exception on a case-by case basis granted by prior written approval has been obtained from Central Coast Water Board staff.</li><li>9. Concrete poured to repair the flume shall be placed into forms with plastic sheet lining, to prevent passage of water through the timber formwork. Admixtures shall be added to the concrete to accelerate curing. Forms shall be left on the concrete until the concrete has reached 90 percent of the 28-day max strength to prevent leaching. All protocols for concrete management that are listed in the Supplement Information Document prepared for the Central Coast Water Board must be followed. If aspects of the flume repair with concrete change, the Central Coast Water Board must be notified before construction.</li><li>10. Jetty rehabilitation work shall be conducted at low tide when the work area is exposed, minimizing the contact of construction equipment with water, as detailed in the Supplemental Information Document prepared for the Central Coast Water Board.</li><li>11. The Applicant shall only install a contingency bypass if the 30 cfs flow has not occurred by January 1, 2019. The contingency bypass must be installed according to protocols detailed in the Supplemental Information Document prepared for the Central Coast Water Board. If aspects of the tentative construction of the contingency bypass change, the Central Coast Water Board must be notified before construction.</li><li>12. All construction-related equipment, materials, and any temporary BMPs no longer needed shall be removed and cleared from the site upon completion of the project.</li><li>13. Central Coast Water Board staff shall be notified if mitigations as described in the 401 Water Quality Certification application for this project are altered by the imposition of subsequent permit conditions by any local, state or federal regulatory authority. The Applicant shall inform Central Coast Water Board staff of any modifications that interfere with compliance with this Certification.</li></ol>
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Monitoring and Reporting Requirements	<p>The Applicant shall conduct the following monitoring:</p> <ol style="list-style-type: none"> <li>1. Visually inspect the project site and areas of waters of the State adjacent to project impact areas during project construction and following completion of project construction to ensure the project is not causing water quality impacts. If the project does cause water quality impacts, contact the Central Coast Water Board staff member overseeing the project. You will be responsible for obtaining any additional permits necessary for implementing plans for restoration to prevent further water quality impacts.</li> </ol> <p><b>The Applicant shall provide the following reporting to <a href="mailto:RB3_401Reporting@waterboards.ca.gov">RB3_401Reporting@waterboards.ca.gov</a> [Note: Annual fees are based on submittal of reporting item 3 below]:</b></p> <ol style="list-style-type: none"> <li>1. Construction Commencement Notification – At least seven days in advance of any ground disturbing or grubbing activities, submit notification to the Central Coast Water Board of the date when project construction will begin.</li> <li>2. Contingency Bypass Notification – If rain flows above 30 cfs do not occur and a temporary contingency bypass needs to be installed, the Applicant must submit a notification to the Central Coast Water Board before construction commencement.</li> <li>3. Project Completion Notification – Within seven days of completing all project construction and monitoring, submit notification to the Central Coast Water Board of project construction and monitoring completion. The Project Completion Notification shall include at a minimum: <ol style="list-style-type: none"> <li>a. The date of construction initiation.</li> <li>b. The date of construction completion.</li> <li>c. A summary of daily activities, monitoring and inspection observations, and problems incurred and actions taken;</li> <li>d. Identification of when site personnel trainings occurred, description of the topics covered during trainings, and confirmation that every person that engaged in construction activities or their oversight at the project site was trained as required.</li> <li>e. A description of the project site and areas of waters of the State adjacent to project impact areas during and after construction, including: <ol style="list-style-type: none"> <li>i. Flume conditions;</li> <li>ii. Jetty conditions;</li> <li>iii. Contingency Bypass implementation (if constructed);</li> <li>iv. Water quality and beneficial use conditions;</li> <li>v. Clearly identified photo-documentation of all areas of permanent and temporary impact, prior to and after project construction; and</li> <li>vi. Clearly identified representative photo-documentation of other project areas, prior to and after project construction.</li> </ol> </li> </ol> </li> </ol>
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## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003



IN REPLY REFER TO:  
08EVEN-2018-F-0114

November 21, 2018

Rick M. Bottoms, Ph.D.  
Chief, Regulatory Division  
U.S. Army Corps of Engineers, San Francisco District  
1455 Market Street  
San Francisco, California 94103-1398

Subject: Biological Opinion for the Capitola Beach Flume and Jetty Rehabilitation Project,  
City of Capitola, Santa Cruz County, California (Corps File Number 2018-  
00281S)

Dear Dr. Bottoms:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the U.S. Army Corps of Engineers' (Corps) proposed issuance of a permit, pursuant to section 404 of the Clean Water Act, and section 10 of the River and Harbors Act, to the City of Capitola (City) to repair the existing concrete flume structure and rock jetty at the mouth of Soquel Creek in the City of Capitola, Santa Cruz County, California. At issue are the effects of the proposed project on the federally endangered tidewater goby (*Eucyclogobius newberryi*). Critical habitat for the species is not present in the proposed project area. We received your August 16, 2018 request for formal consultation via email on the same date. This request and our response are made in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

We based this biological opinion on information contained in your consultation request, the biological technical report (BTR; DUDEK 2018), and information in our files. These documents and others relating to the consultation are located at the Ventura Fish and Wildlife Office (VFWO).

### Not Likely to Adversely Affect

You have requested our concurrence with your determination that the proposed authorization may affect, but is not likely to adversely affect the southern sea otter (*Enhydra lutris nereis*) and critical habitat for the tidewater goby. You state in the consultation request that designated critical habitat for the tidewater goby exists within the action area, although it does not. Therefore, critical habitat for the tidewater goby would not be affected by project activities.



Southern sea otters are known to occur in the vicinity of the mouth of Soquel Creek, primarily in and around kelp beds near the proposed jetty repairs. Kelp beds would not be affected by project activities. Sea otters may be disturbed by construction activity at the jetty, but are anticipated to move from the area if disturbance rises above negligible levels. Additionally, noise levels are expected to be minor as construction activities are proposed to take place during low tides and above existing water levels. Based on this information, we agree with your determination that the proposed project may affect, but is not likely to adversely affect the southern sea otter.

## BIOLOGICAL OPINION

### DESCRIPTION OF THE PROPOSED ACTION

The proposed action involves repairs to the existing concrete flume structure at the mouth of Soquel Creek, and repairs to the existing jetty which is located at the east end of the adjacent beach. Proposed activities include flume repairs, which would temporarily impact approximately 375 square feet (ft<sup>2</sup>) of sandy beach habitat and would include the placement of approximately 13 cubic yards of concrete on the exterior of the flume, installing a fiberglass liner to the interior of the flume, and installing cutoff walls along the exterior of the flume. Flume repairs are anticipated to occur after the natural breach of the lagoon, typically in October or November. In the unlikely event that this does not occur, a temporary bypass pipe may be placed which would impact an additional 660 ft<sup>2</sup> of beach. Jetty repairs would temporarily impact approximately 13,700 ft<sup>2</sup> of beach habitat and would include placing approximately 900 cubic yards of new rock to restore the jetty to its original design. Depending on beach and lagoon conditions at the time of construction, various undetermined work activities are expected to take place within Corps jurisdiction. Total project duration is anticipated to be one to two months if performed concurrently, or three to four months if performed sequentially.

### Conservation Measures

The Corps and the City have agreed to implement the following measures to minimize adverse effects to tidewater goby:

1. Prior to the start of construction, a Service-approved biologist will survey the lagoon and flume entrance for tidewater goby. If tidewater gobies are encountered during these surveys, the Service-approved biologist may translocate captured individuals to suitable locations upstream at his or her discretion.
2. Prior to the initiation of project activities, the Service-approved biologist will train all construction crew members on the tidewater goby and all relevant conservation measures that are intended to ensure species protection.

3. A Service-approved biologist will be present to monitor all construction activities that have the potential to affect the tidewater goby and its habitat. This will be determined by the Service-approved biologist.
4. If a flow bypass system is needed, a Service-approved biologist will seine the vicinity of the lagoon periphery to capture and relocate the species. At the discretion of the Service-approved biologist, the installation of a block net to prevent fish from re-entering the affected area may be installed.
5. Throughout the duration of project activities, the Service-approved biologist will be present to survey for, capture, and translocate tidewater gobies that may be present in isolated pools.
6. Monitoring of lagoon water quality (i.e., temperature, dissolved oxygen, turbidity) will be conducted by a Service-approved biologist if the flow bypass system is installed.
7. The project proponent will exercise all reasonable precautions to ensure construction by-products and pollutants do not enter aquatic habitats. All construction vehicles and equipment will be inspected prior to project implementation. All construction vehicles and equipment will be checked daily for leaks or other issues that could result in spills of hazardous materials.
8. All trash within the work site will be properly contained.
9. A summary of project activities, and any observed take of the tidewater goby will be incorporated into a post-construction report and provided to the Service.
10. Marine mammal observations will be conducted to determine use of nearby areas prior to the initiation of jetty repairs.
11. A Service-approved biologist will conduct daily marine mammal monitoring during construction on the jetty. The Service-approved biologist has the authority to halt work that could result in injury or mortality of these species.
12. To the maximum extent feasible, jetty rehabilitation work will be conducted at low tides when the work area is exposed, minimizing in-water work.

## ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION

### **Jeopardy Determination**

Section 7(a)(2) of the Endangered Species Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both

the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species” (50 CFR 402.02).

The jeopardy analysis in this biological opinion relies on four components: (1) the Status of the Species, which describes the rangewide condition of the tidewater goby, the factors responsible for that condition, and the species’ survival and recovery needs; (2) the Environmental Baseline, which analyzes the condition of the tidewater goby in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the Effects of the Action, which identifies the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the tidewater goby; and (4) the Cumulative Effects, which evaluates the effects of future, non-Federal activities, that are reasonably certain to occur in the action area, on the tidewater goby.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the current status of the tidewater goby, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to reduce appreciably the likelihood of both the survival and recovery of the tidewater goby in the wild by reducing the reproduction, numbers, and distribution of each species.

#### STATUS OF THE SPECIES

The Service listed the tidewater goby as endangered on March 7, 1994 (59 Federal Register (FR) 5494). On June 24, 1999, we proposed to remove the populations occurring north of Orange County, California, from the endangered species list (64 FR 33816). In November 2002, the Service withdrew this proposed delisting rule and determined it appropriate to retain the tidewater goby’s listing as endangered throughout its range (67 FR 67803). A recovery plan for the tidewater goby was completed on December 12, 2005 (Service 2005) and the 5-Year Review for the tidewater goby was completed in September 2007 (Service 2007). We revised critical habitat in 2013 (78 FR 8746, Service 2013) and a proposed rule to down list the tidewater goby was published in the Federal Register on March 13, 2014 (79 FR 14339).

Detailed information on the biology of the tidewater goby can be found in Wang (1982), Irwin and Soltz (1984), Swift et al. (1989), Worcester (1992), and Swenson (1995). We based much of the information in this status section on these sources.

The tidewater goby is endemic to California and typically inhabits coastal lagoons, estuaries, and marshes, preferring relatively low salinities of approximately 12 parts per thousand (ppt). Tidewater goby habitat is characterized by brackish estuaries, lagoons, and lower stream reaches where the water is fairly still but not stagnant. Tidewater gobies tend to be found in the upstream portions of lagoons. They can withstand a range of habitat conditions and have been documented in waters with salinity levels that range from 0 to 60 ppt, temperatures from 46 to 77 degrees Fahrenheit, and depths from approximately 10 inches to 6.5 feet. Tidewater gobies feed on small invertebrates, including mysids, amphipods, ostracods, snails, aquatic insect larvae, and

particularly chironomid larvae; however, tidewater gobies of less than 0.30 inch in length probably feed on unicellular phytoplankton or zooplankton, similar to many other early stage larval fishes.

The tidewater goby is primarily an annual species in central and southern California, although some variation in life history has been observed. If reproductive output during a single season fails, few (if any) tidewater gobies survive into the next year. Reproduction typically peaks from late April or May to July and can continue into November or December depending on the seasonal temperature and amount of rainfall. Males begin the breeding ritual by digging burrows (3 to 4 inches deep) in clean, coarse sand of open areas. Females then deposit eggs into the burrows, averaging 400 eggs per spawning effort and males remain in the burrows to guard the eggs. Male tidewater gobies frequently forego feeding, which may contribute to the mid-summer mortality observed in some populations. Within 9 to 10 days, larvae emerge and are approximately 0.20 to 0.27 inch in length. Tidewater gobies live in vegetated areas until they are 0.60 to 0.70 inch long. When they reach this life stage, they become substrate-oriented, spending the majority of time on the bottom rather than in the water column. Both males and females can breed more than once in a season, with a lifetime reproductive potential of 3 to 12 spawning events. Vegetation is critical for over-wintering tidewater gobies because it provides refuge from high water flows.

Tidewater gobies feed on small invertebrates, including mysids, amphipods, ostracods, snails, aquatic insect larvae, and particularly chironomid larvae. Tidewater gobies of less than 0.30 inch in length probably feed on unicellular phytoplankton or zooplankton, similar to many other early stage larval fishes.

Historically, the tidewater goby occurred in at least 135 California coastal lagoons and estuaries, from Tillas Slough near the Oregon/California border south to Agua Hedionda Lagoon in northern San Diego County. The southern extent of its distribution has been reduced by approximately 8 miles. The species is currently known to occur in about 112 locations, although the number of sites fluctuates with climatic conditions. Some of these locations presumed to be occupied have not been surveyed in over 10 years. Currently, the most stable populations are in lagoons and estuaries of intermediate size (5 to 124 acres) that are relatively unaffected by human activities. Tidewater gobies that are found upstream of lagoons in summer and fall tend to be juveniles. The highest densities of tidewater gobies are typically present in the fall.

Tidewater gobies enter the marine environment when sandbars are breached during storm events. The species' tolerance of high salinities (up to 60 ppt) for short periods of time enables it to withstand marine environment conditions where salinities are approximately 35 ppt, thereby allowing the species to re-establish or colonize lagoons and estuaries following flood events. However, genetic studies indicate that individual populations rarely have contact with other populations so natural recolonization may be rare. In Santa Barbara County during the fall of 1994, tidewater gobies were reported as common in the Santa Ynez River 4 miles upstream from the lagoon (Swift et al. 1997); however, by January 1995, they were absent at the upstream sites.



Native predators are not known to be important regulators of tidewater goby population size in the lagoons of southern California. Rather, population declines are attributed to environmental conditions. During high flows, lagoon barriers are breached; exposing tidewater gobies to strong tidal conditions. As a result, tidewater goby populations generally plummet. Populations typically recover quickly in summer, with recorded mean densities of 54 to 323 fish per square foot. Tidewater goby densities are greatest among emergent and submerged vegetation (Moyle 2002).

The decline of the tidewater goby is attributed primarily to habitat loss or degradation resulting from urban, agricultural, and industrial development in and around coastal wetlands, lagoons, and estuaries. Some extirpations are believed to be related to pollution, upstream water diversions, and the introduction of non-native predatory fish species [most notably, centrarchid sunfish (*Lepomis* spp.) and bass (*Micropterus* spp.)]. These threats continue to affect some of the remaining populations of tidewater gobies.

### Recovery

The goal of the tidewater goby recovery plan (Service 2005) is to conserve and recover the tidewater goby throughout its range by managing threats and maintaining viable metapopulations within each recovery unit while retaining morphological and genetic adaptations to regional and local environmental conditions. The decline of the tidewater goby is attributed primarily to habitat loss or degradation resulting from urban, agricultural, and industrial development in and around coastal wetlands. The recovery plan identifies six recovery units: North Coast Unit, Greater Bay Unit, Central Coast Unit, Conception Unit, Los Angeles/Ventura Unit, and South Coast Unit.

The recovery plan specifies that the tidewater goby may be considered for downlisting when:

1. Specific threats to each metapopulation (e.g., coastal development, upstream diversion, channelization of rivers and streams) have been addressed through the development and implementation of individual management plans that cumulatively cover the full range of the species.
2. A metapopulation viability analysis based on scientifically credible monitoring over a 10-year period indicates that each recovery unit is viable. The target for down listing is for individual sub-units within each recovery unit to have a 75 percent or better chance of persistence for a minimum of 100 years.

The tidewater goby may be considered for delisting when the downlisting criteria have been met and a metapopulation viability analysis projects that all recovery units are viable and have a 95 percent probability of persistence for 100 years.



### 5-Year Review

The 5-year review for the tidewater goby (Service 2007) states that the recovery plan reflects up-to-date information; however, the 5-year review reconsidered the downlisting and delisting criteria that had been included in the recovery plan (Service 2005). The 5-year review stated that other, currently available information on the species may also be used to determine the appropriate listing status of the species under the Act. These include the current number of occupied localities, current laws and regulations that act to protect the species, and our current understanding of threats and their impact on the tidewater goby. The 5-year review recommended that we reclassify the tidewater goby from endangered to threatened because we concluded that the species was not in imminent danger of extinction. The main reason for this recommendation was that the number of localities known to be occupied had more than doubled since listing. The 5-year review also concluded that the tidewater goby may be more resilient in the face of severe drought events than believed at the time of listing. The 5-year review also stated that threats identified at the time of listing had been reduced or were not as serious as thought at that time. Although numerous threats to the tidewater goby have been identified (e.g., non-native predation and competition, pollution, cattle grazing), information on the degree of impact of these threats is generally lacking. According to the 5-year review, the increase in occupied localities indicated that the threats appeared not to be having a major impact on the tidewater goby.

On May 18, 2010, we received a petition from The Pacific Legal Foundation, requesting that the tidewater goby be reclassified as threatened under the Act. Included in the petition was reference to the 5-year review. We published a 90-day finding on January 19, 2011 (76 FR 3069), stating our conclusion that the petition presented substantial scientific or commercial information indicating that the petitioned action (reclassification of the tidewater goby) may be warranted. We published a proposed rule to down list the tidewater goby on March 13, 2014 (79 FR 14339). A final rule has not been published so the tidewater goby remains listed as endangered.

## ENVIRONMENTAL BASELINE

### Action Area

The implementing regulations for section 7(a)(2) of the Act define the “action area” as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 FR 402.02). The action area for this biological opinion consists of all areas where people and equipment would be working, and areas where tidewater gobies may be translocated.

### Status of the Species and Habitat in the Action Area

Tidewater gobies are known to occur in Soquel Lagoon and were last detected in the lagoon in 2016. Annual detection of the species has been sporadic, likely a result of the poor habitat quality due to the absence of aquatic vegetation, structures, or slack-water areas that provide refugia

during high flows. This location is likely recolonized with individuals from other nearby occupied lagoons and estuaries in Santa Cruz County.

### Recovery

The action area is within the Greater Bay Unit and the GB9 Sub-Unit that includes Soquel and Aptos Creeks (Service 2005). Threats to tidewater goby in the Sub-Unit include: non-point municipal pollution (municipal run-off), habitat degradation (stream channelization, salinity regime), and native predators. In Soquel Creek, at the time the recovery plan was completed, available habitat for the species was considered to encompass approximately 5 to 7.5 acres. Species presence in this sub-unit is considered to be intermittent and there have been extirpations and recolonization events. It was not considered to be occupied in the Recovery Plan; however, Soquel Creek was identified as a site for reintroduction of individuals from Aptos Creek.

### EFFECTS OF THE ACTION

The proposed project could cause temporary adverse effects to the tidewater goby. Sedimentation, noise, and vibrations are likely to occur during the project activities. Noise and vibration are likely to disturb tidewater gobies to some degree, but these effects would last only for the duration of the project. Sedimentation of the habitat is possible, resulting in reduced water quality. Tidewater gobies are able to adapt to sedimentation to a certain extent because they breed in sandy substrates, but increased sedimentation usually creates large amounts of shallow, warm habitats that may be unsuitable (Moyle 2002). This effect would only occur for the duration of construction activities. Such effects will be reduced or prevented with the use of a Service-approved biologist to capture and move tidewater gobies.

Project construction within aquatic habitat is scheduled to occur when water levels would be at their lowest. The project requires the use of heavy equipment on the beach, but access will be limited to the maximum extent practicable. Any tidewater gobies that are present within the work areas will be captured and relocated by a Service-approved biologist.

Handling of tidewater gobies to move them from a work area may result in injury or mortality caused by the stress created by the capture efforts. Individuals could suffocate if water becomes depleted of oxygen as a result of a rise in temperature or from excessive crowding in the temporary holding containers. Tidewater gobies could also be crushed in seines by the weighted lead line if it should roll inward while being pulled out of the water. The use of Service-approved biologists to conduct the capture and relocation efforts, however, would minimize these adverse effects to tidewater gobies.

If a flow bypass system is installed, tidewater gobies may be flushed through the system and out to sea. Prior to installation of the bypass system, all areas in the vicinity of the lagoon periphery that may contain the species will be seined and any animals detected would be moved upstream. Additionally, a block seine may be installed to reduce the chances of fish entering the bypass system. These efforts would minimize adverse effects to tidewater gobies.

### Effects of the Action on Recovery

The action area lies within the Greater Bay Unit and the GB9 Sub-Unit that includes Soquel and Aptos Creeks (Service 2005). Species presence in this sub-unit, which includes only Soquel and Aptos Creeks, is considered to be intermittent and there have been extirpations and recolonization events. Soquel Creek was not considered to be occupied at the time the recovery plan was completed; however, it was identified as a site for reintroduction of individuals from Aptos Creek. In a worst case scenario, adverse effects to an existing population of tidewater goby in Soquel Creek could result in a local extirpation; however, this creek has been subject to extirpation and recolonization events in recent times. As such, we do not anticipate that the proposed action would substantially affect conservation of the tidewater goby in the Greater Bay Recovery Unit or the long-term survival and recovery of the species.

### Summary of the Effects of the Action on Tidewater Goby

In summary, the proposed action could adversely affect tidewater goby present in the action area. The Corps and the City have proposed avoidance and minimization measures to reduce these impacts. Based on the inclusion of these measures, we anticipate few individuals would be injured or killed during the proposed action and that the proposed action would not substantially affect the recovery of the species.

### CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. We do not consider future Federal actions that are unrelated to the proposed action in this section because they require separate consultation pursuant to section 7 of the Act. We are not aware of any non-Federal actions that are reasonably certain to occur and are likely to adversely affect the tidewater goby in the action area.

### CONCLUSION

The regulatory definition of "to jeopardize the continued existence of the species" focuses on assessing the effects of the proposed action on the reproduction, numbers, and distribution, and their effect on the survival and recovery of the species being considered in the biological opinion. For that reason, we have used those aspects of the status of the tidewater goby as the basis to assess the overall effect of the proposed action on these species.

### Reproduction

Potential adverse effects to tidewater goby reproduction would be local and temporary. We anticipate that the majority of animals occurring in the action area would be captured and moved upstream prior to the initiation of project activities. Although injury or mortality to individuals may occur during project and survey activities, such losses are likely to be compensated for

during subsequent breeding seasons as the tidewater goby is capable of producing numerous offspring under favorable conditions. As such, we do not anticipate that the proposed action would permanently reduce the reproduction of the tidewater goby either locally or on a rangewide basis.

### Numbers

We anticipate that some tidewater gobies may be affected by the proposed activities. Some may be injured or killed and any encountered are likely to be captured and relocated. Any injury or mortality will reduce the numbers of tidewater gobies locally; however, such losses are likely to be compensated for during subsequent breeding seasons. While numbers may be reduced locally in the short-term, this population has experienced extirpation and recolonization events in the past. As such, we do not anticipate that the proposed action would substantially reduce the species' numbers in the long-term locally or on a rangewide basis.

### Distribution

When the recovery plan was completed in 2005, within GB9 Sub-Unit of the larger Greater Bay Recovery Unit, only Aptos Creek was known to be currently occupied. Since that time, the tidewater goby population in in Soquel Creek has been detected sporadically. We expect that a few individuals may be injured or killed during the proposed action. We believe that the potential loss of a few individuals is not likely to change the distribution within this recovery sub-unit, the larger recovery unit, or at a rangewide level.

### Recovery

Soquel Creek was not known to be occupied at the time the recovery plan was completed; however, it was identified as a site for reintroduction of individuals from Aptos Creek. The species has recently been detected during annual surveys in Soquel Lagoon. In a worst case scenario, adverse effects to an existing population of tidewater goby in Soquel Creek could result in a local extirpation; however, this creek has been subject to extirpation and recolonization events. The Corps and the City have committed to several measures that would minimize adverse effects to individuals that are present in the action area. As such, we do not anticipate that the proposed action would substantially affect conservation of the tidewater goby in the Greater Bay Recovery Unit or the long-term survival and recovery of the species.

### Conclusion

After reviewing the current status of the tidewater goby, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the tidewater goby, because the proposed action:



1. Would not appreciably reduce reproduction of the species either locally or on a rangewide level;
2. Would affect a low number of individuals if present in the action area;
3. Would not reduce the species' distribution within the recovery unit or rangewide; and
4. Would not result in effects that would preclude our ability to recover the species.

#### INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened wildlife species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not the purpose of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

In June 2015, the Service finalized new regulations implementing the incidental take provisions of section 7(a)(2) of the Act. The new regulations also clarify the standard regarding when the Service formulates an Incidental Take Statement [50 CFR 402.14(g)(7)], from "...if such take may occur" to "...if such take is reasonably certain to occur." This is not a new standard, but merely a clarification and codification of the applicable standard that the Service has been using and is consistent with case law. The standard does not require guarantees that take will result; only that the Service establishes a rational basis for a finding of take. The Service continues to rely on the best available scientific and commercial data, as well as professional judgment, in reaching these determinations and resolving uncertainties or information gaps.

We anticipate that some tidewater gobies could be taken as a result of the proposed action. We expect the incidental take to be in the form of harm, capture, injury, and mortality. Tidewater gobies will be captured and moved out of harm's way and some individuals may be injured or killed during the process. Tidewater gobies may also be injured or killed by erosion and degraded water quality from project materials or activities.

We cannot quantify the precise number of tidewater gobies that may be taken as a result of the Corps' proposed action because tidewater gobies are a mobile species in their aquatic environment and may enter or depart the construction area since the time of the last surveys. Other individuals may not be detected due to their cryptic nature and small size. The protective

measures proposed by the Corps and the City are intended to minimize injury and mortality of most individuals. In addition, finding a dead or injured tidewater gobies is unlikely.

Consequently, we are unable to reasonably anticipate the actual number of tidewater gobies that would be taken by the proposed action; however, we must provide a level at which formal consultation would have to be reinitiated. The Environmental Baseline and Effects Analysis sections of this biological opinion indicate that adverse effects to tidewater gobies would likely be low given the nature of the proposed activities and protective measures, and we, therefore, anticipate that take of tidewater gobies would also be low. We also recognize that for every tidewater goby found dead or injured, other individuals may be killed or injured that are not detected, so when we determine an appropriate take level we are anticipating that the actual take would be higher and we set the number below that level.

Similarly, for estimating the number of tidewater gobies that would be taken by capture, we cannot predict how many may be encountered for the reasons stated earlier. While the benefits of relocation outweigh the risk of capture, we must provide a limit for take by capture at which consultation would be reinitiated. For take due to capture, we anticipate that all tidewater gobies encountered in the action area will be captured, and that some injury or mortality will occur as a result of unpredictable circumstances. Because we are unable to reasonably anticipate the actual number of tidewater gobies that would be captured, we are using injury or mortality during capture as a measure of the take we anticipate.

Based on the proposed project activities, the assumption that tidewater gobies occur within the action area, and the uncertainty of how many tidewater gobies would be captured and moved out of harm's way, we have determined that if more than 5 tidewater gobies are found dead or more than 5 percent of the tidewater gobies that are captured die prior to relocation, the Corps must contact our office immediately to reinitiate formal consultation. Project activities that are likely to cause additional take should cease during this review period because the exemption provided under section 7(o)(2) would lapse and any additional take would not be exempt from the section 9 prohibitions.

#### REASONABLE AND PRUDENT MEASURES

The measures described below are non-discretionary, and must be undertaken by the Corps or made binding conditions of any grant or permit issued to the City, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the City to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Corps and the City must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(i)(3)].

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize the impacts of the incidental take of the tidewater goby:

1. The Corps must minimize the potential for take of tidewater goby in the action area as described in the Terms and Conditions below.

#### TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline reporting and monitoring requirements. These terms and conditions are non-discretionary.

1. The following terms and conditions implement reasonable and prudent measure 1:
  - a) To ensure effects to the tidewater goby are minimized, the Corps must ensure that the City and its contractors follow and implement all of the minimization measures specified above under the Description of the Proposed Action. If any of these measures are not followed at any time, work must immediately cease and the Service promptly contacted to determine how to proceed.
  - b) Only Service-approved biologists may survey for, capture, handle, move, or monitor tidewater gobies. The Corps must provide the qualifications of individuals that would be conducting these activities to the Service at least 15 working days prior to the commencement of project activities within the action area. No project activities will begin in areas that could support tidewater goby until the Corps has received approval from the Service that the biologist(s) are qualified to conduct the work. Please be advised that possession of a 10(a)(1)(A) permit for either species does not substitute for the implementation of this measure.
  - c) Don Alley is pre-approved to conduct any project activities and/or implement minimization measures for tidewater goby.

#### REPORTING REQUIREMENTS

Pursuant to 50 CFR 402.14(i)(3), the Corps must report the progress of the action, including compliance with the above measures and the impact of the action on the species, to the Service as specified in this incidental take statement to the Service's Ventura Fish and Wildlife Office (2493 Portola Road, Suite B, Ventura, California 93003) within 60 days following completion of the proposed project. The report must describe all activities that were conducted under this biological opinion, including activities and conservation measures that were described in the proposed action and required under the terms and conditions, and discuss any problems that were encountered in implementing conservation measures or terms and conditions and any other pertinent information. The report must also include the following information:

The number of tidewater gobies found, captured and relocated from the action area or injured or killed during project activities; the dates and times of capture, injury, or mortality; specific locations of capture, mortality, or injury; and a description and map of relocation sites.

#### DISPOSITION OF DEAD OR INJURED SPECIMENS

As part of this incidental take statement and pursuant to 50 CFR 402.14(i)(1)(v), upon locating a dead or injured tidewater goby, initial notification within 3 working days of its finding must be made by telephone and in writing to the Ventura Fish and Wildlife Office (805-644-1766). The report must include the date, time, location of the carcass, a photograph, cause of death or injury, if known, and any other pertinent information. Any remains of dead tidewater gobies must be placed with educational or research institutions holding the appropriate State and Federal permits.

#### CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

We recommend the Corps fulfill its section 7(a)(1) obligations by working with local agencies/governments and its applicants to incorporate recovery actions for the tidewater goby as identified in the species recovery plan into the project descriptions for future projects.

The Service requests notification of the implementation of any conservation recommendations so we may be kept informed of actions that would benefit or avoid/minimize adverse effects to listed species or their habitats.

#### REINITIATION NOTICE

This concludes formal consultation on the actions outlined in the request for formal consultation. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the Corp's action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the Corps' action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, the exemption issued pursuant to section 7(o)(2) may have lapsed and any further take could be a violation of section 4(d) or 9. Consequently, we recommend that any operations causing such take cease



Rick Bottoms

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pending reinitiation. If you have any questions about this biological opinion, please contact Chad Mitcham of my staff at 805-677-3328, or by electronic mail at [chad\\_mitcham@fws.gov](mailto:chad_mitcham@fws.gov).

Sincerely,



Stephen P. Henry  
Field Supervisor

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**BIOLOGICAL OPINION**

**ACTION AGENCY:** U.S. Army Corps of Engineers, San Francisco

**ACTION:** Sandberm Construction across the Mouth of Soquel Creek, City of Capitola, Santa Cruz County, California.

**CONSULTATION CONDUCTED BY:** National Marine Fisheries Service, Southwest Region

**TRACKING NUMBER:** 2013-9534

**DATE ISSUED:** May 3, 2013

**I. CONSULTATION HISTORY**

By letter dated December 18, 2012, the Department of the Army, Corps of Engineers' (Corps) requested initiation of formal consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Federal Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531, *et seq.*), regarding the sandberm construction across the mouth of Soquel Creek in the City of Capitola, Santa Cruz County, California. The Corps determined issuance of a 10-year permit pursuant to the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) to the City of Capitola (City) for the proposed project may adversely affect threatened Central California Coast (CCC) steelhead and their designated critical habitat. The City has a long history constructing, on a yearly basis, a sandberm at the mouth of Soquel Creek for the purpose of creating a wide beach during the summer season. The beach is a significant tourist attraction and the City has traditionally built the sandberm before Memorial Day weekend.

NMFS and the Corps have consulted on actions similar to the proposed action in 2001, as described in greater detail in the Environmental Baseline section of this biological opinion. On March 4, 2001, the Corps requested consultation regarding issuance of a 10-year permit for the Soquel Creek sandberm project (Corps File Number 25714S) regarding impacts to CCC steelhead and their designated critical habitat. On May 4, 2001, NMFS concluded consultation by determining the project may affect but was not likely to adversely affect threatened CCC steelhead, CCC coho salmon, steelhead designated critical habitat or Essential Fish Habitat (File Number 150301SWR01SR276). On May 18, 2012, the Corps issued the City a time extension for sandberm construction through June 17, 2012. Since the 2001 sandberm consultation, NMFS

learned the City had rescued and relocated steelhead in the lower reaches of Soquel Creek prior to dewatering to prevent their stranding. Due to the probability of future capture and relocation actions, NMFS is now requiring formal consultation.

On January 11, 2013, NMFS staff met with the City's public works director, public works annuitant, and biological consultant to examine the location of the proposed sandberm construction project and discuss various aspects of the proposed action. The project site is located on Capitola Beach where Soquel Creek enters the Pacific Ocean and encompasses the beach and lagoon. At the January 11, 2013, meeting NMFS requested additional information from the City to improve our evaluation of project impacts to listed salmonids, designated critical habitat, and Essential Fish Habitat. Requested information included a tally of the total number of steelhead relocated over the past 18 years of sandberm construction, a copy of the Capitola Flume Rehabilitation Concept Study, a copy of the most recent Soquel Lagoon Monitoring Report, a re-assessment of the *2004 Soquel Creek Lagoon Management and Enhancement Plan Update* (Alley 2004), and a copy of the most recent California Department of Fish and Wildlife streambed alteration agreement. NMFS informed City staff of the detection of CCC coho salmon in Soquel Creek in 2008, and a consequent action by NMFS to expand the ranges of the species southern boundary to include the Soquel Creek watershed.

By email messages and telephone calls between January and March, 2013, NMFS received the requested information from the City of Capitola and initiated ESA consultation with the Corps on March 1, 2013. NMFS requested independent review of the Capitola Flume Rehabilitation study by a consulting licensed engineer and received a report on February 21, 2013.

## II. DESCRIPTION OF PROPOSED ACTION

The Corps proposes to issue a permit under Section 404 of the Clean Water Act (CWA) and Section 10 of the Harbors and Rivers Act (HRA) to the City to place approximately 3,500 cubic yards of beach sand across the mouth of Soquel Creek on a yearly basis for ten years. The purpose of the project is to construct a sandberm to reroute the creek's natural connection to the Pacific Ocean and redirect surface flows through a 225 foot-long concrete flume. The primary purpose for rerouting the creek is to create and improve recreational opportunities at the beach and in the lagoon. Placement of the sandberm will create a wide beach and form the lagoon more rapidly than occurs under natural conditions.<sup>1</sup> According to the City, secondary benefits of the proposed action include enhancement of wildlife habitat and also providing a potential water source for emergency fire protection. Instream construction is scheduled to annually occur no earlier than May 20 and is expected to occur over a three day period. The applicant's placement of the sandberm will seasonally dewater the lower-most 700 feet of Soquel Creek. Fish, including CCC steelhead and CCC coho salmon, in the lower-most 700 feet of Soquel Creek will be collected and relocated prior to dewatering. The City will manage boards in the inlet of the

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<sup>1</sup> Creation of the sandberm will stop water from flowing down the natural lower channel and cause water upstream of the sandberm to back up and form a lagoon.

concrete flume to facilitate salmonid outmigration and maintain consistent water surface elevation through the summer and fall. In the fall, prior to the onset of the rainy season, the City will construct a 30-foot wide notch in the sandberm to facilitate a natural breach of the sandberm and allow Soquel Creek to flow naturally into the Pacific Ocean. NMFS does not anticipate any interrelated or interdependent actions associated with the proposed action.

#### **A. Description of Proposed Work**

All grading to create the sandberm will occur with a bulldozer operating from the beach. Equipment will access the beach via ramps located on the north side of the beach. No grading of the channel bottom will occur within the lagoon embayment. During the three-day construction period, the City will close the lower creek each day before the incoming tide can wash salt water and kelp into the lagoon. The City will re-open the sandbar and unplug the flume during each morning of construction, as necessary to facilitate draining existing kelp and sea grass out of the lagoon and to prevent additional kelp and seagrass from entering during the construction period. Approximately 3,500 cubic yards of beach sand will be bulldozed to construct the sandberm during daylight hours. The sandberm's final elevation will be approximately 4.5 feet above the mean-high tide line to reduce the likelihood of tidal overwash during the summer.

Prior to constructing the sandberm and dewatering lower Soquel Creek which flows across Capitola Beach, a qualified fisheries biologist will conduct visual surveys each day in the lower-most 700 feet to determine whether Central California Coast (CCC) coho salmon are present. If coho salmon are detected, dewatering of lower Soquel Creek will be delayed until the coho salmon volitionally outmigrate into the Pacific Ocean. If coho salmon are not detected, a qualified fisheries biologist will collect and relocate steelhead and other fish away from the work site each day during the three day construction period. Fish will be collected by seines and dip nets. Collected steelhead will be relocated to a suitable location in the lagoon embayment, upstream of the worksite. Yearly construction is anticipated to take three days during May and will not be initiated before May 20 and will typically be completed before Memorial Day weekend. Construction will not occur until flows in Soquel Creek drop below 30 cubic feet per second (cfs). In years when flows exceed 30 cfs in May, sandberm construction may be delayed until mid-June or later.

Following construction, water from Soquel Creek will flow down the flume to the Pacific Ocean throughout the summer and fall until sustained stream flows in Soquel Creek breach the sandberm. During the summer and fall, water surface elevations in the lagoon will be maintained through placement of boards at the upstream end of the flume. Water surface elevations and boards will be checked daily by City staff or a qualified fisheries biologist. The boards will be set to facilitate outmigrating adult passage until June 15<sup>th</sup> and smolt outmigration until July 1. Kelp and seagrass removed from the lagoon and flume are raked out by hand crews and dispersed across Capitola Beach.

The flume is evaluated on a yearly basis prior to sandberm construction to evaluate its structural integrity and to ensure no blockages in the flume exist. Sand within the flume will be washed out into the ocean with water from lower Soquel Creek. All pumps will be screened according to NMFS screening criteria. The City will use hand crew to fill in voids under the flume. Sand adjacent to the flume will be compacted using a track roller.

Flume and lagoon management is an associated action with sandberm construction and has been an ongoing activity for more than 60 years. Flume and lagoon management closely follow conditions set forth in the *2004 Soquel Creek Lagoon Management and Enhancement Program – Update* (D. W. Alley and Associates 2004) and these conditions will be followed over the 10-year permit period. Lagoon management has included ongoing oversight by a qualified fisheries biologist since 1991. Lagoon management consists of numerous actions including periodically manipulating the flume inlet for the purposes of: (a) accelerating the transition rate of the water in the lagoon from brackish to freshwater, (b) providing outmigration passage conditions for smolts and adult steelhead, and (c) preventing flooding of business and residences in the City.

During the fall, the City will cut a partial notch, 30-feet wide, into the sandberm using a bulldozer to facilitate reconnecting Soquel Creek to the Pacific Ocean at a predetermined elevation and in a predetermined direction. The purpose of a partial notch is to allow the breach to occur in a quasi-natural fashion, without the immediate aid of mechanized equipment, in response to increased flows in Soquel Creek following winter storms. The City has documented through yearly monitoring reports, that their notching strategy has successfully maintained depths of one to two feet in the lagoon and has not completely drained the lower lagoon as it transitions into an estuary. The flume will be closed with boards to allow the lagoon water surface elevation to increase prior to the onset of a winter storm and the creek connection will remain disconnected until the sandberm breaches. The flume will remain non-operational until the following year when the sandberm is reconstructed. Construction equipment will access the site from the north side of the beach during spring sandberm construction and fall sandberm notching.

#### **B. Action Area**

The proposed project is located in the City of Capitola, Santa Cruz County, California, on Capitola Beach. The approximate midpoint of site coordinates where sand bar construction will occur are 36°58'17.52" N latitude and 121°57'08.21" W longitude. The action area extends along approximately 4,350 linear feet of Soquel Creek starting from the creeks confluence with the Pacific Ocean, across the beach channel, to the constructed sandberm, and upstream to the upper extent of the lagoon. The action area encompasses the stream's bed and left and right banks and the associated riparian corridor along the entire distance of lower Soquel Creek. The area of direct impact due to sandbar construction, seasonal stream mouth relocation, flume operation and management, fish capture and relocation, and construction activities is approximately 1,000 linear feet along Capitola beach, moving from the northern portion of the beach down south to the breakwater. Indirect effects arising from project sandberm construction



are expected to occur in the upper lagoon area where water will impound earlier over stream substrates than would occur under natural conditions.

### III. ANALYTICAL FRAMEWORK

#### A. Jeopardy Analysis

In accordance with policy and regulation, the jeopardy analysis in this biological opinion relies on four components: (1) the Status of the Species, which evaluates the CCC steelhead (*Oncorhynchus mykiss*) Distinct Population Segment's (DPS) and CCC coho salmon (*O. kisutch*) Evolutionarily Significant Unit's (ESU) range-wide conditions, the factors responsible for that condition, and the species' likelihood of both survival and recovery; (2) the Environmental Baseline, which evaluates the condition of these listed species in the action area, the factors responsible for that condition, and the relationship of the action area to the likelihood of both survival and recovery of these listed species; (3) the Effects of the Action, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on these species in the action area; and (4) Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on these species.

The jeopardy determination is made by adding the effects of the proposed Federal action and any Cumulative Effects to the Environmental Baseline and determining if the resulting changes in species status in the action area are likely to cause an appreciable reduction in the likelihood of both the survival and recovery of these listed species in the wild.

The jeopardy analysis in this biological opinion places an emphasis on the range-wide likelihood of both survival and recovery of these listed species and the role of the action area in the survival and recovery of these listed species. The significance of the effects of the proposed Federal action is considered in this context, taken together with cumulative effects, for purposes of making the jeopardy determination. We use a hierarchical approach that focuses first on whether or not the effects on salmonids in the action area will impact their respective population. If the population will be impacted, we assess whether this impact is likely to affect the ability of the population to support the survival and recovery of the DPS or ESU.

#### B. Adverse Modification Analysis

This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 C.F.R. 402.02, which was invalidated by *Gifford Pinchot Task Force v. USFWS*, 378 F.3d 1059 (9th Cir. 2004), amended by 387 F.3d 968 (9th Cir. 2004). Instead, we have relied upon the statutory provisions of the ESA to complete the following analysis with respect to critical habitat. Critical habitat has not been designated for CCC coho salmon in Soquel Creek and therefore, the adverse modification analysis is only applied to CCC

steelhead.

The adverse modification analysis in this biological opinion relies on four components: (1) the Status of Critical Habitat, which evaluates the range-wide and watershed-wide condition of critical habitat for the CCC steelhead DPS in terms of primary constituent elements (PCEs – sites for spawning, rearing, and migration), the factors responsible for that condition, and the resulting conservation value of the critical habitat overall; (2) the Environmental Baseline, which evaluates the condition of critical habitat in the action area, the factors responsible for that condition, and the conservation value of critical habitat in the action area; (3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the PCEs in the action area and how that will influence the conservation value of affected critical habitat units; and (4) Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on the PCEs and how that will influence the conservation value of affected critical habitat units.

For purposes of the adverse modification determination, we add the effects of the proposed Federal action on CCC steelhead critical habitat in the action area, and any Cumulative Effects, to the Environmental Baseline and then determine if the resulting changes to the conservation value of critical habitat in the action area are likely to cause an appreciable reduction in the conservation value of critical habitat range-wide. If the proposed action will negatively affect PCEs of critical habitat in the action area we then assess whether or not this reduction will impact the value of the DPS or ESU critical habitat designation as a whole.

### **C. Use of Best Available Scientific and Commercial Information**

To conduct the assessment, NMFS examined an extensive amount of information from a variety of sources. Detailed background information on the biology and status of the listed species and critical habitat has been published in a number of documents including peer reviewed scientific journals, primary reference materials, and governmental and non-governmental reports. Additional information regarding the effects of the project's actions on the listed species in question, their anticipated response to these actions, and the environmental consequences of the actions as a whole was formulated from the aforementioned resources, and the following:

- 1) *Recovery Plan for the Evolutionarily Significant Unit of Central California Coast Coho Salmon*. National Marine Fisheries Service, Santa Rosa, California. September, 2012.
- 2) *Capitola Flume Rehabilitation-Concept Study*. Memorandum prepared for Steve Jesberg, City of Capitola. Prepared by Brad Porter, P.E., Moffatt & Nichol. M&N Job No.: 6628-01. January 25, 2013.
- 3) Engineering review of *Capitola Flume Rehabilitation-Concept Study*. Memorandum to National Marine Fisheries Service by Harry Robinson, P.E. February 21, 2013.



- 4) *2004 Soquel Creek Lagoon Management and Enhancement Plan Update*. Prepared for City of Capitola, Capitola, California. Prepared by D.W. Alley & Associates. Project #192-01. June, 2004.
- 5) *Soquel Lagoon Monitoring Report-2012*. Prepared for City of Capitola, Capitola, California. Prepared by D.W. Alley & Associates. Project #106-22. January, 2013. Numerous other *Soquel Lagoon Monitoring Reports* by D.W. Alley & Associates were reviewed including reports from 1996, 1998, 2000, 2001a, 2002, 2004, 2005, and 2010.
- 6) *Soquel Creek Watershed Assessment: Geomorphology and Baseflow Hydrology*. Prepared for Santa Cruz County Resource Conservation District, Capitola, California. Prepared by Balance Hydrologics. Project Assignment 200021. March 6, 2003.

Information was also provided in email messages, site visits, and telephone conversations between January, 2013, and March, 2013. For information taken directly from published, citable documents, those citations have been referenced in the text and listed at the end of this document. A complete administrative record of this consultation is on file at the NMFS North Central Coast Office (Administrative Record Number 151422SWR2013SR00081).

#### **IV. STATUS OF THE SPECIES AND CRITICAL HABITAT**

This biological opinion analyzes the effects of the City's sandberm construction project and flume operation on the CCC coho salmon ESU, CCC steelhead DPS, and designated critical habitat for CCC steelhead. This biological opinion does not analyze the effects of the City's sandberm construction project and flume operation on CCC coho salmon critical habitat because critical habitat is not designated in the Soquel Creek watershed. CCC steelhead are listed as threatened under the Endangered Species Act of 1973 (ESA), as amended (71 FR 834). The CCC steelhead DPS includes steelhead in coastal California streams from the Russian River to Aptos Creek, and the drainages of Suisun Bay, San Pablo Bay, and San Francisco Bay. CCC steelhead occur in Soquel Creek and are expected to be present at the City's project site during construction and throughout the summer period when the flume is in operation. Soquel Creek, including the project area, is designated as critical habitat for CCC steelhead (70 FR 52488).

CCC coho salmon are listed as endangered under the ESA (70 FR 37160). CCC coho salmon were detected in Soquel Creek during the summer of 2008, and in response to this detection and other factors their range was extended to include Soquel Creek in 2012 (76 FR 2011). The CCC coho salmon ESU ranges from Punta Gorda in southern coastal Humboldt County to Aptos Creek in Santa Cruz County, and the drainages of San Francisco Bay. CCC coho salmon may be present at some time in the action area over the ten year life of the proposed action.

## A. Species Description and Life History

Steelhead and coho salmon are anadromous fish, spending some time in both fresh- and saltwater. The older juvenile and adult life stages occur in the ocean, until the adults ascend freshwater streams to spawn. Eggs (laid in gravel nests called redds), alevins (gravel dwelling hatchlings), fry (juveniles newly emerged from stream gravels), and young juveniles all rear in freshwater until they become large enough to migrate to the ocean to finish rearing and maturing to adults. Both smolts and adults go through physiological changes as they emigrate from fresh- to saltwater (smolts) and immigrate from salt- to freshwater (adults). The timing of migrations, freshwater habitat preferences for spawning and rearing, the duration of freshwater and ocean rearing, distribution in the ocean, age at maturity, and other traits vary by species. Coho salmon die after spawning, whereas steelhead can sometimes survive to spawn again (Shapovalov and Taft 1954, Sandercock 1991, Busby *et al.* 1996).

### 1. Steelhead

General reviews for steelhead in California document much variation in life history (Shapovalov and Taft 1954, Barnhart 1986, Busby *et al.* 1996, McEwan 2001). Although variation occurs in coastal California, steelhead usually live in freshwater for one to three years in central California, then spend an additional one to three years in the ocean before returning to their natal stream to spawn. Steelhead may spawn one to four times over their life. Adult CCC steelhead typically immigrate from the ocean to freshwater between December and April, peaking in January and February, and juveniles migrate as smolts to the ocean from January through May, with peak emigration occurring in April and May (Fukushima and Lesh 1998). In Waddell Creek, in Santa Cruz County, Shapovalov and Taft (1954) found steelhead juveniles migrating downstream at all times of the year, with the most juvenile steelhead emigrating during spring and summer.

Steelhead and fry rear in edgewater habitats and move gradually into pools and riffles as they grow larger. Cover is an important habitat component for juvenile steelhead both as a velocity refuge and as a means of avoiding predation (Shirvell 1990, Meehan and Bjornn 1991). Steelhead, however, tend to use riffles and other habitats not strongly associated with cover during summer rearing more than other salmonids. Young steelhead feed on a wide variety of aquatic and terrestrial insects, and emerging fry are sometimes preyed upon by older juveniles. Rearing steelhead juveniles prefer water temperatures of 7.2-14.4 degrees Celsius ( $^{\circ}$  C). They can survive in water up to 27 $^{\circ}$  C with saturated dissolved oxygen conditions and a plentiful food supply. Fluctuating diurnal water temperatures also aid in survivability of salmonids (Busby *et al.* 1996).

### 2. Coho Salmon

The life history of the coho salmon in California has been well documented (Shapovalov and Taft 1954, Hassler 1987, Weitkamp *et al.* 1995). In contrast to the life history patterns of other anadromous salmonids, coho salmon in California generally exhibit a relatively simple three year

life cycle. Adult salmon typically begin the immigration from the ocean to their natal streams after heavy late-fall or winter rains breach the sand bars at the mouths of coastal streams (Sandercock 1991). Coho salmon are typically associated with small to moderately-sized coastal streams characterized by heavily forested watersheds; perennially-flowing reaches of cool, high-quality water; dense riparian canopy; deep pools with abundant overhead cover; instream cover consisting of large, stable woody debris and undercut banks; and gravel or cobble substrates (Sandercock 1991). Immigration continues into March, generally peaking in December and January, with spawning occurring shortly after arrival at the spawning ground (Shapovalov and Taft 1954).

The eggs generally hatch after four to eight weeks, depending on water temperature. Survival and development rates depend, in part, on fine sediment levels within the redd. Under optimum conditions, mortality during this period can be as low as 10 percent; under adverse conditions of high scouring flows or heavy siltation, mortality may be close to 100 percent (Baker and Reynolds 1986). McMahon (1983) found that egg and fry survival drops sharply when fines make up 15 percent or more of the substrate. The newly-hatched fry remain in the redd from two to seven weeks before emerging from the gravel (Shapovalov and Taft 1954). Upon emergence, fry seek out shallow water, usually along stream margins. As they grow, juvenile coho salmon often occupy habitat at the heads of pools, which generally provide an optimum mix of high food availability and good cover with low swimming cost (Nielsen 1992). Juvenile coho salmon prefer well shaded pools at least 1 meter (m) deep with dense overhead cover; abundant submerged cover composed of undercut banks, logs, roots, and other woody debris; and preferred water temperatures of 12-15° Celsius (C) (Brett 1952, Bell 1991, Reiser and Bjornn 1979, McMahon 1983), but not exceeding 22-25° C (Brungs and Jones 1977) for extended time periods. Growth is slowed considerably at 18° C and ceases at 20° C (Stein *et al.* 1972, Bell 1991).

In the spring, as yearlings, juvenile coho salmon undergo a physiological process, or smoltification, which prepares them for living in the marine environment. In Waddell Creek, coho salmon smolts migrate to the ocean from March through June, peaking in April and May (Shapovalov and Taft 1954). Emigration timing is correlated with precipitation events and peak upwelling currents along the coast. Entry into the ocean at this time facilitates more growth and, therefore, greater marine survival (Holtby *et al.* 1990).

## **B. Species Status**

In this biological opinion, NMFS assesses four population viability parameters to help us understand the status of CCC steelhead and CCC coho salmon and the population's ability to survive and recover. These population viability parameters are: abundance, population growth rate, spatial structure, and diversity (McElhany *et al.* 2000). NMFS has used existing information to determine the general condition of each population and factors responsible for the current status of each DPS or ESU.

We use these population viability parameters as surrogates for numbers, reproduction, and distribution, the criteria found within the regulatory definition of jeopardy (50 CFR 402.20). For example, the first three parameters are used as surrogates for numbers, reproduction, and distribution. We relate the fourth parameter, diversity, to all three regulatory criteria. Numbers, reproduction, and distribution are all affected when genetic or life history variability is lost or constrained resulting in reduced population resilience to environmental variation at local or landscape-level scales.

### 1. CCC Steelhead

Historically, approximately 70 populations<sup>2</sup> of steelhead existed in the CCC steelhead DPS (Spence *et al.* 2008, Spence *et al.* 2012). Many of these populations (about 37) were independent, or potentially independent, meaning they had a high likelihood of surviving for 100 years absent anthropogenic impacts (Bjorkstedt *et al.* 2005). The remaining populations were dependent upon immigration from nearby CCC steelhead DPS populations to ensure their viability (McElhaney *et al.* 2000, Bjorkstedt *et al.* 2005).

While historical and present data on abundance are limited, CCC steelhead numbers are substantially reduced from historical levels. A total of 94,000 adult steelhead were estimated to spawn in the rivers of this DPS in the mid-1960s, including 50,000 fish in the Russian River - the largest population within the DPS (Busby *et al.* 1996). Recent estimates for the Russian River are on the order of 4,000 fish (NMFS 1997). Abundance estimates for smaller coastal streams in the DPS indicate low but stable levels with recent estimates for several streams (Lagunitas, Waddell, Scott, San Vicente, Soquel, and Aptos creeks) of individual run sizes of 500 fish or less (62 FR 43937). Some loss of genetic diversity has been documented and attributed to previous among-basin transfers of stock and local hatchery production in interior populations in the Russian River (Bjorkstedt *et al.* 2005). In San Francisco Bay streams, reduced population sizes and fragmentation of habitat has likely also led to loss of genetic diversity in these populations. For more detailed information on trends in CCC steelhead abundance, see: Busby *et al.* 1996, NMFS 1997, Good *et al.* 2005, Spence *et al.* 2008, Williams *et al.* 2011.

CCC steelhead have experienced serious declines in abundance and long-term population trends suggest a negative growth rate. This indicates the DPS may not be viable in the long term. DPS populations that historically provided enough steelhead immigrants to support dependent populations may no longer be able to do so, placing dependent populations at increased risk of extirpation. However, because CCC steelhead remain present in most streams throughout the DPS, roughly approximating the known historical range, CCC steelhead likely possess a resilience that is likely to slow their decline relative to other salmonid DPSs or ESUs in worse condition. The 2005 status review concluded that steelhead in the CCC steelhead DPS remain

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<sup>2</sup> Population as defined by Bjorkstedt *et al.* 2005 and McElhaney *et al.* 2000 as, in brief summary, a group of fish of the same species that spawns in a particular locality at a particular season and does not interbreed substantially with fish from any other group. Such fish groups may include more than one stream. These authors use this definition as a starting point from which they define four types of populations (not all of which are mentioned here).



“likely to become endangered in the foreseeable future” (Good *et al.* 2005). On January 5, 2006, NMFS issued a final determination that the CCC steelhead DPS is a threatened species, as previously listed (71 FR 834).

A more recent viability assessment of CCC steelhead concluded that populations in watersheds that drain to San Francisco Bay are highly unlikely to be viable, and that the limited information available did not indicate that any other CCC steelhead populations could be demonstrated to be viable<sup>3</sup> (Spence *et al.* 2008). Although there were average returns (based on the last ten years) of adult CCC steelhead during 2007/08, research monitoring data from the 2008/09 and 2009/10 adult CCC steelhead returns shows a decline in returning adults across their range compared to the last ten years (Jeffrey Jahn, personal communication, 2010). The most recent status update concludes that steelhead in the CCC steelhead DPS remains “likely to become endangered in the foreseeable future” (Williams *et al.* 2011), as new and additional information available since Good *et al.* (2005) does not appear to suggest a change in extinction risk. On December 7, 2011, NMFS chose to maintain the threatened status of the CCC steelhead (76 FR 76386).

## 2. CCC Coho Salmon

Historically, the CCC coho salmon ESU was comprised of approximately 76 coho salmon populations. Most of these were dependent populations that needed immigration from other nearby populations to ensure their long term survival, as described above. Historically, there were 11 functionally independent populations and one potentially independent population of CCC coho salmon (Spence *et al.* 2008). Most of the populations in the CCC coho salmon ESU are currently doing poorly. Low abundance is common, and some populations have been extirpated, as described below. A comprehensive review of estimates of historic abundance, decline, and present abundance of coho salmon in California is provided by Brown *et al.* (1994). They estimated that annual spawning numbers of coho salmon in California ranged between 200,000 and 500,000 fish in the 1940's, which declined to about 100,000 fish by the 1960's, followed by a further decline to about 31,000 fish by 1991. Brown *et al.* (1994) concluded that the abundance of California coho salmon had declined more than 94 percent since the 1940's, with the greatest decline occurring since the 1960's. Recent NMFS status reviews (NMFS 2001, NMFS 2003, Good *et al.* 2005, Spence and Williams 2011) indicate that the CCC coho salmon are likely continuing to decline in number. The Federal recovery plan for CCC coho salmon reported that the 2010 spawning cohort had declined to approximately 500 individuals across the ESU (NMFS 2012a).

CCC coho salmon have also experienced acute range restriction and fragmentation (Brown and Moyle 1991). Adams *et al.* (1999) found in the mid-1990's coho salmon were present in 51 percent (98 of 191) of the streams where they were historically present, and documented an additional 23 streams within the CCC coho salmon ESU in which coho salmon were found for which there were no historical records.

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<sup>3</sup> Viable populations have a high probability of long-term persistence (> 100 years).

Recent genetic research in progress by both the NMFS Southwest Fisheries Science Center and the Bodega Marine Laboratory has documented a reduction in genetic diversity within subpopulations of the CCC coho salmon ESU (Bjorkstedt *et al.* 2005). The influence of hatchery fish on wild stocks has also contributed to the lack of diversity through outbreeding depression and disease. Available information suggests that CCC coho salmon abundance is very low, and the ESU is not able to produce enough offspring to maintain itself (population growth rates are negative). CCC coho salmon have experienced range constriction, fragmentation, and a loss genetic diversity.

Many dependent and some independent populations that supported the species' overall abundance and geographic distributions have been extirpated. The near-term (10-20 years) viability of many of the extant independent CCC coho salmon populations (Pescadero Creek, Gualala River, Russian River, and San Lorenzo River) is of serious concern. Populations categorized as historically dependent comprise the remaining populations at the southern portion of the CCC coho salmon range, further compromising long-term survival in this area. In the Santa Cruz Mountains Diversity Stratum<sup>4</sup> coho salmon are believed to only persist in Scott Creek and San Vicente Creek. Scott Creek maintains the last watershed in the diversity stratum with all three cohorts (Smith 2013).

Recent information clearly documents CCC coho salmon abundance is very low, and the ESU is not able to produce enough offspring to maintain itself (population growth rates are negative). CCC coho salmon have experienced range constriction, fragmentation, and a loss of genetic diversity. Many subpopulations that may have acted to support the species' overall numbers and geographic distribution have been lost. The extant subpopulations of CCC coho salmon may not have enough fish to survive additional natural and human caused environmental change. Recent status reviews for CCC coho salmon conclude the ESU is presently in danger of extinction (NMFS 2001, NMFS 2003, NMFS 2005, Spence and Williams 2011). On June 28, 2005, NMFS issued a final listing determination for CCC coho salmon, changing their status from threatened to endangered (70 FR 37160). The most recent status review (Spence and Williams 2011) document conditions for CCC coho salmon have worsened since the last status review in 2005 (2005). Poor returns from 2006 to 2010 indicate adult abundance for CCC coho salmon ESU have continued to decline to the extent that risk of extinction has increased since Good *et al.* concluded CCC coho were in danger of extinction in 2005. Based on this information, NMFS chose to maintain the endangered listing of CCC coho salmon (76 FR 50447).

Wild coho salmon in the Santa Cruz Mountains Diversity Stratum are nearly extirpated. The Santa Cruz Mountains Diversity Stratum is the most southern of the five identified diversity strata in the CCC coho salmon ESU. Historically, coho salmon were present in 12 to 14 watersheds in coastal San Mateo and Santa Cruz Counties and the range may have extended further south (NMFS 2012a). Today, coho salmon are known to occupy only two watersheds in

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<sup>4</sup> Diversity strata are large geographic areas comprised of groups of salmonid populations located in watersheds with similar environmental and ecological characteristics (Bjorkstedt *et al.*, 2005). Each ESU or DPS in the North-Central California Coast Recovery Domain have multiple diversity strata.

the Santa Cruz Mountains; San Vicente Creek and Scott Creek (Smith 2013; Kiernan, personal communication 2013)

Juvenile coho salmon were documented in East Branch Soquel in the summer of 2008 (77 FR 19552) by NOAA's Southwest Fisheries Science Center. These juvenile fish were the product of a successful reproduction attempt by at least two adults. This was a significant finding which ultimately led to NMFS expanding the range of the species further south to Aptos Creek (77 FR 19552) from its original southern extent at the San Lorenzo River.

### **C. Critical Habitat Status**

In designating critical habitat, NMFS considers, among other things, the following requirements of the species: 1) space for individual and population growth, and for normal behavior; 2) food, water, air, light, minerals, or other nutritional or physiological requirements; 3) cover or shelter; 4) sites for breeding, reproduction, or rearing offspring; and, generally, 5) habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of this species (50 CFR 424.12(b)). In addition to these factors, NMFS also focuses on PCEs and/or essential habitat features within the designated area that are essential to the conservation of the species and that may require special management considerations or protection.

PCEs for CCC steelhead critical habitat and their associated essential features include (70 FR 52488):

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development;
2. Freshwater rearing sites with:
  - a. Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility;
  - b. Water quality and forage supporting juvenile development; and
  - c. Natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
3. Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.
4. Estuarine areas free of obstruction and excessive predation with:
  - a. Water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater;
  - b. Natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders and side channels; and
  - c. Juvenile and adult forage, including aquatic macroinvertebrates and fishes,

supporting growth and maturation.

The condition of CCC steelhead critical habitat, specifically the ability to provide for these species conservation, has been degraded from conditions known to support viable salmonid populations. NMFS has determined that present depressed population conditions are, in part, the result of the following human-induced factors affecting critical habitat<sup>5</sup>: logging, agricultural and mining activities, urbanization, stream channelization and modification, dams, wetland loss, and water withdrawals, including unscreened diversions for irrigation. Impacts of concern include alteration of stream bank and channel morphology, alteration of water temperatures, loss of spawning and rearing habitat, fragmentation of habitat, loss of downstream recruitment of spawning gravels, loss of large woody debris, degradation of water quality, removal of riparian vegetation resulting in increased stream bank erosion, increases in erosion and sedimentation in streams from upland areas, loss of shade (higher water temperatures) and loss of nutrient inputs (Busby *et al.* 1996, 70 FR 52488). Water development has drastically altered natural hydrologic cycles in many of the streams in the CCC steelhead DPS (NMFS 2012a). Alteration of flows results in migration delays, loss of suitable habitat due to dewatering and blockage; stranding of fish from rapid flow fluctuations; entrainment of juveniles into poorly screened or unscreened diversions, and increased water temperatures harmful to salmonids. Overall, current condition of CCC steelhead critical habitat is degraded, and does not provide the full extent of conservation value necessary for the recovery of these species.

#### **D. Additional Threats to CCC Steelhead/CCC Coho Salmon at the DPS/ESU Scale**

Global climate change presents an additional potential threat to listed salmonids and their habitat. Modeling of climate change impacts in California suggests that average summer air temperatures are expected to increase (Lindley *et al.* 2007). Heat waves are expected to occur more often, and heat wave temperatures are likely to be higher (Hayhoe *et al.* 2004). Total precipitation in California may decline; critically dry years may increase (Lindley *et al.* 2007, Schneider 2007). The Sierra Nevada snow pack may decrease by as much as 70 to 90 percent by the end of this century under the highest emission scenarios modeled (Luers *et al.* 2006). Wildfires are expected to increase in frequency and magnitude, by as much as 55 percent under the medium emissions scenarios modeled (Luers *et al.* 2006). Vegetative cover may also change, with decreases in evergreen conifer forest and increases in grasslands and mixed evergreen forests. The likely change in amount of rainfall in Northern and Central Coastal streams under various warming scenarios is less certain, although as noted above, total rainfall across the state is expected to decline. For the California North Coast, some models show large increases (75 to 200 percent) in rainfall amounts while other models show decreases of 15 to 30 percent (Hayhoe *et al.* 2004). Many of these changes are likely to further degrade CCC steelhead and CCC coho salmon habitat by, for example, reducing stream flows during the summer and raising summer water temperatures. Estuaries may also experience changes detrimental to salmonids. Estuarine

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<sup>5</sup> Other factors, such as over fishing and artificial propagation have also contributed to the current population status of this species. All these human induced factors have exacerbated the adverse effects of natural factors such as drought and poor ocean conditions.



productivity is likely to change based on changes in freshwater flows, nutrient cycling, and sediment amounts (Scavia *et al.* 2002). In marine environments, ecosystems and habitats important to sub adult and adult salmonids are likely to experience changes in temperatures, circulation and chemistry, and food supplies (Feely *et al.* 2004, Brewer 2008, Osgood 2008, Turley 2008). The projections described above are for the mid to late 21<sup>st</sup> Century. In shorter time frames, climate conditions not caused by the human addition of carbon dioxide to the atmosphere are more likely to predominate (Cox and Stephenson 2007; Smith *et al.* 2007).

## V. ENVIRONMENTAL BASELINE

The environmental baseline is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species, its habitat (including designated critical habitat), and ecosystem in the action area. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impacts of State or private actions which are contemporaneous with the consultation in process (50 CFR 402.02).

Soquel Creek flows into the Pacific Ocean at Monterey Bay and is the second largest watershed located entirely within Santa Cruz County. The watershed is characterized by rapid geologic uplift, deep valleys, and seismic activity in areas with relatively weak rock leading to conditions that result in frequent landslides (Balance Hydrologics, Inc. 2003). The climate is Mediterranean, with over 90 percent of annual precipitation occurring between November and April. Cool, moist coastal fog generally alternates with clear, warm weather during the months of May through September, and significant rainfall during that time is rare. Stream flow in the watershed is highly variable and can quickly alternate between low base flow conditions to high flows that quickly recede. Recorded flows ranged from an estimated 15,000 cfs during the 1955 flood to 0 cfs during drought years at the USGS gage in the town of Soquel (gage number 11160000) (Balance Hydrologics, Inc. 2003). Water diversions were identified as one of the most significant limiting factors for coho salmon survival and recovery in the watershed (NMFS 2012a). These diversions have resulted in decreased baseflows as discussed by Balance Hydrologics, Inc. (2003) who documented, following the decade of the 1950's, annual minimum baseflows decreased significantly. Baseflows in the 1950's ranged between two to four cfs and now minimum summer baseflows range from zero to two cfs at the USGS gage (Balance Hydrologics, Inc. 2003).

Upper Soquel Creek is located in a rift zone composed of three distinctive geologic blocks separated by the San Andreas and Zayante fault zones (Balance Hydrologics, Inc. 2003). Rapid uplift, weak rock, deeply incised canyons, and seismic activity act together to create an environment where large landslides are prevalent (Balance Hydrologics, Inc. 2003). Landslides are identified as a source of chronic fine and coarse sediment input (Balance Hydrologics, Inc. 2003) and the rate of input is exacerbated by a high road density (many poorly maintained) and

rural residential development (NMFS 2012). These sources of fine sediment are likely the primary cause of poor spawning substrate conditions in the lower watershed. A significant proportion of the spawning substrates are covered with fine sediment which is generally unsuitable for spawning (E. Morrison, personal communication 2013). Progressively higher percentages of sediments have been documented to result in progressively lower egg survival in redds compared to redds with lower fine sediment (Tappel and Bjornn 1983). The fisheries consultant for the City has failed to detect evidence of spawning activity in the action area over the last 18 years (E. Morrison, personal communication 2013).

A review of historical photographs indicates the Soquel lagoon was much larger and habitat conditions were more diverse than occurs currently (Alley 2004). A large portion of the wetlands associated with lower Soquel Creek were converted to urban uses and the City became a popular tourist destination due in part to its beach (Alley 2004). The City began a program of manipulating the sandbar in the 1950s to maximize the size of the beach by building up a large sandbar as a means to manage the outlet of Soquel Creek. Under historical conditions the Soquel sandbar likely formed in response to tidal conditions and decreased stream flow. As in other watersheds in coastal San Mateo and Santa Cruz Counties with unmanipulated sandbars, timing of lagoon closure is highly variable and strongly influenced by site topography, ocean conditions, offshore currents, and stream flow. The timing of the closure in Soquel Creek is more rigid and predictable as evidenced by the history of sandbar construction which has only been delayed in recent years when stream flows were above 30 cfs.

#### **A. Status of Listed Species and Critical Habitat in Action Area**

##### **1. Steelhead**

Soquel Creek, one of 14 watersheds in the Santa Cruz Mountains Diversity Stratum (Bjorkstedt *et al.*, 2005), was historically one of the most important steelhead spawning and rearing streams in Santa Cruz County (Titus *et al.*, 2010). Based on data collected during surveys in 1959, the juvenile abundance corresponded to an adult steelhead run of approximately 500-1,000 spawning pairs (Becker and Reining 2008). A 1996 estimate of the steelhead run size in Soquel Creek was about 100 individuals (Becker and Reining 2008). The Soquel Creek lagoon typically produces 10-35 percent of the smolt-sized juveniles in the mainstream each year (Becker and Reining 2008). A mark/recapture study of the lagoon's juvenile steelhead population has been ongoing since 1992. The annual estimates of juvenile abundance have ranged from a low of  $220 \pm 94$  (standard error) in 2012, to a high of  $7,071 \pm 1,574$  in 2007 (Alley 2013). Overall, the lagoon maintains suitable rearing conditions for juvenile steelhead.

##### **2. Coho Salmon**

Coho salmon have not been detected in the action area (Alley 2012) but were detected 7.6 miles upstream in East Branch Soquel Creek in 2008 (77 FR 19552). Currently, there are ongoing efforts to re-establish coho salmon populations through outplanting in a few select watersheds

(e.g., Scott Creek, San Vicente Creek, and possibly Gazos Creek and Waddell Creek) in the Santa Cruz Mountains Diversity Stratum. While we do not anticipate coho salmon will be outplanted into Soquel Creek during the next ten years (J. Kiernan, personal communication 2013) it is reasonable to conclude some adults may stray and successfully spawn in Soquel Creek and their progeny may be present in the action area at some point over the 10-year permit period. Water temperatures may be too warm in Soquel lagoon to support coho salmon during the summer, despite adequate food sources that could partially offset increased metabolic demand due to warmer water temperature (Alley 2013). While coho salmon use estuaries and lagoons in more northerly portions of their range, they have not been documented using these habitats during the summer rearing portion of their lifecycle in the Santa Cruz Mountains Diversity Stratum, even in streams where they still persist (Bond 2006, Smith 1990, Hayes *et al.*, 2008). Higher water temperatures in the more southern lagoons are hypothesized as the likely limiting factor for coho salmon (S. Hayes, personal communication 2010; J. Smith, personal communication 2011). Under the current existing conditions, the action area should likely be considered as a migratory corridor for adults and as a migratory and staging area for smolts prior to entering the ocean.

### 3. Steelhead Critical Habitat

The estuary/lagoon maintains good rearing habitat in the form of good water quality and forage which support juvenile development during the open estuarine phase and the closed lagoon phase (Alley 2004). The estuary/lagoon maintains these good rearing habitats for steelhead despite being degraded from historical conditions due to loss of the wetland and floodplain habitats necessary to form and maintain physical habitat conditions and support juvenile growth and mobility. Loss of wetland habitat coupled with urban encroachment has resulted in less filtration and increased input of pollutants. In the past, input of pollutants resulted in elevated algal growth and oxygen depletion which impaired water quality conditions for juvenile rearing. Since the implementation of the Soquel Creek Lagoon Management Plan (Alley 2004) significant improvements to water quality have been documented in the action area. Much of the action area consists of a sandy beach and while reduced in extent, the beach habitat is believed to function in a relatively unimpaired condition.

Natural cover such as riparian vegetation and submerged and overhanging large wood are also degraded from historical conditions. Alley (2004) has documented continued removal of riparian vegetation by streamside landowners in the action which likely increases instream temperatures and fine sediment input into the lagoon. Upstream sources of large wood are routinely and illegally cut and removed by streamside landowners in the upper portion of the watershed which removes an important source of instream cover for juvenile rearing and adult and smolt staging.

### **B. Factors Affecting the Species Environment in the Action Area**

Impacts to the action area are primarily due to urbanization and associated pollution, sedimentation, and water diversion. The effects of urbanization have resulted in riparian

encroachment, channel degradation, habitat simplification, degraded water quality and floodplain/stream channel disconnection in the action area. FEMA flood zone maps show significant overlap of areas designated as 100-year flood prone zones and areas with high housing and commercial density. Due to the high amount of development in the action area, the overall degraded condition is expected to persist and restoration to historical potential is unlikely.

Urbanization has led to encroachment into the lower floodplain resulting in simplification of riparian and instream habitats. Inaccessibility of the floodplain has reduced winter refugia for salmonids, particularly during high flow events. Reduced stream flow and vegetation removal from upstream riparian areas likely contribute to higher water temperatures during the summer, particularly during drier water years (Alley 2004). Sediment from roads and rural residential development in upstream areas likely is the primary source of fine sediment which impairs spawning conditions in the upper reach of the action area and can increase turbidity throughout the lagoon (Alley 2013). Increased turbidity reduces sunlight into the water column and has been documented to cause die-offs of aquatic vegetation which degrade water quality. Urban runoff in the lagoon from sewage spills and leaking wash water from adjacent restaurants can further degrade water quality (Alley 2004).

The City currently implements a comprehensive lagoon management program to address many of the above identified sources of water quality degradation. The program addresses sources of pollution as well as periodic projects to improve rearing conditions for juvenile salmonids. The program includes extensive monitoring to evaluate summer water quality conditions and changes overtime in the lagoon. Overall water quality conditions have improved since implementation of the lagoon management plan in 1990 (Alley 2004; Alley 2013).

### **C. Previous Section 7 Consultations and Section 10 Permits in the Action Area**

Pursuant to section 7 of the ESA, NMFS has previously conducted one interagency consultations in the action area. One consultation was with the Corps for the same action evaluated in this biological opinion (NMFS administrative record File Number 150301SWR01SR276 and Corps File Number 25714S). In 2001, the Corps consulted with NMFS regarding effects to listed salmonids for the City's request to place approximately 3,500 cubic yards of beach sand across the mouth of Soquel Creek on a yearly basis for ten years. The purpose of the project was to construct a sandberm to reroute the creeks natural connection to the Pacific Ocean and redirect surface flows through a concrete flume. The primary purpose of the proposed creek rerouting was to create and improve recreational opportunities at the beach and in the lagoon. Unlike the current project however, NMFS concluded the project was not likely to adversely affect threatened CCC steelhead or adversely modify CCC steelhead designated critical habitat. Effects to CCC coho salmon were not considered in the 2001 consultation because Soquel Creek was outside of the listed range and it was believed coho salmon were not likely to occur in the action area over the life of the ten-year permit. Since the 2001 sandberm consultation, NMFS learned the City had rescued and relocated steelhead in the lower reaches of Soquel Creek prior to

dewatering to prevent their stranding. Due to the capture and relocation actions, NMFS is now requiring formal consultation.

NMFS' has also issued a section 4(d) limit to Mr. Don Alley for yearly sampling of steelhead in the Soquel Creek lagoon. Salmonid monitoring has been an ongoing activity in the lagoon since 1991 as part of a lagoon monitoring program and yearly reports are provided to NMFS by either Don Alley and Associates or the City of Capitola. Additional water quality parameters are monitored as part of the program including sources of pollution, oxygen levels, inflow, and water temperature. In general, these activities are closely monitored and require measures to minimize take during the research activities. NMFS does not expect long term impacts on steelhead populations from this research (NMFS 2012b).

## **VI. EFFECTS OF THE ACTION**

The purpose of this section is to identify the direct and indirect effects of the proposed action, and any interrelated or interdependent activities, on threatened CCC steelhead or endangered CCC coho salmon. Our approach was based on knowledge and review of the ecological literature and other relevant materials. We used this information to gauge the likely effects of the proposed project via an exposure and response framework that focuses on what stressors (physical, chemical, or biotic), directly or indirectly caused by the proposed action, that salmonids are likely to be exposed. Next, we evaluate the likely response of salmonids to these stressors in terms of changes to salmonids survival, growth, and reproduction, and changes to the ability of PCEs to support the value of critical habitat in the action area. PCEs include sites essential to support one or more life stages of the species. These sites for migration, spawning, and rearing in turn contain physical and biological features that are essential to the conservation of the species. Where data to quantitatively determine the effects of the proposed action on CCC steelhead and their critical habitat were limited or not available our assessment of effects focused on qualitative identification of likely stressors and responses.

Depending on attendant circumstances, construction activities have the potential to affect steelhead and coho salmon through relocation, dewatering of stream reaches, toxic spills, and redd inundation. Construction is scheduled to occur for one three day period on a yearly basis between May 20 and Memorial Day weekend. Flume operation will occur once the lagoon is formed and last until just before the sandberm is naturally breached in response to increased winter stream flow. Timing for notching of the sandberm is expected to occur sometime in mid-fall and will take one day. The date is variable and occurs in response to predictions of major winter storms. Both juvenile and smolt steelhead and smolt coho salmon are expected to be in the action areas during this construction period. Depending on attendant circumstances, effects to salmonid habitat, including CCC steelhead critical habitat in the action area, potentially includes seasonal dewatering of the lower channel, toxic spills, spawning gravel inundation, and sandberm construction. The potential effects of these activities are presented in detail below.



### A. Fish Collection and Relocation

To facilitate construction of the project, the entire lower 700 foot long streambed on Capitola beach will be dewatered on a daily basis for three days during sandberm construction. The City proposes to collect and relocate fish in the work area prior to daily dewatering to avoid fish stranding and exposure to construction activities. Before and during dewatering of the construction site, juvenile steelhead and other fish will be captured by seines and dip nets under the oversight of a qualified fisheries biologist. Captured fish will be transported and relocated to a predetermined location in the lagoon.

Fish relocation activities pose a risk of injury or mortality to rearing juvenile salmonids. Any fish collecting gear, whether passive (Hubert 1996) or active (Hayes *et al.* 1996) has some associated risk to fish, including stress, disease transmission, injury, or death. The potential adverse effects of capture by seine or dip net on juvenile ESA-listed salmonids include entanglement (gilling), scale and mucus abrasion, suffocation, and crushing. The amount of unintentional injury and mortality attributable to fish capture varies widely, depending on the method used, the ambient conditions, and the expertise and experience of the field crew. Since fish relocation activities will be conducted and supervised by a qualified fisheries biologist the direct effects on, and mortality of, juvenile and smolt salmonids during capture will be minimized.

Data to precisely quantify the number of steelhead and coho salmon (if present), relocated on a yearly basis for the 10-year permit period are not available. However, capture and relocation data are available from past efforts on Capitola beach over an 18-year period from 1995-2012 (inclusive). These data documented that no coho salmon were detected at any time in the 18-year period and, in 11 of the 18 years, no steelhead were observed in the 700 foot channel. In the other seven years, a cumulative total of 94 juvenile steelhead were captured and relocated. No mortalities were reported. The number of steelhead captured over the seven years ranged between one juvenile or smolt (1997 and 2005) and 46 juveniles or smolts (1998).

To estimate the number of juvenile and/or smolt steelhead likely present in the 700-foot channel over the next ten years, NMFS used data from the previous relocation efforts. The number of fish in the channel was variable over the previous 18 years and due to this variability it is possible that no steelhead will be present in many years. However, in other years multiple fish may be present. Using data from 1995 through 2012, described above, NMFS estimates no more than 50 juvenile/smolt steelhead will be present in the dewatered channel when relocation activities occur for any given year. No steelhead were detected in the 11 of the 18 years of record, and smolts/juveniles may not be present over the majority of years of the proposed action. However, it is possible over the ten year period steelhead may be present during each year of dewatering. Due to this possible variability we predicted, up to 50 juveniles/smolts may be present for a total of 500 steelhead over the 10-year life of the action.

No coho salmon were detected over the past 18 years of rescue and relocation, but coho salmon juveniles were detected upstream of the action area in 2008, in East Fork Soquel Creek. Additionally, NOAA's Southwest Fisheries Science Center, CDFW, and the Monterey Bay Salmon and Trout Project are working to outplant coho salmon into historical coho salmon watersheds in the Santa Cruz Mountains Diversity Stratum in an effort to re-population areas where coho salmon are extirpated. In 2013, approximately 45,000 juveniles and smolts will be outplanted to Scott Creek and San Vicente Creek (Santa Cruz County, California) and similar efforts are planned for the future (S. Sogard, personal communication 2013). Efforts to re-establish viable populations in these and other watersheds in the Santa Cruz Mountains Diversity Stratum may lead to increased rates of straying. Initial efforts will likely focus on streams in the northern portion of Santa Cruz County and southern San Mateo County rather than more Santa Cruz County southern streams such as Soquel Creek and Aptos Creek where instream conditions are more degraded (J. Ambrose, personal communication 2013). Nonetheless, straying adult coho salmon could recolonize Soquel Creek over the 10-year permit period and their progeny may be present in the action area, including the lower 700-foot reach.

Coho salmon, if present, would occur in numbers smaller than steelhead. Based on the City's fish relocation information that indicated no coho salmon were detected, we predicted coho salmon are unlikely to be present for most years of the proposed action. Re-establishing extirpated populations of salmonids is often difficult and sustained efforts are typically required to achieve short-term success (B. Spence, personal communication 2010). Therefore, it will likely take a number of years to build up these populations before a large enough number of adults are available to increase the rate of straying into other watersheds. While the exact number of years is difficult to predict, toward the end of the 10-year life of the permit, if ongoing efforts to rebuild populations are successful, the coho salmon populations in the Santa Cruz Mountains Diversity Stratum may recolonize Soquel Creek and re-establish a breeding population.. No efforts are planned to re-establish coho salmon into Soquel Creek; instead, re-establishment efforts are expected elsewhere in Santa Cruz county. Any coho salmon entering the watershed will likely be strays from other areas arriving in low numbers. Based on the current fish relocation information, the status of the population, and spatial arrangement of planned re-establishment efforts, it is unlikely that such straying will occur in the next 7 years; however, we predict some straying into the watershed will occur toward the end of the 10-year life of the action if populations rebound. Based on the above, and to encompass a complete coho salmon cohort (three years), we predict coho salmon may possibly be present in three of ten years.

Coho salmon juveniles or smolts, if present, will occur in low numbers and it is difficult to predict the number that may be affected because no estimates are available for the action area. To estimate coho abundance we used a number of sources from the scientific literature and predicted probable abundance based on one reproduction attempt, per year, towards the end of the permit period. We predicted coho salmon in the action area would be the progeny of a single spawning effort by one stray male and one stray female for each of the three years last 10-years of the proposed action. A similar spawning effort occurred in 2008, in East Branch Soquel Creek and

genetic analysis indicated the juvenile coho salmon were the progeny of a single spawning event (B. Spence, personal communication 2010). Based on the fact no near-term efforts are planned to reintroduce coho salmon into Soquel Creek, any coho salmon that enter the watershed would likely be strays from elsewhere. Straying is a random event and based on the low numbers of coho salmon in the Santa Cruz Mountains Diversity Stratum we believe it is unlikely that more than one spawning effort will occur per year (at the end of the permit period).

Studies on coho salmon from nearby Scott Creek, Santa Cruz County, California, estimated a female carries and deposits, on average, 2500 eggs (Shapovalov and Taft, 1954) in spawning gravels (aka, redd). Of these deposited eggs, the percentage of fry that emerge will vary significantly depending on fertilization success and gravel quality. Under average spawning conditions, we estimated a egg-to-fry survival rate of 27% based on information from Neave (1949) and Crone and Bond (1976), for a total of 675 individuals emerging from the redd into the water column. Survival rates of juveniles through the summer and winter lifestages can vary substantially depending on numerous environmental variables, including predation, baseflows, and habitat quality. Using fry-to-smolt survival rates summarized by Godfry (1965), averaging in the range of 1.27%-1.71%, we predicted 12 smolts per year (36 total) for three years may successfully outmigrate downstream to the action area based on the higher survival range (1.71%). The City will construct the sandberm towards the end of the outmigration season (late May) when approximately 85% of the smolts have likely out-migrated (Shapovalov and Taft 1954) out of the action area and into the Pacific Ocean. We concluded, based on the above data, up to six smolts (two per year) may be present during three of 10-years. Based on this possibility, the City has proposed to visually inspect the outlet channel for coho salmon prior to dewatering and delay capture relocation activities until the coho salmon volitionally migrate into the Pacific Ocean. Although it is possible to incorrectly identify coho salmon, the risk may reasonably be presumed to be low in light of the proposed use of qualified biologists. Taking into account the already low number of coho salmon expected and the use of qualified biologists, if visual observations may fail to detect coho salmon presence, it is expected that only one or two individuals may be inadvertently captured and relocated during the entirety of the project as part of capture and relocation activities.

Based on information from other capture and relocation efforts, NMFS estimates mortality will be less than two percent for steelhead. Data on fish relocation efforts since 2004 shows most mortality rates are below two percent for steelhead and coho salmon (Collins 2004; CDFG 2005, 2006, 2007, 2008, 2009, 2010; J. Jahn, personal communication 2013). Based on these data, two percent of steelhead in the action area may be killed or injured for a total of ten individuals over the 10-year permit period. These data likely represent a worst case scenario because in past years steelhead were captured and relocated for sandberm construction, no mortalities were reported by the City. We predict no coho salmon mortality will likely occur over the 10-year permit period for the following reasons:

- The number of coho salmon present in the watershed will likely be low over the ten-year permit period;



- Visual surveys will be conducted prior to capture and relocation activities. If detected, these fish would be allowed to outmigrate volitionally and will not be subject to stress during capture and relocation;
- The likelihood of a qualified fisheries biologist failing to visually detect coho salmon in the channel is low; and
- Even if incidentally captured, the mortality rate associated with seines and dipnets is very low.

The combination of the above reasons leads NMFS to conclude the probability of coho salmon mortality or injury from capture and relocation activities is very low, even if coho salmon are not correctly identified and subsequently captured and relocated prior to dewatering.

Relocated salmonids will be moved upstream into the lower lagoon. Relocated salmonids may have to compete with other fish causing increased competition for available resources such as food and habitat. Frequent responses to crowding include emigration and reduced growth rates (Keeley 2003). Feeding and rearing opportunities and competition for resources is unlikely a major limiting factor due to the size of the lagoon where ample feeding opportunities exist and salmonids in the lower channel were close to entering the ocean and will likely spend minimal time in the lagoon (Alley 2004). Relocation will delay ocean entry and the length of the delay but because they can still enter the ocean through the flume following sandberm construction, NMFS predicts delays will be temporary and not have a significant impact to smolt survival.

It is possible some fish may not outmigrate and will stay in the lagoon throughout the summer period. NMFS cannot accurately estimate the number of steelhead affected by competition if some relocated individuals stay in the lagoon, but we do not believe this impact will adversely affect the survival chances of individual salmonids due to available rearing conditions documented in Soquel lagoon. As described above in the *Environmental Baseline*, sufficient habitat is available in the lagoon for rearing throughout the summer and outmigration opportunities to the ocean will remain until at least July 1, beyond the end of the smolt outmigration season in the Santa Cruz Mountains Diversity Stratum (Shapovalov and Taft 1954).

## **B. Project Site Dewatering**

Beach sand and the existing concrete flume will be used to divert flows around the work site during construction. The project will require dewatering of approximately 700 linear feet of Soquel Creek in the lower portion of the action area. Once the dewatering operation is complete and the sandberm constructed, stream flow into the Pacific Ocean will be redirected through the flume. These changes in flow across Capitola Beach are anticipated to last approximately 150 days or more while flow is directed through the flume. The quantity and timing of flow through the flume will more-or-less approximate natural conditions.

Stream flow diversion and project work area dewatering are expected to cause temporary loss, alteration, and reduction of aquatic habitat. Stream flow diversion could harm individual

salmonids by concentrating or stranding them in residual wetted areas before they are relocated. Salmonids could be killed or injured if crushed during construction of the water bypass system; Juvenile or smolt salmonids that avoid capture in the project work area could die during dewatering activities due to desiccation or predation by avian predators. However, for this project, NMFS expects fish relocation efforts are likely to remove all of the salmonids in the dewatered area and mortality due to stranding, desiccation, or predation is not expected to occur.

Pre-dewatering fish relocation efforts have been, and will be, supervised by a qualified biologist, and no stranded fish have been observed over the past 18 years. The simple sandy channel does not have hiding areas for juvenile salmonids to avoid detection.

Benthic (bottom dwelling) aquatic macroinvertebrates can be killed and their abundance can be reduced when stream reaches are dewatered (Cushman, 1985). NMFS expects loss of macroinvertebrates when the creek's outlet to the ocean is dewatered. Effects to aquatic macroinvertebrates resulting from stream flow diversion and dewatering will be long-lived (> 150 days) and the dewatered reach is relatively large (approximately 700 feet). However, the substrate in the dewatered reach is fine-grained beach sand in a mobile channel which provides poor conditions for macroinvertebrate growth and reproduction. Under unimpaired conditions the streams' connection with the Pacific Ocean is typically severed during the summer and macroinvertebrates in the channel would still be lost, although timing of this disruption likely occurred later in the summer period than occurs following sandberm construction. In addition, the effect of macroinvertebrate loss on smolts (or any other salmonid lifestage) is likely insignificant because this lower reach of Soquel Creek is the last freshwater migratory connection before smolts enter the ocean and the fish are likely to quickly move through the area and feeding only minimally due to the lack of food and natural cover prior to entering the ocean. Furthermore, the creek in this reach is a simple sandy channel with substrates unsuitable of macroinvertebrate production. Based on the foregoing, the loss of aquatic macroinvertebrates as a result of dewatering activities is not expected to adversely affect threatened CCC steelhead or endangered CCC coho salmon.

### **C. Sandberm Construction and Notching**

Timing for sandberm construction will typically occur yearly in late May and last three days. No equipment will enter the wetted channel or lagoon and no adverse impacts to steelhead, coho salmon or their habitat are anticipated. Notching of the sandberm is expected to occur yearly, sometime in mid-fall, and will take one day. The purpose of a partial notch is to allow the breach to occur in a quasi-natural fashion, without the immediate aid of mechanized equipment, in response to increased flows in Soquel Creek following winter storms. The City has documented through yearly monitoring reports, that their notching strategy has successfully maintained depths of one to two feet in the lagoon and has not completely drained the lower lagoon as it transitions into an estuary. No adverse effects to steelhead, coho salmon or their habitat are anticipated from sandberm construction and notching.

#### **D. Toxic Chemicals**

Oils and similar substances from construction equipment can contain a wide variety of polynuclear aromatic hydrocarbons (PAHs), and metals. Both can result in adverse impacts to salmonids. PAHs can alter salmonid egg hatching rates and reduce egg survival as well as harm the benthic organisms that are a salmonid food source (Eisler 2000). Some of the effects that metals can have on salmonids are: immobilization and impaired locomotion, reduced growth, reduced reproduction, genetic damage, tumors and lesions, developmental abnormalities, behavior changes (avoidance), and impairment of olfactory and brain functions (Eisler 2000).

The stream will be dewatered when construction equipment is working in the stream bed, spill containment and remediation material will be nearby, and vehicles will not be fueled or otherwise serviced adjacent to the lagoon. Due to these measures, NMFS expects that accidents will be minimized and toxic chemical contamination of the action area will be minimized to levels which are unlikely to adversely affect fish.

#### **E. Redd Inundation**

Sandberm construction will result in earlier lagoon formation than would occur under natural conditions. Early lagoon formation will change a reach of lower Soquel Creek from a flowing stream to an impoundment which will result in reduced flow over any redds in this area from late spawning steelhead prior to fry emergence. The reduction in high velocity stream flow over redds could result in death of all eggs and alevins. The redds of coho salmon would not be impacted because coho salmon spawn earlier and fry would have emerged from the redd prior to lagoon formation.

Consultants for the City have surveyed the upper reach of the lagoon prior to inundation every year for the past 18 years and have failed to detect redds in the inundation zone (E. Morrison, personal communication 2013). Likely reasons are due to the generally poor condition of potential spawning habitat in the inundation zone, as described above in the *Environmental Baseline*. The poor conditions would likely lead spawning adults to seek better spawning habitats further upstream. Therefore, inundation of redds is not likely to occur over the 10-year permit period.

#### **F. Lagoon Management**

Lagoon management is an integral part of the City's efforts in creating a wide beach and minimizing odors from the lagoon during the summer tourist season. Lagoon management begins concurrent with sandberm construction and includes raking of kelp and seagrass out of the lagoon impoundment area and flume. These materials are removed with hand rakes to prevent their decomposition in the lagoon and impairing water quality. Manual removal of decomposing plant material from the lagoon reduces biological oxygen demand and nutrient input. These

efforts minimize the eutrophication of the lagoon in the summer that would encourage larger algal blooms and great oxygen depletion at night (Alley 2004).

The City's operation of the flume allows lagoon water level to be maximized and facilitates saltwater movement out of the lagoon when shrouds designed by CDFW are installed at the inlet of the flume. The freshwater environment free of a bottom layer of saltwater ensures conditions cool enough for steelhead rearing through the impoundment period (Alley 2004). The City also places boards in the inlet to facilitate smolt outmigration through July 1 and adult outmigration through June 1.

The lagoon is managed so that it functions as near as possible to an unimpaired lagoon in Coastal California. Monitoring results over the past eighteen years indicate the lagoon is used by rearing juvenile steelhead throughout the summer period and Alley (2001b) documented that the lagoon produces 10-35% of the smolt sized juveniles in mainstem Soquel Creek despite the fact the lagoon represents a small percentage of overall rearing habitat in the watershed. These efforts optimize water quality and migration opportunities and are believed to result in no adverse impacts to steelhead or their habitat and likely result in a net improvement to habitat when considering the numerous baseline stressors impacting habitat quality in the action area.

#### **G. Critical Habitat Effects**

Soquel Creek is designated critical habitat for CCC steelhead. Primary constituent elements (PCEs) of designated critical habitat for CCC steelhead in the project area include sites for migration, spawning and rearing, as further described in 50 C.F.R. § 226.211 (c). The potential effects of this project to designated critical habitat associated with construction include the yearly loss of Soquel Creeks' natural connection to the Pacific Ocean during dewatering. Fish will lose their natural channel for migration to the Pacific Ocean and will be redirected through an artificially maintained flume which will substitute as a migration corridor while the sandberm remains in place.

As discussed above, fish within the dewatered area will be relocated and the flume will be managed to provide sufficient opportunities for outmigration through at least June 15 of each year over the 10-year permit period. The temporary loss of 700 linear feet of channel for a five month or longer period following sandberm construction is not expected to adversely affect essential physical or biological features associated with CCC steelhead critical habitat. This is because the site is low quality transitory habitat on a sandy beach which will return to its previous naturally functioning condition after the sandberm naturally breaches in response to increased stream flows in the late fall/early winter. Under unimpaired conditions, this channel would dewater naturally in response to decreased summer baseflow and the loss of this habitat is insignificant.

Loss of spawning habitat and areas of food production due to accelerated rate of inundation of upstream habitat resulting from sandberm construction is anticipated to have insignificant

impacts on the value of the relevant PCEs; as described in Sections B and E above. These areas, under historical conditions would inundate when the lagoon formed and the accelerated rate of conversion will likely be largely beneficial. Benefits of accelerated conversion will include cooler water temperatures, increased habitat availability, and increased foraging opportunities throughout the impoundment period. The City's lagoon management plan will result in improved water quality conditions which in turn will improve food production and temperatures for rearing salmonids in the lagoon.

## **VII. CUMMULATIVE EFFECTS**

Cumulative effects are defined in 50 CFR §402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation." Many actions occurring in the watershed upstream may affect the action area of this proposed project. Any future federal actions will be reviewed through separate section 7 consultation processes and not considered here.

NMFS does not anticipate any cumulative effects in the action area other than those ongoing actions already described in the Environmental Baseline above, and resulting from climate change. Given current baseline conditions and trends, NMFS does not expect to see significant improvement in habitat conditions in the near future due to existing land and water development in the watershed. In the long term, climate change may produce temperature and precipitation changes that may adversely affect steelhead, coho salmon, and their critical habitat in the action area.

## **VIII. INTEGRATION AND SYNTHESIS**

CCC steelhead are listed as threatened and CCC coho salmon are listed as endangered. Based on the loss of historical habitat due to degraded conditions of remaining spawning and rearing areas, CCC steelhead and CCC coho salmon populations in the Santa Cruz Mountains Diversity Stratum, including Soquel Creek, are not viable in the long term, absent efforts to improve and restore their habitat. Steelhead occur in Soquel Creek in densities and abundance lower than historical conditions. Coho salmon may occur in Soquel Creek but, if present, their densities and abundance is far below historical conditions. The condition of spawning and rearing habitat in the watershed is variable and is impacted by water diversions, urbanization, and high rates of sedimentation. The action area, particularly the Soquel lagoon, provides suitable conditions for steelhead rearing and suitable staging conditions for both smolt steelhead and smolt coho salmon prior to outmigration. Juvenile and smolt CCC steelhead are expected to be present and juvenile and smolt CCC coho salmon may be present in some years within the lower 700-foot long channel during construction.



Stream flow through the lower creek channel will be redirected on a yearly basis during sandberm construction for the next ten years. Adverse effects to freshwater and estuarine critical habitat, due to project construction, are expected to be temporary (dewatering and redirecting stream flow through a flume), insignificant, and are associated with disturbances to the sandy streambed flowing across Capitola Beach. This disturbance is largely limited to dewatering of the lower 700 feet of sandy beach channel. Prior to dewatering the site for construction, fish will be collected and relocated into the lagoon from the work area. An experienced fisheries biologist will supervise capture efforts and we expect collectors will work effectively and have low steelhead injury and mortality rates during fish collections. Due to channel conditions in the action area, salmonids are not expected to eluding capture during the 10-year life of the permitted action.

Based on low mortality rates for similar relocation efforts, NMFS anticipates few juvenile or smolt steelhead will be killed by fish relocation and construction activities during implementation of this project. Anticipated mortality from seining are expected to be less than two percent of the fish in the area dewatered. Because no more than 500 juvenile steelhead are likely to be present over the 10-year period, NMFS expects no more than ten steelhead will be harmed or killed by seining. Smolts are an important lifestage for steelhead because they have survived at least one year and possibly two to three years in the freshwater environment prior to ocean outmigration and their likelihood of returning as adults is significantly higher than at the juvenile life stage. Nonetheless, while their loss is reason for concern because these fish are listed under the ESA, the number of steelhead smolts produced in Soquel Creek is quite large relative to the loss of less than two steelhead juvenile/smolt every two years (Alley 2001b). Over the 10-year permit period NMFS expects these small losses are unlikely to adversely impact future adult returns. Due to the timing of the proposed action, no adult steelhead will be adversely affected by the project.

The number of coho salmon in the lower channel is expected to be very low due to their likely current absence in the Soquel watershed and currently low numbers of wild individuals in the Santa Cruz Diversity Stratum. Based on the minimization and avoidance methods proposed by the City, no coho salmon are anticipated to be killed and no adverse impacts to the CCC coho salmon population are anticipated. The City's avoidance and minimization measures are an important conservation action because loss of any wild individual of this highly endangered species should be considered a significant adverse effect to the Santa Cruz Mountains Diversity Stratum. Due to the timing of the proposed action, no adult coho salmon will be adversely affected by the project.

Lagoon management and flume operation are anticipated to have no adverse effects to steelhead rearing in the lagoon, or their estuarine critical habitat in the lagoon. Notching of the sandberm will follow methods developed by the City of at least 60 years and will allow the lagoon to breach naturally following winter storm events and not totally drain the lagoon. Sandberm notching is not anticipated to have adverse effects to steelhead rearing in the lagoon.

Regarding future climate change effects in the action area, California could be subject to higher average summer air temperatures and lower total precipitation levels. Reductions in the amount of precipitation would reduce stream flow levels in Northern and Central Coastal rivers. Estuaries may also experience changes in productivity due to changes in freshwater flows, nutrient cycling, and sediment amounts. As described above in *Status of the Species*, few discernible climate change impacts in the action area are likely during the 10 year duration of the proposed Corps permit. Furthermore the proposed lagoon management actions will likely help buffer steelhead and coho salmon from any climate change impacts that may accrue over this time period.

## **IX. CONCLUSION**

After reviewing the best available scientific and commercial data, the current status of CCC steelhead and CCC coho salmon, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is NMFS' biological opinion that the City of Capitola's proposed sandberm construction project on Capitola Beach and flume operation on the Soquel Creek lagoon is not likely to jeopardize the continued existence of threatened CCC steelhead or CCC coho salmon.

After reviewing the best available scientific and commercial data, the current status of the critical habitat, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is NMFS' opinion that the City of Capitola's proposed sandberm construction project on Capitola Beach and flume operation on the Soquel Creek lagoon is not likely to adversely modify or destroy critical habitat for CCC steelhead.

## **X. INCIDENTAL TAKE STATEMENT**

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by NMFS as an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary, and must be undertaken by the Corps for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions, or (2) fails to require its designees to adhere to the terms and conditions of the incidental take statement, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps must report the progress of the actions and its impact on the species to NMFS as specified in the incidental take statement (50 CFR §402.14(I)(3)).

#### **A. Amount or Extent of Take**

The amount or extent of take described below is based on the analysis of effects of the action done in the preceding biological opinion. If the action is implemented in a manner inconsistent with the project description provided to NMFS, and as a result take of listed species occurs, such take would not be exempt from section 9 of the ESA.

The number of threatened steelhead that may be incidentally taken during project activities is expected to be small, and limited to the smolt and juvenile life history stage. Take is anticipated to occur during fish relocation and dewatering in a 700-foot reach at the project site annually during the month of May or June, over a 10-year period. The number of juvenile and smolt steelhead captured and relocated during project construction is anticipated to be no more than 50 fish per year. The number of coho salmon captured and relocated during project construction is anticipated to be no more than two fish over the ten-year permit. NMFS expects that no more than two percent of the juvenile steelhead (10 fish) within the 700-linear-foot dewatering area of Soquel Creek will be injured, harmed or killed during fish relocation activities. If fish relocation efforts result in more fish captured or killed than as specified above, incidental take will have been exceeded.

#### **B. Effect of the Take**

In the accompanying biological opinion, NMFS has determined that the anticipated take is not likely to result in jeopardy to CCC steelhead or CCC coho salmon.

#### **C. Reasonable and Prudent Measures**

NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize take of CCC steelhead and CCC coho salmon:

1. Undertake measures to ensure that harm and mortality to steelhead and coho salmon resulting from fish relocation and dewatering activities is low.
2. Undertake measures to minimize harm to steelhead and coho salmon resulting from construction of the project.



3. Undertake measures to minimize harm to steelhead and coho salmon from degradation of aquatic habitat and stream water quality while the sandberm remains in place.
4. Undertake measures to facilitate outmigration opportunities for steelhead and coho salmon smolts.
5. Prepare and submit a yearly report to document the effects of construction and relocation activities and an evaluation of the lagoon management plan.

#### **D. Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps, its permittees, and their designees must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and present reporting/monitoring requirements. These terms and conditions are nondiscretionary.

1. The following terms and conditions implement reasonable and prudent measure 1:
  - a. The Corps and/or the permittees must retain qualified biologists with expertise in the areas of anadromous salmonid biology, including handling, collecting, and relocating salmonids; salmonid/habitat relationships; and biological monitoring of salmonids over the life of the permit.
  - b. Electrofishing must not be used.
  - c. The qualified fisheries biologist must monitor the construction sites during placement and removal of cofferdams, channel diversions, and access ramps to ensure that any adverse effects to salmonids are minimized each construction season over the life of the permit. The biologist must be on site during all dewatering events to capture, handle, and safely relocate salmonids. The Corps or permittee must notify NMFS biologist Jonathan Ambrose at (707) 575-6091 or [jonathan.ambrose@noaa.gov](mailto:jonathan.ambrose@noaa.gov) one week prior to capture activities to provide an opportunity for NMFS staff to observe the activities.
  - d. Steelhead and coho salmon must be handled with extreme care and kept in water to the maximum extent possible during rescue activities. All captured fish must be kept in cool, shaded, aerated water protected from excessive noise, jostling, or overcrowding any time they are not in the stream, and fish must not be removed from this water except when released. To avoid predation, the biologists must have at least two containers and segregate young-of-year fish from larger age-classes and other potential aquatic predators. Captured salmonids must be relocated, as soon as possible, to the lagoon in a location where habitat conditions

are present to allow for adequate survival of transported fish and fish already present.

- e. If any salmonids are found dead or injured, the biologist must contact NMFS biologist Jonathan Ambrose by phone immediately at (707) 575-6091 or the NMFS North Central Coast Office at 707-575-6050. The purpose of the contact is to review the activities resulting in take and to determine if additional protective measures are required. All salmonid mortalities must be retained, placed in an appropriately-sized sealable plastic bag, labeled with the date and location of collection, fork length, and be frozen as soon as possible. Frozen samples must be retained by the biologist until specific instructions are provided by NMFS. The biologist may not transfer biological samples to anyone other than the NMFS' North Central Coast Office without obtaining prior written approval from the NMFS' North Central Coast Office, Supervisor of the Protected Resources Division. Any such transfer will be subject to such conditions as NMFS deems appropriate.
  - f. Non-native fish that are captured during fish relocation activities must not be relocated to the lagoon, anadromous streams, or areas where they could access anadromous habitat.
2. The following terms and conditions implement reasonable and prudent measure 2:
- a. The Corps and permittees must allow any NMFS employee(s) or any other person(s) designated by NMFS, to accompany field personnel to visit the project sites during activities described in this opinion.
  - b. Contractors must have a supply of fuel and hydraulic fluid spill containment supplies onsite to facilitate a quick response to unanticipated storm events, or fuel or hydraulic fluid spill emergencies.
  - c. Construction equipment must be checked at the beginning of each work day. If leaks occur during work in the channel (top of bank to top of bank), the Corps, the permit holders, or their contractor must contain the spill and remove the affected soils.
  - d. Staging/storage areas for equipment, materials, fuels, and lubricants, must be located outside of the stream's normal high water height and above ocean high tide levels. Stationary equipment such as motors, pumps, generators, compressors, located on the beach must be positioned over drip pans.
  - e. Clean-up of all spills must begin immediately. NMFS must be notified immediately by the Corps/City of spills into sensitive aquatic resources and must

be consulted regarding clean-up procedures. If an incident occurs after normal business hours or on a weekend, a voice mail message must be left at the phone number listed on Term and Condition 1.c.

- f. No vibratory hammers or other similar devices will be used to compact sand around the flume for any other aspect of this project.
- g. The City shall provide their BMPs listed in the biological assessment and the Terms and Conditions of this biological opinion to their staff and contractors to ensure that they are followed for the duration of the project.

3. The following terms and conditions implement reasonable and prudent measure 3:

- a. Lagoon water level must be maintained at or near the top of the flume during summer to aid in maintaining cooler water temperatures.
- b. The shrouds on the flume must be installed so as not to obstruct smolt passage. The shrouds must be removed once freshwater conversion is achieved.
- c. If saltwater and elevated water temperatures are detected during summer lagoon monitoring, the flume shrouds must be reinstalled to facilitate freshwater conversion. If high conductivity and/or low oxygen concentrations are detected, the causes will be explored and efforts must be taken to remedy the condition. The probable causes and corrective measures must be noted in the logbook and included in the annual report submitted to NMFS.
- d. Once sandberm construction and deconstruction is completed, all temporary, construction-related material (pipe, gravel, cofferdam, *etc.*) must be removed. Excess materials will be disposed of at an appropriate upland site.
- e. Large woody debris must not be modified or removed from the creek or lagoon at any time of year without prior consultation with NMFS.
- f. The qualified fisheries biologist must provide on-site training for work crews to ensure protection of the stream zone and listed salmonids. The qualified biologist must be empowered to halt construction activities if they determine construction of the sandberm is resulting in unintended or unanticipated adverse impacts to salmonids or their habitat.

4. The following term and condition implements reasonable and prudent measure 4.

- a. On a yearly basis, prior to sandberm closure, the flume must be evaluated for structural integrity and flushed to ensure it will be open to allow smolt

outmigration. The City must repair any damage that compromises the integrity or cause beach sink holes prior to sandbar closure.

- b. After the flume is operational, the underwater portal must be checked and maintained daily until June 15<sup>th</sup> to allow steelhead adults to migrate out to the Pacific Ocean. The top notched plank must be checked and maintained daily until July 1 to allow steelhead and coho salmon smolts to migrate from the lagoon to the Pacific Ocean.
  - c. A depth of 0.7 feet or deeper must be maintained inside the flume for fish passage until July 1. Placement of boards in the slotted flume outlet may be required during drier years to achieve this depth.
  - d. The flume inlet and outlet must be checked daily for obstructions.
5. The following term and condition implements reasonable and prudent measure 5:
- a. The Corps and permittee must provide a written report to NMFS by March 1 of each year following construction of the project. The report must describe lagoon management activities, results of water quality and water elevation monitoring and results of fishery monitoring. The report must also include any recommendations to improve upon ongoing lagoon management. The report must be provided to NMFS North Central Coast Office, Attention: Supervisor of Protected Resources Division, 777 Sonoma Avenue, Room 325, Santa Rosa, California, 95404-6528. The report must contain, at a minimum, the following information:
    - i. **Construction related activities** – The report must include the dates construction began and was completed; a discussion of any unanticipated effects or unanticipated levels of effects on salmonids, a description of any and all measures taken to minimize those unanticipated effects and a statement as to whether or not the unanticipated effects had any effect on ESA-listed fish; the number of salmonids killed or injured during the project action; and photographs taken before, during, and after the activity from photo reference points.
    - ii. **Fish Relocation** -- The report must include a description of the location from which fish were removed and the release site including photographs; the date and time of the relocation effort; a description of the equipment and methods used to collect, hold, and transport salmonids; the number of fish relocated by species; the number of fish injured or killed by species and a brief narrative of the circumstances surrounding ESA-listed fish injuries or mortalities; and a description of any problems which may have arisen during the relocation

activities and a statement as to whether or not the activities had any unforeseen effects.

- iii. **Lagoon management.** The report must include a description of measured water quality parameters including a) stream inflow into the lagoon, b) water temperature, c) aquatic vegetation, d) oxygen concentrations, and e) salinity. The report must include an evaluation of potential adverse impacts to water quality and fish resulting from the Begonia Festival and other pollution sources.

## XI. CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, or to develop information.

1. NMFS recommends the Corps incorporate recovery actions for all project proposals in watersheds targeted in NMFS' CCC coho salmon recovery plan (NMFS 2012a).
2. NMFS recommends the City conduct yearly evaluations of the wood piles supporting the concrete flume. NMFS recommends randomly selecting 10% to 15% of the piles from the inlet to the outlet and test them for deterioration. This test would include excavating and testing well below the lowest sand level on the beach.
3. NMFS recommends the City check lagoon depth on a daily basis. Any major difference in water levels, higher or lower, should be logged and the qualified biologist should be informed. Corrective measures should be taken so lagoon water elevation is maintained and does not rise above the marker bolt which defines the elevation at one foot below flood height.
4. NMFS recommend that the City check dissolved oxygen levels in the morning and between 1500 and 1600 hours by the qualified fisheries biologist or by City personnel trained by the qualified biologist. Copies of logbook data should be included in the annual monitoring report to NMFS. The logbook data should be made available to NMFS upon request.
5. A qualified fisheries biologist should be present during and after the Begonia Festival to supervise the cleanup of organic debris. At least 90 percent of the organic debris should be removed.



## **XII. REINITIATION NOTICE**

This concludes formal consultation for the City of Capitola's proposed sandberm construction on the mouth of Soquel Creek. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion; or (4) a new species is listed or critical habitat designated that may be affected by the identified action. In instances where the amount or extent of incidental take is exceeded, formal consultation must be reinitiated immediately.

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Enclosure 6

City of Capitola Sandberm Construction  
ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS  
(Magnuson-Stevens Fishery Conservation and Management Act - EFH Consultation)

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) set forth new mandates for the National Marine Fisheries Service (NMFS), regional fishery management councils, and Federal action agencies to identify and protect important marine and anadromous fish habitat. The regional fishery management councils, with assistance from NMFS, are required to delineate essential fish habitat (EFH) in fishery management plans (FMPs) or FMP amendments for all managed species. Federal action agencies, which fund, permit, or carry out activities that may adversely impact EFH are required to consult with NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to NMFS conservation recommendations. In addition, NMFS is required to comment on any state agency activities that would impact EFH. Although the concept of EFH is similar to that of critical habitat under the Endangered Species Act, measures recommended to protect EFH are advisory, not proscriptive. The Pacific Fisheries Management Council has delineated EFH for Pacific coast salmon (PFMC 1999).

**I. IDENTIFICATION OF ESSENTIAL FISH HABITAT**

EFH is defined in the MSFCMA as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. NMFS regulations further define waters to include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate to include sediment, hard bottom, structures underlying the waters, and associated biological communities necessary to mean the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem; and spawning, breeding, feeding, or growth to maturity to cover a species full life cycle.

For Pacific coast salmon, the geographic extent of EFH currently being considered includes both marine and freshwater habitat. For purposes of this consultation, Pacific coast salmon EFH corresponds closely to the recently expanded listed range designated under the Endangered Species Act for Central California Coast coho salmon (*Oncorhynchus kisutch*) (77 FR 19552).

**II. PROPOSED ACTION**

The Corps proposes to issue a permit under Section 404 of the Clean Water Act (CWA) and Section 10 of the Harbors and Rivers Act (HRA) to the City of Capitola, Santa Cruz County,

California, to place approximately 3,500 cubic yards of beach sand across the mouth of Soquel Creek on a yearly basis for ten years. The purpose of the project is to construct a sandberm to reroute the creek's natural connection to the Pacific Ocean and redirect surface flows through a concrete flume. Instream construction is scheduled to annually occur no earlier than May 20 (unless the Memorial Day weekend is not the last weekend of the month) and is expected to occur over a three day period. The applicant proposes to seasonally dewater the lower-most 700 feet of Soquel Creek in order to create a wide and dry beach more rapidly than would occur under natural conditions.

### **III. EFFECTS OF THE PROJECT ACTION**

Based on information provided in the EFH assessment and developed during consultation, potential adverse effects to EFH and HAPC from project activities include: (1) temporary alterations to hydrologic regimes through artificial water level management, and (2) modifications to benthic habitat and substrate through construction activities and artificial water level management.

Potential impacts to salmonid habitat are described in the preceding biological opinion. Adverse effects of the proposed action on salmonid EFH may occur through dewatering and in-channel construction activities in Soquel Creek.

### **IV. CONCLUSION**

Upon review of the anticipated effects, NMFS believes that proposed sandberm construction actions may adversely affect Pacific coast salmon EFH.

### **V. EFH CONSERVATION RECOMMENDATIONS**

Pursuant to Section 305(b)(4)(A) of the Magnuson-Stevens Act, NMFS recommends that the terms and conditions 1 through 5 of the preceding biological opinion's Incidental Take Statement be adopted as EFH conservation recommendations for Pacific coast salmon habitat. Furthermore, NMFS recommends the Corps ensure the applicant employs the following methods:

1. Maintain relatively constant temperature and depth in lagoon to allow submerged aquatic vegetation (SAV) to continue to establish and flourish; and
2. Rake decomposing kelp and seagrass by hand throughout the impoundment period when possible, and specifically if SAV is present.

## **VI. FEDERAL AGENCY STATUTORY REQUIREMENTS**

This concludes EFH consultation for the Soquel Creek Sandberm and Lagoon Project in the City of Capitola, Santa Cruz County, California. Pursuant to 50 CFR 600.920(l), the Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH. The Magnuson-Stevens Act (Section 305(b)(4)(B)) and Federal regulations (50 CFR Section 600.920(j)) to implement the EFH provisions of the MSFCMA require Federal action agencies to provide a written response to EFH Conservation Recommendations within 30 days of its receipt. A preliminary response is acceptable if final action cannot be completed within 30 days. The final response must include a description of measures proposed to avoid, mitigate, or offset the adverse impacts of the activity on delineated EFH. If the response is inconsistent with our EFH Conservation Recommendations, it must provide an explanation of the reasons for not implementing them.

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California Natural Resources Agency  
**DEPARTMENT OF FISH AND WILDLIFE**  
Bay Delta Region  
2825 Cordelia Road, Suite 100  
Fairfield, CA 94534  
(707) 428-2002  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

**EDMUND G. BROWN, Jr., Governor**  
**CHARLTON H. BONHAM, Director**



December 13, 2018

Steve Jesberg  
City of Capitola  
420 Capitola Avenue  
Capitola, CA 95010

Dear Steve Jesberg:

**Final Lake or Streambed Alteration Agreement, Notification No. 1600-2018-0227-R3, Soquel Creek; Capitola Beach Flume and Jetty Rehabilitation Project**

Enclosed is the final Streambed Alteration Agreement (Agreement) for the Capitola Beach Flume and Jetty Rehabilitation Project (Project). Before the California Department of Fish and Wildlife (CDFW) may issue an Agreement, it must comply with the California Environmental Quality Act (CEQA). In this case, CDFW determined your Project is exempt from CEQA and filed a Notice of Exemption (NOE) on the same date it signed the Agreement.

Under CEQA, the filing of an NOE triggers a 35-day statute of limitations period during which an interested party may challenge the filing agency's approval of the Project. You may begin the Project before the statute of limitations expires if you have obtained all necessary local, state, and federal permits or other authorizations. However, if you elect to do so, it will be at your own risk.

If you have any questions regarding this letter, please contact Monica Oey, Environmental Scientist at (707) 428-2088 or by email at [monica.oey@wildlife.ca.gov](mailto:monica.oey@wildlife.ca.gov).

Sincerely,

Craig J. Weightman, Environmental Program Manager

cc: Brad Porter  
Moffatt & Nichol  
[bporter@moffattnichol.com](mailto:bporter@moffattnichol.com)

California Department of Fish and Wildlife  
Lieutenant Schindler

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DEC 21 2018

CITY OF CAPITOLA



**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**  
BAY DELTA REGION  
2825 CORDELIA ROAD, SUITE 100  
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**STREAMBED ALTERATION AGREEMENT**  
NOTIFICATION No. 1600-2018-0227-R3  
SOQUEL CREEK

CITY OF CAPITOLA  
CAPITOLA BEACH FLUME AND JETTY REHABILITATION PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and the City of Capitola (Permittee) as represented by Steve Jesberg.

## **RECITALS**

WHEREAS, pursuant to Fish and Game Code section 1602, Permittee notified CDFW on July 12, 2018 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to Fish and Game Code section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

## **PROJECT LOCATION**

The Soquel Creek flume repair project is located at Soquel Creek, a tributary to the Pacific Ocean, in the County of Santa Cruz, State of California; Latitude 36.971533, Longitude -122.952281 or Section 15, Township 11S, Range 1W, U.S. Geological Survey (USGS) map Soquel; Assessor's Parcel Numbers 035-211-06, 035-262-07, and 035-262-08.

The jetty repair project is located at Soquel Creek, a tributary to the Pacific Ocean, in the County of Santa Cruz, State of California; Latitude 36.971317, Longitude -122.949997 or Section 15, Township 11S, Range 1W, U.S. Geological Survey (USGS) map Soquel.

## PROJECT DESCRIPTION

Over the past decades, the Soquel Creek concrete flume and jetty have deteriorated due to marine exposure and ocean wave action. The City of Capitola proposes two projects; repair the flume and jetty to original design.

The repair of the flume and jetty will allow for continued implementation of the Soquel Creek Lagoon Management and Enhancement Program, covered under Streambed Alteration Agreement #1600-2017-0411-R3; prevent further deterioration of the jetty; continue maintaining public safety through wave protection and flood control of the Capitola Village; and prevention of sinkhole creation near the flume.

### Soquel Creek Flume Repair

Flume repair is limited to the repair of eroded concrete on the lower end (ocean side) portion of the flume, including approximately 40 feet on the west side and 85 feet on the east side; installation of a fiberglass liner along the interior of the flume; and placement of five cutoff walls along the flume.

Work on the flume will occur when the flume is not in use, approximately between October and May when Soquel Creek lagoon is open. Admixtures will be placed in the concrete to accelerate the chemical curing of the concrete and forms with form lines will be left on the concrete to prevent leaching of concrete into the water.

In the event, that Soquel Creek flows do not breach Soquel Creek lagoon by January 1, thus requiring that the flume remain in use, a bypass will be installed. The bypass will be installed parallel to the flume and will serve the same function as the flume, while the flume is being repaired. The bypass will be a high density polyethylene pipe approximately 225 feet long and approximately 30 feet west of the existing flume.

Installation of the bypass is limited to the excavation of a trench in the sand on Capitola Beach approximately 4 feet deep with a backhoe, placement of the pipe into the trench with a 90 degree elbow facing upward at the inlet and a "T" at the outlet to prevent sand from entering the pipe, screening of the "T" to prevent people from entering, and burring the pipe with sand. Once placement of the bypass is installed, the flume will be closed and repairs to the flume will be conducted. When flume repair is complete, the flume will be reopened and the bypass will be removed.

### Jetty Repair

Jetty repair is limited to replacement of displaced rock within the original jetty footprint, installation of approximately 900 cubic yards of additional rock to underlay and armor the jetty.

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 Streambed Alteration Agreement  
 Page 3 of 16

Repair at the head of the jetty (ocean side of the jetty) will occur during the lowest tides of the season but outside of large winter wave events to avoid impacts to the ocean. All equipment will be stationed on land during jetty repair.

**PROJECT IMPACTS**

Existing fish or wildlife resources the project could substantially adversely affect include:

Common Name	Scientific Name	Status
Coho salmon – central CA coast ESU	<i>Oncorhynchus kisutch</i>	FE, SE
Steelhead – central CA coast DPS	<i>Oncorhynchus mykiss irideus</i>	FT
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE
Western pond turtle	<i>Emys marmorata</i>	SCC
Nesting and migratory birds		

**Notes:**

FE = federally endangered under ESA; FT = federally threatened under ESA; SE = state endangered under CESA; SCC = state species of special concern.

The adverse effects the project could have on the fish or wildlife resources identified above include:

- Temporary relocation of stream channel or lake;
- Change in water quality;
- Incidental release of material deleterious to fish and wildlife species;
- Modification of natural ocean and sand processes from the rebuilding of the jetty; and
- Direct take of fish, other aquatic species, and terrestrial species.

**MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES**

**1. Administrative Measures**

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project



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Streambed Alteration Agreement  
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site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.

- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the project site at any time to verify compliance with the Agreement.
- 1.5 No Trespass. To the extent that any provisions of this Agreement provide for activities that require the Permittee to traverse another owner's property, such provisions are agreed to with the understanding that the Permittee possesses the legal right to so traverse. In the absence of such right, any such provision is void.
- 1.6 Unauthorized Take. The Permittee is required to comply with all applicable state and federal laws, including the California Endangered Species Act (CESA) and Federal Endangered Species Act (ESA). This Agreement does not authorize the take of any state or federal endangered or threatened or candidate species. Liability for any take or incidental take of listed or candidate species remains the responsibility of the Permittee for the duration of the project. Any unauthorized take of such listed or candidate species may result in prosecution and nullification of the Agreement.
- 1.7 CDFW-Approved Qualified Biologist(s). Permittee shall submit to CDFW for written approval within 14 days before project commencement, the names and resumes of all qualified fisheries biologist(s) and qualified biologist(s) involved in conducting surveys and/or monitoring work.
  - A qualified fisheries biologist is an individual who shall have a minimum of five years of academic training and professional experience in fisheries and related resource management activities with a minimum of two years conducting surveys for each fish species that may be present within the project area.
  - A qualified biologist is an individual who shall have a minimum of five years of academic training and professional experience in biological sciences and related resource management activities with a minimum of two years conducting surveys for each non-fish species that may be present within the project area.

Permittee shall not enter into non-disclosure agreements with biological staff or otherwise implement penalties or disincentives restricting direct communication with CDFW.

## 2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

### Work Period

- 2.1 Work Period. Permittee shall begin flume repairs when the flume is not in use, when Soquel Creek lagoon is open and before the lagoon is closed (October 15 to May 31 of each calendar year for the duration of this Agreement). If Soquel Creek lagoon remains closed by January 1, a bypass can be installed and repairs to the flume shall begin on or after January 1 and finish by May 31 of each calendar year for the duration of this Agreement. Permittee shall begin jetty repair on or after October 15 and finish by May 31 of each calendar year for the duration of this Agreement.
- 2.2 Work Period Modification. If Permittee needs more time to complete project activities, work may be authorized outside of the work period and extended on a week-by-week basis with approval from CDFW. Permittee shall obtain approval by providing a written request to Monica Oey, Environmental Scientist, by email at [monica.oey@wildlife.ca.gov](mailto:monica.oey@wildlife.ca.gov).
- Permittee shall provide written request for a work period variance to CDFW at least fourteen (14) calendar days prior to May 31. The work period variance request shall: 1) describe the extent of work already completed; 2) detail the activities that remain to be completed; 3) detail the time required to complete each of the remaining activities; and 4) provide photographs of both the current work completed and the proposed site for continued work. Work period variances are issued at the discretion of CDFW. CDFW will review the written request to work outside of the established work period and may require additional measures to protect fish and wildlife resources as a condition for granting the variance. Any additional measures shall be considered part of this Agreement.
- 2.3 Conduct Work During Daylight Hours. Construction is restricted to daylight hours, one hour after sunrise to sunset.
- 2.4 Work During Low Tide. Permittee shall conduct work during low tide when the sea level is below the immediate area of work area.
- 2.5 Work Period in Dry Weather Only. Project work shall be restricted to dry weather as allowed during the work period specified in Measure 2.1. Construction shall be timed with awareness of precipitation forecasts and potential increases in stream flow. Construction activities shall cease when the National Weather Service (NWS) 72-hour weather forecast indicates a 30 percent chance or higher of precipitation. All necessary erosion control measures shall be implemented prior to the onset of

precipitation. Construction equipment and materials shall be removed if inundation is likely. Construction activities halted due to precipitation may resume when precipitation ceases and the NWS 72-hour weather forecast indicates less than a 30 percent chance of precipitation. No work shall occur during a dry-out period of 24 hours after the above referenced wet weather. Weather forecasts shall be documented upon request by CDFW.

- 2.6 Work According to Documents. Except as they are contradicted by measures required by this Agreement, all work shall be conducted in conformance with the project description above and the documents provided in the notification package. Permittee shall notify CDFW of any modifications made to the plans submitted to CDFW that have the potential to impact the lagoon or riparian corridor. At the discretion of CDFW, if substantial modifications to the plans submitted to CDFW are made, Permittee shall submit a new application.

### **Biological Resource Protections**

- 2.7 Training Session for Personnel. Permittee shall ensure that a CDFW-approved qualified and fisheries biologist conducts an education program for all persons employed on the project prior to performing project activities. Instruction shall consist of a presentation by the designated qualified biologist and fisheries biologist that includes a discussion of the biology and general behavior of any sensitive species which may be in the area, how they may be encountered within the work area, and procedures to follow when they are encountered. The status of CESA-listed species including legal protection, penalties for violations and project-specific protective management measures provided in this Agreement shall be discussed. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to on-site project activity. Copies of the Agreement for this project shall be maintained at the worksite with the project supervisor.
- 2.8 Special-Status Fish and Wildlife Surveys. Within 48 hours prior to the start of project activities, a CDFW-approved qualified biologist and fisheries biologist (refer to Measure 1.7) shall survey the project area at the appropriate time of day for presence of special-status species that may be present (e.g., steelhead, tidewater goby, sea otters). The qualified biologist and fisheries biologist shall record all wildlife species encountered during surveys and submit the record to CDFW within seven (7) days after survey completion (see Measure 3.2). CDFW reserves the right to provide additional measures to this Agreement designed to protect special-status species.
- 2.9 No Take of Coho. Handling, hazing, or construction activities that could smother (through release of sediment), crush or otherwise result in injury or mortality to coho salmon are not authorized under this Agreement.



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- 2.10 Qualified Biologist On-site Daily. A CDFW-approved qualified fisheries biologist shall be on-site during all construction that may impact the Soquel Creek lagoon. Construction includes repairs to the jetty and flume and installation and removal of the bypass, if one is used.
- 2.11 Breeding Bird Nest Take Prohibition. Permittee shall avoid active nests occurring near the project site. Permittee is responsible to comply with the Migratory Bird Treaty Act of 1918 and the Fish & Game Code of California, section 3503.
- 2.12 Wildlife Allowed to Move on Its Own. If wildlife is encountered during the project, Permittee shall allow wildlife to leave on its own accord. A CDFW-approved qualified biologist and fisheries biologist is allowed to rescue and relocate wildlife and fish species only in areas that are subject to dewatering by the project (see measure 2.16 and 2.17).
- 2.13 No Vegetation Removal. Permittee shall not remove any vegetation as part of this Agreement.

#### **In the Event a Bypass is Needed**

- 2.14 Aquatic Species and Fish Exclusion. A CDFW-approved qualified fisheries biologist shall seine the area of the lagoon that will be impacted by construction activities to exclude aquatic species and fish from the construction area. Once seining is complete, the CDFW-approved qualified fisheries biologist shall install block nets to prevent aquatic species and fish from reentering the area.
- 2.15 Block Net Removal. A CDFW-approved qualified fisheries biologist shall remove block net after the flume is closed for repair.
- 2.16 Check Hourly for Stranded Aquatic Species. The CDFW-approved qualified fisheries biologist (see Measure 1.7) shall check hourly for stranded aquatic life as lagoon flow is transferred into the bypass and the flume is closed. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas, using the techniques described in Measure 2.17.
- 2.17 Relocation of Native Fish and Amphibians. During installation of bypass structure, a CDFW-approved qualified fisheries biologist, with the necessary federal authorization, shall capture and relocate native fish, reptile, and amphibian species to suitable habitat to areas not subject to dewatering. Measures shall be taken to avoid harm and mortality resulting from fish, reptile, and amphibian relocation activities, as follows:
  - 2.17.1 Relocated Fish and Amphibians Records. Relocated fish and amphibians shall be moved to the nearest appropriate site for their protection and survival. The CDFW-approved qualified biologist and fisheries biologist shall record all relocated fish and amphibians. The record shall include the



date of capture and relocation, the method of capture, the location of the relocation site in relation to the project site, and the number and species of fish captured and relocated. The record shall be submitted seven (7) days after relocation is complete (see Measure 3.2).

- 2.17.2 Release Locations Criteria. Before capturing fish and amphibians, an appropriate release location(s) shall be determined. Permittee shall use the following criteria: (1) water temperature in the release locations shall be similar to water temperature at the capture location; (2) place species in locations containing protective cover (e.g., emergent vegetation or bank overhangs for captured fish); (3) be in proximity to the capture site however there shall be a low likelihood for the relocated species to re-enter the work site; (4) contain suitable habitat; (5) not be affected by project activities, and (6) to the best of the biologists knowledge, relocation areas shall be free of exotic predatory species (e.g., bullfrogs).
- 2.17.3 Handling Species. Handling of fish and amphibians shall be limited. However, when handling is necessary, the CDFW-approved qualified biologist and fisheries biologist shall always wet hands or nets prior to touching fish and amphibians.
- 2.17.4 Proper Holding Technique. The CDFW-approved qualified biologist and fisheries biologist shall temporarily hold fish and amphibians in cool, shaded, aerated water in a flow-through live car or buckets with water aeration devices. The CDFW-approved qualified biologist and fisheries biologist shall protect fish and amphibians from jostling and noise and shall not remove fish from this container until the time of release.
- 2.17.5 Water Temperatures and Water Changes. The CDFW-approved qualified biologist and fisheries biologist shall measure air and water temperatures periodically. A thermometer shall be placed in holding containers and, if necessary, periodically conduct partial water changes to maintain cool temperatures.
- 2.17.6 No Overcrowding. Overcrowding in containers shall be avoided by having at least two (2) containers and segregating young-of-year fish and amphibians from larger age-classes to avoid predation. Larger amphibians, such as California giant salamanders, shall be placed in the container with larger fish. If fish are abundant, the capturing of fish and amphibians shall cease periodically and shall be released to the predetermined locations.

- 2.17.7 Mortality Rate of Native Fish and Native Amphibians. If mortality during relocation exceeds five (5) percent, capturing efforts shall stop and Permittee shall immediately contact CDFW. Consultation with CDFW is required before re-commencing work.
- 2.17.8 Relocate Native Fish and Native Amphibians during Cool Temperatures. The qualified biologist shall conduct relocation activities in the morning when the temperatures are cooler.
- 2.18 Daily Water Quality Monitoring. Permittee shall monitor Soquel Creek lagoon water quality (e.g., temperature, dissolved oxygen, turbidity) daily while the bypass is installed. Water quality data shall be submitted to CDFW within 14 days of bypass removal. Upon CDFW determination that water quality levels resulting from project activities are a threat to aquatic life, project activities that are associated with water quality shall stop until effective CDFW-approved control devices are installed or abatement procedures are initiated.
- 2.19 Removal of Bypass Structure. Permittee shall remove all structures associated with the bypass and fill in trench with beach sand to the same elevation as the surrounding beach.

### **Concrete Measures**

- 2.20 Primary Containment. Permittee shall install the necessary containment structures to control the placement of wet concrete and to prevent it from entering into the Soquel Creek lagoon and out of those structures. No concrete shall be poured if the 10 day weather forecast indicates any chance of rain greater than 30 percent.
- 2.21 Cement Based Products. All cement based products (e.g., concrete, mortar, etc.) poured or applied wet on-site shall be excluded from Soquel Creek lagoon or areas where they may come into contact with water for a period of 30 days after application. During that time the product shall be kept moist and runoff from the product shall not be allowed to enter the stream. Commercial sealants may be applied to the product surface or mixture where difficulty in excluding flow for a long period may occur. If sealant is used, water shall be excluded from the site until the sealant is cured.
- 2.22 Concrete Designated Monitor. At all times when the Permittee is pouring or working with wet concrete there shall be a designated monitor to inspect the containment structures and ensure that no concrete or other debris enters into the channel outside of those structures.

### **General Construction Measures**

- 2.23 Equipment Operation from Beach. Permittee shall only operate equipment from the beach side of Soquel Creek. Permittee shall only move rock in shallow water of less than one foot, during low-tide.
- 2.24 Staging and Storage Areas. Construction equipment, building materials, fuels, lubricants and solvents shall not be stockpiled or stored where they could be washed into State waters or where they will cover aquatic or riparian vegetation.
- 2.25 Equipment Over Drip Pans. Stationary equipment such as motors, pumps, generators, compressors and welders, located within or adjacent to the stream and riparian areas shall be positioned over drip-pans.
- 2.26 Check Equipment for Leaks. Any equipment or vehicles driven and/or operated adjacent to the stream and riparian corridor shall be checked and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life, wildlife, or riparian habitat. Permittee shall move vehicles away from the stream before refueling and lubrication.
- 2.27 Hazardous Materials. Any hazardous or toxic materials that could be deleterious to aquatic life that could be washed into State waters or their tributaries shall be contained in water tight containers or removed from the project site.
- 2.28 Proper Disposal of Debris. All construction debris and trash shall be property disposed of appropriately.
- 2.29 Project Access. Permittee shall access to the project area via designated beach areas. In the case that the clean-up of a spill of material deleterious to fish and wildlife is necessary, additional access routes shall be coordinated with CDFW.
- 2.30 Toxic Materials. Any hazardous or toxic materials that could be deleterious to aquatic life that could be washed into the stream or its tributaries shall be contained in water tight containers or removed from the project site.
- 2.31 Hazardous Materials. Debris, soil, silt, bark, slash, sawdust, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, wildlife, or riparian habitat resulting from the project related activities shall be prevented from contaminating the soil and/or entering the Waters of the State.
- 2.32 Spill Kits. Prior to entering the work site, all field personnel shall know the location of spill kits and trained in their appropriate use.



- 2.33 Spill of Material Deleterious to Fish and Wildlife. In the event of a hazardous materials spill into a stream (e.g., concrete or bentonite), Permittee shall immediately notify the California Office of Emergency Services State Warning Center by calling 1-800-852-7550 and immediately provide written notification to CDFW by email at [R31600Program@wildlife.ca.gov](mailto:R31600Program@wildlife.ca.gov). Permittee shall take all reasonable measures to document the extent of the impacts and affected areas including photographic documentation of affected areas, injured fish and wildlife. If dead fish or wildlife are found in the affected area, Permittee shall collect carcasses and immediately deliver them to CDFW. Permittee shall meet with CDFW within ten days of the reported spill in order to develop a resolution including: site clean-up, site remediation and compensatory mitigation for the harm caused to fish, wildlife and the habitats on which they depend as a result of the spill. The Permittee shall be responsible for all spill clean-up, site remediation and compensatory mitigation costs. Spill of materials to waters of the state that are deleterious to fish and wildlife are in violation of Fish and Game Code section 5650 et. seq. and are subject to civil penalties for each person responsible. CDFW reserves the right to refer the matter to the District Attorney's Office if a resolution cannot be agreed upon and achieved within a specified timeframe, generally six months from the date of the incident.
- 2.34 Spill Containment. All activities performed in or near the river, stream, or lagoon shall have absorbent materials designated for spill containment and cleanup activities on-site for use in an accidental spill. The Permittee shall immediately notify the California Emergency Management Agency at 1-800-852-7550 and immediately initiate the cleanup activities. CDFW shall be notified by the Permittee and consulted regarding clean-up procedures.

### 3. Reporting Measures

Permittee shall meet each reporting requirement described below.

- 3.1 CDFW Prior to Project Commencement/Completion. Permittee shall notify CDFW Bay Delta Region in writing, at least five (5) calendar days prior to initiation of project activities and at least five (5) calendar days post completion of project activities. Initial notification shall include the name(s) and contact information of the person(s) overseeing the project site. Notification can be made Monica Oey by email at [monica.oey@wildlife.ca.gov](mailto:monica.oey@wildlife.ca.gov), or by mail.
- 3.2 Biological Survey Report Submission. Results from special-status and wildlife survey(s) shall be sent to CDFW within seven (7) days after survey completion. Species relocation results shall be sent to CDFW within seven (7) days after relocation efforts is complete.
- 3.3 Photographic Documentation of Work. Prior to commencement of work a minimum of four (4) vantage points that offer representative views of the project site and

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work areas shall be identified. The Permittee shall photograph the project area from each of the vantage points, noting the direction and magnification of each photo. Upon completion of work, the Permittee shall photograph post-project conditions from the vantage points using the same direction and magnification as pre-project photos. A reference key shall be submitted with the photos describing the location of the photo, the direction of the view, and whether the photo is pre- or post-construction. All photos shall be submitted within 30 days of project completion.

- 3.4 Notification to the California Natural Diversity Database (CNDDDB). If any listed, rare, or special status species are detected during project surveys or on or around the project site during project activities, Permittee shall submit CNDDDB Field Survey Forms to CDFW in the manner described at the CNDDDB website (<http://www.dfg.ca.gov/biogeodata/cnddb/>) within 30 days of the sightings. Copies of such submittals shall also be submitted to the CDFW regional office as specified below.

#### CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Steve Jesberg  
City of Capitola  
420 Capitola Avenue  
Capitola, CA 95010  
Phone – (952) 944-5411  
Email – [sjesberg@ci.capitola.ca.us](mailto:sjesberg@ci.capitola.ca.us)

To Contact:

Brad Porter  
Moffatt & Nichol  
2185 N. California Blvd, Suite 500  
Phone – (925) 944-5411  
Email – [bporter@moffattnichol.com](mailto:bporter@moffattnichol.com)

To CDFW:

Department of Fish and Wildlife  
Bay Delta Region



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2825 Cordelia Road, Suite 100  
Fairfield, CA 94534  
Attn: Lake and Streambed Alteration Program – Monica Oey  
Notification #1600-2018-0227-R3  
Phone – (707) 428-2088  
Email – [monica.oey@wildlife.ca.gov](mailto:monica.oey@wildlife.ca.gov)

## **LIABILITY**

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

## **SUSPENSION AND REVOCATION**

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

## **ENFORCEMENT**

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

## **OTHER LEGAL OBLIGATIONS**

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with, from obtaining any other permits or authorizations

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that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it. For example, if the project causes take of a species listed as threatened or endangered under the Endangered Species Act (ESA), such take will be unlawful under the ESA absent a permit or other form of authorization from the U.S. Fish and Wildlife Service or National Marine Fisheries Service.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the Fish and Game Code including, but not limited to, Fish and Game Code sections 2050 *et seq.* (threatened and endangered species), section 3503 (bird nests and eggs), section 3503.5 (birds of prey), section 5650 (water pollution), section 5652 (refuse disposal into water), section 5901 (fish passage), section 5937 (sufficient water for fish), and section 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

#### **AMENDMENT**

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

#### **TRANSFER AND ASSIGNMENT**

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).



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## EXTENSIONS

In accordance with Fish and Game Code section 1605, subdivision (b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with Fish and Game Code section 1605, subdivisions (b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code § 1605, subd. (f)).

## EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable Fish and Game Code section 711.4 filing fee listed at <https://www.wildlife.ca.gov/Conservation/CEQA/Fees>.

## TERM

This Agreement shall expire on December 31, 2022, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as Fish and Game Code section 1605, subdivision (a)(2) requires.

## EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

- A. Notification of Lake or Streambed Alteration #1600-2018-0227-R3

## AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

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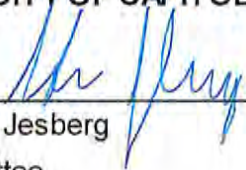
**AUTHORIZATION**

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with Fish and Game Code section 1602.

**CONCURRENCE**

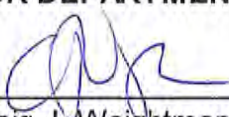
The undersigned accepts and agrees to comply with all provisions contained herein.

**FOR CITY OF CAPITOLA**

  
\_\_\_\_\_  
Steve Jesberg  
Permittee

11-28-18  
\_\_\_\_\_  
Date

**FOR DEPARTMENT OF FISH AND WILDLIFE**

  
\_\_\_\_\_  
Craig J. Weightman  
Environmental Program Manager

12/13/18  
\_\_\_\_\_  
Date

Prepared by: Monica Oey, Environmental Scientist

Date Sent: October 3, 2018

Date Revised: November 20, 2018

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California Coastal Commission

# COASTAL DEVELOPMENT PERMIT

## CDP 3-18-0814 (City of Capitola Jetty Rehabilitation)

Issue Date: April 29, 2019

Page 1 of 8

Coastal development permit (CDP) number 3-18-0814 was approved by the California Coastal Commission on April 10, 2019. CDP 3-18-0814 provides for the rehabilitation of the jetty that helps to form and maintain Capitola Beach, including retrieving and restacking jetty rock that has become dislodged over time and importing and adding approximately 380 cubic yards of new rock. Located on the beach and extending seaward about 250 feet from the eastern end of the Capitola Beach Esplanade in the City of Capitola-by-the-Sea

CDP 3-18-0814 is subject to certain terms and conditions, including the standard and special conditions beginning on page 2 of this CDP.

By my signature below, the CDP is issued on behalf of the California Coastal Commission:

Susan Craig, Central Coast District Manager, for John Ainsworth, Executive Director

### Acknowledgement

The undersigned Permittee acknowledges receipt of this coastal development permit and agrees to abide by all terms and conditions thereof. The undersigned Permittee acknowledges that Government Code Section 818.4 (that states in pertinent part that "a public entity is not liable for injury caused by the issuance of any permit") applies to the issuance of this coastal development permit.

Permittee: City of Capitola (Authorized Representative)

5-2-19

Date

### Standard Conditions

Please note that this coastal development permit is not valid unless and until a copy of it with the signed acknowledgement has been returned to the California Coastal Commission's Central Coast District Office (14 Cal. Admin. Code Section 13158).



# CDP 3-18-0814 (City of Capitola Jetty Rehabilitation)

Issue Date: April 29, 2019

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1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

## Special Conditions

1. **Approved Project.** This CDP authorizes restacking existing jetty rock, and importing and adding approximately 380 cubic yards of new rock, within the jetty configuration shown on the proposed project plans (dated October 10, 2018 and titled "Capitola Beach Jetty Rehabilitation" and dated received in the Coastal Commission's Central Coast District office on December 18, 2018; see **Exhibit 3**), and maintaining that configuration over time (see **Special Condition 5**) subject to the terms and conditions of this CDP.
2. **Construction Plan.** PRIOR TO CONSTRUCTION, the Permittee shall submit two copies of a Construction Plan to the Executive Director for review and written approval. The Construction Plan shall, at a minimum, include and provide for the following:
  - a. **Construction Areas.** The Construction Plan shall identify the specific location of all construction areas, all staging areas, and all construction access corridors in site plan view. All such areas within which construction activities and/or staging are to take place shall be minimized to the fullest extent feasible in order to have the least impact on public access to and along Capitola Beach, the Pacific Ocean, and other coastal resources. Special attention shall be given to siting and designing construction areas in order to minimize impacts on the ambiance and aesthetic values of the shoreline area, including but not limited to public views in the beach area.

## CDP 3-18-0814 (City of Capitola Jetty Rehabilitation)

Issue Date: April 29, 2019

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- b. **Construction Methods.** The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep construction areas separated from public use areas as much as feasible (including through use of unobtrusive fencing and/or other similar measures to delineate construction areas), including verification that equipment operation and equipment and material storage will not significantly degrade public views during construction. The Plan shall limit construction activities to avoid coastal resource impacts as much as possible.
- c. **Construction Timing.** Work shall only be allowed between October 15<sup>th</sup> and May 31<sup>st</sup>. No work shall occur during weekends, and all work shall take place during daylight hours (i.e., from one hour before sunrise to one hour after sunset). Nighttime work and lighting of the work area is prohibited unless, due to extenuating circumstances, the Executive Director authorizes such work on a case-specific basis.
- d. **Imported Rock Requirements.** Imported rock shall be inspected at an inland location and shall not be added to the jetty if it is determined to harbor any potential for leading to introduced species in the Monterey Bay National Marine Sanctuary. The Permittee shall coordinate with Sanctuary staff to ensure compliance with this requirement.
- e. **Construction Best Management Practices (BMPs).** The Construction Plan shall identify the type and location of erosion control/water quality best management practices that will be implemented during construction to protect coastal water quality and related coastal resources, including at a minimum all of the following:
  - 1. **Equipment BMPs.** Equipment washing, refueling, and/or servicing shall take place at an appropriate location inland of the beach to prevent leaks and spills of hazardous materials at the project site, preferably on an existing hard surface area (e.g., a road) or an area where collection of materials is facilitated. All construction equipment shall also be inspected and maintained at a similar inland location to prevent leaks and spills of hazardous materials at the project site.
  - 2. **Good Housekeeping BMPs.** The construction site shall maintain good construction housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain (including covering exposed piles of soil and wastes); dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the project site; etc.).
  - 3. **Rubber-tired Construction Vehicles.** Only rubber-tired construction vehicles are allowed on the beach and in the intertidal zone, except track vehicles may be used if the Executive Director determines that they are required to safely carry out construction.

## CDP 3-18-0814 (City of Capitola Jetty Rehabilitation)

Issue Date: April 29, 2019

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4. **Construction Material Storage.** All construction materials and equipment placed on or adjacent to the beach during daylight construction hours shall be stored beyond the reach of tidal waters. All construction materials and equipment shall be removed in their entirety from these areas by one hour after sunset each day that work occurs.
- (f) **Restoration.** All sandy beach and other public recreational use areas and all beach access points impacted by construction activities shall be restored to their pre-construction condition or better within three days of completion of construction. Any native materials impacted shall be filtered as necessary to remove all construction debris.
- (g) **Construction Site Documents.** The Construction Plan shall provide that copies of the signed CDP and the approved Construction Plan be maintained in a conspicuous location at the construction job site at all times, and that such copies be available for public review on request. All persons involved with project construction shall be briefed on the content and meaning of the CDP (including explicitly its terms and conditions) and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.
- (h) **Construction Coordinator.** The Construction Plan shall provide that a construction coordinator be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and that his/her contact information (i.e., address, phone numbers, email address, etc.) including, at a minimum, a telephone number (with message capabilities) and an email that will be made available 24 hours a day for the duration of construction, is conspicuously posted at the job site where such contact information is readily visible from public viewing areas while still protecting public views as much as possible, along with indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the contact information (e.g., address, email, phone number, etc.) and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry. All complaints and all actions taken in response shall be summarized and provided to the Executive Director within one week of receipt of the complaints.
- (i) **Construction Specifications.** The construction specifications and materials shall include appropriate provisions that require remediation for any work done inconsistent with the terms and conditions of the CDP.
- (j) **Notification.** The Permittee shall notify planning staff of the Coastal Commission's Central Coast District Office at least three working days in advance of commencement of construction, and immediately upon completion of construction.



## CDP 3-18-0814 (City of Capitola Jetty Rehabilitation)

Issue Date: April 29, 2019

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Minor adjustments to the above Construction Plan requirements may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources. All requirements above and all requirements of the approved Construction Plan shall be enforceable components of this CDP. The Permittee shall undertake development in conformance with this condition and the approved Construction Plan, unless the Commission amends this CDP or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

3. **As-Built Plans.** WITHIN THREE MONTHS OF COMPLETION OF CONSTRUCTION, the Permittee shall submit two copies of As-Built Plans to the Executive Director for review and written approval showing all elements of the jetty, including riprap and the interior concrete membrane. The As-Built Plans shall be substantially consistent with the approved project identified in **Special Condition 1**. The As-Built Plans shall include color photographs (in hard copy and jpg format) that clearly show the as-built project, and that are accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph. At a minimum, the photographs shall be from upcoast, seaward, and downcoast viewpoints on the beach and/or atop the jetty, and from a sufficient number of viewpoints as to provide complete photographic coverage of the permitted jetty. Such photographs shall be at a scale that allows comparisons to be made with the naked eye between photographs taken in different years and from the same vantage points. The As-Built Plans shall include vertical and horizontal reference markers from inland surveyed benchmarks for use in future monitoring efforts. The As-Built Plans shall be submitted with certification by a licensed civil engineer with experience in coastal structures and processes, acceptable to the Executive Director, verifying that the jetty has been constructed in conformance with the approved project identified in **Special Condition 1**.
4. **Monitoring and Reporting.** The Permittee shall ensure that the condition and performance of the approved as-built project is regularly monitored and maintained. Such monitoring evaluation shall at a minimum address whether any significant weathering or damage has occurred that would adversely impact future performance of the jetty, and identify any structural or other damage or wear and tear requiring repair and/or maintenance (subject to **Special Condition 5** below) to maintain the jetty in a structurally sound manner and in its approved state. The monitoring evaluation shall also identify any changes to the as-built project relative to the surveyed vertical and horizontal reference markers described in **Special Condition 3** above, and shall include a summary of seasonal (i.e., winter and summer) beach profiles including the approximate size of the beach during these seasons and corresponding photos. The jetty shall be monitored by a licensed civil engineer with experience in coastal structures and processes to ensure structural and cosmetic integrity, including evaluation of movement and slumping of rock. Monitoring reports covering the above-described evaluations, shall be submitted to the Executive Director for review and approval at five year intervals by May 1st of each fifth year measured from the year of approval of this CDP (with the first report due May 1, 2024, and subsequent reports due May 1, 2029, May 1, 2034, and so on) for as long as the approved as-built project exists at this location. The reports shall identify the existing configuration and condition of the jetty, and shall recommend actions necessary to

## CDP 3-18-0814 (City of Capitola Jetty Rehabilitation)

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maintain the jetty in its approved and/or required state, and shall include photographs with the date and time of the photographs and the location of each photographic viewpoint noted on a site plan. Actions necessary to maintain the approved as-built project in a structurally sound manner and in its approved state, subject to **Special Condition 5** below, shall be implemented within 30 days of Executive Director approval, unless a different time frame for implementation is identified by the Executive Director. Any proposed development to the as-built project which is not covered by **Special Condition 5** below shall require submission to the Coastal Commission of a CDP amendment application.

5. **Future Repair and Maintenance Authorized.** This CDP authorizes future repair and maintenance of the jetty subject to the following:
  - a) **Maintenance.** "Repair" and/or "maintenance," as understood in this special condition, means development that would otherwise require a CDP whose purpose is to maintain the jetty in its approved state. Repair and/or maintenance authorized under this CDP does not include physical enlargement of the jetty.
  - b) **Other Agency Approvals.** The Permittee acknowledges that these maintenance stipulations do not obviate the need to obtain any other necessary permits from other agencies for any future maintenance and/or repair episodes.
  - c) **Maintenance Notification.** At least 30 days prior to commencing any maintenance event, the Permittee shall notify, in writing, planning staff of the Coastal Commission's Central Coast District Office. The notification shall include: (1) a detailed description of the maintenance event proposed; (2) any plans, engineering and/or geology reports describing the event; (3) a construction plan that complies with all aspects of the approved construction plan (see **Special Condition 2**); (4) other agency authorizations, as applicable; and (5) any other supporting documentation describing the maintenance event. The maintenance event shall not commence until the Permittee has been informed by planning staff of the Coastal Commission's Central Coast District Office that the maintenance event complies with this CDP. If the Permittee has not been sent a written response within 30 days of the notification being received in the Central Coast District Office, the maintenance shall be authorized as if planning staff affirmatively indicated that the maintenance complies with this CDP. The notification shall clearly indicate that maintenance is proposed pursuant to this CDP, and that the lack of a written response to the notification within 30 days constitutes approval of the proposed maintenance event as specified in this CDP (and such automatic approval shall be void if not so indicated in the notice). In the event of an emergency requiring immediate maintenance, the notification of such emergency shall be made as soon as possible, and shall (in addition to the foregoing information) clearly describe the nature of the emergency.

## CDP 3-18-0814 (City of Capitola Jetty Rehabilitation)

Issue Date: April 29, 2019

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- d) **Maintenance Coordination.** Maintenance events shall, to the degree feasible, be coordinated with other maintenance events proposed in the immediate vicinity with the goal being to limit coastal resource impacts, including the length of time that construction occurs in and around the beach and bluff area, beach access points, and the Esplanade. As such, the Permittee shall make reasonable efforts to coordinate the Permittee's maintenance events with other adjacent events, including adjusting maintenance event scheduling as directed by planning staff of the Coastal Commission's Central Coast District Office.
- e) **Restoration.** The Permittee shall restore all areas (including the beach and all access points/routes) impacted by construction activities to their pre-construction condition or better within three days of completion of construction. Any beach sand impacted shall be filtered as necessary to remove all construction debris from the beach. The Permittee shall notify planning staff of the Coastal Commission's Central Coast District Office upon completion of restoration activities to allow for a site visit to verify that all beach- area restoration activities are complete. If planning staff should identify additional reasonable measures necessary to restore beach areas or access points to their pre- construction state, such measures shall be implemented as quickly and reasonably as possible.
- f) **Noncompliance Provision.** If the Permittee is not in compliance with the terms and conditions of any Coastal Commission CDPs (including this CDP) or other coastal authorizations that apply to the subject property, or are otherwise in violation of the Coastal Act, at the time that a maintenance event is proposed, then the maintenance event that might otherwise be allowed by the terms of this future maintenance condition may not be allowed by the Executive Director until the Permittee is in full compliance with all terms and conditions of said CDPs or other coastal authorizations and the Coastal Act.
- g) **Emergency.** In addition to the emergency provisions set forth in subsection (c) above, nothing in this condition shall affect the emergency authority provided by Coastal Act Section 30611, Coastal Act Section 30624, and Subchapter 4 of Chapter 5 of Title 14, Division 5.5, of the California Code of Regulations (Permits for Approval of Emergency Work).
- h) **Duration of Covered Maintenance.** Future maintenance under this CDP is allowed subject to the above terms until April 10, 2024. Maintenance may be carried out beyond April 10, 2024 under the same existing terms if the Permittee requests an extension of the maintenance provision of this CDP prior to April 10, 2024, and if the Executive Director d) **Maintenance Coordination.** Maintenance events shall, to the degree feasible, be coordinated with other maintenance events proposed in the immediate vicinity with the goal being to limit coastal resource impacts, including the length of time that construction occurs in and around the beach and bluff area, beach access points, and the Esplanade. As such, the Permittee shall make reasonable efforts to coordinate the Permittee's maintenance events with other adjacent events, including adjusting maintenance event scheduling as directed by planning staff of the Coastal Commission's Central Coast District Office.



## CDP 3-18-0814 (City of Capitola Jetty Rehabilitation)

Issue Date: April 29, 2019

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6. **Other Agency Approvals.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall provide to the Executive Director copies of all permits, permissions, or other required authorizations from the U.S. Army Corps of Engineers, National Marine Fisheries Service, California Department of Fish and Wildlife, Central Coast Regional Water Quality Control Board, Monterey Bay National Marine Sanctuary, and the California State Lands Commission, or evidence that no permits, permissions, or other authorizations from these agencies are required. The Permittee shall inform the Executive Director of any changes to the Commission-approved project required by such agencies. Such changes shall not be incorporated into the project until the Permittee obtains a Commission amendment to this CDP, unless the Executive Director issues a written determination that no amendment is legally required.
7. **Coastal Hazards Risk.** By acceptance of this CDP, the Permittee acknowledges and agrees to all of the following:
  - (a) **Coastal Hazards.** That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, tsunami, tidal scour, coastal flooding, landslides, bluff and geologic instability, bluff retreat, liquefaction and the interaction of same, many of which will worsen with future sea level rise.
  - (b) **Assume Risks.** To assume the risks to the Permittee and the property that is the subject of this CDP of injury and damage from such coastal hazards in connection with this permitted development.
  - (c) **Waive Liability.** To unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such coastal hazards.
  - (d) **Indemnification.** To indemnify and hold harmless the Coastal Commission, its officers, agents, and employees with respect to the Commission's approval of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such coastal hazards.
  - (e) **City Responsibility.** That any adverse effects to property caused by the permitted development shall be fully the responsibility of the City of Capitola.
8. **Liability for Costs and Attorneys' Fees.** The Permittee shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys' fees (including but not limited to such costs/fees that are: (1) charged by the Office of the Attorney General; and/o

**CALIFORNIA COASTAL COMMISSION**CENTRAL COAST DISTRICT OFFICE  
725 FRONT STREET, SUITE 300  
SANTA CRUZ, CALIFORNIA 95060-4508  
PH (831) 427-4863 FAX (831) 427-4877  
WWW.COASTAL.CA.GOV**NOTICE OF  
PERMIT WAIVER EFFECTIVENESS**

December 13, 2018

**To:** City of Capitola  
**From:** Susan Craig, District Manager  
 Rainey Graeven, Coastal Program Analyst  
**Subject:** Coastal Development Permit (CDP) Waiver 3-18-0721-W

RECEIVED  
 DEC 17 2018  
 CITY OF CAPITOLA


Please note that CDP Waiver 3-18-0721-W was reported to the California Coastal Commission on December 12, 2018 and became effective as of that date. CDP Waiver 3-18-0721-W allows for:

Repairs to an existing flume to restore it to its original function/configuration including: 1) repairing eroded concrete along an approximately 40-foot-long section of the flume's western side and along an approximately 85-foot-long section of the flume's eastern side; 2) installing fiberglass liners along the interior of the flume; and 3) replacing the five cutoff walls (located approximately 10, 20, 110, 165, and 195 feet from the Soquel Creek lagoon's inlet into the flume) that run perpendicular to and beneath the flume. This work will either be done following a natural breach of the Soquel Creek lagoon or by using a contingency bypass (i.e., installing a temporary pipe, which would function in the same capacity as the flume and temporarily redirect flows from the lagoon and to the Pacific Ocean) in the event there is unusually low rainfall and the lagoon does not naturally breach. The proposed project is located on Capitola Beach, extending from the mouth of the Soquel Creek lagoon to the Monterey Bay in the City of Capitola in Santa Cruz County.

Please be advised that CDP Waiver 3-18-0721-W only authorizes the development as proposed and described in the Commission's files; any changes to the proposed and described project may require a CDP to account for the changes or a CDP for the entire project. If you have any questions, please contact Rainey Graeven in the Central Coast District Office at the address and phone number above.

Sincerely,

John Ainsworth  
 Executive Director

Susan Craig   
 Central Coast District Manager

cc: File

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UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE

Monterey Bay National Marine Sanctuary  
99 Pacific Street, Building 455A  
Monterey, California 93940

May 17, 2019

Sent via Electronic Mail only

Kailash Mozumder  
City of Capitola  
420 Capitola Avenue  
Capitola, CA 95010

Dear Mr. Mozumder:

The National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries Program (ONMS) has approved the issuance of authorization number MBNMS-2018-023 to conduct certain authorized activities within Monterey Bay National Marine Sanctuary (sanctuary) that would otherwise be prohibited. Activities are to be conducted in accordance with the authorization application and all supporting materials submitted to the sanctuary, and the terms and conditions of authorization number MBNMS-2018-023 (enclosed).

This authorization is not valid until signed and returned to ONMS. Retain one signed copy and carry it with you while conducting the authorized activities. Additional copies must be signed and returned, by either mail or email, to the following individuals within 30 days of issuance and before commencing any activity under this authorization:


Sophie DeBeukelaer  
Permit Coordinator  
Monterey Bay National Marine Sanctuary  
99 Pacific Street, Building 455A  
Monterey, California 93940  
[Sophie.DeBeukelaer@noaa.gov](mailto:Sophie.DeBeukelaer@noaa.gov)

National Permit Coordinator  
NOAA Office of National Marine Sanctuaries  
1305 East-West Highway (N/ORM6)  
SSMC4, 11<sup>th</sup> Floor  
Silver Spring, MD 20910  
[nmspermits@noaa.gov](mailto:nmspermits@noaa.gov)

Your authorization contains specific terms, conditions and reporting requirements. Review them closely and fully comply with them while undertaking the authorized activities.

If you have any questions, please contact Sophie DeBeukelaer at [Sophie.DeBeukelaer@noaa.gov](mailto:Sophie.DeBeukelaer@noaa.gov). Thank you for your continued cooperation with ONMS.

Sincerely,



Paul Michel  
Superintendent

Enclosure





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE

Monterey Bay National Marine Sanctuary  
99 Pacific Street, Building 455A  
Monterey, California 93940

## MONTEREY BAY NATIONAL MARINE SANCTUARY AUTHORIZATION

**Authorization Holder:**  
Mr. Kailash Mozumder  
City of Capitola  
420 Capitola Avenue  
Capitola, CA 95010

**Authorization #:** MBNMS-2018-023  
**Effective Date:** May 17, 2019  
**Expiration Date:** April 10, 2024

**Project Title:** MBNMS Authorization of Coastal Development Permit (CDP) 3-18-0814 for the Capitola "Jetty" Rehabilitation Project

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This authorization is issued for activities in accordance with the National Marine Sanctuaries Act (NMSA), 16 USC §1431 *et seq.*, and regulations thereunder (15 CFR Part 922). All activities must be conducted in accordance with those regulations and law. No activity prohibited in 15 CFR Part 922 is allowed except as specified in the activity description below.

Subject to the terms and conditions of this authorization, the National Oceanic and Atmospheric Administration (NOAA), Office of National Marine Sanctuaries (ONMS) hereby authorizes the authorization holder listed above to conduct the below listed activities within Monterey Bay National Marine Sanctuary (MBNMS or sanctuary). All activities are to be conducted in accordance with this authorization and the authorization application received June 20, 2018 and supplemental information received April 30, 2019 (from California Coastal Commission staff), May 8, 2019 and May 9, 2019. The authorization application is incorporated into this authorization and made a part hereof; provided, however, that if there are any conflicts between the authorization application and the terms and conditions of this authorization, the terms and conditions of this authorization shall be controlling.

### **Authorized Activity Description:**

The following activities are allowed under this authorization:

All activities are to be conducted in accordance with this MBNMS authorization and the California Coastal Commission's Coastal Development Permit (CDP) 3-18-0814 approved on 4/10/19 for the rehabilitation of the Capitola "jetty" that helps to form and maintain Capitola Beach, including retrieving and restacking jetty rock that has become dislodged over time and importing and adding approximately 380 cubic yards of new rock.

No further activities prohibited by sanctuary regulations are allowed.





Mozumder  
Authorization # MBNMS-2018-023  
Page 2 of 4

**Authorized Activity Location:**

The authorized activity is allowed only in the following location(s):

The Capitola “jetty” is located on the beach and ocean area extending from the eastern end of the Capitola Beach Esplanade in the City of Capitola-by-the-Sea and continuing on the beach and into the ocean seaward approximately 250 feet.

**MBNMS specific Special Terms and Conditions:**

1. The City of Capitola will provide MBNMS staff ([Sophie.Debeukelaer@noaa.gov](mailto:Sophie.Debeukelaer@noaa.gov)) with a digital copy of the U.S. Army Corps of Engineers 404 compliance permit and the National Marine Fisheries Service consultation letter within 3 days of issuance.
2. Regulations for Monterey Bay National Marine Sanctuary prohibit unauthorized discharges from within the boundaries of MBNMS. Unauthorized discharges occurring outside MBNMS that subsequently enter and injure Sanctuary resources or qualities are similarly prohibited. In order to protect the health of MBNMS, the City of Capitola will notify our office immediately upon learning of an unauthorized discharge into MBNMS or with a potential to reach MBNMS by contacting MBNMS’ 24 hour emergency response phone at (831) 236-6797.
3. The City of Capitola will also provide MBNMS staff with a digital copy of the as-built plans (see Special Condition #3 in CDP3-18-0814) and monitoring reports (the first report due May 1, 2024, and subsequent reports due May 1, 2029, May 1, 2034, and so on) for as long as the approved as-built project exists at this location (see Special Condition #4 in CDP3-18-0814) via email to [Sophie.Debeukelaer@noaa.gov](mailto:Sophie.Debeukelaer@noaa.gov) and [mbnms.permits@noaa.gov](mailto:mbnms.permits@noaa.gov).

**General Terms and Conditions:**

1. Within 30 (thirty) days of the date of issuance, the authorization holder must sign and date this authorization for it to be considered valid. Once signed, the authorization holder must send copies, by either mail or email, to the following individuals:

Sophie DeBeukelaer  
Permit Coordinator  
Monterey Bay National Marine Sanctuary  
99 Pacific Street, Building 455A  
Monterey, California 93940  
[Sophie.DeBeukelaer@noaa.gov](mailto:Sophie.DeBeukelaer@noaa.gov)

National Permit Coordinator  
NOAA Office of National Marine Sanctuaries  
1305 East-West Highway (N/ORM6)  
SSMC4, 11<sup>th</sup> Floor  
Silver Spring, MD 20910  
[nmspermits@noaa.gov](mailto:nmspermits@noaa.gov)

2. Failure to comply with the terms and conditions of the the California Coastal Commission (CCC) Coastal Development Permit (CDP) Number 3-18-0814 constitutes a violation of this authorization.

Mozumder  
Authorization # MBNMS-2018-023  
Page 3 of 4

3. It is a violation of this authorization to conduct any activity allowed by this authorization prior to ONMS having received a copy signed by the authorization holder.
4. This authorization may only be amended by the Office of National Marine Sanctuaries. The authorization holder may not change or amend any part of this authorization at any time. The terms of the authorization must be accepted in full, without revision; otherwise, the authorization holder must return the authorization to the sanctuary office unsigned with a written explanation for its rejection. Amendments to this authorization must be requested in the same manner the original request was made.
5. All persons participating in the authorized activity must be under the supervision of the authorization holder, and the authorization holder is responsible for any violation of this authorization, the NMSA, and sanctuary regulations for activities conducted under, or in junction with, this authorization. The authorization holder must assure that all persons performing activities under this authorization are fully aware of the conditions herein.
6. This authorization is non-transferable and must be carried by the authorization holder at all times while engaging in any activity authorized by this authorization.
7. This authorization may be suspended, revoked, or modified for violation of the terms and conditions of this authorization, the regulations at 15 CFR Part 922, the NMSA, or for other good cause. Such action will be communicated in writing to the applicant or authorization holder, and will set forth the reason(s) for the action taken.
8. This authorization may be suspended, revoked or modified if requirements from previous Office of National Marine Sanctuaries permits or authorizations issued to the authorization holder are not fulfilled by their due date.
9. Permit applications for any future activities in the sanctuary or any other sanctuary in the system by the authorization holder might not be considered until all requirements from this authorization are fulfilled.
10. This authorization does not authorize the conduct of any activity prohibited by 15 CFR § 922, other than those specifically described in the "Authorized Activity Description" section of this authorization. If the authorization holder or any person acting under the authorization holder's supervision conducts, or causes to be conducted, any activity in the sanctuary not in accordance with the terms and conditions set forth in this authorization, or who otherwise violates such terms and conditions, the authorization holder may be subject to civil penalties, forfeiture, costs,

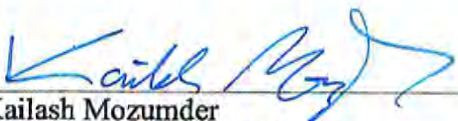


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Authorization # MBNMS-2018-023  
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and all other remedies under the NMSA and its implementing regulations at 15 CFR Part 922.

11. Any publications and/or reports resulting from activities conducted under the authority of this authorization must include the notation that the activity was conducted under Office of National Marine Sanctuaries authorization MBNMS-2018-023 and be sent to the ONMS officials listed in general condition number 1.
12. This authorization does not relieve the authorization holder of responsibility to comply with all other federal, state and local laws and regulations, and this authorization is not valid until all other necessary permits, authorizations, and approvals are obtained. Particularly, this authorization does not allow disturbance of marine mammals or seabirds protected under provisions of the Endangered Species Act, Marine Mammal Protection Act, or Migratory Bird Treaty Act. Authorization for incidental or direct harassment of species protected by these acts must be secured from the U.S. Fish and Wildlife Service and/or NOAA Fisheries, depending upon the species affected.
13. The authorization holder shall indemnify and hold harmless the Office of National Marine Sanctuaries, NOAA, the Department of Commerce and the United States for and against any claims arising from the conduct of any authorized activities.
14. Any question of interpretation of any term or condition of this authorization will be resolved by NOAA.

Your signature below, as authorization holder, indicates that you accept and agree to comply with all terms and conditions of this authorization. This authorization becomes valid when you, the authorization holder, countersign and date below. Please note that the expiration date on this authorization is already set and will not be extended by a delay in your signing below.

  
Kailash Mozumder  
Public Works Project Manager  
City of Capitola

5-24-2019  
Date

  
Paul Michel  
Superintendent  
Monterey Bay National Marine Sanctuary

May 17, 2019  
Date

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**APPENDIX B**

**SECTION 11.03  
COVID-19 CONSTRUCTION GUIDANCE**

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**Excerpt from Order of the Santa Cruz County Health Officer Effective May 1, 2020**

**Appendix B: Construction Site Requirements**

Construction authorized by Section 6(d) of this Order shall comply with the following requirements:

1. Practice social distancing by maintaining a minimum 6-foot distance from others.
2. Preclude gatherings of any size, and anytime two or more people must meet, ensure a minimum 6-foot coverings.
3. Provide personal protective equipment such as gloves, goggles, face shields and face coverings as appropriate for the activity being performed.
4. Identify “choke points” and “high-risk areas” where workers are forced to stand together, such as hallways, hoists and elevators, break areas, and buses, and control them so social distancing is maintained.
5. Minimize interactions when picking up or delivering equipment or materials, ensure minimum 6-foot separation.
6. Stagger the trades as necessary to reduce density and maintain minimum 6-foot separation social distancing.
7. Discourage workers from using other workers’ phones, desks, offices, work tools and equipment. If necessary, clean and disinfect them before and after use.
8. Post, in areas visible to all workers, required hygienic practices including not touching face with unwashed hands or with gloves; washing hands with soap and water for at least 20 seconds; use of hand sanitizer with at least 60% alcohol, cleaning AND disinfecting frequently touched objects and surfaces such as workstations, keyboards, telephones, handrails, machines, shared tools, elevator control buttons and doorknobs; covering the mouth and nose when coughing or sneezing as well as other hygienic recommendations by the CDC.
9. Place wash stations or hand sanitizers in multiple locations to encourage hand hygiene.
10. Require anyone on the project to stay home if they are sick, except to get medical care.
11. Have employees inform their supervisor if they have a sick family member at home with COVID-19.
12. Maintain a daily attendance log of all workers and visitors that includes contact information, including name, phone number, address and email.
13. Construction authorized by Section 6(d) shall designate a site-specific COVID-19 supervisor to enforce this guidance. The designated COVID-19 supervisor shall be present on the construction site at all times during construction activities. The COVID-19 supervisor can be an on-site worker who is designated to carry this role. The COVID-19 supervisor must review this Protocol with all workers and visitors to the construction site.

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# COVID-19 INDUSTRY GUIDANCE: Construction

May 12, 2020

[covid19.ca.gov](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/COVID-19/industry-guidance-construction.aspx)



# OVERVIEW

On March 19, 2020, the State Public Health Officer and Director of the California Department of Public Health issued an order requiring most Californians to stay at home to disrupt the spread of COVID-19 among the population.

The impact of COVID-19 on the health of Californians is not yet fully known. Reported illness ranges from very mild (some people have no symptoms) to severe illness that may result in death. Certain groups, including people aged 65 or older and those with serious underlying medical conditions, such as heart or lung disease or diabetes, are at higher risk of hospitalization and serious complications. Transmission is most likely when people are in close contact with an infected person, even if that person does not have any symptoms or has not yet developed symptoms.

Precise information about the number and rates of COVID-19 by industry or occupational groups, including among critical infrastructure workers, is not available at this time. There have been multiple outbreaks in a range of workplaces, indicating that workers are at risk of acquiring or transmitting COVID-19 infection. Examples of these workplaces include long-term care facilities, prisons, food production, warehouses, meat processing plants, and grocery stores.

As stay-at-home orders are modified, it is essential that all possible steps be taken to ensure the safety of workers and the public.

Key prevention practices include:

- ✓ physical distancing to the maximum extent possible,
- ✓ use of face coverings by employees (where respiratory protection is not required) and customers/clients,
- ✓ frequent handwashing and regular cleaning and disinfection,
- ✓ training employees on these and other elements of the COVID-19 prevention plan.

In addition, it will be critical to have in place appropriate processes to identify new cases of illness in workplaces and, when they are identified, to intervene quickly and work with public health authorities to halt the spread of the virus.

## Purpose

This document provides guidance for the construction industry to support a safe, clean environment for workers. The guidance is not intended to revoke or repeal any employee rights, either statutory, regulatory or collectively bargained, and is not exhaustive, as it does not include county health orders, nor is it a substitute for any existing safety and health-related regulatory requirements such as those of Cal/OSHA.<sup>1</sup> Stay current on changes to public health guidance and state/local orders, as the COVID-19 situation continues. Cal/OSHA has more safety and health guidance on their Cal/OSHA COVID-19 Infection Prevention for Construction Employers and Employees [webpage](#). CDC has additional guidance [for businesses and employers](#).





## Worksite Specific Plan

- Establish a written, worksite-specific COVID-19 prevention plan at every facility, perform a comprehensive risk assessment of all work areas, and designate a person at each facility to implement the plan.
- Identify contact information for the local health department where the facility is located for communicating information about COVID-19 outbreaks among employees.
- Train and communicate with employees and employee representatives on the plan.
- Regularly evaluate the workplace for compliance with the plan and document and correct deficiencies identified.
- Investigate any COVID-19 illness and determine if any work-related factors could have contributed to risk of infection. Update the plan as needed to prevent further cases.
- Identify close contacts (within six feet for 15 minutes or more) of an infected employee and take steps to isolate COVID-19 positive employee(s) and close contacts.
- Adhere to the guidelines below. Failure to do so could result in workplace illnesses that may cause operations to be temporarily closed or limited.



## Topics for Employee Training

- Information on [COVID-19](#), how to prevent it from spreading, and which underlying health conditions may make individuals more susceptible to contracting the virus.
- Self-screening at home, including temperature and/or symptom checks using [CDC guidelines](#).
- The importance of not coming to work if employees have a frequent cough, fever, difficulty breathing, chills, muscle pain, headache, sore throat, recent loss of taste or smell, or if they or someone they live with have been diagnosed with COVID-19.
- To seek medical attention if their symptoms become severe, including persistent pain or pressure in the chest, confusion, or bluish lips or face. Updates and further details are available on [CDC's webpage](#).

- The importance of frequent handwashing with soap and water, including scrubbing with soap for 20 seconds (or using hand sanitizer with at least 60% ethanol or 70% isopropanol when employees cannot get to a sink or handwashing station, per [CDC guidelines](#)).
- The importance of physical distancing, both at work and off work time (see Physical Distancing section below).
- Proper use of face coverings, including:
  - Face coverings do not protect the wearer and are not personal protective equipment (PPE).
  - Face coverings can help protect people near the wearer, but do not replace the need for physical distancing and frequent handwashing.
  - Employees should wash or sanitize hands before and after using or adjusting face coverings.
  - Avoid touching eyes, nose, and mouth.
  - Face coverings should be washed after each shift.
- Ensure temporary or contract workers at the facility are also properly trained in COVID-19 prevention policies and have necessary PPE. Discuss these responsibilities ahead of time with organizations supplying temporary and/or contract workers.
- Information on employer or government-sponsored leave benefits the employee may be entitled to receive that would make it financially easier to stay at home. See additional information on [government programs supporting sick leave and worker's compensation for COVID-19](#), including employee's sick leave rights under the [Families First Coronavirus Response Act](#) and employee's rights to workers' compensation benefits and presumption of the work-relatedness of COVID-19 pursuant to the Governor's [Executive Order N-62-20](#).



## Individual Control Measures and Screening

- Provide temperature and/or symptom screenings for all workers at the beginning of their shift and any vendors, contractors, or other workers entering the establishment. Make sure the temperature/symptom screener avoids close contact with workers to the extent possible. Both screeners and employees should wear face coverings for the screening.
- If requiring self-screening at home, which is an appropriate alternative to providing it at the establishment, ensure that screening was performed

prior to the worker leaving the home for their shift and follows [CDC guidelines](#), as described in the Topics for Employee Training section above.

- Encourage workers who are sick or exhibiting symptoms of COVID-19 to stay home.
- Employers should provide and ensure workers use all required protective equipment, including face coverings and gloves where necessary.
- Employers should consider where disposable glove use may be helpful to supplement frequent handwashing or use of hand sanitizer; examples are for workers who are screening others for symptoms or handling commonly touched items.
- Face coverings strongly recommended when employees are in the vicinity of others. Workers should have face coverings available and wear them when on-site, in breakrooms and offices or in a vehicle for work-related travel when traveling with others. Face coverings must not be shared.
- Non-employees entering the jobsite should be restricted to only those classified as essential by management and they must complete a temperature and/or symptom screening before entering. Delivery drivers, vendors, and all others entering the facility are required to wear face coverings.



## Cleaning and Disinfecting Protocols

- Perform thorough cleaning on high traffic areas such as break rooms, lunch areas, and changing areas, and areas of ingress and egress including, stairways and stairwells, handrails, elevators controls and frequently disinfect commonly used surfaces, including, doorknobs, toilets, handwashing facilities, etc.
- Clean touchable surfaces between shifts or between users, whichever is more frequent, including but not limited to working surfaces, tools, handles and latches, and controls on stationary and mobile equipment, including surfaces in the cabs of all vehicles.
- Require workers to wash hands or use sanitizer between the use of shared equipment, such as workstation tools, radios, time clocks, mobilized carts, and other items and allow paid work time to do so.
- Require that employer-owned and controlled equipment, such as hard hats and any face shields, be sanitized at the end of each shift. Clean

and disinfect the inside of the equipment, then the outside, then wash hands.

- Encourage workers who own their own hard hats to follow the same cleaning protocol and provide the proper cleaning and sanitation products. Allow paid work time to complete such cleaning.
- Avoid sharing phones, office supplies, other work tools, or handheld mobile communications equipment wherever possible. Individually-assigned peripheral equipment (keyboards, handsets, headsets, chairs, etc.) should be provided wherever possible. If necessary, clean and disinfect them before and after each use. Never share PPE.
- Provide time for workers to implement cleaning practices during their shift. Cleaning assignments should be assigned during working hours as **part of the employee's job duties**.
- Ensure that sanitary facilities stay operational and stocked at all times and provide additional soap, paper towels, and hand sanitizer when needed.
- Provide additional sanitary facilities (including portable toilets and handwashing stations) if feasible and necessary to maintain physical distancing during scheduled breaks.
- Install hands-free devices, if possible, including motion sensor sinks, soap dispensers, sanitizer dispensers, and paper towel dispensers.
- When choosing cleaning chemicals, employers should use product approved for use against COVID-19 listed on the [Environmental Protection Agency \(EPA\)-approved](#) list and follow product instructions. Use disinfectant labels labeled to be effective against emerging viral pathogens, diluted household bleach solutions (5 tablespoons per gallon of water), or alcohol solutions with at least 70% alcohol that are appropriate for the surface. Provide employees training on **manufacturer's directions** and Cal/OSHA requirements for safe use. Workers using cleaners or disinfectants should wear gloves as required by the product instructions.
- Consider installing portable high-efficiency air cleaners, upgrading the **building or construction trailer's** air filters to the highest efficiency possible, and making other modifications to increase the quantity of outside air and ventilation in work and break areas.



## Physical Distancing Guidelines

- Implement measures to ensure physical distancing of at least six feet between workers. These can include use of physical partitions or visual cues (e.g., floor markings or signs to indicate to where workers should stand). Reassign personal staging areas to increase distance between employees. Designate separate entrance and exits and post signage to this effect.
- Adjust on-site meetings to ensure physical distance and instead implement smaller individual safety meetings at the jobsite to maintain physical distancing guidelines. Transition other meetings and interviews to phone or digital platforms or hold outside or in a space allowing for at least six feet of physical distance between employees.
- Consider offering workers who request modified duties options that minimize their contact with customers and other employees (e.g., managing inventory rather than working as a cashier or managing administrative needs through telework).
- Utilize work practices, when feasible and necessary, to limit the number of workers on the jobsite at one time. This may include scheduling (e.g. staggering shift start/end times) or rotating crew access to a designated area during a shift. Stage the jobsite to stagger work and limit overlap of work crews. Place additional limitations on the number of workers in enclosed areas, where six feet of separation may not be sufficient to limit transmission of the virus.
- Stagger employee breaks, within compliance with wage and hour regulations, to maintain physical distancing protocols.
- Close breakrooms, use barriers, or increase distance between tables/chairs to separate workers and discourage congregating during breaks. Where possible, create outdoor break areas with shade covers and seating that ensures physical distancing.
- Workers should consider bringing a lunch made at home or purchase take out or delivery where available as long as they can avoid congested areas.
- Use the following hierarchy to prevent transmission of COVID-19 in production and other work areas: engineering controls, administrative controls, and PPE.

- Engineering controls include creating physical or spatial barriers between employees such as Plexiglas or other sturdy and impermeable partitions. Where appropriate, install such barriers in offices to create separation between workers.
- Administrative controls include slowing operations and increasing shifts, within safety requirements, and ensuring adequate time for proper cleaning and disinfection protocols.
- PPE includes face shields, respiratory protection, and impermeable gloves. Note that some equipment such as some disposable face shields and N95 respirators are prioritized for health care workers. If those are in use, consider changing to reusable elastomeric respirators to conserve supplies for healthcare facilities.

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<sup>1</sup>Additional requirements must be considered for vulnerable populations. Employers must comply with all [Cal/OSHA](#) standards and be prepared to adhere to its guidance as well as guidance from the [Centers for Disease Control and Prevention \(CDC\)](#) and the [California Department of Public Health \(CDPH\)](#). Additionally, employers must be prepared to alter their operations as those guidelines change.





# COVID-19 General Checklist for Construction Employers

May 7, 2020

This checklist is intended to help construction employers implement their plan to prevent the spread of COVID-19 in the workplace and is supplemental to the [Guidance for Construction Employers](#). This checklist is a summary and contains shorthand for some parts of the guidance; familiarize yourself with the guidance before using this checklist.



## Contents of Written Worksite Specific Plan

- The person(s) responsible for implementing the plan.
- A risk assessment and the measures that will be taken to prevent spread of the virus.
- Training and communication with employees and employee representatives on the plan.
- A process to check for compliance and to document and correct deficiencies.
- A process to investigate COVID-cases, alert the local health department, and identify and isolate close workplace contacts of infected employees until they are tested.
- Update the plan as necessary to prevent further cases.



## Topics for Employee Training

- Information on [COVID-19](#), preventing spread, and who is especially vulnerable.
- Self-screening at home, including temperature and/or symptom checks using [CDC guidelines](#).
- The importance of not coming to work if employees have a frequent cough, fever, difficulty breathing, chills, muscle pain, headache, sore throat, recent loss of taste or smell, or if they or someone they live with have been diagnosed with COVID-19.
- When to seek medical attention.
- The importance of hand washing.
- The importance of physical distancing, both at work and off work time.
- Proper use of cloth face covers.



## Individual Control Measures & Screening

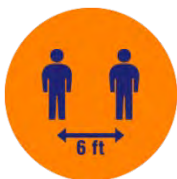
- Symptom screenings and/or temperature checks.

- Encourage workers who are sick or exhibiting symptoms of COVID-19 to stay home.
- Encourage frequent handwashing and use of hand sanitizer.
- Provide disposable gloves to workers using cleaners and disinfectants when required. Consider gloves as a supplement to frequent hand washing for other cleaning, tasks such as handling commonly touched items or conducting symptom screening.
- Strongly recommend cloth face covers.
- Restrict non-employee personnel on the job site, conduct screening and encourage the use of face masks or covers.



## Cleaning and Disinfecting Protocols

- Perform thorough cleaning in high traffic areas.
- Frequently disinfect commonly used surfaces.
- Clean and sanitize shared equipment between each use.
- Clean touchable surfaces between shifts or between users, whichever is more frequent.
- Require workers to wash hands or use sanitizer after using shared equipment.
- Sanitize PPE at the end of the shift.
- Avoid sharing phones, work tools, etc. wherever possible.
- Keep sanitary facilities stocked.
- Provide additional toilets and hand washing stations if needed for physical distancing during breaks.
- Use products approved for use against COVID-19 on the [Environmental Protection Agency \(EPA\)-approved](#) list and follow product instructions and Cal/OSHA requirements.
- Install hands-free devices if possible, including motion sensor sinks, soap dispensers, sanitizer dispensers, and paper towel dispensers.
- Consider upgrades to improve air filtration and ventilation.



## Physical Distancing Guidelines

- Implement measures to ensure workers are at least six feet apart.
- Adjust on-site meetings to ensure physical distancing.
- Limit the number of workers on the jobsite at one time if necessary.
- Stagger employee breaks, if needed, to maintain physical distancing protocols.
- Reconfigure break areas for physical distance.
- Avoid congested areas at lunch.

