

**INVITATION FOR BIDS
CONTRACT No. 2025-03**

for

**Surfers Beach Restoration
Pilot Project**

San Mateo County Harbor District



NOTICE INVITING BIDS

NOTICE IS HEREBY GIVEN that sealed bids will be received in the Harbor District Administrative Offices, San Mateo County Harbor District (District), either by U.S. Postal Service addressed to its mailing address, PO Box 1449, El Granada, CA 94018, or by courier or personal delivery to 504 Avenue Alhambra, 2nd Floor, El Granada, CA 94018, on **May 6, 2025 by 2:00 p.m., Pacific Standard Time**, at which time bids will be publicly opened and read for the following:

CONTRACT NO. 2025-03 **Surfers Beach Pilot Restoration Project**

The District seeks bids for the **construction of the Surfers Beach Restoration Pilot Project**. Bids shall be submitted on the District's "Bid Form" and enclosed in a sealed envelope marked "**CONTRACT NO. 2025-03, Surfers Beach Restoration Pilot Project,**" and plainly endorsed with Bidder's name and address.

Only bids from qualified bidders will be accepted. Your attention is directed to the Request for Qualification of Bidders issued concurrently herewith. It is mandatory that all Contractors who intend to submit a bid, fully complete the qualification questionnaire, demonstrate that they meet the minimum qualification requirements, and provide all materials requested in the Request for Qualification of Bidders. No bid will be accepted from a Contractor that has failed to comply with these requirements.

Bidders bidding as the prime contractor must possess a valid State of California **Class A, (or applicable)** Contractor's License at the time of contract award. All subcontractors, if any, must be properly licensed by the State of California to perform specialized trades.

A pre-bid conference and site visit will be held prior to the date of bid opening. District staff will be available to answer general questions pertaining to the solicitation documents and the specifications. Any questions that may require staff research to answer or that will otherwise modify the meaning or intent of this solicitation shall be submitted to the District in writing as described in Special Provision 1.8. The pre-bid conference will take place on **April 18, 2025 at 10:30 am at the San Mateo County Harbor District administrative office conference room (504 Ave Alhambra, El Granada CA)**. This will be a hybrid meeting with an option to join remotely, online via Zoom using the following link: <https://us02web.zoom.us/j/87097171286?pwd=hHDWL3coMSivtj1siEmD0GiCXmetD9.1>

There will be a site visit immediately following the pre-bid conference at the project location, for those attending in person. Any individuals who participate in a site visit must bring their own safety gear (hard hat, safety vest, safety glasses, and steel toed shoes) to wear during the site visit.

Bids must be accompanied by a deposit either in the form of a certified or cashier's check or Bidder's Bond, as described in the documents, which shall be applied to damages sustained by the District in the event that the successful Bidder fails or refuses to enter into a contract awarded to it by the District.

Requests for modifications or clarifications of any requirement must be submitted in writing to San Mateo County Harbor District, attn: Capital Improvement Projects (Surfers Beach Restoration Pilot Project) by e-mail at jmoren@smharbor.com by **April 21, 2025 at 4:30 p.m., Pacific Standard Time**.

This is a Public Works Contract. The general prevailing rates of per diem wages and the general prevailing rates for regular (straight) time, holiday and overtime work in San Mateo County for each

craft, classification and type of worker needed to execute the Contract shall be set forth in the current General Prevailing Wage Determinations made by the Director of Industrial Relations pursuant to California Labor Code Sections 1720 et seq. The current General Prevailing Wage Determinations are incorporated into the Contract and are available at the California Department of Industrial Relations' website (www.dir.ca.gov/dlsr/DPreWageDetermination.htm). Should the general prevailing wage rates not specify a wage determination for a particular type of worker, attention is directed to 8 CCR 16202(b) regarding petitioning the Director of the California Department of Industrial Relations for a special wage determination. Responsibility for labor law enforcement remains with the Division of Labor Standards Enforcement.

The successful Bidder will be required to furnish a Performance Bond and a Payment Bond, both in the amount set forth in the Special Provisions.

Pursuant to Public Contract Code Section 22300, the successful Bidder may submit certain securities in lieu of the District withholding funds from progress payments (retention) during the Project.

Bids will be examined and reported to the General Manager within ninety (90) calendar days after the bids have been opened. The District reserves the right to reject any and all bids, or to waive any irregularities or informalities in any bid or in the bid procedure, or to postpone the bid opening for good cause. No Bidder may withdraw its bid for a period of ninety (90) calendar days after the date of opening of the bids. Each Bidder will be notified of award of contract, if award is made.

Contractors and subcontractors must be registered with the Department of Industrial Relations (DIR) at the time of bid, or else the bid may be rejected as non-responsive. (See Labor Code sections 1725.5 and 1771.1.) For federally funded projects, the contractor and subcontractors must be registered at the time of contract award. (See Labor Code section 1771.1(a)). Each bidder must submit proof of contractor registration with DIR (e.g. a hard copy of the relevant page of the DIR's database found at: <https://efiling.dir.ca.gov/PWCR/Search>). This Contract is subject to monitoring and enforcement by the DIR pursuant to Labor Code Section 1771.4.

To inspect and obtain the Bid Documents or for additional information, please contact San Mateo County Harbor District, Capital Improvement Projects by e-mail at jmoren@smharbor.com or on District website; smharbor.com.

Dated at El Granada, this April 7, 2025.

CONTRACT NO. 2025-03
Surfers Beach Restoration Pilot
Project

GENERAL CONDITIONS AND INSTRUCTIONS FOR BIDDERS

SAN MATEO COUNTY HARBOR DISTRICT

GENERAL CONDITIONS AND INSTRUCTIONS FOR BIDDERS

These General Conditions and Instructions apply to all bids, except insofar as they may be modified by the Special Provisions, Technical Specifications or Bid Forms.

1. **Definition of Terms.** Whenever in the Bid or Contract Documents the following terms or pronouns in place of them, or abbreviations are used the intent and meaning shall be interpreted as follows:

"District" shall mean San Mateo County Harbor District.

"Board," "Director," "Directors," or "Board of Directors" shall mean the five (5) member governing board of the San Mateo County Harbor District or members thereof.

"Secretary" means the Administrative Assistant/Deputy Secretary of the Board of the San Mateo County Harbor District.

"General Manager" means General Manager of the San Mateo County Harbor District.

"Contractor" means the successful bidder to whom a contract is awarded.

"Written Order" means a written order signed by the General Manager or properly authorized representative or agent, mailed to the Contractor at the address designated in the firm's Bid, or to such other address as may be designated in writing as its official place of business.

"Bid Documents" or "Contract Documents" mean the Notice Inviting Sealed Bids, General Conditions and Instructions for Bidders, Special Provisions, Technical Specifications, Bid Forms and Addenda, if any.

"Bidder" or "Bid" means Proposer or Proposal, respectively.

2. **Explanations and Clarifications**

- A. **Request for Interpretation or Correction.** Prospective Bidders must examine the Contract Documents carefully. It shall be the duty of every person contemplating submitting a Bid for the proposed Contract, to contact the Secretary and request in writing, before bidding, an interpretation or correction of every discrepancy, ambiguity, error or omission in any of the Contract Documents which should have been discovered by a reasonably prudent Bidder.

Any interpretation, change or correction of said Contract Documents will be made by addenda only, duly issued by the District. Copies of such addenda will be mailed or delivered to each firm receiving a set of said specifications. Upon such mailing or delivery, such addendum will become a part of the Contract Documents, and binding on all Bidders whether or not actual notices of such addenda are shown.

- B. Interpretations or Corrections Binding. Only the written interpretation or correction so given by the District shall be binding. All oral modifications of the Contract Documents are void and ineffective.
3. Form of Bid and Signature. The Bid shall be made on the form provided and shall be enclosed in a sealed envelope marked and addressed as required. If the Bid is made by a sole owner, it shall be signed with the firm's full name and its address shall be given; if it is made by a partnership, it shall be signed with the partnership name by a member of the firm, who shall also sign its own name, and the name and address of each member of the firm shall be given; and if it is made by a corporation it shall be signed by **two** officers of the corporation, consisting of (1) the chairman of the board, president, or vice president, and (2) the secretary, assistant secretary, chief financial officer, assistant financial officer, or by a person authorized by the corporation to execute written Contracts on its behalf. If the Bid made by a corporation is signed by a person other than an officer, or by only one officer, there must be attached to the Bid a certified copy of a resolution of the corporation authorizing such officer or person to sign Bids on behalf of the corporation. If it is made by a joint venture, it shall be signed on behalf of each participating company by officers or other individuals who have the full and proper authorization so to do. If it is made by an LLC, it must be signed by an officer or other member who has full and proper authorization to execute contracts on behalf of the LLC. Bids submitted in any other form will be considered non-responsive and may be rejected.
4. Bid Form. Blank spaces in the Bid shall be properly filled. The phraseology of the Bid must not be changed and no additions shall be made to the items mentioned therein. Alterations by erasure or interlineations must be explained or noted in the Bid over the signature of the Bidder. If the unit price and the total amount named by a Bidder for any item do not agree, the unit price alone will be considered as representing the Bidder's intention. Any mathematical errors apparent on the face of the Bid shall be corrected and the mathematically correct total shall be used to determine the lowest Bidder.
5. Unauthorized Conditions. Unauthorized conditions, limitations or provisions attached to a Bid will render it informal and may cause its rejection. No telegraphic Bids or modifications will be considered.
6. Submission of Bid. Prior to the hour specified in the notice inviting sealed Bids, all Bids shall be delivered to the Secretary at the address shown in the Notice. All Bids shall be in a sealed envelope properly endorsed as to the item being Bid and the Bidder's name and address. No Bids received after said time or at any place other than the time and place as stated in the notice will be considered.
7. Withdrawal of Bid. Any Bid may be withdrawn at any time prior to the time fixed in the public notice for the opening of Bids only by written request for the withdrawal of the Bid filed with the District. The request shall be executed by the Bidder or its duly authorized representative.

A telephonic request is not acceptable. The District will accept facsimile or email transmissions of properly executed requests that are received by the District prior to the time fixed in the public notice for the opening of Bids. The District will not be responsible for interruptions, delays, or any other unsuccessful facsimile or email transmission of Bid

withdrawals, whether or not caused by the District's facsimile equipment. The withdrawal of a Bid does not prejudice the right of the Bidder to file a new Bid. Whether or not Bids are opened exactly at the time fixed in the public notice opening Bids, a Bid will not be received after that time, nor may any Bid be withdrawn after the time fixed in the public notice for the opening of Bids.

8. **Canvass of Bid.** At the hour specified in the notice, the Secretary will open, examine and publicly declare all Bids received. Bidders, their representatives, and others interested are invited to be present at the opening of Bids. Award will be made or Bids rejected by the District within the time specified in the Specifications or Bid Forms or, if not specified, within a reasonable time after Bids have been opened. The District reserves the right to postpone the Bid opening for its own convenience.
9. **Award of Contract.** The award of the Contract, if awarded, will be made to the lowest responsible Bidder whose Bid complies with the requirements prescribed and whose qualifications are satisfactory to the District. Such award, if made, will be made within ninety (90) days after the opening of the Bids. If the lowest responsible Bidder refuses or fails to execute the Contract or file the required bonds, the District may award the Contract to the second lowest responsible Bidder. 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 District and the Bidders concerned. All Bidders shall be notified of the award.
10. **Rejection of Bids.** The District may reject any and all Bids. The District also reserves the right to waive any irregularities or informalities in any Bid or in the bidding procedure. All Bidders shall be notified of the award. All Bids must remain in effect at least ninety (90) days from the Bid opening date.
11. **Taxes.** The supplies, materials or equipment called for under the Specifications will be used by the District in the performance of a governmental function and are exempt from taxation by the United States Government, and the District will, if requested, furnish a tax exemption certificate and any and all affidavits and documents that may be necessary to establish such exemption. California State sales or use taxes shall be included in the Bid price.
12. **Additional Taxes.** Any sales tax, use tax, imposts, revenues, excise, or other taxes which may hereafter be imposed by the State of California or any political subdivision thereof, and applicable to the sale of the material delivered as a result of the Bidder's Bid and which, by the terms of the tax law may be passed directly to the purchases, will be included in the Bid price.
13. **Alternative Bid.** Submission of alternative Bid or Bids, except as specifically called for in the Specifications or Bid Forms, will render it informal and may cause its rejection.
14. **Bidder's Security.** Each Bidder shall submit with its Bid one of the following forms of Bidder's security:

- (a) An unconditional Certified or Cashier's Check on a solvent bank, in an amount equal to at least ten percent (10%) of the amount Bid, payable to the order of San Mateo County Harbor District; or
- (b) A Bidder's Bond, in an amount equal to at least ten percent (10%) of the amount Bid, using the form entitled "Bidder's Bond," provided with the Bid documents, and properly executed and acknowledged by the Bidder and by a corporate surety authorized to transact such business in the State of California and acceptable to the District.

Any condition or limitation placed upon said check or any alteration of said form of bond, or imperfection in the execution thereof, as herein required will render it informal and may, at the option of the District, result in the rejection of the Bid under which such check or bond is submitted. Said check or Bidder's Bond shall be a guarantee that the Bidder(s), if awarded the Contract, will execute the required Contract and bonds within fifteen (15) days after receipt of the contract and bond forms from the District or such additional time as may be allowed by the District. If the Bidder(s) fails or refuses to execute the required Contract and bonds within said time, the money and proceeds from the check or bond as the case may be, shall be applied towards payment of the damage to the District on account of the delay in the execution of the Contract and bonds and the performance of the work thereunder, and the necessity of accepting a higher or less desirable Bid resulting from such failure or refusal to execute the Contract and bonds required. The amount of the check or bond as the case may be, shall not constitute a limitation upon the right of the District to recover for the full amount of such damage. The check or bond of the successful Bidder(s) and the next two highest Bidders will be returned after the execution of the Contract with the successful Bidder(s) and the approval of its bonds on behalf of the District, and the checks or bonds of the other Bidders will be returned promptly after the Bids have been opened and reviewed by the District.

- 15. **Permits and Licenses.** To the extent permit and licensing requirements are applicable, the Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.
- 16. **Statement of Experience and Qualifications.** Upon request, the Bidder may be required to prove to the District's satisfaction that it has the skill and experience and that it has the necessary facilities and ample financial resources to perform the Contract in a satisfactory manner and within the required time.
- 17. **Waiver.** The Bidder shall represent and warrant that it has sufficiently informed itself in all matters affecting the performance of the work or the furnishing of the labor, supplies, material or equipment called for in the Specifications; that Bidder has checked its Bid for errors and omissions; that the prices stated in its Bid are correct and as intended by it and are a complete and correct statement of its prices for performing the work or furnishing the labor, supplies, materials or equipment required by the Contract Documents.

The Bidder waives any claim for the return of its Bid deposit if, on account of errors or omissions claimed to have been made by it in its Bid, or for any other reason, it should refuse or fail to execute the Contract.

18. **Non-Collusion Certification.** By submitting a Bid, the Bidder represents and warrants that such Bid is genuine and not sham or collusive or made in the interest or in behalf of any person not therein named, and that the Bidder has not, directly or indirectly, induced or solicited any other Bidder to put in a sham Bid, or any other person, firm or corporation to refrain from bidding, and that the Bidder has not in any manner sought by collusion to secure to the Bidder an advantage over any other Bidder.
19. **Penalty for Collusion.** If at any time it shall be found that the person, firm or corporation to whom a Contract has been awarded has, in presenting any Bid or Bids, colluded with any other party or parties, then the Contract so awarded shall be null and void and the Contractor and its bondsmen shall be liable to the District for all loss or damage which the District may suffer thereby and the District may advertise for a new Contract for said labor, supplies, materials or equipment.
20. **Interest of District Personnel.** By submitting a Bid, the Bidder represents and warrants that neither the General Manager, nor any Director, officer or employee of the District is in any manner interested directly or indirectly in the Bid or in the Contract which may be made under it, or in any expected profits to arise therefrom, as set forth in Article 4, Division 4, Title 1 (commencing with Sec. 1090) or Title 9 (commencing with Section 8100 of the Government Code of the State of California).
21. **Representation Before the District.** No person previously in the position of Director, Officer, employee, or agent of the District may act as an agent or attorney for, or otherwise represent, a Bidder or Contractor by making any formal or informal appearance, or any oral or written communication, before the District, or any officer or employee of the District, for a period of twelve months after leaving office or employment with the District, if the appearance or communication is made for the purpose of influencing any action involving the issuance, amendment, award, or revocation of a permit, license, grant or Contract.
22. **Time for Execution of Contract and Filing Bond.** The Bidder(s) to whom award is made shall execute a written Contract with the District on the form of Contract of the District and furnish good and approved bonds and provide evidence of insurance as herein required within fifteen (15) days after receiving the forms of Contract and bond for execution.

If the Bidder to whom award is made fails to enter into the Contract as herein provided and furnish the bonds and evidence of insurance, the award will be annulled and an award may, in the discretion of the District, be made to the Bidder whose Bid is next most acceptable; and such Bidder shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made.
23. **Documents Deemed Part of Contract.** The Notice Inviting Sealed Bids, General Conditions and Instructions for Bidders, Special Provisions, Bid Form, Technical Specifications and Addenda, if any, and the Agreement will be deemed a part of the Contract.
24. **Governing Law; Compliance with Laws.** The Contractor hereunder shall be governed by the laws of the State of California. The Contractor must comply with all local, state and

federal laws, rules and regulations applicable to this Contract and to the work to be done hereunder, including, all rules and regulations of the District.

25. **Manner of Execution of Contract.** If the Contractor is an individual, the Contract shall be executed by the Contractor personally. If the Contractor is a co-partnership, it is desirable that the Contract be executed by all of the partners, but it may be executed by one of them. If the Contractor is a corporation, it must be executed by two officers of the corporation consisting of (1) the Chairman of the Board, President or Vice President; and (2) the Secretary, Assistant Secretary, Chief Financial Officer or Assistant Treasurer, or by a person authorized by the corporation to execute written Contracts on its behalf, and the corporate seal affixed thereto. If the corporate seal is not affixed to the Contract, or if it is executed by a person other than an officer, or by only one officer there must be attached to the Contract a certified copy of a resolution of the corporation authorizing such officer or person to execute written Contracts for and on behalf of the corporation. If the Contractor is a joint venture, the Contract must be executed on behalf of each participating firm by officers or other individuals who have the full and proper authorization so to do. If the Contractor is an LLC, the Contract must be executed by an officer or other member who has full and proper authorization to execute contracts on behalf of the LLC.
26. **Faithful Performance Bond.** Upon execution of the contract, the Contractor shall furnish a bond to guarantee the faithful performance of the contract. The amount of the bond shall be stated in the Special Provisions. The bond shall be with a California-admitted corporate surety, or with two or more sufficient sureties to be approved by the District. As an alternative to furnishing a bond, Contractor may guarantee faithful performance of the contract by (1) depositing with the District a certified check or cashier's check from a solvent bank for the prescribed amount.
27. **Payment Bond.** Upon execution of the contract, the Contractor shall furnish a bond to guarantee payment for costs of materials, equipment, supplies, and labor furnished in the course of the performance of the Contract. The amount of the bond shall be stated in the Special Provisions. The bond shall be with a California-admitted corporate surety, or with two or more sufficient sureties to be approved by the District.
28. **Effect of Extensions of Time.** Granting, or acceptance, of extensions of time to complete the work or furnish the labor, supplies, materials or equipment, or any one of the aforementioned, will not operate as a release to Contractor or the surety on Contractor's faithful performance bond from said guarantee.
29. **Changes by the Contractor.** If the Contractor, on account of conditions developing during the performance of the contract, finds it impracticable to comply with these Specifications and applies in writing for a modification of requirements, such change may be authorized only in writing by the General Manager, if not detrimental to the District.
30. **Changes by the District.** In case any work, materials or equipment shall be required which are not mentioned, specified or indicated or otherwise provided for herein, the Contractor shall, if ordered in writing by the General Manager, do and perform such work and furnish such materials or equipment at the Contractor's catalogue prices, less discounts ordinarily allowed to users of such materials or equipment or at regular labor charges less customary discounts, or both.

The Contractor's Bid to perform any changes requested by the District shall include the cost of the material, engineering time, labor for installation if required and a reasonable markup, if any.

In case any work, materials or equipment which are mentioned, specified or indicated or otherwise provided for in the contract or in the Specifications forming a part of the contract shall be required to be omitted from, in or about the work, the Contractor shall, if ordered by the General Manager, omit the performance of such work and the furnishing of such materials or equipment and there shall be deducted from the amount to be paid to the Contractor the amount which the General Manager and the Contractor shall determine and mutually agree to be the reasonable value of such work, materials or equipment, and such determination and agreement shall be final and conclusive upon the Contractor.

It is understood, however, that the amount of work, materials or equipment required by the Contract shall not, in accordance with the above provisions referring to additions or omissions, be so increased or diminished as substantially to alter the general character or extent of the Contract.

31. **Change Orders.** The Contract may be modified or changed by the District from time to time, in order to carry out and complete more fully and perfectly the work agreed to be done and performed. An order that modifies or changes work to be performed under the Contract shall be valid only if issued in writing and signed by the General Manager and shall designate (1) the change in cost or manner of payment, if any and (2) the effect on time for Contract performance, if any. Work so ordered must be performed by the Contractor.
32. **Disputed Work/Claims.** The Contractor must promptly comply with the following procedures in the event the Contractor has any dispute regarding (1) the District's determination on any change orders relative to adjustments in Contract price, time for performance or any other requirement or (2) whether a determination or order by the District violates the provisions of the Contract. Before proceeding with such work or complying with such determination or order, or simultaneously, the Contractor must notify the General Manager in writing of the reasons for the Contractor's opinion with respect to the dispute and request a final determination. The General Manager shall render the final determination within a reasonable time of receipt of such written request.

If the General Manager determines that the work in question is Contract work and not extra work, or that the determination or order complained of is proper, he/she will direct the Contractor to proceed, and the Contractor must promptly comply. However, in order to reserve its right to claim compensation for such work or damages resulting from such compliance, the Contractor must, within ten (10) days after receiving notice of the General Manager's determination and direction, notify the General Manager in writing that the work is being performed, or that the determination direction is being complied with under protest.

If the Contractor fails to so appeal to the General Manager for a determination, or having so appealed, should the Contractor thus fail to notify the General Manager in writing of its protest, the Contractor shall be deemed to have waived any claim for extra compensation or damage therefore. Oral appeals or oral protests, no matter to whom made, shall not be deemed even substantial compliance with the provisions of this Section.

33. **Notice of Potential Claim.** The Contractor shall not be entitled to the payment of any additional compensation or damages for any cause, including any act or failure to act by the District, or the happening of any event, thing or occurrence, unless, it shall give the District due written notice of potential claim as described below. Compliance with this section shall not be a prerequisite as to matters within the scope of the protest provisions in General Condition 31, "Disputed Work/Claims."

The written notice of potential claim shall set forth the reasons for which the Contractor believes additional compensation or damages will or may be due, the nature of the cost involved and, insofar as possible, the amount of the potential claim. The notice must be given to the General Manager prior to the time that the Contractor shall have performed the work giving rise to the potential claim for additional compensation or damages, if based on an act or failure to act by the District, or in all other cases, within fifteen days after the happening of the event, thing or occurrence giving rise to the potential claim.

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

34. **Contractor's Liability.** The Contractor will indemnify, keep and save harmless the District, its agents, officials and employees, against all suits or claims arising out of any injury or death to persons or property caused by, resulting from, relating to, or alleged to have been caused by, result from, or relate to, the acts or omissions of the Contractor (including its employees and subcontractors) , whether or not it has been alleged that the injury was caused through a negligent act or omission of the Contractor (or its employees or subcontractors), unless the injury was caused by the willful misconduct or the sole or active negligence on the part of the District, its agents, officials or employees. The Contractor will, at its own expense, defend any and all such actions, and will at its own expense pay all charges of attorneys and all costs and other expenses arising therefrom or incurred in connection therewith. If any judgment is rendered against the District in any such action, the Contractor will at its own expense satisfy and discharge the same.
35. **Approval by the General Manager.** The work shall be executed under the direction and supervision of the General Manager or his designee, on whose inspection all work shall be accepted or condemned. The General Manager shall have full power to reject or condemn any materials furnished or work performed under the Contract which do not conform to the terms and conditions set forth in the Contract Documents.
36. **Defective or Damaged Work.** The Contractor agrees that within ten calendar days after being notified in writing by the District of any work not in accordance with the requirements in the Contract or of any defects in the work, it will commence and prosecute with due diligence all work necessary to fulfill the requirements of the Contract or correct the defect and will complete such work in a reasonable period of time and at no additional cost to the District.

If the Contractor fails to promptly comply with this provision, the Contractor hereby authorizes the District to proceed to have such work done at the Contractor's expense, and Contractor agrees to honor and pay the costs and charges upon the District's demand. In

the alternative, the District may elect to deduct the costs and charges from any compensation due or to become due to the Contractor. The District shall be entitled to all costs and expenses, including reasonable attorney's fees, necessarily incurred upon the Contractor's refusal to pay the above costs and charges. Nothing in the provision shall limit or restrict the warranty provisions set forth in the General Conditions, Special Provisions, and Technical Specifications.

37. **Independent Contractor.** Neither Contractor nor any of the Contractor's employees is, or shall be deemed, an agent or employee of the District, and in the performance of all work hereunder, Contractor shall be an independent Contractor, shall comply with all applicable Worker's Compensation laws, shall pay all required Social Security taxes and Unemployment Compensation taxes, and shall pay or perform all other obligations imposed upon an employer of labor, all at Contractor's expense, and, furthermore, shall indemnify the District against any and all liability as a result of Contractor's failure to perform any of the foregoing requirements.
38. **Protection of Work and of Persons and Property.** During performance and up to the date of final acceptance by the District, the Contractor shall be under an absolute obligation to protect the finished and unfinished work against any damage, loss or injury. In the event of damage, loss or injury to the finished and unfinished work, the Contractor shall promptly replace or repair such work, whichever the District shall determine to be preferable. The obligation to deliver finished work in strict accordance with the Contract shall be absolute and shall not be affected by the District's approval of or failure to prohibit means and methods of construction used by the Contractor.

During the performance of this Contract and up to the date of final acceptance, the Contractor must take all reasonable precautions to protect the persons and property of others from damage, loss or injury. Within three (3) days after notice to it of the happening of any such loss, damage or injury to work, persons and property, the Contractor shall make a full and complete report thereof in writing to the District.

Under this article the Contractor assumes the following distinct and several risks, whether they arise from acts or omissions (whether negligent or not) of the Contractor, or the District, or the District's Representative, or of third persons; or from any other cause, and whether such risks are within or beyond the control of the Contractor, excepting risks which arise solely from District or District Representative's active negligence or affirmative acts with actual and willful intent to cause the loss, damage and injuries, and professional errors and omissions of the District or of the District's Representative:

- a. The risk of loss or damage to the finished and unfinished Work prior to final acceptance by the District;
- b. The risk of claims, just or unjust, by third persons against the Contractor, the District or the District's Representative on account of injuries (including wrongful death), loss or damage of any kind whatsoever arising or alleged to arise out of or in connection with the performance of the Work (whether or not actually caused by or resulting from the performance of the Work) or out of or in connection with the Contractor's operations or presence at or in the vicinity of the work site, whether

such claims are made and whether such injuries, damage and loss are sustained at any time both before and after final acceptance of the Work;

- c. The risk of loss or damage to any property, including the loss of use thereof of the Contractor, and of claims made against the Contractor, the District, or the District's Representative for loss or damage to any property, including the loss of use thereof of subcontractors, material men, workmen and other performing the Work, occurring at any time prior to completion of removal of such property from the premises or in the vicinity thereof.

Neither the acceptance of the completed Work or payment therefore shall release the Contractor from its obligations under this article. The enumeration elsewhere in this Contract of particular risks assumed by the Contractor or of particular claims for which it is responsible shall not be deemed to limit the effect of the provisions of this article or to imply that it assumes or is responsible for only risks or claims of the type enumerated; and neither the enumeration in this article nor the enumeration elsewhere in this Contract of particular risks assumed by the Contractor or of particular claims for which it is responsible shall be deemed to limit the risks which the Contractor would assume or the claims for which it would be responsible in the absence of such enumerations.

Except as these specifications otherwise may provide, all loss or damage of any sort or nature arising from any unforeseen obstruction or difficulties, either natural or artificial, or from any act or omission not authorized by these specifications on the part of the Contractor, or any agent or person employed by it, shall be the responsibility of the Contractor.

The provisions of this Article shall not be deemed to create any new right of action in favor of third parties against the Contractor, or the District.

39. **Damages.** All loss or damage arising from any unforeseen obstruction or difficulties, whether natural or artificial, which may be encountered in the prosecution of the work, or the furnishing of the supplies, materials or equipment, or from any action of the elements prior to the final acceptance of the work or of the supplies, materials or equipment, or from any act or omission not authorized by these Specifications on the part of the Contractor or any agent or person employed by it shall be sustained by the Contractor.

40. **Failure to Complete Contract-Effect.** In case of failure on the part of the Contractor to complete its Contract within the specified time or within authorized extensions thereof, the Contract may be terminated and the District shall in such event not thereafter pay or allow to the Contractor any further compensation for any labor, supplies or materials furnished by it under said Contract; and the District may proceed to complete such Contract either by reletting or otherwise, and the Contractor and its bondsmen shall be liable to the District for all loss or damage which it may suffer on account of the Contractor's failure to complete its Contract within the specified time.

41. **Non-Performance of Contract.**

- a. **Right to Stop Work.** Authority to stop the work, in whole or in part is vested in the District and may be invoked whenever it deems such action necessary to insure

proper execution of the Contract; work may not be resumed until the District has given written consent.

- b. Rejection of Materials and Workmanship. The District has the right to reject defective material and workmanship and to require its replacement or correction without additional cost to District. Defective material and workmanship includes, but is not limited to, materials and workmanship that does not meet the requirements of the specifications of this Contract reasonably interpreted in the sole discretion of the District. Contractor shall promptly segregate and remove rejected work. All adjacent work disturbed by removal of such work shall be replaced in accordance with this Contract and without expense to the District including work of other contractors disturbed by such removals and replacements.
- (1) If Contractor fails to proceed at once with replacement of rejected work, District may, by Contract or otherwise, replace such material and correct such workmanship and charge the cost to the Contractor, or District may terminate right of the Contractor to proceed. The Contractor and its surety shall be liable for any damage to same extent as provided for by terminations hereunder.
 - (2) If rejected materials are not removed within a reasonable time, District may cause them to be removed and stored at Contractor's expense three days after issuing written notice to so remove them. If Contractor does not pay for such removal and storage within six days thereafter, District may, six days after further written notice, sell the materials and credit Contractor with net proceeds after all costs of removal and sale are deducted. If materials so removed are valueless or sale does not meet cost of removal, Contractor shall bear all resultant loss.
- c. Neglected Work. District may perform or employ others to undertake portions of the work persistently neglected by the Contractor if work is still proceeding unsatisfactorily three days after written notice to the Contractor. In such casework will be done according to the Contract Documents and the cost deducted from next payment falling due to the Contractor. Such action shall in no way affect status of either party under Contract, nor be held as basis of any claim by the Contractor or for extension of time.
- d. Right to Withhold Payment. Part or whole of any payment or any certificate may be withheld by District if such course is deemed necessary to protect District from loss on account of Contractor's failure to meet its obligations or if balances unpaid to Contractor are insufficient to complete the work. This right may also be exercised if in District's opinion the work will not be completed in time specified for performance of the Contract.
42. Termination of Right to Proceed. If the Contractor should appear to the District to be in default and the Contractor fails to remedy its default within five (5) days after receipt from the District of notice of such default, the District may terminate the Contractor's right to proceed with work or that portion which the District determines is most directly affected by the default.

The term "default" for purposes of this provision includes, but is not limited to, the performance of work in violation of the terms of the Contract; abandonment, assignment or subletting of the Contract without approval of the District, bankruptcy or appointment of a receiver for Contractor's property; failure to maintain the schedule of work; refusal or failure to maintain the schedule of work; refusal or failure properly to prosecute the work; use of materials, supplies, plant or equipment of improper quality or quantity; refusal or failure to provide proper workmanship; failure to take effective steps to end a prolonged labor dispute; and the performance of the Contract in bad faith.

Upon the District's termination of the Contractor's right to proceed with the work or a portion of it, the District will have the right to complete the work or the portion by whatever means and methods it deems expedient, including the hiring of others on such terms as the District deems advisable.

The expense of completing such work or portion thereof, together with a reasonable charge for managerial and administrative services as certified by the District, will be charged to the Contractor, and the expense so charged will be deducted by the District out of such monies as may be due or may at any time thereafter become due to the Contractor. In case such expense is more than the sum which otherwise would have been payable to the Contractor under the Contract, then the Contractor or its surety or sureties shall promptly pay the amount of such excess to the District, upon notice from the District of the excess so due. The District may, in its sole discretion, withhold all or any part of any progress payments otherwise due to the Contractor until completion and final settlement of the work covered by such notice of default.

43. **Payments.** Unless otherwise stated in the Specifications or Bid forms, the District shall pay the Contractor within thirty (30) days after the District issues a written notice of final acceptance.
44. **Liquidated Damages.** It is agreed by the parties to the Contract that time is of the essence, and in event of delay in completion of the work or the delivery of the supplies, materials or equipment beyond the date set forth in the Contract documents, or beyond authorized extensions thereof, damage will be sustained by the District and that it is or will be impracticable to determine the actual amount of the damage by reason of such delay, and it is, therefore, agreed that the District shall be paid an amount as set forth in the Special Provisions as liquidated damages. If no amount is set forth, Contractor shall be liable for actual damages for each and every calendar day that the time consumed in said completion extends beyond the date herein specified in that the District will suffer by reason of said delay or default. If the delay in delivery is caused by strikes, government controls or other causes beyond the control of the Contractor, an extension of time without liquidated damages liability shall be granted by the District upon a proper showing and finding by the District that the extension is justified.
45. **Insurance Certificates.** Certificates of insurance required by the Special Provisions shall be delivered to the District concurrently with the executed Contract. The District reserves the right to request certified copies of an insurance policy if questions arise.

All required insurance under this Contract shall provide adequate protection for the San Mateo County Harbor District, its Officers, Agents, Representatives and Employees, while

acting in such capacity and their successors or assignees, as they now or as they may hereinafter be constituted singly, jointly or severally, and the Contractor, against all claims, liability damages and accidents of any kind.

46. **Infringement of Patents.** The Contractor agrees that it will, at its own expense, defend all suits or proceedings instituted against the District and pay any award of damages assessed against the District in such suits or proceedings, insofar as the same are based on any claim that the materials or equipment, or any part thereof, or any tool, article or process used in the manufacture thereof, constitutes an infringement of any patent of the United States provided the District gives to the Contractor prompt notice in writing of the institution of the suit or proceeding and permits the Contractor through its counsel to defend the same and gives the Contractor all needed information, assistance and authority to enable the Contractor so to do.
47. **Assignment.** The Contractor shall not assign, transfer, convey, sublet or otherwise dispose of the Contract or its right, title or interest in or to the same, or any part thereof, without previous consent in writing of the General Manager endorsed thereon or attached thereto.
48. **Warranty of Title.** Contractor shall warrant to the District, its successors and assigns, that the title to the material, supplies or equipment covered by the Contract, when delivered to the District or to its successors or assigns, is free from all liens and encumbrances.
49. **Warranty of Fitness.** Contractor hereby warrants that all materials furnished shall meet the requirements and conditions of the Bid documents; shall be fit for the purposes intended and fulfill its design functions; shall be free of all patent and latent defects in design materials, and workmanship and perform satisfactorily.

It is understood and agreed that by acceptance of this warranty and the acceptance of materials or supplies to be manufactured or assembled pursuant to these Specifications, District does not waive any warranty, either expressed or implied in Sections 2312 to 2317, inclusive, of the Commercial Code of the State of California or any products liability of the Contractor as determined by any applicable decision of a court of the State of California or of the United States.

50. **Time of Completion.** The Contractor shall complete all or any designated portion of the work called for under the Contract in all parts and requirements within the time set forth in the Special Provisions.

Time shall be computed starting the first day after the effective date of the Notice to Proceed. The effective date of the Notice to Proceed will be the date stated as such in the Notice to Proceed, provided that in no case will such effective date be earlier than the date of the issuance of such Notice to Proceed.

51. **Or Approved Equal Clause.** In order to establish a basis of quality, certain materials, processes and type of machinery and equipment, or kinds of materials may be specified on the plans or herein, either by description of process or by designating a manufacturer by name or by referring to a brand of product designation, or by specifying a kind of material. It is not the intent of these Specifications to exclude other processes, equipment or materials of equal Value, Utility or Merit which are approved by the District.

52. **Antitrust Claims.** The Contractor's attention is directed to California Government Code Section 4552, which shall be applicable to the Contractor and its subcontractors:

In submitting a Bid to a public purchasing body, the Bidder offers and agrees that if the Bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the Bidder for sale to the purchasing body pursuant to the Bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the Bidder.

53. **Environmental and Safety and Health Standards Compliance.** Contractor shall comply with applicable environmental statutes, regulations and guidelines in performing the work under this Contract. The Contractor shall also comply with applicable Occupational Safety and Health standards, regulations and guidelines in performing the work under this Contract.

54. **Equal Employment Opportunity.** In connection with the performance of this Contract, the Contractor shall not discriminate against any employee or an applicant for employment because of race, color, religion, gender, national origin, ancestry, age, marital status, pregnancy, medical condition, disability, or sexual orientation as provided for in Federal, State and local laws in consideration of an award.

The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during their employment, without regard to the above factors. Such actions shall include but not be limited to the following: demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay; other forms of compensation; and selection for training, including apprenticeship.

55. **Rights and Remedies of the District.** The rights and remedies of the District provided herein shall not be exclusive and are in addition to any other rights and remedies provided by law or under the Contract.

56. **Qualification Questionnaire.** The Contractor shall submit with its bid documentation showing whether or not the Contractor, any officer of the Contractor, or any employee of the Contractor, has ever been disqualified, removed, or otherwise prevented from bidding on or completing any federal, state or local government project because of a violation of law or safety regulation. For this purpose, Contractor must complete the Bidders Statement of Qualification Questionnaire and Financial Statement with Business Reference.

57. **Bid Protest Procedures.** **FAILURE TO COMPLY WITH ANY OF THE REQUIREMENTS SET FORTH IN THE DISTRICT'S BID PROTEST PROCEDURES MAY RESULT IN REJECTION OF THE PROTEST.**

a. **Protests Based Upon the Specifications.**

- (1) Pre-Protest Procedures. Bidders must first utilize any procedures in the specifications for Approved Equals or Requests for Clarifications or Modifications, prior to submitting a protest. If the bidder disagrees with the District's decision on such requests, the bidder may then avail itself of the bid protest procedures.
- (2) Submission of Protest. Protests based upon restrictive specifications or alleged improprieties in the bidding procedure or contract specifications, which are apparent or reasonably should have been discovered prior to bid opening, shall be filed in writing with the District not later than five calendar days before the bid opening or proposal due date. The protest must clearly specify in writing the grounds and evidence on which the protest is based. If the protestor later raises new grounds or new evidence that reasonably could have been raised, the District will not consider such new grounds or evidence in the determination on the protest. Staff shall respond to the protest with its written determination prior to bid opening or proposal due date. Where the staff determination could affect bid responses, an appropriate extension of the bid opening or proposal due date may be granted.
- (3) Review by the General Manager. If the protest is denied, the bidder may pursue its protest to the General Manager. Within forty-eight (48) hours of receipt of the staff's written determination to deny the protest, the bidder must submit in writing to the General Manager a statement of the reasons for the protest, with supporting evidence, and document that it has exhausted all administrative remedies at the District staff level. The General Manager will issue a written decision prior to the bid opening, which shall be final.

b. Protests Based Upon Contract Award.

- (1) Notice of Staff Recommendation for Award of Contract. Upon conclusion of the bid evaluation for each contract, the District shall send a notice to all bidders of the staff's recommendation for contract award. Such notice shall be sent at least seventy-two (72) hours prior to the Board or Committee meeting, if applicable, at which the recommendation will be considered.
- (2) Submission of Protest; Initial Procedures. Protests based upon alleged improprieties that are not apparent or which could not reasonably have been discovered prior to bid opening, such as disputes over the staff recommendation for contract award, shall be submitted in writing to the District by the deadline specified in the notice from the District advising of the staff's recommendation for award of contract.
- (3) The protest must clearly specify in writing the grounds and evidence on which the protest is based. If the protestor later raises new grounds or new evidence not previously set forth in written submissions that reasonably could have been raised earlier, the District will not consider such new grounds or evidence in the determination on the protest.

(4) The Deputy Secretary of the District will make best efforts to notify the other bidders of the protest, and the time and place it will be considered by the Board.

c. Proceedings Before the Board. The protestor may appear before the Board to present evidence in support of its appeal. After consideration of the protestor's evidence, the staff recommendation, and any other relevant information, the Board may determine whether to reject or allow the protest. Upon Board action, a written statement of the reasons therefore shall be included in the record.

The decision of the Board on the protest and the award of contract, if such a decision is made, shall be final.

d. Protests after Contract Award. No protests will be considered after contract award, except for compelling reasons whereby the lateness is due to the District's untimely handling of the protest submission. In no event will the District consider protests filed after contract award due to the neglect of the protestor. Failure to comply with the time periods for filing protests as set forth herein shall be a basis for rejection of the protest.

58. **Air Pollution Control.** The Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes which apply to any work performed pursuant to the Contract, including any air pollution control rules, regulations, ordinances and statutes, specified in Section 11017 of the Government Code. Material to be disposed of shall not be burned, either inside or outside the work site.

59. **Water Pollution Control.** The Contractor shall comply with all water pollution control rules, regulations, ordinances and statutes which apply to any work performed pursuant to this Contract.

The Contractor shall exercise every reasonable precaution to protect streams, lakes, reservoirs, bays, coastal waters and other bodies of water from pollution with fuels, oils, bitumens, calcium chloride and other harmful materials, and shall conduct and schedule its operations so as to avoid or minimize muddying and silting of said waters.

60. **Compliance with Law.**

(a) The Contract documents, and the rights of the parties thereunder, shall be interpreted in accordance with the laws of the State of California.

(b) The Contractor warrants that all operational practices of the Contractor, and all workmanship and material, equipment and articles used in the performance of the work hereunder shall be in accordance with the rules and requirements of the United States Coast Guard in effect at the time of Contractor's submission of Bid. In addition, all safety orders, rules and recommendations of the State of California, Division of Industrial Safety, and the United States Department of Labor, Occupational Safety and Health Administration applicable to the work to be done under this Contract shall be obeyed and enforced by the Contractor.

61. **Discharge of Liens.** The Contractor shall pay all costs and expenses incident to any work performed by it or for its account, and shall not create, incur, suffer or permit to be placed

or imposed any lien or encumbrance or charge in any way arising from any act or omission of the Contractor. The Contractor shall orally or in writing inform all persons dealing with it in performing the work of the provisions of this paragraph.

The Contractor shall immediately discharge or cause to be discharged any lien or right in rem of any kind, other than in favor of the District, and if any such lien or right in rem is not immediately discharged, the District may, after notification to the Contractor, discharge or cause to be discharged such lien or right at the expense of the Contractor.

CONTRACT NO. 2025-03
Surfers Beach Restoration Pilot
Project
SPECIAL PROVISIONS

SAN MATEO COUNTY HARBOR DISTRICT

**CONTRACT NO. 2025-03
Surfers Beach Restoration
Pilot Project**

SPECIAL PROVISIONS

Coordination of General Conditions and Instructions for Bidders, Special Provisions, and Technical Specifications. The General Conditions and Instructions for Bidders, Special Provisions, and Technical Specifications are intended to be complementary and to describe and provide for a complete work. In the event that there are inconsistencies or discrepancies between provisions contained in these components of the Contract Documents, the Special Provisions and Technical Specifications shall govern over the General Conditions and Instructions for Bidders.

SECTION 1. BID REQUIREMENTS AND CONDITIONS

- 1.1 **Bid Invited.** The San Mateo County Harbor District (District) invites bids for the Surfers Beach Pilot Restoration Project, in full accordance with these specifications.
- 1.2 **Schedule of Activities.** Listed below is the “Schedule of Activities” which outlines pertinent dates of which Bidders should make themselves aware. These dates may be subject to change.

DATE	ACTIVITY
April 18, 2025 @ 10:30 am	Recommended Pre-Bid Conference and site visit at Pillar Point Harbor – San Mateo County Harbor District office, 504 Avenue Alhambra, 2 nd floor, El Granada, CA 94018
April 21, 2025 @ 4:30 p.m.	Written requests for approved equals/modifications/clarifications are due.
April 28, 2025 @ 4:30 p.m.	District will respond to requests for approved equals.
May 6, 2025 @ 2:00 p.m.	Bid Opening San Mateo County Harbor District Office, 504 Avenue Alhambra, 2 nd floor, El Granada, CA 94018

- 1.3 **Bid Form.** Bids shall be submitted on the District’s “Bid Form” attached hereto, enclosed in a sealed envelope marked “**CONTRACT NO. 2025-03, Surfers Beach Restoration Pilot Project**” and plainly endorsed with the Bidder’s name and address. Bids must be received by the Deputy Secretary, San Mateo County Harbor District, at its mailing address PO Box 1449, El Granada, CA 94018, or by courier or personal delivery to 504 Avenue Alhambra, 2nd Floor, El Granada, CA 94018 by **May 6, 2025, 2:00 p.m. Pacific Time**, at which time they will be publicly opened and read in the Board Room of said building.

The Total Bid Price shall include all labor, equipment, materials, applicable taxes, delivery charges, warranties, insurance, license fees, bonds, and all other costs necessary for the Surfers Beach Pilot Restoration Project.

Each Bid Form must be signed on Bid Form page 2 by one or more individuals with authority to bind the Contractor to the bid. Please refer to General Condition 3 and the Bid Form. All bids without the appropriate signature(s) on Bid Form page 2 may be deemed non-responsive and may result in the rejection of the bid. Bidder must submit the three-page Bid Form properly executed.

1.4 Examination of Contract Documents and Site of Work. The Bidder shall have examined carefully the Contract Documents. The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, the character, quality and scope of work to be performed, the quantities of materials to be furnished and the requirements of the Contract Documents.

1.5 Pre-Bid Conference and Site Visit. A recommended pre-bid conference and site visit will be held prior to the date of bid opening. District staff will be available to answer general questions pertaining to the solicitation documents and the specifications. Any questions that may require staff research to answer or that will otherwise modify the meaning or intent of this solicitation shall be submitted to the District in writing as described in Special Provision 1.8. The pre-bid conference will take place on **April 18, 2025, at 10:30 am, Pacific Standard Time, in the San Mateo County Harbor District office, 504 Avenue Alhambra, 2nd floor, El Granada, CA 94018.** This will be a hybrid meeting with the option to join in person or remotely, online via the following Zoom link: <https://us02web.zoom.us/j/87097171286?pwd=hHDWL3coMSivtj1siEmD0GiCXmetD9.1>

1.6 Documents to Accompany Bid. The bid shall be accompanied by the following:

- (1) The Bidder's Bond or certified or cashier's check required by Section 14 of the General Conditions and Section 1.10 of the Special Provisions in an amount equal to at least ten percent (10%) of the proposed Total Bid Price
- (2) List of Subcontractors
- (3) Acknowledgement of Addenda, if any
- (4) Qualification Questionnaire
- (5) Proof of DIR Registration in accordance with Special Provision 5.15
- (6) Non-Collusion Declaration

1.7 Approved Equals and Qualified Products. It should be understood that specifying a brand name or specific types of components and/or equipment in these specifications shall not relieve the Bidder from its responsibility to furnish the end product in accordance with the warranty and contractual requirements. The Bidder is responsible for notifying the District of any inappropriate brand names, or types of components and/or equipment that may be called for in these specifications and to propose a suitable substitute for consideration.

Unless otherwise specifically provided in the specifications, reference to any equipment, material, article or patented process by trade name, make, or catalog number shall be regarded as establishing a standard of quality and shall not be construed as limiting competition; and a Bidder may, at its option, use any equipment, material, article or process which, in the judgment of the District, is equal to that designated.

The Bidder shall furnish, at its own expense, all test results, technical data, and background information required by the District in making the determination as to whether the proposed equipment, material, article or process is an approved equal. The District shall be the sole judge as to the comparative equality and suitability of alternative equipment, article, material or process and its decision shall be final.

1.8 Request for Approved Equals/Questions/Clarifications. A Bidder may submit to the District requests for approved equals, modifications, or clarifications regarding any requirements, terms, or conditions contained herein. Any such requests must be received in writing to jmoren@smharbor.com by **April 21, 2025, at 4:30 p.m., Pacific Time**. Any requests of approved equals must be fully supported with samples, technical data, test results, or other pertinent information as evidence that the substitute offered is essentially equal or better than that specified in the Contract Documents. The District shall make a determination on each Bidder's request under this procedure in writing. The written determination shall be mailed or otherwise furnished to the Bidder by **April 28, 2025, at 4:30 p.m.** Failure of the District to respond within the time limit shall be deemed to be a denial of request. In the event that a request for an approved equal, modification, or clarification is granted, an addendum detailing the approved equal, modification, or clarification will be mailed or otherwise furnished to all potential Bidders who received bid packets.

1.9 Single-Bid Response. In the event of a single-bid response, the District reserves the right to conduct a price and/or cost analysis of the bid to verify that the bid price is fair and reasonable. The Bidder will be expected to cooperate in this process and to submit cost and pricing data to verify that the bid price is fair and reasonable. The right of examination shall extend to all documents necessary to permit adequate evaluation of the cost of the replacement and the prices quoted and shall include the computations and projections used by the Bidder.

Failure to submit the data as requested by the District within ten (10) calendar days of receipt of written notification to the sole offeror shall result in the Bidder being declared non-responsive.

1.10 Bidder's Bond. As required by Section 14 of the General Conditions and Instructions for Bidders, the Bidder's Security to be submitted with the Bid shall be in the amount of at least ten (10) percent of the Total Bid Price as specified on the Bid Form.

SECTION 2. AWARD OF CONTRACT

2.1 Award of Contract. The award of Contract, if any, will be made within thirty (30) calendar days after the date of bid opening to the lowest responsible Bidder based on the Total Bid

Price. Each bid as submitted shall remain in effect for thirty (30) calendar days after the date the bids are opened. No Bidder may withdraw its bid during this time period. The lowest responsive and responsible Bidder shall be determined by comparing and evaluating the Total Bid Price as set forth in the Bid Form. The District reserves the right to reject any and all bids or to waive any irregularities in any bid or in the bidding procedure.

2.2 Contract Bonds

- A. **Performance Bond.** The Performance Bond as described in Paragraph 26 of the General Conditions shall be in the amount of one hundred percent (100%) of the total contract price, as awarded by the District. Said bond shall guarantee the Contractor's faithful performance of the Contract and compliance with all terms, conditions and requirements specified in the Contract Documents and shall remain in full force and effect for a period of twelve (12) months after the District's final acceptance of the Contractor's work in accordance with Special Provision 3.2 hereof. The Contractor shall use the form entitled "Performance Bond" included in the Contract Documents.
- B. **Payment Bond.** The Contractor shall provide a payment bond in the amount equal to one hundred percent (100%) of the total contract price and issued by California admitted surety. The payment bond shall provide security for Contractor's full payment to all subcontractors for costs of materials, equipment, supplies, and labor furnished in the course of the performance of the Contract. Full compensation for furnishing the payment bond is included in the total contract price. The Contractor shall use the form entitled "Payment Bond" included in the Contract Documents.

SECTION 3. CONTRACT PERFORMANCE

- 3.1 **General.** The Contractor shall perform all work and undertake all services detailed in the Contract Documents in accordance with the specified requirements, terms and conditions.
- 3.2 **Acceptance and Payment.** The Contractor shall notify the District once it has completed all work and services detailed in the Contract Documents in accordance with the specified requirements, terms and condition. Following the Contractor's notification, the District shall undertake a thirty (30)-calendar-day period for inspection. The District will notify the Contractor in writing within said thirty (30) calendar days as to whether the work and services have been accepted.

If the District determines that the work and services are not in conformity with the specification requirements, or that there are defects or deficiencies requiring correction, the District will notify the Contractor of such deficiencies or nonconformity in writing within the aforementioned thirty (30)-day period. The Contractor shall promptly correct or remedy any and all deficiencies or defects noted by the District at no cost to the District. The Contractor shall complete the necessary corrections within fifteen (15) days of the District's notification of deficiencies or nonconformity. At such time as the Contractor has made all necessary corrections to the satisfaction of the District, the District shall issue the

Contractor a written notice of final acceptance. In the event the Contractor fails to remedy the deficiencies, the District shall have the right to reject the work and terminate the Contract for breach as provided below in Special Provision Section 3.7, Termination. Alternatively, the District may cause the repair to be made by its own or other forces, whereupon the cost of the repair shall be deducted from sums otherwise due the Contractor.

After final acceptance by the District, the Contractor may thereupon furnish to the District satisfactory evidence that all liens, claims and demands of Subcontractors, laborers and materialmen, arising out of such work, are fully satisfied, and that all of the work is fully released from all liens, claims and demands of whatever kind and nature and whether just or otherwise.

In accordance with Paragraph 43 of the General Conditions, the District shall make payment to the Contractor following the receipt of proper statements or invoices for the work within thirty (30) days of the date of final acceptance of the work by the District. The acceptance by the Contractor of the final payment, whether such payment be made pursuant to any judgment of any court, or otherwise, shall constitute and operate as a release to the District of any and all claims of the Contractor and liability to the Contractor for anything theretofore done or furnished for or relating to or arising out of this Contract and the work done hereunder, and for any prior act, neglect or default on the part of the District or any of its directors, officers, agents or employees excepting only claims against the District for the amounts deducted or retained in accordance with the terms and provisions of this Contract by law. Should the Contractor refuse to accept the final payment as tendered by the General Manager, it shall constitute waiver of any right to interest thereon.

- 3.3 Liquidated Damages.** Failure of the Contractor to complete the Work within the time allowed will result in damages being sustained by the District. Such damages will be reimbursed, consistent with GC-39, above.
- 3.4 Time of Performance.** The project construction will be completed in full no later than October 15, 2025.
- 3.5 Interference with District Operations.** Any and all work must not interfere with the District's normal operations including operation of Pillar Point Harbor.
- 3.6 Warranty.** All work, including all installation work or repairs, is guaranteed by the Contractor against failure, damage, defect, or non-compliance with the Contract of any kind for a period of one (1) year from the date of District's final acceptance. The Contractor must furnish a Performance Bond therefor as provided in the Special Provisions. In addition to said guarantee, the District will have the benefits of any manufacturer's or builder's guarantee given by a manufacturer or builder. Where any individual work item is incomplete at the time of acceptance by the District, the guarantee will run from the date of completion of such item. If the Contractor fails to proceed promptly with any repairs as directed by the District, such corrections and repairs shall be affected at the Contractor's expense at such time as the District may determine. The District may deduct the cost of such repairs from any amount owed to the Contractor or require the Contractor to reimburse such costs to the District.

It is understood and agreed that the District does not waive any warranty, either express or implied, in Sections 2312 through 2317, inclusive, of the California Commercial Code, or any liability of the manufacturer or Contractor as may be determined by a decision of the court of the State of California or of the United States.

3.7 Termination. The District may terminate the Contract for convenience for any reason at any time by giving the Contractor fifteen (15) days' notice thereof. Notice of termination shall be by Certified Mail. Upon termination for the convenience of the District, the District shall pay the Contractor the allowable costs incurred to the date of termination and those costs deemed reasonably necessary by the District to affect the termination. In the event that the Contractor breaches the terms or violates the conditions of this Contract and does not correct such breaches or violations within ten (10) days following notice thereof from the District, the District may immediately terminate the Contract and shall pay the Contractor only for work performed in full conformance with the specifications to the date of termination, less any costs incurred by the District to repair and complete any remaining work under the Contract. The District reserves the right to pursue any and all remedies available in equity or law in the event the District suffers any damages due to the Contractor's breach of terms or violation of the conditions in this Contract.

3.8 Protection of Property. The Contractor shall exercise every precaution to ensure that no injury or damage occurs to District property as a result of its operations. Should any existing property be damaged by or through any of the Contractor's operations, such injury or damage shall be replaced or repaired immediately by the Contractor, at Contractor's sole cost, in a manner satisfactory to the District.

SECTION 4. INSURANCE

4.1 Insurance Requirements

A. Types of Insurance

Contractor shall not commence work until proper evidence of insurance coverage of the types and amounts specified in this Section has been provided to District. Contractor shall not violate or permit to be violated any conditions or provisions of said policies of insurance, and at all times shall satisfy the requirements of the insurer for the purpose of maintaining said insurance in effect.

If any claim is made by any third person against Contractor on account of any incident connected to the Contract, Contractor shall promptly report the fact in writing to District, giving full details of the claim.

Any person, firm, or corporation that Contractor authorizes to work upon the District's property, including any Subcontractor, shall be deemed to be Contractor's agent and shall be subject to all applicable terms of this Contract. Prior to the Contractor's start of the work or entry onto the District's property, Contractor agrees to require its Subcontractors to procure and maintain, at Contractor's (or its Subcontractor(s)') sole cost and expense (and to prove to the District's reasonable

satisfaction that it remains in effect throughout the performance of the work under this Contract), the kinds of insurance described below. Such insurance must remain in effect throughout the term of this Contract and will be at the sole cost and expense of Contractor (or its Subcontractor(s)).

1. Commercial General Liability Insurance

The Contractor shall, at its own expense, procure and maintain Commercial General Liability insurance providing bodily injury and property damage coverage with a combined limit of at least One Million Dollars (\$1,000,000) each occurrence. This insurance shall include but not be limited to premises and operations, contractual liability covering the indemnity provisions contained in this Contract, personal injury, products and completed operations, and broad form property damage, and include a Cross Liability endorsement.

Said Policy shall protect Contractor and District in the same manner as though a separate policy had been issued to each, but nothing in said policy shall operate to increase the insurance company's liability as set forth in its policy beyond the amount or amounts shown or to which the insurance company would have been liable if only one interest had been named as an insured.

2. Business Automobile Liability

Contractor shall, at its own cost and expense, procure and maintain Business Automobile Liability insurance providing bodily injury and property damage with a combined single limit of at least Two Million Dollars (\$2,000,000) per occurrence for all owned, non-owned and hired automobiles. This insurance shall provide contractual liability covering all motor vehicles and mobile equipment to the extent coverage may be excluded from general liability insurance.

3. Workers' Compensation and Employers' Liability Insurance

If Contractor employs any person to perform work in connection with this Contract, Contractor shall procure and maintain at all times during the performance of such work Workers' Compensation Insurance in conformance with the laws of the State of California, and Federal laws where applicable. Employers' Liability Insurance shall not be less than Five Million Dollars (\$5,000,000) for each accident and Five Million Dollars (\$5,000,000) for each disease, with a policy limit of Five Million Dollars (\$5,000,000).

The policy shall contain a waiver of subrogation in favor of the San Mateo County Harbor District and its officers, directors, employees, volunteers, and agents, while acting in such capacity, and their successors and assignees, as they now or as they may hereafter be constituted, singly,

jointly, or severally.

4. Protection & Indemnity.

The Contractor shall provide Protection and Indemnity (including crew), Collision Liabilities and Vessel Pollution insurance covering all vessels, barges or other marine equipment that will be used in connection with this project. The limits of liability shall be not less than \$5,000,000.

General Insurance Requirements

5. Acceptable Insurance

All policies will be issued by insurers acceptable to the District. This insurance shall be issued by an insurance company or companies authorized to do business in the State of California with minimum “Best’s” rating of A- and with minimum policyholder surplus of Fifty Million Dollars (\$50,000,000) or a company acceptable to District in its sole discretion. All policies shall be issued in a form satisfactory to the General Manager of the District and shall be issued specifically as primary insurance. Workers’ Compensation coverage requirements may be met with the California State Compensation Fund.

6. Procure and Maintain Insurance

Contractor must, at its own cost and expense, procure and maintain at all times during the performance of this Contract, all of the required policies specified above. The failure to procure or maintain the required insurance policies and/or an adequately funded self-insurance program acceptable to the District will constitute a material breach of the Contract.

7. Terms of Policies

All insurance specified above shall remain in force until all work to be performed is satisfactorily completed. If the insurance is provided on a claims-made basis it must remain in force for the entire term of the Contract and a minimum of three (3) years thereafter.

8. Self-Insurance

Upon evidence of financial capacity satisfactory to the District and Contractor’s agreement to waive subrogation against the District respecting any and all claims that may arise, the Contractor's obligations hereunder may be satisfied in whole or in part by adequately funded self-insurance.

5) Deductibles and Retentions

The Contractor shall be responsible for payment of any deductible or retention on the Contractor's policies without right of contribution from the District. Deductible and retention provisions shall not contain any restrictions as to how or by whom the deductible or retention is paid. Any deductible or retention provision limiting payment to the Named Insured is unacceptable.

In the event that the policy of the Contractor or any subcontractor contains a deductible or self-insured retention, and in the event that the District seeks coverage under such policy as an additional insured, the Contractor shall satisfy such deductible or self-insured retention to the extent of loss covered by such policy for a lawsuit arising from or connected with any alleged act or omission of the Contractor, subcontractor, or any of their officers, directors, employees, agents, or suppliers, even if the Contractor or subcontractor is not a named defendant in the lawsuit.

B. Evidence of Insurance and Endorsements

Prior to commencing of work or entering onto the District's property, Contractor shall file a Certificate of Insurance with the District evidencing the foregoing coverages, including the following endorsements:

1. The insurance company(ies) issuing such policy(ies) will provide at least thirty (30) days' notice to the District of cancellation or non-renewal.
2. That the policy(ies) is primary insurance and the insurance company(ies) providing such policy(ies) shall be liable thereunder for the full amount of any loss or claim that Contractor is liable for under this Section, up to and including the total limit of liability, without right of contribution from any other insurance maintained or which may be maintained by the San Mateo County Harbor District.
3. Such insurance shall include as additional insureds the San Mateo County Harbor District, and its respective directors, officers, employees, and agents while acting in such capacity, and their successors or assignees, as they now or as they may hereafter be constituted, singly, jointly, or severally.
4. The policy must also contain either a Cross Liability endorsement or Severability of Interests Clause and stipulate that inclusion of the District as an additional insured will not in any way affect the District's rights as respects any claim, demand, suit or judgment made, brought, or recovered against the Contractor. Said policy shall protect Contractor and the District in the same manner as though a separate policy had been issued to each, but nothing in said policy shall operate to increase the insurance company's liability as set forth in its policy beyond the amount or amounts shown or to which the insurance company would have been liable if only one interest had been named as an insured.

C. **Consequence of Lapse**

Should any required insurance not be procured or lapse during the term of this Contract, requests for payment originating after such lapse will not be processed until the District receives satisfactory evidence of reinstated coverage as required by the Contract. If insurance is not reinstated, the District, may, at its sole option, terminate this Contract effective on the date of such lapse of insurance.

SECTION 5. PUBLIC WORKS PROVISIONS

5.1 Labor Compliance Requirements

In the performance of this Contract, Contractor's attention is directed to the following requirements of the Labor Code:

- A. **Hours of Labor.** Eight hours labor constitutes a legal day's work. Contractor shall forfeit, as penalty to District, \$25 for each worker employed in the performance of the Contract by Contractor or by any subcontractor under it for each calendar day during which such worker is required or permitted to work more than eight hours in any one day and 40 hours in any one calendar week in violation of the provisions of the California Labor Code and in particular, Sections 1810 to 1815, inclusive. Work performed by employees of the Contractor in excess of eight hours per day and 40 hours during any one week shall be permitted upon compensation for all hours worked in excess of eight hours per day at not less than one-and-one-half times the basic rate of pay, as provided in Section 1815.
- B. **Prevailing Wages.** Contractor shall comply with California Labor Code Sections 1770 to 1780, inclusive. In accordance with Section 1775, the Contractor shall forfeit as a penalty to District an amount as determined by the Labor Commissioner not to exceed \$200 for each calendar day or portion thereof for each worker paid less than stipulated prevailing wage rates for such work or craft in which such worker is employed for any work done under the contract by him or by any subcontractor under it in violation of the revisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to Section 1775, the difference between such stipulated 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 stipulated prevailing wage rate shall be paid to each worker by Contractor. Pursuant to the provisions of Section 1773 of the Labor Code, the District has obtained the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work applicable to the work to be done from the Director of the Department of Industrial Relations. Copies of the prevailing wage rates are on file at the District and are available for review upon request. Pursuant to §1773.2 of the Labor Code, the Contractor shall post general prevailing wage rates at a prominent place at the site

of the work.

- C. Payroll Records. Contractor and each subcontractor shall submit electronic certified payroll records to the California Labor Commissioner in the manner and format set forth in California Labor Code section 1771.4.

The Contractor's attention is directed to the following provisions of Labor Code Section 1776. The Contractor shall be responsible for the compliance with these provisions by its subcontractors.

- (a) Each contractor and subcontractor shall keep an accurate payroll record, 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 by him or her in connection with the public work.
- (b) The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:
 - (i) A certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his or her authorized representative on request.
 - (ii) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations.
 - (iii) A certified copy of all payroll records enumerated in subdivision (a) shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to paragraph (2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the Contractor, subcontractor and the entity through which the request was made. The public shall not be given access to such records at the principal office of the Contractor.
- (c) Unless required to be furnished directly to the Labor Commissioner in accordance with Labor Code Section 1771.4(3)(b), the certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the Division.

- (d) The Contractor shall file a certified copy of the records enumerated in subdivision (a) with the entity that requested such records within ten (10) days after receipt of a written request.
 - (e) Any copy of records made available for inspection as copies and furnished upon request to the public or the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor shall not be marked or obliterated.
 - (f) The Contractor shall inform the District of the location of records enumerated under subdivision (a), including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address. In the event of noncompliance with the requirements of this Section, the Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects such contractor must comply with this Section. Should noncompliance still be evident after such 10-day period, the Contractor shall, as a penalty the State or the District, forfeit One-Hundred Dollars (\$100) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payments then due. The penalties specified in subdivision (g) of Labor Code Section 1776 for noncompliance with the provisions of said Section 1776 may be deducted from any monies due or which may become due to the Contractor.
 - (g) The Contractor and each subcontractor shall preserve their payroll records for a period of three (3) years from the date of completion of the Contract.
- D. Labor Non-discrimination. Attention is directed to Section 1735 of the Labor Code which provides that Contractor shall not discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status of any person, except as provided in Section 12940 of the Government Code. Contractor further agrees to include a similar provision in all subcontracts, except subcontracts for standard commercial supplies or raw materials.
- E. Apprentices. The Contractor and all subcontractors shall comply with the requirements of California Labor Code sections 1777.5, 1777.6 and 1777.7 regarding the employment of apprentices.

5.2 **Prohibition Against Contracting with Debarred Subcontractors**

Contractor is prohibited from performing work on a public works project with a subcontractor who is ineligible to perform work on the public works project pursuant to

Section 1777.1 or 1777.7 of the Labor Code.

5.3 Use of Subcontractors

Contractor shall not subcontract any work to be performed by it under this Agreement without the prior written approval of the Agency. Contractor shall be solely responsible for reimbursing any subcontractors and the Agency shall have no obligation to them. Attention is directed to the requirements of Section 4100 to 4113, inclusive of the California Public Contract Code which may be applicable to the work covered by this section of the Agreement. Each Contractor shall list the name and business address of each subcontractor to whom the Contractor proposes to subcontract a portion of the work in an amount in excess of one-half of one percent (0.5%) of the Total Contract Price, along with a description of the portion of the work which shall be done by each subcontractor, by executing the "List of Subcontractors" form attached to this Contract.

Prompt Payment to Subcontractors

Pursuant to Business and Professions Code Section 7108.5, the Contractor shall pay each first tier Subcontractor under this Contract for satisfactory performance of work under its subcontract no later than 7 days from the Contractor's receipt of payment from the District for such work. The Contractor shall require each first tier Subcontractor to make payments to lower tier Subcontractors in a similar manner. The District shall have no obligation to pay or to verify the payment of money to any Subcontractor, except as may otherwise be required by law.

The Contractor, not the District, shall be solely responsible for payment to Subcontractors at any tier for any amounts owing from the Contractor. All such Subcontractors agree that they shall have no claim and shall take no action against the District or its officers, directors, employees or sureties, for non-payment by the Contractor.

5.4 Prompt Payment

The District will make progress payments within thirty (30) days after receipt of an undisputed and properly submitted progress payment invoice pursuant to Section 20104.50 of the Public Contract Code. No such payment will be made when, in the judgment of the Engineer, (a) the work is not proceeding in accordance with the provisions of the Contract; (b) the Contractor is not complying with the requirements of the Contract; or (c) when the total value of the work done as shown on the invoice does not exceed Three Hundred Dollars (\$300.00). No such invoice or payment will be construed to be an acceptance of any work or materials. Before any progress payment or the final payment is made, the Contractor may be required to submit satisfactory evidence that he is not delinquent in payments to its employees, subcontractors, suppliers or other creditors for labor and materials incorporated into the work. Pursuant to Public Contract Code Section 20104.50, if the District fails to make a progress payment in a timely manner, it shall pay interest to the Contractor at the legal rate set forth in Section 685.010(a) of the California Code of Civil Procedure.

5.5 Non-Collusion Declaration

Pursuant to Public Contract Code section 7106, Contractor shall execute a Non-Collusion Declaration, in a form provided by the Agency, which is attached and incorporated herein.

5.6 Third-Party Claims

Pursuant to Public Contracts Code Section 9201, the District shall have full authority to compromise or otherwise settle any claim relating to the Agreement at any time. The District will provide for timely notification to the Contractor of the receipt of any third-party claim, relating to the Agreement. Notice shall be in writing and will be provided within thirty (30) days. The District shall be entitled to recover its reasonable costs incurred in providing such notification.

5.7 Claims Procedures

Compliance with all change order procedures is a prerequisite to filing a Public Contract Code Claim pursuant to this section. Claims must be submitted no later than (a) 30 days after change order procedures are complete and the Contractor has notified the General Manager in writing that the work is being performed, or that the determination direction is being complied with, under protest as per General Conditions 30 and 31 or (b) 30 days after the occurrence of the event giving rise to the claim.

In accordance with the procedures set forth in Public Contract Code sections 9204 and 20104-20104.6, a Contractor may submit a claim by registered or certified mail with return receipt requested, for one or more of the following: (a) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by the District; (b) payment by the District of money or damages arising from work done by, or on behalf of, the Contractor pursuant to this contract and payment for which is not otherwise expressly provided or to which the Contractor is not otherwise entitled; or (c) payment of an amount that is disputed by the District.

The Contractor shall furnish reasonable documentation to support the claim, including but not limited to: 1) a clear, concise recital of the basis upon which the claim is asserted, including a designation of the provisions of the Contract Documents upon which the claim is based, 2) a statement as to the amount of time and/or compensation sought pursuant to the claim; 3) whether the Contractor's claim arises from an ongoing occurrence, and if so a description of the specific Work activities affected by the claim, 4) a time impact analysis in the event that Contractor requests a time extension, 5) full and complete cost records supporting the amount of any claim for additional compensation, and 6) a notarized certification by the Contractor as follows: "Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act, Government Code Section 12650 et seq., the undersigned hereby certifies that the information contained herein is a true, accurate and complete statement of all features relating to the claim asserted." Failure by the Contractor to provide sufficient documentation will result in denial of the claim. The District reserves the right to request additional documentation, or clarification of the documentation provided.

Upon receipt of a claim, the District will conduct a reasonable review and provide a written statement to the Contractor identifying what portion of the claim is disputed and what

portion is undisputed within 45 days of receipt of the claim. The District and Contractor may, by mutual agreement, extend the 45day time period. For any undisputed portion of a claim, the District must make payment within 60 days of its issuance of the written statement.

If the Contractor disputes the District's written statement, or if the District fails to respond, the Contractor may demand an informal conference to meet and confer for settlement of the issues in dispute. The District will then schedule the meet and confer conference within 30 days of the demand. Within 10 business days following the meet and confer conference, the District will provide a written statement identifying the portion of the claim that remain in dispute. Any payment due on an undisputed portion of the claim will be made within 60 days of the meet and confer conference.

After the meet and confer conference, any disputed portion of the claim shall be submitted to non-binding mediation. Alternatively, upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable. If mediation is unsuccessful, the parts of the claim that remain in dispute shall be subject to applicable procedures set forth below.

Failure of a public entity to respond to a claim within the time periods described above shall result in the claim being deemed rejected in its entirety. Additionally, amounts not paid in a timely manner shall bear interest at 7 percent per year.

In the event that the mediation is unsuccessful, Contractor must file a government claim pursuant to Government Code section 910 et seq. in order to initiate a civil action.

In any civil action filed to resolve claims, the court shall submit the matter to nonbinding mediation within 60 days following the filing or responsive pleading, provided that the parties have not already participated in mediation of the claim as outlined above. If the matter remains in dispute after nonbinding mediation, the court shall submit the matter to judicial arbitration pursuant to Code of Civil Procedure section 1141.10 et seq. If the matter remains in dispute after judicial arbitration, the District or the Contractor may request a trial de novo.

5.8 Contractor's License Requirements

Contractor and any approved subcontractors shall hold such current and valid Contractor's Licenses as required by California Law and as applicable for the work to be performed under this contract. **Contractor must hold a valid State of California Class A (or applicable) Contractor's License.** License must be valid and active at time of award or project.

5.9 Payment of Workers' Compensation

Contractor shall sign and file with the Agency the following certification prior to performing the work of the Agreement:

"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 Agreement."

5.10 Examination and Audit of Records

Pursuant to Government Code Section 8546.7, Contractor shall retain all project-related records for a period of 3 years after final payment on this Agreement, which shall be subject to audit or inspection by the Agency or the State Auditor during this period.

5.11 Anti-Trust Claim Assignment

Pursuant to Public Contract Code 7103.5, the contractor offers and agrees to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 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 District tenders final payment to the Contractor, without further acknowledgment by the parties.

5.12 Utility Relocation

If applicable, pursuant to California Government Code Section 4215, if during the course of the work the Contractor encounters utility installations which are not shown or indicated in the contract plans or in the specifications or which are found in a location substantially different from that shown, and such utilities are not reasonably apparent from visual examination of the work site, then it shall promptly notify the District in writing. Where necessary for the work of the Contract, the District will amend the contract to adjust the scope of work and the compensation to allow the Contractor to make such adjustment, rearrangement, repair, removal, alteration, or special handling of such utility, including repair of the damaged utility. If the Contractor fails to give the notice specified above and thereafter acts without instructions from the District, then it shall be liable for any or all damage to such utilities or other work of the Contract which arises from its operations subsequent to the discovery, and it shall repair and make good such damage at its own cost.

5.13 Public Works Registration

The Contractor must be registered with the California Department of Industrial Relations pursuant to Labor Code Section 1725.5. **BIDDERS MUST SUBMIT PROOF OF CONTRACTOR REGISTRATION WITH THE DIR IN THE FORM OF A HARD COPY OF THE RELEVANT PAGE OF THE DIR'S DATABASE FOUND AT: <https://efiling.dir.ca.gov/PWCR/Search>.**

This Contract is subject to monitoring and enforcement by the DIR pursuant to Labor Code Section 1771.4. The Contractor must post job site notices, as prescribed by regulation. The Contractor shall furnish the records specified in Labor Code Section 1776 directly to the Labor Commissioner, monthly in a format prescribed by the Labor Commissioner.

5.14 Compliance with All Applicable Laws

The Contractor shall comply with all the applicable requirements of federal, state and local laws, statutes, and ordinances relative to the execution of the Construction Work. In the event Contractor fails to comply with these requirements, the District may stop any Construction Work until such noncompliance is remedied. No part of the time lost due to any such cessation of the Construction Work shall be made the subject of a claim for an extension of time or increase in the compensation.

5.15 Permit Compliance

The Contractor shall comply with all the applicable requirements of federal, state and local permits relative to the execution of the Construction Work, consistent with Section 01 35 43 and Appendix D. In the event Contractor fails to comply with these requirements, the District may stop any Construction Work until such noncompliance is remedied. No part of the time lost due to any such cessation of the Construction Work shall be made the subject of a claim for an extension of time or increase in the compensation.

5.16 Iran Contracting Act3

The undersigned Bidder certifies that it is not, at the time of bidding, on the California Department of General Services (DGS) list of persons determined to be engaged in investment activities in Iran or otherwise in violation of the Iran Contracting Act of 2010 (Public Contract Code Section 2200-2208).

5.17 Safety Requirements

The Contractor shall promptly and fully comply with and carry out, and shall without separate charge therefore to the District, enforce compliance with the safety and first aid requirements prescribed by applicable State and Federal laws and regulations, rules and orders and as may be necessary to ensure that all Construction Work shall be done in a safe manner and that the safety and health of the employees, agents and the people of local communities is safeguarded. Compliance with the provisions of this Section by subcontractors shall be the responsibility of the Contractor. All installed, dismantled, and removed material, equipment and facilities, without separate charge therefore to the District, shall fully conform with all applicable State and Federal safety laws, rules, regulations and orders and it shall be the Contractor's responsibility to furnish only such material, equipment and facilities.

5.18 Retention on Progress Payments

If the Contract utilizes progress payments, five percent (5%) will be deducted from each progress payment and held in retention by the District. The remainder less any other deductions taken in accordance with this article will be paid to the Contractor as progress payments. The Contractor acknowledges and agrees that, pursuant to Public Contract Code section 7200, the percentage of retention amounts withheld by the Contractor from its Subcontractors may not exceed the percentage withheld by the District from the Contractor as specified herein.

Contractor shall release retention to a Subcontractor within 30 days of the Subcontractor satisfactorily completing all required work. Upon satisfactory completion of a Subcontractor's work, including provision of appropriate releases, certificates, evidence of the Subcontractor's compliance with all applicable requirements of the Contract Documents, and all other documents as may be required by the Contractor and the District to close-out the subcontract, the Contractor may submit an application to the District for the release of the portion of the retention attributed to the Subcontractor's work. The Contractor's application shall certify that the Subcontractor has:

- a) Completed all work required to be performed under its subcontract;
- b) The amount withheld by the Contractor under the subcontract; and
- c) That the Subcontractor has provided all backup information, stop payment notice, and lien releases required to close-out the subcontract.

Within 7 days following receipt of payment from the District for the completed Subcontractor Work, the Contractor shall release all monies withheld as retention from the Subcontractor, even if the Work to be performed by the Contractor or other Subcontractors is not completed and has not been accepted. The Contractor shall, by appropriate agreement with each Subcontractor, require each first tier Subcontractor to make payments to lower tier subcontractors in a similar manner.

5.19 Release of Retention

Upon the District's issuance of Notice of Final Acceptance the District will release the amount retained.

5.20 Securities in Lieu of Retention

Pursuant to Public Contract Code Section 22300, the successful Bidder may submit Securities in lieu of retention payments by the District. Upon Contractor's request, the District will make payment of funds withheld from progress payments, pursuant to the requirements of California Public Contract Code Section 22300, if Contractor deposits in escrow with the District or with a bank acceptable to the District, securities eligible for investment under California 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 Contractor and the District, upon the following conditions:

- (1) Contractor shall bear the expenses of the District and the escrow agent in connection with the escrow deposit made.
- (2) Securities or certificates of deposit to be placed in escrow shall be of a value at least equivalent to the amounts of retention to be paid to Contractor pursuant to this article.
- (3) Contractor shall enter into an escrow agreement satisfactory to the District, which agreement shall be substantially similar to the form provided in California Public Contract Code Section 22300.
- (4) Contractor shall obtain the written consent of the surety to such agreement.

SECTION 6. HAZARDOUS CHEMICALS AND WASTES

For the purposes of this Section only, the term "claims" shall include (a) all notices, orders, directives, administrative, or judicial proceedings, fines, penalties, fees, or charges imposed by any governmental agency with jurisdiction, and (b) any claim, cause of action, or administrative or judicial proceeding brought against the District, its directors, or employees, or for any loss, cost (including reasonable attorney's fees), damage, or liability, sustained or suffered by any person or entity, including the District. The Contractor shall bear full and exclusive responsibility for any release of hazardous or nonhazardous chemicals or substances during the course of performance of this Contract. The Contractor shall immediately report any such release to the District. The Contractor shall be solely responsible for all claims and expenses associated with the response to, removal and remediation of the release, including, without limit, payment of any fines or penalties levied against the District by any agency as a result of such release and shall hold harmless, indemnify, and defend the District from any claims arising from such release.

If the performance of the work outlined by these Contract specifications creates any hazardous wastes, those wastes shall be properly disposed of according to federal, state, and local laws, at the expense of the Contractor. The Contractor shall dispose of the wastes under its own EPA generator number. In no event shall the District be identified as the generator. The Contractor shall notify the District of any such hazardous wastes and the District reserves the right to a copy of any test conducted on the wastes and, at its cost, to perform additional tests or examine those wastes, prior to disposition. The Contractor shall hold harmless, indemnify, and defend the District from any claims arising from the disposal of the hazardous wastes, regardless of the absence of negligence or other malfeasance by the Contractor.



**Contract No. 2025-03, Surfers Beach Pilot Restoration Project
TECHNICAL SPECIFICATION**

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**SECTION 01 11 00
GENERAL SUMMARY**

PART 1 - GENERAL

1.01 Summary of Work

A. The work generally consists of:

1. Mobilization including site access, preparation of construction staging areas, temporary fencing, preparation of submittals, protection of assets and other preparation activities.
2. Compliance with all permit conditions, including sediment and erosion control, dust and noise control, and wildlife and environmental protection throughout construction.
3. Installing protection fencing and signage.
4. Protecting all existing pavements, signs, stairs, etc., for vehicle and pedestrian traffic, and protecting the rock revetment, rock breakwater, and utilities, including storm drainage, and temporarily removing and replacing existing stairs.
5. Installation of navigation beacons and buoys to denote areas of navigation encroachment.
6. Installation of temporary construction access for equipment.
7. Harvest eelgrass from Mitigation Area and transplant in the Secondary Transplant sites.
8. Hydraulically or mechanically dredge sand from East Basin Areas 1B and 1C and mechanically place in Mitigation Fill Area to form bed for eel grass planting.
9. Harvest eelgrass from East Basin Area 2 and plant in Mitigation Area.
10. Hydraulic dredging of Areas 1A and 2 and placement of dredged sediments at Surfers Beach, including constructing sand containment berm and finish grading with land-based equipment, and discharge water control.
11. Surveying and calculations for measurement, payment and acceptance.
12. Pedestrian and vehicular traffic management (on land and in water).
13. Site cleanup, repair of any damages, restoration and demobilization.

1.02 Sequence and Schedule Requirements

- A. Comply with all allowable dates for select construction activities based on regulatory permits.

- B. Contractor shall time and sequence eelgrass transplanting, dredging and fill placement as follows:
1. After receiving Notice to Proceed, Contractor shall transplant eelgrass from the Mitigation Area to Secondary Transplant Sites.
 2. Contractor shall dredge Areas 1B and 1C and construct the Mitigation Fill Area, only after eelgrass has been transplanting from the Mitigation Fill Area.
 3. Once dredging Areas 1B and 1C are complete, Contractor may dredge Area 1A and begin fill placement at Surfers Beach Fill Area.
 4. At least two (2) weeks after construction of the Mitigation Fill Area is complete, the Contractor shall commence eelgrass transplanting from Area 2 to Mitigation Fill Area.
 5. Contractor shall dredge Area 2 and complete construction of the Surfers Beach Fill Area.
- C. The above sequence requirements, and completion dates for major project actions, are summarized as follows:

Action	Required Predecessor Activities	Completion Date
Transplant Eelgrass from Mitigation Area.	None.	Prior to dredging Areas 1B and 1C.
Dredge Areas 1B and 1C and place fill at Mitigation Area.	Only after eelgrass transplanted from Mitigation Area.	July 15, 2025
Dredge Area 1A and place fill at Surfer's Beach.	Dredge Areas 1B and 1C.	October 15, 2025
Transplant Eelgrass from Area 2.	At least two weeks after fill placement in Mitigation Area.	August 15, 2025
Dredge Area 2 and place fill at Surfer's Beach.	Only after eelgrass transplanted from Area 2 to Mitigation Area.	October 15, 2025

- D. Demobilization shall not occur until authorized by District.
- E. The Contractor shall coordinate and cooperate with the District's other contractors as needed.

1.03 Definitions

- A. Caltrans Specifications: shall mean the Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.
- B. District or District's Representative: Designated representative of the San Mateo County Harbor District.
- C. Work: All work described in the Contract Documents, including but not limited to the plans, specifications and project permits (Appendix A).

1.04 Work Hours

- A. Normal work hours are Monday through Friday, from one-hour before sunrise to one-hour after sunset.
- B. Construction is prohibited during weekends, from the Saturday of Memorial Day through Labor Day inclusive, and during non-daytime hours (i.e., from one-hour after sunset to one-hour before sunrise). Work during these prohibited times will only be allowed if the Coastal Commission grants permission if there is a justified need (e.g., to work with the tides), and a request is made with ample notification and time for review.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

PART 4 - MEASUREMENT AND PAYMENT

NOT USED

END OF SECTION 01 11 00

SECTION 01 30 00
SUBMITTALS

PART 1 - GENERAL

1.01 Description

- A. This section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, and other submittals.

1.03 Definitions

- A. Action Submittals: Written and graphic information that requires the District's responsive action.
- B. Informational Submittals: Written information that does not require the District's responsive action. Submittals may be rejected for not complying with requirements.

1.05 Required Submittals

- A. Refer to the Submittals Register and technical specifications.
- B. The Contractor shall prepare and provide required submittals as described for all items, plans, materials, products, and information as and when specified throughout the Project Specifications.
- C. Additionally, the following submittals are required:
 - 1. Certified Payroll Submittals: The Contractor and all subcontractors shall submit certified payrolls in accordance with the Standard Specifications Article 24, "Certified Payroll Submittals and Cost Data," on a weekly basis. These forms shall be submitted to the Engineer or his designated representative.
 - 2. Emergency Contact: The Contractor shall provide the District with a list of names and phone numbers of Contractor's representatives for 24-hour contact in case of emergency at the job site.
 - 3. Record Drawings: The Contractor shall maintain a neatly marked set of record drawings, in a format acceptable to the District, showing the installed location of all revisions. The record drawings shall be updated weekly and incorporated into the plans by the Contractor at the conclusion of the project and given to the District.

1.06 **Submittal Procedures**

A. General:

1. No items requiring submittals shall be installed prior to review and approval by the District.
2. The Contractor is encouraged to transmit all submittals in electronic form. If the Contractor elects to submit paper, the number of paper copies of submittals shall be the number required by the Contractor (not to exceed three (3) copies) plus two (2) copies: one (1) for the District and one (1) that will be retained by the District.
 1. Electronically transmitted submittals shall be returned electronically or by paper at the Contractor's choice.
3. Electronic copies of CAD Drawings of the Contract Drawings will be provided by the District for the Contractor's use in preparing submittals upon the Contractor's request. The Contractor shall compensate the District for time spent in preparing and providing CAD files.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities and order of work.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity so that work is not delayed.
2. Coordinate transmittal of different types of submittals for related parts of the work so processing and the District review will not be delayed or cause work delays.
3. The District reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Submittals Schedule: Comply with requirements of Construction Schedule to provide sufficient time for scheduled performance of related construction activities.

D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on the District's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. The District will advise the Contractor when a submittal is being processed must be delayed for coordination. After review by the District of each of the Contractor's submittals, the submittal will be returned to the Contractor with actions defined as followed:
 - a. If copies of the submittal are returned to the Contractor marked "No Exceptions Taken", formal revision and resubmission of said submittal will not be required.

- b. If copies of the submittal are returned to the Contractor marked “Make Corrections Noted”, the Contractor is responsible that the noted corrections are made, however formal revision and resubmission of said submittal will not be required.
 - c. If copies of the submittal are returned to the Contractor marked “Amend and Resubmit”, the submittals have been returned because of inconsistencies or errors that shall be resolved or corrected by the Contractor prior to subsequent review by the Engineer. The Contractor shall revise said submittal and shall resubmit the required number of copies to the Engineer.
 - d. If copies of the submittal are returned to the Contractor marked “Rejected-Resubmit”, the submitted material does not conform to the Plans and Specifications in major respects (wrong size, model, capacity or material). The Contractor shall correct said submittal and shall resubmit the required number of copies to the Engineer.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 - a. Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for extra work.
 - b. The Engineer’s review of Contractor submittals shall not relieve the Contractor of the entire responsibility for the correctness of details and dimensions.
 4. The District reserves the rights to withhold monies due the Contractor to cover the additional costs of the Engineer’s review beyond the second submittal.
- E. Identification: Place a permanent label or title block on each submittal for identification.
 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 6 by 8 inches on label or beside title block to record the Contractor's review and approval markings and action taken by the District.
 3. Include the following information on label for processing and recording action taken:
 1. Project name.
 2. Date.
 3. Name and address of District.
 4. Name and address of Contractor.
 5. Name and address of subcontractor.
 6. Name and address of supplier.

7. Name of manufacturer.
 8. Submittal number or other unique identifier, including revision identifier. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
 9. Number and title of appropriate Specification Section.
 10. Drawing number and detail references, as appropriate.
 11. Location(s) where product is to be installed, as appropriate.
 - (1) Other necessary identification.
- F. Deviations (“or approved equals/equivalents”): Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.
1. Products that are specified by manufacturer, trade name, or catalog number establish a standard of quality and do not prohibit the use, except where noted, of equal products of other manufacturers provided that they are favorably reviewed by the District prior to installation.
 2. The burden of providing proof as to the type, function, and quality of any such substitute material or equipment is the sole responsibility of the Contractor. The District’s decision as to the acceptability of the material shall be final.
 3. The Contractor may be required to furnish, at the Contractor’s expense, a special performance guarantee or other surety with respect to any substitute.
 4. Acceptance by the District of a substitute item shall not relieve the Contractor of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.
 5. The Contractor shall be responsible for the resultant changes or all additional work that the accepted substitution requires in the Contractor’s work including all costs and delays.
- G. Additional Copies: Unless additional copies are required for final submittal, and unless the District observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal. Additional copies submitted for maintenance manuals will not be marked with action taken and will be returned.
- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Reference appropriate Technical Specification section, bid item, and/or drawing number and submit directly to the District’s Representative. Transmit each submittal using a detailed transmittal form. Submittals received from sources other than the Contractor will not be accepted.
1. On an attached separate sheet, prepared on the Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by the District on previous submittals, and deviations from requirements in the Contract

Documents, including minor variations and limitations. Include same label information as related submittal.

- I. Resubmittals: Make resubmittals in the same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked "No Exception", or "No Exception as Noted".
- J. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities and permit requirements. Show distribution list on transmittal forms.
- K. Use for Construction: Use only final submittals with a mark indicating approval by the District.

PART 2 – PRODUCTS – Not Used

PART 3 - EXECUTION

1.9 Contractor's Review

- A. Review each submittal and check for coordination with other work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to the District.
 - 1. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of the Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1.10 District's Action

- A. General: The District will not review submittals that do not bear the Contractor's approval stamp and will return them without action.
- B. Action Submittals: The District will review each submittal, make marks to indicate corrections or modifications required, and return it. The District will stamp each submittal with an action stamp and will mark appropriately to indicate action taken.
- C. Informational Submittals: The District will review each submittal and will not return it or will return it if it does not comply with requirements. The District will forward each submittal to the appropriate party.
- D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01 30 00

Spec Para. No.	Description of Submittal	Type of Submittal						Contractor Scheduled Dates	
		Working Drawings	Product Data	MFR's Data	CERT.	Test Report	Other as Specified	Submit By	
Section 01 30 00 Submittals									
1.05	Certified Payrolls						X	On weekly basis	
1.05	Emergency Contact						X	Prior to mobilizing to the site	
1.05	Record Drawings						X	Prior to contract completion and final payment	
Section 01 32 00 Contractor's Schedule									
1.02	Construction Schedule						X	Within 7 days of Contract	
1.02	Updated Construction Schedule						X	Biweekly, two days prior to the Weekly Progress Meeting	
1.03	Three-Week Look-Ahead Schedule						X	Two days prior to the Weekly Progress Meeting	
Section 02 02 02 Mobilization									
1.02	Caltrans Contractor Authorization Form						X	Within 5 business days of the Notice to Proceed	
1.02	Caltrans Submittals: Construction Plans, Schedule, List of Subcontractors						X	Prior to the pre-job meeting with Caltrans.	
1.02	Traffic Control Plan						X	Prior to mobilizing to the site	
3.02	Project Sign	X					X	Prior to ordering signs	
Section 31 23 00 Dredging and Fill									
1.04	Operations Plan						X	Prior to beginning construction.	
1.04	Dredging Operations Plan						X	Prior to beginning construction.	
1.04	Water Control Plan						X	Prior to beginning construction.	
Section 31 23 10 Construction Survey									
1.04	Licensed Surveyor's Verification				X			at least ten (10) calendar days prior to commencement of survey work	
1.04	Survey Plan						X	Prior to mobilization	
1.04	Daily Progress Surveys						X	Daily, within 24 hours of completion	
1.04	Monthly Progress Surveys							Monthly with Application for Progress Payment	
1.04	Post-Construction Survey	X					X	Prior to Final Acceptance	
	As-Built Survey	X					X	Prior to contract completion and final payment	
Section 32 90 00 Eelgrass Transplanting									
1.04	Post-Transplant Report						X	Prior to payment for Eelgrass Transplanting.	

**SECTION 01 32 00
CONTRACTOR'S SCHEDULE**

PART 1 - GENERAL

1.01 Contractor's Schedule

- A. Time of Completion: Contractor's time of completion shall adhere to the required times of completion specified in Section 01 11 00 General Summary.
- B. Schedule General Requirements:
1. The Contractor shall submit to the District a comprehensive, realistic and orderly schedule. The schedule shall present a logical sequence of activities in sufficient detail to show completion of the components of the work within the time specified or any adjustments thereof. The number of activities shall be sufficient to show planning of the work, and to monitor progress.
 2. The schedules shall conform to industry standard Critical Path Method (CPM) scheduling in precedence diagram format.
 3. The schedule shall utilize the Work Breakdown Structure (WBS) hierarchy to breakdown project deliverables. Project deliverables shall be organized in a manner that clearly identifies the various activities needed to produce the deliverables.
 4. Errors or omissions in the schedule including failure of the schedule to include any element of the work, shall not relieve the Contractor from responsibility for accomplishing the work in accordance with the contract requirements.
 5. The project calendar(s) shall conform to allowable work hours and days as specified in Section 01 11 00 General Summary.
 6. All activities shall have a minimum of one predecessor and one successor. The predecessors and successors shall be related to the work and be part of the sequential string of activities that are required to complete a task.
 7. The critical path is defined as the longest path of activities associated with each time of completion listed in Section 01 11 00 General Summary and any adjustments thereof, where the total float is less than or equal to zero.
 8. Each activity shall include a description of the work, work location, calendar ID, and responsibility code to identify who will perform the work.
 9. Show Project Float as the predecessor activity to complete the balance of work

1.02 Construction Schedule

- A. The Contractor shall submit to the District Schedule within 15 days after the receipt of the Notice to Begin Work.

- B. The Construction Schedule shall show in detail:
 - 1. Notice to Begin Work and time of completion dates as designated zero duration (milestone) activities.
 - 2. The timing of all required submittals, showing the date of submittal and review by the District, regulatory agencies or other third parties.
 - 3. The planned mobilization of plant and equipment
 - 4. The sequences for performing the work, including the logical link between time-scaled work activities.
 - 5. Start and completion dates for eelgrass transplanting and dredging and fill placement operations.
 - 6. Timing for all surveys.
 - 7. Demobilization of equipment.
- C. Update the accepted Construction Schedule on a biweekly basis and submit to the District two days prior to the Weekly Progress Meeting.
- D. Acceptance of the Baseline Schedule or any updates by the District does not relieve the Contractor of responsibility for scheduling, sequencing, and prosecuting the work to comply with the requirements of the contract.
- E. The District can, at any time, require the Contractor to adjust, revise, or clarify any portion of the schedule deemed insufficient for monitoring of the work.
- F. No payment beyond the first progress payment will be made without an accepted Baseline Schedule.

1.03 Weekly Three-Week Look-Ahead Schedule

- A. Each week the Contractor shall update the Weekly Three-Week Look-Ahead Schedule and email an electronic copy to the District two days prior to the Weekly Progress Meeting.
- B. The Weekly Three-Week Look-Ahead Schedules shall be extracted from and show a greater level of detail than the latest Updated Construction Schedule.
- C. The Weekly Three-Week Look ahead Schedules shall be taken from the Monthly Updated Schedule and shall include activities in progress and activities that are scheduled to start within the next three weeks.

1.04 Recovery Schedule and Schedule Revision

- A. If the Monthly Updated Schedule is projecting a delay of more than five working days to the critical path or completion date considering all granted time extensions, the District may order the Contractor to submit a Recovery Schedule. The Recovery Schedule shall illustrate the impacts or delay on the current scheduled time of completion dates. The Recovery Schedule shall show a detailed and realistic plan to complete the project on time. The approval process, contents, and deliverables shall be the same as for the Construction Schedule.

- B. The District can, at any time, request a Revised Schedule due to changes or modifications to contract specifications and/or drawings. The approval process, contents, and deliverables shall be the same as for the Construction Schedule.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

PART 4 –PAYMENT

END OF SECTION 01 32 00

SECTION 01 35 43
ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.01 General Requirements

- A. Provide and maintain during the Contract environmental protection as specified herein. Provide protective measures to control pollution and protect water quality and wildlife. Provide corrective measures required to correct conditions that develop during construction.
- B. This sections describes environmental protection measures to be applied throughout the duration of the project, including, but not limited to:
 - 1. Permit Adherence
 - 2. Air Quality and Dust Control
 - 3. Noise Control
 - 4. Wildlife Protection
 - 5. Avoiding Toxic or Noxious Materials
 - 6. Erosion and Sediment Control Measures
 - 7. Cultural and Prehistoric Resources
- C. During the progress of the work, keep the premises occupied in a neat and clean condition and protect the environment both on site and off site, throughout and upon completion of the construction contract.
- D. Protection and Restoration: All natural resources within the project boundaries and outside the limits of permanent work shall be preserved in their existing condition, or where not feasible, restored to an equivalent condition upon completion of the work.
- E. Confine construction activities to areas defined by the public roads, easements, and work area limits shown on the Drawings.

1.02 Regulatory and Permit Compliance

- A. Comply with Federal, State, local, and District regulations.
- B. Comply with all requirements included in the following project permits obtained for the Project by the District (see Appendix A):
 - 1. U.S. Army Corps of Engineers (USACE) – File Number SPN-2012-00207
Maintenance Dredging; Individual Permit
 - 2. Regional Water Quality Control Board (RWQCB) - Clean Water Act Section 401
Water Quality Certification

3. National Marine Fisheries Service (NMFS) - Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response
 4. National Oceanic and Atmospheric Administration (NOAA) - Monterey Bay National Marine Sanctuary Management Permit
 5. CALTRANS Encroachment Permit
- C. Copies of permits listed above are included as Appendix A and are considered part of these Contract Documents.
- D. The Contractor shall maintain a copy of all permits at the site throughout construction. Maintain a copy of the USACE permit on the vessel used for transportation and disposal of dredged material.
- E. Contractor shall allow representatives from any of the permitting agencies access to inspect the Work at any time as requested.
- F. Major permit requirements and responsible parties are summarized in the Permit Compliance Matrix included as Appendix D. This list is provided for the Contractor's convenience and does not absolve Contractor's obligation to comply with all permit requirements.
- G. The Contractor shall notify the District's Representative immediately of any discrepancy between project permits, Permit Compliance Matrix and/or Contract Documents.
- H. Local Notice to Mariners and apply to the US Coast Guard for any modifications and or additional approvals.
- I. The Contractor shall observe the rules and regulations of the State of California and agencies of the United States Government prohibiting the pollution of the coastal waters by dumping refuse, rubbish, debris, etc., and the menace to navigation, by permitting piles and debris to go adrift in navigable waters.
- J. Control of dredged materials to limit turbidity in accordance with all permit requirements and Section 31 23 00 Dredging and Fill.
- K. Charges: The Contractor shall pay for any charges, including fines, assessed by the regulatory agencies for dredging outside the limits of dredging, for dredging below regulatory- permitted depths, impacting eel grass or other environmental degradation or for other noncompliance with permit conditions caused by the Contractor's operations.

1.03 Air Quality and Dust Control

- A. Construction activities may have to be curtailed (ceased or reduced) during periods of high ambient pollutant concentrations when declared by San Mateo County Air Pollution Control District (APCD). Comply with APCD requirements.

- A. Gravel pads shall be installed at all vehicle access points to minimize tracking of dirt and mud onto roadways.
- B. Construction contractors shall designate a monitor for the dust control program. The monitor's work schedule shall include holiday and weekend periods when work at the project site may not be in progress. The name and telephone number of such persons shall be provided to the APCD prior to grading.
- C. All portable construction equipment shall be registered with the State's portable equipment registration program OR shall obtain an APCD permit.
- D. All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, which limits engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.
- E. Diesel construction equipment meeting the California Air Resources Board's Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting Tier 2 or higher emission standards should be used to the maximum extent feasible.
- F. Diesel powered equipment should be replaced by electric equipment whenever feasible.
- G. If feasible, diesel construction equipment shall be equipped with selective catalytic reduction systems, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California.
- H. The engine size of construction equipment shall be the minimum practical size.
- I. The number of pieces of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- J. Construction equipment shall be maintained in tune per the manufacturer's specifications.
- K. Catalytic converters shall be installed on gasoline-powered equipment, if feasible.

1.04 Noise Control

- A. Limit noise and vibration to a reasonable level as related to specific items of equipment used and their hours of use and as indicated herein. This does not preclude use of mechanical equipment if it can be operated within the permitted noise levels. The District's Representative will be the sole judges of permissible noise and vibration levels and has the right to designate times when they may be use.
- B. Construction equipment shall be properly maintained and be outfitted with feasible noise-reduction devices to minimize construction generated noise.
- C. Stationary noise sources such as generators and pumps are to be located at least 100 feet from noise-sensitive land and marine uses, and where feasible, 200 feet or more.

- D. Laydown and construction vehicle staging areas are to be located at least 100 feet from noise-sensitive uses.
- E. Loud construction activity within 200 feet of a residential or commercial area (marine and land) shall be restricted to the hours between 8:00 AM and 5:00 PM, Monday through Friday, and no work shall occur on weekends or federal holidays.
- F. Construction noise levels shall not exceed state standards of 65dB(A) at property lines.
- G. Use mobilization routes through surrounding communities and harbor which minimize impacts on noise-sensitive uses as determined by local authorities. Obtain permits from local authorities if required.

1.05 Wildlife Protection

- A. The project site and adjacent areas do or may contain sensitive habitat areas for protected wildlife including:
 - 1. Pacific Groundfish
 - 2. Coastal Pelagic Species
 - 3. Pacific Coast Salmon
 - 4. Snowy Plover
 - 5. Nesting Birds
 - 6. Eelgrass
 - 7. Black Abalone
- B. Comply with all requirements of Project Permits (Appendix A) and associated permit measures for wildlife protection.
- C. The District’s Biological Monitor will perform pre-construction surveys, environmental training, monitoring, and wildlife relocation as summarized in the table below. The Contractor shall cooperate with the District’s Biological Monitor throughout construction and allow sufficient time in its schedule for required activities. Provide 10 calendar days’ notice prior to mobilizing to the site. The Contractor shall not start construction until the area has been cleared for wildlife.

Activity	When
Nesting bird survey	Within 30 days of construction start
Snowy Plover survey	Within 7 days prior to construction start
Black Abalone survey	Prior to construction start
Pre-construction eelgrass survey	Prior to construction start
Baseline sandy beach biological monitoring	Prior to construction start
Conduct worker Environmental Awareness Training	Prior to construction start

- D. Contractor's Biological Monitor: The District's Biological Monitor will be present at the work site until all protected species surveys, relocation (if needed), and work instruction have been completed. After this time, the Contractor will designate a person to monitor on-site compliance with all minimization measures that has received the proper training from the District's Biological Monitor. The on-site monitor shall notify the District's Representative immediately and halt any action that might result in harm to protected species. The District will notify regulatory agencies to determine the required course of action.
- E. The Contractor shall include in its construction schedule the delay of construction activities as needed to allow the Biological Monitor to conduct initial surveys, periodic monitoring, wildlife relocation, and other activities to ensure wildlife protection. Review requirements of Project Permits (Appendix A) to determine the anticipated length and frequency of construction delays due to biological monitoring.
- F. A "soft-start" policy shall be implemented in order to allow wildlife species to vacate the area prior to construction activities. A soft-start (e.g. ramp-up period) shall be used prior to full-power equipment use at the beginning of each day, or following a 30-minute or longer break.

1.06 Wildlife Education Training

- A. The District's Biological Monitor will conduct education programs for all construction personnel (a) prior to initiating construction and (b) prior to initiation of water diversion and/or dewatering activities. All construction personnel and subcontractors must complete the training before they are authorized to work in the project area.
- B. At a minimum, the training will include a description of each of the protected species, their importance, their habitat, a report of the occurrence within the project area, an explanation of the status of this species and its protection requirements, the conservation measures that are being implemented, and the work site boundaries within which construction may occur. A fact sheet conveying this information will be prepared for distribution to the above-mentioned people and anyone else who may enter the project site; the fact sheet shall be bi-lingual if Contractor's crew does not speak English as a first language. Upon completion of the program, personnel will sign a form stating that they attended the program and understand all the avoidance and minimization measures.

1.07 Noxious or Toxic Materials

- A. No noxious or toxic materials shall be used, including but not limited to rodenticides, pesticides, or herbicides.
- B. Disclose any unidentified hazardous substance or condition exposed during the work to the District's Representative for decision or remedy.

- C. Fuel and Storage Area: The Contractor shall designate one (1) fueling and wash area within the staging areas and at least 100 feet from any aquatic habitat.
1. The Contractor shall only perform fueling, maintenance and emergency repair of vehicles and equipment within the designated fueling area or offsite.
 2. The designated fueling and wash area shall be constructed to provide containment of any spills and to prevent any waste from contacting and penetrating the ground by use of methods such as berms and/or liners.
 3. Provide secondary containment around any fuel or oil storage areas.
 4. Upon the Contractor's removal and cleanup of the designated fueling area the Contractor shall be solely responsible for all costs incurred in removing any contamination caused by its activities.
- D. Inspect all equipment for leaks immediately prior to the start of construction, and regularly thereafter until equipment is removed from the site. Equipment repair (other than emergency repairs) shall be performed offsite.
- E. Any hazardous materials and/or hazardous substances that the Contractor deems necessary for performance of the work shall be stored, used, and contained within the fueling and wash area. Dispose of all contaminated water, sludge, spill residue, or other hazardous compounds off-site at a lawfully permitted or authorized facility.
- F. Accidental Spills:
1. Contain and clean up any accidental leaks or spills immediately and remove any contaminated soils, water other materials offsite. Dispose offsite in accordance with all applicable laws.
 2. The Contractor's plan and contingency measures for preventing and cleanup of accidental spills or releases shall be detailed in the Dredging Operations Plan (see Section 31 23 00 Dredging and Fill).
 3. At a minimum, the Contractor shall maintain appropriate spill containment materials for emergency cleanup throughout the life of the project
 4. Immediately notify the District's Representative in the event of any spill or release of any chemical in any physical form. Train Superintendent in prevention and correction of spills.
- G. Prevent accumulations of wastes that create hazardous conditions.
- H. Provide adequate ventilation during use of volatile or noxious substances. Use such materials only after 48 hours previous notification to the District's Representative and preferably on weekends or "down" periods.
- I. All construction personnel will ensure that their food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area are deposited in

covered or closed trash containers. The trash containers will be removed from the project area at the end of each working da

1.08 Sediment and Erosion Control

- A. Comply with all permit requirements related to sediment and erosion control (Appendix A and D).
- B. The Contractor shall install and maintain erosion and sediment control measures as needed to prevent sediment migration away from land-based operations and staging areas, and from entering into storm drains, the beach or the ocean.
- C. At a minimum, the Contractor shall install silt fences, straw wattles and other temporary erosion and sediment control measures required in the permits (Appendix A) prior to commencing construction. Modify and enhance these measures as needed to prevent control erosion from exposed soil surfaces and to reduce sediment runoff from the project site throughout construction.
- D. Maintain on-site sufficient quantities of erosion and sediment control materials to be installed in the event that rain is forecast, and for rapid response to failures or emergencies. Ensure that erosion and sediment transport control measures are ready for implementation prior to the onset of the first major storm of the season.
- E. Consult the local 72-hour weather forecast daily and consider precipitation forecasts when planning construction activities (<http://www.nws.noaa.gov>). When there is a forecast of more than 40% chance of rain, or at the onset of unanticipated precipitation, remove all equipment from the water, implement erosion and sediment control measures and cease all other project activities. If any construction activities occur after October 15, a Winterization Plan shall be prepared and submitted to the District and RWQCB for review and acceptance.
- F. Stormwater Best Management Practices (BMPs) for land-based operations and staging area(s):
 - 1. All BMPs shall be installed per the manufacturer's recommendations.
 - 2. Silt fences, fiber rolls and other temporary BMPs may be used, installed, and maintained as necessary during construction.
 - 3. Monitor and maintain erosion and sediment control facilities throughout construction. Following each rain event, remove accumulated sediment, repair any damage, and install any additional temporary BMPs as needed.
 - 4. Upon construction completion, remove and dispose of all temporary BMPs properly at approved off-site facility.

1.09 Cultural Resources

- A. The project does not pass through any known historical or archaeological sites. However, in the event that any previously unknown historic or archeological remains artifacts, or other cultural resources are discovered during the Work, the Contractor shall stop work, protect the discovered items, notify the District's Representative, and comply with applicable law. The District will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02 02 02
MOBILIZATION AND DEMOBILIZATION

PART 1 - GENERAL

1.01 General:

This section describes mobilization, demobilization and preparatory work and operations including, but not limited to:

- A. Mobilizing necessary personnel and marine- and land-based equipment to the project site;
- B. Performing all required notifications and complying with permit requirements for U.S. Coast Guard, USACE and Caltrans for all activities.
- C. Erecting signs and construction fences and traffic control.
- D. Setting the dredge in the Harbor;
- E. Installation, moving, and maintenance of any required temporary boating barriers/ markers and temporary debris catch barriers;
- F. Setting and maintaining the discharge lines in the Harbor to the Mitigation Area and across land to Surfers Beach;
- G. Installing and removing the temporary construction access ramp at Surfers Beach.
- H. Establishing Contractor's field offices, staging areas, buildings, utilities, and other facilities necessary to the performance of the Work.
- I. All other work and operations which must be performed prior to initiation of dredging.
- J. Site cleanup, repair of any damages and site restoration.
- K. Demobilization of all equipment and materials.

1.02 Submittals

- A. The Contractor shall prepare and submit the following documents to the District and Caltrans within 5 business days of the Notice to Proceed, and by the time of the pre-job meeting (whichever is sooner):
 - 1. Construction Plans, work schedule, and a list of all subcontractors.
 - 2. Caltrans Contractor Authorization Form (available at <https://dot.ca.gov/-/media/dot-media/programs/trafficoperations/documents/encroachment-permits/tr-0429-ally.pdf>).
 - 3. Traffic Control Plan: Submit a Traffic Control Plan describing the Contractor's proposed traffic control and public access protection measures. The Contractor

shall have a plan approved by the District and Caltrans prior to mobilizing to the site. At a minimum, the plan shall:

- a. Include access routes and traffic control measures for transporting equipment and materials to the site.
- b. Include measures for protecting public pedestrian access within the Project Area throughout construction, including temporary fencing, barricades and provision of flagger.
- c. Comply with the requirements of California Manual on Uniform Traffic Control Devices” (MUTCD) and the “MUTCD Uniform Sign Chart,” issued by Caltrans.
- d. Comply with the Caltrans Encroachment Permit for the Project.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 General Mobilization Requirements:

- A. The work required to provide the above facilities and services for mobilization shall be done in a safe and workmanlike manner and shall conform to any pertinent local, state, or federal law, regulation, or code. Good housekeeping consistent with safety shall be maintained.
- B. Particular attention is drawn to the fact that Harbor is open to navigation and Surfers Beach is open to recreation and adjacent pedestrian and vehicular traffic. Contractor shall exercise sufficient care to maintain a boating and coastal environment throughout construction which is safe and protected from harm by the contractor's equipment, operations, and personnel.
- C. Notify the U.S. Coast Guard and USACE at least 7 business days prior to the start of dredging.**
- D. Contractor's field office may be established at one of the staging areas. A field office is not mandatory. Contractor will propose the exact location to the Engineer for acceptance prior to mobilization. Contractor shall coordinate and pay for all utility services. Contractor shall designate an area near the field office as a storage/staging area.
- E. The Contractor shall provide all necessary temporary electricity, gas, sanitary facilities, and water required during construction, including all necessary temporary meters, equipment, wiring, piping, fixtures, and connections. Remove the same prior to completion of Project.
- F. Install fencing as needed to keep construction areas separated from public recreational use and general access areas.

- G. Provide watchman services as may be deemed necessary to safeguard properly all materials, tools, appliances, and work. District will not assume any responsibility for the loss of or damage to materials, tools, appliances, or work arising from acts of theft, vandalism, malicious mischief, or other causes which may occur during or after working hours.
- H. Access to the site is over public roads. Exercise care in the use of such roads, drives, and trails, and repair any damage to the satisfaction of the District or agency having jurisdiction over the roads and/or trails. Do not track mud onto paved or gravel roads. The Contractor shall employ a street sweeper as needed to keep all paved surfaces free of tracked mud or dirt.

3.02 Protection of Existing Structures And Utilities:

- A. The Contractor shall take all necessary precautions to ensure that existing structures, utilities, rock slope protection and equipment within and adjacent to the site are not damaged during the work.
- B. The Contractor shall take all necessary precautions to protect existing eel grass, salt marsh and other regulated vegetation and coastal habitats areas within and adjacent to the site that are slated to remain.
- C. Existing utility systems within and adjacent to the site shall remain in continuous service and shall be protected from damage during construction.
- D. Work or features scheduled to remain that are damaged by the Contractor shall be restored at its own expense to the satisfaction of the District.

3.03 Existing Utilities:

- A. Utilities Protection: The Contractor shall identify, locate, and protect all existing utilities within the project limits, including on-site and off-site access routes.
- B. The location of existing utilities and underground facilities known to the District are shown in their approximate location based on limited information available at the time the Drawings were prepared. The actual location, size, type and number of utilities and underground facilities may differ from that shown, and utilities or underground facilities present may be present that are not shown.
- C. The Contractor shall obtain best available current information on location, identification and marking of existing utilities, piping and conduits, and other underground facilities before beginning any excavation. Call Underground Service Alert at 800-642-2444 for information at least 48 hours in advance of beginning work.

3.04 Caltrans Encroachment Permit Compliance:

- A. The District has obtained an encroachment permit from Caltrans (Appendix A). Comply with all requirements.

- B. Notify Caltrans' designated representative at least 7 business days before the start of construction.
- C. Prepare and submit the Contractor Authorization Form, Traffic Control Plan and all other submittals as described above and in the permit.
- D. Attend a pre-job meeting with Caltrans at least 7 business days prior to the start of construction.
- E. Signs, lights, flags, or other protective devices must not obscure the visibility of, nor conflict in intent, meaning, and function of either existing signs, lights and traffic control devices, or any construction area signs.
- F. No vehicle or equipment must be stored overnight within the State highway right-of-way. All vehicles and equipment must be removed immediately at the completion of the day's work. Refueling of vehicle or equipment within the State highway right-of-way is strictly prohibited.
- G. Except for installing, maintaining and removing traffic control devices, any work encroaching within 3 feet of the edge of a travel lane for areas with a posted speed limit below 45mph, or 6 feet of the edge of a travel lane, for areas with a speed limit posted at 45mph or higher, requires closing of that travel lane. Any work encroaching within 6 feet of the edge of the shoulder requires closing of that shoulder.
- H. All traffic control devices must be installed, maintained, and removed by a qualified traffic control contractor. Traffic control using flagging, must comply with the California MUTCD, Part 6E, "Flagger Control."

3.05 Project Sign

- A. The Contractor shall procure and install sign(s) clearly identifying the project, funding, and District to be located at main points of public access near the project.
- B. The District's Representative will provide the District's template and required wording for the sign size, lettering, and imaging. Prior to procurement, the Contractor shall submit a scaled and colored plan print of the sign face to the District's Representative for District Approval.

3.06 Site Cleanup and Restoration:

- A. Prior to Final Payment, the Contractor shall complete the final cleanup of the work site. Final payment may be withheld until the Contractor has satisfactorily completed the final cleanup.
- B. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- C. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including grading and staging areas, of rubbish, waste material, litter, and other foreign substances.

- D. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
- E. Restore all access roads, paths, rock slope protection and stairs to and within the site that are materially damaged to pre-project conditions.
- F. Installation of any required pavement repairs shall be in accordance with Caltrans Specifications.
- G. Remove tools, construction equipment, machinery, and surplus material from Project site.
- H. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the District's easements or Landowner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.
- I. Remove tools, surplus materials, equipment, temporary buildings, sheds, and construction facilities from the site.

PART 4 - COMPENSATION

4.01 Payment:

- A. Payment for the lump sum bid item for Mobilization and Demobilization shall constitute full compensation for providing all labor, equipment, and materials required to mobilize to the site, perform all Contractor operations, including both administrative and field operations, and demobilize from the site. Mobilization and demobilization shall include but is not limited to completion of all submittals installation fencing and project signage, Caltrans Encroachment Permit compliance, transporting equipment, utility location, temporary storage, temporary utilities services and equipment, construction sediment and dust control, staging area, site protection and restoration, and site clean-up, as well as any required items not covered under other bid items.
- B. Mobilization shall be no more than twenty percent (20%) of the total of all other bid items.

END OF SECTION

**SECTION 31 23 00
DREDGING AND FILL**

PART 1 - GENERAL

1.01 Summary

- A. This section applies to all earthwork including dredging, transportation, fill placement and finish grading within the grading limits shown on the Drawings. Dredging and Fill includes, but is not limited to:
1. Hydraulically or mechanically (bucket) dredge sand from East Basin Areas 1B and 1C and mechanically place in Mitigation Fill Area to form bed for eel grass planting.
 2. Hydraulic dredging of Areas 1A and 2 and placement of dredged sediments at Surfers Beach, including constructing sand containment berm and discharge water control.
 3. Finish grading of fill placement areas as needed with land-based equipment.
 4. Perform dredged water management and turbidity control throughout the project, in accordance with Section 01 35 43 Environmental Protection.
- B. The project is designed as a "balanced" earthwork project. No import of fill is allowed. No export of dredged material is allowed except if designated as debris by the District.

1.02 Schedule and Sequence Requirements

- A. The Contractor is responsible for sequencing and scheduling the work in a manner that:
1. Meets all permit requirements;
 2. Meets the general sequence requirements provided in Section 01 11 00 General Summary and in this Specification Section;
 3. Allows for safe and efficient progress of the work including the control of dredged material.
- B. Contractor shall inform the District ten (10) calendar days in advance of performing dredging in each of the following area:
1. Dredge Areas 1B and 1C.
 2. Dredge Area 1A.
 3. Dredge Area 2.

1.04 **Submittals**

A. General Submittal Requirements:

1. The Contractor shall prepare and submit all required plans described in this section to the District's Representative for its review and comment.
2. District-approved plans in-place prior to beginning construction.
3. The Contractor shall not deviate from the approved plans unless a revised plan has been approved in writing by the District.
4. Failure to adhere to an approved plan shall be cause for rejection of Contractor's request for payment for Dredging and Fill bid items, until the plan has been brought into conformance.

B. Operations Plan. Submit a detailed Operations Plan that describes the Contractor's proposed use of the site. The Operation Plan shall satisfy regulatory requirements, including the Construction Plan requirements Coastal Development Permit (CDP) issued by the California Coastal Commission (Appendix A). At a minimum, the plan shall include:

1. Site diagram showing
 - a. Construction Areas
 - b. Onsite and offsite haul routes (land and water)
 - c. Dredge pipeline routes
 - d. Marine equipment mooring areas
2. Construction Methods, including list of major equipment to be used.
3. Construction Timing, including a diagram showing the sequence of work for each phase
4. Construction best management practices BMPs for sediment, erosion and turbidity control.
5. Post-construction site restoration
6. Diagrams showing:
 - a. The Contractor's staging area(s) including construction trailer, electrical and sanitary service and designated fueling and washdown area.
 - b. Construction approach and operations for dredging Areas 1B and 1C and fill placement at the Eelgrass Mitigation Fill Area.
 - c. Construction approach and operations for dredging Areas 1A and 2 and fill placement at Surfers Beach Fill Area.
7. Traffic Control: Means and methods, including diagrams and technical information describing control of marine traffic in the vicinity of work areas (Coordinate with land-based Traffic Control Plan per Section 02 02 02 Mobilization).

8. Construction schedule – per Section 01 32 00 Contractor’s Schedule.
 9. Some or all of other submittals may be included in or attached to the Operations Plan used to satisfy some of the above requirements.
- C. Dredging Operations Plan (DOP): The US Army Corps of Engineers (USACE) requires, as a condition of project permit, their review and acceptance of a Dredging Operations Plan (DOP) prior to dredging.
1. USACE Review and Approval:
 - a. The District will coordinate submittals and reviews with USACE.
 - b. Prepare and submit the DOP to the District within seven (7) days of execution of the Construction Contract.
 - c. The Contractor shall revise and resubmit the Plan as needed in response to comments and questions from the District or USACE.
 - d. Dredging shall not commence until all comments and questions have been addressed and answered to the satisfaction of the District and USACE, and documented in a final DOP.
 - e. The Contractor shall not receive Notice To Proceed until the final DOP has been approved by the USACE.
 2. The DOP shall include the following at a minimum:
 - a. USACE Permit Number and Dredging Episode Number;
 - b. Identification of work as maintenance dredging, and quantity of material to be removed;
 - c. Name and telephone number of the Contractor's onsite representative;
 - d. Construction Schedule, (see Section Section 01 32 00 Contractor’s Schedule);
 - e. List and technical specifications of equipment to be used, including the names of vessels, bin or barge capacities, and radio telephone frequencies and call signs of any marine equipment;
 - f. Vessel and barge anchoring locations;
 - g. Description of dredging and disposal operations, including estimated daily production rate;
 - h. Description of horizontal and vertical positioning systems to be used, including coordinates and elevations of all control points to be used for the work;
 - i. Method of determining electronic positioning of the dredge during the entire dredging operation at the dredge site;
 - j. Description of controls to ensure that dredging operations occur within the limits of dredging;
 - k. Description of controls to ensure that placement of the dredged material at the fill sites is at the assigned location;

- l. Method for estimating daily dredge quantities;
 - m. Quality control survey procedures.
 - n. Solid Debris Management Plan: Management Plan which describes measures to ensure that solid debris generated during dredging, or any other aspect of the work is retained and properly disposed of in areas not under USACE jurisdiction. At a minimum, the Solid Debris Management Plan shall include the following:
 - (1) USACE Permit Number and Dredging Episode Number;
 - (2) The source and expected type of debris;
 - (3) Debris retrieval method;
 - (4) Disposal method and sites(s);
 - (5) Schedule of disposal operations;
 - (6) Debris containment method to be used, if floatable debris is involved.
 3. The plan shall be updated weekly or as needed based on dredging progress.
- D. Water Control Plan: Prepare and submit a Water Control Plan that describes the Contractor's proposed methods and equipment for controlling surface water and groundwater entering the work area, and protecting water quality. At a minimum, the plan shall comply with all permit requirements (Appendix A) and describe:
1. Methods of limiting and monitoring turbidity.
 2. Diagram showing water control plan, including expected location of temporary berms, temporary stockpiles, fill sequencing and confinement methods.
 3. Diagrams of water and sediment BMPs.

1.05 Topographic Data

- A. The Drawings indicate the various sources of topographic and bathymetric data depicted.
- B. Elevation contours shown on the plans are approximate and provided for general reference only. The accuracy of the elevation contours is limited by distortion due to existing vegetation.
- C. The Contractor shall be aware that topographic data are available for select locations only and may not be representative of all locations. The Contractor shall perform site investigations, estimate quantities and include sufficient contingency in its bid to cover topographic and bathymetric variability.
- D. The District will perform a pre-construction survey and provide to the Contractor prior to construction.

1.06 Sediment Data and Subsurface Conditions

- A. Limited sediment data is available for the site. The Contractor may refer to the sediment characterization in Appendix B. The Contractor shall be advised that sediment variations exist between the limited sampling locations, and the Contractor may not rely on the completeness or adequacy of the information for construction.
- B. The dredge and fill areas are generally characterized as follows:
 - 1. Dredge Areas: Unconsolidated sediments, primarily sands.
 - 2. Eelgrass Mitigation Fill Area: Unconsolidated sediments above shallow bedrock and loose rocks, boulders and gravel. (The fill area is a sandy subtidal shoal that has formed since Breakwater construction.)
 - 3. Surfers Beach: Mostly low tidal to subtidal sand deposit. Hardpan (weak sedimentary rock) has been observed at low tides after erosion events at the southern portion of the site near the pedestrian stairs. This hardpan is believed to be horizontal or to rise to the south: Its northern extents and elevations are not known. Quarry stones are exposed at low to medium tides within the sand placement area. Quarry stones are scattered about at the toe of the CALTRANS revetment protecting Highway One.
 - 4. Close to Breakwaters: Quarry stones can be expected below existing ground surface near rock structures close to the breakwaters.
- C. Existing Debris:
 - 1. Except as shown on the Drawings, the District has no knowledge of the existence of wrecks, wreckage, and other material of a size or character that will necessitate the employment of special or additional equipment for their economical removal. The District also has no knowledge of the presence of cables, pipes, or other artificial obstructions.
 - 2. However, the Contractor shall anticipate that a small percentage of small debris and garbage that is routinely found in the Harbor such as tires and driftwood will be encountered and shall be segregated and stockpiled onsite as directed by the District. No additional compensation shall be made for removal and disposal of such debris and/or garbage.

1.07 Tide Data

- A. Contractor shall install a water level recorder per Section 31 23 00 Construction Survey.
- B. Tide datums on the Drawings are based on National Ocean Service for Half Moon Bay. These elevations are believed to be approximate based on data collection within the Harbor (historical tide data collected by District are available upon request).

1.08 Estimated Earthwork Quantities

- A. Estimated Quantity of Material: The estimated quantities of dredging and fill placement listed on the Drawings are based on the hydrographic survey conducted in 2019 and 2020. Estimated quantities are the difference between existing grades and design grades. The estimated quantities will be updated based on the pre-construction survey to be performed by the District (future Appendix C).

PART 2 - PRODUCTS

2.01 Soil Types

- A. Eelgrass Mitigation Area Fill: Generally finer sediments dredged from Areas 1B and 1C.
- B. Surfers Beach Fill: Generally sandy sediments dredged from Areas 1A and 2.

PART 3 - EXECUTION

3.01 Dredging and Fill Layout

- A. Prior to commencing dredging and fill in a given area, The Contractor shall layout the work with field markers, to delineate dredge neat lines in the Drawings, and shall have the District approve prior to commencing any dredging.
- B. Identify the active dredge and fill areas with buoys or other temporary markers, and locate these markers on paper and digital files, for review and approval by the District's Representative.
- C. The shore parallel length of Surfers Beach Fill area will be marked on the seaward extents and the landside.
- D. Offsets may be used to locate dredge and fill markers beyond work areas.
- E. Dredge pipe shall also be located by markers. Dredge pipe must be located on the seabed within and near navigation channels, and along the agreed landside alignments.
- F. Markers shall conform to US Coast Guard, USACE and District requirements. Markers shall be removed by Contractor when appropriate, prior to or part of demobilization.
- G. Notice for layout review and approval shall be received in writing by the District a minimum of ten (10) calendar days in advance of dredging.
- H. The Contractor shall allow up to three (3) working days for the District to review markers and request any adjustments needed to conform to design intent. The Contractor shall adjust the markers as directed by the District.
- I. The Contractor shall not proceed with dredging and fill until staking has been favorably reviewed by the District.

- J. Notify the District when markers are removed or relocated in accordance with the progression of work.

3.02 Inspections

- A. Contractor's Quality Control: The Contractor shall inspect the work, keep records of the work done, and see that the gauges, targets, range, and other markers are in place and in proper order and condition. The Contractor at a minimum shall:
 - 1. Check the depth of dredging in each section prior to moving;
 - 2. Maintain daily dredging records of areas and stationing and estimated quantity dredged;
 - 3. Maintain daily records of fill operation including the estimated quantity of sediment taken to the designated fill sites and associated equipment movements and or slurry pumping rates, and any other reporting conditions required by the permits.
 - 4. Maintain daily records of any problems including spills, damage to existing facilities, etc. The Contractor shall submit daily reports by noon of the following day.
- B. District Inspection: From time-to-time the District (and/or its representative) will inspect boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the dredging plant as may be reasonably necessary for inspecting and observing the work. Contractor shall provide transport to/from marine dredge equipment if requested.

3.03 Navigation Protection

- A. Avoid Interference with Navigation: Contractor's operations shall interfere as little as possible with use of boat ramp and harbor channels and passages. Channels shall not be blocked by the Contractor unless requested in writing and approved by the District. Blocking navigation from berths, moorings and or boat launch ramp will not be allowed except for short intervals (up to a few hours) which may be needed to mobilize equipment. The District will coordinate with the Contractor to accommodate the movement of vessels and floating equipment should that become necessary.
- B. Lights: Each night between sunset and sunrise keep proper lights upon all floating plants, ranges, and other markers, and all buoys whose size and location would endanger or obstruct navigation as required by the U.S. Coast Guard. The Contractor shall be responsible for all damages resulting from any neglect or failure in this respect. Maintain lights on or about the plant from sunset to sunrise as may be necessary for the proper observation of dredging operations when work at night is in progress.
- C. Navigation Warnings: Furnish and maintain suitable navigation warning signs on all Contractor's equipment and as required by the State of California and the U.S. Coast Guard to prevent hazards to navigation.

3.04 **Dredging Requirements**

- A. Allowable dredging methods are as follows:
1. Areas 1B and 1C may be hydraulic or mechanically dredging, at Contractor's option.
 2. Mechanical methods are anticipated in the sand knock-down area on the boat ramp in Area 1C.
 3. Areas 1A and 2 shall be hydraulically dredged.
- B. Vertical limits:
1. The target dredging elevation is -8 feet NAVD, and the over-dredge limit is -10 feet NAVD.
 2. Dredge areas are designated by neat line target elevations to the nearest tenth of a foot (0.1 feet) at break lines with a vertical allowance for over-dredge.
- C. Horizontal limits:
1. Dredge areas 1A, 1B and 1C to horizontal limits shown on drawings.
 2. Dredge area 2 only as needed to generate sufficient material for the Surfers Beach Fill Area.
 3. The total dredged volume of all areas shall not exceed 114,000 cubic yards, as allowed by Project permits.
- D. Do not excavate rocks or bedrock, rubble mound structures (breakwaters and revetments), or Harbor facilities such as the Boat Launch Ramp and appurtenances. Otherwise, excavate all materials to lines, grades, and slopes as shown on the Drawings to accommodate the finished contours or grades.
- E. The District has no knowledge of the existence of artificial obstructions within the dredge limits except as identified: Notify the District of any obstructions of a size or character that would necessitate the use of special equipment for their removal.
- F. Segregate and stockpile any debris encountered during dredging onsite as directed by the District.
- G. Blasting will not be permitted.
- H. Ranges: If desired the Contractor shall furnish, set and maintain in good order all necessary ranges, buoys, and other markers needed to define the work to facilitate the work and inspection.
- I. Establish and maintain continuous recording gauges for measuring the water depth within 0.10 feet. Reading of the continuous water level shall be transmitted to the dredge. Suspend dredging at any time when the gauge is not working correctly.
- J. Plant: The Contractor's plant, coamings, barges, and associated equipment shall be of sufficient size and efficiency to meet the job requirements. The plant and equipment shall be kept at all times in condition for efficient work. Remove any dredged material improperly placed due to leaks, breaks or failure of equipment.

- K. Disposal Site Verification Log (DSVL): Contractor shall furnish to the District by the end of work week on each Friday a "Disposal Site Verification Log" which enumerates the dredging and fill accomplished during the week (form to be provided by USACE after approval of Dredging Plan of Operation).

3.05 Control of Water and Sediment

- A. The dredge and fill areas are tidal, and water levels are affected by weather and wave conditions. The Contractor shall anticipate these conditions and apply appropriate means, methods and scheduling to complete the work.
- B. The Contractor shall endeavor to limit turbidity in Harbor and Ocean work areas caused by construction, in compliance with project permits. This is expected to be accomplished via best management practices primarily by controlling hydraulic discharge from dredging operations, controlling placement by bucket, if used, timing of work, and monitoring and adaptive management.
- C. The Contractor shall phase the fill to allow monitoring of progress and discourage transport of sediment away from the fill areas.
- D. For the Mitigation Fill area:
1. The Contractor may use a barge or scow to decant water from pumped sand slurry prior to placement.
 2. The Contractor may construct temporary sand berms to control sand placement and turbidity of discharged water.
- E. For the Surfers Beach Fill Area: The Contractor shall construct temporary sand berms to control sand placement and turbidity of discharged water.
- F. The Contractor shall avoid settlement, scour or damage to adjacent property from dewatering operations.
- G. The Contractor shall have a contingency plan for inclement weather and marine conditions and equipment malfunction.

3.06 General Fill Placement Requirements

- A. The general requirements in this section apply to all fill placement. Additional requirements for specific project components are provided below.
- B. Place fill to the neat lines shown on the Drawings. Fill due to migration of placed sediments from the placement area to adjacent areas may occur within specified tolerances.
- C. The neat lines show the desired finished grade and do not include an overbuild to act as overburden to consolidate underlying fill or otherwise compensate for settlement or erosion.
- D. The Contractor shall phase the fill to (a) allow monitoring of progress, (b) discourage transport of sediment away from the fill areas and (c) avoid mounding and uneven distribution of material.

- E. The Contractor shall be responsible to remove (dredge) and relocate sand in excess of tolerances that may impact existing eelgrass, at District's discretion and without compensation.
- F. Compaction: Compaction of the fill is limited to that anticipated to occur during placement and finish grading.

3.07 Additional Requirements for Eelgrass Mitigation Fill Area

- A. Dredged sediment shall be placed in fill area by bucket or dumped from barge. Placement shall be accomplished in an orderly and controlled manner.
- B. Perform finish grading to achieve design grades within tolerances.
- C. Finish grading shall not commence until the fill elevations have stabilized and District has accepted the fill operation as essentially complete. Fill Stability is defined by surface grade changes of less than survey tolerance (approximately 0.2 feet) over a one-week period

3.08 Additional Requirements for Surfers Beach Fill Area

- A. Material must be pumped directly from the dredge to the beach fill area.
- B. Surfers Beach fill shall start at the south end and progress northward in an orderly manner.
- C. Initial Temporary Sand Berm: The Contractor may excavate existing beach sand to construct the initial temporary sand berm to facilitate beach construction. The extent of beach sand excavation is strictly limited as shown on the Drawings.
- D. The Contractor shall close the beach using temporary fencing, barricades and signage in maximum 1000-foot sections of beach. All other sections of the beach except for staging areas shall remain open to the public. Ensure that movement of pipeline and equipment is accomplished safely and in recognition of public presence. All construction equipment operating outside the segregated fill placement area shall have spotters and take other appropriate action to protect public safety. The Contractor shall provide public safety personnel to observe and manage public access at all times.
- E. Temporary Sand Berms: The Contractor shall control sand placement and water discharge by constructing temporary sand berms using the dredged material delivered by hydraulic slurry from the designated dredge areas.
 - 1. Initial sand berm of limited extent may be constructed using local beach sand (see Drawings).
 - 2. Temporary sand berms shall be constructed with sand dredged from the designated areas in the Harbor. The dimensions of berms are at the Contractors discretion in order to accomplish the work.

- F. The beach shall be graded track-walked by land-based equipment to achieve finished grades and approximately 85% relative compaction. (Compaction testing by the District is not anticipated.)
- G. Perform final rough grading after District has accepted the fill operation as essentially complete. Prior to demobilization, the Contractor shall perform rough grading of the beach to endeavor to remove scarps and steep areas caused by wave action that has occurred since acceptance.
- H. In general, the Contractor shall stage and coordinate dredging so that excavated material is placed directly in fill placement locations. The Contractor may temporarily stockpile material on Surfers Beach that will be graded by land-based equipment within the following 24 hours.

3.09 Tolerances and Acceptance

- A. The Contractor shall endeavor to dredge and place fill to the finish grades indicated in the Drawings.
- B. For all dredge areas:
 - 1. Vertical Tolerance: plus two (2) ft and minus one (1) ft (+2’/-1’) from over-dredge limit (between elevation -8 and -11 feet NAVD).
 - 2. Any areas dredged more than 1 ft below over-dredge limit (below elevation -11 ft NAVD) shall be backfilled.
- C. Eelgrass Mitigation Fill Area:
 - 1. Terrace (between elevation -2 and -3 feet NAVD): Plus or minus 0.5 feet
 - 2. Side slopes: Plus or minus 1 foot
- D. Surfers Beach Fill Area: Plus or minus 1 foot
- E. Average tolerance is one half of spot tolerances listed above.
- F. The project may not be accepted as complete if finished grade is outside the limits of these tolerances, and/or does not conform to the shapes and slopes indicated in the Drawings. The District may require the Contractor to conduct additional work at his expense to complete excavation and fill to the lines and grades indicated, within these tolerances, and associated surveying to demonstrate conformance with the desired finished grades.
- G. Partial acceptance of dredging and fill placement may be based on daily or monthly surveys at the discretion of the District. After fill placement areas are partially accepted, the Contractor is not responsible for maintaining design grades. The Contractor shall not disturb or grade areas that have been accepted or partially accepted.
- H. Surfers Beach Fill Placement Areas: See below for payment deductions for fill placed outside of vertical or horizontal tolerances.

PART 4 – MEASUREMENT AND PAYMENT

4.01 Measurement

- A. Measurement will be based on in-place cubic yards of material dredged to over-dredge limit (up to -10 feet NAVD) within the dredge areas.
- B. Measurements will be determined by Contractor's progress-surveys per Section 31 23 10 Construction Survey.
- C. No payment will be made for:
 - 1. Dredging below over-dredge limit (below elevation -10 ft NAVD)
 - 2. Dredging outside of horizontal dredge area limits
 - 3. Associated fill placement that does not meet design grades within tolerance. At the District's option, 50% of the volume of fill placed outside of vertical or horizontal tolerances may be deducted from the dredging pay volume.
- D. For each item, existing grades shall be based on existing topography as shown on the Drawings, and updated by Pre-construction survey.

4.02 Payment

- A. Payment for Dredging and Fill Placement at Eelgrass Mitigation Fill Area will be at the unit price by cubic yard and shall include, but is not limited to, dredging, transport and fill material in designated areas, including layout and grade checking, dredging, dredging support, water and turbidity control, transport, fill placement, finish grading, public traffic and safety control, and all incidental work.
- B. Payment for Dredging and Fill Placement at Surfers Beach Fill Area will be at the unit price by cubic yard and shall include, but is not limited to, dredging, transport and fill material in designated areas, including layout and grade checking, dredging, dredging support, water and turbidity control, transport, fill placement, construction of temporary containment berms, public traffic and safety control, and all incidental work.
- C. No payment will be made for excavation or fill placement that does not conform to the design or is outside tolerance, without approval from the District's Representative.

END OF SECTION 31 23 00

SECTION 031 23 10
CONSTRUCTION LAYOUT AND SURVEYS

PART 1 – GENERAL

1.01 Summary

- A. The work covered by this Section consists of all construction layout and surveys, including providing all labor, materials, and equipment for performing:
 - 1. Work layout, staking, flagging and grade control
 - 2. Survey control confirmation, including tide gauge.
 - 3. Daily progress surveys of all active dredge and fill placement areas.
 - 4. Monthly Progress and Post-construction Surveys to demonstrate design compliance and for payment and Acceptance.
 - 5. As-built surveys.
- B. The Contractor shall provide and be responsible for all survey and layout work required for dredging and fill operations and shall be responsible for the correctness of all final grades and lines.
- C. Project Surveyor: All survey submittals shall be signed and stamped by the Project Surveyor. The Contractor shall hire a Project Surveyor that is a Licensed Land Surveyor (in state of California) with at least five (5) years demonstrated work experience.

1.04 Submittals

- A. Survey Plan: Prior to mobilization, submit a Survey Plan with a detailed description of the survey equipment and procedures proposed to be used for completion of the work. The Survey Plan shall include:
 - 1. Proposed survey phasing, timing and methods, control points and benchmarks.
 - 2. Procedures for surveys and quality control to ensure material placement/grading in the design areas are in accordance with the contract requirements.
 - 3. Procedures for confirmation/correction of benchmark locations and coordinates, survey control and datums prior to construction.
- B. Survey submittals, as described further in Part 3 below, shall include:
 - 1. Daily dredging and fill surveys.
 - 2. Monthly Progress Payment Surveys and quantities
 - 3. Post-Construction Surveys and quantities, prior to final acceptance

4. As-Built Surveys and quantities, prior to construction completion
- C. Requirements for All Survey Submittal:
1. Drawings shall be prepared at the same scale as corresponding detail sheets in the Drawings, and shall show control points and grade break-lines. Drawings shall include cross section drawings corresponding with survey lines, to scale.
 2. The District will provide hard copy reproducibles or electronic files of the plan sheet Drawings if requested by the Contractor.
 3. Submit electronic files (in AutoCAD or similar). Use the same scale and similar coverage as provided in the Drawings.
 4. Allow fourteen (14) calendar days for the District's Representative to review.
- D. Project Surveyor's Qualifications: Provide the following at least ten (10) calendar days prior to commencement of survey work for the District's approval:
1. Name and State Land Surveyor's license number.
 2. References to confirm completion of at least three (3) similar projects in the last (5) five years.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

3.01 General Surveying Requirements

- A. Licensed Surveyor: All surveys, computations and supporting drawings shall be prepared at the Contractor's expense by a Survey Contractor whose equipment and work force are independent of the Contractor's. All surveys and computations shall be performed under the supervision of a Land Surveyor registered in the State of California and actively engaged in surveying during the last three (3) years.
- B. At a minimum, surveys shall occupy and re-occupy the same elevation transects so the surveys and quantities can be directly compared. At a minimum occupy transects at sections shown on the Drawings. Transects shall be perpendicular to and include stationing relative to the baselines provided on the Drawings. Include additional transects along baseline as needed to characterize the work.
- C. Transect Line Elevations shall extend at least 10 feet beyond the limits of earthwork (dredge and/or fill).
- D. Elevations shall be taken at breaks in slope and at intervals not greater than ten (10) feet horizontally along the Transects.
- E. Surveyed grade points shall be converted to elevations relative to NAVD shall be provided to the nearest one-tenth of a foot.
- F. Survey transects shall be taken at locations that are representative of existing grade.

- G. The District's Representative may elect to substitute its own survey and calculated quantities for the Contractor's survey. The District's Representative will select the survey that will govern at its sole discretion

3.02 Survey Control Confirmation

- A. The Contractor shall occupy benchmarks and confirm horizontal and vertical coordinates and datums prior to initiating dredging.
- B. The Contractor shall install and maintain a continuously recording tide gauge throughout construction. Install at the Fishing Platform as approved by the District.
- C. Use established survey benchmark data shown on the Drawings or updated information agreed to by District. Notify District in writing of any discrepancies or uncertainties prior to initiating dredging.

3.03 Pre-Construction Survey

- A. The Contractor has the option of performing a preconstruction bathymetric - topographic survey to establish existing grades at the site, calculate quantities and submit for consideration by the District. If the Contractor does not perform a pre-construction survey, it agrees to waive any claims regarding the survey data provided.

3.04 Daily Progress Surveys

- A. Contractor shall document grade changes in dredge and fill areas as work progresses with progress surveys. The Contractor shall perform end-of-day progress surveys of all active dredge and fill areas.
- B. Submit daily progress surveys to District to allow tracking of work and design compliance.
- C. Progress Surveys submitted for partial acceptance of Fill Areas shall be stamped and signed by Project Surveyor and otherwise conform to requirements for Post-Construction Surveys.
- D. Acceptance will be based grades being within tolerance along the elevation transects shown on the Drawings, with additional transects as needed if the grades appear out of compliance as determined by the District.

3.05 Monthly Progress and Post-Construction Survey and Acceptance

- A. Progress Surveys: The Contractor shall perform monthly progress surveys for compute quantities in support of progress payment requests. Progress surveys will include areas in the vicinity surrounding the locations of dredging and fill in order to document changes beyond the designated dredging and fill areas.
- B. Progress Surveys submitted in support of Progress Payments shall include dredge and fill quantities as described further below.

- C. Progress Surveys submitted for partial acceptance of Dredge and/or Fill Areas shall be stamped and signed by Project Surveyor and otherwise conform to requirements for Post-Construction Surveys.
- D. Acceptance will be based grades being within tolerance along the elevation transects shown on the Drawings, with additional transects as needed if the grades appear out of compliance as determined by the District.
- E. Progress payments shall be provided only for those portions of dredge and fill area that have achieved design grades, and therefore have been accepted as complete.
- F. Sand migration from placement location at Surfers Beach is expected owing to ocean waves and currents. Progress surveys can be limited to the survey extents designated in the Drawings provided by the District.
- G. The Contractor shall not consider any earthwork complete until he/she has received the District's written approval of the post-construction survey.
- H. Post-Construction Surveys: The Contractor shall perform post-construction surveys as required for Acceptance of the Work and to document post-construction conditions. Post-Construction Surveys can be a compilation of progress surveys as appropriate.

3.06 Quantity Calculations

- A. The Contractor shall provide quantity calculations with each Monthly Progress Survey and the Post-Construction Survey.
- B. Quantities will be computed using average-end-area method based on the Elevation Transects.
- C. For Dredge Areas, volumes shall be calculated:
 - 1. By dredge area
 - 2. Within Project Limits
 - 3. Within Pay Limits
 - 4. Outside Pay Limits and inside Tolerances
 - 5. Outside tolerances
 - 6. Totals
- D. For Fill Placement Areas, volumes shall be calculated:
 - 1. By placement area
 - 2. Within Project Limits
 - 3. Outside Project Limits and inside Tolerances
 - 4. Outside tolerances
 - 5. Totals

3.07 As-Built Surveys

- A. Because it is anticipated that some sand will migrate from the fill placement area following partial acceptance, the Contractor shall accomplish a final As-Built survey following completion of all grading.
- B. Minimum requirements for As-Built surveys are as follows:
 - 1. Dredge Areas: Elevation transects as shown in Drawings
 - 2. Fill Placement Areas: Elevation transects spaced every 100 feet
- C. As-Built Surveys shall include updated calculations of final dredge and fill volumes by area.
- D. The As-Built Plans shall include color photographs (per the Coastal Development Permit, Appendix A).

PART 4 – MEASUREMENT AND PAYMENT

4.01 Payment

- A. Payment for Surveying will be at the lump sum price and shall include, but is not limited to providing all submittals, occupying benchmarks, confirming horizontal and vertical coordinates, installing and maintaining tide gauge, and performing all surveys included in this section, including daily progress, post-construction and as-built surveys.

END OF SECTION 31 23 10

**SECTION 32 90 00
EELGRASS TRANSPLANTING**

PART 1 - GENERAL

1.01 Summary

- A. This section applies to all eelgrass planting, including harvest, transport, and transplanting, within the limits shown on the Drawings. The Work includes:
 - 1. Harvesting eelgrass from the Eelgrass Mitigation Area and transplant in the Secondary Transplant sites.
 - 2. Harvesting eelgrass from East Basin Area 2 and plant in Mitigation Area.
- B. All eelgrass transplanting shall be in accordance with the Eelgrass Mitigation And Monitoring Plan (Appendix E).
- C. The District will perform a pre-construction eelgrass survey under separate contract within approximately 30 days prior to the start of construction. The District will notify Contractor of any changes needed to harvest locations based on pre-construction survey results.
- D. For bidding purposes, the Contractor shall assume the amount of eelgrass transplanting will be:

Transplant From	Transplant To	Required Area (square meters)
Eelgrass Mitigation Area	Secondary Transplant sites	928
Area 2	Eelgrass Mitigation Area	162
Total		1090

- E. The Contractor shall avoid directly or indirectly impacting all other existing eelgrass outside of the transplanting limits.
- F. See the Drawings and Section 31 23 00 Dredging and Fill for details on available topographic, sediment and tidal data.

1.01 Marine Biologists Qualifications

- G. Eelgrass transplanting shall only be performed by Marine Biologist with at least ten (10) years' demonstrated experience in eelgrass mapping and transplanting. Marine Biologist shall have developed at least one eelgrass mitigation plan for San Mateo County outer coast. Marine Biologist shall possess, by May 15, 2025, a Scientific Collecting Permit, from California Department of Fish and Wildlife to harvest and transplant eelgrass resources within Pillar Point Harbor.

1.03 Schedule and Sequence Requirements

- A. The Contractor is responsible for sequencing and scheduling the work in a manner that:
 - 1. Meets all permit requirements;
 - 2. Meets the sequence requirements provided in Section 01 11 00 General Summary and in this Specification Section;
 - 3. Allows for safe and efficient progress of the work including the harvesting, transport and transplanting activities.
 - 4. Coordinates with other construction activities by Contractor.
- B. Transplant eelgrass from Dredge Area 2, at least two weeks (ideally four weeks) following sediment placement at the Eelgrass Mitigation Area to allow for sediment consolidation.
- C. No dredging shall occur within 100 feet of eelgrass beds during eelgrass salvage and transplanting.

1.04 Submittals

- A. Marine Biologists Qualifications.
- B. Post-Transplant Report. The Contractor shall submit a detailed Post-Transplant Report which details footprint (coordinates and areas) of the transplanted areas and the amount of eelgrass transplanted within each area. Submit the Post-Transplant Report prior to payment for Eelgrass Transplanting.

PART 2 – PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 Eelgrass Harvesting

- A. The requirements below apply to harvesting eelgrass donor material from salvaged eelgrass beds.
- B. First remove loose sediment around the rhizome, and then removing the rhizome using a hand raking method. Care shall be taken when removing rhizomes to avoid tearing or ripping them to preserve as much rhizome as possible.
- C. Loosely place collected rhizomes in floating mesh bags for processing at the surface.
- D. Once on the surface, donor material will be stored in floating mesh bags in the ocean with a flow-through seawater system during processing.
- E. The salvaged eelgrass donor material will be used to prepare eelgrass bare root bundles.

1. Donor material will be considered viable if there are a minimum of three internodal segments per rhizome. Higher numbers of internodal segments are preferred for improved transplant success.
 2. Eelgrass donor material harvested from the harvest sites will be bundled into transplant units comprised of approximately 5-8 turions each.
 3. Bundles will be created by combining turions with 2–3-millimeter biodegradable cotton rope. The end of the cotton rope will be secured to a 90-130-millimeter-long paper stick.
- F. Timing: Material will be stored no longer than 24 hours from harvesting to transplant unit preparation. Once prepared, transplanted units will be stored in open water no longer than 24 hours prior to planting.

3.02 Eelgrass Planting:

- A. The requirements below apply to planting harvested eelgrass at the transplanting sites.
- B. The bare-root bundles will be planted at the transplanting sites.
- C. Hand dig a hole approximately the size of the unit and placing the unit with the rhizomes approximately 5 centimeters below the surface.
- D. The paper stick on the end of the rope used to bundle the transplant units acts as an anchor and is to be placed horizontally at the bottom of the hole 20-30 millimeters below the planting unit.
- E. Receiver sites shall be temporarily monumented with a grid by placing rope on the bottom. The grid will allow divers to position themselves and to systematically plant the bare-root bundles.
- F. Eelgrass shall be planted at areas between elevation -2 to -3 feet NAVD.
- G. Eelgrass will be planted at approximately one unit per 1.5 square meter. The exact spacing will vary depending on the number of bare-root bundles that can be created from the salvage of eelgrass.

PART 4 – MEASUREMENT AND PAYMENT

4.01 Measurement

- A. Measurement will be based on in-place square meter of eelgrass transplanted demonstrated by the Contractor and as confirmed by the District.

4.02 Payment

- A. Payment for Eelgrass Planting will be at the unit price per square meter and shall include all submittals, preparation, labor, equipment and materials needed for eelgrass harvesting, preparation and transplanting.

- B. No payment will be made for planting that does not conform to the design or is outside tolerance, without the District's approval.

END OF SECTION 32 90 00

CONTRACT NO. 2025-03
Surfers Beach Restoration Pilot
Project

BID FORM

BID FORM

**TO: SAN MATEO COUNTY HARBOR DISTRICT
EL GRANADA, CA**

Pursuant to the Notice Inviting Bids, the undersigned bidder herewith submits a bid on the bidding form or forms attached hereto and made a part hereof and binds itself on award by the San Mateo County Harbor District under this bid to execute a contract in accordance with its bid, the bid documents and the award. The attached Notice Inviting Bids, General Conditions and Instructions for Bidders, Special Provisions, Technical Specifications, Bid Forms, and Addenda, if any, are made a part of this bid and all provisions thereof are accepted, and all representations and warranties required thereby are hereby affirmed.

Bids below include all applicable charges, including labor, insurance, bonding, and other costs necessary for the furnishing of all equipment and the performance of all services called for under the Contract. Prices quoted shall include all sales or use taxes.

BIDDER SHALL SUBMIT QUOTES FOR ALL ITEMS

**CONTRACT NO. 2025-03
Surfers Beach
Restoration Pilot Project**

BID ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
1	Mobilization and Demobilization (no more than 20% of all other Bid Items)	1	Lump Sum		
2	Dredge and Fill Placement at Eelgrass Mitigation Fill Area	18,600	Cubic Yard		
3	Dredging and Fill Placement at Surfers Beach Fill Area	75,100	Cubic Yard		
4	Surveying and Layout	1	Lump Sum		
5	Eelgrass Transplanting	1,090	Square Meters		
	TOTAL BID PRICE				\$

The Bid Form must be signed below in accordance with the General Conditions and Special Provisions. Bids submitted in any other form will be considered non-responsive and may be rejected.

Name Under Which Business is Conducted: _____

Business Address: _____

Facsimile Number: _____

Telephone Number: _____

E-Mail Address: _____

MANDATORY SIGNATURE(S)
(See General Condition 3 and Special Provision 1.3)

IF SOLE OWNER, sign here: I sign as sole owner of the business named above.

Entity Name: _____

By: _____ Title: _____

Signature: _____

IF PARTNERSHIP, one or more partners sign here: The undersigned certify that we are partners in the business named above and that we sign this Contract proposal with full authority to do so.

Entity Name: _____

By: _____ Title: _____

Signature: _____

IF CORPORATION OR LCC, sign here: The undersigned certify that they sign this Contract proposal with full and proper authorization to do so.

Entity Name: _____

By: _____ Title: _____

Signature: _____

*By: _____ Title: _____

Signature: _____

Incorporated under the laws of the State of _____

* If the Bidder is a corporation, this Bid Form must be executed by two corporate officers, consisting of: (1) the president, vice president or chair of the board; and (2) the secretary, assistant secretary, chief financial officer or assistant treasurer. In the alternative, this Bid Form may be executed by a single officer or a person other than an officer provided that evidence satisfactory to the District is provided, demonstrating that such individual is authorized to bind the corporation (e.g. a copy of a certified resolution from the corporation's board or a copy of the corporation's bylaws).

IF JOINT VENTURE, officers of each participating firm sign here: The undersigned certify that they sign this Contract proposal with full and proper authorization to do so:

Joint Venture Name composed of: _____

By _____ Title _____

Signature: _____

DOCUMENTS TO ACCOMPANY BID:

_____ The Bidder's Bond or certified or cashier's check required by Section 14 of the General Conditions and Special Provision 1.10, in an amount equal to at least ten percent (10%) of the Total Bid Price

_____ List of Subcontractors

_____ Acknowledgment of Addenda, if any

_____ Qualification Questionnaire

_____ Proof of DIR Registration in accordance with Special Provision 5.14

_____ Non-Collusion Declaration

BIDDER'S BOND

KNOW ALL PERSONS BY THESE PRESENTS:

That _____, as Principal, and _____, as Surety, are held and firmly bound unto the SAN MATEO COUNTY HARBOR DISTRICT, hereinafter called the District, in the sum of _____ (\$ _____) being at least ten percent (10%) of the total amount of the bid of the Principal above named for **CONTRACT NO. 2025-03, Surfers Beach Restoration Pilot Project**, for the payment of which sum in lawful money of the United States, well and truly to made to the District, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

The condition of the above obligation is such that, whereas the Principal has submitted said bid to the District;

NOW THEREFORE, if the Principal is awarded a contract by the District and, within the time and in the manner required by the Specifications, enters into a written contract with the District and furnishes the requisite bond or bonds, then this obligation shall become null and void, otherwise to remain in full force and effect.

In the event suit is brought upon this bond by the District and Judgment is recovered, the Surety shall pay all costs incurred by the District in such suit, including a reasonable attorney's fee to be fixed by the Court.

Dated _____ 2025.

Principal:

By: _____

By: _____

Surety:

By: _____

By: _____

(SEAL)

(SEAL AND NOTARIAL
ACKNOWLEDGEMENT OF
SURETY)

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

SAMPLE CERTIFICATE OF INSURANCE

CERTIFICATE OF INSURANCE					CERTIFICATE NUMBER												
PRODUCER - S A M P L E -		THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER OTHER THAN THOSE PROVIDED IN THE POLICY. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES DESCRIBED HEREIN.															
INSURED NAMED INSURED AND ADDRESS		COMPANIES AFFORDING COVERAGE															
		COMPANY A															
		COMPANY B															
		COMPANY C															
		COMPANY D															
COVERAGES																	
This certificate supersedes and replaces any previously issued certificate for the policy period noted below.																	
THIS IS TO CERTIFY THAT POLICIES OF INSURANCE DESCRIBED HEREIN HAVE BEEN ISSUED TO THE INSURED NAMED HEREIN FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THE CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, CONDITIONS AND EXCLUSIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.																	
CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS												
	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR <input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT				GENERAL AGGREGATE \$ _____ PRODUCTS - COM/OP AGG \$ _____ PERSONAL & ADV INJURY \$ _____ EACH OCCURRENCE \$ _____ FIRE DAMAGE (Any one fire) \$ _____ MED EXP (Any one person) \$ _____												
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT \$ _____ BODILY INJURY (Per person) \$ _____ BODILY INJURY (Per accident) \$ _____ PROPERTY DAMAGE \$ _____												
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ _____ OTHER THAN AUTO ONLY: _____ EACH ACCIDENT \$ _____ AGGREGATE \$ _____												
	EXCESS LIABILITY <input type="checkbox"/> UMBRELLA FORM <input type="checkbox"/> OTHER THAN UMBRELLA FORM				EACH OCCURRENCE \$ _____ AGGREGATE \$ _____												
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY THE PROPRIETOR/PARTNERS/EXECUTIVE OFFICERS ARE: <input type="checkbox"/> INCL <input type="checkbox"/> EXCL				<table style="width: 100%; border: none;"> <tr> <td style="border: none; font-size: x-small;">WC STATUTORY LIMITS</td> <td style="border: none; font-size: x-small;">OTHER</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">EL EACH ACCIDENT</td> <td style="border: none;"></td> <td style="border: none;">\$ _____</td> </tr> <tr> <td style="border: none;">EL DISEASE-POLICY LIMIT</td> <td style="border: none;"></td> <td style="border: none;">\$ _____</td> </tr> <tr> <td style="border: none;">EL DISEASE-EACH EMPLOYEE</td> <td style="border: none;"></td> <td style="border: none;">\$ _____</td> </tr> </table>	WC STATUTORY LIMITS	OTHER		EL EACH ACCIDENT		\$ _____	EL DISEASE-POLICY LIMIT		\$ _____	EL DISEASE-EACH EMPLOYEE		\$ _____
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	OTHER <input type="checkbox"/> PROFESSIONAL LIABILITY				EACH OCCURRENCE \$ _____ AGGREGATE \$ _____												
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS																	
CERTIFICATE HOLDER			CANCELLATION														
			SHOULD ANY OF THE POLICIES DESCRIBED HEREIN BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE INSURER AFFORDING COVERAGE WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED HEREIN, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER AFFORDING COVERAGE, ITS AGENTS OR REPRESENTATIVES, OR THE ISSUER OF THIS CERTIFICATE.														
			BY: CATEGORY _____														
					VALID AS OF: _____												

LIST OF SUBCONTRACTORS

The Bidder is required to furnish the following information in accordance with the provisions of Sections 4100 to 4114, inclusive, of the Public Contract Code of the State of California. This list and information shall include all subcontractors that will perform work, provide labor or render services to the Bidder in connection with the project in an amount in excess of one-half of one percent of the total amount of Bidder's proposal.

Do not list alternative subcontractors for the same work. Use additional sheets if necessary.

NAME OF SUBCONTRACTOR	LICENSE NUMBER	LOCATION OF/ PLACE OF BUSINESS	PORTION OF WORK
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			

ACKNOWLEDGMENT OF ADDENDA
Surfers Beach Restoration Pilot Project

The undersigned Bidder acknowledges receipt of the following addenda, if issued, to the Bid Documents. If none received, write "None Received".

Addendum No. _____, dated _____

Addendum No. _____, dated _____

Addendum No. _____, dated _____

Date: _____

Firm: _____

Signature: _____

Print Name: _____

Title: _____

**QUALIFICATION QUESTIONNAIRE AND
FINANCIAL STATEMENT WITH BUSINESS REFERENCES**

Name of Applicant or Firm () Telephone

()
Facsimile

Street Address (NOTE: If using a P.O. Box, please list both P.O. Box No. AND Street Address)

City, State, Zip

Date Submitted:

Fiscal Year Ending:

The above applicant or firm is:

A parent firm of: _____

A subsidiary division of: _____

1. How many years has your organization been in business as a contractor under your present name?

2. How many years' experience:

a) As a prime contractor: _____

b) As a subcontractor: _____

3. Are you registered as a contractor or subcontractor with the California Department of Industrial Relations? _____

Registration No.: _____ Registration expiration date: _____

****BIDDER MUST SUBMIT PROOF OF CONTRACTOR REGISTRATION WITH THE DIR IN THE FORM OF A HARD COPY OF THE RELEVANT PAGE OF THE DIR'S DATABASE FOUND AT: <https://efiling.dir.ca.gov/PWCR/Search>****

4. List below at least three projects completed in the last five years that involves hydraulic dredging, mechanical dredging and beach nourishment. Of the three projects:

- At least one (1) project that includes hydraulic dredging and fill placement.
- At least one (1) project that includes beach nourishment.

One project can satisfy both above qualifications. Bids from contractors that do not meet both these qualification requirements will not be considered by the District.

CONTRACT \$ AMOUNT	PERCENT COMPLETED	PROJECT NAME, CONTRACTING AGENCY AND ADDRESS, NAME AND PHONE OF OWNER/AGENCY REPRESENTATIVE

5. The Marine Biologist for eelgrass transplanting shall have at least ten (10) years of relevant eelgrass mapping and transplanting experience. List below at least three projects completed in the last five years that involve eelgrass mapping, transplanting and developing mitigation plans. At least one (1) shall include eelgrass mapping and developing an eelgrass mitigation plan in San Mateo County on the open coast.

CONTRACT \$ AMOUNT	PERCENT COMPLETED	PROJECT NAME, CONTRACTING AGENCY AND ADDRESS, NAME AND PHONE OF OWNER/AGENCY REPRESENTATIVE

6. Have you ever failed to complete any work awarded to you, or have you ever been disqualified, removed, or otherwise prevented from bidding on or completing any federal, state or local government project because of a violation of law or safety regulation?

() Yes () No

If so, where and why? _____

7. The Contractor shall dispose of any hazardous wastes under its own EPA generator number. Please provide your EPA Generator Number:

8. What is the construction experience of the principal officers and key employees (including superintendents) of your organization?

INDIVIDUAL'S NAME	PRESENT POSITION OR OFFICE	YEARS OF CONSTRUCTION EXPERIENCE	MAGNITUDE & TYPE OF WORK	IN WHAT CAPACITY

9. List facilities that are available for anticipated work. (In Column 3, indicate ownership status of equipment and facilities if available: O-Own, L-Lease.)

QTY.	ITEM (DESCRIPTION, SIZE, CAPACITY, ETC.)	OWNERSHIP	CONDITION	YEARS OF SERVICE	PRESENT LOCATION

10. Give information below about all your contract work underway or to which you are committed.

TYPE OF WORK	LOCATION	VALUE	PERCENT COMPLETE	SCHEDULED COMPLETION DATE	FOR WHOM PERFORMED

11. References: Give only engineers, architects, or owners, including public bodies, for whom you have done work.

NAME	ADDRESS	BUSINESS

REFERENCES

1. Please list 3 bank references familiar with the Bidder's accounts:

- a) Name of Bank: _____
Street Address: _____
City and State: _____ Telephone: _____
Officer Familiar with Bidder's Account: _____

- b) Name of Bank: _____
Street Address: _____
City and State: _____ Telephone: _____
Officer Familiar with Bidder's Account: _____

- c) Name of Bank: _____
Street Address: _____
City and State: _____ Telephone: _____
Officer Familiar with Bidder's Account: _____

**NON-COLLUSION 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].

Signature of Bidder

Title

Date

SAMPLE CONTRACT
SAMPLE CONTRACT

THIS CONTRACT is made and entered into this _____ day of _____, by and between SAN MATEO COUNTY HARBOR DISTRICT (referred to as "District") and _____ (referred to as "Contractor").

The Contractor and the District, for the consideration hereinafter named, agree as follows:

Scope of Work. The Contractor shall furnish the District all the labor, materials and equipment required to complete the work more particularly described in the specifications approved by the District entitled:

CONTRACT NO. _____
[INSERT CONTRACT TITLE]

and which are appended hereto and made part of the Contract.

The Contractor shall perform the following work listed on the Bid Form.

The District has the right to inspect the ongoing installation process on a daily basis, if necessary, and there will be a final inspection by a District representative.

Time of Performance. The Contractor shall begin work upon issuance of the Notice to Proceed, and shall diligently prosecute all of the work under this Contract in all parts and requirements to completion by **[INSERT TIME OF PERFORMANCE]**, as provided in the Specifications.

Contract Price. The Contractor shall faithfully perform each and every item required of it in this Contract for the sum of _____ Dollars (\$ _____), which includes all applicable charges, including taxes, freight and delivery charges, insurance and all other costs necessary for the furnishing of all material and the performance of all the services called for under the Contract. Payments to Contractor shall be made at the time and in the manner provided in the Contract.

Term of Contract. The term of this Contract shall commence upon District's issuance of a Notice to Proceed. Following District's final acceptance of the replacement of a **[INSERT WORK TO BE PERFORMED]**, all work, including all installation work or repairs, is guaranteed by the Contractor against failure, damage, defect, or non-compliance with the Contract of any kind for a period of one (1) year from the date of District's final acceptance. **[UPDATE WARRANTY REQUIREMENT AS DESIRED]**

Component Parts. This Contract shall consist of the following documents, each of which is on file in the Office of the Secretary and all of which are incorporated herein and made a part hereof by reference thereto:

- A. Contract

- B. Bid Documents: Notice Inviting Bids, General Conditions and Instructions for Bidders, Special Provisions and Technical Specifications
- C. Bid Form (As Accepted by the District)
- E. Addenda No. _____ to _____
- F. Performance Bond
- G. Payment Bond
- H. Insurance Certificates

Service Notice. Any notice required or permitted to be given by this Contract shall be deemed given when personally delivered to recipient thereof or mailed by registered or certified mail, return receipt requested, postage prepaid, to the appropriate recipient thereof, in the case of the Contractor, at the business address specified in its proposal, and in the case of the District, at PO Box 1449, El Granada, CA, 94018, or at any other address which either party may subsequently designate in writing to the other party.

Publicity. The Contractor, its employees, subcontractors, and agents shall not refer to the District, or use any logos, images, or photographs of the District for any commercial purpose, including, but not limited to, advertising, promotion, or public relations, without the District's prior written consent. Such written consent shall not be required for the inclusion of the District's name on a customer list.

Governing Law. This Contract shall be governed and construed in accordance with the laws of the State of California. Any action relating to, and all disputes arising under, this Contract shall be instituted and prosecuted in a court of competent jurisdiction in the State of California. Each party hereby appoints the individual listed opposite its name to act as its initial agent for service of process relating to any such action.

SAMPLE CONTRACT

IN WITNESS WHEREOF, the District has caused these presents to be executed by the District's officer thereunto duly authorized, and the Contractor has subscribed same, all on the day and year first above written.

FOR THE CONTRACTOR:

Name Under Which Business is Conducted: _____

Business Address: _____

City/State/Zip: _____

Telephone No. _____ Facsimile No. _____

If SOLE OWNER, sign here:

I sign as sole owner of the business named above.

If PARTNERSHIP, sign here:

The undersigned certify that they are partners in the business named above and that they sign this contract bid proposal with full authority to do so (One or more partners sign).

If CORPORATION OR LLC, execute here:

The undersigned certify that they sign this contract bid proposal with full and proper authorization to do so.

Entity name: _____

By: _____ Title: _____

* By: _____ Title: _____

Incorporated under the laws of the State of: _____

** If the Contractor is a corporation, this Contract must be executed by two corporate officers, consisting of: (1) the president, vice president or chair of the board; and (2) the secretary, assistant secretary, chief financial officer or assistant treasurer. In the alternative, this Contract may be executed by a single officer or a person other than an officer provided that evidence satisfactory to the District is provided demonstrating that such individual is authorized to bind the corporation (e.g. a copy of a certified resolution from the corporation's board or a copy of the corporation's bylaws.)*

If JOINT VENTURE, Sign Here:

The undersigned certify that they sign this contract bid proposal with full and proper authorization to do so.

Joint Venture Name Composed of: _____

By: _____ Title: _____

By: _____ Title: _____

Incorporated under the laws of the State of: _____

FOR THE SAN MATEO COUNTY HARBOR DISTRICT:

General Manager

San Mateo County Harbor District

504 Avenue Alhambra, 2nd Floor, PO Box 1449
El Granada, CA 94018

For Immediate Release

DATE: April 7, 2025

**Contact: Capital Improvement Project San
Mateo County Harbor District
(650) 583-4962**

El Granada, CA—

PUBLIC NOTICE

INVITATION TO BID

NOTICE IS HEREBY GIVEN that the San Mateo County Harbor District will receive sealed bids for the **Surfers Beach Pilot Restoration Project**. **The project involves 1) dredging and recovery of up to 114,000-cubic yards of clean sand within Pillar Point Harbor along the east breakwater and near the Boat Launch Ramp area and 2) using the recovered sand to restore a previously existing beach through construction of an elevated berm along approximately 1,400-foot-long section of shoreline at Surfers Beach. The Project will also mitigate damages to eelgrass by creating new eelgrass habitat using sediment dredged from inside the harbor's east basin.** Prospective Bidders are directed to the San Mateo County Harbor District's website for construction documents and further information.

Sealed Bid Proposals shall be submitted to the San Mateo County Harbor District, Administration Office, **no later than 2:00 p.m. local time on May 6, 2025**, at 504 Avenue Alhambra, 2nd Floor, El Granada, CA 94018.

PROJECT BID SPECIFICATIONS ARE IMMEDIATELY AVAILABLE at the San Mateo County Harbor District office, 504 Avenue Alhambra, 2nd Floor, El Granada, CA 94018 or on the District's website at www.smharbor.com. Phone 650-583-4962.

A recommended pre-bid conference will be held on **April 18, 2025 at 10:30 a.m.** at the **San Mateo County Harbor District office, followed by a visit to the project construction areas.**

Bid and Material & Labor Bonds are required as part of this agreement.

The District reserves the right to reject any and all bids and to waive any irregularities therein. The award of this contract shall be made to the lowest responsible and responsive bidder. No proposals will be accepted by facsimile or electronic mail.

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS, that

WHEREAS THE SAN MATEO COUNTY HARBOR DISTRICT, (hereinafter referred to as "District") has entered into a Contract with (Contractor Name) (hereinafter referred to as "Principal") for the **CONTRACT NO. 2025-03, Surfers Beach Restoration Pilot Project** ("Contract"); and

WHEREAS, said Principal is required under the terms of said Contract to furnish a bond of faithful performance of said Contract;

NOW, THEREFORE, we, the Principal, and _____, as Surety are held and firmly bound unto the District, in the penal sum of _____ Dollars (\$ _____) lawful money of the United States, being a sum equal to one hundred percent (100%) of the total amount payable under the Contract, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above-bound Principal, or its heirs, executors, administrators, successors, or assigns approved by the District, shall promptly and faithfully perform the covenants, conditions and agreements in the Contract during the original term and any extensions thereof as may be granted by the District, with or without notice to Surety, and during the period of any guarantees or warranties required under the Contract, and shall also promptly and faithfully perform all the covenants, conditions, and agreements of any alteration of the Contract made as therein provided, notice of which alterations to Surety being hereby waived, on Principal's part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify, defend, protect, and hold harmless the District as stipulated in the Contract, then this obligation shall be removed; otherwise it shall be and remain in full force and effect.

No extension of time, change, alteration, modification, or addition to the Contract, or of the work required thereunder, shall release or exonerate Surety on this bond or in any way affect the obligation of this bond; and Surety does hereby waive notice of any such extension of time, change, alteration, modification, or addition.

Whenever Principal shall be and declared by the District to be in default under the Contract, Surety shall promptly remedy the default, or shall promptly do one of the following at District's election:

1. Undertake through its agents or independent Contractors, reasonably acceptable to the District, to complete the Contract in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including without limitation, all obligations with respect to warranties, guarantees, and the payment of liquidated damages.
2. Reimburse the District for all costs the District incurs in completing the Contract,

including consequential damages and costs associated with resoliciting the Contract, if applicable, negotiation, and completion of the project, and in correcting, repairing or replacing any defects in materials or workmanship and/or materials and workmanship which do not conform to the specifications in the Contract.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing the District's rights against the others.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the District or its successors or assigns.

In the event suit is brought upon this bond by the District, Surety shall pay reasonable attorney's fees and costs incurred by the District in such suit.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their seals this ____ day of _____, 2021, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

(Principal)

NOTE:
To be signed by Principal
and Surety and acknowledgement
and notarial seal attached.

By: _____

By: _____

(Surety)

(Address)

By: _____

By: _____

STATE OF CALIFORNIA)
) ss.
CITY AND COUNTY OF _____)

On _____, 2021 before me, _____, Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Witness my hand and official seal.

Signature _____
Notary Public

TO BE CONSIDERED COMPLETE, BOTH THE BIDDER AND AN ADMITTED SURETY INSURER AUTHORIZED BY THE CALIFORNIA INSURANCE COMMISSIONER TO TRANSACT SURETY BUSINESS IN THE STATE OF CALIFORNIA MUST SIGN THIS PERFORMANCE BOND. IN ADDITION, BOTH THE PRINCIPAL'S AND THE SURETY'S SIGNATURES MUST BE NOTARIZED AND A COPY OF THE SURETY'S POWER OF ATTORNEY MUST BE ATTACHED.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, that _____ called the PRINCIPAL, and _____ a corporation duly organized under the laws of the State of _____, having its principal place of business at _____ in the State of _____, and authorized to do business in the State of California, hereinafter called the SURETY, are held and firmly bound unto the San Mateo County Harbor District (District), hereinafter called the OBLIGEE, or order in the sum of _____ (\$ _____ .00) lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the PRINCIPAL has entered into a Contract with the OBLIGEE for **CONTRACT NO. 2025-03, Surfers Beach Restoration Pilot Project** and said PRINCIPAL is required under the terms of said Contract to furnish a bond securing payment of claims to which reference is made in Section 9554 of the Civil Code.

NOW, THEREFORE, if said PRINCIPAL or any of its subcontractors fails to pay any of the persons named in Section 9100 of the Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of the Contractor and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, the SURETY, will pay for the same, in an amount not exceeding the sum specified in this bond, and also will pay, in case suit is brought upon this bond, a reasonable attorney's fee, to be fixed by the court.

This bond will inure to the benefit of any of the persons named in Section 9100 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

This bond is given to comply with Sections 9550 and 9554 of the Civil Code. The liability of the PRINCIPAL and SURETY hereunder is governed by the provisions of said Code, all acts amendatory thereof, and all other statutes referred to therein.

SURETY, for value received, hereby 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 to the Contract Documents accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the other portions of the Contract Documents.

IN WITNESS WHEREOF the above-bounded parties have executed this instrument this _____ day of _____, 2021, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representatives, pursuant to authority of its governing body.

(Principal)

NOTE:
To be signed by Principal
and Surety and acknowledgement
and notarial seal attached.

By: _____

By: _____

(Surety)

(Address)

By: _____

By: _____

STATE OF CALIFORNIA

)
) ss.

CITY AND COUNTY OF _____

On _____, 2021 before me, _____, Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Witness my hand and official seal.

Signature _____
Notary Public

TO BE CONSIDERED COMPLETE, BOTH THE BIDDER AND AN ADMITTED SURETY INSURER AUTHORIZED BY THE CALIFORNIA INSURANCE COMMISSIONER TO TRANSACT SURETY BUSINESS IN THE STATE OF CALIFORNIA MUST SIGN THIS PERFORMANCE BOND. IN ADDITION, BOTH THE PRINCIPAL'S AND THE SURETY'S SIGNATURES MUST BE NOTARIZED AND A COPY OF THE SURETY'S POWER OF ATTORNEY MUST BE ATTACHED.

APPENDIX A – PROJECT PERMITS

ENCROACHMENT PERMIT

DOT TR-0120 (REV 05/2023)

Permit No.
04-23-N-MC-1901In compliance with your application of September 18, 2023Dist/Co/Rte/PM
04/SM/1/PM 32.03

Reference Documents:

- Utility Notice No. _____ of _____
- Agreement No. _____ of _____
- R/W Contract No. _____ of _____
- Project code (ID): _____ CFC #: _____
- Applicant's Reference/ Utility Work Order No. _____

Permit Approval Date
October 03, 2023

Performance Bond Amount (1)	Payment Bond Amount (2)
\$0	\$0

Bond Company
N/A

Bond Number (1)	Bond Number (2)
\$ N/A	\$ N/A

TO: San Mateo County Harbor Dist.
C/O: Bradley Damitz
P.O. Box 1449
El Granada CA 94108

_____, **PERMITEE**

and subject to the following, PERMISSION IS HEREBY GRANTED to:

Encroach within State's right-of-way to install a temporary construction access ramp and dredge pipeline alignment, on State Highways 04-SM-1, Post Mile 32.3, in the City of Half Moon Bay.

A minimum of 7 days prior to the start of work under this encroachment permit, notice must be given to State Representative Luis Melendez, 380 Foster City Blvd., Foster City, CA 94404, at luis.melendez@dot.ca.gov or (510) 496-9583, weekdays between 7:00 a.m. and 3:30 p.m., excluding holidays.

Notwithstanding General Provision 35, lane closures and other activities that may cause a traffic impact requires the permittee to apply for and obtain a closure ID prior to the start of work. Requests must be submitted electronically through the Lane Closure System (LCS).

THIS PERMIT IS NOT A PROPERTY RIGHT AND DOES NOT TRANSFER WITH THE PROPERTY TO A NEW OWNER.

The following attachments are also included as part of this permit (check applicable):

- YES NO General Provisions
- YES NO Utility Maintenance Provisions
- YES NO Storm Water Special Provisions
- YES NO Special Provisions
- YES NO A Cal-OSHA Permit, if required: Permit No. _____
- YES NO As-Built Plans Submittal Route Slip for Locally Advertised Projects
- YES NO Storm Water Pollution Protection Plan

In addition to fee, the permittee will be billed actual costs for:

- YES NO Review
- YES NO Inspection
- YES Field Work
(if any Caltrans effort expended)

As-built Plans are Required

- YES NO

- YES NO The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before October 31, 2024

This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized.

No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

CC:
#1: Khon D Tram
#2: LUIS MELENDEZ
#3: GILBERT S WU
#4: EARL R SHERMAN III

APPROVED:

Dina El-Tawansy, District Director

BY

Luis Chancho
Luis Chancho (Oct 3, 2023 14:40 PDT)

LUIS R CHANCHO, for District Permit Engineer

ADA Notice

This document is available in alternative accessible formats. For more information, please contact the Forms Management Unit at (279) 234-2284, TTY 711, in writing at Forms Management Unit, 1120 N Street, MS-89, Sacramento, CA 95814, or by email at Forms.Management.Unit@dot.ca.gov.

In addition to the 2023 Standard Specifications and Standard Plans (available at <https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>), "Encroachment Permit General Provisions" (TR-0045) and "Storm Water Special Provisions for Minimal or No Impact" (TR-0400) (available at <https://dot.ca.gov/programs/traffic-operations/ep/ep-manual/>), all work permitted herein must comply with the following provisions:

Notwithstanding General Provision 4, construction must not begin for the work authorized herein until the "Contractor(s) Authorization Form" (TR-0429) is submitted (available at <https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr-0429-a11y.pdf>).

Changes to the permittee's prime contractor requires another Contractor (s) Authorization Form TR-0429.

Lane closure may be closed between 9:00 p.m. to 5:00 a.m., Sunday through Thursday. Excluding holidays and special days.

No lane closure is allowed on the Highway without pre-approvals from the District Traffic Manager's Office

A pre-job meeting with the State Representative is required at least 7 days prior to the start of any work under this permit. Failure to do so may result in permit revocation with no prejudice.

The permittee must provide the stage construction plans, traffic handling plans, work schedule, and a list of all sub-contractors to the State Representative at the time of the pre-job meeting.

Signs, lights, flags, or other protective devices must not obscure the visibility of, nor conflict in intent, meaning, and function of either existing signs, lights and traffic control devices, or any construction area signs.

On conventional highways, permittee's vehicles and equipment not involved in the permitted activities must be legally located off the traveled way and not interfere with free traffic and pedestrian flow.

No vehicle or equipment must be stored overnight within the State highway right-of-way. All vehicles and equipment must be removed immediately at the completion of the day's work. Refueling of vehicle or equipment within the State highway right-of-way is strictly prohibited.

Except for installing, maintaining and removing traffic control devices, any work encroaching within 3 feet of the edge of a travel lane for areas with a posted speed limit below 45mph, or 6 feet of the edge of a travel lane, for areas with a speed limit posted at 45mph or higher, requires closing of that travel lane. Any work encroaching within 6 feet of the edge of the shoulder, requires closing of that shoulder.

Do not reduce an open traffic lane width to less than 11 feet. If traffic cones or delineators are used for temporary edge delineation, the side of the base of the cones or delineators nearest traffic is considered the edge of traveled way.

All traffic control devices must be installed, maintained, and removed by a qualified traffic control contractor.

The State Representative and CHP reserve the right to require reopening the highway at any time as necessary. All cost must be borne by the permittee.

Traffic control using flagging, must comply with the California MUTCD, Part 6E, "Flagger Control" (available at <https://dot.ca.gov/programs/safety-programs/camutcd>), and Cal/OSHA Construction Safety Orders, Section 1599, "Flaggers", (available at <https://www.dir.ca.gov/title8/1599.html>).

Changes to the provisions herein require an Encroachment Permit Rider, except for minor changes authorized by the State Representative.

Obliterated pavement markings must be replaced in kind.

Time extension requests must be made a minimum 2 weeks prior to permit expiration.

The State Representative or CHP may stop work not being performed in compliance with this permit.

Neither materials nor waste must be stockpiled within the State highway right-of-way.

All mud, dirt, and gravel tracked onto the roadway must be immediately removed.

Any damage to State facilities must be repaired to the same state as before the damage and the cost of repairs must be the responsibility of the permittee.

Upon completion of work authorized by this encroachment permit, the permittee must provide the State Representative with "Notice of Completion" (TR-0128) (available at <https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TR0128>).

Enclosures

CALIFORNIA COASTAL COMMISSION

NORTH CENTRAL COAST DISTRICT OFFICE
455 MARKET STREET, SUITE 300
SAN FRANCISCO, CALIFORNIA 94105-2421
PH (415) 904-5260 OR (415) 904-5200 FAX (415) 904-5400
WWW.COASTAL.CA.GOV

**November 20, 2023**Permit Application Number: **2-22-0726****NOTICE OF INTENT TO ISSUE PERMIT**

(Upon satisfaction of special conditions)

THE SOLE PURPOSE OF THIS NOTICE IS TO INFORM THE APPLICANT OF THE STEPS NECESSARY TO OBTAIN A VALID AND EFFECTIVE COASTAL DEVELOPMENT PERMIT ("CDP"). A Coastal Development Permit for the development described below has been approved but is not yet effective. Development on the site cannot commence until the CDP is effective. In order for the CDP to be effective, Commission staff must issue the CDP to the applicant, and the applicant must sign and return the CDP. **Commission staff cannot issue the CDP until the applicant has fulfilled each of the "prior to issuance" Special Conditions.** A list of all the Special Conditions for this permit is below.

The Commission's approval of the CDP is valid for two years from the date of approval. To prevent expiration of the CDP, you must fulfill the "prior to issuance" Special Conditions, obtain and sign the CDP, and commence development within two years of the approval date specified below. You may apply for an extension of the permit pursuant to the Commission's regulations at Cal. Code Regs. title 14, section 13169.

On September 6, 2023, the California Coastal Commission approved Coastal Development Permit No. 2-22-0726 requested by San Mateo County Harbor District subject to the attached conditions, for development consisting of the following: **Sand replenishment along approximately 1,000 feet of the shoreline along Surfers Beach using sandy materials dredged from the harbor, and establishment of new eelgrass beds within the harbor's west basin. The development is within the Coastal Zone at Pillar Point Harbor and Surfers Beach, unincorporated San Mateo County.**

Commission staff will not issue the CDP until the "prior to issuance" special conditions have been satisfied.

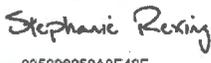
If you have any questions regarding how to fulfill the "prior to issuance" Special Conditions for CDP No. 2-22-0726, please contact the Coastal Program Manager identified below.

NOTICE OF INTENT TO ISSUE PERMIT
(Upon satisfaction of special conditions)

Sincerely,

Kate Hucklebridge
Executive Director

Original on File signed by:

DocuSigned by:

035096250A8E48E...
Stephanie Rexing
North Central Coast District Manager

cc: Commissioners/File

ACKNOWLEDGMENT

The undersigned permittee acknowledges receipt of this Notice and fully understands its contents, including all conditions imposed.

 _____
Permittee

_____ 11/27/2023
Date

Please sign and return one copy of this form to the Commission office at the above address.

STANDARD CONDITIONS:

This permit is granted subject to the following standard conditions:

- 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 Applicant 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

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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 Applicant to bind all future owners and possessors of the subject property to the terms and conditions.

SPECIAL CONDITIONS:

This permit is granted subject to the following special conditions:

1. **Approved Project.** This CDP authorizes (a) the dredging up to 100,000 cubic yards of clean sand from inside of Pillar Point Harbor's East Breakwater; (b) the placement of that sand to form an elevated berm along an approximately 1,000-foot long section of shoreline at Surfers Beach in Half Moon Bay; and (c) the establishment of new eelgrass habitat within the harbor's west basin, all substantially consistent with the proposed plans (i.e., titled *ESA, Surfers Beach Pilot Restoration Project*, dated June 26, 2023, and stamped received in the Commission's North Central Coast District Office on May 15, 2023 (see **Exhibit 2**)) subject to the terms and conditions of this CDP.
2. **Construction Plan.** PRIOR TO ISSUANCE OF THE CDP, 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 areas within which construction activities and/or staging areas are to take place shall be minimized in size to the maximum extent feasible in order to have the least impact on public access and other coastal resources, including by using, as feasible, inland areas for staging and storing construction

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equipment and materials. Construction areas shall be sited and designed to minimize impacts to public beach access and public views at Surfers Beach, at the adjacent section of the Coastal Trail, and at Highway 1, including but not limited to public views across the site.

- (b) Construction Methods.** The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separate from public recreational use areas as much as possible (including using unobtrusive temporary fencing or equivalent measures to delineate construction areas), and including verification that equipment operation and equipment and material storage will not, to the maximum extent feasible, significantly degrade public access and public views during construction. The Plan shall limit construction activities to avoid coastal resource impacts as much as feasible, and lighting of the work area is prohibited.
- (c) Construction Timing.** Construction is prohibited during weekends, from the Saturday of Memorial Day through Labor Day inclusive, and during non-daytime hours (i.e., from one-hour after sunset to one-hour before sunrise), unless due to extenuating circumstances the Executive Director authorizes such work.
- (d) Construction BMPs.** The Construction Plan shall identify the type and location of all erosion control and water quality best management practices that will be implemented during construction to protect coastal water quality, including at a minimum all of the following:
- 1. Runoff Protection.** Silt fences, straw wattles, or equivalent apparatus shall be installed at the perimeter of all construction areas to prevent construction-related runoff and sediment from discharging from the construction area or entering into storm drains or otherwise offsite or towards the beach and ocean. Similar apparatus shall be applied on the beach area for the same purpose when potential runoff is anticipated. Special attention shall be given to appropriate filtering and treating of all runoff, and all drainage points, including storm drains, shall be equipped with appropriate construction-related containment, filtration, and treatment equipment. All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday.
 - 2. Equipment BMPs.** Equipment washing, refueling, and servicing shall take place at an appropriate off-site and inland location to help prevent leaks and

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spills of hazardous materials at the project site, at least 50 feet inland from the beach and 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 similarly sited inland location to prevent leaks and spills of hazardous materials at the project site.

3. **Good Housekeeping BMPs.** The construction site shall maintain good construction housekeeping controls and procedures at all times (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 site; etc.).
4. **Rubber-tired Construction Vehicles.** Only rubber-tired construction vehicles are allowed on the beach, except track vehicles may be used if the Executive Director determines that they are required to safely carry out construction and all possible measures are applied to ensure maximum coastal resource protection. When transiting on the beach, all vehicles shall remain as far away from the ocean as possible and avoid contact with ocean waters.
5. **Construction Material Storage.** All construction materials and equipment placed on 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, except for necessary erosion and sediment controls and construction area boundary fencing where such controls and fencing are placed as far inland as possible and are minimized in their extent.

(e) Nesting Bird Protections.

1. **Surveys.** For any construction work that would occur during the avian breeding season (i.e., January 15 to September 15), pre-construction surveys shall be completed by a qualified wildlife biologist with experience in observing reproductive and nesting behavior to identify displays of nesting behavior and/or active nests (i.e., as occupied by eggs or nestlings) in the proposed construction areas. The following shall apply:

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- a. Surveys shall commence no more than 30 days prior to the initiation of construction and shall occur weekly thereafter over the project season, with the last survey occurring no more than 72 hours prior to the start of construction.
 - b. Surveys shall extend 300 feet from the project work area to locate any active non-raptor nests, and 500 feet to locate any active raptor (bird of prey) nests.
 - c. If active nests are located for non-colonial species, clearly marked no-disturbance buffers of 300 feet shall be established for non-raptor species and 500 feet for raptors, unless evidence is provided to demonstrate to the Executive Director's satisfaction that a different distance is appropriate. A qualified biologist shall determine when a nest has fully fledged or is no longer in use, at which point its no-disturbance buffer can be removed.
 - d. For colonial nesting species (e.g., great blue herons, black-crowned night herons, white egrets), if more than three active nests are located within the willow grove area near the project site, a no-disturbance buffer of 500 feet will be established around the outermost extent of the colony.
 - e. Maps identifying the location of any active nests detected shall be provided, and at a minimum, indicate the date of survey, nest stage (e.g., eggs, nestlings, etc.), and the buffers.
2. **Buffers.** Any birds that begin nesting within the active construction area or the designated survey area amid construction activities may be assumed to be habituated to construction-related noise and disturbance levels. No prescribed buffers are required to be established around active nests in these cases; however, further encroachment shall be avoided, the nests shall continue to be monitored by the biologist, and if the nesting birds begin to show distress associated with construction activities, the qualified biologist shall establish the above-prescribed no-disturbance buffers.
3. **Disturbance.** If under any circumstances either construction staff or the biologist observe signs of distress (e.g., parents flush from the nest and do not readily return as activities continue, anxious warning calls, etc.), work shall be stopped immediately, and the biologist shall consult with the Executive Director to determine necessary modifications to activities.

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Activities will resume only after the biologist is satisfied that the modifications are sufficient to avoid continued disturbance to the nests.

4. **Monitoring.** A monitoring report shall be provided to the Executive Director within 90 days of construction completion and shall include: all survey results and associated maps; along with a brief narrative describing the survey methods and observations of the species' tolerances to noise, vibration, and visual disturbance cues. If any incidents have resulted in a need for further consultation with the project biologist and/or the Executive Director, these will also be noted and discussed.
- (f) **Property Owner/Easement Holder Consent.** For any construction activities that may occur on properties (and/or on easements or similar legally defined areas) not owned by the Permittee, including but not limited to construction that requires equipment access on and/or across such other properties, the Permittee shall provide evidence of review, approval and consent from such property owners allowing such activities, where such consent shall only be deemed to have been given if the consent is for development consistent with the terms and conditions of the CDP, including as it affects such properties.
- (g) **Restoration.** All construction debris shall be removed, and all beach area and other public recreational access and 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 appropriately filtered as necessary to remove all construction debris.
- (h) **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 are available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the CDP and the approved Construction Plan, as well as the public review requirements applicable to them, prior to commencement of construction.
- (i) **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 the construction coordinator's contact

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information (i.e., address, phone numbers, email, etc.), including, at a minimum, an email address and a telephone number 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 name and contact information (i.e., 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 on at least a weekly basis.

- (j) **Construction Specifications.** The construction specifications and materials shall include appropriate control provisions that require remediation for any work done inconsistent with the terms and conditions of this CDP.
- (k) **Notification.** The Permittee shall notify planning staff of the Coastal Commission's North Central Coast District Office at least three working days in advance of commencement of construction, and immediately upon completion of construction.

All requirements above and all requirements of the approved Construction Plan shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved Construction Plan.

- 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 the approved project. 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 both color hard copy 8½ x 11 and digital jpg formats) 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, inland, and downcoast viewpoints, and from any other viewpoints necessary to provide complete photographic coverage of all project areas. Such photographs shall be at a scale that allows comparisons to be made with the naked eye between photographs

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taken in different years and from the same vantage points, including those chosen so as to inform potential future projects regarding how the placement of such materials affects surf conditions at Surfers Beach. The As-Built Plans shall include vertical and horizontal references to 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 project has been constructed in conformance with the approved project identified in Special Condition 1 and the terms and conditions of this CDP.

- 4. Monitoring and Reporting.** The Permittee shall monitor the project and provide a report to the Executive Director that clearly describes both the implementation phase and the outcome of the project with respect to the boat launch area, the eelgrass restoration area, and Surfers Beach, where the intent is to use lessons learned from the project to inform and refine potential additional such projects in the future. At a minimum, the Permittee shall provide color photo documentation (in both color hard copy 8½ x 11 and digital jpg formats, accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph) of all aspects of the project, including at representative times (and at least weekly) during construction duration, and at the least monthly (at both high and low tides) after that for one year from the date of commencement of materials placement. At a minimum, the photographs shall be from enough viewpoints to provide complete photographic coverage of all project areas and shall include viewpoints chosen so as to inform potential future projects regarding how the placement of such materials affects surf conditions at Surfers Beach. In addition, monitoring efforts must provide a clear assessment of any impacts from sand placement, whether good or bad, on surfing resources, where at the least a narrative assessment of surf conditions shall be provided for each set of photographs (e.g., swell conditions, surf users, etc.) as compared to representative assessment conducted before the project is implemented. Such photographs shall be at a scale that allows comparisons to be made with the naked eye between photographs taken at different times from the same vantage points. Such photos, as well as a narrative describing the project and lessons learned, shall be provided to the Executive Director within one year and three months from the date of commencement of materials placement.
- 5. Other Authorizations.** PRIOR TO CONSTRUCTION, the Permittee shall provide to the Executive Director written documentation of authorizations from all entities from which such authorization is necessary for the approved project (including at a minimum from San Mateo County, City of Half Moon Bay, California State Lands

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Commission, California Department of Fish and Wildlife, Monterey Bay National Marine Sanctuary, U.S. Army Corps of Engineers, and NOAA Fisheries) or evidence that no such authorizations are required from each of these entities. The Permittee shall inform the Executive Director of any changes to the project required by any other such authorizations. Any such changes shall not be incorporated into the project until the Permittee obtains a Commission amendment to this CDP, unless the Executive Director determines that no amendment is legally required.

6. **Future Permitting.** None of the CDP exemptions that might be provided by Coastal Act Section 30610 (and/or related implementing regulations) shall apply to the approved development, and any and all future proposed development related to this project, this project area, and/or these CDPs shall require new CDPs or CDP amendments that are processed through the Coastal Commission, unless the Executive Director determines that such CDPs or CDP amendments are not legally required.
7. **Minor Adjustments.** Minor adjustments to these special condition requirements which do not require a CDP amendment or new CDP (as determined by the Executive Director) may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.
8. **Assumption of Risk, Waiver of Liability, and Indemnity.** By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns: (a) that the project area is subject to coastal hazards, including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, tidal scour, storms, tsunamis, coastal flooding, landslides, earth movement, and the interaction of all of these, many of which will worsen with future sea level rise; (b) to assume the risks to the Permittee and the properties that are the subject of this CDP of injury and damage from such hazards in connection with this permitted development; (c) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (d) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the CDP 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 hazards; and (e) that any adverse effects to people or property caused by the permitted project shall be fully the responsibility of the Permittee.



**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration**

**NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731**

February 23, 2024

Refer to NMFS No: WCRO-2024-00086

Jessica M. Vargas
Chief, Regulatory Division
San Francisco District, Corps of Engineers
450 Golden Gate Avenue, 4th Floor, Suite 0134
San Francisco, California 94102-3406

Re: Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Pillar Point Harbor Dredging and Surfer's Beach Restoration Project (Corps File No. SPN-2012-00207)

Dear Jessica Vargas:

Thank you for the U.S. Army Corps of Engineers' (Corps) letter of October 20, 2022, requesting initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531 et seq.) for the Pillar Point Harbor Dredging and Surfer's Beach Restoration Project (Project).

Thank you, also, for your request for consultation pursuant to the essential fish habitat (EFH) provisions in Section 305(b) of the Magnuson–Stevens Fishery Conservation and Management Act [16 U.S.C. 1855(b)] for this action.

The enclosed biological opinion is based on our review of the Corps' proposed Project and describes NMFS' analysis of potential effects on endangered black abalone (*Haliotis cracherodii*) and their critical habitat, threatened North American green sturgeon (*Acipenser medirostris*) southern Distinct Population Segment (DPS) and their critical habitat, threatened Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*), endangered leatherback sea turtle (*Dermochelys coriacea*) and their critical habitat, and sunflower sea star (*Pycnopodia helianthoides*) in accordance with section 7 of the ESA. In the enclosed biological opinion, NMFS concludes the Project is not likely to jeopardize the continued existence of these species, nor is the project likely to result in adverse modification of critical habitat. However, NMFS anticipates take of black abalone will occur due to the Project construction. An incidental take statement with non-discretionary terms and conditions is included with the enclosed biological opinion.

Regarding EFH, NMFS determined the anticipated effects on the EFH of Pacific Coast Salmon, Coastal Pelagic Species, and Pacific Groundfish Fishery Management Plans (FMPs) are significant, primarily due to impacts to existing eelgrass habitat. However, appropriate mitigation measures for eelgrass impacts were agreed to by the Corps and the Applicant. Therefore, we



have no practical EFH Conservation Recommendations to provide and no EFH Conservation Recommendations are included in this document.

If you think there is a potential that marine mammals could be affected by the proposed action, it is good practice to contact a Protected Resources Division Branch Chief as early as possible in the consultation process. PRD will assist with Marine Mammal Protection Act compliance for the proposed action, if necessary.

Please contact Tom Wadsworth of the NMFS North-Central Coast Office in Santa Cruz, at (707) 243-8318 or Thomas.Wadsworth@noaa.gov if you have any questions concerning this consultation, or if you require additional information.

Sincerely,



Alecia Van Atta
Assistant Regional Administrator
California Coastal Office

Enclosure

cc: Jessica Vargas, Corps San Francisco District, Jessica.M.Vargas@usace.army.mil
Brad Damitz, Consultant, brad.damitz@me.com
Copy to ARN File # 151422WCR2023SR00023

**Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Magnuson-Stevens
Fishery Conservation and Management Act Essential Fish Habitat Response**

Pillar Point Harbor Dredging and Surfer’s Beach Restoration Project

NMFS Consultation Number: WCRO-2024-00086

Action Agency: U. S. Army Corps of Engineers, Operations and Readiness Division,
San Francisco District

Affected Species and NMFS' Determinations:

ESA-Listed Species	Status	Is Action Likely to Adversely Affect Species?	Is Action Likely To Jeopardize the Species?	Is Action Likely to Adversely Affect Critical Habitat?	Is Action Likely To Destroy or Adversely Modify Critical Habitat?
Black abalone (<i>Haliotis cracherodii</i>)	Endangered	Yes	No	Yes	No
Central California Coast steelhead DPS (<i>Oncorhynchus mykiss</i>)	Threatened	No*	No	N/A	N/A
North American green sturgeon southern DPS (<i>Acipenser medirostris</i>)	Threatened	No*	No	No*	N/A
Leatherback Turtle (<i>Dermochelys coriacea</i>)	Endangered	No*	No	No*	N/A
Sunflower sea star (<i>Pycnopodia helianthoides</i>)	Proposed Threatened	No*	No	N/A	N/A

* Refer to section 2.11 for species and critical habitat that are not likely to be adversely affected.

Essential Fish Habitat and NMFS' Determinations:

Fishery Management Plan That Identifies EFH in the Project Area	Does Action Have an Adverse Effect on EFH?	Are EFH Conservation Recommendations Provided?
Pacific Coast Salmon	Yes	No
Pacific Groundfish	Yes	No
Coastal Pelagic Species	Yes	No

Consultation Conducted By: National Marine Fisheries Service, West Coast Region

Issued By: 
Alecia Van Atta
Assistant Regional Administrator

Date: February 23, 2024

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1 INTRODUCTION

This Introduction section provides information relevant to the other sections of this document and is incorporated by reference into Sections 2 and 3 below.

1.1 Background

NOAA's National Marine Fisheries Service (NMFS) prepared the biological opinion (opinion) and incidental take statement (ITS) portions of this document in accordance with section 7(b) of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, and implementing regulations at 50 CFR part 402.

We also completed an essential fish habitat (EFH) consultation on the proposed action, in accordance with section 305(b)(2) of the Magnuson–Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801 et seq.) and implementing regulations at 50 CFR part 600.

We completed pre-dissemination review of this document using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (DQA) (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The document will be available within two weeks at the NOAA Library Institutional Repository [<https://repository.library.noaa.gov/welcome>]. A complete record of this consultation is on file at NMFS North-Central Coast Office in Santa Cruz, California.

1.2 Consultation History

On January 13, 2023, NMFS received an email from the U.S. Army Corps of Engineers (Corps) regarding a consultation request from the Corps to NMFS for the Pillar Point Harbor Dredging and Surfer's Beach Restoration Project. The Corps' October 20, 2022 consultation request email was not received by NMFS, apparently due to the file size of attachments. Project materials were received by NMFS on January 13, and included: 1) a letter from the Corps requesting initiation of informal ESA Section 7 and Essential Fish Habitat (EFH) consultation with NMFS; 2) a 2022 Special Status Habitat and Species Analysis, prepared for the San Mateo County Harbor District (SMCHD; Applicant); 3) a 2020 Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan, prepared for Brad Damitz (consultant to SMCHD); 4) a 2019 Sampling and Analysis Dredge Material Investigation Report, prepared for SMCHD; 5) a 2020 Sampling and Analysis Plan Results Report for the Pillar Point Harbor West Trail Living Shoreline Project - prepared for SMCHD and the Corps.

The Corps letter included determinations that the Project 'may effect, but is not likely to adversely affect': black abalone, green sturgeon southern Distinct Population Segment (DPS), Central California Coast (CCC) coho salmon Evolutionarily Significant Unit (ESU), CCC steelhead DPS, and leatherback turtle as well as critical habitats of each of these species. The Corps requested EFH consultation in their incoming request letter and listed the following

Fishery Management Plans (FMPs) as adversely impacted by the proposed Project: Pacific Groundfish, Pacific Coast Salmon, and Coastal Pelagic Species.

NMFS conducted a site visit on January 23, 2023, to evaluate potential salmonid passage in Denniston Creek, a tributary to the Pillar Point Harbor (Harbor). On January 31, 2023, NMFS met with the Corps to discuss additional information required for NMFS to initiate consultation, including: dredging methods, potential for rock habitats to be impacted by dredging and sediment placement, eelgrass survey and mitigation details/changes, pre-construction black abalone survey plan, steelhead use of tributaries to the Harbor, and explanation for the Corps' determinations of some species and critical habitats. The Corps provided some of the needed information during this meeting. Outstanding information requests were sent by NMFS to the Corps via email on January 31, 2023 and were forwarded to the Applicant. Responses from the Applicant were sent in an email to NMFS on February 10, 2023 via the Corps. On February 10, 2023, the Corps sent an email to NMFS indicating a change in their determinations. The Corps determined the Project would have no effect on the following species: CCC Coho ESU, Steelhead South-Central California Coast DPS, East Pacific DPS Green Sea Turtle, and the North Pacific Ocean DPS Loggerhead Sea Turtle.

An interagency meeting was held on March 6, 2023 to discuss eelgrass mitigation options related to the Project. Representatives from NMFS, Corps, SMCHD (consultant), Environmental Protection Agency (EPA), and the California Coastal Commission (CCC) attended. Discussions included: impacts of 2023 winter storms on eelgrass within the Harbor, proposed timeframe for starting in-water work and conducting pre-construction eelgrass survey, and potential impacts of proposed mitigation plan on habitats, biota and sediment dynamics in the West Harbor Basin. NMFS and CCC agreed to discuss the eelgrass mitigation plan further at a subsequent meeting. On March 30, 2023, NMFS met with the Corps and CDFW regarding options for eelgrass mitigation, topics included: current state of eelgrass in the Harbor following winter 2023 storms, potential changes to the submitted mitigation plan, and out-of-kind mitigation alternatives.

On April 14, 2023, NMFS met with Corps and SMCHD representatives to discuss the Project further. Topics included: recent denial of Regional Water Quality Control Board (RWQCB) permit for the Project, lack of CCC permit, potential Project delays, eelgrass mitigation options and survey plans, dredge methods, potential Project impacts to black abalone and implications for consultation (informal vs. formal). As an action item, NMFS agreed to write a summary of recommendations regarding eelgrass mitigation and to provide this document to the Corps. NMFS met with a representative of the CCC on April 21, 2023 to discuss eelgrass mitigation options. NMFS sent a summary of recommendations regarding eelgrass mitigation for the Project to the Corps, after incorporating suggestions from the CCC, on April 24, 2023. On July 17, a report describing the results of a new eelgrass survey by Marine Taxonomic Services Ltd. (MTS) within the Harbor was provided to NMFS by Project consultants.

On July 18, 2023, NMFS provided a document detailing their recommendations related to the Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan (Plan) and suggested an interagency meeting. On August 25, relevant agencies and project consultants met to discuss NMFS' recommendations and other questions related to the Plan. The agencies requested a revised Plan and project consultants indicated this would be available in roughly a month.

On October 12, 2023 the consultation was closed as necessary information related to the Plan had not been received. On October 17, a revised version of the Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan (Plan), written by MTS, was provided to NMFS. Meetings were held among agencies and Project consultants on October 20 and October 30 to discuss this new Plan. Changes to the Plan were requested by agencies and a revised version of the Plan was sent to agencies on December 16, 2023. Agencies met to discuss the Plan on January 11, 2024 and afterwards notified the Applicant that the Plan was acceptable.

The Corps sent an email to NMFS on January 19, 2024, requesting that the NMFS reopen and initiate consultation as the Plan had been finalized. NMFS initiated consultation on January 23, 2024.

On January 31, 2024, the Corps requested consultation for sunflower sea star and provided a determination of “may effect, likely to adversely affect.” Although the listing of sunflower sea star under the ESA is currently proposed, it is expected to be listed in 2024, and in-water work for the Project is expected to occur after the listing.

On July 5, 2022, the U.S. District Court for the Northern District of California issued an order vacating the 2019 regulations that were revised or added to 50 CFR part 402 in 2019 (“2019 Regulations,” see 84 FR 44976, August 27, 2019) without making a finding on the merits. On September 21, 2022, the U.S. Court of Appeals for the Ninth Circuit granted a temporary stay of the district court’s July 5 order. On November 14, 2022, the Northern District of California issued an order granting the government’s request for voluntary remand without vacating the 2019 regulations. The District Court issued a slightly amended order two days later on November 16, 2022. As a result, the 2019 regulations remain in effect, and we are applying the 2019 regulations here. For purposes of this consultation and in an abundance of caution, we considered whether the substantive analysis and conclusions articulated in the biological opinion and incidental take statement would be any different under the pre-2019 regulations. We have determined that our analysis and conclusions would not be any different.

1.3 Proposed Federal Action

For ESA consultation, “action” means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies (50 CFR 402.02). Under the MSA, “Federal action” means any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken by a Federal Agency (50 CFR 600.910).

The SMCHD proposes to dredge sediment that has accumulated in recent years to improve navigation and anchorage within the East Harbor Basin of Pillar Point Harbor (Harbor), Half Moon Bay, CA (Figure 1 and Figure 2). Eelgrass (*Zostera marina*) beds have established along the eastern breakwater, due to shoaling in recent decades (Figure 3). Some of the eelgrass will be impacted by proposed dredging; therefore, the Project also includes an eelgrass mitigation plan to translocate eelgrass to the Harbor’s West Basin prior to dredging. SMCHD proposes to move dredged material to Surfer’s Beach (just east of the Harbor) for beach restoration to address on-going erosion (Figure 3) and to the West Harbor Basin to assist in mitigation for eelgrass impacts

by the Project. In-water Project actions, including Harbor dredging, beach restoration and eelgrass mitigation are proposed to start in late-spring or summer 2024.



Figure 1. Configuration of Pillar Point Harbor in March 2023.

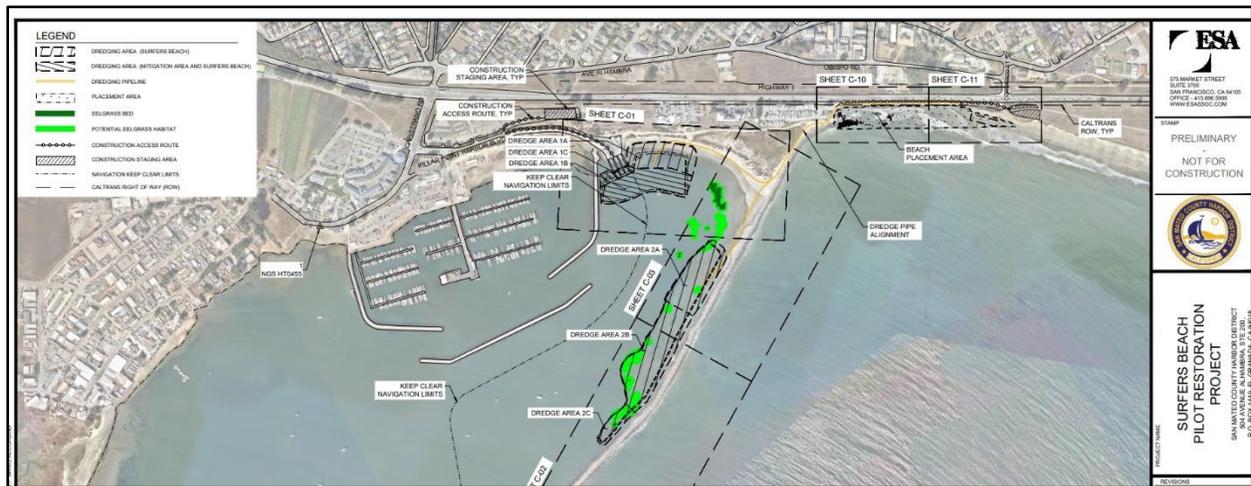


Figure 2. Proposed dredge areas in Pillar Point Harbor and sediment placement area at Surfer's Beach (ESA 2024).



Figure 3. A portion of the eelgrass bed along the Harbor’s eastern breakwater at low tide in April 2024, following large winter storms (Photo: Tom Wadsworth).

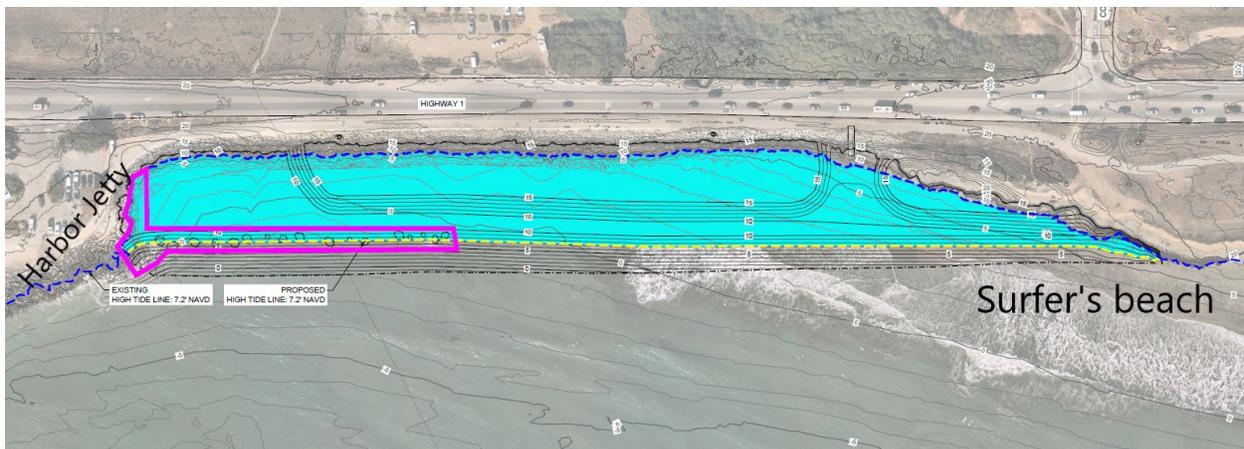


Figure 4. Portion of Surfer’s Beach (within dashed black line), just east of Pillar Point Harbor, where dredge spoils are proposed to be placed as fill (ESA 2024).¹

¹ Placement area includes northwest portion of Surfer’s Beach, portions of breakwaters/jetty on north and west sides and areas currently inundated with ocean waters offshore from these breakwaters. Dashed dark blue line is the current high tide line, dashed yellow line is proposed high tide line after fill is complete. Light blue area is below the current high tide line but above the proposed high tide line. Purple outline is the approximate area of intertidal and subtidal rock habitat expected to be buried under fill during beach restoration and where pre-construction black abalone survey will occur.

1.3.1 Construction

Dredging

The Project proposes to dredge approximately 18.77-acres, removing up to 100,000 cubic yards (76,455 cubic meters) of sediment accumulated along the inside of Harbor's eastern breakwater and near the Harbor's boat launch (Figure 2). Proposed dredging methodology options include use of a suction dredge with cutterhead for all sediment below water, and either a suction dredge or a clamshell bucket for removing sediment above water. Sediment in dredge spoils will be transported to: 1) Surfer's Beach for beach restoration, or 2) the Harbor West Basin to be used for eelgrass mitigation.

Beach Restoration

The Project would result in 4.1 acres of fill in waters of the U.S. for beach restoration at the Surfer's Beach Project site (Corps 2023). A one-time placement of dredged sediment is proposed along a 1,000 ft section of Surfers Beach, to form an elevated berm. Sediment will be transported directly to beach via slurry pipeline for suction dredging, and if a clamshell dredge is used sediment will be placed in a hopper that is fed into a slurry pump and through the pipeline to the placement area. The sediment placed on Surfer's Beach will be contained by a sand berm constructed at the east end of the existing beach. The slurry will be discharged landward of the containment berm and allowed to decant. Once sufficient sand is built up, it will be mechanically spread using heavy equipment. This placement is designed to restore beach habitat that existed prior to the construction of the Harbor outer breakwaters lost to erosion resulting from construction of the breakwater disrupting sediment dynamics in the area. Some of the proposed dredging area along the eastern breakwater contains eelgrass that likely became established in the early-2000s.

Eelgrass Mitigation

The eelgrass mitigation component of the Project will follow methods described in the California Eelgrass Mitigation Program (CEMP) guidelines (NMFS 2014a). Mitigation plans are summarized below, with more details available in the Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan (Plan; MTS 2023). Based on the results from an eelgrass survey of the Harbor by MTS in May 2023, approximately 773 sq. meters of vegetated eelgrass habitat and 4,107 sq. meters of unvegetated eelgrass habitat will be directly impacted due to Project dredge activities in the East Basin. To mitigate for this impact, prior to dredging, eelgrass in the dredge footprint will be transplanted to a mitigation site within the Harbor's West Basin. The mitigation site in the southwest portion of the Harbor was chosen by MTS as the site most likely to be successful in the area, due to the presence of a large and expanding eelgrass bed (Figure 5) and the unsuitability of other sites evaluated.

A pre-construction eelgrass survey will be conducted with groundtruthing to confirm eelgrass extent in the East and West Basins prior to starting in-water work. Results of the pre-construction survey will be provided to NMFS, and appropriate adjustments to the Plan will be made based on changes in eelgrass health and extent.

Initial dredging in the East Basin will focus on sites lacking eelgrass with fine grained sediment, near the boat launch. Approximately 8,580 cu. meters of sediment resulting from this initial dredge operation will be transported for a one-time placement of in the southwest corner of the Harbor. This sediment will serve to create an approximately 9,987 sq. meters eelgrass primary mitigation site (Figure 4 and Figure 5). The purpose of the sediment placement is to reduce depths in the mitigation site to allow for improved growth of transplanted eelgrass. Eelgrass in the West Basin currently grow at depths ranging from 1 to -11 ft Mean Lower Low Water (MLLW); however, most of the eelgrass grows at depths less than -8 ft MLLW, with the highest concentration in -1 to -2 ft MLLW (MTS 2023). The sediment placement will create a planting area primarily -2 to -3 ft MLLW where most eelgrass will be transplanted, as shallower depths may experience shoaling that could impact eelgrass transplants and deeper areas do not receive as much light to maximize growth. The edges of the area will be contoured to meet the existing bathymetry surrounding the area, and this slope area will be planted with eelgrass at a lower density. To the extent practicable, eelgrass transplants will be planted at similar depths as the source location in the East Basin, as research has indicated eelgrass can adapt to depths on microscales (Hays et al. 2020). Before placing sediment, any existing eelgrass in the placement area will be salvaged and transplanted in one or both of the secondary planting areas (Figure 6).

Based on expected extent of eelgrass to be impacted by dredging in the East Basin and impacted by sediment placement in the West Basin (a total of 908 sq. meters), 1,090 sq. meters of vegetated eelgrass are required for mitigation based on the 1.2:1 mitigation ratio outlined in the CEMP. These estimates will be adjusted based on the pre-construction eelgrass survey. The proposed primary planting area in the Plan is 9.2 times larger than the mitigation requirement given the expected eelgrass planting density. The size of the planting area is larger than the eelgrass mitigation requirement to allow for a high likelihood of achieving the mitigation ratio by accounting for higher losses of eelgrass than expected. A similarly conservative approach, with a planting area several times larger than the mitigation requirement, was taken by eelgrass mitigation projects in central California cited in the CEMP. Additionally, the model used by MTS predicted the primary planting site will support 1,846 square meters of eelgrass, which is only 1.7 times larger than the mitigation requirement.

This mitigation plan does not account for impacts to areas of unvegetated habitat between eelgrass patches. The CEMP defines unvegetated eelgrass habitat as a five-meter wide perimeter surrounding eelgrass patches. Although it is noted above that 4,107 sq. meters of unvegetated eelgrass habitat will be lost in the East Basin, MTS (2023) determined it was not advisable to attempt to create this much unvegetated habitat through mitigation. To mitigate for the loss of all unvegetated eelgrass habitat, the mitigation site would need to be designed to create a patchy eelgrass bed that may be of lower habitat value than a contiguous bed due to lower connectivity. The size of the mitigation site, and associated sediment placement area, would also need to be much larger to mitigate for unvegetated eelgrass habitat, which could further impact existing eelgrass and other high-quality habitat in the West Basin through burial and sedimentation. Therefore, the Applicant proposes not to mitigate for loss of unvegetated eelgrass habitat. NMFS agreed with the Corps and Applicant that, in the case of this Project, mitigation for impacts to unvegetated eelgrass habitat is not necessary or advantageous.

Transplanted eelgrass in the West Basin will be monitored for 60 months after the project is complete, as outlined in the CEMP, and growth and extent will be compared to primary and secondary reference sites within the East and West Basins (Figure 7). Reports on the mitigation monitoring results will be provided to NMFS—using the report template in the CEMP—within 30 days after the completion of each monitoring period to allow timely review and feedback from NMFS. If growth of transplanted eelgrass is poor relative to eelgrass present in reference sites, adaptive management will be discussed by relevant regulatory agencies and the Applicant.



Figure 5. A section of the eelgrass bed in the southwest portion of the Harbor at low tide in March 2023, following large winter storms (Photo: Tom Wadsworth).

Equipment

Equipment expected to be used for the Project will include: a suction dredge, a clamshell dredge, a slurry pump, a generator, a floating barge and power boat for moving the dredge and holding sediment, and a large pipe for moving dredged sediment. Low ground pressure bulldozers will be used at the beach placement site.

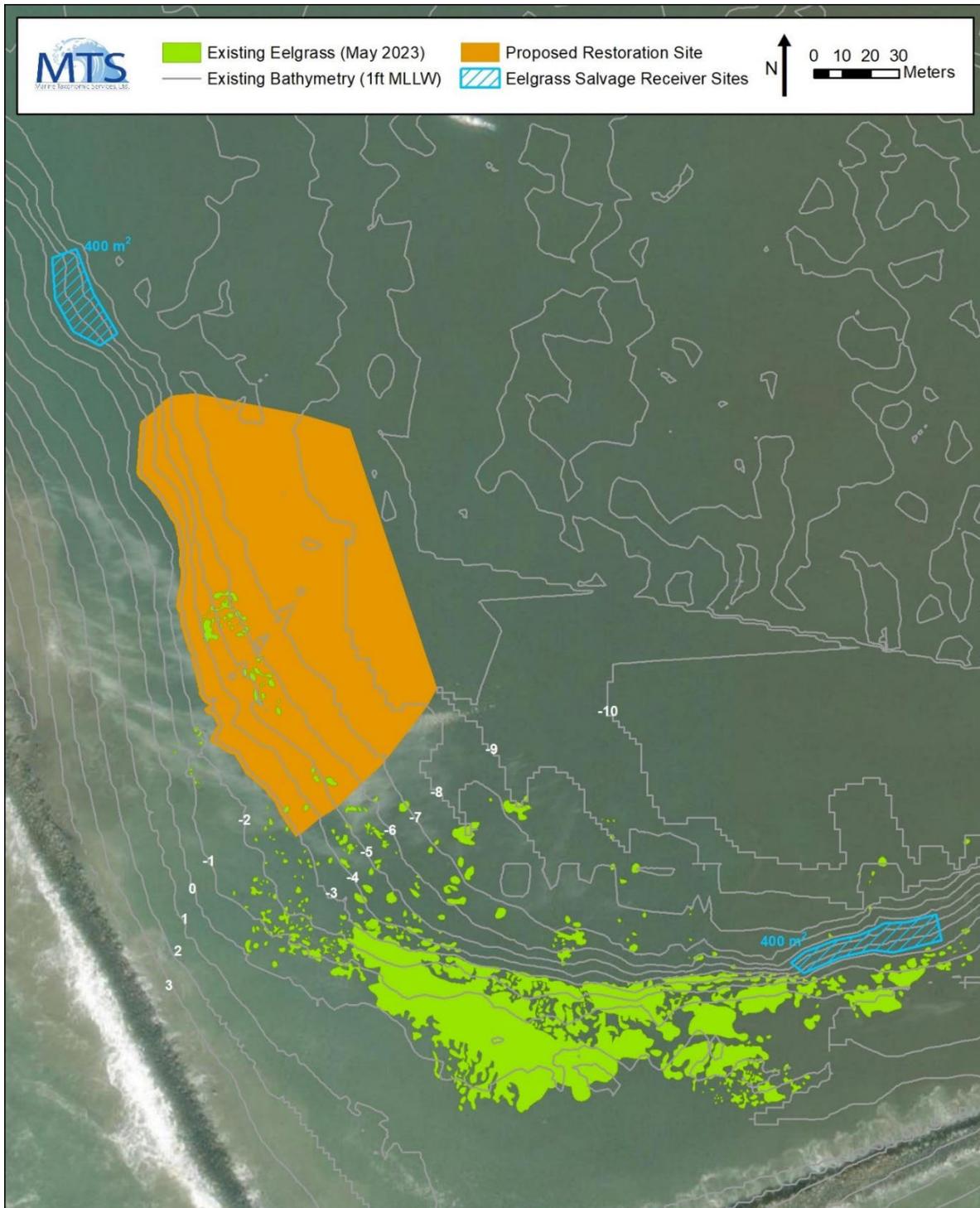


Figure 6. Pillar Point Harbor West Basin eelgrass current extent, primary planting site and secondary (salvage receiver) sites (MTS 2023).



Figure 7. Pillar Point Harbor proposed dredge and eelgrass reference sites (MTS 2023).

1.3.2 Proposed Avoidance and Minimization Measures

As part of the proposed action, SMCHD and contractors plan to use several avoidance and minimization measures (AMMs) to protect aquatic species and habitats during construction and maintenance activities. A list of most proposed AMMs, is provided in the application materials (Zentner Planning and Ecology 2022). Some of the AMMs most relevant to this biological opinion from that document are provided below.

To reduce turbidity and contamination of aquatic habitats in the action area, several Project AMMs and BMPs will be implemented. All construction equipment will be inspected and maintained at an off-site location to prevent leaks and spills of hazardous materials at the Project site. All leaks, drips, and other spills will be cleaned up immediately. Refueling, repair, and lubrication of vehicle and equipment will only occur in designated areas where accidental spills will be contained (Zentner Planning and Ecology 2022). All debris and waste will be covered in wet weather and disposed of properly. Silt fences or straw wattles will be installed at the perimeter of the construction site to prevent construction-related runoff or sediment to coastal waters. All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday. Dredge methodology will be limited to suction dredging below the water line to reduce turbidity and other impacts on marine life; clam shell dredging would be allowed above the water line (Corps 2023). Sediment for beach restoration and eelgrass mitigation will be placed at lower tides to reduce turbidity (Corps 2023).

Pre-construction Site Survey for Black Abalone

A pre-construction survey to determine presence of black abalone within the action area will be conducted no sooner than 120 days prior to the start of in-water work on the Project. The survey is intended to focus on rock habitats near Surfer's Beach that may be buried under sediment during the beach nourishment component of the Project. This habitat is within the intertidal/subtidal zones at the northwest end of Surfer's Beach and includes the breakwater/jetty and rocks in just off the breakwater (Figure 3 and Figure 6). Surveys for black abalone will not be needed elsewhere in the action area as SMCHD agreed that dredging within the Harbor will not occur within 20 feet of rocks on the eastern breakwater and that any sediment placement that occurs in the west Harbor will not occur within 20 feet of rock habitat. Some rock rip-rap near Surfer's Beach that is currently above the MHHW line is to be buried during beach restoration, but is not expected to support black abalone so will not be included in the pre-construction survey. Rip-rap areas oriented southeast and paralleling Surfer's Beach, between the beach and Highway 1 that are not in the intertidal zone (Figure 7), will not be surveyed as they are not likely to provide adequate habitat for black abalone. Methodology for the black abalone survey will follow NMFS Protected Resources Division (PRD) guidelines, or will be otherwise approved by NMFS. If black abalone are observed during the survey, NMFS will be contacted to coordinate on AMMs before beginning any in-water work that could impact abalone. These AMMs will likely include relocation of black abalone and/or operation of equipment to avoid contacting abalone.

We considered, under the ESA, whether or not the proposed action would cause any other activities and determined that it would not.



Figure 8. Photo of Northwest corner of Surfer's Beach from above rip-rap area looking south along the eastern breakwater/jetty. The black abalone pre-construction survey will be focused on rocks in the intertidal/subtidal zones within this area that are expected to be buried during beach restoration (Photo: Tom Wadsworth).



Figure 9. Photo of rip-rap area above Surfer’s Beach taken from the northwest corner of the beach looking southeast along the eastern breakwater/jetty² (Photo: Tom Wadsworth).

2 ENDANGERED SPECIES ACT: BIOLOGICAL OPINION AND INCIDENTAL TAKE STATEMENT

The ESA establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat upon which they depend. As required by section 7(a)(2) of the ESA, each Federal agency must ensure that its actions are not likely to jeopardize the continued existence of endangered or threatened species or to adversely modify or destroy their designated critical habitat. Per the requirements of the ESA, Federal action agencies consult with NMFS, and section 7(b)(3) requires that, at the conclusion of consultation, NMFS provide an opinion stating how the agency’s actions would affect listed species and their critical habitats. If

² This area of rip-rap above MHHW and in the intertidal will not be part of the pre-construction survey for black abalone

incidental take is reasonably certain to occur, section 7(b)(4) requires NMFS to provide an ITS that specifies the impact of any incidental taking and includes reasonable and prudent measures (RPMs) and terms and conditions to minimize such impacts.

The Corps determined the proposed action is not likely to adversely affect CCC steelhead, green sturgeon southern DPS or their critical habitat, leatherback turtle or their critical habitat, or sunflower sea star. Our concurrence is documented in the "Not Likely to Adversely Affect" Determinations section (Section 2.12).

2.1 Analytical Approach

This biological opinion includes both a jeopardy analysis and an adverse modification analysis. The jeopardy analysis relies upon the regulatory definition of “jeopardize the continued existence of” a listed species, which is “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). Therefore, the jeopardy analysis considers both survival and recovery of the species.

This biological opinion also relies on the regulatory definition of “destruction or adverse modification,” which “means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species” (50 CFR 402.02).

The ESA Section 7 implementing regulations define effects of the action using the term “consequences” (50 CFR 402.02). As explained in the preamble to the final rule revising the definition and adding this term (84 FR 44976, 44977; August 27, 2019), that revision does not change the scope of our analysis, and in this opinion we use the terms “effects” and “consequences” interchangeably.

We use the following approach to determine whether a proposed action is likely to jeopardize listed species or destroy or adversely modify critical habitat:

- Evaluate the rangewide status of the species and critical habitat expected to be adversely affected by the proposed action.
- Evaluate the environmental baseline of the species and critical habitat.
- Evaluate the effects of the proposed action on species and their critical habitat using an exposure–response approach.
- Evaluate cumulative effects.
- In the integration and synthesis, add the effects of the action and cumulative effects to the environmental baseline, and, in light of the status of the species and critical habitat, analyze whether the proposed action is likely to: (1) directly or indirectly 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; or (2) directly or indirectly result in an alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.
- If necessary, suggest a reasonable and prudent alternative to the proposed action.

2.2 Rangewide Status of the Species and Critical Habitat

This opinion examines the status of each species that is likely to be adversely affected by the proposed action. The status is determined by the level of extinction risk that the listed species face, based on parameters considered in documents such as recovery plans, status reviews, and listing decisions. This informs the description of the species' likelihood of both survival and recovery. The species status section also helps to inform the description of the species' "reproduction, numbers, or distribution" for the jeopardy analysis. The opinion also examines the condition of critical habitat throughout the designated area, evaluates the conservation value of the various watersheds and coastal and marine environments that make up the designated area, and discusses the function of the PBFs that are essential for the conservation of the species.

2.2.1 Black Abalone Life History and Status

Black abalone occupy rocky intertidal habitats from the upper intertidal to 6 meters depth. The current range is from Point Arena, California, to Bahia Tortugas, Mexico, including offshore islands (74 FR 1937). On January 14, 2009, the species was listed as endangered under the ESA (74 FR 1937). Critical habitat was designated on October 27, 2011 (76 FR 66806).

Black abalone are most commonly observed in the middle and lower intertidal, in habitats with complex surfaces and deep crevices that provide shelter for juvenile recruitment and adult survival (Leighton 2005). They are able to withstand extreme variations in temperature, salinity, moisture, and wave action, and are usually strongly aggregated (Cox 1960, Leighton 2005). As broadcast spawners, black abalone must be in close enough proximity to one another to successfully reproduce. They have a short planktonic larval stage (about 3-10 days) before settlement and metamorphosis (McShane 1992). Genetic studies indicate limited larval dispersal, with populations composed predominately of individuals spawned locally (Chambers et al. 2006). Larval black abalone typically settle on rocky substrate with crustose coralline algae, which serves as a food source for post-metamorphic juveniles (Leighton and Boolootian 1963, Bergen 1971). Adults typically feed on attached and drifting macroalgae, such as *Macrocystis pyrifera* (giant kelp), *Egregia menziesii* (feather boa kelp), and *Eisenia arborea* (southern sea palm), occurring in intertidal or subtidal habitats (NMFS 2020). Spawning has not been observed in the wild, but likely occurs from spring to early autumn (Leighton and Boolootian 1963, Leighton 2005).

Black abalone are believed to be naturally rare at the northern and southern extremes of their range, (Morris 1980, VanBlaricom et al. 2009). The highest abundances historically occurred south of Monterey, particularly at the Channel Islands off southern California (Cox 1960, Karpov et al. 2000). Rogers-Bennett et al. (2002) estimated a baseline abundance of 3.54 million black abalone in California based on landings data from the peak of the commercial and recreational fisheries (1972-1981). However, black abalone abundances in the 1970s to early 1980s had reached extraordinarily high levels, particularly at the Channel Islands, possibly due to lack of subsistence harvests by indigenous peoples and near elimination of sea otter populations. Therefore, our understanding of black abalone abundance and distribution for this time period may not accurately represent conditions prior to commercial and recreational harvest of black abalone in California.

Beginning in the mid-1980s, black abalone populations began to decline dramatically due to withering syndrome (Tissot 1995). The disease is caused by a Rickettsiales-like organism (WS-RLO) that affects the animal's digestion and causes starvation, leading to foot muscle atrophy, lethargy, and death (Friedman et al. 2003, Braid et al. 2005). The first recorded mass mortality associated with the disease was observed at Santa Cruz Island in 1985 (Lafferty and Kuris 1993). Researchers recorded mass mortalities at sites throughout the Channel Islands and along the California mainland by 1998-1999 (Altstatt et al. 1996, Raimondi et al. 2002).

Overall, populations throughout southern California and as far north as Cayucos have declined in abundance by more than 80%; populations south of Point Conception have declined by more than 90% (Neuman et al. 2010). Historical abalone harvest contributed to some degree, but the primary cause of these declines was withering syndrome. Black abalone north of the Monterey/San Luis Obispo County line have not yet experienced mass mortalities associated with the disease, but all are likely infected by the WS-RLO pathogen. Disease transmission and manifestation is intensified when local sea surface temperatures increase by as little as 2.5 °C above ambient levels and remain elevated over a prolonged period of time (i.e., a few months or more) (Friedman et al. 1997, Raimondi et al. 2002, Harley and Rogers-Bennett 2004, Vilchis et al. 2005). The northward progression of the disease appears to be associated with increasing coastal warming and El Niño events (Tissot 1995, Altstatt et al. 1996, Raimondi et al. 2002), and poses a continuing threat to the remaining healthy populations.

Most black abalone populations affected by withering syndrome remain at low densities, below the estimated levels needed to support successful reproduction and recruitment (0.34 abalone per m², Neuman et al. 2010). Data for 2002-2006 (Neuman et al. 2010) indicate that population densities exceed this threshold value in areas not yet affected by the disease (north of Cayucos; densities range from 1.1 to 10.5 abalone per m²), whereas population densities fall below this threshold value in areas affected by the disease (south of Cayucos; densities range from 0 to 0.5 abalone per m²). Although abundance in southern California is low, researchers have observed evidence of increases in black abalone at several locations (Richards and Whitaker 2012).

In 2020, California experienced record-breaking wildfires, including the Dolan Fire that burned more than 100,000 acres along the Central Coast. Soon after this fire was extinguished, an extreme rain event resulted in debris flows that buried black abalone under sediment and burned debris, and inundated thousands of meters of the species' critical rocky intertidal habitat. In response to the extensive and extreme impacts resulting from this event, multiple organizations (including NMFS) collaborated on an emergency effort to rescue over 200 black abalone that were buried or under imminent threat of burial (Bragg 2021).

Black abalone populations throughout California face high risk in each of four demographic risk categories: abundance, productivity, spatial structure (and connectivity), and diversity (VanBlaricom et al. 2009). Long-term monitoring data in California indicates that disease-impacted populations remain at low abundance and density, and the disease remains a threat to healthy populations (Raimondi et al. 2002), although a bacteriophage and potential genetic resistance in black abalone have reduced this threat (Friedman and Crosson 2012, Crosson et al. 2014, Friedman et al. 2014a, b). The declines in abundance have potentially resulted in a loss of

genetic diversity, though this needs to be evaluated. Although some sites in southern California have shown evidence of recruitment, natural recovery of severely-reduced abalone populations will likely be a slow process. Recovery will require protection of healthy populations to the north, restoration of disease-impacted populations to the south, continued long-term monitoring throughout the species' range, and research on the species' biology and response to threats (NMFS 2020).

NMFS assesses four population viability parameters to discern the status of the listed black abalone and to assess the species ability to survive and recover. These population viability parameters are: abundance, productivity, spatial structure, and diversity (NMFS 2020). While there are insufficient data to evaluate these population viability parameters quantitatively, NMFS has used existing information to determine the general condition of black abalone. The population viability parameters are used as surrogates for numbers, reproduction, and distribution, which are included in the regulatory definition of "jeopardize the continued existence of" (McElhany 50 CFR 402.02). For example, abundance, productivity, and spatial structure are surrogates for numbers, reproduction, and distribution, respectively. The fourth parameter, diversity, is related 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.

2.2.2 Status of Black Abalone Critical Habitat

NMFS designated black abalone critical habitat on October 27, 2011 (76 FR 66806). The designation encompasses rocky intertidal and subtidal habitat (to a depth of 6 m) within five segments of the California coast between Del Mar Landing Ecological Reserve to the Palos Verdes Peninsula, as well as on the Farallon Islands, Año Nuevo Island, San Miguel Island, Santa Rosa Island, Santa Cruz Island, Anacapa Island, Santa Barbara Island, and Santa Catalina Island. Essential habitat features include rocky substrate (e.g., rocky benches formed from consolidated rock or large boulders that provide complex crevice habitat); food resources (e.g., bacterial and diatom films, crustose coralline algae, and detrital macroalgae); juvenile settlement habitat (rocky substrates with crustose coralline algae and crevices or cryptic biogenic structures); suitable water quality (e.g., temperature, salinity, pH) for normal survival, settlement, growth, and behavior; and suitable nearshore circulation patterns to support successful fertilization and larval settlement within appropriate habitat.

Critical habitat areas north of Cayucos (where black abalone have not experienced disease-related mass mortalities) were generally identified by NMFS as areas of high conservation value. These areas serve as a refuge from withering syndrome, support stable populations with evidence of recruitment in some areas, and contain habitat of good to excellent quality that is able to support larger numbers of black abalone. South of Cayucos (where black abalone have experienced disease-related mass mortalities), changes to critical habitat features have occurred. For example, at some sites once dominated by black abalone, the species' decline resulted in a shift in the invertebrate and algal community. Increased growth of encrusting organisms may reduce habitat suitability for adults (e.g., by filling in cracks and crevices) and for larval settlement (e.g., by reducing the surface area for crustose coralline algae to grow) (Toonen and

Pawlik 1994; Miner et al. 2006; VanBlaricom et al. 2009; NMFS 2011). In general, however, these critical habitat areas continue to provide a high conservation value to the species, because they contain habitat of good to excellent quality that is able to support black abalone, with evidence of recruitment observed at a few sites (e.g., on San Nicolas Island and Santa Cruz Island) (VanBlaricom et al. 2009).

Threats to black abalone critical habitat include: coastal development or in-water construction projects (e.g., coastal armoring, pier construction or repair), activities that can increase sedimentation (e.g., sand replenishment, beach nourishment, side-casting), oil or chemical spills and response activities, and entrainment of larval black abalone in ocean intakes at facilities such as coastal power plants, desalination plants, and liquefied natural gas terminals (NMFS 2020). Climate change is also likely to cause range-wide effects on black abalone critical habitat, as discussed below.

2.2.3 Global Climate Change

Climate change has and will continue to affect the range-wide status of ESA-listed species and aquatic habitat at large. Impacts from global climate change are already occurring in California. For example, average annual air temperatures, drought frequency, precipitation variability, severity of wildfires, and sea level increased in California over the last century (Milanes et al. 2018).

Climate change impacts that could affect black abalone and their critical habitat include sea level rise, changes to ocean water chemistry (e.g., ocean acidification), elevated ocean temperatures, landslides caused by wildfires, and changes in food supplies (Brewer and Barry 2008, Feely 2004, Osgood 2008, Turley 2008, Doney et al. 2012). Rising sea levels may shift the distribution of rocky intertidal habitat along the coast, although this is expected to occur over very long time periods during which black abalone may be able to adapt and shift their range. Ocean acidification could result in water quality conditions that reduce larval survival and shell growth and increase shell abnormalities (Feely et al. 2009, Crim et al. 2011, O’Leary et al. 2017). However, studies show that effects of ocean acidification are highly species specific due to differences between species in physiology, adaptability, and exposure to natural variation in ocean pH. Abalone may be able to adapt to ocean acidification because they already experience natural variability in ocean pH, including low pH levels (Hauri et al. 2009). Increasing ocean water temperatures may occur due to global warming and short-term and longer-term oceanographic conditions (e.g., ENSO or PDO events) and may have varying effects on abalone. Changes such as an increased incidence of marine heat waves, are likely already occurring, and are expected to increase (Frölicher et al. 2018). In fall 2014, and again in 2019, a marine heatwave, known as “The Blob”³, formed throughout the northeast Pacific Ocean, which greatly affected water temperature and upwelling from the Bering Sea off Alaska, south to the coastline of Mexico. Although the implications of these events on black abalone are not fully understood, they are having considerable adverse consequences to the productivity of these ecosystems.

³ <https://www.fisheries.noaa.gov/feature-story/new-marine-heatwave-emerges-west-coast-resembles-blob>

Warmer water temperatures may decrease food availability and quality by reducing macroalgal growth (Hobday et al. 2001, Tegner et al. 2001) and increase susceptibility to withering syndrome (Ben-Horin et al. 2013). At the same time, warmer water temperatures may benefit larval survival of some abalone species (Leighton 1972). Studies are underway to evaluate the effects of ocean acidification and increasing water temperatures on abalone, and to assess how other factors (e.g., presence of the disease vectors) may affect these interactions. Additionally, landslides following recent large wildfires in California have affected black abalone and their critical habitat. For example, severe wildfires burned along the central California coast in August 2020, followed by a large rain event in January 2021. These events resulted in massive debris flows that buried large expanses of rocky intertidal habitat as well as black abalone, prompting an emergency response by NMFS and their partners minimize loss by rescuing abalone (NMFS 2022).

2.3 Action Area

“Action area” means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area encompasses outer Pillar Point Harbor, including the East and West Harbor Basins, Surfer’s Beach, and nearshore waters in the vicinity of Surfer’s Beach.

2.4 Environmental Baseline

The “environmental baseline” refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. 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 consultations, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency’s discretion to modify are part of the environmental baseline (50 CFR 402.02).

2.4.1 Description of the Action Area

Pillar Point Harbor is comprised of an outer Harbor and an inner Harbor with a marina, together approximately 245 acres (Figure 1). The portion of the outer Harbor to the east of the Harbor entrance is generally referred to as the ‘East Harbor Basin’, and to the west as the ‘West Harbor Basin.’ The initial construction of the ‘outer breakwater’ of boulders (i.e., rip-rap), extending south from Pillar Point (west side of the Harbor) and west from Surfer’s Beach (east side), was completed by the Corps in the early-1960s. The original breakwater partially protected from large ocean waves the area where the new Harbor was to be constructed. The breakwater was extended to its current extent in the mid-1960s, and it includes a narrow opening on the south side for boat traffic. In 1982, an additional breakwater was constructed in three sections to surround and further protect Johnson Pier and associated floating docks, thereby creating the ‘inner Harbor’ of approximately 73 acres. Due to the protection of the inner Harbor provided by

these additional breakwaters, the Project is not expected to affect the inner Harbor, and only the outer Harbor is included in the action area.

Surfer's Beach extends from the outside of the eastern breakwater surrounding the outer Harbor to the southeast for approximately 1 km. The northwest portion of the beach has been eroded over the decades since the breakwater was constructed and is inundated with ocean waters during most tide phases and throughout the year. A primarily coarse-grained sandy beach exists at all but the highest tide phases beginning roughly 200 m to the southeast of the breakwater. The size of the beach varies seasonally as sand is deposited and eroded. The upper portion of the beach is bordered by a line of bluffs; behind the bluffs are a walking path and Highway 1. A recent Corps study concluded that the bluffs along Surfer's Beach eroded at an average rate of 1.64 feet per year between 1993 and 2012 (Corps 2023). This erosion rate was determined to be approximately seven times higher than the rate of erosion at a geologically similar stretch of shoreline farther down the coast. Storms during the 2022-2023 winter removed most of the beach sand, eroded bluffs above the beach, damaged breakwaters, and necessitated emergency repairs to infrastructure near Highway 1. Beach sand deposited in spring/summer 2023 reformed a portion of the beach, but storms in winter 2023-2024 further eroded the beach and bluffs and caused damage in the area. Rip-rap along portions of Surfer's Beach is intended to protect infrastructure above the beach (including Highway 1) from erosion and wave damage. Portions of the rip-rap parallel to the beach is submerged at higher tide cycles on northwest side of the beach, as is the lower portion of the rip-rap forming the outside of the eastern Harbor breakwater. Additionally, a series of boulder-sized rocks remaining from an old revetment are within the intertidal and subtidal zones of the northwest corner of the beach, extending out from the eastern Harbor breakwater (Figures 2 and 3). The old revetment was constructed in the 1970s apparently to protect the shoreline; it failed in the 1980s due to coastal erosion and wave action, and the shoreline has since moved to the next revetment to the north.

The Harbor and Surfer's Beach are a combination of natural and human-influenced habitats. The creation of the breakwaters surrounding the Harbor greatly changed sediment dynamics in the area, causing sediment to build-up within the Harbor rather than being transported southeast and deposited on Surfer's Beach and other beaches to the south. Lack of sand on the beach caused the cliffs above the southeast portion of Surfer's Beach that are not protected by rip-rap to erode much more quickly than other portions of the nearby coastline in recent decades. The breakwaters also serve as habitat for many aquatic species. The outer Harbor is fairly shallow, primarily 0-20 feet, with the exception of much deeper areas near the opening in the outer breakwater and some moderately deep areas in the eastern Harbor where boat traffic enters the inner Harbor (ESA 2021). The outer Harbor seafloor is mostly sand and mud. Eelgrass within the outer Harbor has been observed since the mid-2000s, and is unlikely to have existed in the action area prior to construction of the outer breakwater. Eelgrass currently occurs in the East Harbor basin mainly along the eastern outer breakwater and in the southwest corner of the West Harbor Basin (MTS 2023). Recent surveys indicate eelgrass is declining in health and extent in the East Basin, apparently resulting from sedimentation and freshwater inputs that has accelerated in recent years due to powerful winter storms. Eelgrass extent in the West Basin, however, has expanded in recent years based on MTS surveys. Rocky reef and cobble habitats are interspersed with sand and mud on the west side of the Harbor near Pillar Point.

2.4.2 Status of Black Abalone and Critical Habitat in the Action Area

After the withering syndrome became widespread in the 1980s and 1990s, black abalone have been rare in southern California, but black abalone north of Monterey County (including San Mateo County) had been relatively unaffected by the disease as of 2020 (NMFS 2020). The disease has been detected as far north as Sonoma County, but the colder waters of this region are thought to reduce disease transmission and mortality rates of black abalone (NMFS 2020). The University of California Santa Cruz (UCSC) conducted two surveys for abalone in the vicinity of the action area in 2014/2015 and 2021. Both UCSC surveys found black abalone in the intertidal zone at Pillar Point, outside the Harbor (Raimondi 2015; Christy Bell, personal communication). However, the habitat where abalone were found near Pillar Point (natural rocky intertidal) is quite different than the habitat in the action area (modified rock and sand), and is subject to potential poaching and predation that is unlikely within the action area. Raimondi (2015) noted that, although a small amount of high-quality black abalone habitat was surveyed, the area was primarily moderate- or poor-quality habitat. As the area surveyed in 2014/2015 is immediately adjacent (west) of the Pillar Point Harbor, it is possible that black abalone may have recruited to habitats within the Harbor through openings in breakwaters (or during overtopping events) in recent years. Surveys for black abalone have not been conducted within the Pillar Point Harbor or outside the eastern breakwater near Surfer's Beach, therefore it is uncertain whether or how many black abalone exist inside the Harbor.

Critical habitat for black abalone in the intertidal and subtidal zones of the action area consists of: natural rock habitats near Pillar Point (West Basin), rip-rap composing the Harbor breakwaters (East and West Basins), and the remains of an old revetment (boulder sized rocks) near Surfer's Beach. Water quality is likely sufficient for black abalone at all these areas, although turbidity can be quite high at times due to currents and waves. Rip-rap comprising the outer breakwater in the action area may serve as adequate habitat for black abalone, but is low to moderate quality due to regular sedimentation events from large storm waves overtopping the breakwaters. The Inner Harbor breakwater could also support black abalone, and is less exposed to large storm waves and sedimentation, although food resources (i.e., algae) are not plentiful in these areas. Natural rock and associated macroalgae habitat in the action area has been greatly affected by construction of the Harbor, including altered sediment dynamics, currents and water quality. Natural rock within the Harbor consists of cobbles and boulders along the far western shore near Pillar Point where eelgrass mitigation is proposed. Natural rock habitats could likely sustain black abalone with moderate levels of food resources, but are also susceptible to sedimentation events. Lastly, rock habitat in the outside the Harbor to the east, in the vicinity of Surfer's Beach, includes the eastern breakwater and failed revetment (described earlier). Rock habitat near Surfer's Beach is low to moderate quality due to low levels of food resources, although sedimentation is less of a concern in these areas.

2.4.3 Previous ESA Section 7 Consultations and Section 10(a)(1)(A) Permits in the Action Area

NMFS conducted several previous informal consultations with the Corps between 2006 and 2021 within Pillar Point Harbor. The projects covered by these consultations included habitat

restoration/shoreline stabilization in the West Harbor Basin, dredging of the public boat launch, and removal of Romeo Pier from the outer Harbor.

In 2023, NMFS completed formal consultation with the Corps regarding a project to expand Johnson Pier and replace floating docks in the inner Harbor. NMFS determined this project was likely to adversely affect black abalone, but was not likely to jeopardize the species. NMFS also determined the project was not likely to adversely impact black abalone critical habitat, CCC steelhead, green sturgeon southern DPS, leatherback sea turtle, or sunflower sea star. Lastly, NMFS determined the project would adversely affect EFH for Pacific Groundfish, Coastal Pelagic Species, and Pacific Coast Salmon, but these effects were expected to be minor, temporary and localized.

2.5 Effects of the Action

Under the ESA, “effects of the action” are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action (see 50 CFR 402.02). A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (see 50 CFR 402.17). In our analysis, which describes the effects of the proposed action, we considered the factors set forth in 50 CFR 402.17(a) and (b).

2.5.1 Black Abalone Mitigation

SMCHD proposes to conduct a pre-construction survey for black abalone (see Section 1.3.3) and, if any are observed in areas where sediment is to be placed, coordinate with NMFS to relocate them. Black abalone will be moved to suitable habitat outside of the construction area (likely outside the Harbor), or to a captive rearing facility until release to the wild is possible, as determined by NMFS. Abalone attached to rock habitat that avoid observation during the survey may be exposed to risks from turbidity or burial impacts described in sections 2.5.2 and 2.5.3.

NMFS assumes that all black abalone present in areas that could be directly impacted by Project activities will be identified during the survey, as the survey will be conducted by qualified biologists following NMFS guidelines. If black abalone are discovered during the proposed action in areas to be buried under sediment, due to abalone entering the action area after the survey or for other reasons, operations will cease and NMFS will be notified to discuss options. If black abalone are observed during the pre-construction survey in areas that are not planned to be buried under sediment, NMFS will be contacted to determine if additional AMMs will be required due to potential Project impacts.

Black abalone collection and relocation activities pose a risk of injury or mortality. Based on recent surveys and observations of black abalone near the action area and the amount of potential habitat to be affected by beach restoration activities (approximately 4.1 acres), we anticipate up to 10 individual black abalone may be encountered during the Project. However, this estimate is highly uncertain as there are no black abalone survey data for the action area. The amount of abalone injured or killed attributable to capture and relocation varies depending on the method

used, the ambient conditions, and the expertise and experience of the personnel. Black abalone relocation activities will be conducted by qualified biologists following NMFS guidelines, which will help minimize injury and mortality of abalone during capture and relocation. Based on prior experience with abalone relocations, we expect up to 15 percent of relocated black abalone (2 individuals of 10 encountered) will be unintentionally killed during the capture and handling process (NMFS 2022). An additional 13 percent of individual black abalone that are relocated will perish after relocation (1 additional individual out of 10 encountered) (NMFS 2022). In sum, 3 of 10 black abalone (30 percent) expected to be observed and relocated from the construction site are expected to die as a result of relocation.

Relocated abalone may have difficulty adapting to the new habitat and finding food. Relocation sites will be pre-approved by NMFS to ensure the sites have adequate habitat to allow for survival of transported abalone. Nonetheless, the stress of adapting to the new environment may temporarily impact abalone growth. Relocated black abalone should benefit from higher-quality habitat at relocation sites relative to habitat near Surfer's Beach.

Post-release monitoring of tagged, relocated black abalone will be conducted immediately following release. In the first two weeks following release, monitoring will occur at least once daily. Thereafter, monitoring would occur monthly for at least six-months post-release. Monitoring would involve recording the location, length, and habitat of tagged abalone and collecting empty, tagged shells to track the health, survival and movements of the released abalone.

2.5.2 Increased Sediment Mobilization (Turbidity)

Plumes of suspended particulates in water, referred to as turbidity, can cause a variety of effects on aquatic species and habitats. While elevated turbidity persists, light penetration into the water column is reduced, which can lower the rate of photosynthesis and primary productivity of an aquatic area. The contents of the suspended material can react with the dissolved oxygen in the water and result in oxygen depletion, or smother submerged aquatic vegetation. If turbidity is high or extends for a long-period, it can also inhibit respiration or cause suffocation in black abalone due to clogging of gills.

The Project will generate turbidity through dredging and placement of sediment. Dredging in the action area will occur over soft substrates within the East Harbor Basin, where black abalone and their critical habitat are not found. AMMs to avoid affects from turbidity and direct impact to individuals by equipment include a provision to not operate a dredge within a 20-foot buffer zone around large rock substrates. This buffer zone will be in place around the Harbor breakwaters and any consolidated rock substrates within the inter- or sub-tidal of either Harbor basin – e.g., boulders and rock benches - where black abalone and their critical habitat can be found. Seafloor sediment at the proposed dredge sites closest to the outer breakwater are primarily composed of coarse sand that should settle back to seafloor fairly quickly after disturbance by the dredging equipment. Sediment at dredge sites near the Harbor boat launch is finer-grained material, but this area is further from rocky habitats where black abalone might be

found. Additionally, dredging below the water line will be accomplished using a suction dredge that should minimize turbidity relative to clam shell dredging.

Turbidity will also be generated by placement of dredge spoils in the nearshore waters adjacent to Surfer's Beach. Dredge spoils will be initially placed on Surfer's Beach, which would not cause turbidity, but a portion of the sediment will subsequently be moved into the surrounding nearshore waters to expand the beach. Turbidity caused by this action could affect black abalone and their critical habitat on rocks in the area. A pre-construction survey for black abalone will identify any black abalone present in rock habitats that may be buried by the Project activities. If any black abalone are observed, mitigation will occur as described in Section 1.3.3. This will also reduce turbidity affects to black abalone in the area. However, some black abalone may be present beyond the survey area that could be impacted by turbidity. This turbidity affect is expected to be temporary as dredge spoils placed in the area will be almost exclusively sand that is expected to quickly settle to the seafloor. The small amounts of fine-grained sediment placed off Surfer's Beach will likely be transported southeast along the coast by prevailing currents. Additionally, the rock habitats adjacent to Surfer's Beach are regularly subjected to natural sediment transport processes of sand and fine-grained material and accompanying turbidity. Lastly, fine-grained dredge spoils are expected to be placed in the West Harbor Basin as part of the eelgrass mitigation aspect of the Project. AMMs to reduce turbidity include placing as much of the sediment as possible on low tides, when the seafloor is not inundated with water, as well as using a suction dredge when dredging below the waterline.

If black abalone are exposed to sufficiently high turbidity due to Project activities, respiration could be inhibited or suffocation could occur. Any black abalone located in the Harbor or near Surfer's Beach will be exposed to natural turbidity events regularly due to storms and currents carrying suspended sediment throughout the action area. Black abalone located in the action area will be relocated from the area in which the majority of turbidity plumes would occur. Currents within the action area will likely disperse suspended sediment to ambient levels within several days following turbidity generating events. The concentration and duration of turbidity in which these individuals will be exposed is less than what is expected to cause reductions in fitness. Therefore, NMFS expects turbidity effects from the Project on black abalone and their critical habitat will be insignificant.

2.5.3 Burial and Direct Contact

Impact to black abalone and their critical habitat may occur due to burial under sediment as well as direct contact by Project equipment. Some dredge spoils will be placed for beach restoration near Surfer's Beach on top of large rock habitat where black abalone could occur and where their critical habitat exists. As surveys have not yet been conducted for black abalone in the action area, it is possible that black abalone may be found in this area. If not relocated prior to sediment placement during beach restoration, black abalone could be injured or killed. Pre-construction surveys for abalone in the action area will be conducted prior to beach restoration and surveyors are expected to observe all abalone present. If abalone are observed on rock habitat likely to be buried or nearby, the Applicant will coordinate with NMFS to relocate them to suitable habitat outside of the construction area (see Section 2.5.1) or otherwise mitigate for their presence. These measures are expected to avoid impacts from these Project actions to black abalone.

Proposed AMMs are not expected to avoid loss of black abalone critical habitat due to Project activities. Although the loss of this critical habitat is considered a significant impact, this loss represents a very small portion of the overall critical habitat for black abalone. Additionally, the effect will occur in low to moderate value black abalone habitat. As noted previously, the rock habitat proposed to be buried is primarily rip-rap comprising a portion of the jetty and the remnants of a failed revetment in this area. The area often experiences highly dynamic currents, waves and sediment transport, which limits growth of macroalgae that black abalone depend on. It is also possible portions of the buried rock habitat will become exposed again after Project completion due to natural sediment transport processes in the area. In summary, the loss of this critical habitat is not expected to affect recovery of black abalone.

2.5.4 Construction-related Contaminants

Construction in, over, and near surface water have the potential to release debris, hydrocarbons, concrete/cement, and similar contaminants into surface waters. Potential contaminants that could result from projects like these include wet and dry concrete debris, fuel and lubricant for construction equipment, and various construction materials. If introduced into aquatic habitats, debris and contaminants can impair water quality and harm aquatic organisms by introducing toxic materials such as hydrocarbons or metals into the aquatic habitat (Eisler 2000).

Use of heavy equipment and storage of materials is required for the construction of the Project. As a result, if not properly contained, contaminants (e.g., fuels, lubricants, hydraulic fluids, concrete) could be introduced into the Harbor waters, either directly or through surface runoff. The effects described above for contaminants have the potential to temporarily degrade habitat and harm exposed biota, including black abalone. However, AMMs proposed at the work site will substantially reduce or eliminate the potential for construction materials and debris to enter waterways (Section 1.3.3). Additionally, ocean currents near Surfers Beach would likely quickly carry any contaminants away from rock habitats outside the Harbor where black abalone might be found. Therefore, effects of contaminants from construction equipment on black abalone are expected to be minimal.

Contaminants that may be present in the sediment at the dredge or sediment placement sites prior to construction could cause impacts to black abalone and other aquatic biota if dispersed into the water column by Project activities. Harmful contaminants could include Polycyclic Aromatic Hydrocarbons (PAHs), PCBs, DDT and heavy metals. As noted above, any abalone found in the pre-construction survey near Surfer's Beach will be relocated. Any abalone located within the outer Harbor, such as on the breakwater, would also be exposed to potential contaminants from dredging in the East Harbor Basin and/or placement of sediment in the West Harbor Basin, but the likelihood of impacts is low as sediment in the Harbor is not known to be contaminated at levels that could affect black abalone. Results of sediment chemistry analysis at the proposed dredge sites near the Harbor boat launch in 2017 indicated all samples were below established ERL values for analytes where ERL values were available (GHD 2020). Sediment analysis in 2019 was restricted to grain-size analysis (no chemistry) of the seafloor near the Harbor boat ramp and along the inside of the eastern breakwater, where dredging is proposed (Kinnetic Labs 2019). Sediment with high sand content is unlikely to have elevated levels of contaminants due

to contaminants having a greater affinity for clay and silt than for sand (Corps 2023). Based on these testing results and other information provided by the Applicant, the Environmental Protection Agency (EPA) provided a Tier 1 exemption from further sediment testing for the Project. Based on Project AMMs and sediment testing analysis, impacts to black abalone and their critical habitat from contaminated sediments are expected to be minor.

2.6 Cumulative Effects

“Cumulative effects” are 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 [50 CFR 402.02 and 402.17(a)]. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Some continuing non-Federal activities are reasonably certain to contribute to climate effects within the action area. However, it is difficult if not impossible to distinguish between the action area’s future environmental conditions caused by global climate change that are properly part of the environmental baseline *vs.* cumulative effects. Therefore, all relevant future climate-related environmental conditions in the action area are described earlier in the discussion of environmental baseline (Section 2.4).

2.7 Integration and Synthesis

The Integration and Synthesis section is the final step in assessing the risk that the proposed action poses to species and critical habitat. In this section, we add the effects of the action (Section 2.5) to the environmental baseline (Section 2.4) and the cumulative effects (Section 2.6), taking into account the status of the species and critical habitat (Section 2.2), to formulate the agency’s biological opinion as to whether the proposed action is likely to: (1) reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing its numbers, reproduction, or distribution; or (2) appreciably diminish the value of designated or proposed critical habitat as a whole for the conservation of the species.

We provide a general synthesis of our understanding of how the proposed action may affect ESA-listed black abalone and, where appropriate and necessary, we consider and describe any species-specific risks relevant to concluding this biological opinion.

2.7.1 Summary of Effects to black abalone and black abalone critical habitat

As described in Section 2.5, NMFS identified the following components of the project that may result in effects to black abalone: sediment mobilization (turbidity), burial, contaminants, and black abalone mitigation. Increased turbidity or contaminants from construction could affect black abalone; however, proposed AMMs and natural dispersal by currents will minimize these impacts, resulting in only minor effects to black abalone. Burial of rock habitat during Surfer’s Beach restoration is not expected to cause impacts to black abalone, as they would be relocated out of the action area prior to these activities. A portion of black abalone critical habitat will be lost as a consequence of beach restoration activities; however, the habitat is not high quality and represents a very small portion of black abalone critical habitat on the central California coast.

NMFS does not expect any of the aforementioned effects to combine with other effects in any significant way.

Regarding capture and relocation (if needed), NMFS estimates up to 10 black abalone may be present on rock habitat near Surfer's Beach to be buried as part of the proposed Project. Anticipated injury or mortality from capture and relocation is expected to be fifteen percent (or less) of the abalone present. NMFS expects no more than 2 black abalone would be injured or killed by capture/relocation at the project site during construction. An additional 13 percent of individual black abalone that are relocated will perish after relocation (1 additional individual out of 10 encountered) (NMFS 2022). In sum, 3 of 10 black abalone (30 percent) expected to be observed and relocated from the construction site are expected to die as a result of relocation.

The decline of black abalone throughout their range, prompting the species ESA-listing, is primarily linked to withering syndrome. Relative to populations in southern California, black abalone in central and northern California have been much less impacted by withering syndrome and protecting populations in these areas is critical to species recovery. Any black abalone within the action area would represent a small portion of black abalone currently found on the central California coast. Habitat within near Surfer's Beach, where most impacts will occur, is not high quality and survival of black abalone within this habitat would likely be marginal due to low food availability. Relocating black abalone in harm's way from the Project to higher quality habitat nearby will reduce risk of mortality for these individuals due to Project activities and potentially improve growth and survival long-term. This benefit could outweigh the loss of up to 30 percent of black abalone in the action area due to collection and relocation.

We do not expect the proposed Project to affect the persistence or recovery of black abalone. We base this conclusion on our findings above which considered the status of the species, the environmental baseline, all of the potential effects of the action, and the cumulative effects.

2.7.2 Climate Change

Future climate change could affect black abalone within the action area. Some potential effects of climate change on the central California coast are increases in water temperatures, changes to chemistry of seawater (e.g., ocean acidification), sea level rise, landslides, as well as more frequent and damaging wildfires. The proposed action is not expected to amplify the effects of climate change in the action area.

After reviewing and analyzing the current status of the black abalone, the environmental baseline within the action area, the effects of the proposed action, the effects of other activities caused by the proposed action, and the cumulative effects, it is NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of black abalone.

2.8 Conclusion

After reviewing and analyzing the current status of the listed species and critical habitat, the environmental baseline within the action area, the effects of the proposed action, the effects of other activities caused by the proposed action, and the cumulative effects, it is NMFS' biological

opinion that the proposed action is not likely to jeopardize the continued existence of black abalone or destroy or adversely modify its designated critical habitat.

2.9 Incidental Take Statement

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a 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 regulation to include significant habitat modification or degradation that actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). “Harass” is further defined by interim guidance as to “create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.” “Incidental take” is defined by regulation as takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR 402.02). Section 7(b)(4) and section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA if that action is performed in compliance with the terms and conditions of this ITS.

2.9.1 Amount or Extent of Take

In the biological opinion, NMFS determined that incidental take is reasonably certain to occur as follows:

Take of listed black abalone may occur during beach restoration Project activities. NMFS expects that no more than 30 percent of the black abalone observed during pre-construction surveys will be injured, harmed, or killed during or subsequent capture/relocation activities. Because no more than 10 black abalone are expected to be impacted by Project sediment placement activities, NMFS does not expect more than 3 black abalone to be harmed or killed by Project activities.

Incidental take will have been exceeded if:

- more than 10 black abalone are captured and relocated;
- more than 2 black abalone die during collection and relocation activities;
- more than 1 black abalone dies within six months after relocation, based on monitoring.

If any of these incidental take limits are exceeded, reinitiation of consultation may be needed. See Section 2.10 (Reinitiation of Consultation) below.

2.9.2 Effect of the Take

In the biological opinion, NMFS determined that the amount or extent of anticipated take, coupled with other effects of the proposed action, is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

2.9.3 Reasonable and Prudent Measures

“Reasonable and prudent measures” are measures that are necessary or appropriate to minimize the impact of the amount or extent of incidental take (50 CFR 402.02).

NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize take of black abalone:

1. Undertake measures to minimize harm to black abalone from construction of the Project (i.e., dredging and sediment placement) and degradation of aquatic habitat;
2. Prepare and submit plans and reports to NMFS regarding the black abalone pre-construction survey, black abalone relocation and avoidance methods, and construction activities.

2.9.4 Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the Federal action agency must comply (or must ensure that any applicant complies) with the following terms and conditions. The Corps or any consultant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this ITS (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, following terms and conditions, protective coverage for the proposed action would likely lapse.

1. The following terms and conditions implement reasonable and prudent measure 1:
 - a. Corps or the applicants will allow any NMFS employee(s) or any other person(s) designated by NMFS to accompany field personnel to visit the project site during activities described in this opinion.
 - b. Corps or the applicants will retain qualified Project biologist(s) knowledgeable of the needs of aquatic species, including black abalone. The Project biologist(s) will monitor the construction sites during all in-water activities. Monitoring will be performed daily.
 - c. Mitigation for black abalone impacts - If black abalone are found during the pre-construction survey or during construction activities, the Corps or applicant must contact NMFS to discuss relocation or avoidance procedures. Mitigation measures must be agreed upon by NMFS before in-water Project work can proceed. All relocation activities will be conducted by qualified personnel with the appropriate expertise and experience, to minimize black abalone injury and mortality. The Applicant or Corps will provide names and experience of proposed personnel to NMFS for review 30 days before relocation efforts commence.
 - d. Relocation activities will include a minimum of six-month post-release monitoring to record survival, growth and movement of abalone.
 - e. During black abalone mitigation activities, the Project biologist shall contact NMFS staff at the number below, if injury or mortality of black abalone exceeds

fifteen percent of the total collected. If any of these incidental take limits are exceeded, reinitiation of consultation may be needed (see Section 2.11). Tom Wadsworth (707) 243-8318, or Thomas.Wadsworth@noaa.gov

- f. Once construction is completed, all Project-introduced material must be removed, leaving the Harbor as it was before construction. Excess construction materials will be disposed of at an appropriate disposal site.
2. The following terms and conditions implement reasonable and prudent measure 2:
 - a. Black abalone pre-construction survey plan– The Corps or applicants must submit a black abalone pre-construction survey plan to NMFS for review. The survey plan should follow general abalone survey guidelines provided by NMFS, with adaptation as needed for the Project site. This survey plan shall be submitted electronically to NMFS biologist Tom Wadsworth at Thomas.Wadsworth@noaa.gov at least 30 days prior to the planned start of these activities.
 - b. Black abalone avoidance and relocation plan - if black abalone are found during the pre-construction survey, a relocation plan must also be submitted that provides general procedures to avoid effects to individuals, or relocate them from the project area. The relocation plan shall be submitted electronically to NMFS biologist Tom Wadsworth at Thomas.Wadsworth@noaa.gov at least 30 days prior to the planned start of these activities.
 - c. Annual Reporting – The Corps or the Applicant must prepare and submit annual reports to NMFS for Project activities as outlined below. Reports for (i) and (ii) below must be submitted by January 15 of the year following completion of relevant in-water Project activities. Report (iii) below, if applicable, should be submitted within six months after monitoring of relocated black abalone is complete. Reports should be submitted electronically to NMFS biologist Tom Wadsworth at Thomas.Wadsworth@noaa.gov. Reports prepared for compliance with other agency requirements that contain the information requested below would be acceptable. Annual reports must contain, at minimum, the following information:
 - i. Black abalone capture and relocation – The report(s) must include the names of NMFS-approved biologists involved; a description of the location from which abalone were removed; a description of the release site(s), including any resident black abalone at the site, with photographs; the date and time of the relocation effort; a description of the equipment and methods used to collect, hold, and transport abalone; the number of black abalone relocated; shell length, tags, health, gonad data for each abalone; the number of abalone injured or killed with a brief narrative of the circumstances surrounding injuries or mortalities; final disposition of the black abalone collected (e.g., mortality, released to relocation site, or maintained in captivity); names of captive facilities where animals are held (if applicable) and for what duration; a description of any problems which may have arisen during the relocation activities; a statement as to whether or not the activities had any unforeseen effects.

- ii. Construction related activities – The report(s) must include the dates construction began and was completed; a discussion of any unanticipated effects or unanticipated levels of effects on ESA-listed aquatic species, including 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 aquatic species; the number of black abalone killed or injured during the project action (in addition to those killed or injured during capture/relocation activities); and photographs taken before, during, and after the activity from photo reference points.
- iii. Black abalone post-relocation monitoring – The report must include information on survival, location, length, and health of relocated black abalone. The report should cover a monitoring period of at least six-months subsequent to relocation.

2.10 Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, “conservation recommendations” are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02). NMFS has no conservation recommendations as this time.

2.11 Reinitiation of Consultation

This concludes formal consultation for the Pillar Point Harbor Dredging and Surfer’s Beach Restoration Project.

Under 50 CFR 402.16(a): “Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and: (1) If the amount or extent of taking specified in the incidental take statement is exceeded; (2) If new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or (4) If a new species is listed or critical habitat designated that may be affected by the identified action.”

2.12 “Not Likely to Adversely Affect” Determinations

2.12.1 CCC Steelhead DPS

Steelhead are anadromous forms of *O. mykiss*, spending some time in both fresh- and saltwater. Juveniles migrate to the ocean where they mature. Adult steelhead return to freshwater rivers and streams to reproduce, or spawn. Within the CCC steelhead DPS, adults typically enter freshwater between December and April, with peaks occurring in January through March (Wagner 1983, Fukushima and Lesh 1998). It is during this time that streamflow (depth and velocity) are

suitable for adults to successfully migrate to and from spawning grounds. Once emerged from the gravel, steelhead fry rear in edgewater habitats along the stream and gradually move into pools and riffles as they grow larger. Although variation occurs, CCC juvenile steelhead that exhibit an anadromous life history strategy usually rear in freshwater for 1-2 years (NMFS 2016b). CCC steelhead smolts emigrate episodically from freshwater in late winter and spring, with peak migrations occurring in April and May (Shapovalov and Taft 1954, Fukushima and Lesh 1998, Ohms and Boughton 2019). Steelhead smolts in California range in size from 120 to 280 mm (fork length) (Shapovalov and Taft 1954, Barnhart 1986). Smolts emigrating from the freshwater environment may use estuarine habitats for saltwater acclimation and feeding prior to entering the ocean.

The CCC steelhead DPS includes steelhead in coastal California streams from the Russian River to Aptos Creek, and the drainages of Suisun, San Pablo, and San Francisco Bays eastward to Chippis Island at the confluence of the Sacramento and San Joaquin Rivers. Historically, approximately 70 populations 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 (McElhany 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. 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, Pudding, and Caspar creeks) of individual run sizes of 500 fish or less (62 FR 43937; August 18, 1997).

CCC steelhead long-term population trends suggest a negative growth rate. 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 has slowed their rate of decline relative to other salmonid species. The 2005 status review concluded that steelhead in the CCC steelhead DPS remain "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). The most recent status update concludes that steelhead in the CCC DPS remains "likely to become endangered in the foreseeable future", as available information does not suggest a change in extinction risk (Williams et al. 2016). In the most recent status review, NMFS concluded that the CCC steelhead DPS should remain listed as threatened (NMFS 2016b).

Within Pillar Point Harbor, one perennial stream (Denniston Creek) and two seasonal streams (Deer Creek and the outflow from Pillar Point Marsh) exist. The two seasonal streams likely do not provide habitat for salmonids and will not be impacted by Project activities. Denniston Creek enters the outer Harbor just to the west of the inner Harbor breakwater, but is not likely to be impacted by Project actions. Denniston Creek contains habitat suitable for salmonids and the

lower reaches are likely accessible to CCC steelhead at higher flows. Surveys of Denniston Creek from the 1940s through 2006 consistently observed juvenile *O. mykiss* throughout the lower 1.2 miles of the creek, below an impassable dam (Becker and Reining 2008, Becker et al. 2010). Steelhead presence in the Harbor is expected to be rare, due to the extent of suitable habitat, and limited to the outer Harbor. Adults and juveniles could migrate through the West Harbor Basin, to and from Denniston Creek. Juvenile steelhead may forage throughout the outer Harbor before migrating to the ocean through the opening in the outer breakwater on the south side of the Harbor.

Eelgrass transplanting and sediment placement for eelgrass mitigation will occur in the southwest portion of West Harbor Basin near the existing eelgrass bed. Adult and juvenile steelhead migration routes may pass near this work area; however, these activities expected to occur in late spring and summer when only juveniles are expected in the action area and after most outmigration of juveniles has occurred. Limited data from central California indicate juvenile CCC steelhead may quickly move offshore after exiting freshwater systems (Hayes et al. 2011). Turbidity and habitat loss, primarily due to dredging and sediment placement, could affect small numbers of juvenile steelhead foraging in the West and East Harbor basins during the Project. However, proposed AMMs will greatly reduce potential for turbidity impacts or entrainment in the dredge (see Section 1.3.3). Additionally, sediment placement will occur mainly outside of existing eelgrass habitat and will not cover rocky habitat where steelhead are most likely to forage in the area. Project impacts are expected to be insignificant for CCC steelhead.

2.12.2 Southern DPS Green Sturgeon and Critical Habitat

The green sturgeon is an anadromous, demersal fish species that includes a northern DPS and southern DPS. Peak spawning likely occurs mid-April to mid-June in large rivers (Adams et al. 2002). After rearing in freshwater or the estuary of their natal origin for 1-4 years, green sturgeon transition to the subadult stage and move from estuarine to coastal marine waters. Subadult and adult green sturgeon have a marine and coastal range that extends from the Bering Sea, Alaska (Colway and Stevenson 2007) to El Socorro, Baja California, Mexico (Rosales-Casian and Almeda-Juaregui 2009). Subadults range from 65-150 cm total length from first ocean entry to size at sexual maturity. Adults range from 150-250 cm total length. Subadult and adult green sturgeon inhabit estuaries along the west coast during the summer and fall months, presumably for feeding (Dumbauld et al. 2008); and likely spend spring and winter months in nearshore marine habitats (Erickson and Hightower 2007, Lindley et al. 2011).

In 2006, NMFS listed the Southern DPS as threatened under the ESA, while the northern DPS is not listed under the ESA. The main threats to the Southern DPS are the loss of access to historical spawning habitat in the upper Sacramento and upper Feather Rivers due to impassable barriers (Mora et al. 2009), impaired spawning and rearing habitats in rivers and estuaries in the Central Valley, California, and historical and ongoing bycatch in fisheries (NMFS 2021). The most recent status report determined green sturgeon southern DPS should remain listed as threatened (NMFS 2021).

Subadult and adult green sturgeon are occasionally reported as bycatch in federally managed ground fisheries (Richerson et al. 2021). There is bycatch of green sturgeon in the California halibut fishery, primarily in nearshore areas close to San Francisco (including off Pillar Point Harbor), which encountered an estimated 288-664 green sturgeon annually in 2015-2019 (Richerson et al. 2021). These green sturgeon were likely from the southern DPS due to the location of catches and genetic data (Anderson et al. 2017, Richerson et al. 2021). Although this bycatch information indicates green sturgeon are using the nearshore marine habitat in the vicinity of Pillar Point Harbor, it is still unclear whether or how often they enter the Harbor.

In coastal bays and estuaries, adult and subadult green sturgeon are generally believed to feed on shrimp, clams, crabs, and benthic fish (Dumbauld et al. 2008). Green sturgeon captured in the nearshore California halibut trawl fishery had a similar diet, including flatfish, followed by shrimp, bivalves, and crab (*Cancer* spp.) (R. Bellmer, CDFW, unpublished). Prey items of this type are likely available within Pillar Point Harbor, but will be more common in the outer Harbor than the inner Harbor, due to higher quality habitat. Green sturgeon would be expected to rarely forage within the inner Harbor.

Mora et al. (2018) estimated the total population size to be 17,548 and in 2021 the NOAA SWFSC updated the total population estimate to 17,723 (Dudley 2021). Abundance of Southern DPS adults was estimated at 2,106 individuals and a conceptual demographic structure applied to the adult population estimate resulted in a subadult population estimate of 11,055 (Mora 2016, Mora et al. 2018). Data and associated modeling that informed these estimates will eventually provide population trend data, but trends are currently unknown. Nevertheless, the relatively small population size indicates the likelihood of green sturgeon occurring in the Pillar Point Harbor during Project activities is small.

If green sturgeon were to occur in the Harbor or near Surfer's Beach during Project activities, they may be impacted by dredging or sediment placement activities. However, due to the overall low abundance of the DPS, and the absence of any spawning or rearing areas nearby, they are unlikely to be found in the action area. Effects on water quality (turbidity, contamination from equipment etc.) associated with the Project that may impact green sturgeon will be moderated by AMMs (see Section 1.3.3). Green sturgeon are unlikely to be entrained in the suction dredge due to their size. Therefore, NMFS considers the effects of the project to green sturgeon will be discountable.

The marine waters outside the boundaries of Pillar Point Harbor are designated as green sturgeon critical habitat from the 60-fathom depth bathymetry contour shoreward to mean lower low water (MLLW), or to the COLREGS demarcation lines. Because the waters located inside the boundaries of the Harbor are shoreward of the COLREGS lines, this area is not designated green sturgeon critical habitat. However, the marine waters below MLLW off Surfer's Beach are green sturgeon critical habitat that could be impacted by the Project. Impacts to green sturgeon critical habitat due to turbidity from beach restoration are expected to be minor and temporary (see Section 2.5.1 for discussion of turbidity effects). No other impacts to this critical habitat are expected.

2.12.3 Leatherback turtle

The leatherback turtle is listed as endangered under the ESA throughout its global range. Leatherback turtles are found throughout the world and populations and trends vary in different regions and nesting beaches. In 1980, the global leatherback population was estimated at approximately 115,000 adult females (Pritchard 1982). By 1995, one estimate found adult females had declined to 34,500 (Spotila et al. 1996). The most recent status report found leatherback nesting female abundance has declined rapidly in several populations, especially in the Pacific Ocean (NMFS and USFWS 2020). The primary threats identified by NMFS and USFWS (2020) for leatherbacks are: 1) fishery bycatch on the high seas or in coastal areas throughout the species' range, especially the high seas driftnet and pelagic longline fisheries, 2) impacts at nesting beaches, including nesting habitat, direct harvest and predation, and 3) marine debris that is ingested and or causing lethal entanglements.

Satellite tracking and genetic analyses of leatherback turtles caught or stranded along the U.S. West Coast indicate they are from the western Pacific summer nesting populations, all belonging to the western Pacific DPS (Dutton et al. 2007, NMFS and USFWS 2020). Nesting for this DPS occurs in Indonesia, Papua New Guinea, Vanuatu and the Solomon Islands. Most leatherback found in California likely nest in an area known as Bird's Head, comprised of beaches at Jamursba-Medi and Wermon in Papua Barat, Indonesia. The Jamursba-Medi nesting population generally exhibits site fidelity to the central California foraging area (Benson et al. 2011, Seminoff et al. 2012). NMFS (2014b) estimated 2,600 nesting females remaining in the DPS and NMFS and USFWS (2020) indicated abundance of the DPS is declining. The greatest densities of leatherback off California are found feeding on jellyfish in the nearshore marine waters in the summer and fall seasons (Benson et al. 2007).

Pillar Point Harbor is within the range for leatherback turtle and foraging could occur in the action area. If leatherback turtles were to occur in the Harbor during Project activities, they may be impacted by dredging or sediment placement activities. However, due to expected low prey availability, high vessel traffic, and the overall low abundance of the DPS, leatherback are unlikely to be found in the Harbor. Effects on water quality (turbidity, contamination etc.) associated with the Project that may impact leatherback will be moderated by AMMs (see Section 1.3.3). Based on the analysis above, NMFS considers the effects of the project to leatherback turtles discountable.

The marine waters outside the boundaries of Pillar Point Harbor are designated as leatherback sea turtle critical habitat from 80-meters depth shoreward to the line of extreme low water, or to the COLREGS demarcation lines. Because the waters located inside the boundaries of the Harbor are shoreward of the COLREGS lines, this area is not designated leatherback sea turtle critical habitat. However, the marine waters below the line of extreme low water off Surfer's Beach are leatherback sea turtle critical habitat and could be impacted by the Project. Impacts to leatherback sea turtle critical habitat due to turbidity from beach restoration are expected to be minor and temporary (see Section 2.5.1 for discussion of turbidity effects). Impacts to leatherback critical habitat due to turbidity from beach restoration are expected to be minor and temporary. No other impacts to critical habitat are expected. Therefore, NMFS considers the effects of the project to leatherback sea turtle critical habitat insignificant.

2.12.4 Sunflower Sea Star

Sunflower sea star is a large, mobile, many-armed sea star native to the west coast of North America. The species occupies nearshore intertidal and subtidal marine waters shallower than 450 m (~1400 ft) deep from Adak Island, AK, to Bahia Asunción, Baja California Sur, MX. They are occasionally found in the deep parts of tide pools. The species is a habitat generalist, occurring over sand, mud, and rock bottoms both with and without appreciable vegetation. Critical habitat is currently indeterminable because information does not exist to clearly define primary biological features. Prey include a variety of epibenthic and infaunal invertebrates, and the species also digs in soft substrate to excavate clams. It is a well-known urchin predator and plays a key ecological role in control of these kelp consumers. More information about sea star biology, ecology, and their life history cycle is found in the proposed listing (88 FR 2023).

From 2013 to 2017, the sunflower sea star experienced a range-wide epidemic of sea star wasting syndrome (SSWS) (Gravem et al. 2021; Hamilton et al. 2021; Lowry et al. 2022). While the cause of this disease remains unknown, prevalence of the outbreak has been linked to a variety of environmental factors, including temperature change, sustained elevated temperature, low dissolved oxygen, and decreased pH (Hewson et al. 2018; Aquino et al. 2021; Heady et al. 2022; Oulhen et al. 2022). As noted above, changes in physiochemical attributes of nearshore waters are expected to change in coming decades as a consequence of anthropogenic climate change, but the specific consequences of such changes on SSWS prevalence and severity are currently impossible to accurately predict. Documented species declines described above prompted a proposed listing of sunflower sea star under the ESA on March 26, 2023. At the time this consultation was completed, no decision had been made to finalize the listing, though currently a decision on whether to finalize the proposed listing is expected by March 26, 2024. Critical habitat was not defined or included in the proposed listing.

It is unknown whether sunflower sea stars are currently within the action area (Pillar Point Harbor and near Surfer's Beach). Records from the Multi-Agency Rocky Intertidal Network (MARINe 2024) near Pillar Point, just northwest of the Harbor, indicate the last sunflower sea star observed was in 2013. Other species of sea stars were recorded near Pillar Point in 2014-2015 and in 2023, some of which were affected by SSWS (MARINe 2024). Although dredging, beach restoration, and eelgrass mitigation actions could impact sunflower sea star, these actions related to the Project will disturb a relatively small amount of benthic habitat. Given regionally documented low sea star density, we conclude it is extremely unlikely that any sunflower sea star would be exposed to the construction disturbance based on their sparse distribution and, therefore, the construction effects would be discountable. Furthermore, as habitat generalists, we expect sea stars would be able to successfully use much of the habitat that is disturbed by the project. Thus, any long-term effects on sunflower sea stars from project-induced changes in habitat would be insignificant.

2.12.5 Summary of Not Likely to Adversely Affect Determinations

Based on the analysis described in the sections above, NMFS' concurs with the Corps that the Project is not likely to adversely affect black abalone critical habitat, CCC steelhead, green

sturgeon southern DPS and their critical habitat, leatherback sea turtle and their critical habitat, or sunflower sea stars.

3 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT ESSENTIAL FISH HABITAT RESPONSE

Section 305(b) of the MSA directs Federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. Under the MSA, this consultation is intended to promote the conservation of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the physical, biological, and chemical properties that are used by fish (50 CFR 600.10). Adverse effect means any impact that reduces quality or quantity of EFH, and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate and loss of (or injury to) benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects on EFH may result from actions occurring within EFH or outside of it and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) of the MSA also requires NMFS to recommend measures that can be taken by the action agency to conserve EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset the adverse effects of the action on EFH [CFR 600.905(b)].

This analysis is based, in part, on the EFH assessment provided by the Corps (SMHCD 2022) and descriptions of EFH for Pacific Coast groundfish (PFMC 2005), coastal pelagic species (PFMC 1998), and Pacific Coast salmon (PFMC 2014); contained in the fishery management plans developed by the PFMC and approved by the Secretary of Commerce.

3.1 Essential Fish Habitat Affected by the Project

The proposed project occurs within EFH for various federally managed fish species within the Pacific Coast Salmon, Pacific Coast Groundfish and Coastal Pelagic Species FMPs. Eelgrass is found in the West and East Basins of Pillar Point Harbor and will be impacted by the project. Eelgrass is a seagrass/submerged aquatic vegetation (SAV) Habitat Area of Particular Concern (HAPC)⁴ for various federally-managed fish species within Pacific Coast Salmon and Pacific Coast Groundfish FMPs.

⁴ HAPC are described in the regulations as subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under MSA, however, federal projects with potential adverse impacts to HAPC are more carefully scrutinized during the consultation process.

3.2 Adverse Effects on Essential Fish Habitat

NMFS determined the Project would adversely affect EFH for Pacific Groundfish, Coastal Pelagic Species, and Pacific Coast Salmon. The potential adverse effects of the Project on EFH have been described in the preceding opinion and include noise from pile driving, degraded water quality, benthic disturbance, and additional overwater cover. Effects to EFH are expected to be minor, temporary and localized, and are discussed in detail below.

As described in the opinion above, degraded water quality is expected to be temporary. Turbidity produced by dredging and sediment placement may impair the ability of fish species to feed within the action area or smother benthic invertebrates. Turbidity effects will be high within the outer Harbor at times during Project activities, but will be temporary, as suspended sediment will eventually settle or be dispersed by currents after Project in-water work is complete. Turbidity effects to eelgrass within the Harbor should be minor and temporary due to proposed AMMs (see Section 1.3.3).

Benthic disturbance will include temporary impacts from dredging and sediment placement, as well as potentially permanent effects from sediment placement. The benthic habitat within the area to be dredged is primarily sand and mud with eelgrass in some locations. NMFS expects the benthic community in the outer Harbor and near Surfer's Beach to recover within several months after dredging and dredge spoil deposition, based on a relevant scientific study of benthic disturbance within a Harbor on the central California coast (Oliver et al. 1977). Black abalone, a benthic species, will be relocated (if present) prior to dredge spoil placement near Surfer's Beach (see Section 2.5.1). Although benthic prey resources may be temporarily reduced in the dredging and sediment placement areas, large areas of prey resources in the outer Harbor will not be impacted by Project activities and will remain available for foraging.

The Project will cause impacts to eelgrass in the Harbor through dredging and sediment placement. Eelgrass is important to fish habitat and for fish foraging, and also provides a number of important ecosystem functions, including improvement to water quality by filtering polluted runoff, absorption of excess nutrients, storage of greenhouse gases like carbon dioxide, and protection from shoreline erosion by sediment and substrate stabilization. Through these many functions eelgrass also provides physical, chemical and biological services that extend outside of the area in which it occurs (Orth et al. 2012, Nordlund et al. 2016). Eelgrass present in the dredge footprint of the East Harbor Basin is unlikely to recover after dredging, as turions (i.e., rooting structures) will be removed for transplant to the West Basin as mitigation for Project impacts (see Section 1.3.3). Not all eelgrass in the East Basin will be removed, as dredging will not occur in all locations where it is currently growing. It is possible eelgrass remaining in the East Basin after dredging may recolonize the areas where eelgrass was removed prior to dredging. Regardless, mitigation efforts will relocate the eelgrass habitat lost in the East Basin to the West Harbor, with a goal of creating more (1.2x) vegetated eelgrass habitat than in the East Basin, following guidance in the CEMP. A portion of the existing eelgrass bed in the West Basin will likely be impacted by sediment placement as part of the mitigation plan, either through direct burial or subsequent sedimentation. Any eelgrass in the West Basin expected to be buried during

sediment placement will be salvaged beforehand and transplanted into nearby habitats (see Section 1.3.3).

If transplanted eelgrass does not grow and survive well, adaptive management measures to improve mitigation success will be discussed, including potentially transplanting additional eelgrass from the East Basin. Therefore, it is expected that vegetated eelgrass habitat will not be lost within the Harbor as a result of the project. As discussed in Section 1.3.3, mitigation for unvegetated eelgrass habitat lost due to dredging will not be required in this case, as this was determined not to be advantageous for the health of existing Harbor habitats. Because eelgrass in the East Basin declined in recent years while eelgrass expanded in the West Basin, it is possible the Project's mitigation component will result in more extensive and healthier vegetated eelgrass habitat within the Harbor than currently exists.

3.3 Essential Fish Habitat Conservation Recommendations

Based on information developed in our effects analysis (see preceding opinion), NMFS has determined that the proposed action would adversely affect EFH. Although adverse effects are anticipated as a result of the Project, the proposed minimization and avoidance measures, and best management practices described in the accompanying biological opinion are sufficient to avoid, minimize, and/or mitigate for the anticipated effects. Therefore, no additional EFH Conservation Recommendations are necessary at this time that would otherwise offset the adverse effects to EFH.

3.4 Supplemental Consultation

The Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH Conservation Recommendations (50 CFR 600.920(1)). This concludes the MSA portion of this consultation.

4 DATA QUALITY ACT DOCUMENTATION AND PRE-DISSEMINATION REVIEW

The Data Quality Act (DQA) specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section of the opinion addresses these DQA components, documents compliance with the DQA, and certifies that this opinion has undergone pre-dissemination review.

4.1 Utility

Utility principally refers to ensuring that the information contained in this consultation is helpful, serviceable, and beneficial to the intended users. The intended users of this opinion are the Corps. Other interested users could include SMCHD and other local stakeholders. Individual copies of this opinion were provided to the Corps and SMCHD. The document will be available within two weeks at the NOAA Library Institutional Repository [<https://repository.library.noaa.gov/welcome>]. The format and naming adheres to conventional standards for style.

4.2 Integrity

This consultation was completed on a computer system managed by NMFS in accordance with relevant information technology security policies and standards set out in Appendix III, 'Security of Automated Information Resources,' Office of Management and Budget Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

4.3 Objectivity

Information Product Category: Natural Resource Plan

Standards: This consultation and supporting documents are clear, concise, complete, and unbiased; and were developed using commonly accepted scientific research methods. They adhere to published standards including the NMFS ESA Consultation Handbook, ESA regulations, 50 CFR 402.01 et seq., and the MSA implementing regulations regarding EFH, 50 CFR 600.

Best Available Information: This consultation and supporting documents use the best available information, as referenced in the References section. The analyses in this opinion and EFH consultation contain more background on information sources and quality.

Referencing: All supporting materials, information, data and analyses are properly referenced, consistent with standard scientific referencing style.

Review Process: This consultation was drafted by NMFS staff with training in ESA and MSA implementation, and reviewed in accordance with West Coast Region ESA quality control and assurance processes.

5 REFERENCES

- Adams, P.B., C.B. Grimes, S.T. Lindley, and M.L. Moser. 2002. Status review for North American green sturgeon, *Acipenser medirostris*. NOAA, National Marine Fisheries Service, Southwest Fisheries Science Center, Santa Cruz, CA.
- Altstatt, J. M., R. F. Ambrose, J. M. Engle, P. L. Haaker, K. D. Lafferty, and P. T. Raimondi. 1996. Recent declines of black abalone *Haliotis cracherodii* on the mainland coast of central California. *Marine Ecology Progress Series* 142:185-192.
- Aquino, C. A., Besemer, R. M., DeRito, C. M., Kocian, J., Porter, I. R., Raimondi, P. T., Rede, J. E., Schiebelhut, L. M., Sparks, J. P., Wares, J. P., and I. Hewson. 2021. Evidence that microorganisms at the animal-water interface drive sea star wasting disease. *Frontiers in Microbiology*. 11(3278).
- Barnhart, R.A. 1986. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Pacific Southwest), steelhead. United States Fish and Wildlife Service Biological Report 82 (11.60). 21 pages.
- Ben-Horin T., H. S. Lenihan, K. D. Lafferty. 2013. Variable intertidal temperature explains why disease endangers black abalone. *Ecology* Volume 94, Issue 1: 161-168.
- Bergen, M. 1971. Growth, feeding, and movement in the black abalone, *Haliotis cracherodii* Leach 1814. Master's thesis. University of California, Santa Barbara. 59 pages.
- Bevelander, G. 1988. Abalone, Gross and Fine Structure. Boxwood Press. 80 p
- Bragg, W. 2021. The race to save endangered black abalone from post-wildfire debris flows. National Marine Sanctuary Foundation. Available at: <https://marinesanctuary.org/blog/the-race-to-save-endangered-black-abalone-from-post-wildfire-debris-flows/>
- Braid, B. A., J. D. Moore, T. T. Robbins, R. P. Hedrick, R. S. Tjeerdema, and C. S. Friedman. 2005. Health and survival of red abalone, *Haliotis rufescens*, under varying temperature, food supply, and exposure to the agent of withering syndrome. *Journal of Invertebrate Pathology* 89:219-231.
- Becker, G.S., and I.J. Reining. 2008. Steelhead/rainbow trout (*Oncorhynchus mykiss*) resources south of the Golden Gate, California. Cartography by D.A. Asbury. Center for Ecosystem Management and Restoration. Oakland, California.
- Becker, G.S., K.M. Smetak, and D.A. Asbury. 2010. Southern Steelhead Resources Evaluation: Identifying Promising Locations for Steelhead Restoration in Watersheds South of the Golden Gate. Appendix. Cartography by D.A. Asbury. Center for Ecosystem Management and Restoration. Oakland, CA.
- Benson S.R., Forney K.A., Harvey J.T., Carretta J.V., and Dutton P.H. 2007. Abundance, distribution, and habitat of leatherback turtles (*Dermochelys coriacea*) off California, 1990-2003. *Fishery Bulletin* 105: 337-347.

- Benson S.R., Seminoff, J. 2011. Aerial survey of distribution and abundance of western Pacific leatherback turtles (*Dermochelys coriacea*) in coastal waters of Oregon and Washington. SAIP Report.
- Bjorkstedt, E.P, B.C. Spence, J.C. Garza, D.G. Hankin, D. Fuller, W.E. Jones, J.J. Smith, and R. Macedo. 2005. An Analysis of Historical Population Structure for Evolutionarily Significant Units of Chinook Salmon, Coho Salmon, and Steelhead in the North-Central California Coast Recovery Domain. NOAA Technical Memorandum NOAA-TM-NMFS_SWFSC-382. 210 pages.
- Brewer, P.G., and J. Barry. 2008. Rising Acidity in the Ocean: The Other CO₂ Problem. Scientific American. October 7, 2008.
- Chambers, M.D., G.R. VanBlaricom, L. Hauser, F. Utter, and C.S. Friedman. 2006. Genetic structure of black abalone (*Haliotis cracherodii*) populations in the California islands and central California coast: Impacts of larval dispersal and decimation from withering syndrome. Journal of Experimental Marine Biology and Ecology 331:173-185.
- Colway, C., and D.E. Stevenson. 2007. Confirmed records of two green sturgeon from the Bering Sea and Gulf of Alaska. Northwestern Naturalist 88:188-192.
- Corps (Army Corps of Engineers). 2023. Pillar Point Harbor Dredging and Surfer's Beach Restoration Project. Letter requesting ESA/EFH consultation with NMFS. June 15, 2023.
- Cox, K.W. 1960. Review of the abalone of California. California Department of Fish and Game, Marine Resources Operations.
- Crim, R. N., J. M. Sunday, C.D.G. Harley. 2011. Seawater carbonate chemistry and shell length of northern abalone (*Haliotis kamtschatkana*) during experiments, 2011. PANGAEA, <https://doi.org/10.1594/PANGAEA.771909>
- Crosson, L. M., N. Wight, G. R. VanBlaricom, I. Kiryu, J. D. Moore, and C. S. Friedman. 2014. Abalone withering syndrome: distribution, impacts, current diagnostic methods and new findings. Diseases of Aquatic Organisms 108:261-270.
- DiGiano, F.A., C.T. Miller, and J. Yoon. 1995. Dredging elutriate test (DRET) development. Final report. United States.
- Doney, S.C., M. Ruckelshaus, J. E. Duffy, J. P. Barry, F. Chan, C. A. English, H. M. Galindo, J. M. Grebmeier, A. B. Hollowed, N. Knowlton, J. Polovina, N. N. Rabalais, W. Sydeman, J., and L. D. Talley. 2012. Climate Change Impacts on Marine Ecosystems. Annual Review of Marine Science 4:11-37.
- Dudley, P. 2021. Updated Population Estimate Memo. May 28, 2021.
- Dumbauld, B. R., D. L. Holden, and O. P. Langness. 2008. Do Sturgeon Limit Burrowing Shrimp Populations in Pacific Northwest Estuaries? Environmental Biology of Fishes 83(3):283-296.
- Dutton P.H., Hitipeuw, C., Zein, M., Benson, S.R., Petro, G., Pita, J., Rei, V., Ambio, L., Bakarbessy, J. 2007. Status and genetic structure of nesting populations of leatherback

- turtles (*Dermochelys coriacea*) in the western Pacific. *Chelonian Conservation and Biology* 6: 47-53.
- Erickson, D. L., and J. E. Hightower. 2007. Oceanic Distribution and Behavior of Green Sturgeon. *American Fisheries Society Symposium* 56:197-211.
- Eisler, R. 2000. *Handbook of Chemical Risk Assessment: Health Hazards to Humans, Plants, and Animals. Volume 1, Metals.* Lewis Press. Boca Raton, Florida.
- ESA (Environmental Science Associates). 2021. Surfer's Beach Pilot Restoration Project Preliminary Design Report. Prepared for San Mateo County Harbor District.
- ESA (Environmental Science Associates). 2024. Surfers Beach Pilot Restoration Project Final Design Draft. January 19, 2024
- Feely, R.A., C.L. Sabine, K. Lee, W. Berelson, J. Kleypas, V.J. Fabry, F.J. Millero. 2004. Impact of anthropogenic CO₂ on the CaCO₃ system in the oceans. *Science* 305:362-366.
- Feely, R.A., S.C. Doney, and S.R. Cooley. 2009. Ocean acidification: present conditions and future changes in a high-CO₂ World. *Oceanography Vol. 22 No 4*: 36-47.
- Friedman, C. S., and C. A. Finley. 2003. Anthropogenic introduction of the etiological agent of withering syndrome into northern California abalone populations via conservation efforts. *Canadian Journal of Fisheries and Aquatic Sciences* 60:1424-1431.
- Friedman, C. S., and L. M. Crosson. 2012. Putative Phage Hyperparasite in the Rickettsial Pathogen of Abalone, "Candidatus *Xenohalotis californiensis*". *Microbial Ecology* 64:1064-1072.
- Friedman, C.S., N. Wight, L.M. Crosson, G.R. VanBlaricom, and K.D. Lafferty. 2014a. Reduced disease in black abalone following mass mortality: phage therapy and natural selection. *Frontiers in Microbiology* 5(78):1-10.
- Friedman, C. S., N. Wight, L. M. Crosson, S. J. White, and R. M. Strenge. 2014b. Validation of a quantitative PCR assay for detection and quantification of 'Candidatus *Xenohalotis californiensis*'. *Diseases of Aquatic Organisms* 108:251-259.
- Frölicher, T. L., E. M. Fischer, and N. Gruber. 2018. Marine heatwaves under global warming. *Nature*, Vol 560.
- Fukushima L., and E.W. Lesh. 1998. Adult and juvenile anadromous salmonid migration timing in California streams. *California Department of Fish and Game* 84(3):133-145.
- GHD. 2020. Sampling and Analysis Plan Report for West Trail Living Shoreline Project
- Good, T.P., R.S. Waples, and P. Adams (editors). 2005. Updated status of federally listed ESUs of West Coast salmon and steelhead. United States Department of Commerce, NOAA Technical Memorandum NMFS-NWFSC-66. 598 pages.
- Grave, S.A., Heady, W.N., Saccomanno, V.R., Alvstad, K.F., Gehman, A.L.M., Frierson, T.N., Hamilton, S.L. 2021. *Pycnopodia helianthoides*. IUCN Red List of Threatened Species 2021. 43.

- Hamilton SL, Saccomanno VR, Heady WN, Gehman AL, Lonhart SI, Beas-Luna R, Francis FT, Lee L, Rogers-Bennett L, Salomon AK, and SA Gravem. 2021. Disease-driven mass mortality event leads to widespread extirpation and variable recovery potential of a marine predator across the eastern pacific. *Proceedings of the Royal Society B*. 288(1957): 20211195.
- Harley, C. D. G. and L. Rogers-Bennett. 2004. The potential synergistic effects of climate change and fishing pressure on exploited invertebrates on rocky intertidal shores. *CalCOFI Reports* 45:98-110.
- Hays, C.G., T. C. Hanley, R. M. Graves, F. R. Schenck, A. R. Hughes. 2020. Linking Spatial Patterns of Adult and Seed Diversity Across the Depth Gradient in the Seagrass *Zostera marina*. *Estuaries and Coasts* 44: 383–395.
- Hauri, C., N. Gruber, G. K. Plattner, S. Alin, R. A. Feely, B. Hales, and P. A. Wheeler. 2009. Ocean acidification in the California Current System. *Oceanography* 22:60-71.
- Heady W, Beas-Luna R, Dawson M, Eddy N, Elsmore K, Francis F, Frierson T, Gehman AL, Gotthardt T, Gravem SA, Hamilton SL, Hannah L, Harvell CD, Hodin J, Kelmartin I, Krenz C, Lee L, Lorda J, Lowry D, Mastrup S, Meyer E, Raimondi PT, Rumrill SS, saccomanno VR, Schiebelhut LM, and C Siddon. 2022. Roadmap to recovery for the sunflower sea star (*Pycnopodia helianthoides*) along the west coast of North America. Sacramento, CA: The Nature Conservancy. 44 pp
- Hewson I, Bistolas KSI, Quijano Cardé EM, Button JB, Foster PJ, Flanzenbaum JM, Kocian J, Lewis CK. 2018. Investigating the complex association between viral ecology, environment, and Northeast Pacific sea star wasting. *Frontiers in Marine Science*. 5.
- Hobday, A.J., M.J. Tegner, and P.L. Haaker. 2001. Over-exploitation of a broadcast spawning marine invertebrate: Decline of the white abalone. *Reviews in Fish Biology and Fisheries* 10:493-514.
- Milanes, C., T. Kadir, B. Lock, L. Monserrat, N. Pham, and K. Randles (editors). 2018. Indicators of Climate Change in California. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.
- Miner, C., J. Altstatt, P. Raimondi, and T. Minchinton. 2006. Recruitment failure and shifts in community structure following mass mortality limit recovery prospects of black abalone. *Marine Ecology Progress Series* 327:107–117.
- Karpov, K. A., P. L. Haaker, I. K. Taniguchi, and L. Rogers-Bennett. 2000. Serial depletion and the collapse of the California abalone fishery. Pages 11-24 *in* A. Campbell, editor. Workshop on rebuilding abalone stocks in British Columbia. Canadian Special Publications, Fish and Aquatic Sciences.
- Kinnetic Laboratories, Inc. 2019. Sediment sampling and analysis report: Pillar Point Harbor Pilot Surfers Beach Restoration Project. Prepared for: County of San Mateo Harbor District. July 2019.
- Illingworth and Rodkin, Inc. 2018. Waterfront Repairs at USCG Station Monterey Monitoring Report. Report. Submitted to Rincon Consultants, Inc., California

- Lafferty, K. D. and A. M. Kuris. 1993. Mass mortality of abalone *Haliotis cracherodii* on the California Channel Islands: tests of epidemiological hypotheses. Marine Ecology Progress Series 96:239-248. Morris, R. H., D. L. Abbott, and E. C. Haderlie. 1980. Intertidal invertebrates of California. Stanford University Press, Palo Alto, CA.
- Leighton, D. and R. A. Boolootian. 1963. Diet and growth in the black abalone, *Haliotis cracherodii*. Ecology 44:227-238.
- Leighton, D.L. 2005. Status review for the black abalone, *Haliotis cracherodii* Leach 1814. Unpublished document produced for the Black Abalone Status Review Team, Office of Protected Resources, Southwest Region, National Marine Fisheries Service, Long Beach, CA, USA.
- Lindley, S.T., R.S. Schick, E. Mora, P.B. Adams, J.J. Anderson, S. Greene, C. Hanson, B.P. May, D.R. McEwan, R.B. MacFarlane, C. Swanson, and J.G. Williams. 2007. Framework for assessing viability of threatened and endangered Chinook salmon and steelhead in the Sacramento-San Joaquin Basin. San Francisco Estuary and Watershed Science 5(1):26.
- Lindley, S. T., D. L. Erickson, M. L. Moser, G. Williams, O. P. Langness, B. W. McCovey Jr, M. Belchik, D. Vogel, W. Pinnix, J. T. Kelly, J. C. Heublein, and A. P. Klimley. 2011. Electronic Tagging of Green Sturgeon Reveals Population Structure and Movement among Estuaries. Transactions of the American Fisheries Society 140(1):108-122.
- Lowry, D., Pacunski, R., Hennings, A., Blaine, J., Tsou, T., Hillier, L., Beam, J., and E. Wright. 2022. Assessing bottomfish and select invertebrate occurrence, abundance, and habitat associations in the U.S. Salish Sea with a small, remotely operated vehicle: results of the Page 249 of 292 2012-13 systematic survey. Olympia, WA: Washington Department of Fish and Wildlife. FPT 22-03. 67 pp.
- MARINE (Multi-Agency Rocky Intertidal Network). 2024. Sea Star Map. Available at: <https://marinedb.ucsc.edu/seastar/seastardisease.html>
- McShane, P. E. 1992. Early life history of abalone: A review. Pages 120-138 in S. A. Shepherd, M. J. Tegner, and S. A. Guzmán del Prío, editors. Abalone of the world. Biology, fisheries, culture. Proceedings of the 1st International Symposium on Abalone. Blackwell Scientific Publications Ltd., Oxford, U. K.
- Moffatt and Nichol. 2022. Johnson Pier Expansion and Dock Replacement Project Description. Prepared for San Mateo County Harbor District.
- Mora, E. A., S. T. Lindley, D. L. Erickson, and A. P. Klimley. 2009. Do Impassable Dams and Flow Regulation Constrain the Distribution of Green Sturgeon in the Sacramento River, California? Journal of Applied Ichthyology 25(s2): 39-47.
- Mora, E.A. 2016. A Confluence of Sturgeon Migration: Adult Abundance and Juvenile Survival. Dissertation. University of California at Davis, Davis, California.
- Mora, E. A., R. D. Battleson, S. T. Lindley, M. J. Thomas, R. Bellmer, L. J. Zarri, and A. P. Klimley. 2018. Estimating the Annual Spawning Run Size and Population Size of the

- Southern Distinct Population Segment of Green Sturgeon. Transactions of the American Fisheries Society 147(1):195-203.
- Morris, R. H., D. L. Abbott, and E. C. Haderlie. 1980. Intertidal invertebrates of California. Stanford University Press, Palo Alto, CA.
- MTS (Marine Taxonomic Services Ltd.). 2020. Pillar Point Bay-Wide Eelgrass Management and Mitigation Plan. Prepared for Brad Damitz, Consultant to the Harbor District. July 27, 2020.
- MTS (Marine Taxonomic Services Ltd.). 2023. Memorandum: Eelgrass Inventory Update for Pillar Point Harbor. July 14, 2023.
- NMFS (National Marine Fisheries Service). 2011. Final designation of critical habitat for black abalone: Final biological report. National Marine Fisheries Service, Southwest Region Protected Resources Division, Long Beach, CA.
- NMFS (National Marine Fisheries Service). 2014a. California Eelgrass Mitigation Policy and Implementing Guidelines. 45 p. Available at:
<https://www.fisheries.noaa.gov/resource/document/california-eelgrass-mitigation-policy-and-implementing-guidelines>
- NMFS (National Marine Fisheries Service). 2014b. Biological Opinion on the Continued Operation of the Hawaii-based Deep-set Pelagic Longline Fishery. National Marine Fisheries Service, Pacific Islands Regional Office. Honolulu, HI. September 19, 2014.
- NMFS (National Marine Fisheries Service). 2016a. NMFS Letter of Concurrence with Army Corps of Engineers for ESA Section 7 consultation. Romeo Pier Removal Project in Pillar Point Harbor. NMFS No. WCR-2016-4626
- NMFS (National Marine Fisheries Service). 2016b. 2016 5-Year Review: Summary and Evaluation of Central California Coast Steelhead. National Marine Fisheries Service West Coast Region.
- NMFS (National Marine Fisheries Service). 2018. Black Abalone (*Haliotis cracherodii*) Five-Year Status Review: Summary and Evaluation. July 2018
- NMFS (National Marine Fisheries Service). 2020. Final Endangered Species Act Recovery Plan for Black Abalone (*Haliotis cracherodii*). National Marine Fisheries Service, West Coast Region, Protected Resources Division, Long Beach, CA 90802.
- NMFS (National Marine Fisheries Service) and USFWS (U.S. Fish and Wildlife Service). 2020. Endangered Species Act status review of the leatherback turtle (*Dermochelys coriacea*). Report to the National Marine Fisheries Service Office of Protected Resources and U.S. Fish and Wildlife Service.
- NMFS (National Marine Fisheries Service). 2021. Southern Distinct Population Segment of North American Green Sturgeon (*Acipenser medirostris*). 5-Year Review: Summary and Evaluation. 63 p
- NMFS (National Marine Fisheries Service). 2022. Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Magnuson–Stevens Fishery Conservation and

- Management Act Essential Fish Habitat Response. Consultation on the Issuance of Permits 26342 and 26606 under ESA Section 10(a)(1)(A) for Black Abalone Scientific Research and Enhancement in California. NMFS Consultation Number: WCRO-2022-01606. Available at: <https://repository.library.noaa.gov/view/noaa/46640>
- Neuman, M., B. N. Tissot, and G. VanBlaricom. 2010. Overall status and threats assessment of black abalone (*Haliotis cracherodii* Leach, 1814) populations in California. *Journal of Shellfish Research* 29:577-586.
- Nordlund, L.M., E.W. Koch, E.B. Barbier, and J.C. Creed. 2016. Seagrass ecosystem services and their variability across genera and geographical regions. *PLoS ONE* 12(1):e0169442.
- Ohms, H.A., and D.A. Boughton. 2019. Carmel River steelhead fishery report – 2019. Prepared for California-American Water Company. Prepared by NOAA National Marine Fisheries Service Southwest Fisheries Science Center and University of California Santa Cruz Institute of Marine Science. Santa Cruz, California. 44 pages.
- O’Leary, J. K., J. P. Barry, P. W. Gabrielson, L. Rogers-Bennett, D. C. Potts, S. R. Palumbi, and F. Micheli. 2017. Calcifying algae maintain settlement cues to larval abalone following algal exposure to extreme ocean acidification. *Nature Scientific Reports* 7:5774.
- Oliver, J.S., P.N. Slattery, L.W. Hulberg, and J.W. Nybakken. 1977. Patterns of succession in benthic infaunal communities following dredging and dredged material disposal in Monterey Bay. U.S. Army Corps of Engineers, Technical Report D-77-27.
- Orth, R.J., and K.J. McGlathery. 2012. Eelgrass recovery in the coastal bays of the Virginia Coast Reserve, USA. *Marine Ecology Progress Series* 44:173–176.
<http://doi.org/10.3354/meps09596>.
- Osgood, K.E. 2008. Climate Impacts on U.S. Living Marine Resources: National Marine Fisheries Service Concerns, Activities and Needs. National Oceanic and Atmospheric Administration, National Marine Fisheries Service. NOAA Technical Memorandum NMFS-F/SPO-89.
- Oulhen N, Byrne M, Duffin P, Gomez-Chiam M, Hewson I, Hodin J, Konar B, Lipp E, Miner B, Newton A, Schiebelhut LM, Smolowitz R, Wahltinez SJ, Wessel GM, Work TM, Zaki HA, and JP Wares. 2022. A review of asteroid biology in the context of sea star wasting: Possible causes and consequences. *The Biological Bulletin*. 243(1): 50-75.
- Pritchard, P.C.H. 1982a. Nesting of the leatherback turtle, *Dermochelys coriacea*, in Pacific Mexico, with a new estimate of the world population status. *Copeia* 1982:741-747.
- Raimondi, P. T., C. M. Wilson, R. F. Ambrose, J. M. Engle, and T. E. Minchinton. 2002. Continued declines of black abalone along the coast of California: are mass mortalities related to El Niño events? *Marine Ecology Progress Series* 242:143-152.
- Raimondi, P. 2015. Species assessment at Pillar Point- Task 3: Investigate species present within the nearshore intertidal waters of Pillar Point Air Force Station (San Mateo County, near Half Moon Bay, CA). Report for the 30th Space Wing, Installation Management Flight, Vandenberg Air Force Base, CA. Project Number XUMU448514 (Task 3). 15 pages.

- Richards, D. V. and S. G. Whitaker. 2012. Black abalone monitoring at Channel Islands National Park 2008-2010: Channel Islands National Park report to National Marine Fisheries, October 2010. Natural Resource Report NPS/CHIS/NRDS—2012/542. National Park Service, Fort Collins, Colorado.
- Richerson, K., J. E. Jannot, J. McVeigh, K. Somers, V. Tuttle, and S. Wang. 2019. Observed and Estimated Bycatch of Green Sturgeon in 2002-2017 Us West Coast Groundfish Fisheries. N. O. P. NOAA Fisheries, pp. 45.
- Rincon Consultants, Inc. 2022. Johnson Pier Expansion and Dock Replacement Project Biological Resources Assessment. Prepared for Moffatt and Nichol and San Mateo County Harbor District.
- Rogers-Bennett, L., P. L. Haaker, T. O. Huff, and P. K. Dayton. 2002. Estimating baseline abundances of abalone in California for restoration. CalCOFI Reports 43:97-111.
- Rosales-Casian, J.A. and C. Almeda-Jauregui. 2009. Unusual occurrence of a green sturgeon, *Acipenser medirostris*, at El Socorro, Baja California, Mexico. CalCOFI Rep 50:169-171.
- Rumsey, and B. Taylor. 2009. Status review report for black abalone (*Haliotis cracherodii* Leach, 1814). U.S. Department of Commerce, National Oceanic and Atmospheric Administration. National Marine Fisheries Service, Long Beach, CA.
- Seminoff JA, Benson SR, Arthur KE, Eguchi T, Dutton PH, Tapilatu RF, Popp BN. 2012. Stable isotope tracking of endangered sea turtles: validation with satellite telemetry and nitrogen analysis of amino acids. PLoS ONE 7: e37403.
- Shapovalov, L., and A.C. Taft. 1954. The life histories of the steelhead rainbow trout (*Salmo gairdneri gairdneri*) and silver salmon (*Oncorhynchus kisutch*) with special reference to Waddell Creek, California, and recommendations regarding their management. Fish Bulletin 98.
- Sole´ M., K. Kaifu, T.A. Mooney, S.L. Nedelec, F. Olivier, A.N. Radford, M. Vazzana, M.A. Wale, J.M. Semmens, S.D. Simpson, G. Buscaino, A. Hawkins, N. Aguilar de Soto, T. Akamatsu, L. Chauvaud, R.D. Day, Q. Fitzgibbon, R.D. McCauley and M. Andre´. 2023. Marine invertebrates and noise. Front. Mar. Sci. 10:1129057. doi: 10.3389/fmars.2023.1129057
- Spence, B., E. P. Bjorkstedt, J.C. Garza, J.J. Smith, D.G. Hankin, D. Fuller, W.E. Jones, R. Macedo, T.H. Williams and E. Mora. 2008. A framework for assessing the viability of threatened and endangered salmon and steelhead in North-Central California Coast Recovery Domain. NOAA-TM-NMFS-SWFSC-423.
- Spence, B.C., E.P. Bjorkstedt, S. Paddock, L. Nanus. 2012. Updates to biological viability criteria for threatened steelhead populations in the North-Central California Coast Recovery Domain. Santa Cruz, CA. NOAA. 15p.
- Spotila J.R., A.E. Dunham, A.J. Leslie, A.C. Steyermark, P.T. Plotkin, and F.V. Paladino. 1996. Worldwide population decline of *Dermochelys coriacea*: are leatherback turtles going extinct? Chelonian Conservation and Biology 2: 209-222.

- Tegner, M.J, P.L. Haaker, K.L. Riser, and L. I. Vilchis. 2001. Climate variability, kelp forests, and the Southern California red abalone fishery. *Journal of Shellfish Research* 20(2):755-763
- Tissot, B. N. 1995. Recruitment, growth, and survivorship of black abalone on Santa Cruz Island following mass mortality. *Bulletin of the Southern California Academy of Sciences* 94:179-189.
- Toonen, R. J., and J. R. Pawlik. 1994. Foundations of gregariousness. *Nature* 370:511–512.
- Turley, C. 2008. Impacts of changing ocean chemistry in a high-CO₂ world. *Mineralogical Magazine* 72(1):359-362.
- VanBlaricom, G., M. Neuman, J. Butler, A. DeVogelaere, R. Gustafson, C. Mobley, D. Richards, S. Raimondi, P. T., C. M. Wilson, R. F. Ambrose, J. M. Engle, and T. E. Minchinton. 2002. Continued declines of black abalone along the coast of California: are mass mortalities related to El Niño events? *Marine Ecology Progress Series* 242:143-152.
- VanBlaricom, G., M. Neuman, J. Butler, A. DeVogelaere, R. Gustafson, C. Mobley, D. Richards, S. Rumsey, and B. Taylor. 2009. Status review report for black abalone (*Haliotis cracherodii* Leach, 1814). U.S. Department of Commerce, National Oceanic and Atmospheric Administration. National Marine Fisheries Service, Long Beach, CA.
- Vilchis, L. I., M. J. Tegner, J. D. Moore, C. S. Friedman, K. L. Riser, T. T. Robbins, and P. K. Dayton. 2005. Ocean warming effects on growth, reproduction, and survivorship of southern California abalone. *Ecological Applications* 15:469-480.
- Wagner, C.H. 1983. Study of Upstream and Downstream Migrant Steelhead Passage Facilities for the Los Padres Project and New San Clemente Project, Report prepared for the Monterey Peninsula Water Management District.
- Webber, H. H. and A. C. Giese. 1969. Reproductive cycle and gametogenesis in the black abalone *Haliotis cracherodii* (Gastropoda: Prosobranchiata). *Marine Biology* 4:152-159.
- Williams, T.H., B.C. Spence, D.A. Boughton, R.C. Johnson, L. Crozier, N. Mantua, M. O'Farrell, and S. T. Lindley. 2016. Viability Assessment for Pacific salmon and steelhead listed under the Endangered Species Act: Southwest, 2 February 2016 Report to National Marine Fisheries Service – West Coast Region from Southwest Fisheries Science Center, Fisheries Ecology Division 110 Shaffer Road, Santa Cruz, California

San Francisco Bay Regional Water Quality Control Board

**CLEAN WATER ACT SECTION 401 WATER QUALITY
CERTIFICATION AND ORDER
FOR THE**

Surfers Beach Pilot Restoration Project

San Mateo County

Sent via electronic mail: No hard copy to follow

Effective Date: June 10, 2024
RM: 456550
Place ID: 894412
WDID No: 2 CW456550
Corps File No: 2012-00207S

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Certification and Order Coverage

This Clean Water Act (CWA) section 401 Water Quality Certification (Certification) and Order (Order) is issued to San Mateo County Harbor District (Permittee).

Pursuant to CWA section 404, the Permittee will fill and discharge to waters of the U.S. under the U.S. Army Corps of Engineers (Corps), Regulatory Branch, under an Individual Permit (Corps File No. 2012-00207S).

The Permittee applied to the San Francisco Bay Regional Water Quality Control Board (Water Board) requesting Certification verifying the Surfers Beach Pilot Restoration Project (Project) does not violate State water quality standards. The application for Certification was received on April 12, 2024.

The following sections are derived from the Application materials.

1. Project

The Project will conduct dredging and beneficial reuse activities at the Project site.

1.1 Site Description & Background

The Project will occur at Surfers Beach (Beach), just south of Pillar Point Harbor (PPH), immediately north of the City of Half Moon Bay, in San Mateo County (Lat. 37.500528, Long. -122.470225). The Beach is a popular beach and recreation area located on the San Mateo County coast. Since construction of the PPH breakwater in 1961 by the Corps, The Beach has experienced a significant amount of beach and bluff erosion, leading to a recent permanent loss of sandy intertidal beach area and bluff-top coastal scrub and grassland, as well as an increased exposure of California State Route 1 (Highway 1) to erosion and flood hazards during coastal storms. A recent Corps study concluded that the bluffs along the Beach eroded at an average rate of 1.64 feet per year between 1993 and 2012. This erosion rate was determined to be approximately seven times higher than the rate of erosion at a geologically similar stretch of shoreline farther down the coast. Powerful storms during the past two winter seasons have resulted in even more severe erosion, causing major threats to Highway 1, Mirada Road, and other coastal infrastructure, and leading to emergency repairs by the California Department of Transportation (Caltrans) and the County of San Mateo. While the Beach area has eroded, areas immediately inside the harbor have significantly shoaled, which often results in the temporary closure of one or more of the boat launch ramps until the material is dredged and moved elsewhere. The loss of active boat launch ramps significantly reduces the ability of recreational boats to be launched, which in turn reduces fees collected by the Permittee.

While the shore at the Beach eroded, significant accretion and deposition of sediment inside PPH has resulted in impacts to navigation and use of the boat launch ramp. Historically, sediment was managed in the PPH East Basin by dredging and disposal of dredge spoils offshore. However, this practice became unfavorable from environmental and economic perspectives after designation of the Monterey Bay National Marine Sanctuary (MBNMS) in 1992. The MBNMS regulations do not allow disposal of dredge material outside of permitted designated disposal areas. These changes contributed to the Permittee conducting less frequent maintenance dredging

in the harbor and disposal of dredged material (predominantly sand) at feasible upland locations. As subtidal areas in PPH filled in, eelgrass beds established and spread to areas where the depths were conducive to their growth. Growth and expansion of the eelgrass beds has added another constraint to harbor maintenance dredging, as eelgrass habitat is protected by federal and state law, and impacts require mitigation.

The Project will address erosion at the Beach by restoring sandy beach habitat by beneficially reusing dredged material from navigable areas of PPH, including the boat launch ramp. The Project is being initiated to demonstrate the feasibility of successfully implementing a beach nourishment project at the Beach in the MBNMS without having significant impacts to coastal resources. The Project is anticipated to address impaired public access and damages from coastal storms while also mitigating shoaling and impacts to navigation within the harbor by targeted dredging. The Project's construction methods and design have been developed with extensive input from a Technical Advisory Group (TAG) consisting of coastal experts and permitting and resource agency staff, and are based on extensive surveys, sediment sampling and analysis, and numerical modelling of various scenarios. The methods have been established with the goals of minimizing impacts to the environment and public access.

1.2 Summary

The Project will dredge up to 100,000 cubic yards of clean sand accumulated along the inside of PPH's East Breakwater and perform a one-time placement of that sand along an approximately 1,000-foot-long section of the shoreline to form an elevated berm. In addition, the Project will establish new eelgrass habitat and transplants within PPH's west basin to mitigate the impacts to eelgrass beds in the dredging areas.

The sand will be dredged and transported from the harbor to the Beach in a slurry (water/sand) mixture via a pipeline. Dredging technology options include use of a suction dredge with cutterhead, transported directly to beach via slurry pipeline, or a clamshell bucket to dredge the sand and place it in a hopper that is fed into a slurry pump and through the pipeline to the placement area. The exact dredging methodology used will be determined by the contractor. The sand will be contained by a sand berm constructed on the existing beach at the east end of the Project site. Sand slurry will be discharged landward of the containment berm and allowed to decant. The sand will then be mechanically spread using heavy equipment, but will not vary from the options evaluated by the Project's TAG.

For the eelgrass mitigation site, eelgrass will be salvaged within the PPH east basin and placed in an area that has been identified in PPH's west basin off the west breakwater dogleg. An eelgrass planting platform will be created and includes removal of up to 14,000 cubic yards of sediment from the nearshore areas within the west basin. The removed material will be placed as fill along the offshore portion of the current eelgrass beds. A total of 17,500 cubic yards of fill material is needed to make the mitigation site's deeper portions shallower. The majority of this fill material, approximately 14,000 cubic yards, will come from material cut from within the mitigation site, and the remaining 3,500 cubic yards of sediment will be sourced from maintenance dredging at the launch ramp and east basin right before the dredging for the Project's beach nourishment component occurs.

Any eelgrass harvest material required for transplanting at the proposed planting area will be salvaged from proposed dredge footprints (prior to dredging). Since all harvested eelgrass will be salvaged from dredging areas, a specific harvest site within existing eelgrass beds for collecting donor material will not be designated. Donor material will be harvested by first removing loose sediment around the rhizome and then removing the rhizome using a hand raking method. Eelgrass harvested from the harvest site will be bundled into transplant units comprised of approximately 5-8 turions each to achieve a high success rate for self-sustaining eelgrass habitat post-transplanting. Transplant units will be installed by hand using divers that will access the planting area from boats. For each unit, a hole approximately the size of each unit will be dug for each unit to be placed with the rhizomes approximately two inches below the surface. The unit will then be anchored to the substrate using biodegradable stakes and the hole will be back filled.

2. Impacts to Waters of the State

The Water Board has independently reviewed the Project record to analyze impacts to water quality and the environment and designated beneficial uses within the Project's watershed.

2.1 Fill and Discharge

The Project will temporarily and permanently impact approximately 22.6 acres and 2.7 acres of waters of the State, respectively. The Project's temporary impacts will occur from dredging activities at two sites, 14.5 acres at one site and 3.3 acres at the other, and from beneficially reusing the dredged sand at the Beach. Both the dredging and beach nourishment activities are considered temporary due to the transient and dynamic erosion and sediment transportation rates at the Project site. The Project's permanent impacts include both the direct impacts to eelgrass habitat, approximately 0.2 acres, and the eelgrass mitigation, approximately 2.5 acres.

3. Mitigation

The Project's temporary and permanent impacts to waters of the State will be mitigated by the Permittee. All waters of the State temporarily disturbed by the Project will be returned to their pre-Project condition and the Permittee will monitor these areas to ensure unintended permanent impacts have not occurred. The Permittee will monitor the beach nourishment site for a minimum 5-year period to verify the Project's beneficial reuse of sediment at the Beach has been achieved (see Conditions 14 - 18). The beach nourishment monitoring will assess the response of physical and ecological parameters at the project site and at one geologically and ecologically similar reference site before and for at least five years after construction is completed. Beach profiles and ecological conditions will be monitored, and the collected monitoring data will be used to inform the design of future opportunistic beach nourishment episodes.

The Permittee will mitigate the Project's permanent impacts to approximately 0.2 acres of eelgrass habitat by creating approximately 2.5 acres of eelgrass habitat. The eelgrass mitigation site will be planted with approximately 29,000 transplant units to fill the areas devoid of eelgrass. Once the planting effort has concluded, the Permittee will monitor the eelgrass mitigate site for a minimum 5-year period to document the mitigation's success (see Conditions 14 to 18). No further mitigation is required.

4. California EcoAtlas

Regional, state, and national studies have determined that tracking of mitigation and restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. To effectively carry out the State's Wetlands Conservation Policy of no net loss to wetlands, the State needs to closely track both losses and successes of mitigation and restoration projects affecting wetlands and other waters of the State. The Water Board must also track project performance in Bay Area creeks subject to routine repair and maintenance activities, such as recurring instabilities. Therefore, we adopted the digital interactive mapping tool called *EcoAtlas*.^[1] *EcoAtlas* is a web-based tool that integrates maps, project plans, site conditions, restoration efforts, and other elements on a project-by-project basis based on data inputs. Accordingly, we require the Permittee to upload their Project information to *EcoAtlas* with the *Project Tracker* tool at <https://ptrack.ecoatlas.org> (see Condition 9). The San Francisco Estuary Institute developed *EcoAtlas* and maintains detailed instructions for *Project Tracker* on its website at <https://ptrack.ecoatlas.org/instructions>.

5. CEQA Compliance

The Permittee, as lead agency, evaluated and mitigated the Project's potentially significant impacts in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 2100 *et seq.* and title 14, California Code of Regulations (14 CCR) Sections 15000 to 15387. The Project's environmental impacts were evaluated in *Surfers Beach Pilot Restoration Project, Initial Study/Notice of Intent to Adopt a Mitigated Negative Declaration* (San Mateo County Harbor District, December 2022) (ISMND) (State Clearinghouse No. 2022100439). The Permittee filed the Project's Notice of Determination (NOD) with the Office of Planning and Research on December 21, 2022. The Water Board, as a responsible agency under CEQA, has determined that the ISMND, in combination with this Certification's requirements, appropriately address the Project's potentially significant impacts under the Water Board's purview and the NOD is appropriate.

6. Conditions

I, Eileen White, Executive Officer, do hereby issue this Order certifying that any discharge from the proposed Project will comply with the applicable provisions of CWA 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), and with other applicable requirements of State law. This discharge is also regulated under State Water Resources Control Board Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification," which requires compliance with all conditions of this Order, including the following:

^[1] Source: California Wetlands Monitoring Workgroup (CWMW). *EcoAtlas*. Accessed March 12, 2019. <https://www.ecoatlas.org>. CWMW includes SFEI, State Board, U.S. EPA-Region IX, and other agencies with similar goals to track effects of projects in wetlands and other aquatic habitats.

6.1 Regulatory Compliance and Work Windows

1. **Design Conformance.** The Project work shall be constructed in conformance with the Application materials, including supplemental information, and as described in this Certification. Any changes to the Project that may impact waters of the State must be accepted by the Executive Officer before they may be implemented. To request Executive Officer acceptance, the Permittee shall submit the proposed revisions, clearly marked and described, to the attention of the Water Board staff listed on the cover page of this Certification. The Permittee shall not implement the proposed revisions until notified that they have been accepted by the Executive Officer.

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and final restoration work has been conducted in accordance with the permit and all applicable conditions (California Water Code (CWC) section 13264).*

2. **Corps Permit Compliance.** The Permittee shall adhere to the conditions of the Corps' CWA Section 404 Individual Permit, when issued (Corps File No. 2012-00207S).

***Rationale:** This condition is required pursuant to California Code of Regulations Title 23 (23 CCR), section 3856(e), which requires that copies be provided to the Water Boards of "any final and signed federal, state, and local licenses, permits, and agreements (or copies of the draft documents, if not finalized) that will be required for any construction, operation, maintenance, or other actions associated with the activity."*

3. **Special Status Species.** This Certification does not allow for the take, or incidental take, of any special status species. The Permittee shall request appropriate protocols prescribed from the United State Fish and Wildlife (USFWS) and/or National Marine Fisheries Service (NMFS) to ensure that Project activities do not impact the Beneficial Use of the Preservation of Rare and Endangered Species, and shall implement the provided protocols, as appropriate (*CWC section 13369(b)(1)(B) and (C); Basin Plan section 4.19*);
4. **Precipitation and Construction Planning.** Precipitation forecasts shall be considered when planning construction activities. The Permittee shall monitor the 72-hour forecast from the National Weather Service at <http://www.nws.noaa.gov>. When there is a forecast of more than 40% chance of rain, or at the onset of unanticipated precipitation, the Permittee shall remove all equipment from waters of the State, implement erosion and sediment control measures (e.g., jute, straw, coconut fiber erosion control fabric, coir logs, straw), and cease all Project activities. If any construction activities will occur after October 31, a Winterization Plan shall be submitted to the Executive Officer for review and acceptance and contain, but not be limited to, the following:

- a) Activities and Timeline Description—for any proposed activity that will begin or end after October 31, the activity and its respective construction timeline, from start to finish, shall be described in detail.
- b) Erosion Control Measures—all erosion control measures shall be described in detail, including, but not limited to, the type of erosion control measure and its material, implementation timeline, and best management practices to be used during and after implementation;

***Rationale:** This condition is necessary to ensure avoidance and minimization of impacts to waters of the State from construction activities (CWC section 13376 et seq.).*

5. **Work Windows:** To work beyond October 31, the Permittee must meet the precipitation and construction planning requirement specified in this Certification (see Condition 4), and the weather requirement listed in the Application’s materials;

***Rationale:** This condition is necessary to ensure avoidance and minimization of impacts to waters of the State from construction activities (CWC section 13376 et seq.).*

6.2 General Construction

6. **Discharge Prohibition.** No unauthorized construction-related materials or wastes shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into waters of the State. When construction is completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be discharged to waters of the State;

***Rationale:** This condition is necessary to ensure that contaminated material is not placed within waters of the State (Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) sections 3.3.12, 3.3.19, and 4.19).*

7. **Equipment Maintenance Prohibition.** No fueling, cleaning, or maintenance of vehicles or equipment shall take place within waters of the State, or within any areas where an accidental discharge to waters of the State may occur; and construction materials and heavy equipment must be stored outside of waters of the State. When work within waters of the State is necessary, best management practices shall be implemented to prevent accidental discharges;

***Rationale:** This condition is necessary to ensure avoidance and minimization of impacts to waters of the State and associated Beneficial Uses from construction activities (CWC section 13369(b)(1)(B) and (C); Basin Plan section 4.19).*

8. **Beneficial Use Impacts.** 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 disturbances along waters of the State that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to implement the Project;

Rationale: This condition is necessary to ensure minimization of impacts to waters of the State and to ensure successful restoration of all temporary impacts authorized (State Board Resolution No. 68-16; 40 CFR part 131.12 (a)(1); CWC sections 13264 and 13369; Basin Plan ch. 3 and 4).

6.3 Pre-Construction Reporting and Other Requirements

9. **EcoAtlas Form.** The Permittee shall input Project information into *EcoAtlas* no later than 14 days from this Certification's issuance date, consistent with Section 4 herein. The Project information shall be added to the *Project Tracker* tool in *EcoAtlas* online at <https://ptrack.ecoatlas.org>. Instructions for adding information to *EcoAtlas* are available at <https://ptrack.ecoatlas.org/instructions>, or by contacting the Water Board staff listed on the cover page of this Certification. The Permittee shall notify the Water Board and submit documentation demonstrating the Project has been successfully added to *EcoAtlas* via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see address on the letterhead), and include **EcoAtlas_456550_Surfers Beach Pilot Restoration Project**;

Rationale: This condition is necessary to ensure compliance with the permit and applicable conditions (CWC section 13267).

10. **Start of Construction.** The Permittee shall submit a Start of Construction (SOC) Report acceptable to the Executive Officer. The SOC Report shall be submitted no later than seven days prior to start of initial ground disturbance activities and notify the Water Board at least 48 hours prior to initiating in-water work and any stream diversions in any given Project year. Notification may be via telephone, email, delivered written notice, or other verifiable means. The SOC Report shall be submitted in same timeframe specified herein for multiple construction seasons, if necessary, via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see address on the letterhead), and include **SOC_456550_Surfers Beach Pilot Restoration Project**;

Rationale: This condition is necessary to assist in scheduling compliance inspections to ensure compliance with the permit and applicable conditions (CWC section 13267).

11. **Photo-Documentation Points.** Prior to the start of construction, the Permittee shall establish a minimum of 10 photo-documentation points at each location where Project related impacts to waters of the State occur. The points shall be used to track the Project's construction impacts, the pre- and post-construction condition, and overall Project success. The Permittee shall prepare a site map with the photo-documentation points clearly marked. Prior to and following construction, the Permittee shall photographically document the immediate pre- and post-Project condition at locations where impacts to waters of the State occur, including temporary impacts. These post-construction photographs and map shall be submitted, along with the as-built and construction completion reports (See Conditions 12 and 13);

Rationale: This condition is necessary to assist in scheduling compliance inspections to ensure compliance with the permit and applicable conditions (CWC section 13267).

6.4 Active Construction and Post-Construction Reporting Requirements

12. As-Built Report. The Permittee shall prepare an as-built report acceptable to the Executive Officer. The as-built report shall be submitted to the Water Board no later than 60 days after completing Project construction activities. The report shall include a description of the areas of actual disturbance during Project construction, and the photographs and map specified in Condition 11. The report shall clearly identify and illustrate the Project site, and the locations where impacts to waters of the State occurred. The as-built report shall include the 100 percent construction plans marked with the contractor's field notes that clearly depict any deviations made during construction from the designs reviewed by the Water Board. The as-built report shall be sent via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see address on the letterhead), and include **As-Built_456550_Surfers Beach Pilot Restoration Project** in the email subject line when sent electronically or in the cover letter for hard copy submissions;

Rationale: This condition is necessary to assist in scheduling compliance inspections to ensure compliance with the permit and applicable conditions (CWC section 13267).

13. Project Construction Completion Report. The Permittee shall submit a Notice of Project Construction Completion (NOC) acceptable to the Executive Officer to notify the Water Board that the Project has been completed. The Completion Notice shall be submitted to the Water Board no later than 60 days after completing all Project construction activities. The Completion Notice shall include the as-built reports (see Condition 12), the post-construction photographs (see Condition 11), the date of the first Project-related disturbance of waters of the State occurred, and the date construction was completed for each Project activity. The Completion Notice shall be sent via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see address on the letterhead), and include **NOC_456550_Surfers Beach Pilot Restoration Project** in the email subject line when sent electronically or in the cover letter for hard copy submissions;

Rationale: This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (CWC section 13267).

6.5 Mitigation and Mitigation Requirements

14. Monitoring and Monitoring Requirements. The Permittee shall monitor the areas temporarily impacted by the Project for a minimum 5-year period from the time that they are temporarily impacted and until the mitigation requirements specified herein are achieved, as described in the *Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan* (Marine Taxonomic Services, December 16, 2023) (Eelgrass Monitoring Plan) and the *Surfer's Beach Pilot Restoration 5 Year Monitoring and Adaptive Management Plan* (ESA, October 2023) (MAMP). The Permittee shall submit annual monitoring reports to the Water Board (see Condition 18) to demonstrate the Project's impacts have been sufficiently and appropriately mitigated

and beneficial uses have not been adversely affected. If any signs of instability, inadequate restoration, or insufficient reestablishment are observed at the site, the Permittee shall document these observations in the annual reports and make recommendations for corrective actions, as necessary (see Condition 17). If any adverse impacts to waters of the State are observed during the monitoring period, compensatory mitigation may be required by the Executive Officer, including, but not limited to, extension of the monitoring period;

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (33 CFR Parts 332.4 and 332.6).*

15. Performance Criteria. The Permittee shall evaluate the Project's eelgrass mitigation site and beach nourishment area during the monitoring period by using the annual performance criteria in monitoring years 1 to 4 specified in the Eelgrass Monitoring Plan, MAMP, and as follows:

- a) Eelgrass Performance Criteria—as specified in the Monitoring Plan, the eelgrass mitigation site be assessed during the monitoring period using the following annual metrics for vegetation cover:
 - **Month 0:** Full coverage distribution of planting units over the initial mitigation site shall be confirmed.
 - **Month 6:** Persistence and growth of eelgrass in the initial mitigation site, and 50 percent survival of initial planting units and well distributed cover.
 - **Month 12:** 40 percent eelgrass cover in the initial mitigation site, 20 percent density of adjacent reference areas, and no less than 1.2 times the area of the impact site.
 - **Month 36:** 100 percent eelgrass cover in the initial mitigation site, 85 percent density of adjacent reference areas, and no less than 1.2 times the area of the impact site.
 - **Month 48:** 100 percent eelgrass cover in the initial mitigation site, 85 percent density of adjacent reference areas, and no less than 1.2 times the area of the impact site.

- b) Erosion and Effects—as described in the MAMP, the monitoring shall document the Project performance in terms of persistence of the placed sand and apparent effects to coastal resources to support the consideration of future sand placements. During the monitoring period, the Permittee shall assess the following:
 - **Erosion Rates:** The expected erosion of placed sand within the Project limit and estimated sand transportation patterns and rates shall be documented using topographic and bathymetric data collected during the monitoring period. The changes in sand volume shall be computed, and these data along

with geometry changes will be used to infer sand transport directions and rates. During extreme wave and water level events, visual observations shall be conducted to document the changes with standardized forms.

- **Depth Changes:** the depth changes within PPH where dredging occurred shall be documented and the shoaling rates shall be estimated.
- **Effects:** the effects of the beach nourishment on vertical and horizontal beach access and surfing conditions shall be documented using standardized forms. The formation of scarps that impede access shall be documented, and as necessary, may require adaptive management actions.

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (CWC section 13267; 33 CFR parts 332.4(a)(C)(4) and 332.6(a)(1)).*

16. Final Success Criteria. The following final success criteria shall be documented in the final monitoring report and referenced in all other monitoring years to evaluate the site using the performance criteria:

- a) **Eelgrass**—the revegetation success shall be assessed during the monitoring period using the following:
 - **Month 60:** 100 percent eelgrass cover in the initial mitigation site, 85 percent density of adjacent reference areas, and no less than 1.2 times the area of the impact site;
- b) **Erosion and Effects**—the beach nourishment at Surfers Beach shall be considered successful if the post-Project monitoring described in the MAMP is collected, shared with the regulatory agencies, used to inform future beach nourishment actions, and no adverse effects to waters of the State have otherwise occurred.

The Project’s mitigation shall be considered successful if the Executive Officer determines the final success criteria specified in Eelgrass Monitoring Plan, MAMP, and as specified herein, for the fifth and final monitoring year has been met and no adverse impacts to waters of the State have otherwise occurred.

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (CWC section 13267; 33 CFR parts 332.4(a)(C)(4) and 332.6(a)(1)).*

17. Corrective Actions. If any signs of instability, excessive erosion, or in adequate eelgrass recovery are observed at the eelgrass mitigation site or along the beach nourishment area, the Permittee shall document these observations in the annual reports and make corrective action/adaptive management recommendations, as necessary. After receipt of an annual monitoring report, if corrective actions/adaptive

management actions are determined necessary by the Executive Officer, the Permittee shall be required to re-submit the corresponding annual report to include corrective actions/adaptative management actions, as necessary. The corrective actions/adaptative management actions shall not be implemented until they are approved by the Executive Officer;

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (CWC section 13264).*

18. Annual Monitoring Reports. The Permittee shall submit annual monitoring reports, acceptable to the Executive Officer, by January 31 following each monitoring year's completion. The first monitoring year commences in the calendar year after the Project's temporarily impacted areas are restored after their initial disturbance. At the time of this Certification, the Project is anticipated to commence in 2025. Therefore, the first annual monitoring report shall be due on January 31, 2027, unless the Project is completed at a different time. Annual reports shall include, but not be limited to, the following:

- a) *Photographs:* photographs taken during the monitoring year from the photo-documentation points specified in Conditions 11 shall be included in each annual monitoring report and updated as appropriate. The photographs shall include captions with respect to the photograph's point of view, direction of flow, when applicable, locations of Project activities, location of the photo-documentation point, and date photographed.
- b) *Activities and Impacts:* the Project activities completed in the monitoring year and their respective impacts to waters of the State shall be included in each annual monitoring report. The final monitoring report shall include all Project activities and their impacts for the duration of the Project. The monitoring reports shall also reference the activities and impacts in relation to the limits covered in this Certification. If limits for any Project activity are exceeded, the Permittee may need to submit a report of waste discharge and shall be required to provide compensatory mitigation for the impacts to waters of the State that exceed the limits authorized in this Certification.
- c) *Environmental Drivers:* each monitoring report shall describe the precipitation events that occurred at the site during the monitoring year. The effects of the Project and environmental drivers (e.g., precipitation events, drought events) on site conditions shall be described in reference to the monitoring year's precipitation events.
- d) *Cumulative Monitoring:* each annual report shall summarize all data from previous monitoring reports in addition to the current year's monitoring data, including the need for, and implementation of, any remedial actions. Monitoring data may include all relevant qualitative and quantitative data necessary to determine whether the site is stable. The final monitoring report shall document

whether the temporarily impacted areas were restored to their pre-Project condition.

The overall Project and mitigation success shall be determined by, and acceptable to, the Executive Officer. If monitoring indicates that beneficial uses have been, or have the potential to be, adversely affected, the Permittee shall, in consultation with the appropriate agencies, identify remedial measures to be undertaken, including compensatory mitigation and extension of the monitoring and reporting period until the final success criteria are met. If a Corrective Action Plan is required and approved by the Executive Officer, the Permittee shall implement all remedial measures identified therein. Annual monitoring reports shall be submitted via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports (see the address on the letterhead), and include **AMR_456550_Surfers Beach Pilot Restoration Project** in the email subject line when sent electronically or in the cover letter for hard copy submissions;

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and restoration work has been conducted in accordance with the permit and all applicable conditions (CWC section 13267; 33 CFR parts 332.4(a)(C)(4) and 332.6(a)(1)).*

- 19. Notice of Mitigation Monitoring Completion.** Within 30 days of successfully completing the required monitoring, the Permittee shall submit, acceptable to the Executive Officer, a Notice of Mitigation Monitoring Completion (NMMC) notifying the Water Board that monitoring has been completed. The Notice shall be submitted via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401 Certifications Reports. This notification shall include the date monitoring was completed, the Project Name, and reference **NMMC_456550_Surfers Beach Pilot Restoration Project**;

6.6 Administrative and General Compliance

- 20. Site Access.** The Permittee shall grant Water Board staff or an authorized representative, upon presentation of credentials and other documents as may be required by law, permission to: (1) enter upon the Project site or compensatory mitigation site(s) where a regulated facility or activity is located or conducted, or where records are kept; (2) have access to and copy any records that are kept and are relevant to the Project or the requirements of this Order; (3) inspect any facilities, equipment, practices, or operations regulated or required under this Order; and (4) sample or monitor for the purposes of assuring Order compliance;

***Rationale:** This condition is necessary to assist in scheduling compliance inspections and to ensure compliance with the permit and applicable conditions (CWC section 13267).*

- 21. Certification and Order at Site.** A copy of this Order shall be provided to any consultants, contractors, and subcontractors working on the Project. Copies of this Order shall remain at the Project site for the duration of this Order. The Permittee

shall be responsible for work conducted by its consultants, contractors, and any subcontractors;

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions (CWC sections 13170 and 13245).*

- 22. Ownership Change Notification.** The Permittee shall provide a signed and dated notification to the Water Board of any change in ownership or interest in ownership of any Project area at least 10 days prior to the transfer of ownership. The purchaser shall also submit a written request to the Water Board to be named as the permittee in an amended order. Until this Order has been modified to name the purchaser as the permittee, the Permittee shall continue to be responsible for all requirements set forth in this Order;

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions (CWC section 13264).*

- 23. Water Quality Violations Notification.** The Permittee shall notify the Water Board of any violations of water quality standards, along with the cause of such violations, as soon as practicable (ideally within 24 hours). Notification may be via telephone, email, delivered written notice, or other verifiable means;

***Rationale:** This condition is necessary to minimize adverse impacts to water quality (CWC sections 13385 and 13267).*

- 24. Discharge Change Notification.** In accordance with CWC section 13260, the Permittee shall file with the Water Board a report of any material change or proposed change in the ownership, character, location, or quantity of this waste discharge. Any proposed material change in operation shall be reported to the Executive Officer at least 30 days in advance of the proposed implementation of any change. Changes to discharges include, but are not be limited to, significant new soil disturbances, proposed expansions of development, or any change in drainage characteristics at the Project site. For the purpose of this Order, this includes any proposed change in the boundaries of the area of wetland/waters of the State to be impacted;

- 25. Submittal of Reports.** Where this Certification requires submittal of reports, including plans, reports, or related information, the submitted reports shall be acceptable to the Executive Officer;

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions (CWC section 13267).*

- 26. Individual Waste Discharge Requirements.** Should new information come to our attention that indicates a water quality problem with this Project, the Water Board may issue Waste Discharge Requirements pursuant to CWC sections 13263 and/or 13377 and 23 CCR section 3857;

- 27. Expiration.** This Order shall continue to have full force and effect regardless of the expiration or revocation of any federal license or permit issued for the Project;

***Rationale:** This condition is necessary to ensure compliance with the permit and applicable conditions (CWC sections 13170 and 13245).*

6.7 Standard Conditions

- 28. Certification and Order Modification.** This Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to CWC sections 13320 and 13330 and 23 CCR section 3867;
- 29. Hydroelectric Facilities.** This Order does not 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 pursuant to 23 CCR subsection 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought;
- 30. Application Fee.** This Certification and Order is conditioned upon full payment of the required fee, including annual fees, as set forth in 23 CCR section 3833. The required \$796 fee calculated using the 2023/2024 Water Quality Certification Dredge and Fill Application Fee Calculator, Category D– *Ecological Restoration and Enhancement Projects*, was received by the Water Board on February 6, 2024;

***Rationale:** Conditions 28, 29, and 30 are standard conditions that “shall be included as conditions of all water quality certification actions” (23 CCR section 3860(a)).*

6.8 Annual Fees

- 31. Annual Fee.** In accordance with 23 CCR section 2200, the Permittee shall pay an annual fee to the Water Board each fiscal year (July 1 – June 30) until Project construction activities are completed and an acceptable Notice of Project Construction Completion is received by the Water Board. If monitoring is required, the Permittee shall pay an annual fee to the Water Board until monitoring activities are completed and an acceptable Notice of Mitigation Monitoring Completion is received by the Water Board (Note: the Annual Post Discharge Monitoring Fee may be changed by the State Water Board; at the time of Certification it was \$399 per year for Category E projects). Annual fees will be automatically invoiced to the Permittee. **The Permittee must notify the Water Board at Project and mitigation completion with a final report in order to request to terminate annual billing.** Notification shall reference **NOT_456550_Surfers Beach Pilot Restoration Project** and should be sent to the staff listed at the bottom of this Certification and to RB2-401Reports@waterboards.ca.gov. Water Board staff will verify the conditions of the Certification have been met and may request a site visit at that time to confirm the Project’s status and compliance with the Certification (23 CCR sections 3833(b)(3) and 2200 (a)(3); CWC Section 13267).

This Order applies to the Project as proposed in the application materials and designs referenced above in the conditions of Certification. Be advised that failure to implement the Project in conformance with this Order is a violation of this Certification. Any violation of Certification

conditions is a violation of State law and subject to administrative civil liability pursuant to CWC sections 13350, 13385, or 13399.2. Failure to meet any condition of this Certification may subject the Permittee to civil liability imposed by the Water Board to a maximum of \$25,000 per day of violation and/or \$25 for each gallon of waste discharged in violation of this action above 1000 gallons. Any requirement for a report made as a condition to this Certification (e.g., conditions 4, 9-19, and 22-24) is a formal requirement pursuant to CWC sections 13267 and 13383, and failure or refusal to provide, or falsification of such required report, is subject to civil liability as described in CWC section 13268 and criminal liability under 13387. The burden, including costs, of these reports bears a reasonable relationship to the need for the report and the benefits to be obtained. Should new information come to our attention that indicates a water quality problem with this Project, the Water Board may issue Waste Discharge Requirements.

If you have any questions concerning this Order, please contact Tahsa Sturgis of my staff at (510) 622-2316 or tahsa.sturgis@waterboards.ca.gov. All future correspondence regarding this Project should reference **RM 456550**.

Sincerely,

for Eileen M. White, P.E.
Executive Officer

cc: SWRCB, DWQ, stateboard401@waterboards.ca.gov
Water Board, Victor Aelion, victor.aelion@waterboards.ca.gov
CDFW:
Wesley Stokes, wesley.stokes@wildlife.ca.gov
Amanda Canepa, Amanda.canepa@wildlife.ca.gov
U.S. EPA, Region IX:
Region IX Mailbox, r9cwa401@epa.gov
Jennifer Siu, siu.jennifer@epa.gov
Corps, SF Regulatory Branch:
Katerina Galacatos, katerina.galacatos@usace.army.mil

MITIGATION MONITORING AND REPORTING PROGRAM

Introduction

When approving projects with Mitigated Negative Declarations that identify significant impacts, the California Environmental Quality Act (CEQA) requires public agencies to adopt monitoring and reporting programs or conditions of project approval to mitigate or avoid the identified significant effects (Public Resources Code §21081.6(a)(1)). A public agency adopting measures to mitigate or avoid the significant impacts of a proposed project is required to ensure that the measures are fully enforceable, through permit conditions, agreements, or other means (Public Resources Code §21081.6(b)). The mitigation measures required by a public agency to reduce or avoid significant project impacts not incorporated into the design or program for the project, may be made conditions of project approval as set forth in a Mitigation Monitoring and Reporting Program (MMRP). The program must be designed to ensure project compliance with mitigation measures during project implementation.

This MMRP is intended to be used by the San Mateo County Harbor District (Harbor District) to ensure compliance with mitigation measures during project implementation. The Harbor District has ultimate responsibility for implementing and monitoring these measures. However, the Harbor District may contract out for these services and/or make them part of the construction specifications. Mitigation measures identified in this MMRP were developed as part of the Initial Study/Mitigated Negative Declaration (IS/MND) process for the proposed project. The required mitigation measures are summarized in this MMRP.

Compliance Checklist

The following table contains a compliance monitoring checklist that provides a synopsis of all adopted mitigation measures, the applicable sites, the entity responsible for implementation, the entity responsible for monitoring, and the timing of implementation. All the mitigation measures presented in this MMRP will be incorporated into the proposed project.

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
Biological Resources	<p>Mitigation Measure BIO- GC: General Construction Conservation Measures. The contractor shall be supplied with copies of the permit conditions of approval that detail the below listed measures prior to groundbreaking, as well as any other pertinent avoidance and minimization measures:</p> <ul style="list-style-type: none"> • No project related activities shall occur outside the delineated work area. • No rodenticides, pesticides, or herbicides shall be used as part of the project. • Construction Areas: Areas within which construction activities and staging are to take place shall be minimized in size and shall be sited and designed to avoid impacts on coastal waters and marine life, and to the extent feasible, public access to the water and shoreline. Construction (including but not limited to dredging activities, and materials and/or equipment storage) shall be prohibited outside of the defined construction, staging, and storage areas. • Construction Methods and Timing: Methods shall be used to keep the construction areas separated from public recreational use areas (including using unobtrusive fencing or equivalent measures to delineate construction areas) to the maximum extent practicable. Full closure of the trail is anticipated during night work (trail is already closed after dusk and varies seasonally) to the public per County rules. • All vehicle parking shall be restricted to previously determined staging areas or existing roads. Necessary vehicles belonging to 	<ol style="list-style-type: none"> 1. Harbor District reviews construction specifications to verify inclusion. 2. Harbor District conducts periodic site inspections during construction to ensure compliance and klpf p0huadds inspection report to project file. 	<ol style="list-style-type: none"> 1. Harbor District and the contractor(s). 	<p>Prior to and during construction</p>

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
	<p>the biological monitors and construction supervisors shall be parked at the nearest point on identified existing access roads.</p> <p>Construction BMPs shall be installed prior to construction and used during construction to protect coastal water quality, including the following:</p> <ul style="list-style-type: none"> • Silt fences, straw wattles, or equivalent apparatus shall be installed at the perimeter of the construction site to prevent construction-related runoff or sediment from discharging to coastal waters or to areas that would eventually transport such discharge to coastal waters. • The fueling and maintenance of vehicles and other equipment shall occur at least 100 feet from any aquatic habitat or water body. • All construction equipment shall be inspected and maintained at an off-site location to prevent leaks and spills of hazardous materials at the project site. • The contractor shall ensure that good construction housekeeping controls and procedures are maintained at all times including: 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; cover open trash receptacles during wet weather; and remove all construction debris from the site. • All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday. 			

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
Biological Resources	<p>Mitigation Measure BIO-GW. General Wildlife Conservation Measures.</p> <ul style="list-style-type: none"> At least 15 days prior to any ground disturbing activities, the Harbor District shall submit to the USFW and CDFW for review and approval the qualifications of the proposed biological monitor(s). A qualified biological monitor means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the listed species. Prior to the start of construction, a USFWS- and CDFW- approved biologist will conduct an Environmental Awareness Training. The training will educate all construction personnel regarding habitat, identification of special status species, and required practices before the start of construction. The training will include the general measures that are being implemented to conserve the species as they relate to the Project, the penalties for non-compliance, and the boundaries of the project area. If new construction personnel are added to the project, the contractor will ensure that the personnel receive the mandatory training before starting work. A fact sheet or other supporting materials containing this information will be prepared and distributed to all construction personnel. Upon completion of training, construction personnel will sign a form stating that they attended the training and understand all the conservation and protection measures. 	<ol style="list-style-type: none"> Harbor District submits the qualifications of the proposed biological monitor(s) to USFWS- and CDFW. Harbor District reviews construction specifications to verify inclusion. Harbor District conducts periodic site inspections during construction to ensure compliance, and adds inspection report to project file. 	<ol style="list-style-type: none"> Harbor District, USFW, and CDFW. Harbor District, contractor(s), USFWS, and CDFW. 	<ol style="list-style-type: none"> At least 15 days prior to any ground breaking activities. Prior to construction and during construction.

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
	<ul style="list-style-type: none"> • A “soft-start” policy shall be implemented in order to allow wildlife species to vacate the area prior to construction activities. A soft-start (e.g. ramp-up period) shall be used prior to full-power equipment use at the beginning of each day, or following a 30 minute or longer break. • A litter control program shall be instituted at the proposed project area. All construction personnel will ensure that their food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area are deposited in covered or closed trash containers. The trash containers will be removed from the project area at the end of each working day. 			
Biological Resources	<p><i>Mitigation Measure BIO-1a: Snowy Plover Avoidance and Minimization Measures</i></p> <ul style="list-style-type: none"> • A qualified biologist (knowledgeable and experienced in snowy plover ecology and identification) shall conduct a pre-construction survey for snowy plovers within 7 days prior to the initiation of construction or equipment use, including pipeline placement and removal, and any beach nourishment activities. A survey report detailing the survey findings shall be prepared and submitted to the biological permitting agencies prior to the start of construction. If disturbance activities are delayed following a survey, then an additional pre-construction survey should be conducted such that no more than one week will have elapsed between the last survey and the commencement of ground disturbance activities at each discrete project location • Prior to the initiation of work, the qualified biologist will conduct Worker Environmental Awareness Training (WEAT) for all personnel conducting work at the project. At a minimum, the 	<ol style="list-style-type: none"> 1. Harbor District shall submit the name(s) and credentials of biologist(s) who could conduct mitigation measure activities to USFWS and CDFW for approval. 2. Harbor District ensures all construction personnel receives WEAT and maintains records. 	<ol style="list-style-type: none"> 1. Harbor District, USFWS, and CDFW. 	Prior to and during construction

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
	<p>training will include written and oral information regarding special status species and habitats that have the potential to occur on the site, a description of the species and their habitat, and the importance of these species. The training will include the general measures that are being implemented to conserve the species as they relate to the project and the penalties for non-compliance. A fact sheet or other supporting materials containing this information will be prepared and distributed to all personnel conducting work at the project. Upon completion of the training, construction personnel will sign a form stating that they have attended the training and understood all of the conservation protection measures. The signed form will be kept onsite at all times and available for agency staff review if requested. Interpretation shall be provided for non-English speaking workers.</p> <ul style="list-style-type: none"> • If snowy plovers were found to be located within the Surfers Beach project area, the following measures shall be initiated to reduce the potential impacts to a less than significant level: <ol style="list-style-type: none"> 1. A biological monitor shall be present during any construction activities in and around Surfers Beach during the first week. If snowy plovers continue to be observed near the construction area, the monitor will advise the work crews on how to avoid or minimize impacts to plover, which may include temporarily halting activities, until the plovers have left the site. The minimization measures shall continue throughout the beach nourishment activities. 2. The qualified biologist will conduct surveys of Surfers Beach and immediate surroundings until the snowy plovers have left the work area. Project work 			

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
	<p>may resume after snowy plovers have left the work area.</p> <ul style="list-style-type: none"> • During project activities, all trash that may attract predators will be properly contained, removed from the construction area and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas. • Vehicle and equipment refueling, repair, and lubrication will only be permitted in designated areas where accidental spills will be contained. 			
Biological Resources	<p>Mitigation Measure BIO-1b: Coastal Pelagic Fish and Groundfish Avoidance and Minimization Measures</p> <ul style="list-style-type: none"> • Worker Environmental Awareness Training (WEAT), as described in Mitigation Measure BIO-1a, will be provided. • Prior to dredging work a qualified biologist (knowledgeable and experienced in pelagic fish species and groundfish identification) shall remove eelgrass from the proposed dredge footprint in order to remove potential habitat prior to dredging activities. • The project will create approximately 3.90 acres of eelgrass habitat using the fine sands that will be dredged as part of the project work. As soon as feasible, the harvested eelgrass will be replanted within the newly created habitat. 	<ol style="list-style-type: none"> 1. Harbor District shall submit the name(s) and credentials of biologist(s) who could conduct mitigation measure activities to NMFS and CDFW for approval. 2. Harbor District ensures all construction personnel receives WEAT and maintains records. 	Harbor District, NMFS, and CDFW.	Prior to and during construction

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
Biological Resources	<p>Mitigation Measure BIO-1c: Black Abalone Avoidance and Minimization Measures</p> <ul style="list-style-type: none"> • Worker Environmental Awareness Training (WEAT), as described in Mitigation Measure BIO-1a, will be provided. • A qualified biologist (knowledgeable and experienced in black abalone identification) with experience surveying for abalone shall conduct preconstruction surveys within potential habitat inside the project area in order to ensure that they avoid sensitive abalone habitat and existing individuals. If black abalone are not found, then no additional measures are necessary. • If black abalone are found, then beach nourishment work at Surfers Beach shall proceed such that work taking place directly adjacent to (within 25 feet) the outer breakwater shall take place outside of the spring to early summer abalone spawning season to avoid effects on larval settlement or on juvenile abalone. 	<ol style="list-style-type: none"> 1. Harbor District shall submit the name(s) and credentials of biologist(s) who could conduct mitigation measure activities to NMFS and CDFW for approval. 2. Harbor District ensures all construction personnel receives WEAT, and maintains records. 	Harbor District, NMFS, and CDFW.	Prior to and during construction
Biological Resources	<p>Mitigation Measure BIO-1d: Nesting Raptors and other Migratory Nesting Birds Avoidance and Minimization Measures</p> <ul style="list-style-type: none"> • Worker Environmental Awareness Training (WEAT), as described in Mitigation Measure BIO-1a, will be provided by a qualified biologist. • If construction would commence anytime during the nesting/breeding season for raptors, or other bird species listed in the Migratory Bird Treaty Act (typically February through September 15), a pre-construction survey of the project vicinity for nesting birds should be conducted. This survey should be conducted by a qualified biologist (experienced with the nesting behavior of bird species of the region) within 7 days prior to the 	<ol style="list-style-type: none"> 1. Harbor District includes field surveys in project file and submits to USFWS- and CDFW as determined by qualified biologist. 2. If required, Harbor District will include avoidance procedures in 	Harbor District, USFWS, CDFW	Prior to / during construction

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
	<p>commencement of construction activities at each discrete project location that would occur during the nesting/breeding season. The intent of the survey should be to determine if active nests are present within or adjacent (within 100 feet) to the construction zone. If ground disturbance activities are delayed following a survey, then an additional pre-construction survey should be conducted such that no more than one week will have elapsed between the last survey and the commencement of ground disturbance activities at each discrete project location.</p> <ul style="list-style-type: none"> • If active nests are found in areas that could be directly or indirectly affected by the project, a no-disturbance buffer zone should be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted within them should be determined through consultation with the CDFW depending on the species, taking into account factors such as the following: <ul style="list-style-type: none"> a. Noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; b. Distance and amount of vegetation or other screening between the construction site and the nest; and c. Sensitivity of individual nesting species and behaviors of the nesting birds. <p>The buffer zone around an active nest should be established in the field with orange construction fencing or another appropriate barrier and construction personnel should be instructed on the nest areas' sensitivity. The qualified biologist should serve as a construction monitor during those periods when construction activities would occur near active nest areas of special status bird species to ensure that no impacts on these nests occur.</p>	<p>construction contract. Add review to project file.</p> <p>3. Harbor District conducts periodic site inspections during construction to ensure compliance, and adds inspection report to project file.</p>		

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
Biological Resources	<p>Mitigation Measure BIO-1e: Special Status Plants</p> <ul style="list-style-type: none"> • A qualified biologist shall complete bloom season surveys for special-status plant species prior to initiation of project activities. The survey shall be completed during the appropriate blooming periods for the above listed species that have the potential to occur on site. These surveys shall be in compliance with all CDFW (2009), USFWS (1996), and CNPS (2001) published survey guidelines. • If the surveys find that there are no special-status plants on the property that would be impacted or within the proposed project site, then there would be no further mitigation and the project may proceed, provided all other applicable permits and authorizations are obtained for the project. • If special-status plant species are found, populations will be mapped and enumerated. If any populations are found within the proposed development area, project development plans shall consider avoidance to the extent practicable. If avoidance is not practicable while otherwise obtaining the project's objectives, then other suitable measures and mitigation shall be implemented as detailed below. If impact to the area is unavoidable all activity in that area shall halt and not proceed until CDFW has been consulted and the follow measures shall be implemented: <ul style="list-style-type: none"> A. Initially the practicability of avoidance shall be evaluated as noted above. 	<ol style="list-style-type: none"> 1. Harbor District includes field surveys in project file. If two years elapse between the survey and commencement of ground disturbance, activities, a final set of appropriately-time focused botanical surveys shall be implemented by Harbor District. 2. Harbor District will comply with the FESA and/or CESA by implementing requirements from USFWS and CDFW consultation. 3. Harbor District reviews construction specifications to verify inclusion. 	Harbor District, USFWS, CDFW	Prior to and during construction

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
	<p>B. If avoidance is not practicable, a mitigation plan shall be developed and approved by the CDFW for implementation of steps 1 through 3 below prior to site disturbance.</p> <p>The mitigation plan shall include the following elements:</p> <ol style="list-style-type: none"> 1. Prior to construction within the project area, a qualified botanist shall collect the seeds, propagules, and top soils, or other part of the plant that would ensure successful replanting of the population elsewhere. The seeds, propagules, or other plantable portion of all plants shall be collected at the appropriate time of the year. 2. At least 2/3 of the seeds, propagules, or other plantable portion of all plants shall be planted at the appropriate time of year (late-fall months). Half of the seeds and top soils collected shall be appropriately stored and propagated at a native plant nursery to ensure germination. This material will be planted at an approved and protected area during the appropriate season. Planting location, timing, collection methods etc... will be detailed in the mitigation plan required by Measure B above. 3. The applicant shall hire a qualified biologist to conduct annual monitoring surveys of the transplanted plant population for a five-year period and shall prepare annual monitoring reports reporting the success or failure of the transplanting efforts. These reports shall be submitted to the City no later than December 1st each monitoring year. 4. These steps shall be implemented prior to site disturbance. 			

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
	<p>A CNDDDB form shall be filled out and submitted to CDFW for any special-status plant species identified within the project site. When implemented, these measures would reduce potentially significant adverse impacts on special-status plant species to a level considered less than significant.</p>			
Biological Resources	<p>Mitigation Measure BIO-1f: Eelgrass</p> <ul style="list-style-type: none"> • The project involves eelgrass mitigation efforts that will create approximately 3.90 acres of eelgrass habitat (nearly a 1.5:1 ratio of created to impacted) using the fine sands that will be dredged as part of the project work. In addition, prior to dredging, qualified biologist (knowledgeable and experienced with eelgrass) shall harvest as much of the existing eelgrass from the dredge footprint as practicable. As soon as feasible, the harvested eelgrass will be replanted within the newly created habitat. • The qualified biologists who are conducting the eelgrass harvesting, will obtain a CDFW collection permit and follow all of the measures required by the permit. • Prior to project approval, a plan describing the constructed locations, construction methods, mitigation measures, and monitoring and success criteria will be submitted to the permitting agencies for review and approval. • Prior to construction a baseline eelgrass survey will be completed and the results will be reported to agencies and used to determine final eelgrass mitigation requirements. • Following construction the eelgrass mitigation area eelgrass surveys will occur annually for a 5-year period to assess the success of mitigation efforts. 	<ol style="list-style-type: none"> 1. Harbor District will hire qualified biologists to conduct baseline eelgrass survey, conduct transplanting activities, and post-construction monitoring. 2. District will add all reports to project files and report results to agencies. 	Harbor District	Before, during and after construction

Issue Area	Mitigation Measure	Monitoring / Reporting Action	Implementing Party / Monitoring Party	Timing
Biological Resources	<p><i>Mitigation Measure BIO-1g: Waters of U.S. and State</i></p> <ul style="list-style-type: none"> • The project will create approximately 4.1 acres of beach habitat and 3.90 acres of eelgrass habitat. As mitigation for the impacts from dredging, eelgrass will be transplanted from the dredging areas into newly created habitat area. Prior to project approval, a plan describing the constructed locations, construction methods, mitigation measures, monitoring and success criteria will be submitted to the permitting agencies for review and approval. • The project will obtain, and comply with the conditions of, the necessary permits from the applicable state and federal resource agencies including, but not limited to: US Army Corps of Engineers, State Regional Water Quality Control Board, and California Coastal Commission, California Department of Fish and Wildlife. 	<ol style="list-style-type: none"> 1. Harbor District will provide all final plans and other required submittals to permitting agencies. 	Harbor District	Prior to, during and after construction.



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, US ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CA 94102-3404

June 24, 2024

Operations and Readiness Division

SUBJECT: File Number SPN-2012-00207 Maintenance Dredging; Individual Permit; Second Transmittal

James B. Pruett
San Mateo County Harbor District
504 Ave Alhambra
El Granada, California 94018

Dear Mr. Pruett:

Enclosed is your signed copy of a Department of the Army permit (Enclosure 1) to dredge approximately 114,000 cubic yards of sediment from Pillar Point Harbor, with placement of dredged material on Surfers Beach and at the eelgrass mitigation site.

Please complete the appropriate parts of the "Project Status" form (Enclosure 2) for each episode and return them to this office. You are responsible for ensuring that the contractor (or workers) executing the activity authorized herein is knowledgeable with the terms and conditions of this authorization.

Be advised that your signed permit will NOT be an authorization to proceed. You must first fulfill the requirements of Standard DMMO Conditions 9b, 9c, and 9d on pages 3B and 3C. It is important that all the information requested in the above-mentioned Standard DMMO Conditions is submitted to avoid delays to your project. You are also responsible for all other general and special conditions contained in your permit.

Should you have any questions please call Debra O'Leary at (415) 503-6807 or e-mail to debra.a.oleary@usace.army.mil. If you wish to write, please address all correspondence to Debra O'Leary, Operations and Readiness Division and refer to the file number at the head of this letter.

Sincerely,

Jessica M. Vargas
Chief, Dredged Material Management Office
Operations and Readiness Division

Enclosures

Copy Furnished:

US EPA, San Francisco, CA, Attn: Jennifer Siu
US NMS, San Francisco, CA Attn: Lilli Ferguson
CA CCC, San Francisco, CA, Attn: Erik Martinez
CA RWQCB, Oakland, CA, Attn: Tasha Sturgis
CA DFW, Monterey, CA, Attn: Amanda Canepa



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102-3404

DEPARTMENT OF THE ARMY PERMIT

PERMITTEE: James Pruett, San Mateo County Harbor District

PERMIT NO. SPN-2012-00207

ISSUING OFFICE: **San Francisco District, U.S. Army Corps of Engineers (USACE)**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate District or Division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below:

PROJECT DESCRIPTION

The permittee is authorized to remove approximately 100,000 cubic yards (cys) of clean sand accumulated along the inside of Pillar Point Harbor's East Breakwater and conduct a one-time placement of that sand to form an elevated berm along an approximately 1,000-foot-long section of shoreline at Surfers Beach and remove approximately 14,000 cys of sediment from the harbor's boat ramp area to be used as fill needed to create a shallow area in the harbor's west basin for the eelgrass planting site at Pillar Point Harbor located in Half Moon Bay, in the Pacific Ocean adjacent to El Granada, San Mateo County, California. The design depth for the Pillar Point Harbor dredging is -8 feet NAVD 1988. The material will be removed using a hydraulic dredge and piped to Surfer's Beach or the eelgrass mitigation site. Work shall be conducted in accordance with the attached drawings entitled, "Surfers Beach Pilot Project Final Design Draft," in 16 sheets, dated May 17, 2023.

Prior to each dredging episode, the permittee is authorized to conduct sediment sampling in accordance with appropriate testing procedure. The Dredge Material Management Office (DMMO) will evaluate the sediments to be dredged for disposal or reuse suitability. The DMMO includes representatives from the U.S. Environmental Protection Agency, San Francisco Bay Conservation and Development Commission (BCDC), San Francisco Bay Regional Water Quality Control Board (RWQCB), and the U.S. Army Corps of Engineers (Corps). The DMMO is tasked with approving sampling and analysis plans in conformity with testing manuals, reviewing the test results and reaching consensus regarding a suitable disposition for the material.

PROJECT LOCATION: The Pillar Point Harbor and Surfer's Beach are located in Half Moon Bay, in the Pacific Ocean adjacent to El Granada, San Mateo County, California.

GENERAL CONDITIONS:

1. The time limit for completing the work authorized ends on **June 20, 2029**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although

you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. You shall comply with all terms and conditions set forth by the "*Clean Water Act Section 401 Water Quality Certification and Order for the Surfers Beach Pilot Restoration Project San Mateo County,*" issued by the San Francisco Regional Water Quality Control Board, under *WDID No. 2CW456550 on 10 June 2024.*

6. 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. You shall submit a copy of the concurrence to the Corps prior to the commencement of work. If a conditioned coastal zone consistency concurrence or determination has been issued for your project, you must comply with the conditions specified in the concurrence or determination as Special Conditions to this permit. (*Conditional Development Permit Notice of Intent to Issue Permit upon completion of Special Conditions, issued by California Coastal Commission, North Central Coast District Office, under CDP No. 2-22-0726, dated November 20, 2023*)

7. This authorization will not be effective until you have obtained a certification from the Department of Commerce that the proposed activities within the Greater Farallones National Marine Sanctuary comply with the Marine Protection, Research and Sanctuaries Act of 1972, as amended. A valid national marine sanctuary permit may serve as such certification. You shall submit a copy of the certification to the Corps prior to the commencement of work.

8. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the Terms and Conditions of your permit.

9. You understand and agree that, if future operations by the United States require the removal, relocation or other alteration of the structure or work authorized herein, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, you will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration (Section 10 only).

SPECIAL CONDITIONS:

1. This Corps permit does not authorize you to take a threatened or endangered species. In order to remain exempt from the prohibitions of Section 9 of the Endangered Species Act, you must comply with the incidental take authorization for the endangered Black abalone (*Haliotis cracherodii*) under the enclosed National Marine Fisheries Service (NMFS) Biological Opinion (BO) entitled, "Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Pillar Point Harbor Dredging and Surfer's Beach Restoration Project (Corps File No. SPN-2012-00207)," dated February 23, 2024. The BO contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take authorized by the attached BO, whose terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental

take of the BO, where a take of the listed species occurs, would constitute an unauthorized take and it would also constitute non-compliance with this Corps permit. The NMFS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA.

2. The Corps also initiated consultation with the National Marine Fisheries Service (NMFS) to address project related impacts to list species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended (16 U.S.C. Section 1531 et seq.). By letter of February 23, 2024, the NMFS concurred with the determination that the project was not likely to adversely affect Central California Coast steelhead DPS (*Oncorhynchus mykiss*), North American green sturgeon southern DPS (*Acipenser medirostris*), Leatherback Turtle (*Dermochelys coriacea*), and their designated critical habitat. Additionally, NMFS concurred with the determination that the proposed for listing species, Sunflower sea star (*Pycnopodia helianthoides*), was not likely to be adversely affected by the proposed project. This concurrence was premised, in part, on project work restrictions outlined in the concurrence. Any mitigation measures, including survey requirements and/or timing and work restrictions are incorporated as Special Conditions to this authorization to ensure unauthorized incidental take of species and loss of critical habitat does not occur.

3. The Corps also initiated consultation with the National Marine Fisheries Service (NMFS) to address project related impacts to Essential Fish Habitat (EFH) for Pacific Groundfish, Coastal Pelagic Species, and Pacific Coast Salmon, pursuant to Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 1531 et seq.; 16 USC 1801, et seq.). NMFS concurred with our determination that the project would adversely affect EFH. Although adverse effects are anticipated as a result of the Project, the proposed minimization and avoidance measures, and best management practices described in the concurrence letter are sufficient to avoid, minimize, and/or mitigate for the anticipated effects. This concurrence was premised, in part, on the eelgrass mitigation plan outlined in the concurrence. The eelgrass mitigation plan, entitled “Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan,” dated July 27, 2020 (Revised December 16, 2023), is incorporated as a Special Condition to this authorization to ensure loss of EFH within Pillar Point Harbor does not occur.

4. The Corps initiated consultation with the United States Fish and Wildlife Service (USFWS) to address project related impacts to list species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended (16 U.S.C. Section 1531 et seq.). By letter of December 28, 2022, the USFWS concurred with the determination that the project was not likely to adversely affect California least tern (*Sternula antillarum browni*), short-tailed albatross (*Phoebastria albatrus*), marbled murrelet (*Brachyrampus marmoratus*), Pacific Coast Distinct Population Segment of the western snowy plover (western snowy plover) (*Charadrius nivosus nivosus*), and southern sea otter (*Enhydra lutris nereis*). This concurrence was premised, in part, on project work restrictions outlined in the concurrence letter entitled, “Informal Consultation on the Pillar Point Harbor Dredging and Surfer’s Beach Restoration Project, El Granada, San Mateo County, California (U.S. Army Corps of Engineers File No. SPN-2012-00207),” dated December 28, 2022. The Conservation Measures listed in the concurrence letter, including timing and work restrictions are incorporated as Special Conditions to this authorization to ensure unauthorized incidental take of species and loss of critical habitat does not occur.

5. Additional Standard DMMO Conditions found on pages 3A-D (attached) shall be adhered to at all times.

STANDARD DMMO CONDITIONS TO PERMIT NUMBER SPN-2012-00207

1. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.
2. You must have a copy of this permit available on the vessel used for the authorized transportation and disposal of dredged material.
3. You must advise this office as per Special Condition 12, on page 3D, **before** you start dredging activities under the authorization of this permit.
4. To provide notification of activities affecting navigation, the permittee shall provide the following information by fax, e-mail or standard mail to the contact listed below **at least two weeks before commencing work**:
 - a. Name and telephone number of the dredge and or project manager.
 - b. Size and placement of any floating construction equipment.
 - c. Radio telephone frequencies and call signs of any marine equipment.
 - d. Anticipated work start and completion dates.

Commander (dpw)
11th Coast Guard District
Coast Guard Island, Bldg 50-3
Alameda, California 94501-5100

POC:
Local Notice to Mariners
Waterways Management Branch
PH: 510-437-2980
FAX: 510-437-5836
E-MAIL: D11LNM@uscg.mil
5. The Coast Guard Captain of the Port of San Francisco Bay may require modifications to marine construction equipment deployment or mooring systems to safeguard navigation while work is in progress.
6. All vessels operated for disposal of dredged material are required to participate in the Coast Guard's Vessel Traffic Control Service (VTS). Five minutes before each departure, the permittee shall notify the VTS by radio, via Channel 14, of the following: The name of vessel; time of departure from dredge site; and time of departure from disposal site.
7. Placement of dredged material at Surfer's Beach and the eelgrass mitigation site shall be done in accordance with all best management practices (BMP) to ensure pipelines do not create navigation hazards. Pipelines running between dredge area and placement area should be clearly marked if the pipeline is within known navigation zones to avoid boat strikes.
8. All vessels operated for dredging and disposal of dredged material are required to use the Dredging Quality Management (DQM) system unless a waiver has been provided. The DQM system shall be implemented for activities under this permit when the project activity is using dredging equipment. The Permittee's DQM system must have been certified by the National DQM Support Center (DQM Center) within one calendar year prior to the initiation of the dredging/discharge/placement of sediments. The

Permittee is responsible for ensuring the DQM system is operational throughout the dredging and that the project data is submitted to the DQM Center in accordance with the specifications provided at the DQM website. Questions regarding codification and/or additional information about L3QM program should be addressed to the DQM Center at (877) 840-8024 and/or <https://dqm.usace.army.mil>.

9. The permittee shall submit the following reports for review and comment to:

U.S. Army Corps of Engineers, San Francisco District
Chief, Operations and Readiness Branch
Attn: Debra O'Leary
450 Golden Gate Avenue, 4th Floor, Room 1111
P.O. Box 36152
San Francisco, California 94102-3404

a. Dredge Material Analysis: Submit, for approval, no earlier than 60 days prior to the proposed commencement of any authorized successive dredging episodes, dredge material analysis (Physical, Chemical, and Biological) sampling and testing information. **Please include the U.S. Army Corps of Engineers (Corps) permit number and dredge episode number with this submittal.** Also submit Regional Water Quality Control Board (RWQCB) water quality certification or waiver for disposal of the material. For each dredging episode, the permittee shall obtain the approval of the District Engineer for formulating specific sediment testing procedures for the Dredged Material Analysis. The testing protocol will be in accordance with the testing guidelines as published in the Corps and U.S. Environmental Protection Agency publication entitled, "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. - Testing Manual" (The Inland Testing Manual or ITM, EPA-823-B-98-004), dated February 1998, and subsequent amendments thereto. The permittee shall provide a copy of the Dredged Material Analysis to the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife concurrent with the San Francisco Bay Conservation and Development Commission's RWQCB's, and the Corps' receipt of this information. Agency comments submitted to the Corps within 15 calendar days thereafter will be given full consideration in the decision on dredged material disposal.

b. Dredge Operation Plan: Submit, for approval by this office, no earlier than 60 calendar days and no later than 20 calendar days before the proposed commencement of dredging, a plan which includes the following: **Corps permit number**, a copy of the dredging contract or description of the work under which the contractor will do the permitted work; name and telephone numbers of the dredging contractor's representative on site; dredging start and completion dates; names of vessel; dump scow numbers or identification; bin or barge capacities; identification of work as either maintenance dredging or new dredging; discussion of proposed dredging procedures, quantity of material to be removed; dredging design depth and typical cross section including overdepth; and date of last dredging episode and design depth. The Dredge Operational Plan shall also provide the following information:

1. The controls being established to ensure that dredging operations occur within the limits defined by the channel dimensions and typical channel section. The horizontal and vertical positioning systems being utilized must be indicated as noted in 3, below.

2. The controls being established to ensure that disposal of the dredged

material at the placement site is at the assigned location and depth. The horizontal and vertical positioning systems being utilized must be indicated as noted in 3, below.

3. Method of determining electronic positioning of dredge or dump scow during entire dredging operation at dredge site, disposal site and en route to and from placement site.

Please note that failure to provide all of the above information may result in delays to your project. When your Dredge Operation Plan has been approved, you will receive a written authorization to commence with your project.

c. Pre-Dredge Survey: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of dredging, a survey with accuracy to one-tenth foot that delineates and labels the following: areas to be dredged with overdepth allowances; existing depths; estimated quantities to be dredged to the design depth; and estimated quantities to the overdepth limit. **All surveys shall be signed by the permittee to certify their accuracy. Please include the Corps permit number and dredge episode number.**

Please note that failure to provide all the above information may result in delays to your project.

d. Solid Debris Management Plan: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of work, a plan which describes measures to ensure that solid debris generated during any authorized dredging, demolition or construction operation is retained and properly disposed in areas not under Corps jurisdiction. **At a minimum, the plan shall include the following: source and expected type of debris; debris retrieval method; Corps permit number and dredge episode number; disposal method and site; schedule of disposal operations; and debris containment method to be used, if floatable debris is involved.**

Please note that failure to provide all the above information may result in delays to your project.

e. Post-Dredge Survey: Submit, **within 30 days of the last disposal activity** (“last” is defined as that activity after which no further activity occurs for 15 calendar days), a survey with accuracy to one-tenth foot that delineates and labels the areas dredged and the dredged depths. **Also, include the Corps permit number, dredge episode number, dates of dredging commencement and completion, actual quantities dredged to the design depth, and actual quantities to the overdepth limit.** The permittee shall substantiate the total quantity dredged by including calculations used to determine the volume difference (in cubic yards) between the Pre- and Post-Dredging Surveys and **explain any variation in quantities greater than 15% beyond estimated quantities or dredging deeper than is permitted (design plus overdepth allowance).** **All surveys shall be accomplished by a licensed surveyor and signed by the permittee to certify their accuracy.** A copy of the Post-Dredge Survey should be sent to the National Ocean Service for chart updating:

NOAA/National Ocean Service
Nautical Data Branch
N/CS26, SSMC3, Room 7230
1315 East-West Highway
Silver Spring, Maryland 20910-3282.

10. Disposal Site Verification Log (DSVL): Submit on a weekly basis by noon Monday, the log (downloadable from <http://www.spn.usace.army.mil/Portals/68/docs/Dredging/guidance/document2010-09-07-132110.pdf>) that enumerates work accomplished during the preceding week. Mail to:

U.S. Army Corps of Engineers, San Francisco District
Attn: DMMO
450 Golden Gate Avenue, 4th Floor, Room 1111
P.O. Box 36152
San Francisco, California 94102-3404;

or e-mail to the DMMO at dll-spn-dmmo@usace.army.mil. **Please include the Corps permit number and dredge episode number.** The log will be provided when the Corps approves the Dredge Operation Plan and authorizes the commencement of the dredging.

11. The permittee shall ensure that all dredged material is slurried prior to disposal to prevent any accumulation or build up of material at the disposal site. Dredged material will be either pumped with a centrifugal pump prior to leaving the dredge site for the disposal site.

12. **The permittee or dredge contractor shall inform this office when: 1) a dredge episode actually commences, 2) when dredging is suspended (suspension is when the dredge contractor leaves the dredge site for more than 48 hours for reasons other than equipment maintenance), 3) when dredging is restarted, and 4) when dredging is complete. Each notification should include the Corps permit number and dredge episode number.** The information can be sent to the attention of Debra O’Leary, in writing to the address below; e-mailed to dll-spn-dmmo@usace.army.mil or via telephone message at (415) 503-6807.

U.S. Army Corps of Engineers, San Francisco District
Chief, Operations and Readiness Division
Attn: Debra O’Leary
450 Golden Gate Avenue, 4th Floor, Room 1111
P.O. Box 36152
San Francisco, California 94102-3404

13. The permittee, as directed by the District Engineer under authority pursuant to the policies and procedures of 33 CFR 325.7, may be required to modify disposal schedules and monthly disposal quantities for particular dredging episodes.

14. The permittee shall allow the dredging area and equipment to be inspected by the Corps staff upon request.

15. **If a land, ocean, or other aquatic disposal site becomes available for use during the life of the permit, the permittee shall evaluate these disposal alternatives, taking into consideration cost, existing technology, and logistics in light of the overall project purpose to facilitate compliance with the 404(b)(1) Guidelines (40 CFR 230). This evaluation shall be submitted to the Corps at least 60 calendar days before commencement of subsequent dredging episodes. The District Engineer, upon review of this information and after consultation with other resource agencies, may direct the permittee to use such sites in lieu of or in addition to the San Pablo Bay Disposal Site (SF-10) or the Alcatraz Disposal Site (SF-11), under authority of 33 CFR 325.7 and 40 CFR 230.10(a).**

FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403). Section 10 of the Rivers and Harbors Act generally regulates all structures and work 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. The term "structure" includes, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island or reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, or any other obstacle or obstruction. The term "structure" does **not** include bridges and causeways constructed in or over navigable or tidal waters of the United States, since this regulatory responsibility has been delegated to the U.S. Coast Guard under the Department of Transportation Act of 1966 (Pub. L. No. 89-670). The term "work" includes, without limitation, any dredging or disposal of dredged material, filling, or other modification of a navigable water of the United States.

(X) Section 404 of the Clean Water Act (33 U.S.C. § 1344). Section 404 of the Clean Water Act generally regulates all discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters. Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; and wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary. The term "dredged material" means material that is excavated or dredged from waters of the United States. The term "fill material" means material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land or of changing the bottom elevation of any portion of a water of the United States. Examples of such fill material include, but are not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure in waters of the United States. The term "fill material" does not include trash or garbage.

() Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. § 1413). Section 103 of the Marine Protection, Research, and Sanctuaries Act generally regulates the transport of dredged material for the purpose of disposal in ocean waters. Ocean waters is defined as those waters of the open seas lying seaward of the base line from which the territorial seas is measured, as defined in the Convention of the Territorial Sea and the Contiguous Zone (15 UST 1606; TIAS 5639).

2. Limits of this authorization:

- a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate. (See Item 4 above.)

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 C.F.R. Section 325.7 or enforcement procedures such as those contained in 33 C.F.R. Sections 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the Terms and Conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 C.F.R. Section 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

PERMITTEE: James Pruett, San Mateo County Harbor District
PERMIT NO. SPN-2012-00207
ISSUING OFFICE: San Francisco District, U.S. Army Corps of Engineers (USACE)

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



San Mateo County Harbor District
(PERMITTEE)

6/21/2024

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



Jessica M. Vargas
Chief, Dredged Material Management Office
Operations and Readiness Division

Digitally signed by
VARGAS.JESSICA.MARIE.1288359
675
Date: 2024.06.24 15:00:53 -07'00'
6/24/2024

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)



574 MARINE ST. FREET
SAN FRANCISCO, CA 94105
TEL: 415.774.2200
WWW.FSAECON.COM

STAMP
PRELIMINARY
NOT FOR
CONSTRUCTION



RESTORATION PROJECT
PILOT
SURFERS BEACH
SAN MATEO COUNTY HARBOR DISTRICT
P.O. BOX 1449, EL GRANADA, CA 94018

REVISIONS	#	DATE	DESCRIPTION
DESIGNED	L. WHITE		
DRAWN	S.S. M.A.		
CHECKED	L. WHITE		
IN CHARGE	L. WHITE		
PROJECT NUMBER	180631.00		
ISSUE DATE	05/17/23		
SCALE	AS SHOWN/WHEN PLOTTED TO FULL SIZE (22"x34")		
PHASE	FINAL DESIGN		

GENERAL NOTES
LAYOUT LEGEND

SHEET NUMBER
G-03
SHEET 03 OF 16

SURVEY NOTES

1. TOPOGRAPHIC MAP REPRESENT GENERAL CONDITIONS AT THE TIMES OF THE SURVEYS. CONDITIONS LIKELY VARY FROM THOSE SHOWN IN THESE DRAWINGS DUE TO COASTAL PROCESSES AND OTHER PROCESSES SINCE THE DATES OF THESE SURVEYS. VERIFY IN FIELD AND WITH PRE-CONSTRUCTION SURVEY.
2. HORIZONTAL DATUM/PROJECTION: NAD83 (2011), SPCS CALIFORNIA ZONE 03 - U.S. SURVEY FEET
3. VERTICAL DATUM: NAVD83, U.S. SURVEY FEET
4. AERIAL PHOTOGRAPH SOURCE IS NEARMAP DATED SEPTEMBER 2022. CONDITIONS LIKELY VARY DUE TO CHANGES SINCE THE DATE OF PHOTOGRAPHY. CONSTRUCTION CONTRACTOR SHALL VERIFY CONDITIONS AS NEEDED TO ACCOMPLISH THE WORK CONSISTENT WITH THE CONTRACT DOCUMENTS.

GENERAL NOTES

1. THESE NOTES HIGHLIGHT KEY REQUIREMENTS OF THE SPECIFICATIONS AND PROVIDE ADDITIONAL PROJECT INFORMATION. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS CONTAINED IN THE PLANS, SPECIFICATIONS, AND OTHER CONTRACT DOCUMENTS.
2. ELEVATION, CONTOURS, SOUNDINGS AND FEATURES ARE APPROXIMATE AND PROVIDED FOR GENERAL REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD. CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD FOR CONTINGENCY IN ITS BID TO COVER TOPOGRAPHIC AND BATHYMETRIC VARIABILITY.
3. THE PROJECT IS PHASED:
 - a. PHASE 1: EEL GRASS MITIGATION. CONSTRUCT SAND SHOULDER SEDIMENT DREDGED FROM EAST BASIN 1B, 1C AND 2A AND MITIGATION DREDGE AREA. AFTER MITIGATION FILLS COMPLETE, DISTRICT WILL SALVAGE EEL GRASS FROM EAST BASIN DREDGE AREAS AND PLANT IN MITIGATION AREA. PORTIONS OF THE WORK DESCRIBED AS PHASE 1 SHALL BE COMPLETED WITHIN THE TIMEFRAME SPECIFIED IN THE CONTRACT. SEE MITIGATION PLAN SHEET C-04.
 - b. PHASE 2: SURFERS BEACH ENHANCEMENT. CONSTRUCT BEACH USING SEDIMENT DREDGED FROM EAST BASIN 1B, 1C AND 2A AND MITIGATION DREDGE AREA. AFTER MITIGATION FILLS COMPLETE, DISTRICT WILL SALVAGE EEL GRASS FROM EAST BASIN DREDGE AREAS AND PLANT IN MITIGATION AREA. PORTIONS OF THE WORK DESCRIBED AS PHASE 2 SHALL BE COMPLETED WITHIN THE TIMEFRAME SPECIFIED IN THE CONTRACT. SEE SURFERS BEACH PLAN SHEETS C-08 AND C-09.
 - c. ESTIMATED DREDGE VOLUMES: DREDGE AND FILL VOLUMES ARE ESTIMATED IN TERMS OF MEAT LINES IN PLACE IN THESE DRAWINGS. PERMITTED DREDGE QUANTITIES EXCEED THE MEAT LINE DREDGE AND FILL VOLUMES:
 - a. ESTIMATED DREDGE VOLUMES FOR PERMITS = 1.3 TIMES FILL VOLUMES
 - b. POTENTIAL DREDGE VOLUME IS GREATER THAN ESTIMATED DREDGE VOLUME
 - c. AREAS 1C AND THE MITIGATION DREDGE AREA MUST BE DREDGED TO THE PROJECT LIMITS WITHIN TOLERANCES. OTHER DREDGE AREAS MAY BE DREDGED TO THE EXTENT NEEDED TO CONSTRUCT FILL AREAS, WITHIN MAXIMUM UNITS WITHIN TOLERANCES.
 - d. THE CONTRACTOR IS RESPONSIBLE FOR ESTIMATING ACTUAL DREDGE VOLUMES TO A CORRESPONDING REQUIRED FILL DIMENSIONS, AND ANY DIFFERENCES BETWEEN THESE ACTUAL VOLUMES AND THE MEAT LINE QUANTITIES USED FOR MEASUREMENT, PAYMENT AND ACCEPTANCE.
 - e. ENVIRONMENTAL CONDITIONS (WAVES, CURRENTS) ARE EXPECTED TO MOBILIZE SEDIMENT AFTER PLACEMENT. NO COMPENSATION WILL BE MADE FOR DREDGED MATERIAL THAT IS PLACED BEYOND THE DESIGNATED LIMITS OR MIGRATES AWAY FROM THE PLACEMENT AREAS.
 - f. CONSTRUCTION CONTRACTOR MAY CONSTRUCT TEMPORARY SAND BERMS TO LIMIT MIGRATION OF SAND DURING PLACEMENT. THE BERMS SHALL BE CONSTRUCTED OF SEDIMENT DREDGED FROM THE DREDGE AREAS AND PLANTED WITHIN 100 FEET OF THE MITIGATION DREDGE AREA. THE CONTRACTOR SHALL MAINTAIN THE BERMS TO THE SOUTHERN END OF SURFERS BEACH. THIS ALLOWED OVER-EXCAVATION SHALL BE BACKFILLED AND GRADED BY CONTRACTOR PRIOR TO ACCEPTANCE BY DISTRICT.
 - g. DISTRICT MAY REQUIRE CONSTRUCTION CONTRACTOR TO REMOVE SEDIMENT BEYOND TOLERANCES OF THE MITIGATION FILL AREA. DISTRICT ANTICIPATES THAT SOME SEDIMENT PLACED AT SURFERS BEACH WILL BE MOBILIZED BY OCEAN CURRENTS AND WAVES AND TRANSPORTED AWAY FROM THE PLACEMENT AREA DURING CONSTRUCTION.
 - h. THE CONSTRUCTION CONTRACTOR SHALL CONSIDER TO AVOID FINER SEDIMENTS DISCHARGED AT SURFERS BEACH BY MONITORING THE DREDGED SEDIMENT AND ADJUSTING DREDGE LOCATIONS ACCORDINGLY.
 - i. BE ROCK OUTCROPPERS AND LOOSE ROCKS PROTRUDE INTO THE MITIGATION DREDGE AREA AND THE SURFERS BEACH AREA. THE CONSTRUCTION CONTRACTOR SHALL AVOID DISTURBING ROCK TO THE EXTENT PRACTICABLE.
 - j. EXPORT OF DREDGED MATERIAL IS NOT ALLOWED UNLESS DESIGNATED AS DEBRIS BY THE DISTRICT.
 - k. IMPORT OF SEDIMENT IS NOT ALLOWED.
4. THE CONTRACTOR SHALL ENDEAVOR TO LIMIT TURBIDITY CAUSED BY ITS OPERATIONS IN COMPLIANCE WITH CONTRACT SPECIFICATIONS AND PERMITS.
5. DREDGING AT THE ROCKET RAMP AREA (IG) IS IN CLOSE PROXIMITY TO THE CONCRETE RAMP AND BOARDING FLOORS. THE CONSTRUCTION CONTRACTOR MAY "KNOCK DOWN" THE SEDIMENT TO DEEPER WATER THAT MORE ACCESSIBLE TO DREDGING PER SPECIFICATIONS AND PROJECT PERMITS.
6. MARINE NAVIGATION FOR VESSELS, INCLUDING MOORINGS, AND OTHER GOVERNMENT, COMMERCIAL, AND RECREATIONAL ACTIVITIES (E.G. EMERGENCY RESPONSE, SAILING INSTRUCTION, WIND SURFING, SWIMMING) SHALL NOT BE CONSTRAINED BY CONSTRUCTION CONTRACTOR EQUIPMENT AND OPERATIONS EXCEPT AS NEEDED FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL MAINTAIN CLEAR CHANNELS AS SPECIFIED BY THE DISTRICT AND APPROVAL BY THE COAST GUARD, WITH ADEQUATE NOTICE AND SAFETY PROTOCOLS (SEE SPECIFICATIONS AND PERMITS). PUBLIC ACCESS SHALL NOT BE ALLOWED IN ACTIVE WORK AREAS, BUT SUCH WORK AREAS SHALL NOT INTERFERE WITH NAVIGATION TO AND FROM THE HARBOR AND OPEN WATER.
7. PUBLIC ACCESS TO AND ALONG THE SHORE SHALL NOT BE CONSTRAINED BY THE CONSTRUCTION CONTRACTORS OPERATIONS EXCEPT AS NEEDED FOR SHORT PERIODS TO MOBILIZE AND MOVE EQUIPMENT AND ONLY TO THE EXTENT NECESSARY TO COMPLETE THE PROJECT. THE CONTRACTOR SHALL MAINTAIN CLEAR CHANNELS AS SPECIFIED BY THE DISTRICT AND APPROVAL BY THE COAST GUARD, WITH ADEQUATE NOTICE AND SAFETY PROTOCOLS (SEE SPECIFICATIONS AND PERMITS). PUBLIC ACCESS SHALL NOT BE ALLOWED IN ACTIVE WORK AREAS, BUT SUCH WORK AREAS SHALL NOT PRECLUDE PEDESTRIAN ACCESS ALONG THE COASTAL TRAILS, TO AND ALONG THE BEACH, AND TO/FROM THE SURF. AN ANTICIPATED CORRIDOR FOR THE DREDGE PIPE HAS BEEN IDENTIFIED AND PERMITTED.
8. THE CONTRACTOR SHALL INSTALL A TEMPORARY PERIMETER FENCE AND BUOYS AROUND THE PERIMETER OF THE CONSTRUCTION AREA TO PREVENT PUBLIC ACCESS TO THE CONSTRUCTION AREA. THE CONTRACTOR SHALL ALSO PROVIDE NOTICES, SIGNS AND FLAG MEN TO INFORM THE PUBLIC OF THE CONSTRUCTION. THE CONTRACTOR SHALL ALSO PROVIDE ACCESS TO THE PUBLIC TO THE PORTS DESIGNATED IN THESE DRAWINGS AND AS DETAILED IN THE CONTRACTOR'S SUBMITTALS APPROVED BY THE DISTRICT (SEE SPECIFICATIONS).
9. THE PROJECT DOES NOT ENTAIL ANY DEMOLITION. ALL EXISTING FACILITIES IN THE WORK AREA SHALL BE PROTECTED IN PLACE, OR STORED AND PROTECTED AND REINSTALLED, FROM DAMAGE DUE TO CONTRACTOR'S OPERATIONS. ANY DAMAGES RESULTING FROM CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT WITHOUT COMPENSATION.
10. THE CONTRACTOR SHALL ENDEAVOR TO LIMIT TURBIDITY CAUSED BY ITS OPERATIONS IN COMPLIANCE WITH CONTRACT SPECIFICATIONS AND PERMITS.
11. THE CONTRACTOR SHALL ENDEAVOR TO LIMIT WIND-BLOWN SEDIMENT FROM THE SURFERS BEACH PLACEMENT AREA AS DETAILED BY THE DISTRICT.
12. IF DEBRIS IS ENCOUNTERED DURING DREDGING, SUCH DEBRIS SHALL BE STOCKPILED WITHIN THE PILLAR POINT HARBOR AREA AS DIRECTED BY THE DISTRICT.
13. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-272-2600 PRIOR TO START OF ANY CONSTRUCTION.
14. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES.
15. CONTRACTOR SHALL NOTIFY CALTRANS AND SAN MATEO COUNTY PRIOR TO MOBILIZING AT SURFERS BEACH PER PROJECT PERMITS.

ABBREVIATIONS

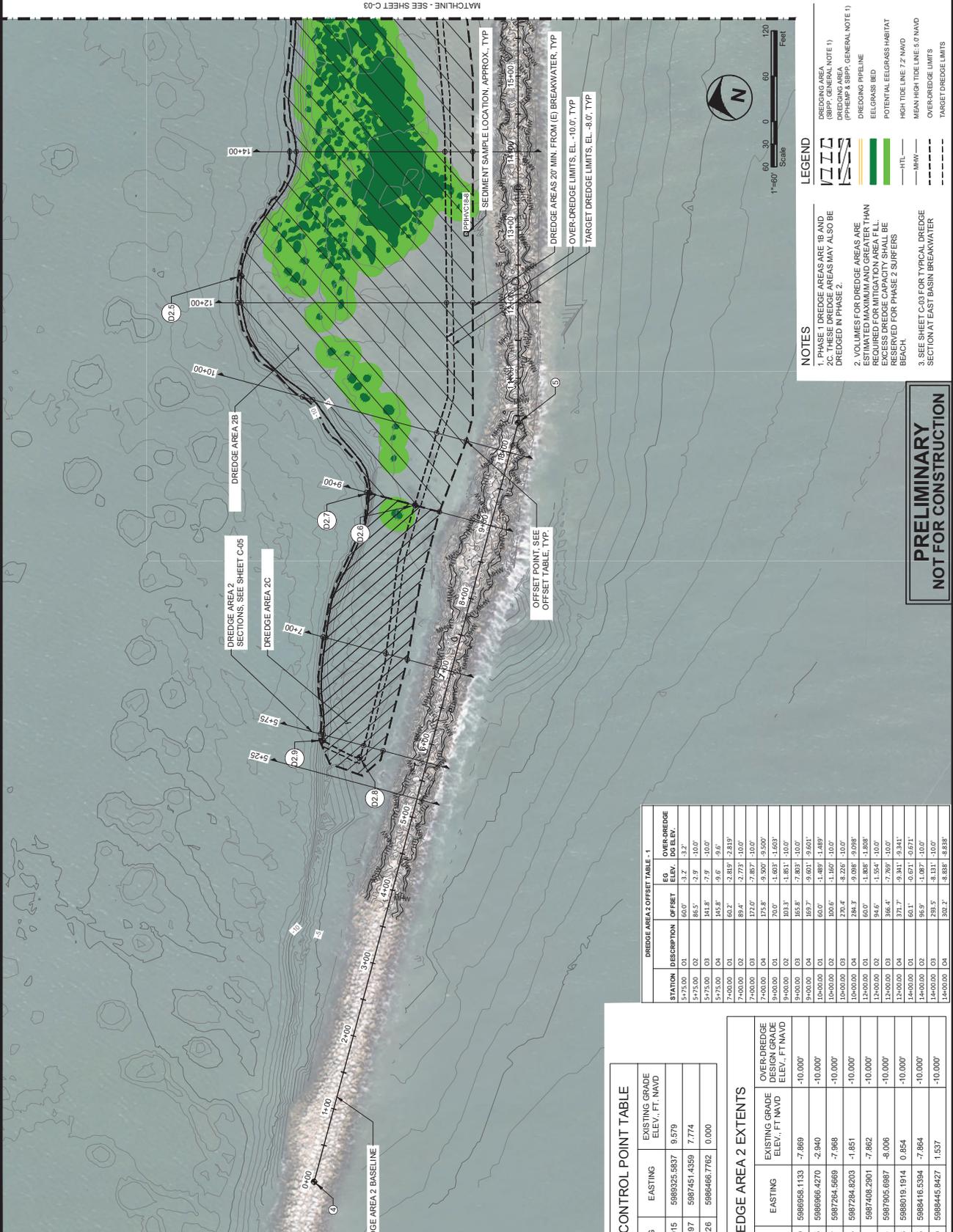
- AB - AGGREGATE BASE
- APPROX - APPROXIMATE
- CMP - CORRUGATED METAL PIPE
- DBH - DIAMETER AT BREAST HEIGHT
- DEMOL - DEMOLITION
- DG - DESIGN GRADE
- DI - DIAMETER
- DS - DOWNSTREAM
- EG - EXISTING
- EL - EXISTING GRADE
- EL - ELEVATION
- FL - FLOWLINE
- FT - FEET
- GB - GRADE BREAK
- HOPE - HIGH TIDE LINE, 7.2' NAVD
- IE - INVERT ELEVATION
- IRR - IRRIGATION
- LR - LINEAR FEET
- MAX - MAXIMUM
- MH - MANHOLE
- MIN - MINIMUM
- MISC - MISCELLANEOUS
- (N) - NOT IN CONTRACT
- NIC - PROTECT IN PLACE
- R.C. - RELATIVE COMPACTION
- RCP - REINFORCED CONCRETE PIPE
- RWG - RECLAIMED WATER
- SD - STORM DRAIN LINE
- SS - SEWER PIPE LINE
- TBD - TO BE DETERMINED
- TYP - TYPICAL
- US - UPSTREAM
- VOP - VITRIFIED CLAY PIPE
- V.I.F. - VERIFY IN FIELD
- WIN - WITHIN

LEGEND

- DREDGING AREA (SBPP, GENERAL NOTE 1)
- DREDGING AREA (PPHEMP & SBPP, GENERAL NOTE 1)
- PLACEMENT AREA
- CONSTRUCTION STAGING AREA
- EEL GRASS BED
- POTENTIAL EEL GRASS HABITAT
- DREDGING PIPELINE
- PEDESTRIAN ACCESS ROUTE
- HIGH TIDE LINE, 7.2' NAVD
- MEAN HIGH TIDE LINE, 5.0' NAVD
- NAVIGATION KEEP CLEAR LIMITS
- PROPERTY LINE
- PROPERTY BOUNDARY
- LIMIT OF GRADING
- EXISTING GRADE (PROFILE & SECTION)
- DESIGN GRADE (PROFILE & SECTION)
- CONSTRUCTION ACCESS ROUTE
- (E) MAJOR CONTOUR LINE
- (E) MINOR CONTOUR LINE
- (N) MAJOR CONTOUR LINE
- (N) MINOR CONTOUR LINE
- GRADE TO DRAIN IN INDICATED DIRECTION
- INDICATES SECTION NUMBER
- VIEW DIRECTION
- SHEET NUMBER ON WHICH SECTION APPEARS
- INDICATES DETAIL NUMBER
- SHEET NUMBER ON WHICH DETAIL APPEARS
- CONSTRUCTION CONTROL POINT
- SURVEY CONTROL POINT
- SEDIMENT SAMPLE
- SPOT ELEVATION



**PRELIMINARY
NOT FOR CONSTRUCTION**



FSA
 573 MARCO STREET
 SAN FRANCISCO, CA 94105
 TEL: 415.774.8500
 WWW.FSAEASDC.COM

PRELIMINARY
 NOT FOR
 CONSTRUCTION



**SURFERS BEACH
 RESTORATION PROJECT
 PILOT**

PROJECT NAME
 SAN MATEO COUNTY HARBOR DISTRICT
 P.O. BOX 1449, EL GRANADA, CA 94018

REVISIONS	DATE	DESCRIPTION
DESIGNED	L. WHITE	
DRAWN	S.S. I.M.A.	
CHECKED	L. WHITE	
IN CHARGE	L. WHITE	
	C78599	
PROJECT NUMBER	180631.00	
ISSUE DATE	05/17/23	
SCALE	AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")	
PHASE	FINAL DESIGN	

SHEET TITLE
**EAST BASIN
 DREDGE AREA PLAN
 -2A**

SHEET NUMBER
C-02

SHEET 05 OF 16

- LEGEND**
- DREDGING AREA (SBPP, GENERAL NOTE 1)
 - DREDGING AREA (PPHMP& SBPP, GENERAL NOTE 1)
 - DREDGING PIPELINE
 - EELGRASS BED
 - POTENTIAL EELGRASS HABITAT
 - HIGH TIDE LINE 7.2 MWD
 - MEAN HIGH TIDE LINE 5.0 MWD
 - OVERDREDGE LIMITS
 - TARGET DREDGE LIMITS
- NOTES**
- PHASE 1 DREDGE AREAS ARE 1B AND 2C. THESE DREDGE AREAS MAY ALSO BE DREDGED IN PHASE 2.
 - VOLUMES FOR DREDGE AREAS ARE ESTIMATED MAXIMUM AND GREATER THAN ACTUAL. VOLUMES FOR PHASE 2 SHALL BE RESERVED FOR PHASE 2 SURVEYS BEACH.
 - SEE SHEET C-03 FOR TYPICAL DREDGE SECTION AT EAST BASIN BREAKWATER.

DREDGE AREA 2 OFFSET TABLE - 1

STATION	DESCRIPTION	OFFSET	10% AVERAGE DOG ELEV.
5+75.00	01	60.0'	-3.2'
5+75.00	02	86.5'	-2.9'
5+75.00	03	141.8'	-7.9'
5+75.00	04	145.8'	-9.6'
7+00.00	01	60.2'	-2.839'
7+00.00	02	89.4'	-2.739'
7+00.00	03	172.0'	-7.857'
7+00.00	04	175.8'	-9.300'
9+00.00	01	70.0'	-1.091'
9+00.00	02	103.3'	-1.851'
9+00.00	03	155.8'	-7.893'
9+00.00	04	169.7'	-9.601'
10+00.00	01	60.0'	-1.889'
10+00.00	02	100.6'	-1.867'
10+00.00	03	236.4'	-8.265'
10+00.00	04	294.3'	-9.987'
12+00.00	01	60.0'	-1.889'
12+00.00	02	94.6'	-1.564'
12+00.00	03	386.4'	-7.789'
12+00.00	04	371.7'	-9.241'
14+00.00	01	60.1'	-0.971'
14+00.00	02	96.9'	-1.097'
14+00.00	03	259.3'	-8.011'
14+00.00	04	302.2'	-8.931'

BASELINE CONTROL POINT TABLE

NAME	NORTHING	EASTING	EXISTING GRADE ELEV., FT. NAVD
4	2010817.2915	5989325.5837	9.579
5	2009556.9497	5987451.4359	7.774
6	2009218.4228	5986466.7782	0.000

DREDGE AREA 2 EXTENTS

NAME	NORTHING	EASTING	EXISTING GRADE ELEV., FT. NAVD	OVER-DREDGE DESIGN GRADE ELEV., FT. NAVD
D2.1	2009535.5949	5986658.1133	-7.889	-10.000'
D2.2	2009482.2825	5986866.4270	-2.940	-10.000'
D2.3	2009667.0087	5987264.5669	-7.988	-10.000'
D2.4	2009607.8843	5987384.8203	-1.851	-10.000'
D2.5	2009988.4581	5987408.2901	-7.882	-10.000'
D2.6	2010240.6884	5987905.6987	-8.006	-10.000'
D2.7	2010072.2736	5988019.1914	0.854	-10.000'
D2.8	2010483.1305	5988416.5394	-7.864	-10.000'
D2.9	2010380.9450	5988445.8427	1.537	-10.000'

**PRELIMINARY
 NOT FOR CONSTRUCTION**



PROJECT NAME

#	DATE	DESCRIPTION

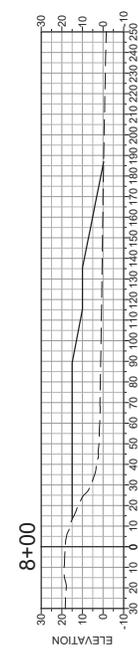
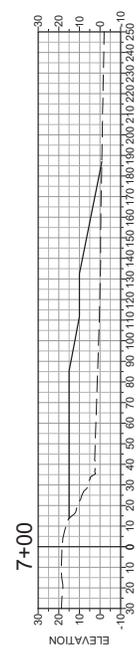
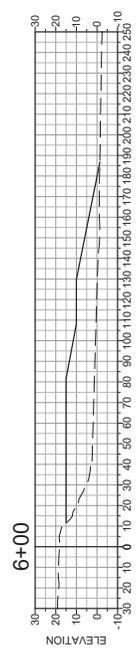
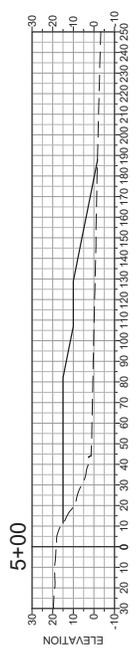
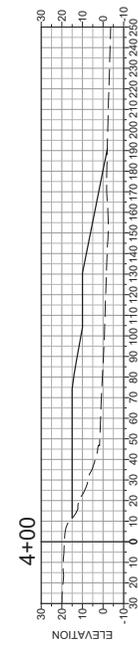
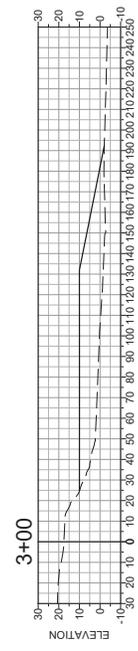
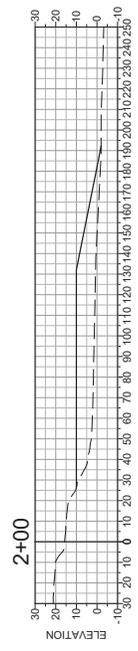
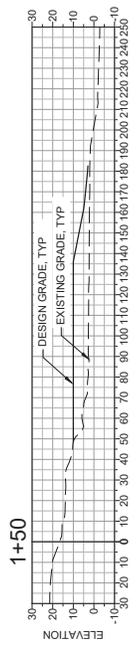
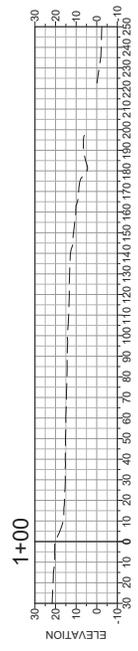
DESIGNED	L. WHITE
DRAWN	S.S. M.A.
CHECKED	L. WHITE
IN CHARGE	L. WHITE
PROJECT NUMBER	180631.00
ISSUE DATE	05/17/23
SCALE	AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x47")

PHASE
 FINAL DESIGN

SHEET TITLE
 PHASE 2 SURFERS BEACH FILL AREA SECTIONS - 1

SHEET NUMBER
C-12
 SHEET 15 OF 16

PRELIMINARY NOT FOR CONSTRUCTION



NOTES
 SURFERS BEACH - SECTIONS
 SECTION
 SCALE: 1:30





573 MARKET STREET
SAN FRANCISCO, CA 94105
TEL: 415.774.2900
WWW.FSASOC.COM

STAMP
PRELIMINARY
NOT FOR
CONSTRUCTION



SURFERS BEACH RESTORATION PROJECT PILOT
SAN MATEO COUNTY HARBOR DISTRICT
504 AVENUE ALHAMBRA, STE 200
P.O. BOX 1449, EL GRANADA, CA 94018

PROJECT NAME

REVISIONS #	DATE	DESCRIPTION

DESIGNED	L. WHITE
DRAWN	S.S. M.A.
CHECKED	L. WHITE
IN CHARGE	L. WHITE
PROJECT NUMBER	180631.00
ISSUE DATE	05/17/23
SCALE	AS SHOWN WHEN PLOTTED TO FULL SIZE (22"x34")

PHASE
FINAL DESIGN

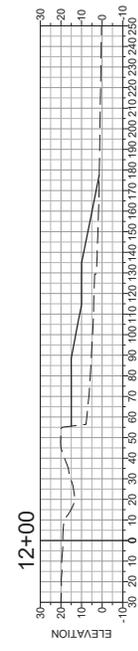
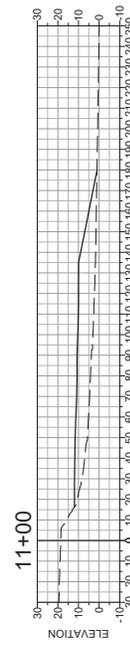
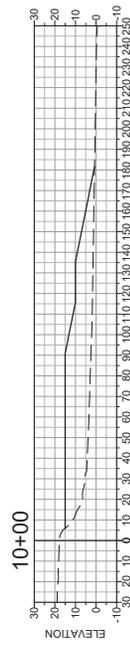
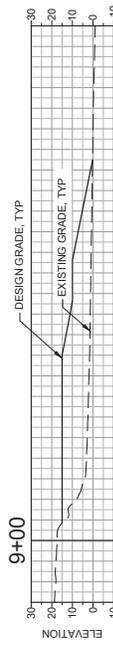
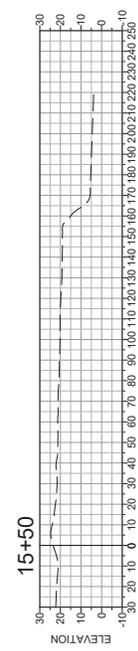
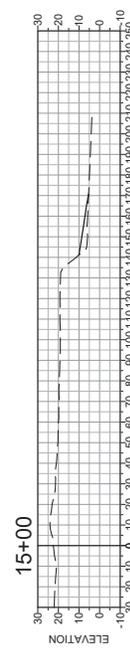
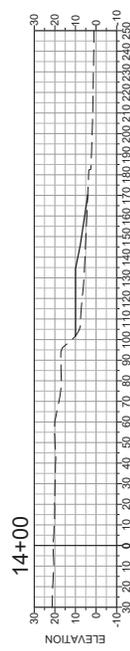
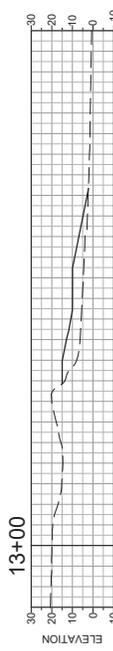
SHEET TITLE

PHASE 2 SURFERS BEACH FILL AREA SECTIONS - 2

SHEET NUMBER

C-13

SHEET 16 OF 16



PRELIMINARY NOT FOR CONSTRUCTION

SURFERS BEACH - SECTIONS
SECTION
SCALE: 1:30

NOTES



PROJECT STATUS

Please use the forms below to report the dates when you start and finish the work authorized by the enclosed permit. Also, if you suspend work for an extended period of time, use the forms below to report the dates you suspended and resumed work. If you find that you cannot complete the work within the time granted by the permit, please apply for a time extension at least one month before your permit expires. If you materially change the plan or scope of the work, it will be necessary for you to submit new drawings and a request for a modification of your permit.

(cut as needed) -----

Date: _____

NOTICE OF COMPLETION OF WORK under Department of the Army Permit Number SPN-2012-00207 Pillar Point Harbor Maintenance Dredging, Episode _____

TO: District Engineer, US Army Corps of Engineers, Operations and Readiness Division, 450 Golden Gate Avenue, San Francisco, CA 94102-3404

In compliance with the conditions of Permit Number SPN-2012-00207, this is to notify you that work was completed on _____.

Permittee: San Mateo County Harbor District
Address: 504 Ave Alhambra, El Granada, California 94018

(cut as needed) -----

Date: _____

NOTICE OF RESUMPTION OF WORK under Department of the Army Permit Number SPN-2012-00207 Pillar Point Harbor Maintenance Dredging, Episode _____

TO: District Engineer, US Army Corps of Engineers, Operations and Readiness Division, 450 Golden Gate Avenue, San Francisco, CA 94102-3404

In compliance with the conditions of Permit Number SPN-2012-00207, this is to notify you that work was resumed on _____.

Permittee: San Mateo County Harbor District
Address: 504 Ave Alhambra, El Granada, California 94018

(cut as needed) -----

Date: _____

NOTICE OF SUSPENSION OF WORK under Department of the Army Permit Number SPN-2012-00207 Pillar Point Harbor Maintenance Dredging, Episode _____

TO: District Engineer, US Army Corps of Engineers, Operations and Readiness Division, 450 Golden Gate Avenue, San Francisco, CA 94102-3404

In compliance with the conditions of Permit Number SPN-2012-00207, this is to notify you that work was suspended on _____.

Permittee: San Mateo County Harbor District
Address: 504 Ave Alhambra, El Granada, California 94018

(cut as needed) -----

Date: _____

NOTICE OF COMMENCEMENT OF WORK under Department of the Army Permit Number SPN-2012-00207 Pillar Point Harbor Maintenance Dredging, Episode _____

TO: District Engineer, US Army Corps of Engineers, Operations and Readiness Division, 450 Golden Gate Avenue, San Francisco, CA 94102-3404

In compliance with the conditions of Permit Number SPN-2012-00207, this is to notify you that work commenced on _____.

Permittee: San Mateo County Harbor District
Address: 504 Ave Alhambra, El Granada, California 94018



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Greater Farallones and Cordell Bank
National Marine Sanctuaries
991 Marine Drive, The Presidio
San Francisco, CA 94129

July 10, 2024

Mr. James Pruett
General Manager
San Mateo County Harbor District
504 Ave. Alhambra
El Granada, CA 94018

Dear Mr. Pruett:

The National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries (ONMS) has approved the issuance of permit number MBNMS-2022-021 to conduct activities within Monterey Bay National Marine Sanctuary (sanctuary) for management purposes. Activities are to be conducted in accordance with the permit application and all supporting materials submitted to the sanctuary, and the terms and conditions of permit number MBNMS-2022-021 (enclosed).

This permit is not valid until signed and returned to the ONMS. Retain one signed copy and carry it with you while conducting the permitted activities. Additional copies must be signed and returned, by either email (preferred) or mail, to the following individual (the sanctuary permit coordinator) within 30 days of issuance and before commencing any activity authorized by this permit:

Lilli Ferguson
Resource Protection Specialist
Greater Farallones and Cordell Bank National
Marine Sanctuaries
991 Marine Drive, The Presidio
San Francisco, California 94129
Lilli.Ferguson@noaa.gov

Your permit contains specific terms, conditions and reporting requirements. Review them closely and fully comply with them while undertaking permitted activities.

If you have any questions, please contact Lilli Ferguson at Lilli.Ferguson@noaa.gov. Thank you for your continued cooperation with the ONMS.

Sincerely,

Maria Brown

Maria Brown
Superintendent

Enclosure





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Greater Farallones and Cordell Bank
National Marine Sanctuaries
991 Marine Drive, The Presidio
San Francisco, CA 94129

MONTEREY BAY NATIONAL MARINE SANCTUARY MANAGEMENT PERMIT

Permittee:
Mr. James Pruett
San Mateo County Harbor District
El Granada, CA 94018

Permit Number: MBNMS-2022-021
Effective Date: July 10, 2024
Expiration Date: November 30, 2030

Project Title: Surfers Beach Pilot Restoration Project

This permit 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 permit, the National Oceanic and Atmospheric Administration (NOAA), Office of National Marine Sanctuaries (ONMS) hereby authorizes the permittee listed above to conduct management activities within Monterey Bay National Marine Sanctuary (MBNMS or sanctuary). All activities are to be conducted in accordance with this permit and the permit application with supporting materials received March 12, 2023¹ and all supporting materials submitted to the sanctuary staff on March 16, May 26, July 13, October 13, November 2 and 16, 2023, February 26 and March 20, 2024. The permit application is incorporated into this permit and made a part hereof; provided, however, that if there are any conflicts between the permit application and the terms and conditions of this permit, the terms and conditions of this permit shall be controlling.

Permitted Activity Description:

The following activities for restoration in the sanctuary at Surfers Beach (also known as El Granada Beach), otherwise prohibited by 15 C.F.R. §§ 922.132(a)(2)(i) and (a)(4), are authorized by this permit, involving beneficial use of dredged material (defined at 15 C.F.R. §§ 922.131) removed from the inside of Pillar Point Harbor's East Breakwater (a location that is outside the sanctuary).

1. Discharge of and placement on the submerged lands of up to 100,000 cubic yards of dredged suitable harbor sand². The suitable sand will be transported via a pipeline outside of the sanctuary in a sand slurry (seawater/sand) mixture and used as fill along an approximately 1,000-foot-long section of shoreline. The sand slurry discharge from the pipeline will be from a single discharge point or a series of manifolds.

¹ A previous national marine sanctuary permit application for the project received by sanctuary staff February 20, 2022 was withdrawn/superseded by a subsequent March 12, 2023 application; some of the supporting materials submitted with the first application are hereby incorporated by reference into the second application.

² The permittee previously estimated the deposited volume to be approximately 60,000 to 80,000 cubic yards of sand; the sand will be more dense/compact after placement and sand is expected to be transported away from the placement area during construction. It is also hypothesized that sand placed under this permit will move southward along shore, with the rate of sediment transport largely to be governed by wave conditions and combinations of wave and high-water levels on-site.



2. Alteration of the submerged lands as a result of the temporary use of construction equipment and the placement of the sand slurry, which will subsequently be distributed within the sanctuary. Construction equipment will be used to:

- a) Excavate sand from the seaward extent of the project site, at the southern end, to create an initial, temporary, elevated sand containment berm at the east end of the existing beach (refer to project area depicted in Attachment 1, Figure 2).
- b) Place the discharged sand slurry first behind the containment berm with the excavated sand, and then, after the water decants from the slurry, spread sand throughout the project area.
- c) When the space behind the initial berm is filled with sand, the slurry discharge location and sand placement and spreading activities will move progressively northward and westward, approximately 1000 feet total in length. Extend the temporary containment berm, either as a continuous berm or in a sequence of shorter berms, after the water decants from the slurry. These activities will continue to the northern limit of the sand placement area.
- d) Complete a final grading of the new sand beach after all sand has been placed to smooth any irregularities.
- e) Collect and deposit onto Surfers Beach, accumulated, windblown sand removed from the pedestrian Coastal Trail on the seaward side of the road, adjacent to the beach (both during construction and periodically as needed after construction is complete until the expiration of this permit); while most likely a front-end loader will be used, other equipment and methods, including non-motorized equipment and tools, may be used.

3. Temporary alteration of the submerged lands and placement of equipment on the submerged lands from:

- a) Ground survey data collection and monitoring activities, including transect surveys conducted by foot at low tide to subtidal elevations within wading depth, using stadia with a real time kinematics global positioning system (RTK GPS) or a total station with a prism.
- b) Periodic collection of a limited number of sediment grab samples (3 – 10 small scoops per year; for grain size analysis) using a hand trowel, from the surface of the upper intertidal zone and additional locations to be determined in the field.
- c) Periodic collection of other types of data for sediment or biological testing and analyses (if determined to be needed to further evaluate the effects of the project).

No further activities prohibited by sanctuary regulations are allowed.

Permitted Activity Location:

The permitted activity is allowed only in the following locations (depicted in Attachment 1): within the sanctuary at Surfers Beach, just south of Pillar Point Harbor and to the west of the unincorporated community of El Granada in San Mateo County; monitoring within the sanctuary may extend from Surfers Beach to Vallejo Beach, just north of Magellan Avenue.

Special Terms and Conditions:

1. No equipment may be discarded in the sanctuaries at any time. In the event that any equipment is damaged or lost due to weather or any other cause, the permittee shall immediately locate and remove that equipment. The permittee must notify the individual listed in general term #1 at the earliest extent possible if any equipment is lost in the sanctuary.
2. Any plan of recovery for lost equipment that includes contact with the submerged lands would require approval from the sanctuary superintendent before implementation.
3. The permittee may be required to pay any or all expenses associated with the locating of and/or removal by NOAA or its designee of any equipment that is not recovered by the permittee.
4. No activity associated with this project shall disturb or have adverse impact on any historical resource (refer to 15 CFR 922.11 for definition of “historical resource”) within the sanctuary. If historical resources are encountered at any time, the permittees shall cease all further activities under this permit and immediately contact the individual listed in general term #1.
5. The permittee plans to remove accumulated sand from the pedestrian Coastal Trail pathway adjacent to the beach and deposit it within the sanctuary only once the sand there has accumulated to the point of becoming a nuisance for pedestrians. The permittee plans for this adaptive management activity to be done using a wheeled front-end loader; however other equipment and methods, including non-motorized equipment and tools, such as a wheelbarrows and shovels or brooms, may be used, so long as any that use is of limited duration and frequency.
6. The permittee shall provide a draft biological monitoring plan for this project as soon as feasible to the individual listed in general term # 1 for review and input by national marine sanctuary staff members. In preparing the draft biological plan, consideration should be given to which species could be best utilized to assess changes from the project, include benthic macro (black abalone) and micro-invertebrates, marine algae, and/or fish species that make use of the inter and subtidal ranges at Surfers Beach and Vallejo Beaches; and to ground dwelling species (such as crabs, shorebirds, and other animals) and plants currently present in supratidal, shoreline, and uplands areas adjacent to the project site in the sanctuary. While the draft plan may cover the overall geographic range of the project, it shall clearly identify which of the activities are planned to take place within the boundaries of the sanctuary, including sampling activities. As appropriate, the permittee shall share with the sanctuary the feedback received on the draft plan.
7. The permittee shall provide copies, once available, of the final biological baseline conditions report, final biological monitoring plan for the Surfer’s Beach Pilot Restoration Plan, final “Surfer’s Beach Pilot Restoration Project 5 Year Monitoring and Adaptive Management Plan”, and any final information, if not contained within the specified plans, on samples planned for collection within the sanctuary, to the individual listed in general term and condition #1. While the referenced documents may cover the geographic range of the overall project, they shall clearly identify which of the activities, including sample collection, are planned to take place within the boundary of the sanctuary. Monitoring plans shall cover the duration of the permit period. In addition, physical and biological monitoring plans for within the sanctuary shall include:
 - a) Monitoring goals and objectives, including a description of how the results of monitoring activities will be used to assess sandy beach habitat restoration success.

- b) Monitoring methods and procedures, including: any activities to avoid or minimize any adverse impacts on sanctuary habitats and resources, monitoring frequency, figures depicting the planned monitoring areas and transects (if appropriate), and who will conduct the monitoring and their qualifications.
- c) Baseline monitoring (preconstruction), construction monitoring, and post construction monitoring to characterize beach profiles and hard/soft bottom habitats and selected species at the permitted location.

Monitoring plans shall be designed to enable the measurement and characterization of physical and biological site conditions and changes in those conditions (to the extent feasible), including sand accretion or loss at the permitted location and shoreward at Surfers Beach and Vallejo Beach and characterization of and changes to the biological resources included in the final biological monitoring plan.

8. The permittee shall submit annual monitoring reports for the specified Monitoring Periods (MPs) after the end of each MP to the individual listed in general term #1, as follows:
 - Monitoring Period (MP) 1 would commence at the preconstruction survey (spring 2025) and end on May 31, 2026, with the annual monitoring report for this period due by or before September 1, 2026;
 - MP 2 would be June 1, 2026 - May 31, 2027, with the annual monitoring report for this period due by or before September 1, 2027;
 - MP 3 would be June 1, 2027 - May 31, 2028; with the annual monitoring report for this period due by or before September 1, 2028;
 - MP 4 would be June 1, 2028 - May 31, 2029, with the annual monitoring report for this period due by or before September 1, 2029; and
 - MP 5 would be June 1, 2029 – November 30, 2030, with the annual monitoring report for this period due by or before March 1, 2031.

The annual monitoring reports shall clearly identify which of the activities took place within the boundaries of the sanctuary, clearly identify the period of time each report covers, and include:

- a) baseline, construction and post construction monitoring results;
- b) information by date on samples collected, including: date(s); location(s) of collection(s) determined using GPS; type of sample; unit of measure of sample collection(s) and total samples collected (pertains to all sediment or biological samples collected as allowed under the permitted activity description);
- c) a summary of the cumulative changes relative to prior years and the initial monitoring baseline report;
- d) any monitoring plan deviations (i.e., changes in monitoring activities methods, or other changes to the plan); and
- e) if monitoring plan objectives are being or have been met.

The Year 5 Monitoring Report should also include a summary of the 5-year monitoring efforts and lessons learned.

9. The permittee shall submit brief annual summary reports of activities conducted under this permit as soon as feasible after the conclusion of each calendar year, or by or before May 31 each year. Reports covering permitted activities during calendar year 2025 are due by or before May 31, 2026; reports covering calendar year 2026 are due by or before May 31, 2027; reports for calendar year 2027 are due by or before May 31, 2028; reports for calendar year 2028 are due by

or before May 31, 2029; and reports for calendar year 2029 are due by or before May 31, 2030. The reports shall be sent to the individual listed in general term #1. The summary reports shall include:

- a) Log of activities that took place during the report period.
- b) Final length and width of final overall sand slurry placement area, in a brief summary of the area depicted in the "as built" plans and submittal of those plans (first annual summary report) and total area of windblown sand placement area (in all annual summary reports).
- c) Quantity/volume of placed material (of sand slurry in first annual summary report, and of windblown sand in all annual summary reports).
- d) Maps of final sand slurry placement area and windblown sand placement areas which include the sanctuary boundary and habitats at placement areas.
- e) Changes in the beach profile (before and after placement of the material).
- f) Log of endangered/threatened species observed, or note none were observed.
- g) Reports of any disturbances to marine mammals or seabirds.
- h) Reports of the discovery or disturbance of historical resources within the sanctuary, any problems encountered, equipment lost, etc. If any equipment is lost, the report shall include the date, location and description of any equipment lost and left in the sanctuary with an explanation of efforts made to recover it and why the equipment was not recovered.

If no project activities occurred during a given calendar year, that fact shall be noted in the report with an explanation of why that situation occurred.

10. The permittee shall ensure any construction vehicles, equipment, tools, and monitoring and surveying devices used within the sanctuary do not harbor any introduced species and shall prevent any introduced species from being released within or into the sanctuary.
11. The permittee shall provide verbal notification, by calling the GFNMS/CBNMS Emergency Response Coordinator, Max Delaney, at (650) 678-4943, and leaving a message as necessary, of any information relating to noncompliance with this permit or other circumstances that may endanger or have a significant adverse effect on any sanctuary resources, habitats, or water quality, within 24 hours of the time the permittee becomes aware of such circumstances. The permittee shall also inform the individual listed in general term #1 by email as soon as practicable following the initial telephone report. The permittee will subsequently keep the relevant sanctuary contacts informed of the status of, and response to, the reported circumstances.
12. The permittee may request an amendment in advance of the expiration date from the individual listed in general term #1. Amendments to this permit cannot be made after its expiration.

General Terms and Conditions:

1. Within 30 (thirty) days of the date of issuance, the permittee must sign and date this permit for it to be considered valid. Once signed, the permittee must send copies, via mail or email, to the following individual:

Lilli Ferguson
Resource Protection Specialist
Greater Farallones and Cordell Bank National
Marine Sanctuaries
991 Marine Drive, The Presidio
San Francisco, California 94129
Lilli.Ferguson@noaa.gov

2. It is a violation of this permit to conduct any activity authorized by this permit prior to the ONMS having received a copy signed by the permittee.
3. This permit may only be amended by the ONMS. The permittee may not change or amend any part of this permit at any time. The terms of the permit must be accepted in full, without revision; otherwise, the permittee must return the permit to the sanctuary office unsigned with a written explanation for its rejection. sAmendments to this permit must be requested in the same manner the original request was made.
4. All persons participating in the permitted activity must be under the supervision of the permittee, and the permittee is responsible for any violation of this permit, the NMSA, and sanctuary regulations for activities conducted under, or in conjunction with, this permit. The permittee must assure that all persons performing activities under this permit are fully aware of the conditions herein.
5. This permit is non-transferable and must be carried by the permittee at all times while engaging in any activity authorized by this permit.
6. This permit may be suspended, revoked, or modified for violation of the terms and conditions of this permit, 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 permittee, and will set forth the reason(s) for the action taken.
7. This permit may be suspended, revoked or modified if requirements from previous ONMS permits or authorizations issued to the permittee are not fulfilled by their due date.
8. Permit applications for any future activities in the sanctuary or any other sanctuary in the system by the permittee might not be considered until all requirements from this permit are fulfilled.
9. This permit does not authorize the conduct of any activity prohibited by 15 CFR Part 922, other than those specifically described in the "Permitted Activity Description" section of this permit. If the permittee or any person acting under the permittee'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 permit, or who otherwise violates such terms and conditions, the permittee may be subject to civil penalties, forfeiture, costs, and all other remedies under the NMSA and its implementing regulations at 15 CFR Part 922.
10. Any publications and/or reports resulting from activities conducted under the authority of this permit must include the notation that the activity was conducted under National Marine Sanctuary Permit MBNMS-2022-021 and be sent to the ONMS official listed in general condition number 1.

11. This permit does not relieve the permittee of responsibility to comply with all other federal, state and local laws and regulations, and this permit is not valid until all other necessary permits, authorizations, and approvals are obtained. Particularly, this permit 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.
12. The permittee 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 permitted activities.
13. Any question of interpretation of any term or condition of this permit will be resolved by NOAA.

Your signature below, as permittee, indicates that you accept and agree to comply with all terms and conditions of this permit. This permit becomes valid when you, the permittee, countersign and date below. Please note that the expiration date on this permit is already set and will not be extended by a delay in your signing.

James B. Pruett

July 10, 2024

James Pruett
General Manager
San Mateo County Harbor District

Date

Maria Brown

07/10/2024

Maria Brown
Superintendent
Greater Farallones and Cordell Bank National Marine
Sanctuaries

Date

Attachment

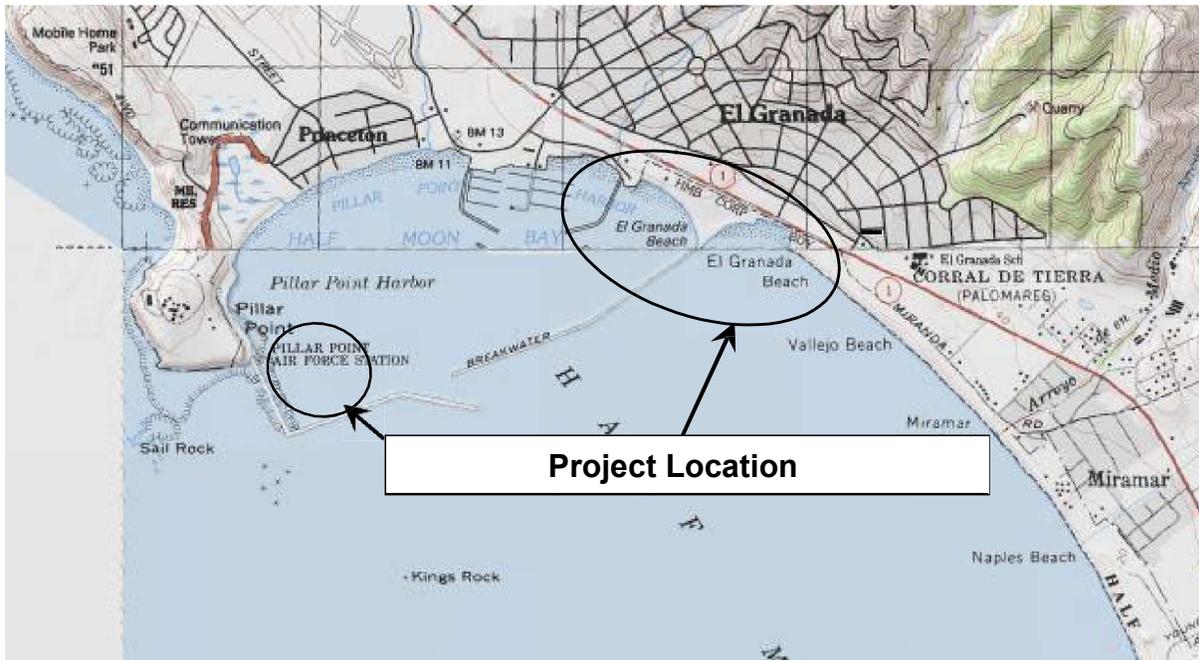


Figure 1. Overall Project Vicinity Map.

Notes: Surfers Beach is opposite the right hand arrow, located to the right of the breakwater. Project activities inside Pillar Point Harbor and terrestrial activities are outside of MBNMS.



Figure 2. Surfers Beach Fill Area.

APPENDIX B – SEDIMENT DATA

DRAFT
SEDIMENT SAMPLING AND ANALYSIS REPORT
PILLAR POINT HARBOR
PILOT SURFERS BEACH RESTORATION PROJECT

Prepared for:

**COUNTY OF SAN MATEO
HARBOR DISTRICT
504 AVE ALHAMBRA, 2ND FLOOR,
EL GRANADA, CA**



Prepared by:
KINETIC LABORATORIES, INC.
307 WASHINGTON STREET
SANTA CRUZ, CA 92705



August 2019

DISTRIBUTION LIST

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<p>Mr. Ken Kronschnabl KLI Technical Advisor Kinnetic Laboratories, Inc. kkronsch@kinneticlabs.com</p>	<p>Ms. Amy Howk KLI QA/QC Management Kinnetic Laboratories, Inc. ahowk@kinneticlabs.net</p>
<p>Ms. Beth Christian San Francisco Bay Regional Water Quality Control Board echristian@waterboards.ca.gov</p>	<p>Mr. Greg Cotten Health and Safety Management Kinnetic Laboratories, Inc. gcotten@kinneticlabs.net</p>
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<p>Mr. James Mazza Project Manager U.S. Army Corps of Engineers San Francisco District James.C.Mazza@usace.army.mil</p>	<p>Mr. Al Franzoia California State Lands Commission Division of Land Management al.franzoia@slc.ca.gov</p>
<p>Mr. James Ward Laboratory Project Coordinator Leighton Group jward@leightongroup.com</p>	

SAMPLING AND ANALYSIS REPORT

DREDGE MATERIAL INVESTIGATION

PILLAR POINT HARBOR

PILOT SURFERS BEACH RESTORATION PROJECT

August 2019

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LIST OF ACRONYMS

ASTM	American Society for Testing and Materials	MSD	Matrix Spike Duplicate
BLK	Method or Procedural Blank	MSD	Minimum Significant Difference
BMP	Best Management Practice	ND	Not Detected
BS	Blank Spike	NOAA	National Oceanic and Atmospheric Administration
BSD	Blank Spike Duplicate	OEHA	Office of Environmental Hazard Assessment
Cal/EPA	California Environmental Protection Agency	PAH	Polyaromatic Hydrocarbon
CD	Compact Disc	PCB	Polychlorinated Biphenyl
CDFG	California Department of Fish and Game	PDS	Post Digestion Spike
CESPD	Corps of Engineers South Pacific Division	PDS	Post Digestion Spike Duplicate
CHHSL	California Human Health screening Level	PPB	Parts Per Billion
COC	Chain of Custody	PPM	Parts Per Million
CSLC	California State Lands Commission	PRG	Preliminary Remediation Goals
CV	Coefficient of Variation	PVC	Polyvinyl Chloride
cy	Cubic Yards	RBC	Risk-Based Concentration
CRM	Certified Reference Material	RL	Reporting Limit
DDD	Dichlorodiphenyldichloroethane	RPD	Relative Percent Difference
DDE	Dichlorodiphenyldichloroethylene	RSLs	Regional Screening Levels for Cleanup of Superfund Sites
DDT	Dichlorodiphenyltrichloroethane	SC-DMMT	Southern California Dredge Material Management Team
DGPS	Differential Global Positioning Satellite	SOPs	Standard Operating Procedures
DTSC	Department of Toxic Substances Control	SRM	Standard Reference Material
DUP	Laboratory Replicates	STLC	Title 22 Soluble Threshold Limit Concentration
ERL	NOAA Effects Range Low	SURR	Surrogate Analysis
ERM	NOAA Effects Range Medium	SWQCB	State Water Resources Control Board
GPS	Global Positioning Satellite	TOC	Total Organic Carbon
HHMSSL	Human Health Medium – Specific Screening Levels	TRPH	Total Recoverable Hydrocarbons
HDPE	High-density Polyethylene	TTLC	Title 22 Total Threshold Limit Concentration
ITM	Inland Testing Manual	UCL	Upper Control Limit
LCL	Lower Control Limit	USACE	U.S. Army Corps of Engineers
LCS	Laboratory Control Spike	USEPA	U.S. Environmental Protection Agency
LDPE	Low-density Polyethylene	QA	Quality Assurance
LSD	Least Significant Difference	QC	Quality Control
MDL	Method Detection Limit	QUAL	Qualifier
MLLW	Mean Lower Low Water	USCS	Unified Soil Classification System
MS	Matrix Spike		

SAMPLING AND ANALYSIS REPORT
Dredge Material Investigation
Pillar Point Harbor
Pilot Surfers Beach Restoration Project
August 2019

1.0 INTRODUCTION

The San Mateo County Harbor District has initiated the Pilot Surfers Beach Restoration Project (project) to protect and restore the shoreline at Surfers Beach. The project will result in relocating clean sand that has accumulated inside the Pillar Point Harbor (PPH) outer breakwater over the past 57 years to the adjacent beach for beneficial re-use.

Surfers Beach has suffered from significant beach and bluff erosion attributed, in large part, to the construction of the PPH outer breakwater, completed in 1961. This rapid erosion of the beach and bluffs extending south of the harbor has been a source of concern over the past several decades. A recent Army Corps of Engineers (USACE) study concluded that the bluffs along Surfers Beach eroded at an average rate of 1.64 feet per year between 1993 and 2012. This erosion rate was determined to be approximately seven times higher than the rate of erosion at a geologically similar stretch of shoreline farther down the coast. Powerful storms during the past two winter seasons have resulted in even more severe erosion, causing major threats to Highway 1, Mirada Road and other coastal infrastructure and leading to emergency repairs by Caltrans and the County of San Mateo.

The project is necessary to reduce the threat of structural damage and recreation loss along Surfers Beach. Specific benefits include: preventing or mitigating beach erosion and sea cliff retreat; improving protection of Highway 1 and other structures; increasing quality and quantity of public access and recreation; reducing the need for hard structures (e.g. seawalls and revetments) and improving beach and wildlife habitat. This project will also address the issues associated with the shoaling that has occurred inside of the Harbor since the outer breakwater was constructed.

The San Mateo County Harbor District Board of Harbor Commissioners recognized the benefits of this proposed project and unanimously approved this pilot project at an October 7, 2015 Board meeting. In February 2016, the District submitted a grant application to Division of Boating and Waterways for \$800,000 to fund the Project implementation (construction and monitoring). The grant request was approved, and the District was notified in July 2017 that there is \$800,000 in the California budget to implement the Project. This includes sediment placement on Surfers Beach of up to 75,000 cubic yards of clean sand excavated/dredged from inside the outer breakwater at Pillar Point Harbor.

The District also successfully applied for funding through the Ocean Protection Council (OPC) for a portion of the necessary planning, engineering and design, environmental studies, and regulatory compliance/permitting. The OPC grant agreement was completed in late June 2017.

1.1 Project Summary

The San Mateo County Harbor District plans to conduct a beach nourishment project at Surfers Beach resulting in the relocation of approximately 75,000 cubic yards of clean sand from inside Pillar Point Harbor to the adjacent beach (Surfers Beach) for beneficial re-use. Please see Figure 1 for a vicinity map of the area. Sampling and testing of sediments to be dredged from Pillar Point Harbor will be completed in order to confirm the suitability of the sediment for beach placement at Surfers Beach, located just east of the Federal Breakwater. This Sampling and Analysis Report (SAR) describes the sample collection, handling, analysis procedures and results for the sampling and testing of material proposed for dredging from Pillar Point Harbor.

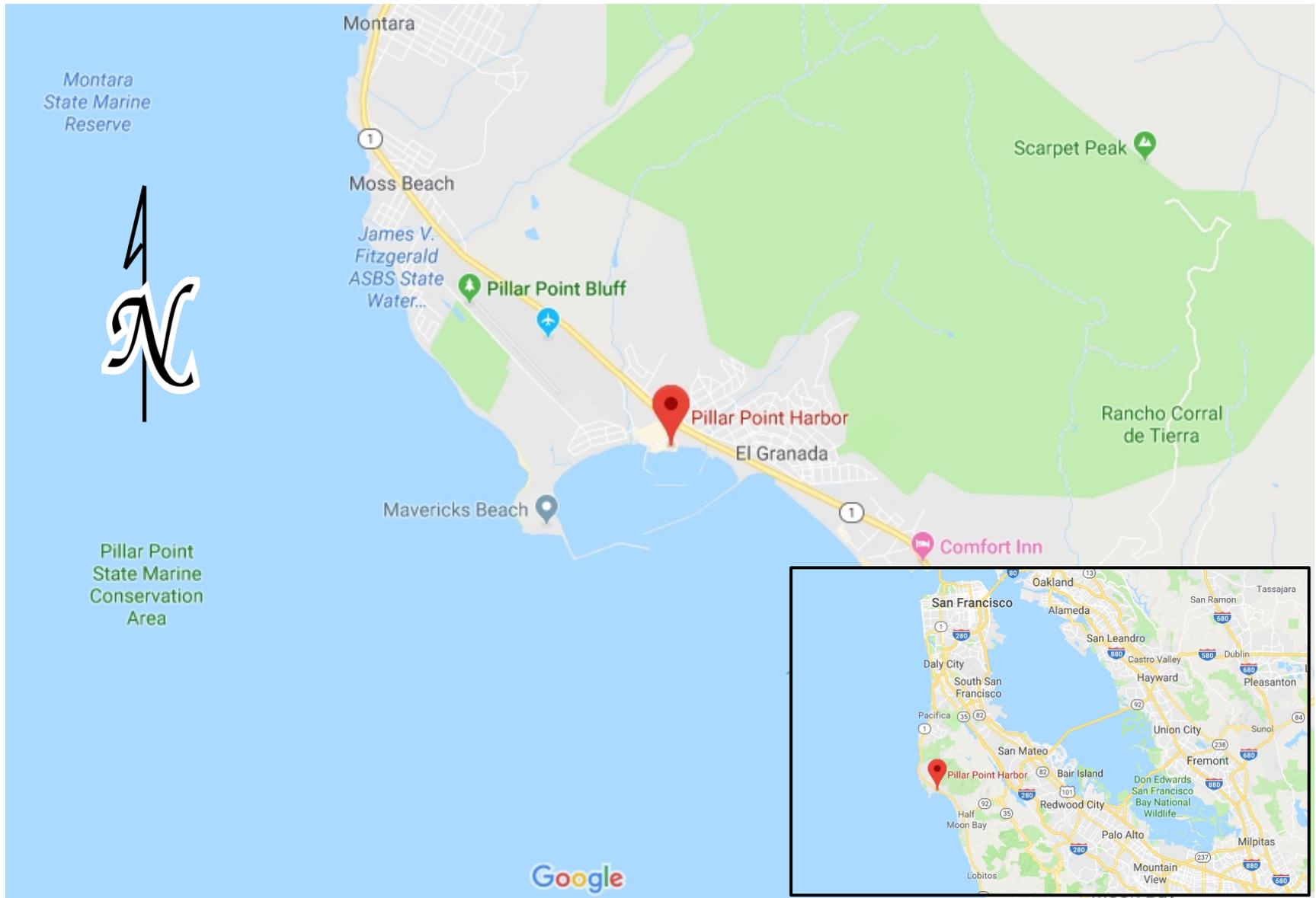


Figure 1. Location of Pillar Point Harbor.

1.2 Site Location

Pillar Point Harbor is located in San Mateo County, California (Figure 1). Geographic coordinates (NAD 83) are 37° 29.95' N and 122° 29.15' W for the approximate center inside the federal breakwater.

1.3 Roles and Responsibilities

Project responsibilities and key contacts for this sediment characterization program are listed in Tables 1 and 2. Kinnetic Laboratories Inc. provided sampling, logging and reporting services. Physical testing was conducted by Leighton Group.

Table 1. Project Team and Responsibilities.

Responsibility	Name	Affiliation
Project Planning and Coordination	John Moren Brad Damitz Spencer Johnson	San Mateo Harbor District Independent Consultant Kinnetic Laboratories
Project Design and Engineering	Louis White, PE Bob Battalio, PE	ESA ESA
Sampling and Analysis Plan (SAP) Preparation	Ken Kronschnabl Spencer Johnson	Kinnetic Laboratories Kinnetic Laboratories
Field Sample Collection and Transport	Spencer Johnson Dale Parent	Kinnetic Laboratories Kinnetic Laboratories
Grain Size Analysis, TOC, and Percent Solids	James Ward	Leighton Group
Health and Safety Officer and Site Safety Plan	Greg Cotten	Kinnetic Laboratories
Laboratory Chemical Analyses	Julie Lam Amy Howk	Eurofins Calscience Kinnetic Laboratories
QA/QC Management Analytical Laboratory QA/QC	Danielle Gonsman Amy Howk	Kinnetic Laboratories Kinnetic Laboratories
Technical Review	Ken Kronschnabl Brad Damitz	Kinnetic Laboratories Independent Consultant
Final Report	Ken Kronschnabl Spencer Johnson	Kinnetic Laboratories Kinnetic Laboratories
Agency Coordination	Brad Damitz	Independent Consultant

Table 2. Key Project Contacts

John Moren Director of Operations San Mateo County Harbor District 504 Ave Alhambra, 2nd Floor, El Granada, Ca Tel. (805) 564-5527 jmoren@smharbor.com	Michele Castro Business Development Manager Eurofins Calscience, Inc. 7440 Lincoln Way Garden Grove, CA 92841-1427 Tel.: (949) 870-8766 MicheleCastro@eurofinsUS.com
Ken Kronschnabl Project Manager - Sampling/Testing Kinnetic Laboratories, Inc. (KLI) 307 Washington St. Santa Cruz, CA 95060 Tel. (831) 457-3950 kkronsch@kinneticlabs.net	Amy Howk KLI QA/QC Management 307 Washington St. Santa Cruz, CA 95060 Tel. (831) 457-3950 ahowk@kinneticlabs.net
Spencer Johnson Field Operations Mgr. Kinnetic Laboratories, Inc. (KLI) 307 Washington St. Santa Cruz, CA 95060 Tel. (831) 457-3950 sjohnson@kinneticlabs.net	Brad Damitz Independent Consultant Tel. (415) 250-8406 brad.damitz@me.com

1.4 Data Users

For project design purposes, the data produced by this sediment sampling and analysis report will be used by the ESA engineering team to refine permitting level dredging and beach nourishment plans for the project.

For environmental review and regulatory purposes, the principal users of the data produced by this project are the following agencies:

1. San Francisco District, U.S. Army Corps of Engineers (USACE);
2. San Francisco Bay Regional Water Quality Control Board (RWQCB)—Region 2;
3. U.S. Environmental Protection Agency (USEPA) - Region IX;
4. Greater Farallones National Marine Sanctuary (GFNMS)
5. California Coastal Commission.

Other users of the data may include the following agencies:

1. California Department of Fish and Wildlife (CDFW);
2. U.S. Fish and Wildlife Service (USFWS);
3. U.S. National Marine Fisheries Service (USNMFS); and
4. California State Lands Commission (CSLC).

1.5 Harbor Construction, Site Setting and Potential Sources of Contamination

The Army Corps of Engineers began work on a breakwater at Pillar Point for a harbor or refuge for the fishing fleet after World War II and finally completed the project in 1961. The Johnson Pier, docks, and the inner breakwater were built during the 1970's and 1980's. Pillar Point remains a major commercial and sport fishing harbor on California's central coast and is host to many public events including the annual Mavericks surfing competition, the July 4th fireworks display, and the Christmas boat decorating contest.

Pillar Point Harbor contains approximately 369 small boat slips. Pleasure craft as well as commercial fishing vessels inhabit the slips. The Harbor and Johnson Pier offer a variety of services and recreational activities. There are several restaurants and small businesses adjacent to the Harbor but there are no industrial facilities in the area. Just outside the inner breakwater to the East is a six-lane small boat launch ramp. Adjacent to the launch ramp are restroom facilities and a fish cleaning station. A beach curves out approximately 1,200 feet South East from the launch ramp to the federal breakwater. A storm drain enters the Harbor near the launch ramp as well as the outfall to Deer Creek, which causes sediment deposition resulting in nuisance shoaling at the launch ramps. The Harbor also receives localized runoff from areas immediately surrounding the Harbor from several storm drain outfalls and also from Denniston Creek, which drains into the Harbor on the opposite side. Fecal coliform contamination nonpoint sources has been an ongoing issue and has been studied extensively in the recent past.

1.6 Previous Testing in the Project Area

No known sampling and/or testing programs have been conducted in the area of interest, except for the boat launch ramp facility which underwent sampling and testing in 2012 and 2017.

2.0 METHODS

This section describes the dredging design, study design and field and analytical methods for this testing program.

2.1 Sampling and Testing Design

The sampling and testing design for this SAR covers data collection tasks for Pillar Point Harbor sediment collection and testing. Evaluation guidelines are also discussed.

2.1.1 Sampling and Testing Approach

The main approach was to determine the physical properties (Grain Size, Percent Solids, and Total Organic Carbon) of the sediments at each location and depth interval to determine if the sediments are physically suitable for nourishment of Surfers Beach. In addition, sediments from all locations were composited according to depth intervals and tested for grain size, percent solids, and TOC. Chemical data, if acquired, will be compared to the following ecological and human health screening values:

- Effects Range Low (ERL) and Effects Range Medium (ERM) values developed by Long, *et al.* (1995) that correlate concentrations of selected contaminants with likelihood of adverse biological effects;
- California Human Health Screening Levels (CHSSLs) (Cal/EPA, 2005 – updated 2010);
- U.S. EPA Regional Screening Levels (RSLs) (USEPA Region 9, updated 2018); and
- San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels (ESLs) (SFBRWQCB, update 2016a).

2.1.2 Sample Identification, Composite Areas, Sediment Collection and Testing

Vibracore sampling, as described in Section 2.2.2 (Vibracore Sampling Methods), was carried out to collect subsurface sediment data at the eight locations within two distinct borrow areas inside the breakwater shown on Figure 2. The sampling location identifiers are “PPIHVC18-01” through “PPIHVC18-08”. Table 3 lists final coordinates, actual depths, and composite IDs for each sample location.

All cores were advanced to nine feet below the existing mudline or to refusal. Cores were sectioned into 36-inch segments or shorter as appropriate to create a top, middle, and bottom composite sample for physical and carbon analyses (grain size distribution, total organic carbon (TOC), and percent solids) and an archive chemical sample for possible chemical testing. Composites were formed for each of the following: Sites 1 -5, and sites 6 -7 (TOC only) and site 8 was analyzed only individually. Additionally, each segment of each core was subsampled and tested for grain size, and additional archive samples were formed from each core segment.



Figure 2. Pillar Point Harbor Potential Dredge Limits and Sampling Locations.

Table 3. Actual Sampling Locations, Core Depths, and Composite Identifications, Pillar Point Harbor.

Composite Area	Sample Designation	Composite IDs	Latitude North	Longitude West	Water Depths (ft., MLLW)	Design Depth (ft., bgs)	Expected Core Length (ft.)	Core Analyses	Composite Analyses
Inside Breakwater	PPIHVC18-1	PPIHVC18-Top, Mid, & Bot	37°30.106'	122°28.619'	-2.0	9	9	Grain Size, Chem Archive	Grain Size, TOC, % Solids
	PPIHVC18-2		37°30.074'	122°28.657'	-8.7	9	9	Grain Size, Chem Archive	
	PPIHVC18-3		37°30.079'	122°28.599'	-5.7	9	9	Grain Size, Chem Archive	
	PPIHVC18-4		37°30.088'	122°28.552'	-1.4	9	9	Grain Size, Chem Archive	
	PPIHVC18-5		37°30.047'	122°28.594'	-9.6	9	9	Grain Size, Chem Archive	
	PPIHVC18-6	Individual	37°30.944'	122°28.629'	+0.5	9	9	Grain Size, Chem Archive	
	PPIHVC18-7		37°29.913'	122°28.683'	-0.8	9	9	Grain Size, Chem Archive	
	PPIHVC18-8		37°29.872'	122°28.747'	-1.8	9	9	Grain Size, Chem Archive	
Pillar Point Harbor Beach	IHBG-18-1	Individual	37°30.058'	122°28.296'	+2.0	0.5	0.5	Grain Size, Chem Archive	Grain Size, TOC, % Solids
	IHBG-18-2		37°30.025'	122°28.202'	+2.0	0.5	0.5	Grain Size, Chem Archive	
	IHBG-18-3		37°29.985'	122°28.120'	+3.0	0.5	0.5	Grain Size, Chem Archive	
Surfers Beach	SBREF18-1	Individual	37°30.137'	122°28.627'	+3.0	0.5	0.5	Grain Size, Chem Archive	Grain Size, TOC, % Solids
	SBREF18-2		37°30.095'	122°28.530'	+3.0	0.5	0.5	Grain Size, Chem Archive	
	SBREF18-3		37°29.995'	122°28.503'	+3.0	0.5	0.5	Grain Size, Chem Archive	

TBD = To be determined

Archive samples are being stored frozen for at least six months. Grain size, TOC, and Percent Solids samples were not frozen.

2.1.3 Summary of Pillar Point Harbor Outer Breakwater Testing and Evaluation Sequence

The testing and evaluation sequence conducted for the Pillar Point Harbor samples is described in detail in the next subsection and is outlined as follows:

- 1) Conducted sediment grain analyses on each composite and individual sample including individual reference samples from Surfers Beach and individual samples from Pillar Point Harbor Beach (Figure 2).
- 2) If the initial grain size analyses fall below an average of 80 percent sand (as it did for the top, middle, and bottom composite sample for sites 1-5), then confirmatory chemical analyses may be performed on a limited basis and is yetg to be determined.
- 3) Chemical analytical results if obtained will be evaluated against ERLs and ERMs, RSLs, ESLs and CHHSSLs.

2.2 Field Sampling Protocols

This section discusses vibracore sampling, grab sampling, decontamination, sample processing, and documentation procedures carried out for this project.

2.2.1 Positioning and Depth Measurements

Positioning at each sampling location was accomplished using a differential GPS (DGPS) navigation system operating in Wide Area Augmentation System (WAAS) mode with positioning accuracies of 3 to 10 feet. Locations were recorded in geographic coordinates (Latitude and Longitude, NAD 83). A graduated lead line was used to measure water depths that were corrected to mean lower low water (MLLW). Tidal stage was determined using NOAA predicted tide tables checked against a local tide gage or real-time tidal stage data.

All sampling sites were located within dredge limits and within 20 feet of target coordinates. Records were maintained during fieldwork to confirm the accuracy of the DGPS. The DGPS was checked for accuracy at least twice a day and the max error in feet was never greater than 7 feet.

2.2.2 Sampling Methods

Harbor sediment samples were collected using an electric vibracore that can penetrate and obtain samples to the project sample elevation of nine feet bgs or to refusal. The depth of refusal is defined as the depth at which the average rate of penetration is less than 0.1 feet/minute for a two (2) minute period. Refusal was encountered prior to full penetration at sites 1-5 due to underlying formation material. Penetration was to 10.5 feet for Site 6-8. At site 2, where the depth of refusal was reached prior to the sample depth, one additional attempt was made to confirm the presence of formation material.

At the conclusion of a successful vibracore, the core liner was removed and split open for inspection and sampling. None of the core material was extruded from the liner. Processing took place onshore and aboard the sampling vessel.

Vibracore sampling was conducted from a 12 ft x 16 ft pontoon barge, which was positioned with a 17 ft Boston Whaler. The vessels were fully equipped with all necessary navigation, safety, and lifesaving devices per Coast Guard requirements. The barge secured itself in place using spuds.

Kinnetic Laboratories' vibracore consists of a 4-inch diameter aluminum coring tube, a stainless steel cutting tip, and a stainless-steel core catcher. The vibrating unit has two counter-rotating motors encased in waterproof aluminum housing. A three-phase, 240-volt generator powers the motors. Inserted into the core tubes were food-grade clean polyethylene liners. The vibracore head and tube were then lowered overboard with a quadrapod and winch. The unit was then vibrated until it reached target sampling depth or until the depth of refusal was reached.

When penetration of the vibracore was complete, power was shut off to the vibra-head, and the vibracore was brought aboard the vessel. The core cutting tip and catcher were then removed. Afterwards, the core liners were removed and sealed on both ends until processed.

Grab sampling beach sediments was conducted with a 4-inch diameter stainless steel hand auger and stainless steel spoon. The auger was advanced 0.5 feet below the sediment surface and samples were placed into sealable plastic bags for grain size analysis.

2.2.3 Vibracore Decontamination

All sample contact surfaces were stainless steel, polyethylene or Teflon[®] coated. Compositing tools were stainless steel. Except for the core liners, all contact surfaces of the sampling devices and the coring tubes were cleaned for each sampling location. The cleaning protocol consisted of a site water rinse, a Micro-90[®] soap wash, and then 3 deionized water rinses. The polyethylene core liners were new and of food grade quality. All rinsate was collected in containers and disposed of properly.

2.2.4 Core Processing

Cores were placed in a PVC core rack that was cleaned between cores. After placement in the rack, core liners were split lengthwise to expose the recovered sediment. Once exposed, sediment that came in contact with the core liner was removed by scraping with a pre-cleaned stainless steel spoon. Each core was photographed, measured, and lithologically logged in accordance with the Unified Soil Classification System (USCS).

Photographs were taken of each core covering a maximum two-foot interval. These pictures will be provided in the Final Report.

Following logging, vertical composite subsamples were formed from each core as appropriate. Cores These included samples for grain size, TOC and percent solids analyses, discrete chemical

archives, and the composite chemical archive. Vertical composite subsamples were formed by combining and homogenizing a representative sample from each sampling interval, as described in Section 2.1, in a pre-cleaned stainless steel tray. A 0.5-liter portion of this material was placed in a pre-cleaned and certified glass jar with a Teflon[®]-lined lid for archived material. Another portion was placed in sealable plastic bags for grain size analysis. The remaining portion was placed in another pre-cleaned tray for area compositing with the other primary vertical composite subsamples from the remaining locations and same depth interval.

For the preservation of chemical sediment samples, filled containers were placed on ice immediately following sampling and then frozen as soon as possible. A small amount of headspace was allowed to prevent container breakage during freezing. The sample containers were sealed to prevent any moisture loss and possible contamination. No samples showed external contamination due to handling or incorrect sampling procedures

2.2.5 Detailed Soils Log

A detailed soils log was prepared for each sampling location as part of the field log. As a minimum, this log included the project name, hole or transect number or designation, date, time, location, water depth, estimated tide, mudline elevation, type and size of sampling device used, depth of penetration, length of recovery, depths below mudline of samples, and a description and condition of the sediment. The description of the sediment was in accordance with ASTM D 2488 (2006), and included as a minimum: grain size, color, estimation of density (sand) or consistency (silts and clays), odor (if present), and description of amount and types of organics and trash present. These logs will be provided in the Final Report.

2.2.6 Documentation and Sample Custody

All samples had their containers physically marked as to sample location, date, time and analyses. All samples were handled under Chain of Custody (COC) protocols beginning at the time of collection. Sampling data was recorded on field data log sheets. A copy of the field data logs is included in this draft report. An inventory(COC form) will be included of all samples taken and delivered.

Samples were considered to be “in custody” if they were (1) in the custodian’s possession or view, (2) in a secured place (locked) with restricted access, or (3) in a secure container. Standard COC procedures were used for all samples collected, transferred, and analyzed as part of this project. COC forms were used to identify the samples, custodians, and dates of transfer. Except for the shipping company, each person who had custody of the samples signed the COC form and ensured samples were stored properly and not left unattended unless properly secured.

The completed COC form was placed in a sealable plastic bag and placed in the cooler with the samples. COC records are also included in the final report prepared by the testing laboratory.

A daily field activity log was maintained listing the beginning and ending time for every and all phases of operation, the names and responsibilities of all field personnel present, description and length of any delays, and weather and sea conditions. This log also includes DGPS verification notes. These logs will be provided in the Final Report.

2.3 Laboratory Testing

Only grain size, TOC and percent solids were run at this time

2.3.1 Geotechnical Testing

A sufficient quantity of sediment was collected from each location so that a representative amount of sediment was included in each geotechnical sample. These samples represented material for each 36-inch or major core interval as appropriate as show in Table 6.

All mechanical grain size tests were run according to ASTM D 6913. In addition to the mechanical grain size, total organic carbon (TOC) and percent solids were also analyzed (Table 5).

3.0 QUALITY CONTROL REQUIREMENTS

Formal QA/QC procedures were followed for this project. The objectives of the QA/QC Program were to fully document the field and laboratory data collected, to maintain data integrity from the time of field collection through storage and archiving, and to produce the highest quality data possible. Quality assurance involves all of the planned and systematic actions necessary to provide confidence that work performed by the project team conforms to contract requirements, laboratory methodologies, state and federal regulation requirements, and corporate Standard Operating Procedures (SOPs). The program is designed to allow the data to be assessed by the following parameters: Precision, Accuracy, Comparability, Representativeness, and

Completeness. These parameters are controlled by adhering to documented methods and procedures (SOPs), and by the analysis of quality control (QC) samples on a routine basis.

3.1 Field Sampling Quality Management

Field Quality Control procedures are summarized in Table 4 and includes adherence to SOPs and formal sample documentation and tracking.

Table 4. Quality Control Procedures for Field Sediment Sampling.

<i>Sediment Sampling Field Activity</i>
<ul style="list-style-type: none">• Vibracore Sampling SOP• Grab Sampling SOP• Protocol Cleaning/Low Detection Limits• Certified Clean Laboratory Containers• Horizontal and Vertical Controls• Core Logging & Subsampling Protocols• Sample Control/ Chain of Custody Procedures• Field Logs and Core Logs• Sample Preservation & Shipping Procedures

4.0 RESULTS AND DISCUSSION

As summarized in Tables 5 and 6 below, results of all physical and TOC testing of the Pillar Point Harbor and reference beach samples are provided. This table does not include analytical quality assurance/quality control (QA/QC) data.

4.1 Sediment Observations

Observed sediment characteristics varied somewhat between cores. According to laboratory analysis, sediments from half of the cores were described as poorly graded sand (SP) or poorly graded sand with silt (SP)(SM) and the other half were described as silty sand. All reference beach samples were described as poorly graded sand (SP).

There were no noxious odors, trash, and other non-organic debris observed in any of the cores. There were also no obvious layers of elevated contamination. Eelgrass was noted in the area between sites 7 and 8.

4.2 Sediment Physical Results

Grain size analyses were performed on multiple sections of each of the eight cores collected and each individual beach grab sample. Sieve analysis data for material above project depth for the Pillar Point Harbor cores are provided in Table 6, and the results show that the sediments vary in grain size by location and depth. Locations 6-8 show primarily poorly graded sand with few fines throughout while locations 1,2,3, and 5 show primarily silty sand with the proportion of silt increasing with depth. Location 4 showed poorly graded sand over silty sand. Sieve analysis data for the individual beach grab samples are also provided in Table 6 and show that sediments collected are poorly graded sand with very few fines. Total organic carbon analysis showed inconsequential levels of TOC across all cores and percent solids ranged from (Table 5). Individual grain size distribution curves for each individual grain size sample analyzed above will be provided in the Final Report.

As summarized in Table 6, results indicate that Pillar Point Harbor primary core intervals (mudline to project depth or refusal) varied in sand and silt content by location and depth. Core locations and intervals that showed greater than 80 percent sand were the following:

- Site 1 down to 4.7 feet
- Site 4 down to 4.1 feet
- Site 6 down to 8.5 feet
- Site 7 down to 8.5 feet
- Site 8 down to 7.3 feet

All beach samples showed 98 percent sand or greater.

Table 5. Results of Percent Solids and TOC analysis

Analyte	Top Composite sites 1-5	Mid Composite sites 1-5	Bottom Composite sites 1-5	Top Composite sites 6-7	Mid Composite sites 6-7	Bottom Composite sites 6-7	Top site 8	Mid site 8	Bot site 8
% Solids	73.7	82.4	86.0	78.3	78.8	73.6	71.5	78.6	68.8
% TOC	0.33	0.12	0.028J	0.095	0.23	1.20	0.32	0.33	1.30

Table 6. 2019 Sieve Analysis Data for Pillar Point Harbor Core locations, Inner Beach Grab Locations, and Surfers Beach Reference Locations.

Location	Sampling Depth (ft, BGS)	Gravel			Coarse Sand	Medium Sand		Fine Sand		Silt/Clay	Classification	
		Sieve No./Sieve Size/% Passing										
		1/2"	3/8"	4	8	16	30	50	100	200		
		12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.60 mm	0.30 mm	0.150 mm	0.075 mm		
PPIHVC18-Top (1 to 5 Composite)	0.0'-3.0'	100	100	99.7	96.6	90.7	82.3	74.0	46.9	21.3	Silty Sand (SM)	
PPIHVC18-Mid (1 to 5 Composite)	3.0'-6.0'	100	99.4	98.4	93.7	85.7	76.0	67.8	45.9	27.2	Silty Sand (SM)	
PPIHVC18-Bottom (1 to 5 Composite)	6.0'+	100	100	99.8	97.0	90.9	84.3	75.6	53.5	39.3	Silty Clayey Sand (SC-SM)	
Site 1 Top	0.0'-3.0'	100	100	99.2	96.5	92.3	82.6	69.3	33.6	13.5	Silty Sand (SM)	
Site 1 Mid	3.0'-4.7'	100	98.8	97.0	91.4	83.2	72.7	62.1	35.0	12.7	Silty Sand (SM)	
Site 2 Top	0.0'-2.0'	100	100	99.8	99.4	99.0	98.8	96.7	87.2	47.7	Silty Sand (SM)	
Site 2 Mid	2.0'-3.7'	100	100	99.5	93.8	85.3	77.0	67.2	52.3	41.7	Silty Sand (SM)	
Site 3 Top	0.0'-3.0'	100	100	99.9	99.5	98.6	95.8	91.3	68.7	31.5	Silty Sand (SM)	
Site 3 Mid	3.0'-6.0'	100	98.9	96.6	91.4	84.1	77.0	70.2	42.2	23.5	Silty Sand (SM)	
Site 3 Bottom	6.0'-6.7'	100	100	99.2	94.3	85.9	77.5	67.8	49.0	36.7	Silty Sand (SM)	
Site 4 Top	0.0'-3.0'	100	99.7	99.1	93.5	83.5	72.0	62.0	23.4	4.4	Poorly Graded Sand (SP)	
Site 4 3.0-4.1	3.0'-4.1'	100	100	99.7	97.8	89.3	64.4	49.3	16.8	2.3	Poorly Graded Sand (SP)	
Site 4 4.1-5.8	4.1'-5.8'	100	100	99.8	97.1	87.7	76.6	66.7	56.6	43.2	Silty Sand (SM)	
Site 5 Top	0.0'-3.0'	100	100	99.8	97.7	91.7	84.0	78.7	67.6	43.0	Silty Sand (SM)	
Site 5 Mid	3.0'-6.0'	100	100	99.7	94.9	88.2	82.2	75.9	56.8	36.5	Silty Sand (SM)	
Site 5 Bottom	6.0'-6.5'	100	100	99.6	98.5	95.6	91.4	84.0	57.5	41.8	Silty Sand (SM)	
Site 6 Top	0.0'-3.0'	100	100	100	99.9	99.5	99.3	97.9	48.9	2.7	Poorly Graded Sand (SP)	
Site 6 Mid	3.0'-6.0'	100	100	100	100	100	99.8	97.2	29.6	3.9	Poorly Graded Sand (SP)	
Site 6 Bottom	6.0'-8.5'	100	100	100	100	99.7	98.9	94.4	32.0	5.6	Poorly Graded Sand with Silt (SP-SM)	
Site 7 Top	0.0'-3.0'	100	100	99.9	99.7	99.0	98.5	96.7	47.6	2.8	Poorly Graded Sand (SP)	
Site 7 Mid	3.0'-6.0'	100	100	100	100	100	99.9	98.6	53.9	3.7	Poorly Graded Sand (SP)	
Site 7 Bottom	6.0'-8.5'	100	100	100	100	99.9	99.3	93.8	40.7	4.8	Poorly Graded Sand with Silt (SP-SM))	

Table 6. 2019 Sieve Analysis Data for Pillar Point Harbor Core locations, Inner Beach Grab Locations, and Surfers Beach Reference Locations.

Location	Sampling Depth (ft, BGS)	Gravel			Coarse Sand	Medium Sand		Fine Sand		Silt/Clay	Classification	
		Sieve No./Sieve Size/% Passing										
		1/2"	3/8"	4	8	16	30	50	100	200		
		12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	0.60 mm	0.30 mm	0.150 mm	0.075 mm		
Site 8 Top	0.0'-3.0'	100	100	100.0	99.9	99.7	99.0	94.5	49.7	3.3	Poorly Graded Sand (SP)	
Site 8 Mid	3.0'-6.0'	100	100	100	100	100	99.8	97.6	55.8	4.7	Poorly Graded Sand (SP)	
Site 8 Bottom	6.0'-7.3'	100	100	100	100	99.7	98.4	88.1	52.2	8.4	Poorly Graded Sand with Silt (SP-SM)	
Inner Harbor Beach Grab 1	0.0'-0.5'	100	100	100	100	100	99.9	98.9	41.7	1.3	Poorly Graded Sand (SP)	
Inner Harbor Beach Grab 2	0.0'-0.5'	100	100	100	100	100	99.9	98.9	53.6	2.0	Poorly Graded Sand (SP)	
Inner Harbor Beach Grab 3	0.0'-0.5'	100	100	100	100	100	100	99.1	47.1	1.9	Poorly Graded Sand (SP)	
Surfer's Beach Reference Grab 1	0.0'-0.5'	100	100	100	100	99.9	99.6	92.3	17.7	1.1	Poorly Graded Sand (SP)	
Surfer's Beach Reference Grab 2	0.0'-0.5'	100	100	100	100	100	99.9	93.4	17.7	1.0	Poorly Graded Sand (SP)	
Surfer's Beach Reference Grab 3	0.0'-0.5'	100	100	100	100	100	99.2	73.0	9.4	1.1	Poorly Graded Sand (SP)	

5.0 REFERENCES CITED

- ASTM D 2487-06. Classification of Soils for Engineering Purposes (USCS), American Society for Testing and Materials, W. Conshohocken, PA, latest edition.
- ASTM D 2488-06. Standard Practice for Description and Identification of Soils (Visual Manual Procedure), American Society for Testing and Materials, W. Conshohocken, PA, latest edition.
- ASTM D 422-63. Particle-Size Analysis of Soils, American Society for Testing and Materials, W. Conshohocken, PA, latest edition.
- California Department of Toxic Substances and Control (DTSC). 1997. Guidance Document. Selecting Inorganic Constituents as Chemicals of Potential Concern at Risk Assessments at Hazardous Waste Sites and Permitted Facilities. February 1997.
- California Environmental Protection Agency (Cal/EPA). 2010. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties. September 2010.
- San Francisco Regional Water Quality Control Board. Update 2016a. Environmental Screening Levels (ESLs) for Soil.
(https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/ESL%20Workbook_ESLs_Interim%20Final_22Feb16_Rev3_PDF.pdf)
- Krone CA, Brown, DW, Burrows, DG, Chan, S-L, Varanasi, U. 1989. Butyltins in sediment from marinas and waterways in Puget Sound, Washington State, U.S.A. Mar Poll Bull 20:528-31.
- Long, E.R., D.D. MacDonald, S.I. Smith, and F.D. Calder. 1995. Incidence of Adverse Biological Effects Within the ranges of Chemical Concentrations in Marine and Estuarine Sediments. Environmental Management, Vol. 19:81-97.
- USEPA. 2017a. National Functional Guidelines for Superfund Organic Methods Data Review. EPA540-R-2017-002. January 2017.
- USEPA. 2017b. National Functional Guidelines for Inorganic Superfund Data Review. EPA 540-R-2017-001. January 2017.
- USEPA/USACE (U.S. Environmental Protection Agency and U.S. Army Corps of Engineers). 1998. Evaluation of Dredged Material Proposed For Discharge In Waters Of The U.S. – Testing Manual [Inland Testing Manual (Gold Book)]. EPA-823-B-98-004.
- USEPA. 2018. Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites. <http://www.epa.gov/risk/regional-screening-levels-rsls>. Updated May 2018.



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: [Pillar Point Harbor](#)
 Project No.: [5720.180](#)
 Station ID: [PP Harbor Beach](#)
 Sample ID: [IHBG18-1](#)
 Soil Identification: [Olive gray poorly-graded sand \(SP\)](#)

Tested By: [ACS/OHF](#) Date: [06/26/19](#)
 Checked By: [J. Ward](#) Date: [07/11/19](#)
 Date, Time: [06/18/19, 17:02](#)

		Moisture Content of Total Air - Dry Soil	
Container No.:	IP-2	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	687.9	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	96.1	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	591.8	Moisture Content (%)	0.0

After Wet Sieve	Container No.	IP-2
	Wt. of Dry Soil + Container (g)	681.8
	Wt. of Container (g)	96.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	585.7

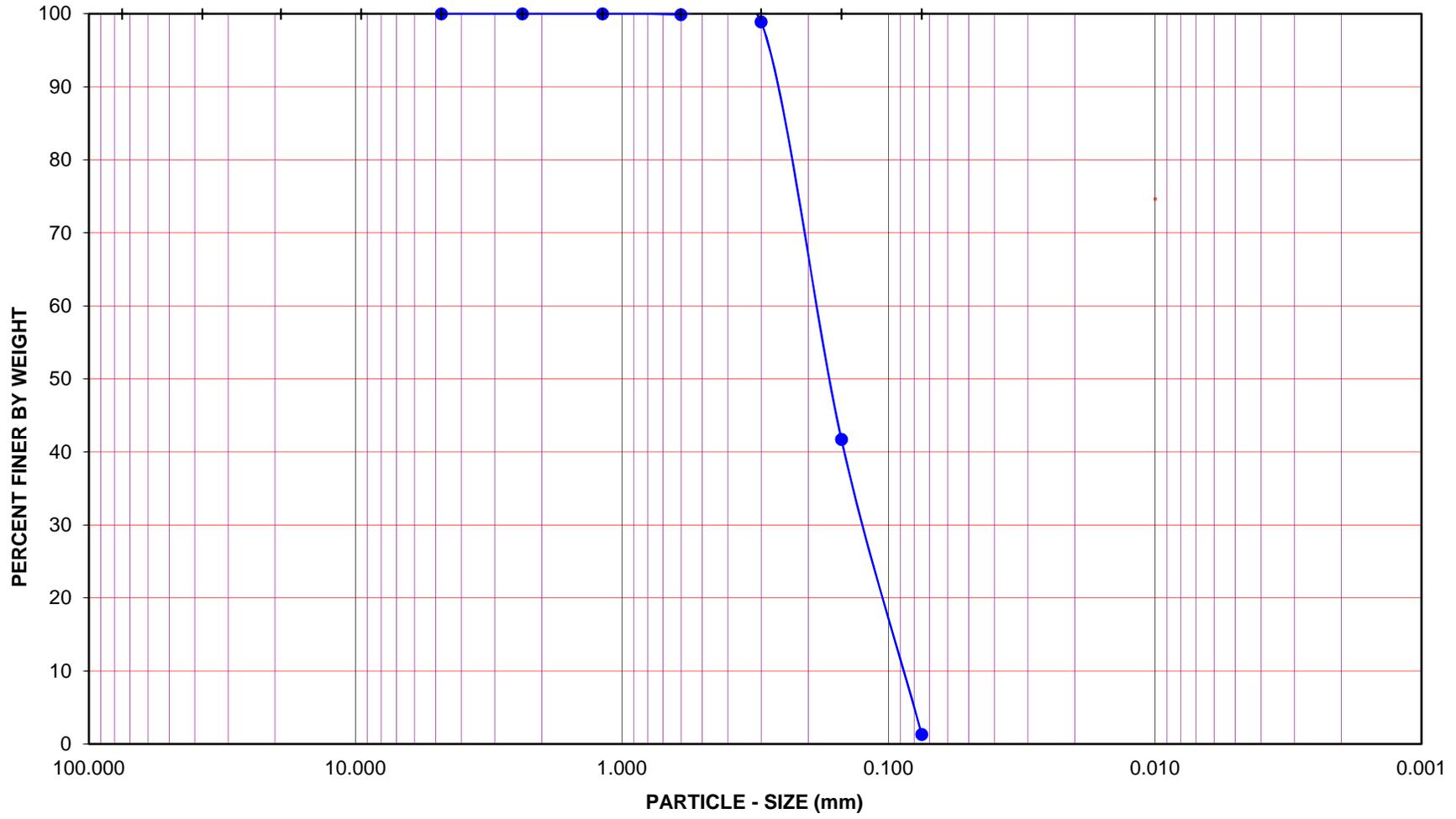
U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.2	100.0
#16	1.18	0.2	100.0
#30	0.600	0.4	99.9
#50	0.300	6.5	98.9
#100	0.150	345.0	41.7
#200	0.075	584.3	1.3
PAN			

GRAVEL: 0 %
 SAND: 99 %
 FINES: 1 %
 GROUP SYMBOL: SP

Cu = D60/D10 = 2.02
 Cc = (D30)²/(D60*D10) = 1.05

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor
 Project No.: 5720.180

Station ID: PP Harbor Beach Sample ID: IHBG18-1
 Date, Time: 06/18/19, 17:02 Soil Type : SP
 Soil Identification: Olive gray poorly-graded sand (SP)



**PARTICLE - SIZE
 DISTRIBUTION
 ASTM D 6913**

GR:SA:FI : (%) **0 : 99 : 1**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: [Pillar Point Harbor](#)
 Project No.: [5720.180](#)
 Station ID: [PP Harbor Beach](#)
 Sample ID: [IHBG18-2](#)
 Soil Identification: [Olive gray poorly-graded sand \(SP\)](#)

Tested By: [O. Figueroa](#) Date: [06/25/19](#)
 Checked By: [J. Ward](#) Date: [07/11/19](#)
 Date, Time: [06/18/19, 17:10](#)

		Moisture Content of Total Air - Dry Soil	
Container No.:	G	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	661.3	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	142.1	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	519.2	Moisture Content (%)	0.0

After Wet Sieve	Container No.	G
	Wt. of Dry Soil + Container (g)	655.3
	Wt. of Container (g)	142.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	513.2

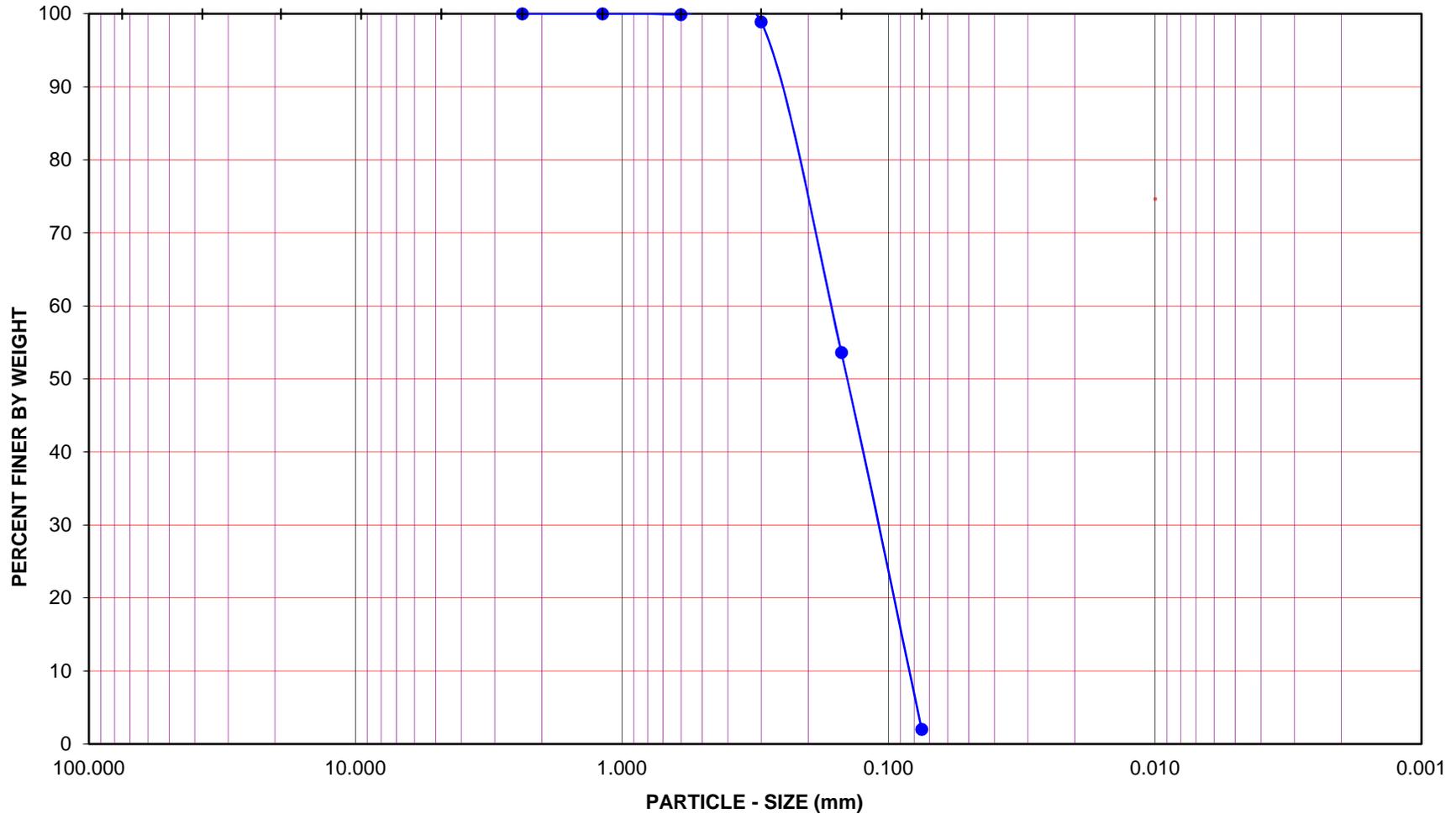
U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36	0.0	100.0
#16	1.18	0.1	100.0
#30	0.600	0.5	99.9
#50	0.300	5.9	98.9
#100	0.150	241.1	53.6
#200	0.075	508.7	2.0
PAN			

GRAVEL: **0 %**
 SAND: **98 %**
 FINES: **2 %**
 GROUP SYMBOL: **SP**

Cu = D60/D10 = 1.93
 Cc = (D30)²/(D60*D10) = 0.91

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: PP Harbor Beach

Sample ID: IHBG18-2

Date, Time: 06/18/19, 17:10

Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

GR:SA:FI : (%) 0 : 98 : 2



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: [Pillar Point Harbor](#)
 Project No.: [5720.180](#)
 Station ID: [PP Harbor Beach](#)
 Sample ID: [IHBG18-3](#)
 Soil Identification: [Olive gray poorly-graded sand \(SP\)](#)

Tested By: [O. Figueroa](#) Date: [06/25/19](#)
 Checked By: [J. Ward](#) Date: [07/11/19](#)
 Date, Time: [06/18/19, 17:20](#)

		Moisture Content of Total Air - Dry Soil	
Container No.:	GE	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	851.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	250.1	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	601.1	Moisture Content (%)	0.0

After Wet Sieve	Container No.	GE
	Wt. of Dry Soil + Container (g)	843.6
	Wt. of Container (g)	250.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	593.5

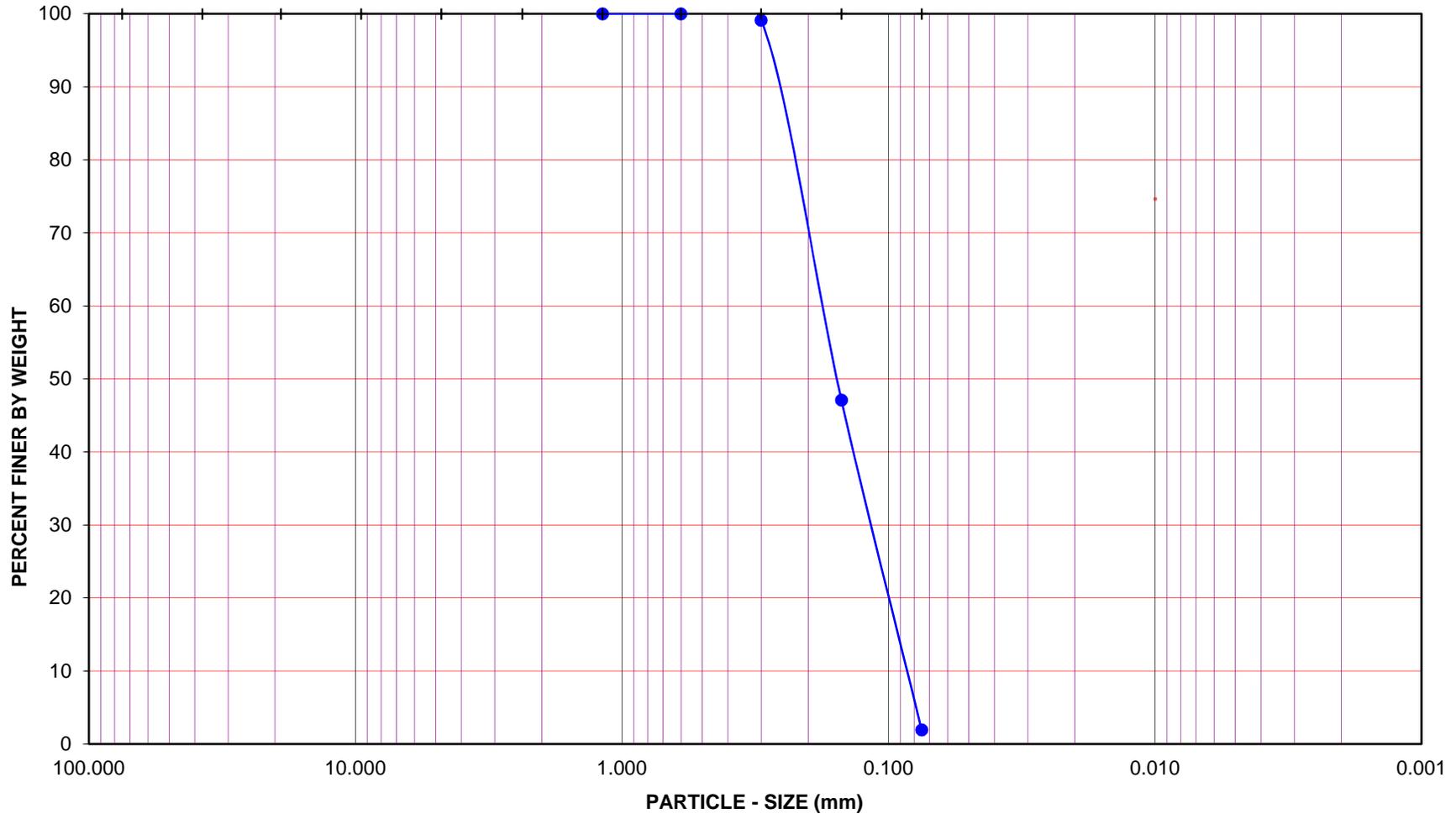
U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36		
#16	1.18	0.0	100.0
#30	0.600	0.3	100.0
#50	0.300	5.6	99.1
#100	0.150	317.9	47.1
#200	0.075	589.5	1.9
PAN			

GRAVEL: 0 %
 SAND: 98 %
 FINES: 2 %
 GROUP SYMBOL: SP

Cu = D60/D10 = 2.02
 Cc = (D30)²/(D60*D10) = 1.01

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER						HYDROMETER		
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: PP Harbor Beach

Sample ID: IHBG18-3

Date, Time: 06/18/19, 17:20

Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

GR:SA:FI : (%) 0 : 98 : 2



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: O. Figueroa Date: 06/26/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 1 Mid

Date, Time: 06/18/19, 12:00

Sample ID: PPIHVC18-1M

Soil Identification: Dark olive gray silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	DR	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	892.0	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	217.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	674.5	Moisture Content (%)	0.0

After Wet Sieve	Container No.	DR
	Wt. of Dry Soil + Container (g)	814.2
	Wt. of Container (g)	217.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	596.7

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5	0.0	100.0
3/8"	9.5	8.2	98.8
#4	4.75	20.0	97.0
#8	2.36	58.0	91.4
#16	1.18	113.6	83.2
#30	0.600	184.4	72.7
#50	0.300	255.3	62.1
#100	0.150	438.3	35.0
#200	0.075	588.8	12.7
PAN			

GRAVEL: **3 %**

SAND: **84 %**

FINES: **13 %**

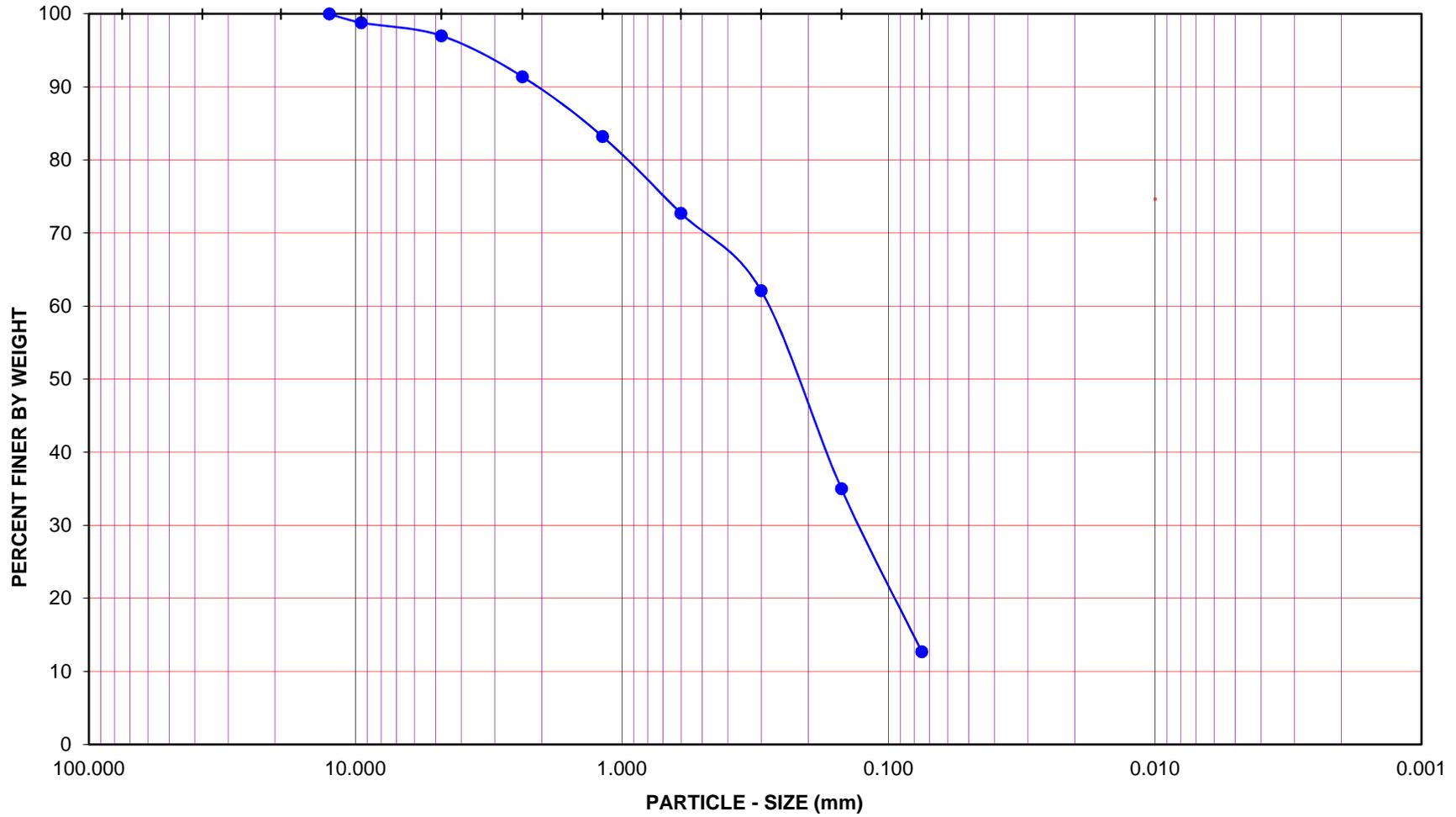
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 1 Mid

Sample ID: PPIHVC18-1M

Date, Time: 06/18/19, 12:00

Soil Type : SM

Soil Identification: Dark olive gray silty sand (SM)

GR:SA:FI : (%) **3 : 84 : 13**



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor Tested By: OHF/GEB Date: 06/26/19
 Project No.: 5720.180 Checked By: J. Ward Date: 07/11/19
 Station ID: 1 Top Date, Time: 06/18/19, 12:00
 Sample ID: PPIHVC18-1T
 Soil Identification: Dark olive gray silty sand (SM), shells noted

		Moisture Content of Total Air - Dry Soil	
Container No.:	WR	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	755.8	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	236.9	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	518.9	Moisture Content (%)	0.0

After Wet Sieve	Container No.	WR
	Wt. of Dry Soil + Container (g)	691.5
	Wt. of Container (g)	236.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	454.6

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	4.1	99.2
#8	2.36	18.0	96.5
#16	1.18	40.1	92.3
#30	0.600	90.5	82.6
#50	0.300	159.2	69.3
#100	0.150	344.5	33.6
#200	0.075	448.6	13.5
PAN			

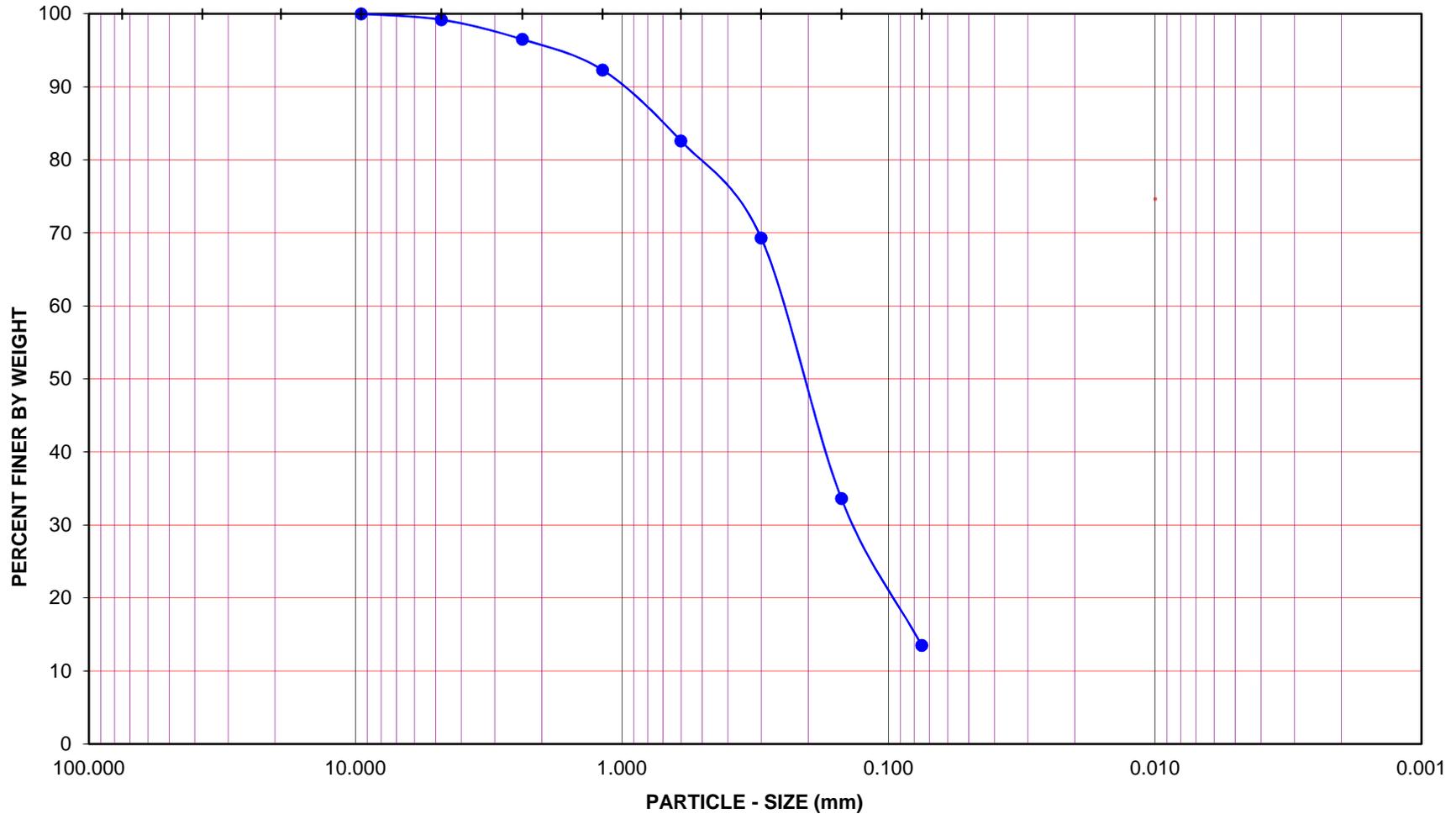
GRAVEL: 1 %
 SAND: 85 %
 FINES: 14 %
 GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 1 Top

Sample ID: PPIHVC18-1T

Date, Time: 06/18/19, 12:00

Soil Type : SM

Soil Identification: Dark olive gray silty sand (SM), shells noted

GR:SA:FI : (%) **1 : 85 : 14**



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: OHF/GEB Date: 06/26/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 2 Mid, 2.0-3.7'

Date, Time: 06/19/19, 11:10

Sample ID: PPIHVC18-2M

Soil Identification: Olive brown silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	DP-1	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	831.7	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	272.4	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	559.3	Moisture Content (%)	0.0

After Wet Sieve	Container No.	DP-1
	Wt. of Dry Soil + Container (g)	602.1
	Wt. of Container (g)	272.4
	Dry Wt. of Soil Retained on # 200 Sieve (g)	329.7

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	2.8	99.5
#8	2.36	34.4	93.8
#16	1.18	82.0	85.3
#30	0.600	128.6	77.0
#50	0.300	183.3	67.2
#100	0.150	266.9	52.3
#200	0.075	326.0	41.7
PAN			

GRAVEL: 1 %

SAND: 57 %

FINES: 42 %

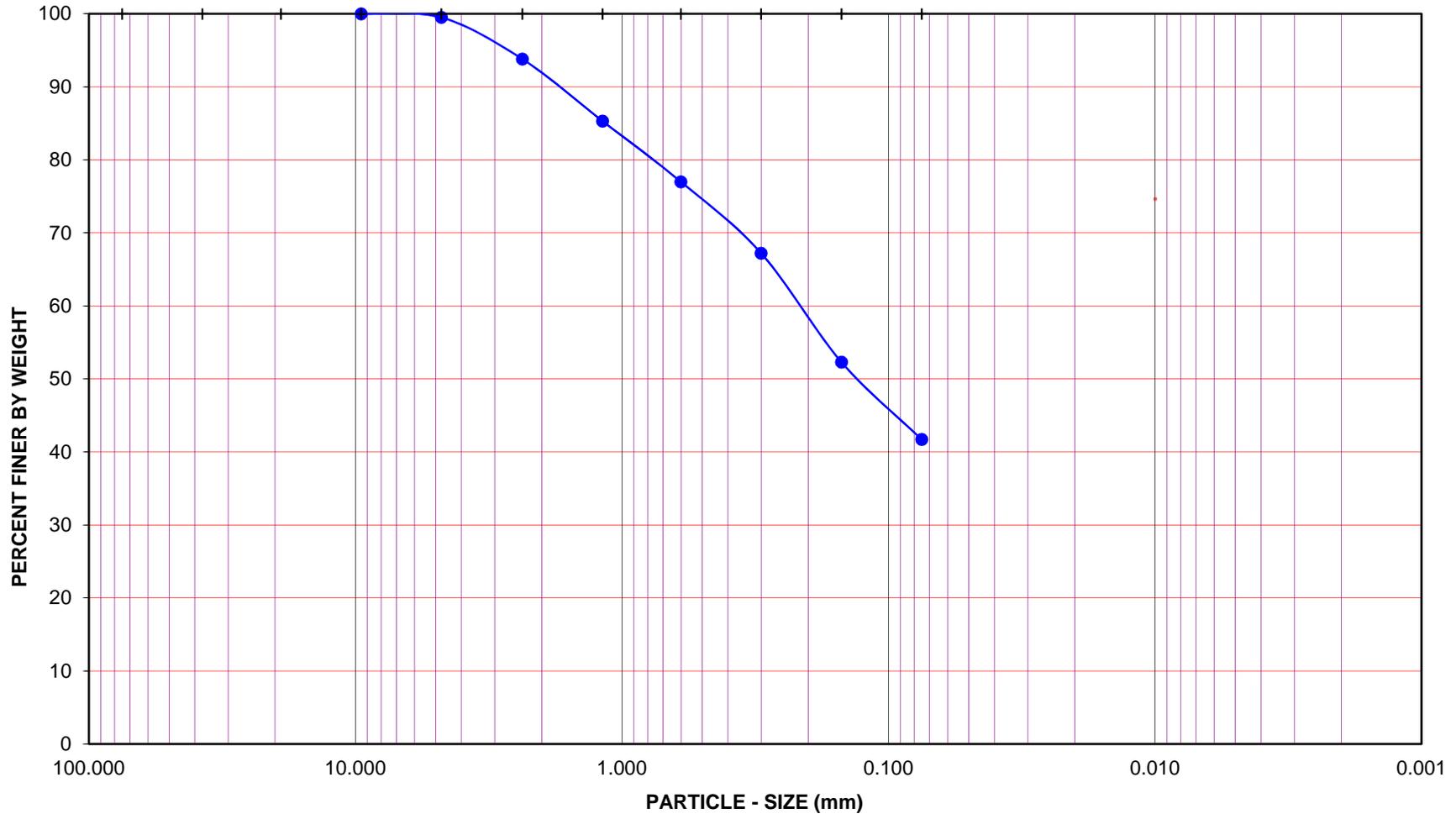
GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT	CLAY			
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 2 Mid, 2.0-3.7'

Sample ID: PPIHVC18-2M

Date, Time: 06/19/19, 11:10

Soil Type : SM

Soil Identification: Olive brown silty sand (SM)

GR:SA:FI : (%) **1 : 57 : 42**



Leighton

**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor Tested By: ACS/OHF Date: 06/21/19
 Project No.: 5720.180 Checked By: J. Ward Date: 07/11/19
 Station ID: 2 Top, 0-2.0' Date, Time: 06/19/19, 11:10
 Sample ID: PPIHVC18-2T
 Soil Identification: Olive gray silty sand (SM), few shells noted

		Moisture Content of Total Air - Dry Soil	
Container No.:	YK	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	683.5	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	251.4	Wt. of Container No. _____ (g)	1.0
Dry Wt. of Soil (g)	432.1	Moisture Content (%)	0.0

After Wet Sieve	Container No.	YK
	Wt. of Dry Soil + Container (g)	485.2
	Wt. of Container (g)	251.4
	Dry Wt. of Soil Retained on # 200 Sieve (g)	233.8

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	1.0	99.8
#8	2.36	2.8	99.4
#16	1.18	4.3	99.0
#30	0.600	5.3	98.8
#50	0.300	14.3	96.7
#100	0.150	55.1	87.2
#200	0.075	226.0	47.7
PAN			

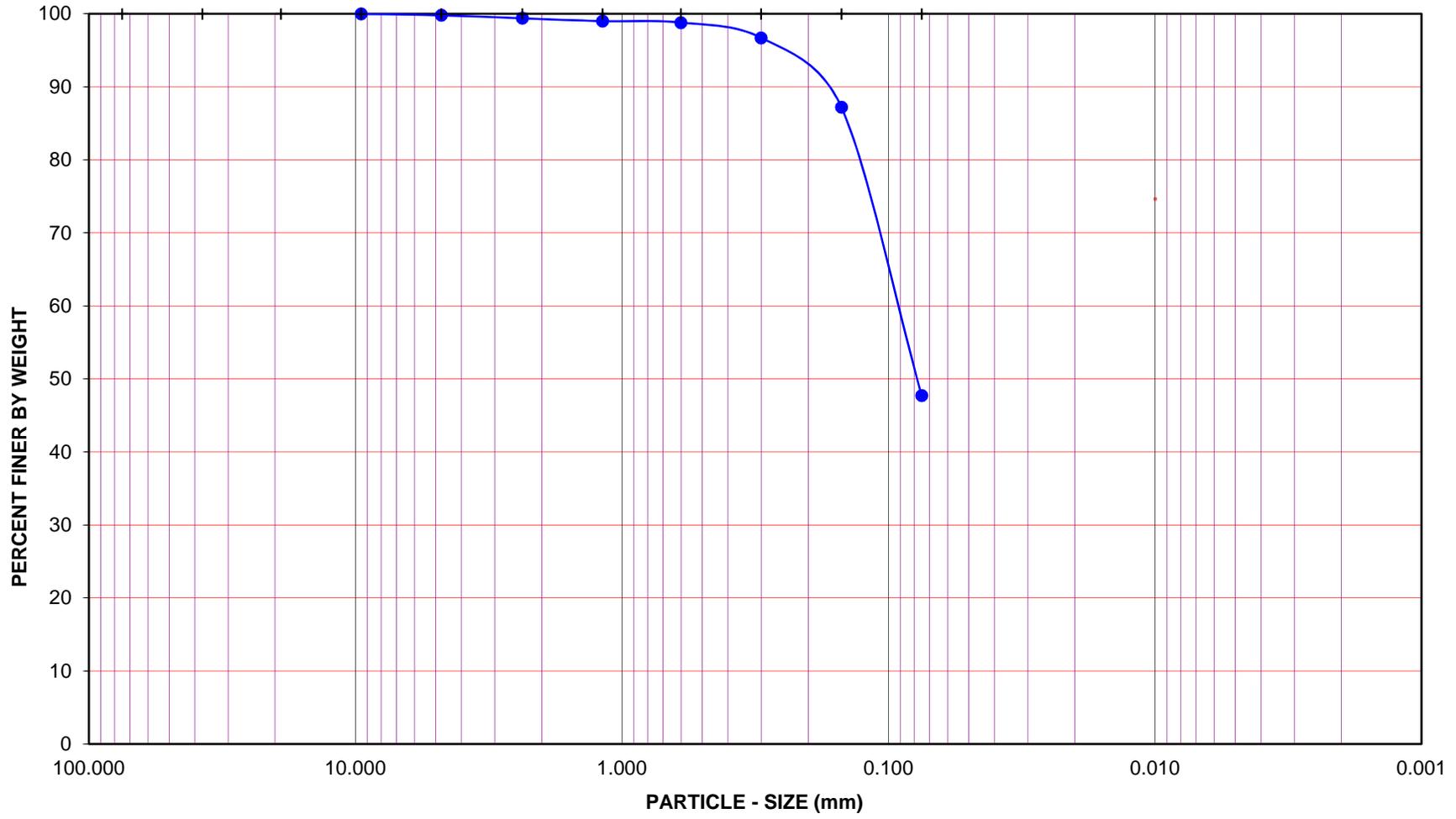
GRAVEL: 0 %
 SAND: 52 %
 FINES: 48 %
 GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor
 Project No.: 5720.180

Station ID: 2 Top, 0-2.0' Sample ID: PPIHVC18-2T
 Date, Time: 06/19/19, 11:10 Soil Type : SM

Soil Identification: Olive gray silty sand (SM), few shells noted

GR:SA:FI : (%) **0 : 52 : 48**



**PARTICLE - SIZE
 DISTRIBUTION
 ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: OHF/ACS Date: 06/26/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 3 Bottom

Date, Time: 06/18/19, 16:25

Sample ID: PPIHVC18-3B

Soil Identification: Olive brown silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	957	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	748.3	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	108.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	639.8	Moisture Content (%)	0.0

After Wet Sieve	Container No.	957
	Wt. of Dry Soil + Container (g)	518.2
	Wt. of Container (g)	108.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	409.7

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	4.9	99.2
#8	2.36	36.4	94.3
#16	1.18	90.5	85.9
#30	0.600	144.1	77.5
#50	0.300	206.0	67.8
#100	0.150	326.6	49.0
#200	0.075	405.1	36.7
PAN			

GRAVEL: 1 %

SAND: 62 %

FINES: 37 %

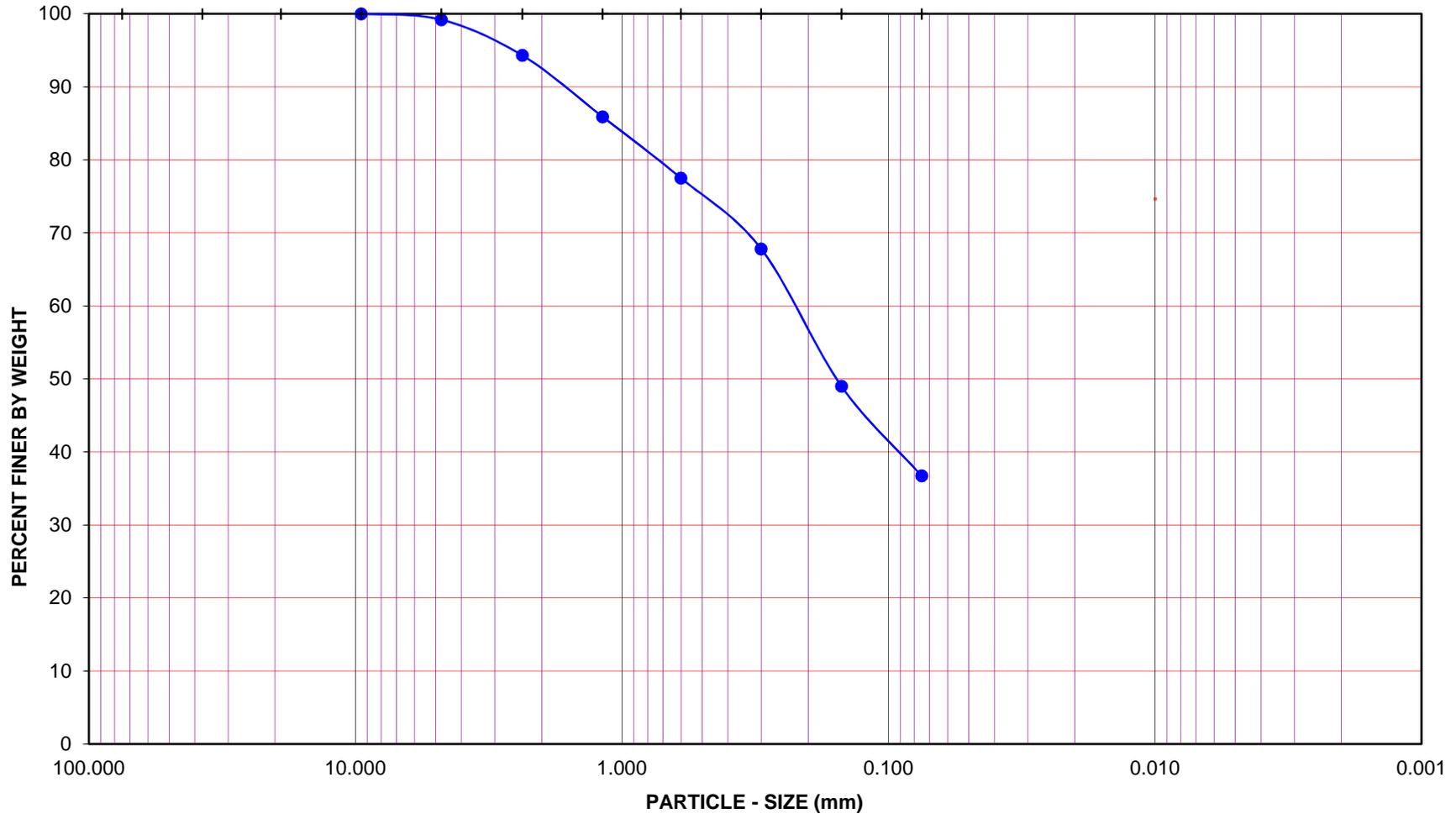
GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT	CLAY			
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 3 Bottom

Sample ID: PPIHVC18-3B

Date, Time: 06/18/19, 16:25

Soil Type : SM

Soil Identification: Olive brown silty sand (SM)

GR:SA:FI : (%) **1 : 62 : 37**



Leighton

PARTICLE - SIZE DISTRIBUTION
ASTM D 6913

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: O. Figueroa Date: 06/26/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 3 Mid

Date, Time: 06/18/19, 16:25

Sample ID: PPIHVC18-3M

Soil Identification: Olive brown silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	XP	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	955.5	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	201.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	754.3	Moisture Content (%)	0.0

After Wet Sieve	Container No.	XP
	Wt. of Dry Soil + Container (g)	784.4
	Wt. of Container (g)	201.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	583.2

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5	0.0	100.0
3/8"	9.5	8.6	98.9
#4	4.75	25.9	96.6
#8	2.36	64.5	91.4
#16	1.18	119.8	84.1
#30	0.600	173.5	77.0
#50	0.300	224.6	70.2
#100	0.150	436.3	42.2
#200	0.075	577.4	23.5
PAN			

GRAVEL: **3 %**

SAND: **73 %**

FINES: **24 %**

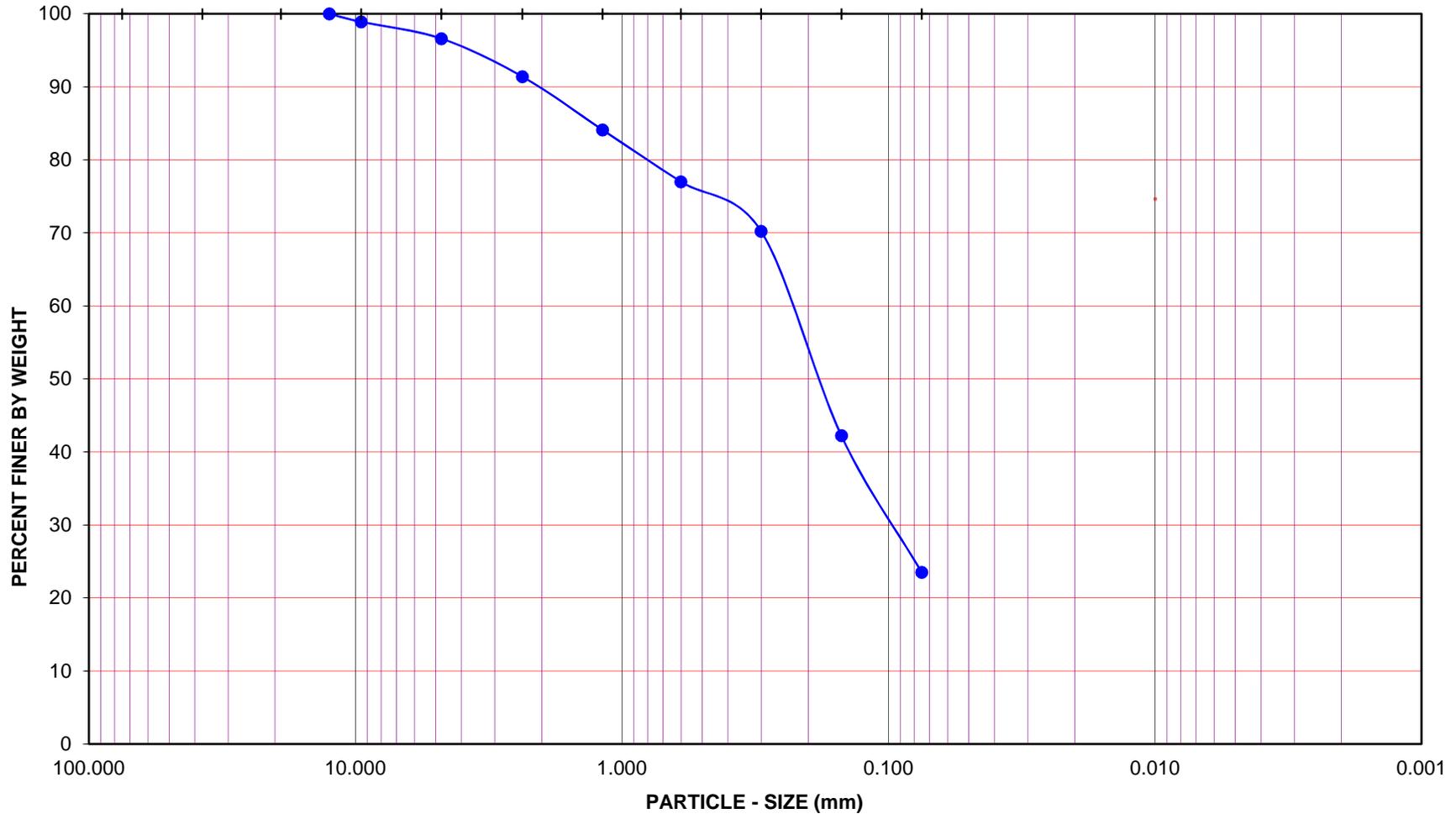
GROUP SYMBOL: **SM**

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 3 Mid

Sample ID: PPIHVC18-3M

Date, Time: 06/18/19, 16:25

Soil Type : SM

Soil Identification: Olive brown silty sand (SM)

GR:SA:FI : (%) **3 : 73 : 24**



PARTICLE - SIZE DISTRIBUTION
ASTM D 6913

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: [Pillar Point Harbor](#)

Tested By: [OHF/ACS](#) Date: [06/26/19](#)

Project No.: [5720.180](#)

Checked By: [J. Ward](#) Date: [07/11/19](#)

Station ID: [3 Top](#)

Date, Time: [06/18/19, 16:25](#)

Sample ID: [PPIHVC18-3T](#)

Soil Identification: [Dark olive gray silty sand \(SM\)](#)

		Moisture Content of Total Air - Dry Soil	
Container No.:	YK	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	659.0	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	251.4	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	407.6	Moisture Content (%)	0.0

After Wet Sieve	Container No.	YK
	Wt. of Dry Soil + Container (g)	532.0
	Wt. of Container (g)	251.4
	Dry Wt. of Soil Retained on # 200 Sieve (g)	280.6

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	0.5	99.9
#8	2.36	2.2	99.5
#16	1.18	5.9	98.6
#30	0.600	17.3	95.8
#50	0.300	35.4	91.3
#100	0.150	127.7	68.7
#200	0.075	279.2	31.5
PAN			

GRAVEL: 0 %

SAND: 68 %

FINES: 32 %

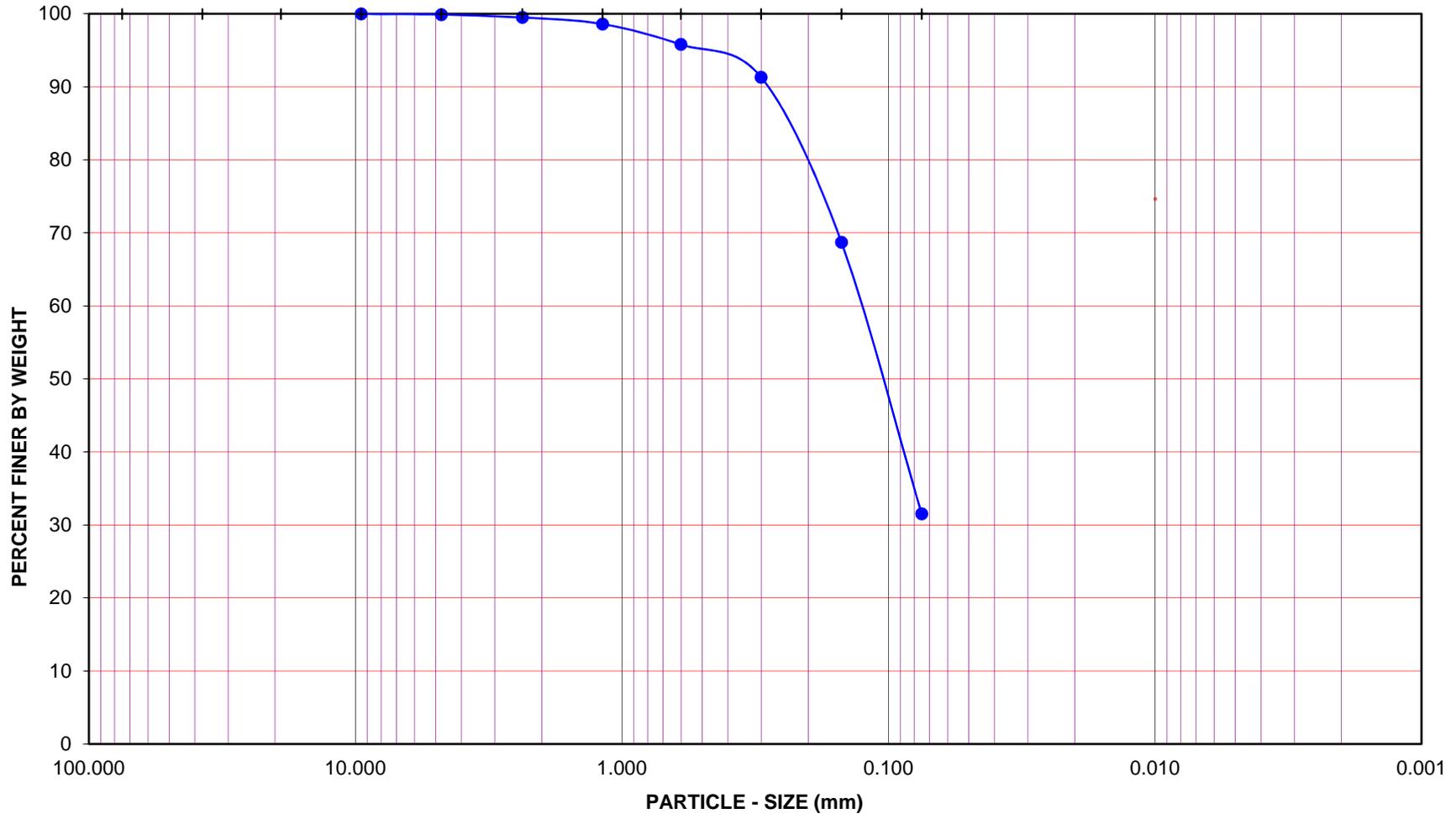
GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor
 Project No.: 5720.180

Station ID: 3 Top Sample ID: PPIHVC18-3T
 Date, Time: 06/18/19, 16:25 Soil Type : SM

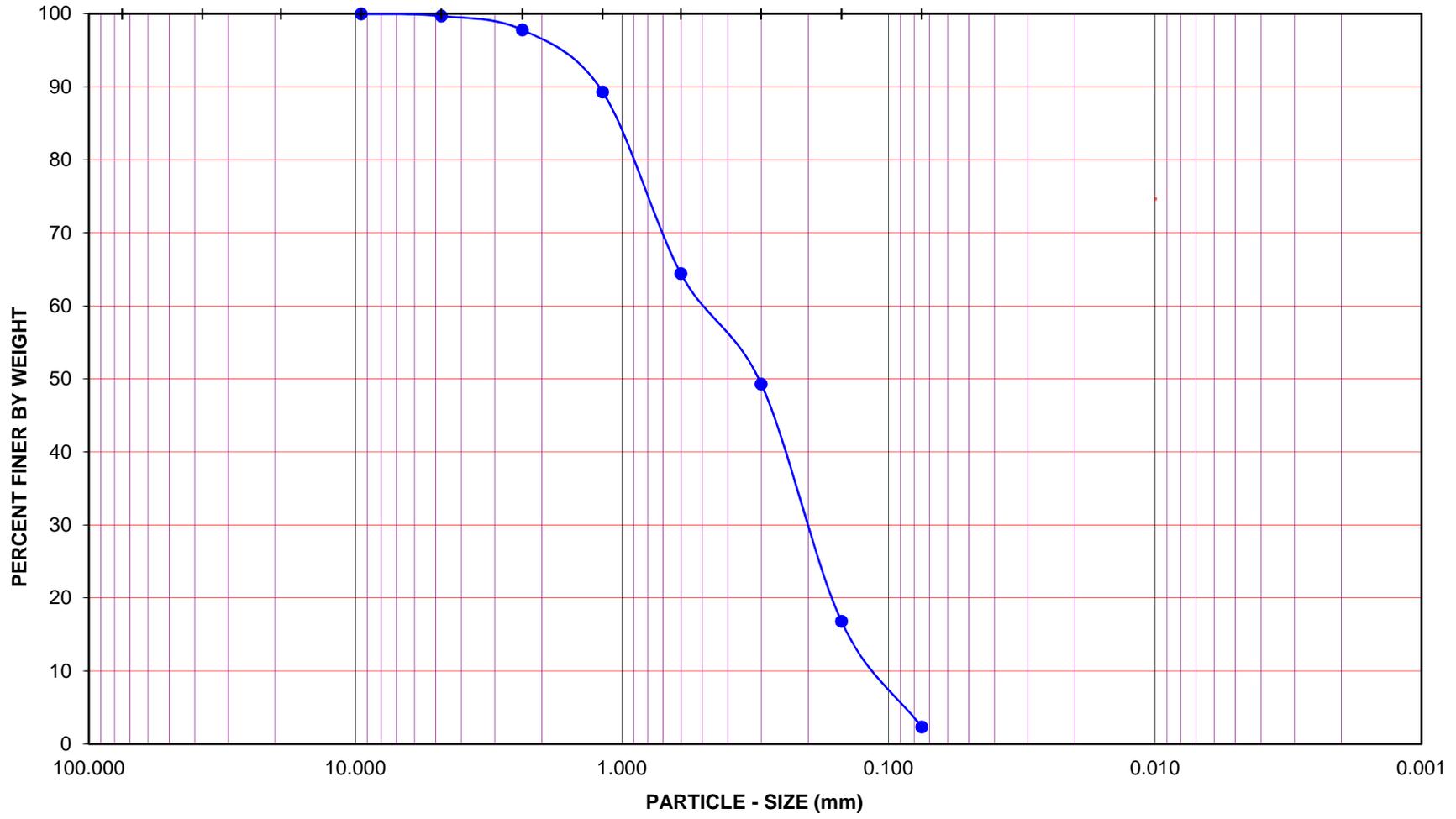
Soil Identification: Dark olive gray silty sand (SM)

GR:SA:FI : (%) **0 : 68 : 32**

**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor
 Project No.: 5720.180

Station ID: 4-3.0-4.1 Sample ID: PPIHVC18-4-3.0-4.1
 Date, Time: 06/18/19, 15:35 Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

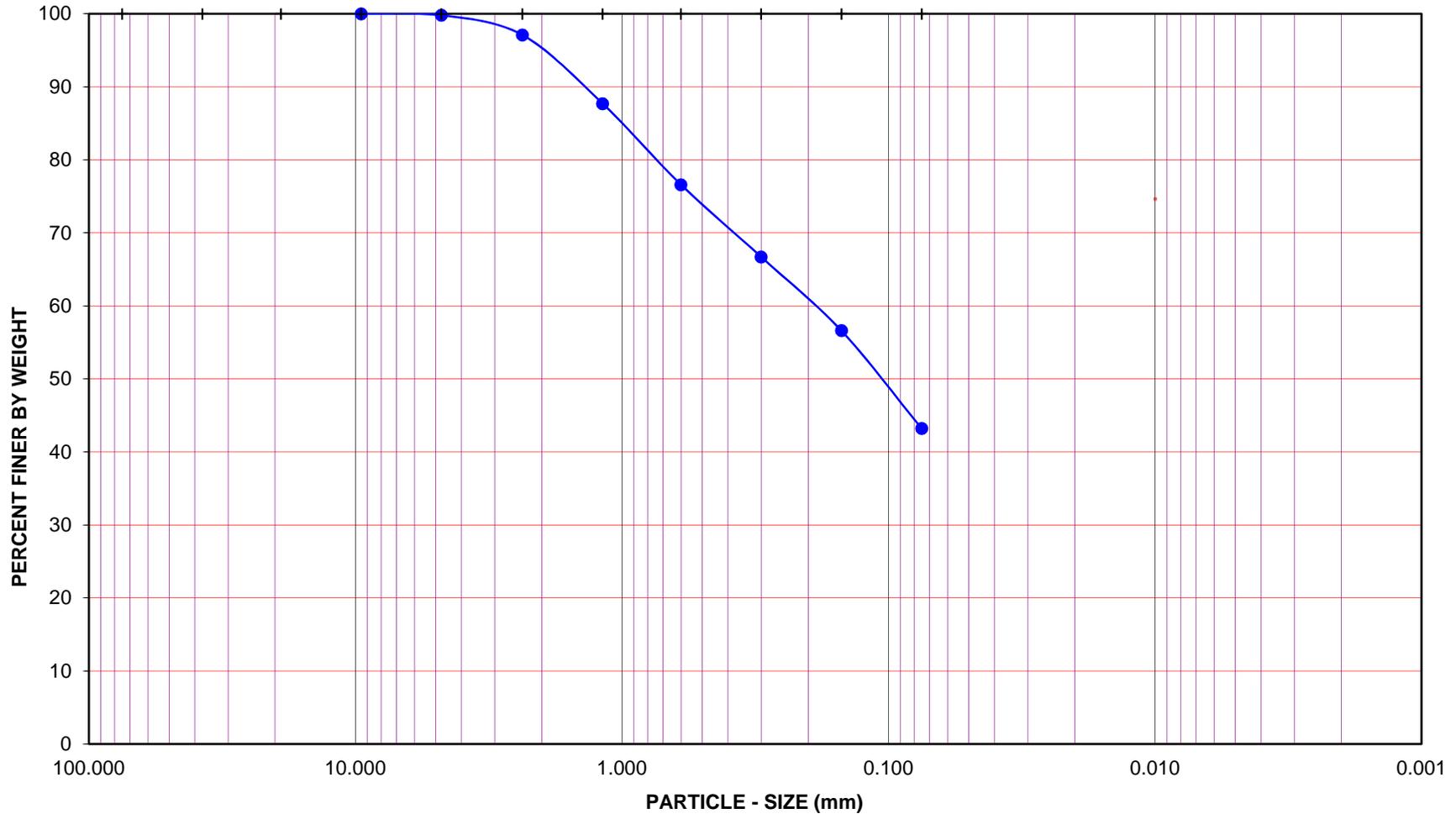
GR:SA:FI : (%) **0 : 98 : 2**



**PARTICLE - SIZE
 DISTRIBUTION
 ASTM D 6913**

Jul-19

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 4-4.1-5.8

Sample ID: PPIHVC18-4-4.1-5.8

Date, Time: 06/18/19, 15:35

Soil Type : SM

Soil Identification: Brown silty sand (SM)

GR:SA:FI : (%) **0 : 57 : 43**



Leighton

**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: OHF/ACS Date: 06/21/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 4 Mid

Date, Time: 06/18/19, 15:35

Sample ID: PPIHVC18-4M

Soil Identification: Brown silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	SP	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	802.4	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	220.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	581.9	Moisture Content (%)	0.0

After Wet Sieve	Container No.	SP
	Wt. of Dry Soil + Container (g)	662.4
	Wt. of Container (g)	220.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	441.9

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	0.8	99.9
#8	2.36	14.0	97.6
#16	1.18	64.5	88.9
#30	0.600	168.7	71.0
#50	0.300	241.3	58.5
#100	0.150	354.0	39.2
#200	0.075	436.3	25.0
PAN			

GRAVEL: 0 %

SAND: 75 %

FINES: 25 %

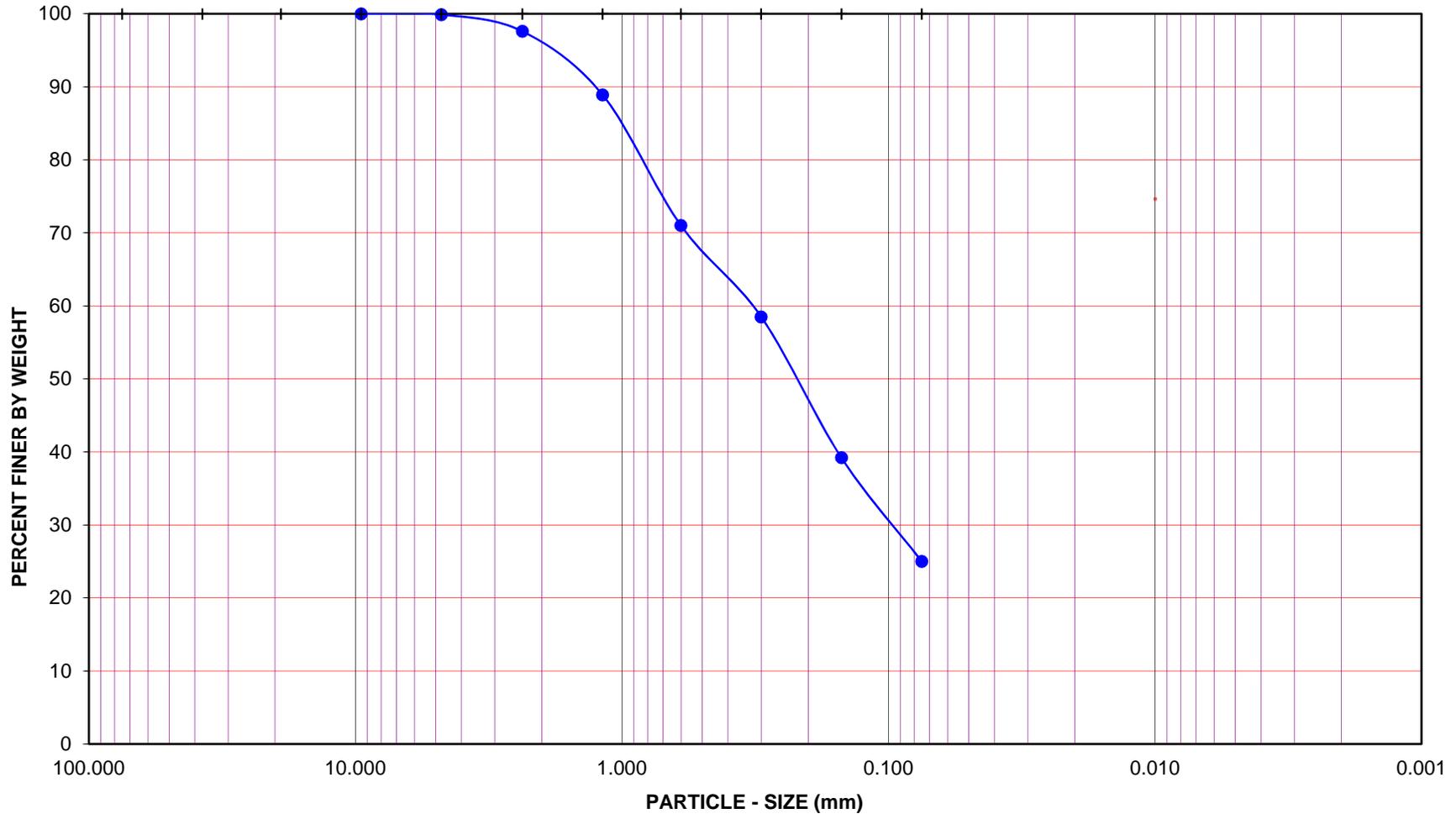
GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT	CLAY			
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 4 Mid

Sample ID: PPIHVC18-4M

Date, Time: 06/18/19, 15:35

Soil Type : SM

Soil Identification: Brown silty sand (SM)

GR:SA:FI : (%) **0 : 75 : 25**



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: OHF/ACS Date: 06/26/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 4 Top

Date, Time: 06/18/19, 15:35

Sample ID: PPIHVC18-4T

Soil Identification: Dark olive gray poorly-graded sand (SP)

		Moisture Content of Total Air - Dry Soil	
Container No.:	PH	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	761.1	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	202.6	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	558.5	Moisture Content (%)	0.0

After Wet Sieve	Container No.	PH
	Wt. of Dry Soil + Container (g)	739.7
	Wt. of Container (g)	202.6
	Dry Wt. of Soil Retained on # 200 Sieve (g)	537.1

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5	0.0	100.0
3/8"	9.5	1.8	99.7
#4	4.75	5.1	99.1
#8	2.36	36.2	93.5
#16	1.18	92.3	83.5
#30	0.600	156.2	72.0
#50	0.300	212.3	62.0
#100	0.150	427.7	23.4
#200	0.075	533.8	4.4
PAN			

GRAVEL: 1 %

SAND: 95 %

FINES: 4 %

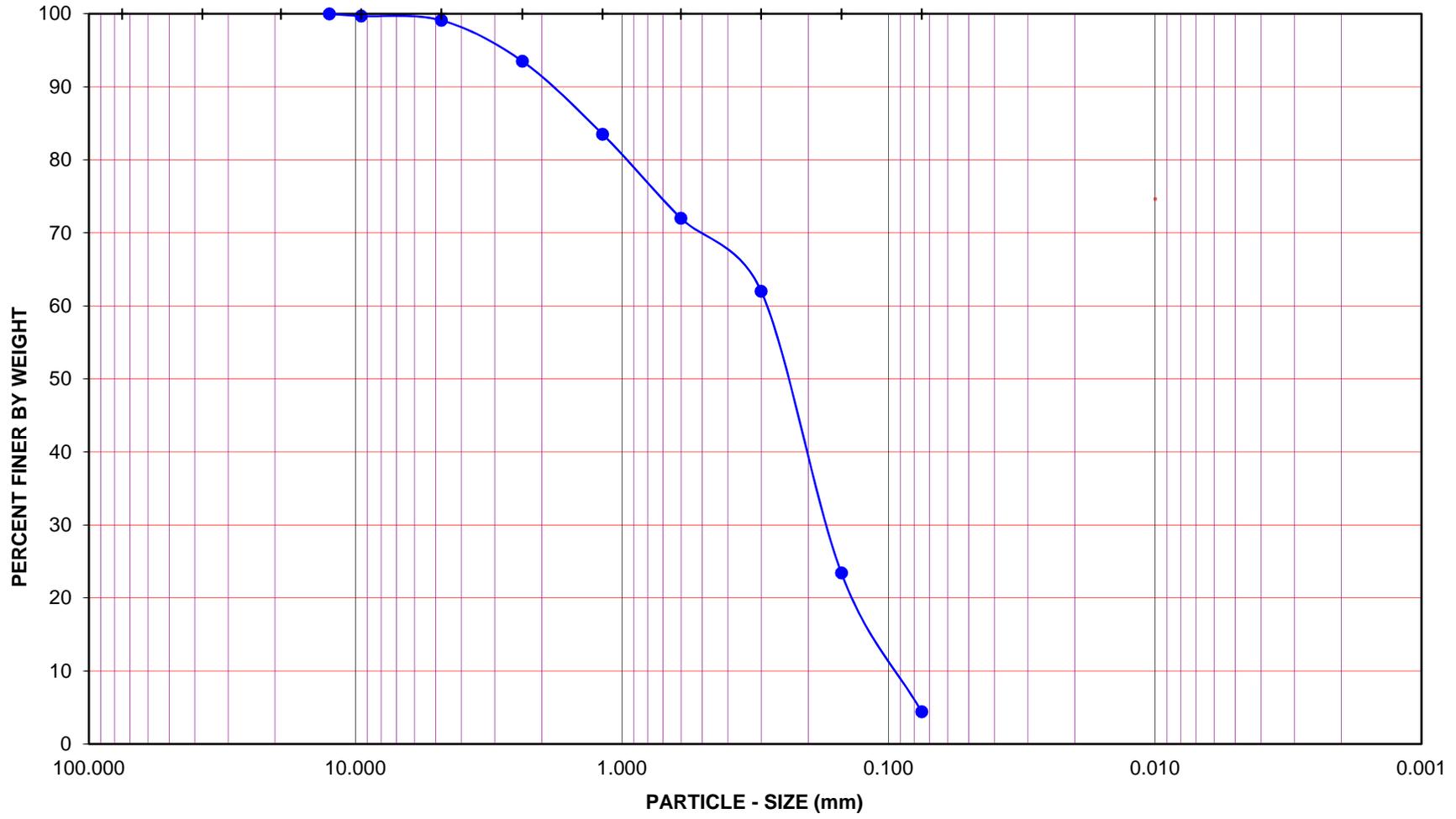
GROUP SYMBOL: SP

$$Cu = D_{60}/D_{10} = \underline{2.98}$$

$$Cc = (D_{30})^2/(D_{60} \cdot D_{10}) = \underline{1.10}$$

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 4 Top

Sample ID: PPIHVC18-4T

Date, Time: 06/18/19, 15:35

Soil Type : SP

Soil Identification: Dark olive gray poorly-graded sand (SP)

GR:SA:FI : (%) **1 : 95 : 4**



Leighton

**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: [Pillar Point Harbor](#)

Tested By: [O. Figueroa](#) Date: [06/25/19](#)

Project No.: [5720.180](#)

Checked By: [J. Ward](#) Date: [07/11/19](#)

Station ID: [5 Bottom](#)

Date, Time: [06/19/19, 10:40](#)

Sample ID: [PPIHVC18-5B](#)

Soil Identification: [Yellowish brown silty sand \(SM\)](#)

		Moisture Content of Total Air - Dry Soil	
Container No.:	XP	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	736.7	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	201.2	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	535.5	Moisture Content (%)	0.0

After Wet Sieve	Container No.	XP
	Wt. of Dry Soil + Container (g)	516.5
	Wt. of Container (g)	201.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	315.3

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	1.9	99.6
#8	2.36	8.0	98.5
#16	1.18	23.3	95.6
#30	0.600	46.1	91.4
#50	0.300	85.6	84.0
#100	0.150	227.5	57.5
#200	0.075	311.5	41.8
PAN			

GRAVEL: 0 %

SAND: 58 %

FINES: 42 %

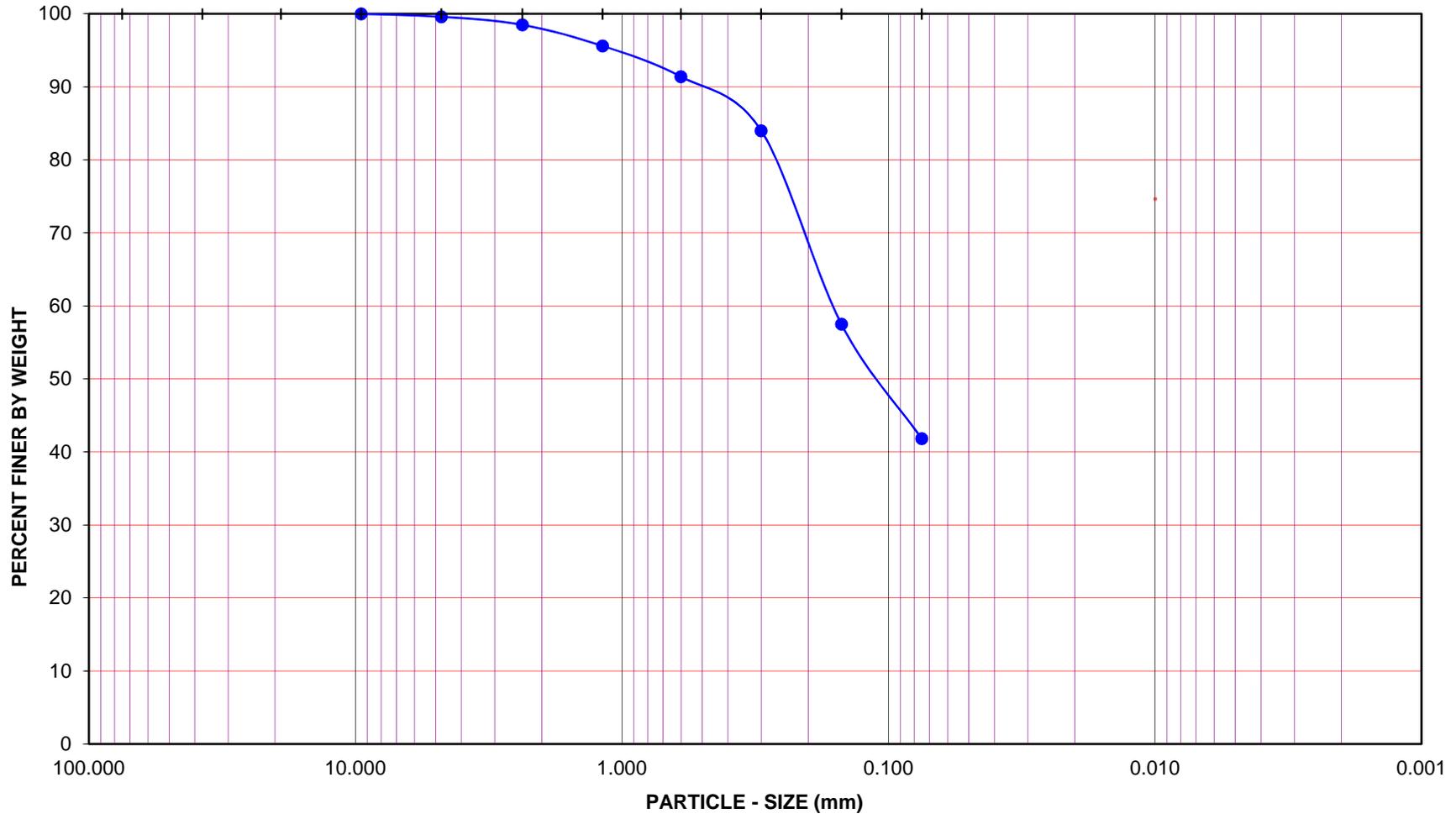
GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT	CLAY			
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 5 Bottom

Sample ID: PPIHVC18-5B

Date, Time: 06/19/19, 10:40

Soil Type : SM

Soil Identification: Yellowish brown silty sand (SM)

GR:SA:FI : (%) **0 : 58 : 42**



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: OHF/GEB Date: 06/25/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 5 Mid

Date, Time: 06/19/19, 10:40

Sample ID: PPIHVC18-5M

Soil Identification: Yellowish brown silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	934	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	663.1	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	108.1	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	555.0	Moisture Content (%)	0.0

After Wet Sieve	Container No.	934
	Wt. of Dry Soil + Container (g)	467.1
	Wt. of Container (g)	108.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	359.0

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	1.6	99.7
#8	2.36	28.3	94.9
#16	1.18	65.7	88.2
#30	0.600	98.6	82.2
#50	0.300	133.6	75.9
#100	0.150	239.9	56.8
#200	0.075	352.2	36.5
PAN			

GRAVEL: 0 %

SAND: 63 %

FINES: 37 %

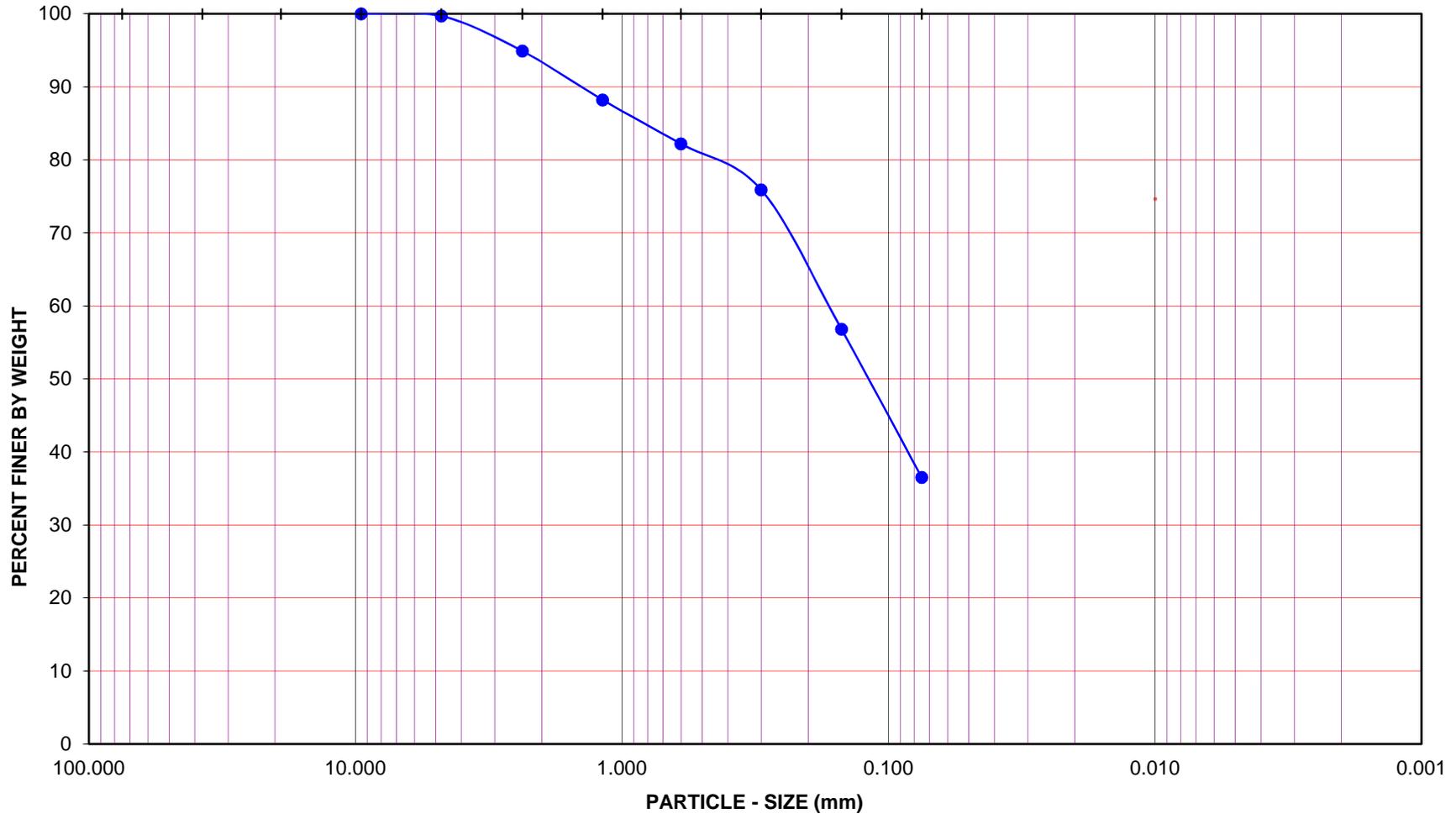
GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 5 Mid

Sample ID: PPIHVC18-5M

Date, Time: 06/19/19, 10:40

Soil Type : SM

Soil Identification: Yellowish brown silty sand (SM)

GR:SA:FI : (%) **0 : 63 : 37**



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: OHF/ACS Date: 06/21/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 5 Top

Date, Time: 06/19/19, 10:40

Sample ID: PPIHVC18-5T

Soil Identification: Olive gray silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	DR	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	745.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	217.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	527.7	Moisture Content (%)	0.0

After Wet Sieve	Container No.	DR
	Wt. of Dry Soil + Container (g)	525.3
	Wt. of Container (g)	217.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	307.8

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	0.8	99.8
#8	2.36	12.1	97.7
#16	1.18	43.8	91.7
#30	0.600	84.6	84.0
#50	0.300	112.2	78.7
#100	0.150	171.1	67.6
#200	0.075	300.9	43.0
PAN			

GRAVEL: **0 %**

SAND: **57 %**

FINES: **43 %**

GROUP SYMBOL: **SM**

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES			
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY	

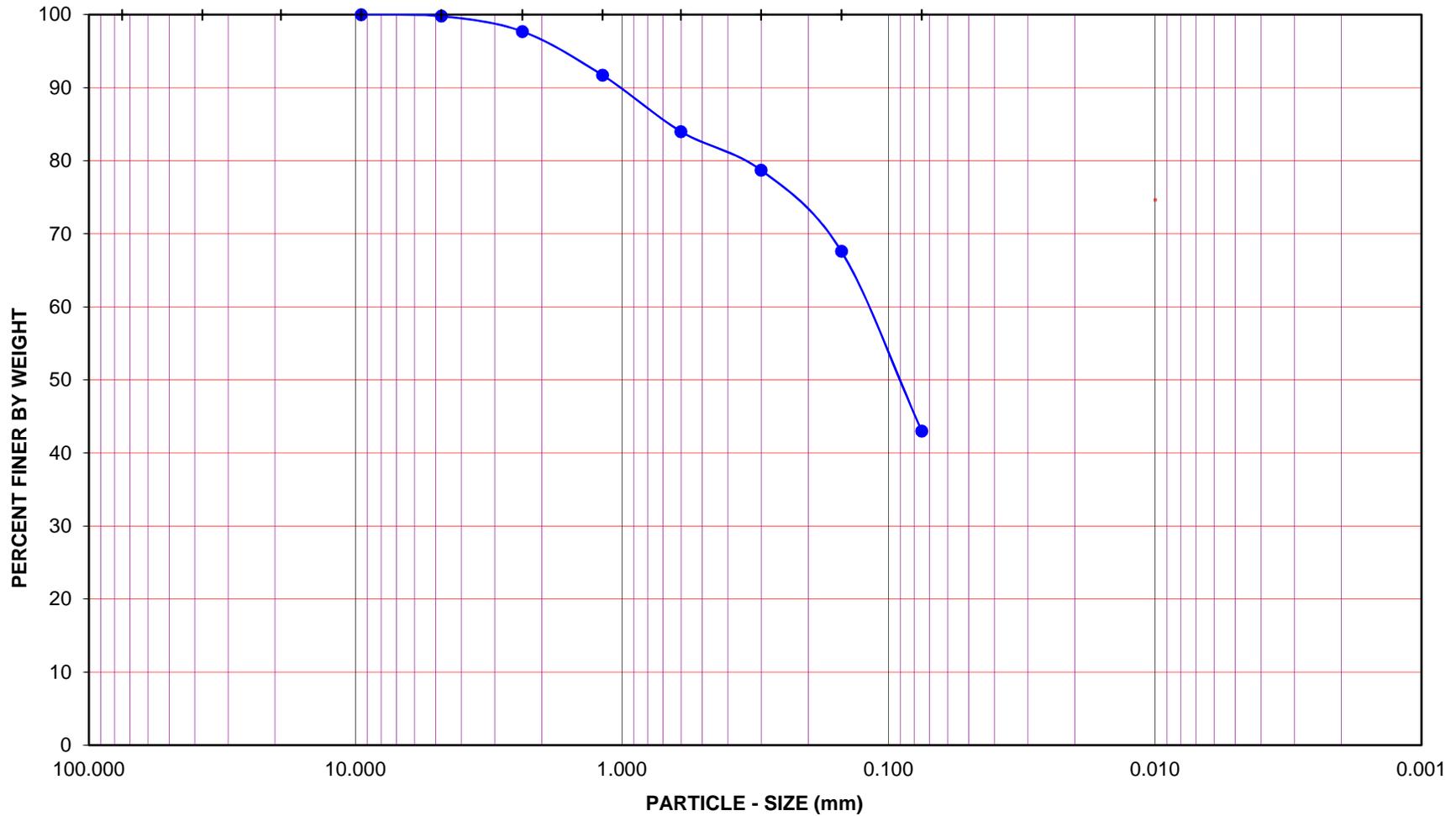
U.S. STANDARD SIEVE OPENING

3.0" 1 1/2" 3/4" 3/8" #4

U.S. STANDARD SIEVE NUMBER

#8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 5 Top

Sample ID: PPIHVC18-5T

Date, Time: 06/19/19, 10:40

Soil Type : SM

Soil Identification: Olive gray silty sand (SM)

GR:SA:FI : (%) **0 : 57 : 43**



Leighton

**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor Tested By: OHF/GEB Date: 06/25/19
 Project No.: 5720.180 Checked By: J. Ward Date: 07/11/19
 Station ID: 6 Bottom Date, Time: 06/18/19, 15:05
 Sample ID: PPIHVC18-6B
 Soil Identification: Olive gray poorly-graded sand with silt (SP-SM), shells noted

		Moisture Content of Total Air - Dry Soil	
Container No.:	935	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	613.0	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	108.6	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	504.4	Moisture Content (%)	0.0

After Wet Sieve	Container No.	935
	Wt. of Dry Soil + Container (g)	587.2
	Wt. of Container (g)	108.6
	Dry Wt. of Soil Retained on # 200 Sieve (g)	478.6

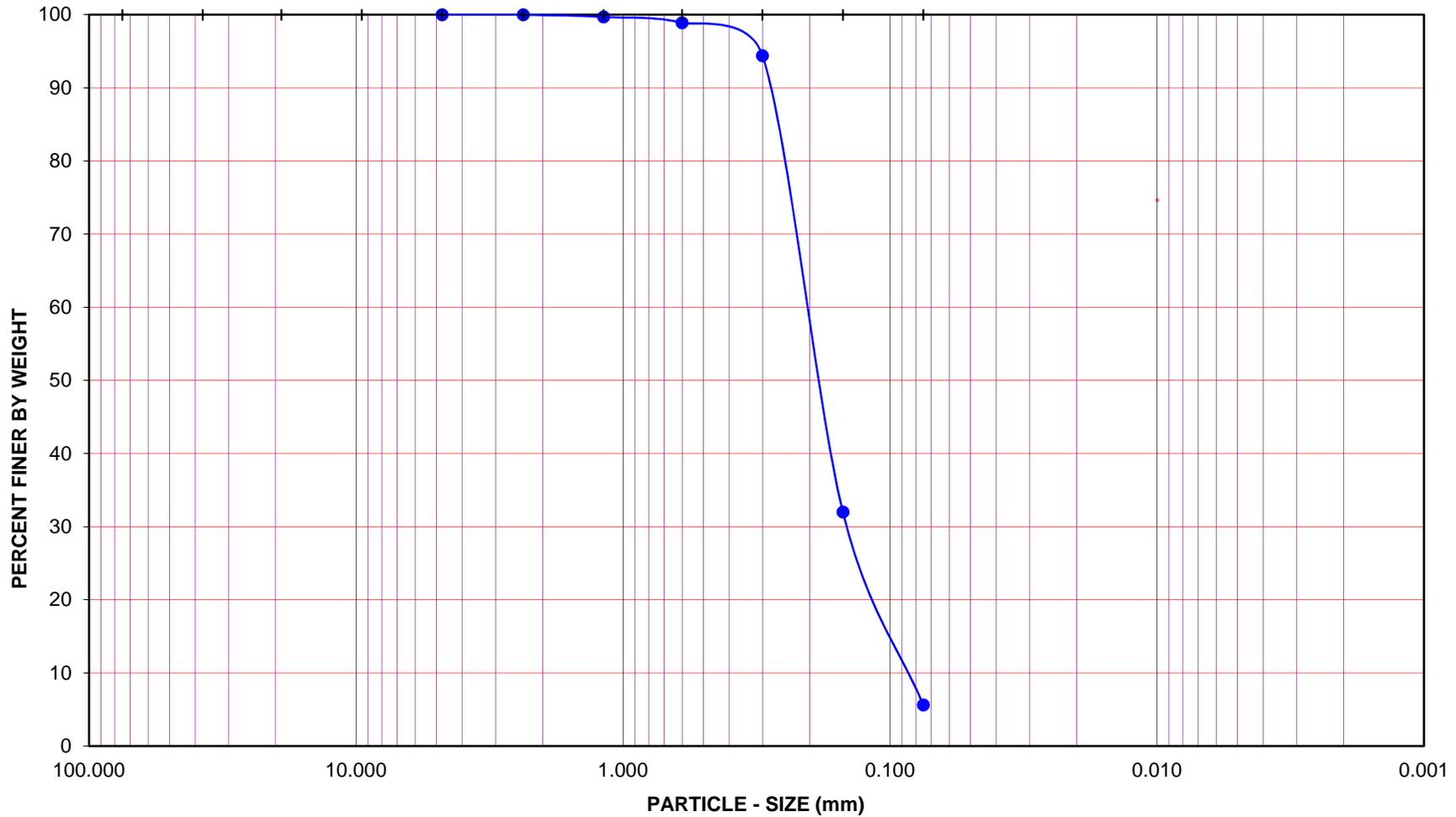
U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.1	100.0
#16	1.18	1.4	99.7
#30	0.600	5.5	98.9
#50	0.300	28.3	94.4
#100	0.150	343.1	32.0
#200	0.075	476.0	5.6
PAN			

GRAVEL: 0 %
 SAND: 94 %
 FINES: 6 %
 GROUP SYMBOL: SP-SM

Cu = D60/D10 = 2.35
 Cc = (D30)²/(D60*D10) = 1.15

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 6 Bottom

Sample ID: PPIHVC18-6B

Date, Time: 06/18/19, 15:05

Soil Type : SP-SM

Soil Identification: Olive gray poorly-graded sand with silt (SP-SM), shells noted

GR:SA:FI : (%) **0 : 94 : 6**

Jul-19



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: [Pillar Point Harbor](#)

Tested By: [OHF/GEB](#) Date: [06/25/19](#)

Project No.: [5720.180](#)

Checked By: [J. Ward](#) Date: [07/11/19](#)

Station ID: [6 Mid](#)

Date, Time: [06/18/19, 15:05](#)

Sample ID: [PPIHVC18-6M](#)

Soil Identification: [Olive gray poorly-graded sand \(SP\)](#)

		Moisture Content of Total Air - Dry Soil	
Container No.:	929	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	714.8	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	108.0	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	606.8	Moisture Content (%)	0.0

After Wet Sieve	Container No.	929
	Wt. of Dry Soil + Container (g)	694.6
	Wt. of Container (g)	108.0
	Dry Wt. of Soil Retained on # 200 Sieve (g)	586.6

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36	0.0	100.0
#16	1.18	0.2	100.0
#30	0.600	1.4	99.8
#50	0.300	17.2	97.2
#100	0.150	427.0	29.6
#200	0.075	583.3	3.9
PAN			

GRAVEL: 0 %

SAND: 96 %

FINES: 4 %

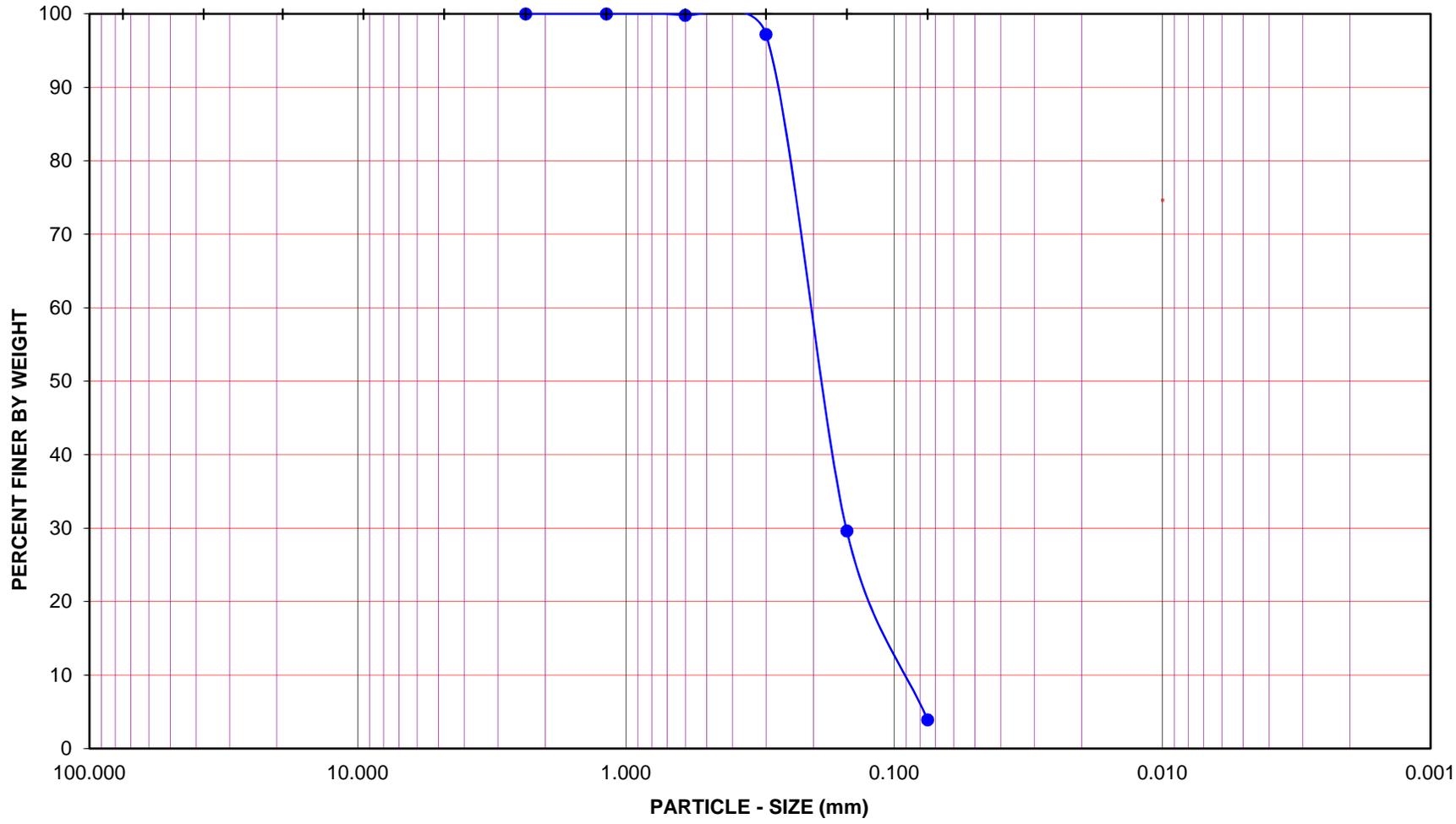
GROUP SYMBOL: SP

$$Cu = D_{60}/D_{10} = \underline{2.22}$$

$$Cc = (D_{30})^2/(D_{60} \cdot D_{10}) = \underline{1.42}$$

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor
 Project No.: 5720.180

Station ID: 6 Mid Sample ID: PPIHVC18-6M
 Date, Time: 06/18/19, 15:05 Soil Type : SP
 Soil Identification: Olive gray poorly-graded sand (SP)

GR:SA:FI : (%) **0 : 96 : 4**



**PARTICLE - SIZE
 DISTRIBUTION
 ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: O. Figueroa Date: 06/25/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 6 Top

Date, Time: 06/18/19, 15:05

Sample ID: PPIHVC18-6T

Soil Identification: Olive gray poorly-graded sand (SP)

		Moisture Content of Total Air - Dry Soil	
Container No.:	957	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	647.9	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	108.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	539.4	Moisture Content (%)	0.0

After Wet Sieve	Container No.	957
	Wt. of Dry Soil + Container (g)	635.5
	Wt. of Container (g)	108.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	527.0

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.6	99.9
#16	1.18	2.5	99.5
#30	0.600	3.9	99.3
#50	0.300	11.5	97.9
#100	0.150	275.6	48.9
#200	0.075	525.1	2.7
PAN			

GRAVEL: **0 %**

SAND: **97 %**

FINES: **3 %**

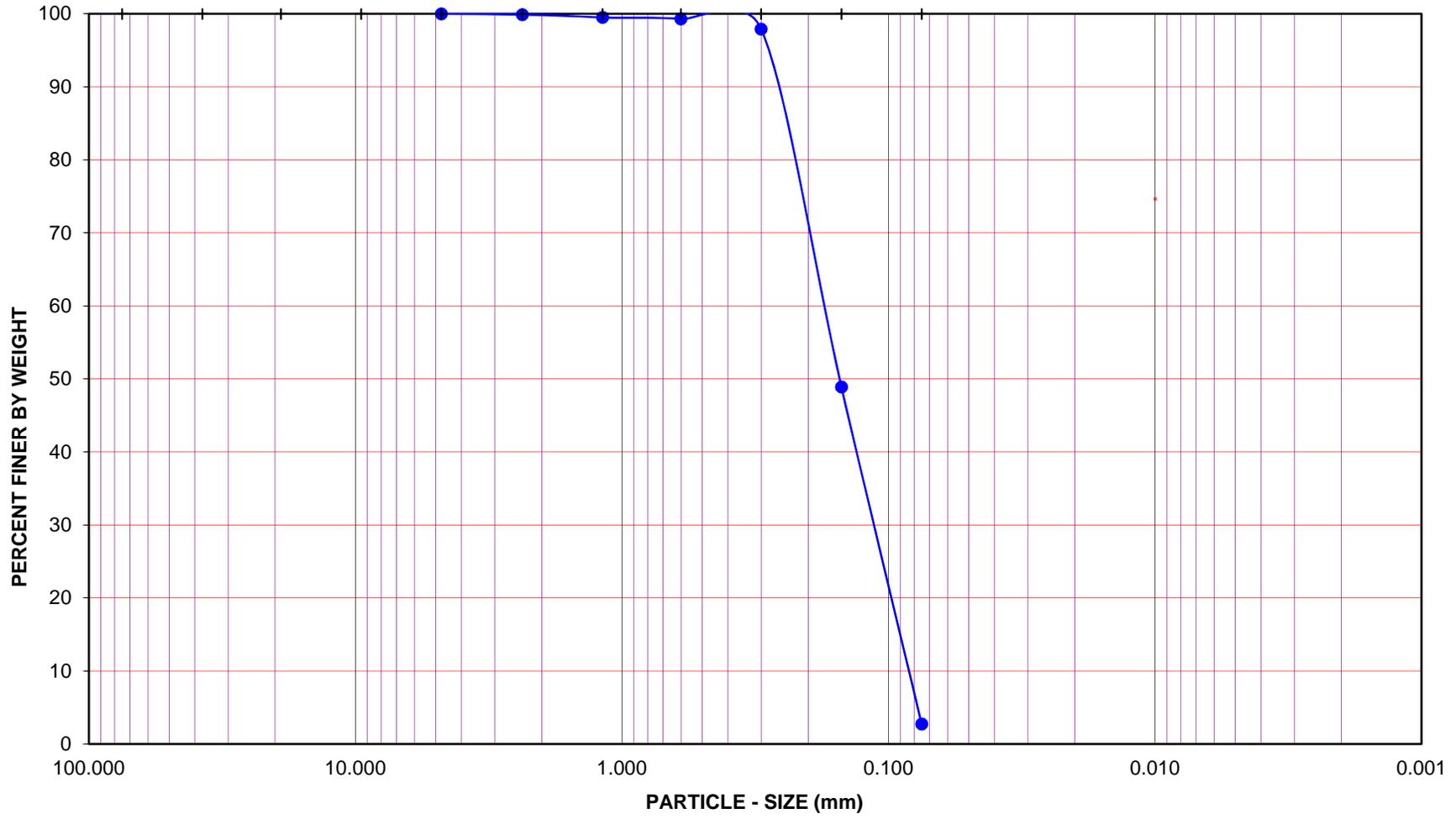
GROUP SYMBOL: **SP**

$$Cu = D_{60}/D_{10} = \underline{2.05}$$

$$Cc = (D_{30})^2/(D_{60} \cdot D_{10}) = \underline{1.02}$$

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT	CLAY			
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 6 Top

Sample ID: PPIHVC18-6T

Date, Time: 06/18/19, 15:05

Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

GR:SA:FI : (%) **0 : 97 : 3**



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor Tested By: OHF/GEB Date: 06/25/19
 Project No.: 5720.180 Checked By: J. Ward Date: 07/11/19
 Station ID: 7 Bottom Date, Time: 06/18/19, 14:25
 Sample ID: PPIHVC18-7B
 Soil Identification: Olive gray poorly-graded sand with silt (SP-SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	<u>IMC-1</u>	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	<u>767.5</u>	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	<u>300.2</u>	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	467.3	Moisture Content (%)	0.0

After Wet Sieve	Container No.	IMC-1
	Wt. of Dry Soil + Container (g)	<u>748.6</u>
	Wt. of Container (g)	300.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	448.4

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36	<u>0.0</u>	100.0
#16	1.18	<u>0.4</u>	99.9
#30	0.600	<u>3.3</u>	99.3
#50	0.300	<u>29.2</u>	93.8
#100	0.150	<u>277.2</u>	40.7
#200	0.075	<u>444.8</u>	4.8
PAN			

GRAVEL: 0 %
 SAND: 95 %
 FINES: 5 %

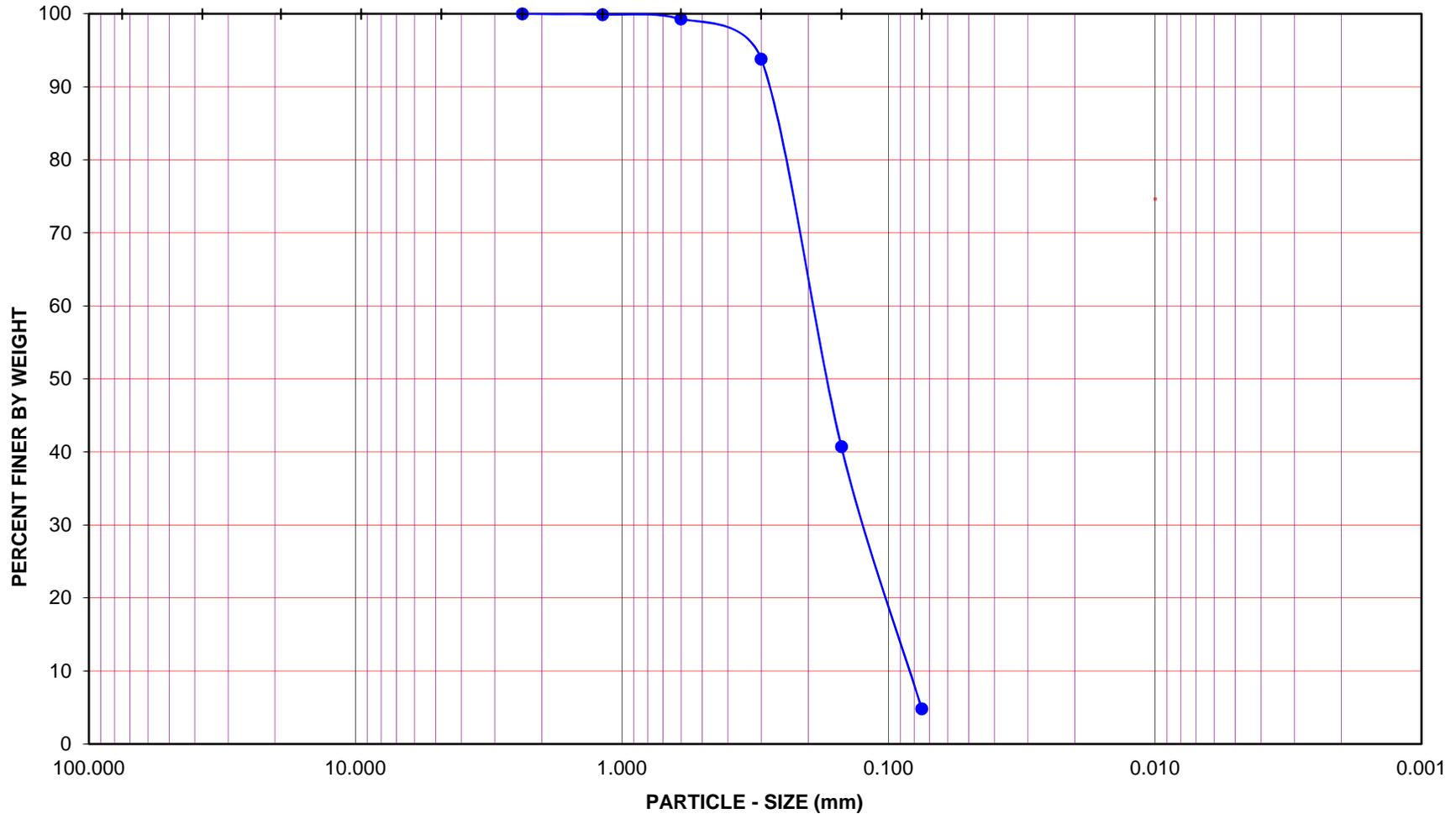
GROUP SYMBOL: SP-SM

Cu = D60/D10 = 2.29

Cc = (D30)²/(D60*D10) = 1.07

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor
 Project No.: 5720.180

Station ID: 7 Bottom Sample ID: PPIHVC18-7B
 Date, Time: 06/18/19, 14:25 Soil Type: SP-SM

Soil Identification: Olive gray poorly-graded sand with silt (SP-SM)

GR:SA:FI : (%) 0 : 95 : 5



**PARTICLE - SIZE
 DISTRIBUTION
 ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: ACS/OHF Date: 06/21/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 7 Mid

Date, Time: 06/18/19, 14:25

Sample ID: PPIHVC18-7M

Soil Identification: Olive gray poorly-graded sand (SP)

		Moisture Content of Total Air - Dry Soil	
Container No.:	CT	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	643.4	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	244.0	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	399.4	Moisture Content (%)	0.0

After Wet Sieve	Container No.	CT
	Wt. of Dry Soil + Container (g)	630.0
	Wt. of Container (g)	244.0
	Dry Wt. of Soil Retained on # 200 Sieve (g)	386.0

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36		
#16	1.18	0.0	100.0
#30	0.600	0.4	99.9
#50	0.300	5.4	98.6
#100	0.150	184.3	53.9
#200	0.075	384.6	3.7
PAN			

GRAVEL: 0 %

SAND: 96 %

FINES: 4 %

GROUP SYMBOL: SP

Cu = D60/D10 = 1.98

Cc = (D30)²/(D60*D10) = 0.93

Remarks: _____

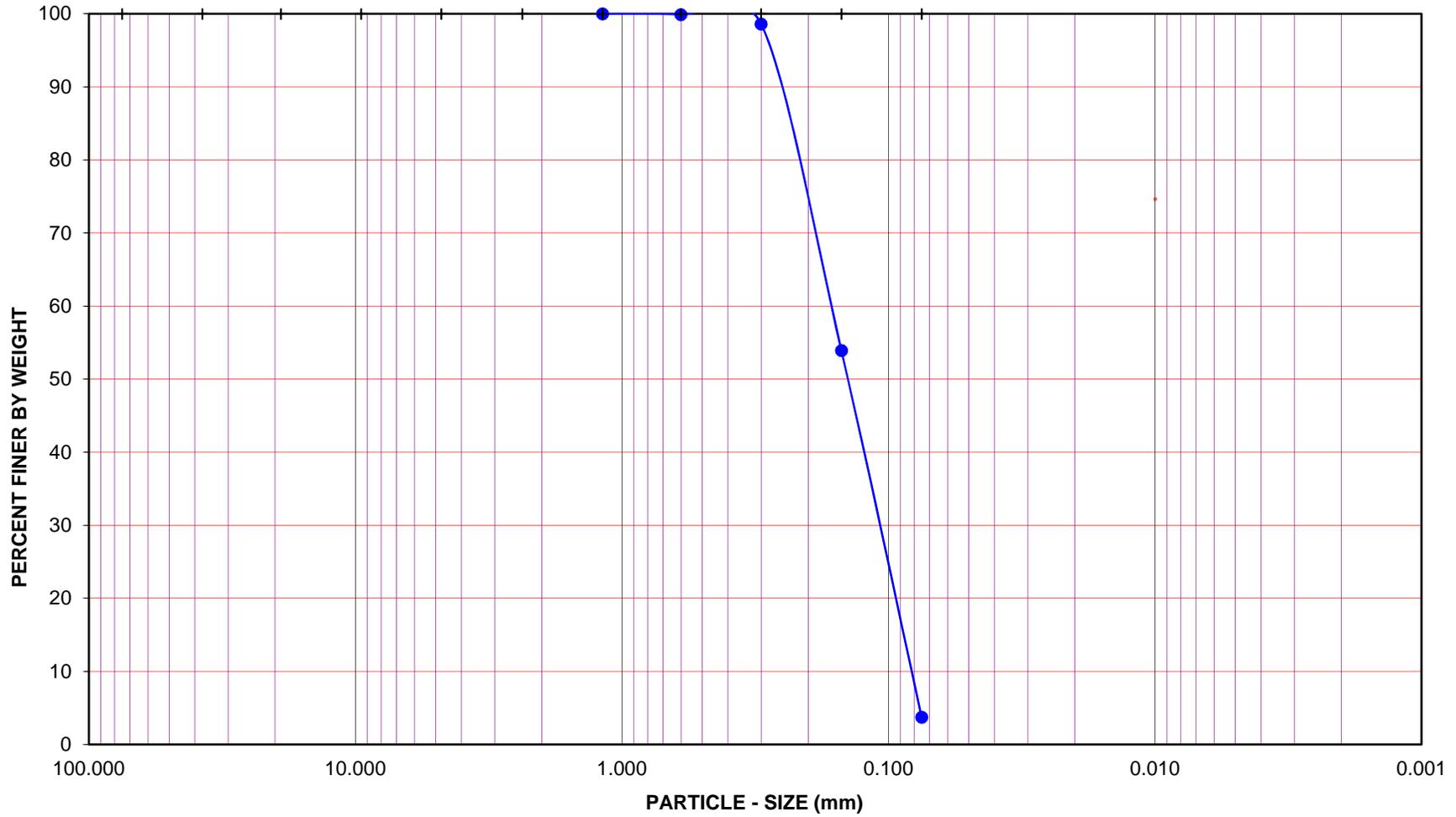
GRAVEL				SAND				FINES			
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY	

U.S. STANDARD SIEVE OPENING

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200

U.S. STANDARD SIEVE NUMBER

HYDROMETER



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 7 Mid

Sample ID: PPIHVC18-7M

Date, Time: 06/18/19, 14:25

Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

GR:SA:FI : (%) **0 : 96 : 4**



Leighton

**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: O. Figueroa Date: 06/25/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: 7 Top

Date, Time: 06/18/19, 14:25

Sample ID: PPIHVC18-7I

Soil Identification: Grayish brown poorly-graded sand (SP)

		Moisture Content of Total Air - Dry Soil	
Container No.:	<u>D7</u>	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	<u>787.7</u>	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	<u>206.2</u>	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	581.5	Moisture Content (%)	0.0

After Wet Sieve	Container No.	D7
	Wt. of Dry Soil + Container (g)	<u>774.4</u>
	Wt. of Container (g)	206.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	568.2

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	0.3	99.9
#8	2.36	1.5	99.7
#16	1.18	5.8	99.0
#30	0.600	8.7	98.5
#50	0.300	19.0	96.7
#100	0.150	304.5	47.6
#200	0.075	565.2	2.8
PAN			

GRAVEL: **0 %**

SAND: **97 %**

FINES: **3 %**

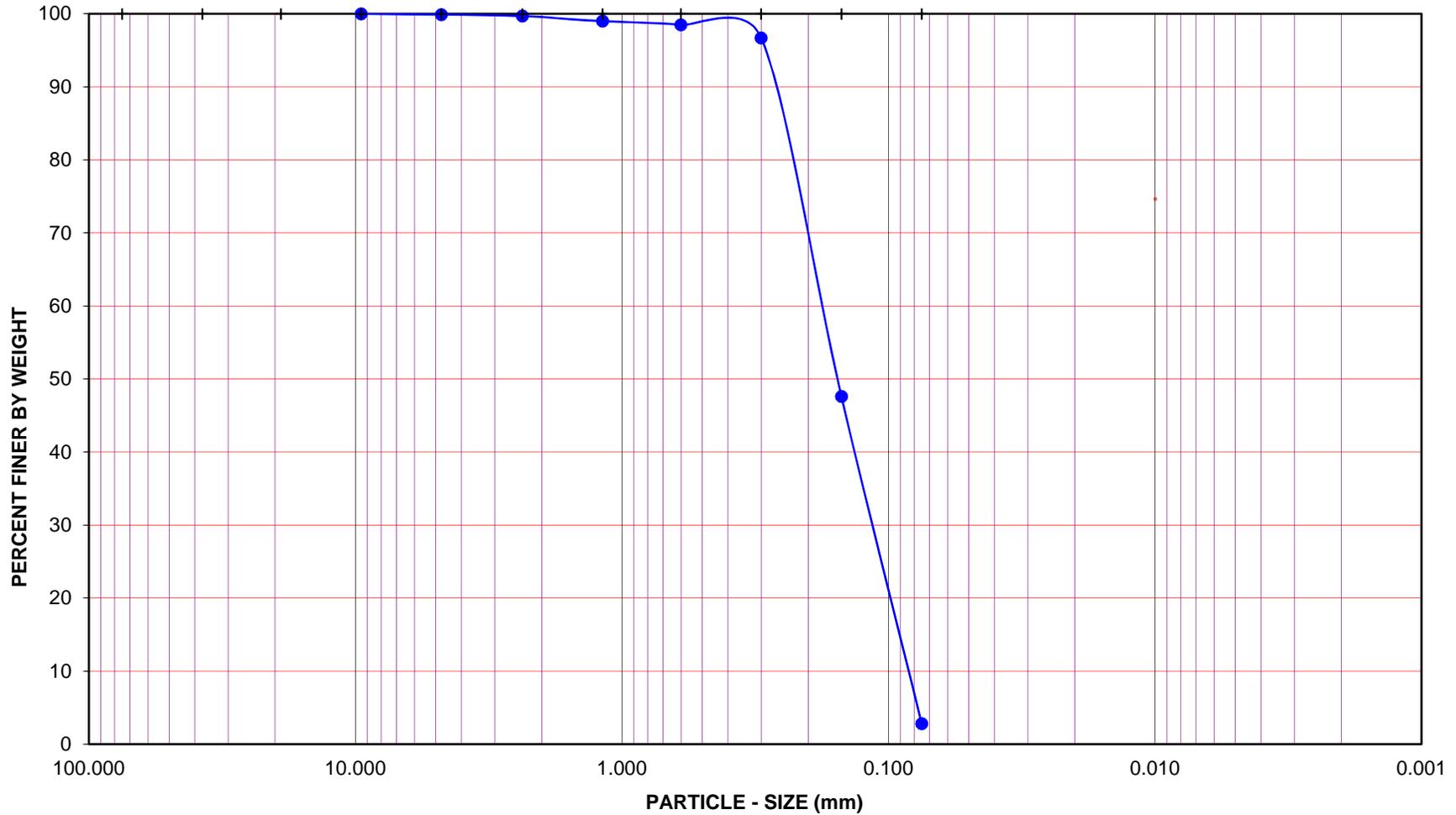
GROUP SYMBOL: **SP**

$$Cu = D_{60}/D_{10} = \underline{2.05}$$

$$Cc = (D_{30})^2/(D_{60} \cdot D_{10}) = \underline{1.02}$$

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 7 Top

Sample ID: PPIHVC18-7T

Date, Time: 06/18/19, 14:25

Soil Type : SP

Soil Identification: Grayish brown poorly-graded sand (SP)

GR:SA:FI : (%) **0 : 97 : 3**



PARTICLE - SIZE DISTRIBUTION
ASTM D 6913

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor Tested By: ACS/OHF Date: 06/21/19
 Project No.: 5720.180 Checked By: J. Ward Date: 07/11/19
 Station ID: 8 Bottom Date, Time: 06/18/19, 13:55
 Sample ID: PPIHVC18-8B
 Soil Identification: Olive gray poorly-graded sand with silt (SP-SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	PHD	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	678.4	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	214.9	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	463.5	Moisture Content (%)	0.0

After Wet Sieve	Container No.	PHD
	Wt. of Dry Soil + Container (g)	643.5
	Wt. of Container (g)	214.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	428.6

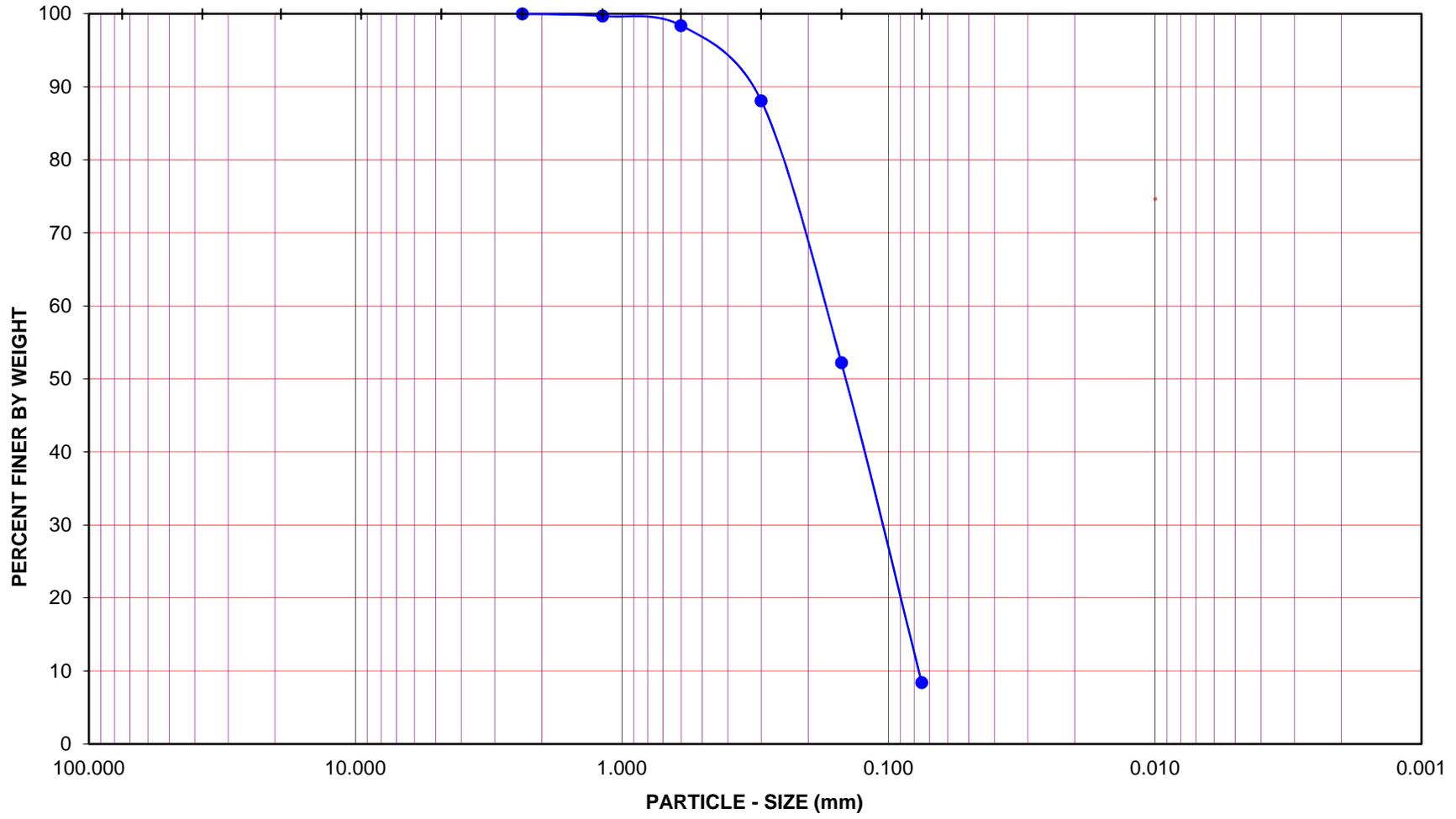
U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36	0.0	100.0
#16	1.18	1.3	99.7
#30	0.600	7.6	98.4
#50	0.300	55.1	88.1
#100	0.150	221.4	52.2
#200	0.075	424.4	8.4
PAN			

GRAVEL: **0 %**
 SAND: **92 %**
 FINES: **8 %**
 GROUP SYMBOL: **SP-SM**

Cu = D60/D10 = 2.18
 Cc = (D30)²/(D60*D10) = 0.91

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 8 Bottom

Sample ID: PPIHVC18-8B

Date, Time: 06/18/19, 13:55

Soil Type : SP-SM

Soil Identification: Olive gray poorly-graded sand with silt (SP-SM)

GR:SA:FI : (%) **0 : 92 : 8**



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor Tested By: O. Figueroa Date: 06/25/19
 Project No.: 5720.180 Checked By: J. Ward Date: 07/11/19
 Station ID: 8 Mid Date, Time: 06/18/19, 13:55
 Sample ID: PPIHVC18-8M
 Soil Identification: Grayish brown poorly-graded sand with silt (SP-SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	VIP	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	750.4	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	219.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	530.9	Moisture Content (%)	0.0

After Wet Sieve	Container No.	VIP
	Wt. of Dry Soil + Container (g)	729.0
	Wt. of Container (g)	219.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	509.5

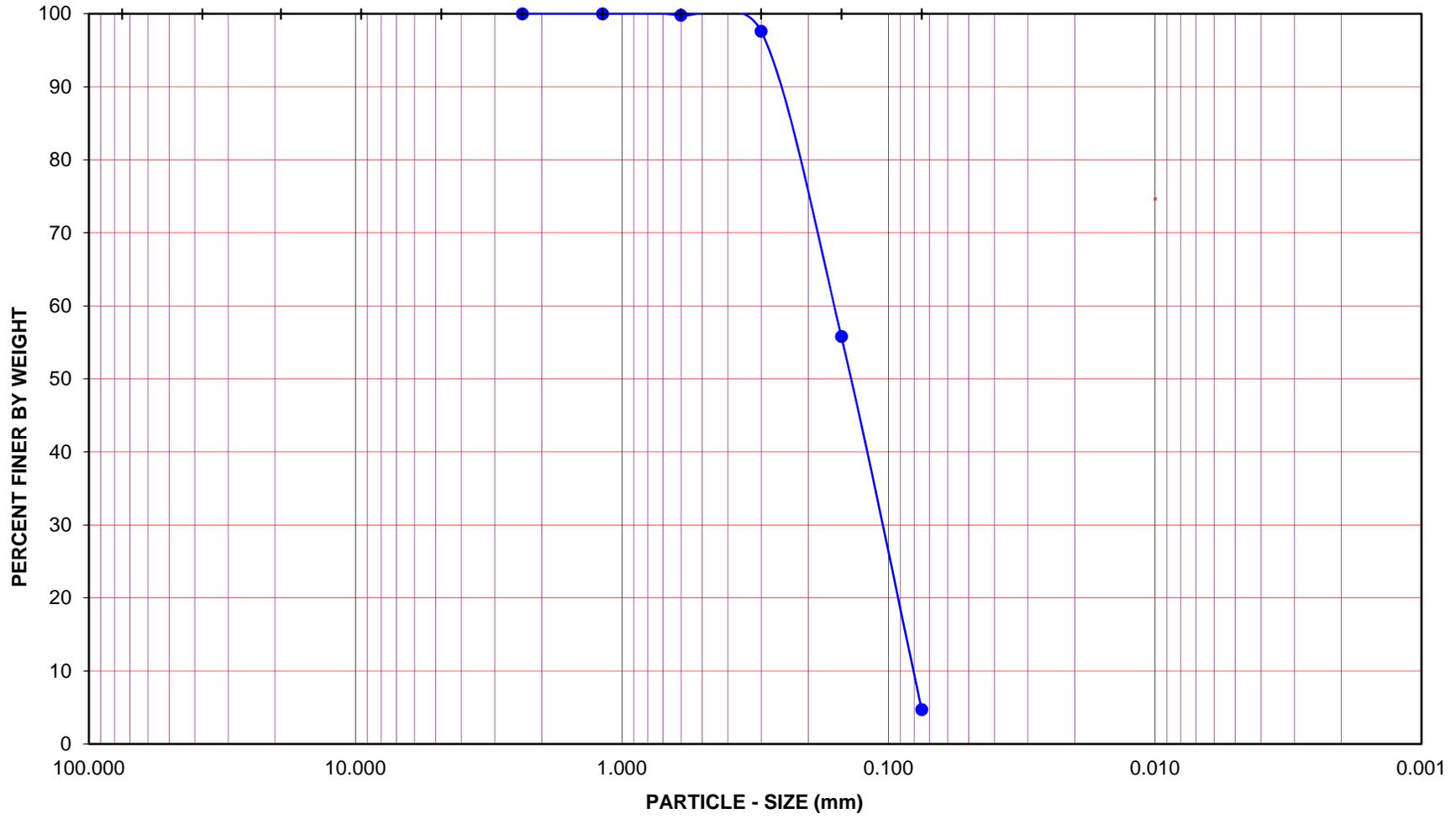
U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36	0.0	100.0
#16	1.18	0.2	100.0
#30	0.600	1.3	99.8
#50	0.300	12.8	97.6
#100	0.150	234.6	55.8
#200	0.075	506.2	4.7
PAN			

GRAVEL: **0 %**
 SAND: **95 %**
 FINES: **5 %**
 GROUP SYMBOL: **SP-SM**

Cu = D60/D10 = 2.00
 Cc = (D30)²/(D60*D10) = 0.95

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: 8 Mid

Sample ID: PPIHVC18-8M

Date, Time: 06/18/19, 13:55

Soil Type : SP-SM

Soil Identification: Grayish brown poorly-graded sand with silt (SP-SM)

GR:SA:FI : (%) **0 : 95 : 5**



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: [Pillar Point Harbor](#)

Tested By: [O. Figueroa](#) Date: [06/25/19](#)

Project No.: [5720.180](#)

Checked By: [J. Ward](#) Date: [07/11/19](#)

Station ID: [8 Top](#)

Date, Time: [06/18/19, 13:55](#)

Sample ID: [PPIHVC18-8T](#)

Soil Identification: [Olive gray poorly-graded sand \(SP\)](#)

		Moisture Content of Total Air - Dry Soil	
Container No.:	H	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	650.7	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	145.0	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	505.7	Moisture Content (%)	0.0

After Wet Sieve	Container No.	H
	Wt. of Dry Soil + Container (g)	636.9
	Wt. of Container (g)	145.0
	Dry Wt. of Soil Retained on # 200 Sieve (g)	491.9

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75	0.0	100.0
#8	2.36	0.3	99.9
#16	1.18	1.3	99.7
#30	0.600	5.3	99.0
#50	0.300	28.0	94.5
#100	0.150	254.3	49.7
#200	0.075	489.2	3.3
PAN			

GRAVEL: **0 %**

SAND: **97 %**

FINES: **3 %**

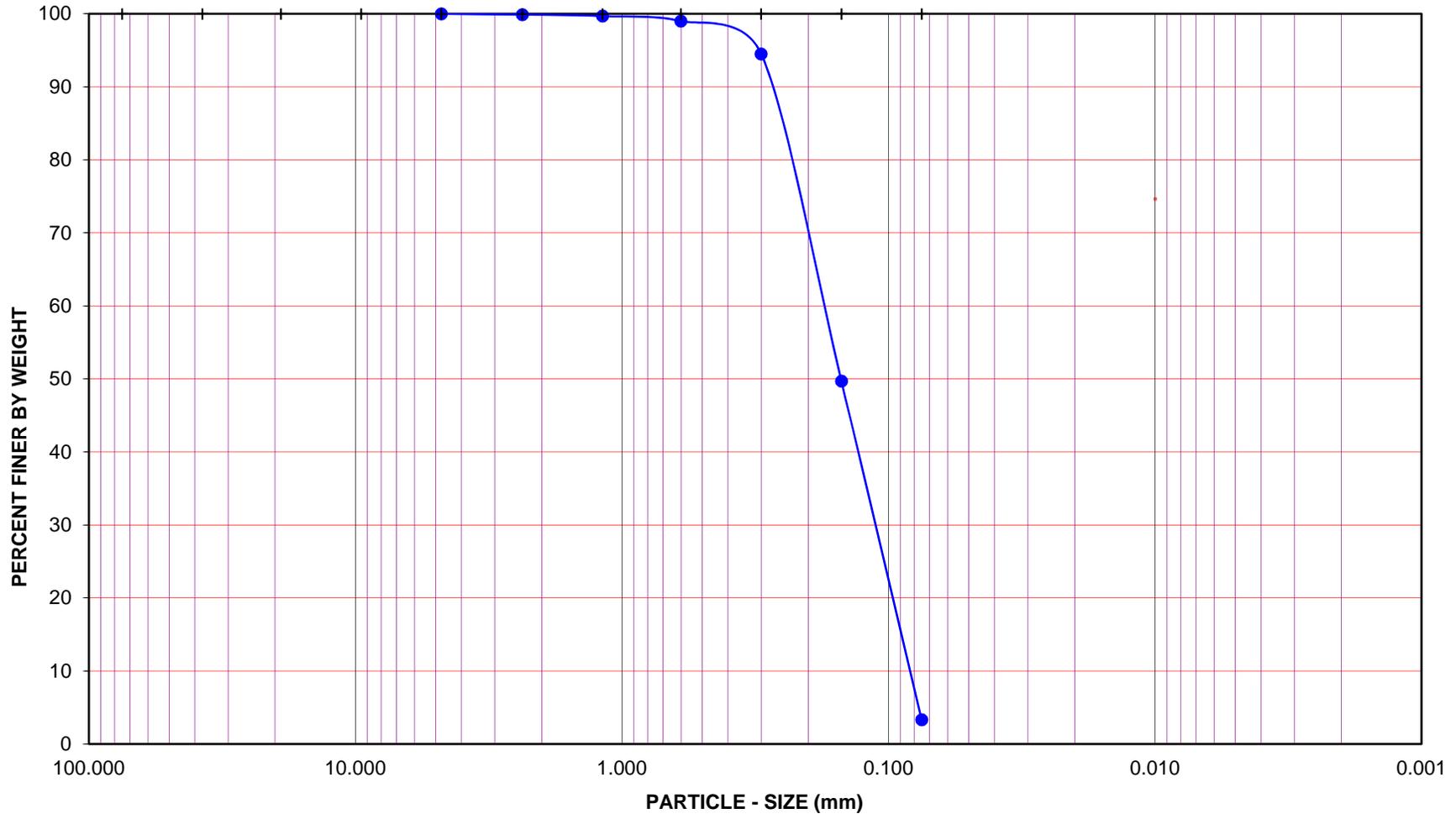
GROUP SYMBOL: **SP**

$$Cu = D_{60}/D_{10} = \underline{2.05}$$

$$Cc = (D_{30})^2/(D_{60} \cdot D_{10}) = \underline{1.02}$$

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor
 Project No.: 5720.180

Station ID: 8 Top Sample ID: PPIHVC18-8T
 Date, Time: 06/18/19, 13:55 Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

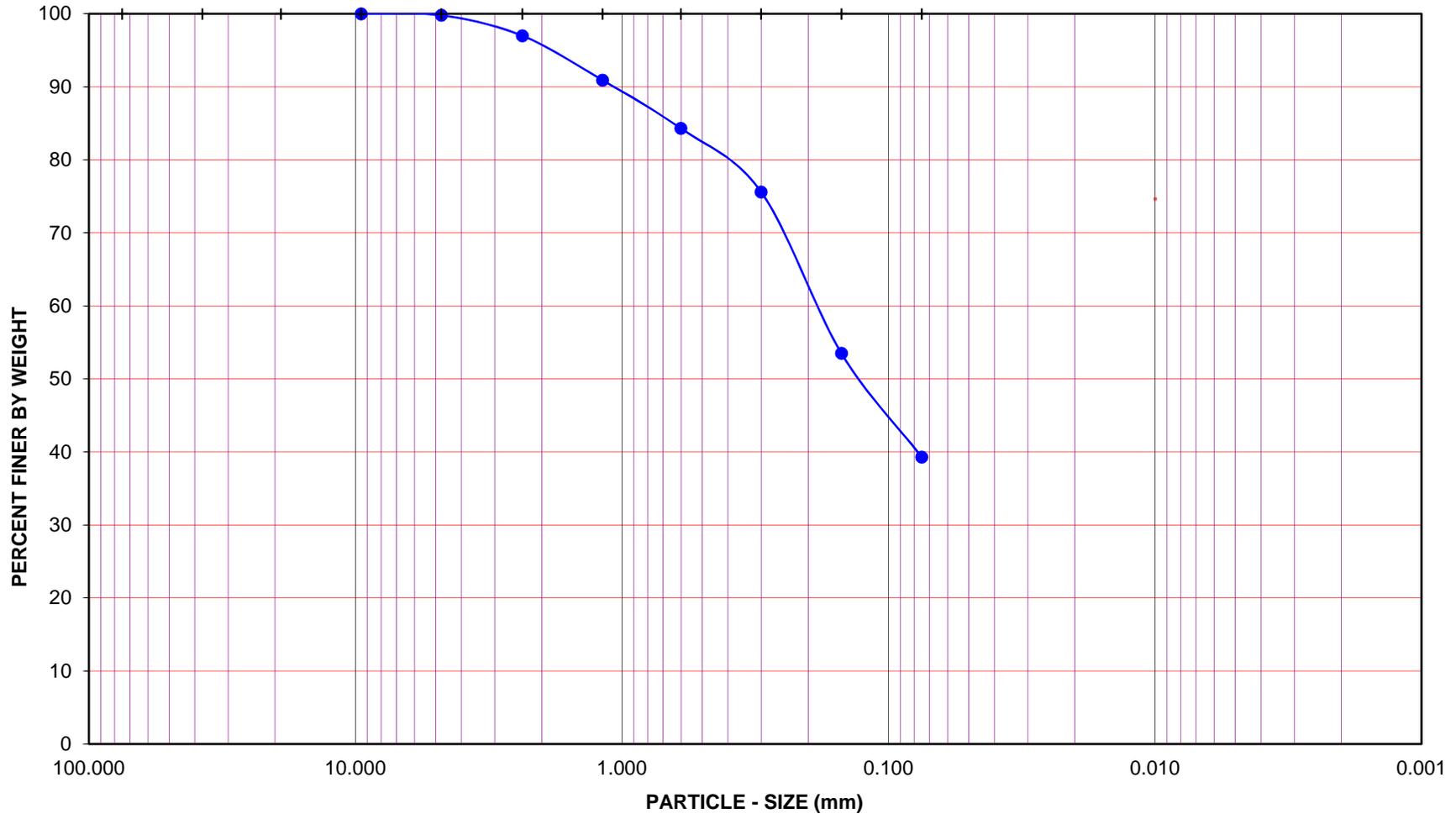
GR:SA:FI : (%) **0 : 97 : 3**



**PARTICLE - SIZE
 DISTRIBUTION
 ASTM D 6913**

Jul-19

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: Bottom Comp

Sample ID: PPIHVC18-Bot

Date, Time: 06/19/19, 10:40

Soil Type : SC-SM

Soil Identification: Yellowish brown silty, clayey sand (SC-SM)

GR:SA:FI : (%) 0 : 61 : 39



**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: ACS/OHF Date: 06/26/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: Mid Comp

Date, Time: 06/19/19, 10:40

Sample ID: PPIHVC18-Mid

Soil Identification: Olive brown silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	PHD	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	822.4	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	214.9	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	607.5	Moisture Content (%)	0.0

After Wet Sieve	Container No.	PHD
	Wt. of Dry Soil + Container (g)	659.8
	Wt. of Container (g)	214.9
	Dry Wt. of Soil Retained on # 200 Sieve (g)	444.9

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5	0.0	100.0
3/8"	9.5	3.5	99.4
#4	4.75	9.9	98.4
#8	2.36	38.3	93.7
#16	1.18	87.0	85.7
#30	0.600	145.7	76.0
#50	0.300	195.8	67.8
#100	0.150	328.5	45.9
#200	0.075	442.3	27.2
PAN			

GRAVEL: 2 %

SAND: 71 %

FINES: 27 %

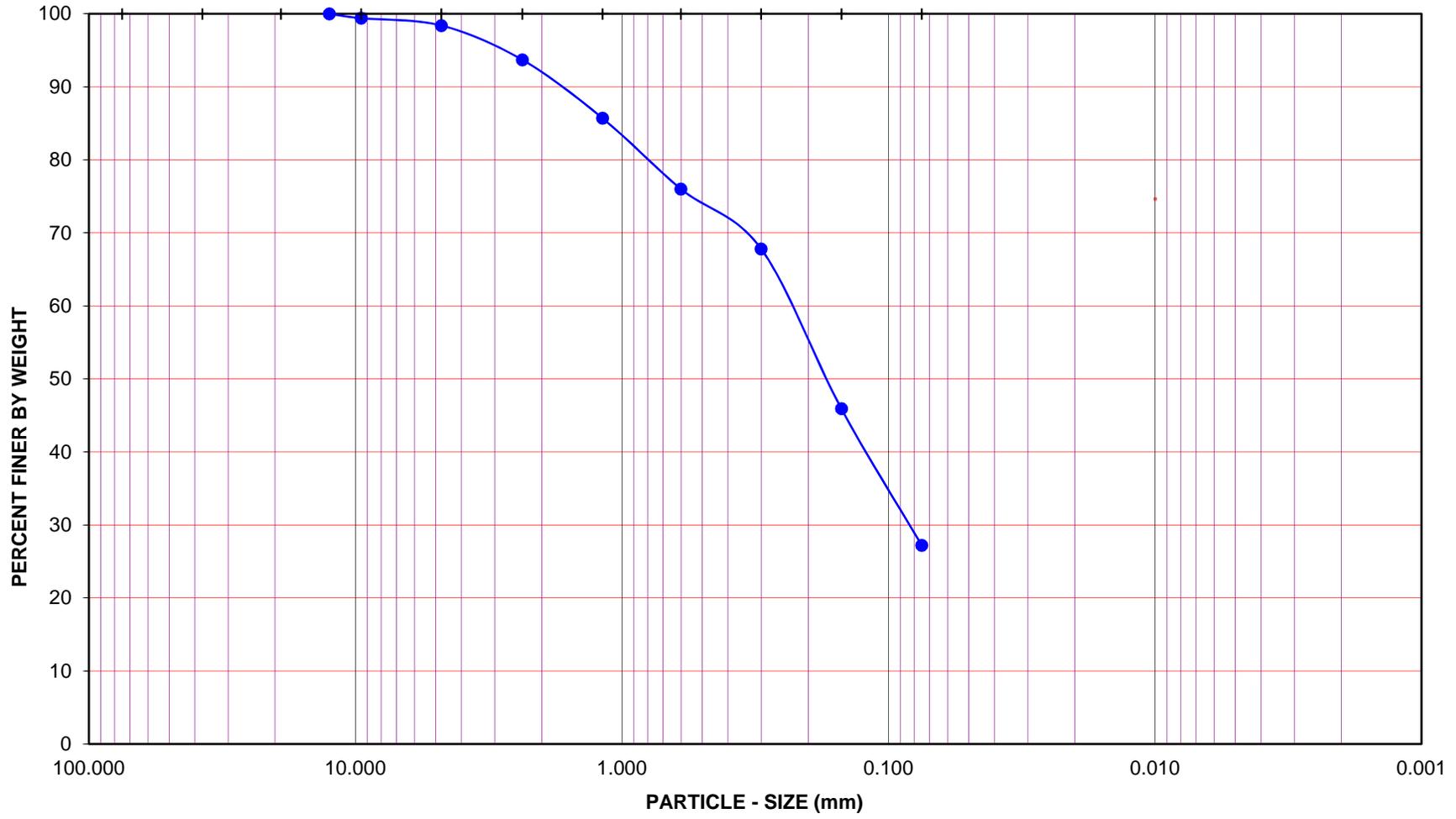
GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: Mid Comp

Sample ID: PPIHVC18-Mid

Date, Time: 06/19/19, 10:40

Soil Type : SM

Soil Identification: Olive brown silty sand (SM)

GR:SA:FI : (%) **2 : 71 : 27**



PARTICLE - SIZE DISTRIBUTION
ASTM D 6913

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: ACS/OHF Date: 06/21/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/10/19

Station ID: Top Comp

Date, Time: 06/19/19, 10:40

Sample ID: PPIHVC18-Top

Soil Identification: Olive gray silty sand (SM)

		Moisture Content of Total Air - Dry Soil	
Container No.:	VO	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	752.7	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	234.7	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	518.0	Moisture Content (%)	0.0

After Wet Sieve	Container No.	VO
	Wt. of Dry Soil + Container (g)	647.7
	Wt. of Container (g)	234.7
	Dry Wt. of Soil Retained on # 200 Sieve (g)	413.0

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5	0.0	100.0
#4	4.75	1.6	99.7
#8	2.36	17.4	96.6
#16	1.18	48.4	90.7
#30	0.600	91.8	82.3
#50	0.300	134.8	74.0
#100	0.150	275.3	46.9
#200	0.075	407.6	21.3
PAN			

GRAVEL: 0 %

SAND: 79 %

FINES: 21 %

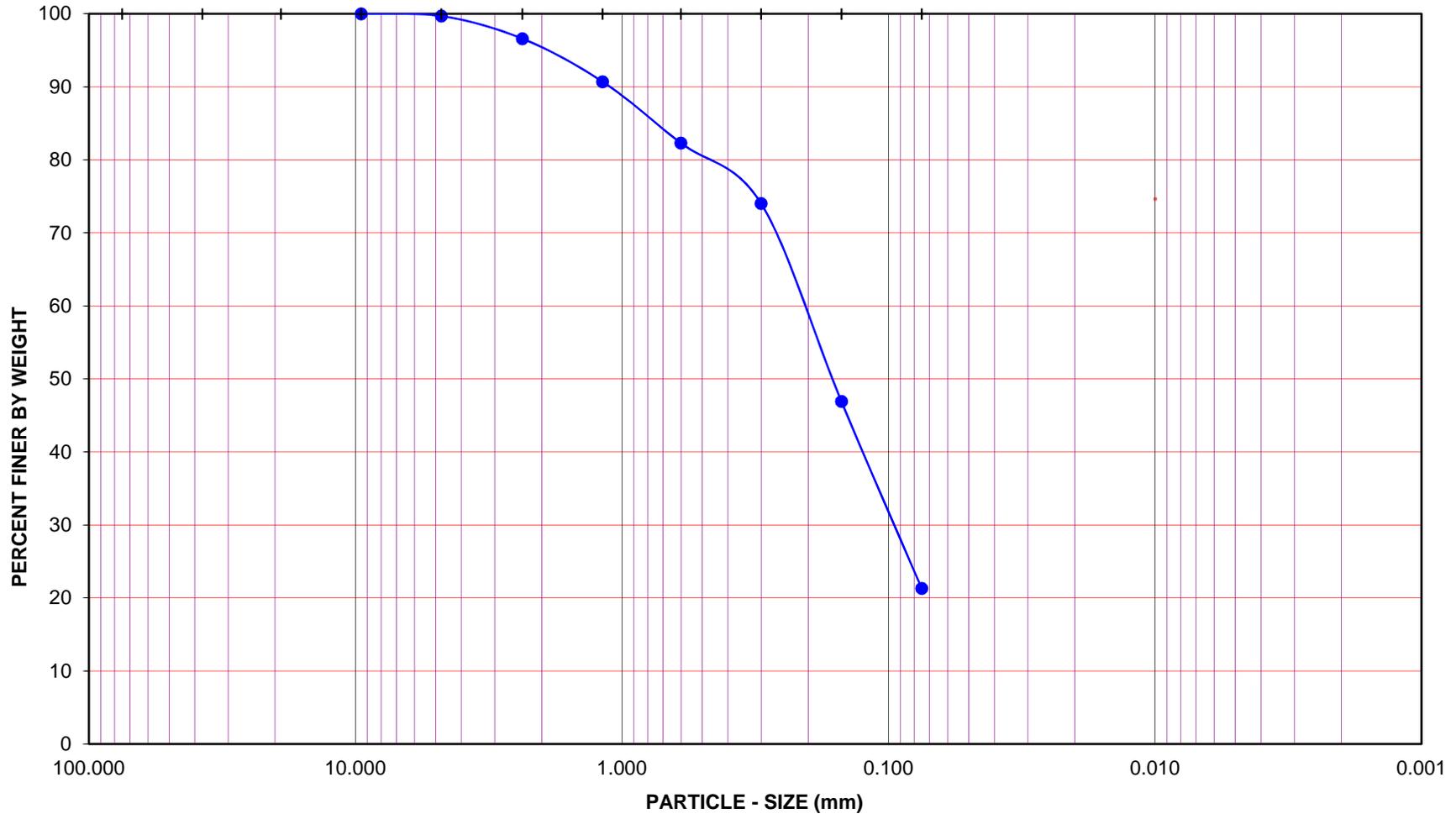
GROUP SYMBOL: SM

Cu = D60/D10 = _____

Cc = (D30)²/(D60*D10) = _____

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT	CLAY			
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: Top Comp

Sample ID: PPIHVC18-Top

Date, Time: 06/19/19, 10:40

Soil Type : SM

Soil Identification: Olive gray silty sand (SM)

GR:SA:FI : (%) 0 : 79 : 21



PARTICLE - SIZE DISTRIBUTION
ASTM D 6913

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: [Pillar Point Harbor](#)

Tested By: [OHF/ACS](#) Date: [06/26/19](#)

Project No.: [5720.180](#)

Checked By: [J. Ward](#) Date: [07/11/19](#)

Station ID: [Surfers Beach](#)

Date, Time: [06/19/19, 9:40](#)

Sample ID: [SBREF18-1](#)

Soil Identification: [Olive gray poorly-graded sand \(SP\)](#)

		Moisture Content of Total Air - Dry Soil	
Container No.:	F	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	696.0	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	137.7	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	558.3	Moisture Content (%)	0.0

After Wet Sieve	Container No.	F
	Wt. of Dry Soil + Container (g)	690.5
	Wt. of Container (g)	137.7
	Dry Wt. of Soil Retained on # 200 Sieve (g)	552.8

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36	0.0	100.0
#16	1.18	0.3	99.9
#30	0.600	2.2	99.6
#50	0.300	43.2	92.3
#100	0.150	459.7	17.7
#200	0.075	552.4	1.1
PAN			

GRAVEL: 0 %

SAND: 99 %

FINES: 1 %

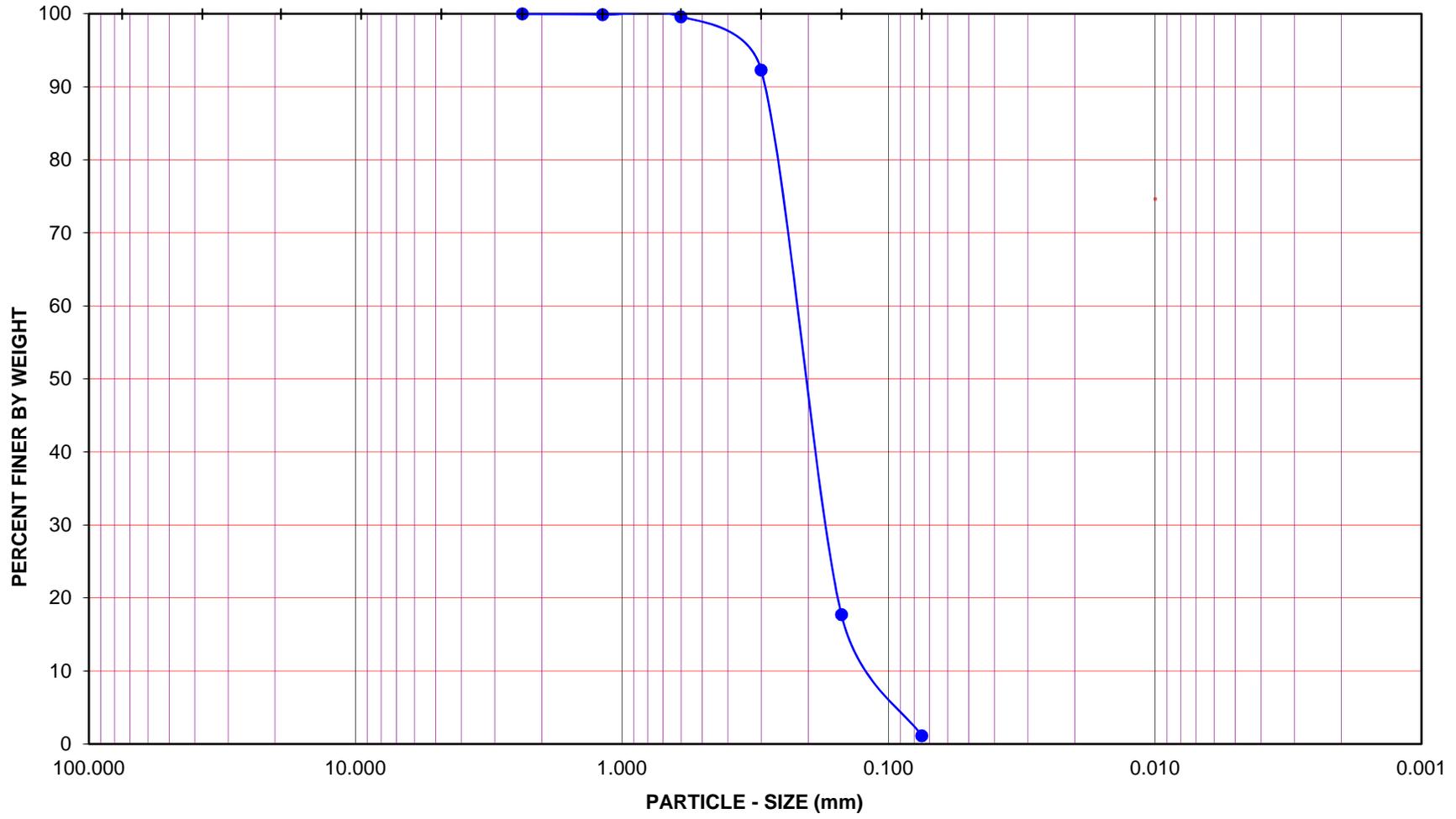
GROUP SYMBOL: SP

$$Cu = D_{60}/D_{10} = \underline{1.69}$$

$$Cc = (D_{30})^2/(D_{60} \cdot D_{10}) = \underline{0.90}$$

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: Surfers Beach

Sample ID: SBREF18-1

Date, Time: 06/19/19, 9:40

Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

GR:SA:FI : (%) 0 : 99 : 1



Leighton

PARTICLE - SIZE DISTRIBUTION
ASTM D 6913

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: OHF/ACS Date: 06/26/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: Surfers Beach

Date, Time: 06/19/19, 9:32

Sample ID: SBREF18-2

Soil Identification: Olive gray poorly-graded sand (SP)

		Moisture Content of Total Air - Dry Soil	
Container No.:	VIP	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	706.2	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	219.5	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	486.7	Moisture Content (%)	0.0

After Wet Sieve	Container No.	VIP
	Wt. of Dry Soil + Container (g)	701.9
	Wt. of Container (g)	219.5
	Dry Wt. of Soil Retained on # 200 Sieve (g)	482.4

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36		
#16	1.18	0.0	100.0
#30	0.600	0.5	99.9
#50	0.300	31.9	93.4
#100	0.150	400.6	17.7
#200	0.075	481.9	1.0
PAN			

GRAVEL: **0 %**

SAND: **99 %**

FINES: **1 %**

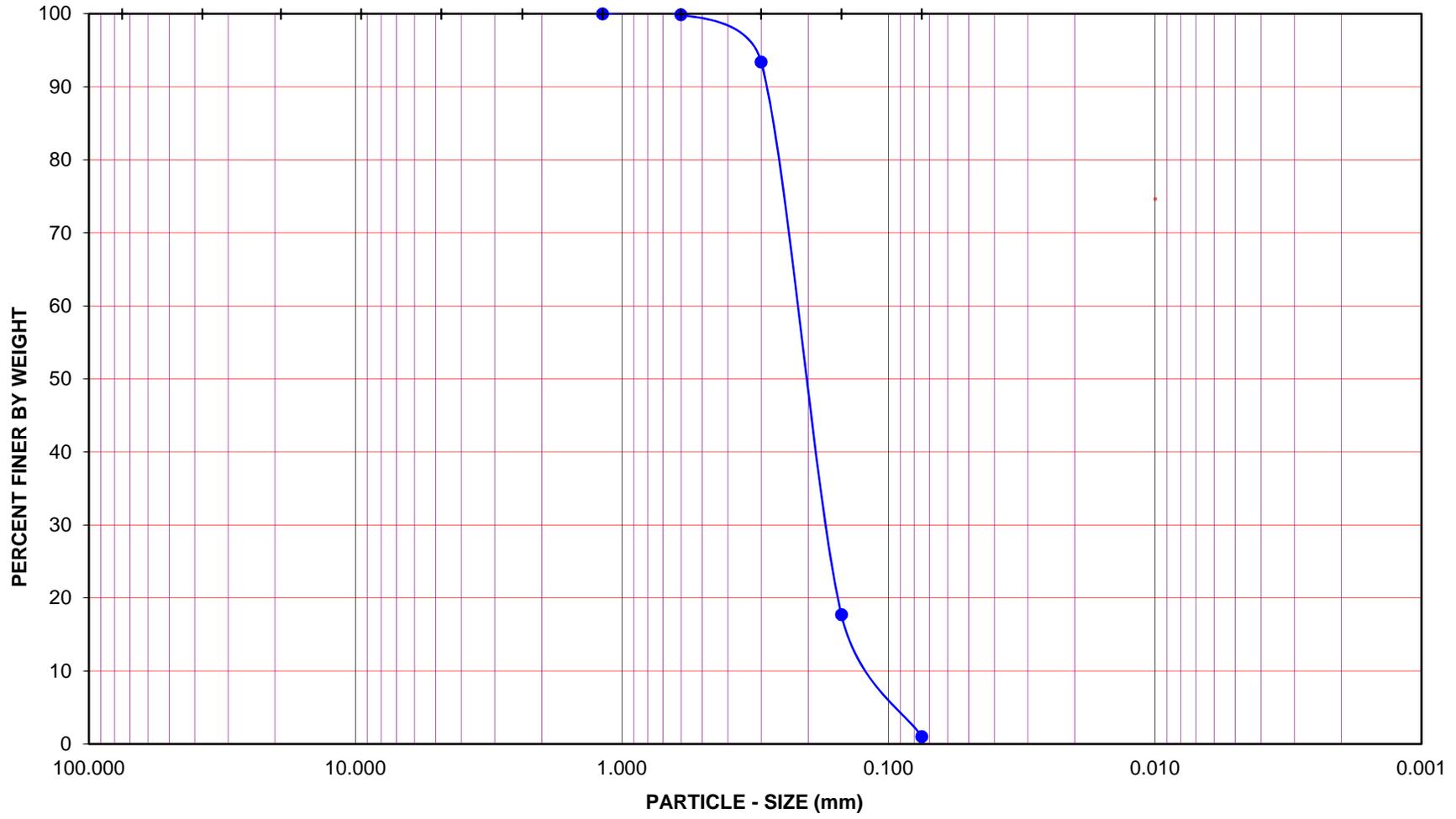
GROUP SYMBOL: **SP**

$$Cu = D_{60}/D_{10} = \underline{1.69}$$

$$Cc = (D_{30})^2/(D_{60} \cdot D_{10}) = \underline{0.90}$$

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: Surfers Beach

Sample ID: SBREF18-2

Date, Time: 06/19/19, 9:32

Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

GR:SA:FI : (%) 0 : 99 : 1



PARTICLE - SIZE DISTRIBUTION
ASTM D 6913

Jul-19



**PARTICLE-SIZE DISTRIBUTION (GRADATION)
of SOILS USING SIEVE ANALYSIS
ASTM D 6913**

Project Name: Pillar Point Harbor

Tested By: OHF/ACS Date: 06/26/19

Project No.: 5720.180

Checked By: J. Ward Date: 07/11/19

Station ID: Surfers Beach

Date, Time: 06/19/19, 9:26

Sample ID: SBREF18-3

Soil Identification: Olive gray poorly-graded sand (SP)

		Moisture Content of Total Air - Dry Soil	
Container No.:	GE	Wt. of Air-Dry Soil + Cont. (g)	0.0
Wt. of Air-Dried Soil + Cont.(g)	776.5	Wt. of Dry Soil + Cont. (g)	0.0
Wt. of Container (g)	250.3	Wt. of Container No._____ (g)	1.0
Dry Wt. of Soil (g)	526.2	Moisture Content (%)	0.0

After Wet Sieve	Container No.	GE
	Wt. of Dry Soil + Container (g)	771.5
	Wt. of Container (g)	250.3
	Dry Wt. of Soil Retained on # 200 Sieve (g)	521.2

U. S. Sieve Size		Cumulative Weight Dry Soil Retained (g)	Percent Passing (%)
(in.)	(mm.)		
1 1/2"	37.5		
1"	25.0		
3/4"	19.0		
1/2"	12.5		
3/8"	9.5		
#4	4.75		
#8	2.36		
#16	1.18	0.0	100.0
#30	0.600	4.3	99.2
#50	0.300	142.0	73.0
#100	0.150	476.6	9.4
#200	0.075	520.6	1.1
PAN			

GRAVEL: 0 %

SAND: 99 %

FINES: 1 %

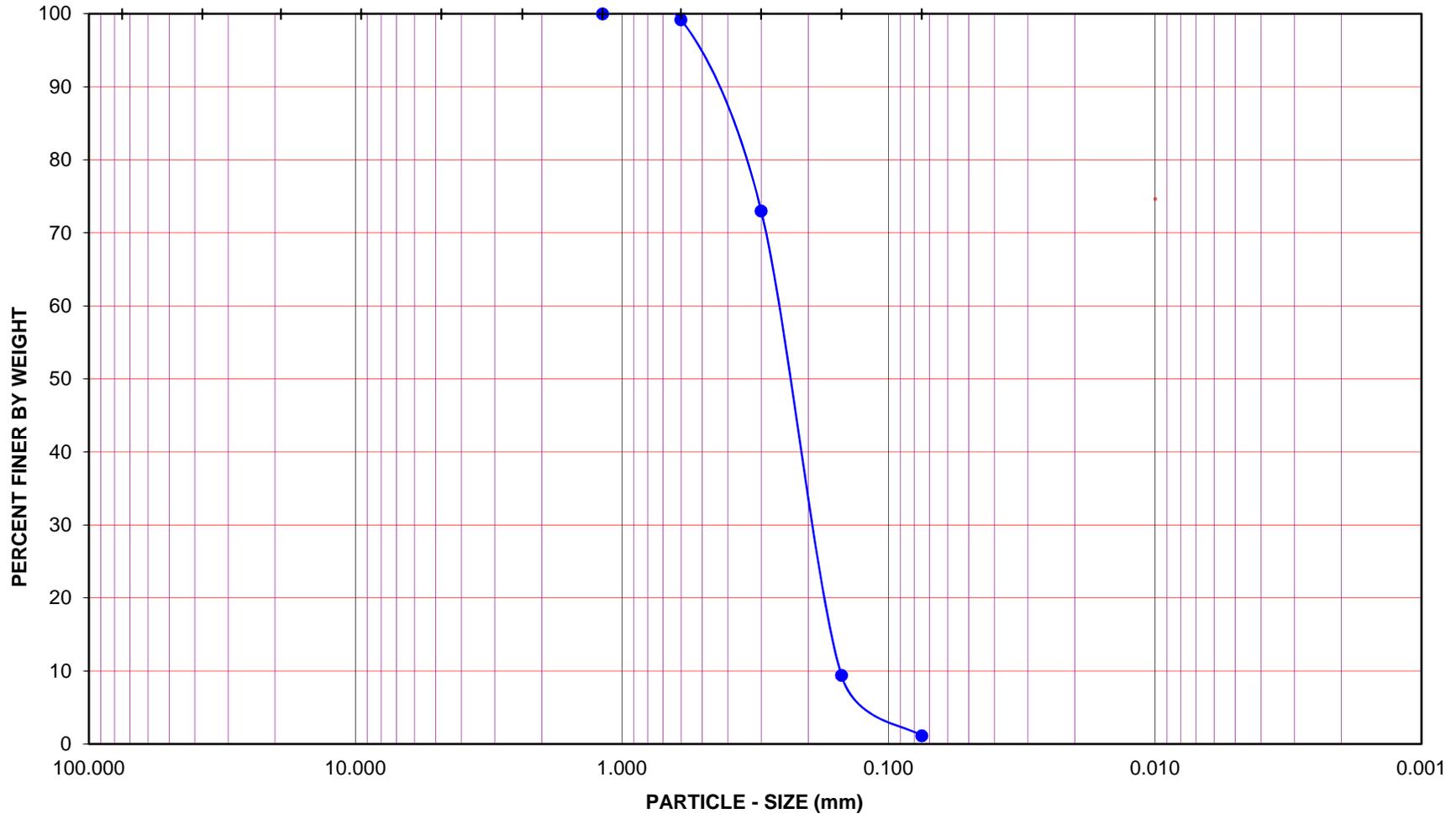
GROUP SYMBOL: SP

$$Cu = D_{60}/D_{10} = \underline{1.67}$$

$$Cc = (D_{30})^2/(D_{60} \cdot D_{10}) = \underline{1.07}$$

Remarks: _____

GRAVEL				SAND				FINES				
COARSE		FINE		COARSE	MEDIUM	FINE		SILT		CLAY		
U.S. STANDARD SIEVE OPENING				U.S. STANDARD SIEVE NUMBER				HYDROMETER				
3.0"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200		



Project Name: Pillar Point Harbor

Project No.: 5720.180

Station ID: Surfers Beach

Sample ID: SBREF18-3

Date, Time: 06/19/19, 9:26

Soil Type : SP

Soil Identification: Olive gray poorly-graded sand (SP)

GR:SA:FI : (%) **0 : 99 : 1**



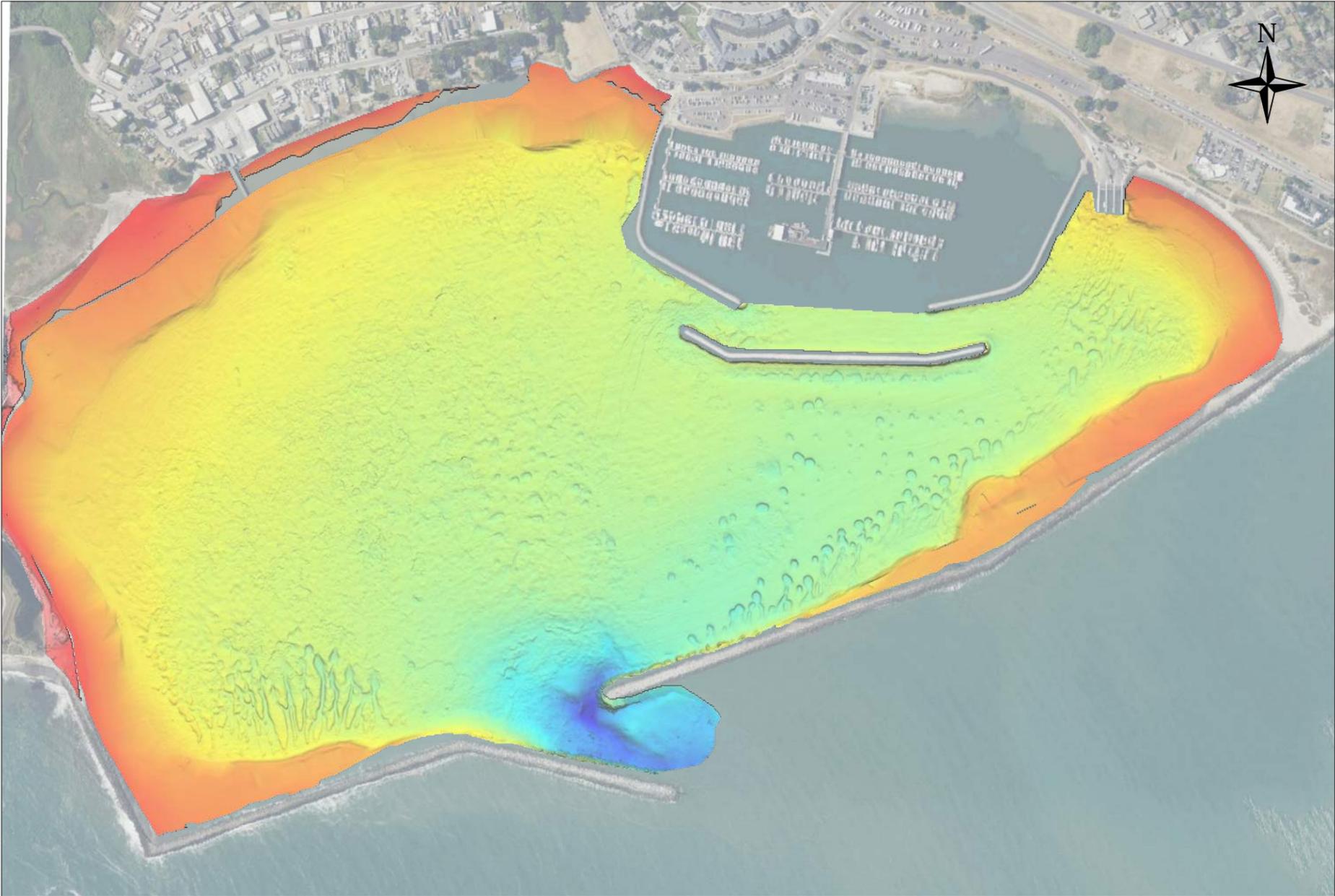
**PARTICLE - SIZE
DISTRIBUTION
ASTM D 6913**

Jul-19

APPENDIX C – PRE-CONSTRUCTION SURVEY DATA

PILLAR POINT HARBOR ENVIRONMENTAL SCIENCE ASSOCIATES (ESA) HYDROGRAPHIC SURVEY

Overview



not to scale

SHEET INDEX:

- SHEET 1 - PROJECT INFORMATION
- SHEET 2-4 - SOUNDINGS
- SHEET 5 - COLORED DEM
- SHEET 6 - 2006 VS 2019 DIFFERENCE

GENERAL NOTES:

1. MULTIBEAM DATA COLLECTED ON DECEMBER 05 & 06, 2019
2. TOPOGRAPHIC DATA COLLECTED ON JANUARY 21ST, 2020
3. HORIZONTAL DATUM/PROJECTION: NAD83 (2011), SPCS CALIFORNIA ZONE 03 - U.S. SURVEY FEET
4. HORIZONTAL CONTROL: NGS HT0455 TIDAL 5, N 37° 30' 13.27003" W 122° 29' 07.73809"
5. VERTICAL DATUM: NAVD88, U.S. SURVEY FEET
6. VERTICAL CONTROL: NGS HT0455 TIDAL 5, ELEVATION 14.22'
7. THIS SURVEY REPRESENTS GENERAL CONDITIONS AT THE TIME OF THE SURVEY.
8. POSITIONING AND MOTION DATA WAS COLLECTED USING AN APPLANIX POS MV V5.
9. SOUNDINGS WERE COLLECTED USING AN R2SONIC 2020 OPERATING AT 400 KHZ.
10. SOUNDINGS DEPTH NEGATIVE UNLESS INDICATED OTHERWISE
11. FINAL SURFACE IS A MERGE OF ETRAC DATA, SOUNDINGS FROM MARINE TAXONOMIC SIDESCAN DATA AND THE USGS LIDAR AND HYDROGRAPHIC DATA

	Environmental Science Associates 550 Kearny St Suite 800 San Francisco, CA 94108
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	eTrac Inc. 637 LINDARO STREET SUITE 100 SAN RAFAEL, CA 94901 415.462.0421 eTracInc.com
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SURVEY DATE: December 05 & 06, 2019	PLOT DATE: May 13, 2020
DESIGNED BY: GCC	CHECKED BY: JAK
REVISION # _____	_____
FILE NAME: ESA_191206_191205_PillarPoint_REV4.dwg	

PILLAR POINT HARBOR ESA HYDROGRAPHIC SURVEY <hr/> PROJECT INFORMATION
--

Reference Number: S1



- eTrac GPS Topo Data
- Marine Taxonomic Side Scan Data
- USGS Hydrographic & LIDAR Data

SCALE: 1" = 400'

IF SHEET IS LESS THAN 11"X17"
IT IS A REDUCED PRINT,
SCALE ACCORDINGLY



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San Francisco, CA 94108



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SAN RAFAEL, CA 94901
415.462.0421
eTracInc.com

SURVEY DATE: December 05 & 06, 2019	PLOT DATE: May 13, 2020
DESIGNED BY: GCC	CHECKED BY: JAK
REVISION # _____	_____
FILE NAME: ESA_191206_191205_PillarPoint_REV4.dwg	

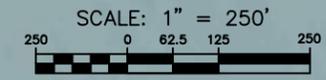
PILLAR POINT HARBOR
ESA
HYDROGRAPHIC SURVEY

SOUNDINGS

Reference
Number:
S2



-  eTrac GPS Topo Data
-  Marine Taxonomic Side Scan Data
-  USGS Hydrographic & LIDAR Data



IF SHEET IS LESS THAN 11"X17"
IT IS A REDUCED PRINT,
SCALE ACCORDINGLY


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 eTracInc.com

SURVEY DATE: December 05 & 06, 2019	PLOT DATE: May 13, 2020
DESIGNED BY: GCC	CHECKED BY: JAK
REVISION # _____	_____
FILE NAME: ESA_191206_191205_PillarPoint_REV4.dwg	

PILLAR POINT HARBOR
ESA
HYDROGRAPHIC SURVEY

SOUNDINGS

Reference
 Number:

S3



-  eTrac GPS Topo Data
-  Marine Taxonomic Side Scan Data
-  USGS Hydrographic & LIDAR Data



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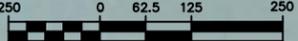
SURVEY DATE: December 05 & 06, 2019	PLOT DATE: May 13, 2020
DESIGNED BY: GCC	CHECKED BY: JAK
REVISION # _____	_____
FILE NAME: ESA_191206_191205_PillarPoint_REV4.dwg	

PILLAR POINT HARBOR
ESA
HYDROGRAPHIC SURVEY

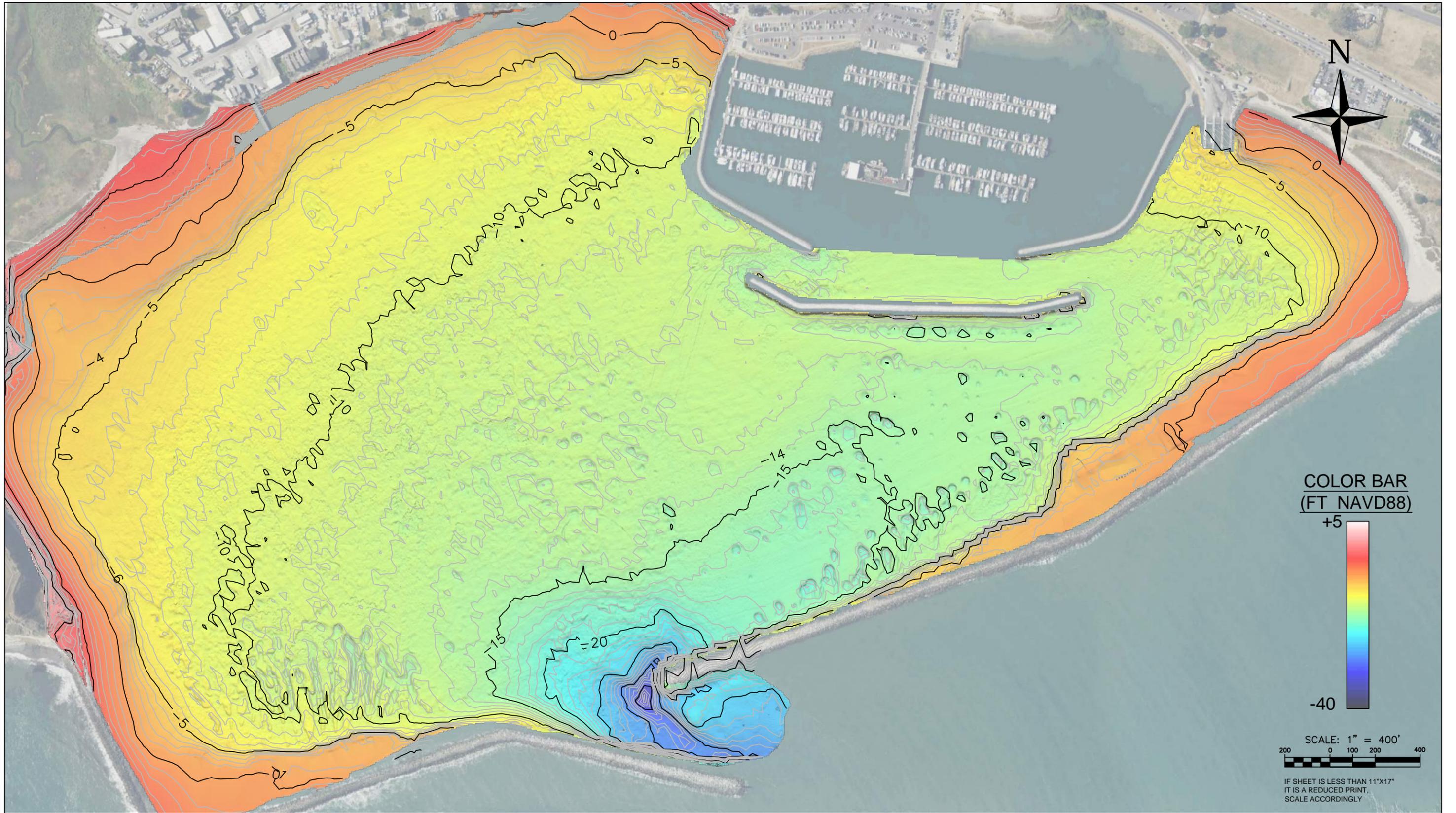
SOUNDINGS

Reference
Number:
S4

SCALE: 1" = 250'



IF SHEET IS LESS THAN 11"x17"
IT IS A REDUCED PRINT,
SCALE ACCORDINGLY




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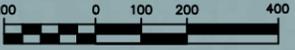
SURVEY DATE: December 05 & 06, 2019	PLOT DATE: May 13, 2020
DESIGNED BY: GCC	CHECKED BY: JAK
REVISION # _____	_____
FILE NAME: ESA_191206_191205_PillarPoint_REV4.dwg	

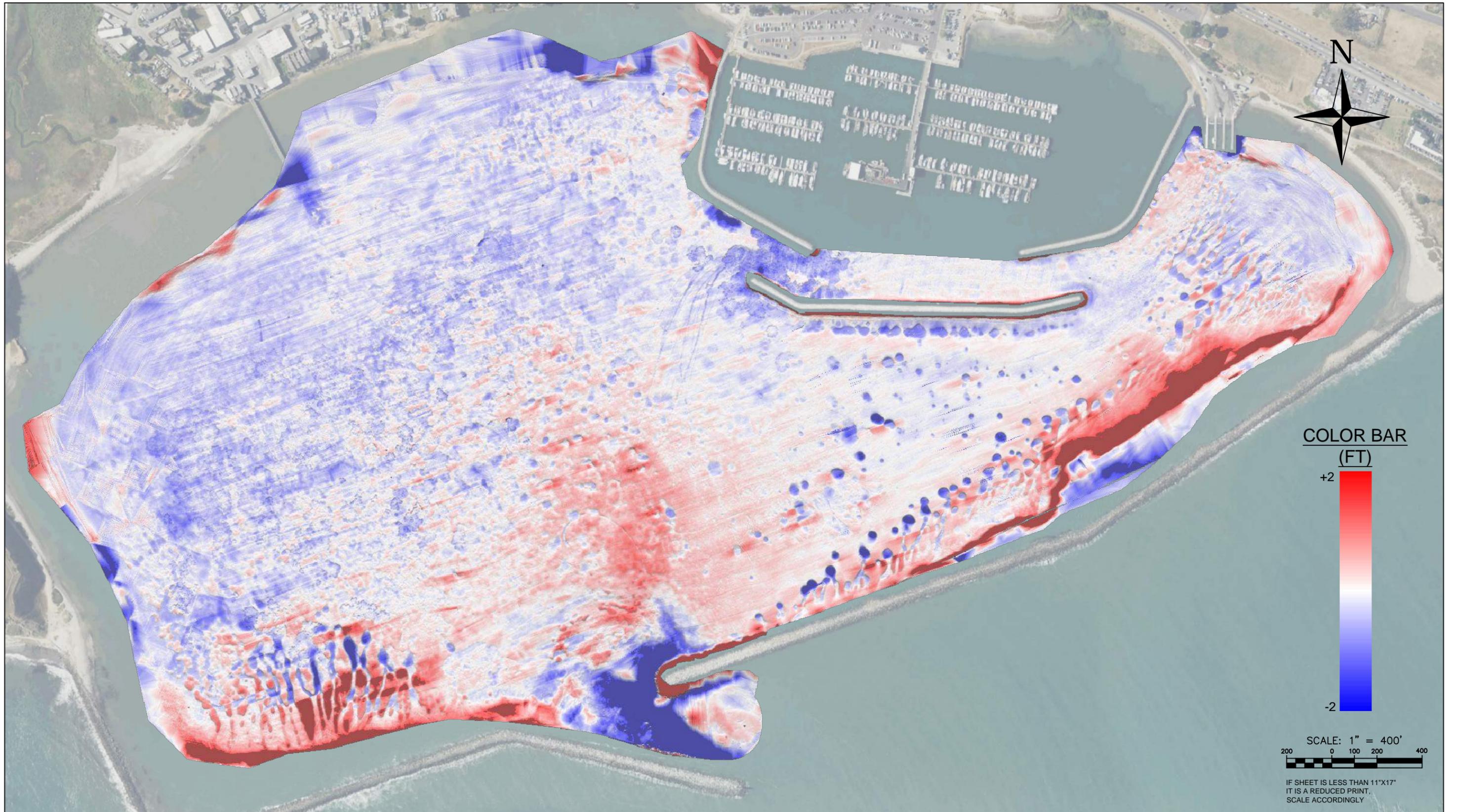
PILLAR POINT HARBOR
ESA
HYDROGRAPHIC SURVEY

COLORED DEM

Reference
 Number:
S5

COLOR BAR
(FT NAVD88)
 +5

 -40
 SCALE: 1" = 400'

 IF SHEET IS LESS THAN 11"X17"
 IT IS A REDUCED PRINT.
 SCALE ACCORDINGLY



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415.462.0421
eTracInc.com

SURVEY DATE: December 05 & 06, 2019	PLOT DATE: May 13, 2020
DESIGNED BY: GCC	CHECKED BY: JAK
REVISION #	
FILE NAME: ESA_191206_191205_PillarPoint_REV4.dwg	

PILLAR POINT HARBOR
ESA
HYDROGRAPHIC SURVEY
2006 VS 2019 DIFFERENCE

Reference
Number:
S6

APPENDIX D – PERMIT COMPLIANCE MATRIX

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
California Coastal Commission -- Consolidated Coastal Development Permit - <u>CDP 2-22-0726</u>					
<p><u>Expiration Date:</u> September 6, 2026 <u>Staff Contact:</u> isobel.cooper@coastal.ca.gov <u>Monitoring Report due:</u> One year and three months from the date of commencement of materials placement.</p>					
CDP	Construction Plan	2	<p>PRIOR TO ISSUANCE: Submit 2 copies of a Construction Plan for review and written approval. Must include: Construction Areas; Construction Methods; Construction Timing; Construction BMPs (CDP includes minimum BMP requirements in 2(d) 1-5); Restoration; Construction Site Documents; Construction Coordinator; Construction Specifications, and; Notification. *See 2(a) - 2(i) in Permit. (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 areas within which construction activities and/or staging areas are to take place shall be minimized in size to the maximum extent feasible in order to have the least impact on public access and other coastal resources, including by using, as feasible, inland areas for staging and storing construction equipment and materials. Construction areas shall be sited and designed to minimize impacts to public beach access and public views at Surfers Beach, at the adjacent section of the Coastal Trail, and at Highway 1, including but not limited to public views across the site. (b) Construction Methods: The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separate from public recreational use areas as much as possible (including using unobtrusive temporary fencing or equivalent measures to delineate construction areas), and including verification that equipment operation and equipment and material storage will not, to the maximum extent feasible, significantly degrade public access and public views during construction. The Plan shall limit construction activities to avoid coastal resource impacts as much as feasible, and lighting of the work area is prohibited. (c) Construction Timing: Construction is prohibited during weekends, from the Saturday of Memorial Day through Labor Day inclusive, and during non-daytime hours (i.e., from one-hour after sunset to one-hour before sunrise), unless due to extenuating circumstances the Executive Director authorizes such work. (d) Construction BMPs: (see minimum BMP requirements in 2(d) 1-5. These are included at the very bottom of this matrix in a separate section)</p>	<p>Construction Contractor to provide to District Consultants for submittal.</p>	<p>31 23 00 Dredging and Fill</p>
CDP	Construction Plan	2(i)	<p>Notification. The Permittee shall notify planning staff of the Coastal Commission's North Central Coast District Office at least three working days in advance of commencement of construction, and immediately upon completion of construction.</p>	<p>District Consultants</p>	
CDP	As-Built Plans	3	<p>Within 3 Months of Completion of Construction the permittee shall submit 2 copies of As-Built Plans to the Executive Director for review and written approval showing all elements of the approved project. 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 both color hard copy 8 1/2 x 11 and digital jpg formats) 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, inland, and downcoast viewpoints, and from any other viewpoints necessary to provide complete photographic coverage of all project areas. 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, including those chosen so as to inform potential future projects regarding how the placement of such materials affects surf conditions at Surfers Beach. The As-Built Plans shall include vertical and horizontal references to 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 project has been constructed in conformance with the approved project identified in Special Condition 1 and the terms and conditions of this CDP.</p>	<p>Construction Contractor to provide to District Consultants for submittal.</p>	<p>31 23 10 Survey and Layout</p>

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
CDP	Monitoring and Reporting	4	The Permittee shall monitor the project and provide a report to the Executive Director that clearly describes both the implementation phase and the outcome of the project with respect to the boat launch area, the eelgrass restoration area, and Surfers Beach, where the intent is to use lessons learned from the project to inform and refine potential additional such projects in the future. At a minimum, the Permittee shall provide color photo documentation (in both color hard copy 8 1/2 x 11 and digital jpg formats, accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph) of all aspects of the project, including at representative times (and at least weekly) during construction duration, and at the least monthly (at both high and low tides) after that for one year from the date of commencement of materials placement. At a minimum, the photographs shall be from enough viewpoints to provide complete photographic coverage of all project areas and shall include viewpoints chosen so as to inform potential future projects regarding how the placement of such materials affects surf conditions at Surfers Beach. In addition, monitoring efforts must provide a clear assessment of any impacts from sand placement, whether good or bad, on surfing resources, where at the least a narrative assessment of surf conditions shall be provided for each set of photographs (e. g., swell conditions, surf users, etc.) as compared to representative assessment conducted before the project is implemented. Such photographs shall be at a scale that allows comparisons to be made with the naked eye between photographs taken at different times from the same vantage points. Such photos, as well as a narrative describing the project and lessons learned, shall be provided to the Executive Director within one year and three months from the date of commencement of materials placement.	District Consultants	
CDP	Other Authorizations	5	PRIOR TO CONSTRUCTION, the Permittee shall provide to the Executive Director written documentation of authorizations from all entities from which such authorization is necessary for the approved project (including at a minimum from San Mateo County, City of Half Moon Bay, California State Lands Commission, California Department of Fish and Wildlife, Monterey Bay National Marine Sanctuary, U. S. Army Corps of Engineers, and NOAA Fisheries) or evidence that no such authorizations are required from each of these entities. The Permittee shall inform the Executive Director of any changes to the project required by any other such authorizations. Any such changes shall not be incorporated into the project until the Permittee obtains a Commission amendment to this CDP, unless the Executive Director determines that no amendment is legally required.	District Consultants	
CDP	Nesting Bird Protections		Nesting Birds Surveys For any construction work that would occur during the avian breeding season (i.e., January 15 to September 15), pre-construction surveys shall be completed by a qualified wildlife biologist with experience in observing reproductive and nesting behavior to identify displays of nesting behavior and/or active nests (i.e., as occupied by eggs or nestlings) in the proposed construction areas. The following shall apply: (a) Surveys must occur no more than 30 days prior to construction and weekly thereafter. [(b)-(e) contain specific requirements and should be reviewed by selected biologist prior to conducting surveys. Also if needed see 3(b) 2 & 3 for Buffers and Disturbance protocols].	District Consultants	
CDP	Nesting Bird Protections		A Nesting Birds Monitoring Report shall be provided to the Executive Director within 90 days of construction completion and shall include: all survey results and associated maps; along with a brief narrative describing the survey methods and observations of the species' tolerances to noise, vibration, and visual disturbance cues. If any incidents have resulted in a need for further consultation with the project biologist and/or the Executive Director, these will also be noted and discussed.	District Consultants	
CDP	Property Owner/Easement Holder Consent		For any construction activities that may occur on properties (and/or on easements or similar legally defined areas) not owned by the Permittee, including but not limited to construction that requires equipment access on and/or across such other properties, the Permittee shall provide evidence of review, approval and consent from such property owners allowing such activities, where such consent shall only be deemed to have been given if the consent is for development consistent with the terms and conditions of the CDP, including as it affects such properties.	District Consultants	

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
CDP	Additional Construction Habitat BMPs (Eelgrass)		A pre-construction eelgrass clearance survey for the project area shall be completed no more than 60 days prior to the beginning of construction and shall be valid until the next period of active eelgrass growth (typically April-October). The Permittee shall submit the pre-construction eelgrass survey for review and approval by the Executive Director within five business days of completion of each eelgrass survey and, in any event, <u>no later than 15 business days prior to commencement of any construction activities.</u>	District Consultants	
CDP	Restoration		All construction debris shall be removed, and all beach area and other public recreational access and 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 appropriately filtered as necessary to remove all construction debris.	Contractor District Consultants District Staff	02 02 02 Mobilization
CDP	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 are available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the CDP and the approved Construction Plan, as well as the public review requirements applicable to them, prior to commencement of construction.	District Consultants in coordination with Contractor	01 35 43 Environmental Protection
CDP	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 the construction coordinator's contact information (i.e., address, phone numbers, email, etc.), including, at a minimum, an email address and a telephone number 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). <u>The construction coordinator shall record the name and contact information (i.e., 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 on at least a weekly basis.</u>	District Consultants in coordination with Contractor	31 23 00 Dredging and Fill
CDP	Construction Specifications		The construction specifications and materials shall include appropriate control provisions that require remediation for any work done inconsistent with the terms and conditions of this CDP.	District Consultants	
CDP	Minor Adjustments		Minor adjustments to these special condition requirements which do not require a CDP amendment or new CDP (as determined by the Executive Director) may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.	District Consultants	
CDP	Assumption of Risk, Waiver of Liability, and Indemnity.		By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns: (a) that the project area is subject to coastal hazards, including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, tidal scour, storms, tsunami, coastal flooding, landslide, earth movement, and the interaction of all of these, many of which will worsen with future sea level rise; (b) to assume the risks to the Permittee and the properties that are the subject of this CDP of injury and damage from such hazards in connection with this permitted development; (c) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (d) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the CDP 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 hazards; and (e) that any adverse effects to people or property caused by the permitted project shall be fully the responsibility of the Permittee.	District Staff	

Orange Highlight means Contractor's Responsibility

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Regional Water Quality Control Board -- CWA Section 401 Water Quality Certification and Waste Dishcharge Requirement - <u>RM:456550</u>					
Expiration Date: November 30, 2030 Monitoring Reports due: January 31, 2027 (yr 1) Staff Contact: Tahsa.Sturgis@Waterboards.ca.gov					
Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
401 Cert.	Regulatory Compliance and Work Windows	2	The Permittee shall adhere to the conditions of the Project's CWA Section 404 Individual Permit (Corps File No. 2012-00207S), when issued by Army Corps.	Construction Contractor & District Consultants	01 35 43 Environmental Protection
401 Cert.	Regulatory Compliance and Work Windows	4	Precipitation forecasts shall be considered when planning construction activities. The Permittee shall monitor the 72- hour forecast from the National Weather Service at http://www.nws.noaa.gov . When there is a forecast of more than 40% chance of rain, or at the onset of unanticipated precipitation, the Permittee shall remove all equipment from waters of the State, implement erosion and sediment control measures (e.g., jute, straw, coconut fiber erosion control fabric, coir logs, straw), and cease all Project activities. If any construction activities will occur after October 15, a Winterization Plan shall be submitted to the Executive Officer for review and acceptance.	Construction Contractor & District Consultants	01 35 43 Environmental Protection
401 Cert.	Regulatory Compliance and Work Windows	5	To work beyond October 31, the Permittee must meet the precipitation and construction planning requirement specified in this Certification (see Condition 4), and the weather requirement listed in the Application's materials		
401 Cert.	General Construction	6	No unauthorized construction-related materials or wastes shall be allowed to enter into or be placed where they may be washed by rainfall or runoff into waters of the State. When construction is completed, any excess material shall be removed from the work area and any areas adjacent to the work area where such material may be discharged to waters of the State.	Construction Contractor	01 35 43 Environmental Protection
401 Cert.	General Construction	7	No fueling, cleaning, or maintenance of vehicles or equipment shall take place within waters of the State, or within any areas where an accidental discharge to waters of the State may occur; and construction materials and heavy equipment must be stored outside of waters of the State. When work within waters of the State is necessary, best management practices shall be implemented to prevent accidental discharges.	Construction Contractor	01 35 43 Environmental Protection
401 Cert.	General Construction	8	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 disturbances along waters of the State that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to implement the Project.	Construction Contractor & District Consultants	02 02 02 Mobilization
401 Cert.	Pre-Construction Reporting and Other Requirements	9	PRIOR TO CONSTRUCTION: The Permittee shall input Project information into EcoAtlas no later than 14 days from this Certification's issuance date, consistent with Section 4 herein. The Project information shall be added to the Project Tracker tool in EcoAtlas online at https://ptrack.ecoatlas.org . Instructions are available at https://ptrack.ecoatlas.org/instructions , or by contacting Water Board staff (Tahsa Sturgis (510) 622-2316; tahsa.sturgis@waterboards.ca.gov).The Permittee shall notify the Water Board and submit documentation demonstrating the Project has been successfully added to EcoAtlas via email to RB2-401Reports@waterboards.ca.gov	District Consultants COMPLETED 6/11/24	

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
401 Cert.	Pre-Construction Reporting and Other Requirements	10	PRIOR TO CONSTRUCTION: The Permittee shall submit a Start of Construction (SOC) Report acceptable to the Executive Officer. The SOC Report shall be submitted no later than seven days prior to start of initial ground disturbance activities and notify the Water Board at least 48 hours prior to initiating in-water work and any stream diversions in any given Project year. Notification may be via telephone, email, delivered written notice, or other verifiable means. The SOC Report shall be submitted in same timeframe specified herein for multiple construction seasons, if necessary, via email to RB2-401Reports@waterboards.ca.gov, and include SOC_456550_Surfers Beach Pilot Restoration Project .	District Consultants	
401 Cert.	Pre-Construction Reporting and Other Requirements	11	PRIOR TO CONSTRUCTION: Permittee shall establish a minimum of 10 photo-documentation points at each location where Project related impacts to waters of the State occur. The points shall be used to track the Project's construction impacts, the pre- and post-construction condition, and overall Project success. The Permittee shall prepare a site map with the photo-documentation points clearly marked . Prior to and following construction, the Permittee shall photographically document the immediate pre- and post-Project condition at locations where impacts to waters of the State occur, including temporary impacts. These post-construction photographs and map shall be submitted, along with the as-built and construction completion reports (See Conditions 12 and 13).	District Consultants	
401 Cert.	Active Construction and Post-Construction Reporting Requirements	12	The Permittee shall prepare an as-built report acceptable to the Executive Officer. The as-built report shall be submitted to the Water Board no later than 60 days after completing Project construction activities, including revegetation . The report shall include a description of the areas of actual disturbance during Project construction and the photographs and map specified in Condition 11. The report shall clearly identify and illustrate the Project site, and the locations where impacts to waters of the State occurred. The as-built report shall include the 100 percent construction plans marked with the contractor's field notes that clearly depict any deviations made during construction from the designs reviewed by the Water Board. The as-built report shall be sent via email to RB2-401Reports@waterboards.ca.gov , and include As-Built_456550_Surfers Beach Pilot Restoration Project in the email subject line	Construction Contractor & District Consultants	31 23 10 Survey and Layout
401 Cert.	Active Construction and Post-Construction Reporting Requirements	13	The Permittee shall submit a Notice of Project Construction Completion (NOC) acceptable to the Executive Officer to notify the Water Board that the Project has been completed. The Completion Notice shall be submitted to the Water Board no later than 60 days after completing all Project construction activities . The Completion Notice shall include the as-built report, the post-construction photographs, the date of the first Project-related disturbance of waters of the State occurred, and the date construction was completed for each Project activity. The Completion Notice shall be sent via email to RB2-401Reports@waterboards.ca.gov and include NOC_456550_Surfers Beach Pilot Restoration Project in the email subject line	District Consultants	
401 Cert.	Mitigation and Monitoring Requirements	14	The Permittee shall monitor the areas temporarily impacted created by the Project for a minimum 5-year period from the time that they are temporarily impacted and until the mitigation requirements specified herein are achieved, as described in the Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan (Marine Taxonomic Services, December 16, 2023) (Eelgrass Monitoring Plan) and the Surfer's Beach Pilot Restoration 5 Year Monitoring and Adaptive Management Plan (ESA, October 2023) (MAMP). The Permittee shall submit annual monitoring reports to the Water Board (see Condition 18) to demonstrate the Project's impacts have been sufficiently and appropriately mitigated and beneficial uses have not been adversely affected. If any signs of instability, inadequate restoration, or insufficient reestablishment are observed at the site, the Permittee shall document these observations in the annual reports and make recommendations for corrective actions, as necessary (see Condition 17). If any adverse impacts to waters of the State are observed during the monitoring period, compensatory mitigation may be required by the Executive Officer, including, but not limited to, extension of the monitoring period;	District Consultants	

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
401 Cert.	Mitigation and Monitoring Requirements	15	<p>Performance Criteria. The Permittee shall evaluate the Project’s eelgrass mitigation site and beach nourishment area during the monitoring period by using the annual performance criteria in monitoring years 1 to 4 specified in the Eelgrass Monitoring Plan, MAMP, and as follows:</p> <p>a) Eelgrass Performance Criteria—as specified in the Monitoring Plan, the eelgrass mitigation site be assessed during the monitoring period using the following annual metrics for vegetation cover:</p> <ul style="list-style-type: none"> • Month 0: Full coverage distribution of planting units over the initial mitigation site shall be confirmed. • Month 6: Persistence and growth of eelgrass in the initial mitigation site, and 50 percent survival of initial planting units and well distributed cover. • Month 12: 40 percent eelgrass cover in the initial mitigation site, 20 percent density of adjacent reference areas, and no less than 1.2 times the area of the impact site. • Month 36: 100 percent eelgrass cover in the initial mitigation site, 85 percent density of adjacent reference areas, and no less than 1.2 times the area of the impact site. • Month 48: 100 percent eelgrass cover in the initial mitigation site, 85 percent density of adjacent reference areas, and no less than 1.2 times the area of the impact site. <p>b) Erosion and Effects—as described in the MAMP, the monitoring shall document the Project performance in terms of persistence of the placed sand and apparent effects to coastal resources to support the consideration of future sand placements. During the monitoring period, the Permittee shall assess the following: Erosion Rates: The expected erosion of placed sand within the Project limit and estimated sand transportation patterns and rates shall be documented using topographic and bathymetric data collected during the monitoring period. The changes in sand volume shall be computed, and these data along with geometry changes will be used to infer sand transport directions and rates. During extreme wave and water level events, visual observations shall be conducted to document the changes with standardized forms. Depth Changes: the depth changes within PPH where dredging occurred shall be documented and the shoaling rates shall be estimated. Effects: the effects of the beach nourishment on vertical and horizontal beach access and surfing conditions shall be documented using standardized forms. The formation of scarps that impede access shall be documented, and as necessary, may require adaptive management actions.</p>	District Consultants	
401 Cert.	Mitigation and Monitoring Requirements	16	<p>Final Success Criteria. The following final success criteria shall be documented in the final monitoring report and referenced in all other monitoring years to evaluate the site using the performance criteria:</p> <p>a) Eelgrass—the revegetation success shall be assessed during the monitoring period using the following: Month 60: 100 percent eelgrass cover in the initial mitigation site, 85 percent density of adjacent reference areas, and no less than 1.2 times the area of the impact site;</p> <p>b) Erosion and Effects—the beach nourishment at Surfers Beach shall be considered successful if the post-Project monitoring described in the MAMP is collected, shared with the regulatory agencies, used to inform future beach nourishment actions, and no adverse effects to waters of the State have otherwise occurred. The Project’s mitigation shall be considered successful if the Executive Officer determines the final success criteria specified in Eelgrass Monitoring Plan, MAMP, and as specified herein, for the fifth and final monitoring year has been met and no adverse impacts to waters of the State have otherwise occurred.</p>	District Consultants	
401 Cert.	Mitigation and Monitoring Requirements	17	<p>Corrective Actions: If any signs of instability, excessive erosion, or in adequate eelgrass recovery are observed at the eelgrass mitigation site or along the beach nourishment area, the Permittee shall document these observations in the annual reports and make corrective action/adaptive management recommendations, as necessary. After receipt of an annual monitoring report, if corrective actions/adaptive management actions are determined necessary by the Executive Officer, the Permittee shall be required to re-submit the corresponding annual report to include corrective actions/adaptative management actions, as necessary. The corrective actions/adaptive management actions shall not be implemented until they are approved by the Executive Officer.</p>	District Consultants	

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
401 Cert.	Mitigation and Monitoring Requirements	18	The Permittee shall submit annual monitoring reports, acceptable to the Executive Officer, by January 31 following each monitoring year's completion. The first monitoring year commences in the calendar year after the Project's temporarily impacted areas are restored after their initial disturbance. At the time of this Certification, the Project is anticipated to commence in 2025. Therefore, the first annual monitoring report shall be due on January 31, 2027, unless the Project is completed at a different time. Annual reports shall include, but not be limited to, the following: a) Photographs: photographs taken during the monitoring year from the photo-documentation points specified in Conditions 11 shall be included in each annual monitoring report and updated as appropriate. The photographs shall include captions with respect to the photograph's point of view, direction of flow, when applicable, locations of Project activities, location of the photo-documentation point, and date photographed. b) Activities and Impacts: the Project activities completed in the monitoring year and their respective impacts to waters of the State shall be included in each annual monitoring report. The final monitoring report shall include all Project activities and their impacts for the duration of the Project. The monitoring reports shall also reference the activities and impacts in relation to the limits covered in this Certification. If limits for any Project activity are exceeded, the Permittee may need to submit a report of waste discharge and shall be required to provide compensatory mitigation for the impacts to waters of the State that exceed the limits authorized in this Certification. c) Environmental Drivers: each monitoring report shall describe the precipitation events that occurred at the site during the monitoring year. The effects of the Project and environmental drivers (e.g., precipitation events, drought events) on site conditions shall be described in reference to the monitoring year's precipitation events. d) Cumulative Monitoring: each annual report shall summarize all data from previous monitoring reports in addition to the current year's monitoring data, including the need for, and implementation of, any remedial actions. Monitoring data may include all relevant qualitative and quantitative data necessary to determine whether the site is stable. The final monitoring report shall document whether the temporarily impacted areas were restored to their pre-Project condition.	District Consultants	
401 Cert.	Mitigation and Monitoring Requirements	19	Notice of Mitigation Monitoring Completion. Within 30 days of successfully completing the required monitoring, the Permittee shall submit, acceptable to the Executive Officer, a Notice of Mitigation Monitoring Completion (NMMC) notifying the Water Board that monitoring has been completed. The Notice shall be submitted via email to RB2-401Reports@waterboards.ca.gov, or by mail to the attention of 401Certifications Reports. This notification shall include the date monitoring was completed, the Project Name, and reference NMMC_456550_Surfers Beach Pilot Restoration Project		
401 Cert.	Administrative and General Compliance	20	The Permittee shall grant Water Board staff or an authorized representative, upon presentation of credentials and other documents as may be required by law, permission to: (1) enter upon the Project site or compensatory mitigation site(s) where a regulated facility or activity is located or conducted, or where records are kept; (2) have access to and copy any records that are kept and are relevant to the Project or the requirements of this Order; (3) inspect any facilities, equipment, practices, or operations regulated or required under this Order; and (4) sample or monitor for the purposes of assuring Order compliance.	Construction Contractor, District Consultants & District Staff	01 35 43 Environmental Protection
401 Cert.	Administrative and General Compliance	21	A copy of the 401 Certification shall be provided to any consultants, contractors, and subcontractors working on the Project. Copies of this Order shall remain at the Project site for the duration of this Order. The Permittee shall be responsible for work conducted by its consultants, contractors, and any subcontractors.	Construction Contractor, District Consultants & District Staff	01 35 43 Environmental Protection
401 Cert.	Administrative and General Compliance	23	The Permittee shall notify the Water Board of any violations of water quality standards, along with the cause of such violations, as soon as practicable (ideally within 24 hours). Notification may be via telephone, email, delivered written notice, or other verifiable means.	Construction Contractor & District Consultants	01 35 43 Environmental Protection

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
401 Cert.	Administrative and General Compliance	24	In accordance with Water Code section 13260, the Permittee shall file with the Water Board a report of any material change or proposed change in the ownership, character, location, or quantity of this waste discharge . Any proposed material change in operation shall be reported to the Executive Officer at least 30 days in advance of the proposed implementation of any change. Changes to discharges include, but are not be limited to, significant new soil disturbances, proposed expansions of development, or any change in drainage characteristics at the Project site. For the purpose of this Order, this includes any proposed change in the boundaries of the area of wetland/waters of the State to be impacted.	District Consultants	
401 Cert.	Annual Fees	31	In accordance with 23 CCR section 2200, the Permittee shall pay an annual fee to the Water Board each fiscal year (July 1 – June 30) until Project construction activities are completed and an acceptable Notice of Project Construction Completion is received by the Water Board. If monitoring is required, the Permittee shall pay an annual fee to the Water Board until monitoring activities are completed and an acceptable Notice of Mitigation Monitoring Completion is received by the Water Board (Note: the Annual Post Discharge Monitoring Fee may be changed by the State Water Board; at the time of Certification it was \$399 per year for Category E projects). Annual fees will be automatically invoiced to the Permittee. The Permittee must notify the Water Board at Project and mitigation completion with a final report in order to request to terminate annual billing. Notification shall reference NOT_456550_Surfers Beach Pilot Restoration Project and should be sent to the staff listed at the bottom of this Certification and to RB2-401Reports@waterboards.ca.gov. Water Board staff will verify the conditions of the Certification have been met and may request a site visit at that time to confirm the Project's status and compliance with the Certification (23 CCR sections 3833(b)(3) and 2200 (a)(3); CWC Section 13267).	District Staff District Consultants	

Orange Highlight means Contractor's Responsibility

Army Corps of Engineers -- CWA Section 404 and RHA Section 10 Permit SPN-2012-00207

Expiration Date: June 20, 2029
 Monitoring Reports Due : No annual reports required
 Staff Contact: Jessica.M.Vargas@usace.army.mil

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Permit # SPN-2012-00207	General Conditions	3	If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.	Construction Contractor & District Consultants	01 35 43 Environmental Protection
Permit # SPN-2012-00207	General Conditions	8	You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the Terms and Conditions of your permit.	Construction Contractor, District Consultants & District Staff	01 35 43 Environmental Protection

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Permit # SPN-2012-00207	Special Conditions	1	This Corps permit does not authorize you to take a threatened or endangered species. In order to remain exempt from the prohibitions of Section 9 of the Endangered Species Act, you must comply with the incidental take authorization for the endangered Black abalone (<i>Haliotis cracherodii</i>) under the enclosed National Marine Fisheries Service (NMFS) Biological Opinion (BO) entitled, "Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Pillar Point Harbor Dredging and Surfer's Beach Restoration Project (Corps File No. SPN-2012-00207)," dated February 23, 2024. The BO contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take authorized by the attached BO, whose terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take and it would also constitute non-compliance with this Corps permit. The NMFS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA.	District Consultants and Construction Contractor	01 35 43 Environmental Protection
Permit # SPN-2012-00207	Special Conditions	2	The Corps also initiated consultation with the National Marine Fisheries Service (NMFS) to address project related impacts to list species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended (16 U.S.C. Section 1531 et seq.). By letter of February 23, 2024, the NMFS concurred with the determination that the project was not likely to adversely affect Central California Coast steelhead DPS (<i>Oncorhynchus mykiss</i>), North American green sturgeon southern DPS (<i>Acipenser medirostris</i>), Leatherback Turtle (<i>Dermochelys coriacea</i>), and their designated critical habitat. Additionally, NMFS concurred with the determination that the proposed for listing species, Sunflower sea star (<i>Pycnopodia helianthoides</i>), was not likely to be adversely affected by the proposed project. This concurrence was premised, in part, on project work restrictions outlined in the concurrence. Any mitigation measures, including survey requirements and/or timing and work restrictions are incorporated as Special Conditions to this authorization to ensure unauthorized incidental take of species and loss of critical habitat does not occur.	Construction Contractor & District Consultants	01 35 43 Environmental Protection
Permit # SPN-2012-00207	Special Conditions	3	The Corps also initiated consultation with the National Marine Fisheries Service (NMFS) to address project related impacts to Essential Fish Habitat (EFH) for Pacific Groundfish, Coastal Pelagic Species, and Pacific Coast Salmon, pursuant to Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 1531 et seq.; 16 USC 1801, et seq). NMFS concurred with our determination that the project would adversely affect EFH. Although adverse effects are anticipated as a result of the Project, the proposed minimization and avoidance measures, and best management practices described in the concurrence letter are sufficient to avoid, minimize, and/or mitigate for the anticipated effects. This concurrence was premised, in part, on the eelgrass mitigation plan outlined in the concurrence. The eelgrass mitigation plan, entitled "Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan," dated July 27, 2020 (Revised December 16, 2023), is incorporated as a Special Condition to this authorization to ensure loss of EFH within Pillar Point Harbor does not occur.	Construction Contractor & District Consultants	01 35 43 Environmental Protection

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Permit # SPN-2012-00207	Special Conditions	4	The Corps initiated consultation with the United States Fish and Wildlife Service (USFWS) to address project related impacts to list species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended (16 U.S.C. Section 1531 et seq.). By letter of December 28, 2022, the USFWS concurred with the determination that the project was not likely to adversely affect California least tern (<i>Sternula antillarum brownii</i>), short-tailed albatross (<i>Phoebastria albatrus</i>), marbled murrelet (<i>Brachyramphus marmoratus</i>), Pacific Coast Distinct Population Segment of the western snowy plover (western snowy plover) (<i>Charadrius nivosus nivosus</i>), and southern sea otter (<i>Enhydra lutris nereis</i>). This concurrence was premised, in part, on project work restrictions outlined in the concurrence letter entitled, "Informal Consultation on the Pillar Point Harbor Dredging and Surfer's Beach Restoration Project, El Granada, San Mateo County, California (U.S. Army Corps of Engineers File No. SPN-2012-00207)," dated December 28, 2022. The Conservation Measures listed in the concurrence letter, including timing and work restrictions are incorporated as Special Conditions to this authorization to ensure unauthorized incidental take of species and loss of critical habitat does not occur.	Construction Contractor & District Consultants	01 35 43 Environmental Protection
Permit # SPN-2012-00207	Standard DMMO Conditions	1	Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.	Construction Contractor & District Consultants	02 02 02 Mobilization
Permit # SPN-2012-00207	Standard DMMO Conditions	2	You must have a copy of this permit available on the vessel used for the authorized transportation and disposal of dredged material.	Construction Contractor	01 35 43 Environmental Protection
Permit # SPN-2012-00207	Standard DMMO Conditions	3 & 12	You must advise this office as per Special Condition 12, on page 3D, before you start dredging activities under the authorization of this permit. The permittee or dredge contractor shall inform this office when: 1) a dredge episode actually commences, 2) when dredging is suspended (suspension is when the dredge contractor leaves the dredge site for more than 48 hours for reasons other than equipment maintenance), 3) when dredging is restarted, and 4) when dredging is complete. Each notification should include the Corps permit number and dredge episode number. The information can be sent to the attention of Debra O'Leary, in writing to the address below; e-mailed to dll-spn-dmmo@usace.army.mil or via telephone message at (415) 503-6807.	Construction Contractor & District Consultants	31 23 00 Dredging and Fill
Permit # SPN-2012-00207	Standard DMMO Conditions	4	PRIOR TO CONSTRUCTION: To provide notification of activities affecting navigation, the permittee shall provide the following information by fax, e-mail or standard mail to the contact listed below at least two weeks before commencing work: a. Name and telephone number of the dredge and or project manager. b. Size and placement of any floating construction equipment. c. Radio telephone frequencies and call signs of any marine equipment. d. Anticipated work start and completion dates. Commander (dpw) 11th Coast Guard District Coast Guard Island, Bldg 50-3 Alameda, California 94501-5100 POC: Local Notice to Mariners Waterways Management Branch PH: 510-437-2980 FAX: 510-437-5836 E-MAIL: D11LNM@uscg.mil	Construction Contractor & District Consultants	31 23 00 Dredging and Fill
Permit # SPN-2012-00207	Standard DMMO Conditions	5	The Coast Guard Captain of the Port of San Francisco Bay may require modifications to marine construction equipment deployment or mooring systems to safeguard navigation while work is in progress.	Construction Contractor & District Consultants	31 23 00 Dredging and Fill

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Permit # SPN-2012-00207	Standard DMMO Conditions	7	Placement of dredged material at Surfer's Beach and the eelgrass mitigation site shall be done in accordance with all best management practices (BMP) to ensure pipelines do not create navigation hazards. <u>Pipelines running between dredge area and placement area should be clearly marked if the pipeline is within known navigation zones to avoid boat strikes.</u>	Construction Contractor & District Consultants	31 23 00 Dredgding and Fill
Permit # SPN-2012-00207	Standard DMMO Conditions	8	All vessels operated for dredging and disposal of dredged material are required to use the Dredging Quality Management (DQM) system unless a waiver has been provided. The DQM system shall be implemented for activities under this permit when the project activity is using dredging equipment. The Permittee's DQM system must have been certified by the National DQM Support Center (DQM Center) within one calendar year prior to the initiation of the dredging/discharge/placement of sediments. The Permittee is responsible for ensuring the DQM system is operational throughout the dredging and that the project data is submitted to the DQM Center in accordance with the specifications provided at the DQM website. Questions regarding codification and/or additional information about L3QM program should be addressed to the DQM Center at (877) 840-8024 and/or https://dqm.usace.army.mil .	Construction Contractor & District Consultants	?
Permit # SPN-2012-00207	Standard DMMO Conditions	9a	Dredge Material Analysis: Submit, for approval, no earlier than 60 days prior to the proposed commencement of any authorized successive dredging episodes, dredge material analysis (Physical, Chemical, and Biological) sampling and testing information. Please include the U.S. Army Corps of Engineers (Corps) permit number and dredge episode number with this submittal. Also submit Regional Water Quality Control Board (RWQCB) water quality certification or waiver for disposal of the material. For each dredging episode, the permittee shall obtain the approval of the District Engineer for formulating specific sediment testing procedures for the Dredged Material Analysis. The testing protocol will be in accordance with the testing guidelines as published in the Corps and U.S. Environmental Protection Agency publication entitled, "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. - Testing Manual" (The Inland Testing Manual or ITM, EPA-823-B-98-004), dated February 1998, and subsequent amendments thereto. The permittee shall provide a copy of the Dredged Material Analysis to the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife concurrent with the San Francisco Bay Conservation and Development Commission's RWQCB's, and the Corps' receipt of this information. Agency comments submitted to the Corps within 15 calendar days thereafter will be given full consideration in the decision on dredged material disposal. For 9a-9e, submit to the following address: U.S. Army Corps of Engineers, San Francisco District Chief, Operations and Readiness Branch Attn: Debra O'Leary 450 Golden Gate Avenue, 4th Floor, Room 1111 P.O. Box 36152 San Francisco, California 94102-3404	Construction Contractor & District Consultants	

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Permit # SPN-2012-00207	Standard DMMO Conditions	9b	<p>PRIOR TO CONSTRUCTION: Dredge Operation Plan: Submit, for approval by this office, no earlier than 60 calendar days and no later than 20 calendar days before the proposed commencement of dredging, a plan which includes the following: Corps permit number, a copy of the dredging contract or description of the work under which the contractor will do the permitted work; name and telephone numbers of the dredging contractor's representative on site; dredging start and completion dates; names of vessel; dump scow numbers or identification; bin or barge capacities; identification of work as either maintenance dredging or new dredging; discussion of proposed dredging procedures, quantity of material to be removed; dredging design depth and typical cross section including overdepth; and date of last dredging episode and design depth. The Dredge Operational Plan shall also provide the following information: 1. The controls being established to ensure that dredging operations occur within the limits defined by the channel dimensions and typical channel section. The horizontal and vertical positioning systems being utilized must be indicated as noted in 3, below.</p> <p>2. The controls being established to ensure that disposal of the dredged material at the placement site is at the assigned location and depth. The horizontal and vertical positioning systems being utilized must be indicated as noted in 3, below.</p> <p>3. Method of determining electronic positioning of dredge or dump scow during entire dredging operation at dredge site, disposal site and en route to and from placement site.</p>	Construction Contractor & District Consultants	31 23 00 Dredging and Fill
Permit # SPN-2012-00207	Standard DMMO Conditions	9c	<p>PRIOR TO CONSTRUCTION: Pre-Dredge Survey: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of dredging, a survey with accuracy to one-tenth foot that delineates and labels the following: areas to be dredged with overdepth allowances; existing depths; estimated quantities to be dredged to the design depth; and estimated quantities to the overdepth limit. All surveys shall be signed by the permittee to certify their accuracy. Please include the Corps permit number and dredge episode number.</p>	District consultants and District Staff	
Permit # SPN-2012-00207	Standard DMMO Conditions	9d	<p>PRIOR TO CONSTRUCTION: Solid Debris Management Plan: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of work, a plan which describes measures to ensure that solid debris generated during any authorized dredging, demolition or construction operation is retained and properly disposed in areas not under Corps jurisdiction. At a minimum, the plan shall include the following: source and expected type of debris; debris retrieval method; Corps permit number and dredge episode number; disposal method and site; schedule of disposal operations; and debris containment method to be used, if floatable debris is involved.</p>	Construction Contractor & District Consultants	31 23 00 Dredging and Fill
Permit # SPN-2012-00207	Standard DMMO Conditions	9e	<p>Post-Dredge Survey: Submit, within 30 days of the last disposal activity ("last" is defined as that activity after which no further activity occurs for 15 calendar days), a survey with accuracy to one-tenth foot that delineates and labels the areas dredged and the dredged depths. Also, include the Corps permit number, dredge episode number, dates of dredging commencement and completion, actual quantities dredged to the design depth, and actual quantities to the overdepth limit. The permittee shall substantiate the total quantity dredged by including calculations used to determine the volume difference. (in cubic yards) between the Pre- and Post-Dredging Surveys and explain any variation in quantities greater than 15% beyond estimated quantities or dredging deeper than is permitted (design plus overdepth allowance). All surveys shall be accomplished by a licensed surveyor and signed by the permittee to certify their accuracy. A copy of the Post-Dredge Survey should be sent to the National Ocean Service for chart updating:</p> <p style="text-align: center;">NOAA/National Ocean Service Nautical Data Branch N/CS26, SSMC3, Room 7230 1315 East-West Highway Silver Spring, Maryland 20910-3282.</p>	Construction Contractor & District Consultants	31 23 10 Layout and Survey
			Orange Highlight means Contractor's Responsibility		

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
MBNMS/GFNMS National Marine Sanctuaries Permit - <u>MBNMS-2022-021</u>					
Expiration Date: November 30, 2030 Monitoring Reports due: September 1 (2026-2030). Annual reports due May 31 (2026-2030) Staff Contact: lilli.ferguson@noaa.gov					
Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Permit# MBNMS-2022-021	Special Terms and Conditions	1, 2, 3	1) No equipment may be discarded in the sanctuaries at any time. In the event that any equipment is damaged or lost due to weather or any other cause, the permittee shall immediately locate and remove that equipment. The permittee must notify GFNMS Permit Coordinator, Lilli Ferguson (Lilli.Ferguson@noaa.gov) at the earliest extent possible if any equipment is lost in the sanctuary. 2) Any plan of recovery for lost equipment that includes contact with the submerged lands would require approval from the sanctuary superintendent before implementation. 3)The permittee may be required to pay any or all expenses associated with the locating of and/or removal by NOAA or its designee of any equipment that is not recovered by the permittee.	Construction Contractor & District Consultants	02 02 02 Mobilization
Permit# MBNMS-2022-021	Special Terms and Conditions	4	No activity associated with this project shall disturb or have adverse impact on any historical resource (refer to 15 CFR 922.11 for definition of "historical resource") within the sanctuary. If historical resources are encountered at any time, the permittees shall cease all further activities under this permit and immediately contact GFNMS Permit Coordinator.	Construction Contractor & District Consultants	01 35 43 Environmental Protection
Permit# MBNMS-2022-021	Special Terms and Conditions	5	The permittee plans to remove accumulated sand from the pedestrian Coastal Trail pathway adjacent to the beach and deposit it within the sanctuary only once the sand there has accumulated to the point of becoming a nuisance for pedestrians. The permittee plans for this adaptive management activity to be done using a wheeled front-end loader; however other equipment and methods, including non-motorized equipment and tools, such as a wheelbarrows and shovels or brooms, may be used, so long as any that use is of limited duration and frequency.	District Consultants	
Permit# MBNMS-2022-021	Special Terms and Conditions	6	PRIOR TO CONSTRUCTION: The permittee shall provide a draft biological monitoring plan for this project as soon as feasible to the individual listed in general term # 1 for review and input by national marine sanctuary staff members. In preparing the draft biological plan, consideration should be given to which species could be best utilized to assess changes from the project, include benthic macro (black abalone) and micro-invertebrates, marine algae, and/or fish species that make use of the inter and subtidal ranges at Surfers Beach and Vallejo Beaches; and to ground dwelling species (such as crabs, shorebirds, and other animals) and plants currently present in supratidal, shoreline, and uplands areas adjacent to the project site in the sanctuary. While the draft plan may cover the overall geographic range of the project, it shall clearly identify which of the activities are planned to take place within the boundaries of the sanctuary, including sampling activities. As appropriate, the permittee shall share with the sanctuary the feedback received on the draft plan.	District Consultants	

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Permit# MBNMS-2022-021	Special Terms and Conditions	7	<p>PRIOR TO CONSTRUCTION: The permittee shall provide copies, once available, of the final biological baseline conditions report, final biological monitoring plan for the Surfer’s Beach Pilot Restoration Plan, final “Surfer’s Beach Pilot Restoration Project 5 Year Monitoring and Adaptive Management Plan”, and any final information, if not contained within the specified plans, on samples planned for collection within the sanctuary, to the GFNMS Permit Coordinator. While the referenced documents may cover the geographic range of the overall project, they shall clearly identify which of the activities, including sample collection, are planned to take place within the boundary of the sanctuary. Monitoring plans shall cover the duration of the permit period. In addition, physical and biological monitoring plans for within the sanctuary shall include:</p> <p>a) Monitoring goals and objectives, including a description of how the results of monitoring activities will be used to assess sandy beach habitat restoration success. b)Monitoring methods and procedures, including: any activities to avoid or minimize any adverse impacts on sanctuary habitats and resources, monitoring frequency, figures depicting the planned monitoring areas and transects (if appropriate), and who will conduct the monitoring and their qualifications.</p> <p>c) Baseline monitoring (preconstruction), construction monitoring, and post construction monitoring to characterize beach profiles and hard/soft bottom habitats and selected species at the permitted location.</p> <p>Monitoring plans shall be designed to enable the measurement and characterization of physical and biological site conditions and changes in those conditions (to the extent feasible), including sand accretion or loss at the permitted location and shoreward at Surfers Beach and Vallejo Beach and characterization of and changes to the biological resources included in the final biological monitoring plan.</p>	District Consultants	
Permit# MBNMS-2022-021	Special Terms and Conditions	8	<p>The permittee shall submit annual monitoring reports for the specified Monitoring Periods (MPs) after the end of each MP to the individual listed in general term #1, as follows:</p> <ul style="list-style-type: none"> • Monitoring Period (MP) 1 would commence at the preconstruction survey (spring 2025) and end on May 31, 2026, with the annual monitoring report for this period due by or before September 1, 2026; • MP 2 would be June 1, 2026 - May 31, 2027, with the annual monitoring report for this period due by or before September 1, 2027; • MP 3 would be June 1, 2027 - May 31, 2028; with the annual monitoring report for this period due by or before September 1, 2028; • MP 4 would be June 1, 2028 - May 31, 2029, with the annual monitoring report for this period due by or before September 1, 2029; and • MP 5 would be June 1, 2029 – November 30, 2030, with the annual monitoring report for this period due by or before March 1, 2031. The annual monitoring reports shall clearly identify which of the activities took place within the boundaries of the sanctuary, clearly identify the period of time each report covers, and include: <p>a) baseline, construction and post construction monitoring results;</p> <p>b) information by date on samples collected, including: date(s); location(s) of collection(s) determined using GPS; type of sample; unit of measure of sample collection(s) and total samples collected (pertains to all sediment or biological samples collected as allowed under the permitted activity description);</p> <p>c) a summary of the cumulative changes relative to prior years and the initial monitoring baseline report;</p> <p>d) any monitoring plan deviations (i.e., changes in monitoring activities methods, or other changes to the plan); and</p> <p>e) if monitoring plan objectives are being or have been met.</p> <p>The Year 5 Monitoring Report should also include a summary of the 5-year monitoring efforts and lessons learned.</p>	District Consultants	

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Permit# MBNMS-2022-021	Special Terms and Conditions	9	<p>The permittee shall submit brief annual summary reports of activities conducted under this permit as soon as feasible after the conclusion of each calendar year, or by or before May 31 each year. Reports covering permitted activities during calendar year 2025 are due by or before May 31, 2026; reports covering calendar year 2026 are due by or before May 31, 2027; reports for calendar year 2027 are due by or before May 31, 2028; reports for calendar year 2028 are due by or before May 31, 2029; and reports for calendar year 2029 are due by or before May 31, 2030. The reports shall be sent to the individual listed in general term #1. The summary reports shall include:</p> <p>a) Log of activities that took place during the report period.</p> <p>b) Final length and width of final overall sand slurry placement area, in a brief summary of the area depicted in the "as built" plans and submittal of those plans (first annual summary report) and total area of windblown sand placement area (in all annual summary reports).</p> <p>c) Quantity/volume of placed material (of sand slurry in first annual summary report, and of windblown sand in all annual summary reports).</p> <p>d) Maps of final sand slurry placement area and windblown sand placement areas which include the sanctuary boundary and habitats at placement areas.</p> <p>e) Changes in the beach profile (before and after placement of the material).</p> <p>f) Log of endangered/threatened species observed, or note none were observed.</p> <p>g) Reports of any disturbances to marine mammals or seabirds.</p> <p>h) Reports of the discovery or disturbance of historical resources within the sanctuary, any problems encountered, equipment lost, etc. If any equipment is lost, the report shall include the date, location and description of any equipment lost and left in the sanctuary with an explanation of efforts made to recover it and why the equipment was not recovered.</p> <p>If no project activities occurred during a given calendar year, that fact shall be noted in the report with an explanation of why that situation occurred.</p>	District Consultants	
Permit# MBNMS-2022-021	Special Terms and Conditions	10	The permittee shall ensure any construction vehicles, equipment, tools, and monitoring and surveying devices used within the sanctuary do not harbor any introduced species and shall prevent any introduced species from being released within or into the sanctuary.	Construction Contractor & District Consultants	02 02 02 Mobilization
		11	The permittee shall provide verbal notification, by calling the GFNMS/CBNMS Emergency Response Coordinator, Max Delaney, at (650) 678-4943, and leaving a message as necessary, of any information relating to noncompliance with this permit or other circumstances that may endanger or have a significant adverse effect on any sanctuary resources, habitats, or water quality, within 24 hours of the time the permittee becomes aware of such circumstances. The permittee shall also inform the GFNMS Permit Coordinator by email as soon as practicable following the initial telephone report. The permittee will subsequently keep the relevant sanctuary contacts informed of the status of, and response to, the reported circumstances.	District Consultants	
			Orange Highlight means Contractor's Responsibility		

National Marine Fisheries Service -- Biological Opinion - WCRO-2024-00086

Expiration Date: June 20, 2029

Monitoring Reports due: September 1 (2026-2030). Annual reports due May 31 (2026-2030)

Staff Contact: thomas.wadsworth@noaa.gov

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Biological Opinion			A pre-construction survey to determine presence of black abalone within the action area will be conducted no sooner than 120 days prior to the start of in-water work on the Project. The survey is intended to focus on rock habitats near Surfer's Beach that may be buried under sediment during the beach nourishment component of the Project. This habitat is within the intertidal/subtidal zones at the northwest end of Surfer's Beach and includes the breakwater/jetty and rocks in just off the breakwater (Figure 3 and Figure 6 in BO). Surveys for black abalone will not be needed elsewhere in the action area as SMCHD agreed that dredging within the Harbor will not occur within 20 feet of rocks on the eastern breakwater and that any sediment placement that occurs in the west Harbor will not occur within 20 feet of rock habitat. Methodology for the black abalone survey will follow NMFS Protected Resources Division (PRD) guidelines, or will be otherwise approved by NMFS. If black abalone are observed during the survey, NMFS will be contacted to coordinate on AMMs before beginning any in-water work that could impact abalone.	District Consultants	
Biological Opinion	Terms and Conditions	1(b)	Corps or the applicants will retain qualified Project biologist(s) knowledgeable of the needs of aquatic species, including black abalone. The Project biologist(s) will monitor the construction sites during all in-water activities. Monitoring will be performed daily.	District Consultants	
Biological Opinion	Terms and Conditions	1(c) (d)	Mitigation for black abalone impacts - (c) If black abalone are found during the preconstruction survey or during construction activities, the Corps or applicant must contact NMFS to discuss relocation or avoidance procedures. Mitigation measures must be agreed upon by NMFS before in-water Project work can proceed. All relocation activities will be conducted by qualified personnel with the appropriate expertise and experience, to minimize black abalone injury and mortality. The applicant or Corps will provide names and experience of proposed personnel to NMFS for review 30 days before relocation efforts commence. (d) Relocation activities will include a minimum of six-month post-release monitoring to record survival, growth and movement of abalone.	District Consultants	
Biological Opinion	Terms and Conditions	1(e)	During black abalone mitigation activities, the Project biologist shall contact NMFS staff at the number below, if injury or mortality of black abalone exceeds fifteen percent of the total collected. If any of these incidental take limits are exceeded, reinitiation of consultation may be needed (see Section 2.11). Tom Wadsworth (707) 243-8318, or Thomas.Wadsworth@noaa.gov	District Consultants	
Biological Opinion	Terms and Conditions	2(a)	Black abalone pre-construction survey plan – The Corps or applicants must submit a black abalone pre-construction survey plan to NMFS for review. The survey plan should follow general abalone survey guidelines provided by NMFS, with adaptation as needed for the Project site. This survey plan shall be submitted electronically to NMFS biologist Tom Wadsworth at Thomas.Wadsworth@noaa.gov at least 30 days prior to the planned start of these activities.	District Consultants	
Biological Opinion	Terms and Conditions	2(b)	Black abalone avoidance and relocation plan - if black abalone are found during the pre-construction survey, a relocation plan must also be submitted that provides general procedures to avoid effects to individuals, or relocate them from the project area. The relocation plan shall be submitted electronically to NMFS biologist Tom Wadsworth at Thomas.Wadsworth@noaa.gov at least 30 days prior to the planned start of these activities.	District Consultants	
Biological Opinion	Terms and Conditions	2(c)	Annual Reporting – The Corps or the Applicant must prepare and submit annual reports to NMFS for Project activities as outlined below. Reports for (i) and (ii) below must be submitted by January 15 of the year following completion of relevant in-water Project activities. Report (iii) below, if applicable, should be submitted within six months after monitoring of relocated black abalone is complete. Reports should be submitted electronically to NMFS biologist Tom Wadsworth at Thomas.Wadsworth@noaa.gov. Reports prepared for compliance with other agency requirements that contain the information requested below would be acceptable. Annual reports must contain, at minimum, the following information: Black abalone capture and relocation; Construction related activities; Black abalone post-relocation monitoring (see 2(b)i., ii., and iii of BO for details)	District Consultants	
Biological Opinion			Dredge methodology will be limited to suction dredging below the water line to reduce turbidity and other impacts on marine life; clam shell dredging would be allowed above the water line.	Construction Contractor	

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
			Orange Highlight means Contractor's Responsibility		

Caltrans -- Encroachment Permit - 04-23-N-MC-1901

Staff Contact: Khon D Tram, Khon.Tram@dot.ca.gov

Encroachment Permit	Permit Condition		A minimum of 7 days prior to the start of work under this encroachment permit, notice must be given to State Representative Luis Melendez, 380 Foster City Blvd., Foster City, CA 94404, at luis.melendez@dot.ca.gov or (510) 496-9583, weekdays between 7:00 a.m. and 3:30 p.m., excluding holidays.	District Consultants	
Encroachment Permit	Permit Condition		Notwithstanding General Provision 35, lane closures and other activities that may cause a traffic impact requires the permittee to apply for and obtain a closure ID prior to the start of work. Requests must be submitted electronically through the Lane Closure System (LCS).	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		In addition to the 2023 Standard Specifications and Standard Plans (available at https://dot.ca.gov/programs/design/cc-standard-plans-and-standard-specifications), Encroachment Permit General Provisions (TR-0045) and Storm Water Special Provisions for Minimal or No Impact (TR-0400) (available at https://dot.ca.gov/programs/traffic-operations/ep/ep-manual/), all work permitted herein must comply with the following provisions	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Notwithstanding General Provision 4, construction must not begin for the work authorized herein until the "Contractor(s) Authorization Form" (TR-0429) is submitted (available at https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr-0429-al ly.pdf).	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		No lane closure is allowed on the Highway without pre-approvals from the District Traffic Manager's Office	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		A pre-job meeting with the State Representative is required at least 7 days prior to the start of any work under this permit. Failure to do so may result in permit revocation with no prejudice.	District Consultants	02 02 02 Mobilization
Encroachment Permit	Permit Condition		The permittee must provide the stage construction plans, traffic handling plans, work schedule, and a list of all sub- contractors to the State Representative at the time of the pre-job meeting.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Signs, lghts, flags, or other protective devices must not obscure the visibility of, nor conflict in intent, meaning, and function of either existing signs, lights and traffic control devices, or any construction area signs.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		On conventional highways, permittee's vehicles and equipment not involved in the permitted activities must be legally located off the traveled way and not interfere with free traffic and pedestrian flow.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		No vehicle or equipment must be stored overnight within the State highway right-of-way. All vehicles and equipment must be removed immediately at the completion of the day's work. Refueling of vehicle or equipment within the State highway right-of-way is strictly prohibited.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Except for installing, maintaining and removing traffic control devices, any work encroaching within 3 feet of the edge of a travel lane for areas with a posted speed limit below 45mph, or 6 feet of the edge of a travel lane, for areas with a speed limit posted at 45mph or higher, requires closing of that travel lane. Any work encroaching within 6 feet of the edge of the shoulder, requires closing of that shoulder.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Do not reduce an open traffic lane width to less than 11 feet. If traffic cones or delineators are used for temporary edge delineation, the side of the base of the cones or delineators nearest traffic is considered the edge of traveled way.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		All traffic control devices must be installed, maintained, and removed by a qualified traffic control contractor.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Traffic control using flagging, must comply with the California MUTCD, Part 6E, ""Flagger Control"" (available at https://dot.ca.gov/programs/safety-programs/camutcd), and Cal/OSHA Construction Safety Orders, Section 1599, ""Flaggers"" (available at https://www.dir.ca.gov/title8/1599.html).	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Obliterated pavement markings must be replaced in kind.	Construction Contractor	02 02 02 Mobilization

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
Encroachment Permit	Permit Condition		Time extension requests must be made a minimum 2 weeks prior to permit expiration.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Neither materials nor waste must be stockpiled within the State highway right-of-way.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		All mud, dirt, and gravel tracked onto the roadway must be immediately removed.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Any damage to State facilities must be repaired to the same state as before the damage and the cost of repairs must be the responsibility of the permittee.	Construction Contractor	02 02 02 Mobilization
Encroachment Permit	Permit Condition		Upon completion of work authorized by this encroachment permit, the permittee must provide the State Representative with Notice of Completion (TR-0128) (available at: https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmid=TR0128)	District Consultants	
			Orange Highlight means Contractor's Responsibility		

Mitigation, Monitoring and Reporting Requirements from CEQA Mitigated Negative Declaration (Incorporated by reference in CDP)

CEQA MMRP	General Construction Conservation Measures		No project related activities shall occur outside the delineated work area.	Construction Contractor	01 10 00 General Summary
CEQA MMRP	General Construction Conservation Measures		No rodenticides, pesticides, or herbicides shall be used as part of the project.	Construction Contractor	01 35 43 Environmental Protection
CEQA MMRP	General Construction Conservation Measures		Construction Areas: Areas within which construction activities and staging are to take place shall be minimized in size and shall be sited and designed to avoid impacts on coastal waters and marine life, and to the extent feasible, public access to the water and shoreline. Construction (including but not limited to dredging activities, and materials and/or equipment storage) shall be prohibited outside of the defined construction, staging, and storage areas.	Construction Contractor	01 10 00 General Summary
CEQA MMRP	General Construction Conservation Measures		Construction Methods and Timing: Methods shall be used to keep the construction areas separated from public recreational use areas (including using unobtrusive fencing or equivalent measures to delineate construction areas) to the maximum extent practicable. All vehicle parking shall be restricted to previously determined staging areas or existing roads. Necessary vehicles belonging to the biological monitors and construction supervisors shall be parked at the nearest point on identified existing access roads.	Construction Contractor	02 02 02 Mobilization

Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
CEQA MMRP	Construction BMPs		<p>Construction BMPs shall be installed prior to construction and used during construction to protect coastal water quality, including the following:</p> <ul style="list-style-type: none"> - The fueling and maintenance of vehicles and other equipment shall occur at least 100 feet from any aquatic habitat or water body - All construction equipment shall be inspected and maintained at an off-site location to prevent leaks and spills of hazardous materials at the project site. - The contractor shall ensure that good construction housekeeping controls and procedures are maintained at all times including: 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; cover open trash receptacles during wet weather; and remove all construction debris from the site. - All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday. - Vehicle and equipment refueling, repair, and lubrication will only be permitted in designated areas where accidental spills will be contained. 	Construction Contractor	01 35 43 Environmental Protection
CEQA MMRP	BMPs -- Biological Resources		A "soft-start" policy shall be implemented in order to allow wildlife species to vacate the area prior to construction activities. A soft-start (e.g. ramp-up period) shall be used prior to full-power equipment use at the beginning of each day, or following a 30 minute or longer break.	Construction Contractor	01 35 43 Environmental Protection
CEQA MMRP	BMPs -- Biological Resources		A litter control program shall be instituted at the proposed project area. All construction personnel will ensure that their food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area are deposited in covered or closed trash containers. The trash containers will be removed from the project area at the end of each working day.	Construction Contractor	01 35 43 Environmental Protection
CEQA MMRP	BMPs -- Biological Resources		All construction personnel shall participate in an Environmental Awareness Training (provided by a contractor to the Harbor District). The training will educate all construction personnel regarding habitat, identification of special status species, and required practices before the start of construction. The training will include the general measures that are being implemented to conserve the species as they relate to the Project, the penalties for non-compliance, and the boundaries of the project area. If new construction personnel are added to the project, the contractor will ensure that the personnel receive the mandatory training before starting work. A fact sheet or other supporting materials containing this information will be prepared and distributed to all construction personnel. Upon completion of training, construction personnel will sign a form stating that they attended the training and understand all the conservation and protection measures.	Construction Contractor	01 35 43 Environmental Protection
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BMPs from Coastal Commission Permit Conditions (Contractor to include these in Construction Plan)

CDP	Construction Plan	2	<p>1. Runoff Protection: Silt fences, straw wattles, or equivalent apparatus shall be installed at the perimeter of all construction areas to prevent construction-related runoff and sediment from discharging from the construction area or entering into storm drains or otherwise offsite or towards the beach and ocean. Similar apparatus shall be applied on the beach area for the same purpose when potential runoff is anticipated. Special attention shall be given to appropriate filtering and treating of all runoff, and all drainage points, including storm drains, shall be equipped with appropriate construction-related containment, filtration, and treatment equipment. All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday</p>	Construction Contractor	01 35 43 Environmental Protection
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Surfers Beach Restoration Pilot Project Permit Compliance Matrix

Source	Category	No.	Condition	Responsible Party(ies)	Spec Section
CDP	Construction Plan	2	2. Equipment BMPs. Equipment washing, refueling, and servicing shall take place at an appropriate off-site and inland location to help prevent leaks and spills of hazardous materials at the project site, at least 50 feet inland from the beach and 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 similarly sited inland location to prevent leaks and spills of hazardous materials at the project site.	Construction Contractor	01 35 43 Environmental Protection
CDP	Construction Plan	2	3. Good Housekeeping BMPs. The construction site shall maintain good construction housekeeping controls and procedures at all times (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 site; etc.).	Construction Contractor	01 35 43 Environmental Protection
CDP	Construction Plan	2	5. Construction Material Storage. All construction materials and equipment placed on 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, except for necessary erosion and sediment controls and construction area boundary fencing where such controls and fencing are placed as far inland as possible and are minimized in their extent.	Construction Contractor	01 35 43 Environmental Protection

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APPENDIX E – Eelgrass Mitigation and Monitoring Plan

MARINE TAXONOMIC SERVICES, LTD.

Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan

July 27, 2020 (Revised December 16, 2023)

Prepared for:

Brad Damitz
Consultant to the Harbor District
San Mateo County Harbor District,
P.O. Box 1449, El Granada, CA 94018

Prepared By:

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Marine Taxonomic Services Ltd. 2023.Pillar Point Bay-Wide Eelgrass Management and Mitigation Plan. Prepared for Brad Damitz, Consultant to the Harbor District. July 27, 2020 (Revised December 16, 2023).



**Robert Mooney, PhD
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Pillar Point Harbor-Wide Eelgrass Management and Mitigation Plan

July 27, 2020 (Revised December 16, 2023)

1 Introduction

On behalf of the San Mateo County Harbor District (District), Brad Damitz the District consultant, contracted with Marine Taxonomic Services, Ltd. (MTS) to identify the extent of eelgrass (*Zostera marina* and *Z. pacifica*) within Pillar Point Harbor (MTS 2019). MTS was then asked to review the extent of eelgrass presence and create a management and mitigation plan that considered current bathymetry and the proposed plans for the Pillar Point Harbor maintenance dredging and Surfers Beach Pilot Restoration Project, and to be utilized in the event of future harbor maintenance dredging undertaken by the District. These actions represent a suite of management needs and are collectively referred to as “Projects” in this document.

The July 2020 eelgrass mitigation plan (MTS 2020) has been updated to reflect the most recent harbor-wide eelgrass survey data (MTS 2023), and address comments from National Marine Fisheries Service. In addition to making modifications based on the updated eelgrass data, this revised plan provides a new concept for the creation of the mitigation site. The primary modification is that the prior plan called for cut and fill within the west basin to create suitable depths for eelgrass. This revised plan avoids cutting intertidal depths to create suitable depths for eelgrass; instead, only fill is utilized at subtidal depths to make specific areas more suitable to support eelgrass.

As the only harbor between Santa Cruz and San Francisco, Pillar Point Harbor (PPH) serves a crucial function for vessels that rely on the boat launch ramps and anchorage area in the Harbor’s east basin. The District has an obligation to ensure that safe navigation and anchoring be maintained within PPH, which requires periodic dredging. Due to the construction of the PPH outer breakwaters, the east basin has experienced shoaling of trapped sand that would have otherwise been part of the littoral cell. If no dredging occurs in the future, then ultimately the harbor would not be available for navigation or anchoring. The eelgrass mitigation described in this report is part of a larger effort by the District to obtain permits that would allow for the Surfers Beach Project and required future maintenance dredging.

MTS was also tasked with identifying the steps necessary to create a successful mitigation site for the proposed Projects, and to approximate the change in eelgrass coverage that may result from proposed maintenance activities. The creation of a mitigation site is proposed such that areas currently populated with eelgrass can be managed such that any losses to eelgrass within those areas would be compensated for through restoration within a portion of the PPH that is considered non-critical for safe navigation, berthing, mooring, or boating.

1-1 Project Location

The Project sites are located within the PPH in Half Moon Bay, California (Figure 1). Half Moon Bay is located approximately 18 miles south of San Francisco on the Pacific coast side of San Mateo County, California. Eelgrass is proposed to be salvaged within the east basin and creation of a mitigation site is proposed in the west basin. There are additional minor impacts to eelgrass associated with the creation of the mitigation site. The minor amounts of eelgrass currently within the footprint of the mitigation site will be salvaged and planted in nearby secondary mitigation sites.

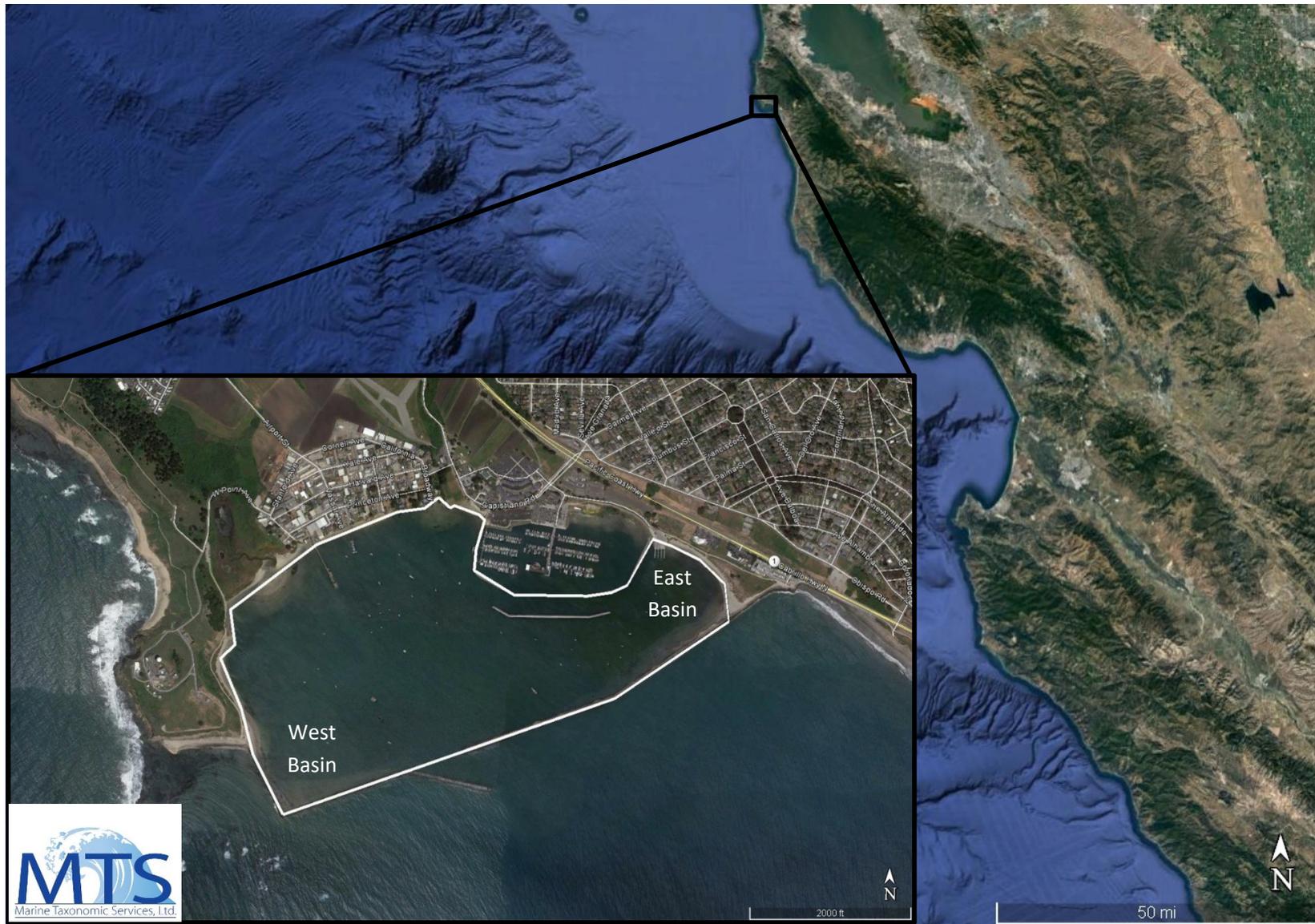


Figure 1. Location of Pillar Point Harbor Facility and Project boundary of the area surveyed for eelgrass and potential restoration sites

1-2 Project Summary

PPH provides a protected harbor for berthing and mooring of commercial and recreational vessels and includes a public boat launch ramp (Figure 1). To maintain safe access for vessel navigation as well as boat launching, maintenance dredging is required. Additionally, as part of the Surfers Beach Pilot Restoration Project, sand that is entrained in the harbor is proposed to be beneficially re-used by being placed on the beach and back into the littoral cell. The sand loss along nearby swaths of Surfers Beach has resulted in the need for beach re-nourishment actions to support overlying public access and roadways adjacent to the Project area.

MTS completed the first harbor-wide eelgrass inventory assessment in November 2019 (MTS 2019). In May 2023, the eelgrass inventory was updated by focusing survey efforts on areas that were previously shown to support eelgrass and then mapping the eelgrass in those regions of the harbor (MTS 2023). The findings provided in MTS (2023) are utilized to inform the creation of this revised management and mitigation plan. The results from the 2023 survey mapped 1,360 square meters in the east basin (Figure 2) and 5,449 square meters of eelgrass in the west basin (Figure 3). The total vegetated eelgrass area was 6,809 square meters. Figure 4 and Figure 5 show the extents of both the vegetated and unvegetated eelgrass habitat mapping in 2023 as required by the California Eelgrass Mitigation Policy (CEMP; NMFS 2014) for the east and west harbor, respectively.

Based on the results from the survey, it is estimated that approximately 773 square meters of vegetated eelgrass habitat and 4,107 square meters of unvegetated eelgrass habitat will be directly impacted due to Project dredge activities in the east basin (Figure 4). That eelgrass exists in the east basin due to entrainment of sand in the harbor and associated shoaling which has created shallow water conditions that are favorable for eelgrass growth. However, it is interesting to note that continued shoaling between 2019 and 2023 appears to have reduced the vegetative cover of eelgrass significantly. Simple inspection of Figure 2 shows that eelgrass has been pushed further offshore as the shoals have pushed outward and become shallower.

The CEMP outlines a replacement or mitigation ratio of at least 1.2:1 for impacts to eelgrass habitat (NMFS 2014). As a result, the Projects will be required to establish an estimated minimum of 928 square meters of new eelgrass habitat to mitigate for impacts. In creating the proposed mitigation site, an additional 132 square meters of existing eelgrass will be impacted. This additional impact is described in Section 5 and requires an additional mitigation need of 162 square meters. The resulting total eelgrass mitigation is 1,090 square meters.

This mitigation plan does not account for impacts to unvegetated eelgrass habitat. Although it is noted above that 4,107 square meters of unvegetated eelgrass habitat will be lost in the east basin it is not possible to generate that much unvegetated eelgrass habitat at the mitigation site. This is because the mitigation site will create a more contiguous eelgrass bed with less “edge”. To generate an equal amount of unvegetated eelgrass habitat, the mitigation site would have to be intentionally designed to create a patchy eelgrass bed that is arguably of lower habitat value than a contiguous bed due to lower connectivity (Voller and Harrison 1998).

This document provides a management and mitigation plan to account for impacts to eelgrass due to Projects’ activities. It includes details on the location and methods for creating new eelgrass habitat as part of the proposed mitigation. Additionally, the plan includes a five-year monitoring plan to assess establishment of the created eelgrass habitat to ensure that the minimum coverage and density obligations are met per the CEMP.



Figure 2. Comparison of eelgrass mapping results as performed in November 2019 and May 2023 in the east basin.

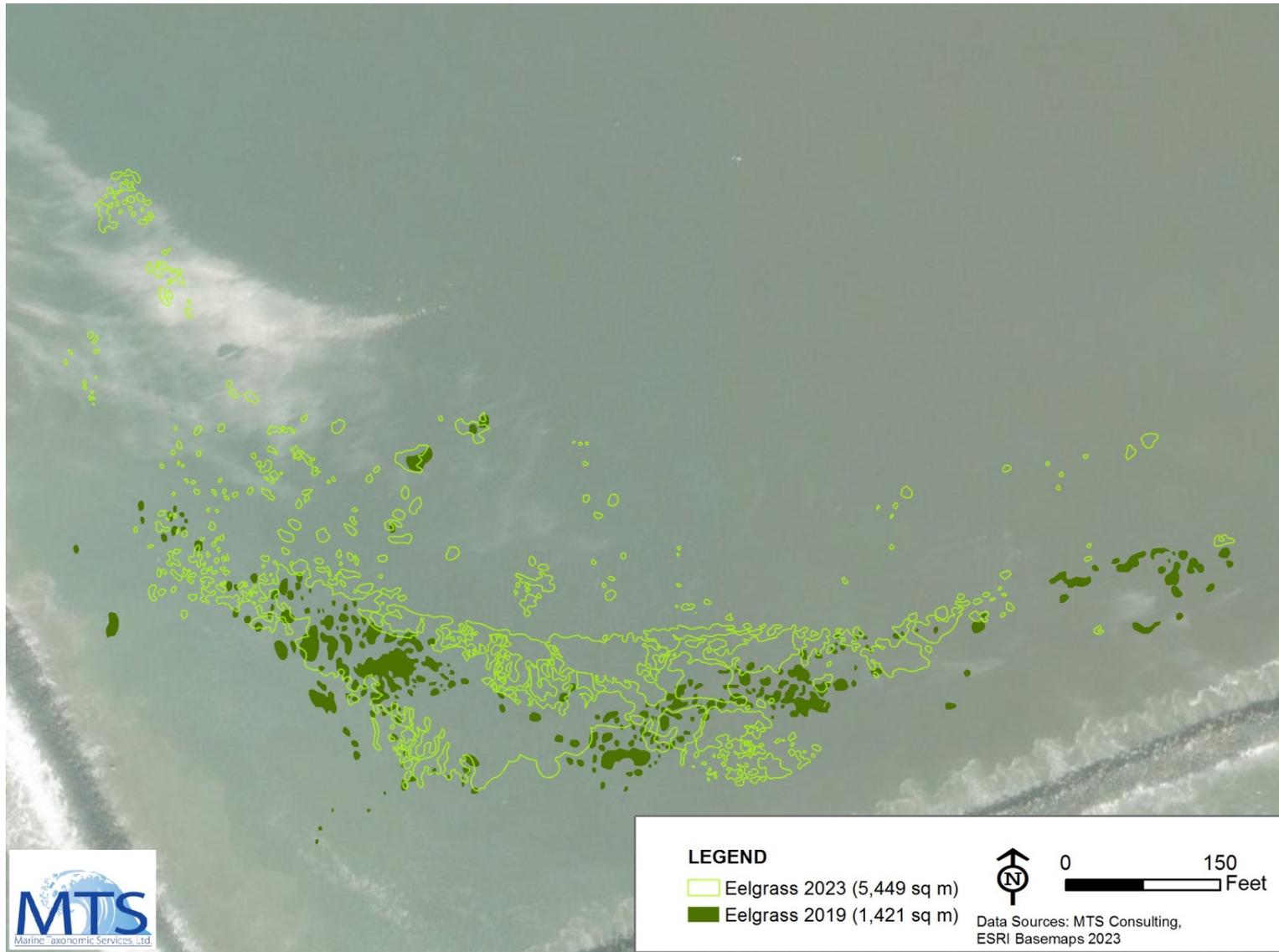


Figure 3. Comparison of eelgrass mapping results as performed in November 2019 and May 2023 in the west basin.

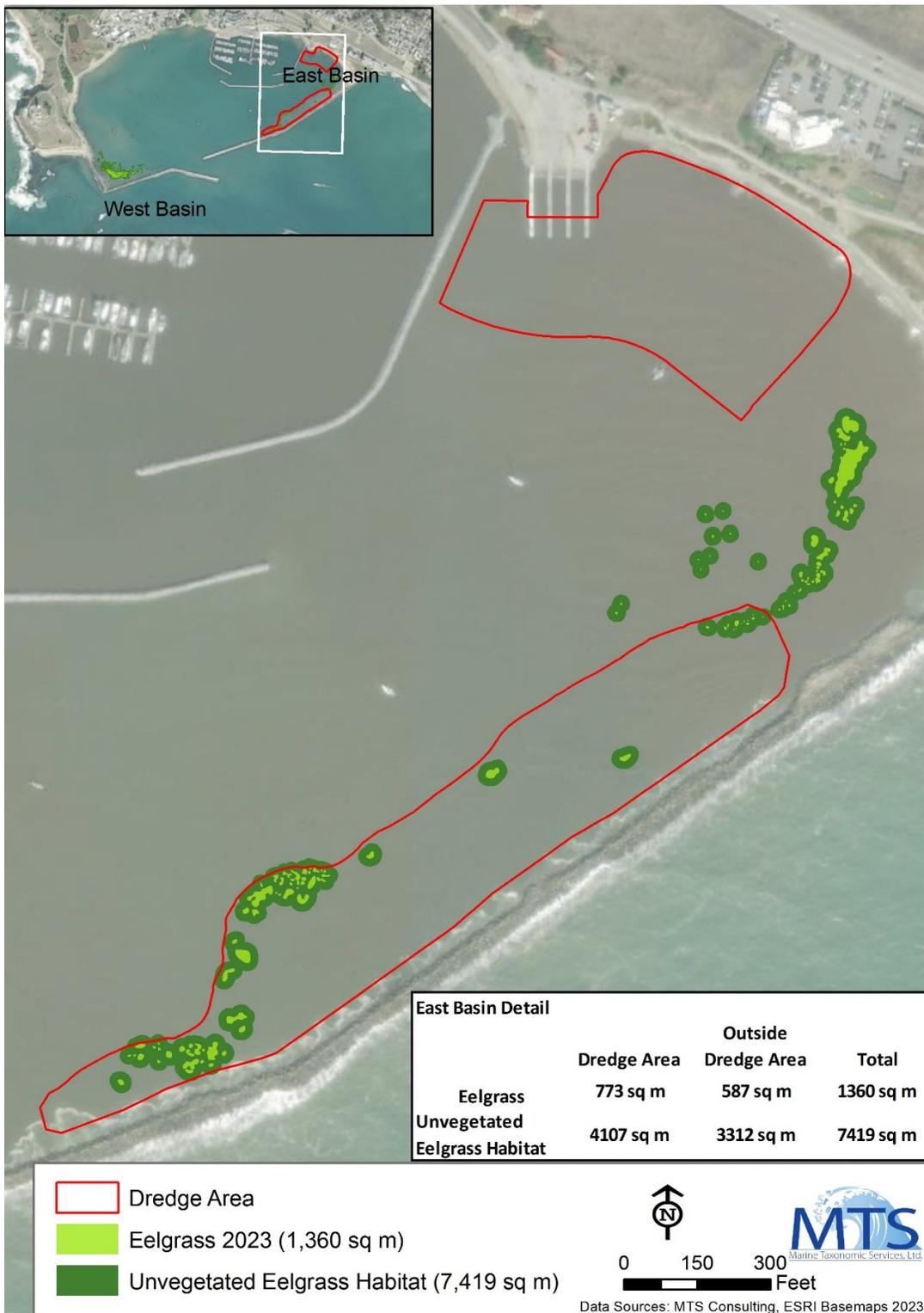


Figure 4. Eelgrass mapping results showing vegetated and unvegetated eelgrass habitat for the east basin as determined by the May 2023 eelgrass inventory. Inset details show the amount of eelgrass and unvegetated eelgrass habitat inside and outside of proposed dredge areas.



Figure 5. Eelgrass mapping results showing vegetated and unvegetated eelgrass habitat for the west basin as determined by the May 2023 eelgrass inventory.

2 Regulatory Reasoning & Mitigation Approach

Seagrass habitat is designated as a Habitat Area of Particular Concern (HAPC) by NOAA Fisheries. *Z. marina* is the dominant eelgrass within the PPH. Because of its designation as an HAPC and its notable contributions to ecological processes, it is protected under the Clean Water Act and managed by NOAA in California through adherence to the California Eelgrass Mitigation Policy (NMFS 2014). Additionally, the California Public Resources Code is committed to expanding eelgrass resources to mitigate effects from ocean acidification and hypoxia (*California Legislative Information* 2020).

Eelgrass plays many important roles in marine systems. Its functions and contributions to ecological processes are summarized by Mooney and Woodfield (2009). It clarifies water through sediment trapping and stabilization (de Boer 2007). It also provides the benefits of nutrient transformation and water oxygenation (Yarbro and Carlson 2008). Eelgrass serves as a primary producer in detritus-based food webs (Thresher et al. 1992) and is further directly grazed upon by invertebrates, fish, and birds (Valentine and Heck 1999), thus contributing to eco-system health at multiple trophic levels. Additionally, it provides physical structure in the form of habitat to the community and supports epiphytic plants and animals, which are in turn grazed upon by other invertebrates, fish, and birds. Eelgrass is also a nursery area for many commercially and recreationally important finfish and shellfish (Heck et al. 2003), including both those that are resident within bays and estuaries, as well as oceanic species that enter the protected areas to breed or spawn. Among recreationally important species, sand basses Dungeness crab, and lobster make use of eelgrass beds as habitat. Besides providing important habitat for fish, eelgrass and eelgrass-associated invertebrates provides important food resources that support migratory birds during critical life stages.

Given the protected status of eelgrass species, the District is required to mitigate for impacts to eelgrass associated with the projects. In recognition of this ongoing need and the beneficial uses of eelgrass habitat, the District is taking a proactive approach to eelgrass management by determining potential eelgrass restoration sites prior to application of proposed dredge projects and are planning ahead for future eelgrass mitigation needs related to the maintenance of the PPH.

The approach of identifying restoration opportunities ahead of proposed dredge projects and performing restoration before future maintenance needs benefits the resource and the District's management of the harbor. Moreover, if mitigation does not take place in a timely fashion, there are calculations included in the CEMP to increase the mitigation requirements to make up for temporal losses of the resource (NMFS 2014). Establishing eelgrass restoration ahead of the need makes sure the District does not incur costly penalties. Additionally, having the resource in place early means the resource is present in greater abundance than would otherwise and therefore greater ecological benefits are realized from the ecological processes performed by eelgrass beds.

In addition to simply providing for greater eelgrass area, the goal of any restoration program is to provide the best quality habitat possible. While making comparisons among eelgrass beds is arguably subjective and based on human judgement, it is generally accepted that moderately dense eelgrass beds provide for the functions and processes described above. The goal of eelgrass restoration should be to provide eelgrass beds with at least 80 turions per square meter. While somewhat arbitrary, this density likely provides sufficient refuge from predation while also providing significant root mass to stabilize sediments and material to support food webs. Moreover, replacing the patchily distributed existing eelgrass beds with a more contiguous eelgrass bed means greater habitat connectivity and fewer deleterious effects associated edges (Voller and Harrison 1998, Gorman et al. 2009).

3 Methods

The entirety of the PPH was reviewed for potential eelgrass restoration sites. The determination of sites most suitable for potential eelgrass restoration within the PPH area required implementation of a 5-step process. The steps involved collection of harbor-wide eelgrass information, development of a model to illustrate potential site selections, review of the model results, review of site alterations, draft preliminary concepts of proposed restoration sites, and field verification of existing conditions to support the selection of the restoration sites. The methods used in each of the steps are provided below,

3-1 Collection of Harbor-Wide Eelgrass Information

Understanding what areas are most likely to support eelgrass depends largely on knowing where eelgrass currently exists and the depth at which eelgrass occurs. Eelgrass data for this report were collected by MTS in May 2023 (MTS 2023). The methods and results of the analysis are described in the following sections.

Bathymetry within the survey area was provided by Environmental Science Associates (ESA). Those data were interpolated to a 1-ft depth grid with floating point (Decimal) values for depth and then processed into a 1-foot vertical resolution (topographic lines). MTS performed additional bathymetry measurements within the areas that support eelgrass in the east basin and the west basin in May 2023 (MTS 2023). In these specific locations the data were merged to compare eelgrass presence with bathymetry at the time of the eelgrass survey.

3-2 Preliminary Site Selection Model

The bathymetric and eelgrass data were used to determine the depth distribution of eelgrass across the surveyed area. The cumulative eelgrass cover area was designated as eelgrass habitat and fit into the same 1-foot grid as used for the bathymetry data. Dividing the eelgrass present within each depth bin by the total available habitat for each depth bin allowed the eelgrass habitat to be evaluated based on percent occurrence by depth and the cumulative percent contribution for each depth category to overall eelgrass cover. The evaluation of eelgrass percent contribution to each depth category was calculated specifically for the eelgrass bed area in the west basin because this is the area where construction of a mitigation site is proposed (refer to Section 5). Areas where eelgrass was not present, but depths were “suitable” were ignored because those areas are likely restricted with regards to eelgrass growth based on factors other than depth.

The depth-distribution curves were evaluated within the PPH west basin to determine the depths most suitable to support eelgrass and to determine the maximum depth for eelgrass. The use of the 1-foot depth grid meant that on slopes a small percentage of eelgrass could be misclassified. The maximum depth used for selection purposes was determined by looking at the percent of habitat occupied by eelgrass within each depth range and the cumulative percent of eelgrass with increasing depth. The maximum depth was chosen where the slope in the cumulative percent contribution of eelgrass by depth bin and the percentage of eelgrass within depth bins noticeably declined. The selection was subjective but based on meaningful trends in the data.

Once the maximum suitable depth was determined, all depths above that value to a maximum of +2 feet MLLW were classified as having the “greatest” likelihood of either supporting eelgrass or requiring minimum site modification to support eelgrass. Just beyond the maximum suitable depth any area within 2 feet of the maximum suitable depth was classified as having “good” potential to support eelgrass with site modification (where modification is imported fill). The next 2 feet of deeper seafloor beyond the “good” category was deemed “moderate”. Moderately suited areas would require more significant site modification to be deemed suitable to support eelgrass.

3-3 Review of Model Results

Potential restoration sites were sought whereby planting success could be maximized while minimizing the amount of site modification. This meant looking for sites that were as close as possible to the maximum depth for eelgrass within a region and yet did not contain eelgrass habitat. These areas were then inspected to determine if there were any features within them that would prevent site modification. For example, being close to a channel and proposing fill could result in loss of any placed material into the channel. Additionally, areas known to support another managed or sensitive habitat would be avoided. Generally, sites were sought adjacent to existing eelgrass habitat such that site modification would work to increase the scale of the existing habitat.

3-4 Draft Restoration Concepts

Once sites were evaluated, a conceptual restoration site was created for the selected area. For the mitigation site, a preliminary grading plan was developed. The grading plan was designed to generally tie into existing contours and then build up sediment within the site so that elevations were achieved that were within the depth ranges observed to support the relatively high eelgrass cover. The fill plan proposed in this report is conceptual. An official dredge and fill plan should be prepared by a licensed engineer prior to moving forward with the eelgrass mitigation.

4 Results

4-1 Compilation of Existing Information

The data from the 2023 harbor-wide eelgrass inventory update were used to determine areas most suitable to support eelgrass within the PPH. Combining the bathymetric data (from ESA) as modified by MTS with recent data allowed classification of eelgrass habitat with depth. The results show that the maximum suitable depth for eelgrass in the west basin is approximately -8 feet (ft). The maximum suitable depth was chosen based on visual inspection of the trends in percent eelgrass cover within depth bins and the curve of cumulative percent eelgrass cover with depth. The combination of eelgrass and bathymetric mapping did show eelgrass growing to -11 ft MLLW; however, the data at deeper depths may represent mapping error (Figure 6).

To support future maintenance activities within the PPH, the mitigation plan needs to accommodate for the potential loss of all eelgrass resources within the east basin. The total amount of eelgrass cover within the east basin as of May 2023 is 1,360 square meters. Of this amount, 773 square meters are within the proposed dredge limits. However, per CEMP guidelines of a 1:1.2 mitigation for eelgrass cover, 928 square meters of eelgrass would need to be restored unless a mitigation bank was established prior to the impact. Given anticipated timing of the Projects, it is not possible to prove restoration success prior to the need to dredge.

Currently, habitats in the proximity of the proposed mitigation site range from approximately +3 to -7 feet MLLW with eelgrass occupying space primarily from 0 to -5 feet. The proposed mitigation is to extend eelgrass presence in the west basin by importing fill from dredged areas and using that material to fill deeper portions of the mitigation site. Material would come primarily from placing sediment dredged from the launch ramp area and portions of the east basin where dredged sediment is not suitable for beach replenishment.

It is recommended that the mitigation site be modified to maximize the area with a depth between -2 and -3 ft MLLW. Eelgrass in the west basin at 0 to -1 ft covers approximately 45% of the seafloor within this depth range. However, filling to this depth range could result in loss of eelgrass if additional shoaling occurs. For this reason, a slightly deeper mitigation site is recommended. The proposed site and the predicted amount of eelgrass supported by the mitigation site is the subject of the next section.

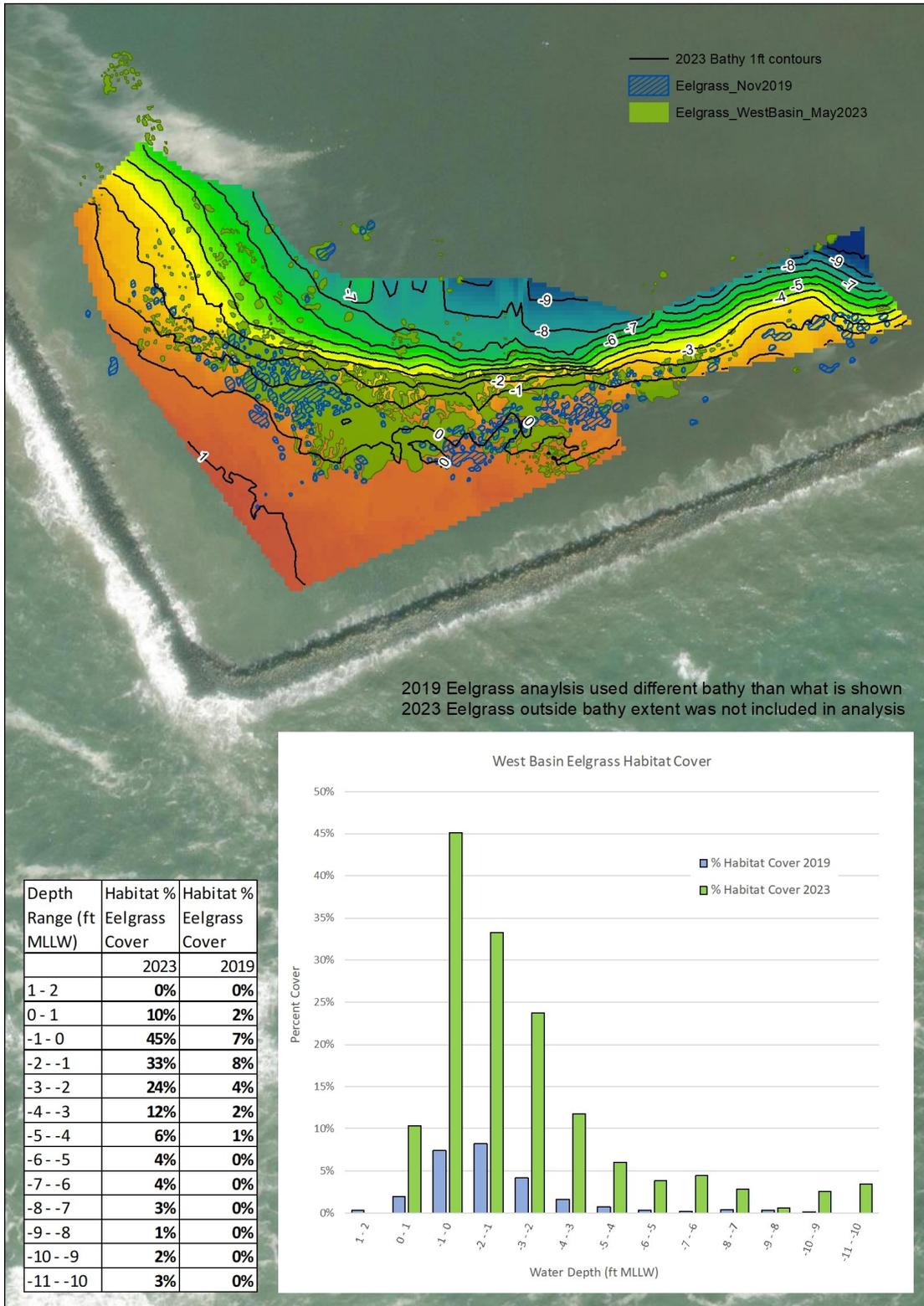


Figure 6. Map of the west basin with the results from the bathymetry data and eelgrass data (MTS 2019 & 2023). The table within the figure at left and the graph at right show the percent occurrence of eelgrass cover within each 1-ft depth contour.

5 Mitigation

Under the proposed Projects, direct impacts to eelgrass habitat will occur. Any direct loss or significant indirect impacts to eelgrass would be mitigated in accordance with the provisions of the CEMP (NMFS 2014). The CEMP requires that mitigation be provided for losses to eelgrass beds directly or indirectly damaged by Project elements. For each square meter of eelgrass adversely impacted, 1.2 square meters of new eelgrass habitat must be created. The goal of this mitigation plan is to develop a mitigation site that can be utilized for the initial transplant and expanded upon, if necessary, to comply with mitigation needs and mitigation site success.

Removal of eelgrass by dredging in the east basin will result in direct impacts to 773 square meters of vegetated eelgrass habitat and result in a need to establish 928 square meters of eelgrass. However, the mitigation site as presented below will result in fill being placed over 135 square meters of eelgrass. This will require an additional 162 square meters of newly established eelgrass beds to meet the mitigation requirements. Based on the known Projects and mitigation site impacts a total of 1,090 square meters of eelgrass are required based on the 1.2:1 mitigation ratio. In central California areas (ranging from the Point Conception to the mouth of San Francisco Bay) the CEMP recommends a planting area of 1.2:1 to meet the requirement. The planting area goal and the mitigation ratio are the same because there were only 4 evaluated transplants to establish the criteria and all of them were successful. Any conservative planning approach should increase the planting area to account for the fact that not all of the planting area will successfully support eelgrass. A similar approach was used during the transplants referenced in the CEMP. The planting area in this mitigation plan is 9,987 square meters and is 9.2 times larger than the mitigation requirement. The size of the planting area is larger than the eelgrass mitigation requirement for three reasons. First, conservative planning to ensure success. Second, much of the graded area contains slope with depths less suitable to support eelgrass. Finally, the model results predict that the proposed site will support 1,846 square meters of eelgrass. This is 1.7 times larger than the mitigation requirement.

5-1 Mitigation Site

An area for eelgrass mitigation has been identified in the west basin (Figure 7). The identified mitigation site occurs adjacent to an existing eelgrass bed and occurs on top of some scattered smaller patches of eelgrass. The proposed mitigation site is enough to accommodate the initial mitigation need based on the current estimate of potential impacts.

The mitigation site was chosen to capitalize on areas within PPH that have the potential to support eelgrass habitat. The localized growth of eelgrass within the PPH suggests that eelgrass growth may be limited by various environmental parameters within the harbor including water circulation, turbidity, nutrient inputs, presence of competing algae species, and sediment grain size. By selecting an area within PPH that already supports eelgrass and optimizing the areas around the eelgrass to support mitigation needs, the potential for mitigation site success may be higher relative to other areas more removed from eelgrass supporting areas.

Proposed mitigation site modifications would result in the creation of a 9,987 square meter eelgrass restoration and mitigation site. Most of the site (6,928 square meters) would be contoured to provide eelgrass habitat between -2 and -3 ft MLLW. The remaining depths to approximately -9 ft MLLW would occur on the slope supporting the site where the site would meet the existing bathymetry. A total of 11,227 cubic yards of fill material are needed to create the mitigation site. These values may change slightly during engineering and final design of the site by ESA.

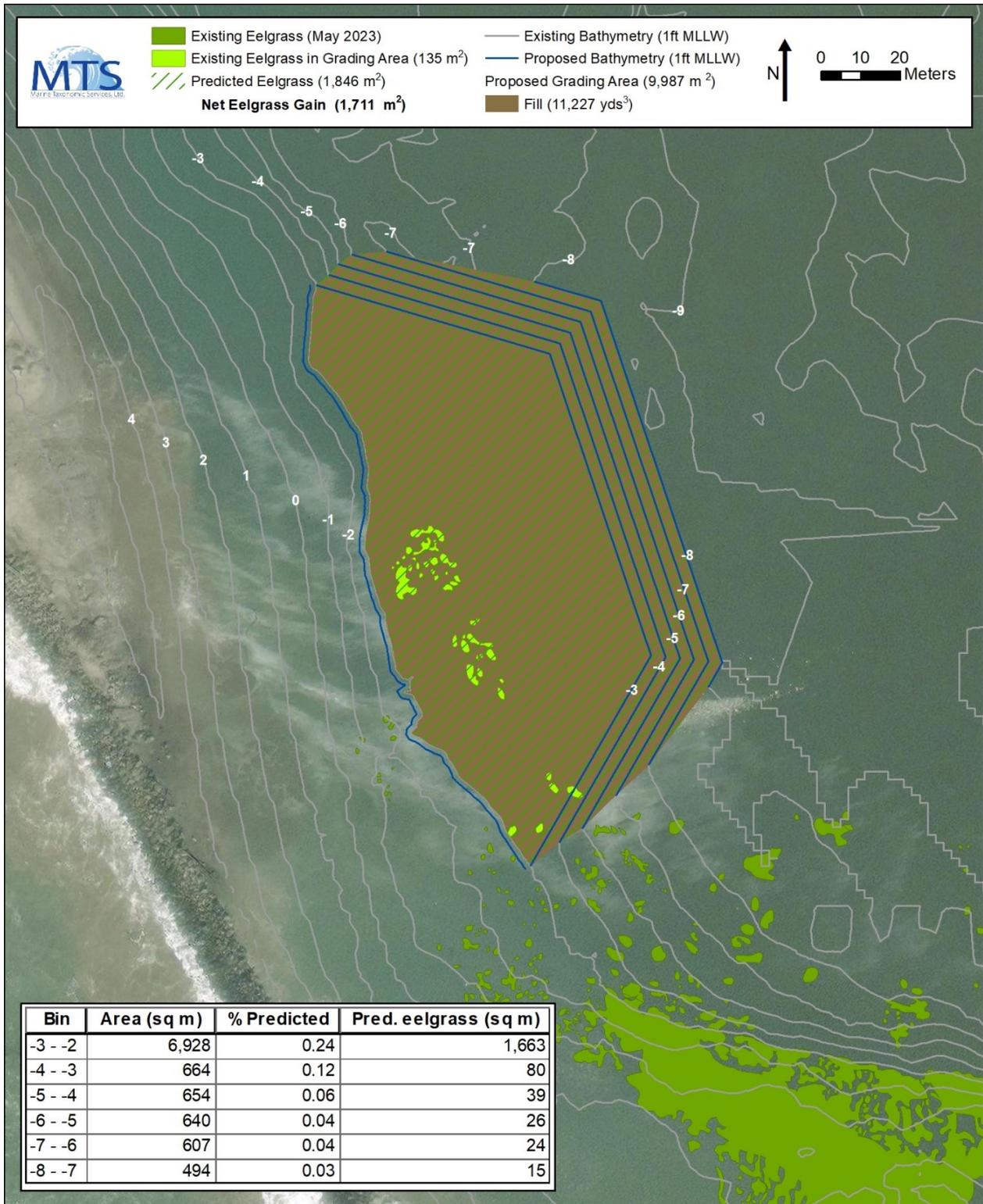


Figure 7. Map showing the current condition of the selected mitigation site where eelgrass would be planted. Contour lines (bathymetry) represent current conditions.

5-2 Secondary Mitigation Sites

As noted above, the creation of the mitigation site will result in additional impacts to eelgrass where the proposed mitigation site will be built on top of 135 square meters of existing eelgrass. During planning meetings with representatives from National Marine Fisheries Service, it was requested that this impacted eelgrass be salvaged. Given that the eelgrass cannot be salvaged and stored for use on the mitigation site, secondary mitigation sites are proposed. These secondary mitigation sites will act as receiver sites for eelgrass to be salvaged from within the footprint of the mitigation site prior to creation of the mitigation site.

Two secondary mitigation sites are proposed to act as receiver sites for salvaged eelgrass. One each will be placed on the north of the proposed mitigation site and immediately east of the eelgrass bed in the west basin (Figure 8). The sites will not receive any form of modification. They were chosen to be near existing eelgrass and in water of similar depth to the eelgrass that is currently growing within the proposed footprint of the mitigation site. Each of the sites is 400 square meters for a total secondary mitigation site area of 800 square meters. The amount of area was selected based on the following assumptions. First there will be 135 square meters or more of eelgrass growing within the mitigation area footprint when it is time to salvage the eelgrass. Second, that eelgrass density will be at least 50 turions per square meter. This combination results in 6,750 turions being present. That is enough eelgrass to create 1,125 planting units composed of an average of 6 turions each. However, divers will not be 100% efficient at harvesting the eelgrass present. Moreover, not all of the harvested eelgrass will be suitable for creation of eelgrass bundles. For these reasons, it is assumed that there will be enough material to plant 800 square meters with one eelgrass bundle per square meter. Eelgrass harvest and planting methods are the same as those provided below for the mitigation site.

It should be noted that the need for the secondary mitigation sites is dependent upon the assumption that eelgrass will be impacted within the footprint of the proposed mitigation site. If no eelgrass is identified within the mitigation site footprint prior to construction, there will be no need to designate the secondary mitigation sites. If there is more or less eelgrass at the time of the construction, the secondary sites may be reduced or expanded as necessary to adequately act as receiver sites for the salvaged eelgrass. If the site boundaries are modified, they will not be modified in any way that interferes with existing eelgrass resources. Given the uncertainty associated with the secondary mitigation sites, both in terms of whether they will be necessary and the extent to which they will successfully support eelgrass, they will be tracked as part of the performance monitoring, but they are not considered as part of the planting ratio relative to the mitigation requirement. This is an additional part of the conservative approach to ensuring successful mitigation.

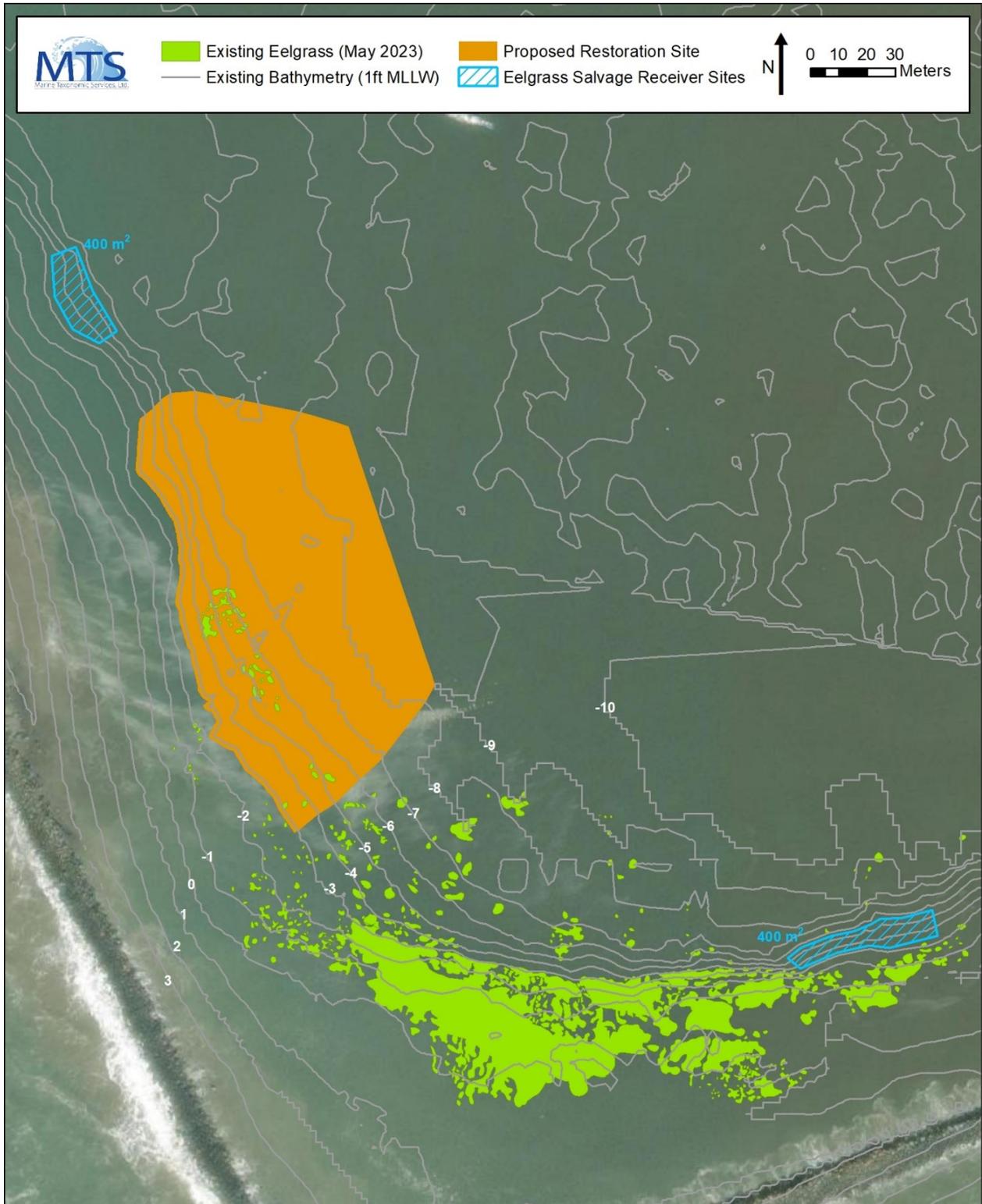


Figure 8. Map showing the locations of the proposed secondary mitigation sites that will act as receiver sites for eelgrass salvaged from the footprint of the mitigation site prior to construction.

5-4 Proposed Mitigation Methods

5-4.1 Eelgrass Harvesting Methods

Eelgrass existing within the PPH east basin is located within areas proposed for dredging as part of the Surfers Beach Pilot Restoration Project and Pillar Point Boat Launching Facility Maintenance. Any eelgrass harvest material required for transplanting at the proposed mitigation site would be salvaged from proposed dredge footprints (prior to dredging). Since all harvested eelgrass would be salvaged from areas proposed to be dredged, there is no need to designate a specific harvest site within existing eelgrass beds for collecting donor material. Additionally, there is no need for harvest site monitoring once donor material has been collected because the collection would be considered as salvage. The goal for eelgrass utilized as part of the transplant effort would be to salvage all required material within the east basin and not require any additional eelgrass from other areas outside of PPH. The harvest site was selected based on the following factors:

- Eelgrass would be entirely salvaged from proposed dredge areas.
- Proximity to the mitigation site allows for logistical suitability, including similar oceanographic conditions for the transplant material, similar environmental conditions between harvest and mitigation site, ease of access and diver safety.
- Appropriate genetic profile for eelgrass growing in the region.
- Prevention of the spread of invasive species.

Donor material will be harvested by first removing loose sediment around the rhizome and then removing the rhizome using a hand raking method. Care will be taken when removing rhizomes to avoid tearing or ripping them to preserve as much rhizome as possible. This method minimizes disturbance to surrounding eelgrass and substrate, however surrounding eelgrass and substrate is to be dredged so impacts are negligible. Collected rhizomes will be loosely placed in mesh bags for processing at the surface. Donor material will be considered viable if there are a minimum of three internodal segments per rhizome. Higher numbers of internodal segments are preferred for improved transplant success.

Once on the surface, donor material will be stored in floating mesh bags in the ocean prior to preparation and in a flow-through seawater system during processing. Material will be stored no longer than 24 hours from harvesting to transplant unit preparation. Once prepared, transplanted units will be stored in open water no longer than 24 hours prior to planting.

5-4.2 Eelgrass Transplanting Method

Eelgrass harvested from the harvest site will be bundled into transplant units comprised of approximately 5-8 turions each. This bundling method has a high success rate in achieving self-sustaining eelgrass habitat post-transplanting (Merkel 1988). Transplant units will be installed by hand digging a hole approximately the size of the unit and placing the unit with the rhizomes approximately two inches below the surface. The unit will then be anchored to the substrate using biodegradable stakes and the hole will be back filled. Divers will conduct planting on monumented grid system, accessing the planting area from boats. The grid layout will provide for ease of tracking and quality control of planting. Transplant unit spacing will be dependent upon the amount donor material that can be salvaged from the east basin. It is conservatively estimated that 5,000 eelgrass bundles can be created from the eelgrass beds to be salvaged in the east basin dredge footprint. The goal will be to plant the top of the mitigation site (area at -2 to -3 ft MLLW) with units spaced at approximately one unit per 1.5 square meter). This will require approximately 4,600 units to fill the top of the mitigation site. The top of the mitigation site provides for 6928 square meters of area between -2 and -3 feet below MLLW. Any remaining transplant bundles that can be created from the salvaged donor beds will be planted on the slopes where the mitigation site slopes to existing depths.

6 Mitigation Timing

Mitigation will begin upon receipt of state, federal, and local permits and authorizations (including California Department of Fish and Wildlife (CDFW) Letter of Permission for eelgrass harvest) for the Project. All mitigation work shall be conducted within the eelgrass growing season from March through October, as specified in the CEMP (NMFS 2014). Since the mitigation site would be created from multiple dredge events/locations and harvested material would be salvaged from areas proposed for dredging there is an order in which the site can be created most efficiently.

- Eelgrass within the footprint of the proposed mitigation site will be salvaged and transplanted at the secondary mitigation sites.
- Dredge material from the launch ramp will be used to fill and create the mitigation site. Dredge material placed at the mitigation site should be allowed to settle for a minimum of 2 weeks (4 weeks preferred) to allow consolidation of placed material. This will also allow observation of site stability prior to planting.
- Harvest all eelgrass from east basin areas proposed for dredging and transplant in created eelgrass mitigation site.
- Dredge in the east basin can occur once eelgrass salvage in the east basin is complete.

7 Mitigation Monitoring & Performance

7-1 Eelgrass Mitigation Monitoring Surveys

Within the harvest area, pre- and post-harvest surveys are not proposed. All eelgrass material harvested for the transplant effort would come from areas proposed for dredging. Thus, all eelgrass collected would be salvaged from proposed dredge footprints. Since all eelgrass material would be salvaged and any material not salvaged would be lost due to dredging, as much material as can be salvaged from within the dredge footprints will be. This will likely result in eelgrass thinning above that typically permitted (10%) in harvest areas. Given that this is also the eelgrass being mitigated for, any impact associated with harvesting should not be considered by regulatory agencies.

Once the planting effort has concluded, monitoring of the mitigation site will be conducted for 60 months (5 years) to document the success of the mitigation as outlined in the CEMP. Monitoring surveys will begin immediately after transplanting has been completed at intervals of 0, 6, 12, 24, 36, and 60 months post-transplant. The monitoring program will assess the aerial extent, percent cover, and density of eelgrass in the mitigation sites by SCUBA and side-scan sonar. SCUBA divers will swim transects across the mitigation site to confirm side-scan sonar recordings and to randomly place quadrats for density. Monitoring dates will be scheduled during the active eelgrass growing season to collect information on growth and survival.

Additional monitoring after the fifth year may be necessary if the aerial extent and density of eelgrass in the mitigation site does not meet the mitigation performance milestones. The primary reference site will be within the eelgrass beds adjacent to the mitigation site (Figure 9). An additional secondary reference will be located in the remaining eelgrass bed within the east harbor. The primary reference is chosen because it is adjacent to the proposed mitigation site and the secondary mitigation sites. The existing eelgrass beds will be carefully monitored during and after construction to minimize impact and hopefully document the lack of impacts to adjacent eelgrass. Moving forward, this adjacent eelgrass can act as a suitable reference. The secondary reference provides a reference relative to conditions in the east basin for which mitigation is occurring and can act as a reference for any trends in eelgrass occurrence that may occur due to changes in condition at a larger scale.



Figure 9. Map showing the locations of the proposed primary and secondary reference areas.

7-2 Mitigation Performance Milestones

Criteria for transplanting success will be determined based on the mitigation performance milestones as specified in the CEMP and outlined in Table 1 below.

Table 1. Mitigation performance milestones for eelgrass transplanting (CEMP, NMFS 2014)

Monitoring Date (post transplanting)	Performance Milestones
Month 0	Confirmation of full coverage distribution of planting units over the initial mitigation site
Month 6	Persistence and growth of eelgrass in the initial mitigation site 50% survival of initial planting units and well distributed coverage Monitoring date should be flexible to fall within active growth season
Month 12	40% eelgrass coverage in the initial mitigation site 20% density of adjacent reference areas No less than 1.2 times the area of the impact site
Month 36	100% eelgrass coverage in the initial mitigation site 85% density of reference area No less than 1.2 times the area of the impact site
Month 48	100% eelgrass coverage in the initial mitigation site 85% density of reference area No less than 1.2 times the area of the impact site
Month 60	100% eelgrass coverage in the initial mitigation site 85% density of reference area No less than 1.2 times the area of the impact site

7-3 Mitigation Contingency & Adaptive Management

If the eelgrass transplanted fails to meet the established success criteria in the initial mitigation site, supplemental mitigation may be required in consultation with CDFW and NMFS. If additional planting area is required, subsequent maintenance dredging events can be used to create additional mitigation area. The timing of any supplemental transplant would have to be performed in accordance with the dredge schedule. The implications of the potential for supplemental planting should be discussed with NMFS prior to the start of the initial mitigation effort. The District is committed to supporting eelgrass resources by providing supplemental material to expand the mitigation site each time maintenance dredging occurs at the launch ramp. Thus, providing additional material to encourage eelgrass expansion and/or transplant area in the mitigation site.

8 Mitigation Coordination and Schedule

8-1 Letter of Permission and Notifications

Prior to the beginning of the eelgrass transplant work, a letter of permission to harvest and plant eelgrass will be obtained from the CDFW. Also prior to the beginning of the eelgrass transplant work, a scientific collecting permit will be obtained to account for the harvesting of eelgrass within the donor site in accordance with this mitigation plan. A minimum five-day notification and a preliminary transplanting schedule will be given to CDFW prior to commencement of the transplant work.

8-2 Planting Schedule

The project may require phasing of dredge elements to ensure that donor material can be salvaged as described in this document. For instance, the initial cut and fill of the mitigation site can be performed as phase 1. Then donor material can be salvaged from areas designated within the first phase of dredging to plant the upper portions of the mitigation site. During the first phase of dredging additional material can be placed in the mitigation area to provide material to complete the deeper portions of the mitigation site. Then the final eelgrass material can be salvaged from the area designated for the final phase of dredging.

8-3 Monitoring Reports

Monitoring reports shall be provided to the resource agencies (CDFW, NMFS) within 30 days after the completion of each required monitoring period and shall include spatial data. Per the CEMP (NMFS 2014), these reports will include: a description of the action, action party, mitigation consultants, relevant points of contact, and relevant permits; the size of permitted impacted estimates, location of activities, actual eelgrass impacts, and eelgrass mitigation needs; a detailed description of eelgrass habitat survey methods, donor harvest methods, and transplant methods; and mitigation performance milestone progress. The initial monitoring report (0 Month) will document any variance from the mitigation plan, sources of donor material, and the full area of planting. The final monitoring report will include an overall assessment of the performance of the eelgrass mitigation site relative to natural variability of the reference site to evaluate if mitigation responsibilities were met.

8-4 Notification of Completion

If mitigation performance milestones (Table 1) have been met once the final monitoring event has been completed, a Notice of Completion will be forwarded along with the final monitoring report. At that point, implementation of the Mitigation Plan will be considered complete.

9 References

- California Legislative Information 2020**, Division 21. State Coastal Conservancy. Public Resources Code. https://leginfo.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=PRC&division=20.&title=&part=&chapter=&article=. Accessed 27 July 2020.
- de Boer 2007**, de Boer, W.F. 2007. Seagrass-sediment interactions, positive feedbacks and critical thresholds for occurrence: a review. *Hydrobiologia* 591 (1): 5-24.
- Gorman et al. 2009**, Ann Marie Gorman, Robert S. Gregory, David C. Schneider. 2009. Eelgrass patch size and proximity to the patch edge affect predation risk of recently settled age 0 cod (*Gadus*), *Journal of Experimental Marine Biology and Ecology* 371 (1): 1-9.
- Heck et al 2003**, Heck, K.L., G. Hays, and R.J. Orth. 2003. Critical evaluation of the nursery role hypothesis for seagrass meadows. *Marine ecology progress series* 253:123-136.
- Merkel, K.W. 1988**. Growth and survival of transplanted eelgrass: The importance of planting unit size and spacing. In: *Proceedings of the California Eelgrass Symposium*. Chula Vista, CA.
- Mooney and Woodfield 2009**, Moony, R.C. and R.A. Woodfield. 2009. Eelgrass and cordgrass (Chapter 4). In, *Bataquitos Lagoon long-term biological monitoring program final report 2009*. Prepared by Merkel & Associates. Prepared for the City of Carlsbad Planning Department and the Port of Los Angeles Environmental management Division.
- MTS 2019**, Marine Taxonomic Services, Ltd. 2019. Harbor-Wide Eelgrass Mapping at Pillar Point harbor, Half Moon Bay, California. Prepared for Brad Damitz Coastal Management Consulting. December 2019.
- MTS 2020**, Marine Taxonomic Services, Ltd. 2020. Pillar Point Bay-Wide Eelgrass Management and Mitigation Plan. Prepared for Brad Damitz, Consultant to the Harbor District. July 27, 2020
- MTS 2023**, Marine Taxonomic Services, Ltd. 2023. Eelgrass Inventory Update for Pillar Point Harbor. Prepared for Brad Damitz Coastal Management Consulting. July 2023.
- NMFS 2014**, National Marine Fisheries Service. 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. Prepared by NOAA Fisheries West Coast Region. October 2014.
- Thresher et al 1992**, Thresher, R.E., P.D. Nichols, J.S. Gunn, B.D. Bruce, and D.M. Furlani. 1992. Seagrass detritus as the basis of a coastal planktonic food chain. *Limnology and oceanography* 37(8):1754-1758.
- Valentine and Heck 1999**, Valentine, J.F., and K.L. Heck. 1999. Seagrass herbivory: Evidence for the continued grazing of marine grasses. *Marine ecology progress series* 176:291-302.
- Voller and Harrison 1998**, Voller, J., and S. Harrison. 1998. *Conservation Biology Principles for Forested Landscapes*. UBC Press. 256pp.
- Yarbro and Carlson 2008**, Yarbro, L.A., and P.R. Carlson. 2008. Community oxygen and nutrient fluxes in seagrass beds of Florida bay, USA. *Estuaries and coasts* 31(5): 877-897.