

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

TECHNICAL ANALYSIS

**Cleanup and Abatement Order No. R9-2006-0101
Bill and Heidi Dickerson, and Perry and Papenhausen Construction
501 First Street, Coronado
San Diego County
File No. 05C-041**

and

**Cleanup and Abatement Order No. R9-2006-0102
Larry and Penny Gunning, and Perry and Papenhausen Construction
505 First Street, Coronado
San Diego County**

Removal of Riprap and Construction of Seawall

May 30, 2007

**by
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1. **Introduction**

On August 23, 2006, California Regional Water Quality Control Board, San Diego Region (Regional Board) Executive Officer, John Robertus issued Cleanup and Abatement Order (CAO) No. R9-2006-0101 to homeowners Bill and Heidi Dickerson, and their contractor Perry and Papenhausen Construction for discharges from 501 First Street, Coronado. The Executive Officer also issued on August 23, 2006, CAO No. R9-2006-0102 to homeowners Larry and Penny Gunning, and their contractor Perry & Papenhausen Construction for discharges from 505 First Street, Coronado. The CAOs were issued in response to the parties' removal of riprap and construction of a seawall in front of their vacation homes along San Diego Bay. See *Attachment No. 1, Pre-Construction Photograph* and *Attachment No. 2, Post-Construction Photographs*. The Regional Board Executive Officer issued Addendum No. 1 to the CAOs on October 13, 2006. On May 10, 2007, the Regional Board Executive Officer issued Addendum No. 2 to the CAOs. See *Attachment No. 3, Addendum No. 2 to CAO R9-2006-0101* and *Attachment No. 4, Addendum No. 2 to CAO R9-2006-0102*. The Addendums were issued to clarify the appropriate jurisdictional definition for the discharge of fill associated with the removal of existing riprap and the unauthorized construction of the seawall and footing in San Diego Bay, and to update information gathered during the investigation of the matter. A detailed chronology of events is provided in Attachment No. 5.

2. **Justification to Support Issuance of CAOs**

Pursuant to Water Code section 13304, the Regional Board can require a person to cleanup or abate the effects of waste in two situations: 1) When a person discharges waste into waters of the state in violation of any waste discharge requirement or other order (i.e., Clean Water Act section 401 Water Quality Certifications) or prohibition (i.e., Waste Discharge Prohibition No. 7) issued by the Regional Board; or 2) When any person caused or permitted, or causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance.

In this case, the Dickersons and Gunnings actions have satisfied both situations.

Discharge of waste in violation of Clean Water Act Section 401 Water Quality Certification (Dickerson).

On July 28, 2005, the Regional Board issued an Order for Low Impact 401 Water Quality Certification and Waiver of Waste Discharge Requirements (File No. 05C-041, Attachment No. 6) to Bill and Heidi Dickerson for the removal and replacement of riprap in front of their house along San Diego Bay. Under section 401 of the federal Clean Water Act (CWA), every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with

state water quality standards¹. Most certifications are issued in connection with U.S. Army Corps of Engineers CWA section 404 permits for dredge and fill discharges. Certification applications for single-Region, non-hydroelectric, non-water rights projects are made to the appropriate Regional Board. The Regional Board reviews the application and takes the appropriate certification action (certification or denial). A complete application for 401 certification must include an application fee and all information required by state law. Regional Board can provide application forms for their jurisdictions.

In this case, the Dickersons applied for the Army Corps Nationwide Permit 3 (Maintenance, i.e., the replacement of a previously authorized structure). The Dickersons violated their 401 Water Quality Certification when they failed to install engineered riprap on the previous riprap footprint as they proposed after they removed the old riprap. Instead, Perry & Papenhausen Construction, contractor for the Dickersons and Gunnings, constructed an unauthorized mortarless block seawall on top of a concrete footing on Port District tideland. The failure to install riprap and the construction of a seawall exposed the sand, soil and sediment on the beach to the open bay currents, tidal and wave action which continuously redistributes the beach materials onto the eelgrass (*Zostera marina*) as documented by the San Diego Unified Port District in its January 31, 2007, Beach Topography Surveys (Attachment No. 7).

The pouring of a concrete footing on Port District tidelands is a discharge of waste into waters of the state. Attachment No. 8, are photographs of the seawall at high tide on October 9 and December 4, 2006. The waves can be seen crashing onto the wall, clearly within the waters of the state. Furthermore, the Dickersons' Contractor's activities destabilized the beach resulting in a continuing discharge of waste to waters of the state. Therefore, the Dickersons have discharged waste (concrete, sand, soil and sediment) into waters of the state (San Diego Bay) in violation of a Regional Board Order (Dickersons' 401 Water Quality Certification).

Discharge of waste in violation of Waste Discharge Prohibition No. 7 (Dickerson and Gunning)

Waste Discharge Prohibition No. 7 of the Regional Board Water Quality Control Plan for the San Diego Region (9) states that the "dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the Regional Board." As stated above, the removal of riprap and construction of the seawall by the Dickersons and Gunnings'

¹ Water quality standards include Beneficial Uses; Objectives; and the Anti-Degradation Policy. Each Regional Board maintains its own Water Quality Control Plan (Basin Plan) for each major hydrologic basin in California. The Basin Plans list the water bodies in each region and describe the applicable water quality standards.

contractor resulted in the discharge of waste (concrete, sand, soil and sediment) into waters of the state (San Diego Bay).

Discharge of waste and creation of a condition of pollution or nuisance
(Dickerson and Gunning)

As discussed above, the Dickersons and Gunnings have discharged waste (concrete, sand, soil and sediment) to waters of the state (San Diego Bay.)

California Water Code section 13050 has the following definition:

“Pollution” means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:

(A) The waters for beneficial uses.

The properties at 501 and 505 First Street, Coronado reside along the San Diego Bay. The San Diego Bay has the following beneficial uses as listed in the Regional Board's Water Quality Control Plan for the San Diego Basin (9):

1. Industrial Service Supply (IND)
2. Navigation (NAV)
3. Contact Water Recreation (REC1)
4. Non-Contact Water Recreation (REC2)
5. Commercial and Sport Fishing (COMM)
6. Preservation of Biological Habitats of Special Significance (BIOL)
7. Estuarine Habitat (EST)
8. Wildlife Habitat (WILD)
9. Rare, Threatened, or Endangered Species (RARE)
10. Marine Habitat (MAR)
11. Migration of Aquatic Organisms (MIGR)
12. Shellfish Harvesting (SHELL)

The Dickersons and Gunnings have created a condition of pollution by unreasonably affecting the waters for Marine Habitat. Marine habitat includes uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp and eelgrass, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).

Destabilization of the beach resulted in the mobilization of the beach sands that smothered large portions of the eelgrass beds in front of 501 and 505 First Street, Coronado.

Eelgrass beds grow in the muddy and sandy bottoms of shallow bays and coves, tidal creeks, and estuaries. They serve as a haven for crustaceans, mollusks, numerous species of fish, and other wildlife, providing these creatures with habitat, nursery grounds, and food. The long blades of eelgrass are often

covered with tiny marine plants and animals. Eelgrass is not seaweed; it is a blooming underwater grass that spreads by rhizomes or roots. Eelgrass beds build up in the spring and summer, and then decay in the fall and winter. Eelgrass blades can grow up to three feet long.

Damage to eelgrass affects whole populations of fish, waterfowl, shellfish, and other animals, as well as the stability of the shorelines. Each blade of eelgrass is a small food factory. Diatoms, bacteria, and detritus (decaying plant and animal matter) gather on eelgrass leaves. This detritus provides food for many invertebrates. The large number of invertebrates present makes eelgrass beds rich feeding areas for fish and marine birds. As eelgrass dies, bacteria and fungi feed on the dead leaves, breaking them down into tiny bits. These particles of plant material provide vital nutrients for the near shore food web.

Eelgrass beds cushion the impact of waves and currents, preventing erosion. Eelgrass also improves water clarity, cycles nutrients, and generates oxygen during daylight hours. Eelgrass roots weave sediments in place. This protection helps preserve the highly productive bacteria in the sediments which nourish large amounts of invertebrates. During low tides, eelgrass shelters small animals and plants from extreme temperatures. In shallow tidal influenced areas, eelgrass beds hold moisture like a sponge, offering additional protection for small creatures.

The importance of eelgrass is well known. On July 31, 1991, the Southern California Eelgrass Mitigation Policy was adopted by the California Department of Fish and Game, National Marine Fisheries Service, and U.S. Fish and Wildlife Service. This policy provides a basis for consistent recommendations to avoid, minimize, and mitigate projects that impact existing eelgrass resources.

Since the riprap was removed the eelgrass beds have receded from the shoreline. Prior to riprap removal the eelgrass beds were within three feet of the riprap (See Attachment No. 2, lower photo left hand side), now that the riprap is gone, the eelgrass beds have receded in some places up to 75 feet from pre-seawall locations. See Attachment No. 9, Photograph of eelgrass damage taken by the Port District on January 3, 2007. The photograph displays that the eelgrass beds to the southeast can still be seen close to the shore, however in front of 501 and 505 First Street the eelgrass beds have receded. This is further reinforced by viewing Attachment No. 10, JNE Associates Eelgrass Survey depicting up to April 14, 2007. The survey shows that to the southeast of the homeowners the seasonal variation has remained constant approximately 25 feet, while in front of 501 and 505 First Street the variation is three times that. Thus the correlation between riprap removal and shifting of the beach sand and the receding of the eelgrass bed is a logical one. A joint study conducted by NOAA and Cornell University states that covering as little as 25% of the eelgrass bed with sediment (i.e., sand) results in a 50% die off of eelgrass (Attachment

No. 11). The Regional Board is not the only agency claiming that the homeowners have damaged the eelgrass beds; Port District staff briefed their Commissioners that there has been a loss of eelgrass as a direct result of the removal of riprap and construction of the seawall by the homeowners.

Therefore the Dickersons and Gunnings have discharged waste and created a condition of pollution through their actions to remove riprap and construct a seawall in front of their homes along San Diego Bay.

3. Justification for CAO Directives

Cleanup and Abatement Order Nos. R9-2006-0101 and 0102 as amended by Addendum Nos. 1 and 2 have the same three directives with future compliance dates:

a. By July 2, 2007, stabilize the shoreline to pre-project conditions by installing engineered riprap to Port District specifications;

The Regional Board has set a short term goal of July 2, 2007, to install engineered riprap in an effort to quickly stabilize the shoreline. Counsel for the homeowners has informed the Regional Board that the installation of the engineered riprap should only take a couple of days. The homeowners are in the process of obtaining an emergency Coastal Development Permit from the Port District within the next day. Upon issuance of the Port District permit, the Regional Board expects the homeowners to apply for an emergency 401 Water Quality Certification from the Regional Board. The Regional Board can process an emergency permit request within two to three days. Therefore, it does not appear unreasonable to expect the homeowners to comply with the July 2, 2007 deadline.

b. By May 1, 2008, cleanup and abate existing and threatened pollution associated with the construction of the seawall and failure to replace riprap.

The homeowners are given a longer period of time to develop a permanent solution (i.e., removal of the seawall and eelgrass mitigation, or some other alternative) to abate the existing and threatened pollution associated with the removal of the riprap and construction of the seawall. The May 1, 2008, deadline should be ample time to analyze the environmental impacts of the seawall, design an alternative structure if needed, and determine the impacts on the eelgrass beds. The homeowners can request at a future date an extension of the deadline if sufficient justification is presented. At this time, the deadline provides an impetus to resolve the matter or face further Regional Board enforcement (i.e., potentially monetary penalties).

c. Submit monthly eelgrass impact assessment reports by the 15th of each month.

Submission of monthly eelgrass assessment reports will provide the Regional Board with the necessary information to make a determination of the impacts to the eelgrass beds as a result of the homeowners' actions. With this information, the Regional Board will be able to analyze the sufficiency of the homeowners' future long term solution proposal with the Southern California Eelgrass Mitigation Policy. To date, the assessments by the homeowners and other entities have allowed the Regional Board to preliminarily assess the damage done by the homeowners.

4. Conclusion

The directives in the CAO are a reasonable requirement given the circumstances. Regional Board staff recommends that the Members of the Regional Board affirm the issuance of Cleanup and Abatement Order Nos. R9-2006-0101 and 0102 and their Addendum Nos. 1 and 2.