

PACIFIC GROVE AREA OF SPECIAL AND BIOLOGICAL SIGNIFICANCE

DRAFT COMPLIANCE PLAN



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1.0 INTRODUCTION

The Pacific Grove Area of Special Biological Significance is one of 34 designated Areas of Special Biological Significance (ASBS) in nearshore waters along the California coast. The Pacific Grove ASBS extends for 3.2 miles along the Pacific Grove shoreline west from the Monterey Bay Aquarium to Asilomar Boulevard just before Point Pinos, with close to 500 ocean acres within the Monterey Bay National Marine Sanctuary (MBNMS). The Pacific Grove ASBS receives runoff from approximately 1,106 acres in Pacific Grove and 103 acres in Monterey including a small portion from the federal U. S. Army Presidio of Monterey.

ASBS are a subset of state water quality protection areas in the ocean along California's coast that require special protection per the California Marine Managed Areas Improvement Act. Their protection is promulgated by State Water Resources Control Board (SWRCB) through the California Ocean Plan (Ocean Plan). The Ocean Plan prohibits the discharge of waste to designated ASBS.

Accordingly, on March 20, 2012, SWRCB adopted a General Exception to the Ocean Plan waste discharge prohibition in relation to the ASBS. The General Exception, which is described in SWRCB Resolution No. 2012-0012 and amended by Resolution No. 2012-0031, governs point and non-point source waste discharges to California's ASBS, which include municipal storm water discharges.

The General Exception includes "Special Protections" for Beneficial Uses of ASBS and requires development of ASBS Compliance Plans to demonstrate local compliance by permitted point source dischargers, such as municipal dischargers and others to the ASBS. Twenty-seven (27) applicants, including the City of Pacific Grove and City of Monterey, applied for and received coverage under the General Exception related to runoff reaching the Pacific Grove ASBS through City of Pacific Grove storm drainage system with points of discharge into the ASBS. This Draft ASBS Compliance Plan describes how the Cities of Pacific Grove and Monterey will comply with the Special Protections.

Storm water point-source discharges originating from both agencies and flowing into local waterways, including the Pacific Grove ASBS, are permitted under SWRCB Order No. 2013-0001-DWQ *National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004 Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)*", otherwise known as the "Phase II General Permit". The Phase II General Permit Order was approved by the SWRCB on February 5, 2013, and ASBS monitoring provisions and General Exception regulations were folded into Phase II General Permit Sections, including but not limited to E.13.a, and Attachment C *Special Conditions (Specific Provisions) for Traditional and Non-Traditional Small MS4 ASBS Discharges*, hereinafter referred to as the "Special Protections", and Attachment D *ASBS Discharges List*. This draft Compliance Plan is intended to fulfill requirements contained in Phase II General Permit Attachment C Section I.A.2.

Pacific Grove ASBS at Lover's Point, City of Pacific Grove



The Cities of Pacific Grove and Monterey participate in two regional efforts to collaborate on water quality protection and regulatory needs, such as those of the ASBS. First, both cities participate in the Monterey Regional Storm Water Management Program (MRSWMP) to maximize regional collaboration and cost-sharing when possible on annual compliance efforts related to the Phase II General Permit. Since receiving permit coverage and regional Storm Water Management Plan (SWMP) approval in 2006, the Cities of Pacific Grove and Monterey have been actively implementing pollution prevention and best management practices (BMPs) within their respective permit boundaries and on the regulatory-required subjects of Public Education and Outreach, Public Participation and Involvement, Illicit Discharge Detection and Elimination, Construction Site Runoff Control, Post-Construction Runoff Control, and Municipal Pollution Prevention through Good Housekeeping. In addition, both cities along with other MRSWMP member agencies have annually reported on compliance efforts and program effectiveness through measurable goals. Both the City of Pacific Grove and Monterey also manage a City-specific storm water program and operate and maintain their respective storm drainage infrastructure for drainage efficiency while also ensuring compliance with applicable water quality regulations.

Second, and as further outlined in Section 8 *Monitoring* below, both cities participate in the Central Coast ASBS Regional Monitoring Program (RMP), a collaboration of various ASBS dischargers from Big Sur, in Monterey County, to Pt. Reyes, in Marin County. This collaborative RMP effort is accomplishing water quality research needs related to the ASBS Special Protections and in collaboration with and feedback from SWRCB, Regional Board, and Southern California Coastal Water Research Project (SCCWRP) staff. The RMP results will

inform future Pacific Grove ASBS compliance efforts to better protect the Pacific Grove ASBS, as necessary.

Over the past several years, the cities of Monterey and Pacific Grove have evaluated alternative stormwater management projects to address the ASBS regulatory requirements. The City of Monterey received a \$270,000 Integrated Water Resources Management Planning (IRWMP) Grant and provided a 36 percent match to the Grant (\$151,875) to fund this work (total project funds totaling \$421,875). It is part of a larger \$1 million grant managed by the Monterey Peninsula Water Management District.

In January 2013, Fall Creek Engineering, Inc. (FCE) was retained by the City of Monterey to complete the *City of Monterey and Pacific Grove ASBS Refined 2006 Feasibility Study of Alternatives Management Plan*. The scope of work was to: (1) refine and select a preferred and alternate project from the broad list of projects identified by MACTEC in 2006, (2) select a preferred project alternative, (3) develop conceptual and preliminary plans for the preferred project, (4) prepare the CEQA environmental impact report (EIR) for the preferred project; and (5) prepare a project implementation work plan for the preferred project.

This effort identified a preferred project that would divert both wet and dry weather flows from both Pacific Grove and Upper New Monterey watershed areas into an upgraded stormwater collection and treatment system. The objective of the project is to achieve up to a 90% reduction in pollutant loading during storm events to comply with the SWRCB's ASBS Special Protections. The current preliminary engineering design for the preferred project is at the approximate 40% completion level. The proposed project has been developed to determine the full extent of structural controls that may be needed to comply with the ASBS Special Protections. Several special studies, geotechnical and surveying analysis, and further engineering would be necessary if the project moves forward in the future. However, project implementation is not planned or anticipated until further results of the monitoring program become available, and are contingent upon additional grants or other funding. Certification of the project's Final Environmental Impact Report was achieved by August 2014 by both cities. This project and related cities' efforts are further detailed in Section 6.1.3 below.

The content and organization of this Draft ASBS Compliance Plan follows the requirements described in Phase II General Permit Attachment C Provision I.A.2. Following this introduction, the report gives a regulatory background to describe the fundamental provisions of the Special Protections. The following sections then describe the characteristics of the Pacific Grove ASBS, describe the structural and non-structural BMPs (both existing and planned for the future) and summarize the ASBS monitoring program. Finally, the report will include a compliance and implementation schedule.

2.0 ASBS REGULATORY BACKGROUND

2.1 Introduction

In 1972, the SWRCB adopted the Ocean Plan. The SWRCB is responsible for reviewing, revising, and adapting the Ocean Plan's water quality standards in accordance with Clean Water Act Section 303(c)(1) and California Water Code Section 13170.2(b). With this responsibility, the SWRCB has revised the Ocean Plan on numerous occasions since 1972.

Revisions to the Ocean Plan in 1983 effectively prohibited all non-stormwater discharges in and around ASBS "...to assure maintenance of natural water quality conditions in these areas." In October 2004, the SWRCB notified various dischargers to either cease storm water and nonpoint source waste discharges into California's ASBS or request an exception under the Ocean Plan. In January 2005, ASBS became a subset of State Water Quality Protection Areas (SWQPAs) subject to special protection, including point-source waste and thermal discharges being prohibited and nonpoint-source discharges requiring control to the extent practicable.

The Ocean Plan prohibits the discharge of waste to designated ASBS, such as the Pacific Grove ASBS. ASBS represent ocean areas requiring protection of their environment - biological community and/or specific species found there – and the protections shall exist to the extent that the alteration of natural water quality is not desired nor allowed. For state water quality protection areas such as ASBS, waste discharges are prohibited, or may be limited by special conditions imposed by the SWRCB since waste discharges are seen as a threat to the integrity of the ASBS. Any special conditions must be in accordance with the Porter-Cologne Water Quality Control Act, Water Code Section 13000 et seq., and any implementing regulations such as those included in the Ocean Plan or the California Thermal Plan.

The SWRCB received 27 applications from nonpoint source dischargers and point source water dischargers for an exception to the Ocean Plan prohibition of waste discharges into the ASBS. The Cities of Pacific Grove and Monterey were included in these applications. Ocean Plan provisions allow for the SWRCB to grant exceptions to the waste or thermal prohibition where the public interest will be served by the circumstances presented and conditions applied such that a discharge shall not compromise the protection of the ASBS environment and associated beneficial uses.

Over the course of several years, the SWRCB presented and potential dischargers reviewed and commented on draft conditions and provisions for the ASBS General Exception. Then on March 20, 2012, the SWRCB adopted Resolution No. 2012-0012 a General Exception to the Ocean Plan ASBS waste discharge prohibition, for storm water and nonpoint source discharges to the ASBS, which included Special Protections for Beneficial Uses. This action also solidified coverage under the General Exception for those parties applying for exceptions to the Ocean Plan prohibition, including the Cities of Pacific Grove and Monterey. In June 2012, the SWRCB further clarified through Resolution No. 2012-0031 that compliance with natural ocean water

quality conditions must be gained within six (6) years of the effective date of the General Exception.

The General Exception Special Protections were folded into the Phase II General Permit, approved by the SWRCB through Order No. 2013-0001-DWQ in February 2013, and effective as of July 1, 2013. The Cities of Pacific Grove and Monterey are listed as ASBS Discharges in Phase II General Permit Attachment D, and are subsequently subject to associated ASBS regulations in Phase II General Permit Section E.13.a., Attachment C Special Protections, and others as enunciated throughout the permit.

The Central Coast Regional Water Quality Control Board (RWQCB) manages permits in the Monterey Region and along the Central Coast of California for the SWRCB. Close coordination with both the SWRCB and Regional Board staff is anticipated as both Cities continue ASBS compliance activities, such as monitoring, BMP implementation, and reporting tasks, now and in the years to come.



2.2 Special Protections

2.2.1 Permitted Point Source Storm Water Discharges

A variety of point source storm water discharges are permitted in the Phase II General Permit, and are listed in Phase II General Permit Attachment C for the ASBS areas. Types of permitted point source discharges allowed include discharges essential for flood control, to prevent soil erosion, and are composed of only storm water runoff. Point sources are any discernible,

confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft, from which pollutants are or may be discharged.

Discharges into the ASBS are allowed only under one of three conditions: (1) when authorized by order; (2) comply with all applicable terms, prohibitions, and special conditions in the Special Protections of Attachment C; and (3) discharges that are (i) essential for flood control or slope stability, including roof, landscape, road and parking lot drainage; (ii) designed to prevent soil erosion; (iii) occur only during wet weather; and (iv) composed of only storm water runoff. (*See* Attachment C, I.A.1.a)

2.2.2 Permitted Point Sources Non-Storm Water Discharges

Certain types of point source non-storm water discharges are also allowed and listed in Attachment C of the Phase II General Permit. Types of permissible non-storm water discharges include discharges associated with emergency firefighting, foundation and footing drains, water from crawl spaces or basement pumps and naturally occurring groundwater seepage via a storm drain. (*See* Attachment C, I.A.1.e)

2.3 Water Quality Objectives

Water quality objectives are integral to maintaining the integrity of the ASBS by limiting stormwater flow into the ocean. The permit states that natural water quality should sustain marine ecosystems without apparent human influence. A main objective to maintaining natural water quality relates to discharges into the ocean. All stormwater flow should be captured prior to entering the ocean and the local and regional water boards are charged with monitoring the stormwater runoff.

Chapter II of the Ocean Plan sets forth narrative and numeric limits or levels of water quality characteristics for ocean waters to protect beneficial uses, and includes bacterial (for water contact recreation and shellfish harvesting), physical, chemical, and biological standards. Provision II.A.3 of the Ocean Plan states that “compliance with the water quality objectives of this chapter shall be determined from samples collected at stations representative of the area within the waste field where initial dilution is completed.”

2.3.1. Natural Water Quality Definition

In response to regulatory concerns about ASBS, the SWRCB empanelled eight experts from different scientific disciplines to develop a functional definition of "natural water quality." Recognizing that natural ocean water would be expected to vary noticeably from place to place and from time to time, and that there are naturally occurring large-scale ocean cycles that dramatically influence water quality characteristics, and that truly natural water quality probably does not now exist in California's coastal ocean, criteria were developed that could be used to define operational natural water quality.

In September 2010, the *Summation of Findings Natural Water Quality Committee 2006-2009*, Southern California Coastal Water Research Project (SCCWRP), determined that the “natural ocean water quality” definition must satisfy the following conditions:

“That water quality (based on selected physical chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, i.e., an absence of significant amounts of:

- man-made constituents (e.g., DDT),
- other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial) and biological (e.g., bacteria) constituents at levels that have been elevated due to man’s activities above those resulting from the naturally occurring processes that affect the area in question, and
- non-indigenous biota (e.g., invasive algal bloom species) that have been introduced either deliberately or “accidentally by man.”

SCCWRP (2010) further concluded that “...it is not practical to identify a unique seawater composition as exhibiting natural water quality”, yet the scientists believed that “...it is practical to define an operational natural water quality for an ASBS, and that such a definition must satisfy the following criteria:

- it should be possible to define a reference area or areas for each ASBS that currently approximate natural water quality and that are expected to exhibit the likely natural variability that would be found in that ASBS,
- any detectable human influence on the water quality must not hinder the ability of marine life to respond to natural cycles and processes.

Such criteria will ensure that the beneficial uses identified by the Ocean Plan are protected for future generations.”

In accordance with these findings, the RMP is developing an operational natural water quality for the Central Coast through the use of “reference sites” water quality data. The “reference” data and subsequent constituent concentration ranges will be developed to form the “natural water quality envelope through which the relative health of the Pacific Grove ASBS will be analyzed once enough water quality monitoring results have been produced and analyzed at all necessary RMP sites, as further discussed in Section 8 below.

3.0 PACIFIC GROVE ASBS DESCRIPTION

Pacific Grove is located approximately 100 miles south of San Francisco, on the northwestern tip of the Monterey Peninsula, between the cities of Pebble Beach and Monterey (Figure 1). It is an urbanized community covering only 2.87 square miles, but supporting a population of over 15,000 people, a density comparable to San Jose, CA (US Census Bureau 2010). The City of Pacific Grove shares a border with the City of Monterey, Pebble Beach, and the Pacific Ocean Coastline.

Figure 1: City of Pacific Grove Vicinity Map

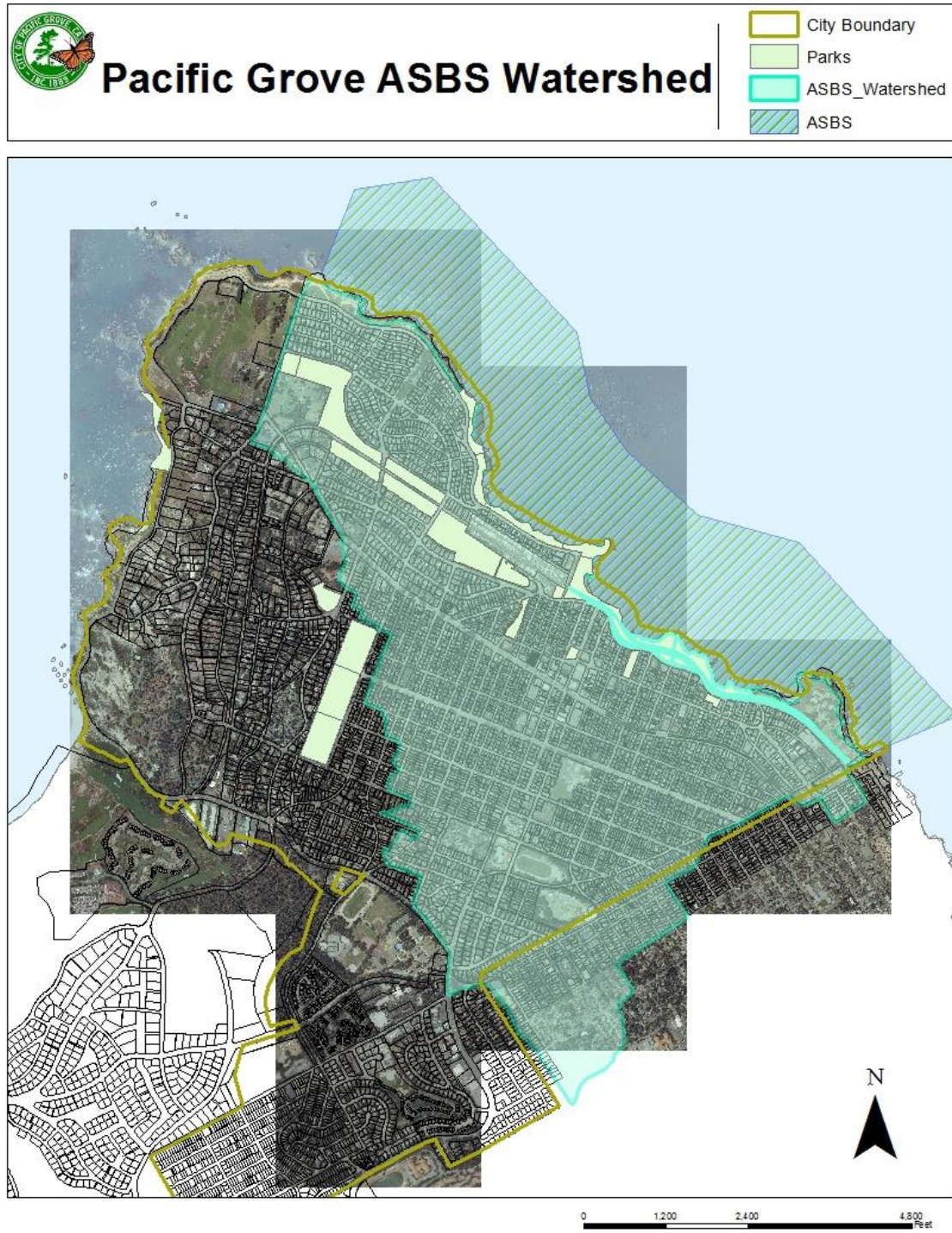


The Pacific Grove ASBS, one of 34 designated ASBS areas in near shore waters along the California coast, extends for 3.2 miles along the Pacific Grove shoreline west from the Monterey Bay Aquarium to Asilomar Boulevard just before Point Pinos, with close to 500 ocean acres within the Monterey Bay National Marine Sanctuary (MBNMS). The Pacific Grove ASBS receives runoff from approximately 1,106 acres in Pacific Grove and 103 acres in Monterey including a small portion from the federal U. S. Army Presidio of Monterey. However, these drainage area estimates are approximate and further work is necessary to better define the drainage boundaries.

The Cities of Pacific Grove and Monterey are covered by the Phase II General Permit throughout the entire ASBS watershed area (MS4 permit boundary). Figure 2 maps the ASBS watershed which is the area addressed in this draft ASBS Compliance Plan. This area is hereinafter referred to as the Compliance Plan Area, or CPA, and represents roughly 1,213 acres. No impaired waterbodies exist nor are listed in the Pacific Grove ASBS watershed or associated ocean area.

The ASBS watershed area includes the City of Pacific Grove's historic downtown, many beaches and City parks/facilities, and residential and commercial areas. A small portion of the City of Monterey and U.S. Army Presidio of Monterey drains into Pacific Grove's storm drain system and subsequently into the ASBS area. This land area is predominantly in residential use.

Figure 2: Pacific Grove Area



of

Biological Significance Watershed

The Pacific Grove ASBS features a rich variety of marine life from the sea floor to the surface. Stoney sea corals, giant green anemones and orange puffball sponges can be found on the sea floor, as fish such as black perch and striped sea perch swim above. The killer whale has also been spot occasionally within the area.

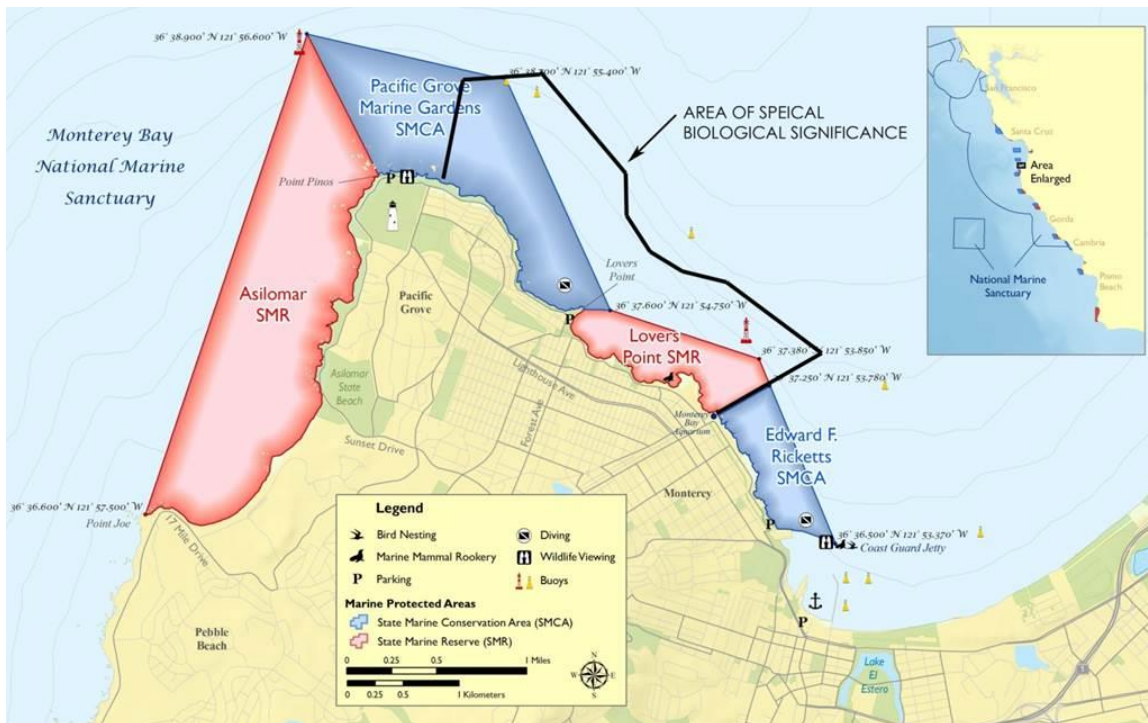
Pacific Grove State Marine Conservation Area

This ASBS also overlaps with Pacific Grove Marine Gardens State Marine Conservation Area and the Lover’s Point State Marine Reserve (see Figure 3: Pacific Grove ASBS and Pacific Grove Marine Gardens SMCA). These marine managed areas (MMAs) were established by the Fish and Game Commission to protect and preserve aquatic life. Visit <http://www.dfg.ca.gov/marine/mpa/> for more information.

The Pacific Grove Marine Gardens (including an ASBS) was established in 1984 has an area of about 1.2 square nautical miles (1.32 sq. mi.) and a shoreline length of about 2.5 nm (2.88 mi.) with depths ranging from 0 to 60 feet. The area of the reserve is mostly granite reef with smaller portions of sand, especially on outside edge. Rock reefs in deeper water have been surveyed by submersibles. Surrounding habitat types are similar except there is a higher proportion of sand bottom offshore.

Only fiis and invertebrates other than mollusks or crustaceans may be taken recreationally. Commercial fishing is restricted for fishing using ring net, lampara net, or bait nets for sardines, mackerel, anchovies, squid, and herring.

Figure 3: Pacific Grove ASBS and Pacific Grove Marines Garden SMCA



Existing enforcement is relatively good since the area is easily-observed from shore by law enforcement personnel as well as private citizens, is well-known, and benefits from an increased community awareness of the need to protect marine resources. During daylight hours thousands of people pass by or visit the area on a daily basis.

Many researchers and several academic institutions have conducted life-history studies, recruitment studies, and tagging studies in this region. Tenera Environmental, Inc. completed a study in 2003 which investigated the effects of visitor use on the intertidal area and established baseline levels of the more common intertidal species (Tenera, 2003). Submersible studies of deeper-water fishes have also been carried out offshore of this site.

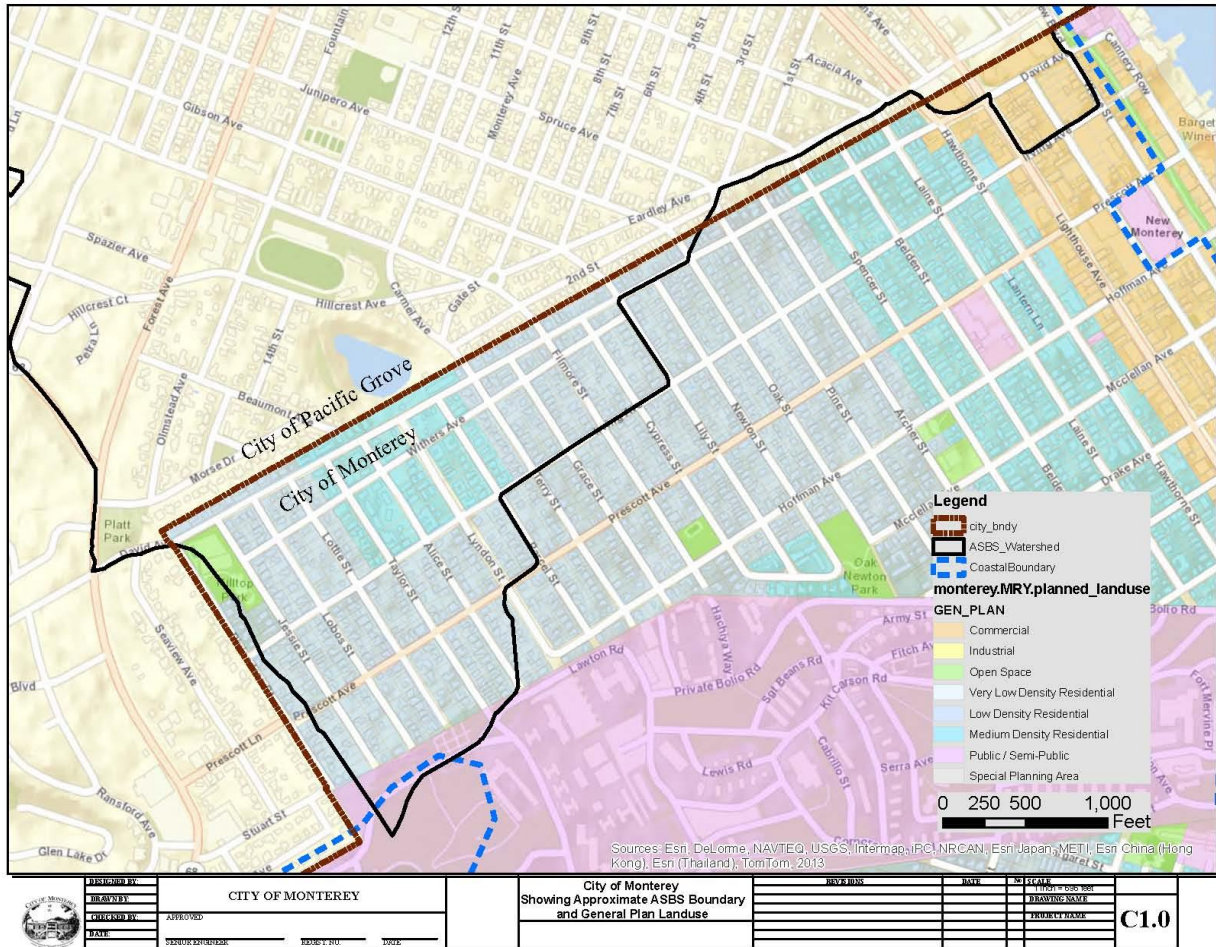
The area presently offers some resource protection since regulations prohibit commercial fin fishing (except for pelagic species) and allow the harvest of only certain invertebrates. Among the invertebrate species permitted for take, the presence of the sea otters precludes most harvest by man for some of these (e.g. urchin). However, the area does function well as a Marine Protected Area by providing recreational opportunities, allowing a low but sustainable level of kelp and recreational finfish harvest, and providing a safe and local site for scientific collecting for research and public education. This area contains extensive intertidal and subtidal reef habitat and provides easy access to intertidal areas from shore. It also provides a source of kelp for local aquaculture businesses. Part of this site is overlapped by a State Water Quality Protection Area designation (the Pacific Grove ASBS).



3.2 Land Use and Drainage

The predominant land use in Pacific Grove ASBS watershed is residential, mostly single-family. Commercial uses are largely related to goods and services, with very little land available for industrial services. In the City of Pacific Grove, a generous amount of land is devoted to parks

Figure 4.1: City of Monterey Land Use within approximate ASBS drainage areas



Precipitation and Temperature:

The climate of the Monterey Peninsula, including Pacific Grove and Monterey, is regulated by its proximity to the Pacific Ocean, culminating in a warm-summer Mediterranean climate (Köppen climate classification: Csb). As a result, Pacific Grove's average high temperature ranges from around 61°F in winter to 72°F during the summer months. Pacific Grove's weather is usually characterized by fog layers, resulting in cooler temperatures. Average annual precipitation is approximately 19.73 inches (501.1 mm), with most rainfall occurring during the season between November and April, while little or no precipitation falls during the summer months. There is an average of 70 days with measurable precipitation annually. See Figure 5: Climate Data for Monterey/Pacific Grove. .

Figure 5: Climate Data

| Climate data for Monterey/Pacific Grove | | | | | | | | | | | | | |
|---|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
| Record high °F (°C) | 90 (32) | 86 (30) | 85 (29) | 93 (34) | 95 (35) | 101 (38) | 98 (37) | 96 (36) | 101 (38) | 104 (40) | 95 (35) | 89 (32) | 104 (40) |
| Average high °F (°C) | 59.9 (15.5) | 61.3 (16.3) | 61.9 (16.6) | 63.1 (17.3) | 64.3 (17.9) | 66.5 (19.2) | 67.5 (19.7) | 68.8 (20.4) | 71.5 (21.9) | 70.1 (21.2) | 65 (18) | 60.2 (15.7) | 65 (18) |
| Average low °F (°C) | 43.4 (6.3) | 44.4 (6.9) | 45 (7) | 45.8 (7.7) | 47.9 (8.8) | 50.2 (10.1) | 51.9 (11.1) | 52.8 (11.6) | 52.8 (11.6) | 50.7 (10.4) | 46.9 (8.3) | 43.6 (6.4) | 48 (9) |
| Record low °F (°C) | 22 (-6) | 26 (-3) | 32 (0) | 35 (2) | 35 (2) | 41 (5) | 43 (6) | 45 (7) | 41 (5) | 35 (2) | 30 (-1) | 20 (-7) | 20 (-7) |
| Precipitation inches (mm) | 4.46 (113.3) | 3.32 (84.3) | 3.20 (81.3) | 1.45 (36.8) | 0.5 (13) | 0.18 (4.6) | 0.06 (1.5) | 0.08 (2) | 0.24 (6.1) | 0.85 (21.6) | 2.07 (52.6) | 3.32 (84.3) | 19.73 (501.1) |
| Avg. precipitation days (≥ 0.01 in) | 11 | 10 | 10 | 6 | 4 | 3 | 2 | 2 | 2 | 4 | 7 | 10 | 70 |
| Source #1: WRCC (temperature 1981–2010, precipitation and extremes 1906–present) http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5795 | | | | | | | | | | | | | |
| Source #2: Weather Channel http://www.weather.com/outlook/health/achesandpains/climatology/monthly/USCA0724?from=36hr_newslinker2 | | | | | | | | | | | | | |

Figure 8. Climate data for Monterey/Pacific Grove

Infrastructure

Both cities’ storm drainage piping and open channel storm water conveyances are located within the paved public right-of-way, or in public utility corridors located in or adjacent to private property parcels, as shown on the Figure 9 below. Throughout the City of Pacific Grove these pipelines are parallel to or cross sanitary sewer pipelines which are owned and operated by the City of Pacific Grove. The City of Monterey also owns and operates its storm drainage infrastructure. Neither system is located in the vicinity of the regional wastewater treatment facility, which is owned and operated by the Monterey Regional Water Pollution Control Agency and located in Marina.

The City of Pacific Grove has two major drainage basins, each of which drains approximately half the city. The northeasterly basin drains northerly into Monterey Bay and into the ASBS. A portion of this northerly basin contains drainage areas that originate in the City of Monterey and U.S. Army Presidio of Monterey. The southwesterly basin drains westerly into the Pacific Ocean. The drainage flows on the surface on private properties and public streets, and in underground culverts. Although no rivers or major streams flow through the city, there are underground springs and sub-surface drainage flows.

The storm drain systems in the City of Pacific Grove and Monterey were developed over a long period of time and were expanded over time without established criteria for construction materials, slopes, sizing, or the benefit of a storm drainage Master Plan. Many developed areas of the City of Pacific Grove still lack any storm drain system, including areas previously within unincorporated areas of Monterey County (parts of Pebble Beach).

It should be noted that there are still drainage issues in many places in the watershed, requiring the use of sump pumps regularly by home and business owners. There are no areas of sheet

runoff within this ASBS area. All runoff from Pacific Grove ASBS watersheds flows through the City of Pacific Grove's storm drainage system for discharge to the ASBS.

Figure 9 shows storm water conveyance features for both cities within the drainage areas to the various ASBS drainage outfalls.

3.3 Landslides and Erosion

Erosion is the physical detachment of soil due to wind or water. These physical detachments produce soil fractions that may become pollutant transported runoff; however, Pacific Grove and the New Monterey area are largely built out and not prone to landslides or significant erosion. Many organizations, including the Cities of Pacific Grove and Monterey, implement erosion control measures when necessary, to control this runoff. These measures may include vegetation (undisturbed or planted) or other materials such as: straw (bare soil or crimped), protective erosion control blankets, fiber (mulch or hydro mulch); and mulch.

3.4 Drainages to the Pacific Grove ASBS

Stormwater inlets and catch basins capture runoff in Monterey and Pacific Grove that flows to the nearshore Pacific Grove ASBS. Runoff is influenced by both cities' steeply sloped topography, soils, storm drain infrastructure, and urban development, such as buildings and other impervious surfaces. The drainage area ranges from sea level to 562 feet above mean sea level, consists primarily of sandy loam soils, and overlays sandstone and graniorite bedrock layers. The eastern half of the City of Pacific Grove and Upper New Monterey, which comprises the primary ASBS drainage area, is heavily paved, with a network of streets extending from upper elevations, downslope to the ocean. Over 44% of areas draining into the ASBS are impervious surfaces that are conveyed by the City's stormwater infrastructure. Paved surfaces, curbside drains, inlets, gutters, catch basins, and subsurface stormwater pipe networks collect stormwater and direct it downslope towards the Pacific Ocean. There are 24 outfalls that drain into the ASBS area. These outfalls are shown in Appendix A.

There are no areas of sheet runoff within the ASBS area. All runoff flows into the City of Pacific Grove's storm drainage system.

Figure 6: Slope

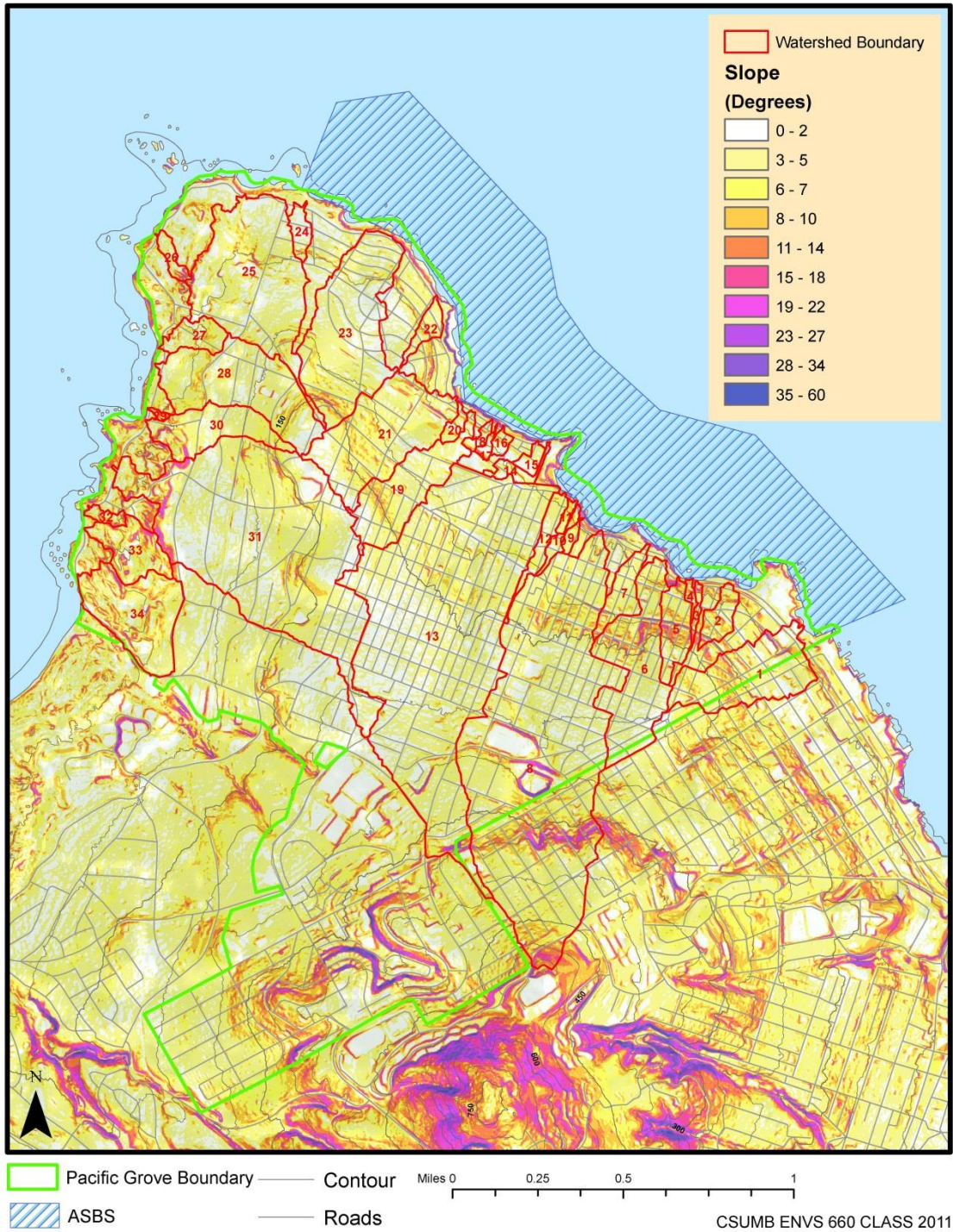


Figure 7: ASBS Vicinity Map

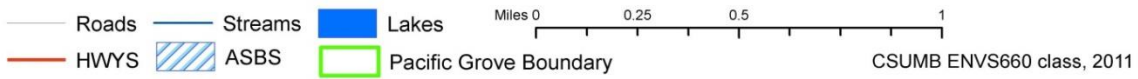
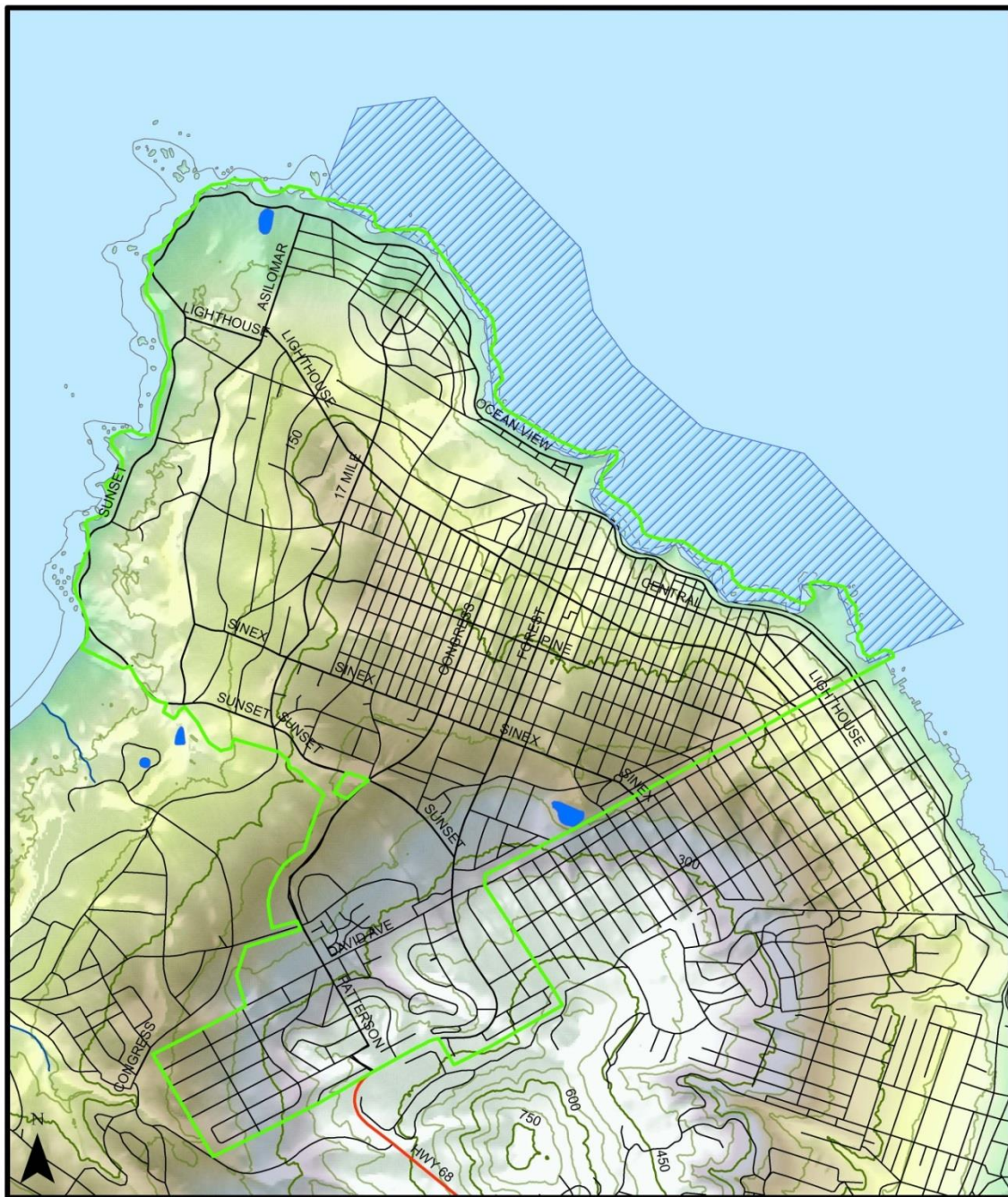


Figure 8: Soil Types

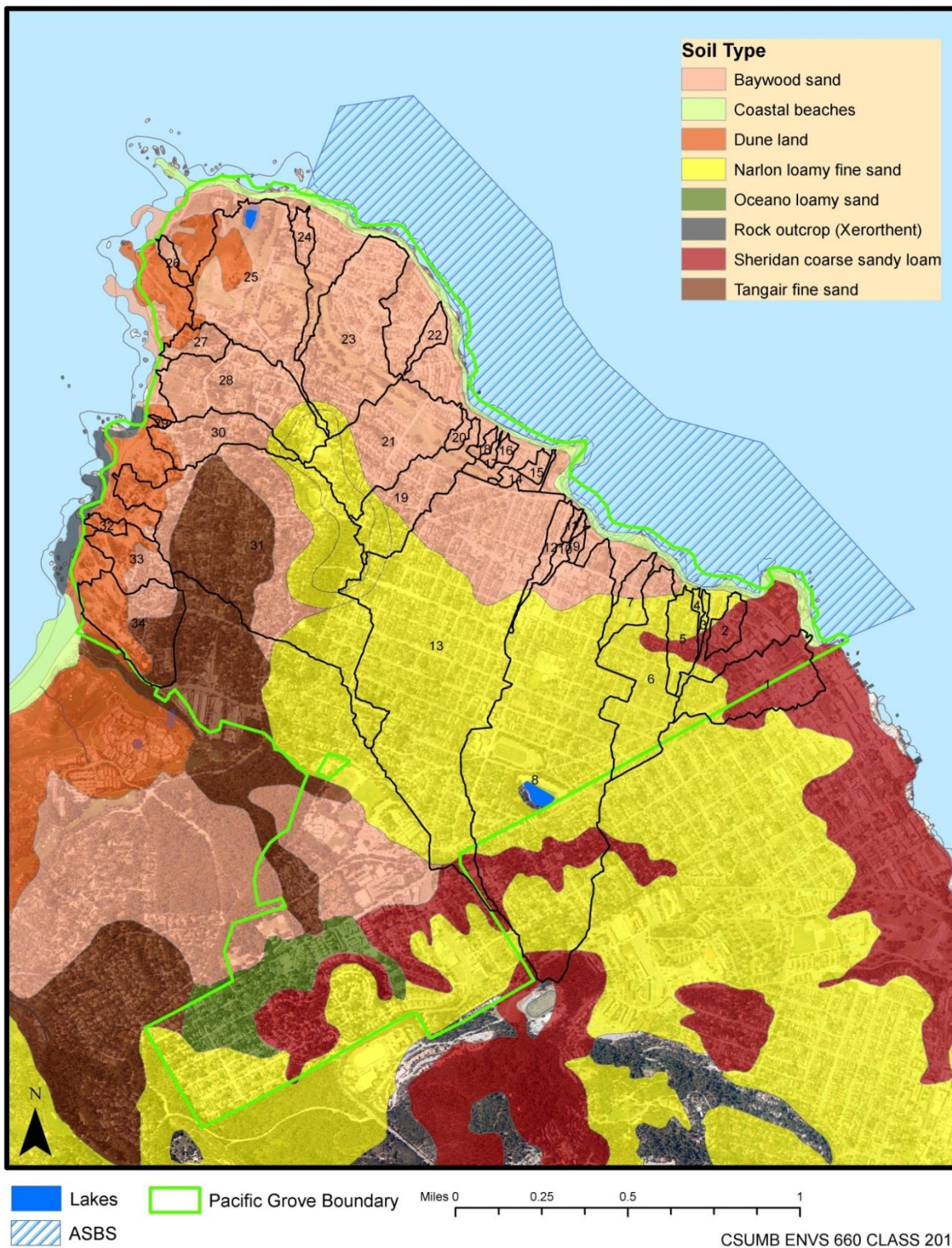


Figure 9: ASBS Storm Drain Infrastructure

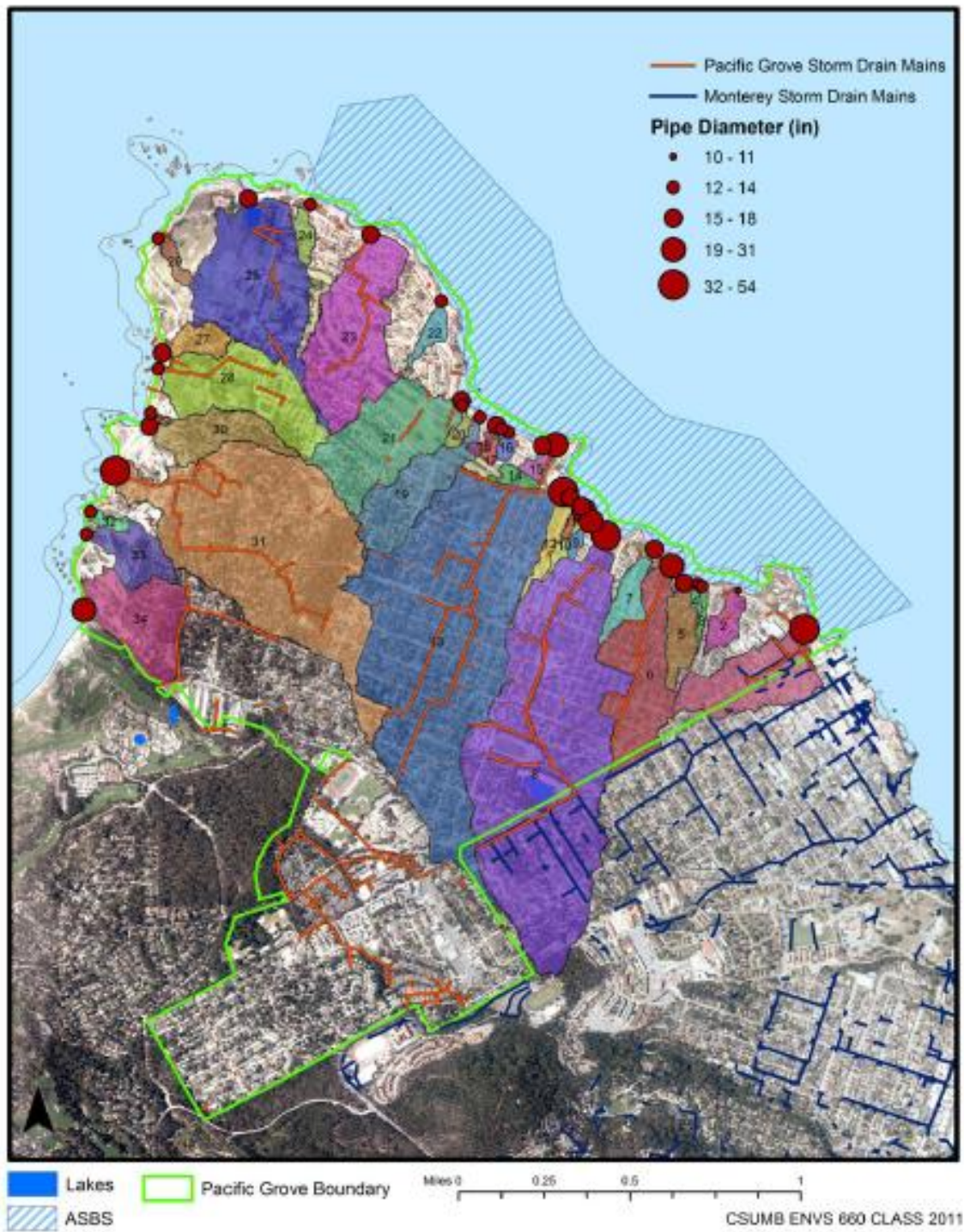
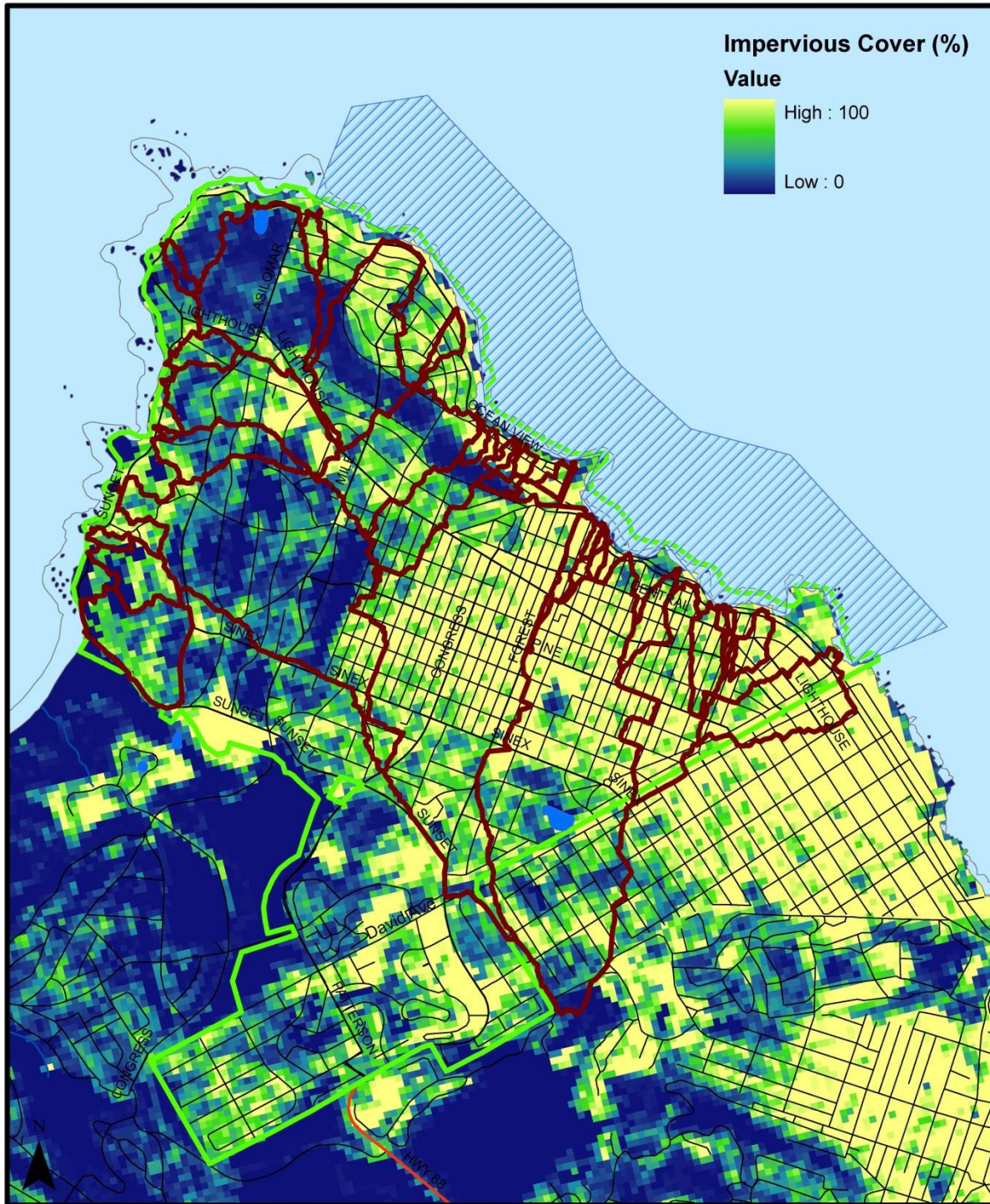
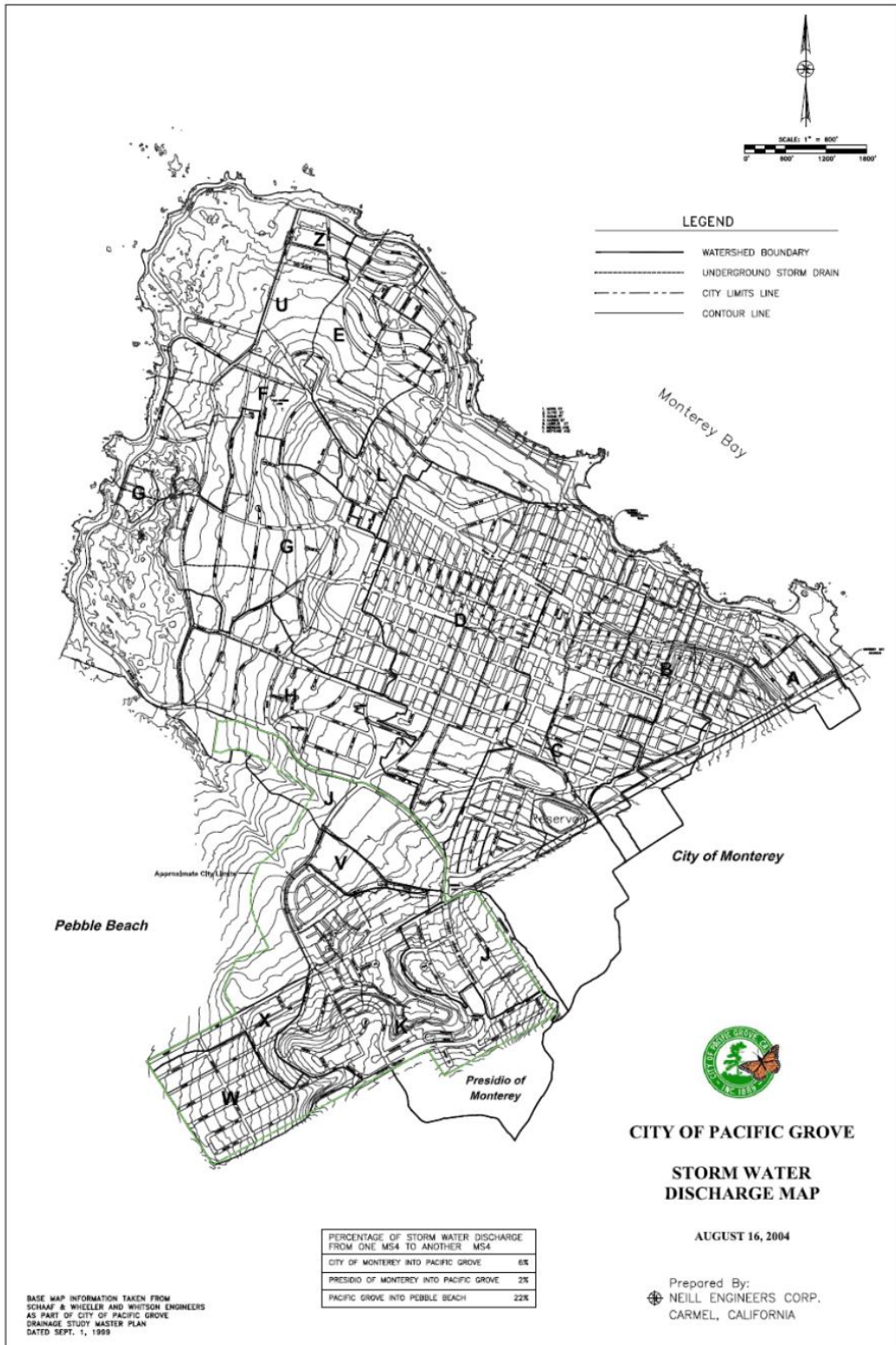


Figure 10: Impervious Surface Cover



CSUMB ENVS 660 CLASS 2011

Figure 11



3.5 Existing and Potential Water Quality Impacts

Pollutants potentially generated in the ASBS area and conveyed by stormwater runoff include trash, pesticides, polynuclear aromatic hydrocarbons (PAHs), petroleum hydrocarbons (e.g. gasoline, diesel fuel, oil and grease), metals, nutrients, sediment, seagull waste, and pathogens. Other pollutants potentially discharged to the ASBS include sediment from soil erosion. However, both Cities implement the various regulatory tasks required by the Phase II General Permit, and thus are attempting to mitigate existing and future potential water quality impacts throughout their jurisdictions, including those land areas that flow to the Pacific Grove ASBS. Pollution prevention and water quality protection are a priority task undertaken regionally and by each agency in all efforts to effectively implement the Phase II General Permit provisions.

3.5.1 Map Updating

Both cities storm drainage maps are updated as necessary to reflect any changes or additions that have been made to it. Updates to the map are included in required NPDES Annual Reports.

Over the next 18 months, the City of Monterey anticipates performing further, minor refinement of the ASBS watershed delineations within New Monterey. ASBS watershed mapping efforts to date are approximate and have been completed using the latest GIS data available. Structural assessments are currently underway in the field to examine City of Monterey storm drainage condition and rehabilitation needs, including in the New Monterey vicinity. With this information, the City hopes to further refine the existing approximate drainage areas for greater drainage accuracy based on this location-specific topographic and infrastructural information.

4.0 EXISTING REGULATORY PROGRAMS ADDRESSING WATER QUALITY IN THE ASBS

4.1 Phase II General Permit

Both cities are subject to the Phase II General Permit. Permit coverage under this Order provides compliance through the SWRCB with the Clean Water Act. This Order was approved by the SWRCB on February 5, 2013, with a permittee implementation start date of July 1, 2013. Generally, the Phase II Permit includes the following program elements: education and outreach, public involvement and participation, illicit discharge detection and elimination, construction, pollution prevention and good housekeeping, post-construction stormwater management, water quality monitoring, and program effectiveness. The permit also includes Attachment C – Special Conditions (Specific Provisions) for ASBS Dischargers, and Attachment D –List of ASBS Dischargers. The entire permit can be found on the SWRCB website at http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

4.2 Local Coastal Program

The ASBS drainage area includes the City of Pacific Grove's Coastal Zone, as defined and delineated by the Coastal Commission, and includes 3.2 miles of coastline in the Coastal Zone. The City's current Local Coastal Land Use Plan, developed in 1994, includes policies that govern development in the Coastal zone. The entire document can be found on the City's website at <http://ci.pg.ca.us/index.aspx?page=104>

In April 2014, Pacific Grove was awarded a grant from the Coastal Commission to update the Local Coastal Program Land Use Plan, and also devise an Implementation Plan, with the intent of achieving a certified Local Coastal Program. A stormwater component will also form part of the final Program and will be informed primarily by the Phase II General Permit. The City anticipates completion of the update by June 2016.

As seen in Figure 4.1, a portion of the uppermost Pacific Grove ASBS watershed area within the City of Monterey is located on the federal U.S. Army Presidion of Monterey and also in an upland Coastal Zone. The City of Monterey currently does not have a certified local coastal program and implementation plan for its coastal zone area, and thus, all applicable development within the Coastal Zone must be reviewed by the Coastal Commission. The City is anticipating an update to its Coastal Program by consolidating the five (5) coastal zone planning subareas into one Local Coastal Program and developing the associated Implementation Plan with community input. The tentative plan is to gain final Coastal Commission approval of the Local Coastal Program and Implementation Plan in the coming years, pending funding and resource availability to do so. As a part of that process, storm water regulatory compliance needs, such as ASBS, shall be a part of the considerations.

5.0 WET WEATHER DISCHARGE BEST MANAGEMENT PRACTICES

This element must address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff that are necessary to comply with the Special Protections will be achieved through BMPs.

BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:

- (1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
- (2) A 90% reduction in pollutant loading during storm events, for the Permittee's total discharges. The baseline for the reduction is the effective date of the Exception. The baseline for these determinations is the effective date of the Exception, and the reductions must be achieved and documented within six (6) years of the effective date.

Pollutant reductions will only be necessary if the monitoring required under Phase II General Permit Attachment C Section IV *Monitoring Requirements* of the Special Protections shows that the City's storm water discharges are altering natural ocean water quality in the Pacific Grove ASBS. Specifically, as set forth in Phase II General Permit Attachment C Section I.A.3.e, if the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the City must re-sample the receiving water, pre- and post-storm. If, after re-sampling, the post-storm levels are still higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is being exceeded. If this occurs, the City must comply with Phase II General Permit Attachment C Section I.A.2.h. Determining compliance with this natural water quality requirement is illustrated in flowchart found in Phase II General Permit Attachment C, found here:

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

Both cities have already implemented a number of non-structural BMPs, described below, including public education, source control, and good municipal housekeeping practices as part of its Storm Water Management Program. The City of Pacific Grove is in the process of implementing a residential retrofit program to support good residential housekeeping as part of a Proposition 84 ASBS grant. The City has also installed structural BMPs consisting of dry-weather urban runoff diversions to the sanitary sewer collection system downstream of its largest ASBS watersheds and prior to discharge through outfalls to the ocean.

If it is found that the City's discharges are causing an exceedance of natural water quality, then the City will address this by preparing and submitting a report as required by Section I.A.2.h of the Special Protections.

5.1 Erosion Control

The erosion control element shall address erosion control and the prevention of anthropogenic sedimentation moving into the ASBS nearshore waters, such that natural habitat conditions in the

ASBS are not altered by anthropogenic sedimentation caused by discharges from the City's storm drainage system.

Both Pacific Grove and Monterey are largely built-out, and development and improvements on both public and private property use soil erosion BMPs that include vegetation, and structures such as retaining walls, as well as other BMP measures to prevent erosion and sedimentation. Consequently, there are limited areas within both Cities that flow into the Pacific Grove storm drainage system that are prone to erosion.

The dry-weather urban runoff diversion projects installed in the City of Pacific Grove's largest watersheds were installed for the purpose of removing dry-season sediment from these discharges. Additionally, any development applications in the ASBS must incorporate erosion and sediment controls to keep excess sedimentation on site. Discharges from the City's other outfalls to the ASBS are much smaller in volume and do not contain high amounts of sediment. The City is awaiting the results of the Biological and Bioaccumulation Monitoring components of the Central Coast ASBS Regional Monitoring to determine whether sediment from the discharges is altering natural habitat conditions or not.

If it is found that sediments contained in the City's discharges are altering natural habitat conditions, then the City will prepare and submit a report evaluating and describing BMPs the City will implement to remedy this situation.

5.2 Non-Structural BMPs

5.2.1 Inspections

Both Cities' inspection schedules under the MRSWMP comply with the minimum inspection frequencies. The results of these inspections will be included in the Annual Reports that are required under the Phase II General Permit.

This element must ensure that business and construction site inspections are performed at the following minimum inspection frequencies:

- The minimum inspection frequency for construction sites shall be weekly during rainy season;
- The minimum inspection frequency for industrial facilities shall be monthly during the rainy season;
- The minimum inspection frequency for commercial facilities (e.g., restaurants) shall be twice during the rainy season; and
- Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season and maintained to remove trash and other anthropogenic debris.

5.2.2 New Development and Redevelopment

There is a moratorium on new water meters within the California-American Water service area, which includes the City of Pacific Grove and City of Monterey. New connections are currently prohibited. Additionally, no new water credits are currently being distributed by the Monterey Peninsula Water Management District. This fact means there is very little development pressure within the Pacific Grove ASBS, and this will likely remain true for the foreseeable future.

In addition, the Phase II General Permit, the LCP, and City ordinances address storm water runoff for new and redevelopment projects. Storm water pollution prevention BMPs pertaining to New Development and Redevelopment Projects are carried out under Section E.12 of the Phase II General Permit and Central Coast Regional Water Quality Control Board Resolution No. R3-2013-0032 Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region (PCRs). Projects that create or replace between 2,500 and 5,000 square feet of impervious surface, including single-family detached homes, must implement one or more of the site design measures described in Provision E.12.b. These include stream setbacks and buffers, impervious area disconnection, porous pavement, green roofs, and rain barrels.

Larger new development and redevelopment projects meeting criteria of Provision E.12.c of the Phase II General Permit must also implement stormwater treatment measures standards described in Provisions E.12.d (source control measures), E.12.e (LID design standards), and E.12.f (hydromodification management). The projects subject to these requirements are projects that create and/or replace 5,000 square feet or more of impervious surface and do not include detached single family homes that are not part of a larger plan of development. Due to the water service moratorium, it is unlikely that any projects regulated under E.12.c will occur in the Pacific Grove ASBS watersheds in the foreseeable future. However, if they do, such projects shall comply with Provision E.12 and PCRs, as applicable.

5.2.3 Public Outreach

Both cities are Participating Entities in the MRSWMP. Public Education and Public Outreach Programs are carried out as a part of the Phase II General Permit, which are now tasks within Phase II General Permit Provisions E.7 and E.8.

The existing Public Education BMPs which the cities conduct increase public awareness of what constitutes poor and good stewardship of storm water as a resource. The regional MRSWMP Public Education efforts focus on topics such as reducing pollution from lawn and gardening activities, improper disposal of household hazardous wastes, illegal disposal activities, pet wastes, improper handling and disposal of trash, restaurant activities, and automotive activities. Also, the City of Pacific Grove has conducted residential surveys and a residential retrofit program for stormwater catchments for private property owners through funding provided for by a Proposition 84 ASBS grant.

The existing Public Outreach BMPs which both jurisdictions implement as a part of the MRSWMP provide opportunities for public hands-on involvement in a variety of activities to increase public awareness of what constitutes poor stewardship of storm water as a resource, and to increase public actions such as reporting of problems to authorities.

Details of the Public Education and Public Outreach activities carried out each year are included in the MRSWMP Annual Reports, which can be viewed and downloaded at www.montereysea.org, under the Program Documents tab.

5.2.4 Trash Elimination

In addition to the Special Protections inspection program and consistent with the Phase II General Permit(Provision E.11.f), all storm drain system facilities in the ASBS will be assessed and prioritized based on accumulation of sediment, trash, and/or debris. High priority storm drains are inspected and cleaned according to schedules developed during the prioritization process.

The small city sizes and tourism-based economies results in relatively minor trash loads that reach the storm drain system and Monterey Bay. Regardless, both cities provide a high number of trash receptacles throughout their cities, and the main tourism-oriented coastal areas along the ASBS. Service frequencies in the ASBS area range from daily at Lovers Point Park and the Central Business District to three times per week at the pull outs and parking lots along Ocean View Blvd. Both cities have a strong desire and will to keep their respective land areas free from trash to present a clean environment and an enhanced visitor experience, and protect the ASBS nearshore waters.

Additionally, the City of Pacific Grove recently designed and installed seagull proof trash receptacle covers to prevent the birds from accessing and strewing trash from the receptacles. The Public Works Department is currently in the process of making and installing these covers throughout town, especially in areas where seagulls are known to strew trash from the receptacles.

The City of Pacific Grove also has four Continuous Deflection Separation (CDS) units installed at high priority trash areas at the following locations: 1) Lover’s Point Parking Lot; 2) 17th and Ocean View Blvd; 3) and two at Eardley and Ocean View Blvd. A fifth CDS unit is slated to be installed at Greenwood Park. These units are maintained a minimum of twice per year, and more frequently if necessary.

In both Cities, vactor trucks vacuum every storm drain basin at least twice per year, and more frequently if needed and both cities have plastic bag bans in place.

The SWRCB is in the process of developing a statewide policy amendment for trash control in California. It is anticipated that this trash policy amendment will establish methods to control trash pollution; such a policy amendment would also require a “reopener” of the Phase II General Permit through SWRCB hearing to incorporate any related new regulatory requirements. At that time, both cities will evaluate the new regulations to be responsive to new trash control requirements.

5.2.5 Illicit Discharges

Consistent with the Phase II General Permit, both Monterey and Pacific Grove prohibit illegal dumping and most non-stormwater discharges. Non-stormwater sources that are exempted by the permit are similar to those allowed under the Special Protections. However, the Phase II General Permit also does not prohibit water line flushing, residential car washing, discharges from potable water sources, air conditioning condensation, dechlorinated swimming pool discharges, and incidental runoff from landscaped areas. The control measures required under the Phase II General Permit for these discharges would maintain natural ocean water quality in

the ASBS. The permit required that these discharges are identified and that appropriate control measures to minimize the impact of such discharges are developed and implemented.

Through the Illicit Discharge Detection and Elimination (IDDE) Program, both Cities' stormwater and Code Enforcement staff continue to respond to illicit discharge complaints and track complaints and follow up actions through an existing database.

Additionally, the citizen Urban Watch monitoring program, which is run and organized by the National Marine Sanctuary samples multiple times per year and analyzes the data to determine if there are any IDDE discharges to the Pacific Grove ASBS.

<http://montereybay.noaa.gov/getinvolved/volunteer/urbanwatch.html>

5.2.6 Herbicides and Pesticides

Both Cities participate in the Our Water Our World (OWOW) program, which assists individual consumers in choosing least toxic and non-toxic pest management approaches to gardening, landscaping and pest control. Both Cities' Department of Public Works are responsible for performing pest control and does so in compliance with BMPs, and State law and label requirements.

5.2.7 Hazardous Materials

The only hazardous material storage areas are those at the City of Pacific Grove's Public Works Corporation Yard, located on Sunset Avenue between Grove Acre and Crocker Avenues, which is outside the ASBS area. This facility is inspected annually by the County of Monterey Department of Public Health, Division of Environmental Health to ensure that all hazardous materials are properly stored and managed, and that no discharge of such materials to the City's storm drainage system is occurring. There are no waste storage areas within the City, other than small localized refuse collection areas at businesses located in the City's commercial area. No City hazardous material storage areas exist in the ASBS drainage areas of the City of Monterey.

5.2.8 Permit Tracking System

Construction and development permits issued by the City for projects that could impact the ASBS are tracked using two databases. The City of Pacific Grove uses the iWorq database to track planning permits. Currently, the City of Pacific Grove contracts with the City of Monterey to provide building services. The City of Monterey uses the Permits Plus database system to track building permits, grading and encroachment applications, approvals, and follow-up activities such as inspections for both the City of Monterey and Pacific Grove.

5.2.9 Street Sweeping and Road Maintenance

City streets are swept in compliance with the Phase II General Permit requirements. Both cities contract street sweeping services. The City of Pacific Grove 2014 street sweeping schedule is posted on the City of Pacific Grove's Public Works website at <http://ci.pg.ca.us/index.aspx?page=137>. The City of Monterey's interactive street sweeping map and schedule is available at <http://montereydisposal.com/streetsweeping.html>.

Road maintenance BMPs are conducted in conformance with the CASQA Municipal BMP Handbook (<https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook>) and in a manner consistent with the ASBS Special Protections. An assessment of road maintenance

activities in the watershed will occur through the Phase II General Permit provision E.11.h which requires assessment of Operations and Maintenance Activities.

5.2.10 Construction BMPs

All construction projects must comply with the City of Pacific Grove Stormwater Management and Discharge Control Ordinance (Title 9.30) and the City of Monterey Urban Storm Water Quality Management and Discharge Control (Chapter 31.5 Article 2). Currently, the City of Pacific Grove contracts with the City of Monterey to provide building services, including the issuance of building permits. Permitted construction projects are tracked in the City of Monterey's Permits Plus database. New construction and alteration building permits issued by the City must also comply with the site development mandatory measures of the California Green Building Code.

The above mentioned codes require implementation of appropriate BMPs to prevent the discharge of construction wastes (including sediment) or contaminants from construction materials, tools, and equipment from entering a City storm drain. Disturbed surfaces must be protected against erosion by measures which the agency determines to be appropriate to the site and time of year. Minimum erosion and sediment BMP control measures include construction scheduling, use of straw wattles or erosion control blankets, concrete washout measures, drain inlet protection, and prevention of equipment fluid leaks onto the ground.

Construction projects that disturb more than one acre of land must also comply with the NPDES Construction General Permit, which requires development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is reviewed by Building staff and must describe the temporary construction BMPs that will be used at the project.

Construction sites within the ASBS are considered priority, and as applicable, are inspected weekly according to Attachment C of the City's Phase II General Permit. All inspections are documented by the City. The City will report annual compliance to the State and Regional Water Board per provision E.10 and Attachment C of the Phase II General Permit.

Additionally, through participation in the MRSWMP, this regional group sponsors or hosts educational programs regarding prevention of storm water pollution from construction sites at construction contractor meetings, workshops, or seminars twice per year.. These programs cover the four guiding principles for controlling runoff from construction sites:

- Construction site planning
- Minimization of soil movement
- Capturing of sediment
- Good housekeeping practices

At these presentations, resources such as handouts are distributed providing participants with information on resources for construction site BMPs and where to access info such as construction site permitting procedures.

5.3 Structural Best Management Practices

Structural BMPs involve the installation of engineering solutions to physically treat or infiltrate runoff. The Special Protections require that BMPs control stormwater runoff discharges (at the end of the pipe) during a design storm shall be designed to achieve on average the following target levels:

- 1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
- 2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharge.

5.3.1 Existing Stormwater Conveyance and LID

As a result of urbanization in the ASBS watersheds, impervious surfaces such as pavement and rooftops, speed the transition between when rainfall falls on the surface to when it runs off into drainage ways and into the Monterey Bay. Low Impact Development (LID) is a stormwater management strategy concerned with maintaining or restoring natural hydrologic functions to protect water quality, manage stormwater runoff, achieve natural resource protection objectives and fulfill environmental regulatory requirements.

LID strategies and practices were considered throughout the project selection and design process and the proposed project would result in a multitude of benefits associated with typical LID applications, specifically a reduction in peak stormwater flows and a de-synchronization of rainfall and associated runoff that will more closely resemble pre-development conditions. Due to the magnitude of flows that need to be managed to protect the Pacific Grove ASBS, LID practices alone were not considered as a feasible management approach. Future project phases should continue to evaluate opportunities to retrofit existing sites to accommodate LID practices and integrate LID into the proposed project to further enhance compliance with the ASBS Special Protections. Nevertheless, both cities promote LID practices as one tool to protect the Pacific Grove ASBS.

The City of Pacific Grove has a comprehensive structural BMP strategy for end-of-pipe locations prior to storm water discharge into the ASBS that is outlined in the following Dry Weather Discharges BMP section.

6.0 DRY WEATHER DISCHARGES BEST MANAGEMENT PRACTICES

6.1 Introduction

Dry weather non-authorized stormwater discharges are effectively prohibited in the ASBS area per the Ocean Plan and associated regulations in Phase II General Permit Attachment C. The City of Pacific Grove has been actively working towards eliminating these discharges and has implemented a number of capital improvement projects to achieve this end funded primarily by grants.

In 2001, the City of Pacific Grove was awarded a Proposition 13 Clean Beach Initiatives grant to plan, design, and construct a Dry Weather Diversion Project to enable compliance with the Special Protections requirement that there be no dry weather flows discharged from its storm drainage system and into the Pacific Grove ASBS. The first phase of the diversion system was completed in 2004 and diverts the outlets located along the Pacific Grove Shoreline between Lovers Point Park and 12th Street.

In 2006, the City of Monterey with the assistance of MACTEC produced a Final Alternatives Analysis and Data Acquisition for Pacific Grove ASBS and Carmel Bay ASBS. This 2006 MACTEC report presented a three-phase study that presented results of alternatives analyses and data for storm water and non-storm water discharges to both ASBS areas. This study performed the feasibility analyses necessary for diverting, storing, treating, and/or reusing storm water from the Del Monte Forest, New Monterey, and City of Pacific Grove areas, and preventing such discharges from entering either ASBS. Its assumptions, analyses, alternatives, and results assisted in forming future 2013-2014 study efforts by the Cities of Monterey and Pacific Grove for structural BMP controls related to the Pacific Grove ASBS, including two grant efforts that supported the 2014 Final Environmental Impact Report (FEIR) adopted by both Cities, and as further described below.

A second grant was awarded to the City of Pacific Grove that expanded the area on either side of the Phase I diversion to incorporate an additional 99 acres of land what will be diverted during dry months as well. Phase II of the urban diversion system was completed in 2007 along Ocean View Boulevard and a portion of 17th Street between First Street and Lorelei Street.

In 2011, the City of Pacific Grove received funding from a SWRCB Proposition 84 ASBS grant (Prop 84 ASBS grant) to complete Phase III of the urban diversion project. The third phase of construction was completed in June 2014 and incorporates an additional 66 acres of the watershed. Phase III is located along Ocean View Blvd, First Street, and Eardley Avenue and includes outfalls 40 and 41. As a result of these urban diversion projects, runoff that flows into catch basins and would normally be discharged from the Pacific Grove outfalls during non-rainfall periods will instead be captured and transferred via sewer pump stations to Marina, and processed at the regional wastewater treatment system. The Monterey Regional Water Pollution Control Agency (MRWPCA) monitors these outfalls bi-weekly and notifies Pacific Grove Public Works Department if any dry weather discharges occur.

This dry-weather urban diversion system covers the largest drainage areas in the City from Lovers Point east to the Hopkins Marine Station. Combined, the three phases of the project direct

dry weather flows in the storm drain system to the sanitary sewer from a 652-acre watershed area, under normal rainfall conditions. The Urban Runoff Diversion Project (URDP) includes two components: (1) dry weather diversions on storm drain outfalls between Lovers Point and Eardley Avenue; and (2) submersible pump stations to pump diverted runoff to the wastewater treatment plant in Marina.

In 2012-2014, the City of Monterey managed a \$270,000 Integrated Water Resources Management Planning (IRWMP) grant process and provided a 36 percent match to that grant (\$151,875) to fund a Monterey-Pacific Grove ASBS alternatives study (total project funds (\$421,875) that built off the City of Monterey 2006 MACTEC ASBS Report. These efforts were a part of a larger \$1 million grant managed by the Monterey Peninsula Water Management District.

The cities of Monterey and Pacific Grove also received funding from a SWRCB Proposition 84 ASBS grant (Prop 84 ASBS grant) to complete a Monterey-Pacific Grove ASBS Stormwater Management Project Environmental Impact Report, and Engineering Report 40% Submittal by Fall Creek Engineering. The joint project addressed stormwater discharges into the ASBS including the evaluation of stormwater management projects to address stormwater discharges into the ASBS. These efforts subsequently produced the 2014 FEIR. This capital improvement planning and preliminary engineering effort are described in more detail in section 6.1.3 below.

6.2 Maintenance, Monitoring, and Documentation of Dry Weather Diversion Facilities

The City of Pacific Grove maintains and monitors the dry weather diversion facilities according to standard operating procedures. The City has opted into the agreement with the Monterey Bay Sanctuary and monitoring activities of the outfalls are monitored in compliance with the Phase II General Permit. Operating procedures and results are summarized in the MRSWMP Annual Report.

6.3 Post-Construction BMPs

The cities of Monterey and Pacific Grove require that structural BMPs, including Low Impact Development (LID) measures, be included in the design and post-construction operation of applicable new development and redevelopment projects. Both Cities' design requirements are outlined in the MRSWMP Stormwater Technical Guide for Low Impact Development, which was developed to assist development applicants in the MRSWMP region to implement the Central Coast RWQCB Resolution R3-2013-0032 *Approving Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region*. These regulations require project applicants that are proposing the replacement and/or addition of 2,500 square feet or more of impervious surfacing on a site to implement a variety of permanent storm water control measures to provide pollutant source control and runoff reduction measures. These regulations are meant to be considered at the early, site-planning phases for applicable development projects and assist with control of storm water and to assist toward the overall goal of preventing pollution from developed urban environments on the Central Coast of California.

6.4 Joint Pacific Grove/Monterey Capital Improvement Studies for the Pacific Grove ASBS

In recent years, the Cities of Monterey and Pacific Grove have been evaluating alternative stormwater management projects to address regulatory requirements imposed by the State Water Resources Control

Board (SWRCB) for stormwater discharges to the ASBS, and to build upon past ASBS studies undertaken by both agencies.

The City of Monterey has managed a \$270,000 Integrated Water Resources Management Planning (IRWMP) grant and provides a 36 percent match to the grant (\$151,875), to fund this work (total project funds (\$421,875). It is part of a larger (\$1M) grant managed by the Monterey Peninsula Water Management District.

In January 2013, Fall Creek Engineering, Inc. (FCE) was retained by the City of Monterey to complete the *City of Monterey and Pacific Grove ASBS Refined 2006 Feasibility Study of Alternatives Management Plan*. The scope of work in this study was to: (1) refine and select a preferred and alternate project from the broad list of projects identified by MACTEC, (2) select a preferred project alternative, (3) develop conceptual and preliminary plans for the preferred project, (4) prepare the CEQA environmental impact report (EIR) for the preferred project; and (5) prepare a project implementation work plan for the preferred project.

After review and screening of the twenty two (22) alternatives identified in the 2006 MACTEC Study, six (6) project alternatives were identified and refined with input from the Cities of Monterey and Pacific Grove. These alternatives were then screened by numerical ranking and weighting to select a preferred and alternative project.

The preferred project would divert both wet and dry weather flows from both Pacific Grove and Upper New Monterey watershed areas into an upgraded stormwater collection and treatment system. As proposed, flows would be directed either to a new stormwater treatment facility adjacent to Pacific Grove Golf Links at the retired Point Pinos Wastewater Treatment Plant site and/or to the Monterey Regional Water Pollution Control Agency (MRWPCA) regional wastewater treatment plant in Marina. The objective of the project is to achieve up to a 90% reduction in pollutant loading during storm events to comply with the SWRCB's ASBS Special Protections.

The preferred ASBS stormwater management project is comprised of five associated sub-projects located primarily in the City of Pacific Grove, with a portion of two projects located in the City of Monterey. The five projects include (1) David Avenue Reservoir Improvements, (2) Pine Avenue Conveyance, (3) Ocean View Boulevard Conveyance, (4) Point Pinos Stormwater Treatment Facility, and (5) Diversions to the MRWPCA. Together each of these projects would divert and provide treatment for runoff up to the 85th percentile design storm; flows exceeding this design storm would continue to the existing outfall locations and flow to the Pacific Grove ASBS. The current preliminary engineering design is at the approximate 40% completion level. Several special studies, geotechnical and surveying analysis, and further engineering are all required for implementation of the project in the future.

The proposed stormwater management project outlines the steps that may be implemented for structural measures to effectively manage stormwater discharges to comply with the SWRCB's water quality requirements and to protect the ASBS.

In 2013, the Cities also initiated the multi-year Central Coast Regional ASBS Water Quality Monitoring Program to assess potential water quality impacts from stormwater runoff in to the Pacific Grove ASBS. A Draft ASBS Compliance Plan is due in September 2014; the Final ASBS Compliance Plan is due within eighteen months after the draft, and must describe how the

structural as well as non-structural controls are being implemented to reduce pollutant loads to the ASBS. The proposed project has been developed to determine the full extent of structural controls that may be needed to comply with the Special Protections. However, project implementation is not planned or anticipated until further results of the monitoring program become available, and are contingent upon additional grants or other funding. Certification of the FEIR is a necessary step both towards being eligible to apply for additional grant funds, as well as to demonstrate the cities efforts in the Draft ASBS Compliance Plan due this year.

For more detailed information, see the Monterey-Pacific Grove ASBS Stormwater Management Project certified Final Environmental Impact Report, and the Final Engineering Report 40% Submittal by Fall Creek Engineering, which includes further description of the proposed project, estimated costs, recommendations for phasing and implementation, and additional next steps. These documents are available on this City of Pacific Grove webpage at <http://ci.pg.ca.us/index.aspx?page=335>.

7.0 Parks and Recreation Facilities

The City of Pacific Grove and its scenic coast offer residents and visitors a wide range of recreational opportunities, ranging from simply enjoying a view of the bay to more formal nature study, walking, jogging, kayaking, cycling, diving, surfing, and sport fishing. The City, the State, and the Pacific Grove Unified School District each own and operate an extensive system of parks, recreation facilities, and open space areas in Pacific Grove. The Recreation Department administers City park and recreation programs, and maintains recreation facilities. City parks are maintained by the City’s Public Works Department.

The City of Monterey has one park facility located in its Pacific Grove ASBS drainage area – Hilltop Park and Center, an eight-acre neighborhood park in the upper most portion of New Monterey at Jessie Street and David Avenue. It contains play equipment, turf area, picnic area, tennis and basketball courts and a multi-purpose community center.

Figure 13: Open Space



The *Shoreline Park Network* includes all parks and recreation areas located on the coastal edge of the city. These facilities serve their contiguous neighborhoods, the community as a whole, and regional recreation needs.

Neighborhood Parks are intended to serve the recreation needs of people living or working within a half-mile of the park.

Community Parks are larger than neighborhood parks and are intended to provide recreation opportunities beyond those supplied by the smaller neighborhood parks. In the list below, these facilities are subdivided into areas with active and formal park and recreation uses and facilities, and parks principally having natural areas limited to passive use.

See Table 1 for more information.

Table 1:

| Park | Size (in acres) | Description |
|--|---------------------------------------|--|
| Shoreline Park Network | 23.4 | |
| <i>Berwick Park</i> | 1 | Located on the coastal side of Ocean View Boulevard between 9th Street and Carmel Avenue, south of the Recreation Trail. It offers spectacular views of Monterey Bay and the surrounding coastline. Part of the park has a large, well-manicured lawn area with gentle topography. The remainder has a natural landscape with rocky outcrops and native vegetation |
| <i>Lovers Point Park</i> | 4.4 | Located at the foot of 17 th Street, is a landscaped community park. It is used for picnicking, fishing, sunning, swimming, water sports, and surfing. Lovers Point’s amenities include a large lawn area, a sand volleyball court, a children’s swimming pool, sandy beaches, rocky outcrops, a concrete pier structure, and a restaurant and snack bar. |
| <i>Perkins Park</i> | Acreage is included in Shoreline Park | The section of shoreline between Lovers Point and the Esplanade. It was named for local resident Hayes Perkins, who planted the first pink ice plant along this section of the water front. The park is well maintained and is landscaped with “magic carpet” ice plant and stone terrace walls. Walking trails in Perkins Park are heavily used. |
| <i>Shoreline Park</i> | 18 | The designation applied to those portions of the publicly-owned waterfront not otherwise named from Hopkins Marine Station at its eastern boundary, around the shoreline along Monterey Bay to the foot of Asilomar Avenue on the west. |
| Neighborhood Parks–Recreational | 5.6 | |
| <i>Caledonia Park</i> | 1.69 | An open space free-play area, tots’ play area, playground and climbing equipment for older children, a baseball backstop, basketball court, picnic tables, and rest rooms. |
| <i>Jewell Park</i> | 0.6 | A small block bounded by Park Place and Central, Grand, and Forest Avenues in the City’s civic district. The park’s urban character is established by a well-maintained lawn area, specimen trees, gentle topography, a small meeting |

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| | | building with a kitchen, a gazebo suitable for outdoor performances, and several benches. |
| <i>Platt Park</i> | 0.3 | An unimproved park which has a gentle topography and many trees |
| Neighborhood Parks–Natural Areas and Open Space | 3.82 | |
| <i>Andy Jacobson Park</i> | 0.57 | Located at the corner of Ocean View Boulevard and 7th Street. Planted primarily with native plants, it resembles a lush backyard garden, is rugged and natural in appearance, and is well maintained. |
| <i>Chase Park</i> | 0.5 | Located at Ocean View Boulevard and Briggs Avenue and is divided by Ocean View Boulevard into two parcels. The western parcel is rugged and unimproved. The eastern parcel is contiguous to a parking area, and consists of a very small landscaped area with a bench and a path. |
| <i>Esplanade Park</i> | 1.2 | Located on Esplanade between Ocean View and Del Monte Boulevards. It is unimproved, with gently rolling topography and many Monterey cypress trees. |
| <i>Greenwood Park</i> | 1.1 | A full block bounded by Ocean View Boulevard, Central Avenue, 12th Street, and 13th Street. Like Esplanade Park, it has a natural landscape character and large trees (predominantly eucalyptus). The park follows a moderately steep ravine with a seasonal creek at its bottom. Except for a footbridge across the ravine, there are no improvements. |
| <i>Higgins Park</i> | 0.45 | Located at the intersection of Forest and David Avenues. This rugged park with steep terrain contains many Monterey pine and coast live oak trees. Improvements are limited to several park benches. |
| Community Parks–Recreational | 94.9 | |
| <i>The Pacific Grove Municipal Golf Course</i> | 90 | The Peninsula’s only municipal golf course, and has an 18-hole course, a clubhouse, golf equipment, electric carts, and a driving range. |
| <i>Community Center and Tennis Courts</i> | | A community center facility, including restrooms, five tennis courts and a play structure. |
| Regional and State Park | 112 | |
| <i>The Monterey Peninsula Recreation Trail</i> | 6 | Extends for about a mile between the Monterey Bay Aquarium and Lovers Point. The trail, located on the former Southern Pacific Railroad right-of-way, has separate walking and cycling paths. It serves as a major walking, jogging, and bicycling route along the northeastern coastline of the city. |
| Other Parks, Recreation Facilities, and Open Space Areas | 49.9 | |
| <i>The Pacific Grove Rec Club</i> | | Across from City Hall replaced the original youth center at the corner of Laurel Avenue and 16th Street |
| <i>Chautauqua Hall</i> | 0.29 | Located at the corner of 17th Street and Central Avenue, is a California Registered Historical Landmark built in 1881 by the Pacific Grove Retreat Association for concerts and entertainment. It is now used for Boy Scout meetings, judo classes, gymnastics, jazzercise, square dancing, fitness classes, the Chautauqua Hall Dance Club, and for |

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| | | special art and craft exhibits. |
| <i>Elmarie Dyke Open Space</i> | 0.1 | Located adjacent to Chautauqua Hall, was purchased by the City in 1990 to enhance Chautauqua Hall. It has been landscaped as an urban garden with flowering plants, a fountain, benches and tables, and a gazebo. |
| <i>The Union Pacific Railroad right-of-way</i> | 12.9 | Owned by the Union Pacific Land Company, extends from the Monarch Pines Mobile Home Park on the east to Sinex Avenue on the south. The grassy, tree-lined right-of-way passes through the Pacific Grove Municipal Golf Course. Local residents walk and jog along the portion between Lighthouse Avenue and Hayward Park. |

The following parking facilities are located in the ASBS area:

| Location | No. of Spaces | Description |
|------------------------------|----------------------|---|
| Lover's Point Park | 66 | Three paved lots accessed from 17 th St. |
| Ocean View Blvd | 50 | Various decomposed granite and paved parking areas |
| Municipal Golf Course | 83 | Paved parking lot |

7.1 Pollutant Sources

City park facilities, as described above, present *potential* pollutant sources to the ASBS watershed in the stormwater runoff from parking lots, sediment from the coastal recreation trail, pesticides and herbicides, and/or trash from visitors. The following sections detail the BMPs or other management measures that will be implemented to address potential pollution from City park facilities.

7.2 Best Management Practices (BMPs)

7.2.1 Soil Erosion BMPs

The recreation trail is composed of both pavement and decomposed granite and there are two decomposed granite parking areas accessed from Ocean View Blvd. The decomposed granite is subject to limited erosion. Due to its permeability, there is rarely any water runoff. The trail and associated drainage features are maintained by City of Pacific Grove staff that inspect conditions and implement soil erosion BMPs as necessary to eliminate the discharge of sediment where such a discharge is contributing to an alteration of “natural water quality” in the ASBS.

7.2.2 Pesticide BMPs

Both cities are responsible for performing pest control at their park facilities and whenever possible refrain from using pesticides. When pesticides are used, application is during the dry season and in limited quantities to minimize any potential runoff.

The Pacific Grove golf course periodically uses pesticides to control disease outbreaks and broadleaf weeds. All pesticide applications are applied by a licensed applicator that is licensed

by the State of California and all product label requirements are strictly adhered to. No applications are conducted if the weather conditions are not optimal.

The City of Monterey Parks Department does not use pesticides on turf areas at Hilltop Park.

7.2.3 Public Education and Outreach

Both cities have implemented a number of public outreach measures designed to inform and incentivize the constituents and local business to adhere to prohibitions against waste discharges within ASBS and also as a part of MRSWMP efforts. These measures include (1) Rainscapes, a rebates program designed to create financial incentives to property owners who incorporate Low Impact Development (LID) techniques on their site; (2) lectures at the Community Center LID site; (3) website resources available at monteresea.org; (4) collaboration with Monterey Peninsula Water Management districts; and (5) stenciling on storm drains.

There is currently existing signage in the ASBS area that describes the greater Marine Protected Area. The signage includes a description of the Lover's Point State Marine Preserve and the Pacific Grove Marine Gardens State Marine Conservation Area. The signage includes messaging aimed at educating the public about the importance of preventing pollution.



Educational signage located along the Pacific Grove ASBS

The Urban Watch monitoring program provides a way for local residents and community members to become involved in learning more about water quality and urban pollution issues by becoming an Urban Watch volunteer monitor for the dry weather months (June-October). The Urban Watch Program monitors storm drain outfalls during the dry weather months to help cities understand sources of pollution that may be impacting local creeks and the Monterey Bay National Marine Sanctuary. Volunteers perform field measurements for pH, temperature, and conductivity, and collect water samples that are then tested for ammonia, phosphate, chlorine and detergents using an EPA approved Storm Water Test Kit. The Urban Watch Water Quality Monitoring Program is a collaborative effort between the Cities of Monterey, Pacific Grove, Capitola, the Coastal Watershed Council, and the Monterey Bay National Marine Sanctuary. Since 1998, teams of volunteers trained in water quality monitoring have been collecting water samples and conducting basic field analysis. This continuing program has helped the cities of Monterey, Pacific Grove, and Capitola and the Monterey Bay National Marine Sanctuary identify and implement targeted educational programs aimed at addressing urban pollutants entering the Monterey Bay National Marine Sanctuary.

Both Cities also work with a number of local NGOs to ensure general water conservation awareness. These NGOs include Surf Riders of Monterey, Sustainable PG, Ecology Action Collaboration, and Zero Waste compostable.

Additionally, the Pacific Grove residential retrofit has been approved for funding by the Proposition 84 ASBS Grant. Residential surveys were completed by August 31, 2012. Pacific Grove is currently developing the residential rebate program, rebate application forms, and LID retrofit strategies, as well as conducting public outreach and coordinating with other organizations. The RainScapes rebate program is anticipated to begin in Fall 2014. LID lectures and workshops began in Spring 2014.

7.2.4 Trash Prohibition

Both cities Department of Public Works currently maintains and will continue to maintain park facilities, ensuring that there are adequate trash receptacles for visitor use and providing regular collection of trash as needed. Maintenance visits include the collection and proper disposal of any visible litter from Park facilities. In addition to these management measures, trash removal from stormwater outfalls occurs as needed.

Both cities also participate in the Peninsula Illegal Dumping and Litter Abatement Task Force.

7.2.5 Parking Areas – Sweeping

Parking areas are swept twice per year and also before and after events.

7.2.6 Facility Maintenance and Repair

Maintenance of all City owned and maintained facilities includes regular inspections and identification and implementation of necessary repairs.

Non-emergency repair of any park facilities will occur during dry weather and all maintenance and facility repair activities will utilize appropriate stormwater pollution prevention practices. All field and maintenance staff at both Cities receive storm water pollution prevention and good housekeeping training through existing training requirements of the Phase II General Permit.

8.0 MONITORING

The Central Coast ASBS Regional Monitoring Program (RMP) is a collaboration of various agencies and entities on the Coast, covering an area from Big Sur, in Monterey County, to Pt. Reyes, in Marin County. The project includes monitoring requirements (i.e. water sampling and analysis for various pollutants of concern) specified in the Special Protections for ten (10) participants designated as Responsible Parties that include: The Counties of Marin, Monterey, San Mateo; the Cities of Carmel-by-the-Sea, Monterey, Pacific Grove; Caltrans, Hopkins Marine Station, Monterey Bay Aquarium and the Pebble Beach Company. The Scope of Work for the Central Coast ASBS RMP has been developed through discussions with staff from State and Regional Water Boards, as well as the responsible parties discharging storm water into ASBS.

The Ocean Plan prohibits the discharge of both point and non-point source waste into ASBS unless the SWRCB grants an “exception”. In 2012, the SWRCB approved a list of direct or indirect storm water discharges into local ASBS, including the Pacific Grove ASBS, which included the City of Pacific Grove and City of Monterey. While the City of Pacific Grove has direct discharge points into the Pacific Grove ASBS, portions of New Monterey (City of Monterey) discharge storm water into the City of Pacific Grove storm drainage system and subsequently flow through Pacific Grove storm drainage infrastructure into the Pacific Grove ASBS.

Water quality and biological sampling of urban storm water discharges and receiving waters are a mandatory stipulation of the Special Protections for Areas of Special Biological Significance. In 2012, the Cities of Pacific Grove and Monterey joined forces with eight (8) other ASBS permittees along the Central Coast of California to form a collaborative RMP to comply with the monitoring requirements of the Special Protections. The purposes of the RMP are to leverage limited agency funds to address shared monitoring compliance needs by providing consistent methods and data quality among all participants, while also performing the scientific work required by the Special Protections in a manner so the final data can be compared to or contrasted with those from other regional efforts along the California coastline.

In early 2013, a RMP Memorandum of Agreement (see Appendix B) was executed between all parties to perform a coordinated monitoring effort to investigate concentrations of pollutants of concern at particular freshwater reference sites, ocean receiving water sites, and urban storm water discharge sites. Additionally, the program includes biological and bioaccumulation monitoring.

Applied Marine Sciences (AMS) was selected to direct and perform the scientific monitoring needs of the RMP members, including field and follow-up analytical and statistical work. Monterey Bay National Marine Sanctuary staff and volunteers also assist with portions of the ASBS monitoring program.

In total, the RMP has 40 sampling locations. Ten (10) urban storm water discharges are sampled along the Pacific Grove ASBS to assist in better understanding the relative health of this ASBS

ecosystem and the effects of discharges entering it. A list of all sampling sites, including their respective sampling requirements and the overall sampling scheme, are outlined in Appendix C, AMS Scope of Work. For the Pacific Grove ASBS, the Hopkins site was chosen to be sampled for receiving water quality and rocky Intertidal biological monitoring, as well as urban storm water outfall/discharge monitoring. Bioaccumulation studies are occurring at Fanshell Overlook in the Pebble Beach nearshore area and are being performed by Central Coast Long-term Environmental Assessment Network (CCLEAN) in collaboration with this RMP. Those data are planned for use in determining the existing relative health of Peninsula nearshore biological environment for this RMP effort.

Water quality and biological results received over two years of the RMP program will be analyzed to determine the relative health or lack thereof of the ASBS being studied as a part of this RMP. These efforts are also meant to identify any potential urban storm water discharges that may be impacting the health of the ASBS, including that of the Pacific Grove ASBS.

As of September 2014, only one sampling season has been completed – Season 1, Winter 2013/2014. Season 1 data are undergoing quality assurance/quality control (QA/QC) review and statistical analyses. Preliminary results are expected in late August 2014, with final report generation in October 2014. Final results were not available for inclusion in this Draft Compliance Plan; however, study results will be shared as they become available, and subsequent water quality reports shall be incorporated into this Plan in future finalization efforts. Season 2, Winter 2014/2015 sampling results are anticipated for preliminary review in summer 2015 with subsequent analytical report finalization in fall 2015.

The RMP efforts at Pacific Grove ASBS sampling locations and all others in the region are providing the scientific water quality and biological data necessary to comply with the monitoring requirements of the Special Protections at this time. The study results are anticipated to provide insight to the local agencies and SWRCB as to the current and relative health and quality of California ASBS. Additionally, further study of the RMP's reference site water quality data is planned for utilization as part of a SWRCB contract to analyze the North Coast, Central Coast, and South Coast reference data report to be produced by contractor Ken Schiff.

8.1 Process for Exceedances

The process for evaluating whether alterations of natural ocean water quality in the Pacific Grove ASBS is still in development. If exceedances of Ocean Plan Water Quality Objectives (WQOs) are observed, it does not necessarily imply that natural ocean water quality will be altered, nor would observed alterations in natural ocean water quality necessarily be caused by discharges from the land-based watershed. Dilution processes within the receiving water are an important consideration as well as ocean influences that may not be detected at reference points. The challenges in establishing these types of regulatory links will be considered as the regional natural water quality process and standards are defined.

9.0 COMPLIANCE AND IMPLEMENTATION SCHEDULE

The majority of the BMPs described in this Section are already being implemented and no implementation schedule is needed for them.

The City of Pacific Grove urban runoff diversion project, Phase III, completed construction in June 2014 and is now online diverting urban runoff during the dry season. 2014 is the first dry season that water from a portion of the Pacific Grove ASBS watersheds is being diverted to the sewer collection system to be treated at the MRWPCA regional treatment facility in Marina.

The need for any additional structural BMPs to comply with the Special Protections will only be known after the monitoring and data analyses work has been completed (See above Wet Weather Discharge Description Section, 5). If any additional structural BMPs are needed, they will be identified and an Implementation Schedule for those BMPs will be prepared and described in future iterations of this ASBS Compliance Plan.

| Element | Implementation Schedule | Remarks |
|--|-------------------------|--|
| Prohibit all non-authorized non-storm water discharges and trash | Mar. 20, 2012 | Completed through implementation of Phase II General Permit. Illicit discharge prevention and response BMPs are described in Section 5.1.5. Trash elimination BMPs are described in Sections 5.1.4 and 5.3.5. |
| Implement non-structural BMPs including inspection program. | Sept. 20, 2013 | <p>Ongoing consistent with the Phase II General Permit and this Draft Compliance Plan.</p> <ul style="list-style-type: none"> • The construction, industrial, commercial, and storm drain outfall inspection program. • Other non-structural BMPs include ASBS-targeted public outreach, and permit tracking. <p>MRSWMP documents describing procedures (e.g. IDDE Program) and Ordinances will be updated by mid-2015 if necessary.</p> |
| Submit <u>Draft</u> Compliance Plan to State and Regional Water Boards | Sept. 20, 2014 | Completed with submittal of this draft Compliance Plan. |

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| | | |
|--|-----------------------|--|
| <p>Submit <u>Final</u> Compliance Plan to State and Regional Water Boards</p> | <p>March 20, 2016</p> | <p>Contingent upon receipt of comments from State and/or Regional Water Board.</p> |
| <p>Any additional structural BMPs determined necessary to comply with Special Conditions are operational</p> | <p>Mar. 20, 2018</p> | <p>BMPs outlined in the Monterey-Pacific Grove ASBS Stormwater Management Project certified EIR and Fall Creek 40% Engineering Report, dependent on grant funding.</p> |
| <p>Discharges from CPA do not alter natural ocean quality in ASBS</p> | <p>Mar. 20, 2018</p> | <p>Reference and receiving water quality will be characterized by 2015 as part of CCRMP and USAF monitoring. Discharge monitoring will be conducted in 2013/14 and 2014/15 by CCRMP.</p> <p>The need for additional non-structural and structural BMPs to maintain natural ocean water quality will be assessed following review of monitoring data.</p> |

| Acronyms | |
|--------------------------------|---|
| ASBS | Areas of Special Biological Significance |
| BMP | Best Management Practice |
| CCLEAN | Central Coast Long-term Environmental Assessment Network |
| CDS | Continuous Deflective Separation |
| CPA | Compliance Plan Area |
| CWA | Clean Water Act |
| EPA | Environmental Protection Agency |
| IRWMP | Integrated Water Resources Management Planning |
| LID | Low Impact Development |
| MCM | Minimum Control Measures |
| MEP | Maximum Extent Practicable |
| MRSWMP | Monterey Regional Storm Water Management Program |
| MRWPCA | Monterey Regional Water Pollution Control Agency |
| MS4 | Municipal Separate Storm Sewer System |
| NGO | Non-governmental organization |
| NPDES | National Pollutant Discharge Elimination System |
| O&M | Operations & Maintenance |
| Ocean Plan | California Ocean Plan |
| PEAIPs | Program Effectiveness Assessment and Improvement Plans (PEAIPs) |
| Phase II General Permit | SWRCB Order No. 2013-0001-DWQ NPDES General Permit No. CAS000004 Waste Discharge Requirements for Stormwater Discharges from Small MS4s |
| Prop 13 grant | Proposition 13 Clean Beach Initiatives grant |
| Prop 84 ASBS grant | SWRCB Proposition 84 ASBS grant |
| RMP | Central Coast ASBS Regional Monitoring Program |

| Acronyms | |
|----------------------------|---|
| RWQCB | Central Coast Regional Water Quality Control Board |
| Special Protections | Phase II General Permit, Attachment C, <i>Special Protections for Areas of Special Biological Significance, Governing Point Source Discharges of Storm Water and Nonpoint Source Waste Discharges</i> |
| SWRCB | State Water Resources Control Board |
| SWMP | Storm Water Management Plan |
| URDP | Urban Runoff Diversion Project |
| WDR | Waste Discharge Requirements |

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http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0012.pdf

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SWRCB. 2014. Ocean Standards, California Ocean Plan website:
http://www.waterboards.ca.gov/water_issues/programs/ocean/

SWRCB. 2014. Ocean Standards, State Water Quality Protection Areas – Areas of Special Biological Significance (ASBS) website:
http://www.waterboards.ca.gov/water_issues/programs/ocean/asbs.shtml

SWRCB. 2014. Phase II Small Municipal Separate Storm Sewer System (MS4) Program website and Phase II Small MS4 Permit/Final Order:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Appendices

Appendix A: Pacific Grove ASBS Outfalls





Appendix B: Central Coast ASBS Regional Monitoring Program (RMP) Memorandum of Agreement (MOA)

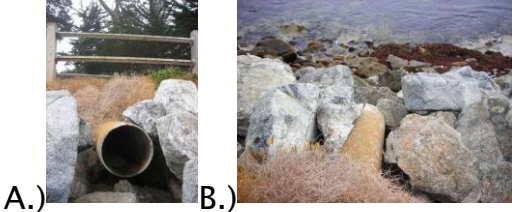


Appendix C: Applied Marine Sciences (AMS) RMP Scope of Work

Appendix A: Pacific Grove ASBS Outfalls













Watershed Outfall Images and Descriptions





Images are in order according to the identification number of the corresponding delineated watershed (Fig. 3). Each set of images includes the (A) outfall discharge point and (B) immediate downstream area. The descriptions for each outfall includes the pipe interior diameter (ID) size, pipe material, and coordinates of the outfall location. The corresponding MRSWMP outfall identification number is also given.

| Watershed /Outfall ID | Photos | Description |
|-----------------------|---|---|
| 1 |  | 12" HDPE Approximate Longitude -121.90619, Latitude 36.6205. Image and data provided by Hopkins Marine Station. (MRSWMP outfall number PG-39) |
| 2 |  | 36" Concrete Approximate Longitude -121.90305, Latitude 36.61897. Image and data provided by Hopkins Marine Station. (MRSWMP outfall number PG-40 & PG-41) |
| 3 |  | 12" Cast Iron Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053366 Easting 597584 WGS 84. (MRSWMP outfall number PG-36) |
| 4 |  | 12" PVC Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053376 Easting 597549 WGS 84. (MRSWMP outfall number PG-35) |

| | | |
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| 5 |  <p>A.) B.)</p> | <p>18" Corrugated Steel Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053375 Easting 597502 WGS 84. (MRSWMP outfall number PG-34)</p> |
| 6 |  <p>A.) B.)</p> | <p>24" Cast Iron Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053452 Easting 597433 WGS 84. (MRSWMP outfall number PG-32)</p> |
| 7 |  <p>A.) B.)</p> | <p>18" Cast Iron Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053530 Easting 597347 WGS 84. (MRSWMP outfall number PG-30)</p> |
| 8 |  <p>A.) B.)</p> | <p>36" Corrugated Steel Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053587 Easting 597120 WGS 84. (MRSWMP outfall number PG-29)</p> |
| 9 |  <p>A.) B.)</p> | <p>24" Corrugated Steel Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053639 Easting 597047 WGS 84. (MRSWMP outfall number PG-28)</p> |
| 10 |  <p>A.) B.)</p> | <p>31" Cast Iron Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053690 Easting 597029 WGS 84. (MRSWMP outfall number PG-27)</p> |

| | | |
|----|---|--|
| 11 |  <p>A.) B.)</p> | <p>16" Corrugated Steel Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053717 Easting 597000 WGS 84. (MRSWMP outfall number PG-26)</p> |
| 12 |  <p>A.) B.)</p> | <p>18" Clay Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053754 Easting 596946 WGS 84. (MRSWMP outfall number unknown)</p> |
| 13 |  <p>A.) B.)</p> | <p>54" Concrete Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053776 Easting 596913 WGS 84. (MRSWMP outfall number PG-22)</p> |
| 14 |  <p>A.) B.)</p> | <p>24" Concrete Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054003 Easting 596868 WGS 84. (MRSWMP outfall number PG-20)</p> |
| 15 |  <p>A.) B.)</p> | <p>16" Clay Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4053992 Easting 596804 WGS 84. (MRSWMP outfall number PG-19)</p> |
| 16 |  <p>A.) B.)</p> | <p>14" Corrugated Steel Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054052 Easting 596633 WGS 84. (MRSWMP outfall number PG-18)</p> |

| | | |
|----|---|--|
| 17 |   | <p>12" Cast iron Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054055 Easting 596625 WGS 84. (MRSWMP outfall number PG-17)</p> |
| 18 |   | <p>18" Corrugated Steel Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054080 Easting 596602 WGS 84. (MRSWMP outfall number PG-16)</p> |
| 19 |   | <p>12" Corrugated Steel Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054094 Easting 596568 WGS 84. (MRSWMP outfall number unknown)</p> |
| 20 |   | <p>12" Corrugated Steel Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054170 Easting 596433 WGS 84. (MRSWMP outfall number PG-15)</p> |
| 21 |   | <p>16" PVC Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054185 Easting 596417 WGS 84. (MRSWMP outfall number PG-14)</p> |
| 22 |   | <p>12" PVC Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054652 Easting 596301 WGS 84. (MRSWMP outfall number PG-13)</p> |

| | | |
|-----------|--|--|
| <p>23</p> | <p>A.)  B.) </p> | <p>18" Concrete Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4054950 Easting 595952 WGS 84. (MRSWMP outfall number PG-11)</p> |
| <p>24</p> | <p>A.)  B.) </p> | <p>12" Concrete Photos of the outfall (A) and corresponding downstream area (B); Approximate Northing 4055125 Easting 595633 WGS 84. (MRSWMP outfall number PG-10)</p> |

**Appendix B: Central Coast ASBS Regional Monitoring Program (RMP)
Memorandum of Agreement (MOA)**

MEMORANDUM OF AGREEMENT

**CENTRAL COAST REGIONAL AREAS OF SPECIAL
BIOLOGICAL SIGNIFICANCE DISCHARGERS MONITORING
PROGRAM**

This Memorandum of Agreement (AGREEMENT), dated, for reference purposes only, December 1, 2012, is made by and between the MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY, hereinafter referred to as "AGENCY," a Joint Powers Authority (JPA) organized under the laws of the State of California, and the following entities, each of which is hereinafter referred to as "DISCHARGER" or collectively as "DISCHARGERS":

CITY OF PACIFIC GROVE, a municipal corporation of the State of California;
 CITY OF MONTEREY, a municipal corporation of the State of California;
 CITY OF CARMEL-BY-THE-SEA, a municipal corporation of the State of California;
 COUNTY OF MONTEREY, a political subdivision of the State of California;
 COUNTY OF SAN MATEO, a political subdivision of the State of California;
 COUNTY OF MARIN, a political subdivision of the State of California;
 PEBBLE BEACH COMPANY, a California general partnership;
 THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY,
 THROUGH ITS HOPKINS MARINE STATION, a trust with corporate powers under the laws
 of the State of California;
 MONTEREY BAY AQUARIUM, a 501(c)(3) a nonprofit incorporated in the State of California
 CALIFORNIA DEPARTMENT OF TRANSPORTATION (Caltrans), an executive department
 of the State of California

The AGENCY and the above-mentioned entities may also hereinafter be collectively referred to as "PARTIES" or individually as "PARTY."

RECITALS:

- A. The California Ocean Plan ("Ocean Plan") prohibits the discharge of both point and nonpoint source waste into Areas of Special Biological Significance ("ASBS"), unless the State Water Resources Control Board ("SWRCB") grants an exception.
- B. The DISCHARGERS have been determined to have direct or indirect storm water discharges into the Carmel Bay ASBS, the Pacific Grove ASBS, the Año Nuevo ASBS, the James V. Fitzgerald ASBS, and the Duxbury Reef ASBS.
- C. The SWRCB has adopted "Special Protections for Selected Storm Water and Nonpoint Source Discharges into Areas of Special Biological Significance," dated March 20, 2012, and adopted Resolutions No. 2011-0050/0051, on October 18, 2011. These documents are hereinafter referred to simply as the "Special Protections," and the "Mitigated Negative

Declarations”(MNDs). These Special Protections and MNDs contain monitoring requirements with which each of the DISCHARGERS are required to comply commencing in the winter of 2012-2013.

- D. In and for the mutual interest of the DISCHARGERS, the DISCHARGERS wish to develop and implement a Regional Monitoring Program by entering into this AGREEMENT for the purpose of cooperating to efficiently and economically comply with the Special Protections and MNDs monitoring requirements.

NOW, THEREFORE, THE PARTIES HERETO AGREE AS FOLLOWS:

Section 1. Incorporation of Recitals

- 1.1 The foregoing Recitals are incorporated into this AGREEMENT.

Section 2. Central Coast Regional ASBS Dischargers Monitoring Program

- 2.1 There is hereby established the Central Coast Regional ASBS Dischargers Monitoring Program (“Program”) that is intended to fulfill the DISCHARGERS’ respective discharge monitoring and obligations set forth in Section IV of the Special Protections and the MND’s.

Section 3. Effective Date and Term

- 3.1 The effective date of this AGREEMENT shall be the date it is duly executed by all of the DISCHARGERS.
- 3.2 This AGREEMENT shall terminate on June 30, 2015 unless extended, or terminated earlier, pursuant to Section 8.3 or 8.4, by the DISCHARGERS.

Section 4. Management Committee

- 4.1 A Management Committee consisting of one representative of each of the DISCHARGERS is hereby created to provide for overall coordination, review, and budget oversight with respect to the Program.
- 4.2 The Management Committee shall: provide technical oversight, direct and guide the Program, review and approve the Program Budget, select consultant(s) or outside contractor(s), and establish timelines and budgets for completion of Program tasks. The Management Committee shall consider Special Protections monitoring and MND monitoring compliance issues as its primary objective in approving Program tasks and corresponding budgets compliance with Section IV of the Special Protections and Monitoring requirements of the MNDs.
- 4.3 The Management Committee Bylaws (Exhibit A) shall govern the Management Committee and its meetings.
- 4.4 Meetings of the Management Committee shall be subject to the California Brown Act (Government Code section 54950 et seq.).

Section 7. Additional Rights and Duties of the DISCHARGERS

- 7.1 In addition to participation in the Management Committee, each of the DISCHARGERS agrees to perform the following duties:
 - 7.1.1 Participate in Management Committee meetings and activities, and other meetings required of the DISCHARGERS;
 - 7.1.2 Provide the requisite reports to the Administrator for purposes of complying with the joint reporting and compliance mandates applicable to the Special Protections and MNDs and the status Program implementation.
- 7.2 DISCHARGERS agree they are individually responsible for compliance matters not covered by this AGREEMENT.
- 7.3 This AGREEMENT does not restrict the DISCHARGERS from the ability to individually (or collectively) request modifications of or to otherwise challenge, administratively, through litigation, or otherwise, Special Protections or MNDs or other requirements to the extent that a requirement affects an individual DISCHARGER (or group of DISCHARGERS).

Section 8. Additional Parties, Early Termination of Dischargers, and Third Party Data Sharing

- 8.1 Subject to a majority vote of the DISCHARGERS, any agency, corporation or individual responsible for discharges to the State of California's Areas of Special Biological Significance within Regional Water Quality Control Boards (RWQCB) Regions 2 or 3 may become a member of the Program and a party to this AGREEMENT (a "New Party"). New Parties shall execute a copy of this AGREEMENT through their appropriate officials pursuant to the authority conferred by the governing body of the New Party. The Representative of the New Party shall file with the Administrator a duly executed copy of the AGREEMENT. Upon approval, each New Party shall pay an Annual Assessment as determined by the Management Committee. In addition to paying the Annual Assessment, each New Party shall also pay an appropriate buy-in fee as established by the Management Committee, intended to reimburse the Program Fund for the New Party's share of costs that the DISCHARGERS have expended up to the date of the New Party's membership.
- 8.2 Upon approval of the Management Committee Members, the DISCHARGERS may enter into agreements with third-party state or federal agencies for the purpose of sharing data. These agencies shall not become a party to this AGREEMENT, shall not have representation on the Management Committee, and shall not be part of the cost-sharing described in the Program Budget Guidelines and Cost Share (Exhibit C). Such agreements shall be for the sole objective of data sharing.
- 8.3 Any DISCHARGER may terminate its participation in this AGREEMENT by giving the Management Committee at least thirty (30) days written notice. If a DISCHARGER terminates its participation, the terminating DISCHARGER will bear the full responsibility for its compliance with the monitoring requirements of the Special Protections commencing on the date it terminates its participation. Unless the termination is scheduled to be effective at the close of the fiscal year in which the notice is given, termination shall constitute forfeiture of all of the terminating DISCHARGER's contributed share of the

Program Budget for the fiscal year in which the termination occurs. The cost allocations for the remaining DISCHARGERS shall be recalculated for the following fiscal year by the DISCHARGERS without the withdrawing DISCHARGER'S participation.

- 8.4 This AGREEMENT shall terminate immediately and without further notice should sufficient DISCHARGERS terminate their participation pursuant to Section 8.3 such that only a single DISCHARGER has not terminated its participation (Remaining DISCHARGER). Unless the AGREEMENT terminates pursuant to this section at the close of a fiscal year, any funds remaining in the Program Budget shall be forfeited to the Remaining DISCHARGERS to be used solely and exclusively in furtherance of the Remaining DISCHARGER's monitoring requirements pursuant to the Special Protections.

Section 9. General Provisions

- 9.1 Amendment. This AGREEMENT may be amended only by written agreement of all PARTIES. All PARTIES agree to bring any proposed amendment to this Agreement to their respective Executive Management, as applicable, within two (2) months following acceptance of the proposed amendment by the Management Committee.
- 9.2 Execution. This AGREEMENT may be executed by facsimile and delivered in any number of copies (counterparts) by the DISCHARGERS. When each DISCHARGER has signed and delivered at least one (1) counterpart to the Administrator, each counterpart shall be deemed an original and, taken together, shall constitute one and the same AGREEMENT, which shall be binding and effective as to the PARTIES hereto.
- 9.3 Liability. No PARTY shall, by entering into this AGREEMENT, participating in the Management Committee, or serving as the Administrator, assume or be deemed to assume responsibility for any other PARTY in complying with the requirements of the Special Protections. This AGREEMENT is intended solely for the convenience and benefit of the PARTIES and shall not be deemed to be for the benefit of any third party and may not be enforced by any third party, including, but not limited to, the Environmental Protection Agency, the SWRCB, the RWQCB, or any other person.

In lieu of and notwithstanding the pro rata risk allocation which might otherwise be imposed between the DISCHARGERS pursuant to Government Code Section 895.6, the DISCHARGERS agree that all losses or liabilities incurred by a DISCHARGER shall not be shared pro rata, but instead, the DISCHARGERS agree that pursuant to Government Code Section 895.4, each of the DISCHARGERS shall fully defend, indemnify, and hold harmless each of the other DISCHARGERS from any claim, expense, or cost, damage, or liability imposed for injury, including, but not limited to, as defined by Government Code Section 810.8, occurring by reason of the negligent acts or omissions or willful misconduct of the indemnifying DISCHARGER, its officers, agents, or employees, under or in connection with or arising from any work, authority, or action taken under this AGREEMENT, including but not limited to any non-compliance by a DISCHARGER with its obligations under the Special Protections or MNDs. No DISCHARGER, nor any officer, Councilmember, Board member, employee, or agent thereof, shall be responsible for any damage or liability incurred by reason of the negligent acts or omissions or willful misconduct of any other DISCHARGERS, their officers, Council members, Board members, employees, or agents, under or in connection with or arising from any work,

authority, or actions taken under this AGREEMENT, including but not limited to any non-compliance by a DISCHARGERS with its obligations under the Special Protections or MNDs.

Notwithstanding the above, if the Administrator is negligent or intentionally wrongful in the performance of its duties under this AGREEMENT, it will be liable to the DISCHARGERS for any consequences of such negligent or intentionally wrongful performance.

- 9.4 Venue. Venue for any actions brought under this Agreement shall be as prescribed by California or Federal law.
- 9.5 Notices: Unless otherwise specified herein, all notices or demands required under this Agreement shall be in writing and shall either be hand-delivered or mailed by first class registered or certified mail, postage prepaid, addressed to the PARTIES to the addresses and to the attention of the person named in Exhibit D.
- 9.6 Governing Law: The terms of this Agreement are governed by, and shall be construed in accordance with, the laws of the State of California.
- 9.7 Severability: If any provision of this Agreement is held to be invalid, for any reason, by a court of law, the remaining provisions of this Agreement shall not be affected thereby and shall continue in full force and effect.
- 9.8 Authorization: Each individual signing this Agreement warrants that he/she is authorized to do so on behalf of the entity on whose behalf he/she is signing and that they have the authority to bind that entity/individual to all the terms of this AGREEMENT, unless the individual's signature block indicates a different purpose for their signature.
- 9.9 Waiver: No waiver by the PARTIES of any breach of any provision of this Agreement shall constitute a waiver of any other breach or of such provision of this Agreement.
- 9.10 Entire Agreement: This Agreement, including Exhibits A, B, C, D, and E constitutes the complete and exclusive understanding between the PARTIES which supersedes all previous agreements, written or oral, regarding the subject matter of this Agreement. No changes, modifications or amendments to this Agreement (including Exhibit A, B, C, D and/or E) shall be valid unless they are in writing and duly executed by authorized representatives of all the PARTIES.

IN WITNESS WHEREOF, the PARTIES hereto have executed this AGREEMENT as of the dates shown below:

MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY

Date: April 23, 2013


Signature

Keith Israel, General Manager
Printed Name and Title

CITY OF PACIFIC GROVE

Date: _____

Signature

Printed Name and Title

CITY OF MONTEREY

Date: _____

Signature

Printed Name and Title

CITY OF CARMEL-BY-THE-SEA

Date: _____

Signature

Printed Name and Title

COUNTY OF MONTEREY


Date: _____

Signature


Printed Name and Title

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Date: 2/5/13


By: _____
Scott McGowen, Asst. Division Chief
Division of Environmental Analysis

APPROVED AS TO FORM:




Attorney for the California Department of Transportation

IN WITNESS WHEREOF, the PARTIES hereto have executed this AGREEMENT as of the dates shown below:

CITY OF CARMEL-BY-THE-SEA

Date: 1/23/13



Signature

Jason Stilwell, City Administrator
Printed Name and Title

COUNTY OF SAN MATEO

Date: _____

Signature

Printed Name and Title

COUNTY OF MARIN

Date: _____

Signature

Printed Name and Title

PEBBLE BEACH COMPANY

Date: _____

Signature

Printed Name and Title

HOPKINS MARINE STATION

Date: 17 December, 2012



Signature

Lawrence M. Gibbs, CIH
Associate Vice Provost for EH&S
Printed Name and Title

MONTEREY BAY AQUARIUM

Date: _____

Signature

Printed Name and Title

COUNTY OF SAN MATEO

Date: _____

Signature

Printed Name and Title

COUNTY OF MARIN

Date: 1/29/13

Judy Arnold

Signature

JUDY ARNOLD, PRESIDENT

Printed Name and Title

PEBBLE BEACH COMPANY

Date: _____

Signature

Printed Name and Title

HOPKINS MARINE STATION

Date: _____

Signature

Printed Name and Title

MONTEREY BAY AQUARIUM

Date: _____

Signature

Printed Name and Title

COUNTY OF SAN MATEO

Date: _____

Signature

Printed Name and Title

COUNTY OF MARIN

Date: _____

Signature

Printed Name and Title

PEBBLE BEACH COMPANY

Date: _____

Signature

Printed Name and Title

HOPKINS MARINE STATION

Date: _____

Signature

Printed Name and Title

MONTEREY BAY AQUARIUM FOUNDATION

Date: 12-17-12

Ed Prohaska
Signature

Ed Prohaska CFO
Printed Name and Title

IN WITNESS WHEREOF, the PARTIES hereto have executed this AGREEMENT as of the dates shown below:

MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY

Date: _____

Signature

Printed Name and Title

CITY OF PACIFIC GROVE

Date: _____

Signature

Printed Name and Title

CITY OF MONTEREY

Date: _____

APPROVED BY:

City Attorney's Office

Fred Meurer

Signature

Fred Meurer, City Manager

Printed Name and Title

CITY OF CARMEL-BY-THE-SEA

Date: _____

Signature

Printed Name and Title

COUNTY OF MONTEREY

Date: _____

Signature

IN WITNESS WHEREOF, the PARTIES hereto have executed this AGREEMENT as of the dates shown below:

MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY

Date: _____

Signature

Printed Name and Title

CITY OF PACIFIC GROVE

Date: 2-20-13

Thomas Frutcher
Signature

Thomas Frutcher
Printed Name and Title
City Manager

Sarah Handgove
Environmental Programs
Manager

CITY OF MONTEREY

Date: _____

Signature

Printed Name and Title

CITY OF CARMEL-BY-THE-SEA

Date: _____

Signature

Printed Name and Title

COUNTY OF MONTEREY

Date: _____

Signature

Printed Name and Title

Printed Name and Title

COUNTY OF SAN MATEO

Date: _____

Signature

Printed Name and Title

COUNTY OF MARIN

Date: _____

Signature

Printed Name and Title

PEBBLE BEACH COMPANY

Date: 12/18/12

Mark Stilwell

Signature

Mark Stilwell, Executive VP

Printed Name and Title

HOPKINS MARINE STATION

Date: _____

Signature

Printed Name and Title

MONTEREY BAY AQUARIUM

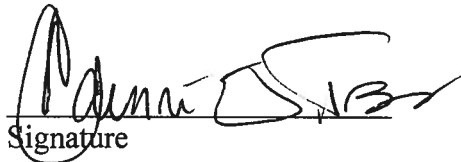
Date: _____

Signature

Printed Name and Title

COUNTY OF SAN MATEO

Date: January 8, 2013


Signature

(Resolution #072327)

Adrienne J. Tissier, President, Board of Supervisors, San Mateo County
Printed Name and Title

COUNTY OF MARIN

Date: _____

Signature

Printed Name and Title

PEBBLE BEACH COMPANY

Date: _____

Signature

Printed Name and Title

HOPKINS MARINE STATION

Date: _____

Signature

Printed Name and Title

MONTEREY BAY AQUARIUM

Date: _____

Signature

Printed Name and Title

EXHIBIT "A"

CENTRAL COAST REGIONAL AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE DISCHARGERS MONITORING PROGRAM

MANAGEMENT COMMITTEE BYLAWS

The Central Coast Regional Areas of Special Biological Significance Dischargers Monitoring Program Management Committee shall be governed by the following Bylaws.

1. Representation. Each DISCHARGER shall designate a representative to attend meetings in person, by telephone or via a web-based meeting of the Management Committee, and may designate alternates as set forth in this AGREEMENT. If a DISCHARGER'S representative is unable to attend a meeting, the DISCHARGER'S alternates shall attend.
2. Voting. Each DISCHARGER shall have one vote and the Management Committee representative or their alternate shall vote on behalf of the DISCHARGER unless stated otherwise in this AGREEMENT. Voting on all matters shall be on a voice vote unless a roll call vote is requested by any member in attendance or is required pursuant to the Brown Act.

All actions taken by the Management Committee require the affirmative vote of a majority of the Management Committee members entitled to vote. However, the Program Budget, or any other matter having a financial impact on a DISCHARGER not contemplated in the Program Budget, shall be approved by a two-thirds majority vote of a quorum present at the Management Committee meeting where the action is taken.

3. Quorum. A majority of the Management Committee entitled to vote constitutes a quorum for the transaction of business.
4. Officers. The officers of the Management Committee shall consist of a Chair and Vice Chair. The Chair shall preside over all meetings of the Management Committee, and may call special meetings as necessary upon one week of notice to all DISCHARGERS. The Chair may vote on, and second any motion, but may not make a motion. The Vice Chair shall perform the duties of the Chair in the Chair's absence.

In the first Fiscal Year the Administrator shall preside over the initial meeting of the Management Committee, and the first order of business for the initial meeting of the Management Committee shall be the election of the Chair and Vice Chair. The Chair and Vice Chair shall take up their duties immediately upon election.

In subsequent Fiscal Years the positions of Chair and Vice Chair shall be filled by election annually at the Management Committee's meeting in January. If either position becomes vacant for any reason, an election shall be held to fill the position(s) at the next meeting of

the Management Committee. Should both positions be vacant at the same time, the Administrator shall serve as Chair until a Chair is elected by the Management Committee.

5. Meeting Schedule. Regular meetings will be held at a frequency commensurate with the workload of the Management Committee at pre-arranged dates.
6. Starting Time. Meetings will start promptly at the times designated in the meeting notices. Representatives shall endeavor to notify the Administrator whether they will be late or unable to attend.
7. Limitation of Discussion. Discussion on any particular matter by either Management Committee members or by any member of the general public may be limited at the discretion of the chair to such length of time as the chair may deem reasonable under the circumstances.
8. Administrator. The Administrator shall serve as Secretary. The Secretary shall, upon consultation with the Chair, prepare an agenda for each meeting, keep and publish minutes for each meeting (which shall be approved by the Management Committee at the subsequent meeting), prepare and post any notices as may be required by law, and have custody of all documents relating to the Management Committee.

The Administrator shall also serve as Treasurer. The Treasurer shall manage the Program Fund as set forth in the AGREEMENT.

9. New Members. New members may be added to the Management Committee as set forth in Section 8.1 of this AGREEMENT.
10. Bylaws. The information set forth in these Bylaws shall be deemed sufficient to serve as the Bylaws for the Management Committee, subject to approval by the DISCHARGERS.
11. Conduct of Meetings. The meetings are to be guided by the principles of Robert's Rules of Order. The Chair shall decide all questions of order.
12. Program Attorney. The Management Committee may select an attorney or law firm ("Program Attorney") to provide legal advice to the Management Committee on matters involving the Program. The Program Attorney may be the attorney of record for one of the DISCHARGERS, so long as such representation is disclosed and any conflicts of interest are resolved. The Program Attorney may provide such services under separate contract with any DISCHARGER or DISCHARGERS, but shall provide advance notification to all DISCHARGERS before providing such services to identify and resolve possible issues of conflict of interest. The Administrator may assist in coordination of activities with the Program Attorney, and shall provide such assistance as the Program Attorney may require, but shall not give direction to the Program Attorney without prior authorization from the Management Committee.
13. Amendment. These Bylaws may be amended only by a majority vote of all DISCHARGERS.

EXHIBIT "B"

CENTRAL COAST REGIONAL AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE DISCHARGERS MONITORING PROGRAM

RESPONSIBILITIES OF ADMINISTRATOR

The Administrator shall have the following responsibilities:

1. The Administrator shall administer the AGREEMENT, and maintain an appropriate book of accounts, which, among other things, shall specifically identify the costs incurred in implementing the AGREEMENT. These records shall be subject to inspection by any of the DISCHARGERS at all reasonable times.
2. Subject to the prior approval of the Management Committee, the Administrator may enter into such agreements as necessary with public agencies or outside contractors and consultants to carry out the Program objectives.
3. The Administrator shall serve as the Secretary and Treasurer to the Management Committee.
4. Arranging for and conducting meetings of the Management Committee, including preparation of agenda materials and meeting minutes.
5. The Administrator shall perform such other duties as may be required and agreed to by the Management Committee, including, but not limited to, contracting with and managing the work of outside consultants and contractors to perform related work if deemed necessary and appropriate by the Management Committee. The Administrator shall act in a reasonable amount of time to execute contracts with consultants and/or contractors, which have been requested and approved by the Management Committee. The Administrator shall provide a copy of any contract executed on behalf of the Program to any DISCHARGER or person designated by any DISCHARGER or the Management Committee upon request. The contract template shall require consultants to indemnify and name all DISCHARGERS as additional insured and shall meet minimum coverage amounts for insurance policies. The Management Committee shall approve by a majority vote the contract template to be used by the Administrator.

EXHIBIT "C"

CENTRAL COAST REGIONAL AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE DISCHARGERS MONITORING PROGRAM

PROGRAM BUDGET GUIDELINES AND COST SHARE

Program Budget Guidelines

The Year 1 Program budget shall be based upon 1) the State Water Board's approved scope of work, a request for professional services, and the selected contractor's cost proposal, and 2) Program Administrator actual time and materials costs, but not to exceed \$50,000, based on the billing rate schedule included below. The Administrator costs in Year 1 shall include, but not be limited to, the following activities:

- Establishment of program fund and accounting
- Invoices to DISCHARGERS
- Solicitation for professional services to implement Scope of Work
- Procurement and management of professional services agreement
- Coordination with Management Committee

For subsequent Fiscal Years, the Administrator will prepare a Draft Program Budget no later than April 1 for the succeeding Fiscal Year. The Draft Program Budget shall include a breakdown of the costs allocated to each DISCHARGER, in accordance with the Cost Sharing table below. The Administrator will revise the Draft Program Budget, as appropriate, to address concerns and comments from the Management Committee and the Management Committee will then approve and adopt a final Program Budget by June 15 prior to the wet season in which monitoring will occur.

The Administrator and the DISCHARGERS recognize that the Program Budget will be based on estimated costs, and that actual costs may differ from the budgeted amounts. If it appears that costs will exceed the budgeted amounts, the Administrator will notify the Management Committee as soon as the Administrator becomes aware of this and before incurring costs in excess of the budgeted amounts. If the Management Committee determines it is appropriate to have the Administrator incur additional costs above the budgeted amounts, the Administrator will prepare and submit a budget revision request for approval by the Management Committee. Time shall be allotted for Management Committee representatives to request their respective governing Boards or Councils to approve a budget increase request prior to approving a Program Budget revision. Only after the Management Committee approves an increase in the Program Budget will the Administrator incur costs in excess of the budgeted amounts. If there are unspent funds left at the end of the fiscal year, the Administrator will return to each DISCHARGER the unspent portion of that DISCHARGER'S payment, or credit that amount to

the DISCHARGERS annual assessment for the subsequent fiscal year, at DISCHARGER's discretion.

The Administrator will establish a separate job-cost code in its accounting system, to track the hours spent and out-of-pocket expenses directly related to performing work as the Administrator, which will be charged to the Program Fund. The Administrator will include in the Management Committee's meeting agenda reports a summary of the work the Administrator has performed during the intervening time period, the total costs of that work, and the portion of the cost allocated to each DISCHARGER. The portion of the cost allocated to the DISCHARGER will be calculated in accordance with the cost-sharing approach outlined in the Cost-Sharing chart below.

The costs for the Program Administrator will consist of direct costs, as described below.

Cost-Sharing

The Cost Sharing table below shows how the annual Program Budget will be shared amongst the DISCHARGERS based on the Scope of Work ("Exhibit E"). Each DISCHARGER's Percentage Participation in the Program Budget components shall be as set forth in the table below:

| Agency | Outfalls 18" to 36" | Percentage of outfalls 18" - 36" (Budget A) | Outfalls = to or >36" w/ receiving water | Percentage of outfalls = to or >36" (Budget B) | Outfalls = to or >36" w/out receiving water | Percentage of outfalls = or >36" (Budget C) | Percentage Participation in Budget Component D |
|------------------|---------------------|---|--|--|---|---|--|
| Pacific Grove | 7 | 30.4% | 1.83 | 22.9% | 1 | 50% | 11.6% |
| City of Monterey | 0 | 0% | .5 | 6.3% | 0 | 0% | 11.6% |
| Carmel | 9 | 39.1% | 1 | 12.5% | 0 | 0% | 11.6% |
| PBC | 3 | 13% | 1 | 12.5% | 1 | 50% | 11.6% |
| MBA | 0 | 0% | .33 | 4.2% | 0 | 0% | 7.1% |
| Hopkins | 0 | 0% | .33 | 4.2% | 0 | 0% | 7.1% |
| Marin County | 0 | 0% | 1 | 12.5% | 0 | 0% | 11.6% |
| Monterey County | 0 | 0% | 1 | 12.5% | 0 | 0% | 11.6% |
| San Mateo County | 4 | 17.4% | 1 | 12.5% | 0 | 0% | 11.6% |
| Caltrans | 0 | 0% | 0 | 0% | 0 | 0% | 4.9% |
| Total | 23 | 100% | 8 | 100% | 2 | 100% | 100% |

Program Budget Components

The Program Budget shall be allocated into the following components:

- Component "A" shall consist of all costs associated with Program Core Monitoring for Runoff and Outfalls from 18" to <36" diameter.
- Component "B" shall consist of all costs associated with Program Core Monitoring for Outfalls from >36" diameter, with a receiving water site.
- Component "C" shall consist of all costs associated with Program Core Monitoring for Outfalls from >36" diameter, without a receiving water site.

- Component “D” shall consist of the Program Regional Monitoring, including large discharge receiving water, reference site receiving water, rocky intertidal and bioaccumulation monitoring, technical management and reporting, and Program Administrator costs (not to exceed \$50,000 in Year 1). Caltrans shall participate only in the bioaccumulation and rocky intertidal Program Regional Monitoring.

Annual Assessment

Each DISCHARGER’s Annual Assessment shall be the sum of the amounts calculated by multiplying each component of the Program Budget by the DISCHARGER’s Percentage Participation in that component.

Administrator Costs

Administrator costs will be compensated for actual direct costs on a time and materials basis. In Year 1, time and materials costs shall not exceed \$50,000 and shall be charged at the following rates (salary plus benefits):

| | |
|----------------------------|----------|
| Admin Assistant | \$55/hr |
| Executive Assistant | \$65/hr |
| Accountant | \$80/hr |
| Associate Engineer | \$110/hr |
| Director of Finance | \$135/hr |
| Director of Admin Services | \$150/hr |
| Assistant General Manager | \$165/hr |
| General Manager | \$190/hr |

Direct Costs are defined as costs incurred for necessary services and/or materials in the course of managing the Program. Direct costs shall be charged at actual cost. All direct costs shall be tracked and accounted for each fiscal year and provided in an independent annual audit in accordance with Section 5.8. Direct costs are those which can be and are tracked through time cards, invoices, record keeping systems, and other records that specifically allocate a cost to the Central Coast Regional Areas of Special Biological Significance Dischargers Monitoring Program.

EXHIBIT "D"

NOTICES

Pursuant to Section 9.5, unless otherwise specified, all notices or demands required under this Agreement shall be in writing and shall either be hand-delivered or mailed by first class registered or certified mail, postage prepaid, addressed to the PARTIES to the addresses and to the attention of the person named below:

CITY OF PACIFIC GROVE:

Sarah Hardgrave
Environmental Programs Manager
Public Works Department
2100 Sunset Drive
Pacific Grove, CA 93950

CITY OF MONTEREY:

Tom Reeves
City Engineer
Plans and Public Works
580 Pacific St.
Monterey, CA 93940

CITY OF CARMEL-BY-THE-SEA:

Jason Stilwell
City Administrator
Carmel-by-the-Sea City Hall
P.O. Box CC
Carmel-by-the-Sea, CA 93921

COUNTY OF MONTEREY:

Tom Harty
Stormwater Program Manager
Department of Public Works
168 West Alisal Street, 2nd Floor
Salinas, CA 93901

COUNTY OF SAN MATEO:

James C. Porter
Director

Department of Public Works and Parks
555 County Center, 5th Floor
Redwood City, CA 94063-1665

COUNTY OF MARIN:

Terri Fashing
Stormwater Program Administrator
Marin County Department of Public Works
3501 Civic Center Drive, Room 304
San Rafael, CA 94903

PEBBLE BEACH COMPANY:

Thomas Quattlebaum
Environmental Manager
4005 Sunridge Road
Pebble Beach, CA 93953

THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY,
THROUGH ITS HOPKINS MARINE STATION:

Chris Patton
Hopkins Marine Station
Stanford University
Pacific Grove CA 93950-3094

MONTEREY BAY AQUARIUM:

Roger Phillips
Director of Applied Research
Monterey Bay Aquarium
886 Cannery Row
Monterey, CA 93940

CALIFORNIA DEPARTMENT OF TRANSPORTATION (Caltrans):

EXHIBIT “E”

SCOPE OF WORK

Central California Areas of Special Biological Significance Storm Water Monitoring to Satisfy Special Protections November 26, 2012

I. Introduction

The Central Coast ASBS Regional Monitoring Program will be implemented during the 2012–2013 and 2013-2014 storm seasons and includes all ASBS responsible parties¹ on the Central Coast, covering an area from Big Sur, in Monterey County, to Pt. Reyes, in Marin County. This Scope of Work for the Central Coast ASBS Regional Monitoring Program has been developed through discussions with staff from State and Regional Water Boards, as well as the responsible parties discharging storm water into Areas of Special Biological Significance (ASBS).

II. Technical Program

In all specifications for storm water and receiving water monitoring that follow, the minimum requirement for a storm shall satisfy the criteria specified in the Special Protections (i.e., >0.10 inches of rainfall resulting in runoff, >72 hours from the previous storm). Moreover, every attempt shall be made to satisfy the criteria for storm runoff monitoring conducted by the Monterey Bay National Marine Sanctuary (i.e., sheeting water on roadways, heavy flow through the storm drain system and conductivity levels less than 1000 micro Siemens (µS) and declining) and ensure sufficient time after the initiation of rainfall to allow for time of concentration to include flow runoff from all parts of the catchment or watershed.

This Scope of Work covers monitoring requirements specified in the Special Protections for 12 participants¹ designated as Responsible Parties, as follows:

- National Park Service, Point Reyes National Seashore
- Marin County
- San Mateo County
- Monterey Bay Aquarium
- Hopkins Marine Station
- City of Monterey
- City of Pacific Grove
- Carmel by the Sea
- Pebble Beach Company

¹ It should be noted that three participants, Caltrans, National Park Service and California Department of Parks and Recreation, have not yet committed to full participation in the Central Coast regional program. These State and Federal Agencies may contract separately to implement their monitoring requirements, but with a commitment that they use the same monitoring design, laboratories for sample analysis and provide their data for analysis with the other participants.

- Monterey County
- California Department of Parks and Recreation
- Caltrans

While the City of Monterey is a Responsible Party, it does not operate any storm runoff outfalls of its own that drain into an ASBS. It does, however, contribute runoff to an ASBS outfall operated by the City of Pacific Grove. Storm water, sediment, receiving water and reference site monitoring will be performed under this Scope of Work for Monterey Bay Aquarium and Hopkins Marine Station in compliance with the individual Draft Mitigated Negative Declaration documents issued to each. These two participants have other monitoring requirements for seawater discharges that are being performed outside this Scope of Work.

A. Core Monitoring

1. Runoff Flow Measurements

Total annual storm runoff from each participant shall be estimated (modeled) by using measured rainfall and the amount of impervious area (to be provided by each participant) in each catchment. Targeted ground-truth measurements will be made to calibrate the model. This runoff modeling will permit estimates of total annual and event-specific loads for each participant.

2. Discharge Monitoring

All outfalls ≥ 18 inches shall be sampled, as follows:

- 1 storm in each of 2 years, except for discharges at receiving water sites, which shall be sampled in the same 3 storms sampled for receiving water;
- Each sample shall be analyzed for oil and grease, total suspended solids and fecal indicator bacteria;
- Annual samples (1 storm in each year) shall be analyzed for critical life stage chronic toxicity with a sea urchin using salted-up water.

All samples from outfalls ≥ 36 inches shall be sampled, as follows:

- 1 storm in each of 2 years, except for discharges at receiving water sites, which shall be sampled in the same 3 storms each year that are sampled for receiving water;
- Each sample shall be analyzed for oil and grease, total suspended solids and fecal indicator bacteria, California Ocean Plan trace metals, polynuclear aromatic hydrocarbons, organophosphorous pesticides, pyrethroid pesticides and nutrients (ammonia, nitrate, urea and phosphate);
- Annual samples (1 storm in each year) shall be analyzed for critical life stage chronic toxicity with a sea urchin test using salted-up discharge water.

B. Receiving Water and Reference Monitoring

1. Receiving Water Monitoring

Receiving water (receiving water = in the surf zone at the point of contact between runoff and the ocean) at 11 large storm water outfalls selected to represent worst-case conditions shall be sampled as follows:

- Samples shall be collected before and during 3 storms in each of 2 years;
- Each sample shall be analyzed for oil and grease, total suspended solids, fecal indicator bacteria, California Ocean Plan trace metals, polynuclear aromatic

hydrocarbons, organophosphorous pesticides, pyrethroid pesticides and nutrients (i.e., nitrate, ammonia, urea, orthophosphate);

- c. Samples collected during storms shall be analyzed for critical life stage chronic toxicity with 3 marine species (sea urchin, mussel and giant kelp).

Specific locations of outfalls to be monitored are as follows:

| | >18" | >36" | Responsible Party | Location | Longitude | Latitude | Nearest SWRCB Site | | |
|---|------|------------------|------------------------|---|-------------|-----------|--------------------|------------|----------|
| | | | | | | | ID | Longitude | Latitude |
| | | X ^a | Marin County | Trailhead at Agate Beach | -122.71059 | 37.89749 | DUX009 | -122.71058 | 37.89757 |
| X | | | San Mateo County | Maritime Walk | -122.517537 | 37.531153 | FIT012 | -122.51756 | 37.53115 |
| X | | | San Mateo County | Juliana | -122.516679 | 37.529092 | FIT015 | -122.51667 | 37.52915 |
| X | | | San Mateo County | Distillery | -122.513269 | 37.517706 | FIT028 | -122.51355 | 37.51789 |
| X | | | San Mateo County | Madrone | -122.511592 | 37.514237 | FIT029 | -122.51067 | 37.51246 |
| | X | X ^a | San Mateo County | Weinke Way | -122.516958 | 37.528645 | FIT016 | -122.5173 | 37.5282 |
| | | | California State Parks | Año Nuevo | -122.32181 | 37.11666 | ANO012 | -122.32181 | 37.11666 |
| | | X | California State Parks | Point Lobos | -121.93812 | 36.5187 | PTL004 | -121.93812 | 36.5187 |
| | | X ^a | California State Parks | Año Nuevo | -122.33662 | 37.13245 | ANO027 | -122.33662 | 37.13245 |
| | | X | California State Parks | Point Lobos | -121.94775 | 36.51524 | PTL034 | -121.94775 | 36.51524 |
| | | X | California State Parks | Julia Pfeiffer Burns | -121.68885 | 36.17192 | PFE008 | -121.68885 | 36.17192 |
| | | X | California State Parks | Julia Pfeiffer Burns | -121.68629 | 36.17072 | PFE011 | -121.68629 | 36.17072 |
| | | X | California State Parks | Julia Pfeiffer Burns | -121.68281 | 36.16924 | PFE012 | -121.68281 | 36.16924 |
| | | X | California State Parks | Julia Pfeiffer Burns | -121.6773 | 36.16634 | PFE015 | -121.6773 | 36.16634 |
| | | X | California State Parks | Julia Pfeiffer Burns | -121.6764 | 36.16569 | PFE016 | -121.6764 | 36.16569 |
| | | X | California State Parks | Julia Pfeiffer Burns | -121.66883 | 36.1553 | PFE026 | -121.66883 | 36.1553 |
| | | X | California State Parks | Julia Pfeiffer Burns | -121.66781 | 36.15469 | PFE027 | -121.66781 | 36.15469 |
| | | X | California State Parks | Julia Pfeiffer Burns | -121.91614 | 36.6246 | PCG120 | -121.91613 | 36.6246 |
| | | X ^a | Pacific Grove | Lover's at Ocean View | -121.914835 | 36.62381 | PCG215 | -121.91484 | 36.62378 |
| X | | | Pacific Grove | Ocean View between Fountain Avenue and 15th Street | -121.913831 | 36.622873 | PCG219 | -121.91381 | 36.62281 |
| | | X ^{a b} | Pacific Grove | Ocean View between 12th Street and 13th Street | -121.91472 | 36.62339 | PCG217 | -121.91472 | 36.62339 |
| | | X | Pacific Grove | Ocean View at 15th Street | -121.919561 | 36.627369 | PCG069 | -121.91955 | 36.62735 |
| X | | | Pacific Grove | Ocean View between Clyde Street and Naitad Street | -121.916596 | 36.626648 | PCG098 | -121.91657 | 36.62666 |
| X | | | Pacific Grove | Northwest corner of Lover's Point Park at Ocean View Boulevard | -121.914835 | 36.62381 | PCG215 | -121.91484 | 36.62378 |
| X | | | Pacific Grove | Grand Avenue at Ocean View | -121.910348 | 36.621624 | PCG229 | -121.91036 | 36.62162 |
| X | | | Pacific Grove | 8th Street at Ocean View | -121.90305 | 36.61897 | PCG257 | -121.90305 | 36.61897 |
| X | | X ^{a c} | Pacific Grove | Ocean View at the Hopkins Marine Laboratory Stanford University | -121.909634 | 36.621125 | PCG230 | -121.90995 | 36.62115 |
| X | | | Pacific Grove | At Ocean View between 7th Street and 5th Street | -121.909634 | 36.621125 | PCG230 | -121.90995 | 36.62115 |

| >18" | >36" | Responsible Party | Location | Longitude | Latitude | Nearest SWRCB Site | | |
|----------------|----------------|----------------------|--|-------------|-----------|--------------------|------------|----------|
| | | | | | | ID | Longitude | Latitude |
| | X ^a | County of Monterey | Scenic Road (12") | -121.93286 | 36.54439 | CAR029 | -121.93286 | 36.54439 |
| | X ^a | Carmel | 4 th Avenue | -121.93075 | 36.55610 | CAR062 | -121.93075 | 36.55605 |
| X | | Carmel | Ocean Avenue | -121.93030 | 36.55502 | CAR061 | -121.93033 | 36.55501 |
| X | | Carmel | 8 th Avenue | -121.92940 | 36.55250 | CAR059 | -121.92933 | 36.55275 |
| X | | Carmel | 10 th Avenue | -121.92898 | 36.55007 | CAR050 | -121.92904 | 36.55003 |
| X | | Carmel | 11 th Avenue | -121.92877 | 36.54883 | CAR046 | -121.92877 | 36.54881 |
| X | | Carmel | 13 th Avenue | -121.92903 | 36.54641 | CAR037 | -121.9291 | 36.5464 |
| X | | Carmel | parking lot at Del Mar near Ocean Avenue | -121.93003 | 36.55442 | CAR060 | -121.93006 | 36.55439 |
| X | | Carmel | 9 th Avenue | -121.92890 | 36.55117 | CAR055 | -121.92891 | 36.55117 |
| X | | Carmel | Scenic Road & Santa Lucia Avenue | -121.92962 | 36.54552 | CAR093 | -121.92968 | 36.54547 |
| X | | Carmel | 12 th Avenue | -121.92857 | 36.54765 | CAR044 | -121.92854 | 36.54767 |
| X | | Pebble Beach Company | Stillwater Pier | -121.942739 | 36.566625 | CAR279 | -121.94274 | 36.56655 |
| X | | Pebble Beach Company | 18 th Fairway PBGL | -121.948014 | 36.567247 | CAR299 | -121.94803 | 36.5672 |
| X | | Pebble Beach Company | 18 th Green PBGL / Lodge | -121.950131 | 36.567372 | CAR221 | -121.9501 | 36.56738 |
| | X ^a | Pebble Beach Company | 18 th Green PBGL / Lodge | -121.950097 | 36.567383 | CAR220 | -121.95001 | 36.56741 |
| | X | Pebble Beach Company | 9 th Green PBGL | -121.933397 | 36.560394 | CAR076 | -121.93337 | 36.5603 |
| X ^a | | Caltrans | Fitzgerald | -122.51771 | 37.53154 | FIT011 | -122.51771 | 37.53154 |
| | X | Caltrans | Año Nuevo | -122.29297 | 37.10714 | ANO035 | -122.29297 | 37.10714 |
| | X | Caltrans | Año Nuevo | -122.297 | 37.11084 | ANO034 | -122.297 | 37.11084 |
| | X | Caltrans | Año Nuevo | -122.29764 | 37.1113 | ANO032 | -122.29764 | 37.1113 |
| | X ^a | Caltrans | Año Nuevo | -122.29881 | 37.11202 | ANO033 | -122.29881 | 37.11202 |
| | X | Caltrans | Año Nuevo | -122.30121 | 37.11334 | ANO030 | -122.30121 | 37.11334 |
| | X | Caltrans | Carmel Bay | -121.9247 | 36.52453 | CAR007 | -121.9247 | 36.52453 |
| X | | Caltrans | Carmel Bay | -121.92457 | 36.52469 | CAR026 | -121.92457 | 36.52469 |

^a = Sites selected for discharge receiving water monitoring

^b = Monitoring of this site will be shared between the cities of Pacific Grove and Monterey

^c = Monitoring of this site will be shared among Pacific Grove, Monterey Bay Aquarium and Hopkins Marine Station

2. Reference Site Monitoring

Ocean water at 11 selected reference sites (reference site = in the surf zone at the mouth of a watershed with >90% open space and no listed water quality impairments) shall be sampled as follows:

- a. Samples shall be collected during 3 storms in each of 2 years;
- b. Each sample shall be analyzed for oil and grease, total suspended solids, fecal indicator bacteria, California Ocean Plan trace metals, polynuclear aromatic hydrocarbons, organophosphorous pesticides, pyrethroid pesticides and nutrients;
- c. Each sample shall be analyzed for of critical life stage chronic toxicity with 3 marine species (sea urchin, mussel and giant kelp).

The proposed locations for reference sites span the study region. One reference site described below is not part of this Scope of Work, but is included because State Water Board staff requested that the Central Coast regional program determine the location of that reference site. Locations of sites south of Point Lobos were selected based upon a reconnaissance survey made on November 19, 2012. Several of these southern sites involve either substantial hikes, permission from property owners or special permission for vehicle access. Consequently, adjustments to site locations may be necessary. Moreover, access to at least one site will require crossing a creek to reach the beach at the creek mouth and extreme precautions will be necessary during storm events. The proposed reference locations for water quality monitoring are as follows:

| Region | Specific Site |
|-------------------------------------|--|
| North of Point Reyes | Salmon Creek (USAF responsibility, not covered by this Scope of Work)) |
| San Mateo County | Tunitas Creek |
| | Gazos Creek |
| South of Año Nuevo | Scott Creek |
| Non-urban shoreline in Monterey Bay | La Selva Beach |
| | Marina State Beach |
| South of Point Lobos | Malpaso Creek ^a |
| | Doud Creek |
| | Little Sur River ^b |
| Big Sur coast ^a | Big Sur River |
| | Sycamore Creek |
| | Big Creek |
| Total covered by the Scope of Work | 11 |

^a = Beach access to ocean requires crossing the creek.

^b = Public access to be determined.

3. Biological Monitoring

Recent studies have examined whether rocky intertidal communities vary in response to storm water discharges. Initial results from southern California suggest that 2 out of 11 discharge sites exhibited community composition and abundances that could be consistent with storm water discharges (Raimondi *et al*, 2012). Consequently, monitoring of rocky intertidal communities shall be part of this program. The community structure in rocky intertidal habitats shall be measured once at 6 sites near ASBS storm water discharges and at 2 reference sites. Sampling shall involve point-contact estimates of substrate coverage by species along transects from the high intertidal zone to the low intertidal zone. Biological monitoring sites have been selected in consultation among permittees and regulatory agencies with consideration for the locations of sites with existing data.

Rocky intertidal communities will be sampled at the following sites:

| ASBS | Sampling Site Name |
|---|---------------------------|
| Año Nuevo Point and Islands ASBS | Año Nuevo |
| Carmel Bay ASBS | Stillwater |
| Duxbury Reef ASBS | Bolinas Point |
| James V. Fitzgerald Marine Reserve ASBS | Fitzgerald Marine Reserve |
| Pacific Grove ASBS | Hopkins |
| Point Lobos Ecological Reserve ASBS | Point Lobos |
| Reference | Santa Maria Creek |
| Reference | Pigeon Point |

4. Bioaccumulation Monitoring

California mussels are known to accumulate concentrations of pollutants in their tissues to concentrations much higher than found in the surrounding water. Consequently, they have been widely applied in studies of water quality status and trends (e.g., CCLEAN, 2012; Davis *et al*, 1999). Consequently, concentrations of contaminants shall be measured in resident mussels from sites near ASBS storm water discharges and from reference sites distant from urbanized ASBS areas utilizing existing programs, wherever possible, as follows:

- a. Population composites of mussels of roughly uniform shell length shall be collected from each of 7 sites.
- b. Each composite shall be thoroughly homogenized and analyzed for polynuclear aromatic hydrocarbons, polychlorinated biphenyls, polybrominated diphenyl ethers, chlorinated pesticides, pyrethroid pesticides and Lomefloxacin. These analytes are slightly different from those measured in sections A and B and, except for pyrethroids and Lomefloxacin, are consistent with those measured by CCLEAN.

The following sites will be sampled for bioaccumulation:

| Sites |
|-------------|
| Point Reyes |
| Scott Creek |

| Sites |
|-----------------------------------|
| Laguna Creek |
| 41 st Avenue, Capitola |
| Lovers Point |
| Fanshell Overlook, 17-Mile Drive |
| Carmel River Beach |
| Total = 7 |

C. Mooring Field Operations (Pebble Beach Company only)

1. Receiving Water

Ocean receiving water at the mooring facility shall be sampled as follows:

- a. Samples shall be collected monthly from May through October on a high use weekend in each month.
- b. Samples shall be analyzed for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), and ammonia nitrogen.

2. Sediments

Subtidal sediment shall be sampled, as follows:

- a. Samples shall be collected annually from within the mooring field and below the pier.
- b. Samples shall be analyzed for Ocean Plan Table 1 metals (for marine aquatic life beneficial use), acute toxicity (using *Eohaustorius estuaries*), PAHs, and tributyltin.

D. General Requirements

1. Ensure Data Quality

- a. All sampling and analysis shall conform to a Sampling and Analysis Plan (SAP) and to a Quality Assurance Program Plan (QAPP) that are consistent with requirements of the State of California Surface Water Ambient Monitoring Program (SWAMP). At a minimum, sampling shall be conducted so as to ensure that samples are representative of the site and matrix being sampled and to minimize the introduction of extraneous contamination into samples. Ultra-clean techniques shall be used for collection samples to be analyzed for organic contaminants and trace metals.
- b. Samples of the same type shall all be performed by the same laboratory and shall include appropriate lab blanks, certified reference materials, matrix spikes and matrix spike duplicates and reporting limits shall equal or be lower than those required by SWAMP.
- c. An audit will be prepared describing laboratory performance relative to data quality objectives prescribed in the QAPP.

2. Ensure data availability

All chemical data will be uploaded to the California Environmental Data Exchange Network annually.

3. Reporting

Annual reports shall be delivered within 6 months of the completion of laboratory analyses. At a minimum, annual reports shall include a complete description of sampling methods, sites and analytical methods and analysis of data, including comparison of data from discharges and their respective receiving water sites with those from reference sites and the California Ocean Plan and shall be comparable to Schiff *et al* (2011). The annual report for the second year will be cumulative, including analysis of all data from both years to provide a characterization of storm water discharges and their effects on receiving water quality in Areas of Special Biological Significance.

4. Areas of Special Biological Significance Included

Storm runoff from program participants flows into the following ASBS:

- National Park Service, Point Reyes National Seashore
 - Point Reyes Headlands ASBS
 - Double Point ASBS
 - Duxbury Reef ASBS
- County of Marin
 - Duxbury Reef ASBS
- County of San Mateo
 - James V. Fitzgerald ASBS
- California State Department of Parks and Recreation
 - Año Nuevo ASBS
 - Point Lobos ASBS
 - Julia Pfeiffer Burns ASBS
- Monterey Bay Aquarium
 - Pacific Grove ASBS
- Hopkins Marine Station
 - Pacific Grove ASBS
- City of Monterey
 - Pacific Grove ASBS
- City of Pacific Grove
 - Pacific Grove ASBS
- City of Carmel
 - Carmel Bay ASBS
- Pebble Beach Company
 - Carmel Bay ASBS
- County of Monterey
 - Carmel Bay ASBS
- Caltrans
 - James V. Fitzgerald ASBS
 - Año Nuevo ASBS

- o Carmel Bay ASBS

D. Literature Cited

CCLEAN. 2012. Central Coast Long-term Environmental Assessment Network Annual Report, 2010–2011.

Davis, JA, Stephenson M, Hardin, D, Gunther AJ, Sericano J, Bell D, Scelfo GH, Gold J, Crick J. 1999. Long term bioaccumulation monitoring with transplanted bivalves in San Francisco Bay. *Marine Pollution Bulletin*. 38:170–181.

Raimondi, P., K. Schiff and D. Gregorio. 2012. Characterization of the rocky intertidal ecological communities associated with southern California Areas of Special Biological Significance. Southern California Coastal Water Research Project Technical Report 703 – May 2012. Costa Mesa, CA.

Schiff, K.C., B. Luk, D. Gregorio and S. Gruber. 2011. Southern California Bight 2008 Regional Monitoring Program: II. Areas of Special Biological Significance. Southern California Coastal Water Research Project. Costa Mesa, CA.

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Appendix C: Applied Maine Sciences (AMS) RMP Scope of Work

PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT TO PROVIDE PROFESSIONAL SERVICES is made and entered into on 3/22/13 by and between MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY, hereinafter referred to as "AGENCY," and APPLIED MARINE SCIENCES, Inc. a Corporation, hereinafter referred to as "PROFESSIONAL," as follows:

SECTION I: ADHERENCE TO TERMS OF AGREEMENT

AGENCY intends to literally interpret and strictly apply all terms and conditions of this Agreement. All approvals that are required to be in writing must be in writing to be valid and binding. PROFESSIONAL is encouraged to raise to AGENCY any questions with regard to interpretation or applicability of any provision of this Agreement before undertaking the work and to do so in a timely manner in order to avoid any delays in performing work assignments.

The AGENCY is the Program Administrator for the Central Coast Areas of Special Biological Significance Regional Monitoring Program (CC ASBS RMP). In accordance with the Memorandum of Agreement establishing the CC ASBS RMP, the Management Committee shall provide technical oversight and establish timelines and budgets for completion of Program tasks by Budget Component as specified in the MOA. The AGENCY shall follow the provisions of the Memorandum of Agreement in addition to this agreement.

SECTION II: EMPLOYMENT

AGENCY hereby employs PROFESSIONAL, as an independent contractor to furnish the professional services covered by this Agreement, and the Requests for Service issued under it, in accordance with the terms and conditions set forth below, and PROFESSIONAL hereby accepts such employment.

SECTION III: WORK ASSIGNMENTS

It is the intent of AGENCY and PROFESSIONAL to authorize the performance of work under this Agreement by executing a series of written work assignments setting forth the specific description, scope, and costs of the work to be performed. Such assignments shall be called "Requests For Service" (RFS) and shall be numbered consecutively. Each RFS, upon execution by PROFESSIONAL and by AGENCY, shall become and be considered as a part of this Agreement, and all provisions herein shall apply to said RFSs. The RFS form to be used is contained in Attachment A to this Agreement.

SECTION IV: TIME OF PERFORMANCE

- A. General - Time is of the essence on the work of the RFSs issued under this Agreement. Therefore, PROFESSIONAL shall perform its services in a timely manner. Specific performance times shall be specified for each individual RFS under this Agreement. PROFESSIONAL shall make every reasonable effort, including assigning of additional personnel to the work and/or working overtime, to complete the authorized work within these stipulated time periods. The taking of such additional measures to complete the work within the stipulated time periods will not entitle PROFESSIONAL to additional compensation, if the work is being performed under the Lump Sum Payment Method, except as provided for in Section V, Paragraph B. It is understood that PROFESSIONAL began work towards the implementation of said Agreement upon notice of contract award on or about February 14, 2013 from AGENCY.
- B. Subcontracted Services - For subcontracted services PROFESSIONAL shall contract for and schedule such services in a timely fashion in accordance with the requirements of the work, and shall be fully responsible for the cost, performance and quality of all work performed by its subcontractors.
- C. Extensions of Time - The time of performance established for a particular RFS may be extended at any time prior to completion of the work by mutual agreement in writing between AGENCY and PROFESSIONAL.

SECTION V: COMPENSATION

- A. General - AGENCY and PROFESSIONAL shall negotiate the costs and fees for each specific RFS. The method of payment of said costs and fees for this RFS is a Not-to-Exceed fee. The method of payment will depend on the specific conditions, the scope of work, and the services to be performed for each specific RFS. Any tasks beyond the scope of work attached to this RFS shall require approval by the ASBS RMP Management Committee and a separate RFS.
- B. Not-to-Exceed - The fee for the “Project” is a not-to-exceed fee broken out for each separate task item identified within the RFS provided in March 2013 by Agency to Professional.
- C. Terms of Payment - PROFESSIONAL shall invoice AGENCY monthly for work completed during the previous month. Upon receipt, Agency shall forward all invoices to the Members of the Central Coast ASBS Regional Monitoring Program

Member Entities for review and consideration. All invoices shall be due and payable within thirty (30) days of the date of receipt by Agency, provided all costs included in the invoice are adequately supported by documentation accompanying the invoice for each task within the scope of work by Budget Component in the ASBS RMP MOA. If payment is not made within sixty (60) days of the date of receipt by Agency, interest on the unpaid balance will accrue beginning with the sixty-first day at the rate of 1.0 percent per month, or the maximum interest rate permitted by law, whichever is the lesser. Such interest shall become due and payable at the time said overdue payment is made.

- D. Penalty for Late Performance - The PROFESSIONAL is not responsible for delays in the schedule caused by events outside PROFESSIONAL's reasonable control. However, in the event PROFESSIONAL fails to properly complete work within thirty (30) days of the date such work is due (pursuant to schedules developed in accordance with Section IV of this Agreement), because of events within PROFESSIONAL's reasonable control, AGENCY SHALL reduce the total compensation established for the work of that RFS by ten percent (10%). Said reduction shall be deemed liquidated damages for the untimely performance of work required by this Agreement. PROFESSIONAL shall be deemed to have waived any claim for such amount by reason of his failure to perform in a timely fashion.

SECTION VI: TERMINATION

Notwithstanding the above, AGENCY reserves the right to terminate any RFS to this Agreement at any time prior to the completion of the services to be furnished by PROFESSIONAL under said RFS by giving a written Notice of Termination to PROFESSIONAL, in which event AGENCY shall pay PROFESSIONAL only for work done and direct costs incurred by PROFESSIONAL under said RFS prior to receipt of such notice of termination. Such costs will include reasonable costs to bring the work to a halt, and costs to deliver to AGENCY the documentation described in the following paragraph. Termination of a particular RFS will not affect any other operative RFS.

Upon receipt of a Notice of Termination, PROFESSIONAL shall (1) promptly discontinue all services affected (unless the notice directs otherwise), and (2) deliver to AGENCY all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by PROFESSIONAL in performing work under this Agreement, whether completed or in process.

Upon termination AGENCY may take over the work and prosecute the same to completion by agreement with another party or otherwise. Any work taken over by AGENCY for completion will be completed at AGENCY's risk, and AGENCY will hold harmless PROFESSIONAL from all claims and damages arising out of improper use of PROFESSIONAL's work.

SECTION VII: AGENCY LIABILITY

PROFESSIONAL understands that this Agreement is with AGENCY alone, and that none of the members of AGENCY are liable for any sums which may be payable hereunder, or for any debts of AGENCY.

SECTION VIII: CHANGES

AGENCY may, at its discretion and from time to time, revise, correct, or modify the work to be performed under an RFS. All such changes shall be made formally and in writing to PROFESSIONAL. PROFESSIONAL shall comply with such changes. Should PROFESSIONAL determine that said changes will result in an increase or decrease in costs to PROFESSIONAL, these costs shall be evaluated by AGENCY and PROFESSIONAL for negotiation as to adjustment in the compensation due to PROFESSIONAL, and written agreement as to said adjustment shall be reached between the parties prior to commencement of any work that will cause an increase or decrease in PROFESSIONAL's costs. Any increased costs in excess of the Total Price incurred by PROFESSIONAL prior to execution of a written agreement covering said increased costs shall not be compensable.

SECTION IX: DUTIES OF AGENCY

AGENCY agrees to perform duties in connection with this Agreement and RFS issued under it as follows:

- A. To assist PROFESSIONAL in obtaining any available information concerning location and details of facilities under control of AGENCY that may affect the work of an RFS, and to render reasonable assistance to PROFESSIONAL;
- B. To examine within a reasonable time so as not to delay the work of PROFESSIONAL, all studies, reports, sketches, drawings, specifications, cost estimates, proposals and other documents presented by PROFESSIONAL to AGENCY for such purpose;
- C. To give prompt written notice to PROFESSIONAL whenever AGENCY observes or otherwise becomes aware of any defect in the work of PROFESSIONAL;

SECTION X: DATA FURNISHED BY AGENCY

For the purpose of aiding PROFESSIONAL in the performance of its obligations under this Agreement and RFS issued under it, AGENCY shall furnish PROFESSIONAL all relevant data in its possession and shall render all reasonable assistance to PROFESSIONAL in connection with its performance hereunder. AGENCY is responsible for the reasonable correctness of data so furnished, but it shall likewise be the responsibility of PROFESSIONAL to apply reasonable caution in its use and interpretation of the data and to promptly advise AGENCY of any incorrectness or suspected incorrectness in the data furnished.

AGENCY shall provide to PROFESSIONAL in a timely manner all materials, decisions, and direction which are necessary to the progress of the work and which are basically the prerogative of AGENCY, but which PROFESSIONAL is not required to determine or provide under the terms of this Agreement.

SECTION XI: RESPONSIBILITIES OF PROFESSIONAL

PROFESSIONAL is employed to render a professional service only, and any payments made to him are compensation solely for such services as he may render and recommendations he may make in carrying out the work. PROFESSIONAL shall follow professional practices to make findings, opinions, factual presentations, and professional advice and recommendations.

PROFESSIONAL's review or supervision of work prepared or performed by other individuals or firms employed directly by AGENCY shall not relieve those individuals or firms of complete responsibility for the adequacy of their work.

PROFESSIONAL shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all designs, drawings, specifications, reports and other services furnished by PROFESSIONAL under this Agreement. PROFESSIONAL shall, without additional compensation, correct or revise any errors, omissions or other deficiencies in his designs, drawings, specifications, reports and other services.

PROFESSIONAL shall perform such professional services as may be necessary to accomplish the work required to be performed under this Agreement and in accordance with this Agreement.

PROFESSIONAL will not publish, release and/or divulge any information, data and/or findings from services related to the scope of this Agreement to any third party without the prior written consent of AGENCY, or as required by the Scope of Work concerning uploading of data to required State of California water quality databases such as CEDEN or SWAMP. This restriction does not apply to popular publication of previously published technical matter. Publication pursuant to this Agreement may be produced independently or in collaboration with others; however, in all cases proper credit will be given to the efforts of those parties contributing to the publication. In the event no agreement is reached concerning the manner of publication or interpretation of results, any party may publish data after due notice and submission of the proposed manuscripts to the other parties. In such instances, the party publishing the data will give due credit to the cooperation but assume full responsibility for any statements on which there is a difference of opinion.

All data produced and/or compiled by PROFESSIONAL shall be considered confidential unless it can be obtained as public record and shall not be shared with a third party without the prior written consent of AGENCY. All financial, statistical, personal, technical, and other data and information relating to the AGENCY'S operations which is made available to the PROFESSIONAL in order to carry out this Agreement shall be presumed to be confidential. PROFESSIONAL shall protect said data and information from unauthorized use and disclosure by the observance of the same or more effective procedures, as the AGENCY requires of its own personnel. The PROFESSIONAL shall not, however, be required by this paragraph to keep confidential any data or information which is or becomes publicly available, is already rightfully in the PROFESSIONAL'S possession, is independently developed by the PROFESSIONAL outside the scope of the Agreement or is rightfully obtained from third parties.

Approval by AGENCY of drawings, designs, specifications, reports, and incidental engineering work or materials furnished hereunder shall not in any way relieve PROFESSIONAL of responsibility for the technical adequacy of his work. Neither AGENCY's review, approval or acceptance of, nor payment for, any of the services rendered under this Agreement shall be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

PROFESSIONAL shall be and remain liable in accordance with applicable law for all damages to AGENCY caused by PROFESSIONAL's negligent performance of any of the services furnished under this Agreement. The only exception in this regard will be for errors, omissions or other deficiencies to the extent attributable to AGENCY, AGENCY-furnished data or any third party not under the control of PROFESSIONAL. PROFESSIONAL shall not be responsible for any time delays in the project caused by circumstances beyond PROFESSIONAL's control.

SECTION XII: SUBCONTRACT

AGENCY has entered into this Agreement in order to receive the professional services of PROFESSIONAL. PROFESSIONAL will therefore not make an assignment to a third party of all or any portion of the services required of PROFESSIONAL under this Agreement and RFSs thereto without first obtaining the written consent of AGENCY or as identified in Professional's proposal, included in any heretofore RFS, or as identified in any cost proposal submitted and accepted by AGENCY. PROFESSIONAL may, however, make use of the part-time assistance of other experts possessing unique skills, the utilization of which will, in the opinion of PROFESSIONAL, enhance the quality of its service to AGENCY under this Agreement provided, however, that any such additional assistants, part-time or otherwise, shall be considered employees of PROFESSIONAL or of PROFESSIONAL's subcontractor(s), and the responsibility for same shall rest with PROFESSIONAL.

SECTION XIII: INDEPENDENT PROFESSIONAL

PROFESSIONAL shall perform the services hereunder as an independent contractor, and nothing herein contained shall be construed to be inconsistent with this relationship or status. The employees of PROFESSIONAL shall not be deemed to be the employees of AGENCY, and AGENCY shall have no right to control the physical conduct of PROFESSIONAL's employees.

SECTION XIV: USE OF DOCUMENTS

For all work performed under this Agreement and all RFSs thereto, PROFESSIONAL shall provide to AGENCY copies of all plans, drawings, specifications, studies, reports, analyses, calculations, and all other work products and supporting documentation developed in the course of performing the work authorized by these agreements. The costs for reproducing, assembling, and delivering said copies of these documents to AGENCY shall be considered to have been included in the price for performing each RFS, whether or not specifically stated therein. Unless stated otherwise in the RFS, one paper copy, and the electronic file on disc or on CD (e.g. in MS Word, MS Excel, etc.), of each document shall be provided by PROFESSIONAL to AGENCY. AGENCY shall have the right, and permission of PROFESSIONAL, to use any such document for any purpose which AGENCY deems appropriate. Use of documents for other than their intended purpose shall be at AGENCY's risk. AGENCY shall hold PROFESSIONAL harmless from all claims and damages arising out of improper use of said documents.

SECTION XV: AMENDMENTS AND SCOPE OF AGREEMENT

AGENCY hereby reserves the right to amend the provisions of this Agreement from time to time as may be in the best interest of AGENCY. Such amendments, upon acceptance by PROFESSIONAL and by AGENCY, shall become and be considered as part of this Agreement, and all provisions herein shall apply to such amendments.

This Agreement constitutes the entire agreement between the parties relative to the subject matters hereof, and no modifications thereof shall be effective unless and until such modifications are evidenced by written amendments, signed by both parties, to this Agreement. There are no understandings, agreements, conditions, representations, warranties, or promises with respect to the subject matter of this Agreement which are not actually contained in the Agreement, except those expressly contained in such written amendments.

SECTION XVI: SUCCESSORS AND ASSIGNS

This Agreement and all amendments thereto shall be binding upon and inure to the benefit of any successors and assigns of the respective parties hereto.

SECTION XVII: ATTORNEYS' FEES

If any legal action is necessary to enforce or interpret the terms or provisions of this Agreement and all amendments thereto, and the respective rights and duties of the parties hereunder, the prevailing party shall be entitled to reasonable attorneys' fees in addition to any other relief to which he may be entitled.

SECTION XVIII: JURISDICTION

This Agreement shall be administered and interpreted under the laws of the State of California. Jurisdiction of litigation arising from this Agreement shall be in this state. If any part of this Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall be in full force and effect.

SECTION XIX: INSURANCE

PROFESSIONAL shall procure and maintain for the duration of this Agreement insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by PROFESSIONAL, his agents, representatives, employees or subcontractors.

A. Minimum Scope and Limits of Insurance

PROFESSIONAL shall maintain the types of insurance with limits no less than those set forth below, and having no deductibles, except as noted.

The coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence Form CG 0001).
2. Insurance Services Office Form No. CA 0001 covering Automobile Liability, Code 1 (any auto).
3. Workers Compensation insurance as required by the State of California and Employer's Liability Insurance.
4. Errors and Omissions Liability insurance appropriate to the consultant's profession. For architects and engineers this coverage shall be endorsed to include contractual liability.

Required coverage:

1. General Liability Insurance: Combined single limit of \$1,000,000 per occurrence and \$2,000,000 annual aggregate for bodily injury, personal injury, and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability Insurance: \$1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability Insurance: \$1,000,000 per accident for bodily injury or disease. If PROFESSIONAL has no employees, this coverage is not required.
4. Workers' Compensation Insurance: As required by the State of California.

B. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by AGENCY before any work under this Agreement is performed.

C. Acceptability of Insurers

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

D. Verification of Coverage

PROFESSIONAL shall furnish AGENCY with original certificates and amendatory endorsements effecting coverage required by this section. The endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All endorsements are to be received and approved by AGENCY before work commences. If this is not possible due to time constraints prior to commencement of work, PROFESSIONAL may initially furnish Certificates of Insurance in lieu of endorsements, as long as the endorsements are provided within forty-five (45) days from the date of execution of this Agreement.

E. Subcontractors

PROFESSIONAL shall include all subcontractors as insureds under its policies or shall furnish separate evidence of coverage and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein, or as approved by AGENCY.

SECTION XX: INDEMNIFICATION

PROFESSIONAL shall indemnify and hold harmless AGENCY and its officers, officials, employees and agents from and against all losses, claims, demands, payments, suits, actions, recoveries, and judgements of every nature and description brought or recoverable against it or them by reason of any negligent act, negligent error, or negligent omission of PROFESSIONAL, his agents, or employees for work performed under this Master Agreement.

SECTION XXI: WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person or by mail to the individuals and at the addresses listed below:

- | | |
|------------------|--|
| A. AGENCY: | General Manager Monterey Regional Water Pollution Control Agency 5 Harris Court, Building D Monterey, CA 93940 |
| B. PROFESSIONAL: | Dane Hardin Vice President Applied Marine Sciences, Inc. 911 Center Street, Suite A Santa Cruz, CA 95060 |

IN WITNESS WHEREOF, the parties hereto have executed this Agreement consisting of fourteen (14) pages and one (1) Attachment in duplicate on the date hereinabove written.

AGENCY

MONTEREY REGIONAL WATER
POLLUTION CONTROL AGENCY

By _____
Keith E. Israel
General Manager/Secretary
to the Board of Directors

PROFESSIONAL

APPLIED MARINE SCIENCES

By _____
Dane Hardin
Vice President

ATTACHMENT A

MONTEREY REGIONAL WATER POLLUTION CONTROL AGENCY
REQUEST FOR SERVICE

DATE: March 20, 2013

RFS NO. 2013-1
(To be filled in by AGENCY)

TO: Dane Hardin, Applied Marine Sciences

FROM: Douglas Dowden, MRWPCA

Services Needed and Purpose:

Professional shall provide storm water and receiving water monitoring during the 2013 – 2014 and 2014 – 2015 storm seasons, covering an area from Big Sur, in Monterey County, to Pt. Reyes, in Marin County. This Scope of Work shall include a technical program element which shall include: core monitoring and receiving water and reference site monitoring, mooring field operations site monitoring and general requirements as specified within the Scope of Work detailed herein.

Completion Date: June 2015

Method of Compensation: Not-to-Exceed (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$1,365,253.00 (Cost is authorized only when evidenced by signature below.)

Total Price may not be exceeded without prior written authorization by AGENCY in accordance with Section V. COMPENSATION.

Requested by: Douglas Dowden
Stormwater Program Manager

Date: 5/23/13

Authorized by: _____ Date: _____
AGENCY General Manager

Agreed to by: _____ Date: _____

PROFESSIONAL

Detailed Scope of Work for RFS No.2013-1:

The Central Coast ASBS Regional Monitoring Program will be implemented during the 2013–2014 and 2014-2015 storm seasons and includes most ASBS responsible parties¹ on the Central Coast, covering an area from Big Sur, in Monterey County, to Pt. Reyes, in Marin County. This Scope of Work for the Central Coast ASBS Regional Monitoring Program has been approved by staff from State and Regional Water Boards, as well as the responsible parties discharging storm water into Areas of Special Biological Significance (ASBS).

II. Technical Program

In all specifications for storm water and receiving water monitoring that follow, the minimum requirement for a storm shall satisfy the criteria specified in the Special Protections (i.e., >0.10 inches of rainfall resulting in runoff, >72 hours from the previous storm). Moreover, every attempt shall be made to satisfy the criteria for storm runoff monitoring conducted by the Monterey Bay National Marine Sanctuary (i.e., sheeting water on roadways, heavy flow through the storm drain system and conductivity levels less than 1000 micro Siemens (μ S) and declining) and ensure sufficient time after the initiation of rainfall to allow for time of concentration to include flow runoff from all parts of the catchment or watershed.

This Scope of Work covers monitoring requirements specified in the Special Protections for 12 participants¹ designated as Responsible Parties, as follows:

- Marin County
- San Mateo County
- Monterey Bay Aquarium
- Hopkins Marine Station
- City of Monterey
- City of Pacific Grove
- Carmel by the Sea
- Pebble Beach Company
- Monterey County
- Caltrans

While the City of Monterey is a Responsible Party, it does not operate any storm runoff outfalls of its own that drain into an ASBS. It does, however, contribute runoff to an ASBS outfall operated by the City of Pacific Grove. Storm water, sediment, receiving water and reference site monitoring will be performed under this Scope of Work for Monterey Bay Aquarium and Hopkins Marine Station in compliance with the individual Draft Mitigated Negative Declaration documents issued to each. These two participants have other monitoring requirements for seawater discharges that are being performed outside this Scope of Work.

A. Core Monitoring

¹ It should be noted that two participants, National Park Service and California Department of Parks and Recreation, did not commit to participation in the Central Coast regional program. These State and Federal Agencies may contract separately to implement their monitoring requirements, but with a commitment that they use the same monitoring design, laboratories for sample analysis and provide their data for analysis with the other participants.

1. Runoff Flow Measurements

Total annual storm runoff from each participant shall be estimated (modeled) by using measured rainfall and the amount of impervious area (to be provided by each participant) in each catchment. Targeted ground-truth measurements will be made to calibrate the model. This runoff modeling will permit estimates of total annual and event-specific loads for each participant.

2. Discharge Monitoring

All outfalls ≥ 18 inches shall be sampled, as follows:

- a. 1 storm in each of 2 years, except for discharges at receiving water sites, which shall be sampled in the same 3 storms sampled for receiving water;
- b. Each sample shall be analyzed for oil and grease, total suspended solids and fecal indicator bacteria;
- c. Annual samples (1 storm in each year) shall be analyzed for critical life stage chronic toxicity with a sea urchin using salted-up water.

All samples from outfalls ≥ 36 inches shall be sampled, as follows:

- a. 1 storm in each of 2 years, except for discharges at receiving water sites, which shall be sampled in the same 3 storms each year that are sampled for receiving water;
- b. Each sample shall be analyzed for oil and grease, total suspended solids and fecal indicator bacteria, California Ocean Plan trace metals, polynuclear aromatic hydrocarbons, organophosphorous pesticides, pyrethroid pesticides and nutrients (ammonia, nitrate, urea and phosphate);
- c. Annual samples (1 storm in each year) shall be analyzed for critical life stage chronic toxicity with a sea urchin test using salted-up discharge water.

B. Receiving Water and Reference Monitoring

1. Receiving Water Monitoring

Receiving water (receiving water = in the surf zone at the point of contact between runoff and the ocean) at 11 large storm water outfalls selected to represent worst-case conditions shall be sampled as follows:

- a. Samples shall be collected before and during 3 storms in each of 2 years;
- b. Each sample shall be analyzed for oil and grease, total suspended solids, fecal indicator bacteria, California Ocean Plan trace metals, polynuclear aromatic hydrocarbons, organophosphorous pesticides, pyrethroid pesticides and nutrients (i.e., nitrate, ammonia, urea, orthophosphate);
- c. Samples collected during storms shall be analyzed for critical life stage chronic toxicity with 3 marine species (sea urchin, mussel and giant kelp).

Specific locations of outfalls to be monitored are as follows:

| >18" | >36" | Responsible Party | Location | Longitude | Latitude | Nearest SWRCB Site | | |
|------|------------------|--------------------|---|-------------|-----------|--------------------|------------|----------|
| | | | | | | ID | Longitude | Latitude |
| | X ^a | Marin County | Trailhead at Agate Beach | -122.71059 | 37.89749 | DUX009 | -122.71058 | 37.89757 |
| X | | San Mateo County | Maritime Walk | -122.517537 | 37.531153 | FIT012 | -122.51756 | 37.53115 |
| X | | San Mateo County | Juliana | -122.516679 | 37.529092 | FIT015 | -122.51667 | 37.52915 |
| X | | San Mateo County | Distillery | -122.513269 | 37.517706 | FIT028 | -122.51355 | 37.51789 |
| X | | San Mateo County | Madrone | -122.511592 | 37.514237 | FIT029 | -122.51067 | 37.51246 |
| | X ^a | San Mateo County | Weinke Way | -122.516958 | 37.528645 | FIT016 | -122.5173 | 37.5282 |
| | X ^a | Pacific Grove | Lover's at Ocean View | -121.91614 | 36.6246 | PCG120 | -121.91613 | 36.6246 |
| X | | Pacific Grove | Ocean View between Fountain Avenue and 15th Street | -121.914835 | 36.62381 | PCG215 | -121.91484 | 36.62378 |
| | X ^{a b} | Pacific Grove | Ocean View between 12th Street and 13th Street | -121.913831 | 36.622873 | PCG219 | -121.91381 | 36.62281 |
| | X | Pacific Grove | Ocean View at 15th Street | -121.91472 | 36.62339 | PCG217 | -121.91472 | 36.62339 |
| X | | Pacific Grove | Ocean View between Clyte Street and Naiad Street | -121.919561 | 36.627369 | PCG069 | -121.91955 | 36.62735 |
| X | | Pacific Grove | Northwest corner of Lover's Point Park at Ocean View Boulevard | -121.916596 | 36.626648 | PCG098 | -121.91657 | 36.6266 |
| X | | Pacific Grove | Grand Avenue at Ocean View | -121.914835 | 36.62381 | PCG215 | -121.91484 | 36.62378 |
| X | | Pacific Grove | 8th Street at Ocean View | -121.910348 | 36.621624 | PCG229 | -121.91036 | 36.62162 |
| X | X ^{a c} | Pacific Grove | Ocean View at the Hopkins Marine Laboratory Stanford University | -121.90305 | 36.61897 | PCG257 PCG258 | -121.90305 | 36.61897 |
| X | | Pacific Grove | At Ocean View between 7th Street and 5th Street | -121.909634 | 36.621125 | PCG230 | -121.90995 | 36.62115 |
| | X ^a | County of Monterey | TBD (12") | -121.93286 | 36.54439 | CAR029 | -121.93286 | 36.54439 |
| | X ^a | Carmel | 4 th Avenue | -121.93075 | 36.55610 | CAR062 | -121.93075 | 36.55605 |
| X | | Carmel | Ocean Avenue | -121.93030 | 36.55502 | CAR061 | -121.93033 | 36.55501 |
| X | | Carmel | 8 th Avenue | -121.92940 | 36.55250 | CAR059 | -121.92933 | 36.55275 |
| X | | Carmel | 10 th Avenue | -121.92898 | 36.55007 | CAR050 | -121.92904 | 36.55003 |
| X | | Carmel | 11 th Avenue | -121.92877 | 36.54883 | CAR046 | -121.92877 | 36.54881 |
| X | | Carmel | 13 th Avenue | -121.92903 | 36.54641 | CAR037 | -121.9291 | 36.5464 |
| X | | Carmel | parking lot at Del Mar near Ocean Avenue | -121.93003 | 36.55442 | CAR060 | -121.93006 | 36.55439 |
| X | | Carmel | 9 th Avenue | -121.92890 | 36.55117 | CAR055 | -121.92891 | 36.55117 |

| >18" | >36" | Responsible Party | Location | Longitude | Latitude | Nearest SWRCB Site | | |
|----------------|----------------|----------------------|-------------------------------------|-------------|-----------|--------------------|------------|----------|
| | | | | | | ID | Longitude | Latitude |
| X | | Carmel | Scenic Road & Santa Lucia Avenue | -121.92962 | 36.54552 | CAR093 | -121.92968 | 36.54547 |
| X | | Carmel | 12 th Avenue | -121.92857 | 36.54765 | CAR044 | -121.92854 | 36.54767 |
| X | | Pebble Beach Company | Stillwater Pier | -121.942739 | 36.566625 | CAR279 | -121.94274 | 36.56655 |
| X | | Pebble Beach Company | 18 th Fairway PBGL | -121.948014 | 36.567247 | CAR299 | -121.94803 | 36.5672 |
| X | | Pebble Beach Company | 18 th Green PBGL / Lodge | -121.950131 | 36.567372 | CAR221 | -121.9501 | 36.56738 |
| | X ^a | Pebble Beach Company | 18 th Green PBGL / Lodge | -121.950097 | 36.567383 | CAR220 | -121.95001 | 36.56741 |
| | X | Pebble Beach Company | 9 th Green PBGL | -121.933397 | 36.560394 | CAR076 | -121.93337 | 36.5603 |
| X ^a | | Caltrans | Fitzgerald | -122.51771 | 37.53154 | FIT011 | -122.51771 | 37.53154 |
| | X | Caltrans | Año Nuevo | -122.29297 | 37.10714 | ANO035 | -122.29297 | 37.10714 |
| | X | Caltrans | Año Nuevo | -122.297 | 37.11084 | ANO034 | -122.297 | 37.11084 |
| | X | Caltrans | Año Nuevo | -122.29764 | 37.1113 | ANO032 | -122.29764 | 37.1113 |
| | X ^a | Caltrans | Año Nuevo | -122.29881 | 37.11202 | ANO033 | -122.29881 | 37.11202 |
| | X | Caltrans | Año Nuevo | -122.30121 | 37.11334 | ANO030 | -122.30121 | 37.11334 |
| | X | Caltrans | Carmel Bay | -121.9247 | 36.52453 | CAR007 | -121.9247 | 36.52453 |
| X | | Caltrans | Carmel Bay | -121.92457 | 36.52469 | CAR026 | -121.92457 | 36.52469 |

^a = Sites selected for discharge receiving water monitoring

^b = Monitoring of this site will be shared between the cities of Pacific Grove and Monterey

^c = Monitoring of this site will be shared among Pacific Grove, Monterey Bay Aquarium and Hopkins Marine Station

2. Reference Site Monitoring – This component was eliminated from the original Scope of Work per Addendum 2 of the Request for Proposals dated 1/29/13.

3. Biological Monitoring

Recent studies have examined whether rocky intertidal communities vary in response to storm water discharges. Initial results from southern California suggest that 2 out of 11 discharge sites exhibited community composition and abundances that could be consistent with storm water discharges (Raimondi *et al.*, 2012). Consequently, monitoring of rocky intertidal communities shall be part of this program. The community structure in rocky intertidal habitats shall be measured once at 6 sites near ASBS storm water discharges and at 2 reference sites. Sampling shall involve point-contact estimates of substrate coverage by species along transects from the high intertidal zone to the low intertidal zone. Biological monitoring sites have been selected in consultation among permittees and regulatory agencies with consideration for the locations of sites with existing data.

Rocky intertidal communities will be sampled at the following sites:

| ASBS | Sampling Site Name |
|---|---------------------------|
| Año Nuevo Point and Islands ASBS | Año Nuevo |
| Carmel Bay ASBS | Stillwater |
| Duxbury Reef ASBS | Bolinas Point |
| James V. Fitzgerald Marine Reserve ASBS | Fitzgerald Marine Reserve |
| Pacific Grove ASBS | Hopkins |
| Point Lobos Ecological Reserve ASBS | Point Lobos |
| Reference | Santa Maria Creek |
| Reference | Pigeon Point |

4. Bioaccumulation Monitoring

California mussels are known to accumulate concentrations of pollutants in their tissues to concentrations much higher than found in the surrounding water. Consequently, they have been widely applied in studies of water quality status and trends (e.g., CCLEAN, 2012; Davis *et al.*, 1999). Consequently, concentrations of contaminants shall be measured in resident mussels from sites near ASBS storm water discharges and from reference sites distant from urbanized ASBS areas utilizing existing programs, wherever possible, as follows:

- a. Population composites of mussels of roughly uniform shell length shall be collected from each of 7 sites.
- b. Each composite shall be thoroughly homogenized and analyzed for polynuclear aromatic hydrocarbons, polychlorinated biphenyls, polybrominated diphenyl ethers, chlorinated pesticides, pyrethroid pesticides and Lomefloxacin. These analytes are slightly different from those measured in sections A and B and, except for pyrethroids and Lomefloxacin, are consistent with those measured by CCLEAN.

The following sites will be sampled for bioaccumulation:

| Sites |
|--------------|
| Point Reyes |
| Scott Creek |
| Laguna Creek |

| |
|-----------------------------------|
| Sites |
| 41 st Avenue, Capitola |
| Lovers Point |
| Fanshell Overlook, 17-Mile Drive |
| Carmel River Beach |
| Total = 7 |

C. Mooring Field Operations (Pebble Beach Company only)

1. Receiving Water

Ocean receiving water at the mooring facility shall be sampled as follows:

- a. Samples shall be collected monthly from May through October on a high use weekend in each month.
- b. Samples shall be analyzed for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), and ammonia nitrogen.

2. Sediments

Subtidal sediment shall be sampled, as follows:

- a. Samples shall be collected annually from within the mooring field and below the pier.
- b. Samples shall be analyzed for Ocean Plan Table 1 metals (for marine aquatic life beneficial use), acute toxicity (using *Eohaustorius estuarius*), PAHs, and tributyltin.

D. General Requirements

1. Ensure Data Quality

- a. All sampling and analysis shall conform to a Sampling and Analysis Plan (SAP) and to a Quality Assurance Program Plan (QAPP) that are consistent with requirements of the State of California Surface Water Ambient Monitoring Program (SWAMP). At a minimum, sampling shall be conducted so as to ensure that samples are representative of the site and matrix being sampled and to minimize the introduction of extraneous contamination into samples. Ultra-clean techniques shall be used for collection samples to be analyzed for organic contaminants and trace metals.
- b. Samples of the same type shall all be performed by the same laboratory and shall include appropriate lab blanks, certified reference materials, matrix spikes and matrix spike duplicates and reporting limits shall equal or be lower than those required by SWAMP.
- c. An audit will be prepared describing laboratory performance relative to data quality objectives prescribed in the QAPP.

2. Ensure data availability

All chemical data will be uploaded to the California Environmental Data Exchange Network annually.

3. Reporting

Annual reports shall be delivered within 6 months of the completion of laboratory analyses. At a minimum, annual reports shall include a complete description of sampling methods, sites and analytical methods and analysis of data, including comparison of data from discharges and their respective receiving water sites with those from reference sites and the California Ocean Plan and shall be comparable to Schiff *et al* (2011). The annual report for the second year will be cumulative, including analysis of all data from both years to provide a characterization of storm water discharges and their effects on receiving water quality in Areas of Special Biological Significance.

4. Areas of Special Biological Significance Included

Storm runoff from program participants flows into the following ASBS:

- County of Marin
 - Duxbury Reef ASBS
- County of San Mateo
 - James V. Fitzgerald ASBS
- Monterey Bay Aquarium
 - Pacific Grove ASBS
- Hopkins Marine Station
 - Pacific Grove ASBS
- City of Monterey
 - Pacific Grove ASBS
- City of Pacific Grove
 - Pacific Grove ASBS
- City of Carmel
 - Carmel Bay ASBS
- Pebble Beach Company
 - Carmel Bay ASBS
- County of Monterey
 - Carmel Bay ASBS
- Caltrans
 - James V. Fitzgerald ASBS
 - Año Nuevo ASBS
 - Carmel Bay ASBS