UNITED STATES MARINE CORPS
MARINE CORPS BASE
BOX 555008
CAMP PENDLETON, CALIFORNIA 92055-5008

IN REPLY REFER TO:

5090.11
ENVSEC/30
19 June 2009

Executive Officer
Attention: Mr. Ben Neill
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Subj: Revised Tentative Order No. R9-2009-0002: Waste Discharge Requirements for Discharges of Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watershed of the County of Orange, the Incorporated Cities of Orange County, and the Orange County Flood Control District within the San Diego Region

Marine Corps Base Camp Pendleton supports the Regional Water Quality Control Board's efforts to promote water quality and low impact development and appreciates the opportunity to review and comment upon the subject draft permit. Camp Pendleton's Director of Water Resources has expressed concerns over potential unintended consequences to water rights and water supply that could result from requirements contained in the draft permit. Please consider the enclosed comments.

If you have any questions, please contact Ms. Gabrielle Skipper at (760) 725-9760. Thank you.

Sincerely,

D. F. LEVI
Deputy, Assistant Chief of Staff, Environmental Security
By direction of the Commanding Officer

Enclosures: (1) Director of Office of Water Resources Letter dated 19 June 2009
(2) Department of Navy Low Impact Development Policy for Storm Water Management dated 16 November 2007

From: Director, Office of Water Resources, Camp Pendleton
To: Department Head, Environmental Compliance Department, Camp Pendleton

Subject: San Diego Regional Water Quality Control Board ("Regional Board") Revised Tentative Order No. R9-2009-0002, NPDES CAS0108740, Orange County Municipal Storm Water Permit Reissuance (Regional Board Code NWU:658018:bneill) (hereinafter "Proposed Order")

The Office of Water Resources (OWR) requests that the below comments regarding the Proposed Order are forwarded to the Regional Board for consideration. The Office of Water Resources would like to ensure that the national defense priorities of Camp Pendleton, particularly as they pertain to camp water supplies, are not frustrated by potential unintended consequences of the Proposed Order.

Camp Pendleton Supports the Concept of Low Impact Development (LID):

There is much that the Proposed Order sets out to do which is laudable, and indeed, potentially beneficial for Camp Pendleton. Stormwater runoff can be a major source of pollutant loading—frustrating attainment of downstream beneficial uses and at times necessitating the implementation of expensive treatment as a prerequisite to use for municipal supply. Camp Pendleton, and the Department of Navy generally, support the concept of LID to decrease stormwater pollution and prevent net *increases* in stormwater runoff. *See* enclosed Department of Navy Low Impact Development Policy for Storm Water Management (November 2007). The implementation of LID—as prescribed in the Proposed Order for new development, combined with the proposed prohibition of dry-weather runoff from developed areas such as Rancho Mission Viejo—may increase the water quality (if not quantity) of flows (and baseflow) on Cristianitos and Talega Creeks into the San Mateo water production aquifers. Unfortunately, the potential benefits of LID as envisioned in the Proposed Order may also contribute to an attendant loss of flows that support Camp Pendleton's water supply.

The Proposed Order Contains Elements that May Harm Camp Pendleton's Water Independence:

Camp Pendleton relies almost entirely upon local water sources—the vast majority of which are derived from wet weather surface water flows originating outside of the Base—to meet its national defense mission. The Office of Water Resources is concerned that the Proposed Order, as currently drafted, may indirectly harm Camp Pendleton's water supply by mandating a version of low impact development that has the potential to greatly diminish the volumes of water that reach (and recharge) Camp Pendleton's aquifers. In particular the Office of Water Resources is concerned about diminution of flows to the San Mateo aquifers in the northern portion of the Base. Such diminution of aquifer

recharge may result from implementation of the Proposed Order's requirement of 85% stormwater recapture in existing municipal separate storm sewer system (MS4) drainages in the vicinity of Talega and Christianitos Creeks. Talega and Christianitos Creeks are tributaries of San Mateo Creek and the San Mateo groundwater aquifers which provide camp water supply to the northern portion of Camp Pendleton.

Additionally, the stormwater recapture requirements identified for existing development in the Proposed Order could have significant implications if they are adopted as Regional Board policy and subsequently implemented in MS4 reissuances for stormwater discharges in the Santa Margarita River watershed. The Santa Margarita, and the groundwater aquifers it recharges, is the sole source of water for the entire southern portion of the Base (Camp Pendleton's primary cantonment area). The proposed Order's requirement to remove and treat 85% of storm flows during many storm events, raises legitimate concerns about Camp Pendleton's future ability to retain its water independence. However, since the Santa Margarita River watershed is not proposed for inclusion within the Proposed Order, the Office of Water Resources simply notes that the precedent associated with inclusion of large scale retrofit requirements to remove 85% of stormwater flows in existing developments, could be problematic for Camp Pendleton's sole source of water supply in the southern portion of the Base.

Loss of Flow During Non-Peak Storm Events Has the Potential to Harm Camp Pendleton's Water Rights:

Implementation of the Proposed Order—which appears to require "retrofit" of existing drainages in the Christianitos, Talega and San Mateo watersheds (as well as imposing significant flow reduction requirements on "new" developments)—could result in a significant decrease in the amount of flows entering Christianitos, Talega and San Mateo Creeks. A confounding factor is whether, and to what extent, stormwater that is locally infiltrated, filtered or treated in accordance with the requirements of the Proposed Order, *see* Section F.1.d.(6)(a)(i), will in fact join groundwater and eventually flow down-gradient to San Mateo Creek. The Office of Water Resources is attempting to quantify the magnitude of such anticipated losses through hydrologic study. However, what is apparent is that if the Proposed Order operates as it appears to be designed, more surface water flow will be retained at the point of generation and used onsite, actively for irrigation or passively through root uptake/evapotranspiration. This greater magnitude of on-site use has the potential to adversely impact the water production capabilities of downstream riparians, overliers and appropriators.

Compounding our concerns regarding the Proposed Order's volumetric and flow restrictions is the fact that the Co-Permittees, once they receive stormflow into their MS4s, may find it difficult or impossible to return captured stormwater to the

same stream system from which it was derived. As previously alluded, the Proposed Order appears to mandate that infiltrated, filtered or treated stormwater meet all basin plan standards at the point where such water is "discharged," and a discharge would appear to occur whenever such water leaves the MS4 conveyance system. *See* Proposed Order Sections C.2; E.9, 13. While the requirement to meet water quality standards at all times seems reasonable on its face, implementation could present difficulties that exacerbate harm to downstream water rights.

Additionally, if the Co-Permittees are required to meet basin plan standards prior to infiltrating the stormwater (or otherwise discharging to land), they may be unable to comply with the Proposed Order without constructing and implementing some form of treatment prior to discharge. Implementation of technology of this magnitude and footprint could be very expensive and would presumably require removal of stormwater from its watershed of origin in many instances so that Co-Permittees could achieve sufficient economies of scale to make construction of necessary treatment facilities cost effective. Such stormwater may be lost to its watershed of origin. Moreover, if a Co-Permittee (or developer) spends many millions of dollars to construct and maintain a micro-filtration facility, they are likely to want to put such captured water to beneficial use for their own purposes after treatment (in order to recover outlays of capital needed to build the treatment facilities in the first instance). Finally, even assuming that "treated" stormwater flows are indeed infiltrated into groundwater aquifers within their watershed of origin, such aquifers may be many miles above downstream receiving waters and otherwise hydrologically disconnected from the streams and creeks that previously conveyed water to downstream water rights holders.

The problem described above is equally acute if the water is to be discharged to a surface water. Currently there is no known technology capable of reliably treating total nitrogen below 1 ppm, yet that is the default basin plan standard for total nitrogen in the San Mateo Basin and in other watersheds throughout Southern Orange County. If Basin Plan standards for nutrients are strictly applied at the point of discharge, as Section C.2 implies they must be, then even implementation of membrane technologies to "treat" or "filter" stormwater would be ineffective. A Co-Permittee could not release water from the MS4 system to receiving surface waters without violating the terms of the Proposed Order in many circumstances, leaving groundwater infiltration (which is problematic for the reasons stated above) as the only viable disposal alternative.

Impacts to Threatened/Endangered Species and Riparian Wildlife

Camp Pendleton is home to 17 threatened or endangered species that rely directly (or indirectly) on the maintenance of flows in Camp Pendleton's creeks, rivers, lagoons and riparian areas. Potential impoundment of stormwater flows via the Proposed Order has the potential to also impact the maintenance of habitat that these riparian species rely upon for their survival.

Section Specific Recommendations

Based on the foregoing, the Office of Water Resources recommends the following modifications to the Proposed Order:

1. In Section E of the Proposed Order (pages 22-24), language along the following lines should be inserted clarifying the Regional Board's intention to protect existing downstream water right holders from injury associated with stormwater recapture:
    a. "Nothing herein shall authorize a Co-Permittee or other discharger regulated under the terms of this order to divert, store or otherwise impound water if such action is reasonably anticipated to harm downstream water right holders in the exercise of their water rights."
2. Provide clarification in the Proposed Order that infiltration of water at the point of generation is not a "discharge" that requires strict compliance with basin plan standards. This would obviate the need for removal of water from the watershed of origin for off-site treatment (and probably appropriation) in a different watershed.
3. In Section F.3.d.6(d): Revise guidance for substitute regional mitigation projects for existing development to authorize: "Localized rainfall storage and reuse *to the extent such projects are fully protective of downstream water rights.*" (italic language added).

DEPARTMENT OF THE NAVY
THE ASSISTANT SECRETARY OF THE NAVY
(INSTALLATIONS AND ENVIRONMENT)
1000 NAVY PENTAGON
WASHINGTON, D.C. 20350-1000

NOV 16 2007

MEMORANDUM FOR DEPUTY CHIEF OF NAVAL OPERATIONS
(FLEET READINESS AND LOGISTICS)
DEPUTY COMMANDANT OF THE MARINE CORPS
(INSTALLATIONS AND LOGISTICS)

SUBJECT: Department of the Navy Low Impact Development (LID) Policy for Storm Water Management

References: (a) 33 United States Code 1251 (Clean Water Act)
(b) Title 40 Code of Federal Regulations 122, 130
(c) Department of Defense Unified Facilities Criteria 3-210-10 Design for Low Impact Development, October 2004
(d) Executive Order 13423 "Strengthening Federal Environmental, Energy, and Transportation Management", January 2007
(e) OPNAVINST 5090.1C, Clean Water Ashore Requirement, October 2007
(f) MCO P5090.2A, Water Quality Management, July 1998

BRAC 05 implementation, Department of Defense (DoD) Grow the Force Initiatives, and ongoing installation sustainment and modernization, have resulted in significant construction activity on Department of the Navy (DON) installations. New construction results in loss of natural vegetation cover and drainage capacity and increased storm water runoff. Conventional storm water collection and conveyance systems and storm water treatment options do not and can not replicate natural systems, thus increasing the volume and flow of storm water as well as sediment and nutrient loadings to streams, wetlands, and other receiving water bodies. Because of continuing water quality problems, States and the US Environmental Protection Agency are considering mandatory treatment and control of storm water. Conversely, low impact development (LID) techniques offer a suite of Best Management Practices that maintain or restore predevelopment hydrology. It mitigates the adverse effects of construction projects on water quality by cost effectively reducing the volume and pollutant loading of storm water before it reaches the receiving water bodies. LID utilizes strategies that infiltrate, filter, store, evaporate, and/or retain runoff close to its source. LID further reduces installation reliance on aging storm water management infrastructure. References (a) thru (f) provide requirements and guidance for LID.

This DON policy sets a goal of no net increase in storm water volume and sediment or nutrient loading from major renovation and construction projects[1]. In order to support this goal, as well as reduce reliance on conventional storm water collection systems and treatment options, this policy directs that LID be considered in the design for all projects that have a storm water management element. LID will be implemented where possible to assist DON installations in complying with references (a) and (b), as well as all applicable State and Federal requirements for sustainable development. In those infrequent situations where LID is not appropriate given the characteristics of the site, the Navy and Marine Corps are authorized to establish a waiver process that, if used, would include regional engineer level review and approval.

The Navy and Marine Corps are directed to immediately plan, program, and budget to meet the requirements of this policy starting in FY 2011. All efforts shall be made to incorporate LID practices in the fiscal years 08, 09, and 2010. The services are further directed to submit to my office an annual report that summarizes all projects that have a storm water component and identify how LID was implemented or waived. If waived, the report must identify the approving official. Naval Facilities Engineering Command, as the Department's expert in acquisition, construction, and environmental management, shall assist Navy and Marine Corps installations in meeting these policies. My point of contact for this matter is CAPT Robin Brake, robin.brake@navy.mil, (703) 693-2931.

BJ Penn

[1] Major renovation projects are defined as having a storm water component and exceeding $5 million when initially approved by DASN (I&F). Major construction projects are defined as those exceeding $750K.