



Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

097.13 DPWH
09-20-2012

SEP 20 2012

DEPARTMENT ORDER) SUBJECT: **PRESCRIBING GUIDELINES ON THE**
No. 68) **DESIGN OF SLOPE PROTECTION WORKS**
Series of 2012 09.20.12)

It has been observed that rigid slope protection works as commonly used in most road and flood control projects are not appropriate for the actual field condition and are easily damaged. Henceforth, the following guidelines shall be observed in the design of slope protection works for soil erosion control and slope stabilization:

1. The use of flexible type of slope protection that can adapt to foundation movements and allows growth of vegetation such as coconets (Item 518 of the DPWH Standard Specifications, Volume II (2004)) shall be given preference in road cut and embankment slopes, earth dike slopes and river/stream banks with flood flow velocities of not more than 3 m/sec., except under the following conditions:
 - a) the slopes are affected by salt water, or
 - b) when the slope is more than 1V:1H (45 degrees)
2. In rivers/streams with more than 3 m/sec flow velocities, the combination of modular concrete materials such as interlocking blocks placed at the lower portions of the bank slope and coconets placed above the design flood level shall be considered. Adequate scour protection works shall be provided along the foot of the slope.
3. Rigid structures such as riprap and concrete revetments and other types of flexible slope protection such as mattresses and geosynthetic materials may be allowed subject to evaluation by the Bureau of Design and approval by the Secretary. For this purpose, the form hereto attached as Annex "A" is hereby prescribed.

This Order shall take effect immediately.


ROGELIO L. SINGSON
Secretary



WIN2R00648

REQUEST FORM FOR APPROVAL OF NON-APPLICATION OF COCONET SLOPE PROTECTION

Date: _____

FOR : Secretary **ROGELIO L. SINGSON**

THRU : Undersecretary **RAUL C. ASIS**

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1. Project/Location :
 2. Implementing Office :
 3. Proposed Type of Slope Protection :
(attach sketch of proposed design)
 4. Reasons for Non-Application of Coconet/Supporting Documents:
 - _____ A. Not adaptable to site condition
 - _____ A.1 Slope is affected by salty water
 - _____ a. Vicinity map showing location of project and distance from the sea, or
 - _____ b. Proof of significant saline intrusion in river
 - _____ A.2 Slope is affected by flood flow carrying large debris
 - _____ a. Photographs of experienced flood flow with debris
 - _____ A.3 Very steep design slope (more than 1V: 1H or 45 degrees)
 - _____ a. Justification of design engineer attested by the Regional Director/District Engineer for adopting very steep slope in proposed design
 - _____ B. Higher cost than other types of slope protection work
 - _____ B.1 Cost comparison and detailed cost estimates
 - _____ C. Other reason(s) : _____

Requested by:

Regional Director/District Engineer

The request was found to be meritorious, hence approval hereof is respectfully recommended.

GILBERTO S. REYES
Director IV

Recommending Approval:

Approved:

RAUL C. ASIS
Undersecretary

ROGELIO L. SINGSON
Secretary