

SOIL EROSION AND STORMWATER SEDIMENTATION

A guide for landowners and developers in the CNMI

PROTECT OUR ISLANDS - PREVENT EROSION

Commonwealth of the Northern Mariana Islands
Bureau of Environmental and Coastal Quality
Division of Coastal Resources Management



KNOW YOUR SOILS!

There are three main soil types in the CNMI:

Shallow limestone soils are the most common soil in the southern islands (Rota, Tinian, Saipan). They are fertile but shallow soils on limestone rock that dry out quickly.

The southern islands also have small areas of **old volcanic soils** that are highly erodible and unsuitable for crops.

The northern islands feature **young volcanic soils** that are cemented layers of ash and cinders and are not very fertile.



Top: Erosion on old volcanic soils, Talakaya, Rota
Bottom: Erosion on secondary road, LauLau Bay, Saipan



Top: Sediment-filled stormwater enters ocean
Bottom: Sediment plume from land-based stormwater damages coral reef

EFFECTS OF SOIL EROSION

Land clearing, wildfires, unsealed secondary roads and construction without the proper erosion and stormwater control best management practices produce vast amounts of sediment and other pollutants.

Stormwater carries the sediment into our lagoons and reefs. Sediment smothers corals and reduces light availability which affects species diversity, coral cover, and coral growth rates, and in turn affects reef fish abundance and diversity.

HOW DO CNMI RESOURCE AGENCIES PREVENT SOIL EROSION?

DIVISION OF COASTAL RESOURCES MANAGEMENT

It is DCRM's policy to require developments to strictly comply with erosion, sedimentation and related water and land use guidelines. DCRM will ensure projects adequately address control of nonpoint source pollution, and can impose permit conditions for stormwater and erosion control.

DCRM permit application forms available at: www.crm.gov.mp

DIVISION OF ENVIRONMENTAL QUALITY

Earthmoving and Erosion Control permits are issued by DEQ. Erosion control measures must be employed to minimize erosion, runoff and sedimentation. DEQ Earthmoving and Erosion Control permit forms available at: www.deq.gov.mp

U.S. ENVIRONMENTAL PROTECTION AGENCY

For construction sites greater than 1 acre in size, developers will need to also obtain coverage under the US EPA National Pollutant Discharge Elimination System "Construction General Permit". Further information available at www.deq.gov.mp



Permeable pavement for parking areas, such as Laolao Bay and The Grotto, allow stormwater to be absorbed into the ground where pollutants and sediments are filtered out.



Vetiver grass and other suitable species can help stabilize severely eroded areas.



Silt fencing captures sediment during construction, preventing it from reaching stormwater



Ponding basins and earth berms capture sediment during and after construction.

EROSION CONTROL BEST MANAGEMENT PRACTICES

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