

**NATURAL RESOURCES DEPARTMENT  
MEMORANDUM**

**DATE:** February 16, 2010

**TO:** City Manager Judie Zimomra  
Planning Director Jim Jordan

**FROM:** Natural Resources Director Robert K. Lofflin Ph.D.

**RE:** Coverage and Clearance Issues involved with Redevelopment

One of the anticipated requests from property owners interested in redevelopment (and/or buildback after storm damage) of their Sanibel properties, is an increased coverage and clearance allowance. Coverage and clearance is the total footprint by area of the impervious surfaces on a property, including driveway, building pads, pool, walkways, etc. Natural Resources staff strongly recommends not increasing the limits for these development parameters for the following reasons:

**Water Quality Protection:** The greater the amount of impervious coverage on a property, the more polluted stormwater runoff is not treated on-site and instead is more directly input into island open bodies of water and the surrounding estuary. Directing stormwater run-off flowing from buildings, driveway surfaces and parking lots onto undeveloped vegetated areas is the best way in which to remove the maximum amount of nutrients, fertilizer, pesticides, oils and greases and other pollutants before they enter the estuary or Gulf. When stormwater is allowed to percolate into the soil, plants and microorganisms utilize the nutrients and organic matter and convert it to biomass, thereby fixing it in place before it can contribute to algae blooms and fish kills. We already have significant problems with nutrient pollution in our water bodies and adjacent estuary due to excessive inputs from both locally and especially from mainland sources. We need to be very careful in all our management actions not to trigger a tipping point at which algae blooms such as red drift algae and the organism that causes red tide can grow out of control. In many cases, non-conforming developments that were designed prior to modern drainage and retention planning already have inadequate pervious area to effectively treat stormwater run-off and increasing

coverage and clearance would make this condition worse.

**Water Supply and Surficial Aquifers:** By allowing rainwater to soak down into pervious vegetated areas on a property, the cleansed water contributes to maintaining the islands shallow freshwater surficial aquifer. This surface supply of groundwater is critical for providing sustenance to island trees and our rare barrier island freshwater wetlands and for preventing salt water intrusion from surrounding marine waters. This lens of surface water where it gradually mixes with saltwater at the shoreline of the island, particularly at low tide, is part of the essential brackish mixing zone of the estuary, crucial for numerous marine organisms, including many of commercial and recreational importance. Without sufficient pervious area, this often polluted water instead rushes directly in high volumes into surrounding waters, causing excessive salinity and nutrient swings and negating much of its value for the estuary.

**Wildlife Habitat:** One of the major purposes on Sanibel for having adequate limits on impervious area and clearance is to conserve at least some of the native vegetation, even on private property, that is needed for wildlife habitat and wildlife travel corridors. Unlike other communities, where greenspace and habitat are only found in limited preserves, the Sanibel Plan calls for all lands to continue to contribute at least modestly to wildlife values, even after they are developed. The co-existence of humans and wildlife is not sustainable in any meaningful way when too high a percent of a property is devoted solely to concrete, asphalt, gravel, sod and exotic plants. It would be advisable from this standpoint to also ensure that redeveloped properties be required to have a minimum of 75% native vegetation following construction and re-landscaping, the same standard now in existence for new construction.