



WATER SAMPLE ANALYTICAL SUMMARY

Dunedin Public Works | Dunedin, FL

Analysis Details:

On March 1, 2010, K.B. Industries, Inc. (KBI) initiated a one year water quality study in Dunedin, FL. The objective of the study was to determine the impact on nitrate and phosphorous concentrations resulting from the percolation of water through KBI Flexi®-Pave. Other studies with pervious surface materials have indicated reductions in both N and P occur in perked water. The study's setup, installation, testing and reporting was conducted by Mallard, Inc. a Civil Engineering and Environmental Firm.

A series of test wells were installed beneath a new KBI Flexi®-Pave parking lot, in Dunedin, FL. Two water-capture test well systems (WCS-1 and WCS-2) were installed beneath a section of a parking space with a stabilized load bearing sub-base, and capped with the KBI Flexi®-Pave product. WCS-1 was used as a control system and WCS-2 was reserved to be used as a backup. The third system (WCS-3) was installed beneath a section of the parking space with a water treatment residue (WTR) in place, and then followed by the stabilized load bearing sub-base, and then the KBI Flexi®-Pave product. The fourth system (WCS-4) was installed beneath a section of the parking space that has a WTR in place on top of a thin textile material layer, followed by the stabilized load bearing sub-base, and then the KBI Flexi®-Pave product.

SYSTEM	SAMPLE DATE	NITRATE	PHOSPHOROUS	% "N" REDUCTION	% "P" REDUCTION
Standard	3.03.10	2.4	20	N/A	N/A
WCS-1A	3.03.10	1.8	14	25	30
WCS-3A	3.03.10	1.3	14	46	30
WCS-4A	3.03.10	0.82	13	66	35
<i>Tap water used to test existence of N & P in soil rock/media • Targeted Standards: Nitrogen (2.5 mg/L); Phosphorous (20 mg/L)</i>					
Ground Water Cleanup Target Level		10	*	N/A	N/A

* There is currently no established regulatory cleanup standard.

Results:

These test results indicate the effect of each variation of the KBI Flexi®-Pave installation on nitrates and total phosphorous prior to reaching the groundwater. A 25% reduction in nitrates and a 30% reduction in phosphorous was observed for the standard installation of the KBI Flexi®-Pave followed by the load-bearing sub-base. When a WTR was added between the KBI Flexi®-Pave and sub-base, a 46% reduction in nitrates and 30% reduction in phosphorous was observed. A 66% reduction in nitrates and a 35% reduction in phosphorous was observed when a WTR and textile layer were added between the KBI Flexi®-Pave product and the sub-base. **These results indicate that the KBI Flexi®-Pave product, with its installation options, reduces nitrate and phosphorous concentrations from waters that perk through it to groundwater.**

ADDITIONAL DETAILS: Should you be interested in more in depth analysis and associated results, please contact our main office for such details.