



THE SCHOOL DISTRICT  
OF PALM BEACH COUNTY, FLORIDA

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SUPERINTENDENT OF SCHOOLS

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## Bermuda Grass Management Program

The following is the Bermuda grass management program for The Maintenance and Plant Operations Grounds Department. The program is based on best management practices of the Turf Grass industry and was conceived through input of industry experts and M&PO Grounds Team Leader and responsible staff.

The enclosed program consists of two components. They are Preventive and Monthly maintenance.

Corrective maintenance due to overuse or other emergency work is **not** covered in this preventative or monthly maintenance program. Maintenance requests needed for vandalism, special events, upgrades, weather related damages, etc, are handled through the work order system.

As of December 1, 2006, the District has 87 functioning sports turf Bermuda grass fields totaling 146 acres. Athletic fields of non-Bermuda are not covered by this plan.

The following Maintenance functions will be addressed:

**Mowing**  
**Aeration**  
**Top-dressing**  
**Soil Samples**  
**Irrigation Preventative Maintenance**

**Fertilizer**  
**Herbicide**  
**Insect Control**  
**Over Seeding**  
**Patching**  
**Field Closure**

# ATHLETIC FIELD SCHEDULE FOOTBALL/BASEBALL/SOFTBALL

FERT = FERTILIZER

AIR = SOIL AERIFICATION

VERT = VERTICUTTING

BERMUDAGRASS

TOP = TOP DRESSING

SEED - OVERSEEDING

MOW 1X = 1 CUT PER WEEK

	January	February	March	April	May	June	July	August	September	October	November	December
MOW 1X	MOW 1X	MOW 1X	MOW 1X	MOW 1X	MOW 1X	MOW 1X	MOW 1X	RE - OPEN	MOW 1X	MOW 1X	MOW 1X	MOW 1X
FERT	FERT	TREAT FOR:	FERT	TREAT	AIR FERT TREAT FOR: FIRE ANTS POST AND CLOSE ALL ATHLETIC FIELDS AT END OF MONTH	TOP PATCH FIELDS MOW 1X FERT ALL ATHLETIC FIELDS CLOSED	FERT TOP PM ATHLETIC FIELD IRRIG ALL ATHLETIC FIELDS CLOSED	ALL ATHLETIC FIELDS MOW 1X TREAT FOR: FIRE ANTS FERT	AIR FERT VERT TREAT FOR: MOLE CRICKETS WEED	TOP TREAT FOR: WEEDS	AIR FERT TREAT FOR: FIRE ANTS	OVERSEED ALL ATHLETIC FIELDS WITH RYE SEED
PM ATHLETIC	PM ATHLETIC	FIRE ANTS	AIR	FOR:								
FIELD IRRIG	FIELD IRRIG	MOLE	TREAT	WEEDS								
SOIL	SOIL	CRICKETS	FOR:									
SAMPLES	SAMPLES	FERT	WEEDS	FERT						FERT	FIRE ANTS	FERT

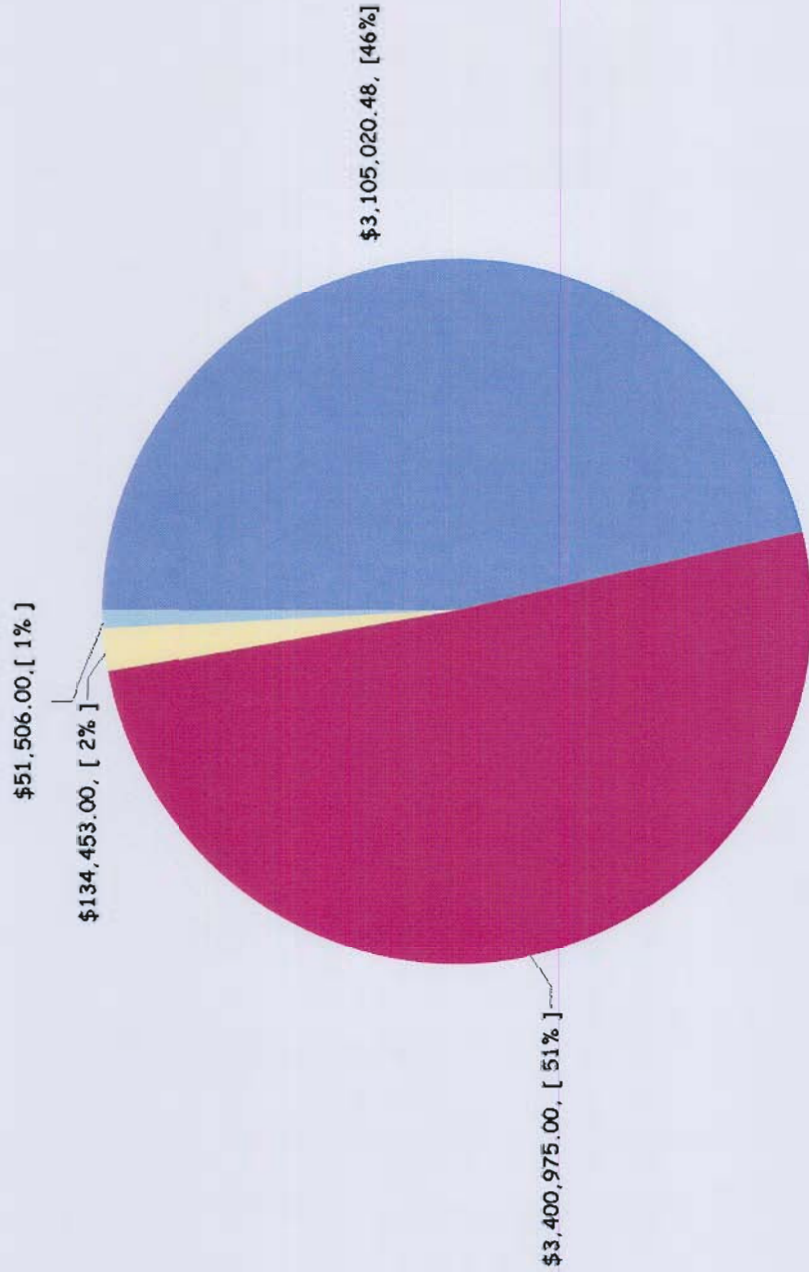


Industry Suggested Use  
Aug. 2006 to Dec. 2006



Overuse  
Aug. 2006 to Dec. 2006

GROUNDS '06 BUDGET BREAKDOWN



- Salaries/Benefits \$3,105,020.48 [ 46% ]
- District Landscape Contract \$3,400,975.00 [ 51% ]
- High School Athletic Field Materials \$134,453.00 [ 2% ]
- Other/Materials & Supplies \$51,506.00 [ 0.77% ]

# SOIL OXYGEN: THE FORGOTTEN NUTRIENT

We all know that fertilizer applications are necessary to achieve healthy, vigorous turf. Typically, these fertilizers contain nitrogen, phosphorous and potassium. Sometimes secondary nutrients, or "micronutrients," are also applied.

What is often forgotten, however, is that CARBON, HYDROGEN and OXYGEN comprise the three most important elements for plant growth. Grass blades take up carbon and oxygen in the form of carbon dioxide (CO<sub>2</sub>) to use in photosynthesis; the plants also take up hydrogen and oxygen in the form of water (H<sub>2</sub>O). What is rarely understood is that the plant roots also need oxygen (O<sub>2</sub>) to function. Roots take up oxygen and give off carbon dioxide, just as animals do in breathing. Where does this oxygen come from? From the soil air, which ultimately exchanges with the air above ground. A soil must "breathe" and refresh its oxygen supply or plant roots will not flourish. Solids (soil minerals and organic matter) occupy about 50% of the soil volume. The remaining volume is made up of gaps and crevices called soil pore spaces. Ideally, half of these pore spaces are filled with air and the other half with water.

## Oxygen Blockers

COMPACTED soils, which are very common in sports fields, are the result of repeated foot traffic. Light play will compact soils in just a few months. The potential for compaction increases as soil moisture increases.

POORLY DRAINED soils result from a number of causes. Uneven grade – worn areas or low spots where the field crown has deteriorated – will often cause water to collect, hampering drainage. Excessive rainfall or irrigation is another common contributor to poorly drained soils. Because compacted soils are often poorly drained, one problem tends to lead to the other.

Compaction and poor drainage both cause low soil air. When the air in the soil is inadequate, grass plants will develop a shallow root system

and quality turf cannot be maintained. When soil becomes highly compacted, as in a typical sports field, turf may not grow at all from lack of oxygen in the root zone.

## What can be done?

In highly compacted soils, frequent deep aeration is the best solution, short of completely tilling the soil. There are several different aeration technologies, depending on the needs of the field. In some situations, adding modifications to the soil prior to turf establishment, or as top-dressing following aeration, will help reduce the potential for compaction and make aeration more effective.

Improving soil drainage can be difficult. Sub-surface drainage systems are often ineffective (and costly), especially in poorly draining soils. Some fields call for soil enhancements to help improve drainage. Surface drainage solutions, on the other hand, are often as easy as re-establishing the correct crown and filling in low spots. Contractors today are providing precision laser leveling to achieve a free-flowing surface to any gradient.

Remember that deep, vigorous root systems are the key to healthy turf. By aerating your fields regularly, carefully monitoring your irrigation practices and making periodic surface drainage improvements, you will improve oxygen flow to the root zone – and the appearance and long-term viability of your turf. Something else will be enhanced: the safety and performance of your athletes.

Compaction and poor drainage are an athletic field's biggest enemies. Find out why a growing number of facility managers, landscape architects and general contractors consider education their best friend.