

**Environmental Study on the Issues Impacting the
Proposed Development on a Portion of the
Ocean Breeze Golf Course**

By

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Boca Raton Comp Plan Amendment/Ocean Breeze Development Approval

Environmental Issues & Concerns

The use of arsenic-based pesticides, such as monosodium methanearsonate (MSMA), disodium methanearsonate (DSMA) and others which were recently banned by the EPA due to its cancer causing toxicity is of considerable concern to the residents near this proposed development site. According to the EPA, long-term exposure to inorganic arsenic can cause bladder, lung, skin, kidney and colon cancer, as well as, deleterious immunological, neurological and endocrine effects. Low-level effects can lead to paralysis and diabetes.

A summary of these environmental impacts on the proposed site of the residential development are:

- 1) Potentially hazardous levels of chemicals in the soil & groundwater on this site
- 2) Specific locations of concern:
 - a) Maintenance Facility
 - b) Golf Cart Storage Area
- 3) Environmental noise impacts from the adjacent I-95 and the local business jet airport
- 4) Lack of required environmental due diligence is not consistent with protection of public safety and health objectives

Soil & Groundwater Analysis

Several exhibits are attached that supports the concerns of residents in this area, as golf courses in South Florida have been identified in numerous studies of being historical heavy users of arsenic-based herbicides and pesticides. Environmental concerns regarding this development proposal have been brought to the attention of the staff and officials of the Boca Raton government on numerous occasions by residents within the area (See Exhibit A). Residents are concerned about the lack of due diligence being conducted to protect the public health as related to this approval.

The research reports provided in these exhibits are attached to demonstrate the validity of the environmental concerns and to further illustrate the importance of protecting the public health by conducting extensive soil, water & groundwater analysis on the site of the proposed residential development.

Maintenance Facility Site

The public health concerns are especially noteworthy on the area of the current maintenance facility since there are no public records which indicate the historical records of use and disposal methods of the hazardous chemicals used on the property over 30 plus years this property has been operated as a golf course.

The attached map provided by the city and the developer illustrates the location of the proposed site on the property, but the * notes the location of the current maintenance facility that should be extensively tested for hazardous waste contamination. This maintenance facility is located clearly within the proposed residential development site and the disturbance of the land, which potentially contains hazardous chemicals, could result in these hazardous chemicals becoming airborne and jeopardizing the public health of hundreds or thousands of existing residents and their children.

Another environmental concern is with the uncontrolled, unaccountability of the maintenance facility which deals with other hazardous materials such as antifreeze, used motor oils, used hydraulic fluids, lead-acid batteries (associated with the maintenance equipment and the golf carts), used tires, vehicle wash water, etc.

Golf Cart Storage Facility / Lead-based Batteries

Another site on the property that is also highlighted in the attached map is the golf cart storage area. The golf carts used at this golf course have historically been electrical-powered that are powered by several lead-based batteries in each golf cart. These golf cart batteries are charged and stored at this site every night and the disposal practices of the used batteries and battery acid has not been documented in this development review process, nor has the soil & groundwater in this area been tested for environmental contamination. This has been the storage and maintenance site of the battery powered golf carts for the past 30 plus years, so proper due diligence should include the above referenced assessment.

Environmental Noise Issues

Noise abatement issues regarding Interstate 95 and the flight paths of the Boca Raton Airport have not been addressed in this development proposal and land use change application. Emails from the city traffic engineer recommended that the FDOT be contacted regarding the continuation of the I-95 sound barrier wall that now stops at the golf course, but there is no evidence in the public records that this issue has been pursued by the developer or the city.

The Boca Raton municipal airport flight path traverses across the proposed residential development site. The noise contours have identified most, if not all, of this site as being within the 65decibel level that would be subject to noise mitigation. Similar developments in this area have been required by the local airport authority to have easements placed on their property in order to provide disclosure of the noise impact from the airport, but this issue has not been addressed in the land use change application.

Public Health Objectives versus Environmental Due Diligence

While the development review and approval process of the City of Boca Raton may not specifically require an extensive environmental analysis of any specific property, the lack of concern for the stated objectives of protecting the public health and safety within the development planning and approval process is being completely ignored within this proposal. Accordingly, it is recommended that no further consideration be given to this development approval process until such time as extensive environmental analysis are completed, with the oversight of an independent supervisor designated by the Save Boca Raton Green Space organization and retained by the city for the objective selection of soil & water samples on the development site.

These serious public health issues are not a matter that should be negotiated with the city or the developer, as suggested by some members of the city council. The protection of the public health must be a priority that is fully examined in the development approval process, especially for prospective residential developments, order to meet the fiduciary standards of the city in protecting their residents.

Recommendation

No further consideration of this development proposal should be considered until the environmental impacts are analyzed in extensive detail in order to protect the public health.

Summary of Attached Exhibits Supporting this Analysis and Recommendation:

Attached Exhibits & Comments as related to Ocean Breeze Development Proposal & City of Boca Raton Comprehensive Plan Amendment:

Exhibit I – Revised Registration Eligibility Decisions for MSMA, DSMA, CAMA and Cacodylis Acid – 8/10/06 (http://www.epa.gov/oppsrrd1/REDS/organic_arsenicals_red.pdf)

This exhibit provides the data behind the policy decision that the ban of MSMA “was established to reduce the potential cancer risks from background arsenic in drinking water. While the MCL indicates the maximum allowable concentration in of arsenic in drinking water (10ppb), the MCLg (MCL goal) or target concentration of arsenic in drinking water is zero. Use of organic arsenic herbicides results in an additional, man-made, and preventable source of arsenic exposure and does not provide meaningful benefit to society.” It is the “broader EPA policy to protect human health and the environment by minimizing exposure to arsenic.”

Exhibit II – Industry Advocates fear possible MSMA ban – 9/18/06

(<http://www.golfcoursenews.com/news/printer.asp?ID=2733&source=news>)

The article references the “EPA report also states that more than 90% of Florida’s groundwater is used for drinking water.” Typical environments within Florida have shallow water tables would be considered highly vulnerable to unacceptable arsenic levels.

Exhibit III – Final report titled Environmental Risks from Use of Organic Arsenical Herbicides at South Florida Golf Courses, by the Florida Dept. of Environmental Protection

(<http://fdep.ifas.ufl.edu/MSMA%20Dec%2027%202002.pdf>)

This Florida DEP study references a 2002 study that found that 97% of golf courses surveyed in South Florida used MSMA.

Exhibit IV – Managing Turf Sustainability, by University of Florida Professor John Cisar

(http://www.cropscience.org.au/icsc2004/pdf/2137_cisar.pdf)

This report states that approximately 96% of Florida golf courses spray MSMA 2-3 times each year.

Exhibit V – High Levels of Arsenic Stall Developments, by Neil Sanataniello, SunSentinel 10/14/07 (http://www.sun-sentinel.com/news/local/palmbeach/sfl-flarsenic1029pnoct29_0_5781367_full.story)

This article reveals the inadequacy of the environmental due diligence that is prevalent in the development review process within the Palm Beach County area as 2 separate municipalities approved “residential” developments which were discovered to be contaminated by arsenic AFTER the developments were approved. The city of Boca Raton development approval process also does not require an extensive environmental analysis of the soil and groundwater, as reflected by the absence of such reports in the documents submitted to he DCA for their review of this development and the associated comp plan amendment. The public health should be a paramount standard when

determining the level of environmental analysis deemed to be necessary and this due diligence was not required on this property, especially the area around the maintenance facility.

Exhibit VI – EPA Comes in Above Par on Golf Course Herbicide, by Beyond Pesticides 10-26-06 (http://www.beyondpesticides.org/news/daily_news_archive/2006/10_26_06.htm)

This article references “Arsenic levels left in MSMA wake raise a concern for cancer risk according to the EPA”. MSMA has been linked to high arsenic levels beneath at least a dozen golf courses in Florida Collier County and contamination was discovered several years ago and was reported in the Miami-Dade Dept. of Environmental Management study, which found that 37 percent of wells tested at municipal golf courses exceeded recommended arsenic levels and this was before the EPA reduced the acceptable level from 50 to 10 ppb.

Exhibit VII – Use of organoarsenicals as pesticides may lead to contamination of soils and groundwater with toxic arsenic species, by Michael Sperling (5-15-06)

(<http://www.speciation.net/Public/News/2005/05/15/1472.html>)

This article supports the concerns of arsenic contamination, “since the arsenic accumulates over the years of application in the soil and creates an inventory that might become an important source of groundwater contamination in the future.

Exhibit VIIA – High Arsenic Levels Found on Golf Course, by Jason Ferrell NBC-2.com (12/29/05) (<http://www.nbc-2.com/articles/readarticle.asp?articleid=5355&z=3&p=>)

This article is very relevant to the Ocean Breeze development proposal since it references an arsenic contamination problem at a south Florida golf course that was attempting to relocate their maintenance facility, which is also in the plans for the Ocean Breeze development. This article provides the details on this discovery during the permitting process for the relocation of the maintenance facility, where as the Ocean Breeze developer should be required to provide extensive soil & groundwater analysis in and around the current maintenance facility prior to another further considerations about this development since this location is directly on the residential development site and near existing residential homes.

Exhibit VIII – Background Concentrations of Trace Metal in Florida Surface Soils, by Drs. Ming Chen, Lena Q. Ma, Wille G. Harris and Arthur G. Hornesby of the Soil and Water Science Dept., University of Florida, December, 1999 (<http://lqma.ifas.ufl.edu/Publication/Ma-99-R.pdf>)

Exhibit IX – An Assessment of the Risks Associated with Pesticides Volatilized and Dislodged from Golf Turf, by Dr. George Snyder, University of Florida, IFAS and Dr. John Cisar (December 2002) (http://www.dep.state.fl.us/waste/quick_topics/publications/wc/csf/PesticidesRisks_golf.pdf)

Exhibit X – City of Oakland Park, FL-Agenda Item Report/Golf Course Conversion of the Oak Tree Golf Course (9/19/07) (<http://www.oaklandparkfl.org/vertical/Sites/%7B9B75100F-5E3E-47B4-9310-6CD66186236D%7D/uploads/%7B1CCEA2C0-D53C-487D-8216-9DDB310A7625%7D.PDF>)

This report demonstrates that cities and the adjacent counties have recognized the problems associated environmental hazards with golf course conversions and the Broward County Planning staff has conducted a study which recommends phase 1 & 2 environmental testing as a requirement and are recommending this as an amendment to their comp plan for the county. The other major concerns also noted in these reports are Loss of Open Space, Decease in Tourism, Loss of Natural Resources and Land Use Compatibility.

The question is: Why does the government need to allow variances to existing policies that will substantially impact the environmental conditions of an existing designated Protected Open Space.

Comments regarding an alternative to the proposed development are to relocate the development to the east side of the golf course, where the residents have already voted in favor of the concept of the development. This eliminates the noise abatement wall along I-95, would reduce the number of houses impacted by the airport noise abatement program, and would *not* disturb the current maintenance facility area (suspect are of highest levels of contamination). There may still be concerns with possible contaminated soils from the many years of application of herbicides and pesticides along the easterly section of the golf course.