ATTACHMENT 5

Michael Crotty

From: Christopher Teaf <cteaf@hswmr.com>
Sent: Tuesday, August 19, 2014 1:12 PM
To: Michael Crotty
Subject: Sand Committee directive regarding sampling
Attachments: SandSamplingPlan_DRAFT2.pdf; ATT00001..htm

Mike,

The Sand Committee meeting last night (August 18), among other things, led to a conclusion by the group that some level of sampling should be conducted on the renourishment sand from the Surf Club site, and that I should provide a recommendation regarding such sampling. Please consider this email to represent that recommendation.

As you know, in response to a previous directive by the Sand Committee, I developed a robust and detailed sand sampling protocol, a draft copy of which is attached for reference. That detailed plan was designed to accomplish in a scientifically defensible manner two specific objectives that were of importance to the Sand Committee at that time:

1. to assist the Town of Surfside in reaching decisions concerning the chemical characteristics of sand that was used from the Surf Club reconstruction project in April, 2014 for beach renourishment within the Surfside town limits; and,

2. to permit a valid comparison between the chemical character of the renourishment sand and the chemical character of the native beach sand which was present prior to the additions made during the renourishment project.

That plan proposed 60 samples from 38 locations, several of which included multiple depth intervals, including a number of non-Surfside locations selected to represent existing beach sand conditions between Haulover Park to the north and South Pointe Park to the south.

While there may still be a place for such a detailed sampling plan at some point, my sense from listening to the Sand Committee meeting last night was that there is a strong interest, and a practical benefit, to conducted a more focused initial sampling effort at this time. That focused analysis could be used to make a determination regarding suitability of the renourishment sand for placement in the dune field at selected appropriate locations immediately to the west of the Surfside beach. To accomplish that goal, I recommend collecting 6 composite samples of the renourishment sand at the 0 to 1 foot depth interval at midbeach of 88th, 90th, 91st, 92nd, 94th and 96th St. These locations span the length of the Surfside beachfront, with an emphasis on the specific area of apparent interest eastward of the Surf Club.

An experienced environmental firm ("Contractor") and certified analytical laboratory should be selected by the Committee. Samples will be collected by the Contractor, and delivered to a certified laboratory for analysis, with appropriate Chain of Custody documentation.

Analysis should be conducted according to the following methods:

• "RCRA 8" metals with extraction by USEPA Method 3050 and analysis by USEPA Method 6010 or 200.7 (i.e., arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver). Data will be expressed in mg/kg. *Rationale: environmental persistence, ongoing interest in arsenic and comparison to naturally occurring background; ongoing interest in lead as it relates to historical activities and prior sampling conducted at Surf Club property*;

• Total Recoverable Petroleum Hydrocarbons (TRPH) by Florida Department of Environmental Protection (FDEP) FL-PRO method. Data will be expressed in mg/kg. *Rationale: inclusion in prior renourishment sand sampling, potential relationship to historical activities at Surf Club property*;

• Chlorinated hydrocarbon pesticides by USEPA Method 8081, specifically aldrin, chlordane, dieldrin, endrin, heptachlor, and the DDT/DDD/DDE group. Data will be expressed in mg/kg. *Rationale: environmental persistence and ongoing interest in potential historical use at Surf Club property;* and,

• Polychlorinated biphenyls (PCBs) by USEPA Method 8082 (i.e., Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260). Data will be expressed in mg/kg. *Rationale: environmental persistence, ongoing interest in potential historical use or release of fluids from PCB-containing electrical transformers at Surf Club property.*

Alternatively, USEPA Method 8270 may be used to capture the analytes listed in both the third and fourth categories. However, use of that method will involve reporting of many more substances that the individual methods specified.

Appropriate Quality Assurance/Quality Control (QA/QC) procedures will be followed by the firm selected for the sampling, per the applicable Florida Department of Environmental Protection (FDEP) standard protocols (FDEP SOP FS 3000 Soil, available online at *http://publicfiles.dep.state.fl.us/dear/sas/sopdoc/2008sops/fs3000.pdf*; FDEP SOP FQ 1000 Field Quality Control Requirements, available online at *http://publicfiles.dep.state.fl.us/dear/sas/sopdoc/2008sops/fq1000.pdf*).

This sampling plan can not specifically address the issue of establishing what is or is not background for selected metals in sand (e.g., arsenic, barium, lead). However, of the metals reported in samples to date, only arsenic has been reported at greater than the Florida DEP default residential Soil Cleanup target Level. For arsenic, the overwhelming conclusion of the environmental professionals who have reviewed those data is that the arsenic represents natural background related to the origin of sand as a marine sediment, and its presence in seawater. My previous report, dated June 5, 2014 addressed that subject in detail. Unless arsenic levels are observed with regularity at greater than the maximum arsenic concentration reported for the 2004 Miami-Dade County barrier islands background study, it should be considered to be background for which no action is necessary or appropriate.

Depending upon the results of those analyses, a decision can be made regarding whether or to what extent further analysis is necessary.

Regards,

Chris