

Comments - Submittal by Tetra Tech, Inc.
Response to RAI by DEP- June 29, 2010
NPDES Stormwater Application FL071462-IW
Former Koppers Facility
Gainesville, FL
Dated; Aug 5, 2010

BY: Stu Pearson
Date August 11, 2010

Letter portion of submittal (pages 1 thru and including 6):

Comment 1

Page 3, c. - The phrase "flow and volume will be significantly reduced" as presented is based on the hypothetical changes in the amount infiltration that would occur on the by virtue of the re-vegetation of about 34 acres of the site. The hypothetical change in the infiltration rate is assumed in the hydrology analysis due to the activity and is presumed to restore the infiltration rate native to the parent soil. However, the issue of site permeability remains unclear. In the accompanying Preliminary Design Report for Interim Stormwater Controls, dated July 21, 2010 in Section 3.1, 2nd bullet - the description includes "only the top few inches of the soil will be disturbed" and goes on to conclude that "the bulk permeability of the soils in the areas is not substantially increased". In this scenario, the infiltration rate is changed in the top few inches, but is unchanged in the remaining thickness of the 'hardpan' area: thus, the runoff from the site would remain about the same as it is today.

Absent from this submittal is any soil boring data that could identify the location of and the thickness of the 'hard pan' surface that presently resides over the parent soil. This data would aid in the decision of how deep to rake if the intent is to reduce the amount of runoff and return the original permeability of the parent soil. Otherwise, the site retains virtually all of its existing permeability characteristics and corresponding runoff characteristics.

It appears that the Design Report assumptions for the pre and post site conditions are not supported with the necessary data.

Comment 2

Page 4, Response g. - The term "first flush" appears as part of the justification for the impoundment area sizing. The term 'first flush' generally describes the initial flow of stormwater from an area from a broad range of land uses and human activities and where pollutants resulting from those activities are mobilized by stormwater/runoff

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events. Some sources have identified the first 15% of the storm runoff as being the 'first flush' for control sizing purposes.

This site as proposed will not have a land use nor any substantive human activities that will generate easily mobilized pollutants aside from the small drainage area at the south of the site. So the 'first flush' theory seems to be a moot point in the analysis of how best to control pollutants from leaving the site. Granted the proposed basins will intercept some of the pollutants but it appears that the majority of the mobilized soil particles will leave the site if the proposed basins are to capture the first flush or 15% of the runoff. The pollutants in the surface soils, arsenic, benzo(a)pyrene and dioxin, are bound to the soil particles and are distributed, in varying concentrations, across the site. In a storm/runoff event the amount of soil particles for transport, some with contamination attached, is unlimited and would continue throughout the entirety of the runoff event.

Preliminary Design Report portion of the submittal:

Comment 3

page 4-1,

- Item 4.1 - The examples from Appendix A that demonstrate that the flows from the site for the pre-development and post-development conditions are not supported with soil data. See comment 1 above.
- Item 4.2 - The first paragraphs supposition is not supported with soil data. See comment 1 above.