



# Florida Department of Environmental Protection

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Lt. Governor

Michael W. Sole  
Secretary

March 1, 2010

Sent via e-mail to:  
[benpingree@mywakulla.com](mailto:benpingree@mywakulla.com)

Mr. Ben Pingree  
County Administrator  
Wakulla County  
Post Office Box 1263  
Crawfordville, Florida 32327

Dear Mr. Pingree,

This is in response to the July 17, 2009 Remedial Action Plan (RAP) response to comments prepared by Jones Edmunds and Associates (JEA) for the Lower Bridge Landfill, located 2.5 miles east of U.S 319 on the south side of Lower Bridge Road, east of Crawfordville

Upon review, we are unable to approve the RAP at this time. The proposed gas venting system will require a solid waste permit modification and can't be approved as a remedial technique. However, if you wish to install the system, you may submit a permit modification to the Department.

With regard to the passive oxygenation system, we are unable to approve this technique as a remedial solution. It may be possible to consider this approach as a pilot study; however, you will need to obtain a storm water permit for the project prior to approval.

We concur with your consultant's proposal to perform a risk assessment in accordance with Chapter 62-780, Florida Administrative Code.

Unless notified otherwise, we will look to receive your Risk Assessment on or before June 3, 2010. If you have any questions or need to discuss the project, please contact Victor Hultstrand at (850) 595-8360, extension 1212, or by e-mail at [victor.hultstrand@dep.state.fl.us](mailto:victor.hultstrand@dep.state.fl.us)

Sincerely,

Karen B. Shea, P.E.  
Cleanup Section Supervisor

KBS/vhb

Mr. Ben Pingree  
Lower Bridge Landfill  
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Enclosure: May 1, 2009 Memorandum

c: Troy Hays, JEA, [thays@jonesedmunds.com](mailto:thays@jonesedmunds.com)  
Marshall Seymore, P.E., FDEP, [marshall.seymore@dep.state.fl.us](mailto:marshall.seymore@dep.state.fl.us)

## Memorandum

# Florida Department of Environmental Protection

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TO: Victor S. Hultstrand <sup>USH</sup>

FROM: Karen B. Shea, P.E. <sup>KBS</sup>

DATE: May 1, 2009

SUBJECT: Lower Bridge Landfill  
Remedial Action Plan  
Permit No: 0013134-006-SF and 0013134-007-SO

I have reviewed the December 17, 2008 Remedial Action Plan prepared by Jones Edmunds and Associates (JEA) for the subject site located 2.5 miles east of U.S 319 on the south side of Lower Bridge Road, east of Crawfordville.

The submittal does not meet the requirements for a remedial action plan under Rule 62-780.700, Florida Administrative Code. It does not provide reasonable assurance that the proposed actions will bring the site to no further action.

JEA proposes to add 20 passive gas vents across the Class I landfill. They hypothesize that the landfill gas is kept from vertical escape by the daily cover and the pressure build-up pushes leachate out of the landfill. They think that the release of gas pressure will slow the amount of leachate from escaping. Gas venting systems have not had a measurable impact on groundwater contamination at other landfills, so I would not recommend approval of it as a remedial technique. However, if the owner wishes to install the vents, it will do no harm. We should advise the owner and the consultant to submit a solid waste permit modification if they wish to install the gas venting system.

JEA also proposes to install a "passive oxidation" system. It consists of a 350-foot long infiltration trench immediately downgradient of MW-11 and MW-22. The trench is to be 9 feet deep. Due to the limited area available, the slopes would have to be very steep and the consultant indicates that the trench would have to be reinforced and partial filled with rip-rap. Stormwater from the retention pond will be diverted to the trench.

I have several concerns about this approach. First of all, it doesn't appear that the consultant has considered the karst hydrogeology of the site. The feasibility study portion of the document states that "An infiltration basin or ditch would be constructed to ensure efficient infiltration of stormwater into the shallow aquifer after each storm event". There is no shallow aquifer at this site—just the Floridian and some perched zones. It is unlikely that enough stormwater could infiltrate at a sufficient rate to

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reverse the impacts of the leachate from the landfill.

The area gets approximately 50 inches of rain annually. The site is 20 acres. Assuming you could capture 35% of the rainfall as runoff, that's only about 1.3 million cubic feet of water. Averaged over a year, that would mean an average infiltration of 18 gallons per minute and that's hardly enough to impact the Floridian.

Also, it does not appear that stormwater would have a sufficient dissolved oxygen component to impact the aquifer. The idea of infiltrating oxygenated water into the shallow aquifer has been tried at other landfills and has not reduced iron or arsenic concentrations. I do not have reasonable assurance that it can be expected to effective here.

Assuming that the methodology would work, it is unclear what the infiltration rate of the trench would be. It appears that the proposed trench is to be constructed over a clay layer. It is indicated in the Farley-Jones Hydrogeologic Investigation that there is a 3 to 16 feet deep clay layer in this area, based on the boring logs. The clays are reported to be impermeable. It is unlikely that the trench will function as intended.

However, if the proposed system were implemented, it would not likely cause any harm to the site or cause the contamination to spread. If the County wants to implement the system, they could do so without approval under Chapter 62-780, Florida Administrative Code, but would need to ensure that they have obtained all necessary permits including but not limited to a stormwater permit.

I recommend Wakulla County investigate alternative methods for remediation or provide documentation of areas where this type of approach has been successful.