

Lombardo Associates, Inc.
News Archive

1. MassDEP & Lombardo Associates, Inc.
December 30, 2009 Meeting Summary

Environmental Engineers/Consultants

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EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

January 12, 2010

Pio Lombardo
Lombardo Associates, Inc.
49 Edge Hill Road
Newton, MA 02467

Dear Mr. Lombardo:

Thank you for putting together a summary of our meeting on December 30, 2009. Your summary contained in your letter of January 11, 2010, accurately represents the key points discussed.

Please feel free to contact me if you have further questions.

Sincerely

A handwritten signature in black ink, appearing to read "Glenn Haas".

Glenn Haas, Acting Assistant Commissioner
Bureau of Resource Protection

Cc: D. Ferris
B. Dudley

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January 11, 2010

Mr. Glenn Haas, Director
Division of Watershed Management
Massachusetts Department of Environmental Protection
1 Winter Street
Boston, MA 02108

Dear Mr. Haas:

Re: Lombardo Associates, Inc. (LAI) Decentralized
Wastewater Management Planning & Use of the
Nitrex™ Technology & Groundwater Treatment Approach

Thank you for the December 30, 2009 meeting on the referenced subject with yourself, David Ferris and Brian Dudley of the Massachusetts Department of Environmental Protection (MassDEP) and myself and Jerid Grandinetti of Lombardo Associates, Inc. (LAI) attending. Following are the key issues we discussed and LAI's understanding of MassDEP's position on these matters. As we discussed, a major objective of the meeting was clarification of MassDEP's position on the acceptability of decentralized systems and the Nitrex™ barrier technology to be the basis of Comprehensive Wastewater Management Plans (CWMP) for achieving compliance with Total Maximum Daily Load (TMDL) requirements for Cape Cod and other Southeast MA communities addressing nitrogen contamination issues. It is intended to clarify MassDEP's position.

1. Decentralized (i.e. cluster) systems are and have always been acceptable for CWMP.

Cluster systems are defined as those systems that would be permitted via the MassDEP Groundwater Discharge Permitting Program (i.e. systems with flows greater than 10,000 gpd), 314 CMR 5. MassDEP does not have a prohibition of septic tank effluent gravity/pressure (STEG/STEP) collection systems although it was noted that MassDEP have observed issues associated with the Gloucester, MA STEP system. LAI has engineered many small and large STEG/STEP systems and has not experienced the Gloucester issues.

2. Groundwater Treatment for nitrogen removal via a permeable reactive barrier (PRB) is an acceptable component of a CWMP to achieve Nitrogen TMDL Requirements.

The CWMP would need to be structured as follows:

- The "base" CWMP would be implemented through a MassDEP discharge permit;
- Groundwater nutrient removal or other nitrogen mitigation strategies would be proposed with project nutrient removal attributes and a monitoring/removal verification program as part of a trading program authorized in the permit;

- Sewering /treatment would not need to be installed for comparable amounts of nutrient removal achieved by groundwater nutrient removal or mitigation strategies - via nutrient trading;
- Should actual groundwater nutrient removal be less than TMDL requirements, the community will still be required to meet the nitrogen loading restrictions in the permit that are necessary to achieve TMDL requirements.

In other words effluent loading requirements would be placed in abeyance provided that the nutrient trading components achieved their representations - i.e. achieving TMDL requirements.

3. Nitrex™ technology use for Groundwater Discharge Permitted Systems.

There is no prohibition or unusual restrictions on the use of the Nitrex™ denitrification filter as a treatment component element of a community's CWMP, nor for a Groundwater Discharge Permit. Groundwater discharge permits require an engineer certification for the entire wastewater system that the design is capable of meeting the discharge permit requirements. 314 CMR 5.15 describe requirements for Privately Owned Wastewater Treatment Facilities, especially 314 CMR 5.15 (5) which describes the Repair and Replacement Accounts and Capital Reserve Accounts which would include provisions for replacement of Nitrex™ media and replacement of Nitrex™ equipment should the Nitrex™ filter not achieve its design intent and affect permit compliance. Trusts are established for these accounts as well as performance bonds may be used. For public projects, comparable financial assurance mechanisms are acceptable to insure compliance.

MassDEP agrees that solutions proposed in a CWMP may include the use of the Nitrex™ technology, however due to it's recent development, MassDEP is interested in reviewing as much data as available on its performance. LAI indicated that it has and will continue to provide MassDEP with performance data of its Nitrex™ installations as the data becomes available.

4. Title 5 I/A Nitrex™ technology effluent quality assumptions in a CWMP.

It is understood that Title 5 Nitrex™ technology effluent quality assumptions in a CWMP must be 19 mg/l, however a lower value may be used provided that a program is developed to achieve acceptance of the lower value via the Title 5 program as described in 310 CMR 15.000 . Should that lower value not be achieved in the Title 5 systems, the avoided additional sewerage/treatment to compensate for the nitrogen removal not being achieved would be implemented. This is comparable to the nutrient trading approach as described above in item 2. LAI noted that Title 5 systems are a small component of its CWMPs and this issue would be addressed if there is value in a community pursuing this nutrient trading option.

5. Groundwater Discharge with effluent requirements of TN<3 mg/l

The requirements under the groundwater discharge permit program do not differ whether or not the flows exceed 100,000 gpd.

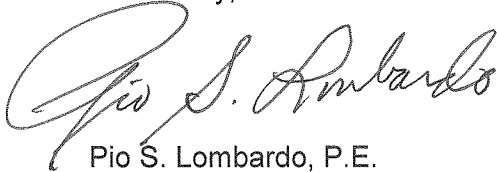
Mr. Glenn Haas, Director
Division of Watershed Management
January 11, 2010
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LAI noted that the CWMP approach it has proposed for Cape communities, with minor editing, has been consistent with the above MassDEP policies.

Please confirm that the above representations are consistent with our discussions and MassDEP policies, or provide the appropriate modifications.

If you have any questions on this matter, please do not hesitate to contact me by telephone at (508) 255-0760 or via email at [Pio@LombardoAssociates.com](mailto: Pio@LombardoAssociates.com). Thank you again for the meeting.

Yours truly,



Pio S. Lombardo, P.E.
President

cc: David Ferris, MADEP
Brian Dudley, MADEP
Orleans Board of Selectmen
Mashpee Sewer Commission
Representative Matthew Patrick