MEMORANDUM

TO: Coalition for Responsible Growth of Dover

FROM: Thomas P. Cusack

DATE: March 26, 2010

SUBJECT: The Knolls of Dover Development

Leggette, Brashears & Graham, Inc. (LBG) has conducted a preliminary review of the water supply and hydrogeologic section of the FEIS for the above-referenced project and provides the following comments. The comments are limited at the present time; budget constraints did not allow for a comprehensive review of the Supplemental Pumping Test Report (November, 2009) prepared by SSEC, Inc. and included as an Appendix to the FEIS.

- Based on present studies conducted by the Applicant to date, the existing well supply yields about 415 gpm (gallons per minute), with the best well out of service. The existing source would be allocated to the proposed commercial development, community and recreational facility and approximately 775 of 1,376 proposed residential units before the need to develop the additional back-up water-supply source. The goal set under the DEIS was to develop the peak water demand of full build-out with the best well out of service as required by the regulatory agencies. The revised approach by the Applicant is a segmented development of the required water-supply sources and any approval of the project by the Town must be conditional that the water supply is developed and approved by the regulatory agencies prior to supplying the phased development.

- Based on previous comments by LBG and other parties, the water demand has been correctly revised to reflect the peak water demand as twice the average water demand. The DEIS previously reported the peak water demand to be 1.7 times the average water demand of the project.

- The FEIS indicates the back-up water-supply source to meet the water demand of full build-out will be developed from the construction of a new well, Well 18A, within close proximity (15 feet) to Well 18. Although this may potentially be feasible, it should be understood that there is no guarantee that a well completed immediately adjacent to Well 18 will

yield the required water (207 gpm). In addition, previous concerns have been noted regarding loss in yield from original yields due to fractures in wells becoming filled with fine sand material following drilling which plugged significant water-bearing fractures. Although this was not reported during the drilling of Well 18, in any instance when drilling a well within close proximity of an existing well, the disturbance resulting from drilling a new well can collapse or plug the fractures of the existing well, reducing the yield dramatically. Although the drilling of Well 18A, as proposed by the Applicant, is an option to develop the required back-up water supply, Town officials should realize there is no guarantee it is feasible, and cannot dismiss the potential impacts to the existing well. To mitigate the risk, the Applicant should identify the location for future wells if this option is not determined to be feasible or fails.

- Previous comments by both LBG and NYSDEC regarding the drilling of Well 18 in an ash fill area have been responded to by the Applicant in the FEIS. Although the responses by the Applicant in the FEIS indicates the ash has not impacted the water quality of Well 18, the Applicant should determine if the NYSDEC will accept the completion of Well 18A as proposed in the ash fill area. It is our understanding that the NYSDEC has reservations regarding the development of the back-up water-supply source (Well 18A) as proposed in the area of the ash fill.

- The reservoir is also considered as a potential back-up water-supply source. The FEIS has reduced the safe yield estimate of the reservoir to about 170 gpm (250,000 gpd) during drought conditions and 332 gpm (478,000 gpd) during normal precipitation conditions. The significant cost to construct a new water treatment plant for a reservoir with limited yield capacity does not appear to be a cost-effective alternative for the Applicant. The development of additional wells would likely be a more cost-effective approach by the Applicant.

- To mitigate potential offsite impacts to homeowner well supply sources, the applicant has drafted a compliant response and remediation plan included in the FEIS Appendix 14. The plan is found to be acceptable by LBG and should be incorporated in any approvals by the Town. The plan was provided by the Applicant in response to previous comments made by LBG.

- To address previous comments by LBG regarding potential water-quality issues, the FEIS indicates appropriate treatment will be implemented, if required. It is likely additional sampling events or studies will be required by the regulatory agencies prior to placement of wells into service, followed by a prescribed sampling program after the wells are placed into service to monitor long-term water quality from the wells. Previous water-quality concerns are addressed by LBG in the report entitled, "Hydrogeologic and Water Supply Assessment Report, The Knolls at Dover Development, Town of Dover, New York", dated June 2009. While the wells meet a majority of the NYSDOH drinking water standards, there were instances of exceedances of standards that cannot be ignored lightly and may require filtration and/or treatment of the water-supply source presently proposed.

- The FEIS confirms that there are no plans to withdraw water from either the Swamp River or Ten-Mile River.

- As previously noted in LBG's report dated June 2009, the Swamp River Base Flow Analysis included in the DEIS is considered to be favored for the reasons stated. The response by the Applicant in the FEIS is that they do not concur. It is noted that no review comments are provided by AKRF, the Town's consultant regarding the Swamp River Base Flow Analysis. The analysis is an important component in understanding the potential impacts of the proposed groundwater withdrawals on the Swamp River. The Town should insure an accurate study of the Swamp River is incorporated in the FEIS.

Should you have any questions, please do not hesitate to contact me.

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