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(electronically signed original)

Date: April 2, 2014

To: Gary Haynes, CZEO, Director of Community Development, and
East Granby Inland Wetlands Commission

From: David Askew, Executive Director David Askew
Registered Soil Scientist, SSSSNE,
Certified Erosion Control Professional CPESC #2182

Re: Preliminary comments Galasso Quarry

The following comments address only critical items that need to be addressed for final review of the application for the scheduled special meeting. The remaining issues are generally minor, as a significant effort has been made by all parties to address issues on a continual basis since the first application was submitted in November 2013. The proposal has been significantly modified since that time, with major revisions including:

1. Preparation of a modified hydrologic model and water budget for the site, including (proposed) treatment of the quarry floor with blast rock and processed gravel consistent with existing operations.
2. Phasing of the project to reduce the extent of clearing and disturbance required at any one time. The phasing has significantly reduced the risk of sediment and erosion.
3. Significant revisions to the sediment and erosion control plan with phasing, clean water separation and other runoff controls, development of phased sediment collection with a modified sediment basin and the addition of sediment traps for later phases of the project.

Following are NCCD's preliminary comments. We will determine the need for additional comment in consultation with town staff after final plans are submitted. Items requiring plan revisions or response are italicized.

Hydrology

Maintenance of hydrological support to Wetland 1 is *the* critical issue associated with maintaining the *long-term* value and viability of the wetland. That said, the current application represent a significant reduction in the extent of alteration to the upland contributing watershed proposed under the initial concept plan, which encompassed 75 acres of alteration.

A significant effort has been made by the applicant's and towns' hydrological consultants to accurately model site hydrology and to develop a water budget. In summary, the maximum predicted reduction in contributing flow for basin W1-A-2 (the upper part of the watershed that

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supports the upper part of the wetland, including vernal pool 5) is 11%. Characterizing the impact of the reduced flow is beyond the scope of this preliminary review. However, it is our professional opinion that the water budget accurately reflects existing and proposed site conditions, and that impacts to hydrology have been reduced to extent possible with the current proposal. NCCD believes that the applicant's consultants have developed a comprehensive monitoring plan to determine baseline conditions and monitor changes to hydrology as the project progresses. Monitoring stations at locations proximate to the active quarry are proposed. Analysis of information generated at these locations is critical to determine additional information regarding how the site responds to precipitation events. In order to address analysis of data, NCCD proposes the following condition of approval.

Along with the applicants' quarterly hydrology monitoring reporting, the applicant shall have 3rd party consultant analyze the flows at Flow Station 2 and 4 as well water levels from piezometer 2 and 4. Such quarterly narrative analysis shall occur during all phases, including pre-mine phase and active mining phase. Pre-mine analysis shall attempt to determine baseline relationship between precipitation and flow at the specified sites. Post mine analysis shall compare baseline data and precipitation data to determine if there are any major deviations between established baseline conditions and active quarry and post mine phases. Such analysis shall be provided to the Town quarterly along with the water quality and groundwater monitoring reports. Quarterly submission may be modified by written request if goals of analysis have been achieved, as determined by Town staff in consultation with consultants.

Off-site monitoring of Wetland 1 has been discussed with the applicants' consultants. If feasible and approved by the adjacent landowner, *NCCD recommends a condition of approval requiring submission of proposed additional monitoring locations for review and approval of town staff in consultation with the relevant consultants.*

Sediment and Erosion Control

NCCD has reviewed all aspects of the sediment and erosion control plan. Proposed (minor) revisions to erosion control design details will be addressed by others. NCCD recommends the following revisions for final plan preparation:

Show the location of the (previously proposed) pervious berm between Phases 2 and 3 and the proposed sediment traps.

Put a note on the plans specifying "large grid natural fiber mesh" for all erosion control blankets used for erosion control.

The proposed plans, with recommended revisions, are consistent with the "2002 CT Guidelines for Erosion and Sediment Control" and "2004 CT Stormwater Quality Manual".

Site Restoration/Mitigation

The applicant has proposed a "trial" restoration site as a potential model for additional site restoration, a sediment trap planting plan, and wetland mitigation plan to mitigate for wetland area eliminated by the proposed mining activity. Restoration of the area of the proposed sediment traps is likely to be critical for maintaining future hydrological support to the wetland. The proposed plan is sufficient for permitting purposes. However NCCD *recommends a condition of approval addressing submission of a final plan for restoration of this area once the quarry activity is terminated and post mine conditions, including hydrology, are assessed.*

Proposed quarry restoration includes the use of “overburden” to restore the quarry floor. *NCCD would like the applicant to address the feasibility of separating and stockpiling topsoil and sub-soil for use during restoration. Restoring the soil surface to mimic natural soil horizons, to the extent possible, will enhance site restoration and may restore a more natural hydrologic regime.*

Thank you for the opportunity to comment.