REVIEW OF KRAEMER MINING AND MATERIALS SEP DOCUMENTS SUBMITTED OCT. 2008 AND REVISED AUG. 2009

by

Cedar Corporation

Oct. 21, 2009

PURPOSE OF TOWN'S REVIEW OF SUBMITTED DOCUMENTATION

- Provide a review of the submitted information to ensure that the interests of the Town and Town's people are being preserved and protected.

- The review was not intended to 'redo' the analysis completed by the various resources KMM employed in their analysis.

PURPOSE OF TOWN'S REVIEW OF KMM SUBMITTED DOCUMENTATION

- Cedar's review of the KMM documents was to determine that KMM completed a thorough review of the issues.
- This presentation summarizes the review of the 2008 documents and the 2009 document revisions and additions.
- In Cedar's opinion, KMM to date has completed a thorough review of the issues.
- This review was requested for presentation at tonight's hearing on October 13, 2009.

CULTURAL AND ARCHAEOLOGICAL REVIEW

- The work as documented in the 2008 and 2009 reports does not present any areas of cultural or archaeological concerns.

BIOLOGICAL SURVEY

- The biological survey did find certain specie (prickly pear cactus) that are considered endangered in Wisconsin. Under Wisconsin law, the land owner can move those endangered plants on their land to areas of similar ecology to protect the plants.

- KMM has completed the relocation of those plants that are in the proposed development footprint to other areas on the property. KMM reports that the relocation has been successful.

- Currently, WDNR does not issue permits or inspect this work.

WETLAND DELINEATIONS

- KMM's consultants document the presence of several wetlands on the proposed Non Metallic Mine property. Some wetland areas are proposed to be used as discharge areas for waste and /or storm waters, others will be destroyed in the mining process, while others will not be disturbed.

- KMM has indicated they will follow all applicable WDNR rules with respect to wetland water quality issues and wetland mitigation processes.

WPDES Permits

- KMM will require WPDES permits for those operations which will produce wastewater discharges and stormwater management and discharge.

- KMM has indicated they will follow all applicable WPDES permitting requirements for discharges of wastewater and storm water from the proposed operation.

AIR EMISSIONS

- KMM's original submittal documented potential particulate matter impacts at various locations outside the property boundary of 150 µg/m³.
- Cedar noted that Wisconsin has adopted the Federal regulation that proposed particulate matter impacts to air quality must not exceed 150 µg/m³ at the property boundary in a given 24 hour period. This concentration must include background values for particulate matter of 39.7 µg/m³. Proposed facilities may be required to model their emissions.
- KMM has since discussed the issue with WDNR Air Management and agrees to follow all applicable Air Emissions rules and standards established for Non Metallic Mining operations

GROUNDWATER SUPPLY WELLS

- KMM has compiled considerable geological and hydrogeological reference material and completed on-site studies to determine that local water supply wells in the nearby sand and gravel and sandstone aquifers will not be affected by the mining operation.

- The concern is that the floor of the proposed quarry is 270 to 350 feet below the elevation of the screen of their water supply wells and that the presence of fracturing in the traprock could result in groundwater flow into the quarry area possibly negatively affecting the water supply wells.

- KMM proposed that they would pay for any costs associated with water supply well damages or impacts as a result of the mining process.

GROUNDWATER SUPPLY WELLS

- KMM indicates that water supplies will not be affected as the basalt and fractures in the basalt have an extremely low hydraulic conductivity as compared to the sand and gravel and sandstone aquifers. They agree that they cannot rule out the presence of fractures in the rock that may be in contact with the water supply aquifers but determine that the 'leakage' from the water supply aquifers should not be significant to affect local water supply wells.

- Cedar concurs with the KMM's assessment of the geology and hydrogeology and that the variations in groundwater movement in the fractured rock in this locale are complex. But, the possibility has not been ruled out that fracture(s) with significant hydraulic conductivity may exist. Such fracture(s) could result in more aquifer leakage from the sand and gravel and sandstone aquifers into the basalt than is currently considered as acceptable by KMM.

GROUNDWATER SUPPLY WELLS

- Wis Adm Code NR 812.12 (16) requires that water supply wells proposed to be within 1200 feet of a quarry be constructed with special construction methods such that the upper enlarged drill hole and screen of the well is below the quarry floor.

- KMM recognizes this and has guaranteed that should any modifications be required to the existing wells within 1200 feet of the quarry be required, KMM will pay the associated costs. KMM intends to seek a variance from this regulation should the SEP be approved.

GROUNDWATER SUPPLY WELLS

- KMM therefore proposes to
  - Pay for an independent survey of water supply well specific capacity, water depth and water quality within 1/4 mile of the proposed quarry prior to commencing quarrying operations.
  - Address water quality and water supply issues in the local water supply wells when they occur.
  - Pay for well construction requirements if a variance to NR812.16 (16) cannot be obtained.

RECLAMATION

- In the Oct 2008 and more recent submittal, KMM proposes to allow the 61 acre 400 foot deep pit reclaim by filling with water from natural sources to within 20 feet of surface but does not indicate a time frame for the reclamation process.

- KMM has provided several anecdotal examples of quarries that have filled with water with time frames that appear to be in the range of 5 to 40 years dependent on the size of the quarry. KMM has indicated that groundwater will contribute a certain but unknown quantity of water volume in the refill process.

RECLAMATION

- Cedar made the following assumptions and calculated a time frame for the refilling:
  - No surface water would enter the pit. No evidence of a delineated watershed was provided for the area surrounding the quarry pit in the KMM documents, but with the quarry being located on a ridge, the assumption was made that little to no run-on water would enter the pit.
  - No groundwater would enter the pit. KMM presented significant argument that local groundwater would not be significantly affected and offered that some leakage into the pit would occur but the amount is not significant.
  - If no run on water enters the pit and groundwater provides a limited contribution, then the most significant factor to fill the pit would be precipitation.

RECLAMATION

- Precipitation in our area averages 33 inches per year. Normally one has to deduct as much as 23 inches for evaporation and transpiration, but as little evaporating will occur during the initial stages of the filling, we used 3 feet per year in our calculation. 400 ft divided by 3 feet per year = 133 years.

- KMM responded by indicating that our volume calculation is incorrect by as much as 30%. KMM has not provided an actual volume nor have they provided an actual or estimated time frame in any of the documents made available for my review.

- KMM anecdotally states that many pits in the region and in the country fill much more quickly than has been calculated with the limiting assumptions provided by Cedar.

RECLAMATION

- Cedar does not contest the information provided by KMM on reclamation. The answer to “How long will it take to fill the pit?” is somewhere between the very conservative number calculated by Cedar (we do not accept it as “incorrect, unfounded, and wrong”) and the actual length of time it will take to fill the pit. KMM indicates that groundwater will provide a more significant contribution in filling the pit but continues to state this will not affect local water supplies.

- More importantly “As indicated previously Kraemer will keep the reclamation bond in place and fencing around the site until the quarry has refilled” and further ”irrespective of the actual time Kraemer will reclaim the site in accordance with all applicable standards”.