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Norvell Township Board and Planning Commission

RE: GEI Review of Proposed Aggregate Mine

At the request of the Irish Hills Concerned Citizens (IHCC) we have prepared our initial comments related to the GEI review of the application submitted by American Aggregates of Michigan (AAOM-EC Levy). The GEI review is troublesome in that it raises issues throughout the text as numbered items that could become “Very Serious Consequences” (VSCs) under the Michigan Zoning Enabling Act but then in the summary statement concludes there are no VSCs and GEI recommends approval. In addition GEI states the mine will benefit the township and local economy, without facts. In fact an aggregate mine is likely to have a negative impact on the area and studies show there is a significant drop in property values after a mine is approved. In Springfield Twp I was told there is a negative impact on property sales just because a mine application has been submitted.

There are unanswered questions regarding the impact of the proposed mine on water resources and water quality in the area. The answers to those questions are necessary to understand whether the proposed mine will have impacts on the water quality and quantity of Watkins Lake and nearby wells. Little detail is provided regarding the use of groundwater and its disposal. All boring logs should be provided, not just a select group that were converted to monitoring wells. Geological cross sections need to be supplied that indicate the soil types and groundwater information that were obtained from the borings. These should include any perched groundwater and surface water. This is one of the best ways to evaluate boring log information and none were in the hydrogeological report by ASTI.

Our review comments will follow the numbers used in the GEI review and are as follows:

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#6 A review by Dr Steven Wright has indicated the potential for perched water tables to be present above the main water table. This is ignored in the review. This type of glacial geology is known to have perched groundwater. Perched groundwater can be drained by mining and this could impact wetlands and other surface waters. Unexpected perched groundwater can also complicate mining and disposal of groundwater that drains into the mine.

#9 The water usage and well information is lacking. Will the well be able to supply the process water without impacting other wells and wetlands/inland waters? What is the quality of the water that will be brought to the surface?

#10 More details are needed regarding the mineral processing and water usage and disposal. Poorer quality groundwater could be brought to the surface by withdrawal for process water. Based on the type of aquifer serving the wells, arsenic, hydrogen sulfide and brackish groundwater may be present at depth and could be brought to the surface and then spread through the site via process waste water. Process waste water needs to be disposed of and that usually requires a pond for settling of fines and infiltration of waste water to the subsurface. More information needs to be provided regarding the location of any ponds and the ability of those locations to allow infiltration of process waste water. Elevated concentrations of nitrates may also be present in the shallow groundwater as a result of agricultural operations. Sampling of the groundwater is needed.

#16 The EGLE (not DEQ as stated in the review) General Permit for Stone Crushing does not require air monitoring. How will the miner monitor dust leaving the property, including PM2.5. This is not just a concern for silica, but any particulate matter. Current regulations only focus on worker safety. Cross the property line and residents are left unprotected.

#18 Geological cross sections were not included in the hydrogeological study by ASTI as part of the application. These are standard in hydrogeological reports and assist in evaluation of the geology, groundwater and surface water and how mining may disturb the conditions.

#20 We agree that cross sections for each phase need to be prepared.

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#21 If no ponds are constructed, how will process water be disposed of? Usually groundwater infiltration with ponds is used or surface water discharge with a NPDES permit. The disposal of process waste water needs to be explained.

#22 A more complete study and review of endangered and threatened species needs to be conducted.

#23 Excellent noise review that was ignored. Noise and vibrations along the haul route may also become a “Very Serious Consequence” and a reason for denial.

#24 The non-hydrological impacts on Watkins Lake State Park and Hayes State Parks are ignored. These include potential loss of habitat and extra noise and traffic.

GEI also reviewed documents and had no comments; they are as follows:

#26 Traffic study needs to include traffic, pedestrian and bike traffic in the busy summer months along the proposed route. The study supplied only deals with traffic volumes, not safety. It also needs to be conducted during the busier summer months.

#29 Purchase orders are not proof of need that cannot be met from other sources.

#30 The Phase II ESA by HLA is referenced, but is not provided in the application. It needs to be provided for review. There may be relevant information contained. All boring logs should also be supplied for review, not just those turned into monitoring wells.

#31 We have multiple sources that estimate the property devaluation of about 30% to 35% next to a new mine and lower but significant decreases as properties get further away. Haul routes may experience similar devaluation. The impact on the tax base is also discussed. These will be supplied in a separate report. This devaluation intuitively makes sense.

I have worked in the mining and oil industries and have permitted mines in addition to managing mining operations. I have a BS and MS in geology and post-graduate work in hydrogeology. I taught at several colleges and retired as an adjunct professor at Macomb Community College. I spent 12 years as a regulator and Senior Geologist at

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the Michigan Dept. of Environmental Quality (DEQ), now EGLE. In the last 6 years I have reviewed close to 3 dozen aggregate mine applications in 6 states and Ontario.

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