ALTA Environmental Corp.
121 Broadway, Colchester, Connecticut 06415
Phone: (860) 537-2582, Fax: (860) 537-8374

29 December 2020
File No. 1789-01

VIA E-MAIL

Town of Monroe
Planning & Zoning Commission
7 Fan Hill Road
Monroe, CT 06468

Attention: Mr. Michael O'Reilly, Chairman

Subject: Application for Site Development submitted by Solli Engineering, LLC (SDP-2020-01, File No. 139) (the "Application").
64 Cambridge Drive & 4 Independence Drive, Monroe, Connecticut

Dear Chairman O'Reilly and Other Commissioners:

.

For the record, my name is Evan Glass. I am a hydrogeologist and Licensed Environmental Professional (LEP) with ALTA Environmental Corporation in Colchester, CT. I am writing to the Commission on behalf of the Intervenor to the subject Application, Mr. Peter Metropoulis.

EXECUTIVE SUMMARY

The site development Application before you is for a large project that consists primarily of filling the quarry properties at 64 Cambridge Drive and 4 Independence Drive consisting of approximately 72 acres of land. At present, the Application incudes construction of a relatively small building (approximately 2,000 sq. ft.) to facilitate the filling project. The Application alludes to the eventual construction of two additional buildings after the filling project is completed approximately eight to ten years from the project start date. According to the applicant, the long time frame for the project completion is required due to the anticipated sourcing schedule for the type of fill that the applicant wishes to use, namely "clean fill", as defined by the Connecticut Department of Energy & Environmental Protection (DEEP).

Because, the proposed project is so heavily focused on "excavation and filling", with respect to the quarry excavations that caused the violations in the first place, the fill already disposed of at the quarry together with the fill proposed to be disposed of at the quarry, we respectfully suggest that the Commission may wish to administrate this Application at least in part under Section 6.4 of the Town of Monroe Zoning Regulations as pertains to "Excavations and Filling". The Commission may consider issuing a waiver, if possible, of the apparent maximum four-year duration requirement under that section. Also under that section of the Zoning Regulations, any necessary approvals and/or permits must be obtained from the Inland Wetlands Commission

(IWC) prior to Application to the Planning & Zoning Commission (P&Z); hence, the Commission may also wish to consider a waiver from this requirement (if possible).

As a hydrogeologist and LEP, and from the P&Z perspective, my evaluation of this proposal has primarily focused on the following:

- Whether using DEEP-defined clean fill is appropriate for this site, and if so, where such fill (and certain components thereof) should remain and/or be placed;

- Ensuring adequate control of the quality of the fill materials existing and to be brought to the site (e.g., through sampling and testing);

- Assessment of the quality of the fill already at the site and the potential for impacting the underlying groundwater and surrounding surface water; and

- DEEP review of the project.

The Intervenor has made it clear that he does not wish to be obstructionist, or to unduly delay the mitigation of the existing zoning (and wetlands) violations at the quarry property. Rather, the Intervenor wishes the violations to be mitigated in a timely manner and by such means as appropriate to the violations and the sensitive site environmental setting within which the quarry property is located. It is with this in mind that the remainder of my comments follow.

In short, the initial Application did not adequately address the four bullet points outlined above, and therefore the proposed plan has changed significantly over the course of the P&Z and IWC hearings (which have run concurrently) in response to comments received during these hearings. The plan has changed so much, that it does not even appear to be the same plan as initially proposed, which effectively shortens the time allowed for needed consideration of the most recent version of the plan by you, the Intervenor and the public. While the changes have likely, for the most part, represented improvements to the original plan, they may not yet be adequate, and may themselves pose additional questions and comments that should be addressed prior to approval of any final Application.

Perhaps the most significant change to the Application has involved the inclusion of an impermeable liner over much of the quarry area for the purpose of directing groundwater water to the eastern wetlands. The liner would mimic the original bedrock surface that is inferred to have originally directed the water to those wetlands prior to removal of the bedrock by the quarrying operation. This seems to be both a reasonable objective and design, but the devil is in the details (which have continued to evolve), such as whether and where DEEP-defined clean fill should be placed above and/or below the liner, and the need for a natural soil filter near the wetlands. The applicant may consider expanding the purpose of the liner to also include isolating the DEEP-clean fill, and any polluted soil, both from direct human contact and infiltrating precipitation. This would be consistent with maintaining the fill and soil as DEEP-defined “inaccessible soil” and “environmentally-isolated soil”, which the DEEP agrees does not pose an unacceptable risk the human health or the environment, and is a routinely used

remediation approach. Hence, the current iteration of the Application may be more appropriate as a starting point for design review, rather than the end point.

In light of the above discussion, and because this Application may be for the largest and most complicated plan that has been before your Commission to date, we recommend that you reject it in its present form without prejudice. Then, the Application may be resubmitted with a design that has taken more considered cognizance of the comments received during the initial Town Applications, and perhaps from the DEEP, leaving sufficient time for your consideration.

INTRODUCTION

The applicant has two reasons for seeking this permit:

1. To mitigate wetland violations, which is an Inland Wetlands matter and is obviously of deep concern to this Commission; and
2. To fill the quarry and construct buildings for its business interests.

Both of these objectives would be met by initially using the existing fill at the site and then by transporting a large amount of additional fill to the site.

The site development Application before you, and the inland wetlands Application, have changed significantly over the course of the Application process. For example, initially, the plan was to bring in enough fill to closely match the original topography and ridge line. The first plan did not include the use of a buried impervious liner to direct water to the wetlands, and would have met the zoning regulations purpose of preserving ridgelines. The current plan is to bring in less fill and does not propose to restore the original ridgeline, and to use an impervious liner, which is still a massive plan of long duration and a more complicated plan than the original plan. It is also not clear that the original plan would have actually directed any water to the wetlands, because the applicant's estimate of the post-filling water table elevation in the "hole" is approximately 411 ft., and the eastern wetlands ("Wetlands 2") are at approximate elevation 447 to 450 ft.

The original plan called for the use of any and all types of DEEP clean fill anywhere at the site, including both above and below the water table. We understand that the current plan is to use only natural soil and rock materials below the water table (although some or much of this may be quarry tailings, aka mine waste, aka "rock flour", according to the applicant), and to limit the use of asphalt to roadways, but it is not clear that these intentions have been written into the plan presently before you. And this may or may not be adequately protective of the natural resources, because precipitation percolates through the materials above the water table as well as through materials below the water table, and the rock flour may leach naturally-occurring metals due to its fine-grained nature, and/or pose other risks to the environment. Notably, conventional construction practice is to fill below the water table using natural stone product composed of much coarser fragments than stone dust. If stone dust is to be used for fill below the water table, it would seem prudent that the applicant provide an adequate assessment of its appropriateness, which the applicant has not done to date.

Another matter concerns the quality of the existing fill materials on the site, and whether those materials would or should remain in their current positions. For example, the applicant's LEP report appears to document the occurrence of demolition and construction debris (asphalt and brick) below the water table at its B1 boring in the northwestern portion of the site. Per section 6.4.9 O of the Town of Monroe zoning regulations regarding Conditions of Excavation and/or Filling or Grading Operation, "If, as part of an excavation operation, debris or trash or unsuitable material is encountered, the same shall be removed from the site and disposed of in accordance with applicable town regulations."

Whether the existing fill material already disposed of at the site is suitable or unsuitable to remain at the quarry depends in part on whether it is, in fact, below the water table (which it appears to be at least in part based on the B1 boring log which indicates these materials to be wet), and whether the groundwater has been impacted. The applicant's LEP consultant (WSP) has concluded that the fill is not impacting groundwater, but has only sampled two monitoring wells, each just once, with both wells located a very far distance from the B1 area (approximately 1,000 ft.), and WSP did not provide contour maps in either of its September or December 2020 reports to show that either or both of the wells are actually downgradient of the area of fill they primarily investigated. In its December 2020 report, WSP stated "Groundwater within the footprint of the quarry was inferred to flow toward the on-site point [exposed rock cuts in the "hole"] at northern portions of the site and toward the southwestern wetlands area at southern portions of the site". Notably, WSP stopped short of stating that the groundwater wells monitored are downgradient of the primary debris area investigated by WSP's borings and test pits (which appears more northerly than southerly in this context), and ALTA notes that the single surface water sample collected from the hole northerly of WSP's primary debris investigation area could be significantly diluted by surface water runoff and therefore not actually representative of groundwater quality. WSP observed apparent groundwater emerging from bedrock fractures in the exposed rock cuts in the northern portion of the site (presumably in the "hole"), and we suggest that the sampling and testing of this water, and the groundwater directly beneath the WSP's primary debris investigation area, may be more representative of groundwater that could be impacted by the debris. ALTA also notes that WSP found leachable lead exceeding the DEEP remediation standards in the fill sampled from test pit TP-7 (near B1 and far from the monitoring wells). [Note: We acknowledge that WSP subsequently collected and tested additional samples to demonstrate compliance with a pertinent DEEP remediation standard using a statistical calculation, which likely explains the initial delay in the submittal of the December 2020 WSP report.]

We note that WSP's testing of the fill materials was at a frequency of one (1) sample per approximately 2,700 cubic yards (CY) to 3,700 CY (depending on how you count), which is much less (more than ten times less) than the standard that the applicant and its consultant has recommended for testing of the fill to be imported to the site which is one (1) sample per 250 CY for fill planned to be imported to the site. Hence, it appears that additional characterization of the fill, and/or the groundwater beneath the fill, is warranted to adequately assess whether the existing fill is suitable and can remain or must be removed, to be consistent with your responsibility to preserve and protect sensitive water resources.

The IWC's LEP, Mr. Russ Dirienzo, has said that the quality of the fill is a P&Z matter and also a DEEP matter; and in that regard, I would recommend that the P&Z Commission request the applicant to present the project plan to the DEEP in a pre-Application meeting (as DEEP has also indicated should be done), and get DEEP's opinion on the acceptability of the plan, for example with respect to the appropriateness of using the existing and proposed fill in this setting, the adequacy of the existing fill and groundwater quality data, and plans for future monitoring and reporting, etc.

SENSITIVITY OF THE PROJECT ENVIRONMENTAL SETTING

The quarry site is located in the Pequonnock River drainage basin, and the DEEP groundwater quality classification for most of the site is "GAA". The GAA classification is DEEP's most protective groundwater classification and is reserved for areas where the groundwater can or may contribute to public drinking water supplies. By contrast, GB classification areas are used for urban and contaminated areas where the groundwater is not used for drinking, and GC areas are used for landfills.

The DEEP also classifies the quality of Connecticut's streams, and the West Branch of the Pequonnock River and its unnamed upstream tributary near the site are classified as "AA". The Class AA surface water classification is DEEP's most protective surface water classification and is reserved for streams that contribute to public drinking water supplies.

The Application includes a map showing the Site to be located within the Aquarion Water Company's West Pequonnock Public Drinking Water Supply Watershed, and the West Branch of the Pequannock River is diverted to the [Town of] Easton public drinking water supply reservoir. And, there may also be private drinking water supply wells in the project vicinity.

We also note that under section 6.6.3 (C) (4) of the Town of Monroe Zoning Regulations, regarding: Alteration of Watercourse, (a) Adjacent communities and the DEEP must be notified prior to any alteration or relocation of a watercourse, and submit evidence of such notification to FEMA (Federal Emergency Management Agency). Since the primary goal of this project is to add water to wetlands, in my opinion this is altering a watercourse and so the DEEP notification is required.

WHAT IS DEEP CLEAN FILL?

The applicant initially used the phrase: "*material which meets the DEEP definition of "clean fill"* seemingly to suggest that the quality of such material is without question appropriate for disposal at the quarry simply due to its clean sounding name, and that the quality of "clean fill" and the differences inherent in the various components of clean fill, should be of no concern to the Town commissions. However, in response to comments received, the site development plan has changed in the following significant ways concerning the proposed use of DEEP-defined clean fill:

- DEEP-defined clean fill will no longer be placed below the water table. The December 2020 WSP report indicates that clean fill has already been placed below the water table, and the applicant seems to have indicated during the December 17th 2020 P&Z hearing that all clean fill previously placed at the quarry site would be excavated and re-deposited at the quarry. Hence, the management of the existing fill should be carefully considered and clearly prescribed by the applicant. In this regard, we offer that sampling and testing of groundwater immediately beneath the already-placed fill could provide a basis for leaving such fill in place from a groundwater quality standpoint, although such sampling and testing has not yet been completed;

- The asphalt component of clean fill would not be used for general filling at the quarry, but instead use of the asphalt component will be limited to constructing roadways. This is consistent with DEEP's stated objective/preference for the reuse of old asphalt, as discussed further below. [Note: The applicant's documentation indicates that asphalt has already been disposed of below the water table, and we offer the same comment as above regarding the potential for this material to remain in place.];

- Clean fill would no longer be placed atop the impermeable liner within the vernal pool envelope, in a seeming acknowledgement that use of clean fill so close to a sensitive environmental resource is not appropriate; and

- Soil brought to the quarry would be tested at the source at a frequency of one (1) sample per 250 CY. [Note: We have not located in the Application materials any "pass/fail" criteria for comparison to these testing results, and the applicant should prescribe such criteria.]

While all of these significant changes are likely improvements compared with prior versions of the Application, at least some have been made rather late in the process, and themselves raise further questions. For example, the natural materials to be used atop an impermeable liner within the vernal pool envelop are said to be a "filter", but we did not encounter in the Application materials an explanation of the need for a filter and how the filter would work. Hence, the current iteration of the Application may be more appropriate as a starting point for review, rather than the end point. We also note that the Application materials are voluminous, and difficult to review without benefit of paper copies; hence, we apologize for any information that is included in the Application that we have not encountered.

Clean fill is solid waste. Per the Connecticut General Statutes: "Solid Waste" is (among other things) "…any unwanted or discarded solid, including but not limited to, demolition debris, and material processed at a recycling facility." The DEEP considers "discarded" to mean discarded from its *original* use, and has made it clear that clean fill is solid waste.

Hence, much or most of the materials already brought to the quarry, and proposed to be brought to the quarry are solid waste. "Clean fill" includes:

- Used brick and concrete from buildings;

- Used concrete and asphalt from roadways and parking lots;
- Used concrete block from buildings; and
- Used ceramics.

In the DEEP *Solid Waste* Management regulations, the *present day* definition of "clean fill" is:

> (1) natural soil (2) rock, brick, ceramics, concrete, and asphalt paving fragments *that are virtually inert and pose neither a pollution threat to ground or surface waters,* and certain types of polluted soil.

How to interpret the qualifying phrase "[materials] *that are virtually inert and pose neither a pollution threat to ground or surface waters",* has been and is still much debated, and I would assert that context matters. That is to say, that *where* the materials are placed can determine *whether* they pose a threat. For instance it just stands to reason that,

- Fill placed in or near a class GAA public drinking water supply watershed area is *more* likely to pose a threat;

- Fill placed near class AA streams wetlands is *more* likely to pose a threat; while

- Fill placed in a landfill in a class GC area is *less* likely to pose a threat; and

- If old asphalt is recycled into new asphalt and/or used for roadways (rather than placed as buried fill) it is *less* likely to pose a threat.

In my opinion, this Application is in the "more likely to pose a threat" category due to its location in a sensitive GAA/AA area.

"Polluted soil" can also meet the current DEEP definition of "clean fill". Per the DEEP Remediation Standard Regulations (RSRs), "Polluted soil" is soil affected by contaminants at *any* concentration. Slightly polluted soil that meets certain DEEP standards and requirements can be reused, while heavily contaminated polluted soil must be properly treated and/or disposed of. The December 2020 WSP report on the quality of the materials already brought to the site indicate that these materials are composed, at least in part, of polluted soil. For example, the typical natural background concentration for total lead in Connecticut soil is up to approximately 15 milligrams-per-kilogram (mg/kg), but:

- WSP's sample M2 composed of mixed debris, including soil, had a reported lead concentration of 65.6 mg/kg, which WSP represented as a background concentration without further explanation;

- Samples from WSP's test pits TP9 and TP2 contained polynuclear aromatic hydrocarbons (PAHs) in TP2 and elevated concentrations of lead (29.4 mg/kg in TP9). WSP attributed the PAHs to asphalt observed in the soil, and described the lead concentration as typical of naturally occurring concentrations;

- Samples from WSP's borings B4, B8 and B10 contained total lead concentrations ranging from 38.6 to 141 mg/kg, above typical naturally occurring concentrations, and one single-sample concentration of leachable lead exceeded the DEEP pollutant mobility criteria for GA areas, all indicating the presence of polluted soil already at the quarry.

It is very important to understand that if *any* "polluted soil" is or was brought to the Rockhead Quarry, even if it meets the most stringent DEEP soil remediation standards, that DEEP *prior approval* is or was required prior to its transport to the quarry, and failure to gain this prior approval could be a DEEP violation. It is not entirely clear, even now, whether polluted soil is proposed to be brought to the site, as discussed further below, and if so whether DEEP prior approvals will be obtained or whether DEEP will be consulted regarding the need for such prior approvals.

The current iteration of the Material Acceptance Procedure:

- Lists rock, stone sand and gravel separately from "natural soil" as acceptable materials, without explanation as to why these are listed separately (e.g., because unimpacted sand, stone and gravel *is* "natural soil";
- Requires testing of soil, but does not seem to indicate any pass/fail criteria; and
- Lists contaminated soil as an unacceptable material.

Since any contamination in soil makes it contaminated soil, it seems as if the applicant is asserting that the only soil that will be accepted is completely uncontaminated soil (i.e., natural soil), and if so, then the pass/fail criteria for acceptance would be natural background concentrations. This matter should be cleared up; and, if natural background concentrations are to be the pass/fail criteria, the applicant should indicate the background concentration ranges and/or a methodology for determining them.

Also, a DEEP solid waste management permit appears warranted for this project because of the material processing involved and because non-clean fill materials were accepted and are difficult to prevent from being accepted in the future, such as cinder block. For example, the documentation for the material that came to the site from the 57 Gower Road property indicates that the materials include tar-coated cinderblock, which is not a clean fill component. Therefore in my opinion, whether any polluted soil and "materials not considered "clean fill" were brought to the site should be assessed in the context of gaining the appropriate approvals and permits from the DEEP.

THERE IS A PROBLEM WITH THE DEFINITION OF CLEAN FILL

The DEEP itself considers the present day definition of "clean fill" to be problematic, and has sought to change it.

This is a good time to mention that the reason why the proposed activities involving the use of clean fill *may* be able to avoid DEEP solid waste permitting requirements is because of one legal

exemption that reads: "Areas which are solely for the *disposal* of "clean fill" are exempt from the DEEP Solid Waste Management Regulations" (emphasis added). Note that the phase "*disposal of clean fill"* is used, emphasizing that clean fill is solid waste that gets disposed of.

While this exemption might be used to avoid DEEP permitting requirements, *it is very important that the Commission clearly understand the strict limitations and very narrow scope of the exemption*, which include the following:

- If any materials that do not meet the definition of clean fill *were ever, or would ever be disposed of at the quarry*, the quarry would not be exempt from the DEEP Solid Waste Management Regulations, and the quarry would not be exempt from DEEP permitting requirements.

  In addition to the documented tar-coated cinderblock, during my site walk on Saturday August 29th 2020, I observed two other types of waste on the ground surface of the quarry site that are not included in the definition of clean fill; specifically coal and coal clinker. I have seen photographs of other materials at the site apparently not meeting the definition of clean fill, such as metal piping and re-bar, and painted asphalt, and adhesives. The paint for the yellow lines on asphalt pavement for example can have high concentrations of chromium.

- And DEEP considers that only *some used asphalt* meets the definition of "clean fill" and thereby be exempt solid waste management regulations.

  An October 2, 2006 memo from Mr. Robert C. Isner, director of the DEEP Waste Engineering and Enforcement Division ("WEED") to his DEEP staff has the Subject line: Regulatory Clarification: Asphalt Millings are **not** Clean Fill. The memo states:

  "To help evaluate how to manage asphalt fragments it is important to consider the size of the fragments. The general rule of thumb used by the DEP solid waste program and remediation program are "bigger fragments are better," that is, typically fist-size or greater than 4-inch chunks are fragments that may be exempt from regulation as a solid waste. Asphalt pieces that are smaller than 4 inches [millings, shavings, dust and the like], are typically not considered to meet the definition of clean fill. The reason for focusing on the size is that as the surface area of the asphalt increases (smaller pieces will have greater collective surface area), the likelihood for contaminated leachate and mobilization of pollutants also increases.").

  During my site visit, I saw piles of asphalt at the site containing thousands of fragments less than 4 inches in size, and the DEEP does not consider these to be "clean fill", and therefore DEEP solid waste permitting appears required for this project.

Although the site does not appear to be exempt from the DEEP Solid Waste Management Regulations including the DEEP permitting requirements, the DEEP does not proactively police

sites like this to make sure that permitting requirements are identified and met, apparently even after making site visits as it did to this quarry.

So, it is up to *local governance* such as the P&Z Commission to require the applicant to seek permits from the DEEP. The DEEP cannot and will not do it unless the applicant seeks a pre-Application meeting with the DEEP, and if the applicant does not voluntarily request that meeting, only an entity such as yours can require it, and I urge you to require it. I discussed this project with Mr. Frank Gagliardo at DEEP, he said that the applicant *should* request a DEEP pre-Application meeting to identify any and all required permits that may be needed and address any other DEEP concerns, due to the size of the project and planned filling of a quarry. In my opinion, the Town of Monroe P&Z Commission should require the applicant to request a pre-Application meeting with the DEEP, and if such meeting is granted, that the applicant present its plans to the DEEP and get DEEP's feedback and report that feedback to you.

Also, the DEEP apparently has an open complaint regarding this site (complaint file #19-199), and it would seem prudent that the complaint be resolved in a manner satisfactory to the P&Z Commission prior to issuing any approval for the project.

HOW DEEP VIEWS CLEAN FILL

In approving a massive-scale project that relies so heavily on the use of DEEP-defined clean fill, it is worthwhile I think for the P&Z Commission to understand how DEEP views clean fill.

This information is presented on DEEP's website in documents prepared by DEEP circa 2008. According to Ms. Diane Duva, whom I spoke with recently regarding this project and who worked on the 2008 documents, the processing of solid waste is recycling, and the DEEP *would like to be able to require a DEEP recycling permit*, or a DEEP beneficial use determination ("BUD") for these types of activities.

Either the permit, or the BUD would specify, among other things, the permissible uses of the processed end products. For example, it is likely that used concrete would be allowed to be used for aggregate and could be placed below the water table at sites, but used asphalt would only be allowed to be recycled into asphalt-related products that are almost solely used above the water table.

As proposed by the DEEP in 2008, asphalt, brick, concrete and ceramic would be classified as "regulated fill", not "clean fill".

> "Clean fill" would be only natural pristine soil – the type of material that the applicant has said he would use below the water table; and
>
> "Regulated fill" would include used asphalt, brick, ceramic and concrete, and the "regulated fill" would be used or reused beneficially in compliance with a DEEP written authorization or permit, or recycled at a facility with a DEEP written authorization or permit.

The DEEP would like to recycle old asphalt into new asphalt; and the DEEP would like used brick, ceramic and concrete to be used as construction or grading material, but only if they are:

- Visibly free of oil, adhesives, stains, and paint; and
- Free of contaminants, including, but not limited to, oils, paint, lead, mercury and PCBs, based on knowledge of the source of the material *or on representative sampling and analyses of such material*.

So in summary, DEEP *would like* to define "clean fill" as natural soil, and more stringently regulate the waste materials such as used brick, asphalt, concrete and ceramic.

THERE HAVE BEEN PROBLEMS WITH OTHER SIMILAR SITES

Even with the best of intentions, the control of the types and quality of materials transported to disposal areas such as quarries can prove to be problematic and DEEP requirements can be misunderstood.

Here are just a few examples:

1. Reportedly, in 2013, Julian Enterprises was awarded the bid to operate the processing facility in nearby Fairfield with the goal of reducing the volume of material at the site. According to the contract, Julian was prohibited from accepting hazardous or contaminated materials at the site.

   However, by 2016, the volume of material at the site had increased rather than decreased. And, there were numerous complaints of increased truck traffic. This prompted the town to hire a firm to investigate.

   In November 2016 that firm saw three Julian dump trucks unload piles of a gray-brown granular material at the back of the site. They took samples which were tested and found to contain levels of PCBs at six times state standards, and lead at double the concentration considered hazardous.

   As a result the Fairfield site was immediately shut down, and new arrests have just been made.

2. In 2009, a legal case was heard in Danbury Superior Court involving a claim by a company named Rock Acquisition LP seeking compensation for *future income* associated with the use of the quarry as a clean fill disposal area. In that case, the DEP testified that such activity could not occur without state and local permits and authorizations which may or may not be granted, depending on the quality of the soil, type of material, etc., and the judge rejected the property owner's valuation. In deciding the case, the Court ruled that the quarry owners did not properly consider DEP's permitting role in valuing the potential *future income*, and that it was the *quarry owner's burden* to demonstrate that

the material being accepted on site was strictly limited to "clean fill" as opposed to solid waste materials which would require a solid waste management facility permit.

In the Brookfield case, the court was *not* persuaded that the materials in question met the definition of "clean fill", citing that an essential element to the definition of "clean fill" is that the materials *must be inert and not pose a threat of contamination*.

The court found that, absent such a showing, the backfilling operation would be a disposal activity requiring a DEEP permit to operate as a solid waste disposal area.

MATERIAL ACCEPTANCE PROCEDURE

The Applicant's Material Acceptance Procedure (MAP) can play a key role in avoiding problems of the type described above. Unfortunately, the initial MAP was inadequate; so, the applicant significantly revised it. For example, the initial testing frequency of one (1) sample/3000 CY has been changed to one (1) sample/250 CY.

However, the revised MAP still leaves some questions and could be further improved as follows:

- Consider checking asphalt as well as pavement for paint;
- Request guidance from DEEP regarding the size of asphalt fragments that can be accepted;
- Consider retaining copper, nickel and zinc on the testing list – these were on the initial list and we did not encounter an explanation as to why they were removed from the proposed new list;
- Specify whether the levels of the full list of semi-volatile organic compounds (VOCs), and/or a commonly-used PNA sub-set would be sought by testing;
- Specify whether the samples would be discrete samples, composite samples, or a combination;
- There do not appear to be any pass/fail criteria – the material gets tested, but the data don't seem to get compared to anything to determine acceptability versus non-acceptability;
- Consider checking the one (1) sampling/3000 CY Rockhead QA/QC testing data to criteria before the material is entombed and difficult to remove if needed;
- Consider recordkeeping and reporting requirements (e.g., transmitting the data to the Town for review and its files);

- Consider prescribing that LEPs are engaged to plan and oversee the sampling and testing to be done at the source sites for materials brought to the quarry and to sign the Soil Disposal Applications (the benefits of using LEPs is described further below);

- Consider prescribing that a Rockhead LEP review and sign off on the acceptance documentation and implement the QA/QC sampling and testing program at the quarry.

So, as always, there are a lot of devils in the details.

Regarding the pre-testing of the materials that have already been brought to the site, Mr. Mark Jepsen, an Environmental Analyst with the DEEP, visited the Site in February with Mr. John Kimball (a former owner of the Site and current consultant to the Applicant). In a May 2020 DEEP memo, Mr. Jepson stated:

> "The contact said that *some* analytical testing of the inbound materials had been conducted and that a sampling protocol was in place. The sampling protocol and any test results were *requested at the time of my visit*. This information was requested *several times later* and as of the date of this report, *none of the requested information has been submitted*."

I contacted Mr. Jepson in July 2020, by which time Mr. Jepson had *still not received* any information regarding the analytical testing of inbound (or any other) materials associated with the Site.

The applicant did eventually submit information available for some of the fill before it was brought to the quarry, seemingly in response to comments received during the IWC hearing, and we offer the following comments and questions based on our review of these materials:

- Much or most of the information seems to be in the form of pre-demolition building surveys for lead and asbestos. It is not clear how these surveys relate to the materials that were brought to the quarry. For example, the lead surveys would pertain largely to painted wood in the buildings, but it seems that wood typically was not brought to the quarry. Similarly, the asbestos surveys seem like they largely pertain to materials that were not brought to the quarry (e.g., duct insulation and floor tile).

  It would be helpful if the applicant's LEP could explain the *linkage* between the building surveys and the materials that were brought to the quarry. Maybe the applicant chose to test the fill in place as discussed previously, rather than to try to draw a linkage.

- There seems to be very little testing data for samples of soil, and where there is testing data, it is not apparent what the sampling frequency was (i.e., how much soil was represented by a single sample).

The applicant has been asked to indicate the total amount of materials that have been brought to the site, which reports and data represent which materials, determine the sampling frequency, and draw conclusions regarding whether all the materials have been appropriately characterized (e.g., at one (1) sample per 250 CY, as prescribed in the most recent version of the proposed MAP). But other than estimating the fill volume at 84,900 CY (rounded up to 100,000 by WSP), this request has gone unanswered.

Some specific comments include:

- The documentation for the 57 Gower Road property indicates that the materials include tar-coated cinderblock, which is not a clean fill component;
- The materials from a site in Monroe are described as "glazed CMV block", CMV stands for concrete masonry unit, which we understand can include cinderblock;
- The soil from the Amazon site is represented by one sample, but it is not indicated how much soil is represented by this one sample;
- The Palmers Road soil indicates intake of "mixed loads", which may include soil, but there are no soil data;
- The Route 25 Monroe material is described as rock, with a minimum amount of *soil***,** but there is no testing data for the soil. An investigation report is referred to but not summarized or included;
- It is not clear what material came from Wade's Garage, but "auto facilities" are listed in the applicant's Material Acceptance Procedure as a "high risk" usage on the "Automatically Rejected Materials" list at discretion of management.

WHAT ELSE CAN BE DONE?

While the *DEEP* currently may not have proactive authorities or resources for cases such as this, *significant protections can be afforded to the Town by the DEEP "LEP program"*. LEPs are licensed by the State of Connecticut DEEP to investigate and remediate sites, and LEPs are essentially as deputies of the DEEP.

In order to maintain their licenses, LEPs must abide by rigorous Rules of Professional Conduct in order to safeguard the environment. These rules of professional conduct require that:

- An LEP must at all times, *hold paramount the health, safety and welfare of the public and the environment;*
- An LEP must make a good faith and reasonable effort to identify and obtain the *relevant data* and other information about a site; and

- If at any time *after* rendering a conclusion an LEP learns that a condition existed that leads to a contrary conclusion, then the LEP must promptly notify the client in writing, and in certain cases must notify the DEEP.

Hence, the Town can arrange for a relatively high degree of quality control over Site activities by requiring LEP involvement throughout and following the filling portion of the project.

This is a complex Application involving a massive project. Accordingly, we would recommend that the P&Z Commission consider retaining an independent consultant to review the technical Application materials from an environmental perspective and provide guidance on behalf of the Town. The IWC did this, *but the IWC elected to not consider the pollution potential of the fill*, believing that to be a P&Z and DEEP issue. My opinion is that a consultant that you may hire should have on staff, or at least on call, the following professionals:

- An LEP;
- Connecticut Licensed Professional Engineer; and
- A hydrogeologist.

DEMONSTRATIONS REASONABLY EXPECTED TO BE MADE BY APPLICANT

In my opinion *it would be reasonable for the applicant to demonstrate*:

- That the prior and proposed filling will not cause groundwater or surface water pollution that would adversely impact the wetlands or other sensitive receptors. Given the discussion of clean fill and solid waste, simply claiming that the future intake material will meet the present day (and problematic) DEEP definition of "clean fill" is not an acceptable demonstration in my opinion. Also, the existing data on groundwater quality are too sparse and are for wells too far from (and possibly not downgradient from) the fill investigation area to be deemed adequate in my opinion, and the single surface water sample may not be very representative of groundwater quality. Groundwater contour maps are the standard tool used to show whether wells (and other sampling locations) are downgradient from pollution sources, and these maps have not been prepared and provided to the Commission.

- That DEEP has been notified as required under section 6.6.3 (C) (4) of the zoning regulations;

- That the DEEP has had an opportunity to review the project through its pre-Application process, and if such review is conducted that the DEEP is satisfied with any and all past and proposed filling of the quarry;

- That the DEEP and/or your own consultant weigh in on whether existing fill is below the water table, and if so whether it should be removed and replaced with natural soil;

- That the Application materials show that only natural soil and rock materials will be placed below the water table, whether 'rock flour" is appropriate for use as fill below the water table, and that the use of asphalt will be limited to roadways;

- That the estimated post-filling elevation of the water table has been sufficiently determined, *and importantly that the water table elevation in the fill areas will be monitored post filling to verify that the estimate was correct.* This is critical to making sure that only natural rock and soil is used to fill below the water table. If the estimated elevation is too low, then it will be very difficult to remove the fill later; so, it is best to err on the conservative side by providing a sufficient buffer distance above the predicted water table elevation;

- Whether any "polluted soil" or materials not considered "clean fill" was or will be brought to the site, and if so that the appropriate approvals and permits be obtained by the DEEP;

- That LEPs will develop and sign off on the sampling and testing at the source locations that will assure that only conforming materials are disposed of at the quarry;

- That LEP's will review and sign off on the intake documentation, to oversee the quarry's own QA/QC soil testing;

- That LEPs will develop and implement the quarry's groundwater and surface water monitoring program and will administer appropriate record keeping and reporting (e.g., to the Town). This monitoring program should be detailed in the Application materials for your review in my opinion;

- That the Applicant takes responsibility for any non-conforming materials that may ultimately be determined to have been transported to (and possibly from) the Site; and to the posting of sufficient bond to back up the applicants responsibility; and

- That the applicant consider the use of only "natural soil" to accomplish the filling objective rather than solid waste, and/or consider expanding the purpose of the impermeable liner to include capping of the debris, clean fill, rock flour, and/or polluted soil etc.

SOME LINGERING QUESTIONS

We recall that the P&Z Commission and/or the IWC have requested that the existing and planned final groundwater elevations be shown on cross sections that also show the pre-quarry grade, existing grade and proposed grade, and this information does not appear to have been presented. We recall that one of both of these Commissions have asked for an accounting of all the fill that is presently on the site. While an estimate of 84,900 CY has been presented, a data-supported accounting has not been provided, to date.

The applicant's team has often stated that the original proposed plan involving the sourcing of approximately a million cubic yards of DEEP-defined "clean fill" to fill the site is *the best* plan. But we ask simply, given the pollution and timeframe/sourcing concerns associated with the use of DEEP clean fill, isn't the use of natural rock and soil materials as fill a *better* plan? If using solely natural soil and rock materials is simply too expensive, then expanding the purpose of the impermeable liner might allow the project to adequately "pencil out" from a financial standpoint.

CONCLUSION

In conclusion, it seems that judicious Application of *Town governance* through agencies such as yours - the Town of Monroe Planning and Zoning Commission - is required to make sure that this property, in your town, is managed responsibly and does not become a problem for future generations

If all the information that you deem necessary to make a decision is not available to you, then we would recommend that that the Town reject the Application without prejudice, and the applicant can obtain the additional information and re-submit a new Application for your consideration.

Thank you for your consideration of this letter.

Sincerely yours,
ALTA Environmental Corporation

Evan J. Glass LEP
President

Cc: Attorney Joel Green, The Law Offices of Green and Gross, P.C.
Mr. Peter Metropoulos
Mr. David Bjorklund, Spath Bjorklund Associates Inc.
Mr. George Logan, REMA Ecological Service, LLC