

FRANKLIN TOWNSHIP LAND USE BOARD

MINUTES

FEBRUARY 22, 2023

7:30 PM

CHANGE OF LOCATION

The location of this meeting had been changed, the meeting was held at the Quakertown Fire Company, 67 Quakertown Road, Pittstown, NJ

Roger Soltys called the meeting to Order & read the Open Public Meeting Statement

Adequate notice of this meeting has been given in accordance with the Open Public Meetings Act in that a Notice was published in the Hunterdon County Democrat and the Express Times and the notice of this meeting was posted on the bulletin board in the Municipal Building.

Pledge of Allegiance: Led by Roger Soltys

Roll Call

Roger Soltys	present	Mike Chabra	present	James Witkowski	present
Ken Weiss	present	Dave Dallas	absent	Deanna Seiple	absent
Philip Koury	present	John Thonet	absent	John Benscoter	absent
Stephen Willis	absent	Jennifer Fisher	absent		

Approval of Minutes: February 8, 2023 Motion made by Ken Weiss, Seconded by Phil Koury

All members present voted in favor, James Witkowski abstained.

Approval of Bills: None

New Business

- 1. 4th Hearing:** Application has been made by Quakertown Solar Farm II, LLC, Block 49, Lots 15 & 15.01, 967 Croton Road, Franklin Township, Hunterdon County. The Land Use Board will consider the application for preliminary and final major site plan approval and lot consolidation approval to permit the construction of an approximately 10 MW dc utility-scale, grid-supply solar photovoltaic array.

Roger Thomas advised that the Board has a new recorder, he asked that anyone speaking please come forward and speak loudly.

Mark Bellin, stated that their testimony was mostly completed at the last hearing. In addition, the dual purpose portion of the application was withdrawn, so this is simply for the grid supply ground mounted. This does not change any testimony on the record. At the end of the last

meeting it was clear there were some questions on the grid supply. They were asked to have a meeting with the Environmental Commission which was done by telephone. The engineer, and landscape architect were asked to make some changes to the plan which has been done. They will go over these changes. Jennifer Dering, Electrical Engineer is present and she will talk to the Board about noise and EMF.

Roger Thomas noted that a revision of the plans had been made dated 2/6/23, these are marked as Exhibit A9.

Jennifer Mayadas-Dering was sworn in, Location of office is Valhala, NY. She works for Colliers Engineering and runs the Electrical business for Colliers. She has a BS, and Masters. She is a licensed PE in 17 states. She has testified before other boards and her license is in full force.

Ms. Dering explained that EMF stands for electromagnetic fields, that are created any time there is a presence of voltage and current. Examples are lamps, cell phones, etc.

She went to a variety of sites to measure the EMF's coming off of the panels, transformers, and inverters. In general, solar farms do not have a large amount of EMF. The EMF's coming off of the panels is very low. When you stand next to a transformer there is a high number of EMF's however, no one should be that close to a transformer due to arc flash and other safety concerns. Maintenance personnel should be the only ones near the transformer and typically it will be turned off. When you get about 6' away from the transformer the EMF drops dramatically.

Power lines that run in neighborhoods are low voltage with very little current. Standing directly under the line there can be a reading of 8 milligauss. The EMF fluctuates constantly. People are not allowed to live directly under this. Homes are typically 30-50 feet away from this. In the driveway of a home you'll see a combined RF and EMF of 6-8 Milligauss. This does not consider what is being emitted from the home itself. It is difficult to nail down what is coming from the line individually.

Ms. Dering went out to a solar farm in Washington, NJ and took measurements at numerous locations. The range of values under the distribution lines ranged between 4-12 milligauss with most running between 6-8. At the panels it was 1 milligauss.

Mr. Bellin asked how this relates to items in your home such as a TV. Ms. Dering submitted a memo which was marked A-10. The memo was dated 12/13/23, EMF's nearby solar farms. In the memo she references different areas in the homes which may emit EMF's. For example; a computer (2-5 mg), blender (3mg), vacuum (40mg at 3 ft.). The reality is time and exposure.

Mr. Bellin asked if Ms. Dering saw any impact in relation to EMF to any surrounding property owners. Ms. Dering stated she did not believe there was any impact outside the solar farm.

Roger Thomas asked if there are national standards. Ms. Dering stated that there is the NESC which is designed for 600V and above. There are also utility guidelines from OSHA and the NESC. These are for access, safety, location of lines, and protection from EMF.

Roger Thomas asked if the emissions coming from the site are within the national standards. Ms. Dering stated that the numbers from the site are significantly lower than national standards. The max allowed is 80 Milligauss, and standing next to the transformer on the solar site the numbers are 40 or below Milligauss.

Paul Ferraro asked if about the measurement. She stated that it is linear not exponential. She explained the difference between Ionic vs. Non-Ionic. Non- Ionic is not a threat to your health.

The further away you walk from the transformer the lower the EMF. If you were to stand at the perimeter of the site it would be basically the same as in your home, around 6 Milligauss.

Ken Weiss asked about the impact to animals. Ms. Dering said she has never seen a study on impact to animals.

Roger Soltys asked what the danger is to being exposed for a long period of time. Ms. Dering stated that this is non-ionic emf so there is no proven study linking it to effecting anyone's health.

Mark Bellin asked if in a solar field is there only EMF when the sun is out? Ms. Dering stated that the number drops significantly at night.

Phil Koury asked if it matters that two solar farms are next to each other? Ms. Dering stated that there is still the same number of voltage and there are separate transformers so the EMF does not combine.

Questions from public:

Kendra Richardson, 959 Croton Road, stated that her property is next to the solar farm and there is a hum coming from the solar farm, she asked what causes this.

Ms. Dering stated that this is not related to EMF. This will be discussed during the next part of the presentation.

Ben Richardson, 959 Croton Road, asked if the wires that are running from phase one will be changed or will the new grid be spliced into the existing wires? Is there any change with voltage drop? Ms. Dering stated that voltage drop is an issue when you have distance. What is done is the wire is sized properly so there is less drop. Ian Hill will answer if wires are being changed.

Mark Bellin stated that Ms. Dering will also speak on noise. She created a report, dated 12/14/22, Solar Farm Noise Expectations. This was marked as **exhibit A-11**. Ms. Dering went out to solar farms measuring noise with a decibel device. Next to the panels there was no

audible noise. Next to the inverters the noise was at approximately 60 decibels. Near the transformer it was about 48 decibels. At 8 feet away from these devices it is at about 24 decibels, this includes, wind, birds, roadway noise, etc.

To compare, leaves rustling is about 35 decibels, a truck is about 40-50 decibels.

The noise control act was adopted in NJ in 1971.

Inverters and transformers make noise due to vibration, it works at 120 hertz which makes the humming sound. At night, the inverters and transformers should be relatively silent at night.

The state standard for noise at night is 50, this is normal conversation level.

Phil Koury asked if the amount of energy generated increases the noise? Ms. Dering stated that yes, less energy means less noise, topography also plays a part as well as trees and plants.

Kendra Richardson, 959 Croton Road, asked why the readings were not taken at the Quakertown Solar Farm? Also, she stated that she hears noise at 4:30 in the morning.

Ms. Dering, stated that it would be highly unusual to hear this at that far away. Ms. Richardson invited Ms. Dering to visit her farm. Ms. Dering said that she would be willing to visit the farm.

Ms. Dering also stated that when she did her study she was doing a general study on what solar farms are doing related to noise.

Roy Emerson, 15 Landsdown asked if a representative conducted a noise survey of the current phase one solar farm. Ms. Dering stated no.

Matt Peterson, 439 Quakertown Road, asked if EMF is still being transmitted at night wouldn't there still be noise? Ms. Dering stated that the EMF's are lower so the noise is significantly reduced. Mr. Peterson asked if the same transmission lines are being used, and double the power is put thru the lines, doesn't the EMF double?

Ms. Dering stated that the voltage will remain constant. The current will increase during certain times of the day. The transmission line can only carry so much current. When you add a new generating source, only certain sources use the lines at certain times.

Ian Hill, previously sworn in, from Van Cleef Engineering reviewed the amended plan. Bulk of changes are primarily related to removing the dual use solar. Sheet 7 of 13 was revised on 2/6/23. Switch gear was upgraded.

Mr. Hill pointed out the locations of the inverters identified as INV on the plans, they are located in arrays, D1, C1, B1, A1. The nearest inverter is about 900 feet from road, and 600 feet to closest property line.

New lines will be run along existing supply lines in South West direction toward the County dragstrip property.

The front buffer thickness was increased from 75' to 100', and the side buffer thickness was increased from 40' to 75'.

Review of Engineer review letter dated 2/9/23.

Paul Ferriero pointed out that based on the change from dual purpose to traditional grid the storm water management basin has been removed from the plan.

The purpose of the basin was being proposed taking into account the adjusted future rainfall amounts and the dual purpose plan. The detention basin is not green infrastructure, so the township would need to grant a variance to use this basin, however the township does not have a mitigation plan so they cannot grant the variance. So the basin cannot be used.

Paul Ferriero clarified that if they were doing agrivoltaic the conditions under the panels would be considered a row crop, and row crops have a greater runoff potential than the currently proposed meadow.

With proposed plan utilizing meadow grass, the run off does not exceed existing run off.

It is important to take into account that this is once the vegetation is established. Need storm-water management during construction.

Ian Hill pointed out that the field will not be stripped, it will just be mowed close.

Condition of approval: Plan will be worked out with soil conservation and engineer

Phil Koury asked if there will be soil compaction? Ian Hill stated that there will be soil decompaction. There will also be two small areas which will be filled in once DEP permit is received.

In phase one there were two large stockpiles of soil which were spread out. There will not be any grading needed in phase two.

Sheet 4 of 13, revision date 2/6/13. Ian Hill pointed to the direction that the runoff will move. From the North East flowing in the South West direction.

Mr. Bellin and Ian Hill pointed out that there is a swale on the Phase one property which was not on the plan. It was built in response to the runoff issues of Phase one. Ian Hill showed on the plan where the swale runs. He believes that the swale is 5' wide trapezoidal. It was constructed in 2019.

Mr. Bellin asked if Mr. Hill was made aware of any issues since the swale was installed. Mr. Hill stated that he has not been made aware of any issues and that the swale is working.

Ken Weiss asked if there was a difference between rain falling on the empty field regarding runoff and absorption as opposed to rain running down the panels. Mr. Hill stated that there is no difference.

Paul Ferriero stated he feels it's prudent to do an analysis of the swale. What does this look like in 25, 75, 100 year storms? What are the physics that go on? What is the hydrology that goes on?

Ian Hill stated he understood what was being asked for.

Roger Thomas felt this was important to do to try to mitigate the previous issues with runoff.

Mr. Bellin asked Ian Hill if there were any comments on the Township Engineers report that he disagrees with. Mr. Hill stated the applicant would agree to satisfy all of the comments.

Phil Koury asked if the removal of the detention basin changed the flow rates on the property. Paul Ferriero stated that no, the detention basin was never added so the calculations are accurate.

Diane Burgess from the Environmental Commission, 113 Locust Grove Road, asked what consideration has been given to the evaporation, absorption, and runoff rates being different due to having the solar panels and result to shading as opposed to open land?

How does the new swale drainage proposal account for the runoff? She believes 35% goes to swale and the other 65% goes where? Mr. Hill pointed out that the water naturally drains the way it is now.

Are there any environmental impacts such as breeding grounds for mosquitos due to pooling? Mr. Hill stated that since the area will stay vegetated there should be no impact.

Questioned how wetlands can be filled in. Mr. Hill stated that you are permitted to fill in up to an acre, and a DEP permit has been applied for.

Elizabeth Basile, 16 Upper Kingtown Road, Does the DNR Canal needs to approve this? Mr. Hill stated that yes they will need this approval and this will be applied for shortly.

Ms. Basile asked if the DNR Canal was aware of the swale, and also the DEP? Mr. Hill stated this was done thru County Soil Conservation, no other approvals were needed.

Ms. Basile asked if there would be a site inspection? Mr. Hill said that there is an as built of the swale. Ms. Basile recommended that someone look at the swale as it is now.

Roger Thomas advised that if the Board wants to visit the site they will need to go individually or in groups of no more than 3.

Jane Bowers, 32 Baker Road, lives across from Leons Sod Farm, she stated that when she first moved to her property the drainage ditch was about a foot high, it is now over her head in depth. She encouraged the Board to look again at the drainage basin because every storm provides wear and tear, year after year. She asked that the Board consider this.

Matt Peterson, 439 Quakertown Road, asked what crop is on the existing field on the site of Phase 2. Ian Hill responded that there is hay. Matt Peterson asked how the seed will be applied to the field. Ian Hill responded that it would be slit seeded in.

Mark Bellin presented the next witness, **Harry Strano, Davey Resource Group, Flemington**. Mr. Strano testified on the wetlands and wildlife components. He stated that the DEP application has been submitted for filling in the wetlands. A copy is on file with the Municipal Clerk. The project is under threshold in regards to what is allowed under GP6.

The environmental commission asked about the displacement of grassland birds. Mr. Strano stated that there were some grassland birds that could be displaced however there are other locations in the area where they could relocate. As part of the DEP permit there will probably be requirements which would restrict activity during certain times, most likely April 1st thru August. He pointed out that intensively mowing discourages grassland birds.

In regards to federally protected such as the Indiana Bat, and Northern Long ear bat, there is no tree removal on this application so this should not be relevant.

As far as deer displacement goes, there could be some however he wouldn't expect it to have major impact.

The DEP will provide any conditions with their approval. These would be listed in the Resolution.

Paul Ferriero pointed out that there is an area that is north of A3, B3, C2 which is not going to be panels, he asked if there would be a value in planting grassland habitat in this area which would be of value? Mr. Strano said this could certainly have value for kestrels, butterflies, and pollinators. Mr. Bellin stated that this is outside the leased area so they would need to ask for permission.

Elizabeth Basile, 16 Upper Kingtown, asked if Mr. Strano went to the site. Mr. Strano said he did, and the site is suitable for grassland birds as it is now however if it is mowed intensively the birds will not nest there. The birds are a listed species in NJ however they are common in other parts of the country. Some birds don't like less than 10 acres. Mr. Strano did not feel this would have a population impact on these.

Margaret Prizer, VanCleaf Engineering, Doylestown. Presented a new Landscape Buffer Plan, 4.1 of 13, marked exhibit A-12.

The buffer in the front was increased from 75' to 100', the side buffer was increased from 40' to 75'. The plant material has been increased, adding evergreens, flowering shrubs, and meadow. The species listed on the plan are what is in the buffer. These will be in full sun. Annual monitoring can be added to the plan to make sure that the plantings remain healthy. Trunk guards will be placed on the trees to prevent deer rub damage.

Phil Koury asked for clarification on the grass mixes being used in the buffer as opposed to under the panels. Ms. Prizer stated that this would be a different mix, under the panels would be an upland meadow mix which would be slit seeded in and it is shade tolerant. The process of slit seeding does not destabilize what is already existing.

Ms. Prizer pointed out that the original phase one buffer was not set up properly. This was done by another company. This will be revisited.

Roger Thomas asked about the seed mixture that is being used and if it would be an issue to abutting properties. Ms. Prizer stated that there would be no clover in these mixtures which can be hazardous to horses.

Diane Burgess, Environmental Commission asked about the Upland Mixture, and asked if this was shown on the plans. It was stated that this mix is on sheet 4, bottom center.

Elizabeth Basile asked if roundup would be used? Ms. Prizer stated that no roundup will be used. The seed will be slit seeded into the soil, this prevents birds from picking it up, it won't be washed away and the existing cover is not disturbed. Ms. Basile asked if Ms. Prizer will be involved in remediating Phase 1. Ms. Prizer said she would like to be involved. The trees which are proposed in phase 2 will do fine in standing water if it is wet.

Kendra Richardson asked if phase one will be remediated? Mark Bellin stated that a report has been submitted to the client and they have to address the matter by contract, however this is not part of this application.

Ben Richardson pointed out that the buffer in phase one was designed to be 30' and it is actually only 22'.

Theodore Bayer of Bayer Reese Engineering was sworn in. Graduate from Rutgers with a degree in Agricultural Engineering, licensed since 1989. He is the Planning and Zoning Board Engineer in the Township of Lebanon.

Mr. Bayer stated that he reviewed the soil logs for this property. There is about 6-9 inches of top soil, under this is 18"-36" of silt loam, under this is fragipan which is very hard impermeable which prevents the downward migration of water, under this is shale. These soils are considered a lower tier for farming from prime farmland. This would require under drains for successful crop growth.

Mr. Bayer stated he did a study on the property directly south from the Richardson Farm for a septic system. This area is mapped as wetlands, when the septic design was done they needed a gp24 permit which allows septic in this type area. This required a very specialized system due to how high the water table was.

Mr. Bellin asked how to grow a good crop in these type soils. Mr. Bayer stated you would need to implement best practices. There is a rating system which states which crops will do well on a scale of 1-10 in certain soils. This type soil is not rated at all for corn unless you put in an under

drain system, similarly for legumes. These type soils are very limited for agriculture. Mr. Bellin asked if grass could be grown in these soils. Mr. Bayer stated that it is possible if you maintain the PH of the soils.

Mr. Bellin provided an email and test results to Mr. Bayer which was marked **Exhibit A-13**. Mr. Bayer identified the email from Tyler Smith who pulled the soil samples from Ben Richardson's farm. Mr. Bayer explained that the soil samples were collected from 3 of the back pastures. What they identify is certain parameters, the largest being soil ph. Crops like between 6-7 pH. Organic matter, phosphorous, etc. were also measured. Looking at the samples the pH is very low, ranging from 5.5-6.0pH. In order to grow something lyme would need to be added, about 2 tons per acre. About 1 ton per acre gives you about 1-point increase.

Mr. Bellin asked if there was anything done on the solar farm which could have reduced the pH on the Richardson property. Mr. Bayer responded that no, not that he could imagine.

Paul Ferriero asked if the meadow grass mixes have been looked at if they will grow in these soils. Mr. Bayer did not look at them. He stated that he believes the pH will need to be maintained in order to guarantee the success of the grasses.

Peg Prizer stated that meadow grass has a longer tap root which does not need an ideal pH. Many of these are grown on bad condition sites. She will however confirm that the soil and seed mix match. She also stated that the plants specified can take standing water however she will double check.

Ben Richardson presented two photos to Mr. Bellin, Kendra Richardson said the two photo were from 2017 and they show lush pasture, the second set was taken in 2019 which was taken after installation of the solar farm however before the swale.

Mark Bellin objected to the photos as they did not specify where the photos were taken.

Kendra Richardson asked if water damage could cause good soil to go to bad soil? Mr. Bayer said that yes it can over time if the soil is not properly maintained the pH can drop.

Mr. Bayer stated that he saw the swale and water coming thru the swale.

Kendra Richardson asked who collected the soil samples. Mr. Bayer stated that Tyler collected the samples, sent them to the lab and the lab ran the numbers.

Frank Tota, 16 Upper Kingtown Road asked for an explanation regarding shade vs. evaporation under the panels. Mr. Bayer stated that the evaporation is negligible. This does not have a significant impact on the water table. The water table changes on a seasonal basis. The biggest issue in this area is the fragipan which causes a high water table. Shade does not have an impact on the saturation of this type soil.

Elizabeth Basile asked if because of the fragipan should there be a better stormwater plan? Mr. Bayer stated that the neighboring farm has the same soils, the swale which is now 6' deep now

exists acts as an underling. Ms. Basile asked if fragipan is included in the stormwater calculation. Mr. Bayer stated that the type of soil is taken into account in the stormwater calculation.

Mark Bellin asked how often a field should be lymed. Mr Bayer stated every 2-3 years is the most cost effective.

Public Comment

Comments from the Land Use Board, Non-Agenda Items, Other Business to come before the board

Hearing carried until March 8, 2023, 7:30 pm, Quakertown Fire Company no further notice will be given.

Adjournment James Witkowski made a motion to adjourn, Mike Chabra seconded the motion. Meeting adjourned at 10:50pm.

No new business after 10:00PM unless agreed to by the Board. Any remaining items will be placed on the agenda for the next available meeting. Information pertaining to any item on the agenda is available for public review at the Municipal Building during normal business hours.

Prepared by Catherine Innella

Approved 