NEW YORK STATE BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

In the Matter of

Application of Garnet Energy Center, LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 of the Public Service Law for the Construction of a Solar Electric Generating Facility located in the Town of Conquest, Cayuga County.

Case No. 20-F-0043

March 10, 2022

Prepared Testimony of:

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Witness Introduction

Q: Please state your name, employer and business address.

A: Michael Saviola, New York State Department of Agriculture and Markets (the Department), 1530 Jefferson Rd., Rochester, NY 14623.

Q: In what capacity are you employed by the Department?

A: I am an Associate Environmental Analyst in the Division of Land and Water Resources.

Q: Please summarize your educational background and professional experience.

A: I earned B.S. and M.S. degrees in Natural Resources Management from the SUNY College of Environmental Science and Forestry (ESF) in Syracuse, NY. Prior to working for the Department, I worked for two private consulting engineering firms in Syracuse, NY while attending Graduate School at ESF. I also worked as professional staff for the Westchester County Department of Planning and the Westchester County Soil and Water Conservation District, in which capacity I worked on a variety of projects designed to manage environmental and other impacts related to agricultural land in New York City's water supply watershed. I have been employed by the Department of Agriculture and Markets for approximately 15 years.

Q: Please describe your duties with the Department.

A: I specialize in agricultural land use issues. I am responsible for reviewing the impacts of a variety of major utility-scale construction projects on agricultural lands, among other things. As relevant to this proceeding, I am responsible for evaluating the potential impact of solar generation and electric collection project infrastructure on agricultural lands. My primary responsibilities with the Department include the review, evaluation, and necessary follow-up (Certification and Compliance) pertaining to proposed

commercial wind energy generating facilities, commercial solar electric generating facilities and high voltage electric transmission line right-of way projects pursuant to Article 7 and Article 10 of the NYS Public Service Law. When reviewing these projects, I focus on identifying possible impacts to agricultural resources and the farming operations in the vicinity. When a proposed project appears to have a negative impact on agriculture, as a Statutory Party under Article 7 and Article 10, I advise the project applicant and/or approving Commission or Board of the possible alternatives, construction techniques, and mitigation measures that would reduce or eliminate such impacts.

Q: Do you have any professional certifications?

A: In addition to an advanced degree in Natural Resources Management, I am certified by the North American Lake Management Society as a Certified Lake Manager. I am also certified by Envirocert International as a Certified Professional in Erosion and Sediment Control (CPESC) In -Training (IT) status.

Q: Have you testified before the Public Service Commission before?

A: Yes, I testified in Case numbers 11-T-0534, 13-T-0077, 14-F-0490, and 16-F-0328. I also provided written testimony for several cases involving commercial wind energy projects. Additionally, I have been an active participant in dozens of utility-scale projects involving natural gas pipelines and high voltage overhead electric transmission lines regulated under Article VII of the NYS Public Service Law. On behalf of the Department, I have also been involved in the review of construction monitoring and restoration of 13 commercial wind energy generation facilities in Western NY, the North Country, and the southern tier. I am also involved in the review of proposed wind energy

projects, and other proposed commercial solar electric generating facilities pursuant to Article 10 of the NYS Public Service Law.

Exhibits Sponsored

Q: Are you sponsoring any exhibits?

A: Yes.

Q: Which exhibits are you sponsoring?

A: I am sponsoring six exhibits, labeled for preliminary identification as exhibits AGM-1 through AGM-6.

Q: Please describe the first exhibit labeled AGM-1 for identification.

A: The first exhibit is an Interrogatory/Document Request (IR) made by the Department on February 4, 2022 to the Applicant regarding impacts to agricultural resources.

Q: Please describe the second exhibit labeled AGM-2 for identification.

A: The second exhibit is an Interrogatory/Document Request (IR) made by the Department on February 4, 2022 to the Applicant regarding solar array types.

Q: Please describe the third exhibit labeled AGM-3 for identification.

A: The third exhibit is an Interrogatory/Document Request (IR) made by the Department on February 4, 2022 to the Applicant regarding agricultural co-utilitization.

Q: Please describe the fourth exhibit labeled AGM-4 for identification.

A: The fourth exhibit is an Interrogatory/Document Request (IR) made by the Department on February 4, 2022 to the Applicant regarding subsurface drainage systems.

Q: Please describe the fifth exhibit labeled AGM-5 for identification.

A: The fifth exhibit is an Interrogatory/Document Request (IR) made by the Department on February 4, 2022 to the Applicant regarding Agricultural Mitigation.

Q: Please describe the sixth exhibit labeled AGM-6 for identification.

A: The sixth exhibit is a study done by the American Farmland Trust (AFT) titled Smart Solar Siting on Farmland: Achieving Climate Goals While Strengthening the Future for Farming in New York, dated February 2022, authored by Samantha Levy, Mikaela Ruiz-Ramon and Ethan Winter.

Direct Testimony

Q: What are your responsibilities in this proceeding?

A: My responsibilities in this proceeding include reviewing the Article 10 Application and supporting pre-construction drawings and other documents submitted by the Applicant, Garnet Energy Center, LLC (Garnet) during the various phases of project review under Article 10. I have also reviewed aerial photography, the updated exhibits, and preliminary Design Drawings. In addition, I visited the proposed site of the project on March 1, 2022 and conducted a detailed desktop review of the Project.

Q: **What was the purpose of your review and evaluation in this proceeding?**

A: To determine the nature and extent of potential impacts of the proposed Project on agricultural land. More specifically, to determine if the Project as proposed follows the Department's Guidelines for Agricultural Mitigation for Solar Energy Projects. The Department strives to minimize the long-term and permanent conversion of productive agricultural lands, and where not possible, offers technical assistance to reduce and/or mitigate impacts to agricultural land.

Q: What is the Department's position on utility-scale solar energy generation facilities proposed for development in active agricultural lands?

A: The Department does not have an opinion on the need for energy generation or the transmission of energy. The Department discourages the conversion of farmland to a non-agricultural use. This effort is in accordance with Section 4 of Article 14 of the 2018 New York State Constitution, which provides for the conservation of agricultural lands, as well as NYS Agriculture and Markets Law (AML), Article 25-AA, §300, which more specifically states:

> *"It is, therefore, the declared policy of the state to conserve, protect and encourage the development and improvement of its agricultural land for production of food and other agricultural products. It is also the declared policy of the state to conserve and protect agricultural lands as valued natural and ecological resources which provide needed open spaces for clean air sheds, as well as for aesthetic purposes."*.

The Department, specifically the Agricultural Protection Unit in which I am assigned to, identifies this statute as a mission statement for the Unit. However, the Department also recognizes New York State's 2019 Climate Leadership and Community Protection Act (CLCPA), more specifically the initiative for the development of utility-scale solar facilities and is prepared to support the general initiative.

The Department Policies are in place to act on this legislative intent. The Department will continue to discourage the conversion of agriculture land to a non-agricultural use. Prior to large-scale solar development, the Department has not been associated with PSL

Article 10 cases that constitute large, long-term conversion of agricultural lands to non-agricultural uses. Commercial wind generating facilities generally allow for farming activity to continue once the project is in-service. In comparison, the solar industry arguably eliminates the ability to perform normal viable agricultural operations within, and potentially immediately surrounding the facility. This constitutes a long-term conversion to a non-agricultural use. Due to increasing NYS energy goals encouraging renewable energy development, we see no reason facilities will not be upgraded and re-leased to maintain the growing or static renewable energy demand, in this case, 35 years from energization. The Department further asserts that as long as NYS incentives for the development of renewable energy exists, the complete decommissioning of solar electric energy generation, and full resumption to agricultural use is not likely to occur.

The Department recognizes the financial benefits of participating landowners; however, farm operator(s) lease payments are not viewed by the Department as a benefit to agriculture when the production of crops, livestock and livestock products are downsized or eliminated as a result of the construction of utility-scale solar.

Q: What Department policies are subject to this proceeding?

A: As previously mentioned, The Department discourages the conversion of farmland to a non-agricultural use. However, to support the New York State's CLCPA initiatives, the Department has developed a siting policy supportive of solar development efforts on agricultural lands **if** the proposed projects are properly sited on lands other than the State's most productive farmland. The Department's goal is for projects to limit the conversion of agricultural areas within the Project Areas, to no more than 10% of soils classified by the Department's NYS Agricultural Land Classification mineral soil groups

1-4, generally Prime Farmland soils, which represent the State's most productive farmland. Soils classified with the soil groups 5-10 are identified as having soil limitations. The only responsible position the Department can take to stay true to the AML Article 25-AA §300 and to support the NYS CLCPA renewable energy initiative is to ensure the preservation of agricultural areas involving soils classified as soil groups 1-4 for the production for food and fiber, as well as not object to proposed development on lesser productive soils, i.e. agricultural lands comprised on classified mineral soil groups 5-10. Additionally, the Department requires the Applicant to follow *Department Guidelines* for constructing solar facilities in agricultural lands. Draft Certificate Condition 47 and 95 identifies the Applicant's agreement to comply with Department's Guidelines entitled Solar Energy Projects - Construction Mitigation for Agricultural Lands (Revision 10/18/2019), specifying construction mitigation techniques intended to protect and restore agricultural soil resources. Furthermore, the Applicant has agreed to consult with the Department for any potential deviation from the *Guidelines* to develop applicable construction and restoration alternatives.

Q: What are the primary agricultural impacts associated with the construction of a commercial solar energy generation facility on agricultural lands?

A: The construction of a commercial solar energy generation facility within agricultural land constitutes a long-term impact and permanent conversion of farmland to an industrial (non-agricultural) use. The development of solar arrays and ancillary facilities (including panels, panel racking, transformer/inverter equipment pads, access roads, security fencing, substations, energy storage options, operation and maintenance facilities, planted visual screening areas, etc.) makes it infeasible to continue farming on viable agricultural

land within the Project area. Furthermore, the location of project-related infrastructure-panel spacing and alignment in agricultural fields create obstacles that the farm operator will have to avoid during numerous types of agricultural equipment operations; including, but not limited to, cultivation, seeding, nutrient recycling, weed management, harvest, etc. The difficultly created by the obstacles forces the farm operator to abandon use of the field.

Impacts to agricultural lands remaining outside of the security fencing also has a highly likelihood to become abandoned and/or orphaned. More specifically, these generally narrow areas outside the fenced facility are created by development limitations (municipal setbacks, buffers, etc.) and limit the conduct of mechanized farming. The scenarios cited above create narrow strips of land that although may be available to some agricultural producers are unattractive for most commercial farm operators, as they are inefficient to harvest crops due to the limitations of acreage and maneuverability for modern mechanized farming equipment. These "indirect" impacts often result in the loss of additional farmland which, in turn, result in a decrease in mechanized farming efficiency leading to a reduction in the production of crops, livestock and livestock products necessary for food production and security.

Q: Is there any co-utilization, or agricultural integration proposed within the location of the arrays?

A: No co-utilization has been proposed by the Applicant for the life of the proposed Project.

Q: What are the primary agricultural impacts associated with the construction of a commercial solar energy generation facility on agricultural lands?

A: The primary agricultural impact associated with the construction of a commercial solar energy generation facility is the long-term conversion of farmland to a non-agricultural use and the loss in the production of crops, livestock and livestock products. This conversion is the result of the construction of project-related infrastructure including access roads, commercial-scale solar arrays, electric collection lines, collection substation, switchyard, fencing, temporary work areas, staging areas, and transmission lines, which make it impossible to actively farm the land.

Q: How does the siting of commercial solar project-related infrastructure impact agricultural operations?

A: There are several potential impacts. Farms demand a certain acreage to meet their business, long-term staffing, and environmental objectives and to remain viable. If leased land is abruptly lost to another use, such as a solar installation, the farm will grow and market less produce, grains, forages, and livestock products; may have to downsize and lay-off employees; and could be challenged to have adequate acreage for proper manure nutrient recycling. Such changes may force the farm to close. As in other sectors, farmers seek improvements to management and efficiency to remain competitive and viable. Larger, more efficient tillage, planting, crop management, and harvesting equipment is one example of how farmers have adapted to remain viable and more productive. Often, this equipment can include two pieces of harvesting or tillage equipment pulled by a single tractor. As the size of the farming equipment has increased over the years, the turning radius for the equipment has also increased. The location of access roads and other project-related infrastructure in an agricultural field creates an obstacle which the farm operator has to avoid during field planting and harvesting

operations. Placement of project-related infrastructure in agricultural fields can result in a loss of productive acreage as well as a decrease in field operation efficiency or viability with the larger planting and harvesting equipment because of the increased turning radii required. Depending on the location of project-related infrastructure, primarily solar arrays and access roads, the loss of acreage available to farming, and the loss of farming efficiency or farm viability can be significant and, in some cases, devastating to farms and for food production.

Q: Explain how the location of access roads can impact agricultural operations?

A: The construction of access roads in agricultural fields may, in some cases, divide larger fields into smaller, less workable fields. This could potentially result in a loss of efficiency navigating equipment around project infrastructure, less timely management (especially important in the context of extreme weather patterns), and lower quality, lower yielding crops. Also, if roads are not constructed even or level with the adjacent fields, damage to mechanized farming equipment will result and field drainage may be impacted, reducing the productivity and nutrient use efficiency of the adjacent soils. In most cases, properly planned and constructed access roads can benefit farming operations by providing enhanced field access for farming equipment. In most cases, however, the construction of access roads adjacent to active farm fields enhances farm viability by affording more efficient and safe access into fields by mechanized farming equipment.

Q: Have you reviewed the exact locations where the Applicant proposes to construct access roads adjacent to and through agricultural fields?

A: Yes. I have conducted a desktop analysis of the project layout, in addition to the site visit conducted on March 1, 2022.

Q: What can be done to reduce or eliminate potential agricultural impacts from access roads adjacent to or through agricultural lands?

A: In accordance with Department Guidelines, the Applicant should design access roads in a manner that does not divide larger fields into smaller fields. Access roads should be constructed 'at grade', meaning the stone surface should be level with the surrounding adjacent field or slightly crowned. This will allow for enhanced field access, reduce or eliminate potential damage to mechanized farming equipment, and minimize drainage impacts. In accordance with our Solar Construction *Guideline*, access roads should follow field edges or utilize existing farm access roads or tractor paths in order to reduce agricultural impacts. In some cases, site topography, and other environmental constraints such as wetland and grassland bird impacts are the primary driver for deviating from the Department's Solar Construction Guidelines. In many cases, these impacts can result in the permanent conversion of farmland to a nonagricultural use.

Q: Does the facility layout follow the Department's Solar Guidelines and does it align with the Department's siting policy?

A: In general, access roads should follow field edges and the solar arrays should not be sited in a manner in which agricultural areas become orphaned as described in my testimony above. Additionally, the Department finds the Applications proposed siting is not

consistent with the Department's siting policy because it will occur on almost 30% of active farmland classified as Prime Farmland (Generally, Mineral Soil Groups 1-4) within the proposed project. The Application update states that the project will occupy nearly 1,000 acres of land to generate up to 200 MW of electricity, however, areas located outside of fenced areas will likely become fallow or orphaned as a result of screening requirements and setbacks. This will eliminate crop production on nearly 1,000 acres of agricultural lands for a minimum of 30 years-worth of crop yields from some of the most productive farmland soils in the State. While the Applicant describes the impact to agricultural land and farming, in general, as temporary, a 30-year loss of the production of crops, livestock and livestock products constitutes a long-term conversion to a nonagricultural use and a long-term loss of food production. Although a decommissioning plan has been prepared, there is virtually no reasonable assurance that the project will be decommissioned and that the full resumption back to agricultural use will be reestablished.

Q: Did you physically visit the proposed facility site?

A: Yes, I conducted a "windshield survey" from public roads on March 1, 2022.

Q: Please describe the types of crops grown on the parcels slated to have solar arrays.

A: Most of the active farmland is utilized for the production of feed crops by local dairy farms. Those crops used for feed include corn silage, alfalfa, and grass hay. The fields used to grow forage crops (corn silage, alfalfa and grass hay) support milk production on nearby dairy farms and proper use and recycling of manure nutrients as fertilizer for the forage crops per their Comprehensive Nutrient Management Plans (CNMP).

Q: Please discuss the Applicant-prepared response to IR AGM-1.

A: The response appears to 'dilute' the true impact of Prime Farmland by making comparisons within the Project Study Area, the Town of Conquest and Cayuga County. True long-term impacts include the approximate 30 plus year loss in the production of crops, livestock and livestock products as a result of project-related components being constructed inside the fence. Nearly 1,000 acres of farmland will be taken out of production. This number does not include the remaining areas located outside the Project's fenced area which will likely be rendered economically unfeasible due to the nature of the irregularly shaped or "orpaned" areas comprising facility setbacks and limited farm equipment access and inherent space and turning radius impediments to modern mechanized farming equipment.

Q: Describe the Applicants response to the second question in IR AGM-1 regarding how this project complies with AGM Solar Guidelines.

A: In the response, the Applicant merely reiterates the requirements contained in the Department's Guidelines for Solar Energy Projects. The response does not demonstrate how impacts to agricultural lands comprised of Mineral Soil Groups 1-4 will be avoided, minimizes or mitigated to the maximum extent practicable.

Q: Please discuss the Applicant-prepared response to IR AGM-2.

A: The Applicant states that due to the site topography, they are proposing fixed racking to reduce the amount of grading required on the site and fit more solar panels within the proposed Project Area.

Q: Do you agree with the Applicant's response?

A: I agree with the statement about the topography. The Project Area is located on gently sloping to steeply sloping drumlins and rolling upland till plains that are interspersed with lower lying, more gently sloping lake plains. The drumlins occur as a series of long, cigar-shaped hills that are roughly oriented in a north-south direction. They are part of an extensive belt that extends from Genesee County on the west to Oneida County on the east. I don't agree with the statement that the topography of the land causes conventional trackers to be a cost prohibitive option on this Project. While project cost is a valid concern, it shouldn't be the only concern. Trackers generate more electricity than traditional fixed racking and have the potential effect of reducing the project footprint or LOD. Component cost shouldn't be the sole factor for consideration here. Other factors should be weighed before deciding on a particular model or design.

Q: Please discuss the Applicant-prepared response to IR AGM-3.

A: The Applicant indicates that they have not considered incorporating agricultural co-utilization as part of the Project. They indicate that there is not sufficient space for co-utilization.

Q: Do you agree with the Applicant's response?

A: No, I do not. There is ample space inside the fence for agricultural activities such as sheep grazing, apiary incorporation and pollinator species, and small-scale grass hay production, nor have they demonstrated any reduced impacts to agriculture from the increased density of the panels. The Applicant should work with hosting farmers to explore dual-use, or agrivotalic projects.

Q: Are there any areas where solar array and underground collection circuits could have an impact on engineered drainage features constructed on agricultural land?

A: Yes. Subsurface drainage systems are quite common in this region of the State where both glacially-derived and lacustrine soils exist. Known locations where subsurface drainage exists should be avoided to the maximum extent practicable because once severed by the installation of racking systems and buried collection lines, they are virtually impossible to fully repair.

Q: Please describe the general soil characteristics of the region and purpose of subsurface drains and indicate why they are relevant to this proceeding.

A: In agriculture, tile drainage is a type of drainage system that removes excess water from soil below its surface. The soils of this region generically consist of glacially-derived deposits and lacustrine silts and clays. Drain tiles remove excess water from the water table so crops can more efficiently and widely develop their roots to access nutrients and support higher quality, higher yielding crops. Artificially drained fields are known to increase farming efficiency by allowing wetter soils to dry out more quickly to make them available to field work earlier in the growing season with lower soil

compaction risk. Such investments help farmers adapt to less predictable, more extreme weather patterns while maintaining or increasing crop yields. Drain tiles also reduce runoff losses from fields during intense rainstorms. Drain tiles or artificial drainage is very common in this region of the state due to the drainage characteristics of the presence of highly glaciated soils. Given the benefits for crop yields, nutrient recycling, and soil health, farmers invest approximately $800-$1000 per acre to install pattern drain systems. These benefits don't apply to solar arrays, so capital invested in tile drainage systems by farmers will not be fully realized and future crop yields will be lost.

Q: Please describe your experience with subsurface drain tiles and drain tile repairs.

A: Beginning in 2007 to 2010, I was involved in a 96-mile FERC- regulated interstate natural gas pipeline project that extended from Victor to Corning, NY. Much of it traversed through the Finger Lakes Region. Designated crews were tasked with making the needed repairs to drain tile systems that were severed by pipeline construction. In fact, the Department has developed a series of Natural Gas Pipeline Construction Guidance documents that include specifications for the repair of severed drain lines.

Most recently, I was involved with the construction of a 5-mile long fuel gas transmission line project in Geneva and Phelps, NY. It was case number 17-T-0710, and final restoration was concluded last summer. Original clay tile was encountered in agricultural fields throughout the project. Based on the presence of what appears to be subsurface drainage observed in a review of historic aerial orthophotography, it is not unreasonable to conclude that a similar level of impact could reasonably be expected from the installation of project-related components including buried collection lines, racking

support poles and possibly designated HDD road crossings adjacent to agricultural fields in this project.

Q: What can be done to reduce or mitigate potential damage to existing subsurface drainage systems encountered during construction?

A: On both the FERC-regulated and PSC-Certified pipeline examples cited earlier in my testimony, Applicants developed and implemented detailed drain tile repair plans specific to each project. In both examples, each Applicant retained the services of an agricultural drainage specialist to coordinate with local landowners (project participants), the County Soil and Water Conservation District (SWCD), and the USDA-Natural Resources Conservation Service (NRCS) in order to identify known locations and outlets for subsurface drains and larger pattern drain networks. Based on my experience, it is quite common for those local offices to have some record or 'As-built' drawings, especially if technical assistance was provided by the SWCD or USDA for their installation. In the past, I have helped facilitate this process, and I would be willing to offer the same assistance in this proceeding. Based on my 15 years of experience overseeing subsurface linear construction activities, the most efficient and effective way to repair without interrupting construction schedules is to make the repair immediately upon the completion of cable installation prior to backfilling the trench. Or flag and geolocate the locations and return later in the project to make the necessary repairs. It's always easier to make the repair during installation rather than have to go back and work around an energized line. The services of a qualified agricultural drainage specialist should be retained by the Applicant to coordinate and oversee these activities in the field. Drain tile repairs should be done under close supervision of third-party agricultural drainage

specialist in accordance with the Applicant-prepared drain tile repair plan prepared in conjunction with the drain tile repair specifications contained in the Department's Right-of Way Construction and Restoration Guidelines for Natural Gas Pipeline Projects.

Q: Please discuss the Applicant-prepared response to IR AGM-5.

A: In its response, the Applicant describes its efforts to minimize agricultural impacts within the Project Area. The Applicant again merely reiterates how they followed the Department's Solar Guidelines and points to Exhibits 21 and 22 of the Application in an attempt to bolster their argument for mitigation. 16 NYCRR §1001.22(q) requires the Applicant to among other things, describe mitigation measures to minimize the impact to agricultural resources. Here the Applicant has failed to propose true mitigation measures or efforts to minimize the impact to agricultural resources. 16NYCRR Part 100-1002 requires the adverse environmental effects [agricultural impacts are environmental impacts] of the construction and operation of the facility be minimized or avoided to the maximum extent practicable.

Q: Has the Applicant adequately demonstrated that adverse environmental effects of the construction and operation of the proposed facility been minimized or avoided to the maximum extent practicable?

A: No. It is the Department's opinion that the facility will result in or contribute to a significant and adverse disproportionate agricultural impact upon the local farming community. They have not avoided, offset or minimized agricultural impacts to the maximum extent practicable using verifiable measures.

Q: Please describe Exhibit 6 and explain its relevance in this proceeding.

A: The American Farmland Trust published a study in February 2022 on smart solar siting on farmland in New York State. This study was completed with input from, and collaboration with, advisory members from government and non-governmental organizations, solar industry advocates, not-for profit land trusts, solar developers, and academia. The study was conducted to develop smart solar strategies to meet climate goals while supporting its agricultural economy and future food security. The report reveals trends that show that good quality farmland has been a first-choice site for solar development. As in with this proceeding here. The lowest hanging fruit. The study strongly recommends against siting solar infrastructure on prime farmland or farmlands comprised of Mineral Soil Groups 1-4 and to site infrastructure on marginal lands. The Study also indicates that farmers are interested in agrovotalics. The Study concludes by stating that the choices we make today about where and how solar projects, particularly large-scale facilities, are sited on active farmland will make a difference to rural economies and influence our ability to farm and grow food in New York to feed ourselves and reap environmental benefits now and into the future.

Q: Do you have any other concerns related to buried electrical collection lines in agricultural fields?

A: Yes. There are underground collection lines sited within land designated as agricultural land. It is important for the Applicant to be able to obtain the property rights for enough room or workspace along collection routes in order to adequately stockpile topsoil. Topsoil thicknesses vary throughout the project but on average there is 8 to 10 inches of

topsoil. In some areas there is less. I recommend an additional temporary workspace width of 10 feet along the collection runs located in agricultural fields. This will help to alleviate the potential for topsoil becoming mixed with infertile subsoil and the additional 10-foot width will allow for the adequate stockpiling of topsoil immediately adjacent to the collection trench and workspace, and should be located along the opposite side of the 'working side' of the collection trench. I have witnessed the installation of buried collection lines on the dozen or so commercial wind projects I have been involved with around the state and with each project almost always the collection corridor's Limits of Disturbance or LOD were too narrow to allow for enough space to adequately strip and temporarily stockpile topsoil in agricultural lands. It is understood that Applicants typically try to limit the amount of ground disturbance on any given construction activity, but in this case, more room to stockpile topsoil facilitates greater protection of the resource by ensuring adequate space to perform the work. This is why we are requesting an Additional Temporary Workspace (ATWS) width of 10 feet along collection lines in agricultural fields.

Q: Please describe the need for a designated, qualified, full -time agricultural monitor and agricultural drainage specialists for projects of this nature.

A: This project will impact a large amount of agricultural land and if restoration is not overseen by a qualified agricultural resource professional, even the potential to return to a productive agricultural use in the future, as the Applicant proposes here, will be increasingly unlikely. I have extensive knowledge of soils in this region of the State from my involvement with the construction and restoration of natural gas pipeline projects in the Finger Lakes Region. This region of New York is complicated by soils having a very

thin layer of topsoil, underlain by a dense layer of glacial till, most of which is restricted by a dense fragipan, shallow depth to lithic bedrock, or perched high water table. These unique and complex soil characteristics will require the services of a qualified agricultural professional or agricultural drainage specialist who has a degree or professional background in soil conservation, hydrology and/or agronomy. I have been involved with projects where the Applicants tried unsuccessfully to use terrestrial ecologists, transportation engineers or wetland consultants to serve in this role and in those cases, topsoil resource protection measures and agricultural restoration activities were not conducted in accordance with Department Guidelines. They just don't have the same skillset needed to solve complex drainage issues in an agricultural setting. For a project of this scale, the skillset of a full time, qualified agricultural drainage specialist will be needed to assist the Project Environmental Monitor.

Q: Does the project disturb or otherwise convert land classified as Prime Farmland? If so, how much?

A: Yes. The proposed Project will impact a little over 500 acres of land classified as Prime Farmland. That constitutes nearly 50% of disturbance associated with the facility site.

Q: What is Prime Farmland and what is its relevance to this proceeding?

A: Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including

water management and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. The temporary loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, more susceptible to runoff losses to streams and lakes, and less productive and cannot be easily cultivated.

Q: Please describe the overall quality of the soils in this region of the state.

A: Cayuga County is known to have some of the most valuable, highest quality, highest yield soils in the state. This is largely due to not only the physical attributes associated with soil drainage and medium to high lime content, but also the from structural inputs such as artificial drainage.

Q: What can be done to reduce or eliminate potential agricultural impacts associated with the construction of the proposed Project?

A: The Department recommends layout changes such as location shifts or possible elimination of components to avoid impacts to Prime Farmland soils and incorporation of some form of Agricultural Co-utilization or agrovotalics in order to minimize the long-term and permanent impacts to farmland soils in Mineral Soil Groups 1-4, or land classified as Prime Farmland soil from nearly 50% to 10%.

Q: Does this conclude your testimony?

A: Yes.