



April 24, 2025

Connecticut Siting Council
Attn: Melanie Bachman, Executive Director
Ten Franklin Square
New Britain, CT 06051

Re: Connecticut Siting Council Petition 1655
Borrelli Solar Project – 179 and 197 Borrelli Road, East Haven,
CT Response to Council Memo dated April 11, 2025

Ms. Bachman:

In response to your memo dated April 11, 2025, please find enclosed a copy of a wetland impact analysis from CLA Engineers, Inc. for the proposed Borrelli Solar Project. In addition, we are taking this opportunity to provide a Declaration from Jim McClammer of Connecticut Valley Environmental Services in response to DEEP's comments relating to the potential impacts to the *Lysimachia quadrifolia* and the Special Concern oil-bee.

Regards,

Chris Little

Chris.Little@ecosenergy.com

(612) 237-1105

CLA Engineers, Inc.

Civil • Structural • Survey

317 MAIN STREET • NORWICH, CT 06360 • (860) 886-1966 • (860) 886-9165 FAX

April 21, 2025

Rodney A. Galton, PE, CPESC

rodney.galton@ecosenergy.com

Ecos Energy | www.ecosenergy.com

80 South 8th Street, #900

Minneapolis, MN 55402

Re: ECOS Energy
179-197 Borelli Rd
Waterford, CT 06385
CLA #7517

Dear Mr. Galton:

On behalf of the applicant, CLA Engineers has performed a wetland impact analysis to determine if certain activities related to development of the referenced site for solar energy generation would result in adverse wetland impacts. The activities examined include cutting of vegetation, installation of erosion and sedimentation control measures, and grading within 50 feet of wetland flag numbers WF20 to WF30 as shown on CLA's Overall Site Plan, Sheet 2, for the referenced project. The inland wetland boundary shown on the plan was delineated by Joseph Theroux CSS who also prepared a functional analysis of the on-site inland wetlands which is included as Appendix A. CLA investigated the on-site wetlands on April 19th, 2025 and reviewed the functional analysis and concurs with its findings. The site setting, topography and soils are also properly described in that document.

The previously prepared functional assessment included in Appendix A is used to provide a basis for assessing impacts to the zone within 50 feet of wetland flags WF20 to WF30. To summarize, the upland area has been extensively altered due to past grading and deposition of fill that includes concrete, asphalt, rock and soil. At the outer extent, the fill is nearly level but quickly transitions to a steep fill slope that terminates at the edge of the wetland, which is 20 to 25 feet lower in elevation. The vegetation in the upland includes pioneer and invasive species such as multiflora rose, Japanese knotweed, autumn olive, and mugwort. This vegetation is typical of the disturbed soils present. Photographs documenting the conditions are included in Appendix B.

Based on the functional assessment included in Appendix A, the following functions were determined to be present: Groundwater recharge/discharge, Sediment/toxicant retention, Nutrient removal/retention, Production export, Sediment & shoreline stabilization and wildlife habitat. The potential for impact to each of these functions is considered in the following paragraphs.

Ground water recharge/discharge: Per the functional analysis in Appendix A *“The wetlands are associated with an intermittent watercourse; signs of groundwater recharge and discharge are present and the quality of the water associated with the wetlands is high.”* The clearing and grading proposed occurs on the plateau that is approximately 25 feet above the elevation of the wetland edge. The proposed site drainage has been designed to mimic the existing drainage patterns and to continue to provide groundwater to eventually discharge to the wetland. The proposed drainage is also designed per the CTDEEP 2024 Stormwater Quality Manual which will maintain the water quality in the wetland. In addition, the watershed of the wetland is predominantly outside of the site boundaries and thus the existing wetland hydrology is expected to remain intact. As the area studied contribute minimally to the overall hydrology of the wetland, CLA believes that this wetland function will remain unchanged.

Sediment/toxicant retention: Per the functional analysis in Appendix A *“Mineral, fine grained and organic soils are present, the wetland edge is broad and intermittently anerobic, these wetland corridors are associated with intermittent watercourses, and no indicators of erosive forces or high water velocities are present”.* The fundamental wetland conditions that are responsible for this function, favorable soils and a broad intermittently aerobic wetland edge, will remain unaffected by the proposed activities as no work within the wetland is proposed. Provided the erosion and sediment control shown on the plans are properly maintained, the clearing and grading within 50 feet of the wetland will not result in transport of material into the wetland. CLA projects that this function will remain intact.

Nutrient removal/retention: Per the functional analysis in Appendix A *“The wetlands are large relative to the size of its watershed, overall potential exists in the wetlands, potential sources of nutrients exist, the wetlands are saturated for most of the season, slowly drained mineral and organic soils are present, opportunity for nutrient attenuation exists and water moves slowly through the wetlands.”* The nutrient removal/retention function of the wetland relies heavily on the wetland soils and vegetation, and these will remain intact, this function will also remain intact. As with Sediment/toxicant reduction, provided the erosion and sediment control shown on the plans are properly maintained, the clearing and grading within 50 feet of the wetland will not result in transport of material into the wetland, and the characteristics important to this function will remain.

Production export: Per the functional analysis in Appendix A *“Wildlife food sources grow within the wetlands, detritus development is present, there is evidence of wildlife use in the wetlands, the wetlands contain flowering plants that are used by nectar gathering insects, and indications of export are present.”* The production export function of this wetland also relies heavily on the existing condition within the wetland. As no direct wetland impacts are proposed, the existing food sources will continue to be consumed and exported by wildlife. Also, the existing intermittent watercourse will continue to move organic detritus off the site. While vegetation in the 50-foot upland zone around the site will be disturbed, CLA does not believe that this vegetation contributes significantly to the organic detritus or food sources within the wetland. The vegetation in the upland is largely invasive and has lower wildlife food value. CLA believes that production export will continue unabated.

Sediment & shoreline stabilization: Per the functional analysis in Appendix A *“Roots from herbaceous grasses and plants, shrub species and trees found in wetlands bind and stabilize soils which helps prevent erosion along steeper edges of the watercourse & wetlands.”*

Provided that the erosion and sedimentation control are properly maintained, the stability of the wetland edge will remain intact.

Wildlife habitat: Per the functional analysis in Appendix A *“The water quality associated with the wetlands and watercourses is high, the wetlands are not fragmented by development, the wetlands are contiguous with other wetland systems, wildlife overland access to other wetlands is present, wildlife food sources are present, and the dominant wetland class includes a wooded swamp and animal signs observed. Wildlife habitat is the primary function of these wetlands.”* Intact naturally vegetated buffers around wetlands add to wildlife habitat value of those wetlands. Currently the area of concern is not an intact buffer. In fact, it has been extensively disturbed through grading, filling and has become vegetated with invasive species. Due to the limited value of the existing upland, CLA believes that there will not be an adverse effect on the wildlife habitat value of the wetland.

Summary

CLA examined the upland area of concern and found it to be highly disturbed and have a minimal contribution to the functions and values of the adjacent wetland. The alteration proposed, cutting vegetation and re-grading, will not cause adverse impacts or loss of wetland functions if the proposed sedimentation and erosion and stabilization measures are properly adhered to.

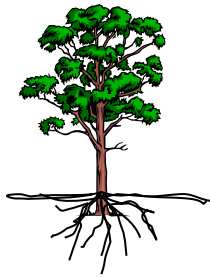
Sincerely,

Robert C Russo

Robert C, Russo
CSS, CLA Engineers
Norwich, CT

Appendix A:

Wetland Functional Analysis Prepared by Joseph
Theroux CSS



JOSEPH R. THEROUX

~ CERTIFIED FORESTER/ SOIL SCIENTIST ~
PHONE 860-428-7992 ~ FAX 860-376-6842
426 SHETUCKET TURNPIKE, VOLUNTOWN, CT. 06384
FORESTRY SERVICES ~ WETLAND IMPACT ASSESSMENTS
WETLAND DELINEATIONS AND PERMITTING ~ E&S/SITE MONITORING
WETLAND FUNCTION & VALUE ASSESSMENTS

6/12/2023

Mr. Rodney Galton, P.E.
Ecos Energy
222 South 9th Street, Ste 1600
Minneapolis MN, 55402

Re: Wetland function & value report for the properties located at 179 & 197 Borrelli Road, East Haven, Connecticut.

Dear Mr. Galton,

At your request, I have inspected the above referenced properties for the purposes of assessing the wetland functions and values of the on-site wetlands and watercourses.

The wetland function and value assessment was conducted on June 9th, 2023.

Existing Conditions

The property is 12.95 acres in size and is located on the north side of Borrelli Road in East Haven, Connecticut.

The general topography across the property is nearly level to moderately sloping with the exception of the steep fill slope found adjacent to the eastern wetlands in the eastern portion of the property and the steep rock face in the northwestern portion of the property.

The majority of the central portion of the parcel was excavated and leveled and the eastern section of this area was filled with miscellaneous fill materials & construction debris such as concrete, bricks, rocks, etc.

An access road was found in adjacent to the western property boundary which allow access to the higher northwestern portion of the property.

In the eastern portion of the property a large palustrine forested wetland and watercourse was found and delineated. Two smaller isolated wetland pockets were also found, one emergent wetland adjacent to Borrelli Road, and a small scrub-shrub wetland in the northeast portion of the property adjacent to the steep fill slope.

Upland Areas

The majority of the uplands in the disturbed areas of the parcel are mainly vegetated with herbaceous and shrub vegetation such as autumn olive, multiflora rose, black raspberry, sumac, mugwort, pokeweed, phragmites, numerous wildflower species and miscellaneous grasses such as sedges, rushes, clover, and reed canary grass.

In some areas, small stands of saplings such as quaking aspen and tree of heaven were found.

Wetlands

The first of the 3 separate wetlands is the emergent wetland found adjacent to Borrelli Road.

This wetland has formed in a shallow depressed area where seasonal water is trapped above the compact subsoil horizons. The prolonged wetness has formed shallow redoximorphic features and low chroma colors technically making the area a wetland. On the date of the assessment the area was dry, but evidence of standing water presence for prolonged periods was found.

The area is vegetated with hydric vegetation such as sedges, rushes and cattails. Other vegetation included mugwort, and aspen saplings.

No reptiles or amphibians were directly observed although undoubtedly the area does provide some habitat for these species.

The second wetland is the large palustrine forested/scrub-shrub wetland found in the eastern portion of the property. An intermittent watercourse was found along the property boundary within this wetland complex

This wetland corridor is vegetated with red maple, black birch and white pine in the overstory, and the understory is mainly comprised of shrub species such as ironwood, speckled alder, spicebush, highbush blueberry, multiflora rose, winterberry and Japanese barberry. Vines included grape vines, poison ivy, Virginia creeper and greenbrier.

Herbaceous vegetation included skunk cabbage, jewelweed, various fern species, sedges, rushes and sphagnum moss.

Wildlife tracks/sign found or directly observed in and adjacent to the wetland/watercourse included mammals and bird species such as: white tailed deer, eastern coyote, red fox, raccoon, red tailed hawk, American crow, and numerous songbird species.

No fish, reptiles or amphibians were observed although undoubtedly, this wetland complex and watercourse serves as habitat to these species.

The third delineated wetland is located to the north of the forested/scrub-shrub wetland at the base of the steep fill slope. This wetland pocket is a scrub-shrub wetland similar in nature to the larger forested wetland.

This wetland has also formed in a depressed area where seasonal water is trapped and hydric soil conditions have formed. Although not inundated on the date of the assessment, there is evidence of prolonged inundation.

This wetland is densely vegetated with hickory, tree of heaven and red maple in the overstory, and the understory is mainly comprised of shrub species such as winterberry, spicebush, northern arrowwood, and multiflora rose. Vines included poison ivy and greenbrier.

The dense herbaceous vegetation included mugwort, goldenrod and sedges.

Wildlife tracks/sign found or directly observed in and adjacent to the wetland included mammals and bird species such as: white tailed deer, eastern coyote, red fox, raccoon, red tailed hawk, American crow, and numerous songbird species.

No reptiles or amphibians were observed although undoubtedly, this wetland complex serves as habitat to these species.

Wetland Functions and Values

The wetlands and watercourse were inspected to determine wetland functions and values utilizing the Army Corps. Of Engineers methodology as outlined in "The Highway Methodology Workbook Supplement".

This methodology recognizes 8 separate wetland functions: groundwater recharge/discharge, floodflow alteration/storage, fish/shellfish habitat, sediment/toxicant/pathogen retention, nutrient removal/retention/transformation, production export, sediment/shoreline stabilization and wildlife habitat.

The 6 wetland values include: recreational value, educational/scientific value, uniqueness/heritage value, visual quality/aesthetics, threatened/endangered species habitat and marine fish & shellfish habitat.

The emergent wetland functions:

The only wetland value exhibited by this small emergent wetland is a small measure of wildlife habitat.

This is due to its ability to remain inundated for prolonged periods and its location in the large, open, upland field area which is populated by various mammal, bird, amphibian and insect species.

The remaining wetland functions were not exhibited due to the small size of this wetland, its location in a previously disturbed area directly adjacent to Borrelli Road, its lack of dense vegetation and food sources, it is not associated with a watercourse, and its inability to trap or retain sediments, nutrients or toxicants,

The emergent wetland values:

This wetland did not exhibit the wetland values of recreation, uniqueness/heritage value, visual quality/aesthetics value, educational/scientific value, endangered species habitat or marine fish/shellfish habitat.

These values were not exhibited due to the lack of public access, there are no historic features associated with the wetland, high noise levels are present, the lack of scenic views, and the property and surrounding area are not shown within the shaded areas on the D.E.E.P. Natural Diversity Database mapping for state or federal listed threatened or endangered species.

Forested/scrub-shrub wetland functions:

The following is a list of the wetland functions exhibited by the eastern forested/scrub-shrub wetland complex and their rationale:

Ground water recharge/discharge: The wetlands are associated with an intermittent watercourse; signs of groundwater recharge and discharge are present and the quality of the water associated with the wetlands is high.

Sediment/toxicant retention: Mineral, fine grained and organic soils are present, the wetland edge is broad and intermittently anoxic, these wetland corridors are associated with intermittent watercourses, and no indicators of erosive forces or high water velocities are present.

Nutrient removal/retention: The wetlands are large relative to the size of its watershed, overall potential exists in the wetlands, potential sources of nutrients exist, the wetlands are saturated for most of the season, slowly drained mineral and organic soils are present, opportunity for nutrient attenuation exists and water moves slowly through the wetlands.

Production export: Wildlife food sources grow within the wetlands, detritus development is present, there is evidence of wildlife use in the wetlands, the wetlands contain flowering plants that are used by nectar gathering insects, and indications of export are present.

Sediment & shoreline stabilization: Roots from herbaceous grasses and plants, shrub species and trees found in wetlands bind and stabilize soils which helps prevent erosion along steeper edges of the watercourse & wetlands.

Wildlife habitat: The water quality associated with the wetlands and watercourses is high, the wetlands are not fragmented by development, the wetlands are contiguous with other wetland systems, wildlife overland access to other wetlands is present, wildlife food sources are present, and the dominant wetland class includes a wooded swamp and animal signs observed. Wildlife habitat is the primary function of these wetlands.

The forested wetlands and watercourses did not exhibit the wetland functions of floodflow alteration and fish habitat due to the lack of flood storage capacity, the presence of the watercourse transporting flood flows downstream, and lack of perennial streamflow/deepwater fish habitat.

The forested wetland/intermittent watercourse values:

These wetlands did not exhibit the wetland values of recreation, uniqueness/heritage value, visual quality/aesthetics value, educational/scientific value, endangered species habitat or marine fish/shellfish habitat.

These values were not exhibited due to the lack of public access, there are no historic features associated with the wetland or watercourse, the lack of scenic views, and the property and surrounding area are not shown within the shaded areas on the D.E.E.P. Natural Diversity Database mapping for state or federal listed threatened or endangered species.

Scrub-shrub wetland pocket wetland functions:

The following is a list of the wetland functions exhibited by this wetland and their rationale:

Sediment/toxicant retention: Mineral, fine grained and organic soils are present, the wetland is intermittently anoxic, and no indicators of erosive forces or high water velocities are present. Currently there is a source of sediments directly upslope from this wetland.

Nutrient removal/retention: Overall potential exists in the wetlands, potential sources of nutrients exist, the wetlands are saturated for most of the season, slowly drained mineral and organic soils are present, the opportunity for nutrient attenuation exists and water moves slowly through these wetlands.

Wildlife habitat: The wetlands are not fragmented by development, the wetlands are adjacent other wetland systems, wildlife overland access to other wetlands is present, wildlife food sources are present, and animal signs were observed. Wildlife habitat is the primary function of this wetland.

The emergent wetlands did not exhibit the wetland functions of groundwater recharge/discharge, production export, sediment and shoreline stabilization, floodflow alteration and fish habitat due to its small size, the lack of flood storage capacity, the lack of an associated watercourse, and lack of perennial streamflow/deepwater fish habitat.

Scrub-shrub wetland pocket values:

These wetlands did not exhibit the wetland values of recreation, uniqueness/heritage value, visual quality/aesthetics value, educational/scientific value, endangered species habitat or marine fish/shellfish habitat.

These values were not exhibited due to the lack of public access, there are no historic features associated with the wetland or watercourse, the lack of scenic views, and the property and surrounding area are not shown within the shaded areas on the D.E.E.P. Natural Diversity Database mapping for state or federal listed threatened or endangered species.

Summary:

The small emergent wetland adjacent to Borrelli Road exhibits the least wetland function, (a small measure of wildlife habitat), and no values, due to its size, location and characteristics.

The small scrub-shrub wetland pocket exhibits slightly higher wetland functions, (sediment/toxicant removal, nutrient removal/retention & wildlife habitat), and no values. However, these functions are somewhat limited due to the small size of the wetland.

The large eastern forested/scrub-shrub wetland is the highest functioning wetland, exhibiting all wetland functions except flood storage capacity and fish habitat. No wetland values were exhibited.

If you have any questions concerning the wetland assessment or this report, please feel free to contact me.

Sincerely,

Joseph R. Theroux

Joseph R. Theroux
Certified Forester and Soil Scientist
Member SSSSNE, SSSA

Appendix B:

Site Photographs



Photograph1 – The top of the steep fill slope is in the foreground, the steep slope in the middle of the frame and the tow of fill and wetland is in the background. There is approximately 25 feet of elevation drop.



Photograph 2 – This shows the disturbed fill soil son the nearly level upland. The vegetation includes mugwort and autumn olive.

Petition No. 1655
Borrelli Solar LLC
179 and 197 Borrelli Road, East Haven, Connecticut

DECLARATION OF JIM MCCLAMMER

I, Jim McClammer, declare under the penalty of perjury:

- 1) My name is Jim McClammer. I am an Environmental Consultant and President of Connecticut Valley Environmental Services, Inc. My business address is 391 River Road, Charlestown, New Hampshire 03603.
- 2) I have an undergraduate degree in biology and advanced degrees in botany, geology, ecology, and evolution. I am certified by the United States Army Corps of Engineers as a Wetland Delineator (ACOE WDCP # 93MD0410014A), and by the state of New Hampshire as a Certified Wetland Scientist (Wetland Scientist #003). I have been employed as a Botanist by the United States Department of Agriculture in Washington D.C., and as the Senior Environmental Scientist by the engineering firm Dufresne-Henry, Inc. in Springfield, Vermont.
- 3) At the request of Borrelli Solar LLC, I have reviewed currently available evidence to determine whether the removal of all *Lysimachia quadrifolia* plants on the proposed Borrelli Solar Project site would have a “substantial adverse environmental effect” on the Endangered bee, *Epeoloides pilosula*.
- 4) In a February 19, 2025-email, the Connecticut Department of Energy & Environmental Protection (DEEP) reported that this kleptoparasitic bee has been found associated with its

inferred host the Special Concern oil-bee, *Macropis ciliata*, and *Lysimachia quadrifolia* in the “general area” of the Project site. Due to this association, and the identification of “a moderately large population” of *Lysimachia quadrifolia* plants on the Project site, DEEP has speculated that removal of the plants may have adverse effects on the listed bee species.

5) A review of the published literature and publicly available DEEP records indicate:

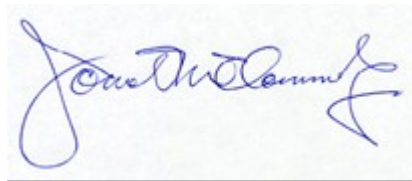
- there are few previous occurrence reports of associations of the Endangered bee, its host bee species and their host plant species;
- it has been surmised by some investigators that due to the absence of recent reports of the Endangered bee that it may have become extinct;
- published literature indicates the listed bees were recently found associated with *Lysimachia quadrifolia* in early successional habitat at two localities within a powerline corridor near Bozrah, Connecticut, which is more than 35 miles from the Project site;
- public DEEP records of listed species, dated December 3, 2024, do not show *Epeoloides pilosula* near the Project site in New Haven County nor in any of the adjacent counties (Middlesex, Hartford or Fairfield). It is documented from New London County (likely the published occurrences cited above);
- *Macropis* is known to be associated with *L. quadrifolia* at some localities but it is more often associated with other species in the *Lysimachia* genus;
- host *Lysimachia* species occur in a wide variety of habitats (e.g., upland and wetland);
- host *Lysimachia* species are common and widely distributed throughout eastern North America; and
- *Lysimachia quadrifolia* occurs in every county in Connecticut, Massachusetts, and Rhode Island.

6) Since host *Lysimachia* plant species are known to be widely distributed and to occur in a variety of habitats, it is my opinion that the listed bees are no more likely to be on the Project site than at any other location in northeastern North America where host *Lysimachia* species occur. And since there are no publicly available DEEP records of

documented occurrences of either listed bee species in the vicinity of the Project site it is significantly less likely for the bees to be on the Project site than at other locations near documented occurrences.

- 7) Consequently, it is my opinion that the bee species are unlikely to occur onsite; and, even if they were onsite, they would find suitable host plants and habitats nearby (e.g., in early successional habitats in the nearby powerline corridor). For these reasons, even if all onsite *Lysimachia* plants were removed from the Project site there would be no “substantial adverse environmental effect” on the listed bee species.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on April 23, 2025, at Charlestown, New Hampshire.

A handwritten signature in blue ink, appearing to read "Jim McClammer", enclosed within a thin black rectangular border.

Jim McClammer