



January 20, 2021

Ref: 42496.00

Mr. Jean-Paul LaMarche
Director of Development
Greenskies Clean Energy
127 Washington Ave., West Building, Garden Level
North Haven, CT 06473

Re: CTDEEP Dam Safety Determination
Petition #1347a – Waterford Solar
117 Oil Mill Road, Waterford, CT

Dear Mr. LaMarche:

This letter is written in reference to Condition #2(e) of the Decision & Order (D&O) of the above-referenced Petition. Correspondence to CTDEEP Dam Safety Division began with an email from VHB on November 9, 2020 and, following back and forth emails, concluded with an email from CTDEEP Dam Safety Division on January 20, 2021. In this email from Ivonne Hall, Supervising Civil Engineer, it is stated that the department intends to follow Connecticut General Statute Section 22a-409(c) regarding solar development projects, which indicates that dams impounding less than three (3) acre-feet of water are a negligible hazard downstream and are exempt from dam inspection.

We have enclosed a copy of the email correspondence with CTDEEP Dam Safety Division with this letter for reference, and also have provided herewith a table of the proposed stormwater basins' criteria for the Waterford Solar site plans revised through January 12, 2021. We trust that this satisfactorily concludes the necessary correspondence with this department unless proposed conditions are altered to necessitate a new determination.

Engineers | Scientists | Planners | Designers

100 Great Meadow Road
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| Basin # | <u>Lowest Existing Grade @ Berm</u> | <u>Proposed Grade of Spillway Crest</u> | <u>Maximum Height of Impoundment</u> | <u>Volume of Impounded Water</u> |
|----------------|--|--|---|---|
| 1 | ±191.5 | 193.0 | ±1.5 feet | ±0.1 acre-feet |
| 2 | ±230.0 | 231.0 | ±1.0 feet | ±0.0 acre-feet |
| 3 | ±222.0 | 226.5 | ±4.5 feet | ±0.1 acre-feet |
| 4 | ±186.0 | 188.0 | ±2.0 feet | ±0.6 acre-feet |
| 5 | ±214.0 | 218.0 | ±4.0 feet | ±0.2 acre-feet |
| 6 | ±208.0 | 209.0 | ±1.0 feet | ±0.1 acre-feet |
| 7 | ±226.0 | 226.0 | ±0.0 feet | 0 acre-feet |
| 8 | ±184.0 | 188.5 | ±4.5 feet | ±0.2 acre-feet |
| 9 | ±188.0 | 190.0 | ±2.0 feet | ±0.2 acre-feet |
| 10 | ±166.0 | 168.5 | ±2.5 feet | ±0.2 acre-feet |
| 11 | ±150.0 | 152.0 | ±2.0 feet | ±0.1 acre-feet |
| 12 | ±158.0 | 158.5 | ±0.5 feet | ±0.1 acre-feet |
| 13 | ±183.0 | 188.0 | ±5.0 feet | ±1.5 acre-feet |
| 14 | ±188.0 | 190.0 | ±2.0 feet | ±0.2 acre-feet |
| 16 | ±190.5 | 195.5 | ±5.0 feet | ±2.7 acre-feet |

Sincerely,

A handwritten signature in black ink that reads "Steven J. Kochis".

Steven J. Kochis, PE
 Senior Project Engineer

Enclosures

Kochis, Steve

From: Hall, Ivonne <Ivonne.Hall@ct.gov>
Sent: Wednesday, January 20, 2021 8:52 AM
To: Kochis, Steve; Laskin, Anna
Cc: jp La Marche; Parekh, Kartik; Lee, Charles; Perry, Jennifer; Fontanella, Camille; Hall, Ivonne
Subject: RE: [External] RE: Request for Dam Safety Determination - Waterford Solar, Waterford, CT & Gravel Pit Solar, East Windsor, CT

Good Morning Steve—just to clarify, this is not a regulation change. We have made this determination after reviewing our existing statute, Connecticut General Statute Section 22a-409(c), which indicates that dams impounding less than 3 acre-feet are a negligible hazard downstream and are exempt from dam inspection.

Ivonne

Ivonne Grajko Hall, P.E.
Supervising Civil Engineer
Dam Safety Program
Water Planning & Management Division
Bureau of Water Protection & Land Reuse
Connecticut Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
P: 860.424.3754 | E: Ivonne.hall@ct.gov
<https://portal.ct.gov/DEEP/Water/Dams/Dams-Safety>
<https://portal.ct.gov/DEEP/Water/Dams/State-Dams-and-Dam-Safety>



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From: Kochis, Steve <skochis@VHB.com>
Sent: Tuesday, January 19, 2021 9:43 PM
To: Laskin, Anna <Anna.Laskin@ct.gov>
Cc: Hall, Ivonne <Ivonne.Hall@ct.gov>; jp La Marche <jean-paul.lamarche@cleanfocus.us>; Parekh, Kartik <Kartik.Parekh@ct.gov>; Lee, Charles <Charles.Lee@ct.gov>
Subject: RE: [External] RE: Request for Dam Safety Determination - Waterford Solar, Waterford, CT & Gravel Pit Solar, East Windsor, CT

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Thank you Anna and Ivonne for all your assistance over the past few projects, and for letting us know about this regulation change. I am assuming that this email satisfactorily completes our correspondence with you as I am

fairly sure we aren't proposing any stormwater basins on either of these 2 projects which exceeds 3 acre-feet of inundated water.

I'd be pleased to put together and send a table of the maximum water impoundment levels of all proposed basins for each project if you would need or like this data as proof. Otherwise, I'll conduct my own personal analysis on behalf of VHB and ensure we are below these thresholds, or of course be back to you guys if we do have a basin of that magnitude.

Thanks again.

Steve Kochis, PE
Senior Project Engineer

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From: Laskin, Anna <Anna.Laskin@ct.gov>
Sent: Friday, January 15, 2021 8:41 AM
To: Kochis, Steve <skochis@VHB.com>
Cc: Hall, Ivonne <Ivonne.Hall@ct.gov>; jp La Marche <jean-paul.lamarche@cleanfocus.us>; Parekh, Kartik <Kartik.Parekh@ct.gov>; Lee, Charles <Charles.Lee@ct.gov>
Subject: [External] RE: Request for Dam Safety Determination - Waterford Solar, Waterford, CT & Gravel Pit Solar, East Windsor, CT

Good morning, Steve.

We have received new guidance on when new solar power development proposals should be submitted to the DEEP Dam Safety program for permit need determination review. Solar sites' stormwater basins that are designed to impound less than 3 acre-feet of water at maximum storage elevation (assume water level at the crest of the dam) would not need a DEEP Dam Safety Permit to construct. Please check with the local inland wetlands agency for permit requirements.

Stormwater basins that are designed to store more than 3 acre-feet of water will require dam breach inundation mapping showing the extent of the inundation area in relation to the downstream infrastructure. This information must be submitted to the DEEP Dam Safety Program as part of the permit need determination request.

This determination applies to the stormwater basins associated with construction of both the Waterford Solar and Gravel Pit Solar projects as well as any future stormwater basins associated with development of new solar power sites. Once the dams are constructed you must contact the DEEP Dam Safety Program to receive dam registration forms and have the dams registered with the State.

Please feel free to contact me or my supervisor, Ivonne Hall at Ivonne.Hall@ct.gov if you have any questions.

Anna

Anna Laskin, Civil Engineer
Connecticut Department of Energy and Environmental Protection
Bureau of Water Protection and Land Re-Use
Water Planning and Management Division
79 Elm Street, Hartford, CT 06106-5127



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*Conserving, improving and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.*

From: Kochis, Steve <skochis@VHB.com>
Sent: Sunday, January 10, 2021 8:06 PM
To: Laskin, Anna <Anna.Laskin@ct.gov>
Cc: Hall, Ivonne <Ivonne.Hall@ct.gov>; jp La Marche <jean-paul.lamarche@cleanfocus.us>
Subject: RE: [External] Re: Request for Dam Safety Determination - Waterford Solar, Waterford, CT

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Hi Anna,
Please see responses below, in red, to the questions you posed. We hope this addresses your concerns and helps you to categorize the basins. Should you need any further information or have other questions, let us know. Thanks!

Steve Kochis, PE
Senior Project Engineer

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From: Laskin, Anna <Anna.Laskin@ct.gov>
Sent: Thursday, December 3, 2020 2:34 PM
To: Kochis, Steve <skochis@VHB.com>
Cc: Hall, Ivonne <Ivonne.Hall@ct.gov>
Subject: [External] Re: Request for Dam Safety Determination - Waterford Solar, Waterford, CT

Hello Steve, I was able to review the information you provided for the 16 proposed stormwater basins located in the Town of Waterford. As you are aware, the need for the Dam Safety permitting will depend on the hazard classification of the proposed berms/dams. Could you provide information following the request below with regard to basins #7, 8, 9, 10, and 16.

1. Show the downstream impact area or a breach map (if there is one) for the basins mentioned above. If there is no map, describe the extent of the breach inundation area. **See attached for a map of offsite drainage paths from the proposed stormwater basins.**
2. Provide traffic counts on roadways that would be inundated or affected by a breach. **VHB does not have available traffic count data for Waterford Parkway North, which is the first roadway**

that the site drains towards. Traffic count data that is prepared today is currently inaccurate due to COVID-19.

3. Show culverts located downstream of the proposed work area, their sizes and other relevant drainage information. Culvert information for culverts passing under Waterford Parkway North cannot be obtained without investigating on private property not under jurisdiction of the applicant. However, see attached for a StreamStats watershed map of the Oil Mill Brook Tributary which Basin #16 drains to, for a StreamStats watershed map of Stony Brook which basins 7 and 8 drain to, and for a StreamStats watershed map of the culvert which Basins 9 and 10 drain to. See table below for description of relationship of bermed water within each basin to the percentage of overall runoff volume to the downstream culvert.

| Culvert | Tributary Acreage, ac | Approximate 100-Year Runoff Volume assuming HSG B Woods, cf | Basin # | Approximate Height from Existing Grade to Spillway Crest Inside Basin, ft | Volume of Water Inside Basin Above Existing Grade, cf | Percent Increase of Overall Runoff Volume to Culvert in Event of Berm Failure |
|--------------------------|-----------------------|---|---------|---|---|---|
| Stony Brook | 659 | 5,702,875 | 7 | 0.0 | 0 | 0.0% |
| | | | 8 | 4.5 | 8,553 | 0.1% |
| Culvert 9 & 10 | 39 | 337,743 | 9 | 2.0 | 6,700 | 2.0% |
| | | | 10 | 2.5 | 8,536 | 2.5% |
| Oil Mill Brook Tributary | 141 | 1,218,090 | 16 | 5.0 | 116,000 | 9.5% |

Thank you,
Anna

Anna Laskin, Civil Engineer
Connecticut Department of Energy and Environmental Protection
Bureau of Water Protection and Land Re-Use
Water Planning and Management Division
79 Elm Street, Hartford, CT 06106-5127

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From: Kochis, Steve <skochis@VHB.com>
Sent: Monday, November 9, 2020 12:57 PM

To: Hall, Ivonne <Ivonne.Hall@ct.gov>; Laskin, Anna <Anna.Laskin@ct.gov>
Cc: jp La Marche <jean-paul.lamarche@cleanfocus.us>; gina.wolfman@cleanfocus.us
<gina.wolfman@cleanfocus.us>
Subject: Request for Dam Safety Determination - Waterford Solar, Waterford, CT

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Hi Ivonne & Anna,

We are reaching out to seek a dam safety determination for each of our proposed permanent stormwater basins at the Waterford Solar project. I've attached all the pertinent information we have on the basins to help you make these determinations. Should you have any questions or need anything further, please feel free to reach out.

Thank as always for your assistance in the matter.

Steve Kochis, PE
Senior Project Engineer



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