May 13, 2025

Township of Armour
PO Box 533, 56 Ontario Street
Burk's Falls, Ontario
P0A 1C0

RECEIVED
MAY 13, 2025
TOWNSHIP OF ARMOUR

Subject: Peer Review of the Stormwater Management Letter prepared by PRI Engineering for the proposed BESS Facility at 219 Peggs Mountain Road, Armour Township.

Attn: Charlene Watt, Municipal Clerk

Dear Charlene Watt,

TULLOCH Engineering ("TULLOCH") has been retained to conduct a peer review of the Stormwater Management Letter – Final REV01 submitted by SolarBank (the "Proponent") as part of a complete application package for an Official Plan Amendment and Zoning By-law Amendment. The proposed amendments have been submitted to permit the development of a Battery Energy Storage System ("BESS") facility located at 219 Peggs Mountain Road, in the Township of Armour (the "Subject Property"). The Stormwater Management Letter – Final REV01 subject to this peer review was prepared on October 1, 2024, by Arash Yazdani, CED, FEC, P.Eng., (the "Author"), Chief Operating Officer of PRI Engineering Corp.

TULLOCH understands that the scope of work is to assess whether the submitted Stormwater management Letter provides an appropriate and sufficiently comprehensive Stormwater analysis. To address stormwater management, it is necessary that the proponent address the criteria as outlined by the Township of Armour in their pre-consultation checklist. The Township of Armour's requirement for stormwater control states the following: *"Any major development or site alteration proposal should address how stormwater runoff will be handled in terms of water quality and quantity, lot grading and drainage controls, and erosion and sedimentation measures."* This has been the criteria used to review the submitted SWM letter.

REVIEW COMMENTS

TULLOCH makes the following comments for consideration with respect to the presented Stormwater Management Letter:

- The Stormwater Management Letter states that the site will be a 20MWhr Battery Energy Storage System and a borehole investigation was conducted by PRI. It identified that the site consists of sand and gravel with varying thickness of between 100 mm to 200 mm underlain by loose to compact sandy silt from 0.7 m below ground. The letter also states that the site will have a low hydraulic conductivity that will impede groundwater flow in the downward direction with ground water potentially being converted to surface runoff for the pre-development conditions.

  COMMENT: It is necessary to confirm the amount of surface runoff that will occur for the various rainfall events. This includes the 2, 5, 10-, 25-, 50-, and 100-year storm events.

- The letter states “the main objective of the project to maintain pre to post development surface runoff conditions.

  COMMENT: It is necessary to provide the calculations to confirm post to predevelopment conditions for the various rainfall events. This includes the 2, 5, 10-, 25-, 50-, and 100-year storm events.

- A granular pad area with concrete pedestal to support the BESS to improve hydraulic conductivity and infiltration potential of surface water.

  COMMENT: As this is the case, it is necessary to determine the quantity of surface runoff for both existing and proposed conditions for the various storm events.

- Retaining walls (if any) will be required to accommodate grade changes.

  COMMENT: With the mention of retaining walls, it is necessary to identify the location of the retaining walls, the grading and the potential impact of the retaining walls and grading on drainage.

- The proposed retaining walls subdrain discharges will be installed at the base of the wall at 1.5m intervals, which will be hydraulically connected to a free draining layer which the wall will be backfilled.

  COMMENT: It will be necessary to provide drawings and calculations on the drainage in and around the retaining walls and the location of the drainage from the site.

GENERAL COMMENTS

Stormwater Quality:

Stormwater quality is based on the 2003 MOEE Stormwater Management Planning and Design Manuel. It identifies the criteria for the level of quality control of the stormwater runoff prior to being discharged offsite. The manual also provides calculations and solutions to address the quality of runoff. The SWM letter does not mention anything related to stormwater quality control nor any design methods to address quality control.

Stormwater Quantity:

Quantity control is based on the control of stormwater prior to discharge off the subject property and is the attenuation of stormwater runoff to predevelopment levels so there is no or minimal impact on downstream conditions. The SWM letter does not mention anything related to stormwater quantity control, nor any quantity control methods.

Lot Grading and Drainage Controls:

Grading impacts the location of drainage and the peak flow of drainage, drainage from a SWM perspective and the control methods to address changes in flows. The current plan does not discuss proposed drainage.

Erosion and Sedimentation Measures

Erosion and sediment control is necessary during the construction phase to ensure no downstream impacts. ESC measures usually provide a plan on how ESC measures are addressed. The current plan does not address that.

Typically, a Stormwater Management plan is prepared at the planning stage and gets refined as the project progresses. A typical Stormwater Management document will include drawings to show the site and the location of any stormwater management control methods. A Stormwater Management document typically contains the following items:

- Existing and Proposed Conditions
- Rainfall Analysis
- Soil Conditions
- Stormwater Management Criteria
- Stormwater Management Control Methods
    - Water Quantity Controls
    - Water Quality Controls
    - Erosion and Sediment Controls
- Conclusions and Recommendations

At this present time, the current document does briefly address existing and proposed conditions, however, it still needs to address the SWM criteria and control methods. Therefore, at this present time, the current document does not clearly answer the question of stormwater runoff impacts and mitigation methods.

CLOSING

TULLOCH is pleased to provide this letter as a record of our review and findings. Please contact the undersigned should you have any questions or require any clarifications.

Yours truly,

Tulloch Engineering Inc.

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