February 26, 2026

Andrew van Doorn, P.Eng.
Chief Operating Officer
PowerBank Corp.
Unit 803 – 505 Consumers Road
Toronto, ON, M2J 4V8

Emailed to: andrew.vandoorn@solarbankcorp.com

Subject: **Response to Peer Review of the Stormwater Management**
219 Peggs Mountain Road, Armour Township, ON
PRI Project No.: 25-253

Dear Mr. van Doorn,

As requested, PRI Engineering Corp. (PRI) has reviewed the Peer Review Response to address the comments made by TULLOCH Engineering (TULLOCH) dated December 12, 2025.

Review Comment 1 by TULLOCH

According to the calculations in Appendix B in the letter, the pond volume was increased to 53.3 m³ to reflect a higher runoff coefficient (C) for larger storm events. The Time of Concentration Tc (16.3 min) was calculated using the Airport Formula based on a weighted C value (0.35). Then PRI used the Rational Method Formula to calculate the peak flows for the 2, 5, 10-, 25-, 50- and 100-year storm events. To calculate the storage volume required PRI used the following formula:

*Q100(Post) – Q100(Pre)*Duration*10% Safety Factor.*

TULLOCH is confused as to how the volume for the stormwater pond was calculated. What duration of the storm event was used? Tc is the time required for water to travel from the most remote point in the drainage area to the outlet. However, the pond size must be based on the volume produced from the full length of the storm event and not from Tc value. The calculations appear to be a modified form of the Modified Rational Method; however, TULLOCH is unable to confirm the calculation. Please provide the details of how the pond volume was calculated as we are unable to approve the calculation for the pond size. We strongly recommend PRI use a stormwater management model to calculate the pond size for the 3, 6, 12 or 24-hour storm duration, whichever produces the most volume. Typical stormwater management models that we recommend are EPASWMM, PCSWMM or Visual Otthymo.

PRI Response to Comment 1:

PRI has created a PCSWMM stormwater management model as recommended. Published IDF curves were used to obtain values for rainfall intensities at 2-, 5-, 10-, 25-, 50-, & 100-year return periods, and these values were scaled to 115% to account for climate change. For the catchment area, the same ground conditions, size, slope, and runoff coefficient were used as with our previous analysis utilizing the Rational Method; however, our model's calculated time of concentration resulted in lower flows than previously calculated since a different methodology was utilized. The resulting pre-development flow was calculated to be 276 L/s (average N = 0.43).

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For the post-development flow, we modelled the series of road and slopes for several catchments. Runoff coefficients in PCSWMM allowed for a refined Manning's N; this value was checked and confirmed that a similar N value was derived as used in our previous analysis. The resulting post-development flow was calculated to be 515 L/s (average N = 0.48) which is similar to the result from our previous analysis.

The required pond size was calculated based on the 100-year the difference between the post-development and pre-development flow, which was calculated as 515 L/s and 276 L/s respectively. The result was calculated to be 239 L/s which was considered for a 24-hour storm. Based on these parameters, the following was determined as the orientation for the proposed storm pond:

- The pond size is based on a 6 m by 10 m base with 2H:1V side slopes (kept same base size and side slopes).
- PCSWMM-calculated maximum water volume in pond = 139 m^3, we have added a volume of 6 m^3 to accommodate the potential for the transformer oil volume to be increased (see PRI Response to Comment 6 below), which results in a maximum water volume in pond = 145 m^3
- Calculated maximum water depth to suit calculated maximum volume in pond = 1.31 m.
- Assuming a minimum freeboard of 0.6 m, the pond design depth = 1.91 m
- The total dry volume to top of berm = 268 m^3

Review Comment 2 by TULLOCH:

Appendix B indicates an orifice diameter of 525 mm with a corresponding 100-year flow rate of 0.474 m^3/s. Given the orifice size, this flow value appears disproportionately low. Please provide detailed calculations supporting the 525 mm orifice sizing and demonstrate compliance with pre-development peak flows for the 2-, 5-, 10-, 25-, 50-, and 100-year storm events. Orifice sizing calculations are based on the following equation.

$$Q=CA(2gh)^{1/2}$$

Where:

Q = Flow (m^3/s)
C = Constant
A = Area of the opening (m^2)
g = gravity (m/s^2)
h = height of the water (m).

PRI Response to Comment 2:

PRI has revised the orifice diameter calculation considering the revised flows above, using the recommended formula:

$$D = (4Q/C\pi(2gh)^{1/2})^{1/2}$$

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Where:

Q = 0.276 m^3/s (pre-development peak flow for 100yr, 24hr storm event)
C = 0.62
h = 1.81 m

This results in an orifice diameter of 0.308 m. A large overflow bypassing the orifice will be configured as a tee as per the Figure 1 below.

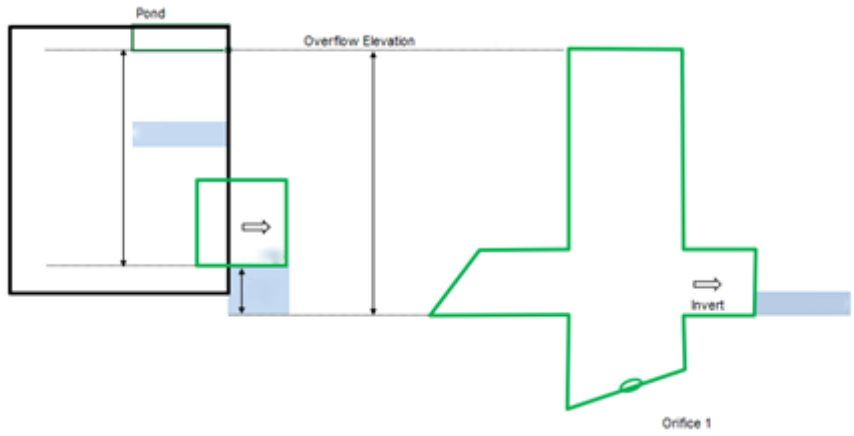

Figure 1: Typical Overflow Configuration

Review Comment 3 by TULLOCH:

Please include a comparative table showing existing, proposed, and controlled peak flows for all storm scenarios. It is also essential to present the pond's operating characteristics in a summary table, including for each storm event: peak inflow, peak outflow, maximum pond volume, and maximum depth.

PRI Response to Comment 3:

Please see the following Table 1 which outlines existing, proposed and controlled peak flows for the 2-, 5-, 10-, 25-, 50-, and 100-year storm events. Furthermore Table 2 summarizes the peak inflow, peak outflow, maximum pond volume and maximum depth for the 2-, 5-, 10-, 25-, 50-, and 100-year storm events.

Table 1: Peak Flow Comparison – Summary Table

Design Storm	Pre-Development Peak Flow (L/s)	Post-Development Peak Flow – Uncontrolled (L/s)	Post-Development Peak Flow – Controlled (L/s)
2 year	17.18	26.18	9.000
5 year	53.19	100.1	46.91
10 year	89.50	178.4	88.90
25 year	150.1	300.3	150.2
50 year	209.0	405.1	196.1
100 year	276.1	514.9	238.8

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Table 2: Pond Operating Characteristics – Summary Table

Design Storm	Peak Inflow (L/s)	Peak Outflow (L/s)	Max. Pond Volume (m^3)	Max Pond Depth (m)
2 year	26.18	26.15	3.897	0.063
5 year	100.1	99.22	7.698	0.120
10 year	178.4	177.0	10.55	0.162
25 year	300.3	230.0	28.30	0.387
50 year	405.1	230.0	78.05	0.855
100 year	514.9	230.0	138.8	1.270

Review Comment 4 by TULLOCH:

The letter states that PRI will provide an OGS (Oil/Grit Separator) to address water quality downstream of the control structure. Please provide details on the methodology for sizing and type of OGS to meet the required level of control. As a result of the proposed SWM pond and OGS, is an ECA (Environmental Compliance Approval) from the Province required? If an ECA is not required, please explain the basis for that determination.

PRI Response to Comment 4:

Following completion of the revised hydrologic analysis using PCSWMM and refinement of the stormwater management facility design, the water quality treatment approach has been updated and the previously proposed oil/grit separator (OGS) has been removed from the design.

The revised stormwater management strategy aligns with the objectives of the MECP Stormwater Management Planning and Design Manual (2003) by providing water quality treatment through a treatment train approach consisting of inlet pretreatment and detention-based settling.

Runoff from the site is conveyed via open drainage ditches to the lined detention pond. A rock forebay/check berm will be constructed at the inlet locations where ditch flows discharge to the pond. The forebay provides energy dissipation and captures coarse sediment and debris within an accessible maintenance area prior to runoff entering the main pond. This pretreatment function replaces the role previously assigned to the OGS.

The detention pond provides extended residence time and reduced velocities, promoting settling of suspended solids prior to controlled discharge. The facility is constructed with an impermeable geomembrane liner and incorporates a downstream isolation valve, which together provide spill containment capability consistent with the containment expectations discussed in the peer review comments.

Given the presence of a lined detention facility providing both containment and settling, together with inlet pretreatment and defined maintenance procedures, a proprietary oil/grit separator is no longer required to achieve the intended water quality and environmental protection objectives.

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Revised design drawings, outlining the omission of the OGS and revised pond dimensions is attached as **Appendix A**.

Review Comment 5 by TULLOCH:

PRI Engineering has included an isolation valve downstream of the control structure along with a geomembrane to address potential spillage. Please specify the geomembrane type on the plan and confirm whether it is impermeable. Based on experience with BESS facilities, an impermeable layer is typically recommended to prevent groundwater interaction.

PRI Response to Comment 5:

We have now included a specification for a 40 mm HDPE geomembrane on our drawings to line the bottom of the pond; this specified geomembrane is impermeable. Based on the attached documentation from Raven Engineering Inc., the Electrical Engineer of Record (included in **Appendix B**), it is our opinion that the previously specified geomembrane to line site drainage ditches is not deemed necessary; this has been omitted since none of the materials contained within the transformer are considered hazardous.

Review Comment 6 by TULLOCH:

Additionally, PRI should verify in the report that the pond provides sufficient capacity for a 100-year storm event plus any oil as intended. We understand that the isolation valve and geomembrane are intended to function as spill containment measures. Based on our experience with the design of BESS facilities, an isolation valve combined with an impermeable layer will function as containment measures preventing spills from escaping

PRI Response to Comment 6:

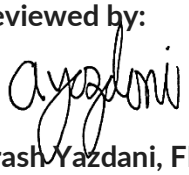
The pond has been increased from the volume calculated above by 5,950 L, to accommodate the potential for the transformer oil to be increased. Furthermore, the impermeable layer has been omitted in the swales, but is still present within the storm pond, due to the environmentally friendly transformer oil used in the proposed systems, as summarized by Raven.

We trust this meets your current requirements, please contact the undersigned if you have any questions.

Sincerely,
PRI Engineering Corp.

Brandon Campbell, E.I.T.
Civil EIT

Reviewed by:



Arash Yazdani, FEC, CED, P.Eng.
Chief Operating Officer

Attachments:
Appendix A – Proposed Overall Drainage Plan
Appendix B – Technical Opinion on Transformer Oil Containment

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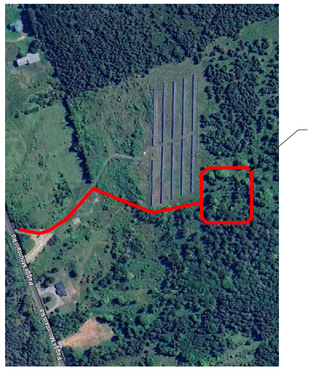
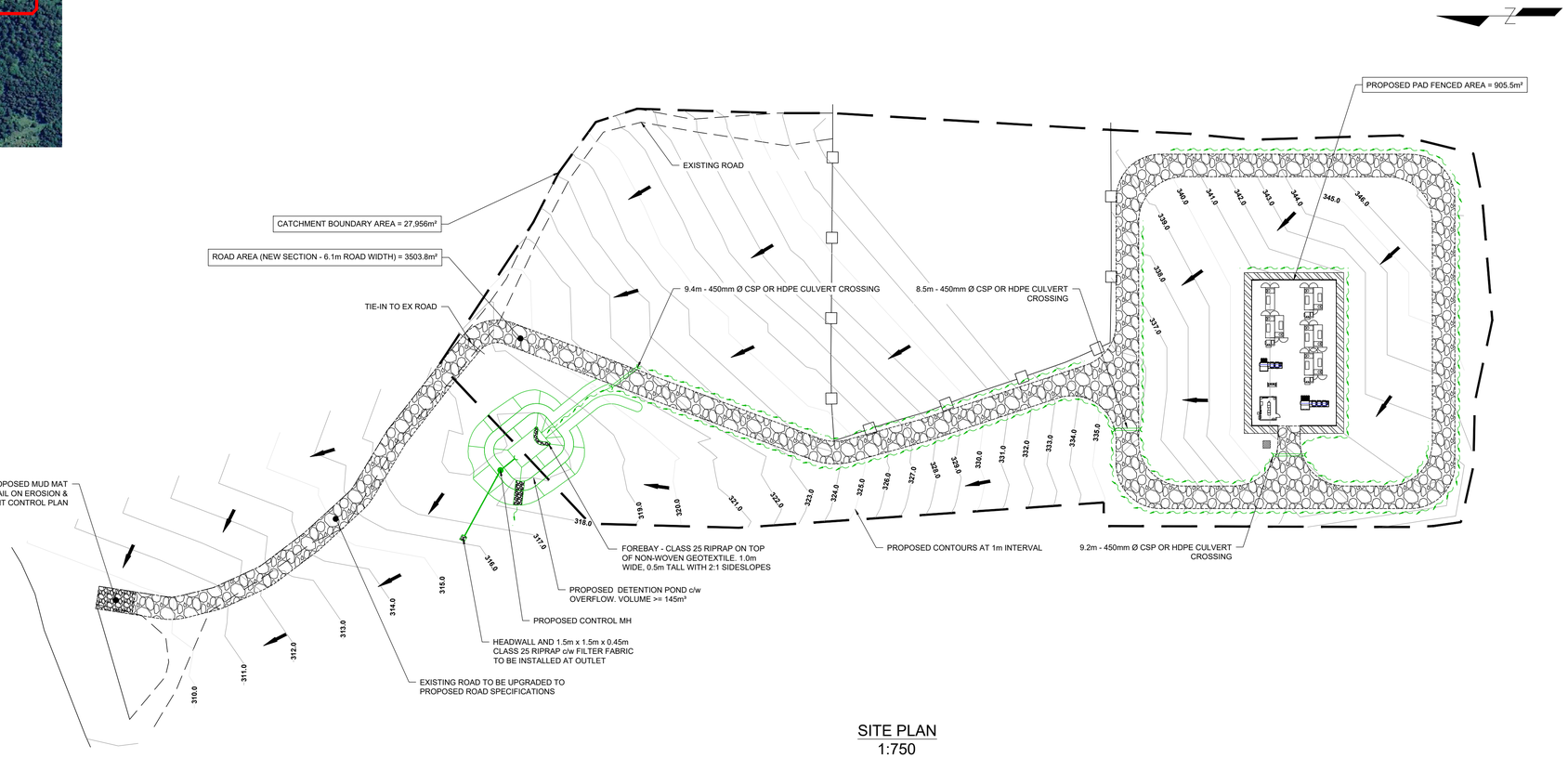
PRI ENGINEERING

Appendix A

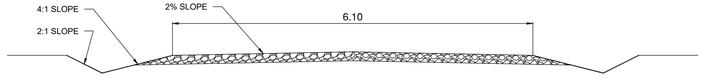
Proposed Overall Drainage Plan



KEY MAP
N.T.S.



SITE PLAN
1:750



PR ROAD CROSS-SECTION - TYP
N.T.S.

PR ROAD CROSS-SECTION NOTES:
- 150 mm GRANULAR A COMPACTED TO 98 S.P.M.D.D
- APPROVED NATIVE MATERIAL. TOPSOIL AND ORGANICS TO BE REMOVED. SUBGRADE TO BE APPROVED BY GEOTECHNICAL ENGINEER OF RECORD AS PER PRI ENGINEERING CORP GEOTECHINCAL REPORT.

PRI ENGINEERING
205 ST.GEORGE STREET, SUIT 2
LINDSAY ON K9V 5Z9
TEL:705-702-3921
www.priengineering.com

505 CONSUMERS ROAD SUITE 803
TORONTO , ONTARIO M2J 4Z2
www.solarbankcorp.com

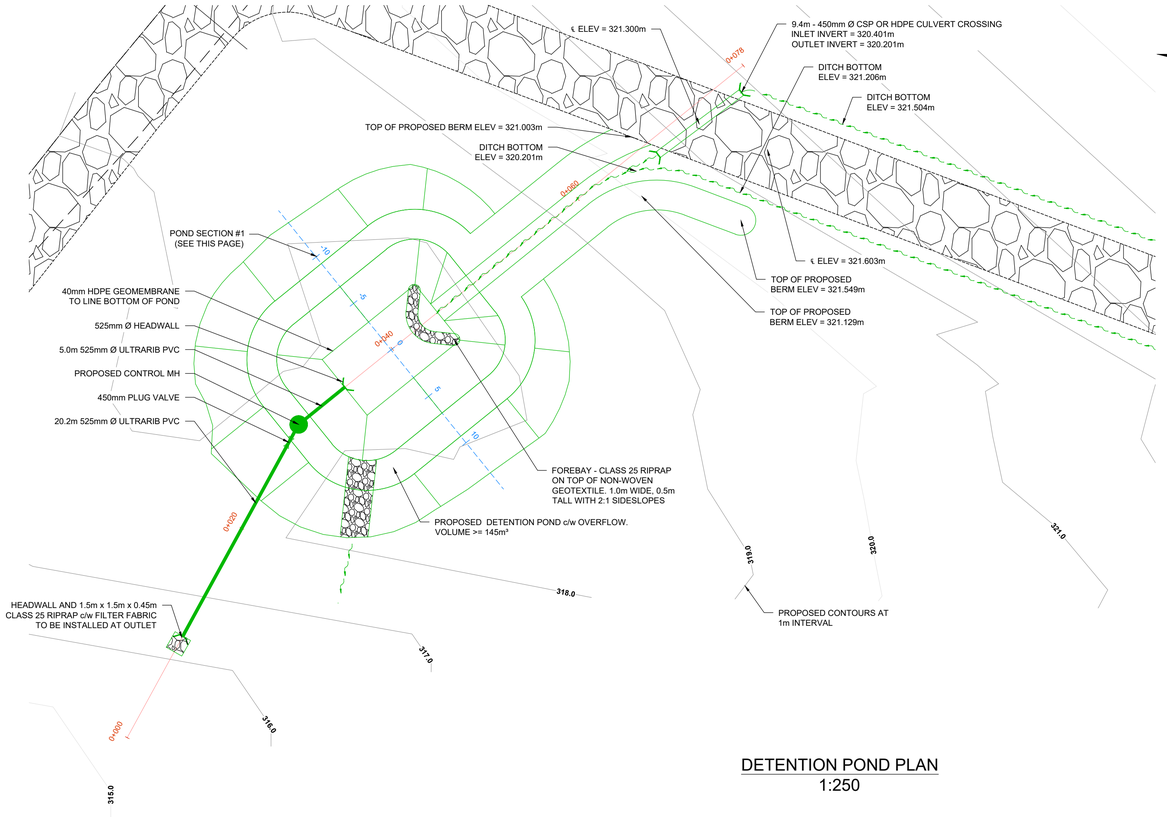
REV NO.	ISSUANCE	DATE
01	ISSUED FOR REVIEW	26-02-26
00	ISSUED FOR REVIEW	24-12-24

PROJECT NAME:
SOLARBANK
SITE 903 - BESS SITE
221 PEGGS MOUNTAIN RD

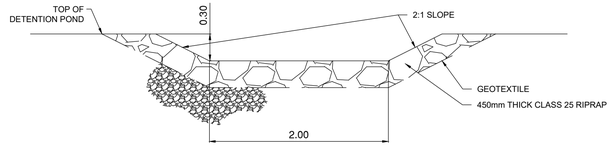
DRAWING NAME:
PROPOSED OVERALL DRAINAGE PLAN

PROJ. NO.:	DWG. BY:	CHKD. BY:	APPR. BY:
2500349	BC	TS	AY

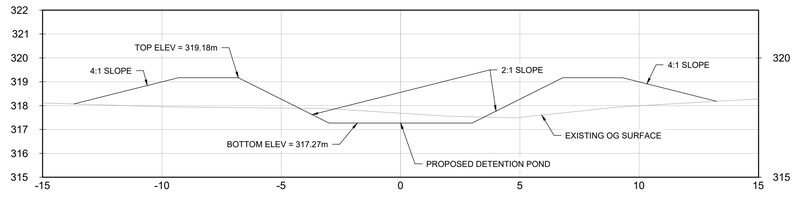
DRAWING NUMBER: FIGURE 1



DETENTION POND PLAN
1:250



OVERFLOW DETAIL
N.T.S.



POND SECTION #1
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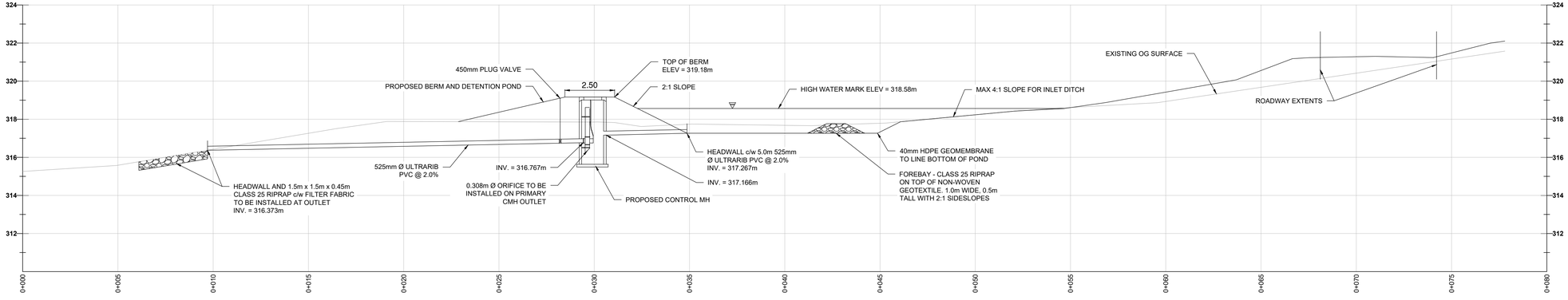

DETENTION POND DETAIL
1:125

PRI ENGINEERING
205 ST.GEORGE STREET, SUIT 2
LINDSAY ON K9V 5Z9
TEL:705-702-3921
www.prienginеering.com

505 CONSUMERS ROAD SUITE 803
TORONTO , ONTARIO M2J 4Z2
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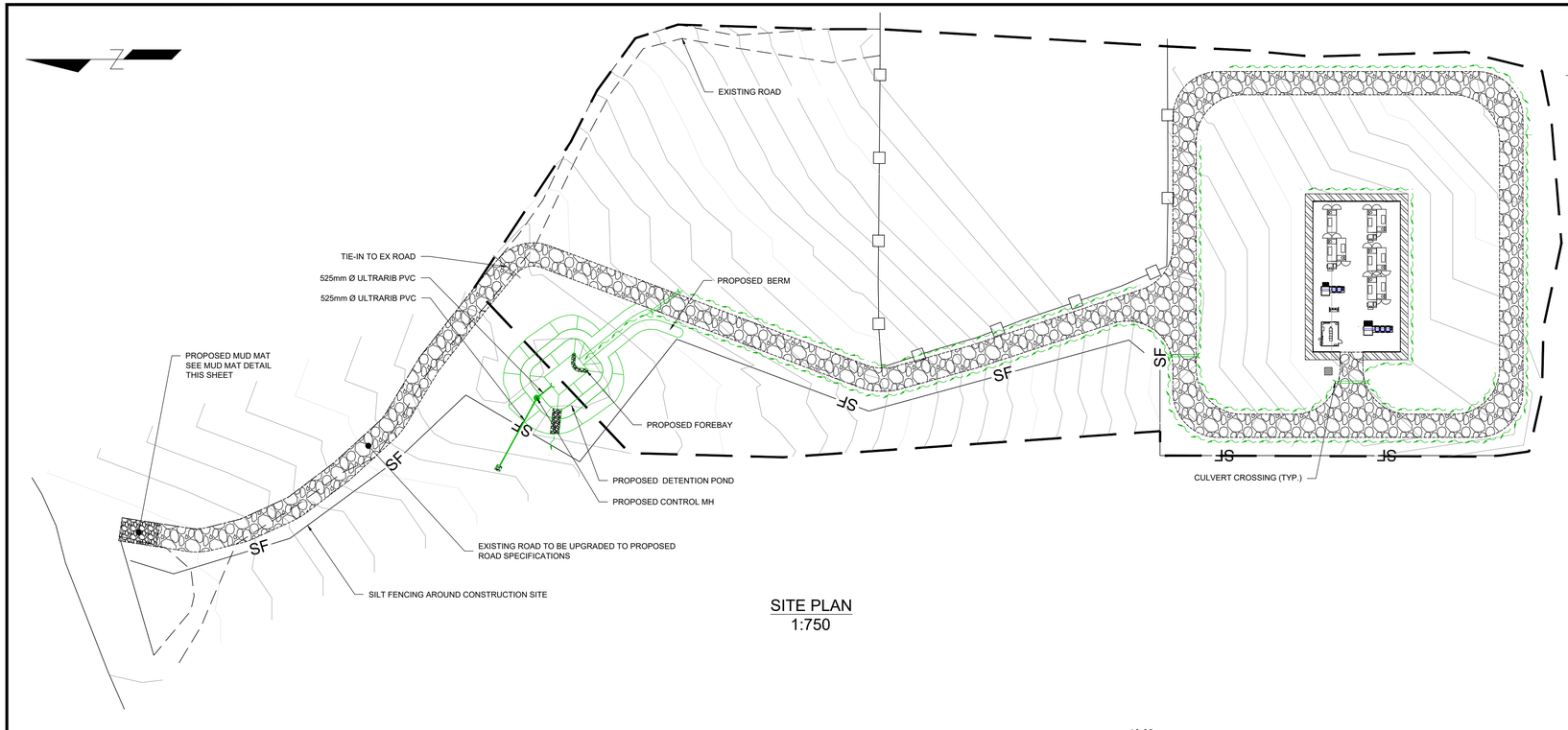
00	ISSUED FOR REVIEW	24-12-24

PROJECT NAME:
SOLARBANK
SITE 903 - BESS SITE
221 PEGGS MOUNTAIN RD

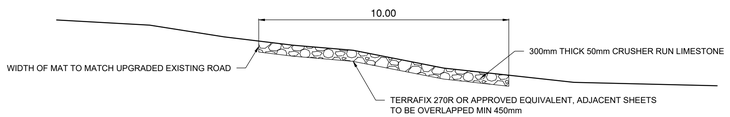
DRAWING NAME:
PROPOSED DRAINAGE
PLAN - POND DETAILS

PROJ. NO.:	DWG. BY:	CHKD. BY:	APPR. BY:
2500349	BC	TS	AY

DRAWING NUMBER: FIGURE 2



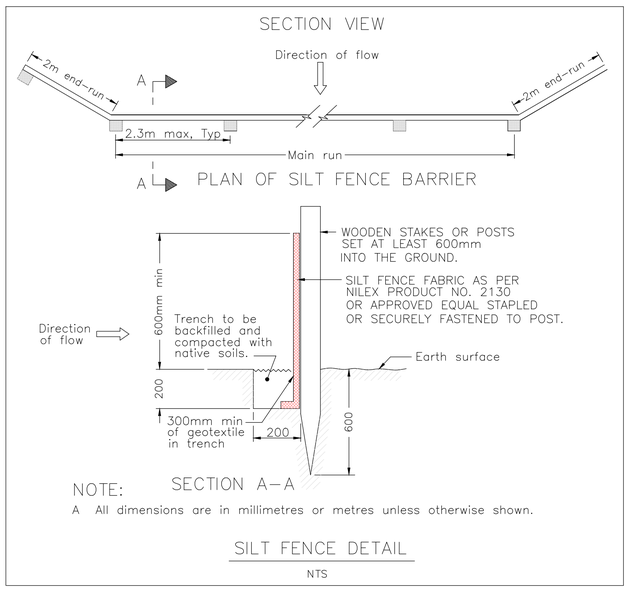
SITE PLAN
1:750



MUD MAT DETAIL
N.T.S.

LEGEND

- EXISTING FENCELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING EDGE OF GRAVEL
- PROPOSED SILT FENCE
- PROPOSED GRAVEL ACCESS ROAD
- PROPOSED GRAVEL ACCESS ROAD
- PROPOSED CRUSHED STONE (DESIGNED BY OTHERS)
- PROPOSED SWALE
- PROPOSED POWER SUPPLY PANEL
- PROPOSED E-HOUSE
- PROPOSED LARGE INVERTER
- PROPOSED BESS CONTAINER
- PROPOSED SMALL INVERTER
- PROPOSED PAD MOUNTED UTILITY AUXILIARY TRANSFORMER (DESIGNED BY OTHERS)



SILT FENCE DETAIL
NTS

EROSION AND SEDIMENT CONTROL PLAN GENERAL NOTES:

1. EROSION AND SEDIMENT CONTROL DRAWINGS ARE PROVIDED FOR REFERENCE ONLY. THEY MAY NOT INCLUDE ALL THE MEASURES REQUIRED. THE CONTRACTOR(S) SHALL COMPLY WITH ALL REGULATORY AUTHORITIES, MINISTRY OF THE ENVIRONMENT, DEPARTMENT OF FISHERIES AND OCEANS CANADA IN THE PROTECTION OF FISH AND RECEIVING WATERBODIES DURING THE CONSTRUCTION OF THE WORKS AND SHALL BE RESPONSIBLE FOR ALL COSTS IN COMPLYING WITH THESE REQUIREMENTS.
2. PRIOR TO, AND DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ADEQUATE STEPS, INCLUDING BUT NOT LIMITED TO: DIVERTING FLOWS FROM EXPOSED AREAS, PROVIDING CHECK DAMS AND CHANNEL PROTECTION IN TEMPORARY AND PERMANENT ON SITE DRAINAGE COURSES, INSTALLATION OF SEDIMENT FENCES AROUND THE DEVELOPMENT PERIMETER AS SHOWN AND SOIL STOCKPILES, INSTALLATION OF FILTER OR COMPOST TUBES AROUND THE PERIMETER OF ALL CATCH BASINS, STABILIZED CONSTRUCTION ENTRANCES, POLY SHEETING, HYDRO SEEDING, STRAWING, DITCHING AND ANY OTHER MEASURES AS MAY BE NECESSARY TO PREVENT SEDIMENT AND OTHER DELETERIOUS MATERIALS FROM THE WORKS ENTERING THE STORM SEWER SYSTEM AND RECEIVING WATER COURSE.
3. ALL WORK TO BE UNDERTAKEN AND COMPLETED BY THE CONTRACTOR IN SUCH A MANNER AS TO PREVENT THE RELEASE OF TURBID AND SEDIMENT LADEN WATER INTO ANY WATER COURSE AND STORM SEWER. THE QUALITY CRITERIA FOR THE SITE IS THAT ALL RUNOFF GENERATED FROM THE SITE IS TO CONTAIN LESS THAN 75mg/L TSS AFTER SIGNIFICANT RAINFALL EVENTS. TURBIDITY TO BE 25 NTU'S OR LESS DURING NORMAL WEATHER CONDITIONS (LESS THAN 25mm OF RAIN IN A 24 HOUR PERIOD).
4. ALL SEDIMENT CONTROLS FACILITIES TO REMAIN IN PLACE UNTIL 90% OF ON-SITE CONSTRUCTION IS COMPLETE.
5. DURING CONSTRUCTION AND ONCE ALL CIVIL SITE WORKS ARE COMPLETE, THE DEVELOPER IS RESPONSIBLE FOR ENSURING THAT SEDIMENT CONTROL FACILITIES ARE MAINTAINED AND WORKING ADEQUATELY TO CONTROL ALL DISCHARGES FROM THE SITE.
6. ANY IRREGULARITIES BE SHALL BE REPORTED TO THE ENGINEER OF RECORD IMMEDIATELY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING PAVED ROAD SURFACES ARE KEPT CLEAN OF ANY ACCUMULATIONS OF SOIL UNTIL COMPLETION OF ALL CIVIL WORKS FOLLOWING WHICH IT WILL BECOME THE DEVELOPERS RESPONSIBILITY. FLUSHING IS PROHIBITED. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR DUST CONTROL.
8. DURING CONSTRUCTION, THE CONTRACTOR MAY NEED TO EMPLOY ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, INTERCEPTOR DITCHES, SILT FENCES, ROCK CHECK DAMS, ETC TO PREVENT THE RELEASE OF SEDIMENT LADEN WATER TO THE EXISTING WATERCOURSES. THE CONTRACTOR SHALL HAVE AN EMERGENCY SUPPLY OF EROSION CONTROL MEASURES ON SITE AT ALL TIMES.
9. ALL WORK IN AND AROUND THE EXISTING WATERCOURSES SHALL BE COMPLETED FOLLOWING SPRING FRESHET.

STAGE 1-CLEARING, GRUBBING, STRIPPING & GRADING

1. CONTRACTOR TO INSTALL SILT FENCE AT LOCATIONS AS SHOWN ON THIS DRAWING.
2. CONTRACTOR TO INSTALL GRAVEL SITE ACCESS PAD AT SITE ENTRANCE. ALL VEHICLES TO ENTER AND EXIT THE SITE VIA THE GRAVEL ACCESS PAD. THE ACCESS PAD SHALL BE CONSTRUCTED WITH 150mm-, CLEAN, WELL GRADED RIP RAP 300mm THICK ON NON-WOVEN FILTER FABRIC.
3. CONTRACTOR TO PROVIDE MECHANICAL SWEEPING OF ROADS TO REMOVE ANY ACCUMULATIONS OF SEDIMENT AS A RESULT OF CONSTRUCTION ACTIVITIES. SUCH OPERATIONS TO BE CARRIED OUT ON A WEEKLY BASIS (MIN) OR AS DIRECTED BY THE ENGINEER OF RECORD OR HIS REPRESENTATIVE, PARTICULARLY IN ADVANCE OF INCLEMENT WEATHER CONDITIONS. NO FLUSHING ALLOWED.

STAGE 2-ROADWAY & FACILITY CONSTRUCTION

1. STOCKPILES OF EXCAVATED MATERIALS ARE TO BE PROTECTED WITH 6mm THICK POLYETHYLENE SHEETING (OR SIMILAR) AND SURROUNDED BY SILT FENCE TO MINIMIZE SOIL EROSION DUE TO RAINFALL EVENTS.
2. STOCKPILES OF EXCAVATED MATERIAL TO BE PROTECTED WITH 6 MIL POLYETHYLENE SHEETING (OR SIMILAR) AND SURROUNDED BY SILT FENCE TO MINIMIZE SOIL EROSION DUE TO RAINFALL EVENTS.

STAGE 3-DECOMMISSIONING

1. DECOMMISSIONING OF ALL SEDIMENT CONTROL FACILITIES: ON COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND 90% LANDSCAPING, THE CHECK DAMS, SILT TRAPS ON THE CATCHBASINS AND DITCH INLETS CAN BE REMOVED. THE BALANCE OF SILT FENCE SHALL ALSO BE REMOVED.

PRI ENGINEERING
205 ST.GEORGE STREET, SUIT 2
LINDSAY ON K9V 5Z9
TEL:705-702-3921
www.priengineering.com

505 CONSUMERS ROAD SUITE 803
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REV NO.	ISSUANCE	DATE
01	ISSUED FOR REVIEW	26-02-26
00	ISSUED FOR REVIEW	24-12-24

PROJECT NAME:
SOLARBANK
SITE 903 - BESS SITE
221 PEGGS MOUNTAIN RD

DRAWING NAME:
PROPOSED EROSION AND SEDIMENT CONTROL PLAN

PROJ. NO.:	DWG. BY:	CHKD. BY:	APPR. BY:
2500349	BC	TS	AY

DRAWING NUMBER: FIGURE 3

PRI ENGINEERING

Appendix B

Technical Opinion on Transformer Oil Containment

RAVEN ENGINEERING INC.

6251 O'Neil St., Unit 2
Niagara Falls, ON
L2J 1M6
905-357-4413

Technical Opinion on Transformer Oil Containment

Project 903 - 4.99 MW BESS

PowerBank (SolarBank)

Rev 0

1.0 Summary

It is our opinion that secondary oil containment for the power transformers in the proposed 4.99 MW Battery Energy Storage Project 903 is not required.

2.0 Project Background

Traditional power transformers use mineral oil for insulation and cooling.

The proposed BESS includes two new 44kV/690V pad mount power transformers rated 2.0 MVA and 4.0 MVA to connect the inverters to the Hydro One 44kV feeder. These transformers use K-rated oil which is non-mineral, natural ester-based fluid like vegetable oil, and has a flash point above 300°C for fire safety. The oil is biodegradable and non-toxic. The 2.0 MVA transformer contains 2,580 L of oil and the 4.0 MVA transformer contains 3,370 L.

A 300kVA pad mount transformer will provide auxiliary power to the project. This transformer will be supplied and owned by Hydro One in accordance with their standards.

There is an existing 500kVA wood pole structure mounted three phase transformer bank connecting the existing 500kW Solar PV generator to the Hydro One 44kV feeder. The transformers are filled with standard transformer mineral oil.

The current design does not include secondary oil containment for any of the existing or proposed transformers.

3.0 Oil Containment

The transformer oil is contained within the transformer tank. The addition of a system to capture oil spills is referred to as secondary oil containment.

Secondary oil containment is used to capture unintentional oil spills so that the oil can be recovered before it reaches the natural environment. The traditional approach uses a concrete pit around the transformer, filled with 2" clear stone. The volume of the containment pit is adequate to hold all the transformer oil as well as several hours of heavy rainfall. A sump pump discharges gathered rainfall or snow melt. The sump pump controls include an oil/water detector to prevent discharging oil and an oil water separator can also be included depending on the complexity of the design.

DRAFT

An alternative approach uses an excavated pit lined with a special fabric that passes water but will not pass mineral oil. This provides a passive design with zero maintenance.

4.0 Requirements for Oil Containment

4.1. Legislation

There is currently no Canadian or Ontario legislation that requires oil containment for power transformers.

4.2. Industry Practice

Standard industry practice is to include oil containment for large power transformers. The definition of large is subjective but oil containment is not typical for transformers below 10 MVA.

Newer substations are more likely to have oil containment than older sites due to increased environmental awareness.

4.3. IEEE 980

The Institute of Electrical and Electronic Engineers is the pre-eminent source of standards and guidance for electrical engineering in North America. Their standard 980 “Draft Guide for Containment and Control of Oil Spills in Substations” provides technical guidance on the subject.

The standard includes the following commonly used criteria for deciding to install oil containment.

Table 1 – Common secondary oil containment evaluation criteria

Criteria
Volume of oil in individual device
Proximity to navigable waters
Total volume of oil in substation
Potential contamination of groundwater
Soil characteristics of the station
Location of substation (urban, rural, remote)
Emergency response time if a spill occurs
Failure probability of the equipment
Age of station or equipment

The standard does not provide recommendations on when to install secondary oil containment, it leaves that evaluation and decision up to the owner.

4.4. Pad Mount Transformers

Pad mount transformers are commonly used in utility distribution systems and can be seen on roadsides across the country. Pad mount transformers are supplied by buried underground cable and are used in underground distribution systems and where size requirements prevent the installation of pole mounted transformers.

Standard installation of pad mount transformers does not include secondary oil containment, even though the transformers are often located near storm drains.

Prepared by

Andrew Durward, P.Eng.