Review Memorandum

To: **Audie Arbo - Permitting and Compliance Manager**
Land Use Planning Commission
22 State House Station
Augusta, Maine 04333-0022

From: **Kendra J. Marass - Sebago Technics, Inc.**

Date: **May 1, 2025**

Subject: **LUPC Stormwater Review (Application #: RP 3313)**

Project: **Beaver Cove Access Road (STI # 250115)**
Burnt Jacket Road
Beaver Cove, ME
Map, Plan, and Lot # 001-001-A

Applicant: **Burnt Jacket Holdings I, LLC**
4 Blanchard Road, PO Box 85A
Cumberland, ME 04021

Dear Audie:

We have received and reviewed a response letter dated April 14, 2025, for the proposed access road located in Beaver Cove. The revisions were made to address comments from Sebago Technics, Inc. (STI) provided on March 4, 2025. In the initial comment response, STI noted that based on the description of the future development plans for the parcel it was unclear if the project would qualify for review under the phosphorus export standard of the Maine Department of Environmental Protection Phosphorus Control Manual (Volume II). STI recommended that additional phosphorus worksheets and clarification on the intended development for the parcel be provided. STI also provided general engineering and stormwater management comments related to the submitted roadway plans as a part of the project review. Below, you will find the original review comment in *italics* followed by the applicant's response in **bold** and STI's response in red:

- *STI Comment: The Applicant should provide Worksheet #3 and Worksheet #4 with the included phosphorus calculations.*

  SME Response: Worksheet #3 and Worksheet #4 are attached to this response as Attachment 1.

  STI Response: Acceptable.

- *STI Comment: If the final number of structures on the parcel is unknown, the applicant should consider adding the proposed cottage and future structures to the total phosphorus export calculations as this may be the only time to capture this potential treatment.*

SME Response: The subject Nonresidential Development Application is limited to the private driveway. The cottage received a building permit from the LUPC. Phosphorus treatment will be provided for future developments if required by the applicable LUPC permitting.

The proposed project and associated uses will not result in subdivision.

STI Response: Acceptable.

- *STI Comment: Plan Sheets C-201 and C-203 should be revised to show the design elements associated with the proposed turnaround locations such that they may be constructed in a way for use of the determined design emergency vehicle. Limits of disturbance including grading should also be shown and the erosion control devices extended to cover such limits.*

  SME Response: The proposed turnaround at Station 13+00 will be updated to show grading and additional erosion control. This turnaround is an access to a future land management use which will be constructed as part of the driveway project and can be used as a turnaround for emergency vehicles. Figure 1 and 2 are included in Attachment 2 and show the turnaround location, grading, erosion control and traffic movements of an E'One fire truck. The proposed turnaround located at Station 35+00 is an access to a future residential use. The final location of this access is still being evaluated because of conflicts between the access location and the driveway grading and stormwater measures. For the purpose of the driveway application, the end of the driveway can serve as a second turnaround location. Figure 3 is included in Attachment 2 and shows the traffic movements of an E'One fire truck turning around at the end of the driveway. The approximate access location at Station 35+00 is also shown on Figure 3 for reference. If these changes are acceptable to the reviewer, we will update the driveway plans accordingly.

  STI Response: This is acceptable, please provide revised plans.

- *STI Comment: Plan Sheet C-201 and C-203 should be revised to show the riprap ditch lined up with the swale indicated by the grading. On sheet C-203, the swale appears to diverge from the road around STA. 36+00 while maintaining a slope of 12%. The riprap ditch should extend through this section. Additionally, from station 39+00 to station 30+00 there is no planned relief culvert. It is recommended to follow the ditch relief culvert spacing and alignment standard outlined in LUPC Chapter 10.27 D. Roads and Water Crossings given the steep slope of the roadway.*

  SME Response: SME Response: The proposed driveway is in a fill section at Station 36+00. The intersection of the fill embankment with existing ground represents the bottom of the ditch. In areas of fill on the uphill side of the road North American Green (NAG) P-300 permanent erosion control matting will be installed on side-slopes. In areas of fill on the downhill side of the driveway, NAG S75 matting will be installed on side-slopes until vegetation is established. Additional callouts will be added to Drawings C-201 and C-203 accordingly. Drawing C-301 will be updated to show a detail for North American Green S75 matting.

  STI Response: Please see the attached markup showing the flow path of stormwater as the ditch is currently designed near STA 36+00. It is acceptable to use erosion control mesh on

the side slopes, however, channelized flow needs to outlet to a level spreader prior to being discharged to downstream areas. Please provide updated plans and a level spreader detail.

Proposed cross culverts are not spaced in accordance with LUPC Chapter 10.27D, Roads and Water Crossings, due to site constraints and design requirements, which are addressed as follows:

- **The cross culverts, catch basin inlet grates, and swales are sized to handle flows from the 100-year storm;**
- **The natural drainage sub catchments created by the property's topography direct runoff to predefined locations of the driveway. Cross culverts are proposed at each of those locations;**
- **Culverts are spaced to receive and disperse the total volume of runoff as evenly as possible along the driveway and to mitigate erosion; and**
- **Culvert inlets utilize a catch basin grate. Cross-culvert locations are coordinated with the retaining wall design to maintain enough cover on the downhill side to outlet the culverts.**

The reviewer's concern with cross culverts between Station 30+00 and 39+00 is understood and will be addressed with the addition of a 24-inch culvert at Station 33+00. The Riprap Inlet/Outlet Protection Detail on Drawing C-301 identifies the riprap diameter and the dimensions of the inlet and outlet aprons for each culvert diameter. The riprap diameter and apron dimensions are in accordance with MEDEP standards. Each culvert was sized to handle the 100-year storm event.

STI Response: The listed justifications are acceptable; please provide a written waiver for this standard.

The sizing of riprap in the swales was evaluated against MEDEP standards using flow velocity during the 25-year storm. Six-inch-diameter riprap is adequate for Stations 0+00 through 14+00. Eight-inch diameter riprap will be used from Station 14+00 to 18+25 and from Stations 26+13 to 29+84. From Station 18+29 to 22+31, 10-inch-diameter riprap will be used. Callouts will be added to the plan set to specify this.

STI Response: This is acceptable, please provide revised plans.

- *STI Comment: Plan sheets C-201 and C-203 should be revised to show additional erosion control measures such as slope blankets or mesh on the exposed side slopes being steeper than 3H:1V and not receiving riprap.*

SME Response: As mentioned in response #4, sideslopes will be stabilized with North American Green S75 matting or North American Green P-300 permanent erosion control matting. Callouts will be added to Drawings C-201 and C-203 and a detail added to Drawing C-301.

STI Response: This is acceptable, please provide revised plans.

- *STI Comment: Plan sheet C-203 Depicts the end of the access road at a grade of 11%. There should be a barrier installed at the end to prevent vehicles from driving off unless this is intended as a part of the land management practice. Similarly, erosion control measures*

should be extended past the end of the road to prevent erosion of the existing hillside in this area.

SME Response: A temporary concrete barrier will be installed to prevent vehicles from driving past the end of the road. Additional erosion control has also been added (see Response to comment 3 above)

STI Response: This is acceptable, please provide a detail for the temporary barrier with the revised plans.

- *STI Comment: The plan views on the plan and profile sheets should more clearly label the centerline horizontal curvature. In particular, the curves at the end of the road would seem to make it difficult for the selected design vehicle to maneuver.*

  SME Response: Line and curve labels will be added to the plan view on Drawings C-200 through C-203. As noted in response #3 above, an AutoTurn analysis was performed with an E'One fire truck and all curves are sized for safe traffic movements. See the figures included in Attachment 2.

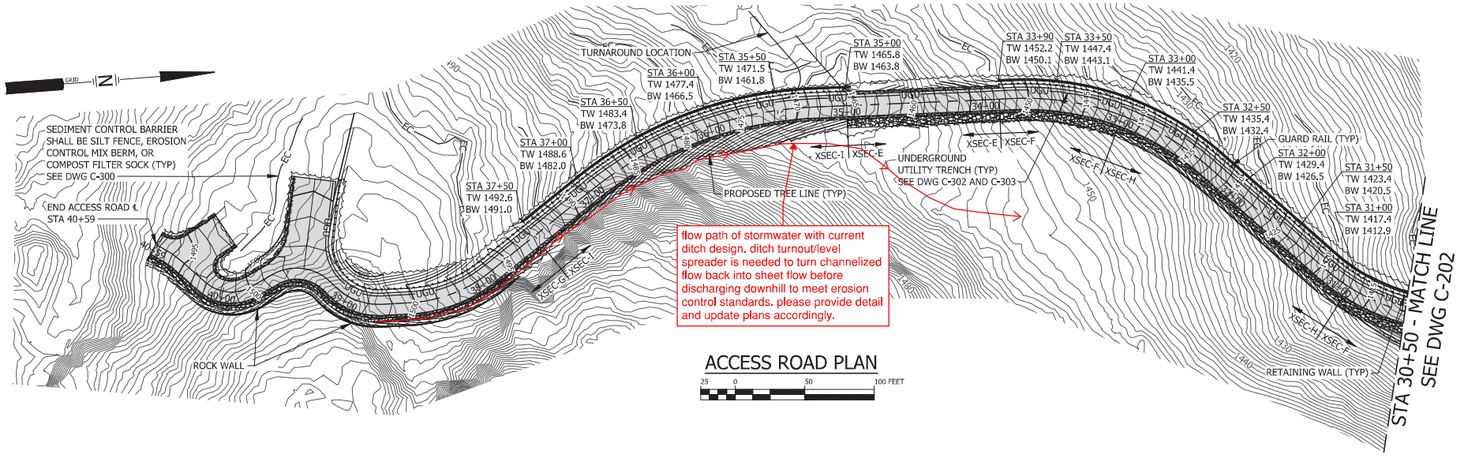
  STI Response: This is acceptable, please provide all revised plan sheets.

Our review of the project finds that, if the applicant provides a revised drawing set for final review with the additions mentioned above, the plans shall be satisfactory to the requirements of LUPC Chapter 10 and will follow MDEP Best Management Practices. We note that only the submitted response memo was reviewed and that final plans still need to be submitted.

These are recommendations for LUPC use, and not meant as final determinations but merely offer guidance. Final decisions, if appropriate, are left with the LUPC at their discretion.

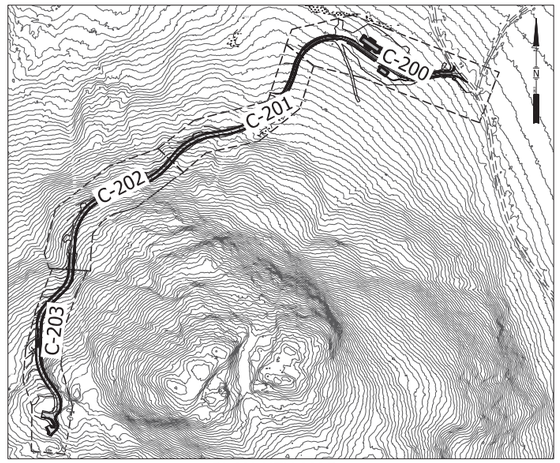
Respectfully Submitted,
SEBAGO TECHNICS, INC.

Kendra J. Marass
Project Manager

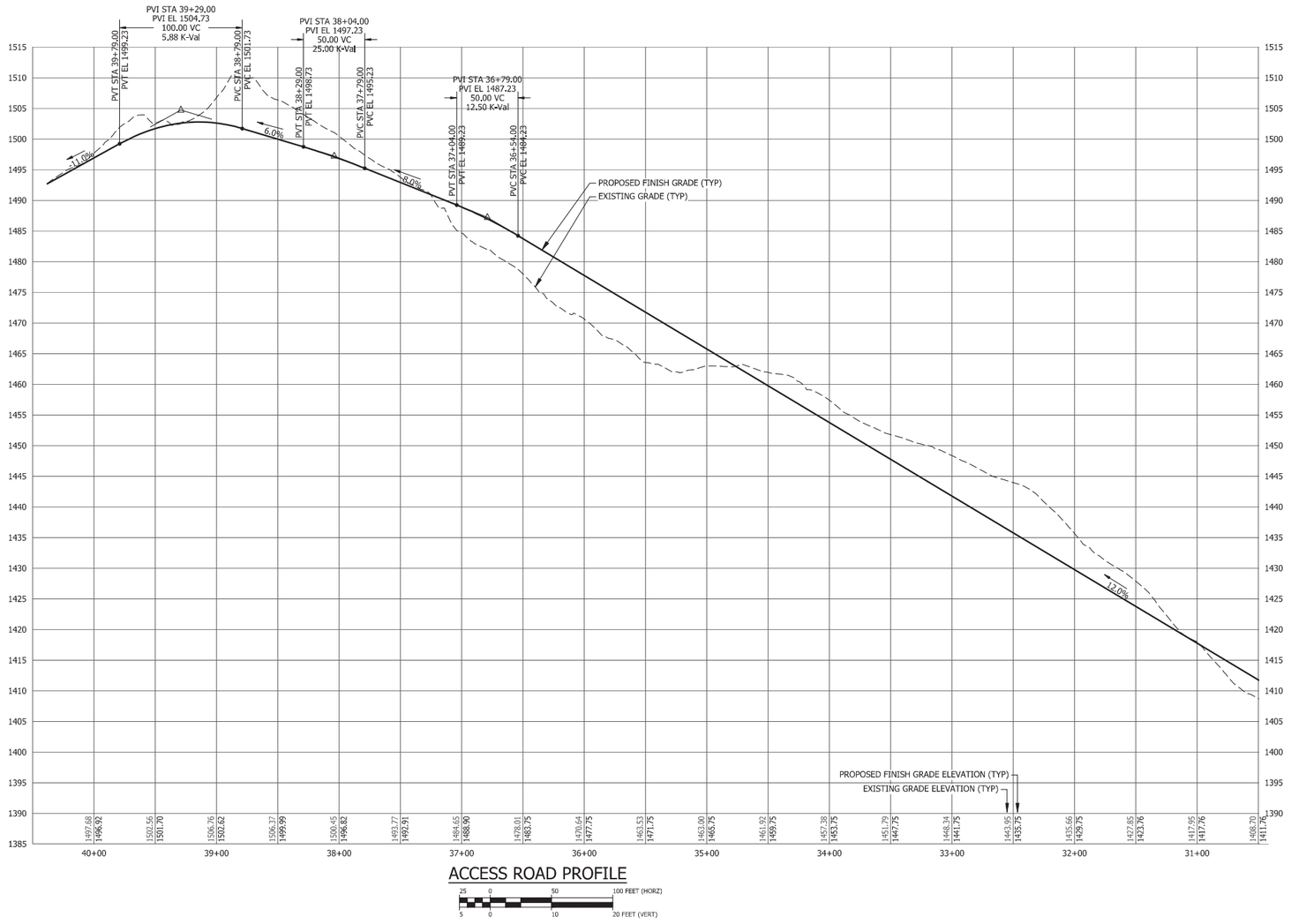


ACCESS ROAD PLAN

25 0 50 100 FEET



PLAN KEY MAP



ACCESS ROAD PROFILE

25 0 50 100 FEET (HORZ)
5 0 10 20 FEET (VERT)

ACCESS ROAD ℄ LINE AND CURVE TABLES

LINE	BEARING	DISTANCE
L10	S 32°52'38" W	117.64'
L11	S 03°18'04" W	35.59'
L12	S 34°25'38" E	103.72'
L13	S 01°27'15" W	19.94'
L14	S 25°28'30" E	17.83'
L15	S 45°43'03" W	23.86'
L16	S 34°11'14" W	9.99'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	PC	PT
C10	250.00'	126.18'	124.85'	S 18°25'05" W	28°55'07"	30+63.73	31+89.91
C11	475.00'	245.20'	242.48'	S 18°05'21" W	29°34'34"	33+07.54	35+52.74
C12	200.00'	94.46'	93.59'	S 10°13'47" E	27°03'42"	35+88.33	36+82.80
C13	100.00'	62.62'	61.61'	S 16°29'12" E	35°52'53"	38+23.75	38+86.38
C14	45.00'	39.76'	38.48'	S 26°46'02" W	50°37'35"	39+06.31	39+46.07
C15	35.00'	47.38'	43.84'	S 13°18'10" W	77°33'20"	39+46.07	39+93.45
C16	28.00'	34.79'	32.60'	S 10°07'17" W	71°11'33"	40+11.28	40+46.07
C17	57.00'	11.47'	11.45'	S 39°57'09" W	11°31'49"	40+69.93	40+81.40

NOTE:
1. SEE DRAWING C-100 FOR GENERAL SITE NOTES AND PLAN REFERENCES.

REV.	BY	DATE	STATUS
	DPD	1/2025	ISSUED TO LUPC FOR REVIEW

STATE OF MAINE DANIEL P. DIFFIN 11841 LICENSED PROFESSIONAL ENGINEER 2025

BURNT JACKET HOLDING I, LLC
ACCESS ROAD PROJECT
BEAVER COVE, MAINE

ACCESS ROAD PLAN AND PROFILE
SHEET 4 OF 4

SME
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DRAWN BY:	SJM
DATE:	1/2025
CHECKED BY:	DPD
LMN:	LMN
CTB:	SME-STD.CTB

JOB NO. 231136 DWG FILE BASE-PERMIT

C-203