STORMWATER MANAGEMENT REPORT

Glencoe Heights Subdivision

Off Jasper Lane
Arundel, ME 04046

March 1, 2024

PREPARED BY:

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A. Project Background:

The applicant is proposing to develop a 51.5-acre parcel of land into a residential subdivision. The property being developed is located partially in the R-3 zone and partially within the R-4 zone. The project will be accessed by an existing road, Jasper Lane. Jasper Lane will be widened to 20 feet and paved. The extended Jasper Lane will also be 20 feet wide and also paved.

B. Existing Site Conditions

The site is currently vacant. The terrain slopes gently downward in a westerly direction. The runoff from the project will flow towards Goff Mill Brook.

C. Wetlands and Streams

Wetlands were field delineated and located by Longview Partners, LLC. The wetlands show on the various plans produced for this project. Wetland impacts will be 1,930 s.f. The wetlands present on-site are designated as wooded wetlands and the project will impact less than 4,300 square feet. Therefor no NRPA wetlands alteration permit is required.

D. Soils

A soils map was generated from the web. A copy of the map has been included as part of the Stormwater narrative. Soils are also delineated on the Pre and Post Development drainage area maps. Hydrologic soils group information was incorporated into the drainage analysis.

E. Proposed Use

The project will create 13 new residential lots. The lots will range between 1 and 1.5 acres. A new paved road will be constructed. The proposed road will be about 900 feet long. As mentioned earlier, the existing roadway will be widened to 20 feet (paved). The existing gravel road is about 16 feet wide.

F. Stormwater

The site has been modeled through Hydrocad software. The town of Arundel requires post-developed runoff peak flows to be at or below pre-developed levels, for the 2-yr., 10-yr. and 25-yr. design storms. (2) analysis points were analyzed for any potential increases in post-developed peak flows. These analysis points are depicted on both the pre and post developed drainage area maps. The analysis points can also be found in the Hyrocad output report for comparison purposes. The model showed that the post developed peak flows for Analysis point #1 were at or below pre-devloped levels without the use of structural BMP's. Analysis point #2 required a detention pond to attenuate the increased post developed flow rates, to keep the rates at or below pre-developed levels. The following table shows both pre and post developed peak flows for both analysis points.

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Stormwater Model Summary
CFS (Cubic Feet per Second = Rate)
Value based on flow entering Analysis Point 1 (AP-1)

Analysis Point	2-Yr (Pre)	2-Yr (Post)	10-Yr (Pre)	10-Yr (Post)	25-Yr (Pre)	25-Yr (Post)
AP-1	37.1	37.0	76.7	69.8	114.5	90.1
AP-2	13.8	11.8	29.2	23.0	42.9	32.4

Calculations for the 2-, 10-, and 25-year Pre- and Post-Drainage are included in the attached stormwater reports.

Evaluation of Results

As evidenced by the data above, all flow rates stayed at or below pre-developed rates.

Conclusion

We believe that this project will not have any adverse impacts on abutters, down gradient systems or adjacent resources. Moreover, this plan includes all appropriate measures to prevent negative impacts and to keep post development flows and impacts to the resources at a minimum using land grading, reductions in allowable disturbed area, erosion control practices and land use. It is important to note that proper erosion control and re-vegetation of disturbed areas is essential for the proper operation of the stormwater facilities.

Sincerely yours,

Arthur Colvin, P.E., P.L.S.
Trillium Engineering Group