

lected at any time, after the necessary deductions for filtration and evaporation and the daily supply of the wants of the canal. A feeder of 840 yards in length, with a maximum cut of 34 feet would connect it with the Reservoir on the Patuxent. This would require a dam of 42 feet in height, giving a capacity of 2622312 cubic yards to contain its own drainage of 8542.08 acres, or the capacity might still further be increased by raising the dam, the ground being favorable, to such a height as to admit the drainage of the Cabin branch.— In either case the position of the dam would remain the same, and the feeder from this to the summit, passing over favorable ground, would be 1 mile and 1644 1-3 yards in length, entering the summit near its eastern extremity. To increase the small quantity of water there obtained, by the nearest secondary supply, the trunk of the canal on the Seneca river was traced only just so far above the bed of the stream, as to pass beyond the limits of a Reservoir placed at the first suitable point which could be found and passing this by, descending as rapidly as the ground would admit of, avoiding however contiguous locks, we diminished as much as possible the length of feeder, making the length of canal as traced from the centre of the tunnel in the ridge to the point at which it would receive this supply, 3 miles 1357 yards.

A dam of 30 feet in height erected on Darly's branch, at a point nearly upon the same level with that of the Reservoir just mentioned, would contain the available drainage of that stream; the two feeders would intersect at a short distance from the dams, and the drainage into the two, viz: that of an area of 7.5 acres would be brought into the canal at the same point.

A supposition was also made that, lest the quantity supplied by these two Reservoirs should prove insufficient to carry the canal down the Seneca until a further supply could be obtained, the first secondary water on this side should be drawn from the Seneca and Wild Cat Branch, by a dam erected at their intersection. This would increase the length of canal supplied by a summit water, 3 miles 1120 yards, making the distance from the centre of the tunnel to the point where this supply would be received, 6 miles 1255 yards. This forms one of the cases already presented to you and included in your report. The supplies from Darly's branch and the upper Seneca, are presumed however sufficient and we establish 3 miles and 135 yards as the length of summit on the Seneca side. We have already nearly exhausted for summit water the Cabin Branch and Patuxent above Etchison's Mill. The valley of the Patuxent, as before noticed, averaged for some miles below this point, less than two miles in breadth, being bounded on both sides by the unbroken ridges which separate it from the Cat-tail Branch on the East and Haulings River in the West, passing over the first two or three miles of its course where the drainage is too limited for our purposes, the first good locality for a reservoir occurs so low down the stream, that from the necessity of passing the canal above it, sup-