sing Grand Lake, the character of the country materially improves,—the rocks disappear and the soil becomes more favorable. This improvement continues until we reach Truro, where the country presents a wide area of rich soil adapted to the wants of the husbandman.

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The Windsor branch leaves the Main line in the midst of the barren track above referred to, and proceeding westerly somewhat in the range of the formation, does not emerge from it until within 7 or 8 miles of Windsor, where it meets the richer soil and cultivated country which lies along the southern shores of the Bay of Fundy and Basin of Mines.

These unfavorable features of the country, traversed on the first part of the line, have rendered it necessary to adopt gradients and curvatures of a somewhat objectionable character—although not more so than occurs on many other roads designed as general thoroughfares for trade and travel.

The maximum grade on the Main line in going north, occurs in ascending from Bedford station to Lily Lake, and is at the rate of 04_{10}^{*} feet per mile for 14 miles in length. In coming south, the maximum is 48 feet per mile, immediately on leaving Truro, and extends for a distance of 1 mile 41 chains. The maximum grade on the Windsor branch, going west, is 714 feet per mile for 19 chains near Long Lake ; and coming cast, 04_{10}^{*} feet per mile for 62 chains, about one mile west of the Big Bog Brook viaduct.

The minimum radius of curvature on the Main line is 792 feet, and on the Windsor branch, 1320 feet.

The aggregate amount of curvature on the Main line is 2536 degrees, or an average of 41 degrees per mile. On the Windsor branch the aggregate amount of curvature is 1635 degrees, or an average of 514 degrees per mile.

The whole amount of the ascents on the Main line in proceeding from Halifax to Truro is 605.4 feet, and the amount of the descents 558.3 feet. On the Windsor branch, the whole amount of the ascents is 461.9 feet, and of the descents 565.7 feet. Including the portion of the Main line between Halifax and the junction, the amount of the ascents from Halifax to Windsor is 631.4 feet, and the amount of the descents 619.6 feet.

The summit or highest point on the Main line is six miles from Truro, and is elevated 180_{10}^{4} feet above the level of tidewater. On the Windsor branch, the summit is at Mount Uniacke station, 13 miles from the junction, and is elevated 518.7 feet above tide.

The whole length of straight line on the Main road is 39 miles, and of curved line 22_{10}^4 miles. On the Windsor branch, there is of straight line 18_{10}^4 miles, and of curved line 131 miles.

Tables No. 1 and 2 in the Appendix exhibit the details relative to the grades, their length and inclination, the ascents and descents, and elevation above tide. Tables No. 3 and 4 exhibit the details relative to the curvatures, the length of the radius and of the curve on each portion of the road, with the amount of curvature in degrees; also, the length of straight and curved line, with the aggregates of each.

The width of the road bed is 22 feet in excavations, and from 16 to 18 feet on embankments, at the formation level, which is 18 inches below the base of the rail.

The side slopes of earth excavations, on the first $39\frac{1}{4}$ miles of the Main line and on the whole of the Windsor branch, were originally proposed to be one horizontal to one particular, but the experience of two winters having proved that this was insufficient, they have in many cases been reduced or flattened, so as to make them about one and a half horizontal to one perpendicular. On the remaining portion of the Main line, the work not having been let out until last Spring, the slopes were contracted for at $1\frac{1}{2}$ to 1.