



Snake Hill Reconstruction



Snake Hill was a difficult and dangerous stretch of Commissioners Road.

The Problem: Snake Hill is a stretch of Commissioners Road between Springbank Drive and Crestwood Drive. Before the reconstruction, it was a difficult and sometimes dangerous, yet very busy, stretch of road with an average traffic volume of 12,000 vehicles per day. Its twisting path quickly rose 35 meters as it headed east from Byron. Its slopes varied from 8% to more than 14% with serious blind spots at some of the corners. Citizens groups lobbied the City for years to make safety improvements.

The Challenge: The City of London Transportation Division asked AGM to come up with 3 alternate design solutions that would improve the geometrics of the road, normalize the slope and improve drivers' sightlines by eliminating blind spots.

The Catch: All of the engineering upgrades to the road had to be done within the existing boundaries of the road allowance and a strictly limited construction and engineering budget.

The Team: The AGM team consisted of Dan Wade, Project Manager, Steve Brown, Project Engineer and Jonathon Ngai, Inspector. During the project they drew on the services of other AGM staff

to assist in the design and construction.

The Suggested Solutions: Based on a topographic survey of the project area, AGM put together three designs that all provided variations on the following improvements:

1. Smooth out the rate of climb to an overall average of 10%. This would require up to 1.5 meters of fill in some sections of the road. All fill could be sourced within the construction area.
2. Re-align the road within the road allowance to improve the driveability of the corners. Add as much super-elevation (banking) as possible to improve driver safety in the corners.
3. Add paved shoulders outside the curb line to provide drivers with a safe place to pull off the road and also to provide snow storage for winter maintenance.
4. Use retaining walls to push the sides of the road cut back as far as possible within the existing road allowance in order to improve driver sight lines.
5. Improve the drainage. All drainage before the project was over the surface of the ground. The proposed solutions included a storm sewer with a catch basin at the top of the hill plus a series of catch basins along the curb line. The entire system would be tied into an existing storm sewer at Springbank drive. In addition, swales along the sides of the road would intercept drainage from outside the road allowance and direct the runoff into the storm drainage system.

The Project: Karl Grabowski and Kyle Chambers from the City of London Transportation Division collaborated with the AGM team to select the preferred features from the three proposed solutions. The AGM team compiled the final design.

Because of the tight work area, the decision was taken to close the road for the duration of the project for the safety of both the contractor's employees and drivers.

The contractor was responsible for site grading and laying out the new road to AGM specifications. The AGM team provided contract administration services including inspection of the work in progress and as completed.

The Result: The Snake Hill reconstruction was completed on time and within budget. All of the engineering restrictions were satisfied. Drainage is significantly improved. Many people have commented on the improved aesthetics.

And, most important of all - the road is significantly safer to use!



After the reconstruction the improvement is noticeable.

ARCHIBALD, GRAY & MCKAY

