

New homes for Canadian Rattlesnakes.

Case Record



Location Highway 69, near Parry Sound Ontario Canada.

Client The Ministry of Transportation.

Main Contractors Carillion Canada, Aecon & Alarie.

Carillion Canada has almost completed their contract to build a new 10km section of Highway 69 near Parry Sound in Ontario. Work on this \$30 million contract started in October 2000 with Carillion leading a joint venture with Aecon and Alarie, two other Canadian companies. Carillion's co-operation with local environmental agencies to protect an endangered snake population has paid off both financially and in enhancing our reputation as an environmentally aware company.

Construct a new 10km section of Highway 69 near Parry Sound, Ontario.

Environmental Initiatives

Biodiversity Maintenance Rattlesnake monitoring and habitat construction.

During the bidding process for the project and at early project meetings it was made clear that the new highway was passing through an environmentally sensitive area. This area is part of the Canadian Shield, which is a vast horseshoe shaped area around Hudson Bay covering eastern and central Canada. Typical Canadian Shield terrain is undulating land with small hills and with numerous lakes and bogs. Building a highway through this terrain involved blasting and moving nearly 1 million cubic metres of rock. The rock was then used to fill the bogs encountered on the highway alignment.

The major environmental issue was that the new highway cuts through one of the last known habitats of a protected species - The Eastern Massasauga Rattlesnake (*Sistrurus catenatus*). A workshop was set up early in the project and attended by all field and site office employees. Representatives from the Ontario Ministry of Natural Resources presented us a slide show which explained the problems with the shrinking of the snakes range because of disappearing habitat. The danger that the snake poses to humans and the procedure for identifying and catching a snake found within the construction zone were also highlighted. The Massasauga Rattlesnake is the only venomous snake in Ontario. Its bite can make you ill but is rarely deadly if treated promptly. As it is a protected species the Ministry wanted the opportunity to move any snakes found within the site to safer areas.

As the project progressed Carillion's Project Manager John Singleton and Superintendent Oliver Pederson kept in close contact with Ron Black, a ministry biologist. Mr Black became involved in the project in the early 90's, when the highway route was being planned. He and other biologists tried to find a route that would have the least impact on the snake, as well as other ways to minimise the highway's impact. A similar study was undertaken to protect the habitat of fish, birds and other wildlife when a new highway is built, but this is probably the first time it has been done for rattlesnakes.

Once the route was planned, Mr Black and his team assessed the entire habitat within 500 metres, to try identify where they might find snakes. They collected rattlesnakes and tagged them with tiny transponders so they could be identified if they were caught again. Some snakes were fitted with radio transmitters - a surgical procedure that was carried out by a vet - and monitored to find out where they breed, lay eggs, eat and spend the winter. A nest of snakes was found in an area where construction was about to start. The work was re-scheduled for 3 weeks. This allowed the young snakes time to develop enough to move. In fact, the mother and offspring moved off the highway right of way without encouragement.

To encourage relocated snakes to stay in their new homes the biologists proposed building artificial hibernation and gestation sites to try and recreate the conditions that snakes seem to require. The females spend a few months each summer in a fairly small area, with very specific habitat needs. The biologists believe they understand some of those needs - right down to the thickness of the rocks that help the snakes maintain their body temperature. A request was made for us to build artificial sites at various locations on either side of the highway. We undertook this at our own expense under the direction of the Ministry.

It's worth noting that through our excellent relationship with the Ministry of Natural Resources we were able to make some changes to the way that excavated bog material was handled. The Ministry of Transportation has also recently won an environmental award because of the success of the snake protection programme along the new highway route. Privately, they have told us that our efforts went a long way to helping them win the award.

On this project, co-operation between the construction team, environmental agencies and the client created an atmosphere where everyone benefited. The biggest winner though was the Eastern Massasauga Rattlesnake.