

# Backfill

## Hillside Elevators

Waterfront property never goes out of style, and everyone likes a spectacular building site perched on high ground. But put the two together, and you need a safe and convenient way to go back and forth between them.

For some homeowners, the solution is what's variously known as a hillside elevator, tram lift, or hillside lift — essentially a wheeled elevator that rides on rails. (It's also sometimes referred to as a "funicular," although technically that label is reserved for a two-track system in which the weight of a descending car is partially counterbalanced by another being drawn upward.) A handful of companies in North America install such systems, including Bracebridge, Ontario-based Inclined Elevation, which claims to have dozens of satisfied clients throughout eastern Canada.

Company owner John Weinstein — a former University of Mississippi professor of particle physics — reports that the most challenging system he has installed was over 200 feet long and inclined at a jaunty 57 degrees from the horizontal. Even steeper inclines are negotiable, he says — though, he adds, "we don't like to exceed 90 degrees." According to Weinstein, a basic lift with 100 feet of track installed within easy working distance of the company's base of operations costs about \$60,000, plus \$500 or so per year for maintenance and inspection.

That may seem like a lot, but owners of building sites that can benefit from these systems tend to have deep pockets. And the



The four-passenger car on this elevator overlooking Ontario's Muldrew Lake has been custom-finished with red cedar siding. To prevent it from blocking the view from the deck, a programmable controller sends it out of sight down the slope 15 minutes after it comes to a stop at the top station. Entering a use code on the post-mounted control panel (at right in photo) calls it back for another trip.

conventional alternative to a hillside elevator — a long, steep run of outdoor steps, perhaps the equivalent of 10 stories high — isn't exactly cheap either. Weinstein claims that stairs generally cost somewhere between a third and half as much as an elevator, and have a shorter service life. And, of course, stairs have another disadvantage: "If you have them," Weinstein points out, "you have to walk up and down them." — *Jon Vara*



The car moves along the rails at a stately 60 feet per minute. The rectangular structure just beneath it contains the gear-driven winch and 2-hp electric motor that controls the car's motion by means of a 5/16 aircraft cable.



Among the lift's safety features are an interlock gate system that prevents the car from moving unless closed and latched, and an automatic braking system that engages if the car speed exceeds normal limit or slack is detected in the cable.