Getting the Job Done Fast and Under Budget

MPE Engineering Moves Project Ahead for City of Lethbridge using *Softree Optimal*
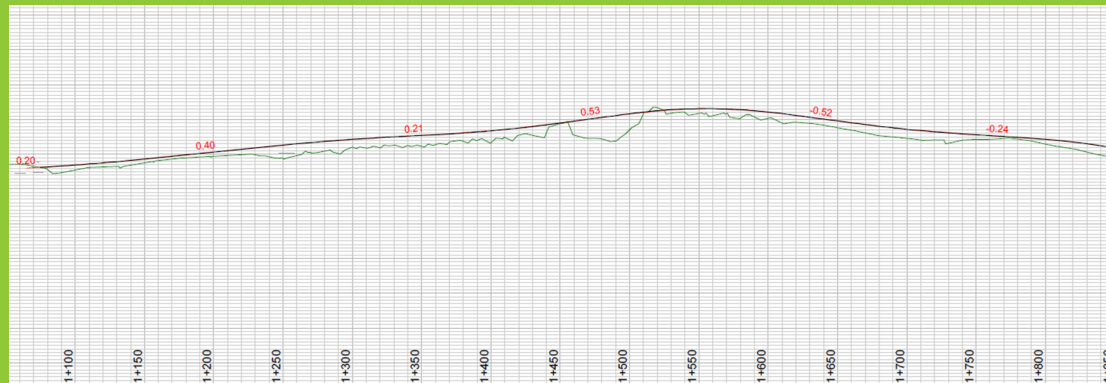
COMPANY:

MPE Engineering

LOCATION: City of Lethbridge, AB

SOFTWARE: Softree Optimal
RoadEng®
Civil 3D®
AutoCAD®

PROJECT: 43rd Street Paving

ABOUT OPTIMAL

Softree Optimal is the result of 5 years of mathematics research, conducted in conjunction with Softree Technical Systems and UBC. It uses the *average end area* technique to calculate volumes. By iterating an algorithm many, many times, the program is eventually able to zone in on the lowest-cost solution.

Integrated into RoadEng®, or stand-alone and compatible with your other design software, Softree Optimal can enhance your existing workflow. A direct interface is currently for Civil 3D® and 12D®.

THE RESULTS

80% REDUCTION IN PRELIMINARY DESIGN TIME

OVERCAME CHALLENGE OF LIMITED RIGHT-OF-WAY

ALL BIDS CAME IN UNDER BUDGET

DEVELOPED EFFICIENT WORKFLOW

SAVED PROJECT FROM BEING SHELVED

STRICT BUDGET & TIME LIMITATIONS

The project objective was to grade, base, and pave an existing gravel road: 0.8km on the south end and 2.2km on the north end.

The south end had very strict budget limitations. We also had to work with a very limited right-of-way and tight geometric confinement. On top of that there was political pressure to rush the construction schedule.

"REDUCED OUR PRELIMINARY DESIGN TIIME BY ABOUT 80%"

By using Softree Optimal, we were able to get the project designed on a very short timeline. I would estimate Softree Optimal probably reduced our preliminary design time by about 80% versus manually inputting and revising it.

The reduction in design time is always a bonus, but on this job it was the difference between meeting the deadline and budget, and building the road; or having the client shelf the project for another year.

A QUICK FEASIBILITY CHECK

Softree Optimal helped to fit the alignment into the limited right-of-way and quickly verified that we could meet the budget requirements.

It allowed us to almost instantly run a feasibility check between our horizontal constraints and our design criteria, and then in only a few hours we had the most cost effective design roughed out that also met our site-specific requirements.

The project was tendered, and the bids all came in under budget.

A SMOOTH WORKFLOW

Our workflow involves using RoadEng to model the site and create our first alignment, and then using Softree Optimal to pick the vertical alignment and highlight any opportunities to improve our initial alignment. Once finalized we export the design to our survey equipment, to the contractor for machine control, and to AutoCAD to create final drawings.

Softree