

The Track Guy



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NEWSLETTER

Some Bid Results

Weld Rail, Rochester, NY

1. Delta RR Construction 1,424,000
2. GW Peoples 2,093,000
3. Atlas RR Construction 2,294,697

Part of 2nd Ave. Subway, NYC

1. Skanska/Schiavone/Shea 337,025,000
2. Dragados/Judlau 497,777,000

115# Rail, Portland, OR

1. LB Foster 2,422,000
2. Progress Rail 2,428,000

3rd Loop, Mobile, AL

1. Railworks 3,610,000



Track Guy Consultants

We have moved. Please note the new address and phone number in the heading. It has been a very busy last quarter. We have been doing a number of custom built Training Programs all over the USA. We have also had the pleasure of speaking at a few annual sales meetings for manufacturers, this is always a lot of fun. The Transportation Research Board asked us to speak on 2 different venues this year. One was Training the next generation and another was Lessons Learned where Jon McGrath and I had a chance to express the Contractors side of the issues concerning contracts. Rarely are Contractors asked for their opinion so we took full advantage of the situation. We are grateful for the opportunity. Thanks Bill Moorehead and Tom Smithberger for the invitation.



We have also been working in Monterrey, Mexico offering assistance with the construction of a Light Rail System. It is a very nice project and we look forward to the challenges ahead. I am taking some very intense courses in Spanish called total immersion and have learned that foreign languages are very difficult for me, but persistence will prevail.

We Managed the production of 2 Safety DVD's for the NRC and had a great time doing that. We will be producing 2 new ones each year. These first 2 were Safety with Hand Tools and Safety with Power Tools. They are free to NRC members and not for sale. We are very proud of these first 2 and are confident that the rest will be just as good if not better. Trying to manage the left brain thinkers and right brain thinkers was the challenging part of this project. I learned a lot about myself as well.

Spotlight: Construction Forecast

This is where I get to speak my 2 cents.

The positive forecasts for Construction and in particular Railroad Track Construction are absolutely overwhelming. We heard at the last NRC conference that it is a true renaissance and not just a typical cycle of construction. Financial people, trend watchers, Politicians and Construction Executives seem to be all in agreement about the boom in construction. Back in November, Engineering News Record published some fascinating statistics. Performance and profitability went from 17% in 2005 to 24% in 2006. Average backlogs were up by \$13 million. Total revenues were up by 28%. When ENR asked the construction industry how they intend to improve profitability; 92% said "Do what we do best"; 65% said attention to Safety & Risk management; 59% said Training and 50% said IT. The #1 concern (85%) was the shortage of trained field help. #2 was health care costs (80%). #3 was price escalation (70%). #4 was shortage of trained project managers (68%). #5 was material shortages (54%). The size of some of these projects is unbelievable. In Lower Manhattan alone there are 29 projects worth \$21 billion that will be completed in the next 8 years. 1 million cubic yards of concrete and 223,000 tons of steel will go to the tip of Manhattan. You almost have to wonder if this will change the rotation of the Earth. The Rail industry is no different, with the expected largest track job since the transcontinental in 1867. The DM&E expects to spend \$6 billion to rehab 600 miles of track and build 300 miles of new track in 3-4 years. That's going to be 2,400,000 tons of ballast, 4,200,000 railroad ties, 650 turnouts and 105,000 tons of rail and all the OTM to go with it. The Capital improvement budgets of the Class 1's are in the billions. The Short Lines (over 500) are upgrading all over the country. Every major city has a land use plan that is mind boggling.



It is the best of times for well-managed firms as reported in ENR and I believe this to be absolutely true and would further add that it could be the absolutely worst of times for poorly-managed firms. The companies that properly manage their risk and in particular their bidding process will come out on top with outstanding profit margins over the next decade or more. It was also drilled in my head that execution was the secret to success. The projects are getting bigger and bigger and if they are not managed properly, then they will lose money or you just get to do one for free. That's no fun.

The future is bright and all the experts agree that the biggest growth in construction will be the Rail Industry. Building and Maintaining Track is risky business but the rewards are great so hang on for the ride of a lifetime.



Ask The Track Guy



This is where you, the reader get to ask questions about Railroad Track engineering, design, construction, maintenance or anything to do with Trackwork. Simply write or e-mail a question and we will answer in a timely manner. Some questions will be published here.

What affect does lining track have on the Neutral Temperature?

Absolutely it will affect the neutral temperature if done outside the working range. Working ranges will vary slightly between properties but typically they are between +10° to -40° of the Desired Neutral Temperature (DNT). We can also change the neutral temperature by lining a curve in or out. We have 2 formulas that are used to determine how much we change the DNT and whether we increase or decrease the risk of a track buckle or pull apart. The 1st formula we need is:

$$\Delta L = 6.3 \cdot TH \cdot (L \div 100) \div (360 \div D)$$

where

L = length of curve in feet

ΔL = change of length in inches

TH = throw in inches (- is inward, + is outward)

D = degree of curve

This gives us the amount the curve has changed in length. If you line the curve out then the change is positive and if you line it in then the change is negative AND if you line it in then you have increased the compressive force, if out then you have increased the tensile force. This immediately says change in Neutral Temperature. To determine how much we need this formula:

$$\Delta T = \Delta L \div (\alpha \cdot L)$$

where

α = 0.000078

ΔL = change in length from above in inches

ΔT = change in temperature

L = curve length in feet

So if I said that a tamper went out and lined a 1200' long, 6° curve inward 1.5" and the DNT is 90°. What is the new neutral temperature? (answer below) Extra credit question: How much internal force has been added if the rail section is 140RE? (hint, see winter 2006 newsletter.

What is your 2007 Training Schedule?

We have not finalized our 2007 tour yet but we are going to offer some addition seminars. We have chosen Chicago, Dallas and San Francisco as the cities to present in and may add one in the northeast if interest is there. We will offer 3 full days of learning in each city with Day 1 being our Trackwork 101 course, Day 2 being FRA Track Safety Standards and Inspecting Track and Day 3 getting into more advanced Construction and Maintenance of Track. This will start in October and end before Thanksgiving. Posted dates should be on our website shortly.

70° for new DNT (high risk of track buckle) and 54.670 pounds of force for extra question

What's happening with the DM&E Project?

It is amazing that this project is still going like the Duracell rabbit. Kevin Schieffer has persistence and a total committed drive for this project. I started following this project in my Slattery days about 9 years ago. It now seems to be on the home stretch. The clock has begun to tick. There must be a decision on the \$2.5b RIFF loan within 90-days according to rules. This rule was championed by Senator Don Young from Alaska. The red tape to acquire a loan from the \$35b fund was impossible to overcome before Don Young began to put pressure on the process. I sat in on a couple of Senate hearings and listened how politics works. The process is now more streamlined with deadlines. The Contractors are lining up to do the work and HDR is designing like crazy. The material suppliers are getting poised for a very fast track project and some are wondering how this will affect other projects in the country and can the material be manufactured in time for construction.

The Mayo Clinic has been a thorn in the side of the DM&E since the route was established. They have tried every tactic under the sun to stop this project. The Mayo Clinic employees 49,700 people with 36,000 in Minnesota of which 28,000 are in Rochester alone. They contribute \$4 billion to the states economy. They may have a little clout. Some Politicians have threatened to lay in front of the first unit train that goes by. The initial EIS generated over 4,000 questions. The latest EIS has been approved by the FRA with some minor remedial actions. The UP has now voiced some concerns that the additional unit trains that need to be interchanged in Chicago will create a total bottle-neck and slow everything down.

As far as the work goes: Bids have been received and the DM&E has chosen a joint venture to begin some preliminary work and negotiations with other contractors have begun. Everything should be ready once the RIFF loan is approved in 90-days (now 80). If the RIFF loan is not approved, then a scaled down version will be built. No details were given on that version. I would guess the scaled down version may not get the DM&E into the Powder River Basin but who knows?

