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Title: Aggregate Industries Utilizing GPS Technologies for Fine Grading

One of the largest paving jobs we signed up in 2010 was “The Shops at Route 20 and Route 9 in Northboro, MA” for Borggaard Construction. The project called for 180,000 square yards of fine grading and over 30,000 tons of hot mix asphalt paving. During the negotiations, Bob D’Amelio, the Project Manager from Borggaard, told me that in order to secure the project, the asphalt company he would choose must have the ability to fine grade using a GPS system on the grader. At that time, Aggregate Industries did not have this capability, but I asked Bob to give me a day to find out if we could add GPS to our equipment.

The second I got off the phone with Bob, I called my friend and customer, Sheamus Kelleher from Emerald Excavating in Plymouth, for advice. Over the past decade, Emerald Excavating has been on the cutting edge of similar GPS technologies. Sheamus and I started brainstorming and I remembered AI purchasing a GPS system for one of our pavers several years back. Then it occurred to me: Would it be possible to have the components moved from our paving machine to a grader? Sheamus was more than helpful and told me that if we made the investment, not only would he help to educate us, he even offered to take a ride up to the project at “The Shops” to get us going.

The next step was to get our Operations Department onboard. First, I went to Kevin Riley, who at the time was the Area Manager for Contracting, and Mike Little, our General Superintendent. They were both eager to lend a hand and confirmed that we did in fact still have all the computer components from the paving machine. Next, Kevin called Bill Lynch, our Maintenance Manager, and asked him to call Bunce Industries, the local GPS supplier, to find out how much it would cost to switch over the components that we already owned as well as what *new* equipment we would need to complete the conversion. The estimate came back at around \$14,000.00 to make the change. We were elated; a new system would cost upwards of \$50,000.00. The alteration was so affordable because we already owned the most expensive parts, the computers. The only thing missing now was the contract from Borggaard...

Without a moment to waste, I called Bob D’Amelio to confirm that we *could* provide the GPS service if we were awarded the contract. That afternoon, the area Salesman, Bruce Bailey, and I had a meeting with Bob at his office. Within an hour, we had landed the contract! On the car ride back from Borggaard’s office I made two calls. First, I called Bob Andersson to inform him of the contract award and ask permission for Bill Lynch to place the order with Bunce. Second, I called Sheamus to thank him for all of his help. The timing could not have been better; Sheamus had a small road that needed to be graded and said we could come down a day early to practice the new grading technique and get used to the look and feel of the new device. Sheamus gave me a critical piece of advice; the Grader Operator needed to be open-minded, talented, and smart. My response: “No problem. We have Danny Allen!” In

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all honesty, I didn't know Danny very well up until this point, but everything I had heard had convinced me that he was the man for the job.

A couple weeks had gone by, and the grader transformation was complete. It was time to test things out! Sheamus' road at the Great Island project in Plymouth was ready for the grader. As planned, Operations mobilized the equipment down to the project a day early for a training/practice run with Sheamus. Sheamus and Danny hit it off immediately. In Sheamus' words, "Danny is the perfect guy to learn and absorb this new technology". Sheamus spent the day working with Danny Allen and his ground-man, Danny Hadley. They learned how to upload the site drawings into the PCN, how to adjust the images to reflect what elevation you wish to install, and most importantly, they learned the "science" behind the technology.

Each GPS jobsite has a "base station" at a centralized location on the project. The base station is used to convey information to and from satellites. The GPS unit on the grader then communicates with the base station, and the information is transmitted to a monitor. The monitor displays your location on the project and the elevation of your blade. GPS can be used for excavation, bulldozing, installation of utilities, rough and fine grading and paving. A site contractor like Emerald and Borggaard can construct an entire site without setting one grade stake.

I took a ride down to Plymouth the day after Sheamus gave his lesson. It appeared as if Danny had been using the GPS system forever! In full PPE attire, I hopped on the machine to experience the new technology myself. It truly was incredible! Danny thought it was great to have the time to learn and said that Sheamus was an incredible teacher.

The rest is history! This year we graded and paved most of the binder at "The Shops" and have even been able to utilize the GPS system on running tracks and various other projects as well. All in all, this is a great illustration of industry colleagues helping one and other tackle a task and a great example of what we can accomplish when working as a team here at Aggregate Industries.

Thank you to all involved.

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