Q&A with Marty Paris P.E.

Marty Paris, P.E. is a Vice President at Kimley-Horn and Associates, Inc. in Dallas, Texas, and is a longtime member of NASTT who has presented and served as a Track Leader with the No Dig Conference on multiple occasions. Marty has more than 28 years of design experience with a focus on rehabilitation and trenchless methods, including pipe bursting, cured-in-place, sliplining, horizontal directional drilling, and microtunneling.

Kimley»Horn

What first inspired you to become interested in construction & engineering field, particularly underground construction?

My father was a plumber, and occasionally we would have a backhoe in our backyard. When I was about five years old, my dad made me an underground fort by excavating a trench a couple of feet deep and placing plywood over the top. The trench had turns and an opening at each end. It was a great place to hide when playing with friends. Not sure if this is what inspired me, but it is a great underground memory.

Outline your experience of first being introduced to trenchless technology methods and applications.

In the summer of 1993, I needed six more hours to complete my Bachelor of Science in Civil Engineering at the University of Texas, so I signed up for the only two summer electives available that would satisfy my degree requirements. Both were in geotechnical engineering, and one of them was focused on tunneling with Dr. Priscilla Nelson. At the time Dr. Nelson was consulting on the Superconducting Super Collider (SSC) project in Waxahachie, Texas. The SSC was a 14-foot diameter tunnel planned to be constructed in a ring with a circumference of 52 miles. Listening to Dr. Nelson talk about this project with great enthusiasm made an impression on me. Unfortunately, the SSC project was canceled by Congress in October 1993 after the completion of about 14 miles of tunnel. Ironically, the engineering firm that I joined was hired to help with the closure of the project, and I was assigned to go to Waxahachie to perform environmental site visits for about four weeks.
My first real experience with trenchless technology design came in the summer of 1994 on a project for Dallas Water Utilities (DWU). The Coombs Creek Wastewater Rehabilitation project included about 3,200 linear feet of small diameter wastewater mains in four residential locations. My supervisor at the time had just attended a NASTT conference, and he brought back literature on things like pipe bursting, cured-in-place lining, and fold-and-form linings. As I worked on the preliminary design reports for the wastewater mains, we realized that open cut replacement would be very disruptive to the neighborhoods and homeowners, so we began to evaluate the use of some of the trenchless technology methods. Approximately half of the wastewater mains ended up being rehabilitated or replaced using trenchless methods, and I was able to go out in the field and observe the installations. One particular 6-inch clay tile main ran between houses next to a swimming pool, large trees, a retaining wall, and power poles. I was amazed when I went out to observe the construction; the contractor was able to complete the installation within about four hours with only the entry pit excavation and a few hand excavations for the service laterals.

How did you first get involved with NASTT and what are some of the benefits?

I began attending NASTT conferences and trainings in the late 1990s and in the last few years have had the opportunity to speak at the No Dig Conference and volunteer as a moderator and track leader. NASTT is a great organization for technical education and resources. I have also been able to grow my network of trenchless professionals at NASTT events. On multiple occasions, I have reached out to colleagues that I met at No Dig to ask questions and seek advice on specific project challenges.

What are your thoughts on the current state of the trenchless industry? What areas do you see evolving in STEM education and post-secondary academics?

I have seen a lot of growth in the trenchless industry over the past 20 years, but I still see significant opportunity for growth.

There are still many areas in the U.S. where trenchless construction methods are underutilized due to lack of exposure and understanding. There is also a lot of growth opportunity related to technology advancements. Every year I discover new products or methods that are being developed to solve underground construction problems. A good example is the Direct Pipe Method, which combines horizontal directional drilling and microtunneling. I am looking forward to using this method in the future.

I am excited about the focus on STEM education that I have seen over the past several years, but one of the challenges is connecting the theoretical to the practical. Students want to see the impact their education can make on society, so it is important to connect the math and science to real-world applications all along the way. I have seen the impact that an internship makes in an engineering student's success at school and in their future career, so I think that more hands-on experience during academic education would be beneficial.

Is the trenchless industry generally doing a good job of attracting young professionals? What do you think can be done to better engage students and young professionals in the trenchless industry?

Just like my supervisor introduced me to trenchless technology my first year out of school, our young engineers need to be introduced to technical aspects and the industry through conferences and trainings. As our water/wastewater team in Dallas grows, we invite manufacturers and contractors to come to our office to talk about trenchless products and methods. We also schedule construction site visits to take our young engineers out in the field to see the products and methods in action.

Biggest challenges facing the trenchless industry today? Has acceptance and understanding of trenchless technology improved?

The biggest challenges I typically face are clients who have had a bad experience with a trenchless method or product. The bad experience can be due to poor design, poor implementation, or just the wrong application. It is important to remember that one size does not fit all in the trenchless industry. When a client has one bad experience, it is difficult to convince them to use that method or product again, even if it is the best and most cost-effective alternative. I believe that acceptance and understanding of trenchless technology has improved and more owners understand the significant benefits of reducing disruption and the time for construction, in most cases. However, continued education and promotion of best practices is critical to advancing the industry and its acceptance in areas that have not yet adopted trenchless technology.

What do you personally enjoy most about working in the trenchless technology field?

Over the past 28 years, I have had the privilege of working on numerous trenchless technology projects, and I have discovered that every project is unique in one way or another. I really enjoy the challenge of evaluating and designing rehabilitation or replacement projects and working with my colleagues and coworkers to provide a solution that is cost-effective and minimizes disruption to the public. Several years ago, I received a call from DWU about an emergency project in one of their parks. A 36-inch wastewater interceptor had major corrosion in the crown and needed to be replaced. However, the park had just completed the construction of three new softball fields right over the wastewater main. The next day, I met with DWU's emergency contractor on the site, and we were able to identify the project constraints. Within the next few weeks, we came up with a design that used pipe bursting, cured-in-place, and open cut in different areas to minimize disruption, minimize risk, and optimize cost. It was a fast-track collaboration that was constructed successfully—those are the kind of projects that I really enjoy.