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Coordinating Utilities: A Critical, Cost-saving Piece of the Road Construction Process

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What's wrong with this picture?!

Obviously, what you *don't* want is a road that runs right in the path of a utility pole, as pictured here. Yet, what would have been the most appropriate solution? Relocate the pole or redesign the road?

The goal of a well designed roadway construction project is to design and build a road that meets the community's needs *and* accommodates utility facilities in a sensible, cost-effective way. The problem pictured here could have been resolved if the roadway agency had hired a consultant to provide utility coordination services.

There's no getting around it – public utilities use and occupy public rights-of-way. When roads are designed and utility conflicts are discovered, the conflicts must be resolved. If they're not, they could lead to costly disruptions or delays.

From the roadway designer's perspective, the easiest answer is to relocate the utility. However, that may not be the most cost-effective solution. What's needed are full cooperation among all parties and a thoughtful and thorough analysis of each situation and condition to determine the most appropriate solution. The person who brings everyone to the negotiating table to make this happen is the utility coordinator. The utility coordinator serves as the liaison between the roadway agency/designer and the utility.

UTILITY COORDINATORS PLAY KEY ROLE

Utility coordination requires special talents. Utility coordinators are called upon to foster relationships, skillfully practice the art of negotiation, build consensus, and serve as the liaison between the designer and the utility owner, all the while taking into account everyone's needs, including those of the taxpayer and the utility consumer/ratepayer.

An integral part of the negotiation process is obtaining the most accurate utility information as early in the design phase as possible, so that appropriate decisions regarding redesigns or relocations can be made. Problems often arise because a designer typically may not incorporate the utilities into the plans until the 60% design stage. By this time, the most expedient solution to the conflict, from a design perspective, is to relocate the utility. Relocations are costly, however, and at this stage can cause project delays.

The first solution to the relocation vs. redesign issue, therefore, is to begin the coordination between the designer and the affected utilities much *earlier* in the design process. The Federal Highway Administration (FHWA) refers to this as the *three Cs* – early and frequent coordination, cooperation and communication for more timely and efficient relocation or redesign activities. In fact, the earlier the highway agency involves the utility companies in the process, the greater degree of cooperation, communication and coordination can be expected.

The second solution is to obtain the most *accurate* utility information as early as possible. Historically, utility information has been added to highway plans at the 60% design stage. Adding the information at the 30% design stage, or even sooner, would help identify potential conflicts.

SUE PROVIDES ACCURATE INFORMATION

One of the most important tools the utility coordinator possesses while negotiating and building consensus is information . . . specifically the exact location of underground utility lines. After all, to avoid the utilities in the roadway design, you need to know where the utilities are in the first place.

The most accurate method of obtaining this information is through the use of Subsurface Utility Engineering (SUE). SUE is a highly efficient, non-destructive engineering process that combines geophysics, surveying and civil engineering to provide accurate mapping of existing underground activities. SUE provides the necessary information to help the project owner, designer and utility company make informed decisions, whether those decisions involve redesigning the roadway or relocating the utility.

Nicholas Zembillas, TBE Group Senior Vice President, a national SUE expert, and a member of the American Society of Civil Engineers (ASCE) committee that developed the *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data*, stresses the importance of incorporating SUE early in the design process. “Employing the services of SUE consultants in the early development of highway projects gives state and local highway agencies and/or their design consultants the quality of subsurface utility information needed for highway plan design and development,” he says. “Resulting SUE data enable designers to prepare plans with thorough and comprehensive knowledge of the exact locations of underground utilities.”

When SUE is used early enough, conflicts are reduced and relocations can be avoided. In other words, if this accurate information is obtained early enough in the design phase, it may be possible to redesign the roadway in order to avoid the utility conflict.

According to Vinnie LaVallette, Senior Utility Coordinator for TBE Group, “We need to all sit down together, review the conflict, and determine the most cost-effective solution. Can the designer design around the utility? If so, then a redesign might be the most appropriate solution. If not, then we work with the utility company to relocate the conflicting utility. Utility coordination is really an art and requires a lot of ‘people’ skills and relationship-building.”

In the March/April issue of *Right of Way* magazine, Paul Scott, TBE Group’s National Utilities Liaison, outlined some of the FHWA’s design strategies that highway designers can incorporate to avoid utility relocations. These include changing the grade of the road; moving the alignment, ramps or storm drains; offsetting centerline location for short distances; widening only one side of the road; redesigning ditches; and installing barriers instead of moving utility poles. As he states in the article, “Every effort should be made to design around as many utilities as possible.”

When a design accommodation or redesign is not possible, then the utility coordinator, incorporating the three C’s, can work with the designer and the utility to ensure the utility relocation is agreed to and implemented as easily and cost effectively as possible.

TBE Group, a national SUE and utility coordination provider with offices in Georgia and more than 40 other states, has been providing SUE services to GDOT since their introduction in 1999. For more information on TBE’s SUE and utility coordination services, contact Randy Sanborn at 678-421-0080 or rsanborn@tbegroup.com, or visit http://www.tbegroup.com/.

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Notre Dame de Grace, Quebec: Some 300 people, including 60 children from a daycare centre, were forced to flee after a backhoe struck a gas main. The leak was under control in about an hour. To help avoid the possibility of ignition, power was shut off to some 3,200 homes and businesses. A Fire Department Spokesman said that the excavator had requested a locate and the line had been marked. 'They should have been using hand shovels, not a backhoe,' the spokesman said.
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