

## Better bidding for local road projects

Wisconsin statutes require local agencies to bid road improvement projects when they are using a private contractor and the cost exceeds \$15,000 (\$25,000 for counties). Projects using Local Road Improvement Funds (LRIP) must also be bid.

Over the years, local agencies have learned that using an organized approach to the bidding process can eliminate problems and provide the lowest cost and highest quality. However, it can be easy to leave out a crucial item, making a bid less useful when it comes in. It is important to include materials estimates and completion dates, to estimate traffic volume, and to clearly describe preparation.

The T.I.C. has prepared a set of sample bidding documents that can help by reminding you of the types of information needed. You must include your own specifics: miles of road, tons of gravel, asphalt, etc. To help you estimate, the T.I.C. materials include tables like the one shown here.

The unique aspects of each local road project must be clearly communicated to bidders. For example, if you want the project completed by a certain date, you must say so clearly. If there are local festivals or critical events that must not be interrupted by construction, you must make this clear.

Referencing the standard specifications from the Wisconsin DOT can be very helpful too. However, these often designate materials in several categories. For example, asphalt mixes are designed to handle the whole range of traffic volumes: low, medium and high. You should determine the projected traffic volume for the road



### Quantity of sealcoat in square yards per mile

Width of road	16 ft	18 ft	20 ft	22 ft	24 ft
Quantity (yd <sup>2</sup> )	9,387	10,560	11,733	12,907	14,080

*Example estimate:* Road is 6.7 miles long and 22 feet wide

*Project total:* 6.7 mi x 12,907 yd<sup>2</sup> per mi (22 ft width) = 86,477 yd<sup>2</sup>

Some contractors are willing to provide warranties for sealcoat and overlay projects. Wisconsin DOT has been using these for several years with good

under repair and specify which mix design is appropriate.

Another common area of confusion is the type and amount of preparation to be done before the contractor begins paving, overlaying or sealcoating. It is important to determine the amount of patching and preparation necessary, who is responsible for doing the work, and how it will be coordinated with the paving contractors.

### Plan ahead and save

Scheduling construction is also important. It can be to your advantage to take bids early in the year before contractors have a full load. Bids taken in February and March are likely to be to the advantage of the local agency. Early bid dates also make it possible to specify completion dates early in the summer when weather is most likely to be favorable.

results. You may wish to explore the advantages and costs of a warranty for your maintenance and improvement work for next construction season.

Coordinate early with local utilities to improve timing and avoid long delays. While the contractor notifies the utility immediately before construction, the local agency is responsible for giving longer advance notice. You will find that planning three to five years in advance jointly with utilities is mutually beneficial.

Cost-effective and efficient construction projects require planning, starting early, and coordination with utilities, land owners and the public. You and the traveling public will benefit from well-planned projects.

*To request sample bid documents, use the form on pg. 7, call 800/442-4615, or e-mail [tic@engr.wisc.edu](mailto:tic@engr.wisc.edu)*

# Quiz yourself

## What's the better deal?

Which of the two quotes below is a better deal for the town? Let's say you have solicited prices from asphalt paving contractors using this statement: "Reclaim and pave one mile of Valley Road with two inches of hot mix."



Two contractors submitted these prices:

Contractor A	Quantity	Price	Total
Pulverize	10,600 yd <sup>2</sup>	\$1.10/yd <sup>2</sup>	\$11,660
Pave	1,200 ton	\$25/ton	\$30,000
<b>Total</b>			<b>\$41,660</b>

  

Contractor B	Quantity	Price	Total
Pulverize	10,000 yd <sup>2</sup>	\$1.20/yd <sup>2</sup>	\$12,000
Pave	1,000 ton	\$28/ton	\$28,000
<b>Total</b>			<b>\$40,000</b>

**Answer** At first it appears that Contractor B offers the better deal to the town by \$1,660. However, the request did not specify estimated quantities for the job: square yards for reclaiming and tonnage for paving. So contractors estimated it themselves. Each gave different estimates.

Since the town will be paying for the actual square yards and actual tons (unit costs), Contractor A might be a better deal. But it all depends on the amount of material actually pulverized and the tons of asphalt actually put in place. To be more assured of the quantities, you have to do a little math.

**Square yards** First measure the exact length of the road segment. Is it 5,280 feet or perhaps 5,493 feet? How wide is it? 19 feet, 20 feet? One foot in width can make a big difference in the final cost. Multiply the length by the width to get square feet. Divide that number by 9 to get square yards. Be sure to also specify the depth of pulverizing in your request for proposals.

**Tons of asphalt mix** To figure the number of tons, use a chart. The T.I.C. sample bidding materials include one supplied by the Wisconsin Asphalt Pavement Association. Make sure you specify the finished thickness as "compacted in place."

Even if you do the math correctly, your estimates for total tonnage might be off. Do you expect the contractor to pave aprons to driveways and side roads, for example? Are there irregularities in the existing surface that need leveling? Those quantities can add up.

To protect yourself and insure that contractors are bidding on the same specification, use unit prices. Units and unit prices will prevail in the final analysis. Without them, if your estimated quantities are lower than what is needed to do the job, your final cost may be well over budget.

### Quantity of hot mix asphalt

Depth (in)	Tons per mile		
	18 ft	20 ft	22 ft
1.0	607 tons	675 tons	742 tons
1.5	911	1,012	1,113
2.0	1,214	1,349	1,484
2.5	1,518	1,687	1,855
3.0	1,822	2,024	2,226

*Unit weight of 115 pounds/square yard/inch*

*This example is adapted for Wisconsin prices and conditions from an article that appeared originally in the **Vermont Local Roads News**.*

## Help with finding an architect or engineer

Every year local governments spend millions of dollars to develop and maintain their facilities and infrastructure. Involving professional service providers, like engineers and architects, is often crucial to the quality, functionality, and costs of these projects.

Hiring professional service providers, and determining a fair value for their work, is very different from pricing bricks, mortar, asphalt, or concrete. You can pretty accurately describe commodities and get competitive price quotes. However, hiring professional services involves seeking solutions to problems that are more clearly defined or discovered as the process continues.

To help local officials select professional services based on qualifications, and to meet federal and state requirements, there is a process called Qualification Based

Selection, or QBS. This procedure helps eliminate guess work in selecting an engineer or architect, and tailors the process specifically to the owner's and project's needs.

QBS Wisconsin, a partnership between American Institute of Architects-Wisconsin and the Wisconsin Association of Consulting Engineers, has developed a variety of guides and forms. These tools can be very useful for owners who are accustomed to developing selection processes. Others who do not undertake projects often, and newly elected public officials, may benefit from working with a facilitator who can advise them.

"The QBS program involves working one on one with public owners to develop a process for selecting an engineering or architectural firm," says Christine Sloat, program facilitator.

The facilitator can educate owner representatives about the process, assist in developing selection criteria, support the owner in preparing proposals which include clear project statements, and train selection teams on interview techniques.

"QBS has several benefits," says Sloat. The process saves the owner time and money. Involving the engineer or architect early will improve project planning and prevent costly mistakes. Also, the process develops sound relationships between owners and professionals which can be a basis for tackling future projects.

*QBS Wisconsin is a public service. There is no charge to owners. For QBS Wisconsin materials, or to talk about an upcoming selection, please contact QBS Facilitator Christine Sloat, 608/524-1397 or e-mail wace@wace.org or aiaw@aiaw.org*