

# QUALITY MATTERS

from the Quality Assurance Branch (QAB) of Project Development



We're a resource for YOU. . .

THE DESIGN MANAGER

- Constructability Reviewers (with a combined 75 years' construction experience)
- Value Engineering Reviews
- Post Construction Reviews
- QAB staff can even help with your MS Project working days calculations
- Geospatial Lessons Learned Database

THE CONSTRUCTION MANAGER

- Your solutions can improve future projects
- Your input is sought for Value Engineering and Post Construction Reviews
- Geospatial Lessons Learned Database

## WATCH FOR THESE PLAN AND CONSTRUCTABILITY ISSUES:

- 1] Serious errors have occurred when sweeping plan changes (such as practical solutions or plan additions) are made late in final design. Drainage, guardrail, and mismatched structure design problems are just a few examples.
- 2] Existing roadway or structures often interfere with proposed structure excavation or roadway construction. Structure excavation and equipment room must be provided for. InRoads generated disturb limits can be misleading.
- 3] When part-width construction is needed, contract quantities and constructability warrant additional review. A well "balanced" project is still disproportionate in excavation and/or embankment if critical quantities are tied up due to maintenance of traffic. Temporary drainage can also be a problem for these projects.
- 4] Contract items related to full depth asphalt shoulders (typically used temporarily for traffic) are easily overlooked.
- 5] Some items often omitted or underestimated: Island Curb related to Type A Bridge Connector (STD DWG RBC 001-09), RS-2, and Seal Aggregate, and existing structure removal.

Coming soon as we keep finding ways to improve:

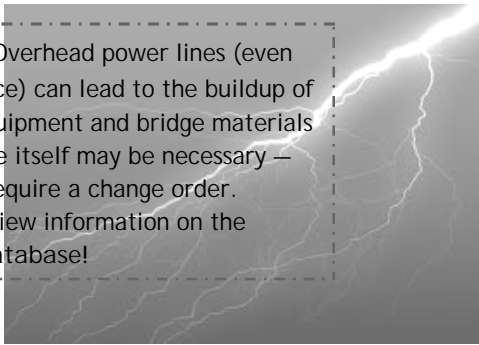
- More items to keep on your WATCH list
- Checklists for plan reviews

Find out more and get project specific input when you need it by contacting us.

Reach us: call (502) 564-3280  
email . . . . .or stop by the 5TH floor of TCOB

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**Post Construction Review FACT:** Overhead power lines (even those that are thought to be at a safe distance) can lead to the buildup of latent static charge, making construction equipment and bridge materials dangerous to handle. Grounding the bridge itself may be necessary — additional contract work that could require a change order. Check out other Post Construction Review information on the Lessons Learned Geodatabase!



## WHAT DO YOU THINK? Is Constructability a Phase I or Phase II Design Issue?

During preliminary design you may hear "Is this really an AVOIDANCE Alternate?" Determining the temporary construction impacts for an alignment alternate is very important at this stage. It's critical information for the decision of which alternate should be moved forward to final design. If an avoidance alternate might be prudent and

feasible, wouldn't you rather know it's constructable before you spend final design resources developing it?

To weigh in on this question, contact Rachel. She can give you many more examples of how constructability can aid design decision making (at each milestone.) Ask her how maintenance of traffic ideas can minimize Right of Way impacts.

## from Boday's desk: The Quality Assurance Branch, 18 Months Young

"Don't wait until something 'bad' happens; your ideas can help QAB improve the quality of plans NOW."

I'd like to think we've been around for years, but we're still the new kids on the block. In the 18 months since I've been at the helm, we've already:

- Revised the VE process, with updated policy including a VE Punch List
- Increased cross-divisional communication
- Unveiled the GIS Lessons Learned Geodatabase
- Performed and tracked constructability reviews

Now that we're fully staffed with coordinators for each program, we're working to:

- Put Lessons Learned on the web
- Measurably decrease Change Orders
- Provide timely, accessible and helpful information to design managers and consultants

- Bring construction perspectives to aid design decision making
- Track savings and common solutions from constructability reviews
- Find and try innovative ways of project delivery that will save costs and time

We want you to know we're here to help you! Call on us anytime you have a question or a solution. Don't wait until something "bad" happens; your ideas can help QAB improve the quality of plans NOW.

We'll be in touch!

Boday



## What IS the Difference Between a VE Study and a VECP?

A Value Engineering (VE) Study is an independent review of a project design while it is still in the design phase. A diverse VE team is assembled to learn about what has been done so far and then makes recommendations to the project team of ways that may improve the project or remove unnecessary costs. The project team decides whether to accept

the VE recommendations. VE studies are required when projects are on the National Highway System and a total project cost exceeds \$25 million.

A VECP (Value Engineering Change Proposal) is a way for a construction contractor to propose changes to the project plans or specs that would lower the life cycle cost to KYTC. If the VECP is approved by the Division

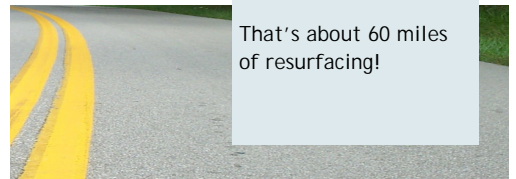
of Construction, the contractor and KYTC split the savings that are realized. Details of this process are in Section 111 of the KYTC Standard Specifications.

Although different, VE studies and VECPs are all about innovation, project improvement, and cost savings for the taxpayers of Kentucky!

### Did you know?

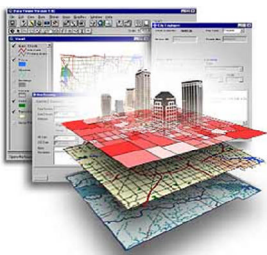
In 2010, there were 5 VE studies completed that contained 99 VE recommendations? One project is considering or has adopted 17 recommendations that could produce nearly \$6 million in savings!

That's about 60 miles of resurfacing!



analyzing patterns to emphasize important characteristics of the data.

Lessons Learned is currently accessible through ProjectWise and local Cabinet server N:\DESIGN\QAB Lessons Learned. The database has already been used for presenting relevant materials including customized maps and handouts to the Divisions of Construction and Structural Design. Similar materials are available upon request. As we continue to build upon our existing dataset, our goal is to assist the decision making process and offer solutions to common occurrences. If you have any additional comments or questions please feel free to contact me at [nathan.wilkinson@ky.gov](mailto:nathan.wilkinson@ky.gov).



## Quality Assurance's LESSONS LEARNED GIS DATABASE:

new ground  
among national  
quality programs

In addition to VE Studies, Constructability Reviews, VECPs, and Post-Construction Reviews, QAB is working to improve the quality of the Cabinet's roadway projects through our Lessons Learned Database. It's a fully functioning and rapidly expanding GIS database tool designed to help KYTC personnel share information and knowledge. We're working to create user friendly tools to share useful information.

The Lessons Learned Geodatabase currently houses data pertaining to approximately 80 VECPs, 70 Post-Construction Reviews, and 50 upcoming VE studies. Our database allows Cabinet personnel to view, filter, and search information in tabular format or by clicking a map. The GIS component allows users to view project information simply by zooming to different locations within the map. This spatial functionality also provides a handy tool for tracking and