

Quality Control/Quality Assurance (QC/QA)

Food for Thought

QC / QA is an engineering philosophy adopted by the the N.D. DOT 20 to 25 years ago. This philosophy basically places more responsibility for the construction of roads, streets, etc on the contractor. In other words, the contractor is given more responsibility for the Quality Control of a project by increasing his responsibility for sampling and testing of materials, and determining targets (within specifications) for a final product. This includes material sources, design of asphalt and concrete mixes, work schedules, informational meetings etc. These duties in the past were generally the responsibility of the engineer.

Now, the engineer is primarily concerned with the final product conforming to plans and specifications.(Quality Assurance) The engineer still has the authority to reject portions of a project that are non-conforming or do not meet specifications. This should be done ASAP when a contractor is still on the project so that the owner is protected from accepting an inferior product brought on by a memory lapse and various other reasons. It seems an independent third parties engineering opinion to protect the owner would be prudent.

This philosophy works well for the N.D. DOT since they are able to reduce staff on a project saving money, because of a reduced engineering work load, and the funding is generated primarily from vehicle gas tax, registration fees etc.

At the local level, engineering fees are generally a percentage of the contract cost which have, and I repeat, increased because of additional duties that have been passed on to the contractor, that at one time were the responsibility of the engineer. Much of this funding at the local level comes from assessments as we all know.

Contract costs are higher, engineering costs are based on a percentage of the contract costs , but engineering duties are reduced. Starting to make sense?

Should those engineering costs be reduced through competition and qualifications? Seems to be a reasonable conclusion. Different types of construction are more detailed and complicated requiring more engineering diligence. There are certain bid items in a construction contract which do not require any engineering expertise, such as mobilization, and should not contribute to the engineering fee.

Sources at the local District Office of the North Dakota D. O. T. have indicated that engineering for projects which receive State or Federal funding administered by the D.O.T. is selected based on qualifications and competitive bidding.

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Bob Werkhovven P.E. 1198 (Retired)