Mr. Owens and Gentlemen —

The subject of Contractor and Engineer Relations brings to mind a story that illustrates a little secret of our that I'll let you in on —

An old colored man was asked by his employer —

"Uncle Joe, how do you always manage to stay so cheerful and calm?"

“Well, I'll tell you,” said Uncle Joe.

"I've just learned to cooperate wid de inevitable."

In the Engineer-Contractor field, we have two extremes, both I am glad to say getting rarer each year —

On one hand — the engineer who thinks his job is to make life as miserable for the contractor as possible.

On the other — the contractor who believes it his divine right to get by with anything possible, the minute the engineer's back is turned.

Now I have a couple of stories to illustrate the two opposite poles just mentioned.

The first a dam builder (spelled D-A-M not D-A-M-N) who apparently was beset with this somewhat rare type of engineer, got the following off his chest —

"They're not engineers; they're a bunch of two-bit cops enforcing stupid regulations they don't even try to understand."

The second concerns one Joe Gilligan, a contractor noted for his ability to slap together in record time a whole block of snazzy looking houses —

One day his foreman called to report that when they removed the scaffolding from five new houses on “K” Street, they all collapsed in a heap. Gilligan hopped in his Cadillac, tore over to the building site and investigated. Calling his men and getting off a few choice invectives he said:—

"How often do I have to tell you nit-wits — never remove the scaffolding until you’ve put up the wallpaper."

And, I suppose you heard the one about the bridge builder who put the empty oil drums in the footings before placing the concrete.

The designers have taken care of this last one — they have put in so much steel, with thin sections and what not, there is trouble enough
getting the concrete where it belongs, without any other “filler” material that might be handy.

Getting back to our relations — that’s my subject, you know — The West Virginia Construction News not too long ago had this to say —

“A little over a score of years ago, contractors and engineers acted like a couple of strange bulldogs when they met — both having the same thought in mind, that to get along and see eye to eye, one or the other would have to give.”

Fortunately, that situation no longer exists, as our relations are more and more being founded on mutual understanding and confidence.

There is far more getting together to solve problems before hand and not letting things get to a point where somebody gets the skin knocked off their nose, figuratively speaking.

In this connection, I mention joint cooperative committees that have been formed:—


A.S.C.E.-A.G.C.

These groups help set the pattern for engineers and contractors to arrive at a better understanding of each other’s problems.

The two groups mentioned are at the national level but counterparts at the state level are now functioning in many instances.

Our association works closely with Highway Department Engineers. For instance, take the matter of specifications.

When a new specification is being written or an old one revised, the preliminary draft is usually submitted to us for any suggestions or comments we have to offer — this may be followed by a meeting for the purpose of threshing out points of disagreement.

Now, mind you, the Highway Department by no means does all the things we would like but we do have a common meeting ground for full and free discussion.

While on the subject of specifications, let me express myself on a situation that has too long existed where the interests of a most important person, THE OWNER and in this instance the road taxpayer, are too often neglected.

What I am driving at, is, that construction refinements, possibly desirable from an aesthetic standpoint but by no means worth the extra cost involved, are sometimes specified, when other less costly means could be used to accomplish the desired result.

Take for example bridges — it’s a good safe bet the designer knew how to get the last pound out of his steel and concrete but with contractors paying $2.40 an hour for carpenters and steel setters, that little
extra trim, or thin section, may be upping the cost of concrete far out
of proportion to any real or fancied advantage gained.

Surface finish of concrete is another —

Until a few years ago the Kentucky specifications required almost
100% of the exposed surface area to be rubbed.

Other than appearance alone, the rubbing does the concrete no
good and unless the rubbing is itself properly cured, does more harm
than good. In my opinion, if half the cost of rubbing was invested in
a little more care in forming and placing the concrete a more durable
finish at less cost would result.

In 1948 the highway department amended its specifications to per­
mit less rubbing but we are not entirely over this hump as some of the
engineers still require more handwork than appears necessary.

Final Dressing is an item that is undergoing a change with the
times — similar to rubbing concrete, it was, until a few years ago, an
operation involving considerable handwork to meet exacting require­
ments for line and grade, and remember that hand labor runs into
money.

Most of this hand work was wasted for what actually happened was
this — came the contractor and his force with “string-line” and “razor-
blade”, trimmed a bit here, filled a spot there until the shoulder lines
looked like a straight-edge — the engineer came, saw, and was satisfied
— the job was accepted and all was lovely — at a price. Now, after a
few days, or make it a day, if the job has been taken over by the state,
the rains came and the floods descended and all those beautiful slope
and shoulder lines — like so much plowed ground, then in due time the
maintenance forces come along with a road machine and reshape the
slopes, just as it should have been done in the first place, and at less
cost.

No, don't get me wrong — I do not mention the examples as an ad­
vocate of any breakdown of specifications, they are cited only, because
in each, fully as good a finished product is obtained at less cost by a
more realistic and common-sense writing of specifications.

I do not think there is going to be any revolution in our present
specifications but there are other savings that may be effected without
sacrifice in quality.

Let me re-emphasize that in the last two items mentioned, the State
Highway Department has taken steps by revising its specifications to
enable the work to be done for less cost.

The rural secondary road building program is another excellent
example of the very fine relations that exist between contractor and
engineer in Kentucky.
When work was ready to be started under this program the department asked that a committee of contractors meet with its engineers to work out a means for getting this work going quickly with a minimum of survey and plan work, it seemed to me they almost wanted it started "yesterday"—anyway, we met and went along on the per mile bidding on earthwork with nothing more than a center-line profile for use in estimating yardage—I guess now you begin to get what I meant by that "cooperating wid de inevitable" story—

Certainly we had misgivings, plenty of them, and I had visions of contractors shirts all over the Kentucky landscape but the cooperation worked and within a year some cross-sections were being taken that gave a better idea as to the yardage; now a survey for a RS project includes complete cross sections, with distribution, that enable a contractor to make a more reasonable estimate of the work involved.

This brings me to the subject of "Classification", that is, of the total yardage estimated, how much is rock? Perhaps I should have left that one alone as I'm not too well satisfied with our relations in respect to this.

On second thought, except for a little bitty suggestion, I am going to leave it—how about making a rough classification on a few selected jobs after they are built and comparing it with the rock estimated made for estimating purposes on the original plan.

Another point for the improving of our relations is that of uniformity in the interpretation of specifications.

It is no secret that some contractors add more for contingencies in certain sections of the States than others—a few contractors tell me they won't work in such and such a section. There is definite room for improvement along this line.

Incomplete plan and survey data brings up a lot of problems that have to be ironed out on construction.

It is my thought that the design boys need to be more familiar with field construction methods and costs; the department should provide means whereby men who draw plans, write specifications and prepare estimates, get into the field occasionally to see first-hand operations there.

You construction assistants—is it unreasonable to suggest that every now and then you take a draftsman or a squad leader along with you on an inspection trip—show him some of the problems you run up against, some that might easily be avoided if plans and plan notes were clear and definite.

Our relations can and should be based upon mutual understanding, respect and confidence—both sides are human with "knowhow" and honesty on each side of the fence.
We are not two rivals trying to get the best of each other but a partnership whose main objective is to provide better highways at as economical a cost as possible, consistent with sound engineering principles.

To this end, I am of the opinion that more frequent meetings should be held between engineers and contractors to exchange ideas that will serve to solve many questions before they become problems.

As a parting thought to you engineers — keep your relations good with your fellow engineers — some day you might be a contractor.