

A Frank Talk
about
Building Practices*

BY
JOHN H. WICKERSHAM
M. AM.S.C.E. – M.A.S.M.E.
Engineer & Contractor
LANCASTER, PA

* *REPRINT OF ARTICLE WRITTEN BY CORNEL JOHN WICKERSHAM
COPYRIGHT 1931*

The customer usually is unfamiliar with engineering or construction, and this lack of knowledge naturally breeds suspicion.

A FRANK TALK ABOUT BUILDING PRACTICES

As few people have occasion to employ a building contractor on a large scale operation more than once or twice in the course of their business lifetime, it naturally follows that the average business man is comparatively uninformed on the legal, financial and ethical practices of the industry. The customer usually is unfamiliar with engineering or construction, and this lack of knowledge naturally breeds suspicion. He depends upon an iron-clad specification, enforced by a rigid inspection, and a surety bond to protect him against the failure of the contractor, whether that failure is due to incompetence, financial embarrassment, or any other cause.

A frank discussion of building practices, agreements and finances, brief and in language that can be grasped by business men, will be of service.

The technical training and experience, and financial responsibility of each bidder must be considered just as carefully as the bids themselves.

Bids and Contracts

For many years it has been the custom to ask for bids on a proposed job from a number of contractors. It is of course assumed that all bids will be for an equal quantity and quality of work, which have been carefully, completely and accurately set down in the original plans and specifications. In the old days when the methods of construction were simple, and the

materials of construction limited this was not difficult. But with the increasing variety of available materials, with the process in engineering methods, and the numerous types of construction now available, the problem of preparing iron-clad plans and specifications on which contractors can “bid” equitably, fairly and honestly becomes increasingly difficult. Years ago it became necessary for a technically trained man to prepare the plans and specifications. And today the best prepared plans and specifications rarely cover a job completely.

Due to the many methods and materials available few intelligent contractors (except on “government” work where bids must be absolute) will submit an estimate on a big job without also suggesting alternate plans which they believe will be more satisfactory or more economical. It is not fair to assume that this is always done to “get the order” or to eliminate competition. Any contractor who has been in business successfully for a long period of years has acquired a valuable experience. The sum total of this experience has led him to favor certain methods and procedure-possibly even certain types of construction. In other words there may be more than one “approved solution” of that particular building problem.

Therefore in considering competitive bids on any job it is important that the customer weigh carefully the proposals of each bidder, and ever more important that these proposals be weighed with an eye to the ability of each contractor. The technical training and experience, and financial responsibility of each bidder must be considered just as carefully as the bids themselves.

These Factors are becoming increasingly important and are tending to eliminate more and more the giving of large contracts on a purely competitive bid basis.

-it is evident that architectural work should be undertaken by an architect and engineering work by an engineer, to secure the best results most economically.

Relationships of Architect and Engineer

The highly technical nature of modern construction has forced the business man who contemplates building to seek professional advice. Since he can rarely prepare the plans and specifications for any building himself he must employ some person of ability and integrity to prepare them for him. In the case of a structure which has architectural importance this man is usually, and quite rightly, and architect. The architect is then held responsible for the securing of the bids, and for seeing that the work is carried out in accordance with the specifications. In exchange for this service the architect collects a fee, which is a fixed percentage of the cost of the structure.

In many cases, where the architecture is of less importance than the engineering and construction features of the work, the planning can be done far better by an engineer than by an architect. In such cases the architect's fee is unnecessary, for a competent engineer can protect the customer's interests in these cases more effectually than an architect.

In brief, it is evident that architectural work should be undertaken by an architect and engineering work by an engineer, to secure the best results most economically.

Guaranteeing Cost and Performance

In some cases this engineer is also the "contractor" who builds the job. Under these circumstances he prepares plans, recommends the type of building, secures bids on sub-contracts and erects the building being himself entirely responsible for its proper completion. He usually works under a "guarantee of cost and performance". That is, he not only guarantees the proper erection of the structure but sets a figure beyond which the cost of the building will not run.

The customer is placed at the mercy of the contractor, who too frequently does not neglect the opportunity to make an extra, and sometimes an excessive profit.

One of the chief advantages of this arrangement between the engineering contractor and the customer is the ease with which minor changes can be made in the specifications as the job progresses. On the competitive bid basis any changes after the contract had been let were outside of the contract and gave the contractor an opportunity to surcharge. The customer is placed at the mercy of the contractor, who too frequently does not neglect the opportunity to make an extra, and sometimes an excessive, profit. In fact, some contractors frequently bid low and depend on extra work for their legitimate profits.

When the contractor and the owner are working together on the “guarantee” basis described above, minor changes in the plans can be made without danger or inconvenience. It is not necessary to adhere strictly to iron-clad specifications when changes are advisable, since the contractor is not working under a “bid”.

Of course it is necessary for the owner to select an engineer-contractor whose professional ability, business integrity, and financial responsibility are unquestioned.

Financial Pitfalls

The securing of competitive bids by the owner is an effort on the part of the owner to protect himself against overcharging on the part of the contractor. However, the “low bid” in a surprising number of cases is submitted by a contractor whose ability and financial responsibility the owner has good reason to question. This is a significant fact.

Most business men will see at once the danger of entrusting important work involving a large amount of money to a person who, no matter how honest, is not able by previous performance to demonstrate both the technical and financial ability to finish the job.

In establishing the financial ability of the contractor to handle the job in question it is necessary to take into account not only the particular job in question, but all other work which the contractor has in progress. The financial failure of the contractor due to errors of judgement or bad fortune with any job may jeopardize the completion of all his work.

-it is necessary for the owner to select an engineer-contractor whose professional ability, business integrity, and financial responsibility are unquestioned.

**The “Non Lien”
Clause**

Perhaps few businessmen realize that unless a “nonlien” clause is written into the contract the owner becomes immediately responsible for the payment of all bills for sub-contracts, materials, etc., if the contractor should default. This is the case even if the contractor has already been paid by the owner for the work done.

The contract containing a non-lien clause must be filed at the courthouse, where it can be read by all who are to furnish materials, labor, etc. for the job.

**Bonds – Advantages
and Dangers**

In an effort to protect themselves against the failure of the contractor individual owners, like state and government departments, sometimes require contractors to furnish a bond.

To reduce all bidders to an equal level of financial responsibility it is frequently the practice with large corporations to maintain two lists of contractors who are asked for bids. One list consists of those contractors whose financial ability to handle a determined size of work is unquestioned. The other consists of contractors whose engineering and technical ability is held sufficient but whose financial responsibility is questioned. The latter are required to furnish satisfactory bond, and the cost of this bond is added to the bids on the job when the letting of the job is considered.

But it must not be forgotten that the financial loss due to the failure of the contractor to complete the work is not the only risk which the customer runs from such failure. Of perhaps greater importance is the unexpected interruption of the work, the delay, the need of finding someone who can satisfactorily complete the work, and who is willing to step in to a partly finished the job and finish it at a fair figure. If the work has been bonded, instead of having the work done by a contractor of his own choice the

customer must be content to have it completed by whomever the bonding company may select.

For this reason the insuring of the proper completion of a contract by bonding is found unsatisfactory by many businessmen.

-few business men realize that unless a “non-lien” clause is written into the contract the owner becomes immediately responsible for the payment of all bills for sub-contracts, materials, etc., if the contractor should default.

It is certainly more desirable to select a contractor about whose financial responsibility there is no question and who can be counted upon to complete the work in a satisfactory manner, without requiring the guarantee of a bonding company.

**Reliable Sources of
Information
Concerning Financial
Responsibility of
Contractors**

In addition to the usual sources of information as to financial responsibility, such as the services of Dun's and Bradstreet's and the local financial institutions, there is a particular source of information available concerning contractors.

The Bureau of Contract Information at Washington, D.C., can supply any interested person with complete and well authenticated information concerning all contractors of any size and standing in the country. This bureau is maintained by subscriptions of the largest bonding companies. It is disinterested and thoroughly informed, and in addition to financial information can supply facts as to the experience, size of projects completed, and technical training and experience of the contractors' organizations.

It is our hope that this brief discussion of building practices will help the business man who may be interested. In spite of the apparent complexity of

the matter, and the many dangers which obviously present themselves to the prospective builder, the selection of the method of letting a job, the choosing of the engineer, architect or contractor who is to do the work, and the means of safeguarding himself which the customer can employ are easily determined. The customer has only to secure the facts and then proceed with the same sane business judgement which he would employ in buying his raw materials, his machinery, or employing a sales manager, a production manager, or legal counsel.

-it must not be forgotten that the financial loss due to the failure of the contractor to complete the work is not the only risk which the customer runs from such failure.

It is only necessary to decide the kind of advice or assistance best suited to the job and after investigation make a selection.

After all there is a plentiful supply of engineers, architects and contractors whose technical experience and financial responsibility are unquestioned, and whose standards of ethics are comparable with the best in any other business or profession.

-there is a plentiful supply of architects, engineers and contractors whose technical experience and financial responsibility are unquestioned, and whose standards of ethics are comparable with the best in any other business or profession.