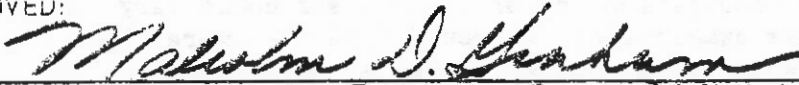


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TO: Director, Preliminary Plan Review Bureau SUPERSEDED BY EI 94-014 EFFECTIVE 10/20/1994	ENGINEERING INSTRUCTION NEW YORK STATE DEPARTMENT OF TRANSPORTATION
Distribution: <input checked="" type="checkbox"/> Main Office <input checked="" type="checkbox"/> Regions <input type="checkbox"/> Special	SUBJECT: COMPOSITE ITEMS Subject Code: 7.27-1
APPROVED:  Deputy Chief Engineer, Facilities Design Subdivision	Code: EI 76-27 Date: April 6, 1976 Supersedes:

The purpose of this Engineering Instruction is to alert all Designers to the possible problems that may result from the indiscriminate use of "composite" work under one payment item.

A "Composite" item specification contains similar, but different, work of varying complexity, quantity and cost which are combined together into one payment item. For example:

When the cost of excavation for localized, small quantity pavement repair is included in the general excavation item, as well as the cost of the subbase course and pavement courses being included under their respective general subbase and pavement items, the resulting items are composite items.

It can be readily determined that the costs involved with isolated or localized pavement repair sections will be substantially greater than those costs involved in the general items of work. When substantial increases or decreases in quantity occur for this more difficult and costly work, the Contractor is generally either under compensated or over-compensated respectively, and related disputes are difficult to counter.

Another example of a "composite" item specification is the inclusion of furnishing and installing new material in the same specification that requires the installation of material only. If the quantity of new material substantially changes, the cost ratio between new and existing material will be altered.

When the quantity of one type of work in a "composite" item is increased or decreased, the Contractor's basis for estimating the unit cost of the "composite" item is changed. Even though the Contract Specifications provide that we may increase or decrease quantities at unit bid prices, Court of Claims decisions have, in some instances, found that the change in the quantity of one type of work to be so large as to constitute a qualitative change in the nature of the contract work beyond that what may be anticipated by bidders and awarded extra reimbursement.

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Subject: COMPOSITE ITEMS

In order to provide a more equitable basis for bidding and contract payments, each designer should be alert to the aforementioned problems and be guided as follows:

1. Certain composite items have been used for many years and Contractors understand the risks involved. We have no problems with these and no changes should be made. These include unclassified excavation (where the percentages of rock and earth could vary) and structure steel for new structures (where fabrication and erection costs could vary considerably). Upon close examination, we would find that more items are "composite items" to some degree but we encounter little difficulty with them because either the quantities or the basic composition of the work do not vary appreciably during construction.
2. Work of a composite nature may be included in a general item only when it can be reasonably estimated and there is little potential for sharp variations in quantities. In the latter case, a special payment item should be provided therefore and the quantity should be estimated as realistically as possible to reduce potential windfalls via unbalanced bidding.

These guidelines should not result in a proliferation of special pay items. They are intended only to alert designers to the problems of composite items and to provide separate payment only where there is a potential for large variations in quantities beyond those which can be estimated.