

## GRADING DIAGRAM AND SUMMARY\*

In development of the Grading Diagram and Summary it is essential that the project sequence of construction be taken into consideration to avoid specifying use of material which may not be available until a later phase of construction. On complex projects, it may be necessary for the designer to develop rough grading diagrams and summaries for each phase of work to accurately determine the grading effort required. This may include making provision for stockpiling material for phased construction, protecting stockpiled material from moisture, provisions for second hauls, timing of excavation for stormwater management/erosion and sediment control, etc.

The Grading Diagram is to be on a scale that enables the entire limits of the project to be shown on a single sheet, if practicable. Straight line alignment is to be used to graphically depict all baselines on this sheet. List all earthwork quantities (computer, manual, or estimated quantities) on the GRADING DIAGRAM AND SUMMARY Sheet. Cut and fill quantities should be adjusted (for compaction factor, root mat and unsuitable material to be removed) on a print or rough draft. Adjusted cut and fill quantities are not to be shown on the final Grading Diagram.

Symbols shall be used to identify quantities shown in the grading diagram. Notes and formulas (with corresponding letters applied to grading items) shall be shown with the grading summary to demonstrate how earthwork quantity totals were derived. If any of the notes or symbols on the GRADING DIAGRAM AND SUMMARY insertable sheet are not applicable for a particular project they should be deleted or lined through. The same applies for any column in the Grading Summary. If any of the columns are deleted the formulas on the bottom of the sheet should be revised.

In several locations on the insertable sheet (specify material) appears. The designer must fill in the appropriate material in these locations.

The Designer should modify notes as necessary to reflect different conditions applying to his/her particular project.

Pay items shall be designated in accordance with the Engineer's Estimate Item Code Listings.

The plan quantity symbol is to be shown for "Roadway Cut" and other appropriate cut quantities. The "Total Regular Excavation" quantity is subject to change during construction and may include some non-plan quantity items. Therefore, do not show the plan quantity symbol for "Total Regular Excavation" in the Grading Summary. The plan quantity symbol should not be shown on the "Regular Excavation" quantity in the engineer's estimate if any part of the total includes non-plan quantity items.

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\* Added 7/14