

#RDW#
#RDWLEY

#REF001
#ELEV001

#REF002
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SURVEYED BY _____
DESIGNED BY _____

GRADING DIAGRAM AND SUMMARY

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

NO.	DATE	REVISION		NO.	DATE
		BY	PROJECT		
1.					

- 1-130-1 FIII Denotes fill quantity from computer listings and/or manual cross-sections.
- 1-130-1 Cut Denotes cut quantity from computer listings and/or manual cross-sections. Quantity adjusted for demolition of pavement.
- Denotes C.Y. root mat material in cut areas which is included in Regular Excavation quantities.
- Denotes C.Y. root mat material removed from fill sections and backfilled with (specify material) (Backfill with Regular Excavation and/or Borrow Excavation.)
- Denotes C.Y. Regular Excavation from private entrances.

- Denotes C.Y. fill for private entrances.
- Denotes C.Y. unsuitable material above subgrade which is included in Regular Excavation.
- Denotes C.Y. of excavation of unsuitable mat'l. below subgrade and backfilled with (specify material)
- Denotes C.Y. Regular Excavation from drainage ditches.
- Denotes C.Y. Minor Structure Excavation.

- Denotes C.Y. existing pavement to be removed as "Demolition of Pavement" from fill sections and backfilled with (specify mat'l.)
- Denotes C.Y. existing pavement to be removed as Demolition of Pavement in cut sections within construction limits and is not included in the Regular Excavation quantities.
- Denotes C.Y. Haul (Haul Material shown will be C.Y. of mat'l. not compacted.)
- Denotes C.Y. fill for S.W.M.(Stormwater Management Basin)
- Denotes C.Y. cut from S.W.M.(Stormwater Management Basin)
- Denotes Borrow Material (Min. CBR, specify)
- Denotes Surplus Material.
- Denotes C.Y. fill for drainage ditches.

- ⊗ Denotes items to be paid for on a basis of plan quantities in accordance with current VDOT Road and Bridge Specifications.
- ① Cut quantity shown does not include the material removed as Demolition of Pavement.
- ② Quantity shown for use in Grading Diagram only. See other Summaries for pay items.
- ③ Included in Total Regular Excavation.
- ④ Included in Roadway Cut quantity.
- ⑤ Quantities for Temporary Sediment Basins and Temporary Sediment Traps are included with the Stormwater Management Basin quantities.
- ⑥ Denotes pay item.
- ⑦ Included in total fill quantity.
- ⑧ This quantity comes from the computer listings and/or manual cross-sections and may be adjusted for other quantities.
- ⑨ Volumes obtained for Cut Ditches and Fill Ditches not included in computer listings.
- ⑩ Includes settlement of in-place soil.

FORMULAS

Roadway Cut (C) = Unadjusted Cut from Computer Listings or Manual Cross-Sections minus (-) Demolition of Pavement.

Roadway FIII (J) = FIII Required plus (+) Material for Backfill of Demolition of Pavement Areas in FIII (for heights of FIII < 3 feet below subgrade)

Total Reg. Excav. (M) = C · E · F · H · R

Total FIII (N) = J · E · G · H · L · R

Borrow (S) = [N - ((C · F · K · P · Q - D - I) x Compaction Factor)] ÷ Compaction Factor for Borrow Site

(Embankment) (S) = N - (C · F · K · P · Q - D - I) (Embankment + Total FIII - Usable Cut) Estimated Material to be obtained off-site.

Location	⊗	①		②		③		④		⑤		Total Regular Excavation ⑥	Total FIII	⑦	⑧	⑨	⑩	⑪			
	Roadway Cut	Root Mat In Cut Sections	Root Mat In FIII Sections	Cut - Ditches	Fill - Ditches	Below Subgrade	Above Subgrade	Roadway FIII	Entrances	Total	Demolition of Pavement								Minor Structure Excavation	Stormwater Management Basins	Borrow (Embankment)
	①	②	③	④	⑤	⑥	⑦	⑧	⑨												
FORMULAS	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S				
TOTALS	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫					⑬						

The borrow quantity shown was computed on the basis of the average shrinkage or swell factor for the general vicinity of the project. The contractor will be responsible for determining the actual factor for the site(s) from which he proposes to secure borrow material needed to complete this project.

The embankment quantity shown has not been adjusted for shrinkage or swell factors. The contractor will be responsible for determining the effect of the shrinkage or swell factor of the embankment material, and no adjustment will be made in pay quantities for this factor. The contractor shall determine the actual quantity of embankment material needed to complete this project.

Rev. 7/02
SPECIAL DESIGN SECTION
DRAWING NO. A-71

NO.	DATE	BY	PROJECT

07/16/02/009