

## GRADING REPORT

COMPUTED BY: J. ALEX STANLEY  
 CHECKED BY: PATRICK FIVEASH  
 FEDERAL PROJECT NO: BR-STP-320(10)  
 ROUTE NO. OR STREET: S.R. 320 (E BRAINERD RD)

SHEET 1 OF 3  
 STATE NO.: 33057-3228-94  
 PIN: 124076.00  
 COUNTY: HAMILTON

ESTIMATED GRADING QUANTITIES							
DESCRIPTION		UNADJUSTED VOLUMES (CY)		ADJUSTED VOLUMES (CY)	BALANCE SUMMARY		
		EXC.	EMB.	EXC.	SHRINK = 20 %	SWELL = 20 %	
	MAINLINE	1308	4372	1047	EMB.  6150  VS.  -2844  AVAILABLE  =	EXC.      3306	
	BRIDGE ABUTMENT	0	448	0			
(1)	HAUL ROADS	3454	1330	2764			
	PAVEMENT	772	0	618			
	EPSC	244	0	196			
(2)	BRIDGE EXCAVATION (WITHIN RR ROW)	207	0	166			
(3)	BRIDGE EXCAVATION (OUTSIDE RR ROW)	2210	0	1768			
	TOPSOIL (EMB.)	386					
	TOPSOIL (EXC.)	97					
TOPSOIL TOTALS (SEE TOPSOIL TABLE)							BORROW MATERIAL
ROCK (C.Y.)		TOTALS (C.Y.)					*SEE NOTE 4
EXC.	EMB.	EXC. (UNCL.)	EMB. (UNCL.)	EXC (COMMON)	EXC. (AVAIL.)	EXC. (ADJ.)	
0	0	5017	6150	5017	3555	2844	

(1) NOT INCLUDED IN EARTHWORK QUANTITIES, ALL TO BE INCLUDED IN LUMP SUM OF HAUL ROADS ITEM NO. 203-50.

(2) INCLUDES EXCAVATION FOR REMOVAL OF EXISTING PIERS AND FOR ABUTMENT NO. 1 SLOPE PAVING WITHIN LIMITS OF RAILROAD ROW AND NOT INCLUDED IN THE BRIDGE PLANS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TESTING WITH CSX AND THEIR CONSULTANT AND CSX WILL MAKE A DETERMINATION WHERE ANY SPOILS NEED TO BE WASTED.

(3) INCLUDES EXCAVATION FOR PROPOSED ABUTMENT NO. 1, BENT NO. 1, AND ABUTMENT #2 THAT IS NOT INCLUDED IN THE BRIDGE PLANS. AREA CAN BE SEEN AS HATCHED AREA ON BRIDGE SHEETS U-95-425 AND U-95-430

(4) CONTRACTORS ATTENTION IS BROUGHT TO THE EARTHWORK BALANCE ON THE PROJECT. A MAJORITY OF THE EXCAVATION MATERIAL WILL NOT BE AVAILABLE FOR USE UNTIL AFTER THE FIRST HALF OF THE BRIDGE IS COMPLETE AND TRAFFIC IS SHIFTED. THE BORROW EXCAVATION LINE ITEM NO. 203-03 HAS BEEN ADJUSTED TO INCORPORATE ALL 6,150 C.Y. OF EMBANKMENT REQUIRED FOR THE PROJECT.

## State Route 320 (East Brainerd Road) Earthwork

### EARTHWORK BEFORE THE BRIDGE

STATION	CUT	FILL	EXC	EMB
	(SQ. FT)		(CUBIC YARD)	
12+50.57/1	79.95	0.09		
12+67.34/1	81.90	0.00	50.26	0.03
13+00.00/1	69.69	0.00	91.68	0.00
13+50.00/1	47.22	4.43	108.25	4.10
14+00.00/1	8.85	7.72	51.92	11.25
14+50.00/1	15.07	36.43	22.15	40.88
14+51.26/1	50.42	42.16	1.53	1.83
14+95.00/1	96.26	108.22	118.81	121.81
15+00.00/1	90.04	114.72	17.25	20.64

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SHEET 2 OF 3  
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STATION	CUT	FILL	EXC	EMB
	(SQ. FT)		(CUBIC YARD)	
15+17.76/1	80.47	135.00	56.08	82.13
15+49.04/1	61.86	171.06	82.44	177.29
15+50.00/1	61.23	173.54	2.19	6.13
16+00.00/1	32.62	261.40	86.90	402.72
16+50.00/1	23.55	334.85	52.01	552.08
16+67.43/1	19.61	402.05	13.93	237.85
16+97.91/1	48.29	542.75	38.33	533.29
17+00.00/1	51.03	556.59	3.84	42.55
17+46.00/1	144.17	0.00	166.28	474.13
17+50.00/1	138.09	0.00	20.91	0.00
17+64.40/1	5.29	2.00	38.23	0.53
	<b>Total</b>		<b>1023</b>	<b>2709</b>

## EARTHWORK AFTER THE BRIDGE

STATION	CUT	FILL	EXC	EMB
	(SQ. FT)		(CUBIC YARD)	
19+33.00	2.28	338.03		
19+50.00	1.89	316.79	1	206
19+67.60	2.92	286.75	2	197
20+00.00	2.01	219.45	3	304
20+50.00	2.14	134.31	4	328
21+00.00	10.09	97.48	11	215
21+50.00	39.99	75.59	46	160
21+67.40	49.22	67.07	29	46
21+68.47	47.2	99.77	2	3
22+00.00	60.47	58.92	63	93
22+42.44	25.41	38.14	67	76

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SHEET 3 OF 3  
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STATION	CUT	FILL	EXC	EMB
	(SQ. FT)		(CUBIC YARD)	
22+50.00	26.97	36.48	7	10
22+83.61	14.44	0.41	26	23
23+00.00	1.32	0.26	5	0
23+50.00	1.82	0.17	3	0
24+00.00	2.15	0	4	0
24+50.00	0.87	0.45	3	0
25+00.00	2.18	0.14	3	1
25+50.00	3.96	0	6	0
25+55.54	3.44	0	1	0
	<b>Total</b>		<b>285</b>	<b>1662</b>

EARTHWORK VALUES ARE UNADJUSTED IN THE ABOVE TABLES. ADJUSTMENTS FOR SHRINK AND SWELL ARE MADE IN THE ESTIMATED GRADING QUANTITIES TABULATION.

EARTHWORK CALCULATIONS PROVIDED IN THIS FORMAT AS THERE WAS A SIGNIFICANT AMOUNT OF HAND EDITING TO THE CROSS SECTIONS THAT IS CAPTURED IN THE VOLUMES SHOWN IN THE ESTIMATED GRADING QUANTITIES TABULATION AND THE CROSS SECTIONS SHEET TOTALS BUT IS NOT REFLECTED IN THE GEOPAK MODEL.