

PAVEMENT AND ROADWAY CALCULATIONS

PAVEMENT CALCULATIONS BASED ON A LENGTH OF 1450'

ITEM 203 EMBANKMENT

2.00 SQ. FT. AVG. END AREA X 212' ÷ 27 = 16 SQ. YD.
2.50 SQ. FT. AVG. END AREA X 1074' ÷ 27 = 99 SQ. YD.
USE 115 SQ. YD.

ITEM 203 EXCAVATION

1.40 SQ. FT. AVG. END AREA X (212' + 1074') ÷ 27 = 67 SQ. YD.

ITEM 441 - 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), AS PER PLAN PG70-22M

6.00' AVG. WIDTH X 1450' X 1.25" ÷ 12 ÷ 27 = 34 CU. YD.
29058 SQ. FT. (CADD MEASURED) X 1.25" ÷ 12 ÷ 27 = 112 CU. YD.
USE 146 CU. YD.

ITEM 441 - 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)

6.00' AVG. WIDTH X 1450' X 1.75" ÷ 12 ÷ 27 = 47 CU. YD.

ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22 (449)

6.33' AVG. WIDTH X 1450' X 9" ÷ 12 ÷ 27 = 255 CU. YD.

ITEM 304 - AGGREGATE BASE

7.08' AVG. WIDTH X 1450' X 6" ÷ 12 ÷ 27 = 190 CU. YD.
1.67' AVG. WIDTH X 1450' X 5" ÷ 12 ÷ 27 = 37 CU. YD.
2.00' AVG. WIDTH X 1450' X 3" ÷ 12 ÷ 27 = 27 CU. YD.
USE 254 CU. YD.

ITEM 407 - TACK COAT

6.00' AVG. WIDTH X 1450' X 0.055 GAL./SQ. YD. ÷ 9 = 53 GAL.
2 X 6.33' AVG. WIDTH X 1450' X 0.055 GAL./SQ. YD. ÷ 9 = 112 GAL.
29058 SQ. FT. (CADD MEASURED) X 0.055 GAL./SQ. YD. ÷ 9 = 178 GAL.
USE 343 GAL.

ITEM 204 - SUBGRADE COMPACTION

7.50' AVG. WIDTH X 1450' ÷ 9 = 1208 SQ. YD.

ITEM 202 - PAVEMENT REMOVED

6.00' AVG. WIDTH X 1450' ÷ 9 = 967 SQ. YD.

ITEM 202 - GUARDRAIL REMOVED

USE 1452 FT.

ITEM 606 - GUARDRAIL, TYPE MGS WITH HALF POST SPACING, AS PER PLAN

USE 1425 FT.

ITEM 646 - EDGE LINE, 6"

2 X 1525' ÷ 5280 = 0.58 MILE

ITEM 646 - CENTER LINE (DOUBLE SOLID)

1525' ÷ 5280 = 0.29 MILE

ITEM 254 - PAVEMENT PLANNING, ASPHALT CONCRETE (T = 1/4")

29058 SQ. FT. (CADD MEASURED) ÷ 9 = 3229 SQ. YD.

ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND REERECTION

USE 9 EACH

ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL

USE 5 EACH

ITEM 630 - GROUND MOUNTED SUPPORT, NO. 3 POST

14' X 5 = 70 FT.

ITEM 621 - RPM

1452' ÷ 40 = 37 EACH

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

1452' ÷ 40 = 37 EACH

ITEM 626 - BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)

1420' ÷ 100 = 15 EACH

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE A

USE 1 EACH

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

USE 1 EACH

ITEM 408 - PRIME COAT, AS PER PLAN

2.00' AVG. WIDTH X 1450' 0.40 GAL./SQ. YD. ÷ 9 = 129 GAL.

WALL 1 CALCULATIONS

WALL 1 QUANTITIES BASED ON A TOTAL WALL LENGTH OF 223' (C/C SHAFTS)

ITEM 507, STEEL PILES, MISC.: W14X38 STEEL BEAMS, FURNISHED

USE 2320 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN

USE 1644 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN

USE 464 FT.

ITEM 524 - DRILLED SHAFTS MISC.: PLUG PILE, 24" DIAMETER, UNREINFORCED

8' LENGTH X 57 PLUGS = 456 FT.

ITEM 605 - 4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC

USE 225 FT.

ITEM 611 - 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET

USE 10 FT.

ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN

USE 1

WALL 2 CALCULATIONS

WALL 2 QUANTITIES BASED ON A TOTAL WALL LENGTH OF 1074.67' (C/C SHAFTS)

ITEM 507, STEEL PILES, MISC.: W14X38 STEEL BEAMS, FURNISHED

USE 8095 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN

USE 5080 FT.

ITEM 524 - DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN

USE 2304 FT.

ITEM 524 - DRILLED SHAFTS MISC.: PLUG PILE, 24" DIAMETER, UNREINFORCED

8' LENGTH X 284 PLUGS = 2272 FT.

ITEM 605 - 4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC

USE 1075 FT.

ITEM 611 - 4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET

USE 30 FT.

ITEM 611 - PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN

USE 3

ALL TOTALS ARE CARRIED TO THE GENERAL SUMMARY

P:\DDT\11\0654_HAS-151-24.96\115125_Design\Roadway\Sheets\115125_GC001.dgn Sheet 4/21/2022 8:33:38 AM CMT008

ESTIMATED QUANTITIES

HAS-151-24.96

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SHEET NUM.													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	6	9	01/STR/OT	EXT	TOTAL												
													ROADWAY						
LS					LS	201	11000	LS					CLEARING AND GRUBBING						
					967	967	23000	967	SY				PAVEMENT REMOVED						
					1,452	1,452	38000	1,452	FT				GUARDRAIL REMOVED						
	10				10	202	98100	10	EACH				REMOVAL MISC.: PILING REMOVED	4					
					67	67	10000	67	CY				EXCAVATION						
					115	115	20000	115	CY				EMBANKMENT						
					1,208	1,208	10000	1,208	SY				SUBGRADE COMPACTION						
					1,425	1,425	606	15151	FT				GUARDRAIL, TYPE MGS HALF POST SPACING, AS PER PLAN	3					
					1	1	606	25550	EACH				ANCHOR ASSEMBLY, MGS TYPE A						
					1	1	606	26150	EACH				ANCHOR ASSEMBLY, MGS TYPE E (NCHRP 350 OR MASH 2016)						
													EROSION CONTROL						
	1,611				1,611	659	10001	1,611	SY				SEEDING AND MULCHING, AS PER PLAN	3					
					1,000	832	30000	1,000	EACH				EROSION CONTROL						
													PAVEMENT						
					3,229	3,229	254	01000	3,229	SY			PAVEMENT PLANING, ASPHALT CONCRETE (T=1 1/4")						
					255	255	301	56000	255	CY			ASPHALT CONCRETE BASE, PG64-22.(449)						
					254	254	304	20000	254	CY			AGGREGATE BASE						
					343	343	407	10000	343	GAL			TACK COAT						
					129	129	408	10001	129	GAL			PRIME COAT, AS PER PLAN	3					
					146	146	441	70101	146	CY			ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), AS PER PLAN (PG70-22M)	3					
					47	47	441	70300	47	CY			ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)						
													TRAFFIC CONTROL						
					37	37	621	00100	37	EACH			RPM						
					37	37	621	54000	37	EACH			RAISED PAVEMENT MARKER REMOVED						
					15	15	626	00110	15	EACH			BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)						
					70	70	630	03100	70	FT			GROUND MOUNTED SUPPORT, NO. 3 POST						
					9	9	630	85100	9	EACH			REMOVAL OF GROUND MOUNTED SIGN AND REERECTION						
					5	5	630	86002	5	EACH			REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL						
					0.58	0.58	646	10010	0.58	MILE			EDGE LINE, 6"						
					0.29	0.29	646	10200	0.29	MILE			CENTER LINE						
													RETAINING WALLS						
					10,415	10,415	507	00400	10,415	FT			STEEL PILES, MISC.: W14X38 STEEL BEAMS, FURNISHED	4					
					6,724	6,724	524	94503	6,724	FT			DRILLED SHAFTS, 24" DIAMETER, ABOVE BEDROCK, AS PER PLAN	4					
					2,768	2,768	524	94505	2,768	FT			DRILLED SHAFTS, 24" DIAMETER, INTO BEDROCK, AS PER PLAN	4					
					2,728	2,728	524	95000	2,728	FT			DRILLED SHAFTS, MISC.: PLUG PILE, 24" DIAMETER, UNREINFORCED	4					
					1,300	1,300	605	06020	1,300	FT			4" BASE PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC						
					40	40	611	00410	40	FT			4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET						
					4	4	611	99711	4	EACH			PRECAST REINFORCED CONCRETE OUTLET, AS PER PLAN	4					
	80				80	SPECIAL	69098600	80	HOUR				DRILLING THROUGH OBSTRUCTIONS	4					
													MAINTENANCE OF TRAFFIC						
			10		10	410	12000	10	CY				TRAFFIC COMPACTED SURFACE, TYPE A OR B						
			10		10	410	13000	10	CY				TRAFFIC COMPACTED SURFACE, TYPE C						
				4	4	614	12384	4	EACH				WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)						
			10		10	614	13000	10	CY				ASPHALT CONCRETE FOR MAINTAINING TRAFFIC						
				34	34	614	13310	34	EACH				BARRIER REFLECTOR, TYPE 1, BIDIRECTIONAL						
				34	34	614	13360	34	EACH				OBJECT MARKER, TWO WAY						
			0.29		0.29	614	21550	0.29	MILE				WORK ZONE CENTER LINE, CLASS III, 642 PAINT						
				0.40	0.40	614	22210	0.40	MILE				WORK ZONE EDGE LINE, CLASS I, 6", 740.06, TYPE I						
			0.58		0.58	614	22360	0.58	MILE				WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT						
				60	60	614	26400	60	FT				WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I						
					LS	615	10000	LS					ROADS FOR MAINTAINING TRAFFIC						
				502	502	615	20001	502	SY				PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	5					
			5		5	616	10000	5	MGAL				WATER						
				1,630	1,630	622	41100	1,630	FT				PORTABLE BARRIER, UNANCHORED						
													INCIDENTALS						
			LS		LS	614	11000	LS					MAINTAINING TRAFFIC						
					LS	623	10000	LS					CONSTRUCTION LAYOUT STAKES AND SURVEYING						
					LS	624	10000	LS					MOBILIZATION						

CALCULATED	JUL	CHECKED	TWG
GENERAL SUMMARY			
HAS - 151 - 24.96			
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23			