

**Painesville - Euclid Road
S.H. 520 Sec. B (Pt) & Lakeline
Lake County**

SUMMARY OF QUANTITIES

STRUCTURES 20' SPAN & UNDER

MARK	STATION	TYPE	SIZE	LENGTH	EXCAVATION CU. YARDS		CONCRETE CLASS "C" CU. YDS	I-8 C B No. 1-4 Each	REMOVE PORTIONS OF EXIST. STRUCT. CU. YDS	PIPE FOR CULV'TS LIN. FT.			PIPE REMOVED FOR RE-USE (LIN. FT.)		PIPE TO RELAY LIN. FT.		CORR. METAL PIPE LIN. FT.		RIP RAP TYPE A SQ. YDS	REIN. STEEL HOLES LBS.	DOWEL LIN. FT.
					STRUCT.	CHANNEL				12"	24"	30"	10"	18"	10"	18"	18"	24"			
C-1	99 + 19.49	Stan. Pipe Culvert Ext.	24"	47'	7		0.4		1.0										6	4	3
C-2	114 + 20	Stan. Pipe Culvert Ext.	12"	41'-6"	2		0.4		0.7						44				4		
C-3	134 + 81	Stan. Pipe Culvert Ext.	36"	35'	10		0.2	2	8.0		34	50									
C-4	140 + 23	Stan. Pipe Culvert Ext.	12"	55'-6"	3		0.3		0.6		20									4	3
C-5	144 + 59	Pipe Culvt Relay & Ext.	18"	51'	12	5	0.2		1.0											8	3
C-6	154 + 85	Stan. Pipe Culvt. Ext.	12"	55'	5		0.2				18										
TOTALS							1.7	2	11.3	44	34	50	44	35	44	35	16	14	18	8	6

ROADWAY QUANTITIES

SHEET NO.	ROADWAY DRAINAGE							PIPE REMOVED LIN. FT.						PIPE FOR DRIVEWAYS LIN. FT.				TREES REMOVED EACH	GUARD RAIL LIN. FT.	PAVEMENT REMOVAL SQ. YDS	APPROACHES I-17 AGGREGATE CU. YDS	
	6"	10"	12"	24"	10"	12"	15"	10"	12"	15"	24"	8"	10"	12"	15"							
2																					153.3	
6		182								131											100	
7		321				3*	3	90	82	260			166		36						1568.4	
8		48					6	10	20				60									
9	45	570	4.0	80	11		11	50	1079		112				3	688	2100		12.8			
10									16	20			16	20	2	1232	500		18.1			
11								209	50	35	20		244	50	55	20						
TOTALS		45	618,503	40	80,201	17	3	20	140	219	1247	446	20	112	244	126	241	40	41	1920	4268.4	184.2

New Pipe 45 136,260 40
Relay Pipe 0 482,253 0
Pipe removed & stored 140 219 765 193 20 112
Pipe removed for reuse 0 0 482 253 0 0

* Includes 2 No. 2-2 Catch Basins without Windows

GENERAL SUMMARY

ITEM	ROADWAY	QUANT.	UNIT
I-3	10" Pipe for Roadway Drainage under Drives	80	Lin. Ft.
I-3	12" Pipe for Roadway Drainage under Drives	207	Lin. Ft.
E-8	Removal of existing bituminous wearing course	15,000	Sq. Yds.
E-1	Roadway Excavation (Unclassified)	8984	Cu. Yds.
E-305	Seeding & Protecting Roadway Areas	43052	Sq. Yds.
E-4	Borrow (Contractor to Furnish)	3650	Cu. Yds.
E-8	Removal and Disposal of Exist. Pav't	4268	Sq. Yds.
E-9	Removal of Trees & Stumps	41	Each
L-9	10-6-4 Commercial Fertilizer	7750	Pounds
E-11	Water (Estimated)	56	M. Gal.
E-12	6" Pipe removed & stored	140	Lin. Ft.
E-12	8" Pipe removed & stored	219	Lin. Ft.
E-12	10" Pipe removed & stored	765	Lin. Ft.
E-12	12" Pipe removed & stored	193	Lin. Ft.
E-12	15" Pipe removed & stored	20	Lin. Ft.
E-12	24" Pipe removed & stored	112	Lin. Ft.
E-12	10" Pipe removed for reuse	482	Lin. Ft.
E-12	12" Pipe removed for re-use	253	Lin. Ft.
I-1	8" Pipe for Driveways	242	Lin. Ft.
I-1	10" Pipe for Driveways	126	Lin. Ft.
I-1	12" Pipe for Driveways	241	Lin. Ft.
I-1	15" Pipe for Driveways	40	Lin. Ft.
I-3	10" Pipe for Roadway Drainage	136	Lin. Ft.
I-3	12" Pipe for Roadway Drainage	250	Lin. Ft.
I-6	10" Pipe relaid for Roadway Drainage	482	Lin. Ft.
I-6	12" Pipe relaid for Roadway Drainage	253	Lin. Ft.
I-8	Standard No. 2-2 Catch Basin	3	Each
E-10	Sealing (only) of existing pavement edge	19,053	Lin. Ft.
I-8	Stan No. 1 Side Ditch Inlet	20	Each
I-9	Stone Underdrain (French Drain) No. 2	1500	Lin. Ft.
I-15	Guard Rail ^{Standard Strength Flexible Steel Plate Tension} _{Type Sec. F. 15.05 or Steel Beam Type Sec. F. 15.05}	1920	Lin. Ft.
I-3	6" Pipe for Roadway Drainage	45	Lin. Ft.
I-3	24" Pipe for Roadway Drainage	40	Lin. Ft.
I-17	Agg. for Traffic Bound Side Approaches: 60% N ² A, 40% N ² B	185	Cu. Yds.
I-5	10' x 10' Y's for Roadway Drainage	17	Each

STATION	SIDE	SQ. YDS
44 + 47	RT	48.6
48 + 62	RT	48.6
52 + 27	RT	48.6
55 + 82	RT	48.6
60 + 04	RT	76.0
71 + 38	LT	48.6
71 + 38	RT	63.3
77 + 18	RT	111.0
93 + 45	RT	58.0
102 + 08	LT	48.6
110 + 62	LT	48.6
120 + 93	LT	48.6
144 + 8080	LT	48.6
TOTAL		745.7

T-35 (745.7 x $\frac{5}{144}$) = 25.9 Cu.Yds
B-35 Leveling (745.7 x $\frac{1}{48}$) = 15.5 Cu.Yds

EXCAVATION & EMBANKMENT

STATION FROM TO	Excavation	Embankment	Embank +20%
43 + 30.96 50 + 00	47	163	196
50 + 00 60 + 00	75	69	83
60 + 00 70 + 00	66	155	186
70 + 00 80 + 00	70	46	55
80 + 00 90 + 00	120	397	476
90 + 00 100 + 00	1534	879	1055
100 + 00 110 + 00	315	603	724
110 + 00 120 + 00	164	708	850
120 + 00 130 + 00	1198	439	527
130 + 00 140 + 00	4185	4685	5622
140 + 00 150 + 00	619	1514	1817
150 + 00 160 + 00	355	616	739
160 + 00 166 + 69.25	236	253	304
Totals	8984	10527	12634

BORROW = 12,634 - 8984 = 3650 Cu.Yds

T-30 Bituminous Prime Coat
Old Pavement 43+30.96 to 88+50 = 4519.04 LF ~ 103+34.21 to 126+50 = 2315.79 LF
139+50 to 166+69.25 = 2719.25 LF - Total = 9554.08 - 9.69 (Equation at 150+) = 9544.39 LF
 $9544.39 \times 18 \times 0.15 = 2863.3$ Gal. Use 2864 Gal.

E-10 Sealing Exist. Pav't Edge
From above (9544.39 x 2) + (4 x 18) (For Beg. & End of Relocation & Grade Change) = 19,160.78 Lin. Ft.
Deduction Bridge 54.05 x 2 = 108.1 Lin. Ft.
Total = 19,160.78 - 108.1 = 19,052.7 Lin. Ft.

I-19 Insulation Course (1 1/4")
From Above, 9544.39 - 54.05 (Bridge Sta. 146+) = 9490.34 Lin. Ft.
(9490.34 x 4) ÷ 9 = 4217.9 Sq. Yds - 88+50 to 102+30.7 & 126+50 to 139+50 = 2680.7 Lin. Ft. x 22 ÷ 9 = 6552.8 Sq. Yds - Old Road 90+40 to 92+25 and 98+75 to 100+65 = 1602 Sq. Yds. (see Sheet #34)
Extra. Waban Rd. 2135' ÷ 9 = 237.2 Sq. Yds - Erie Rd. 668' ÷ 9 = 74.2 Sq. Yds.
D.W. 130+49 (Sheet 31) = 127.1 Sq. Yds.
Total = 4217.9 + 6552.8 + 1602 + 237.2 + 74.2 + 127.1 = 12811.2 Sq. Yds. TOTAL

PAVEMENT CALCULATIONS

T-35 Asphaltic Concrete Surface Course (Type A)
Sta. 43+30.96 to sta. 166+69.25 = 12338.29 Lin. Ft. (Gross Length)
Deduction (Equation at sta. 102+30.70) - 103.51 Lin. Ft.
Deduction (Equation at sta. 150+17.89) - 9.69 Lin. Ft.
Net Length = 12,338.29 - (103.51 + 9.69) = 12,225.09 Lin. Ft.
(12,225.09 x 22 x 0.1042) ÷ 27 = 1038.0 Cu. Yds.
Waban Road (see sheet #30) 8.3 Cu. Yds.
Erie Road (see sheet #32) 2.6 Cu. Yds.
Extra Pav't (see table above) 25.9 Cu. Yds.
Culps Bend (16795 x 0.1042) ÷ 27 = 64.8 Cu. Yds.
D.W. Sta. 130+49 (Rt. see Sheet #31) 4.4 Cu. Yds.
Totals = 1144.0 Cu. Yds

B-35 Asphaltic Concrete Base Course
Widening: 43+30.96 to 88+50 = 4519.04 Lin. Ft.
103+34.21 to 126+50 = 2315.79 Lin. Ft.
139+50 to 166+69.25 = 2719.25 Lin. Ft. - Total = 9554.08 Lin. Ft.
Deduction Bridge Sta. 146+ = -54.05 Lin. Ft.
Deduction Equation 150+17.89 - 9.69 Lin. Ft.
9554.08 - (54.05 + 9.69) = 9490.34 Lin. Ft.
(9490.34 x 4 x .5) ÷ 27 = 703.0 Cu. Yds.
New Base: 88+50 to 102+30.7 = 1380.7 Lin. Ft.
126+50 to 139+50 = 1300. Lin. Ft. Total = 2680.7 Lin. Ft.
(2680.7 x 22 x .5) ÷ 27 = 1092.1 Cu. Yds.
Extras - Erie Rd. 12.4 Cu. Yds - Waban Rd. 24.7 Cu. Yds. - D.W. 130+49 Rt = 10.6 Cu. Yds.
West End Culps Bend 120. Cu. Yds. - East End 150. Cu. Yds.
Total = 703.0 + 1092.1 + 12.4 + 24.7 + 10.6 + 120 + 150 = 2112.8 Cu. Yds.

B-35 Asphaltic Concrete Leveling Course
Net length = 12,225.09 (see above). (12,225.09 x 22 x 0.0625) ÷ 27 = 622.6 Cu. Yds.
Extra @ 200 C.Y. per mile = (8294.39 x 200) ÷ 5280 = 314.2 Cu. Yds.
Intersections 15.5 Cu. Yds. Special Intersection 87+19.13 to 92+50 = 19.0 Cu. Yds.
Special Intersections 97+80 to 102+30.7 25.0 Cu. Yds - Extra for super-elevation 139+50 to 152+00 = 300. Cu. Yds (Est.)
* Waban Road 4.9 Cu. Yds. - D.W. Sta. 130+49 2.7 Cu. Yds. - Erie Rd. 1.6 Cu. Yds. Total 1305.5 Cu. Yds.
* 12,225.09 - [2680.7 (New Pav't) + 1250 (Super elev.)] = 8294.39 Lin. Ft.