

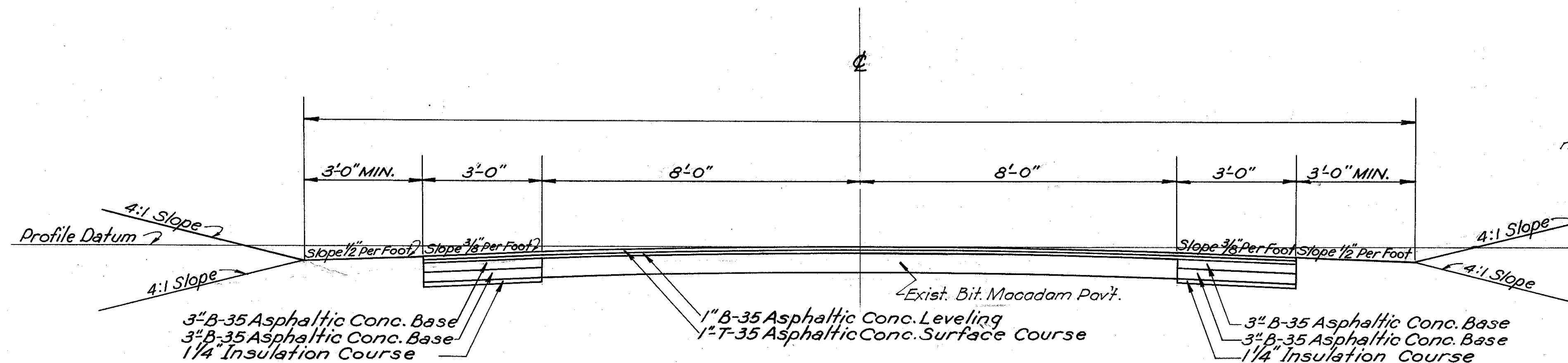
TYPICAL SECTION

TYPE T-35
SCALE 1/2" = 1'

FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR
10	OHIO		1939

PAINESVILLE - EUCLID RD.
S.H. 520 SECS. D & MENTOR ON THE LAKE (P)
LAKE COUNTY

SHOULDER & SLOPES: Item E-1 Roadway Excavation (Unclassified) except paragraph E-1.05 and Item E-4, Borrow, shall include the thorough compaction of earthwork, and the final operations of grading necessary to finish the shoulders and slopes to approximately the lines indicated on the typical section. The use of a template and fine hand grading to secure satisfactory results will not be required.



BITUMINOUS PRIME COAT, Item T-30 of Bituminous Material, Sec. M-5.12 AE-3 applied by distributor or by brooms at the rate of not more than .10 gal. per sq. yd. and sand cover uniformly spread at the rate of from 4 to 7 lbs. per sq. yd. After the bituminous material is applied all material not required to give a uniform coating to the surface, shall be swept into all cracks and open joints before the sand cover is placed. Payment for sand cover is included in the price per gallon for Bituminous Material.

TRAFFIC - Traffic shall be maintained at all times to the satisfaction of the Division Engineer. The Item of maintaining shall include furnishing lights, signs, barricades and watchmen necessary to secure the unimpeded flow of traffic twenty four (24) hours daily.

EARTHWORK - All suitable material resulting from Roadway Excavation (Unclassified) shall be used to raise the Roadway Shoulders as indicated on the Typical Section and in accordance with Item E-1.07 of the General Specifications.

EMBANKMENT - Watering embankment and density requirements as referred to in Paragraph E-1.05 of the General Specifications will not be required on this Project.

PROFILE - The Profile of the Asphaltic Concrete Surface shall be approximately 2" above that of the existing pavement.

FORMS - Side Forms, set to the line and grade established by the Engineer, will be required on widened sides.

PAVEMENT - The designed depths of the Bituminous Concrete courses shown on the plans are subject to adjustment according to the ratio of volume to weight as indicated in the Specification for the Item.

ASPHALT CEMENT - The asphalt cement used shall meet the requirements of Sec. M-5.1 except that the penetration range shall be 70-80.

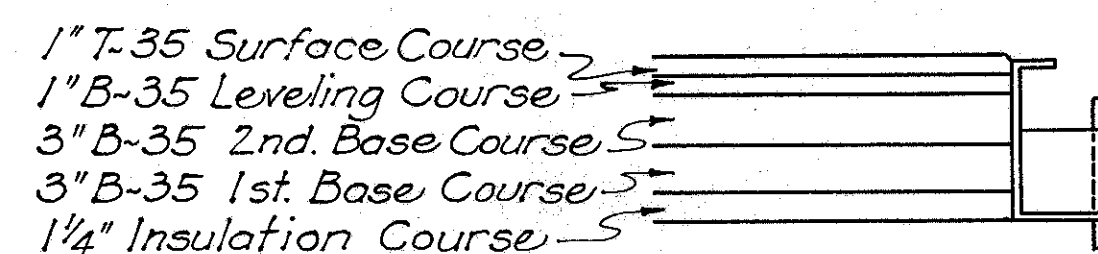
COMPACTION of sub-grade in cuts as specified in Sec. E-1.11 will not be required on this project.

PAVEMENT CALCULATIONS

PAVEMENT LENGTH

Begin of Widening	Sta. 185+86.07
End of Widening	Sta. 295+33.50
Total Length	10,947.43 Lin. Ft.
Deduct Curve Sta. 197+03.98	325.00
Curve Sta. 215+81.50	336.19
Curve Sta. 264+71.60	338.66
Difference due to Tan Stationing	3.13
Net Length	9944.45 Lin. Ft.

Extra Quantities from Intersections



FORM AND COURSE DETAIL

NOTE: The forms shall be braced in a manner to prevent Lateral or Vertical movement.

ITEM E-1	Roadway Excavation, Area of Side Widening + 15% berm Excavation (Est.)	2800 Cu. Yds.	
ITEM E-10	Sealing (only) of Edges of Existing Pavement using Bituminous Material (Sec. M-5.12, AE-3) applied at rate of .15 gal. per sq. yd.	19888.90	
	Computations (9944.45 X 2) =	325.00	
	Super- Sta. 197+03.98 (325 X 1) =	336.19	
	Super- Sta. 215+81.50 (336.19 X 1) =	338.66	
	Super- Sta. 264+71.60 (338.66 X 1) =	518.00	
	Deduct for transitions (132+186+200) =	20,370.75	+ 16 = 20,386.75 Use 20,387 Lin. Ft.
ITEM I-19	1/4" Insulation Course 3' Wide on both sides	6,629.63	
	Computations (9944.45 X 2 X 3) ÷ 9	216.67	
	Super- Sta. 197+03.98 (325 X 6) ÷ 9	224.13	
	Super- Sta. 215+81.50 (336.19 X 6) ÷ 9	263.40	
	Super- Sta. 264+71.60 (338.66 X 7) ÷ 9	7,333.83	+ 15.6 = 7349.43 Use 7350 Sq. Yds.
ITEM B-35	3" Asphaltic Concrete 1st. Base Course 3' Widening on Both sides	552.47	
	Computations (9944.45 X 2.5 X 3 X 2) ÷ 27	18.05	
	Super- Sta. 197+03.98 (325 X 2.5 X 6) ÷ 27	15.56	
	Super- Sta. 215+81.50 (336.19 X 2.5 X 5) ÷ 27	21.95	
	Super- Sta. 264+71.60 (338.66 X 2.5 X 7) ÷ 27	608.03	+ 3.6 = 611.63 Use 612 Cu. Yds.
ITEM B-35	3" Asphaltic Concrete 2nd Base Course Same as above	608.03	+ 3.6 = 611.63 Use 612 Cu. Yds.
ITEM B-35	Additional Asphaltic Concrete for Super-elevations	64.20	
	Computations	29.63	
	Super- Sta. 197+03.98 (325 X 33 X 1/6) ÷ 27	105.84	
	Transitions (300 X 33 X 1/6) ÷ 27	47.22	
	Super- Sta. 215+81.50 (336.19 X 50 X 1/7) ÷ 27	101.91	
	Transitions (300 X 50 X 1/7) ÷ 27	45.24	
	Super- Sta. 264+71.64 (338.66 X 54 X 1/5) ÷ 27	394.04	
ITEM T-30	Bituminous Prime Coat (over old pave. area) using Bituminous Material, Sec. M-5.12, AE-3 applied at the rate of not more than .10 gal. per sq. yd. and sand cover spread at rate of 4 to 7 lbs. per sq. yd.	17,679.02	
	Computations (9944.45 X 1/6) ÷ 9	577.77	
	Super- Sta. 197+03.98 (325 X 1/6) ÷ 9	597.67	
	Super- Sta. 215+81.50 (336.19 X 1/6) ÷ 9	602.06	
	Super- Sta. 264+71.64 (338.66 X 1/6) ÷ 9	19456.52	
	19456.52 X .10 = 1945.65 + 73.0 = 2018.65		Use 2020 Gal.

Extra Quantities from Intersections

ITEM B-35 7" Minimum Thickness, Asphaltic Concrete Leveling Course

Length of widening minus 3.13 (difference due to tangent stationing)
10,947.43 - 3.13 = 10,944.3 (10,944.3 X 22 ÷ 12) ÷ 27 = 743.13
Add. for depressions, etc. 100 cu. yds. per Mi. - 11099 - 1900 (Curves & Trans.) = 9199' or 1.75 Mi.
1.75 X 100 = 175.00
918.13

ITEM T-35 1" Asphaltic Concrete Surface Course Type B
Computations same as above minus 175 cu. yd. = 743.14 + 20.53 = 938.66 Use 939 Cu. Yds.

ITEM E-4 Estimated volume of Borrow (Contractor to furnish) in addition to material supplied from Roadway excavation, to build up shoulders as indicated in Typical Section 300 Cu. Yds. + 20.53 = 763.67 Use 764 Cu. Yds.

GENERAL SUMMARY			
ITEM	DESCRIPTION	QUANT.	UNIT
ROADWAY			
E-9	Removal of trees and stumps	1	Unit
I-8	Monument boxes reset	4	Units
E-1	Roadway Excavation (Unclassified)	2800	Cu. Yds.
E-10	Sealing (only) of Edges of existing Pave.	20,387	Lin. Ft.
E-4	Borrow (Contractor to furnish)	300	Cu. Yds.
PAVEMENT			
I-19	1/4" Insulation Course	7350	Sq. Yds.
B-35	Asphaltic Concrete Base Course	1618	Cu. Yds.
B-35	1" Minimum Thickness Asphaltic Concrete Leveling Course	939	Cu. Yds.
T-30	Bituminous Prime Coat (Sec. M-5.12, AE-3)	2020	Gal.
T-35	1" Asphaltic Concrete Surface Course Type B	764	Cu. Yds.
Maintaining Traffic including lights, signs, barricades & watchmen 24 hr. service (as per Plan)			
			Lump Sum