

APPENDIX B

GEOMETRIC REVIEW

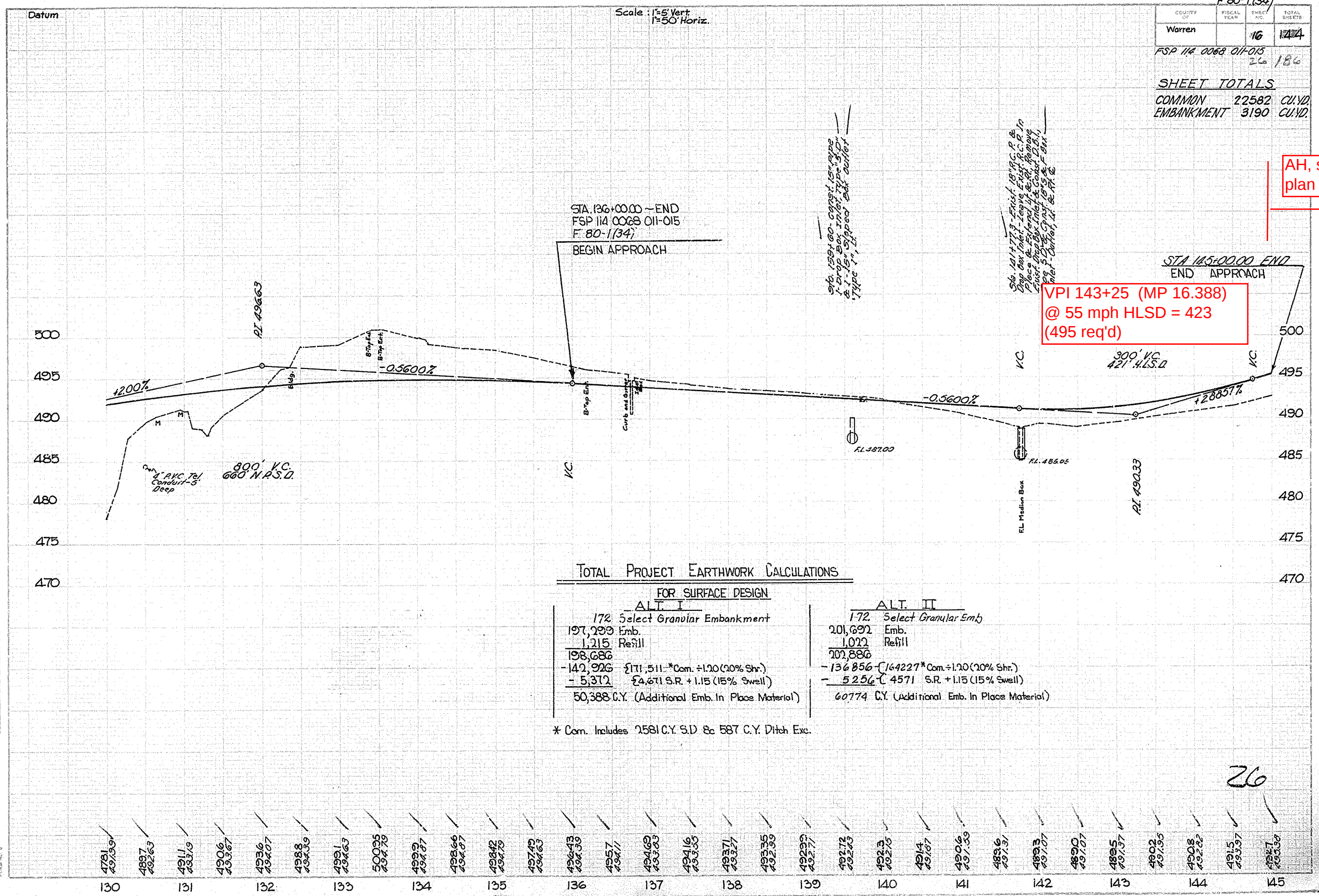
US 31W/Old Porter Pike Intersection

Time Gap (seconds/vehicle)	PASSENGER CARS	SU TRUCKS
Table 9-13	5.5	6.5
Adjustment for Multilane	1.0	1.4
Total	6.5	7.9

	PASSENGER CARS		SINGLE UNIT TRUCKS	
	45 mph	55 mph	45 mph	55 mph
Required Intersection Sight Distance (ft) - 55 mph		526		639
Required Intersection Sight Distance (ft) - 45 mph	430		523	
Sight Distance from Original Plans (1953) on As-built Vertical Revision - 473 feet				
Scenarios				
3 - Driving Lanes - 2 Driving Lanes + either Right or 1/2 Median (ft)	430	526	523	639
4 Driving Lanes - 2 Driving Lanes + either Right & 1/2 Median or Full Median (ft)	463	566	569	695
5 Driving Lanes - 2 Driving Lanes + Right + Full Median (ft)	496	606	615	752

F 80-1(34)			
COUNTY OF	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Warren		16	184
FSP 114 0068 011-015			
26 186			
SHEET TOTALS			
COMMON	22582	CU.YD.	
EMBANKMENT	3190	CU.YD.	

AH, see 1953 plan set



TOTAL PROJECT EARTHWORK CALCULATIONS

FOR SURFACE DESIGN

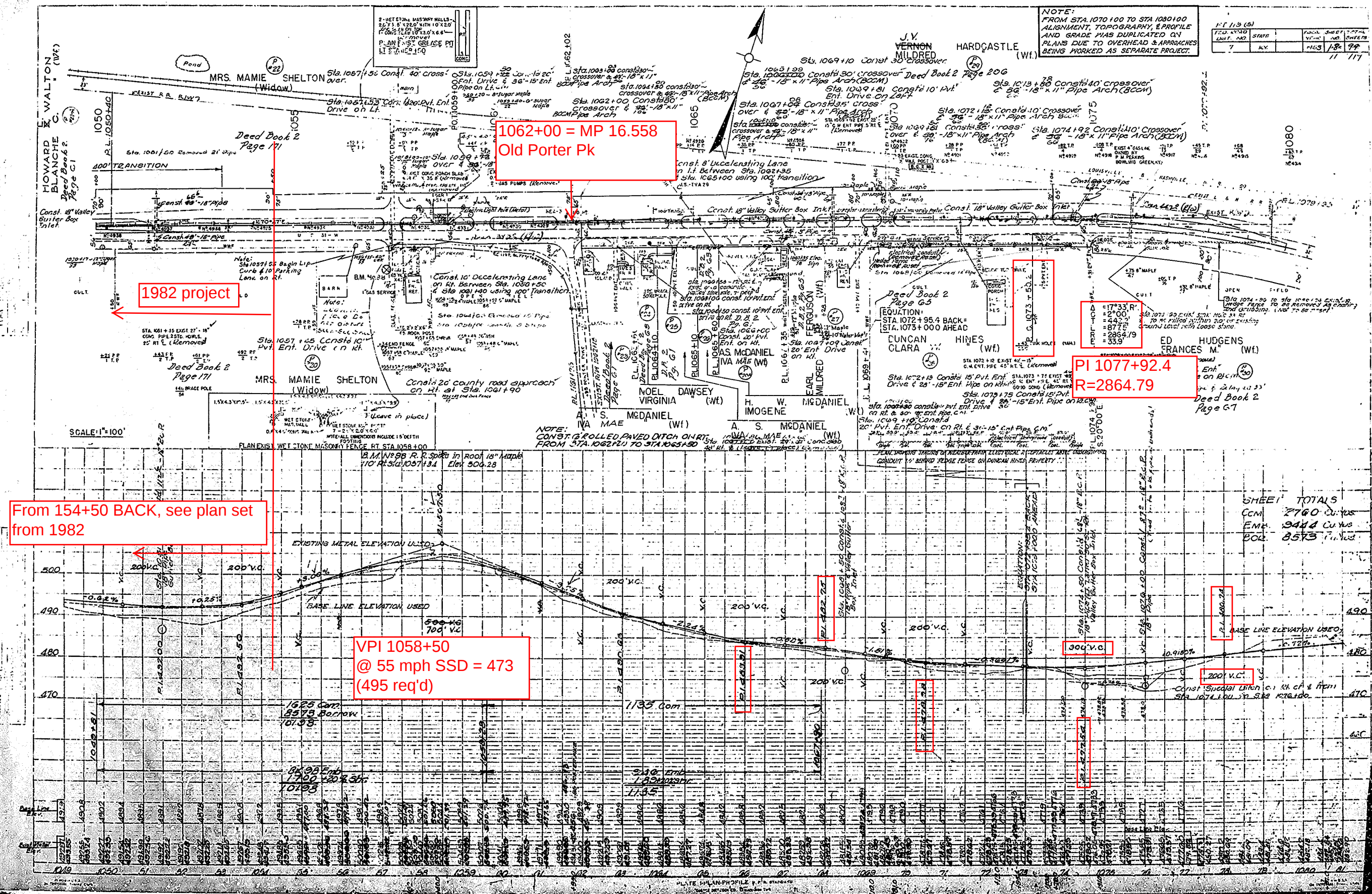
ALT. I	
172	Select Granular Embankment
197,293	Emb.
1,215	Refill
198,686	
-142,926	{171,511 * Com. ÷ 1.20 (20% Shr.)
-5,372	{4,671 S.R. + 1.15 (15% Swell)
50,388	C.Y. (Additional Emb. In Place Material)

ALT. II	
172	Select Granular Emb.
201,692	Emb.
1,022	Refill
202,886	
-136,856	{164,227 * Com. ÷ 1.20 (20% Shr.)
-5,256	{4,571 S.R. + 1.15 (15% Swell)
60,774	C.Y. (Additional Emb. In Place Material)

* Com. Includes 2581 C.Y. S.D. & 587 C.Y. Ditch Exc.

DATE	10/1/54
BY	JAC:LSR
CHECKED	
DATE	
BY	
CHECKED	
DATE	
BY	

DATE	10/1/54
BY	JAC:LSR
CHECKED	
DATE	
BY	
CHECKED	
DATE	
BY	



US 31W/KY 446 Interchnage Ramp Merges and Tapers

RAMP A is exit ramp from US31W (north) toward I-65

Ramp B is segment (including flyover bridge) of connector (KY 446) from I65 to US31W SB

Ramp D is short ramp from KY 446 WB (Ramp B) to US31W NB

RAMP B :

Existing Entrance taper/merge to US31W = 500'

Required (Green Book Exhibit 10-69):

Lg (min) =	300
remaining taper for 12' @ 50:1 =	<u>600</u>
Total min. taper/merge req'd =	900

Existing does not meet minimum required.

RAMP D :

Existing Entrance taper/merge to US31W = ~360' (scaled from plans)

Required (Green Book Exhibit 10-69):

Lg (min) =	500
remaining taper for 12' @ 50:1 =	<u>600</u>
Total min. taper/merge req'd =	1100

Existing does not meet minimum required.

US31W to
Bowling Green

merge taper ~500'

PI 41+72.5
R = 954.93

PI 51+58.14
R = 954.93

US31W speed limit BK =
45 mph

Ramp B bridge
over US 31W

PVI 59+50
EL 550.00
SSD 592

US31W posted speed
limit AH (north) 55 MPH

PVI 41+00
HLSD 443'

RAMP B

to I-65

KENTUCKY
DEPARTMENT OF HIGHWAYS
COUNTY OF
WARREN
U.S. 31W & U.S. 68 SPUR TO I-65
N.E. OF BOWLING GREEN ROAD

STATE PROJECT SECTION DATE
S.P. 114-443 F.113(8) 1965

SP 47-144-9

PI STA 61+64.48
R = 230'

radius & superelev. will
not meet 35 MPH

RR Bridge -
US31W MP 17.784

existing merge
taper ~360'

ENTRANCE RAMP "D"

RAMP "A"

ENTRANCE RAMP "D"

SCALE: 1" = 100'

NOTE:
FOR GRADE LINE OF RAMP "D" SEE
SUPER-ELEVATION DEVELOPMENT
SHEET.

WARREN CO. S.P. 114-443 F 113 (B)				
U.S. 31 W.B. CLOSURE TO S-45 H.E. OF BOWLING GREEN				
FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KY.	1965	8	16

PROFILE	DATE
BY	
NOTED	
STRUCTURE	
NO.	