01-1

MICROFILMED JUL 5 1978
MICROFILMED AUG 3 1978

CUYAHOGA COUNTY CUY-480-8.54	OHIO	1 / 346
I-480-4(35)162	FHWA REGION 5 / FEDERAL PROJECT	

I-480-4(35)162

ISSUE 1

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

CUY-480-8.54

CUYAHOGA COUNTY

CITY OF CLEVELAND & CITY OF BROOKPARK

GRADE SEPARATION WITH THE CONSOLIDATED RAIL CORPORATION

DESIGN DESIGNATION

1978 ADT	=	62,000
1998 ADT	=	82,716
DHV	=	4,950
D	=	67%
T	=	4%
V	=	60MPH

CONVENTIONAL SIGNS

Proposed Sewer
Temporary R/W — T
Work Agreement Line
Original Lot Line — O.L. 78 — O.L. 79
Water Line — W
Water Valve
Water Hydrant
Gas Line — G
Gas Valve
Telephone Underground — T
Electric Underground — E
Corporation Line
Fence Line (existing) — (proposed)
Center Line — 352 — 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light.

Existing Sewer
Existing Manhole
Proposed Manhole
Existing Catch Basin
Proposed Catch Basin
Manhole Abandoned
Catch Basin Abandoned
Existing Retaining Wall
Limited Access (only) — LA
Right of Way (only) — RW
Limited Access & Right of Way — LA & RW
Existing Right of Way
Property Line — (in existing fence)
Railroad — or
Guardrail (existing) — (proposed)

INDEX OF SHEETS

Title Sheet	1	West 150th. Ramp Plan and Profile	52
Schematic Plan	2-4	Access Road "C" Plan and Profile	53-54
Typical Sections	5-9	West 139th. Interchange Plan and Profile	55-56
General Notes	10-12	Pavement Details	57-71
General Summary	13-16	Sewer Profiles	72-73
Pavement Calculations	17-19	Culvert Details	74-76
Special Details	20-27	Relocated Channel-Access Rd "C"	77
I-480 Plan and Profile	29-39	I-480 Cross Sections	78-110
I-71 Interchange Schematic Plan	40-41	Cross Road Cross Sections	111-155
Ramp "R" Plan and Profile	42-45	Traffic Control Plans	156-179
Ramp "S" Plan and Profile	46-47	Lighting Plans	201-218
Ramp "T" Plan and Profile	48-50	Structure over 20' Span	219-328
West 150th. St. Plan and Profile	51	Right of way	331-346

SHEETS ADDED TO PLAN

NOS. 41A, 41B, 56A, 66A, 66B, 67A, 67B, 298A, 298B, 328A, 328B, 328C, 328D, 203A, 217A, 217B, 217C, 67C, 67D, 10A

SHEETS DELETED FROM PLAN

NOS. 28, 163, 180 thru 200, 205, 216, 218, 329, 330

LINE DATA

BEGIN PROJECT	STA. 476+00.00
END PROJECT	STA. 573+50.00

PROJECT LENGTH = 9,750.00 LIN. FT. OR 1.846 MILES

ADDITIONAL WORK

I-480 ~ Sta. 573+50 to Sta. 575+09	=	159 Lin. Ft.
N.B. I-71 Signs ~ 4 @ 25 ft. ea.	=	100 Lin. Ft.
S.B. I-71 Signs ~ 3 @ 25 ft. ea.	=	75 Lin. Ft.
Access Rd. C Sta. 0+27 to Sta. 9+00	=	873 Lin. Ft.
Brookpark Road Sta. 161+00 to Sta. 173+25	=	1,225 Lin. Ft.
Sta. 175+75 (Sign)	=	25 Lin. Ft.

TOTAL ADDITIONAL WORK = 2,457 Lin. Ft.

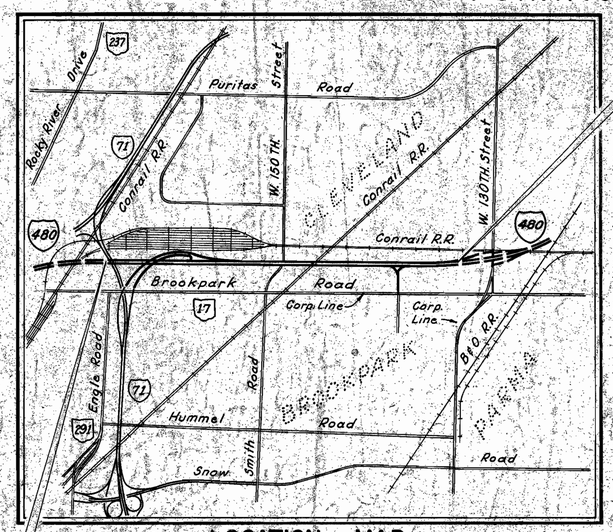
TOTAL LENGTH OF WORK = 12,207 LIN. FT. OR 2.311 MILES

00383

Project: CUYAHOGA COUNTY CUY-480-8.54
Date of Letting _____ 19__, Contract No. _____

LD0300 Rev. 9-3-75

BRUNING 44-560 29724



LOCATION MAP

SCALE IN MILES 0 ½ 1

BEGIN PROJECT
STA. 476+00.00
S.L.M. = 8.54

SCALES

Plan 0 50 100
Profile: Horizontal 0 50 100, Vertical 0 10 or 20 20 or 40
Cross Section: Horizontal 0 10 20, Vertical 0 10 20

LIMITED ACCESS

This improvement is especially designed for thru traffic and has been declared a Limited Access Highway or Freeway by action of the Director of Transportation, in accordance with the provisions of Sec. 5511.02 of the Revised Code of Ohio.

1977 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway to traffic and that provisions for maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved _____ Director of Public Service, City of Cleveland
Date 10/20/77

Approved _____ District Deputy of Transportation
Date 10-20-77

Approved _____ Engineer, Bureau of Bridges and Structural Design
Date 11-9-77

Approved _____ Chief Engineer, Planning and Design
Date 2-15-78

Approved _____ Director, Department of Transportation.
Date 2-15-78

NOTE: All references to former Penn Central Transportation Co. appearing throughout this plan shall be considered to pertain to the Consolidated Rail Corporation.

NOTE: Project designation CUY-80 appearing throughout this plan shall be considered to read CUY-480.

SUPPLEMENTAL SPECIFICATIONS			
801	4-25-77		
808	1-1-71	021	12-4-72
		048	2-19-74
836	3-12-75	950	4-25-77
838	1-13-77	951	4-25-77
839	11-25-70		
842	8-29-74	1001	1-3-77
843	10-23-75		
844	11-8-74		
846	4-25-77		
		3625	1-11-74
850	6-27-77	3713	1-11-74

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS															
BP-1	6-1-65			GR-5	1-1-71	MC-6	6-1-65	HL-1	9-6-73	HL-16	4-6-73	TC-31.21	8-27-76		
BP-2	12-6-76	F-1	5-1-76	GR-6	1-1-71	MC-7	10-15-76	HL-2	7-27-73	HL-22	11-9-77	TC-32.10	8-27-76	TC-61.10	8-19-77
BP-3	12-6-76	F-3	5-1-76			MC-9	11-1-77	HL-3	7-27-73			TC-32.11	8-27-76	TC-71.10	12-1-75
BP-4	12-6-76			HW-1	6-1-65	MH-1	6-12-75	HL-4	1-21-76			TC-41.10	8-19-77		
BP-5	8-11-75	F-5	5-1-76	HW-3	6-1-65	MC-10	5-1-76	HL-5	9-6-73			TC-41.20	4-1-77	TC-81.10	4-18-77
BP-6	6-1-65	F-6	5-1-76	HW-4	1-1-70	MH-3	6-12-75	HL-6	3-22-77			TC-41.50	4-1-77	TC-83.10	9-5-75
BP-7	12-6-76	F-7	11-1-77			MH-5	6-12-75	HL-7	1-21-76	TC-7.65	10-1-74	TC-42.10	8-19-77	TC-83.20	9-5-75
BP-9	12-6-76	GR-1	12-6-76	I-2A	6-6-69			HL-8	1-21-76	TC-12.30	10-1-74	TC-42.20	4-1-77	TC-84.20	9-5-75
BP-10	1-3-75	GR-2B	12-6-76			AS-1-72	6-30-72	HL-9	3-22-77	TC-21.10	10-1-74			TC-85.10	9-5-75
BP-11	1-3-75	GR-3	12-6-76	L-1	6-1-73	BR-1-67	10-15-71	HL-10	1-21-76	TC-21.20	4-18-77	TC-51.10	6-2-75	TC-85.20	9-5-75
CB-3A	1-1-76	GR-3A	12-6-76	MC-1	6-13-69	RB-1-55	2-2-59	HL-11	4-6-73	TC-21.40	8-19-77	TC-51.11	6-2-75	TC-82.10	9-5-75
CB-5	9-1-69	GR-4	12-6-76	MC-3	6-1-73	SD-1-69	6-12-69	HL-12	4-6-73	TC-22.20	8-19-77	TC-52.10	4-1-77		
CB-6	6-1-65	GR-4A	7-26-76	MC-4	7-26-76			HL-15	1-21-76			TC-52.20	4-1-77		

Rev. 7-5-78

Rev. 4-12-78

PLANS PREPARED BY
ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
75 PUBLIC SQUARE
CLEVELAND, OHIO
FOR
STATE OF OHIO

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

Rev. 6-22-78

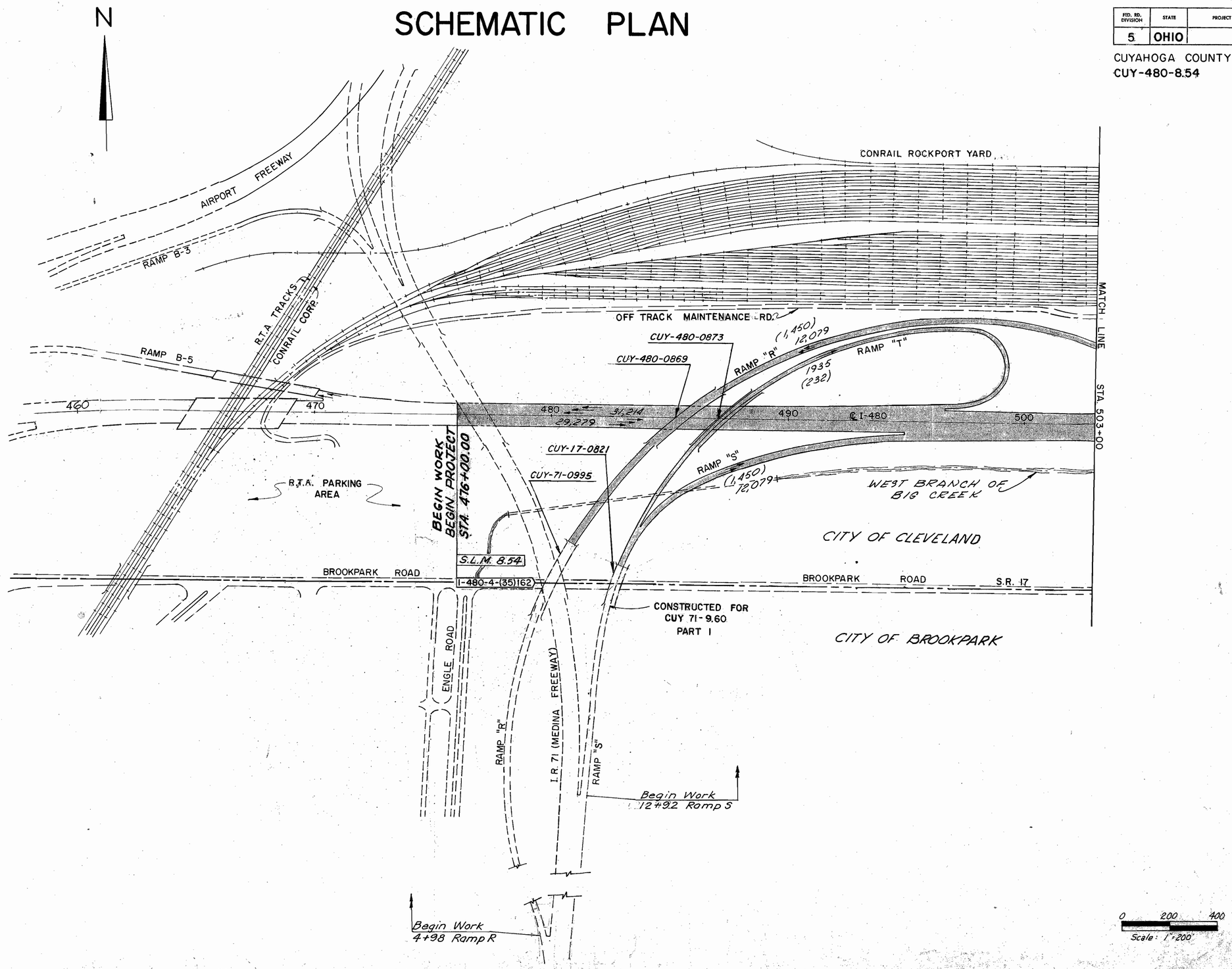
MICROFILMED
AUG 1 1982

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

2/346

CUYAHOGA COUNTY
CUY-480-8.54

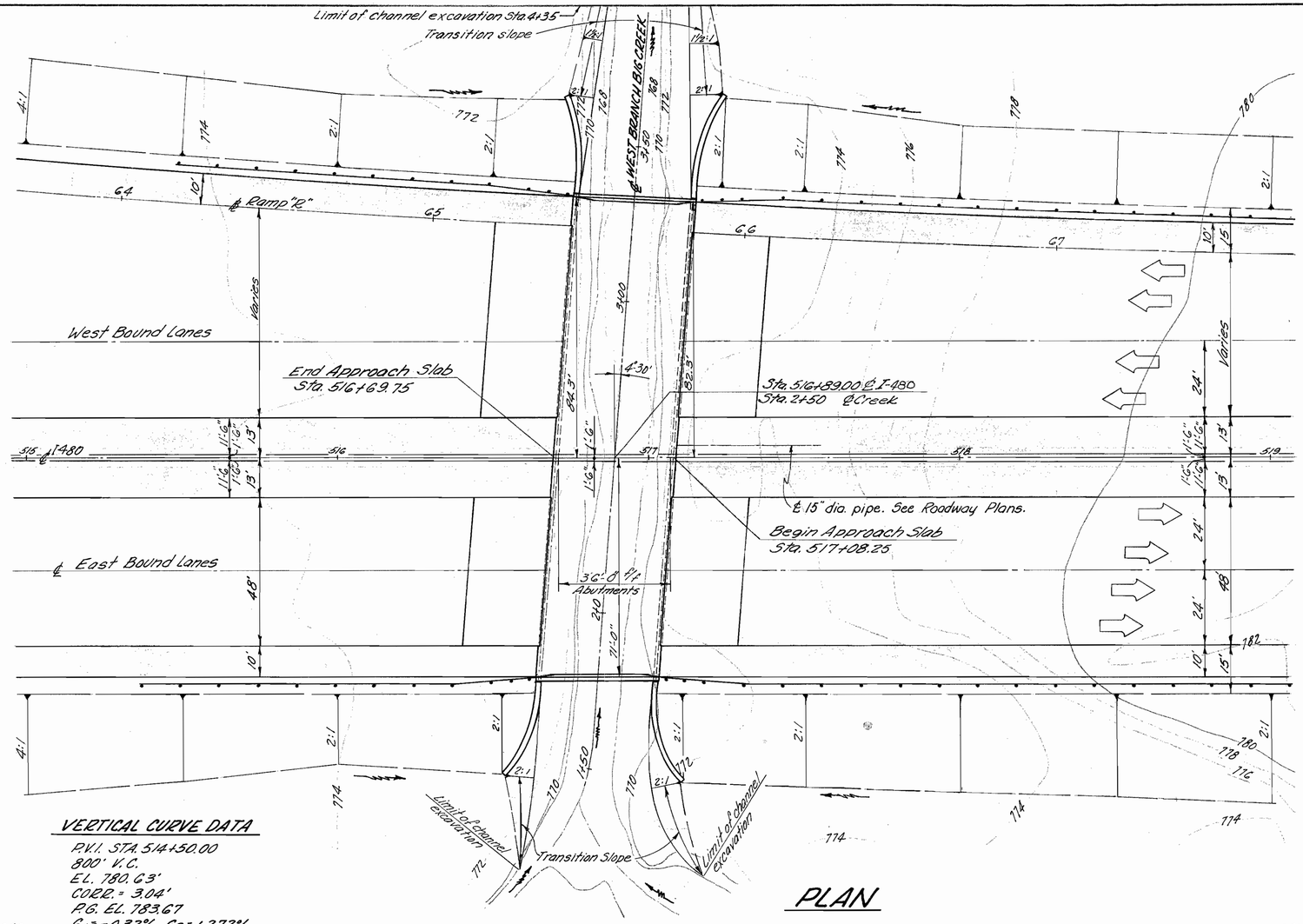


FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

250
3.46

CUYAHOGA COUNTY
CUY.-480-8.54

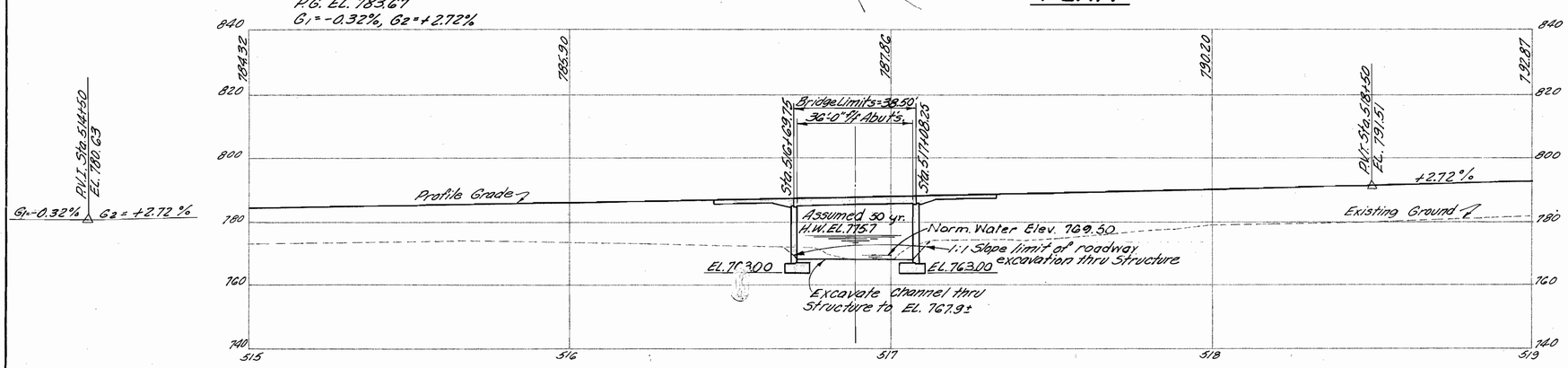
MICROFILMED
AUG 7 1982



PLAN

VERTICAL CURVE DATA

P.V.I. STA. 514+50.00
800' V.C.
EL. 780.63'
CORR. = 3.04'
P.G. EL. 783.67
G_1 = -0.32%, G_2 = +2.72%



PROFILE

EXISTING STRUCTURES

BRIDGE No. CUY-17-0829
860'± Upstream.
TYPE: Single span reinforced concrete slab with reinforced concrete substructure.
SPAN: 30'-0" f/f abutments.
CONDITION: New
WATERWAY OPENING: 195 sq. ft.

900'± Downstream
TYPE: Single span timber deck.
SPAN: 20'±
CONDITION: Unknown.
WATERWAY OPENING: 200 sq. ft.

℄ CURVE DATA-RAMP "R"

Δ = 05°-54'-06"
D = 0°-40'-00"
R = 8594.37'
T = 443.03'
L = 885.27'
P.T. = Sta. 70+23.45 ℄ Ramp "R" = Sta. 521+54.63 ℄ I-480

PROPOSED STRUCTURE

TYPE: Single span reinforced concrete slab with reinforced concrete substructure.

SPAN: 36'-0" f/f Abutments along ℄ roadway
ROADWAY: E.B.-71'-0" ℄ I-480 to face of parapet
W.B.-Varies 83.30 average. Deflector-Parapets & Concrete Median Barrier
LOADING: C.F.-2000 (1957) Adequate for AASHO alternate loading.
SURFACE COURSE: Monolithic Concrete
SKEW: 4° 30'-00" L.F.
ALIGNMENT: Tangent
APPROACH SLABS: AS-1-72, Modified (25' long)

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

Channel excavation is included with Roadway Quantities.

HYDROLOGICAL DATA

Drainage Area = 2,000 acres
Q 50 years = 2,200 c.f.s
V = 7.6 ft/sec.
Q 100 years = 2540 c.f.s
V = 8.5 ft/sec.

0 20 40
Scale in Feet

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

1 / 10

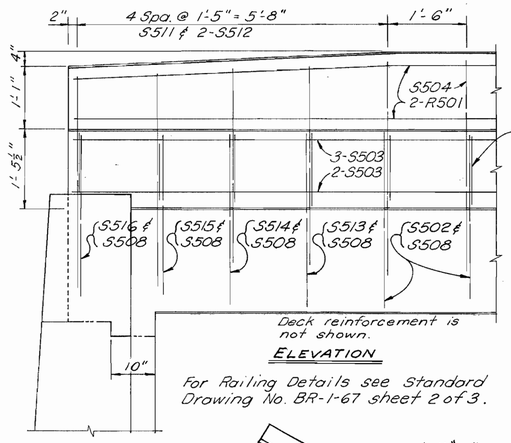
SITE PLAN
BRIDGE No. CUY-480-0930
I-480 OVER WEST BRANCH BIG CREEK
CUYAHOGA COUNTY STA. 516+69.75 STA. 517+08.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.J.P.	R.J.P.		R.C.	J.E.V.	9/20/60	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

252/346

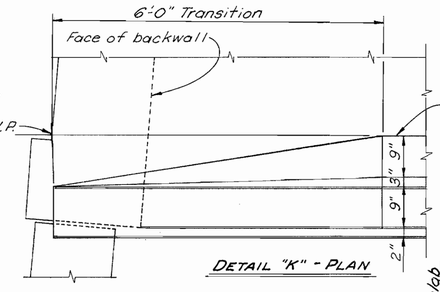
CUYAHOGA COUNTY
CUY-480-8.54



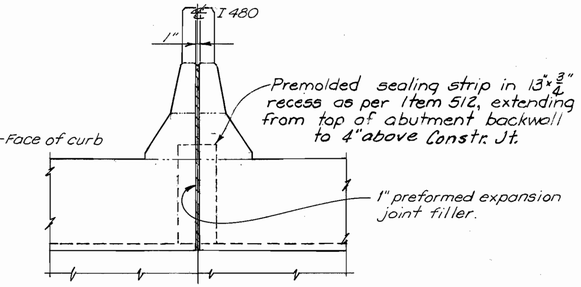
Deck reinforcement is not shown.

ELEVATION

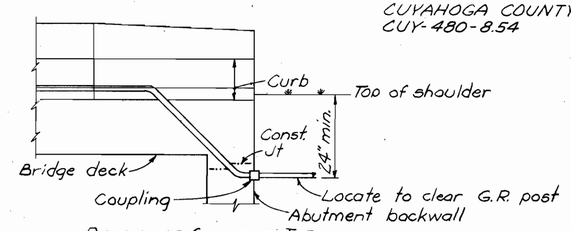
For Railing Details see Standard Drawing No. BR-1-67 sheet 2 of 3.



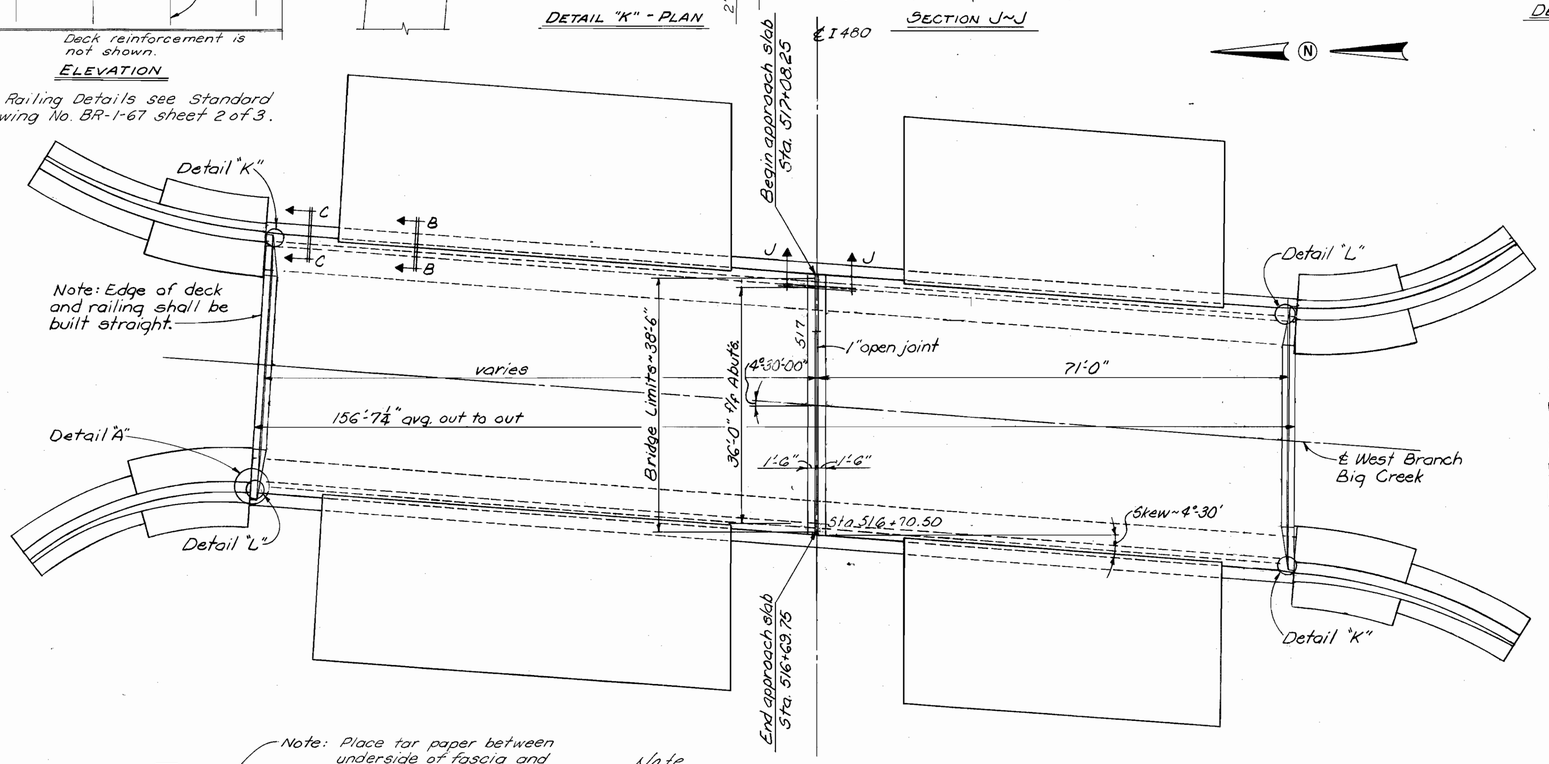
DETAIL "K" - PLAN



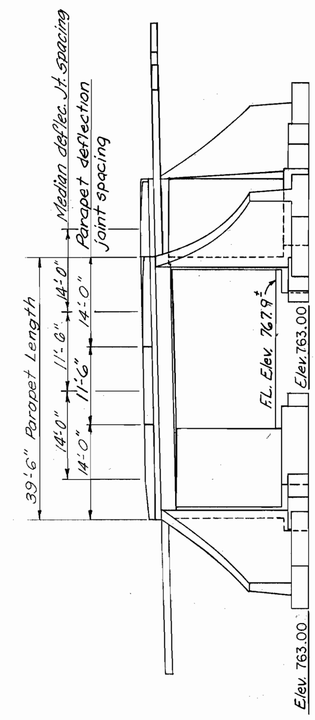
SECTION J~J



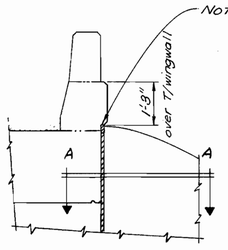
DETAIL OF CONDUIT THRU ABUTMENT



GENERAL PLAN



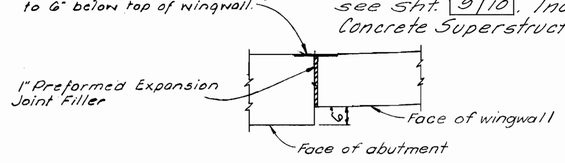
GENERAL ELEVATION.



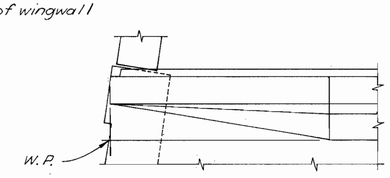
DETAIL "A"

Note

Deflection Jt. filler material for the Median Barrier shall be the same as that for the railing parapet as listed on Std. Dwg. BR-1-67. For limits of same see Sht. 9/10. Include with Item 511 Class "C" Concrete Superstructure for payment.



SECT. A-A



DETAIL "L"

NOTES:

For pavement elevations see Roadway Plans.

For Sections B~B and C~C, see Superstructure Details sheet 9/10

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

3/10

GENERAL PLAN & ELEVATION
BRIDGE Nº CUY-480-0930
I-480 OVER WEST BRANCH BIG CREEK

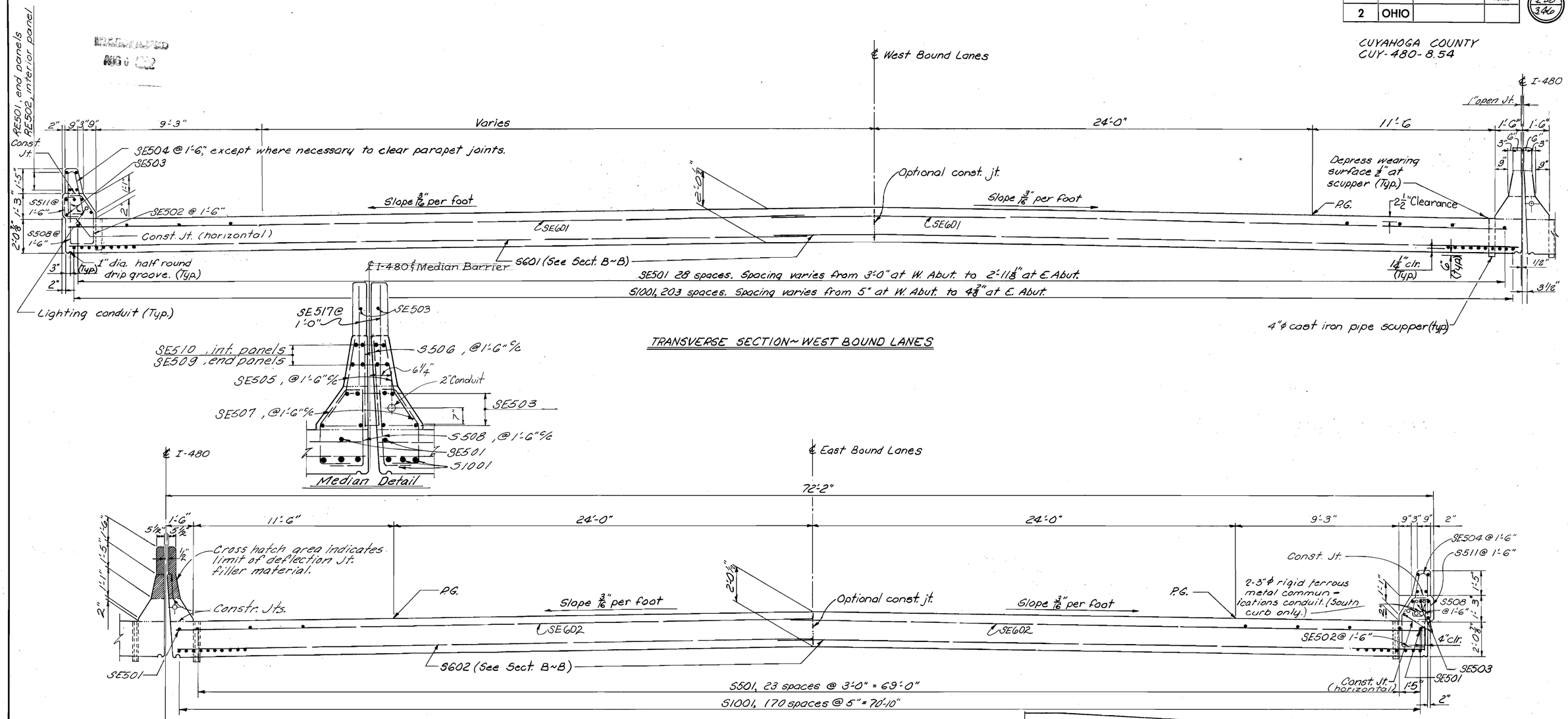
STA. 516+69.75
CUYAHOGA COUNTY STA. 517+08.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
fwd	G.T.R.		J.E.V.	J.E.V.	9/23/68	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

258
3440

CUYAHOGA COUNTY
CUY-480-8.54

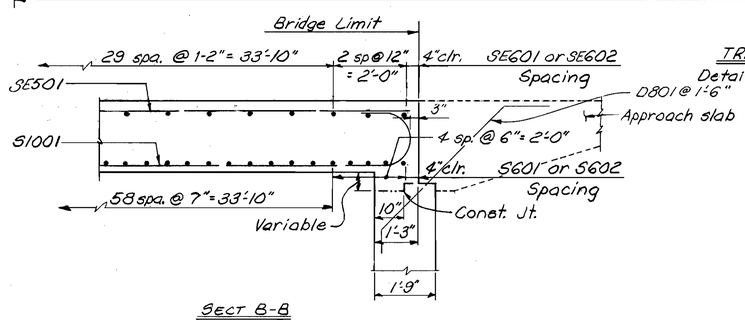


TRANSVERSE SECTION ~ WEST BOUND LANES

Median Detail

TRANSVERSE SECTION ~ EAST BOUND LANES

Details and dimensions not shown, same as West Bound Lane



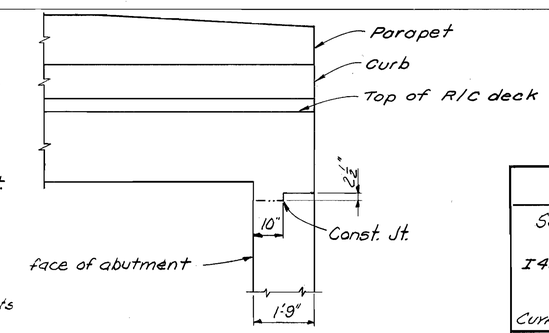
SECT B-B
Transverse Steel Spacing
Typical at abutments

NOTES:

Field bend transverse bars. Field bending to be included in Item 509 for payment.

Deflection at center of span is 7/8"

All conduits shall clear construction joints a minimum of 1". Clearance between conduits shall be a minimum of 2".



SECT C-C

Note: Longitudinal bars in curb and parapet same as these in left side.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

0/10

SUPERSTRUCTURE DETAILS
BRIDGE No. CUY-480-0930
I480 OVER WEST BRANCH BIG CREEK

STA. 516+69.75
STA. 517+08.25
CUYAHOGA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
fwd.	G.T.R.		J.E.V.	J.E.V.	9/23/68	