

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

PLAN NO. BR-46-73

STATE	PROJECT
OHIO	STATE

1  
15

ROSS COUNTY  
ROS-207-0.94

ROS-207-0.94  
BRIDGE OVER STREAM  
UNION TOWNSHIP  
ROSS COUNTY  
STRUCTURE REPLACEMENT

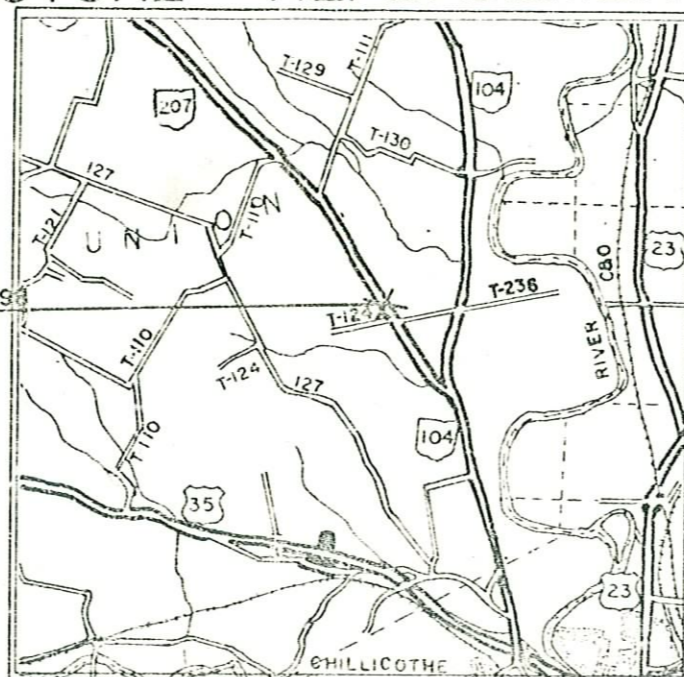
CONVENTIONAL SIGNS

County Line	-----	Limited Access (only)	-----LA-----
Township Line	-----	Right of Way (only)	-----RW-----
Section Line	-----	Limited Access & Right of Way	-----LA&RW-----
Corporation Line	----- or -----	Existing Right of Way	-----
Fence Line (existing)	----- (proposed) -----	Property Line	----- (in existing fence) -----
Center Line	-----	Railroad	-----
Trees	⊙, Stumps	Guardrail (existing)	----- (proposed) -----
Utility Poles	Telephone $\overline{\text{P}}$ , Power $\overline{\text{P}}$ , Light $\overline{\text{L}}$	Construction Limits	-----

INDEX OF SHEETS

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Superstructure	5
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Cross Sections	7-11
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Traffic Control Plan	15

BRIDGE NO. ROS-207-009



LOCATION MAP

SCALE OF MILES



Portion to be improved	-----
State Roads	-----
Other Roads	-----

SCALES

Plan	-----
Profile: Horizontal	-----
Profile: Vertical	-----

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS	
AS-1-72	6-30-72
BR-5	6-1-72
DBR-2-73	4-10-73
GR-2-B	11-2-71
GR-4	11-2-71
MC-3	6-1-73
P3BD-1-71	9-1-71
MC-4	12-1-67
DS-6	6-1-65

1973 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 to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved George C. Young  
Date 1-10-74 District Deputy Director of Transportation

Approved John B. Phillips, Sr.  
Date 1-23-74 Engineer of Bridges

Approved R. L. Zook  
Date 4-22-74 Engineer of Maintenance

Approved A. Cayson Barklow  
Date 4-22-74 Assistant Deputy Director, Operations and Maintenance

Approved \_\_\_\_\_  
Date \_\_\_\_\_ Assistant Deputy Director for Real Estate

Approved \_\_\_\_\_  
Date \_\_\_\_\_ Assistant Deputy Director, Program Development

Approved \_\_\_\_\_  
Date \_\_\_\_\_ Chief Engineer, Division of Highways

Approved William W. Baker  
Date 4-22-74 Deputy Director, Division of Highways

Approved William F. McNamee  
Date 4-22-74 Assistant Director, Department of Transportation

Approved Philip Qualey  
Date 4-24-74 Director, Department of Transportation

SUPPLEMENTAL SPECIFICATIONS	
035	1-1-71



**UTILITY OWNERS**  
 SOUTH CENTRAL POWER CO.  
 BOX 250  
 LANCASTER, OHIO 43130

CHILICOTHE TELEPHONE CO.  
 EAST MAIN STREET  
 CHILICOTHE, OHIO 45601

ROSS COUNTY WATER COMPANY  
 33 W. MAIN STREET  
 CHILICOTHE, OHIO 45601

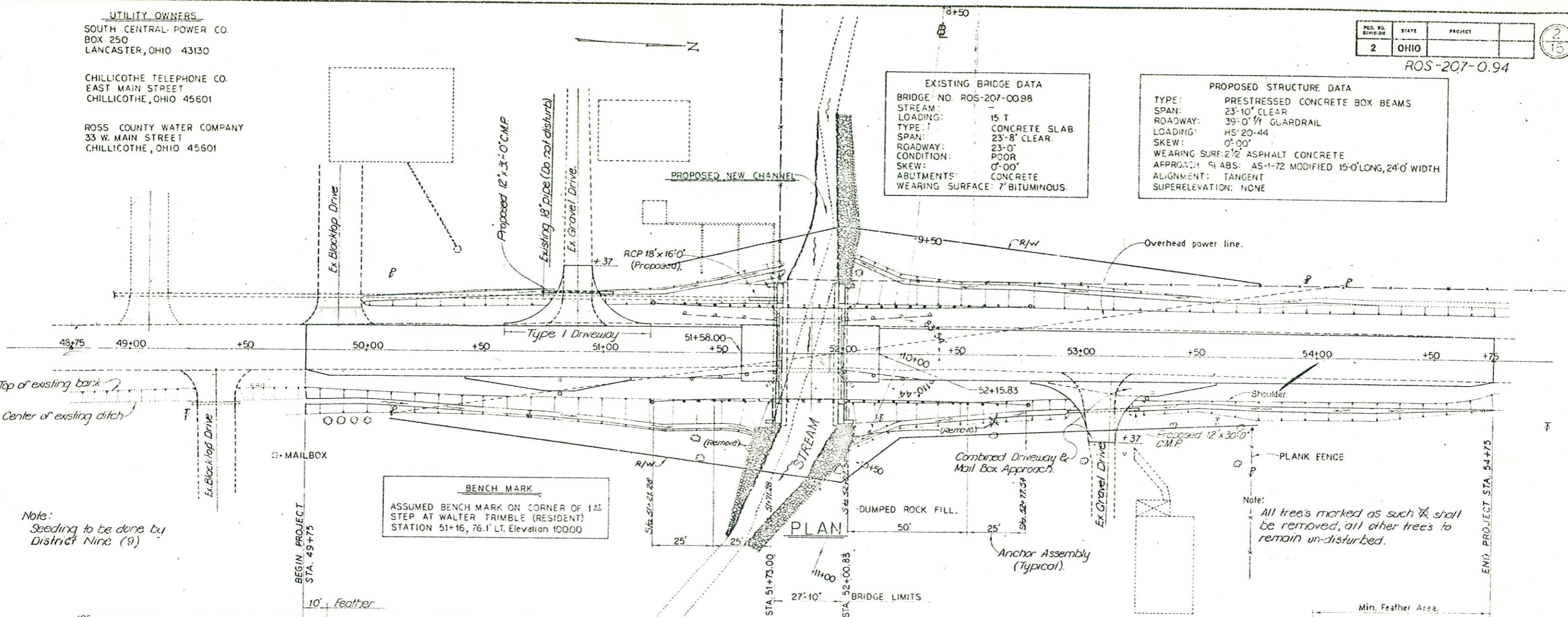
RES. NO. DIVISION	STATE	PROJECT
2	OHIO	

2  
15

ROS-207-0.94

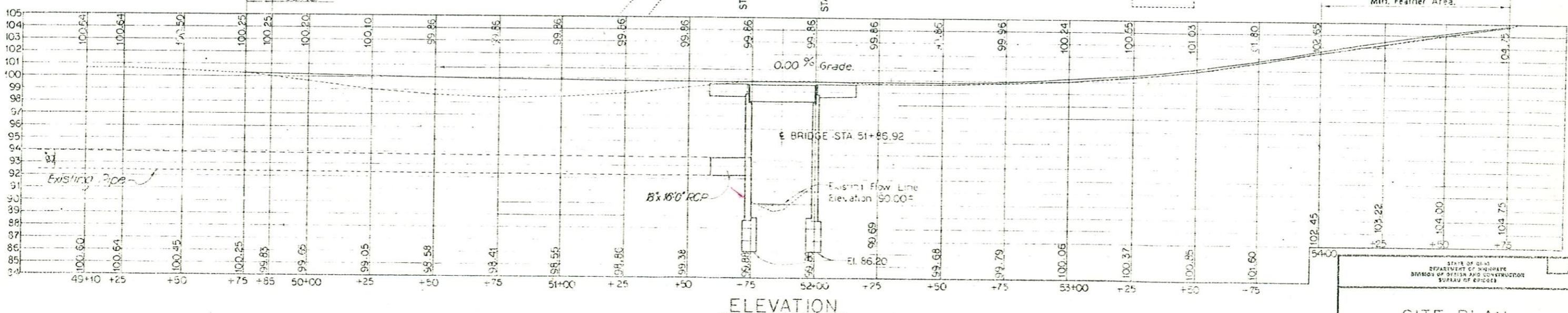
**EXISTING BRIDGE DATA**  
 BRIDGE NO. ROS-207-0098  
 STREAM: [blank]  
 LOADING: 15 T  
 TYPE: CONCRETE SLAB  
 SPAN: 23'-8" CLEAR  
 ROADWAY: 23'-0"  
 CONDITION: POOR  
 SKEW: 0'-00"  
 ABUTMENTS: CONCRETE  
 WEARING SURFACE: 7" BITUMINOUS.

**PROPOSED STRUCTURE DATA**  
 TYPE: PRESTRESSED CONCRETE BOX BEAMS  
 SPAN: 23'-10" CLEAR  
 ROADWAY: 39'-0" W/ GUARDRAIL  
 LOADING: HS-20-44  
 SKEW: 0'-00"  
 WEARING SURF: 2 1/2" ASPHALT CONCRETE  
 APPROACH: 91 ABS: AS-1-72 MODIFIED 15'-0" LONG, 24'-0" WIDTH  
 ALIGNMENT: TANGENT  
 SUPERELEVATION: NONE



Note:  
 Seeding to be done by  
 District Nine (9)

**BENCH MARK**  
 ASSUMED BENCH MARK ON CORNER OF 1<sup>ST</sup> STEP AT WALTER TRIMBLE (RESIDENT)  
 STATION 51+16, 76.1' LT. Elevation 10000



STATE OF OHIO  
 DEPARTMENT OF HIGHWAY  
 DIVISION OF DESIGN AND CONSTRUCTION  
 BUREAU OF BRIDGES

**SITE PLAN**  
 BRIDGE NO. ROS-207-0098

DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE



## GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	3 15
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ROS-207-0.94

**REFERENCE:** shall be made to Standard Drawings AS-1-72, Modified dated 6-30-72, DBR-2-73 dated 4-10-73, BP-5 dated 6-1-72, GR-2B dated 11-9-71, GR-4 dated 11-9-71, MC-3 dated 6-1-73, PSBD-1-71 dated 9-1-71, Supplemental Specification 836 dated 1-1-71, BP-6 dated 6-1-65 and MC-8 dated 12-1-64.

**DESIGN SPECIFICATIONS:** This structure conforms to Standard Specifications for Highway Bridges adopted by the American Association of State Highway Officials 1969, including the Ohio Supplement to these specifications.

**DESIGN DATA:**

Design Loading - HS-20-44

Concrete Class C - Unit stress 1,200 p.s.i. for superstructure.

Unit stress 1,333 p.s.i. for substructure.

Concrete for Prestressed Concrete Beams - Unit stress 2,200 p.s.i. Compression.

444 p.s.i. Tension.

Prestressing strand ASTM A416, f<sub>s</sub> = 270,000 p.s.i., Working stress = 0.60 f<sub>s</sub>.

Reinforcing steel ASTM A615, A616 or A617 - Unit stress 20,000.

**UTILITY LINES:** All expense involved in relocating the affected utility lines shall be borne by the owners. The contractor and owners are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

**REMOVAL OF STRUCTURE:** When no longer needed to maintain traffic the existing structure shall be removed, as per plan. Suitable waste masonry shall be placed as bank protection as directed by the Engineer. Payment to be included in Item 202, Structure removed.

**MAINTAINING TRAFFIC:** See Work Procedure.

**CURING CONCRETE APPROACH SLABS:** If supplemental specification 836 is used in lieu of water, the compound shall be removed prior to application of tack coat item 407 on approach slabs.

**PRESTRESSED BEAMS:**

1. Design Loading:

Live load HS-20-44 with interstate alternate loading.

Superimposed dead load 175 lbs. per lin. Ft.

2. Concrete stresses:

Min. concrete strength at 28 days f<sub>c</sub> = 5,500 psi.

Min. concrete strength at time of initial prestress f<sub>c</sub> = 4,000 psi.

3. Prestressing strands, 1/2" Dia 270<sup>#</sup> seven wire, uncoated.

Stress-relieved strand A<sub>s</sub> = 0.154 in.

Initial Tension = 23,900 lbs. per strand.

4. Applicable PSBD-1-71 Details.

Section showing wall thickening at guard rail anchors.

Beam lifting inserts.

Anchor details (Fixed).

Details of transverse tie rod anchorage.

Diaphragms and transverse tie rods.

Normal crown treatment joint offset from roadway.

Beam dimensional tolerances.

36" Wide non-composite beams, B17-36.

5. Beam shop drawings shall show complete details of reinforcing steel.

**TREATED SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEMS:** Treated sanitary flow may be discharged into the highway drainage system provided the owner has secured the approval of the local health authorities and has acquired from the Department of Transportation the official permit to have the connection made.

In each case where a permit has been issued for a sanitary connection to be made into a highway drainage conduit, it shall be provided with an inspection well, in accordance with the detail shown on Standard Drawing MC-8.

Where the property owner cannot or will not obtain approval from the local board of health and consequently is denied the official permit from the Department of Transportation to make such a connection, the private sewer line shall then be plugged at the right of way line.

The following estimated quantities have been included in the General Summary for use as directed by the engineer, in making the above described connections:

Item 603, 4" conduit, type C with class B bedding, 10 lin. Ft.

\* Item 604, inspection wells, 1 each.

And necessary pipe specials which shall be included for payment in the pertinent conduit item.

None of the above materials shall be ordered by the contractor until authorized by the engineer.

\* No inspection well is required if effluent is discharged into an open ditch, channel, catch basin or marshhole.

**FOUNDATION BEARING PRESSURE:** Abutment footings are designed for a maximum bearing pressure of .69 tons per Sq. Ft.

**BEAM FINISHING:** Texturing of the tops of beams as provided in 451.09 shall not be done.

## WORK PROCEDURE

- 1- Place traffic control devices as per traffic plan sheet No. 15, for one lane traffic lane on left, this being temporary traffic lane No. 1.
- 2- Erect temporary bridge railing on right side of traffic lane No. 1.
- 3- Install necessary bracing to support excavation adjacent to traffic lane as per item 503, cofferdams, cribbs and sheeting.
- 4- Construct right side of proposed bridge and approaches as per plan. Excavate outlet end of channel.
- 5- Open completed right side of structure to traffic, this becoming temporary lane No. 2.
- 6- Construct remainder of proposed bridge and approach slabs. Excavate remainder of proposed channel.
- 7- Place 403 and 404 wearing surface and open to two lane traffic.
- 8- Install guard rail.

**TYPE "B" WATERPROOFING MODIFIED** shall be in accordance with section 512 of the "construction and material specifications", except as modified. After the deck is primed all joints and irregularities in the beams shall be filled with asphalt cement Sec. 702.01 (70-25). Before the first mopping an extra ply of fabric shall be laid over all the joints (Transverse and longitudinal) extending at least 9' on each side of the joints. An 18" wide transverse strip shall be placed at the abutments centered over the joint. The membrane shall then be mopped on top of this extra ply allowing the underside to remain loose which allows for movement in the joint. Placing of waterproofing shall begin at the edge of the deck and shall progress toward the center. Asphalt concrete paving operations shall be carried out in a manner that will not displace or otherwise damage the completed waterproofing.

The additional waterproofing required for the joints shall be included for payment with the bid price.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES					
GENERAL NOTES AND WORK PROCEDURE BRIDGE NO. ROS-207-0098					
DESIGNED	CHECKED	DRAWN	APPROVED	DATE	BY
NLH	NLH	NLH	DAB	MPS	1-74

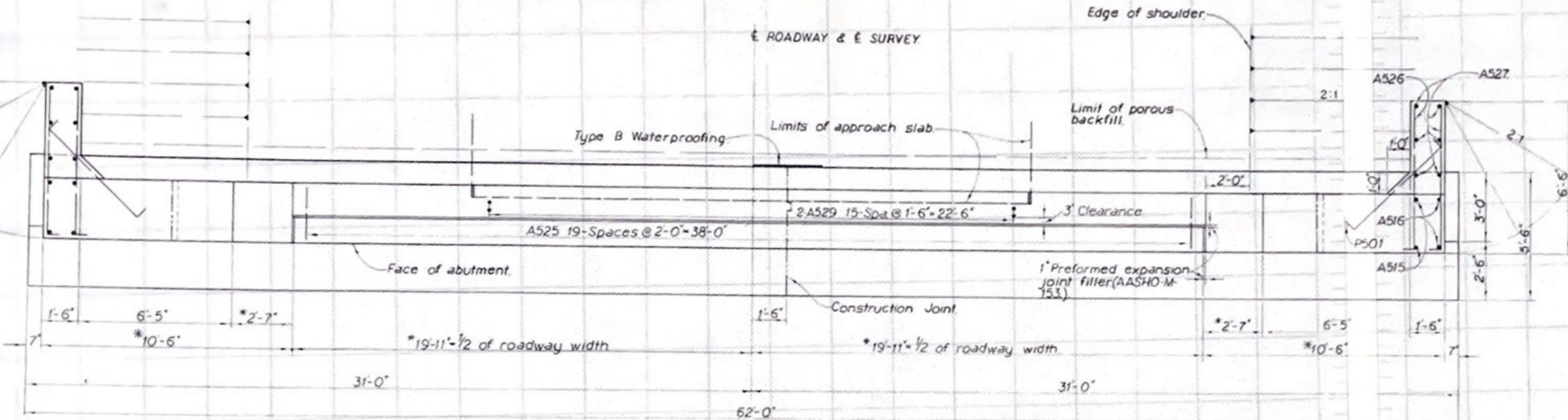


NOTE:

Porous Backfill shall extend from 6 inches below the weep holes upward to the plane of the subgrade within the roadway area extended laterally to the surface of the embankment slopes. Backfill shall not be placed higher than 4'-6" prior to placing the concrete box beams.

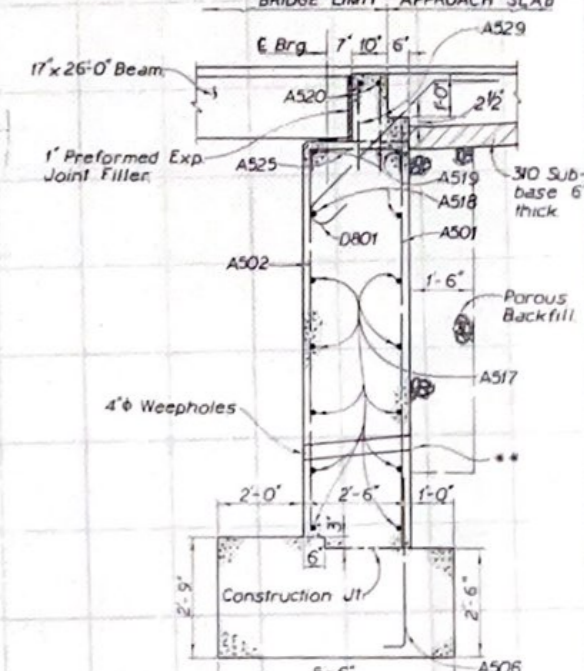
FED. RD. DIVISION	STATE	PROJECT	4 15
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ROS-207-0.94  
BRIDGE LIMIT APPROACH SLAB



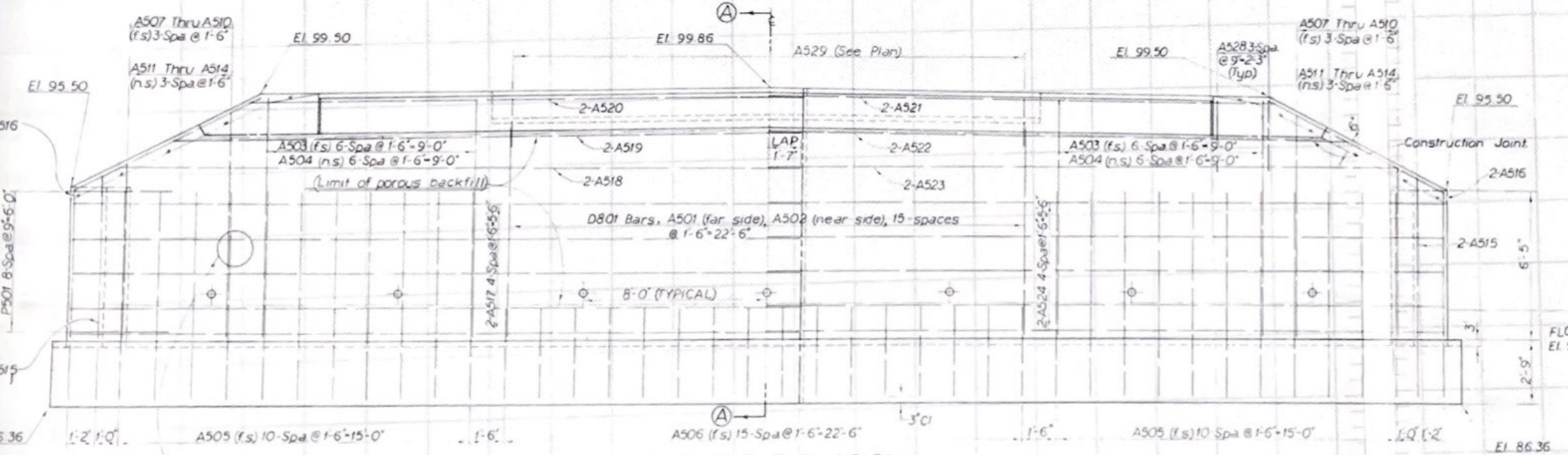
**ABUTMENT PLAN**  
FORWARD ABUTMENT, SHOWN  
REAR ABUTMENT AS NOTED

\*These Dimensions Will Vary Depending On Actual Beam Dimensions The 19'-11" dimension includes a 5" allowance for pre-stressed beam fit-up tolerances.



**SECTION A-A**

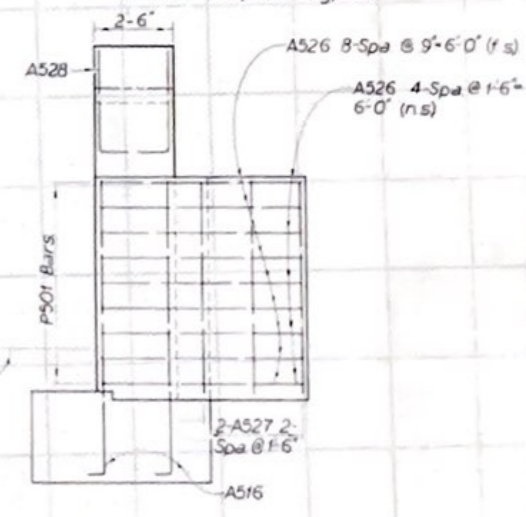
\*\*Provide 2 Cu. Ft. of bagged No. 3 aggregate at each weephole. (Typical)



**ABUTMENT ELEVATION**  
FORWARD ABUTMENT, SHOWN, REAR  
ABUTMENT OPPOSITE HAND AND SIMILAR

Opening for 18" RCP left rear only  
Flow line elevation = 92.25  
23.1' left of  $\epsilon$ , 2" clearance of reinforcing steel shall be provided.

(TO BE CONSTRUCTED FIRST)



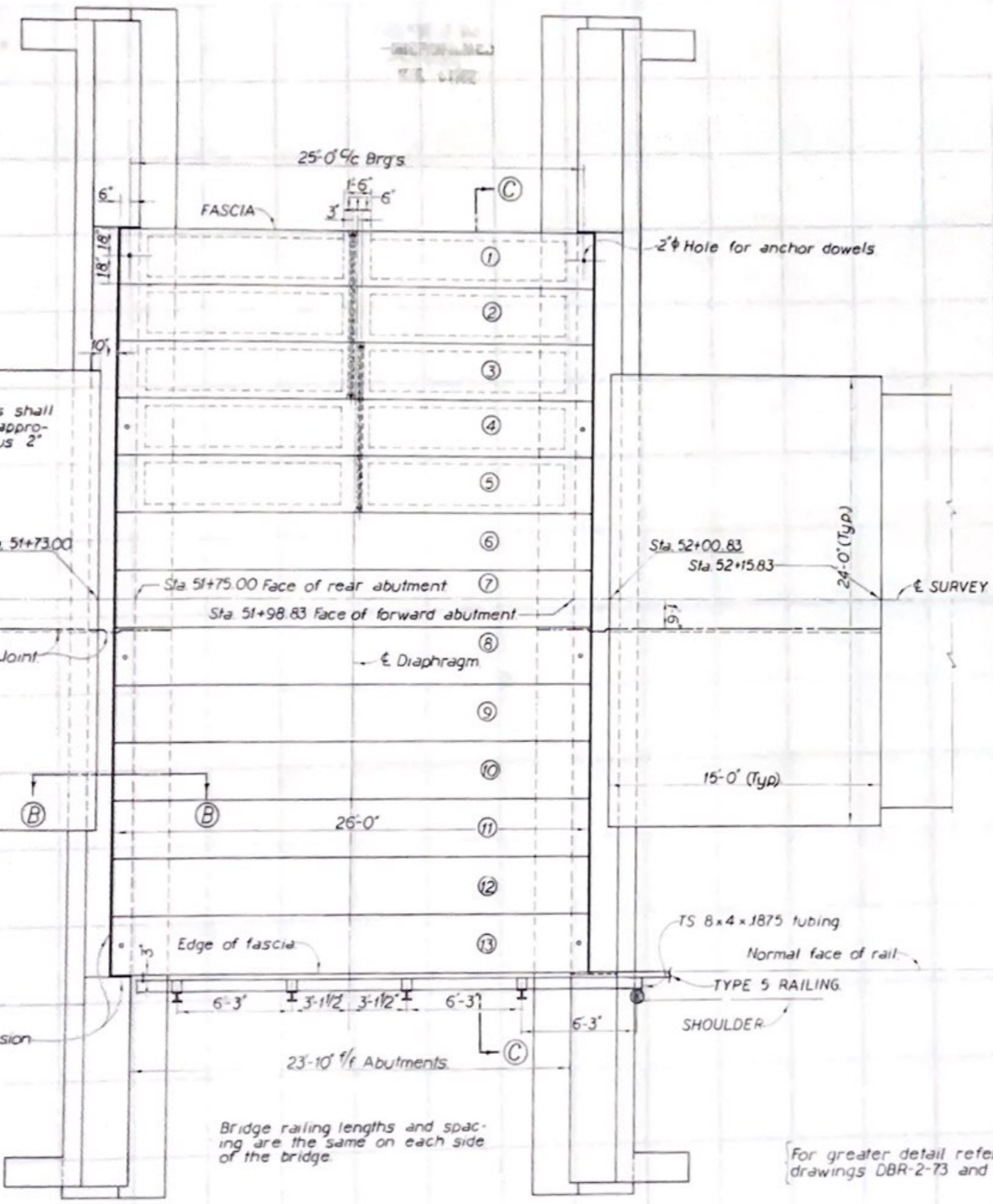
**END VIEW**

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BRIDGES

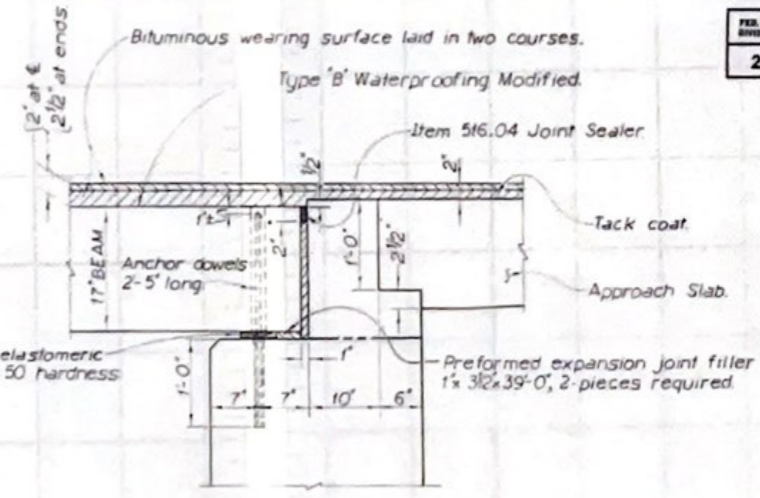
**ABUTMENT DETAILS**  
BRIDGE NO. ROS-207-0098

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
NLWJ	NLH	NLH	DAB	MAE	1-74	

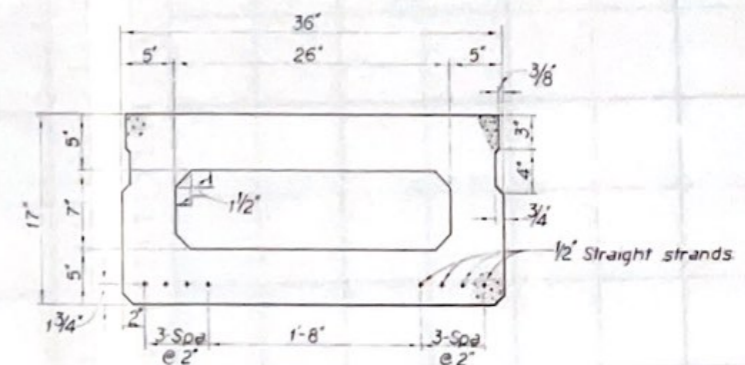




NOTE:  
The approach slabs shall be built to fit the approach pavement, minus 2" for asphalt.



SECTION B-B



CROSS SECTION 17x36 PRESTRESSED BEAM

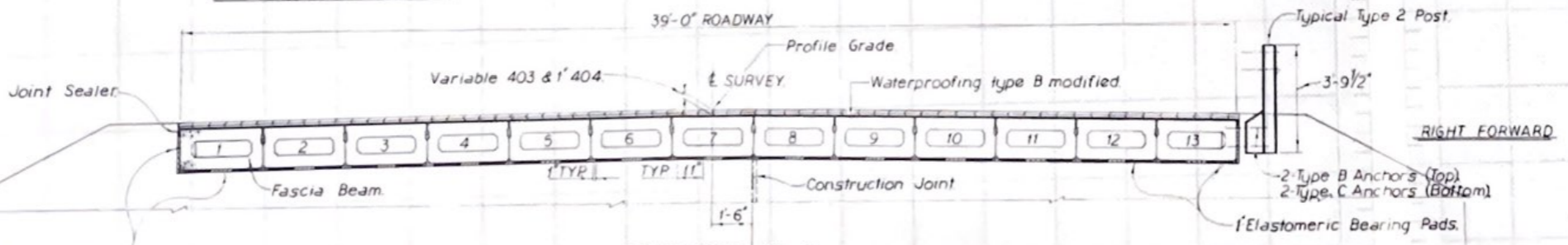
Prestressing strands are 1/2" uncoated seven wire stress-relieved strand with an initial tension of 28,900 pound per strand. Sec. 515. Provide 1/2" half round drip groove 3" from outside edge of fascia beams.

Calculated camber at release of prestress is 1/2". This includes allowance for creep.

Calculated deflection due to weight of surface course and railing is 1/64".

For greater detail refer to standard drawings DBR-2-73 and PSBD-1-71.

GENERAL PLAN



SECTION C-C

(TO BE CONSTRUCTED FIRST)

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						
SUPERSTRUCTURE DETAILS						
BRIDGE NO. ROS-207-0098						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
NLH	NLH	NLH	DAB	MPB	1-74	



STEEL LIST

MARK	NO.	LENGTH	WEIGHT	SHP.	BENDING DIAGRAMS
A501	32	9'-8"	323	S	
A502	32	8'-8 1/2"	291	S	
A503	28	5'-6"	151	S	
A504	28	10'-1"	235	S	
A505	44	9'-3"	425	B	
A506	32	4'-4"	145	B	A505, A506, A515
A507	4	4'-11"	21	S	
A508	4	4'-2"	17	S	
A509	4	3'-5"	14	S	
A510	4	2'-8"	11	S	
A511	4	9'-6"	40	S	
A512	4	8'-9"	37	S	
A513	4	8'-0"	33	S	
A514	4	7'-3"	31	S	
A515	8	9'-4"	78	B	
A516	8	8'-9"	73	B	
A517	20	31'-9"	662	S	
A518	4	29'-9"	124	S	
A519	4	27'-6"	115	S	
A520	4	24'-3"	101	S	
A521	4	22'-9"	95	S	
A522	4	26'-0"	109	S	
A523	4	28'-3"	118	S	
A524	20	30'-3"	631	S	
A525	40	3'-1"	129	B	
A526	56	6'-8"	389	B	
A527	24	6'-4"	159	S	
A528	16	8'-4"	139	B	
A529	32	2'-0"	67	S	
P501	36	6'-2"	232	B	
D801	32	6'-11"	591	B	

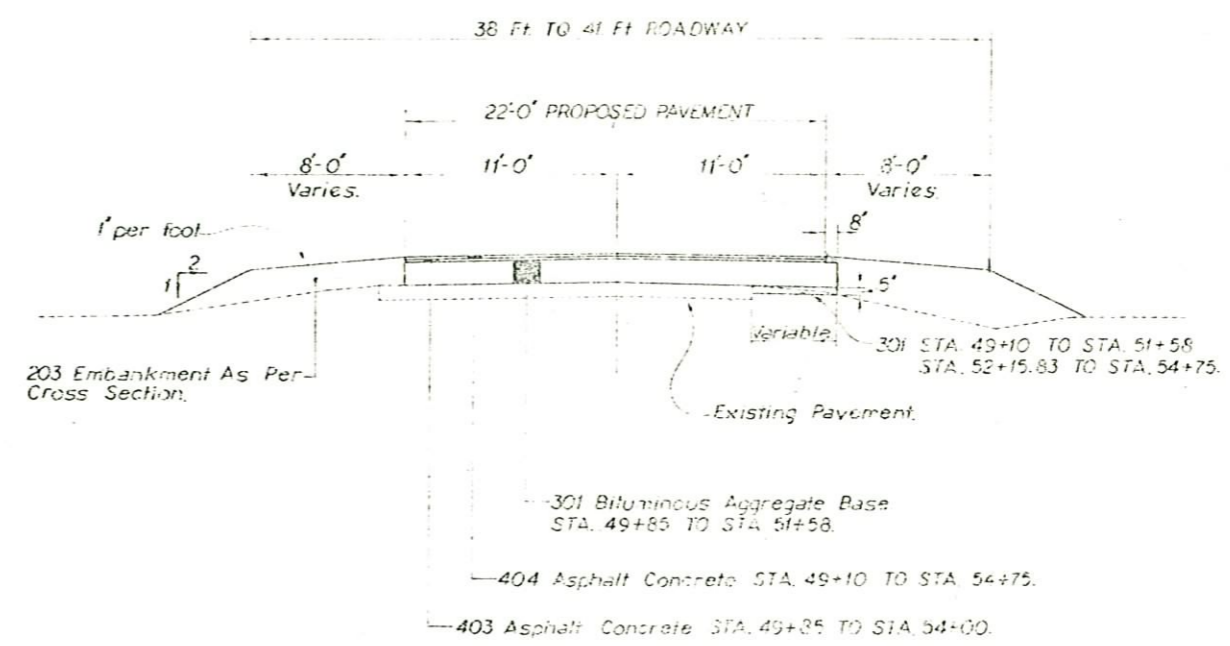
  

REPLACEMENT BARS				
RE-5	1	6'-7"	-	S
RE-8	1	7'-8"	-	B

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TYPICAL SECTION



DPIP STRIP DETAIL

Note:  
Galvanized Steel Drip Strip: Prior to applying deck membrane waterproofing a bent galvanized steel drip strip, 8" x 105" shall be installed along the edge of the deck as shown. The strips shall be fastened at 8" O.C. minimum with 1/2" diameter driven pins or 5/16" galvanized expansion screws subject to the approval of the Engineer. The strips shall be placed the full length of the deck where spikes are required a 3/8" x 1/2" shall be used with a fastener through the top steel deck meet the requirements of ASTM A593 and galvanizing shall be in accordance with 11.02. Resident shall be at the contract price bid for item special 8" x 105" galvanized steel drip strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.

GENERAL SUMMARY

ITEM	TOTAL	UNIT	DESCRIPTION
202	Lump Sum		Structure removed.
202	60	S.Y.	Pavement removed.
202	153	L.F.	Guard rail removed for storage.
203	720	C.Y.	Embankment.
203	436	C.Y.	Excavation (not including embankment construction).
301	132	C.Y.	Bituminous aggregate base (85-100) or AC-20 or (RT-11 or RT-12)
310	15	C.Y.	Subbase.
403	37	C.Y.	Asphalt concrete (70-85 or AC-20).
404	62	C.Y.	Asphalt concrete (70-85 or AC-20).
407	4	Gal.	Tack coat MS-2, RS-1, RC-250, SS-1 or SS-14.
410	38	C.Y.	Traffic compacted surface, type A or B.
502	104	C.Y.	Unclassified excavation.
503	Lump Sum		Centerdams, crib and sheeting.
509	5,051	Lbs	Reinforcing steel.
510	8	Ea.	Dowel holes.
511	85	C.Y.	Class C concrete, footing.
511	144.8	C.Y.	Class C concrete, abutments.
512	10	S.Y.	Type B waterproofing.
512	131	S.Y.	Type B waterproofing modified as per plan.
515	18	Ea.	Prestressed concrete bridge members.
516	125	S.F.	1" Performed expansion joint filler.
518	20	S.F.	1" Elastomeric bearing pads.
518	22	L.F.	Joint sealer 108.02.
517	23.6	L.F.	Rolling (truss beam) rail with steel posts and bolts.
513	45	C.Y.	Parapet concrete.
601	116	C.Y.	Duramix lock fill, type B, (18" thick).
602	10	L.F.	4" Gerdial, type C.
605	4	Ea.	Anchor assembly.
611	80	S.Y.	Fiberglass concrete approach slabs (T-10), as per plan.
612	Lump Sum		Maintaining traffic.
619	Lump Sum		Field office.
623	Lump Sum		Construction layout stakes.
623	15	L.F.	1/2" Gerdial, type A.
623	60	L.F.	1/2" Gerdial, type A.
626	33	S.F.	galvanized steel drip strip.
626	160	L.F.	guard rail type 6.
627	Lump Sum		Grading and grubbing.
628	1	Ea.	Inspector wells.

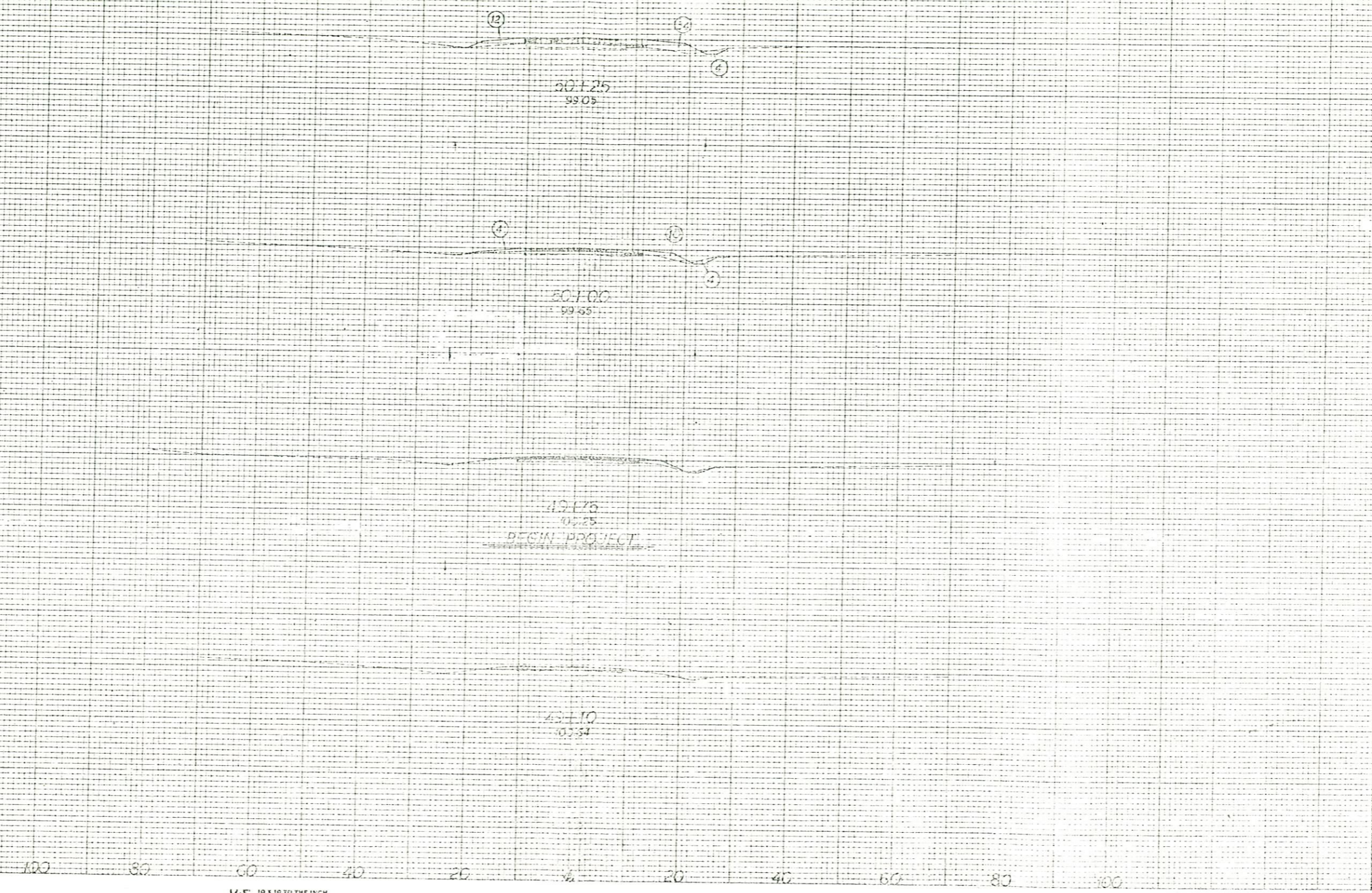
GENERAL SUMMARY, TYPICAL SECTION, AND STEEL LIST

BRIDGE NO. ROS-207-0058

DATE	BY	CHECKED	APPROVED
11/14/11	J. J. ...	J. J. ...	J. J. ...



END AREA		VOLUME	
CUT	FILL	CUT	FILL



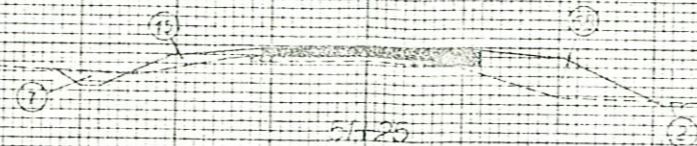
4	46		
5	39		
6	18		
5	13		
4	15		
4	30		
0	0	0	0



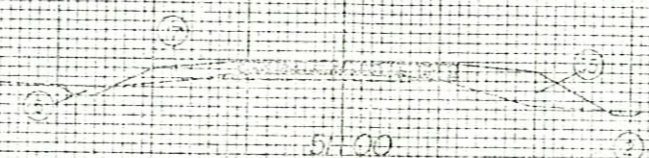
LINE OF GRADE TO BE MAINTAINED

100 80 60 40 20 0 20 40 60 80 100

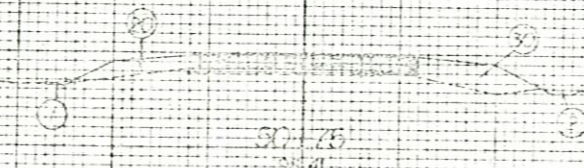
MAINTAIN GRADE TO  
EXISTING ROADWAY  
A. H. S. D.



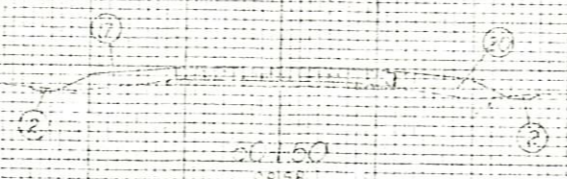
51+25  
99.66



51+00  
99.51



50+75  
99.41



50+50  
99.36

END AREA	VOLUME
CUT/FILL	CUT/FILL

3	83
---	----

7	72
---	----

2	75
---	----

5	57
---	----

3	50
---	----

1	41
---	----

4	37
---	----

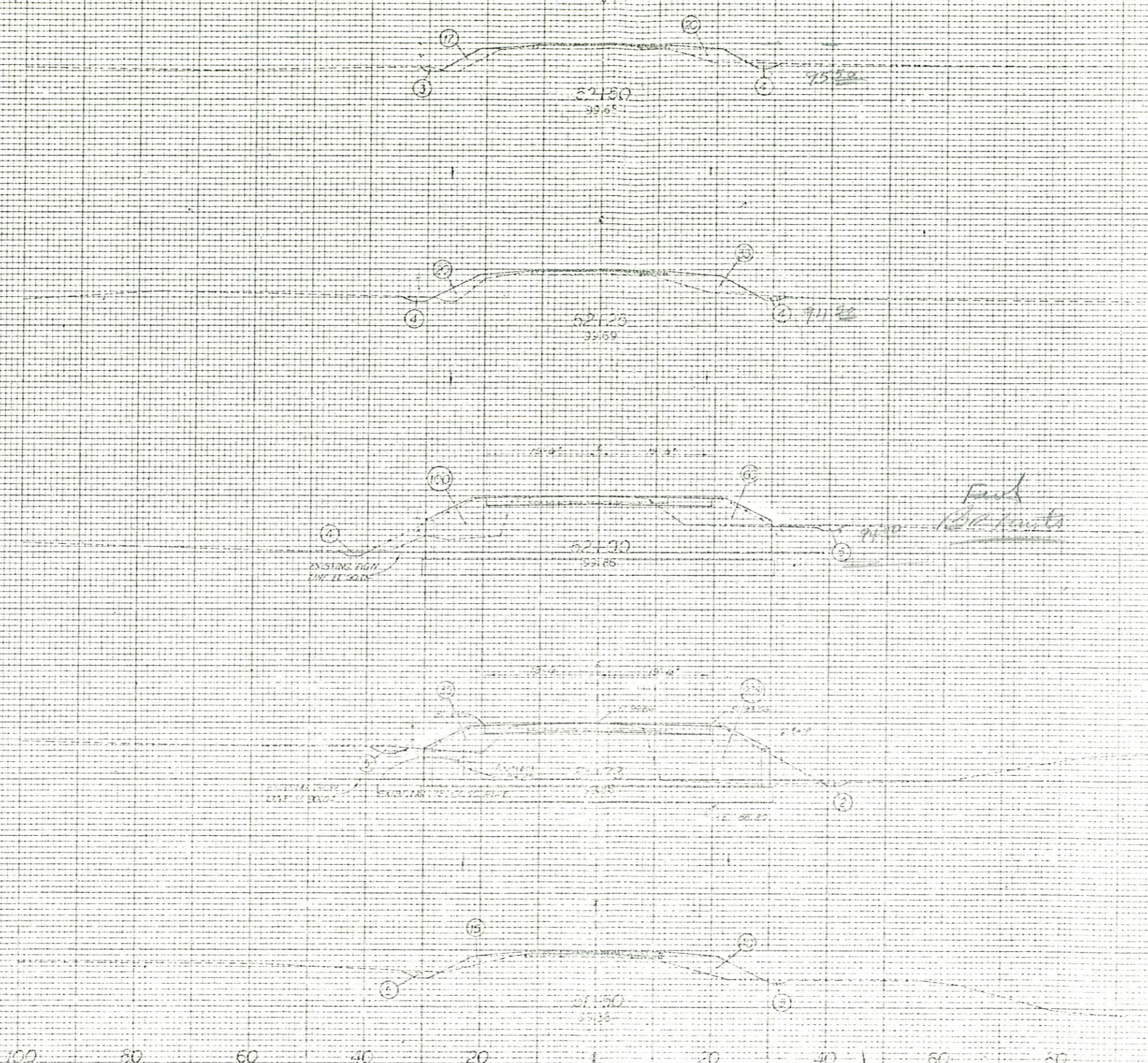
4	39
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1" = 10' TO THE INCH  
NEUTRAL & ASSOCIATES  
INCORPORATED

STA 50+50 TO STA. 51+25

DATE: 5-68

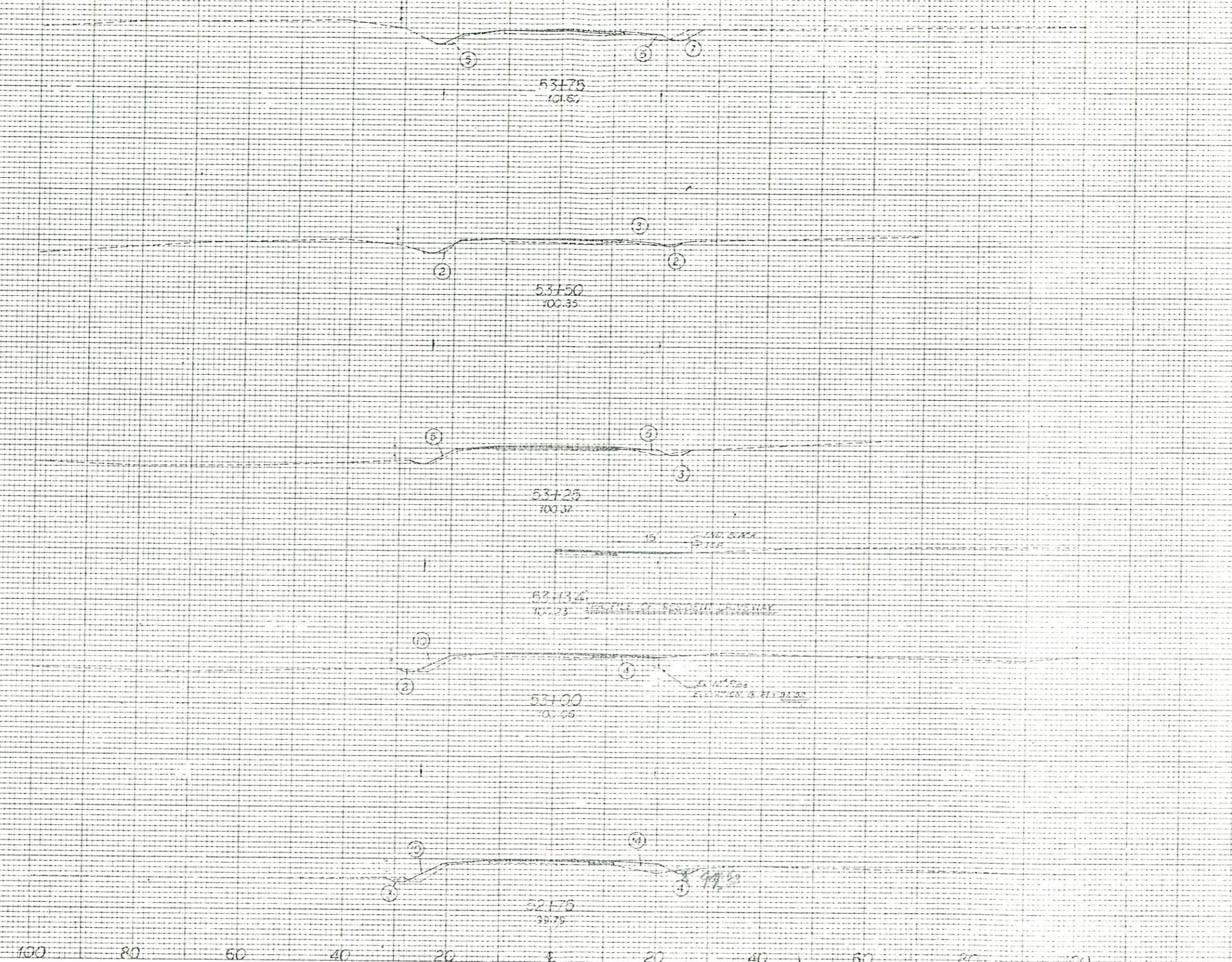




END AREA	PROFILE
CUM. FILL	CUM. FILL
2	37
2	42
8	53
2	59
9	68
0	0
0	0
0	0
2	54
2	61

100 80 60 40 20 1 20 40 60 80 100 STA. 51+50 TO STA. 52+50





STATION	CROSS SECTION AREA		VOLUME	
	CUT	FILL	CUT	FILL
53+75	2	10		
53+50	2	5	4	7
53+25	2	12	2	7
53+00	2	16		
52+75	4	18		
TOTAL	12	61	6	14

100 80 60 40 20 0 20 40 60 80 100



TOTAL AREA FOR SEEDING  
1942 SQUARE YARDS

Micro Profile

55+00  
703.35

54+75  
704.75  
END PROJECT

54+25  
703.22

54+00  
702.45

Final Profile

EXISTING		PROPOSED	
CUT	FILL	CUT	FILL

0	0		
---	---	--	--

		2	2
--	--	---	---

5	5		
---	---	--	--

		5	6
--	--	---	---

5	5		
---	---	--	--

		8	9
--	--	---	---

100

80

60

40

20

0

20

40

60

80

100

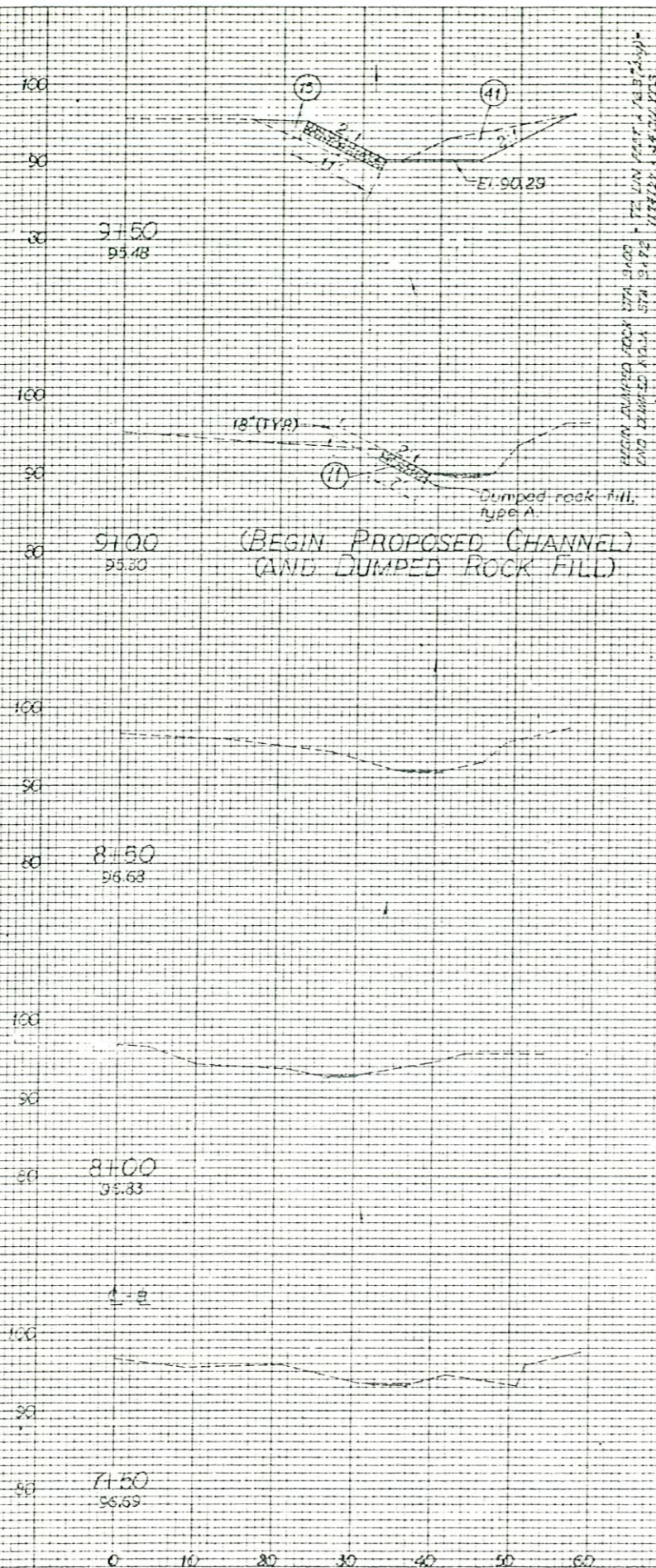
STA 53+75

7 10

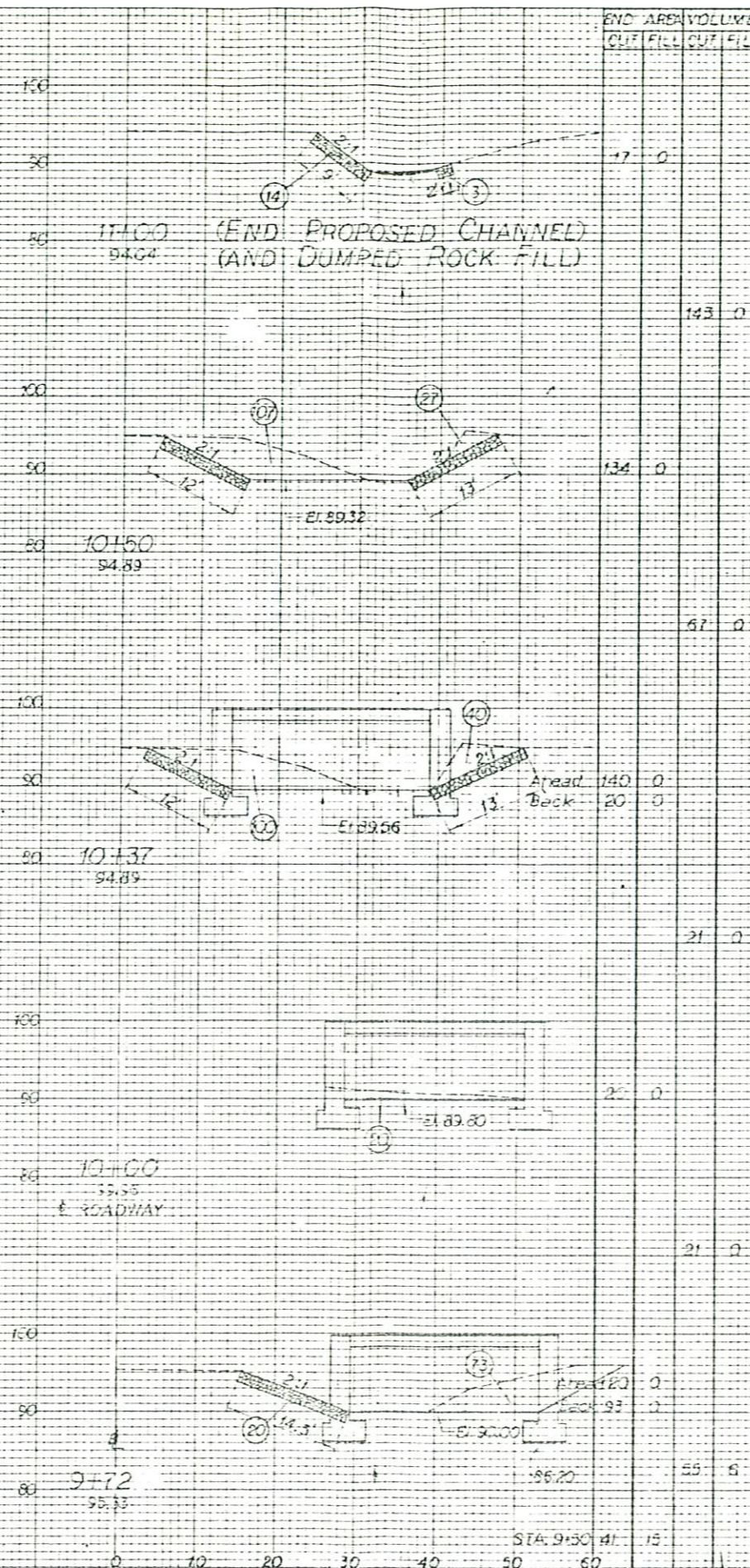
K&E 10x10 TO THE INCH  
REPLICA & PAPER CO.

STA. 54+00 TO STA 55+00.





END STA	AREA		VOLUME	
	CUT	FILL	CUT	FILL
41	15			
48	14			
11	0			



END STA	AREA		VOLUME	
	CUT	FILL	CUT	FILL
17	0			
143	0			
134	0			
67	0			
140	0			
20	0			
21	0			
21	0			
21	0			
55	8			
41	15			

TOTAL CUT = 355 CUBIC YARDS  
 TOTAL FILL = 80 CUBIC YARDS

12+50  
92.37

12+00  
93.77

11+50  
93.42



# LOCATION PLAN

STATE of OHIO DEPARTMENT of TRANSPORTATION

ROS 207-0.94

YMS 2901, 2905, 3663, 3978

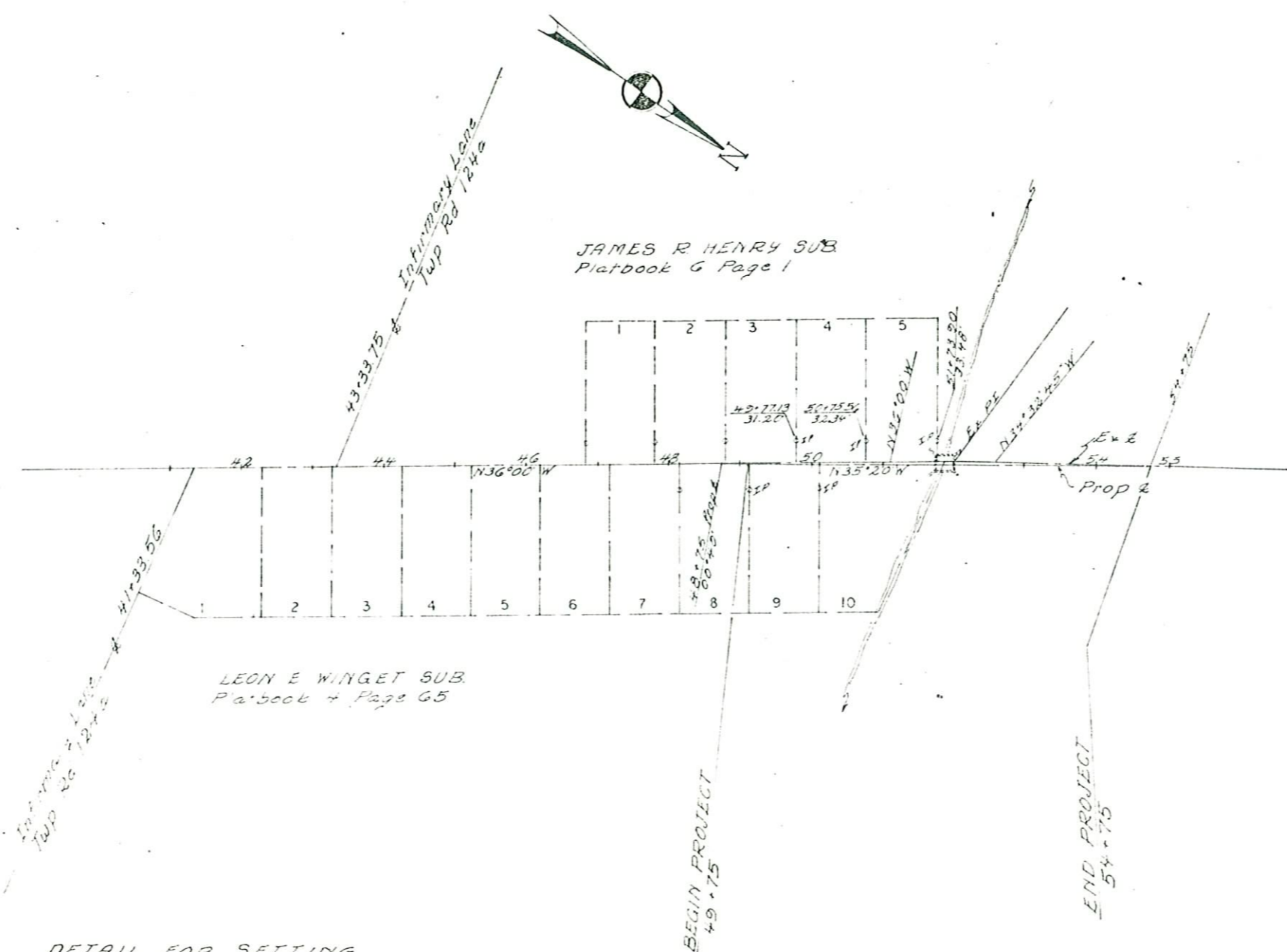
UNION TWP

ROSS COUNTY



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

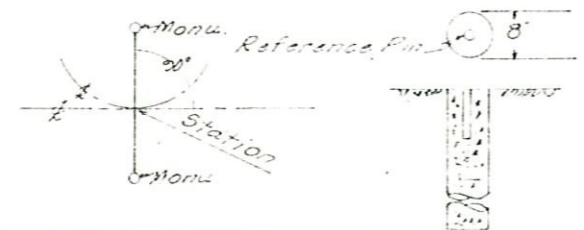
13  
15



REFERENCE MONUMENTS TO BE SET AFTER CONSTRUCTION

STATION	DIST. E.	DIST. RT.
50+10	17.17	
53+75	17.17	

DETAIL FOR SETTING MONUMENTS



Recorded in the Ross County Record of Plats, BOOK \_\_\_\_\_ PAGE \_\_\_\_\_ DATE \_\_\_\_\_

I hereby certify that this Plat is a true and correct copy of a survey made by the Ohio Department of Transportation  
Date 1/28/75  
G. J. Hill OS 5-00



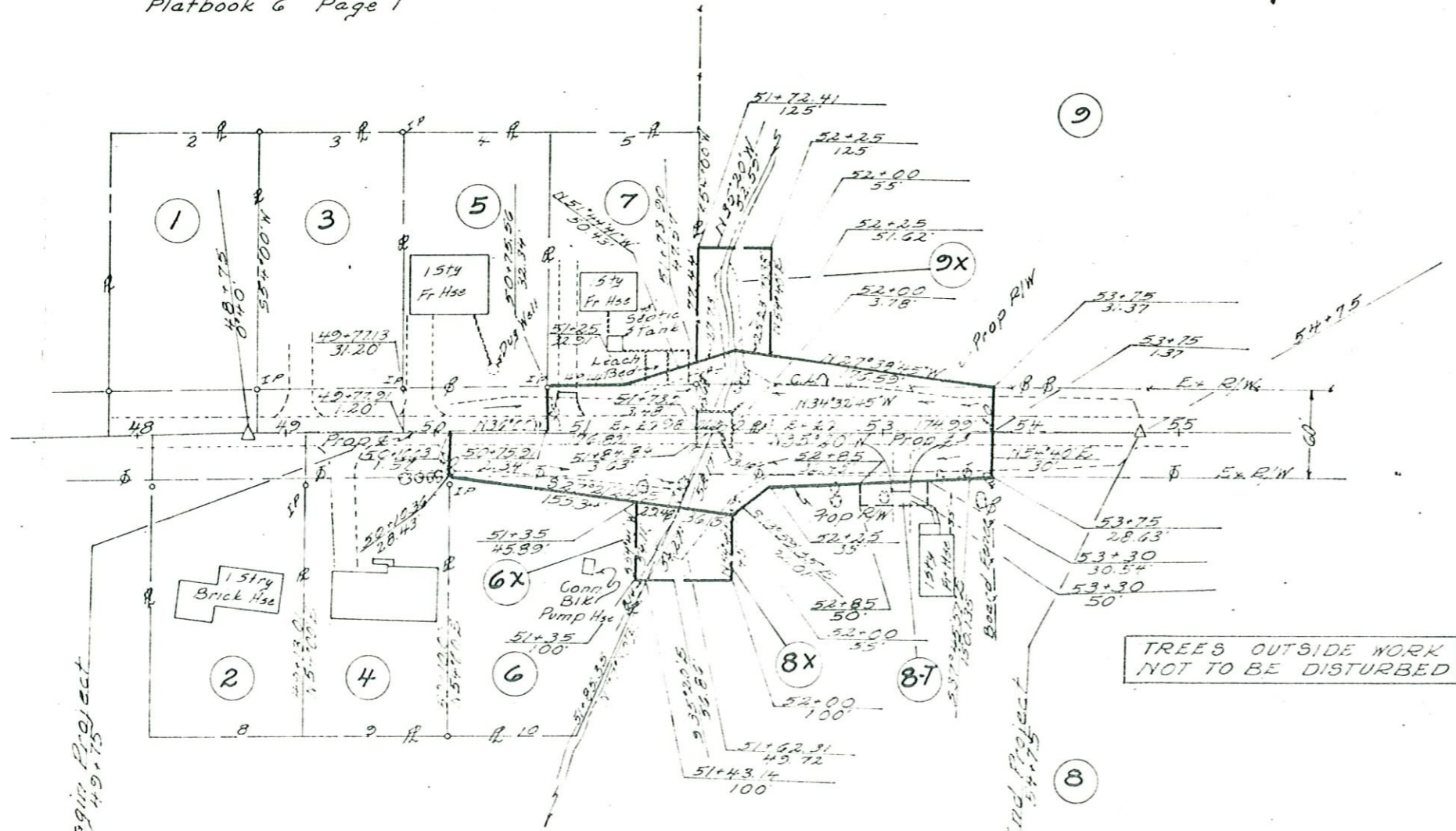
UTILITIES:  
 South Central Ohio Power Co.  
 Box 250  
 Lancaster, Ohio 43130  
 Chillicothe Telephone Co.  
 58 E. Main St.  
 Chillicothe, Ohio 45601  
 Ross County Water Co.  
 33 W. Main St  
 Chillicothe, Ohio 45601

YMS 2901, 2905, 3463 & 3978  
 UNION TWP

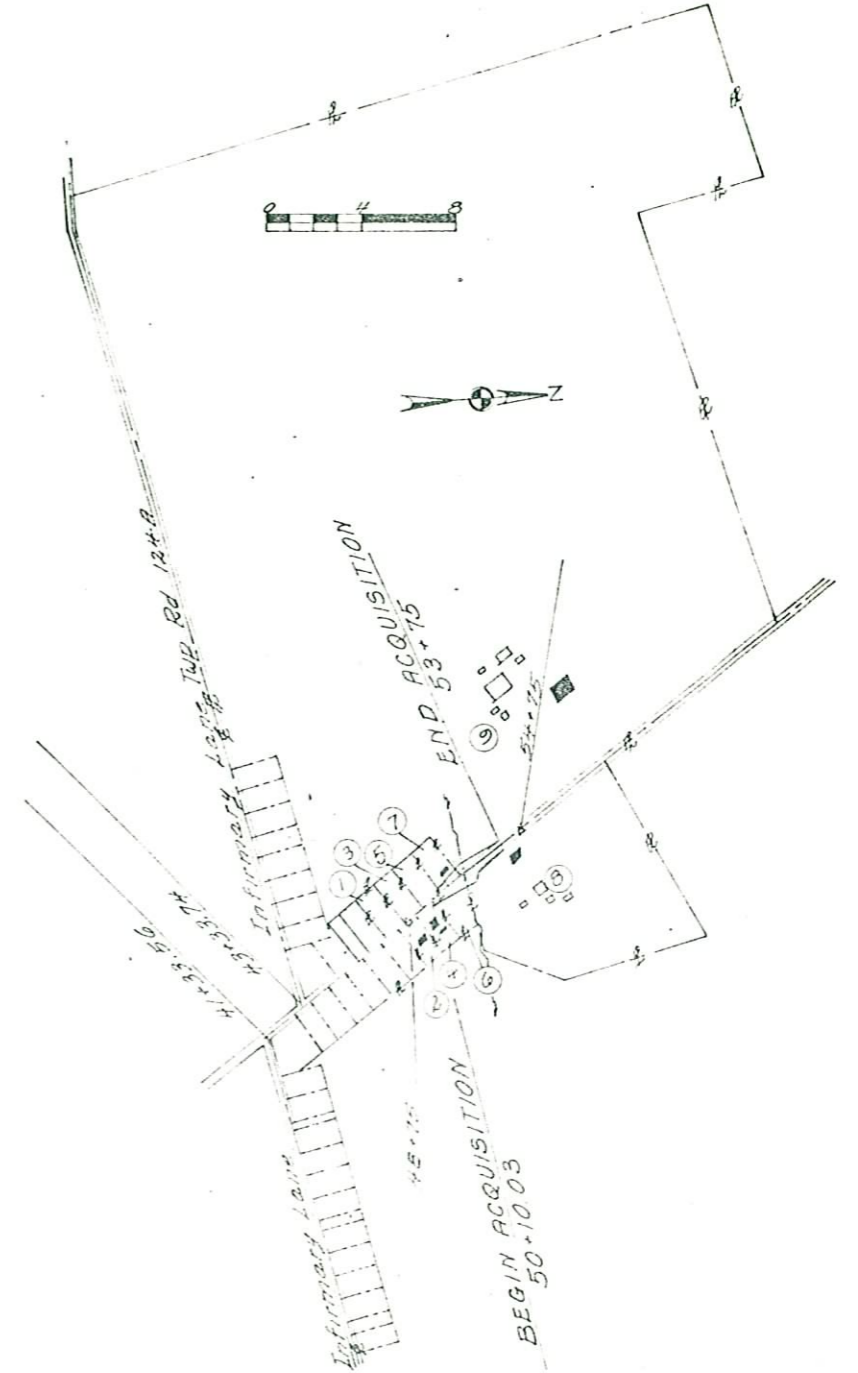
FED. RD. DIVISION	STATE	PROJECT	14
2	OHIO		15

R/W PLAN  
 ROS 207-0.94  
 ROSS COUNTY

JAMES R. HENRY SUB.  
 Platbook 6 Page 1



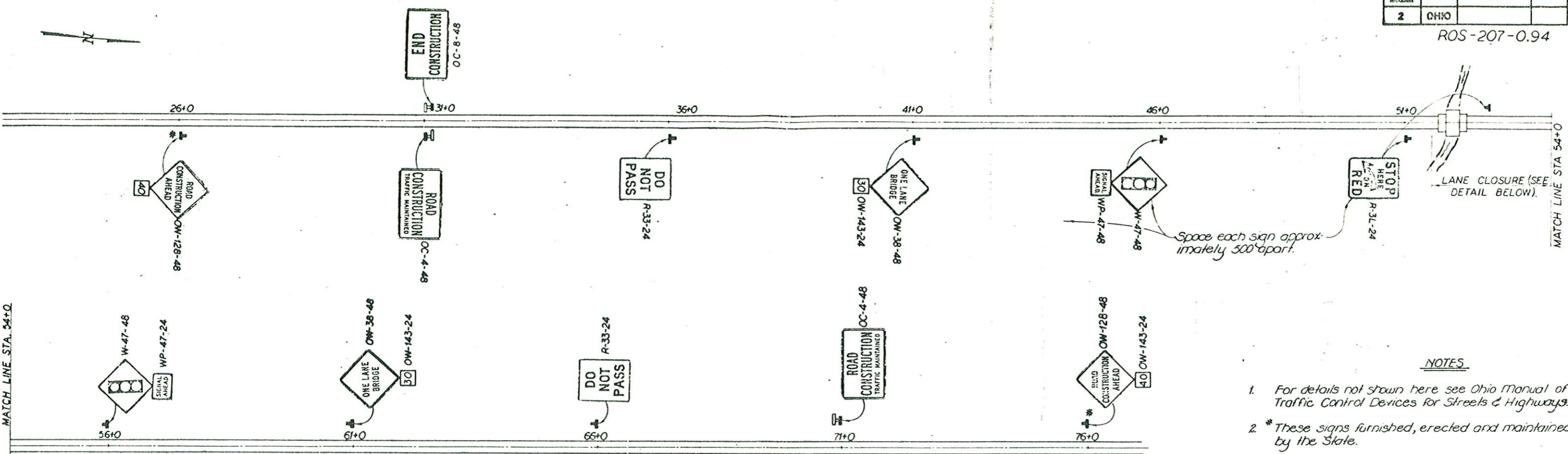
LEON E. WINGET SUB.  
 Platbook 4 Page 65



Lot #	Owners	Acres		Net	P&O in	Gross	Total	Blags to	Residue		Remarks
		Book	Page						Acres	Table	
1	William E. Johnson										Not Required
2	Barbara Ann Cullner	333	537								
3	Billy M. Bass & Joyce R. Bass	328	528								
4	Virgil L. Hastings & Joanna J. Hastings	354	525								
5	Harold J. Hastings & Barbara Sanford	330	221								
6	Elinora J. Winget	365	678	0.63	0.04	0.12	0.16	0.12		0.47	
7	Walter M. Trumble & Sharon B. Trumble	346	232	0.48	0.01	0.07	0.08	0.07		0.40	Grade & Seed Ditch
8	Elizabeth H. Stanford	313	27	15.08	0.04	0.14	0.18	0.52		12.52	Grade & Seed Ditch
9	James R. Henry & Carol E. Henry	304	197	46.13	0.05	0.14	0.19	2.35		164.33	Grade & Seed Ditch To Construct Drive
10				0.28			0.08				
11				0.22			0.02				

Completion Date 1-7-74  
 Project Description



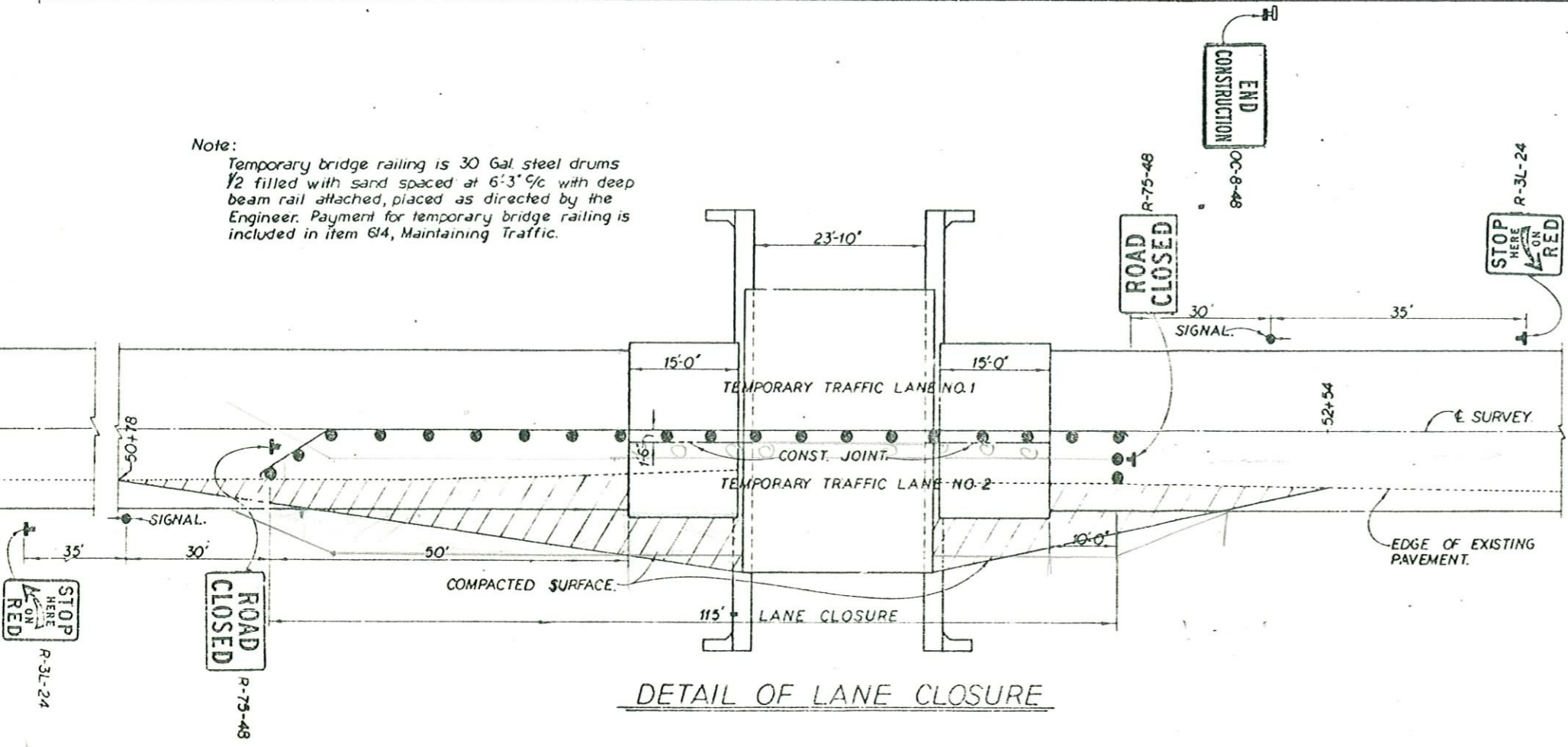


Space each sign approximately 500' apart.

NOTES

1. For details not shown here see Ohio Manual of Traffic Control Devices for Streets & Highways.
2. \* These signs furnished, erected and maintained by the State.
3. Other required signs to be in conformance with Manual of Uniform Traffic Control Devices.
4. Station of signs is approximate.
5. Signs shall be mounted on drive posts and in accordance with the Manual of Uniform Traffic Control Devices.
6. Signal timing to be approved by the State.
7. All of the work and payment of maintaining traffic shall be as per item 214.

Note:  
Temporary bridge railing is 30 Gal. steel drums 1/2 filled with sand spaced at 6'-3" @ c with deep beam rail attached, placed as directed by the Engineer. Payment for temporary bridge railing is included in item 614, Maintaining Traffic.

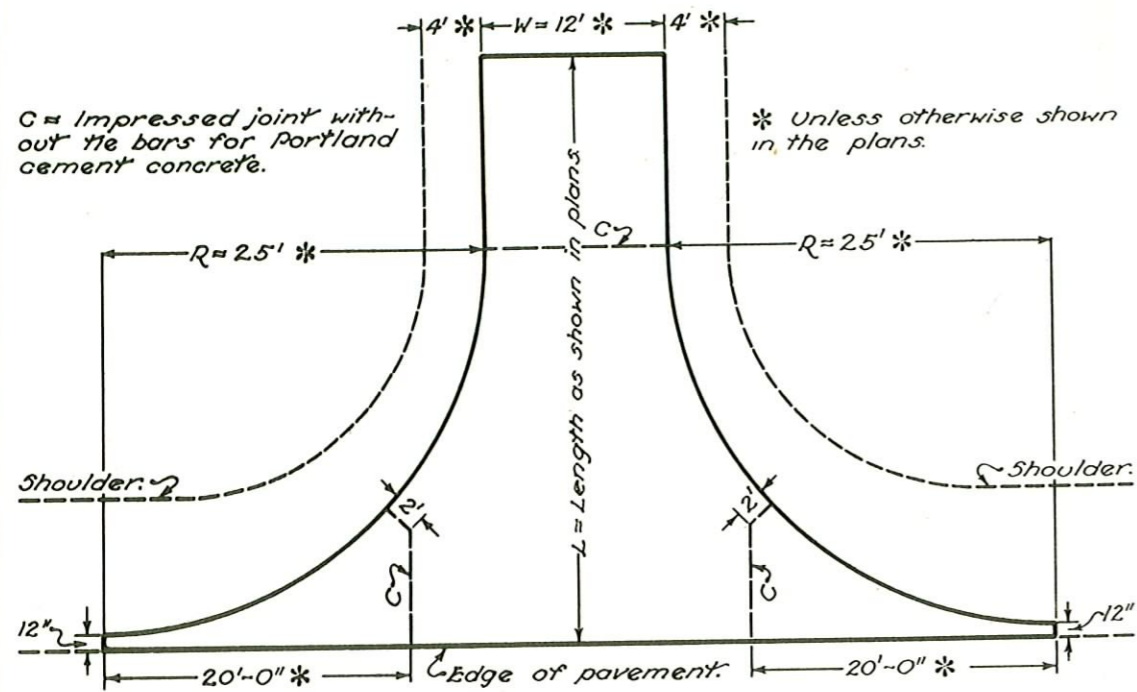


DETAIL OF LANE CLOSURE

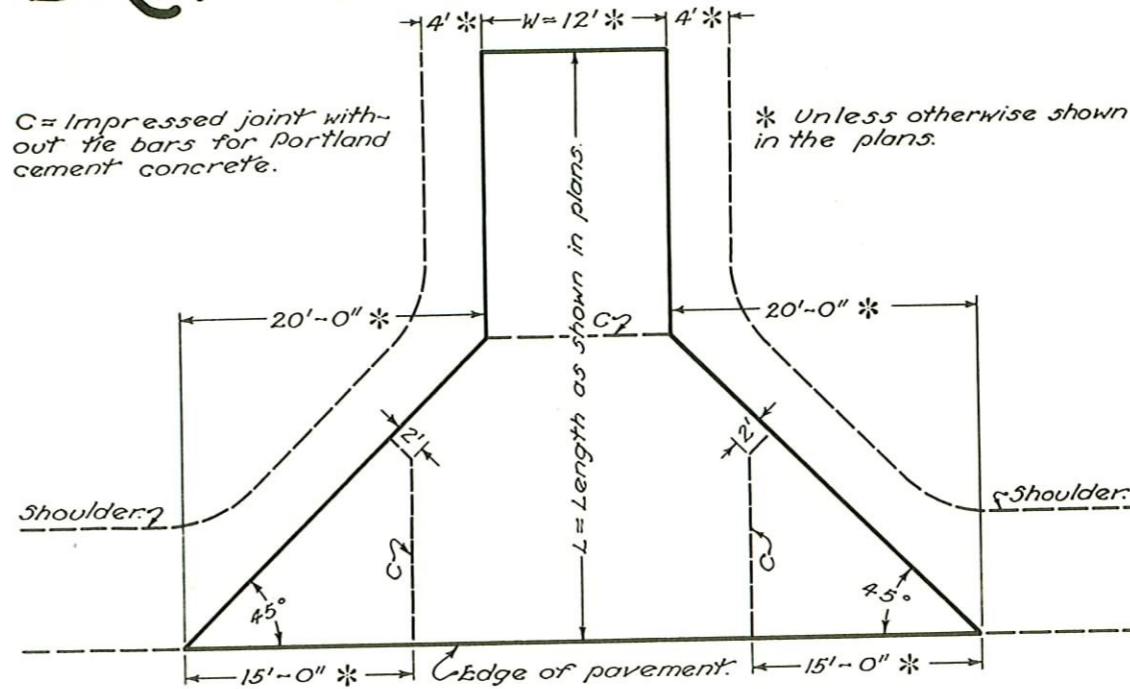
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						
PLAN FOR TRAFFIC CONTROL BRIDGE NO. ROS-207-0098						
ROSS COUNTY						
DESIGNED	SEAL	TRACK	CHECKED	REVISED	DATE	BY
N.L.H.	N.L.H.	N.L.H.	J.P.M.	S.M.S.	9-26-73	



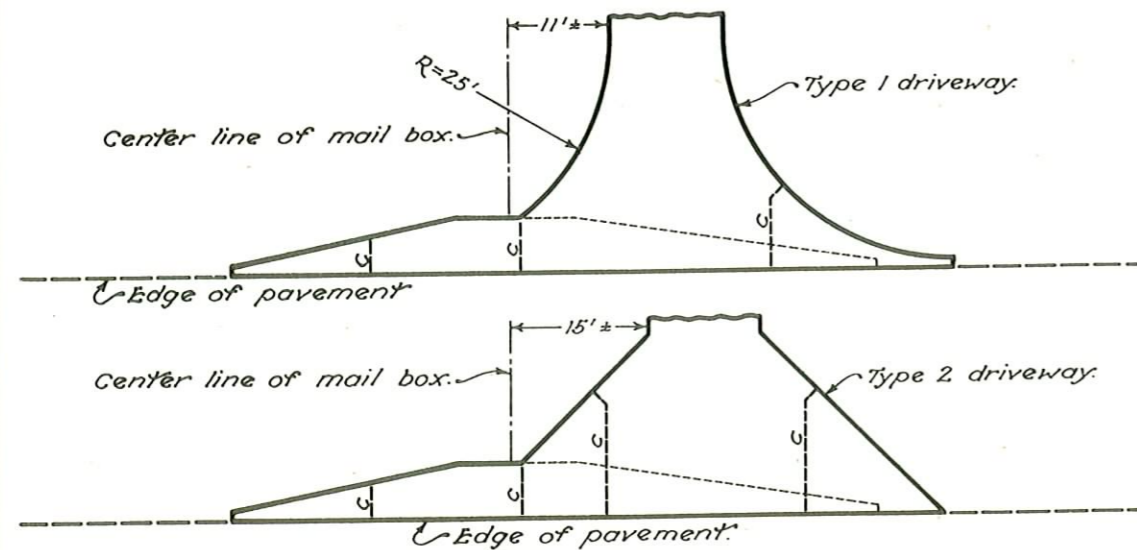
# DRIVEWAYS



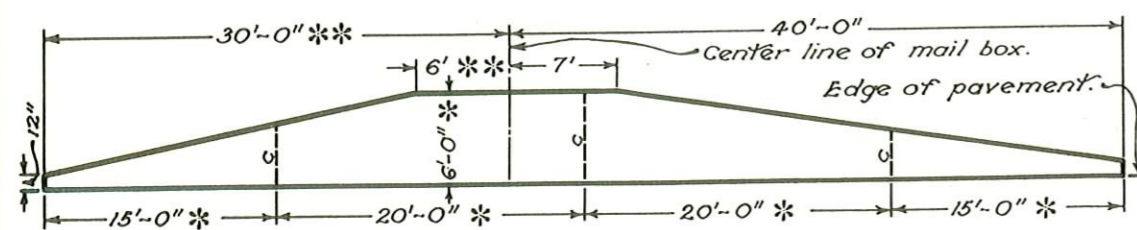
**TYPE 1 DRIVEWAY**



**TYPE 2 DRIVEWAY**

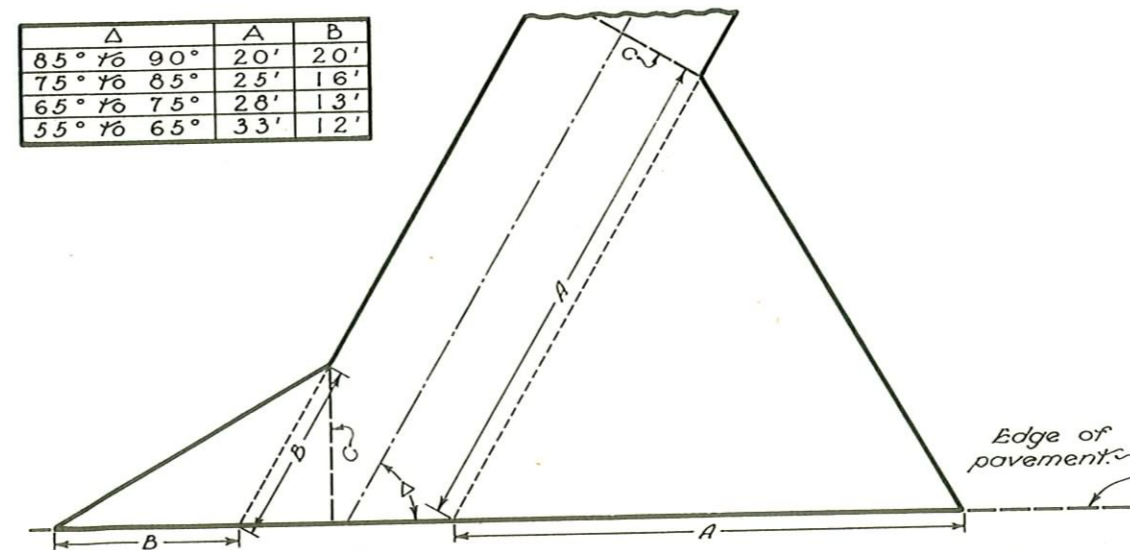


**COMBINED DRIVEWAY & MAIL BOX APPROACH**



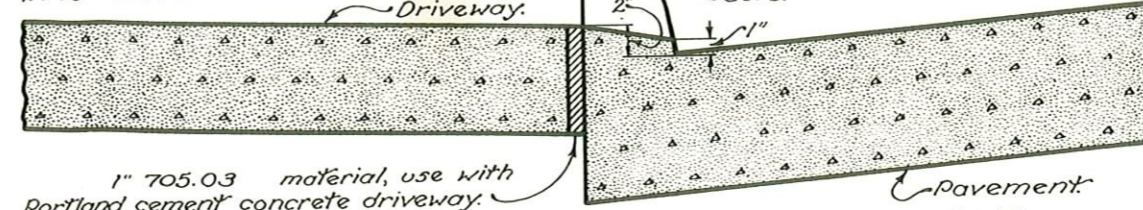
**TYPICAL MAIL BOX APPROACH**

$\Delta$	A	B
85° $\gamma$ 90°	20'	20'
75° $\gamma$ 85°	25'	16'
65° $\gamma$ 75°	28'	13'
55° $\gamma$ 65°	33'	12'



**TYPE 2 SKEWED DRIVEWAY**

Transition from standard curb section to drop curb section to be made in 18" distance from driveway.



**DROP CURB DETAILS AT DRIVEWAYS**

## NOTES

**GENERAL:**— The design details shown hereon shall govern the construction of driveways unless otherwise shown in the project plans.

The pavement type and thickness shall be specified in the project plans.

Driveway and mail box approaches shall be combined when feasible.

**JOINTS:**— Impressed joints for portland cement concrete driveways shall be 1/4" minimum width by 3"  $\pm$  depth and shall be sealed with 705.01 or 705.02.

In addition to the joints shown hereon, impressed joints without tie bars shall be placed in portland cement concrete driveways at intervals not to exceed seventeen feet in the portion of the driveway back of the flare.

BUREAU OF LOCATION AND DESIGN  
OHIO DEPARTMENT OF HIGHWAYS

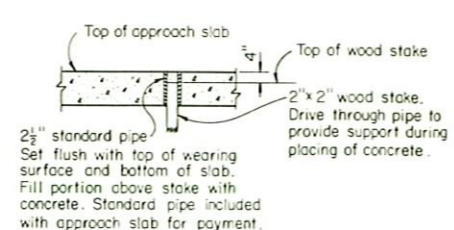
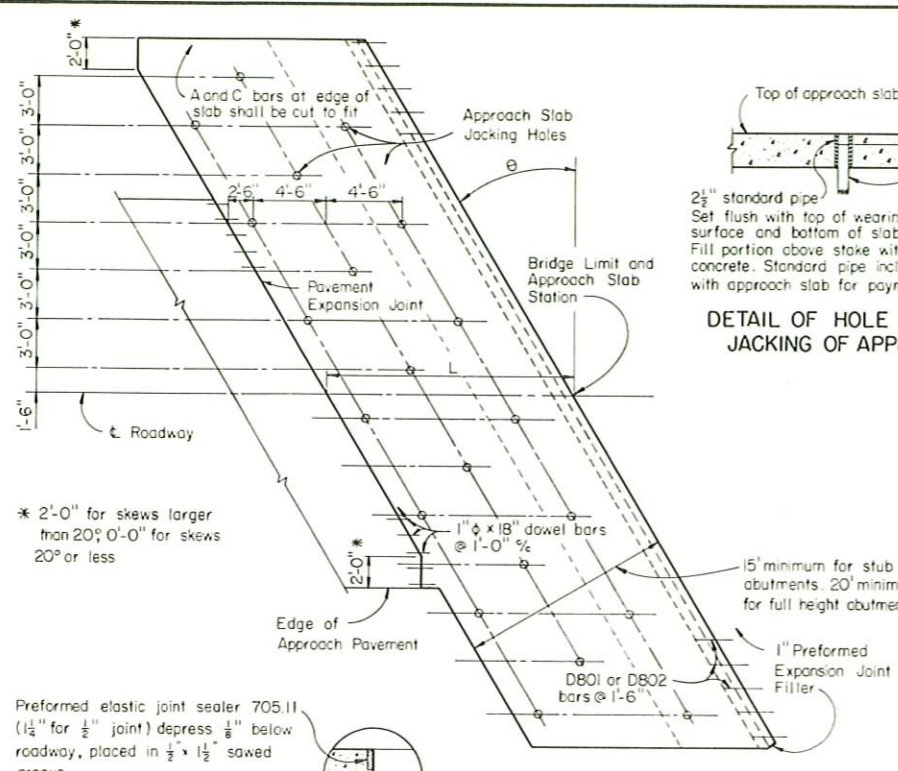
DATE  
6-1-65

## DRIVEWAYS

STANDARD  
CONSTRUCTION  
DRAWING  
APPROVED *R.H. K.* ENGR. L. & D.

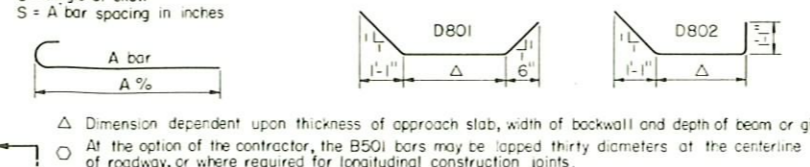
**BP-6**



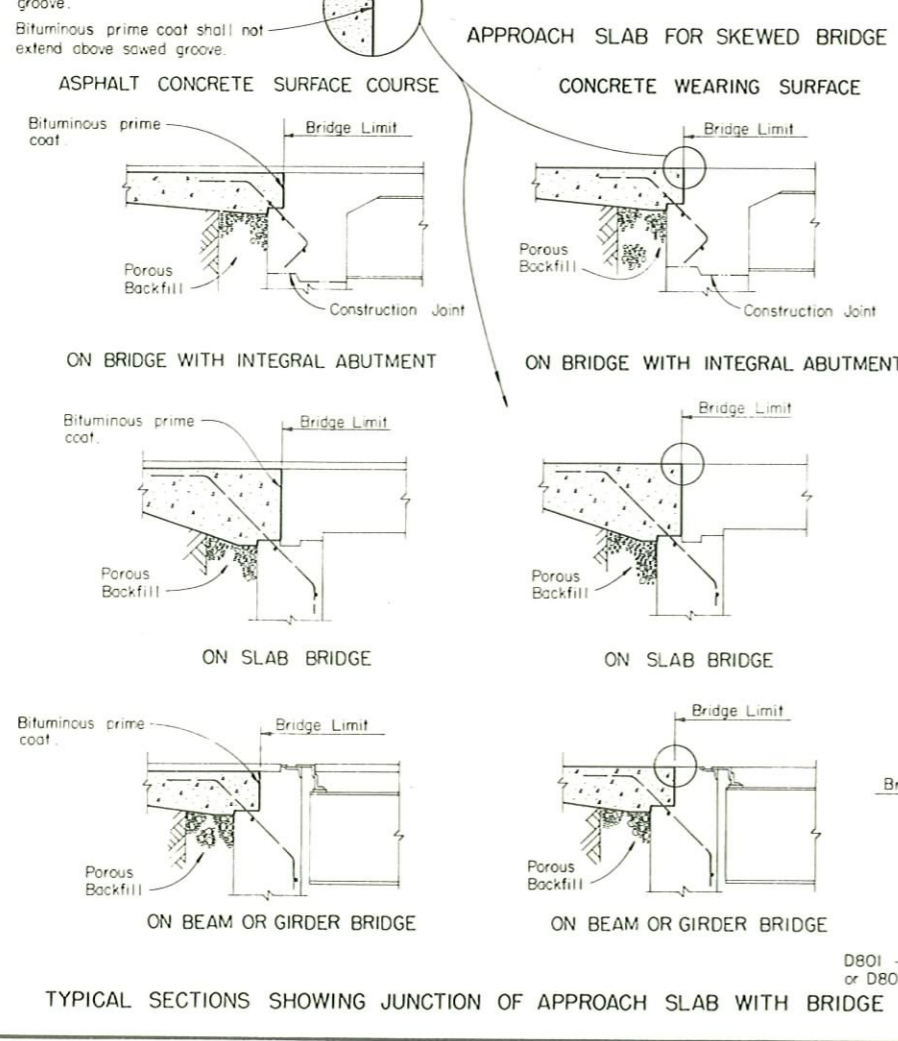
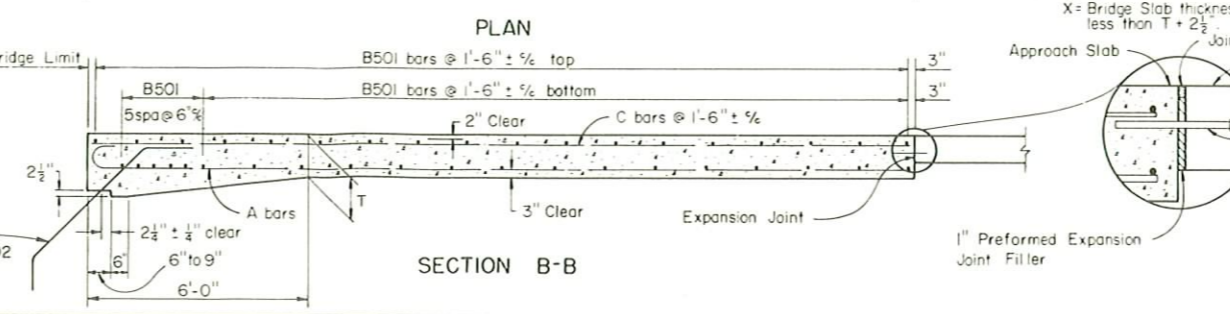
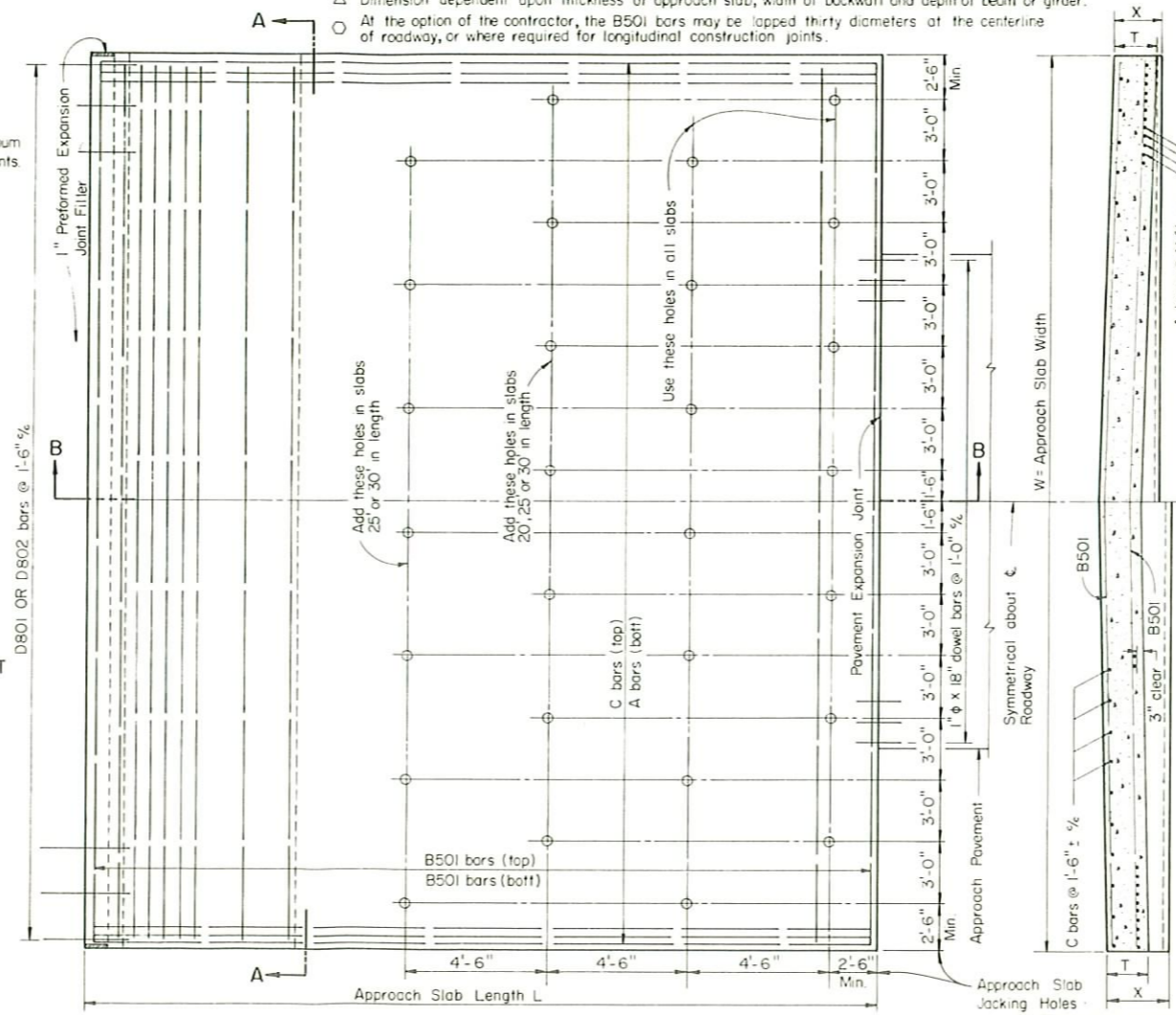


REINFORCING STEEL (FOR ONE APPROACH SLAB)													D801 OR D802
Length L	Thickness T	A BARS				B501 (Bottom)		B501 (Top)		C BARS			
		Sp'c'g M	Mark	Length	Dimension A	No req'd	Length	No req'd	Length	No req'd	Mark	Length	No req'd
15'-0"	12"	10"	A901	15'-9"	14'-6"	14	11	11	C501	14'-6"	12	12	12
20'-0"	14"	8"	A902	20'-9"	19'-6"	17	14	14	C502	19'-6"	12	12	12
25'-0"	15"	6"	A903	25'-9"	24'-6"	20	18	18	C503	24'-6"	12	12	12
30'-0"	17"	6"	A904	30'-9"	29'-6"	23	21	21	C504	29'-6"	12	12	12

\* W = Approach Slab Width, out-to-out, in feet  
 θ = Angle of skew  
 S = A bar spacing in inches



Δ Dimension dependent upon thickness of approach slab, width of backwall and depth of beam or girder.  
 ○ At the option of the contractor, the B501 bars may be lapped thirty diameters at the centerline of roadway, or where required for longitudinal construction joints.



**GENERAL NOTES**  
**DESIGN SPECIFICATIONS:** This standard drawing conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.  
**DESIGN DATA**  
 Design Loading: HS20-44 and the Interstate Alternate Loading  
 Concrete Class C: Unit stress 1,333 p.s.i.  
 Reinforcing Steel: ASTM A615, A616 or A617, unit stress 20,000 p.s.i.

**REINFORCING STEEL:** For skewed bridges the A and C bars shall be placed parallel to the center line of roadway and the B bars shall be placed parallel to the abutments.  
**PREFORMED EXPANSION JOINT FILLER AND SEALER** at the corners and sides of the approach slab shall be included in the price bid per sq. yd. for the approach slab.  
**PREFORMED ELASTIC JOINT SEALER** shown at the bridge limit end of the approach slab shall be included in the price bid per sq. yd. for the approach slab.  
**LONGITUDINAL CONSTRUCTION JOINTS** required for stage construction shall be as per 511.09.  
**BRIDGE WITH SIDEWALKS:** The curbs on the approach slabs shall transition from the bridge curb height to the approach curb height on the approach slab, unless the abutments have turnback wings, in which case the transition shall occur beyond the wings. This transition shall occur, on the approach pavement if necessary, in a minimum of 10 feet.  
**EXPANSION JOINT** details at the approach pavement end of the approach slab are used only in conjunction with concrete pavement or concrete base course. Payment for the expansion joint, including dowel bars, preformed expansion joint filler and joint sealer, is included in the price bid per sq. yd. for the approach slab.

**DESIGN NOTES**  
**GENERAL:** This drawing provides design and general construction details. The project plans will show length, skew, curbs (if any), estimated quantity (sq. yds.), and special notes and details where necessary. For conditions other than those indicated hereon, the approach slab shall be adapted to fit the ends of the bridge and the approach pavement.

**APPROACH SLAB WIDTH (W):** Generally approach slabs will be the same width as the bridge roadway. For bridges constructed with raised sidewalks, bridge roadway railing or other types of construction which retain roadway surface drainage, the approach slabs shall either include curbs or be constructed in conjunction with curbs.

**LENGTH** of approach slabs shall be shown on project plans.

**CROWN** shall conform to that of the approach pavement and bridge deck. If the rate of crown of the bridge deck differs from that of the approach pavement, a smooth transition shall be provided within the limits of the approach slab.

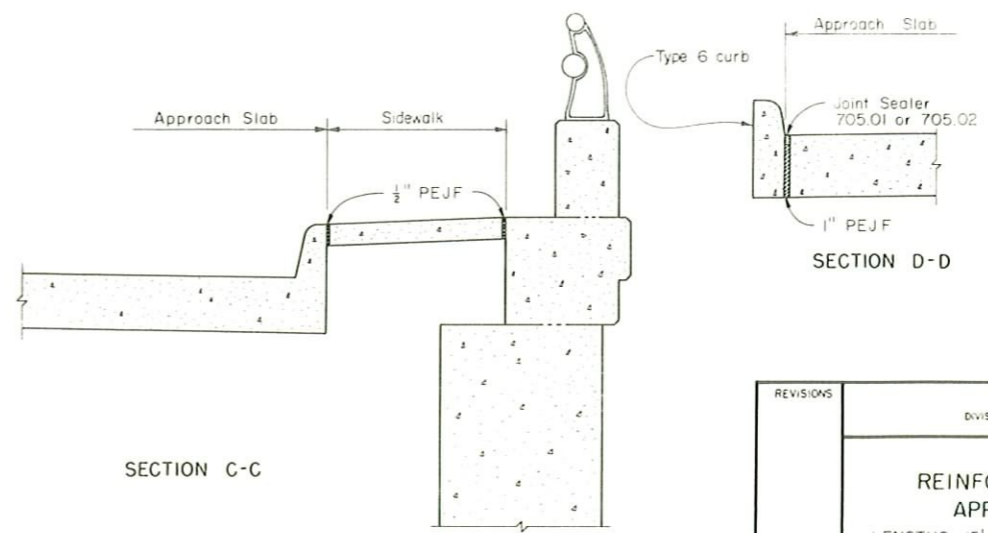
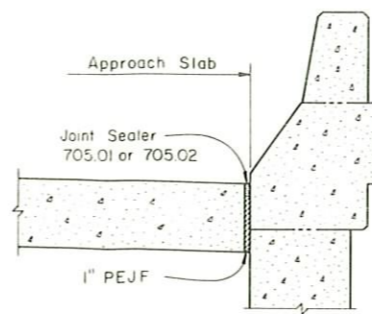
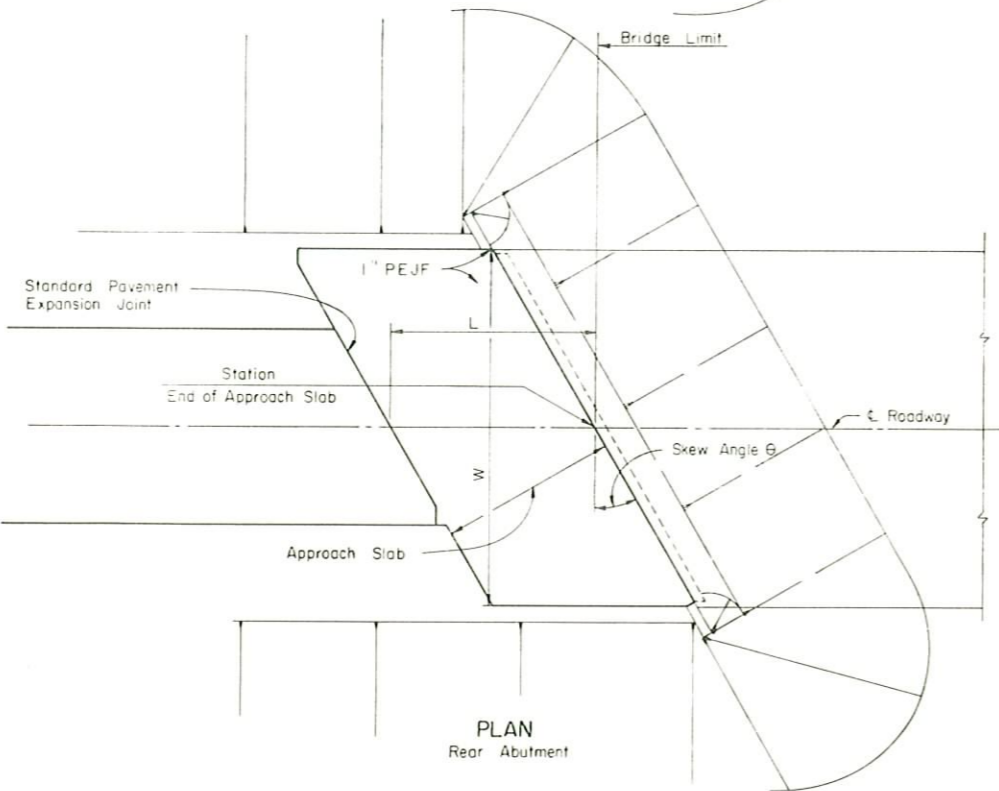
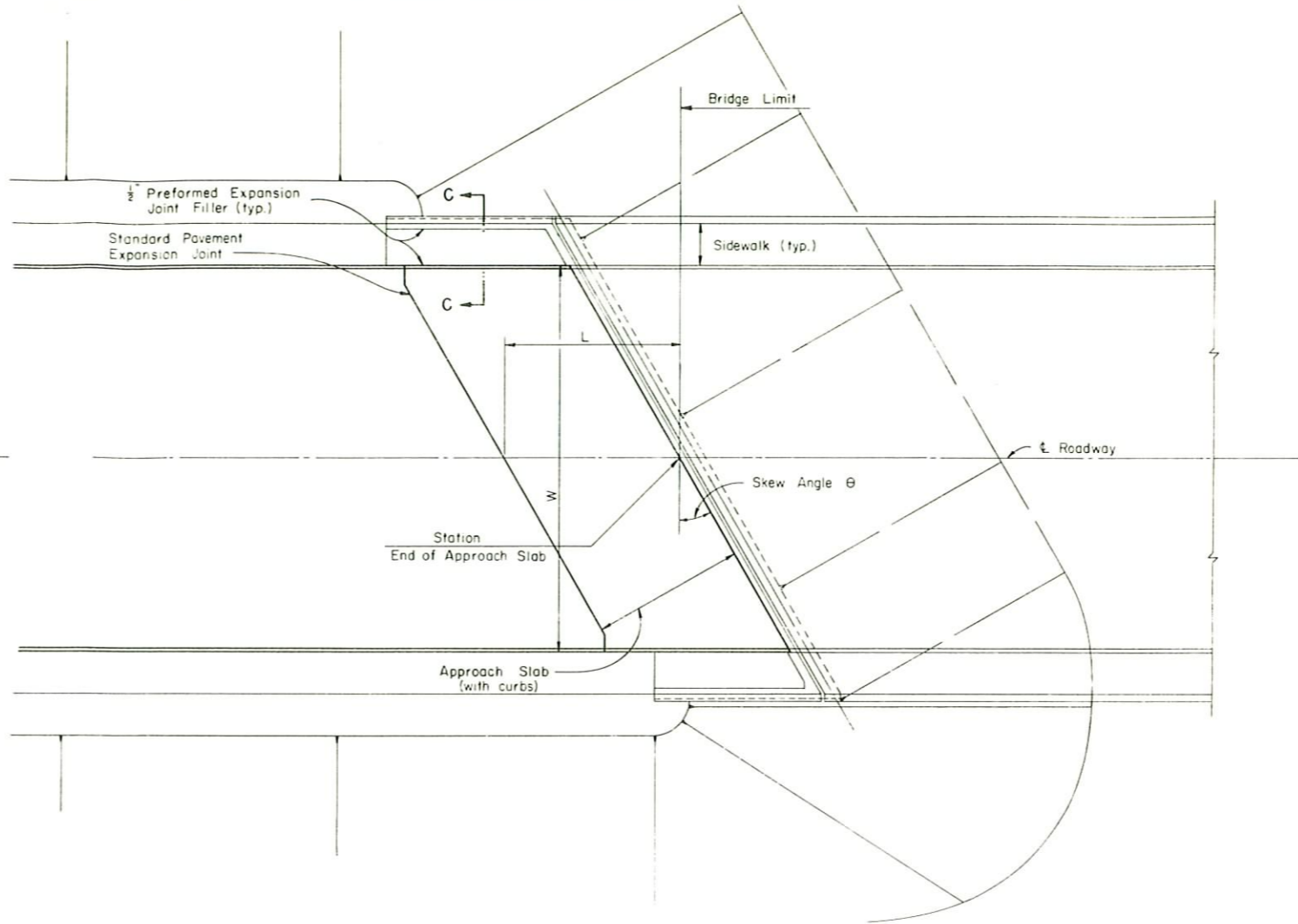
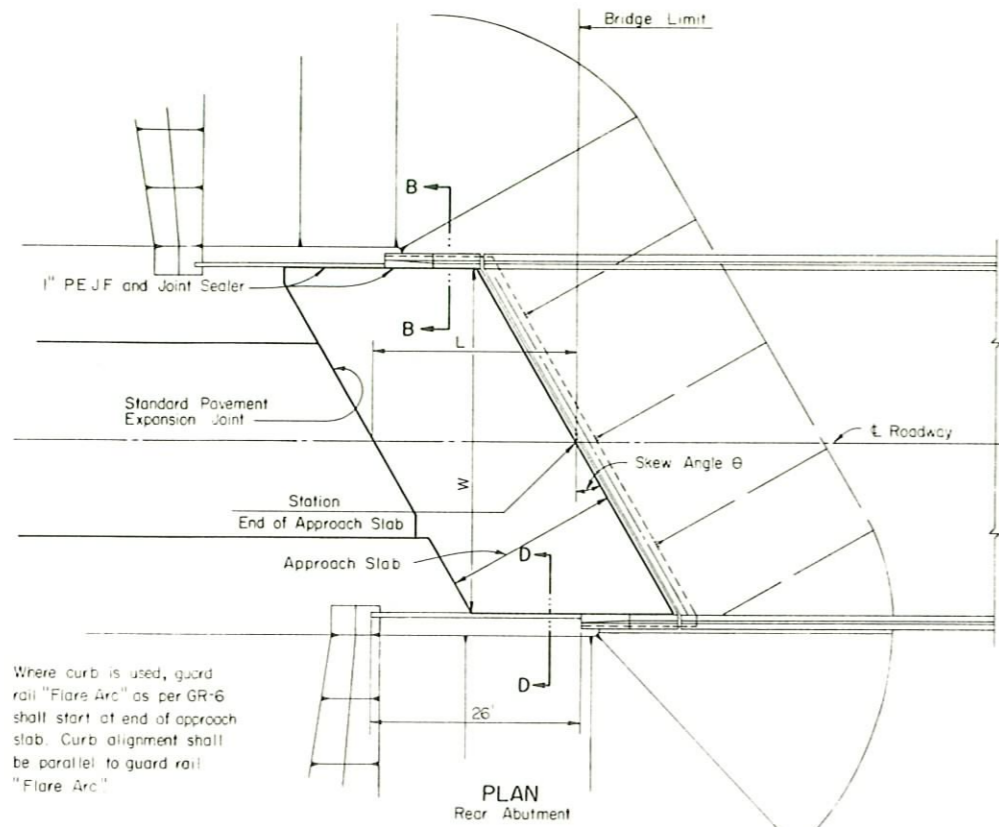
**WEARING SURFACE:** If an asphalt concrete surface course is specified for the bridge it shall also be used on the approach slab. Membrane waterproofing should not be used on the approach slab.

**APPROACH SLAB JACKING HOLES** shown are those required for a two-lane (44' wide) approach slab. If a different width approach slab is used, jacking holes shall be provided following approximately the same pattern and spacing as shown. Supplemental Specification B13 and Mudjacking Concrete Pavement instructions on file with each Division Operations Engineer, should be used as guides for mudjacking the approach slab.

**ANCHOR BARS** D801 or D802 shall be detailed for the specific bridge and shall be included with 509 under abutments or superstructure for payment.

REVISIONS				STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES	
STANDARD				REINFORCED CONCRETE APPROACH SLABS	
LENGTHS - 15'-0" 20'-0" 25'-0" AND 30'-0"				DRAWING NO. AS-1-72	
APPROVED	DATE: 6-30-72			ENGINEER OF BRIDGES	
PREPARED	TRACED	CHECKED	REVIEWED	SHEET NO. 1 OF 2 SHEETS	
DLM	TGC	CPD	BFG		



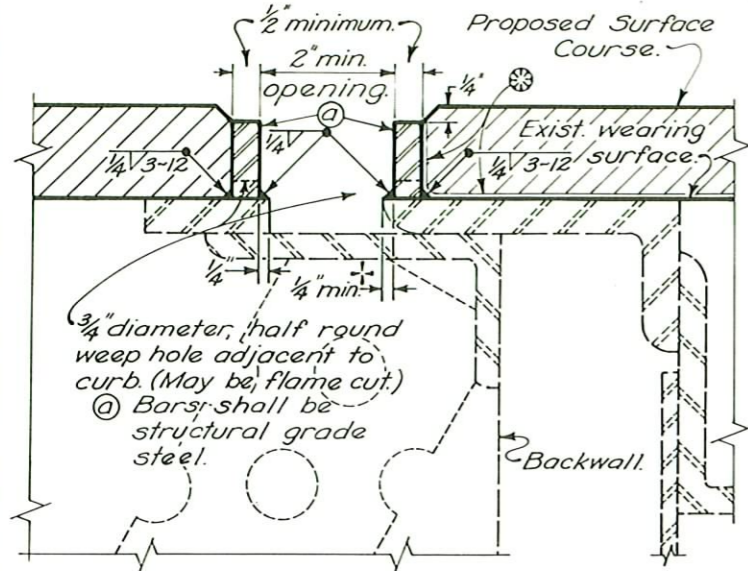


REVISIONS		STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES			
STANDARD REINFORCED CONCRETE APPROACH SLABS LENGTHS - 15'-0", 20'-0", 25'-0" AND 30'-0"					
APPROVED:		DATE: 6-30-72		DRAWING NO. AS-1-72	
PREPARED	TRACED	CHECKED	REVIEWED	SHEET NO 2 OF 2 SHEETS	
DLM	TGC	CPD	BFG		



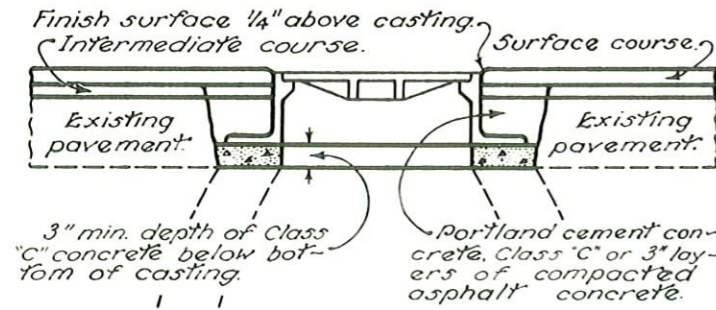
# RESURFACING

† Increase as necessary to maintain 2" min. opening.



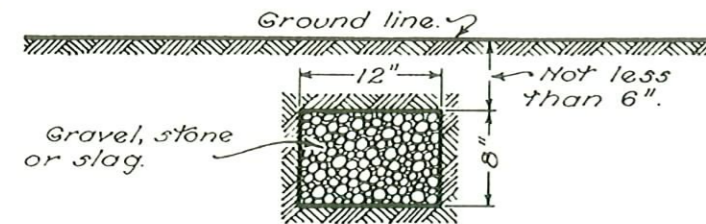
⊛ An approved membrane waterproofing shall be applied to the concrete deck and extended up to the top of the bar as shown.

## RAISING EXPANSION JOINTS AT BRIDGE



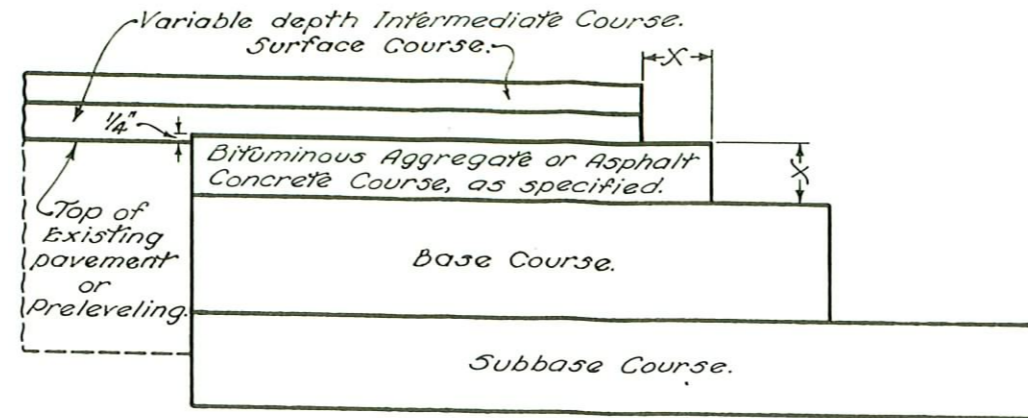
Castings shall be reset after completion of the intermediate course and prior to placing the surface course.

## CASTINGS ADJUSTED TO GRADE



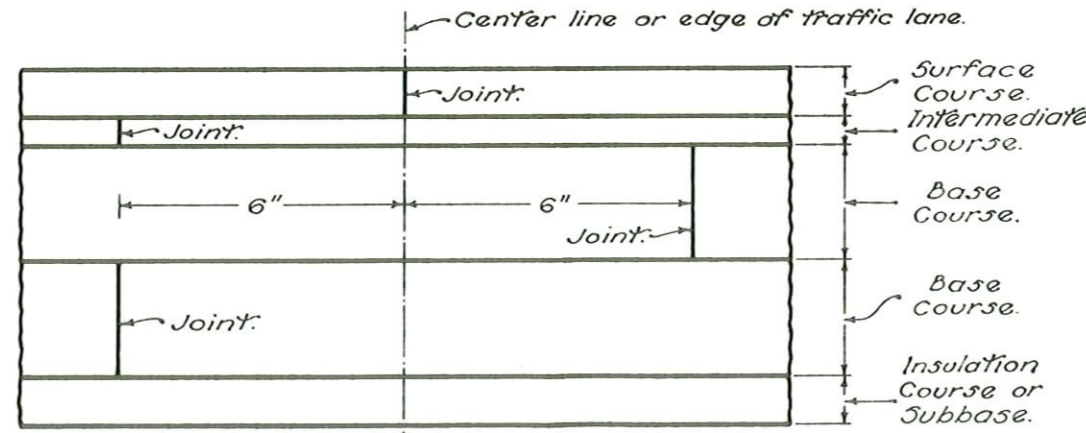
Aggregate drains to be placed where and as directed by the Engineer.

## AGGREGATE DRAINS

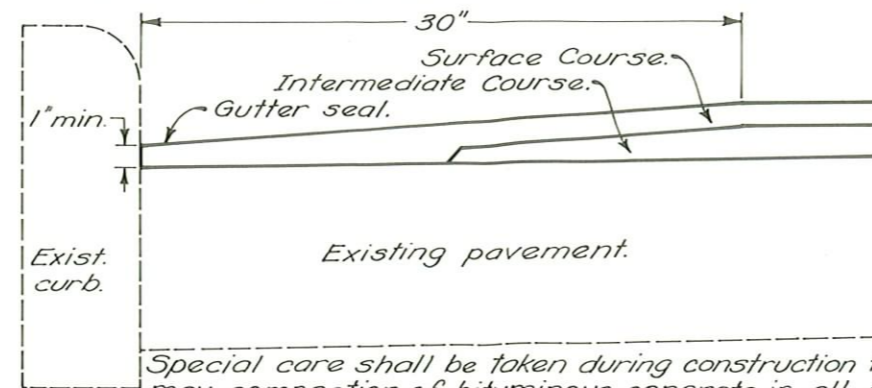


The Bituminous Aggregate in the upper part of the base widening shall finish approximately 1/4" above the edge of the existing pavement where no preleveling is used. Where a preleveling (using intermediate course material) is specified, it shall be placed prior to excavation of the widening trench and the upper course of the base widening shall finish approximately 1/4" above the preleveling.

## COURSE DETAIL FOR WIDENING



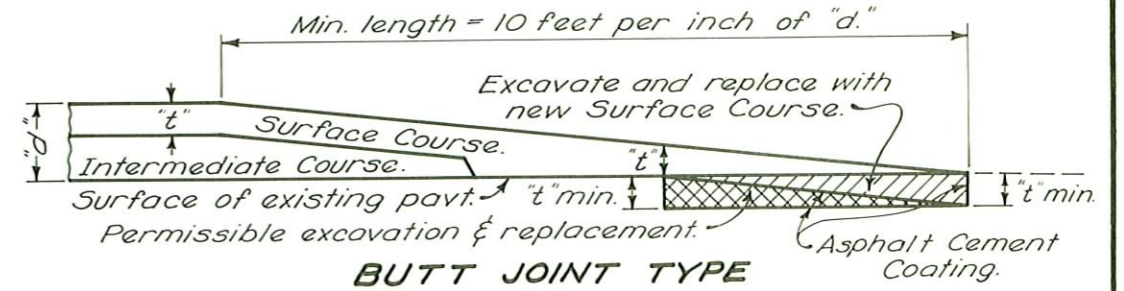
## LAPPING LONGITUDINAL JOINTS



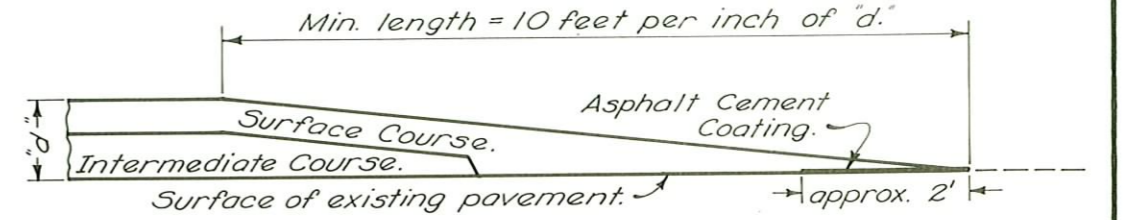
Special care shall be taken during construction to obtain max. compaction of bituminous concrete in all gutters.

## GUTTER FINISH

NOTE: Either type feathered area may be used unless type is specified by the plan.

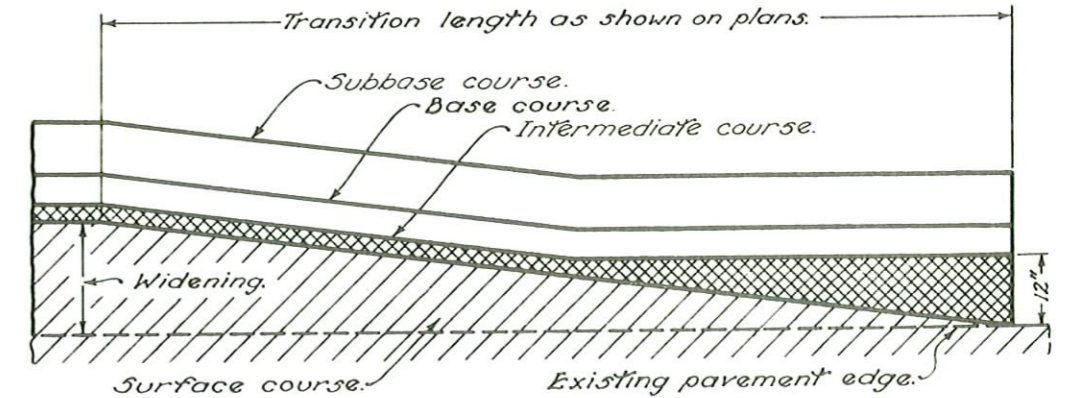


## BUTT JOINT TYPE

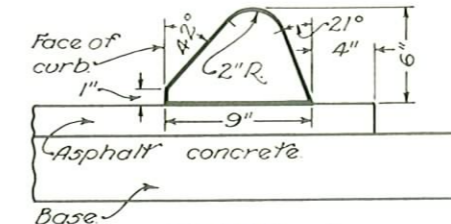


## FEATHER EDGE TYPE

## PLACING FEATHERED AREAS



## MERGING EDGE OF PAVEMENT WIDENING WITH EDGE OF EXISTING PAVEMENT



## TYPE I ASPHALT CONCRETE CURB

BUREAU OF LOCATION AND DESIGN  
OHIO DEPARTMENT OF HIGHWAYS

## RESURFACING

STANDARD CONSTRUCTION DRAWING  
APPROVED: *[Signature]* ENGR. L. & D.

DATE  
6-1-'65  
1-1-'71  
6-1-'72

BP-5



# NOTES

**POSTS** may be round (single rail only) or 6"x8" square-sawed pressure-treated wood or W6x8.5 galvanized steel. The same type post shall be used throughout the length of project unless otherwise required by the plans or permitted by the Engineer. Round posts shall be 8" plus or minus 1" in diameter at the top and not more than 11" at the butt with uniform taper from top to butt.

Posts may be set in drilled holes or may be driven to grade.

Wood posts shall be fabricated with square ends. Posts and spacer blocks shall be pressure-treated as per 710.14. Bolt holes shall be bored and tops of posts trimmed after posts are set. Posts set or driven to within 1/2" of grade need not be trimmed.

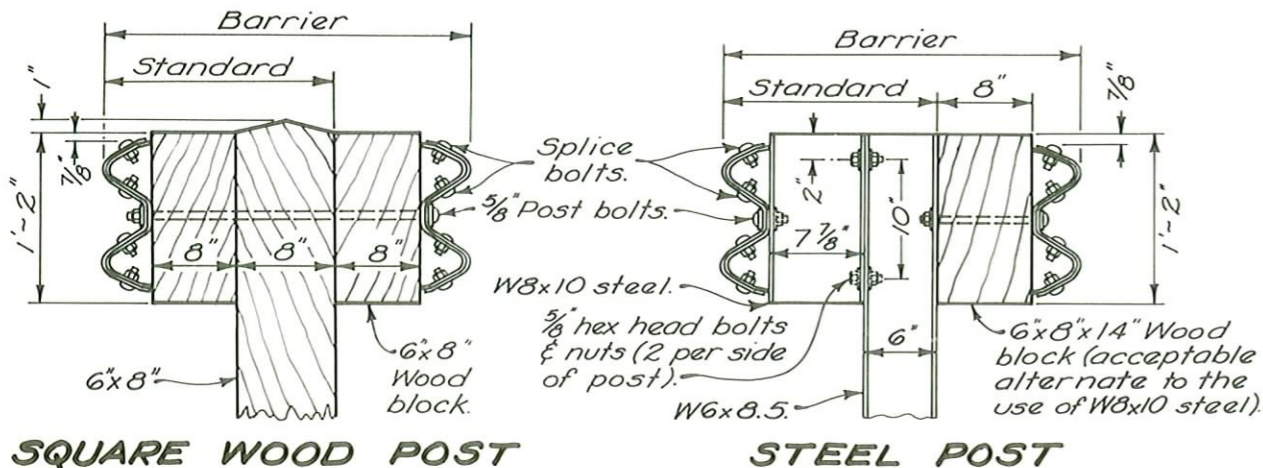
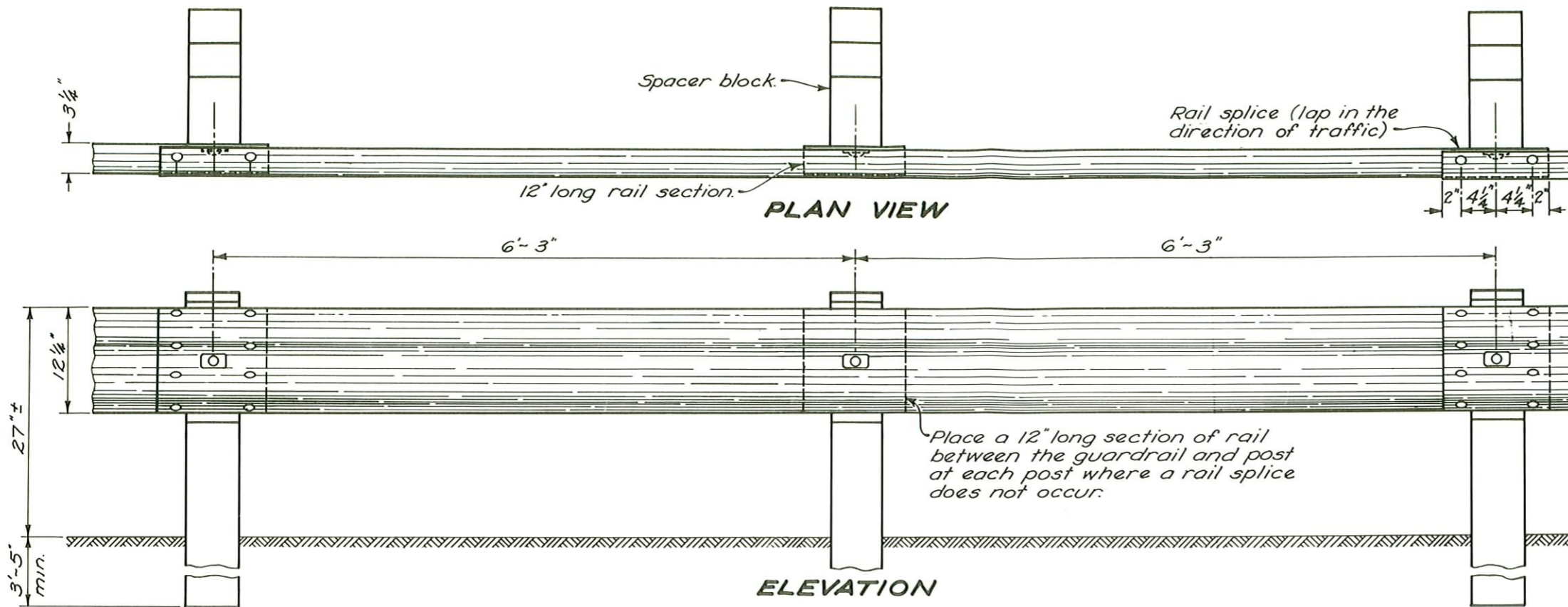
Cost of inlet mounted post to be included in the unit price bid for Type 5 barrier guardrail.

**SPACER BLOCKS:** When wood spacer blocks are used with the steel post, a roofing nail shall be driven through the hole in the adjacent flange to prevent blocks from turning.

**WASHERS:** Standard galvanized washers of appropriate size are required on post bolts where special washers are not indicated.

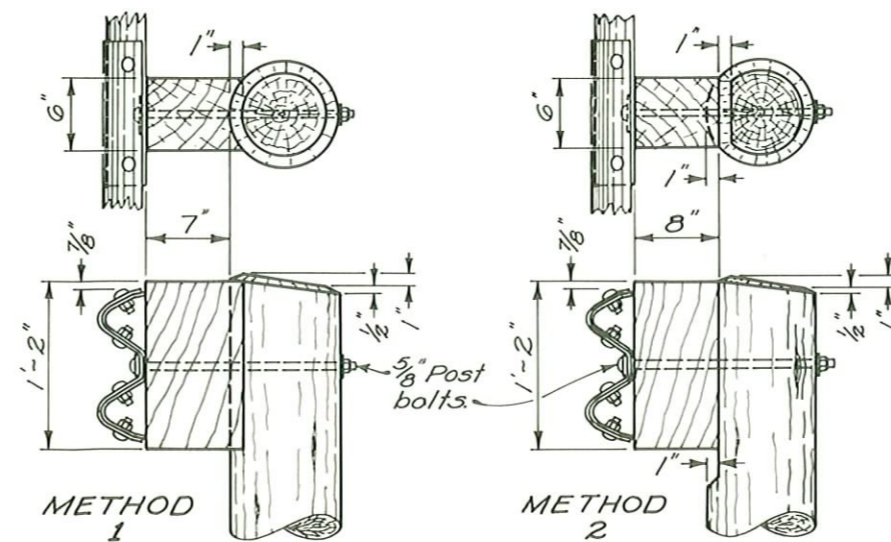
**BARRICADE GUARDRAIL** shall be mounted on Type 5 posts with 5/8" post bolts and washers as specified hereon. Omit spacer blocks, anchor assemblies and intermediate posts. Place standard terminals at each end (see Standard Construction Drawing GR-2A for detail).

\* 7/8" threaded self-drilling anchors with 7/8"x2 1/4" hex head bolts may be substituted. Self-drilling anchors may be of the snap-off chuck-end type or of the flush-end type conforming to Federal Specification No. FF-5-325, Group III, Type 1(a) or (c).



**SQUARE WOOD POST**

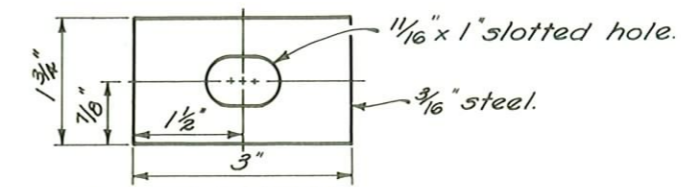
**STEEL POST**



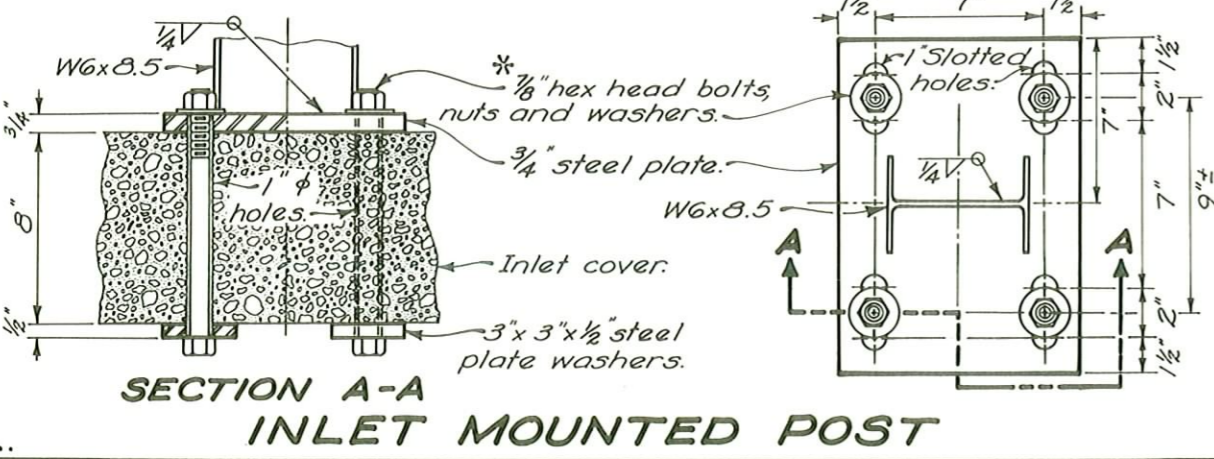
Alternate methods of placing the spacer blocks on the round posts may be submitted for consideration and approval by the Engineer.

## ROUND WOOD POSTS

Place one rectangular washer between bolt head or nut and the face of rail. All other washers indicated above are standard.



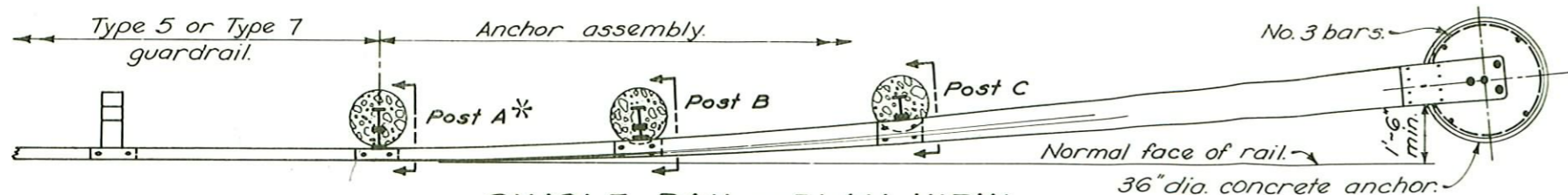
**POST BOLT WASHER**



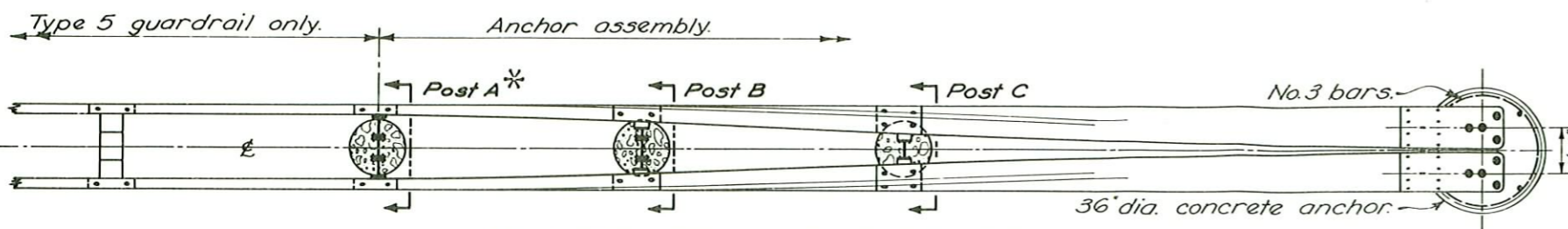
**SECTION A-A INLET MOUNTED POST**

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF HIGHWAYS	
<b>GUARDRAIL TYPE 5</b>	
DATE 2-15-88 1-1-71 11-9-71	STANDARD CONSTRUCTION DRAWING GR-2B
APPROVED: <i>E. J. Schaefer</i> ENGR., L. & D.	

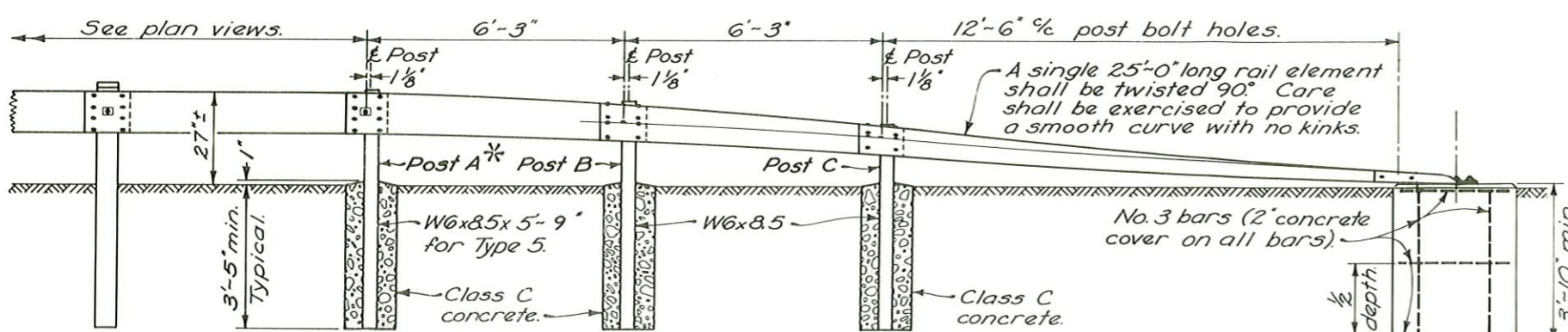




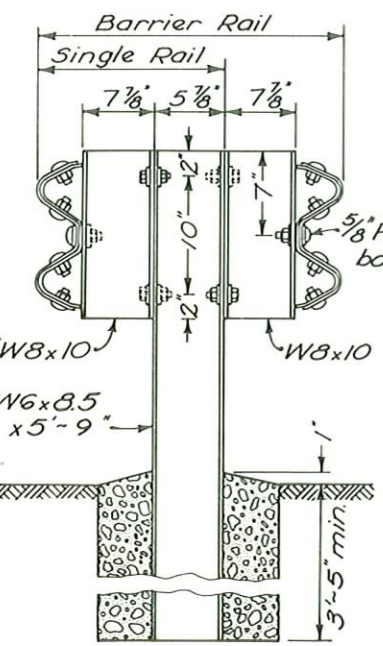
**SINGLE RAIL - PLAN VIEW**



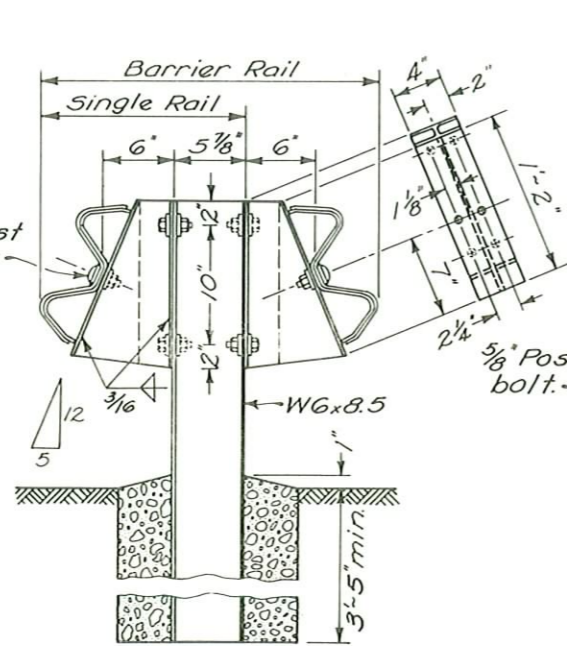
**BARRIER RAIL - PLAN VIEW**



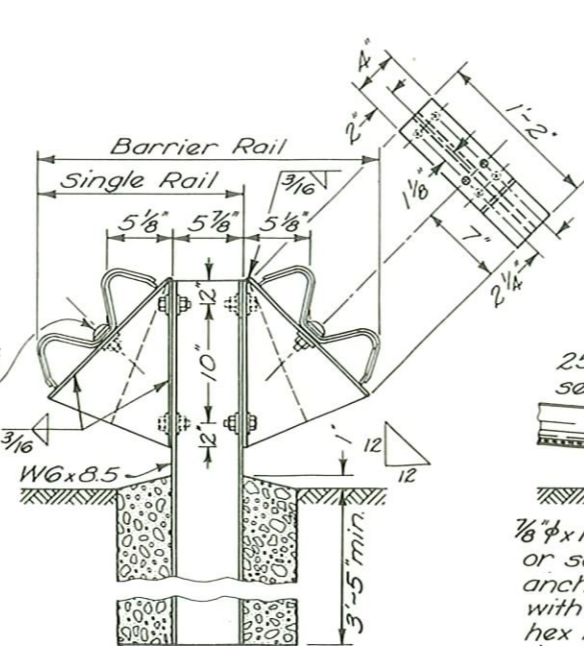
**SINGLE & BARRIER RAIL - ELEVATION VIEW**



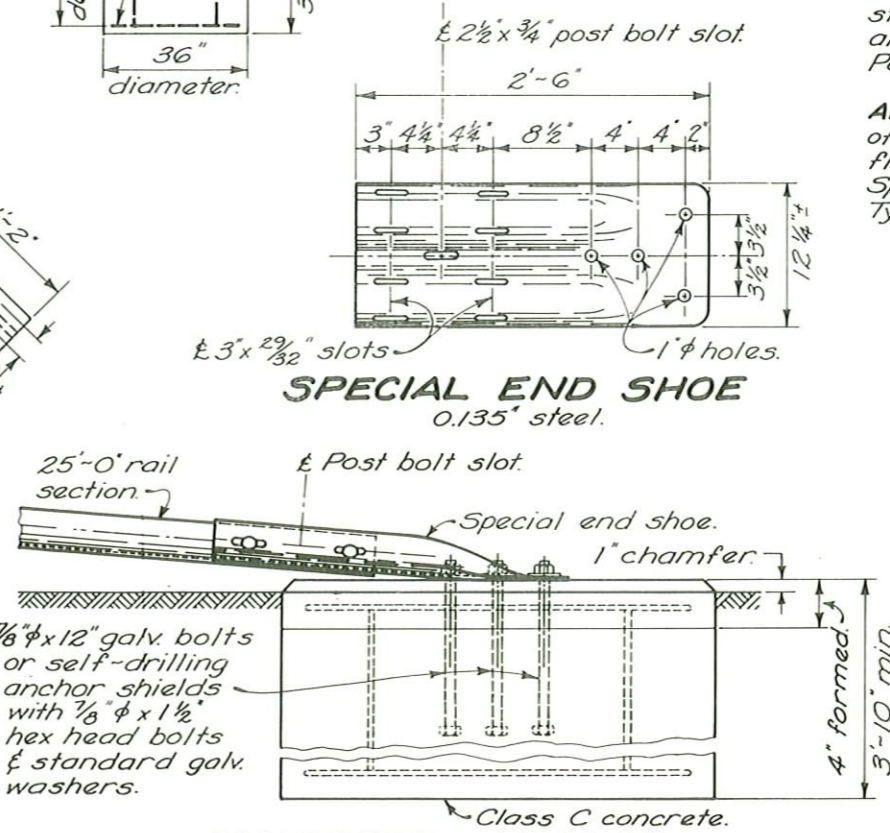
**POST A\***



**POST B**



**POST C**



**CONCRETE ANCHOR**

**NOTES**

**GENERAL:** For details not shown, see Standard Drawings GR-2A or GR-2B. All steel parts shall be galvanized in accordance with 710.06 or 710.10, whichever may apply.

**ANCHOR ASSEMBLY** shall be used at each free end of either Type 5 or Type 7 guardrail or barrier rail.

The 1'-6" flare offset from normal face of rail, shown in the plan view (for single rail installations), will be utilized only where shoulder width is insufficient for providing standard offsets shown on GR-5 and GR-6. Use of the 1'-6" offset will generally be limited to upgrading existing highways for safety or the construction or reconstruction of highways with design traffic less than 1000 ADT or design speeds less than 50 mph.

**SPACERS** for Posts B and C shall be made of 3/16" steel plate 710.15, or two sections of W6x8.5 or W8x10 cut in the web (see dashed line) and welded together on both sides.

All steel spacers and posts may be provided with additional bolt holes so that these items will not be required to be made right and left handed.

Spacers shall be fastened to their posts with two 5/8" hexhead bolts and nuts with standard washers on both sides.

**POST BOLT WASHERS:** Place one rectangular washer (see GR-2B for detail) between post bolt head or nut and the face of rail.

All other washers indicated on this drawing are standard galvanized steel of the appropriate size.

**CONCRETE ANCHOR:** Form top 4" of anchor and slope the top to conform to slope of the adjacent ground. The 36" diameter anchor may be replaced by a 2'-6" square anchor at the contractor's option.

**CONCRETE:** All concrete shall be Class C. Minimum post encasement shall be 4".

\* Single rail details are shown for Type 5 guardrail. Where anchor assembly is attached to Type 7 guardrail, Post A shall be a standard Type 7 line post set in concrete, and the spacer block shall be omitted. Post bolt shall be 5/8" phi.

**ANCHORS:** Self-drilling anchors may be of the snap-off chuck-end type or the flush-end type conforming to Federal Specification No. FF-S-325, Group III, Type 1(a) or (c).

BUREAU OF LOCATION AND DESIGN  
OHIO DEPARTMENT OF HIGHWAYS

**ANCHOR ASSEMBLY**

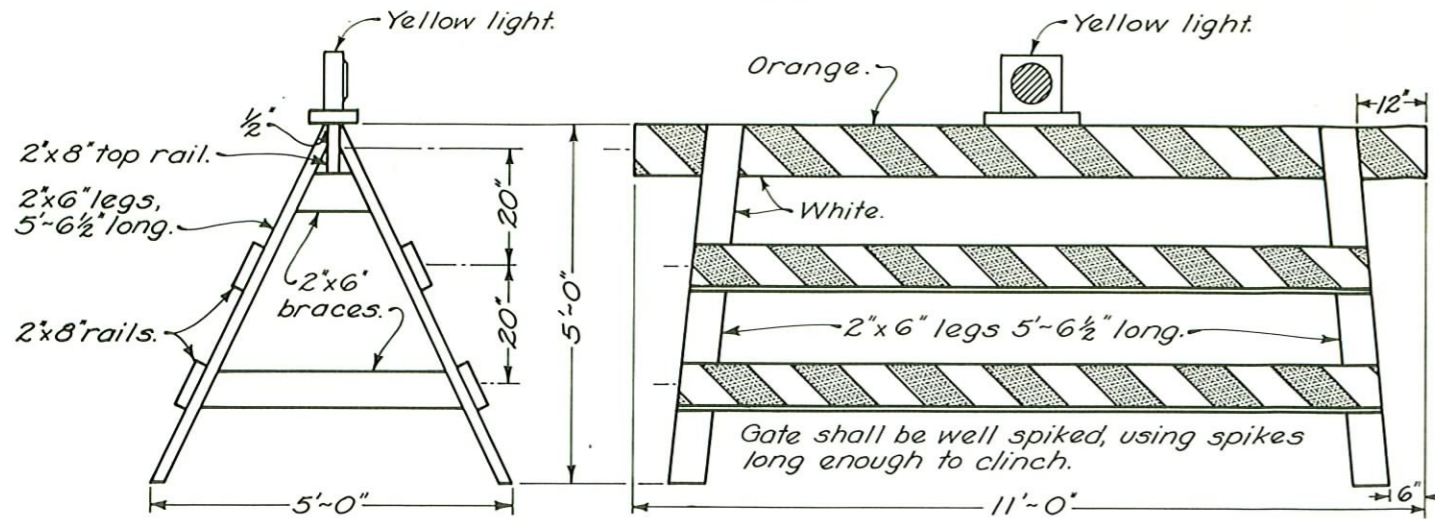
DATE: 1-1-71  
11-9-'71

STANDARD CONSTRUCTION DRAWING **GR-4**

APPROVED: *E. J. Hayes* ENGR., L. & D.



# MOVABLE GATE



# NOTES

**BARRICADES** shall be constructed according to details shown. Where traffic is maintained during construction, wing barricades shall be used on each shoulder: (1) at both ends of the project, (2) on all interchange entrance ramps or on the cross road preceding the entrance ramp, (3) on all other major approach roads as directed by the Engineer. When the road is closed to traffic, barricades and gates shall be used to effectively close the entire roadway including the median of divided highways. In urban areas and at locations where it is impracticable to extend the barricade to the right-of-way line because of a sidewalk or other obstruction, the ends of the barricade shall be located as directed by the Engineer to effect the desired closing of the highway.

**YELLOW LIGHT:** Each gate shall be equipped with a steady burning yellow light, conspicuously visible at all distances up to 1000' under normal atmospheric conditions. The light, operated by battery, electric generator, commercial power or propane gas, shall be in operation at all times between sunset and sunrise during the period the highway is closed.

**SIGNS:** Where the road is closed to traffic by the erection of gates and barricades, a **ROAD CLOSED** sign (R-75) shall be mounted on the gate as shown. On three-lane pavement, the sign shall be mounted on the middle gate facing traffic.

Where traffic is maintained, a **ROAD CONSTRUCTION TRAFFIC MAINTAINED** sign (OC-4) shall be used on the right shoulder wing barricade on the approaches to major construction or maintenance jobs less than 2 miles in length. A **ROAD CONSTRUCTION NEXT MILES** sign (OC-6) shall be used on the right shoulder wing barricade on the approaches to any major construction or maintenance job of 2 miles or more in length. An **END CONSTRUCTION** sign (OC-8) shall be erected above the right hand wing barricade facing traffic leaving the construction section. The signs on the wing barricades shall be erected above the top rail of the wing barricade on braces, as detailed hereon.

**PAINTING AND REFLECTORIZATION:** All rails of the barricades and gates shall be reflectorized with orange and white reflectorized sheeting in 6" wide alternate stripes which slope downward toward the center line of the road at an angle of 45%. All three rails of the Road Closed barricade shall be striped on the side facing traffic. All three rails of the wing barricade and all gate rails shall be striped on both sides. All posts, braces, gate legs and any unstriped rails shall be painted white.

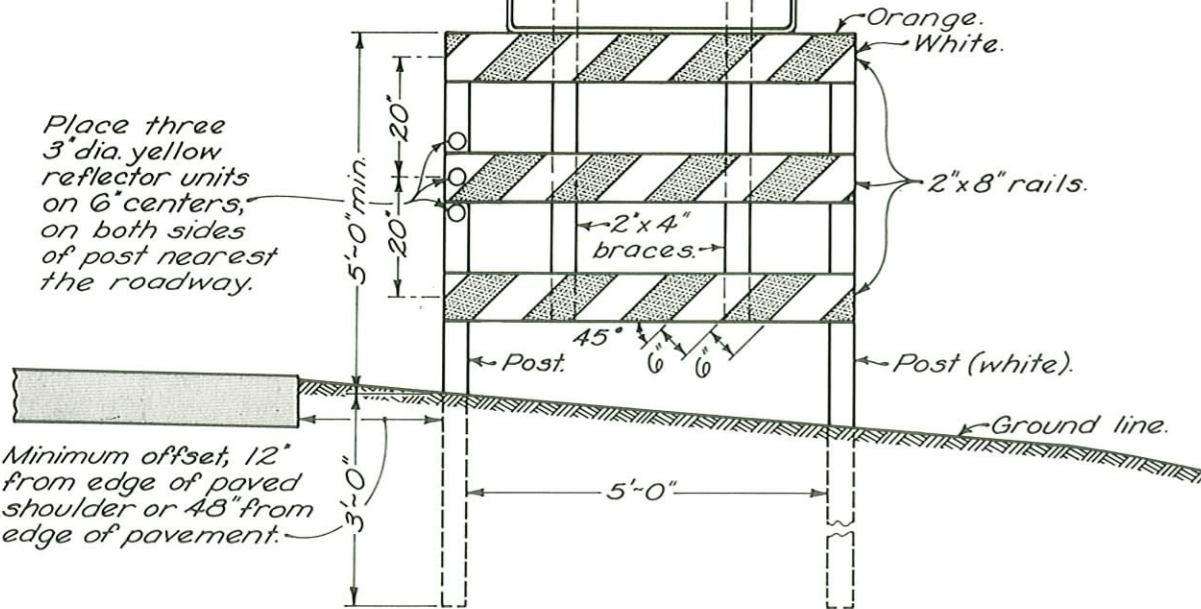
**GATES:** One gate shall be erected for each traffic lane. Gates shall be chained and padlocked to one another and to adjacent posts of the barricades. Chains shall be 1/4" stock or larger with welded links.

A hinged gate may be used and shall be an approved 12' by 4' steel frame farm type, or a type approved by the Engineer. The gate shall be hung on hinge screw hooks, or as otherwise approved. Striping similar to that used on the movable gate shall be accomplished with 1"x8" lumber or with metal strips fastened to the gate. The gate shall be supported at the center in an approved manner.

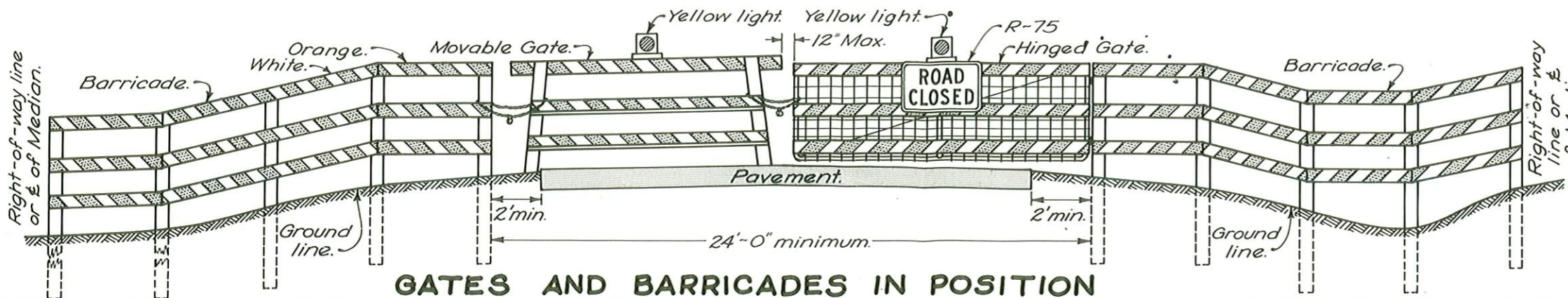
**LUMBER** used in the construction of the gates and barricades shall be No. 1 common yellow pine or No. 1 common Douglas fir, surfaced on four sides standard, or other materials approved by the Engineer. All sizes are nominal.

**POSTS** shall be sound 4"x4" sawed or 4 1/2" round. Rails of the barricade shall be bolted to the posts with 3/8" bolts.

**ROAD CONSTRUCTION**



# WING BARRICADE



# GATES AND BARRICADES IN POSITION

BUREAU OF ROADWAY DESIGN  
OHIO DEPARTMENT OF TRANSPORTATION

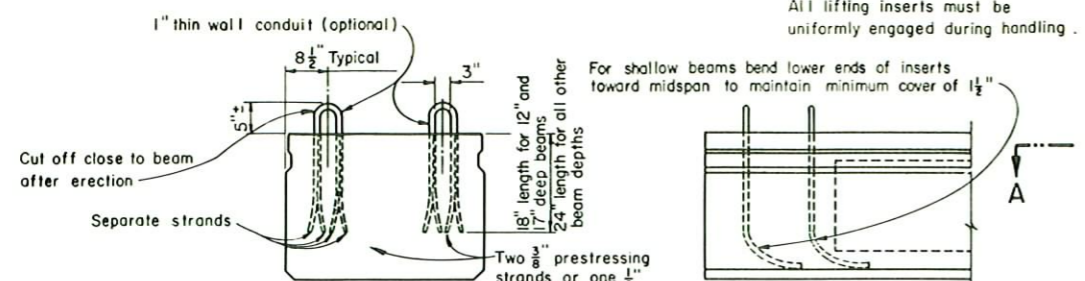
**BARRICADES AND GATES**

STANDARD CONSTRUCTION DRAWING **MC-3**

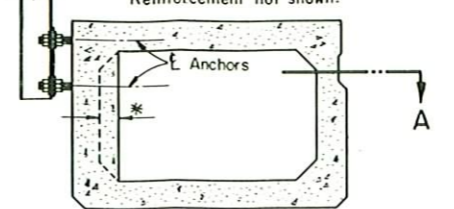
APPROVED *[Signature]* ENGR., R. D.

DATE  
6-1-65  
5-1-66  
11-1-68  
6-20-69  
6-1-73

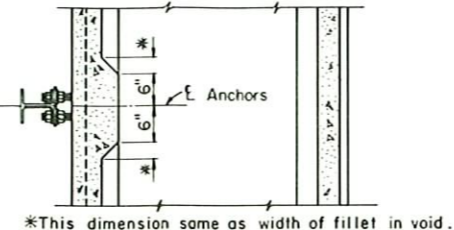




Refer to Standard Drawing DBR-1-71 for additional guardrail details.

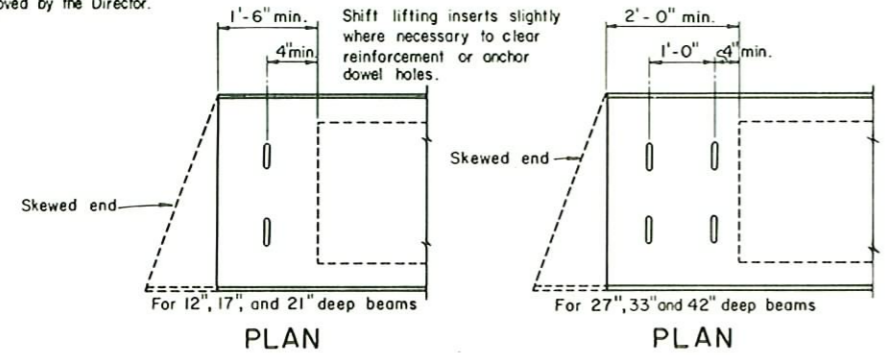


**SECTION SHOWING WALL THICKENING AT GUARD RAIL ANCHORS**

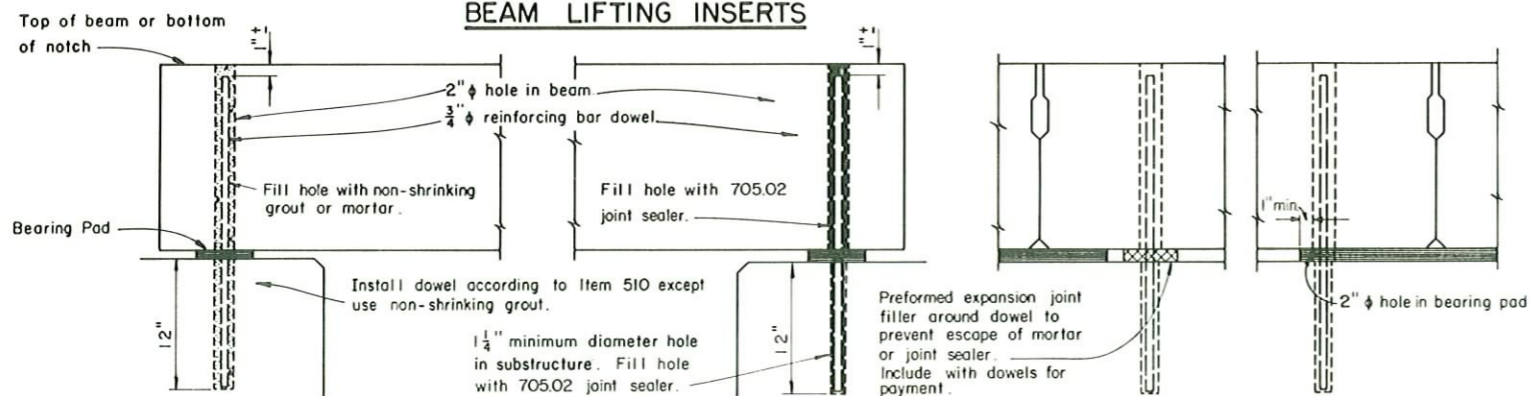


**SECTION A-A**

Note: Lifting inserts of the Contractor's design may be used if approved by the Director.



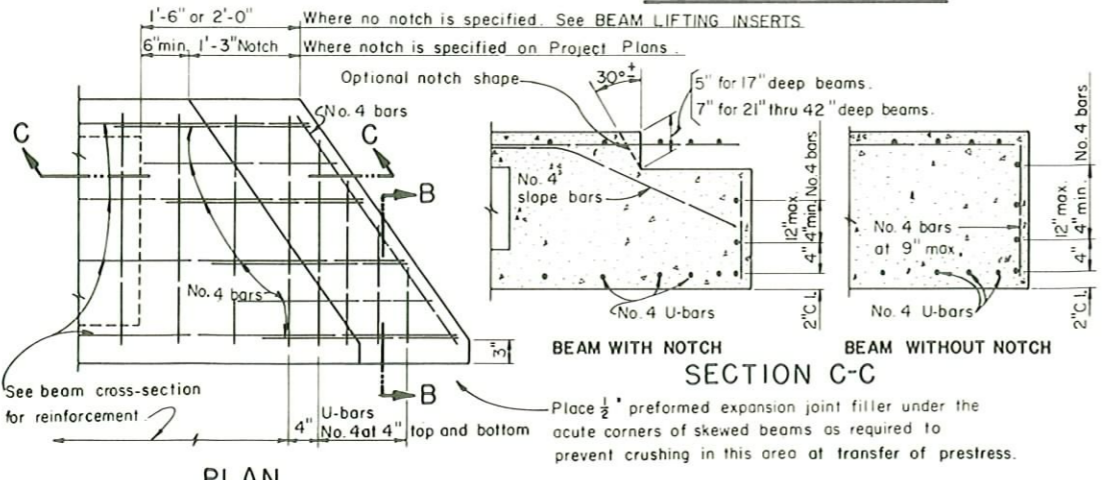
**BEAM LIFTING INSERTS**



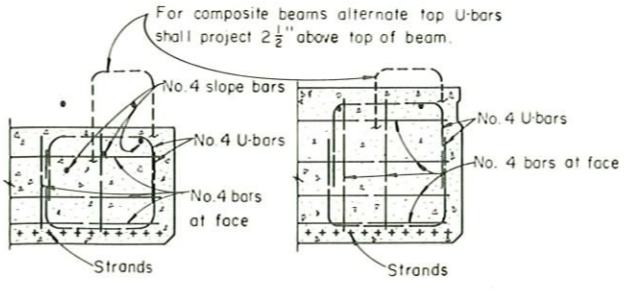
**FIXED EXPANSION WHERE DOWEL IS CLEAR OF BEARING PAD WHERE DOWEL PASSES THRU BEARING PAD**

**END VIEWS**

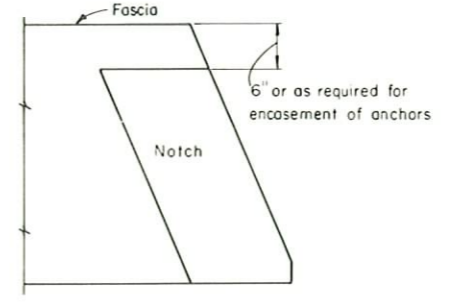
**ANCHOR DOWELS**



**DETAILS AND REINFORCEMENT OF BEAM ENDS**



**BEAM WITH NOTCH SECTION B-B**



**PLAN-FASCIA BEAM WITH NOTCH**

**GENERAL:** The project plans shall specify the details on this standard drawing which are to apply.

**TRANSVERSE TIE RODS** shall be 1/2 inch diameter steel rods of A36 steel, threaded both ends and with nut and washer at both ends. Threads may be cut or rolled. If rolled threads are used, minimum diameter of rod at root of threads shall be 0.838 inch. Tension shall be applied by a torque of approximately 250 foot-pounds. After the tie rods are tightened the recesses in the fascia beams shall be filled with non-shrinking mortar of the same color as the beams.

**PRESTRESSING STRANDS:** The project plans shall specify the number, location, size, and strength of prestressing strands, the required prestressing force, and deflected or de-bonded strand data.

**GALVANIZING:** All anchor bolts, studs, inserts, tie rods, nuts and washers shall be galvanized per 711.

**ANCHOR DOWELS:** The beam ends to be anchored shall be indicated on the project plans. Anchor dowel holes and prestressing strands shall be located to avoid mutual interference. The lateral spacing of the holes in the beam shall be such that the anchor dowels either clear the elastomeric bearing pads or pass thru 2 inch diameter holes in the pads. Holes in pads shall have 1 inch minimum clearance from edges of pads.

After tensioning of the transverse tie rods the dowel holes shall be drilled into the abutment or pier seat and dowels installed. Cost of installing anchor dowels shall be included with item 515 for payment if not listed as a separate item.

**BEARING PADS:** Size, hardness, and location of elastomeric bearing pads shall be shown on the project plans.

**NOTCHES** shall be provided in beam ends where shown on the project plans to provide continuity over piers or to accommodate anchorage for end dams or expansion joints.

**NON-SHRINKING MORTAR AND GROUT,** to qualify as non-shrinking, shall have as its cement component either of the following:

- Shrinkage compensating cement.
- Ordinary portland cement mortar with an additive, a primary function of which is to eliminate or substantially reduce drying shrinkage. Additives shall be subject to approval by the Director.

**MORTARING OF SHEAR KEYS:** After the transverse tie rods have been tightened shear keys shall be filled with non-shrinking mortar. Before mortaring, the keyway surfaces shall be wetted, but no free water shall be allowed to remain in the keyways. Mortar shall be placed into the keyways in a manner that insures complete and solid filling. This work is included with item 515 for payment.

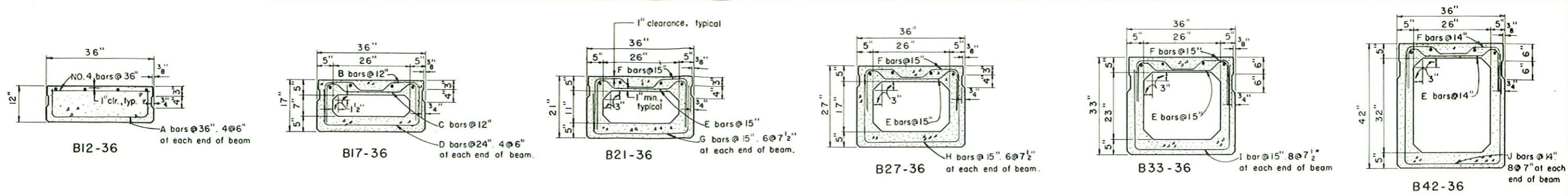
**COMPOSITE BRIDGES:** The following notes apply to composite bridges only:

**CLEANING PRIOR TO PLACEMENT OF COMPOSITE SLAB:** Before placement of the slab concrete, the tops of all beams shall be thoroughly cleaned of all dirt, dust, and other foreign matter. The surface shall be flushed with clear water and shall be wet, without free water, when the concrete is placed.

**SLAB PLACEMENT:** On multi-span bridges with slab continuous over piers, construction joints perpendicular to the centerline of roadway may be placed near the center of a span. However, composite slab pours shall be as long as practicable. On multi-span bridges with joints at piers, composite slabs shall be placed between joints without additional construction joints.

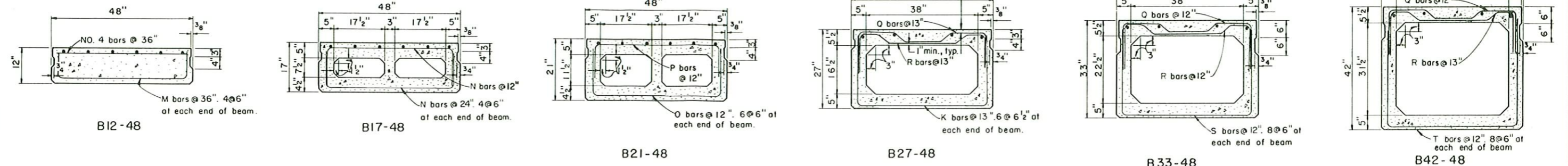
REVISIONS		STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES		DRAWING NO.
		STANDARD		PSBD-1-71
		PRESTRESSED CONCRETE BOX BEAM BRIDGE DETAILS		
APPROVED:	C. H. [Signature]		ENGINEER OF BRIDGES	
DATE: 9-1-71				
PREPARED	TRACED	CHECKED	REVIEWED	
WJJ & BEB	GFJ TDC	WCK	BFG	
				SHEET NO. 1 OF 3 SHEETS



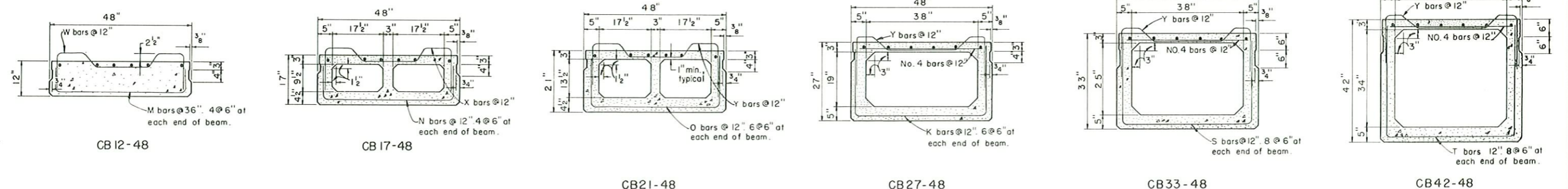


36" WIDE NON-COMPOSITE BEAMS

NOTE: Place all bottom stirrups on top of bottom layer of strands.

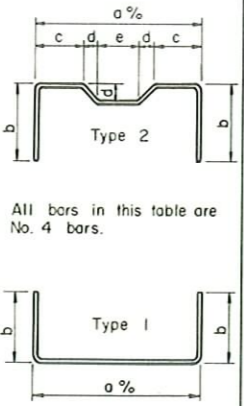


48" WIDE NON-COMPOSITE BEAMS



48" WIDE COMPOSITE BEAMS

Bent Reinforcing Bars						
Mark	Type	a	b	c	d	e
A	1	31"	9"			
B	2	31"	11"	9"	2 1/2"	8"
C	2	31"	11"	3"	2 1/2"	20"
D	1	31"	13"			
E	2	31"	14"	3"	2 1/2"	20"
F	2	31"	14"	9"	2 1/2"	8"
G	1	31"	17"			
H	1	31"	23"			
I	1	31"	29"			
J	1	31"	38"			
K	1	43"	23"			
N	1	43"	8"			
M	1	43"	13"			
O	1	43"	17"			
P	1	43"	11"			
Q	2	43"	14"	12"	3"	13"
R	2	43"	14"	6"	3"	25"
S	1	43"	29"			
T	1	43"	38"			
W	2	43"	12"	9"	4"	17"
X	2	43"	14"	9"	4"	17"
Y	2	43"	17"	9"	4"	17"



All bars in this table are No. 4 bars.

LONGITUDINAL REINFORCING STEEL  
 36" wide non-composite beams: 4- No. 5 bars  
 48" wide non-composite beams:  
 B12 thru B21, 6- No. 4 bars  
 B27 thru B42, 4- No. 5 bars  
 48" wide composite beams: 6- No. 4 bars

REVISION	STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES				DRAWING NO. PSBD-1-71
	STANDARD PRESTRESSED CONCRETE BOX BEAM BRIDGE DETAILS				
	APPROVED	C. H. Anderson ENGINEER OF BRIDGES			
	DATE: 9-1-71	PREPARED WJJ, BEB	TRACED GFJ TGC	CHECKED WCK	
SHEET NO. 3 OF 3 SHEETS					