

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
GRAYTOWN NORTH & SOUTH ROAD
COUNTY ROAD No 19
OTTAWA COUNTY
BENTON TOWNSHIP

LINE DATA

BEGIN PROJECT No S-336 (I)	PACKER CREEK	TURTLE CREEK	
END PROJECT No S-336 (I)	0+50	1+00	
NET LENGTH OF PROJ. No S-336 (I)	5400	5+00	
TOTAL	450'	400'	400 Lin. Ft. 0.076 MILES

CONVENTIONAL SIGNS

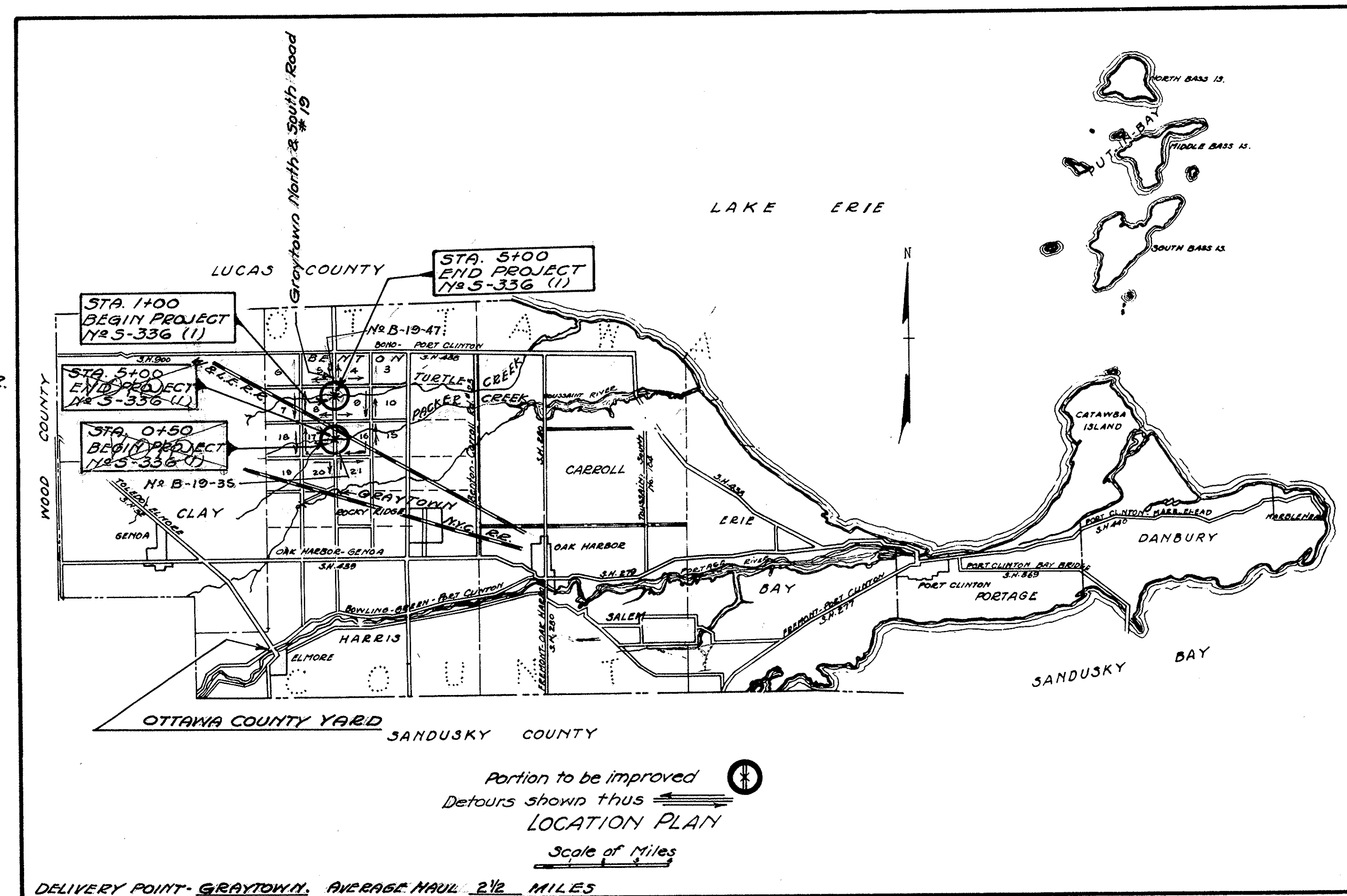
COUNTY LINE	-----
TOWNSHIP LINE	-----
SECTION LINE	-----
CENTER LINE	-----
STEAM RAILROAD	-----
GUARD RAIL	-----
TREES TO BE REMOVED	⊗ ⊗ ⊗
POWER & TELE. POLES	⊕ ⊕ ⊕

INDEX OF SHEETS

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We, the Commissioners of Ottawa County, in formal session hereby approve these plans and certify that the necessary right of way is available. We agree to maintain the project in a manner satisfactory to the Director of Highways, State of Ohio or his duly authorized representatives, and will make ample provision for such maintenance.
Done under authority of Sections 6906 et seq. and 7464 et seq. of The General Code of Ohio

[Signature]
Date 4/15/48
Ottawa County Commissioners



Portion to be improved
Detours shown thus LOCATION PLAN
Scale of Miles

DELIVERY POINT - GRAYTOWN, AVERAGE HAUL 2 1/2 MILES

SCALES

PLAN	1" = 100'
PROFILE HORIZONTAL	1" = 100'
PROFILE VERTICAL	1" = 10'
CROSS SECTIONS	1" = 5'

Recommended for Approval by P.R.A.

STANDARD DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	

The Standard Specifications of The State of Ohio, Department of Highways in force on date of contract together with Supplemental Specifications listed hereon will govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be provided as shown hereon.

APPROVED *[Signature]*
DATE April 5, 1948 COUNTY ENGINEER

APPROVED _____
DATE _____ DIVISION DEPUTY DIRECTOR

APPROVED _____
DATE _____ CHIEF ENGR. BUREAU BR. & R.R. CROSSINGS

APPROVED _____
DATE _____ CHIEF ENGR. BUREAU LOC. & DESIGN

APPROVED _____
DATE _____ 1st ASST. DIRECTOR AND CHIEF ENGR.

APPROVED _____
DATE _____ DIRECTOR OF HIGHWAYS

RECOMMENDED FOR APPROVAL DATE

DISTRICT ENGINEER
PUBLIC ROAD ADMINISTRATION
FEDERAL WORKS AGENCY

APPROVED DATE

DIVISION ENGINEER
PUBLIC ROAD ADMINISTRATION
FEDERAL WORKS AGENCY

FILE NO. OTTAWA COUNTY COUNTY ROAD No 19
DATE OF LETTING
CONTRACT NO.

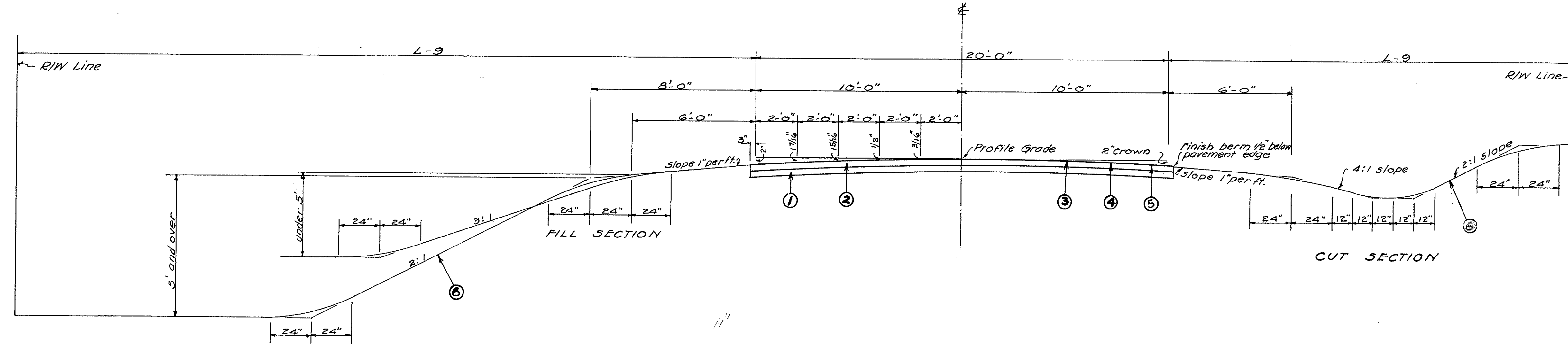
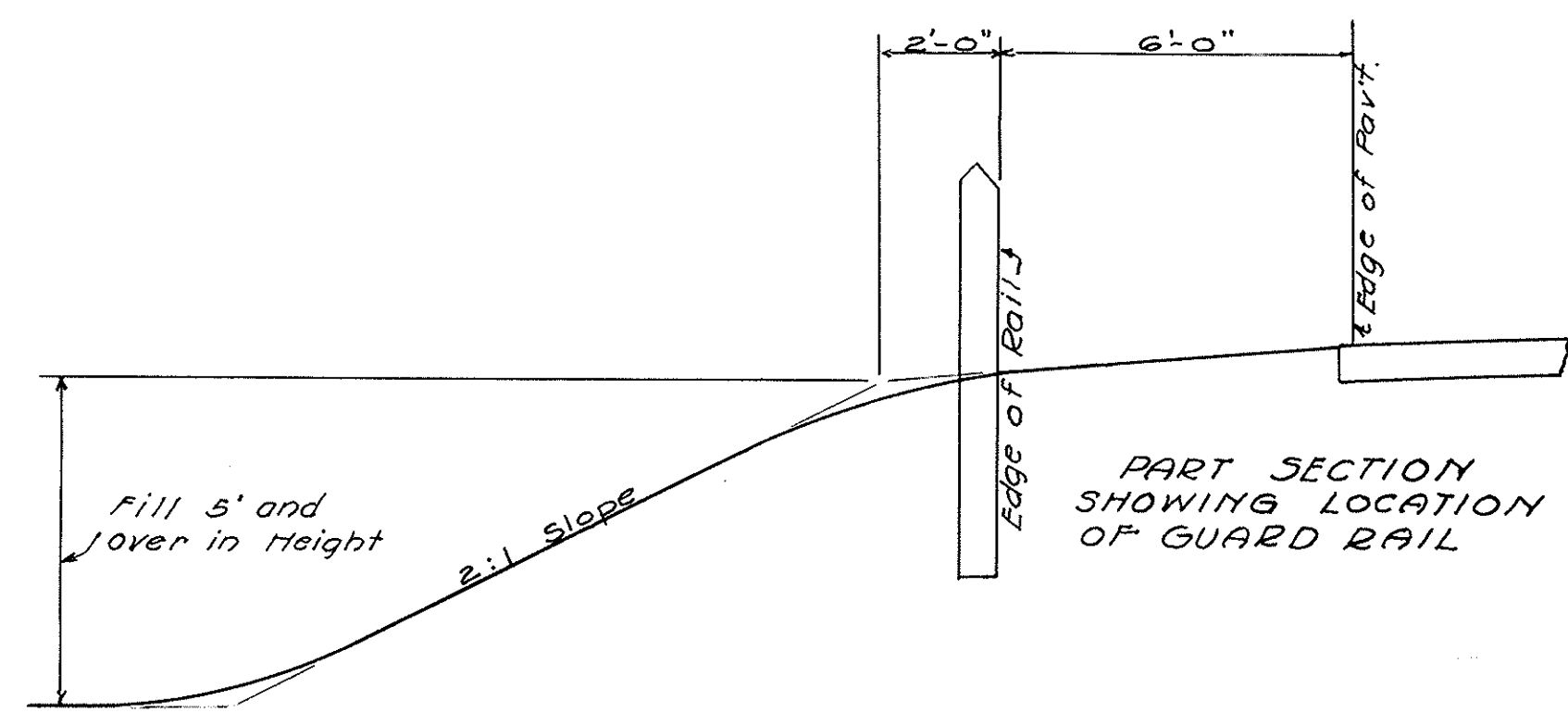
FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	NO. 5-336 (1)	194

2
12

OTTAWA COUNTY
COUNTY ROAD No. 19

TYPICAL SECTION

TYPE T-32 ON B-20



- ① B-20 4" Waterbound Macadam First Base Course.
- ② B-20 4" Waterbound Macadam Second Base Course.
- ③ T-30 Bituminous Prime Coat, using 0.35 gal. M-5.7 RT-2 or 3.
- ④ T-32 Road Mix Bituminous Material and Aggregate for road and choke Sec. M-5.7, RT-6 or M-5.7, RT-7, applied at the rate of 0.55 to 0.65 gal. per sq. yd. Method "A" or "B" and using 65 lbs. of No. 46 aggregate and 12 pounds of No. 9 choke aggregate per sq. yd.
- ⑤ T-32 Seal Coat Bituminous Material and Aggregate for seal coat Sec. M-5.7 RT-7 or RT-8 applied at the rate of 0.25 gal. per sq. yd. and using 20 lbs. per sq. yd. of No. 6 cover aggregate per sq. yd.
NOTE: The grade of Bituminous material used will be determined by the engineer.
- ⑥ L-9 Seeding and protecting roadway areas, type "A."

GENERAL NOTES

L-9 SEEDING AND PROTECTING ROADWAY AREAS, TYPE A.
Quantities for Seeding Item L-9 are calculated for the soil areas between lines ten feet (10') outside the work limits as shown on the cross sections or to the R/W line if such line is less than ten feet from the work limits. All areas outside these limits where the vegetative growth has been injuriously disturbed or destroyed by the contractor shall be restored and seeded in accordance with the provisions of Item L-9 by the contractor at his own expense.

UTILITIES: Any and all work required for Public or Private Utilities will be done by and at the expense of their respective owners unless otherwise noted on these plans.

The quantity of bituminous material estimated for the bituminous surface treatment has been calculated for use with stone or gravel aggregate. If the contractor elects to use slag aggregate, bituminous material for the bituminous road mix shall be applied at the rate of 0.65 to 0.75 gal. per sq. yd. which will require a total quantity of: ~~Packer Creek - 655 gal.~~ Turtle Creek - 583 gal.

~~PACKER CREEK.~~

Sta. 0+50 to Sta. 2+77	= 227	Lin. Ft.
Sta. 3+26 " " 5+00	= 174	" "

TURTLE CREEK.

Sta. 1+00 to Sta. 2+72	= 172	Lin. Ft.
Sta. 3+16 " " 5+00	= 184	" "

SUMMARY OF QUANTITIES

— PACKER CREEK —

PAVEMENT CALCULATIONS

Begin Project	Sta. 0+50	
End Project	Sta. 5+00	
Gross length of Project	450	Lin. Ft.
Deductions:		
Sta. 2+77 to Sta. 3+26	49	Lin. Ft.
Net Length of Pavement	401	Lin. Ft.
8" Waterbound Macadam Item B-20		Base Course
(401 x 20.5) ÷ 9 =	913.39	Sq. Yds.
Addition: Bridge Approach (See sheet No 4)	22.22	Sq. Yds.
Total	935.61	Sq. Yds.
Bituminous Prime Coat Item T-30		
935.61 x 0.35	327	Gals.
Road Mix Surface Course Item T-32		
(401 x 20.5) ÷ 9 =	913.39	Sq. Yds.
Addition: Bridge Approach (See sheet No 4)	22.22	Sq. Yds.
Total	935.61	Sq. Yds.
No. 46 Aggregate 935.61 x 0.025	23	Cu. Yds.
Bituminous Material 935.61 x 0.60	561	Gals.
Seal Coat Item T-32		
No. 6 Choke Aggregate 935.61 x 0.0375	3.51	Cu. Yds.
No. 6 Cover Aggregate 935.61 x 0.0625	5.85	Cu. Yds.
Bituminous Material 935.61 x .25	234	Gals.
WATER CALCULATION Item E-11		
1457 Cu. Yds. Emb. x 5	7	M. Gals.
Subgrade compaction in Cut Section		
[(100 Lin. Ft. x 23.5 x .67) ÷ 27] x 5	1	M. Gals.
Total Water	8	M. Gals.

— TURTLE CREEK —

PAVEMENT CALCULATIONS

Begin Project	Sta. 1+00	
End Project	Sta. 5+00	
Gross length of Project	400	Lin. Ft.
Deductions:		
Sta. 2+72 to Sta. 3+16	44	Lin. Ft.
Net Length of Pavement	356	Lin. Ft.
8" Waterbound Macadam Item B-20		
(356 x 20.5) ÷ 9 =	810.89	Sq. Yds.
Addition: Bridge Approach (See sheet No 9)	22.22	Sq. Yds.
Total	833.11	Sq. Yds.
Bituminous Prime Coat Item T-30		
833.11 x 0.35	292	Gals.
Road Mix Surface Course Item T-32		
(356 x 20.5) ÷ 9 =	810.89	Sq. Yds.
Addition: Bridge Approach (See sheet No 9)	22.22	Sq. Yds.
Total	833.11	Sq. Yds.
No. 46 Aggregate 833.11 x 65	27.0	Tons
Bituminous Material 833.11 x 0.60	499.86	Gals.
Seal Coat Item T-32		
No. 9 Choke Aggregate 833.11 x 12	5.0	Tons
No. 6 Cover Aggregate 833.11 x 20	8.0	Tons
Bituminous Material 833.11 x 25	208.	Gals.
WATER CALCULATION Item E-11		
1200 Cu. Yds. Emb. x 5	6	M. Gals.
Subgrade compaction in Cut Section		
[(150 Lin. Ft. x 23.5 x .67) ÷ 27] x 5	1	M. Gals.
Total	7	M. Gals.

GENERAL SUMMARY

STRUCTURE			ROADWAY				
Item	Quantity	Unit	Description	Item	Quantity	Unit	Description
E-2	Lump Sum		Cofferdam and Pumping	E-1	397	Cu. Yds.	Roadway Excavation
E-2	160	Cu. Yds.	Excavation for Structures (Wet)	E-4	511	Cu. Yds.	Borrow
E-2	20	Cu. Yds.	Excavation for Structures (Unclassified)	E-11	8	M. Gal.	Water
S-1	68	Cu. Yds.	Class "E" Concrete (Footings)	L-9	2265	Sq. Yds.	Seeding and protecting, Type A
S-1	124.0	Cu. Yds.	Class "E" Concrete (Walls)	I-6	12	Lin. Ft.	Relaying 12" Concrete pipe
S-1	30	Cu. Yds.	Class "C" Concrete (Superstructure)	I-15	300	Lin. Ft.	Guard Rail Steel Beam Type, Deep
S-3	31	Sq. Yds.	Type "B" Waterproofing				
S-4	7730	Lbs.	Reinforcing Steel				
S-4	6200	Lbs.	Reinforcing Steel (Superstructure)				
S-7	31500	Lbs.	Structural Steel				
S-8	31500	Lbs.	Field painting of Struct. steel (Two Coats)				
S-14	100	Lin. Ft.	Bridge railing (Steel with concrete posts)				
S-24	Lump Sum		Removal of existing structure				
S-24	Lump Sum		Hauling existing structural steel to County Yard, Elmore				
S-29	60	Cu. Yds.	Porous Backfill				
E-3	701	Cu. Yds.	Channel Excavation				

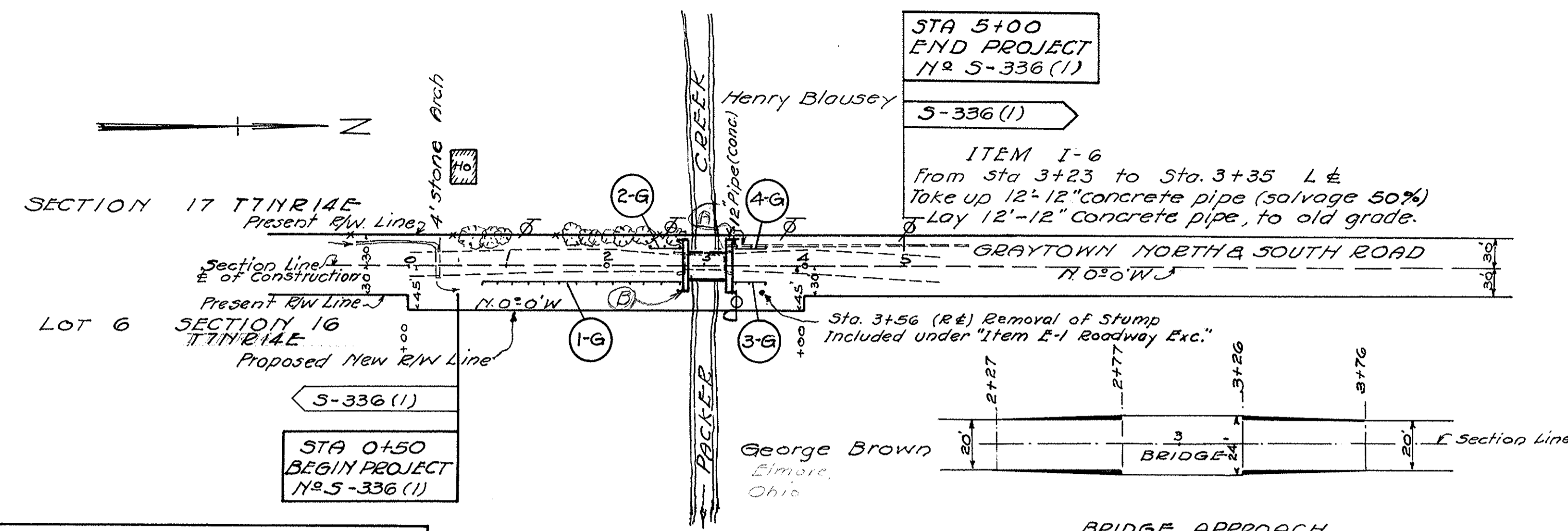
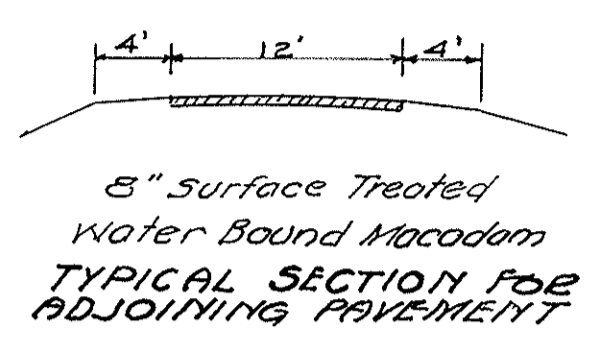
GENERAL SUMMARY

STRUCTURE			ROADWAY				
Item	Quantity	Unit	Description	Item	Quantity	Unit	Description
E-2	Lump Sum		Cofferdam and Pumping	E-1	59	Cu. Yds.	Roadway Excavation
S-26	Lump Sum		Name plate	E-4	801	Cu. Yds.	Borrow
E-2	190	Cu. Yds.	Excavation for Structure (Unclassified)	E-11	7	M. Gal.	Water
S-1	68	Cu. Yds.	Class "E" Concrete (Footings)	L-9	1551	Sq. Yds.	Seeding and protecting
S-1	125	Cu. Yds.	Class "E" Concrete (Walls)	I-3	204	Lin. Ft.	24" Pipe for Roadway Drainage
S-1	27	Cu. Yds.	Class "C" Concrete (Superstructure)	I-6	12	Lin. Ft.	Relay 36" Corrugated Pipe
S-3	31	Sq. Yds.	Type "B" Waterproofing	I-6	12	Lin. Ft.	Relay 8" Vitrified Sewer Pipe
S-4	7880	Lbs.	Reinforcing Steel	I-15	287.5	Lin. Ft.	Guard Rail Steel Beam Type, Deep
S-4	5620	Lbs.	Reinforcing Steel (Superstructure)				
S-7	27100	Lbs.	Structural Steel				
S-8	27100	Lbs.	Field painting of Structural Steel				
S-14	90	Lin. Ft.	Bridge railing (Steel with concrete posts)				
S-24	Lump Sum		Removal of existing structure				
S-24	Lump Sum		Hauling existing structure to County Yard, Elmore				
S-29	60	Cu. Yds.	Porous Backfill				
E-3	521	Cu. Yds.	Channel Excavation				

⊗ Federal Non-participating Item.
NOTE: For Superstructure Quantities
See DRAWING NUMBER 55B-2-46
45'-0" Span c. to c. of Bearings. 24' Roadway

⊗ Federal Non-participating Item.
NOTE: For Superstructure Quantities
See DRAWING NUMBER 55B-2-46
40'-00" Span c. to c. of Bearings
24' Roadway

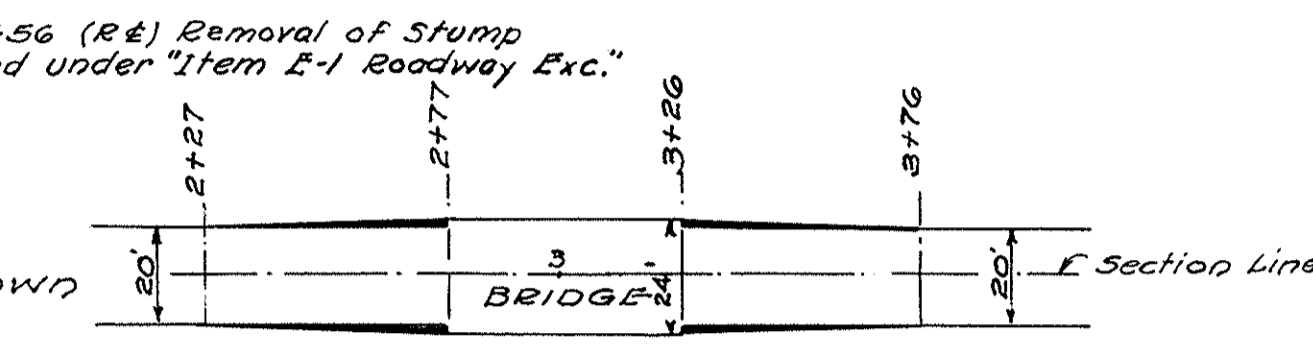
OTTAWA COUNTY
COUNTY ROAD No. 19
(Packer Creek)



STA 5+00
END PROJECT
No. 5-336(1)

STA 0+50
BEGIN PROJECT
No. 5-336(1)

ITEM I-6
from Sta. 3+23 to Sta. 3+35 L & E
Take up 12" 12" concrete pipe (salvage 50%)
Lay 12"-12" concrete pipe to old grade.



Ref. No.	Stations		Side	Guard Rail Lin. Ft.
	From	To		
1-G	0+87.5	2+75	R	187.5
2-G	2+37.5	2+75	L	37.5
3-G	3+28	3+65.5	R	37.5
4-G	3+28	3+65.5	L	37.5
Total				300

NOTE: Markers to be furnished and erected on the Right and on the Left by State Forces before acceptance of the Project.

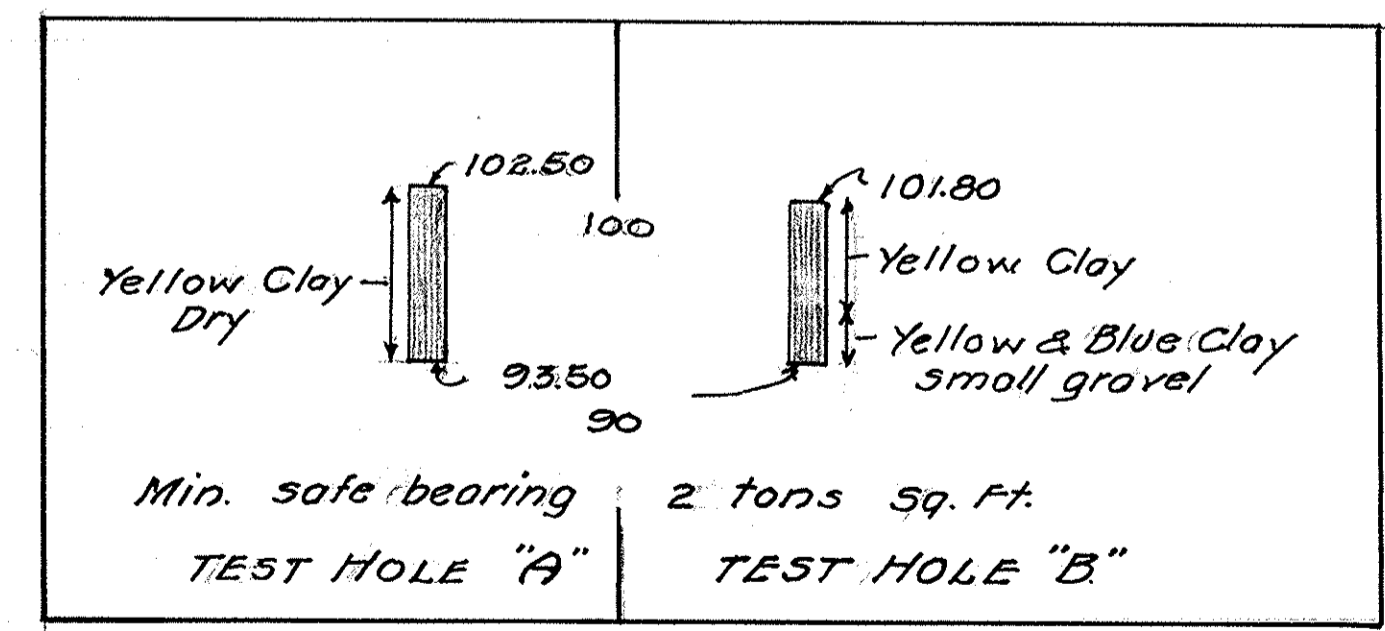
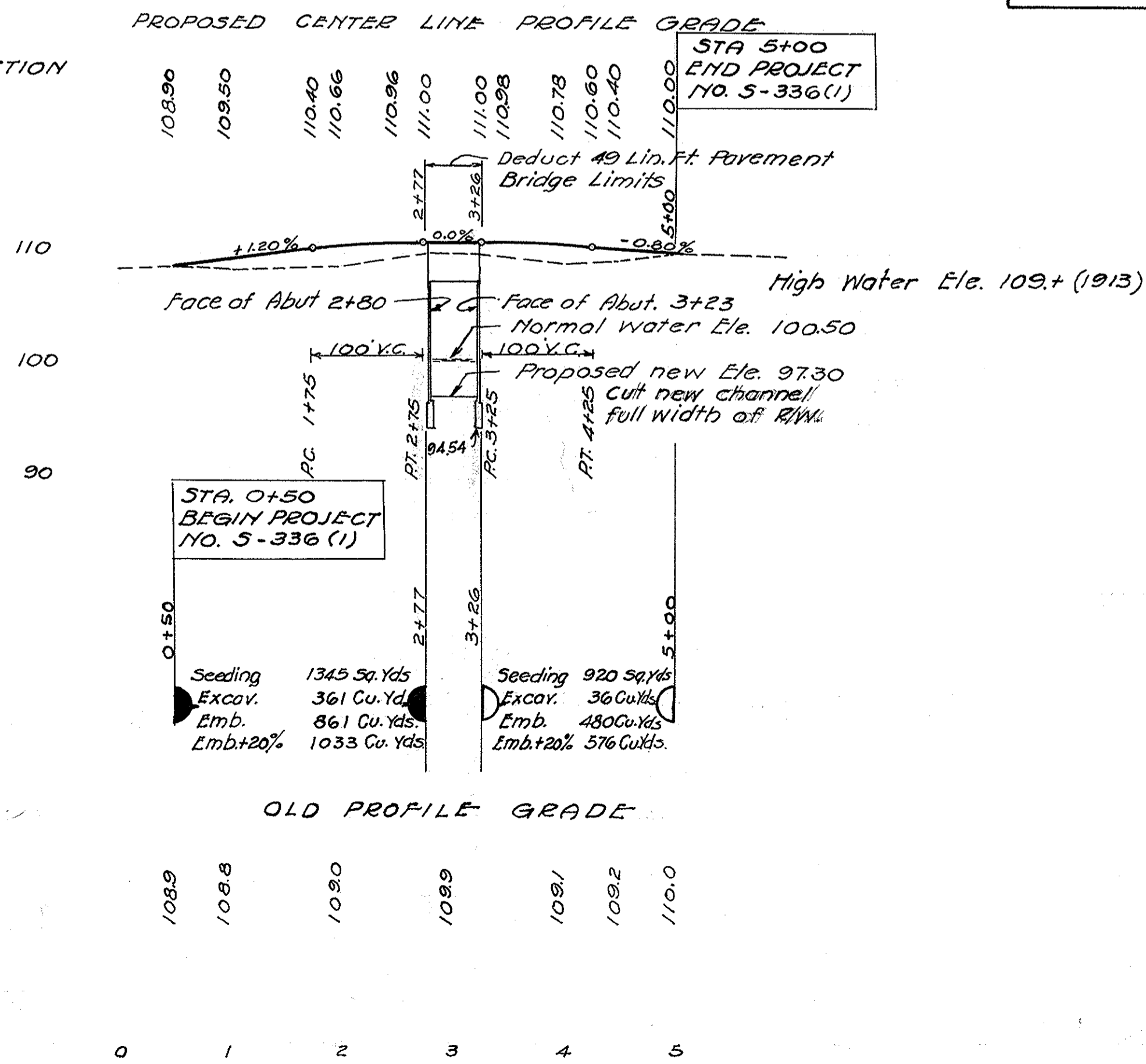
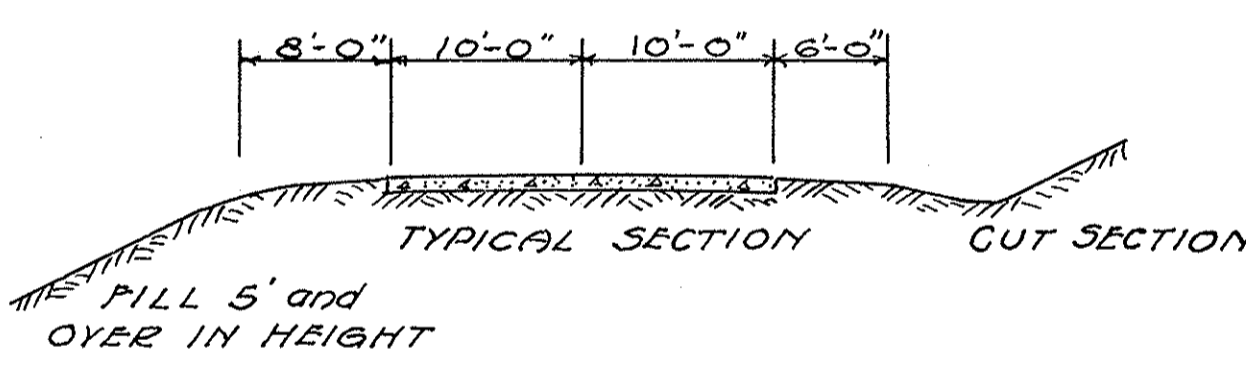
B.M. R.R. spike in Walnut
30' L. & Sta. 2+40
Ele. 110.00

PAVEMENT		
Stations	From	To
	0+50	2+77
	3+26	5+00
Total		401

E-1, E-3, E-4 EARTHWORK			
Station	Excavation	Embankment	Embankment +20%
From To	Cu. Yds.	Cu. Yds.	Cu. Yds.
0+50	2+77	361	861
3+26	5+00	36	480
Total Roadway		397	1341
Channel		701	1033
Total		1098	1609
Borrow		(1609 - 1098) = 511	Cu. Yds.

L-9 Seeding		
Station	From	To
	0+50	2+77
	3+26	5+00
Total		2265

El. 110.00 = U.S.G.S. EL. 590.86

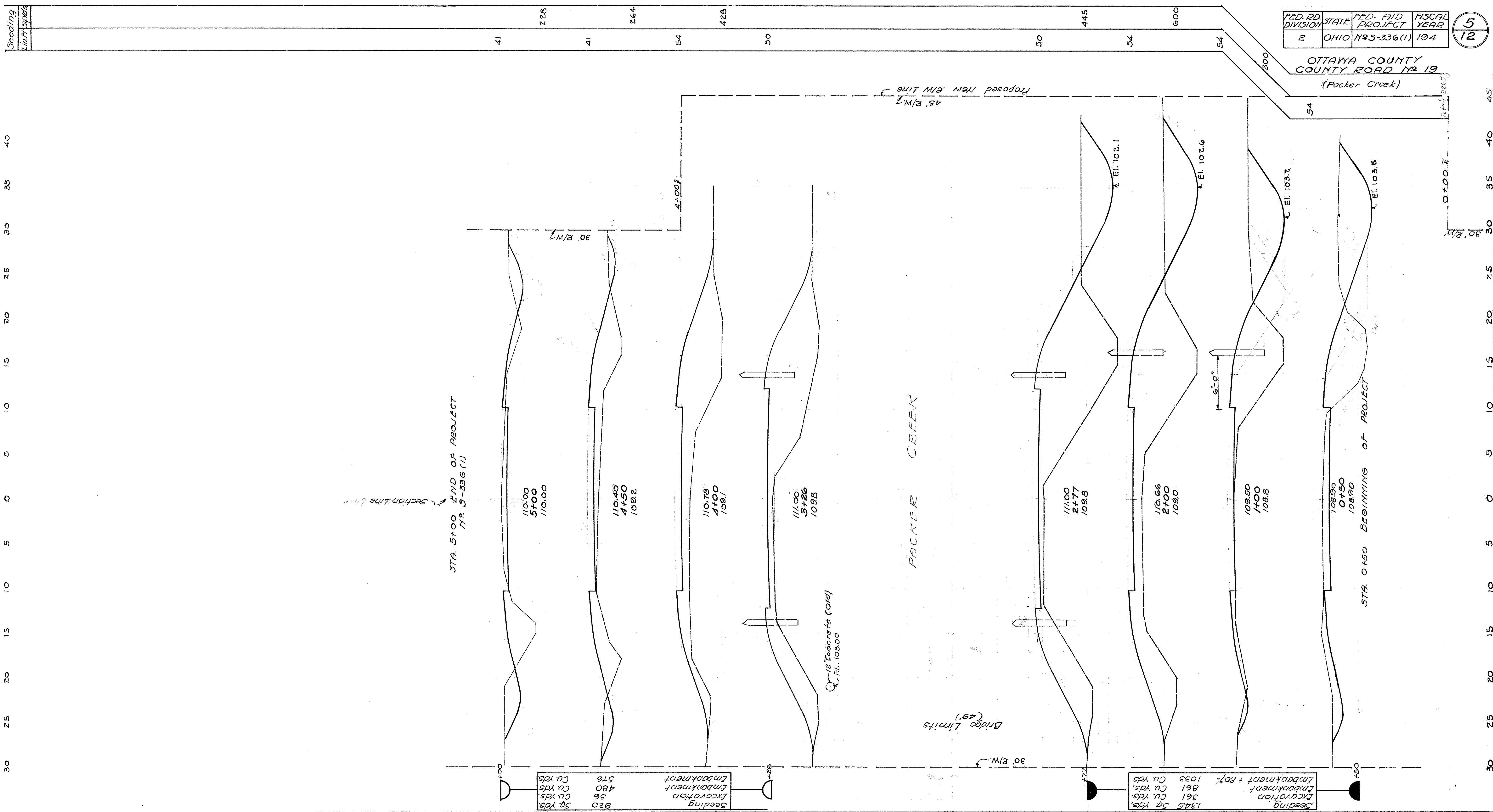


PRESENT STRUCTURE
No. B-19-35
Type - Low Truss - Pin.
Stone Abutments.
Clear Span - 40'. Roadway - 14'-0"
Skew 0°. War Dept. Rating Strength 4.
To be dismantled.
To be hauled to Elmore Yard. Distant 8 Miles.

PROPOSED STRUCTURE
Type - Std. Steel Beam Bridge (Single Span)
Concrete substructure
Span - 45'. Roadway - 24'
Loading - S-12-40
Skew - 0°
Surface Course - Monolithic Concrete
Approach Slabs - None

DRAINAGE AREA 23 Sq. Mi.

End Area
Cut Fill



FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	NS-336(1)	194

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OTTAWA COUNTY
COUNTY ROAD NO 19
(Packer Creek)

Seeding
Excavation
Embankment + 20%
Cu. Yds.

STA. 5+00 END OF PROJECT
No. 5-336 (1)

30' R/W

45' R/W Proposed New R/W Line

PACKER CREEK

Bridge Limits (49')

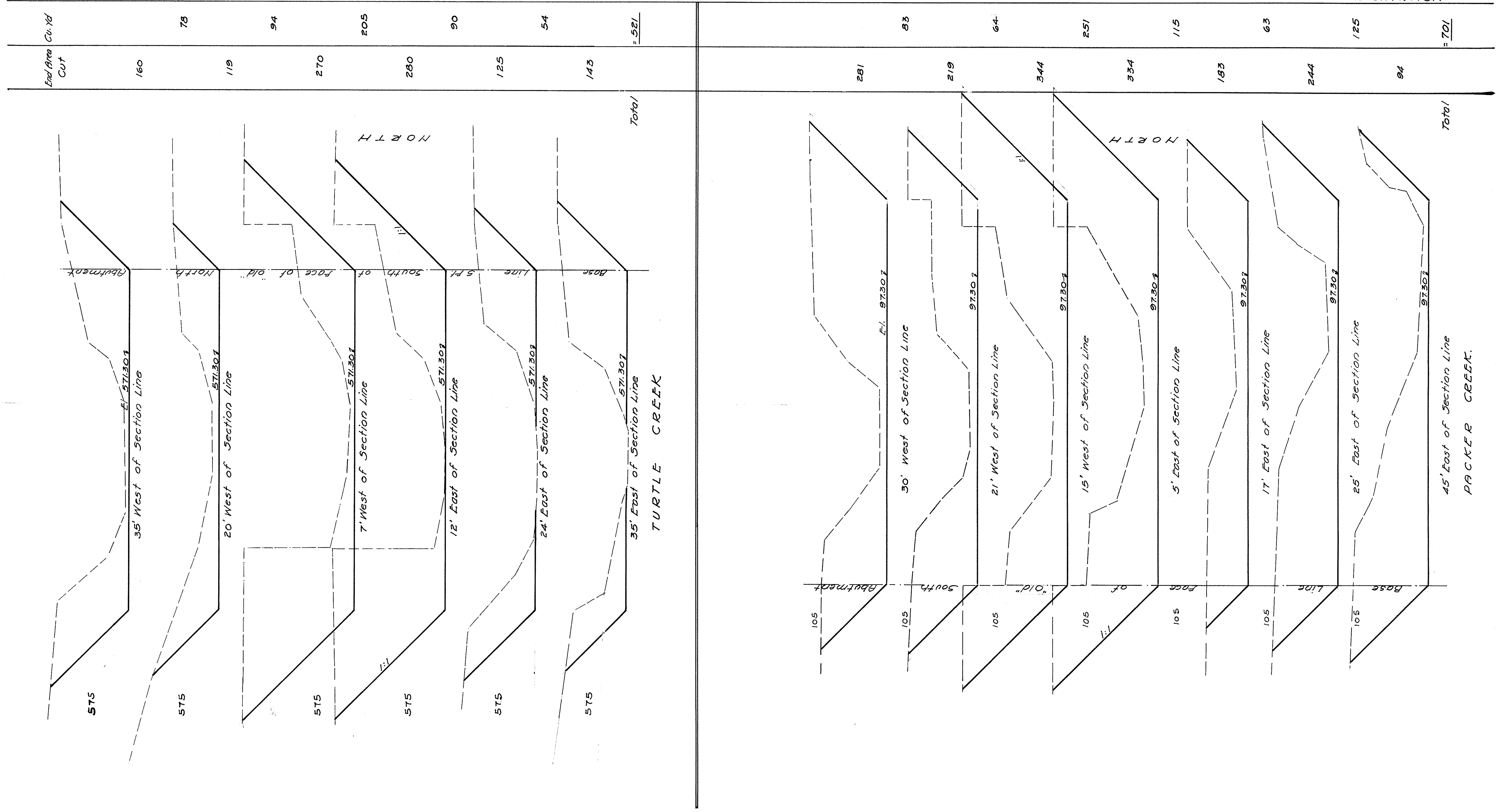
30' R/W

STA. 0+50 BEGINNING OF PROJECT

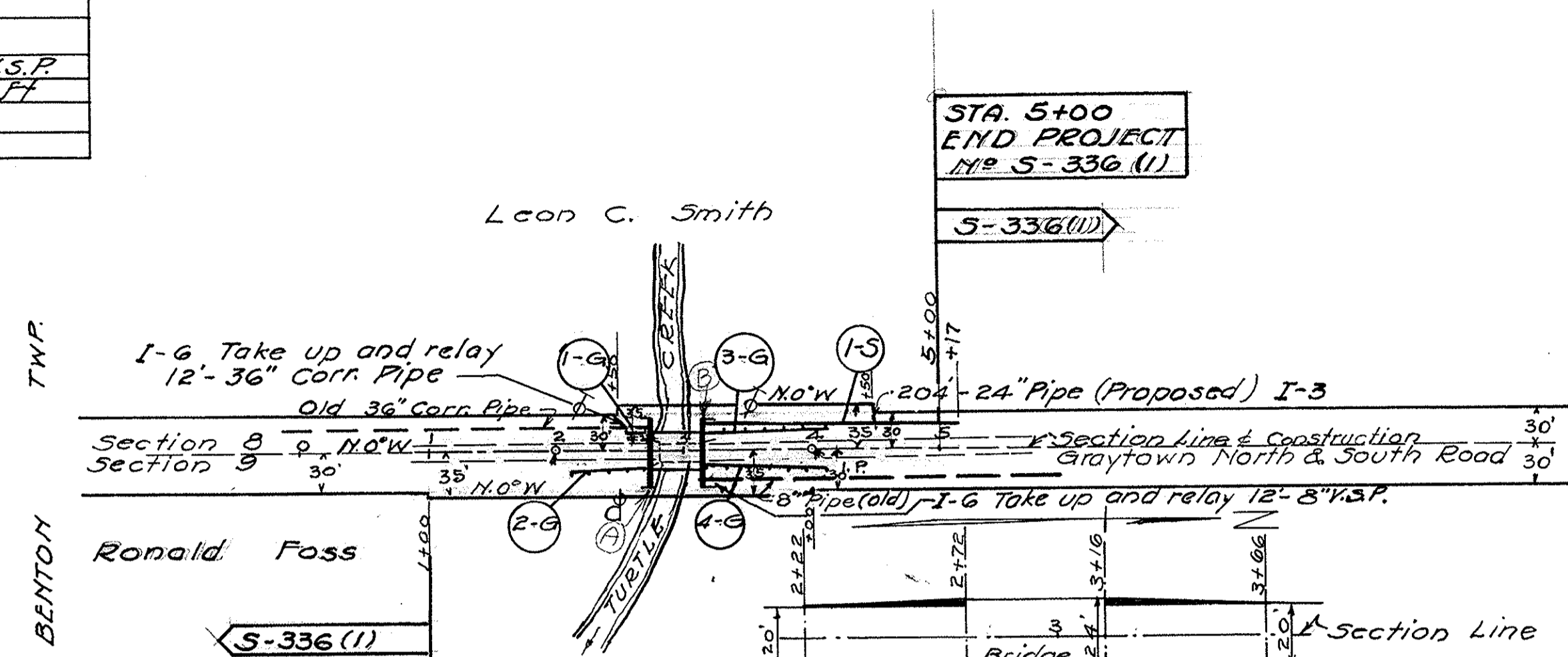
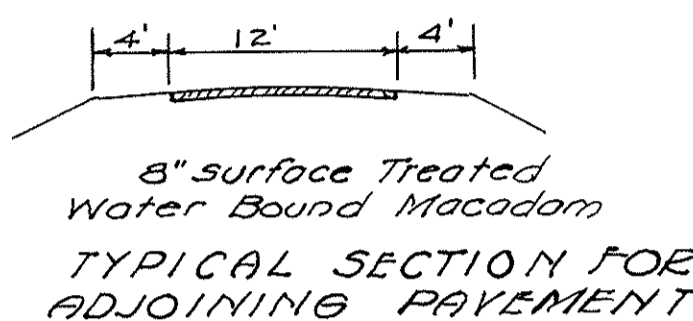
FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	10.5-336(1)	194

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OTTAWA COUNTY
COUNTY ROAD #219
CHANNEL EXCAVATION



Station From	Station To	Side	Removal	Salvage	Relaying	
			Lin. Ft.	%	36" Corr. Lin. Ft.	8" V.S.P. Lin. Ft.
2+63	2+75	L	12	100	12	12
3+10	3+25	R	15	80		



BRIDGE APPROACH
Extra Pavement 22.22 Sq. Yds.
Item B-20 22.22 Sq. Yds.
Item T-32 22.22 Sq. Yds.

Ref. No.	Station From	Station To	24" Pipe Lin. Ft.
1-5	3+13	5+17	204

Station From	Station To	Lin. Ft.
1+00	2+72	172
3+16	5+00	184
Total		356

Station From	Station To	Sq. Yds.
1+00	2+72	720
3+16	5+00	831
Total		1551

PRESENT STRUCTURE
No. B-19-47
Type - Low Truss - Pin
Stone Abutments
Clear Span - 36' Roadway - 14'5"
Skew - 0° War Rating Strength 4
To be dismantled
To be hauled to Elmore Yard Distant 9.2 Miles

PROPOSED STRUCTURE
Type - Std. Single Span Steel Beam Bridge
Span - 40' Roadway - 24'
Loading - S-12-40
Skew - 0°
Surface course Monolithic Concrete
Approach Slabs - None

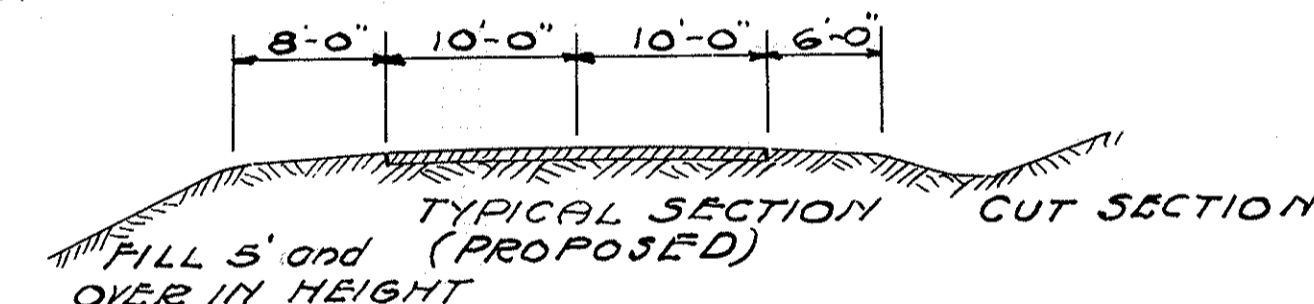
DRAINAGE AREA 20 SQ. MI.

Station From	Station To	Excavation Cu. Yds.	Embankment Cu. Yds.	Embankment +20% Cu. Yds.
1+00	2+72	49	344	413
3+16	5+00	10	856	1027
Total Roadway		59	1200	1440
Channel		521		
TOTAL		639	1200	1440
BORROW (1440-639) = 801		Cu. YDS		

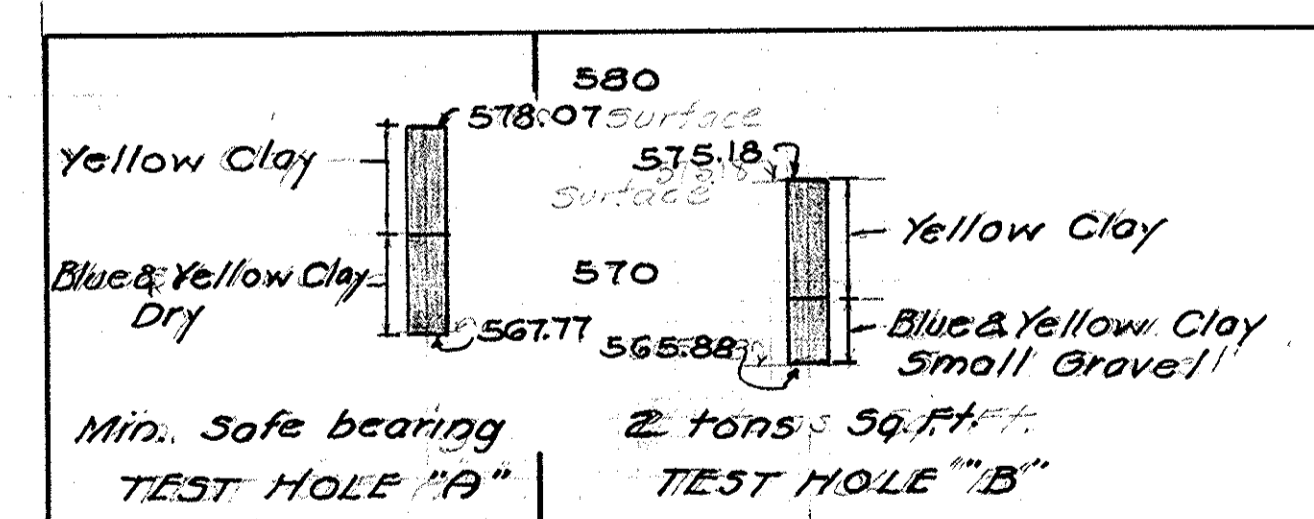
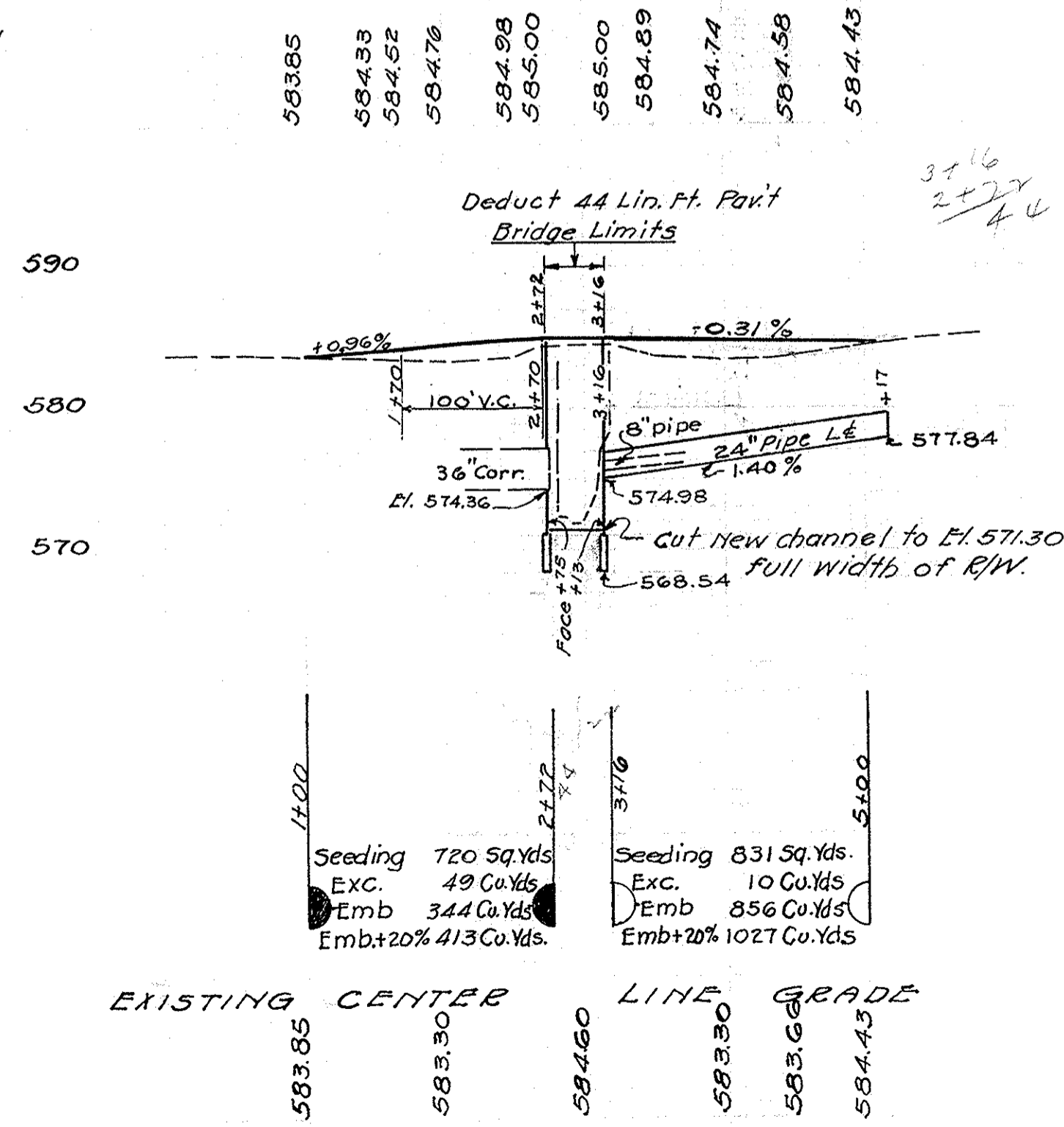
Ref. No.	Station From	Station To	Side	Guard Rail Lin. Ft.
1-G	2+45	2+70	L	25
2-G	2+07.5	2+70	R	62.5
3-G	3+13	4+18	L	100
4-G	3+18	4+18	R	100
TOTAL				287.5

1/2 1/4 Gov. Bench Mark
N.W. Plate 3E Wing
Ele. 585.631 (OK 23-Pg 25)
Gov. Bench Mark
Plate South East Wing Wall
Ele. 583.209

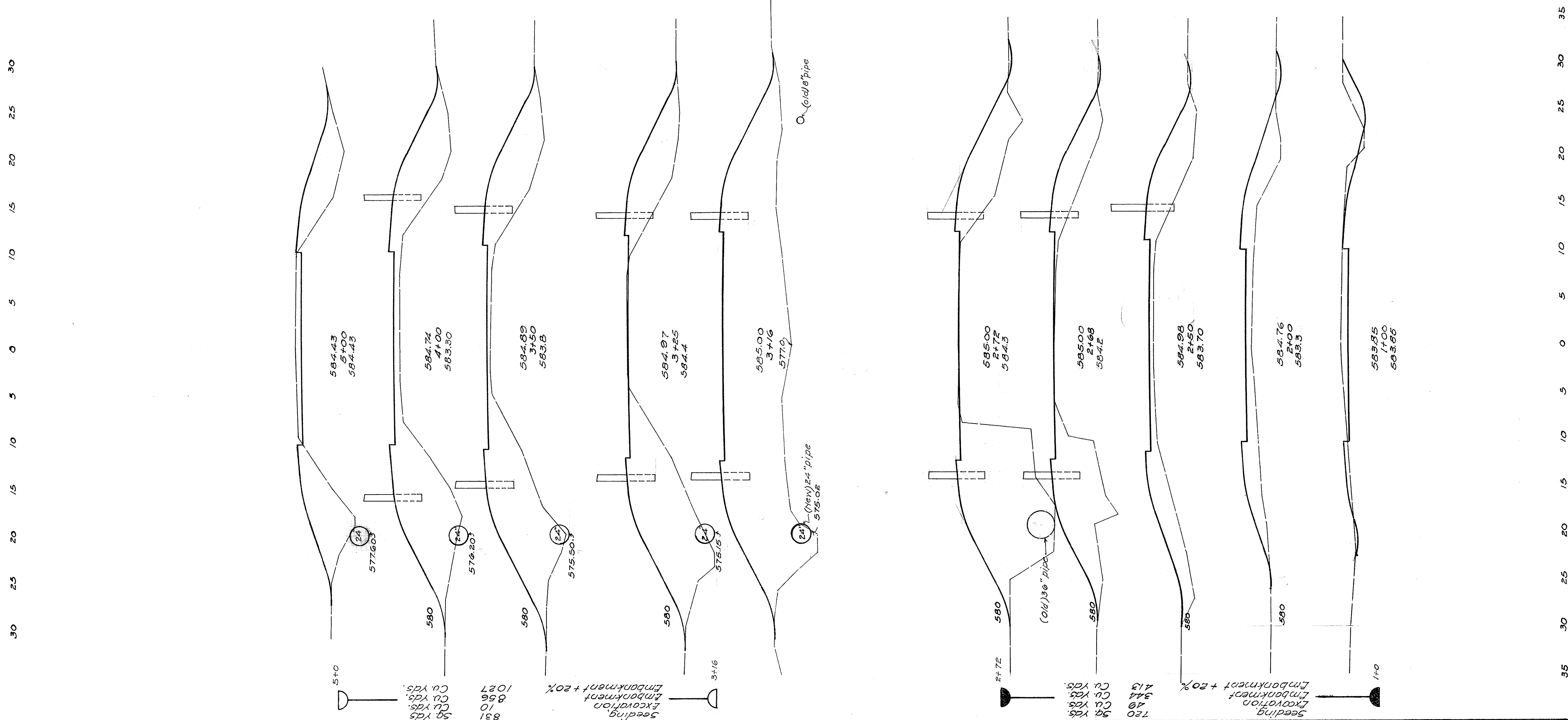
Surplus Channel Excavation to be used in Roadway Embankment



PROPOSED CENTER LINE PROFILE GRADE



End Area	Cu. Yds	Cut	Fill
11	38	10	356
0	145	0	277
0	154	0	143
0	155	0	80
0	328	0	122
2	176	1	21
2	106	1	64
1	85	3	137
2	63	44	122
22	3	59	1206



Seeding	Un. Ft. Sp. Yds.
36	433
42	236
43	119
43	43
43	43
43	19
43	85
42	222
38	394
33	1551

FED. ROAD DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	112	

OTTAWA COUNTY
COUNTY ROAD N^o 19
(Turtle Creek)

30 25 20 15 10 5 0 5 10 15 20 25 30 35

FED. ROAD DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	No 5-336(D)	1948

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OTTAWA COUNTY
COUNTY ROAD No 19
(TURTLE CREEK)
About 1 Mi E of Trowbridge.

PRESENT STRUCTURE
No. B-19-47
Type - Low Truss - Pin
Stone Abutments
Clear Span - 36' Roadway - 14'-5"
Skew - 0° War Rating Strength 4
To be dismantled.
To be hauled to Elmore Yard Distant 3.2 Miles

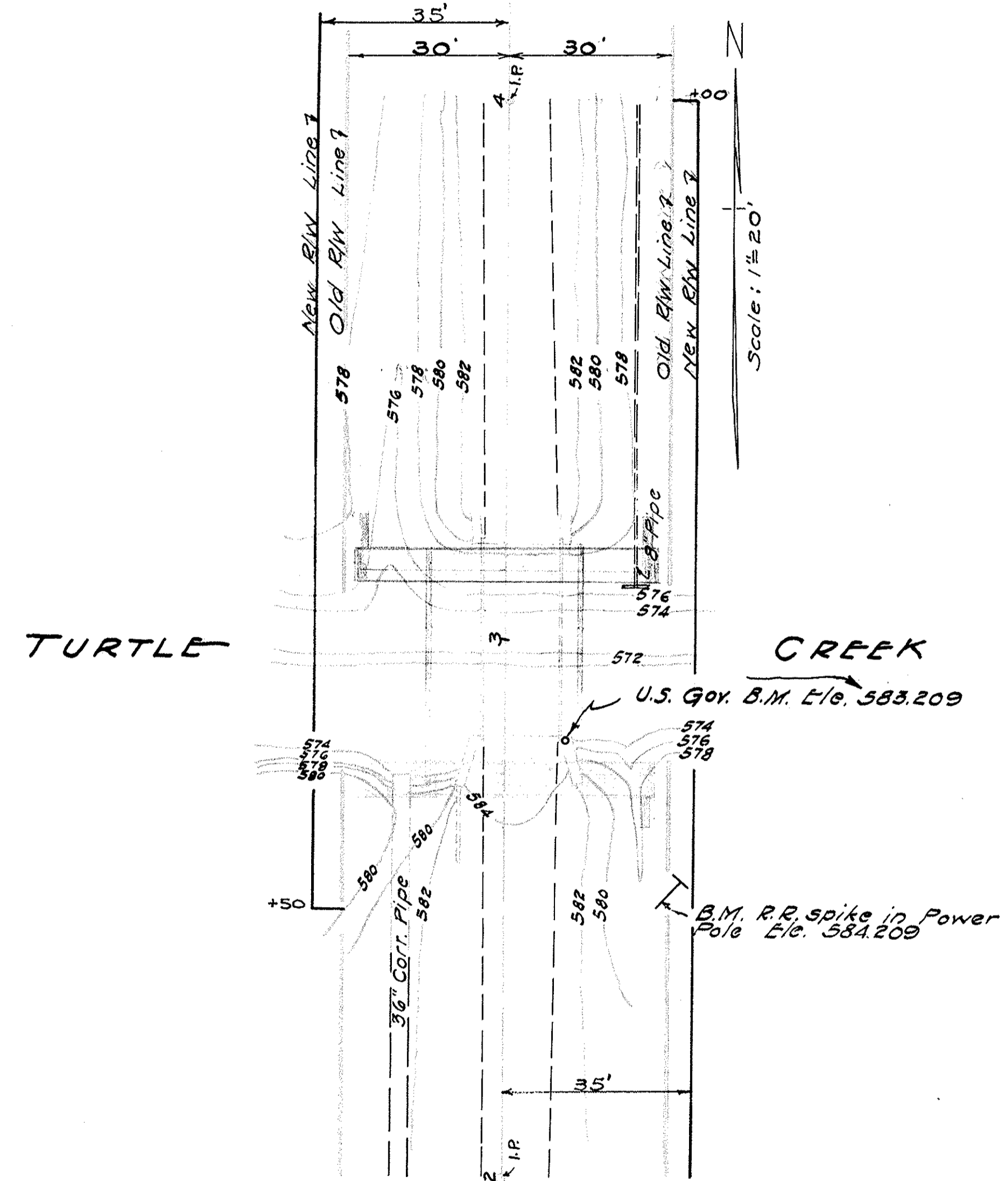
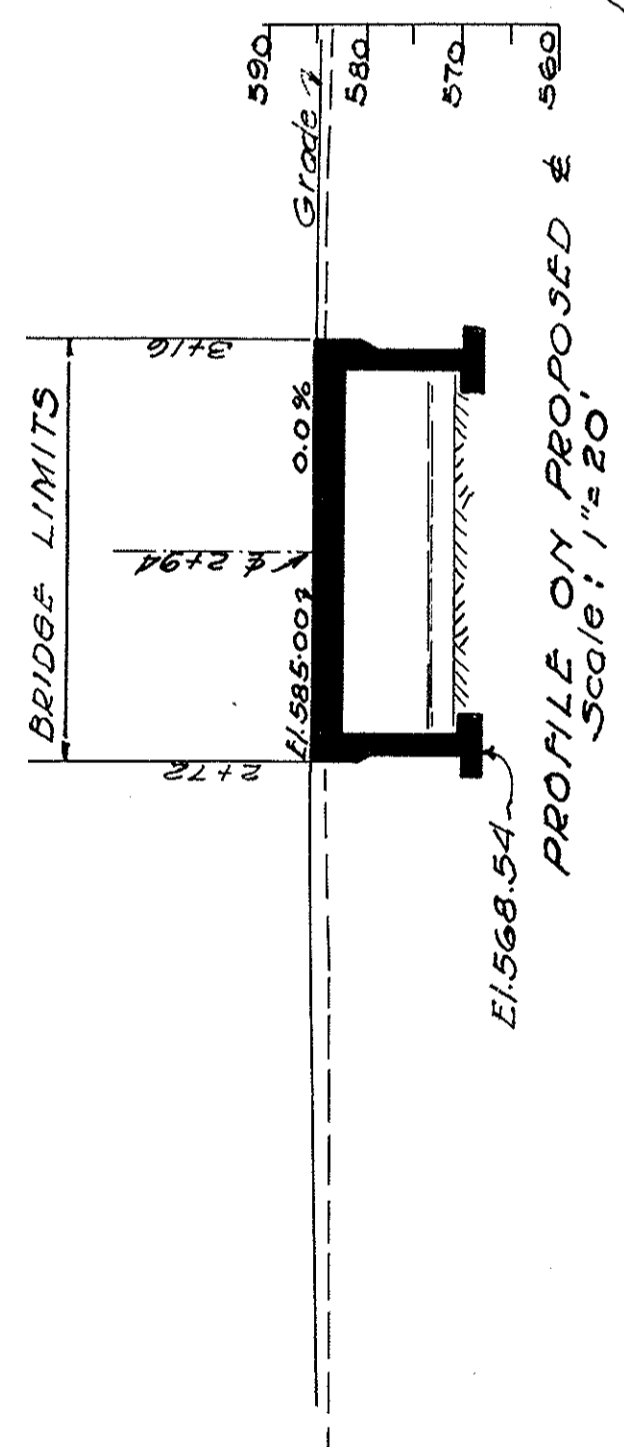
⊗ Federal Non-participating Item

PROPOSED STRUCTURE
Type - Std. Single Span Steel Beam Bridge
Concrete substructure
Span - 40' 1/2 Roadway - 24' + 2-1'-6" Safety Curbs.
Loading - S-12-40-46
Skew - 0°
Surface Course 1/4" Monolithic Concrete
Approach Slabs - None

DRAINAGE AREA 20 SQ. MI.

Talbot's Formula (40%) Required 388 sq. ft.
Proposed 390 sq. ft.

Normal Water El. 573.0 (Dividing plane between Wet and Dry Excavation)
Excavate Channel to El. 571.30 High Water El. 584 ±.
Channel Excavation 521 Cu. Yds.
NOTE: Surplus channel excavation to be used in Roadway Embankment



DATA ON ADJACENT BRIDGE; 1 MI. UPSTREAM B-208-47	
Span	— 34'-0"
Roadway	— 16'-0"
Clear Height	— 10'-6"
Type	— Low Truss - Pin
DATA ON ADJACENT BRIDGE; 1 MI. DOWNSTREAM B-21-47	
Span	— 45'-0" (Skew)
Roadway	— 16'-0"
Clear Height	— 10'-0"
Type	— Low Truss - Pin

Proposed Alignment & Profile Satisfactory For Highway Requirements.
R.E. Shultz, 6/18/48
R.J.L. 7/15/48

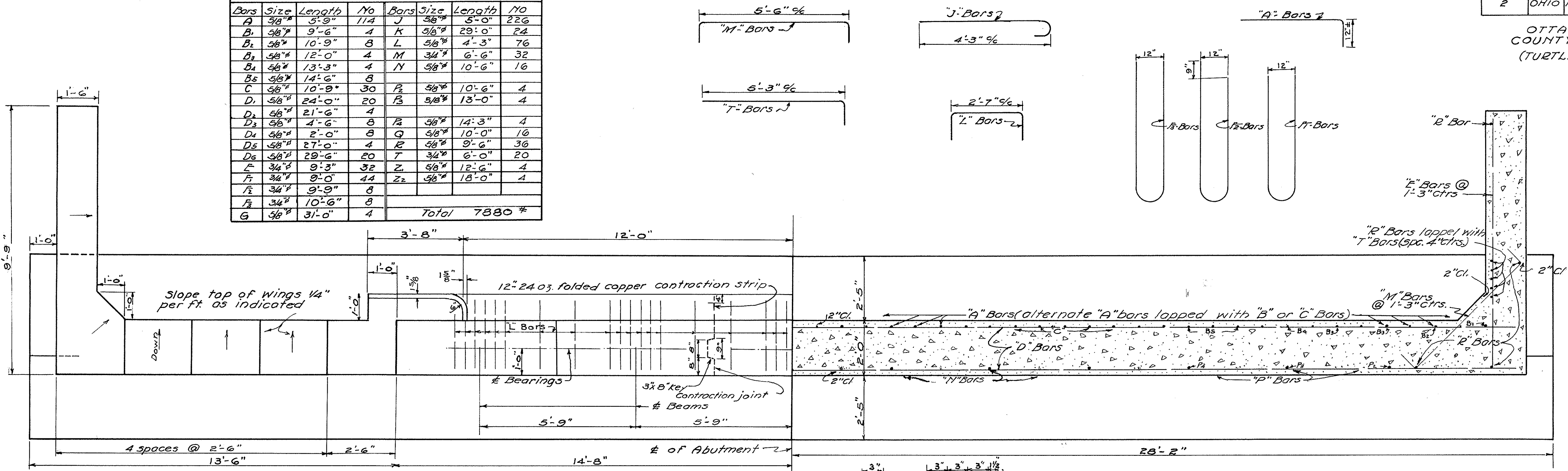
Pre. Des.
7/30/48

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES					
SITE PLAN					
BRIDGE No B-19-47 OVER TURTLE CREEK					
OTTAWA COUNTY COUNTY ROAD No 19 Sta.					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
VAF	VAF				

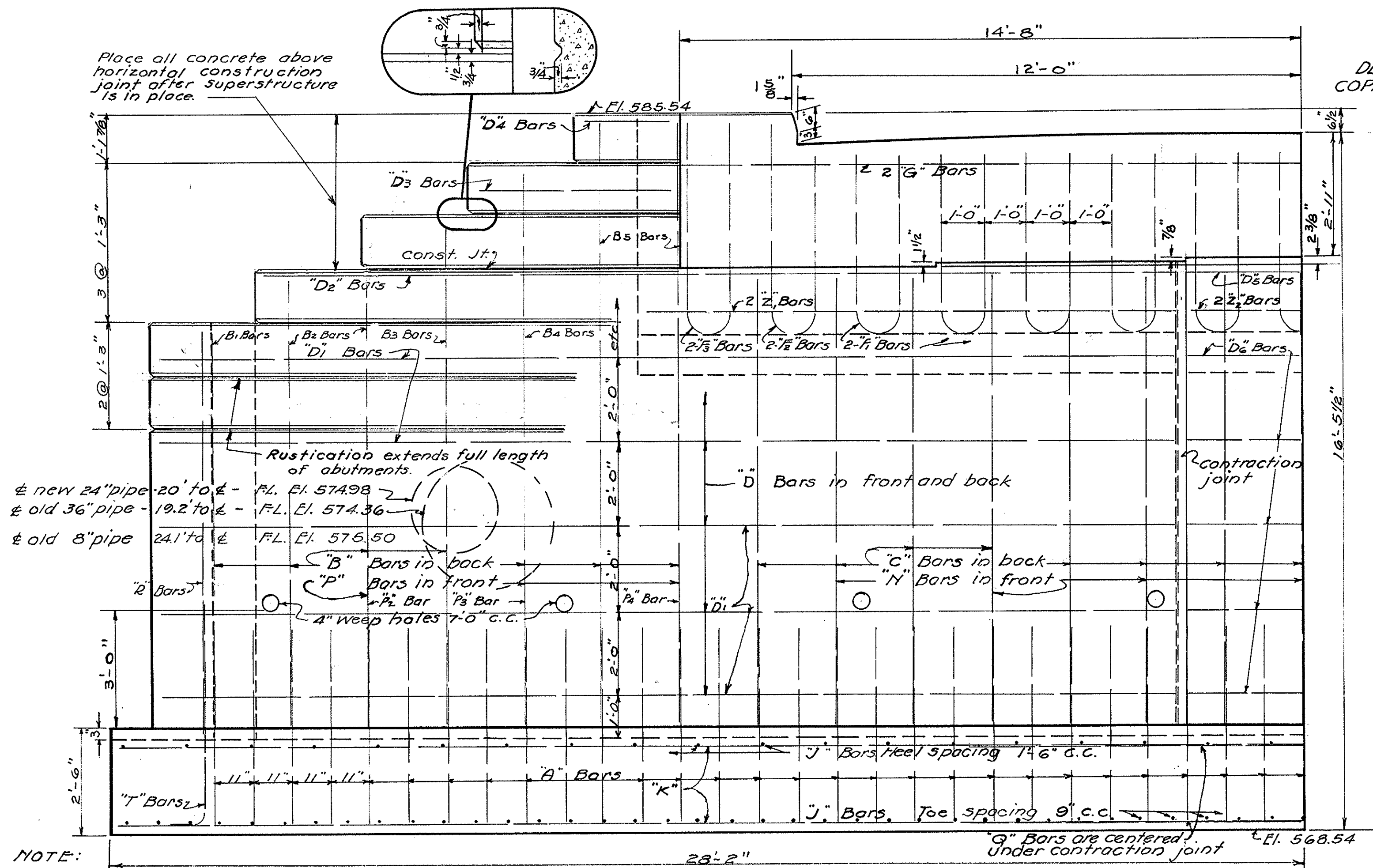
OTTAWA COUNTY
COUNTY ROAD No 19
(TURTLE CREEK)

REINFORCING STEEL NOTES (2-ABUTMENTS)

Bars	Size	Length	No	Bars	Size	Length	No	
A	5/8"	5'-9"	114	J	5/8"	5'-0"	226	
B	5/8"	9'-6"	4	K	5/8"	29'-0"	24	
B ₁	5/8"	10'-9"	8	L	5/8"	4'-3"	76	
B ₂	5/8"	12'-0"	4	M	3/4"	6'-6"	32	
B ₃	5/8"	13'-3"	4	N	5/8"	10'-6"	16	
B ₄	5/8"	14'-6"	8	P ₁	5/8"	10'-6"	4	
C	5/8"	10'-9"	30	P ₂	5/8"	13'-0"	4	
D	5/8"	24'-0"	20	P ₃	5/8"	13'-0"	4	
D ₁	5/8"	21'-6"	4	P ₄	5/8"	14'-3"	4	
D ₂	5/8"	4'-6"	8	Q	5/8"	10'-0"	16	
D ₃	5/8"	2'-0"	8	R	5/8"	9'-6"	36	
D ₄	5/8"	27'-0"	4	T	3/4"	6'-0"	20	
D ₅	5/8"	29'-6"	20	Z	5/8"	12'-6"	4	
E	3/4"	9'-3"	32	Z ₂	5/8"	18'-0"	4	
F	3/4"	9'-0"	44					
F ₁	3/4"	9'-9"	8					
F ₂	3/4"	10'-6"	8					
G	5/8"	31'-0"	4					
							Total	7880 #

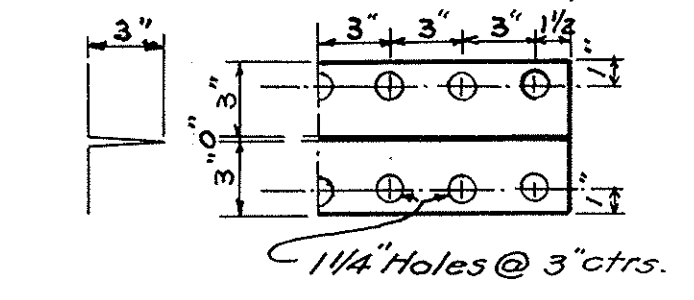


HALF PLAN OF ABUTMENT

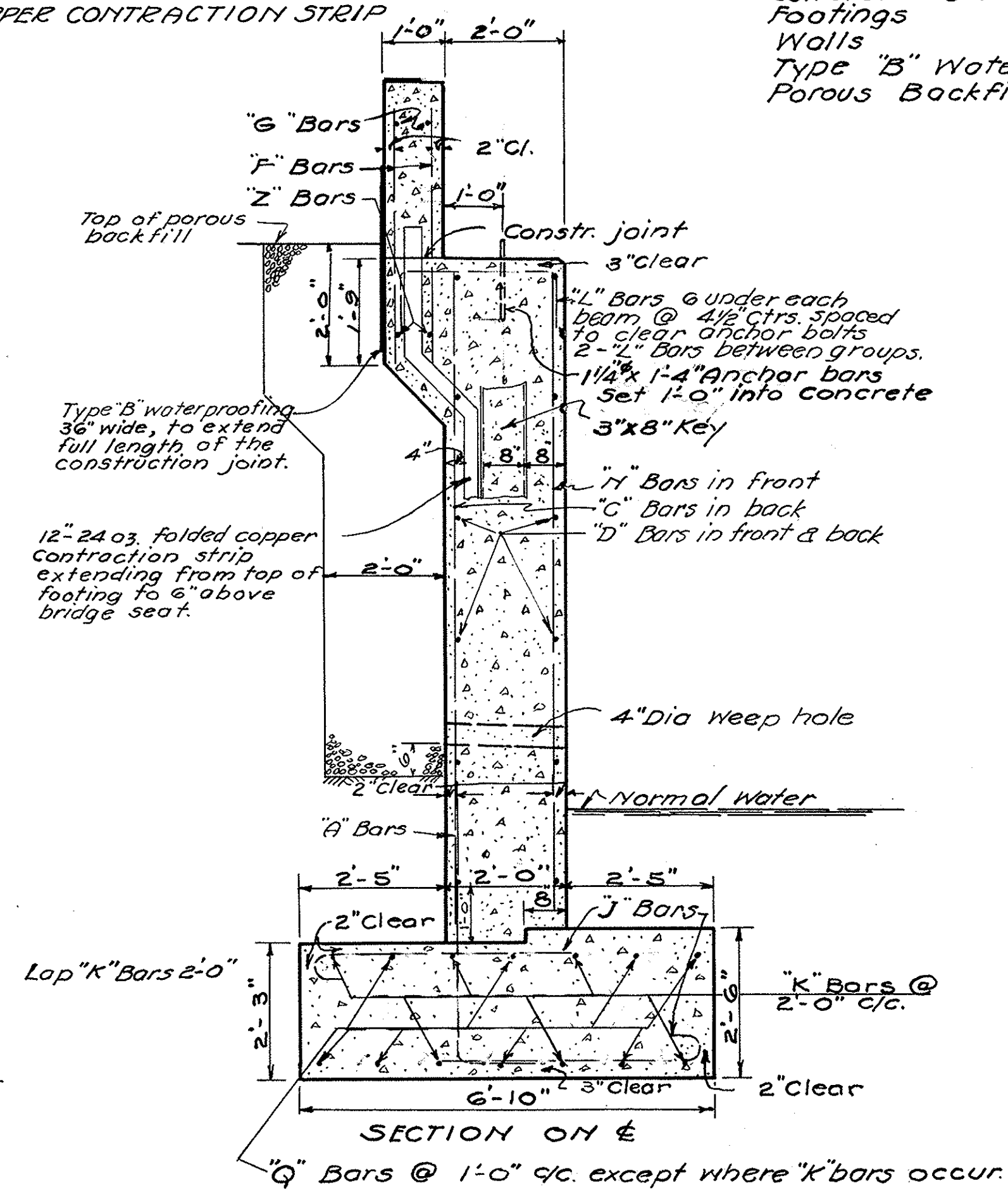


HALF ELEVATION OF ABUTMENT

NOTE: Reinforcing bars shall be cut off, where they interfere with pipe passing thru walls.



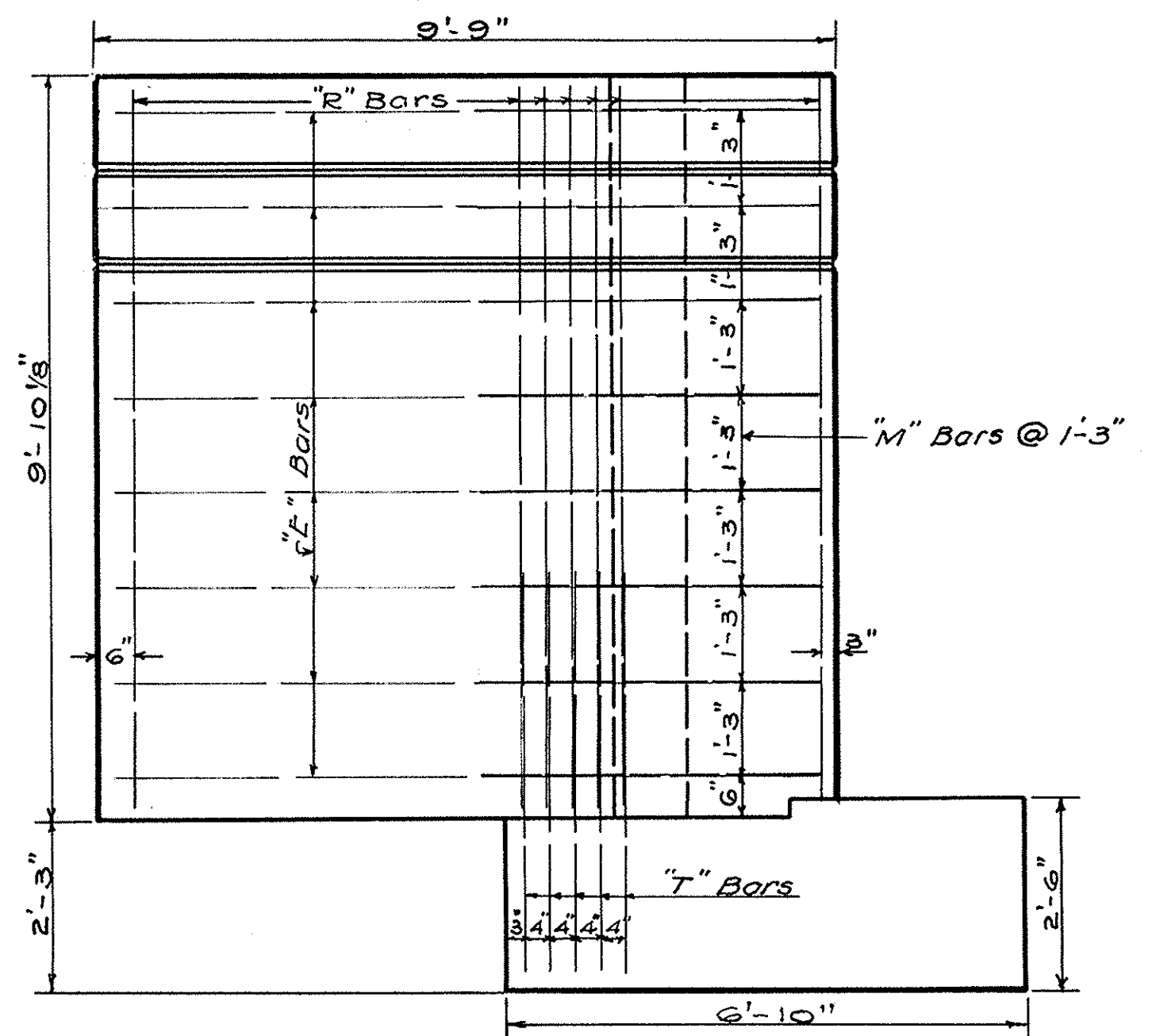
DETAIL OF 12" 24 OZ. COPPER CONTRACTION STRIP



SECTION ON WING

QUANTITIES (2 ABUTMENTS)

Reinforcing Steel	7880	Lbs
Concrete Class "Z"	1930	
Footings	68	Cu. Yds.
Walls	125	Cu. Yds.
Type "B" Water Proofing	31	Sq. Yds.
Porous Backfill	60	Cu. Yds.



END ELEVATION OF WING