

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

HIG-138-(19.84)(21.72)

LIBERTY & PENN TOWNSHIPS
HIGHLAND COUNTY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	STATE	1 32

HIGHLAND COUNTY
HIG-138-(19.84)(21.72)

CONVENTIONAL SIGNS

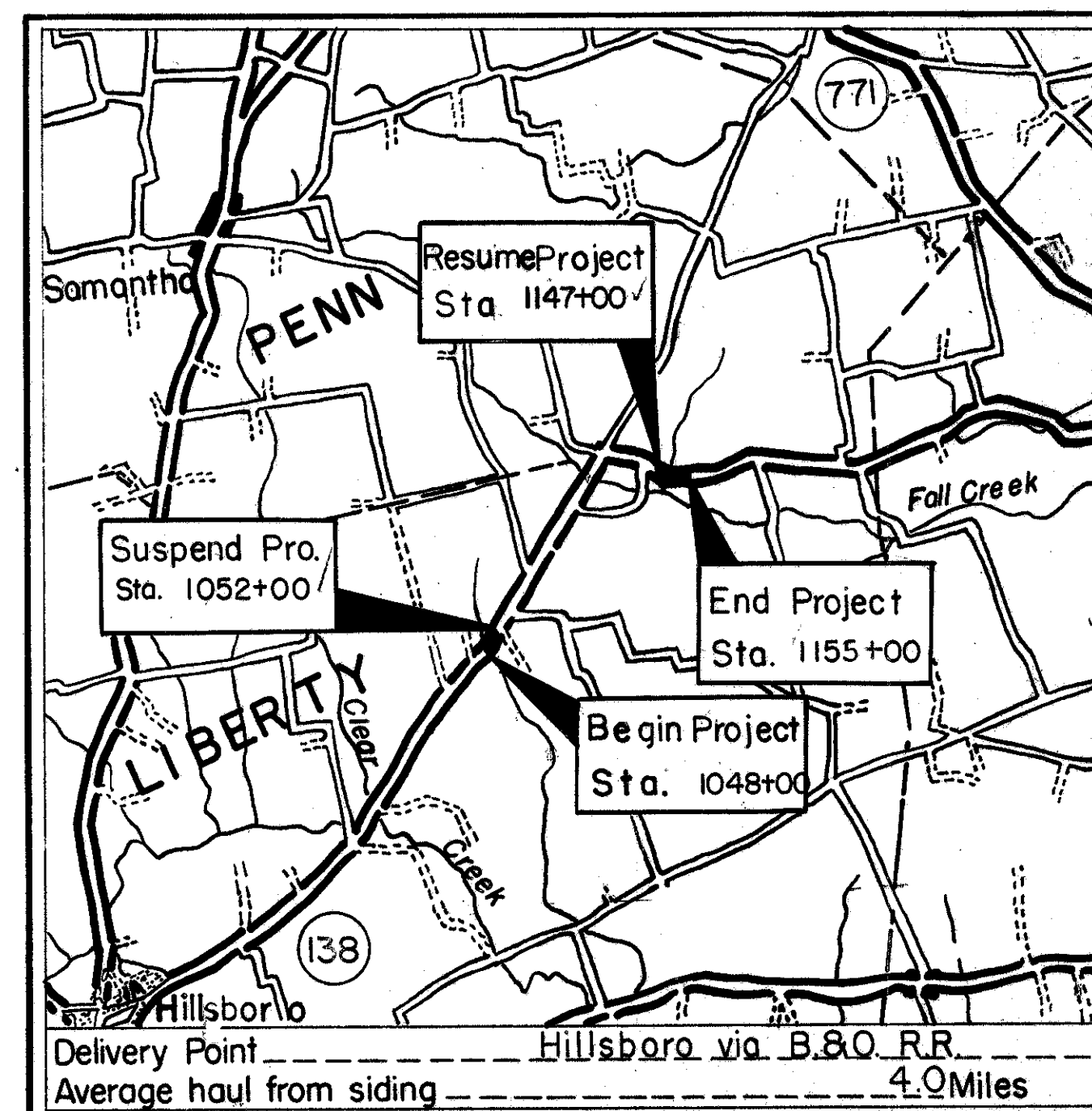
State Line	-----
County Line	-----
Township Line	-----
Section Line	-----
Center Line	-----
Corporation Line	-----
Fence Line	-----
Guard Rail (existing)	-----
Guard Rail (proposed)	-----
Steam Railroad	-----
Power Poles	-----
Telephone Poles	-----
Trees or Stumps (existing)	-----
Trees or Stumps (to be removed)	-----

INDEX OF SHEETS

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Channel Sections	30
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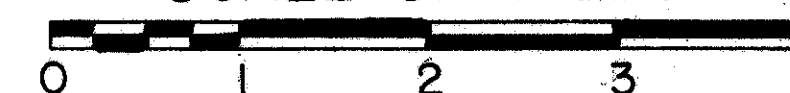
LINE DATA

Begin Project	Sta. 1048+00
Suspend Project	Sta. 1052+00
Gross Length	400.00 Lin. Ft.
Resume Project	Sta. 1147+00
End Project	Sta. 1155+00
Gross Length	800.00 Lin. Ft.
Net Length of Project	1200.00 Lin. Ft. or 0.227 Miles
Add for Approaches	
Sta. 1046+50 to Sta. 1048+00	150.00 Lin. Ft.
Sta. 1052+00 to Sta. 1053+75	175.00 Lin. Ft.
Sta. 1146+00 to Sta. 1147+00	100.00 Lin. Ft.
Sta. 1155+00 to Sta. 1155+50	50.00 Lin. Ft.
Net Length of Work	1675.00 Lin. Ft. or 0.317 Miles



LOCATION MAP

SCALE OF MILES



Portion to be improved
State Roads
Other Roads

SCALE

Plan: ----- 1" = 50'
Profile: Horizontal ----- 1" = 50'
Profile: Vertical ----- 1" = 10'

The standard specifications of the State of Ohio, Department of Highways, 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 maintenance and safety of traffic will be as set forth on these plans and estimates.

Approved: Joseph H. Doyle P.E. 1209
Date: 11-21-55 Division Deputy Director

Approved: John J. Lueck
Date: 1-4-56 Deputy Director of Planning & Programming

Approved: Richard Orthofsky
Date: 12-13-55 Engineer of Bridges

Approved: E. S. Preston
Date: 12-12-55 Engineer of Location & Design

Approved: W. F. Bussell
Date: 12-12-55 Deputy Director of Design & Construction

Approved: W. F. Bussell
Date: 1-5-56 First Assistant Director

Approved: W. F. Bussell
Date: 1-9-56 Director of Highways

APR 5 1961
GROUND PHOTOLAB

File No. HIGHLAND COUNTY HIG-138-(19.84)(21.72)
Date of Letting 19
Contract No.

Supplemental Prints of Standard Construction Drawings			
DR-1	1-3-55	L-3-A	4-1-50
G-7.07	1-2-53	RI-1	1-3-55
I-12.3.48.5	2-20-45	S-27 PC 3	2-20-45
I-15 No. 1	8-1-55		
I-15 No. 2	12-1-54	T-35	10-1-52
L-3	4-1-50	S-P-53	7-21-53
L-1	4-1-50	T-14 G	1-22-52

Supplemental Specifications	
B-119	Rev. 12-14-55
L-209.12	7-17-54
G	12-28-55

TYPICAL SECTION

TYPE T35 ON B-119

Scale $\frac{3}{8}" = 1'-0"$

SECTION "A-A"

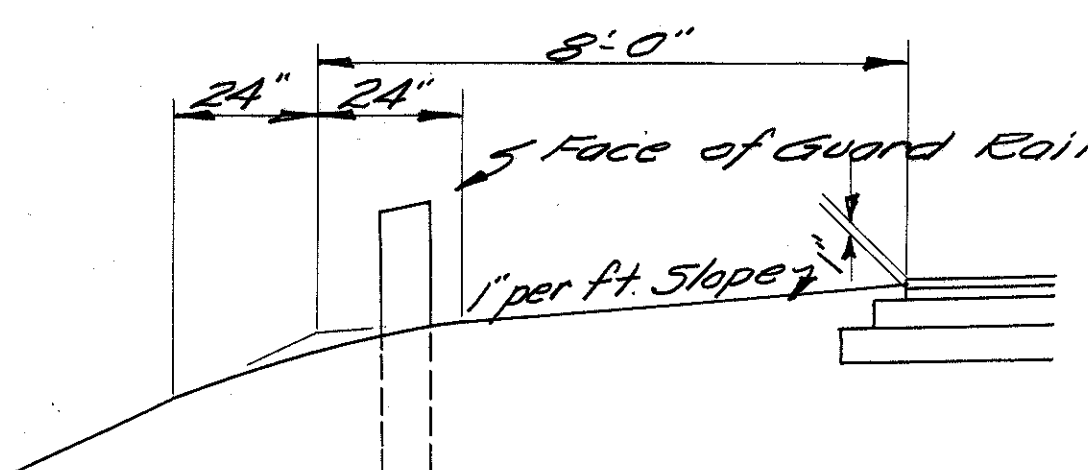
SIDE VIEW

DETAIL OF PAVED GUTTER

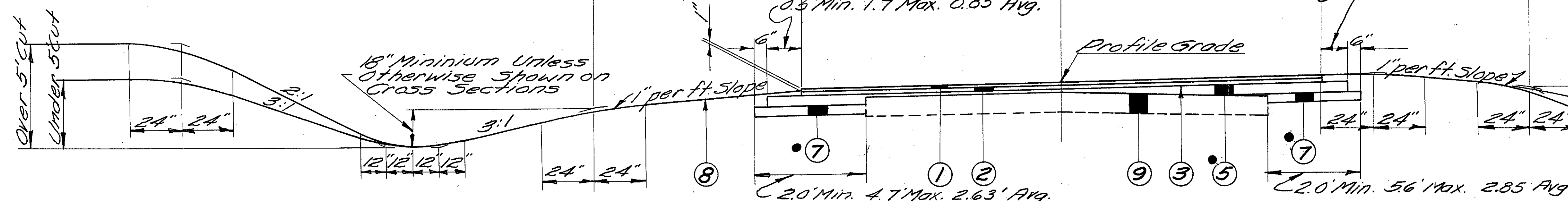
TYPE 1 MODIFIED

(SEE NOTE ON SHEET 4)

Note: Typical Section "A"
• These are Average Width dimensions (19.05' ± 9.00') shown in the Pavement Calculation Box Sht. No. 6, which were taken from the Cross Sections, and these calculations are on file in the Division Office.



PART SECTION SHOWING GUARD RAIL



TYPICAL SECTION "A"

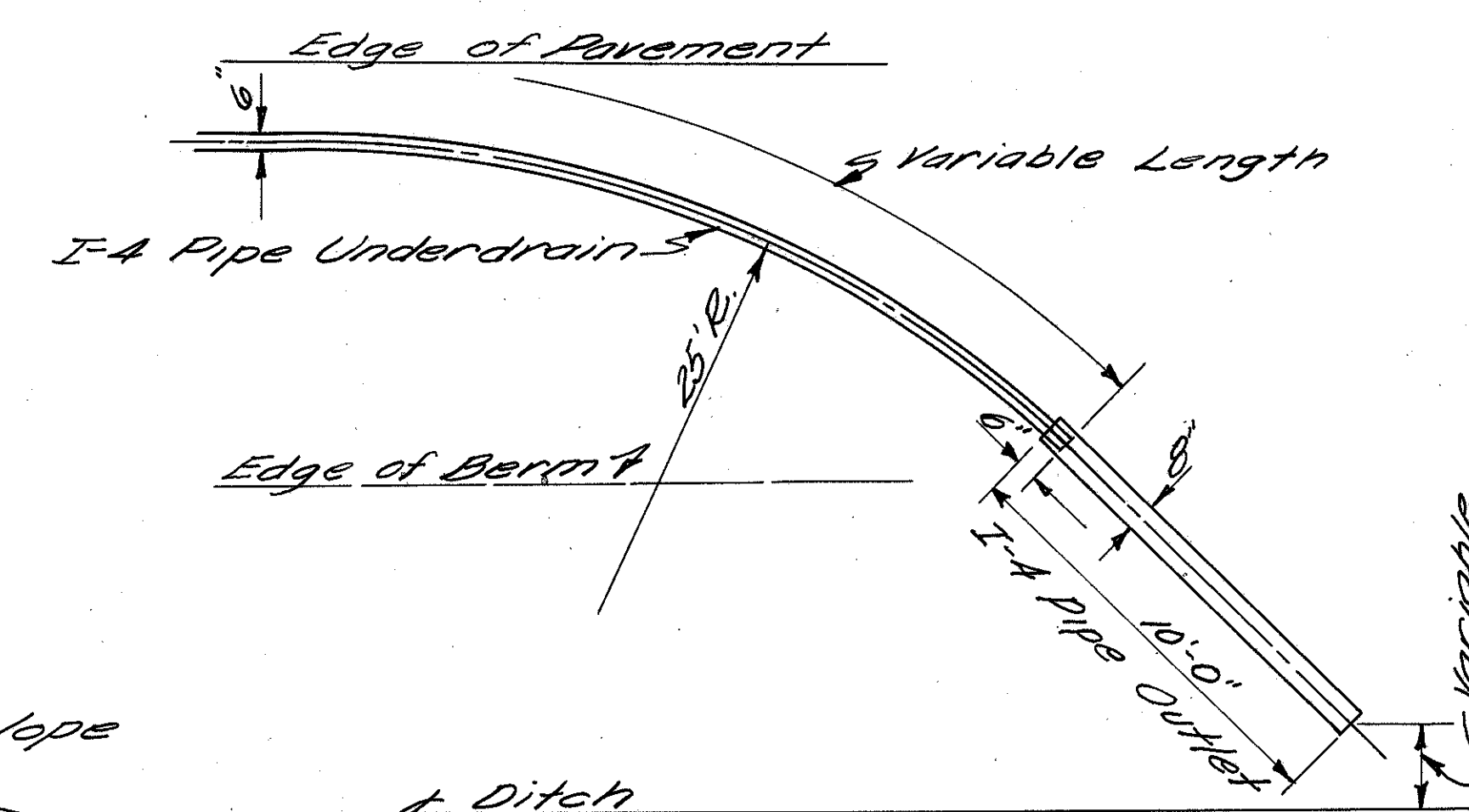
The above typical section applies between the following stations

Station 1048+00 to Station 1050+18.9 = 218.9 Lin. Ft.

Station 1050+39.1 to Station 1052+00 = 160.9 Lin. Ft.

Station 1147+00 to Station 1147+50 = 50.0 Lin. Ft.

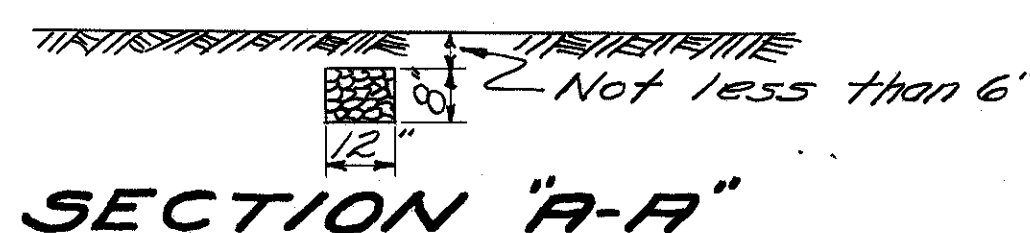
Total 429.8 Lin. Ft.



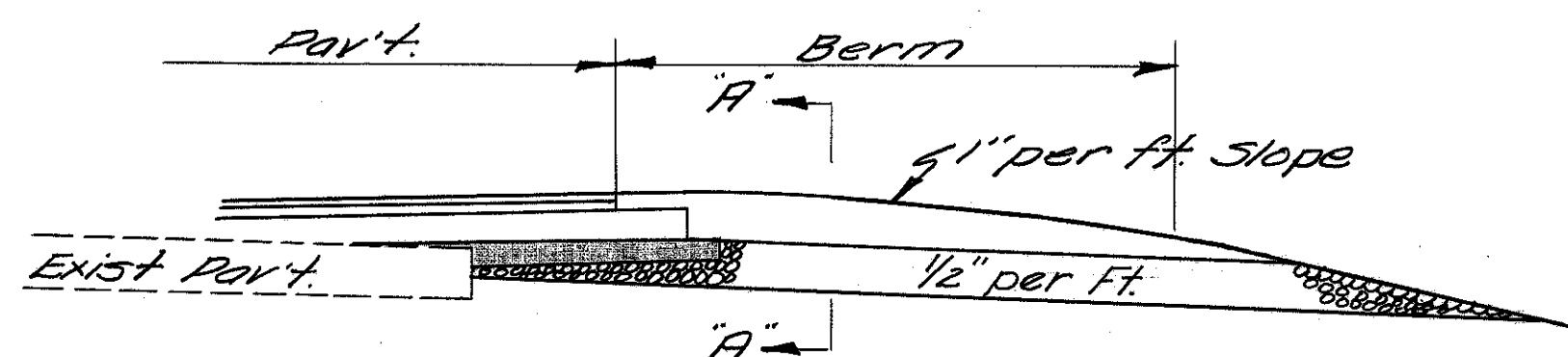
DETAIL OF PIPE OUTLET FOR I-4 UNDERDRAIN

Note: Stone Underdrains to be placed as shown above at stations in table on Sheet No. 5 Subject to change at the discretion of the Engineer.

TYPICAL SECTION NO. 1 PART SECTION SHOWING I-9 STONE UNDERDRAINS No. 2



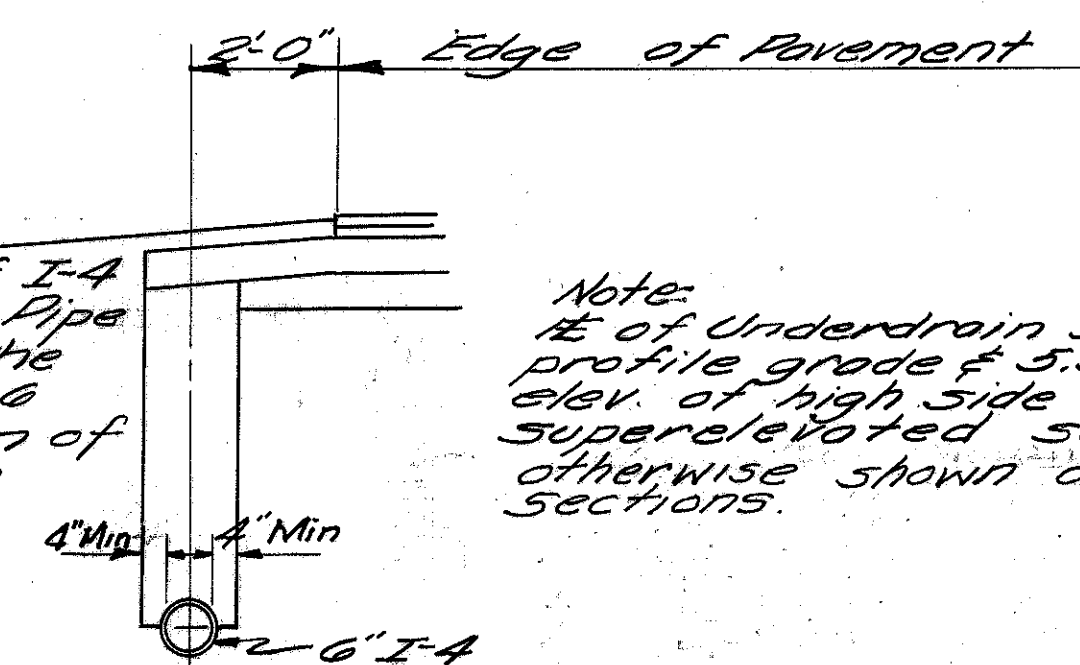
SECTION "A-A"



Note: Stone Underdrains to be placed as shown above at stations in table on Sheet No. 5 Subject to change at the discretion of the Engineer.

TYPICAL SECTION NO. 2 PART SECTION SHOWING I-9 STONE UNDERDRAINS No. 2

Note: An additional amount of I-4 Pipe Underdrain, Outlet Pipe & Pipe Specials has been set up in the Summary of Quantities Sht No. 6 to be used at the discretion of the Engineer in areas where Excavation is being made.

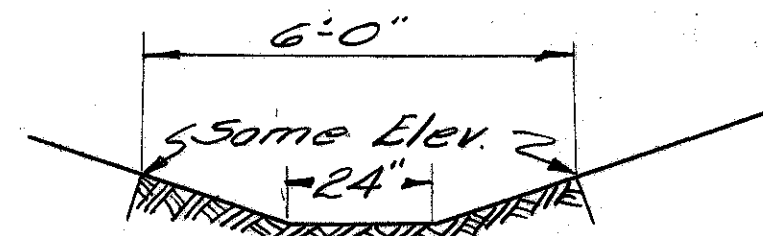


PART SECTION SHOWING I-4 UNDERDRAINS

LEGEND

- Item T-35 $\frac{1}{4}"$ Asphaltic Concrete Surface Course Type A (B5-100)
- Item B-35 2" Asphaltic Concrete Leveling Course (B5-100)
- Item T-30 Bituminous Prime Coat Sec. M-5.7, RT-2 or RT-3 or Sec. M-5.3, MC-0 or MC-1 applied at the rate of 0.35 gal. per Sq Yd.
- Item B-119 5" Crushed Aggregate Base.
- Item B-119 5" Max. 0 Min. $\frac{3}{4}"$ Average Crushed Aggregate Base.
- Item I-22 4" Subbase
- Item I-22 4" Max. 0 Min. $\frac{3}{8}"$ Average Subbase.
- Item L-9 Seeding & Protecting.
- Existing Pavement, 2" T-32 or 6" to 8" Traffic Bound.

DETAIL OF SOD DITCH



NOTES

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GENERAL

FIELD OFFICE

The contractor shall provide a suitable "Field Office" in accordance with Sec. S-0.01(b), having a minimum of 150 Sq. Ft. of floor space. The contractor shall have a telephone installed and maintained during construction of this project.

UTILITY ADJUSTMENT

Any and all work required for removing, relocating and construction of new facilities for private or public utilities will be done by and at the expense of their respective owners unless otherwise noted on the plans.

DESIGN SPEED

The geometrics for this project have been planned for a design speed of 50 miles per hour.

TRAFFIC

Two way traffic shall be maintained at all times except during placing of proposed pavement when one way traffic will be permitted.

Length of time required for one way traffic shall be kept to a minimum.

Part width construction will be permitted for maintaining traffic on existing pavement.

Sta. 1050+30 use existing pavement to maintain traffic while threading proposed structure (Hig. 138-199) through existing bridge.

Sta. 1148+00 to Sta. 1151+00, Item S-15 temporary Run-Around Road has been shown on plan and profile to maintain traffic while placing part width construction of proposed structure (Hig. 138-219) and placing proposed pavement.

Quantities of aggregate and chloride required for maintaining traffic at station 1050+30 shall be measured and paid for under the respective S-15 items. The cost of maintaining traffic, except furnishing and placing aggregate and chloride, at this structure site, shall be included in the lump sum bid for "Maintaining Traffic".

PAVEMENT

SUPERELEVATION

Superelevated curves shall be built without crown. The crown shall be worked out of the pavement in that portion between the beginning of the transition and the point where the superelevation equals twice the crown.

I-22 SUBBASE

In lieu of the requirements of I-22.04 Method of Measurement and I-22.05 Basis of Payment the I-22 subbase material shall be paid for on a compacted volume basis determined by conversion from tonnage. The material shall be weighed on approved scales and the cubic yards of compacted material computed on the basis of the following conversion factors:

One Cubic Yard of Material meeting "A" or "C" grading.	Shall be considered to weigh:	3500 lbs.
Material meeting "B" or "D" grading.		3000 lbs.

If the material meets either gradings "A" or "C", payment shall be based on the 3500 lbs. factor even though it may also meet "B" or "D" requirements.

Freight bills or certified weigh bills shall be furnished to the Engineer as requested during the progress of the work.

B-119 CRUSHED AGGREGATE BASE

In lieu of the provisions of B-119.04, Method of Measurement and B-119.05, Basis of Payment, the crushed aggregate base course shall be paid for on a compacted volume basis determined by conversion from tonnage. The material shall be weighed on approved scales and the cubic yards of compacted material computed on the basis of the following conversion factors:

One Cubic Yard of Crushed Stone or Gravel:	Shall be considered to weigh:	3800 lbs.
Crushed Slag*:		3500 lbs.

* 3800 lbs shall be used instead of 3500 lbs. when the Slag is from a source which is on record at the laboratory, as having a dry rodded weight of 90 lbs. per cubic foot or more.

Freight bills or certified weigh bills shall be furnished to the Engineer as requested during the progress of the work.

SUBGRADE COMPACTION (DRIVES & MAILBOX TURNOUTS.)

The subgrade under B-119 Material used on drives and mail-box turnouts shall be compacted for a depth of six inches (6") to the density requirements in Table III, Item E-1. Payment for subgrade compaction as specified above shall be included in the unit price bid for Item E-1, "Roadway Excavation".

ITEM S-27 Should the Contractor elect to use Corrugated Metal Structure the gage used shall be 10-10 or better.

ROADWAY

ROADWAY EXCAVATION

All roadway excavation shown on the roadway cross-sections, regardless of the nature of the material encountered, will be paid for as Item E-1 Roadway Excavation.

LOCATION AND SIZE OF EXISTING PIPE

The location, type, depth and size of all existing pipes are shown as near exact as the available information will permit. The State of Ohio will not be responsible for any variations found during construction.

Payment for pipe removed will be made according to the listing shown on these plans.

REMOVAL (MISCELLANEOUS)

The removal and disposal of any existing pavement, sidewalk, building foundations, steps, cellar floors, well covers, cisterns, tanks of all kinds, concrete bases, walls, curb and gutters, rails, ties, pole stubs, guard posts, headwalls, pipes, cast iron plates, or other masonry lying within or below the limits of Roadway Excavation, Item E-1, Excavation for Structures, Item E-2, or Channel Excavation, Item E-3 (and not specifically paid for under a separate item) are classified as excavation and paid for under the excavation item of which they are a part.

Sidewalks, steps, cellar floors or other masonry shall be excavated to a depth of three (3) feet below the proposed pavement subgrade if located within the proposed pavement area, and to a depth of three (3) feet below the proposed finished pavement if without the limits of the proposed pavement area.

Pavement, cellar floors, or other masonry below the above limits shall be broken up into portions whose area does not exceed one (1) square foot but need not be removed.

Backfilling shall be performed according to section E-1.08 of the Construction and Material Specifications.

Wells, cisterns, and tank of all kinds shall be filled with broken foundation masonry, or rock placed as rock embankment, according to Sec. E-1.08 of the Construction and Material Specifications.

Payment for the above operations shall be included in the contract unit price bid for Roadway Excavation Item E-1, Excavation for all Structures, Item E-2, and Channel Excavation, Item E-3.

Additional excavation necessary to perform any of the above operations shall be paid for at the contract unit price bid per cubic yard for Roadway Excavation, Item E-1, Excavation for Structures, Item E-2, and Channel Excavation Item E-3.

REMOVAL OF TREES AND STUMPS

Trees or stumps shall be removed or preserved as indicated on the plan by the following symbols:

Trees or stumps to be removed

Trees to be preserved

The number of trees or stumps to be removed, as indicated by the above symbol is approximate and the State of Ohio reserves the right to order the removal of additional trees or stumps, even though these trees or stumps are not indicated on the plans or are indicated to be preserved.

Payment for the removal of these additional trees or stumps is included in the Lump Sum bid for the removal of trees and stumps.

NOTES

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ROADWAY

TOE WALLS

Payment for Toe Walls on Paved Gutters or riprap where called for in these plans, shall be included in price bid per lineal foot of paved gutter, or square yard of riprap.

ROUNDING OF CORNERS ON CROSS SECTIONS

The rounded corners shown on the Typical Sections, apply to all cross sections even though otherwise shown in these plans.

PAVED GUTTERS

Paved gutters shall be constructed of stone or broken concrete to a minimum thickness of twelve (12") inches, or Class E concrete to a minimum thickness of six (6") inches. Solid precast concrete blocks may be used in lieu of stone with a minimum thickness of twelve (12) inches measured perpendicular to the surface of the ditch.

Concrete gutters shall have an impressed joint at intervals of ten (10') feet.
When constructed of material other than concrete the material shall be grouted in place.

FERTILIZING SOD AREAS

All sod areas are to have Commercial Fertilizer (10-6-4) and Agricultural Liming Material applied at the same rate and in the same manner as for the seeded areas in accordance with Section L-9.11.

The Sod bed shall have two inches of loose soil on which sod is laid after excavation for sod thickness.

SEEDING AND PROTECTING

Quantities for seeding are calculated for the soil areas within the construction limits as shown on the cross sections and payment for seeding beyond these limits will not be allowed. 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 Sec. G-7.09 by the contractor at his own expense.

GUARD RAIL REMOVAL AND STORAGE

Existing planks, cable and Steel Tape and hardware are to be removed and stored on the right-of-way, as directed by the Engineer.
The posts shall be removed and disposed of by the Contractor.

MILE MARKERS

Mile markers within the limits of this project will be removed prior to the beginning of work and replaced after completion of work by the State.

LENGTH OF PIPE SPECIALS

The number of linear feet of pipe to be paid for shall be the length of specials as shown below, regardless of the actual length of pipe special used. If actual length of the pipe special used is less than that shown below, the contractor will furnish enough extra pipe to make up the difference between the assumed and actual lengths, with cost included in the unit price bid for each special. If the actual length of the pipe specials used is greater than that shown below, the extra length of each pipe special, over and above the assumed length, shall be paid for as linear feet of pipe.

Item	Description	Assumed Length of Pipe Special
I-4	Pipe Underdrains	2'-0"

REMOVAL OF EXISTING STRUCTURE

All superstructure of Existing Bridge No. 141-138-21.8 to be removed shall become the property of the contractor except seven (7) 7" inch I-Beam Stringers which shall be carefully removed without damage and stored on the right-of-way at the disposal of the State.

SUMMARY OF QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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STRUCTURES 20FT. SPAN & UNDER.

Structure No.	Station to Station	See Sheet No.	E-2 Excavation for Structures	E-3 Channel Excavation	I-10 Riprap Type "A"	I-10 Dumped Rock Fill	S-1 Concrete for Structures Class "E"	S-24 Removal of Existing Structures	S-27 84" Pipe for Roadway Culverts	S-28 12'-6" x 7'-11" Sec. Corr. Plate Pipe Pipe Arch.
			Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Lump	Lin. Ft.	Lin. Ft.
1	1050+30	27	50.0			120.0	10.2	Lump	88.0	
2	1149+71	29	34.0	269.0	52.0	45.0	14.8	Lump		74.0
	Total		84.0	269.0	52.0	165.0	25.0	Lump	88.0	74.0

EROSION CONTROL

	Station to Station		I-14 Paved Gutter	L-9 Seeding & Protecting	L-9 Commercial Fertilizer (10-6-4)	L-9 Agricultural Liming Material	L-10 Sodding
			Lin. Ft.	Sq. Yds.	Tons	Tons	Sq. Yds.
9	1046+75 - 1049+50	Rt.					183.33
9	1046+75 - 1049+33	Lt.					172.00
9	1051+00 - 1053+10	Rt.					140.00
9	1051+00 - 1053+25	Lt.					150.00
12	1146+25 - 1149+40	Lt.					210.00
12	1146+25 - 1149+40	Rt.					210.00
12	1150+30 - 1152+20	Rt.					126.67
12	1150+00 - 1152+32	Lt.					154.67
9	1049+50 - 1049+96	Rt.	46.0				
9	1050+25 - 1051+00	Rt.	75.0				
9	1049+33 - 1050+40	Lt.	107.0				
9	1050+60 - 1051+00	Lt.	40.0				
12	1149+40 - 1149+58	Rt.	18.0				
12	1149+40 - 1149+58	Lt.	18.0				
12	1149+83 - 1150+00	Lt.	17.0				
12	1149+82 - 1150+30	Rt.	48.0				
9	1048+00	Rt.					6.67
9	1049+34 - 1049+47	Lt.	15.0				
15	1046+50 - 1053+75			3.188			
19	1146+00 - 1157+00			474.9			
30	8+40 - 11+48			446			
	Total		384.0	8.383	.88	4.38	1353.34

ROADWAY DRAINAGE

	Station to Station		E-12 Pipe Removed	I-4 6" Underdrains	I-4 8" Pipe Outlet for Underdrains	I-5 Pipe Specials
			15" & Under Lin. Ft.	Lin. Ft.	Lin. Ft.	6" T-Branch Each. 6" 90° Elbow Each
12	1154+00	Lt.	23.0			
	To be used as directed by the Engineer			187.0	20.0	1 1
12	1150+43.12 - 1154+50	Lt.		408	10.0	
12	1150+50 - 1154+50	Rt.		405.0	10.0	
	Total		23.0	1,000.0	40.0	1 1

EXCAVATION & EMBANKMENT

See Sheet No.	Station to Station	E-1 Roadway Excavation	Roadway Embankment	Embankment +20%
		Cu. Yds.	Cu. Yds.	Cu. Yds.
9/15	1046+50 - 1053+75	289	1240	
12/19	1146+00 - 1155+50	2507	3458	
	Total	2796	4698	5638

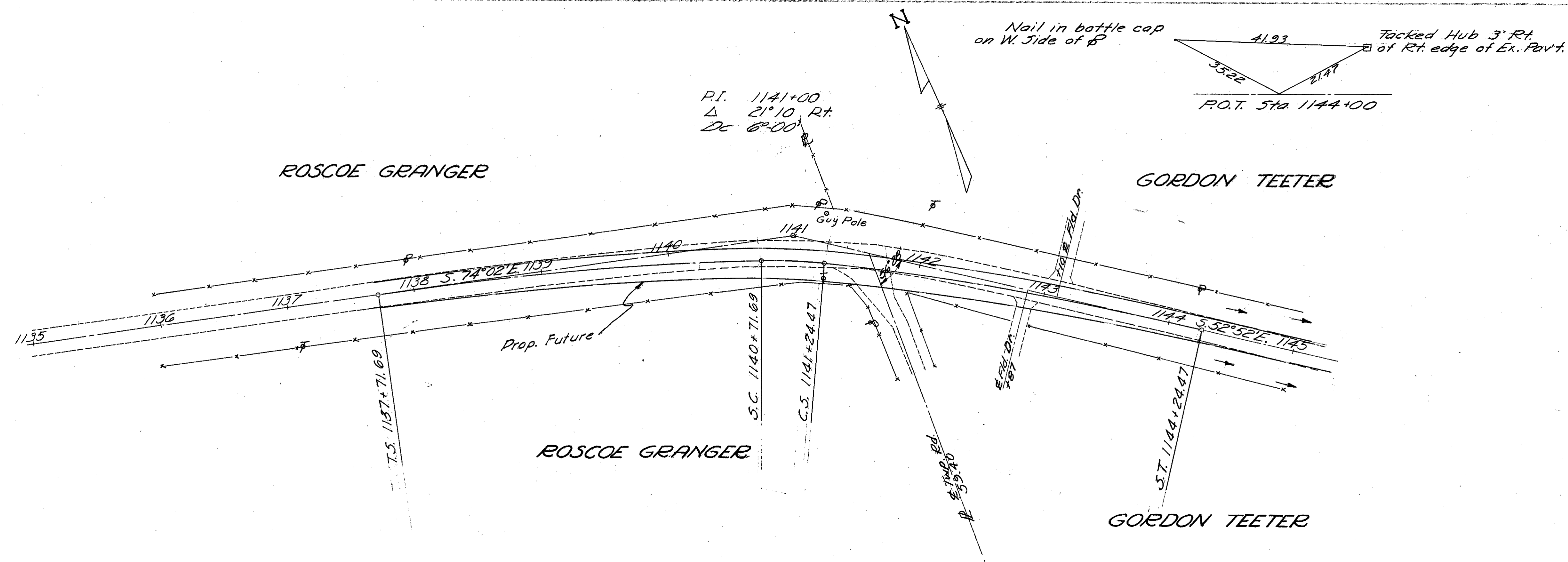
ITEMS S-15

Station	Temporary Runaround Roadway	Aggregate	Chloride
1050+30	—	318	6.4
1148+00 to 1151+00	Lump	190	3.8
Total	Lump	508	10.2

FED. RD. DIVISION	STATE	PROJECT	TYPE PAVES
2	OHIO		

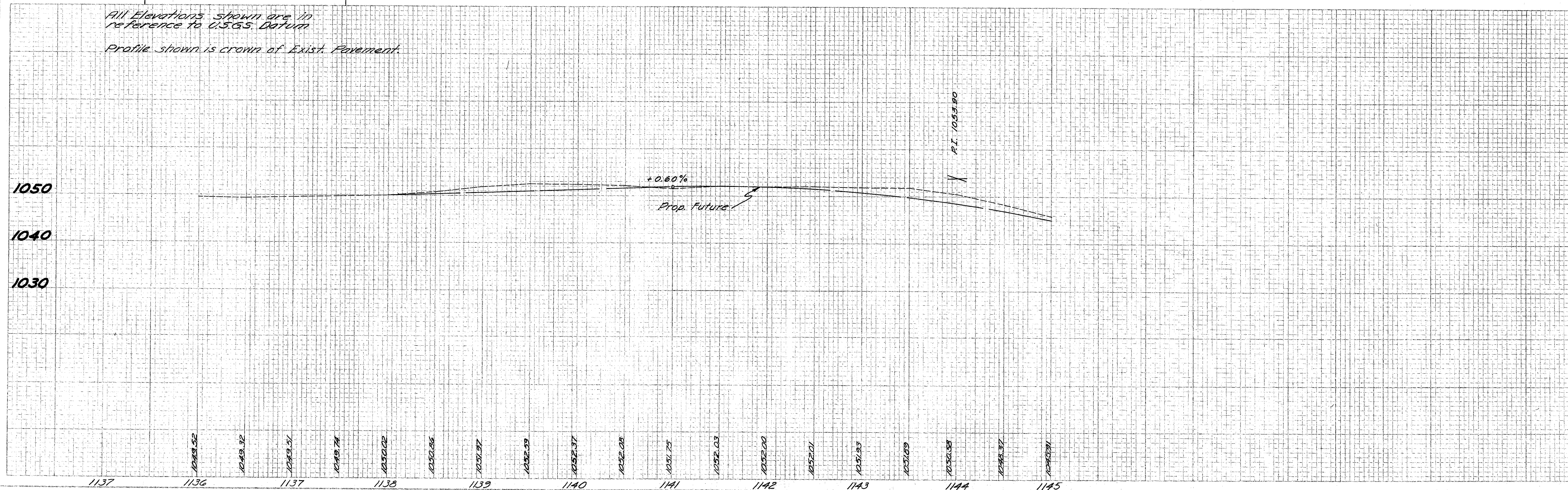
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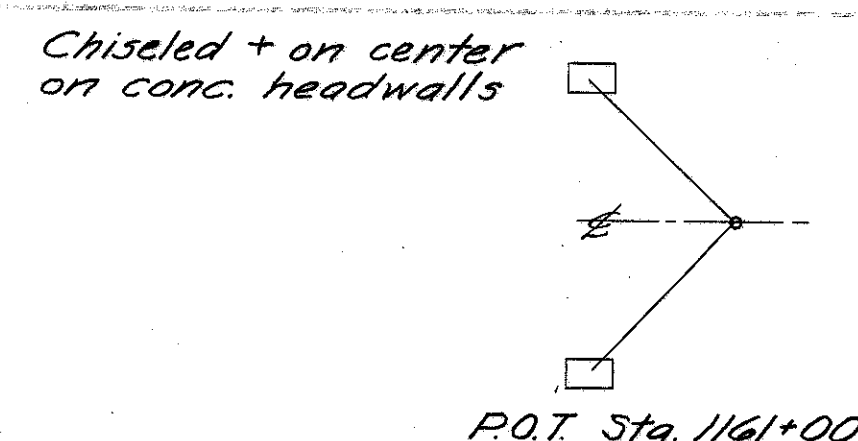
BENCH MARK
Spike in Power Pole 25' Lt.
Sta. 1134+77
Elev. 1050.66

All Elevations shown are in
reference to U.S.G.S. Datum
Profile shown is crown of Exist. Pavement.



STA 1135+00 TO STA 1145+00

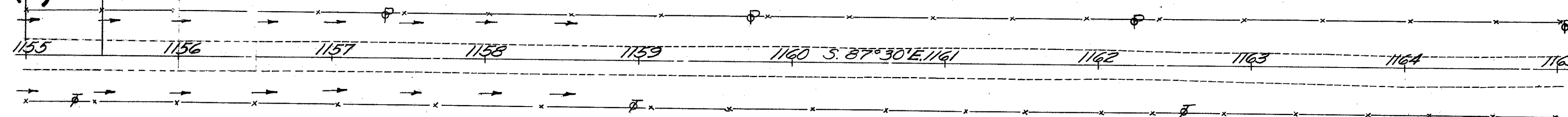
HIGHLAND COUNTY
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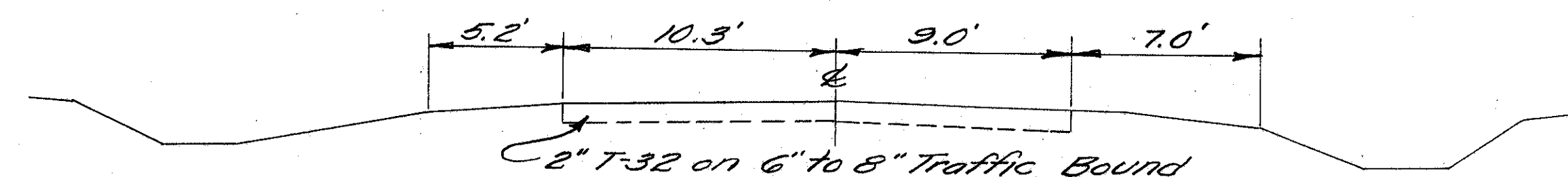
END PROJECT
STA 1155+00

END WORK
STA 1155+50

GORDON TEETER



GORDON TEETER

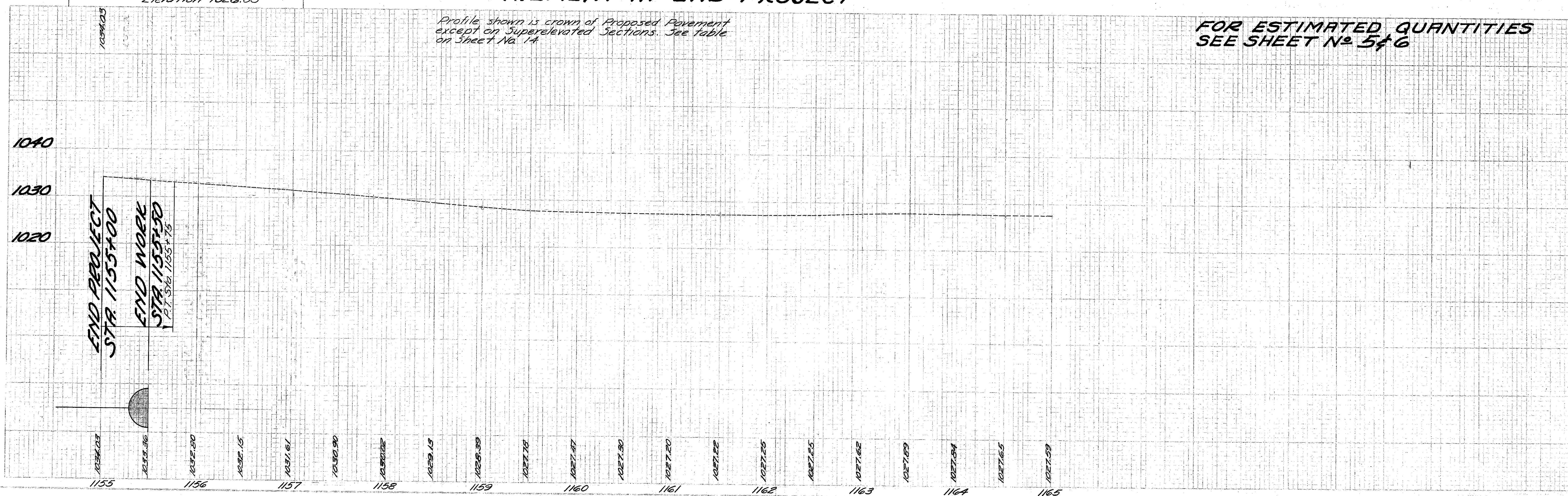


TYPICAL SECTION OF ADJACENT
PAVEMENT AT END PROJECT

BENCH MARK
Cut on South Headwall of Culvert
19' Rt. & Sta. 1161+27
Elevation 1026.05

Profile shown is crown of Proposed Pavement
except on Superelevated Sections. See table
on Sheet No. 14.

FOR ESTIMATED QUANTITIES
SEE SHEET No. 5 & 6



PAVEMENT ELEVATIONS

FED. RD. DIVISION	STATE	PROJECT
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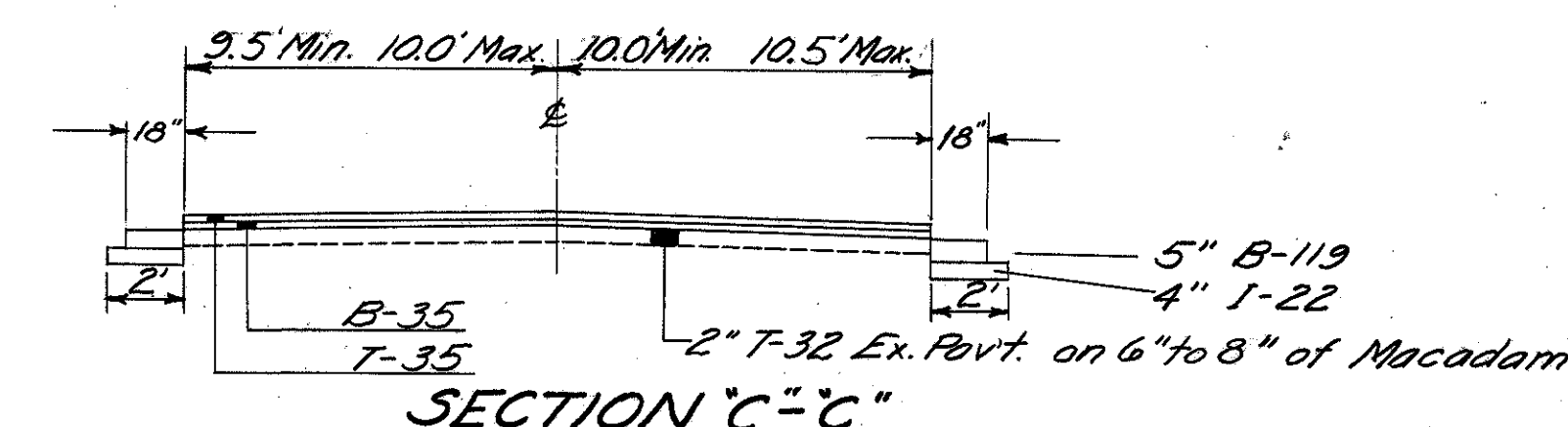
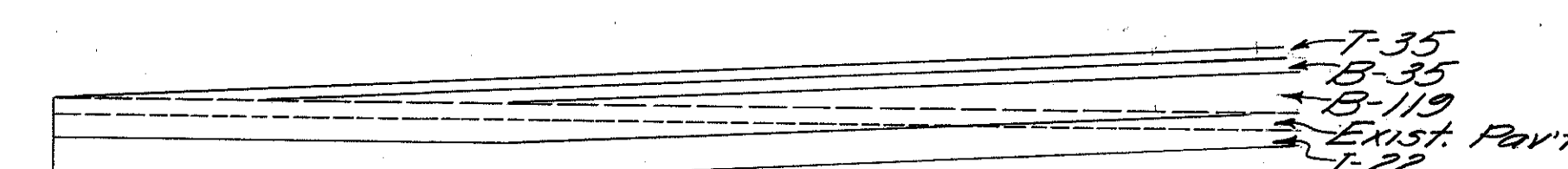
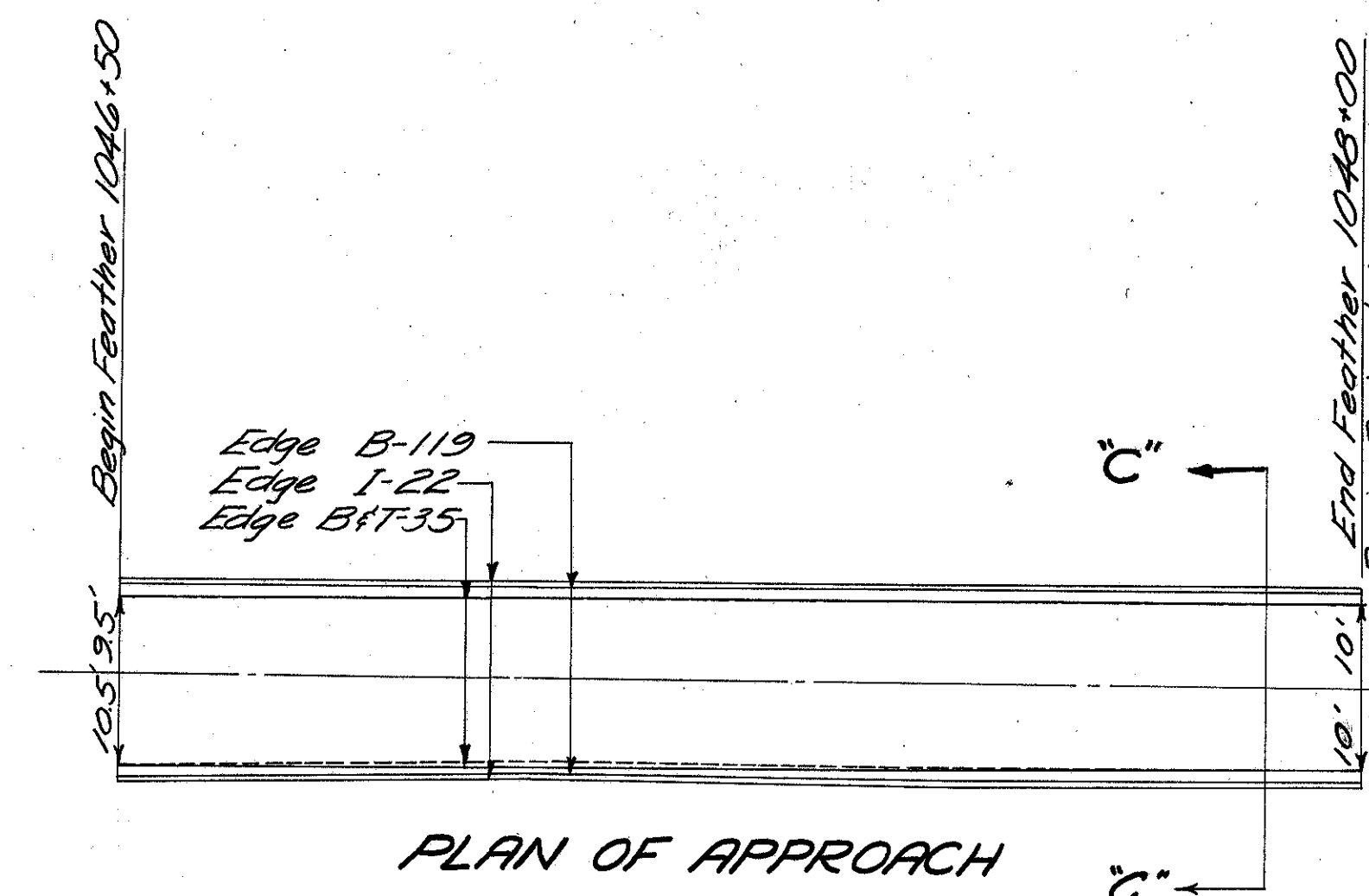
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 $\Delta = 3^\circ 49' L.T.$ $D_c 1^\circ 00'$
 $P.C. 1047+75.65$
 $P.T. 1051+60.31$

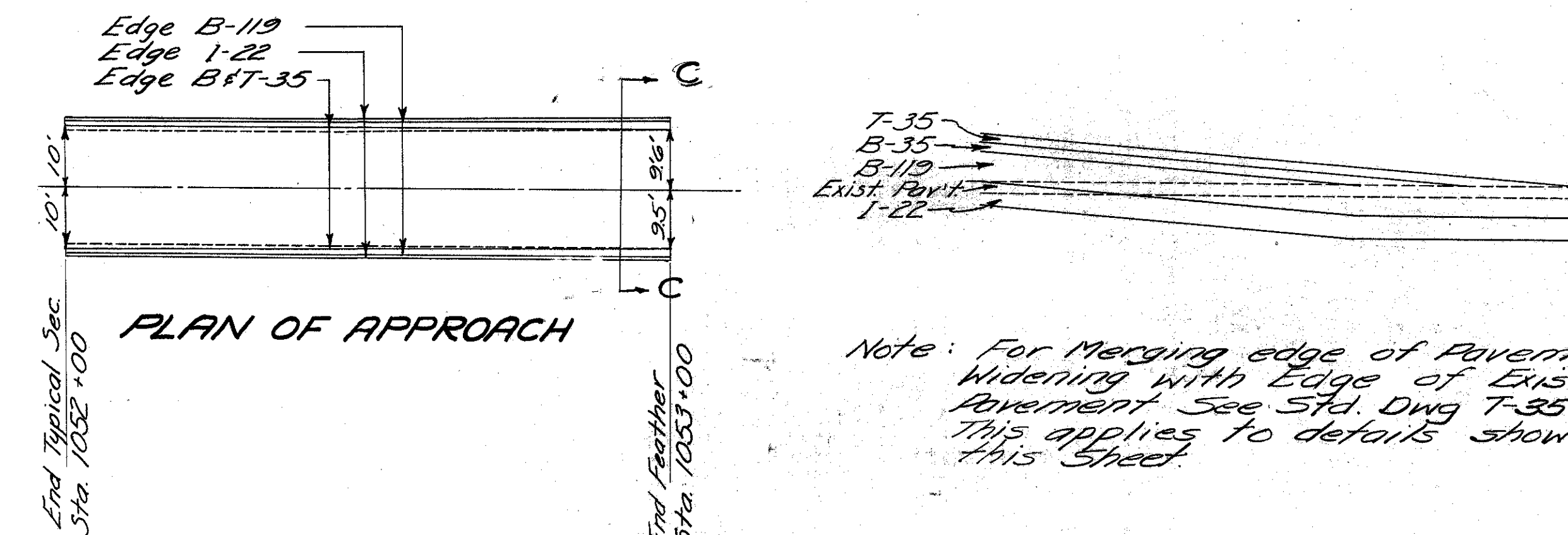
Elevation Left Edge	Width	Station	Center Elevation	Width	Elevation Right Edge
1003.53	9.50'	1046+50	1003.56	10.50'	1003.59
1002.0	10.00'	1047+00	1002.20	10.00'	1001.89
1000.45		+50	1000.61		1000.54
999.60		+75.65	999.74		999.75
998.93		1048+00	999.09		999.16
998.06		+25	998.23		998.4
997.17		+50	997.34		997.51
996.24		+75	996.41		996.58
995.37		1049+00	995.54		995.71
994.57		+25	994.74		994.91
993.91		+50	994.08		994.25
993.39		+75	993.56		993.73
993.01		1050+00	993.18		993.35
992.77		+25	992.94		993.11
992.68		+50	992.85		993.02
992.71		+75	992.88		993.05
992.35		1051+00	993.12		993.29
993.21		+25	993.37		993.51
993.69		+50	993.85		993.93
993.90		+60.31	994.06		994.12
994.27		+75	994.43		994.45
995.01		1052+00	995.17		995.10
996.72	10.00'	+50	996.83	10.00'	996.75
998.95	9.60'	1053+00	999.19	9.50'	999.05

 $\Delta = 34^\circ 38' L.T.$ $D_c 9^\circ 00'$
 $300' Spiral$
 $T.S. 1147+43.12$ $C.S. 1151+27.93$
 $S.C. 1150+43.12$ $S.T. 1154+27.93$

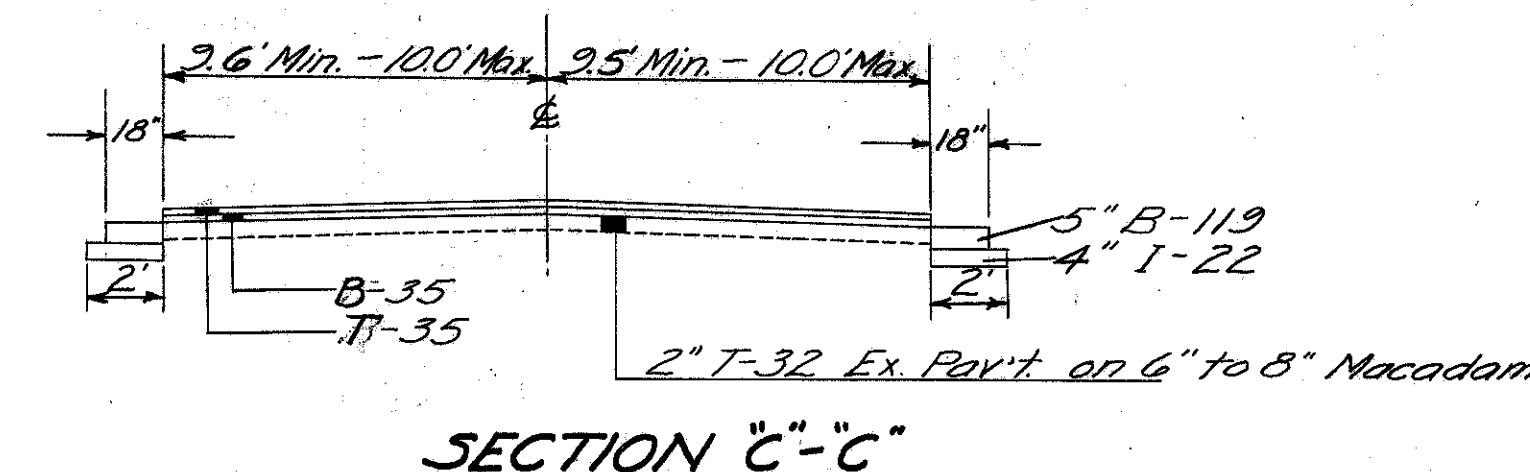
Elevation Left Edge	Width	Station	Center Elevation	Width	Elevation Right Edge
1037.14	9.20'	1146+50	1037.37	10.00'	1037.11
1035.17	10.00'	+81.12	1035.33		1035.17
1033.92		1147+00	1034.08		1033.97
1032.26		+25	1032.42		1032.37
1031.10	10.00'	+43.12	1031.26		1031.26
1029.37	10.40'	+73.12	1029.54		1029.69
1028.01	10.76'	1148+00			1028.47
1027.85	10.80'	+03.12			1028.33
1026.92	11.09'	+25			1027.52
1025.88	11.46'	+53.12			1026.64
1025.60	11.60'	+63.12			1026.42
1024.79	12.00'	+93.12			1025.79
1024.61	12.09'	1149+00			1025.65
1024.18	12.39'	+23.12			1025.37
1023.87	12.79'	+53.12			1025.25
1023.74	13.19'	+83.12			1025.32
1023.81	13.42'	1150+00			1025.50
1023.88	13.59'	+13.12			1025.66
1024.27	14.00'	+43.12			1026.26
1024.98		+75			1026.97
1025.73		1151+00			1027.72
1026.77	14.00'	+27.93			1028.76
1027.97	13.59'	+57.93			1029.75
1028.60	13.36'	+75			1030.27
1029.05	13.19'	+87.93			1030.63
1029.46	13.03'	1152+00			1030.96
1030.03	12.79'	+17.93			1031.41
1030.89	12.39'	+47.93			1032.08
1031.67	12.00'	+77.93			1032.67
1032.14	11.69'	1153+00			1033.01
1032.31	11.60'	+07.93			1033.13
1032.62	11.57'	+25			1033.34
1032.83	11.20'	+37.93			1033.48
1033.26	10.80'	+67.93			1033.74
1033.58	10.40'	+97.93	1033.75		1033.90
1033.78	10.00'	1154+27.93	1033.94		1033.94
1033.88		+50	1034.04		1033.98
1033.95		+75	1034.06		1033.94
1034.00	10.00'	+89.93	1034.05	10.00'	1033.89
1033.99	10.40'	1155+00	1034.02	9.5	1033.75



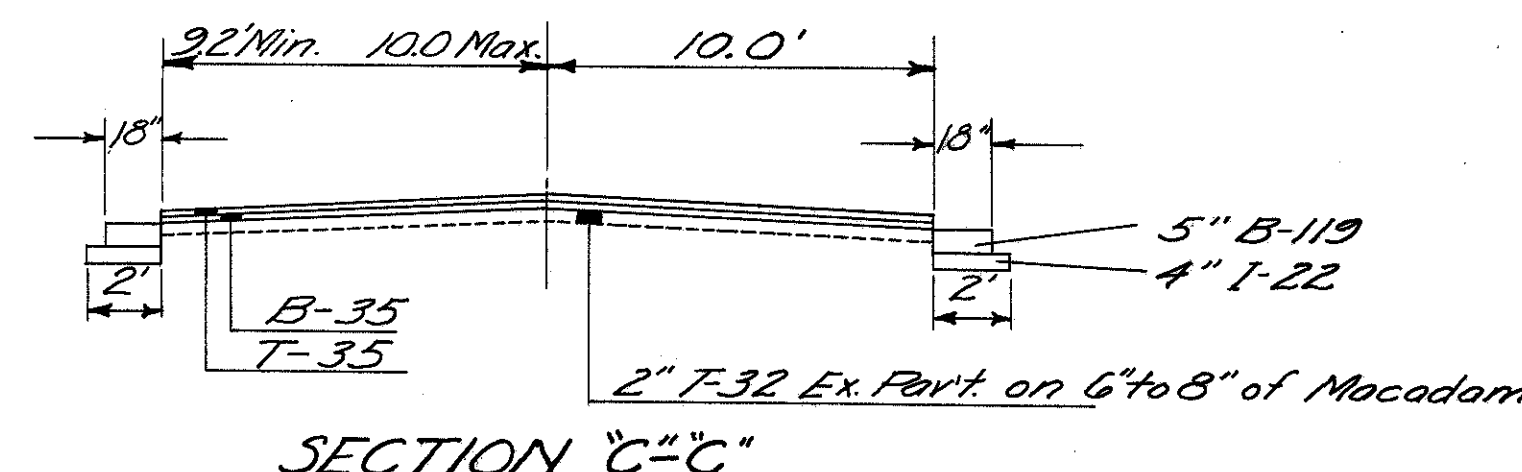
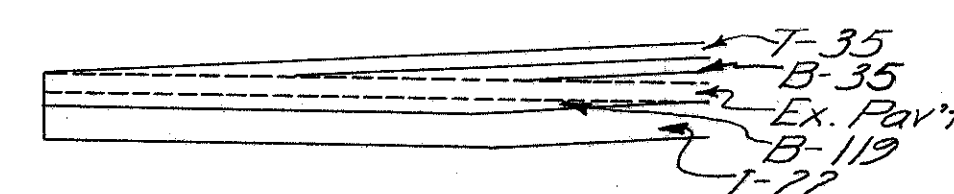
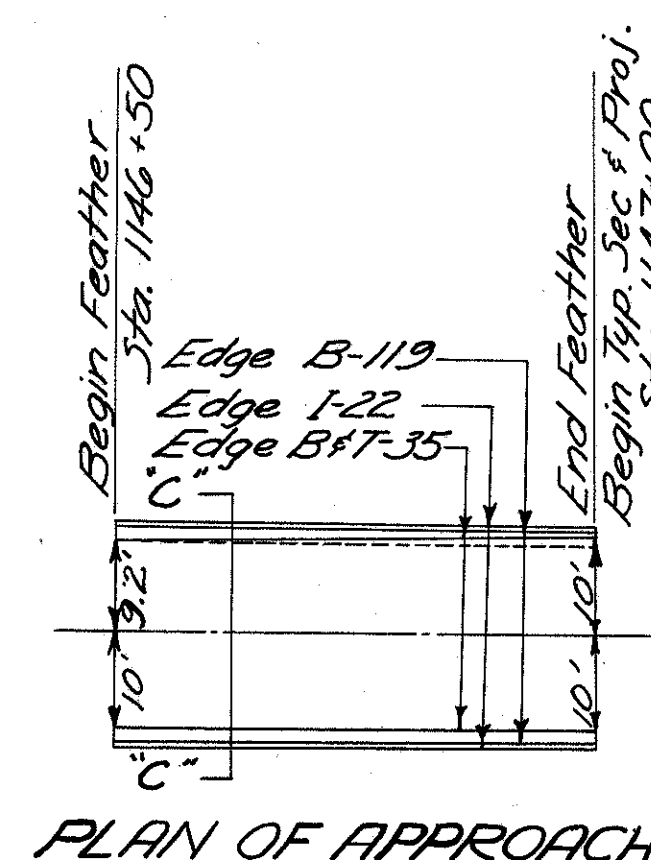
TYPICAL SECTION & FEATHERING DETAIL
 The above applies between Sta. 1046+50 to Sta. 1048+00



Note: For Merging edge of Pavement Widening with Edge of Existing Pavement See Std. Dwg T-35 (10-1-52) This applies to details shown on this sheet.



TYPICAL SECTION & FEATHERING DETAIL
 The above applies between Sta. 1052+00 to Sta. 1053+00



TYPICAL SECTION & FEATHERING DETAIL
 The above applies between Sta. 1146+50 to Sta. 1147+00

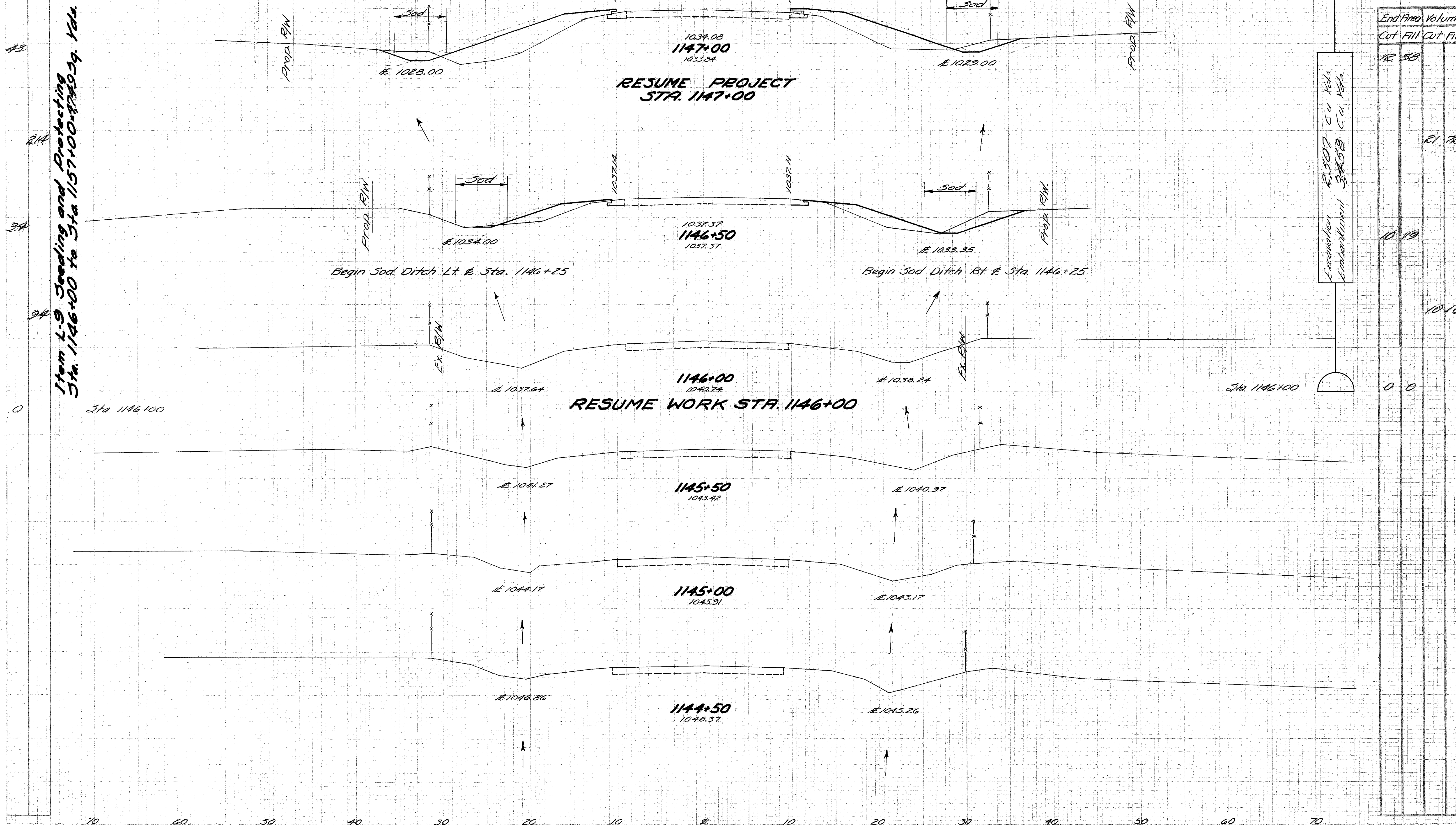
Seeding
End 39
Width Yds.

REV	DATE	PROJECT
2	CHIO	

19
32

HIGHLAND COUNTY
HIG.-138-(19.84)(21.72)

Item L-9 Seeding and Protecting
Sta. 1146+00 to Sta. 1157+00-#4959 Yds.



End Area	Volume
Cut	Fill
12.58	
	21.72
10.19	
	10.18
0.0	

Excavation 2.507 Cu Yds.
Embankment 3.458 Cu Yds.

STA. 1144+50 TO STA. 1147+00

Seeding
End Sp.
Width Xds



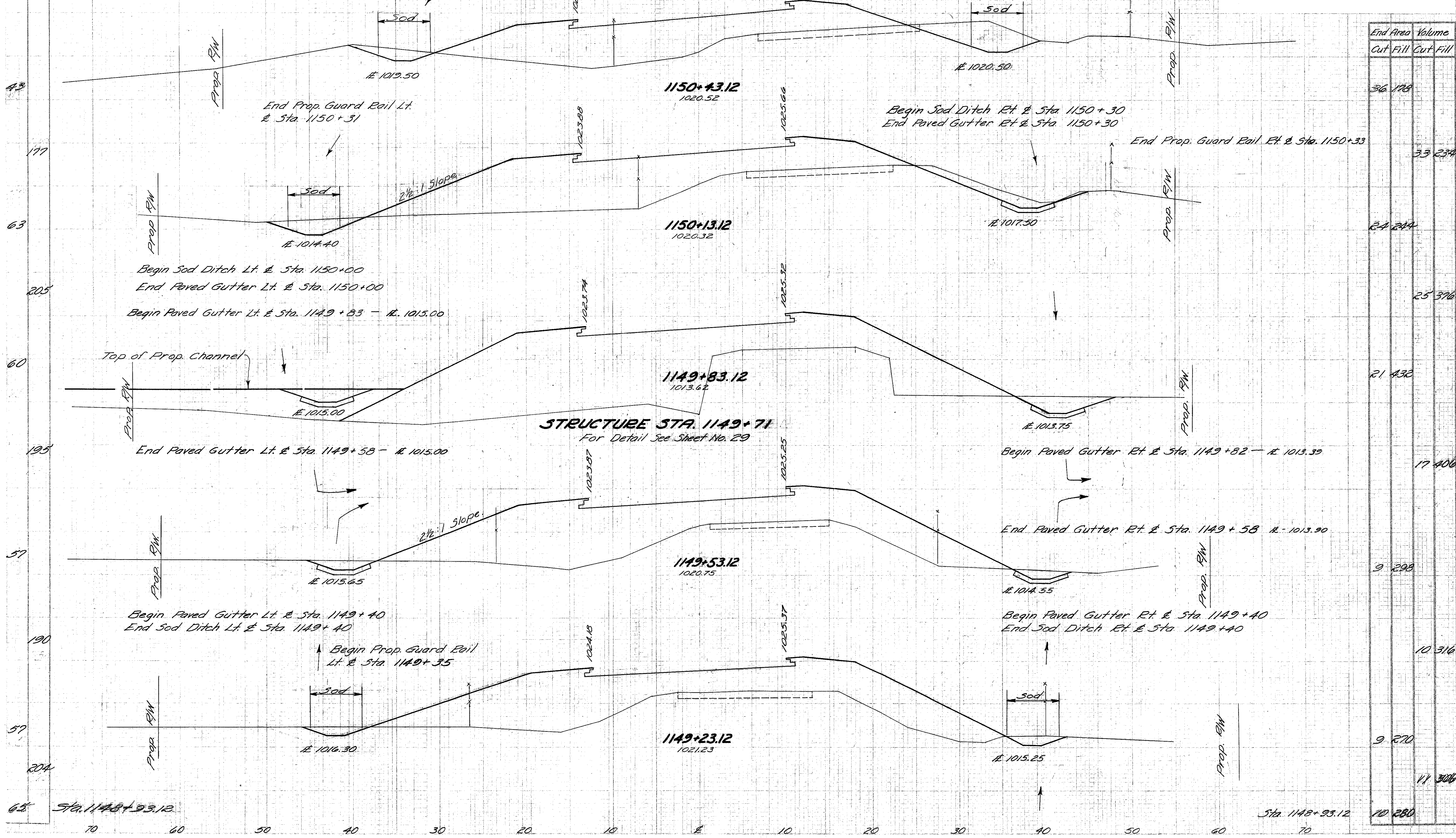
End Area	Volume
Cut	Fill
10 280	10 280
10 259	11 300
10 184	22 492
10 141	11 180
10 106	18 133
12 58	

Seeding
End Sp.
Width Yds.

FED. RD. DIST.	STATE	PROJECT
2	OHIO	

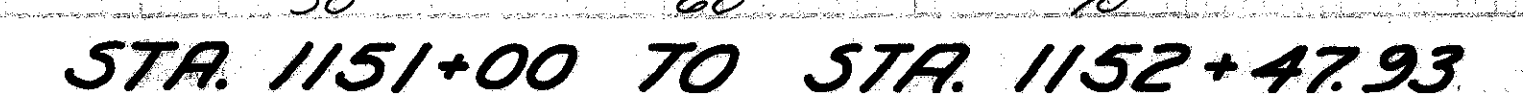
21
32

HIGHLAND COUNTY
HIG.-138-(19.84)(21.72)



STA. 1149+23.12 TO STA. 1150+43.12

End Area Volume	
Cut	Fill
Cut	Fill

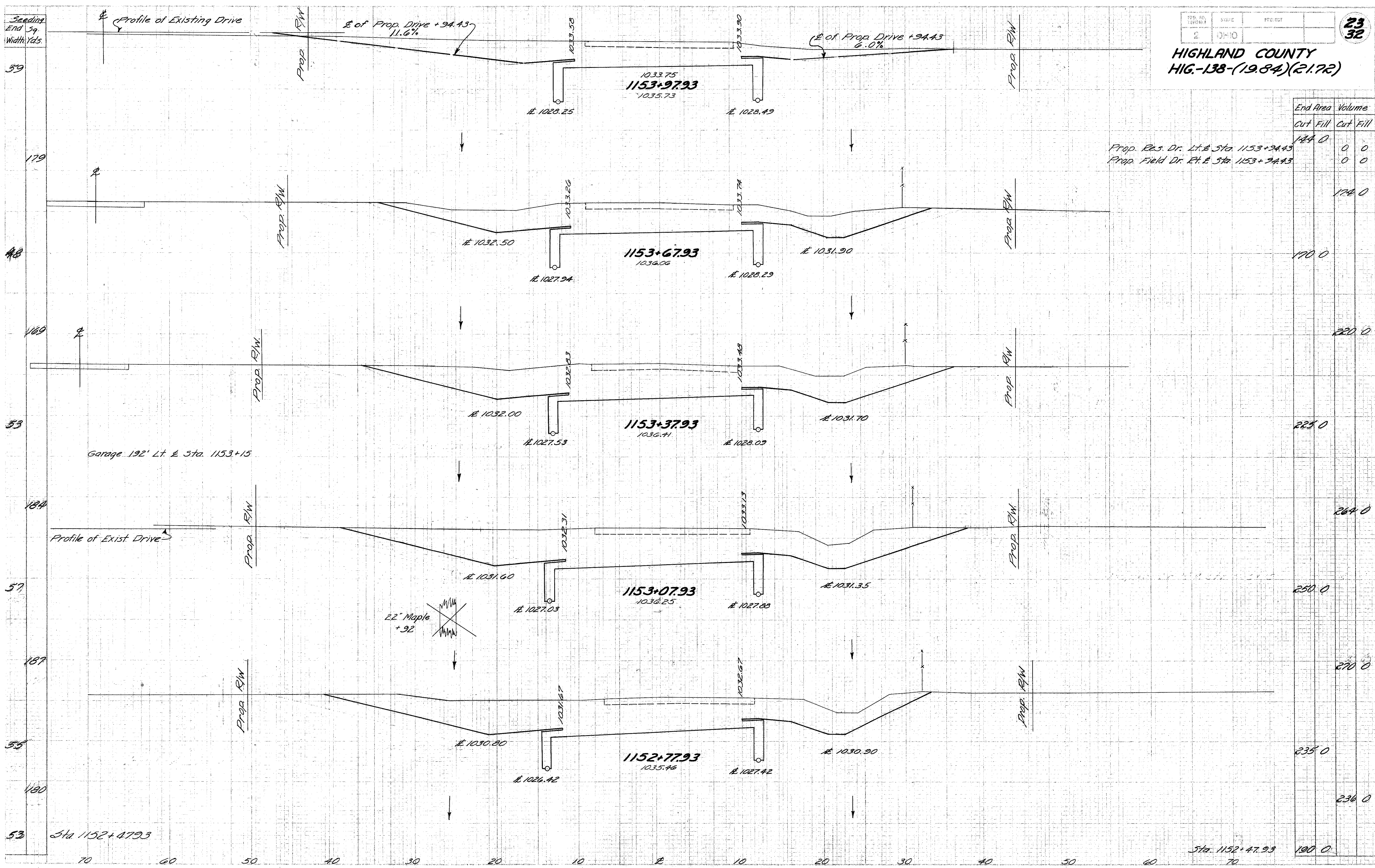


Seeding
End 59
Width Yds.

RD. NO.	STATE	PROJECT
2	OHIO	

23
32

HIGHLAND COUNTY
HIG-138-(19.84)(21.72)



Prop. Res. Dr. Lt. & Sta. 1153+94.43
Prop. Field Dr. R/L & Sta. 1153+94.43

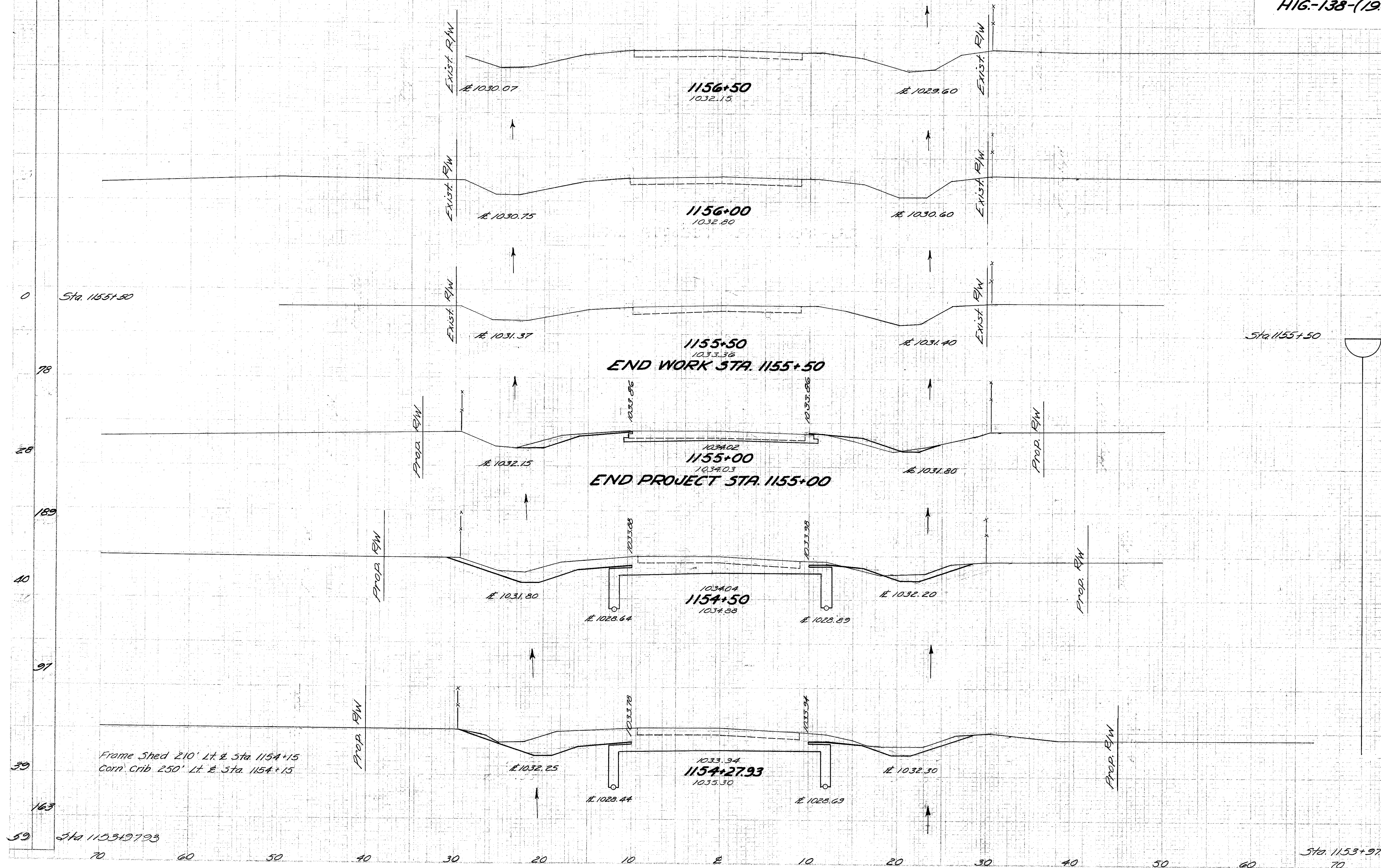
End Area	Volume	
	Cut	Fill
144 0	0	0
174 0	0	0
170 0		
220 0		
225 0		
264 0		
250 0		
270 0		
235 0		
236 0		
190 0		

STA. 1152+77.93 TO STA. 1153+97.93

Seeding	
End Sq.	
Width Yds.	

SEA. NO. UNION	STATE	PROJECT	
2	OHIO		

HIGHLAND COUNTY
HIG.-138-(1984)(2172)

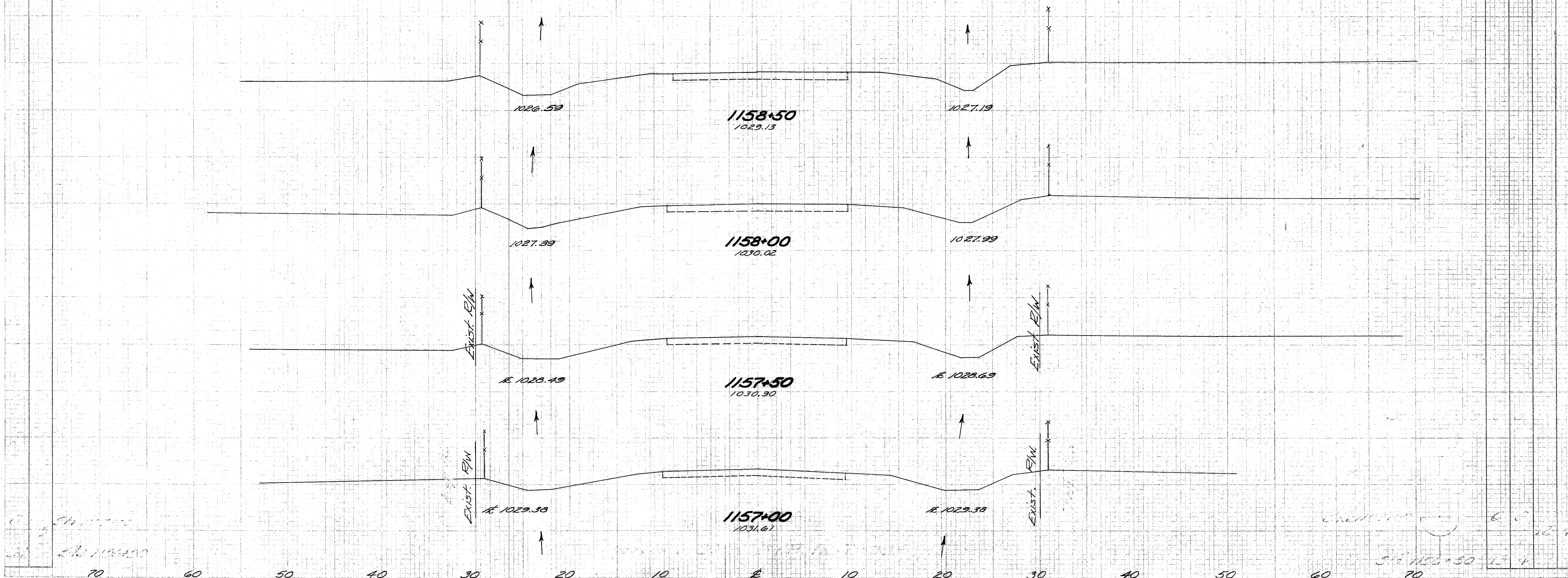
[illegible]

Seeding
End Sq.
Width Yds.

FSD DIST.	STATE	PROJECT	25 32
2	OHIO		

HIGHLAND COUNTY
HIG.-138-(19.84)(21.72)

End Area	Volume
Cut	Fill
Fill	Fill



HIGHLAND COUNTY **HIG-138-(19.84)-(21.72)**

SPIRAL DATA CURVE DATA

$PI = 1150+93.12$
 $\Delta = 34^\circ-38'11"$
 $D = 9^\circ-00'$
 $L_s = 300.00'$
 $T_s = 350.04'$
 $X_c = 298.34'$
 $E = 23.47'$
 $\Delta = 34^\circ-38'11"$
 $D = 9^\circ-00'$
 $L_c = 84.81'$

Note:
 Existing Stone Masonry
 abutments to be removed
 under Item 5-24. The stone
 from these abutments is to be
 salvaged and used for the
 construction of Item I-10 Riprap
 Type A at inlet and outlet ends of
 proposed structure

PROPOSED CULVERT

Type: Corrugated Plate Pipe Arch
 Size: 12'6" span x 7'11" Rise
 Length: 74'0"
 Alignment: 9°00' Curve
 Roadway: 32'0" fift guard Rail
 Skew: None

Note:
 Fill shaded area to
 an Elev 1016.5 See Channel
 x-sections on Sht. No. 30

Item I-10 Dumped Rock

Sta 1149+71

S.C. STA. 1150+43.12

C.S. STA. 1151+27.93

(To Sta 1149+70.9)

Note:
 Fill shaded area to
 level of existing ground
 See channel x-sections
 on Sht. No. 30

Item I-10 Dumped Rock

Line, Grade and Typical Section
 satisfactory *REDACTED* 7/15/55

EXISTING BRIDGE DATA

Bridge No. HI-138-218
 Type Steel Beam
 Span 17'-9"
 Roadway 17'-3"
 Skew 0°-00'
 Condition Critical
 Reduction 75%

DRAINAGE AREA = 666 Acres

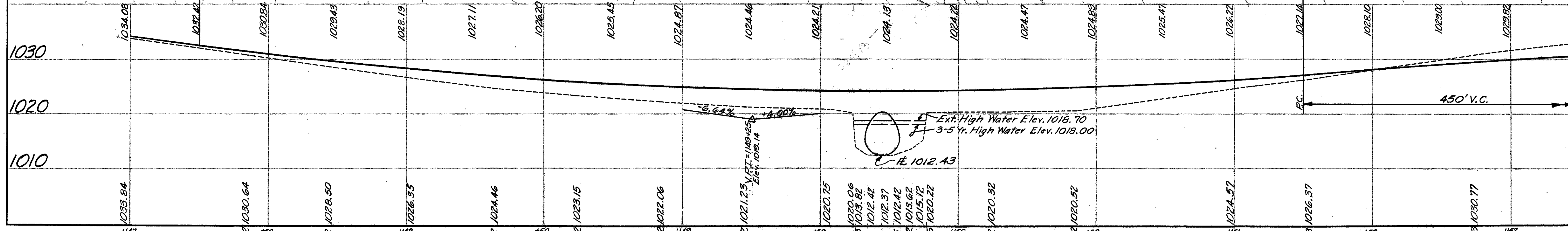
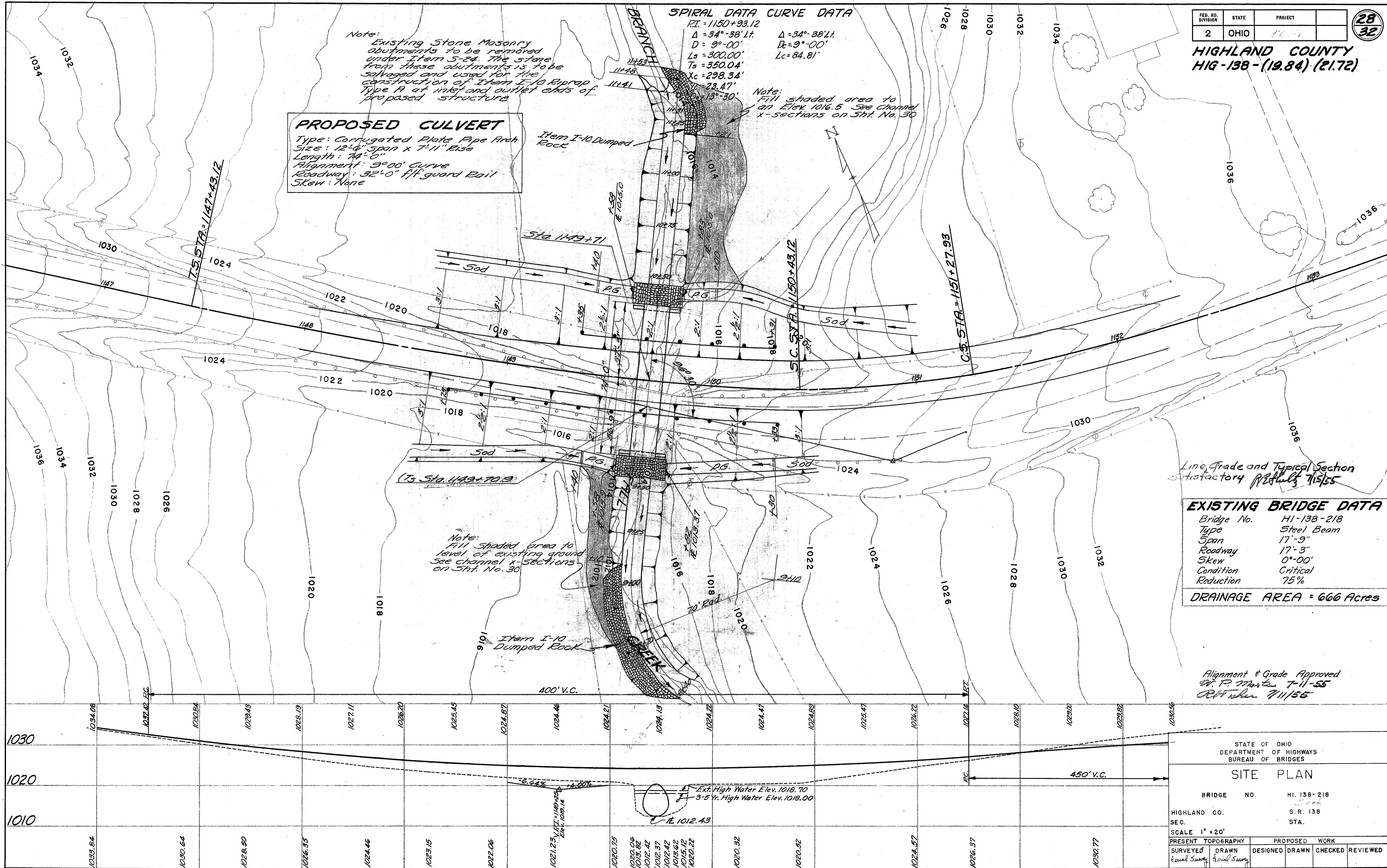
Alignment & Grade Approved
 E. P. Martin 7-11-55
 CRF when 7/11/55

STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. HI. 138-218
 HIGHLAND CO. S.R. 138
 SEC. STA.

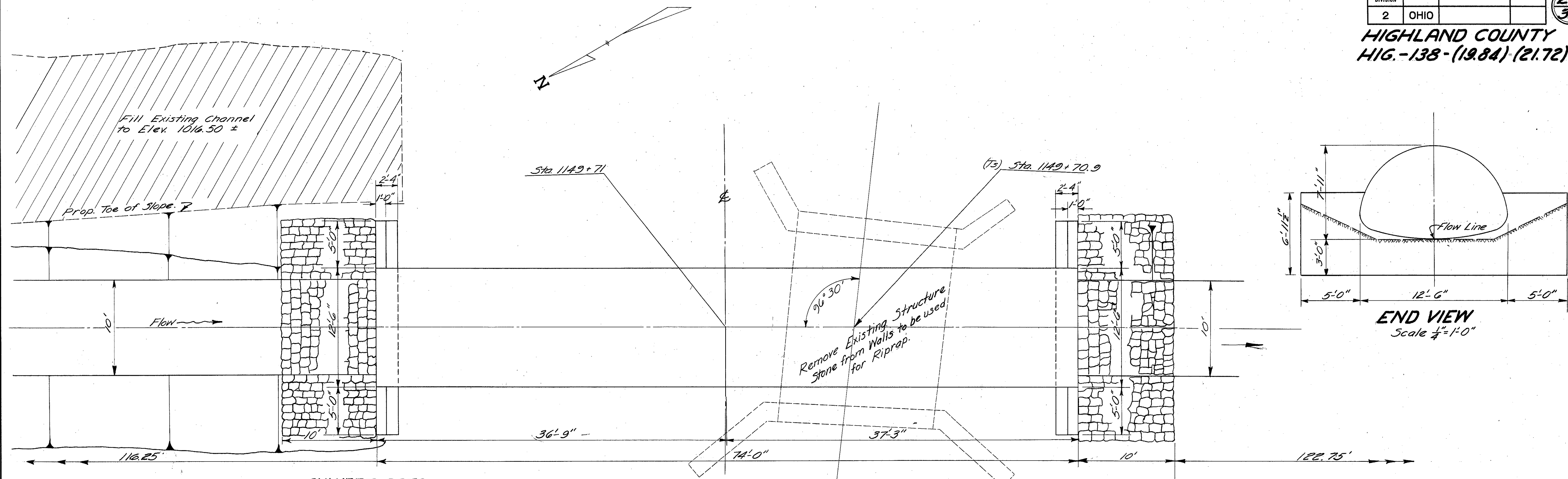
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
<i>Serial Survey</i>	<i>Horizontal Survey</i>				



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

29
32

HIGHLAND COUNTY
HIG.-138-(19.84)-(21.72)



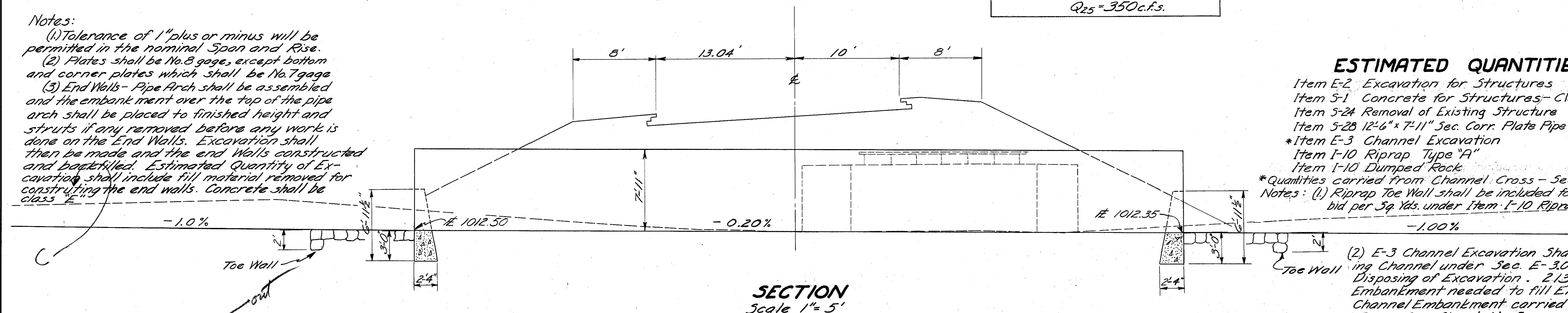
CULVERT DATA
Type: Sectional Corrugated Plate Pipe Arch
Size: 12'-6" x 7'-11" x 74'
Work Req'd: Build Std. 12'-6" x 7'-11" x 74' Sec. Corr. Plate Pipe Arch with Std. Concrete End Walls (Std. Dwg. SP-53)
Remove Existing Structure.

PLAN
Scale 1" = 5'

DRAINAGE AREA = 666 Acres
 $Q_{25} = 350 \text{ c.f.s.}$

Notes:

- (1) Tolerance of 1" plus or minus will be permitted in the nominal Span and Rise.
- (2) Plates shall be No. 8 gage, except bottom and corner plates which shall be No. 7 gage.
- (3) End Walls - Pipe Arch shall be assembled and the embankment over the top of the pipe arch shall be placed to finished height and struts if any removed before any work is done on the End Walls. Excavation shall then be made and the end walls constructed and backfilled. Estimated Quantity of Excavation shall include fill material removed for constructing the end walls. Concrete shall be class E.



SECTION
Scale 1" = 5'

ESTIMATED QUANTITIES

Item E-2 Excavation for Structures	34 C.Y.
Item S-1 Concrete for Structures - Class "E"	14.8 C.Y.
Item S-24 Removal of Existing Structure	Lump
Item S-28 12'-6" x 7'-11" Sec. Corr. Plate Pipe Arch	74 L.F.
*Item E-3 Channel Excavation	269 C.Y.
Item I-10 Riprap Type "A"	52 C.Y.
Item I-10 Dumped Rock	45 C.Y.

*Quantities carried from Channel Cross - Sections. See Sh. No. 30
Notes: (1) Riprap Toe Wall shall be included for payment in unit price bid per 3q lds. under Item I-10 Riprap.

- (2) E-3 Channel Excavation Shall be used to fill Existing Channel under Sec. E-302 Excavating and Disposing of Excavation. $213 \text{ c.y.} + 20\% = 256 \text{ c.y.}$ of Embankment needed to fill Existing Channel. Channel Embankment carried to Borrow Calculations Box. See Sheet No. 5

- (4) Existing Stone Masonry Abutments to be removed under Item S-24. The stone from these abutments is to be salvaged and used for the construction of Item I-10 Riprap Type "A" at Inlet and outlet ends of proposed Structure.

PIPE ARCH CULVERT
STA. 1149+71

②

Seeding
End Sta.
Width Yds

0

2

5

6

6

15

7

33

18

48

17

47

17

24

17

27

38

27

63

27

27

27

27

27

27

27

27

27

27

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27

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27

27

Sta. 11+48

1013.67

11+48

1013.67

1013.60

11+41

1014.00

1013.50

11+31

1014.25

1013.38

11+25

1015.30

1013.13

11+00

1016.00

1012.50

10+75

1015.50

1012.63

10+50

1015.35

1012.22

9+50

1013.48

1011.97

9+25

1014.5

1011.72

9+00

1014.27

1011.42

8+70

1011.92

1011.2

8+40

1011.2

End Prop. Dumped Rock Rt. & Sta. 11+53

Sta. 11+48

END PROP. CHANNEL CHANGE STA. 11+48

Begin Prop. Dumped Rock Rt. & Sta. 11+21

RESUME PROP. CHANNEL CHANGE STA. 10+36.75
SUSPEND PROP. CHANNEL CHANGE STA. 9+62.75

End Prop. Dumped Rock
Lt. & Sta. 9+10

Begin Prop. Dumped Rock
Lt. & Sta. 8+40

Begin Prop. Dumped Rock Lt. & Sta. 8+60

Excavation 269 Cu. Yds
Embankment 213 Cu. Yds

Note
Estimated Quantities
for Excavation, Embankment
& Dumped Rock on this
Sheet carried to Structure
Sheet No. 29

Item L-9 Seeding & Protecting
Sta. 8+40 to Sta. 11+48 = 446 Sq. Yds.

End Head Volume
Cut Fill Cut Fill

0 0

2 1

12 9

6 4

19 11

6 4

35 22

40 39

52 61

45 51

46 48

39 43

37 45

9 11

0 0

0 0

5 4

23 18

31 24

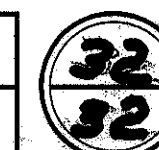
43 33

46 23

40 17

31 9

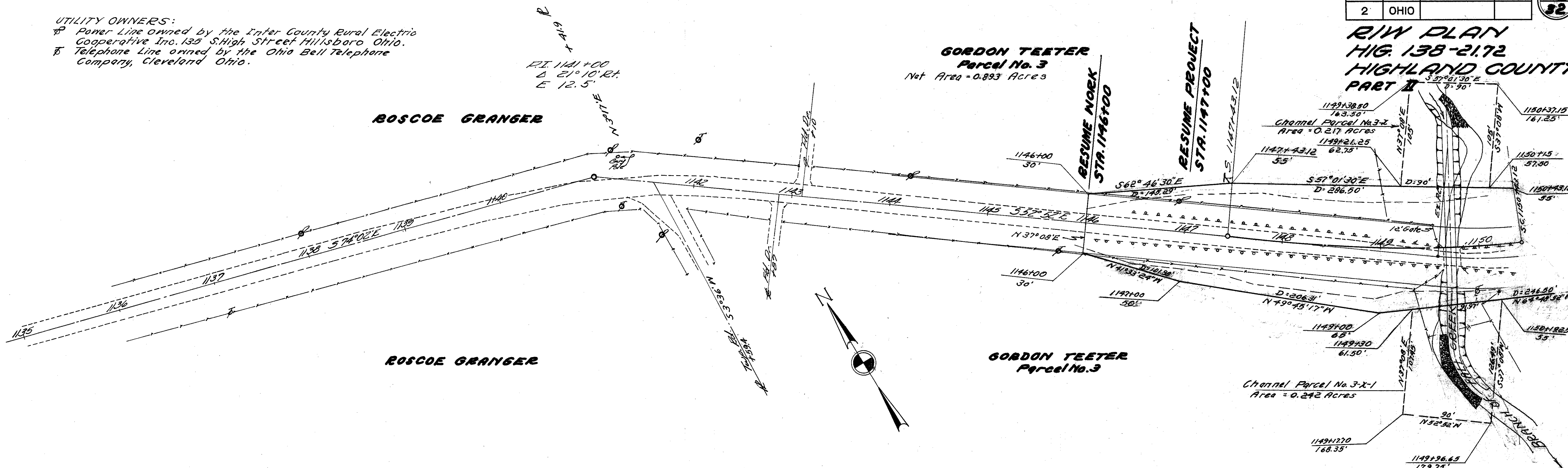
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	



R/W PLAN HIG. 138-21.72 HIGHLAND COUNTY PART II

UTILITY OWNERS:
 P Power Line owned by the Inter County Rural Electric Cooperative Inc. 139 S. High Street Hillsboro Ohio.
 T Telephone Line owned by the Ohio Bell Telephone Company, Cleveland Ohio.

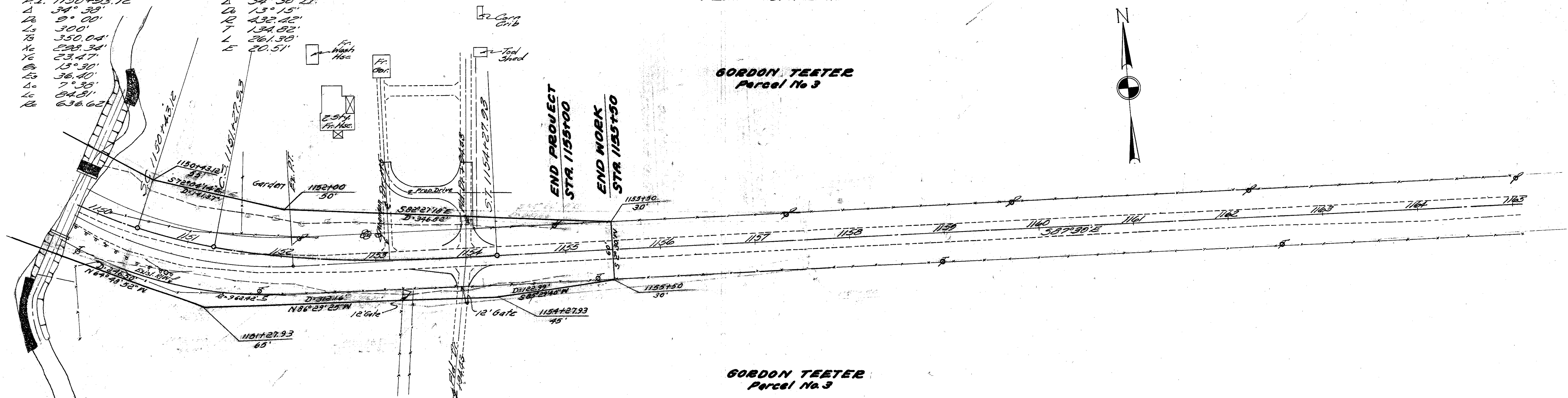
V.M.S. 2320
 PENN TOWNSHIP



V.M.S. 2320
 PENN TOWNSHIP

V.M.S. 2320
 PENN TOWNSHIP

DEOR SPIRAL CURVE	EXIST. CURVE DATA
PI 1150+23.12	Δ 34° 38' 11"
Δ 34° 38' 11"	Δ 13° 15' 11"
L 9° 00'	R 432.42'
L 300'	T 134.82'
T 350.04'	L 261.30'
Xc 238.34'	E 20.51'
Yc 23.47'	
Δ 13° 30'	
L 36.40'	
Δ 7° 35'	
L 64.81'	
L 636.62'	



GORDON TEETER
 Parcel No. 3

V.M.S. 2320
 PENN TOWNSHIP

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 42 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL WITH SAND AND SILT	A-2-4 (0)	A-2-4	40	14	14	18	14	21	5	13	2
SANDY SILT	A-4 (4)	A-4a	17	10	18	30	25	22	7	15	22
SILT	A-4 (8)	A-4b	1	2	21	50	26	26	4	25	1
SILT AND CLAY	A-6 (7)	A-6a	9	6	18	35	32	29	12	18	12
SILTY CLAY	A-6 (10)	A-6b	10	5	17	32	36	35	19	22	5

- TOPSOIL- TS=X'-APPROXIMATE DEPTH
- BERM MATERIAL
- AUGER BORING- PLOTTED TO VERTICAL SCALE ONLY
- AUGER BORING- PLAN VIEW
- W FREE WATER
- WATER CONTENT EQUAL TO OR GREATER THAN THE LIQUID LIMIT
- NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT

SAMPLES TESTED
LAB. NOS. SO-24294- 24335

DRAFTING- AUGUST 24, 1955
FIELD WORK- AUGUST 11, 1955

NOTE A: THIS A-4a SOIL WILL BE RUBBERY AND UNSTABLE AT WATER CONTENTS WHICH EXCEED THE OPTIMUM

SOIL PROFILE
HIGHLAND COUNTY
HIG-138-(19.84)(21.72)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE USE OF THE STATE OF OHIO AND IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.

