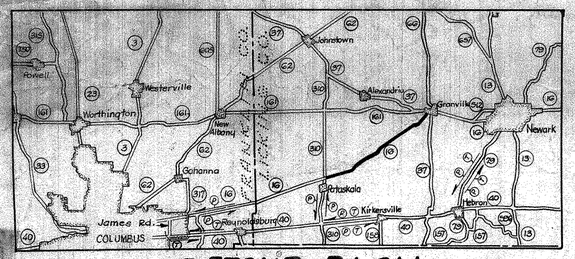
FED. NO. DIVISION	STATE	PROJECT
2	OHIO	STATE

LIC-16-(5.45-14
LICKING COUN

NOTE: Federal Number F-839(1) appearing throughout these plans shall be disregarded.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

LIC-16-(5.45-14.60)
LICKING COUNTY
HARRISON-GRANVILLE-UNION & ST. ALBANS TOWNSHIPS
VILLAGE OF GRANVILLE



DETOUR PLAN
0 5 10 15
SCALE IN MILES

See Sheet 3 for Truck Routes in Columbus.

Ⓟ Passenger
Ⓣ Truck

X-SECTIONS To GARAGE

CONVENTIONAL SIGNS

County Line
Township Line
Center Line
Property Line
Fence Line
Pole Line — Power P — Telephone T
Railroad
Limit of Work
Right of Way
Corporation Line

INDEX OF SHEETS

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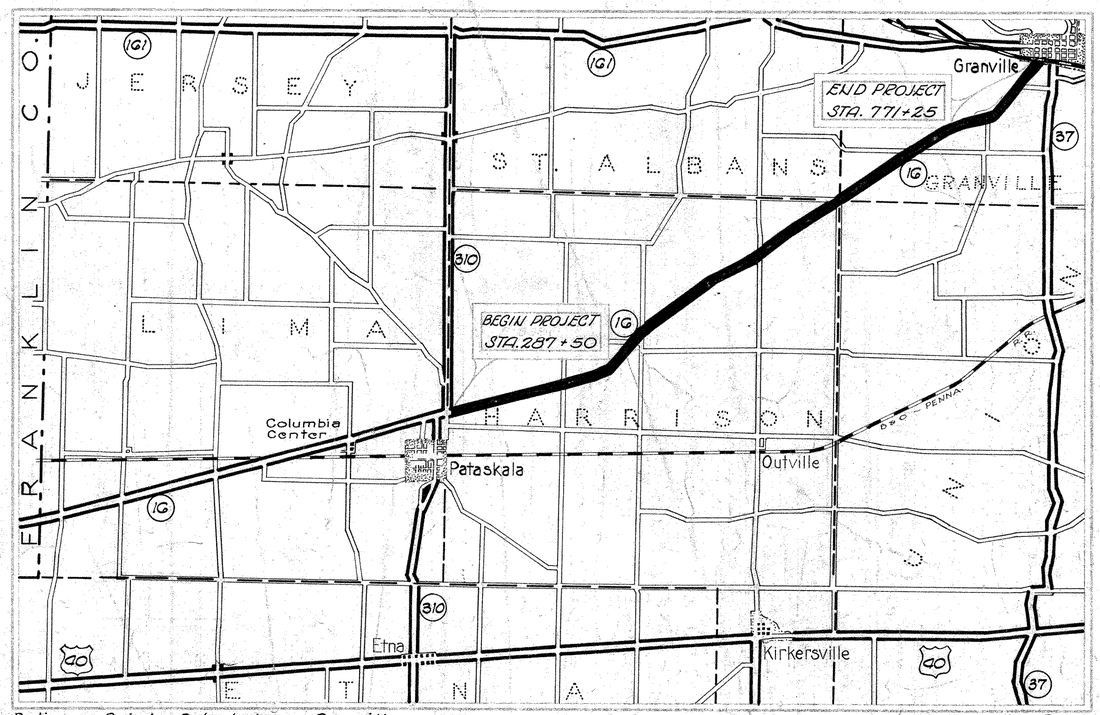
Approaches	207-219
Structures 20' Span & Under & Catch Basins	220-233
Steps and Railing	233
Channel Change	234-236
Structure over 20' Span	237-238
Right of Way	239-255

LINE DATA

Begin Project & Rural	287+50		
End Rural	766+93.25		
Add for Equation (727+12.96 Back = 726+56.67 Ahead)		= 56.29	Lin. Ft.
Total Rural		47,999.54	Lin. Ft.
Begin Municipal	766+93.25		
End Municipal & Project	771+25		
Total Municipal		431.75	Lin. Ft.
Net Length of Project		48,431.29	Lin. Ft.
		= 9.172	Miles
Begin Work	286+80		
End Work	771+25		
Add for Equation	56.29'		
Net Length of Work		48,501.29	Lin. Ft.
		= 9.185	Miles



Delivery Point: Pataskala or Granville — Average Haul 5 Mi.

LOCATION PLAN

0 1 2 3
SCALE OF MILES

Portion to be Improved
State Highways
Other Roads
Detours

SCALES

Plan	1"=50'
Profile (Vertical)	1"=5'
Profile (Horizontal)	1"=50'
Cross Section	1"=5'

The Standard Specifications of the State of Ohio Department of Highways, including changes and Supplemental Specifications listed in the proposal shall 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 indicated on the plans.

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

Approved Date 1-29-'52. Oscar F. Schulberg, Division Deputy Director

Approved Date 2-1-54 John J. Heer, Deputy Director, Division of Planning and Programming

Approved Date 1-18-54 Richard Orth, Engineer of Bridges

Approved Date 2/11/54 W. L. Rothermund, Engineer of Location and Design

Approved Date 2-1-54 W. J. Gurley, Deputy Director, Division of Design and Construction

Approved Date 2/16/54 V. G. Richardson, First Ass't. director

Approved Date 2-15-54 Director of Highways

CONSTRUCTION BUREAU
FEB 26 1957
GROUND PHOTOLAB

Reviewed & Approved _____

Date _____ Engineer of Traffic and Safety

STANDARD CONSTRUCTION DRAWINGS			
G-7.07	1-2-53	I-12	1-25-52
B-T-50-70-71 E.N°1	10-1-47	I-15 N°1	2-2-53
B-T-71.12	3-2-53	I-15 N°2	2-2-53
L.J. N°1	3-2-53	AS-3-47, AS-4-47	7-27-49
T.J. N°1	3-2-53	L-1	4-1-50
T.J. N°2	3-2-53	L-3	4-1-50
T.J. N°3	3-2-53	L-3-A	4-1-50
RT-1	6-1-53	SP-53	7-21-53
S-27 P.C.2	3-15-48	T-35	10-1-52
S-27 P.C.3	2-20-45	T-14G	1-22-52
F-1,2,3,4 & 5	2-20-45		
F&CB N°7	5-1-52		

SUPPLEMENTAL SPECS.	
10	Rev. 7-6-53
CE-107	5-21-53
T-171.19	Rev. 3-19-53
M-101.7	1-24-53
S-102	6-15-49

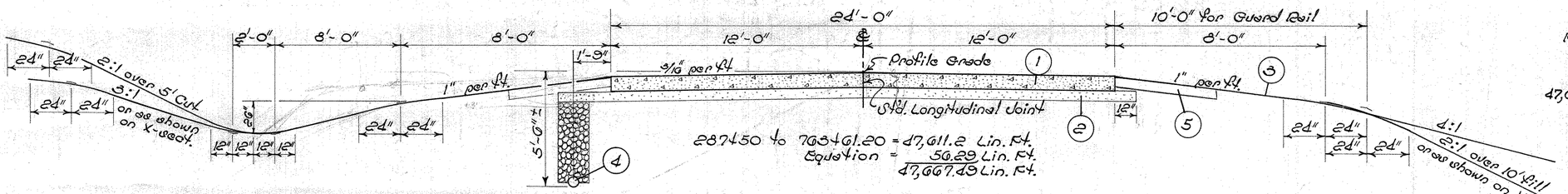
File N° 10	Licking County LIC-16-(5.45-14.60) Date of Letting _____ Contract N° _____

D-11

TYPICAL SECTIONS
TYPE T-71

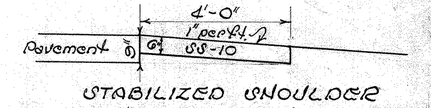
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LIC-16-(5.45-14.60)

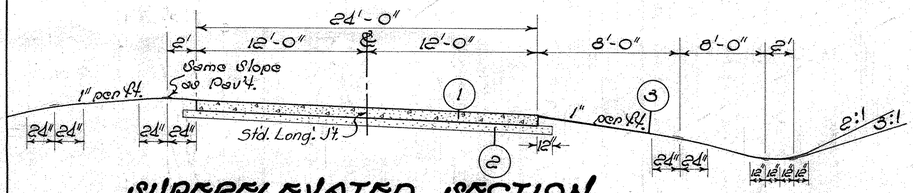


287450 to 763461.20 = 47,611.2 Lin. Ft.
Equation = 56.29 Lin. Ft.
47,667.49 Lin. Ft.

(1) T-71 9" Reinforced Portland Cement Concrete Pavement.
(2) I-22 Subbase, Grading "C" or "D" (See Table II for thickness)
(3) L-9 Seeding and Protecting Type "A".
(4) I-4 6" Pipe Underdrains.
(5) SS-10 Stabilized Crushed Aggregate Shoulders

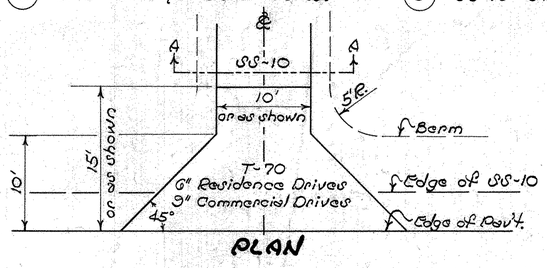


STABILIZED SHOULDER
47,667.5 x 2 - 4365 Approaches & Curb = 90,970 Lin. Ft.
(90,970 x 4 x .5) ÷ 27 = 6738 Cu. Yds.

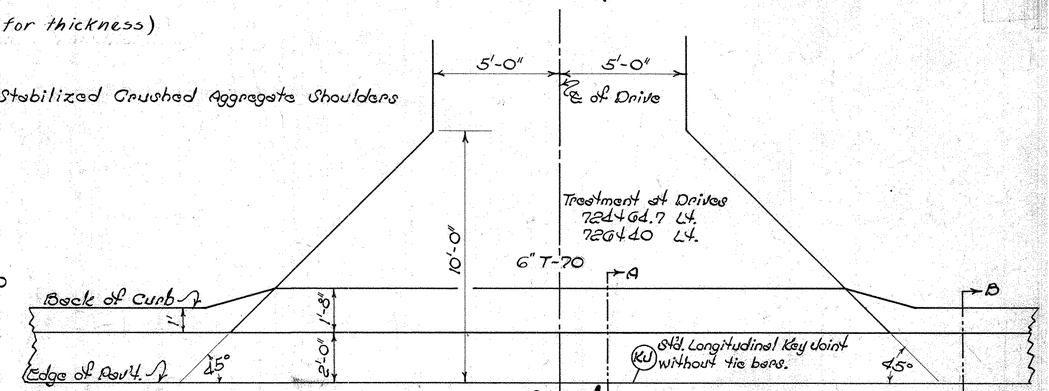


SUPERELEVATED SECTION
For Curves over Thirty Minutes

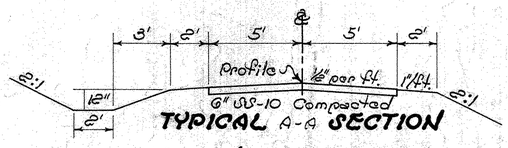
See Sheet 40 for treatment of Thirty Minute (30') Curves.



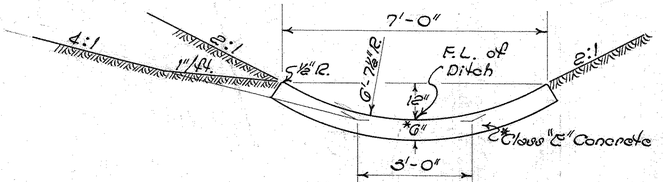
PLAN



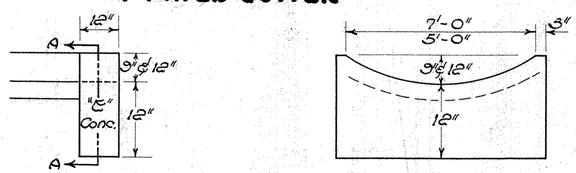
CURB & GUTTER, AS PER PLAN
722450 to 727413 Lt. (Back) = 463 Lin. Ft.
738429 to 739460 Lt. = 131 Lin. Ft.
594 Lin. Ft.



TYPICAL A-A SECTION
RESIDENCE & COMMERCIAL DRIVES

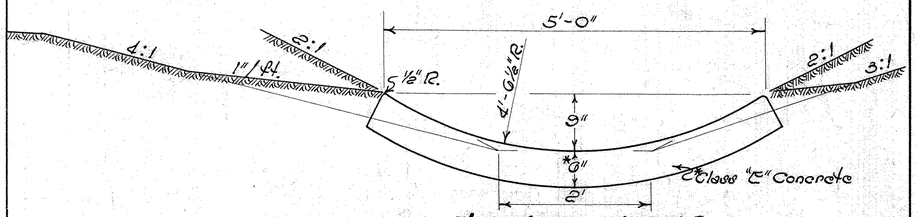


7' PAVED GUTTER



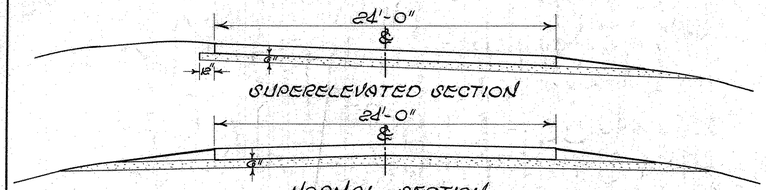
ENDS OF GUTTER
SECTION A-A

*8" Stone or broken concrete may be used in lieu of 6" new concrete.

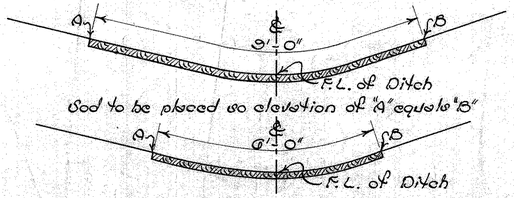


5' PAVED GUTTER

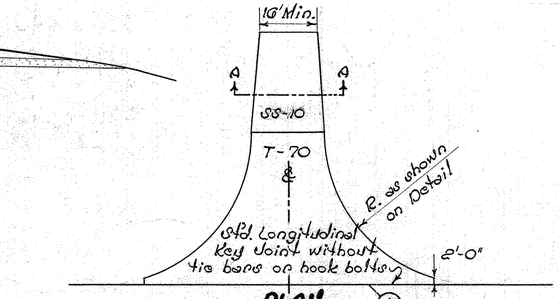
Transverse joints shall be placed at 10 foot intervals in accord with Item I-10.05. The location of paved gutters shown on plan sheets are subject to change or revision during construction to fit the ground conditions at the direction of the Engineer. If constructed of stone or broken concrete, it shall be grout filled and the thickness increased to 8" minimum.



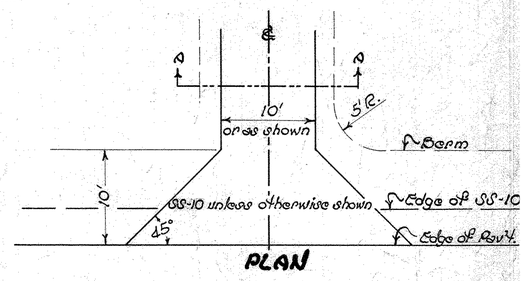
I-22 IN ROCK CUTS



DETAIL OF SOD DITCHES



TYPICAL A-A SECTION
ROAD APPROACHES



TYPICAL A-A SECTION
FIELD DRIVES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3
255

LIC-16-(5.45-14.60)

GENERAL NOTES

SUBGRADE COMPACTION :~

Subgrade in Rock and Shale areas shall be prepared as per E-105(b). In all other areas the preparation of subgrade shall conform to E-103. The quantities for Item E-1, Compacted Subgrade, have been calculated deducting rock and shale areas as indicated on the soil profile. Any deviation from rock and shale areas, as indicated on the soils profile, encountered during construction shall be recorded by the Engineer. Payment for Item E-1, Compacted Subgrade, shall be made on the final quantities as determined by the Engineers measurements during construction.

EXISTING PAVEMENT :~

All areas paved with bituminous material over which embankment is to be placed shall be scarified prior to placement of the embankment, with payment therefor included in the unit price bid for Item E-1, Roadway Excavation. Paved areas outside of the construction limits, when designated for removal, shall be removed for the full depth of the bituminous material. These areas shall then be scarified, leveled to eliminate trench scar, and seeded. Payment for these operations, except seeding, is included in the unit price bid per sq. yd. for Item E-3 Removal and Disposal of Existing Pavement. Traffic bound pavement outside construction limits shall be scarified and seeded as per L-9 and the cost of scarifying shall be included in the price bid per sq. yd. for Item L-9 Seeding and Protecting, Type "A". Pavement Removal unless otherwise indicated is included in E-1 Excavation.

BERMS, SLOPES AND DITCHES :~

~~Berms, slopes and ditches shall be finished in accordance with the typical sections unless otherwise shown on cross sections.~~ While cross sections show straight lines and angles, in construction all corners shall be rounded as shown on typical sections.

TYPICAL SECTION :~

The Typical Section for this project has been revised since completion of the plans and computation of earthwork quantities. The revision consisted of flattening berm slopes from 1½" per ft. to 1" per ft. reducing the berm width 2 feet; providing a standard 4 foot stabilized shoulder on both sides thruout the project.

The finished lines and grades as detailed on the cross sections between the edges of pavement and the bottoms of the ditches do not reflect these changes, but the difference in excavation and embankment over the entire job is very small. Payment for Roadway Excavation, Item E-1 shall be made on final measurement. Ditch elevations as shown on the cross sections are not effected by the revisions noted above and shall remain as detailed on the cross sections. Sketches showing the revisions in relation to finished lines and grades as shown on the cross sections are shown on Sheet No. 6 of these plans.

WELLS AND BASEMENTS :~

All dug wells, abandoned basements, septic tanks or channels appearing wholly or partly within the Right of Way limits of this project shall be filled up full width to the elevation of the surrounding ground or proposed grade in accordance with Sec. E-1.08, except that compaction requirements will be waived where the abandoned facilities are entirely outside the new excavation or embankment areas.

EMBANKMENT :~

In areas where the maintainence of Local Traffic would be improved by the construction of part width Fills, that portion of E 1.08 requiring full width construction of embankments may be waived at the direction of the Engineer.

PIPE REPLACEMENT :~

An estimated amount of Roadway Drainage Pipe, Item I-3, has been set up to provide drainage for poor subgrade conditions which may be encountered; also to provide outlets for or to replace broken or damaged field tile encountered. Payment is to be made on final measurement at the price bid per lin. ft. for Item I-3 Roadway Drainage as per plan, in the following sizes and estimated amounts :~ 4"~200', 6"~300', 8"~100', 10"~100', 12"~100'.

L-10 PREPARATION OF AREAS TO BE SODDED :~

All earthwork necessary to accomplish the preparation of areas to be sodded according to Section L-10.05 and L-10.06 is included in the unit price bid per square yard of sod. Commercial Fertilizer 10-6-4 shall be applied at the rate of 20 lbs. per 1000 sq. ft. of area, and Agricultural Ground Limestone at the rate of 100 lbs. per 1000 sq. ft. of area, and worked into the soil prior to laying the sod. The sod bed shall have two inches of loose soil on which sod is laid after excavation for sod thickness.

L-9 SEEDING AND PROTECTING ROADWAY AREAS :~

Quantities for seeding Item L-9 are calculated for the soil areas between lines ten feet (10') outside the construction limits as shown on the cross sections plus pavement removal areas as shown on Plan and Profile sheets. All areas outside these limits where the vegetative growth has been injuriously disturbed or destroyed by the contractor shall be restored and seeded in conformance with the provisions of Item L-9 by the contractor at his own expense. Channels are to be seeded from a point one foot above flow line as detailed to the construction limits. See note in proposal.

DESIGN SPEED :~

Design speed is 60 Miles per hour.

REMOVALS :~

All items marked for removal and disposal shall become the property of the contractor and shall be disposed of by him. The cost of removal and disposal of any encasement or masonry encountered in removal of pipe shall be included in price bid per lin. ft. for Pipe Removed. All materials listed for removal and storage shall be neatly stored on the Right of Way by the contractor for disposal by State Forces.

E-3 REMOVAL OF TREES AND STUMPS :~

Payment for removal of trees and stumps shall be by Lump Sum for all trees and stumps designated for removal by the Engineer within the areas required by these p
NUMBER OF TREES & STUMPS IS ESTIMATED BELOW.

SIZES	12"~18"	18"~24"	24"~30"	30"~36"	36"~42"	over 42"
TREES	142	53	23	10	6	5
STUMPS	12	3	2	1	1	

The estimated number of trees and stumps above was arrived at by diligent effort but the State does not guarantee the accuracy thereof.

FINISHING CONCRETE PAVEMENT :~

Hand Finishing as per T-71.21 will be permitted in areas where ordinary finishing methods are not practical in the opinion of the Engineer.

DRIVES :~

Location of drives may be changed at the direction of the Engineer.

MAIL BOX TURNOUTS :~

Use Typical as shown on Standard Drawing RI-1 with 6" Compacted Aggregate.
50 (Estimated Turnouts) X 6 = 300 Cu. Yds.

FIELD OFFICE :~

The Contractor shall provide a suitable field office in accordance with Sec. S-0.01(b) having a minimum of 250 Sq. Ft. of floor space. The contractor shall have a telephone installed and maintained during the life of the contract.

PIPE OR TILE IN CUT SECTION :~

Pipe or Tile encountered in cuts and not listed for removal shall be included with E-1 Excavation for payment.

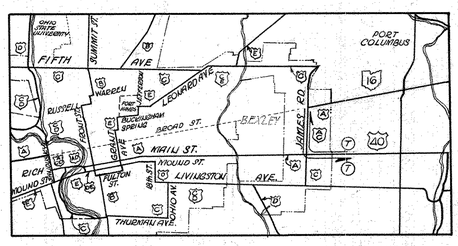
GUARD RAIL :~

Guard rail shall be flared to meet bridge railing in such a manner that the change in alignment of the guard rail will not exceed 1:10.

UTILITY ADJUSTMENT :~

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 in these plans.

ELECTRIC ~ Ohio Power Co., R.E.A. & Southern Electric.
TELEPHONE ~ Ohio Bell & Ohio Central.
GAS ~ Ohio Fuel.



COLUMBUS TRUCK ROUTES

JOINT LEGEND :~

LJ = Standard Longitudinal Joint.
KJ = Longitudinal Key Joint without tie bars.
EJ = Expansion Joint without dowels.

ITEM T-70

Contraction joints in the Portland Cement concrete pavement on this project shall be impressed joints without transfer device spaced at intervals of 20 Ft. or less.

SUMMARY OF TABLES
~ RURAL ~

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4 / 255

LIC-16-(5.45-14.60)

(1) STRUCTURES ~ 20' SPAN & UNDER

Str. No.	Station	Size	Type	Detail on Sheet No.	Excavation Cu. Yds. Str.	Excavation Cu. Yds. Chan.	S-27 Pipe ~ Lin. Ft. 15"	18"	24"	27"	30"	36"	48"	78"	S-28 L.F. 78" MG.4(g)	S-27 Pipe-Lin.Ft. 66"x66"	80"x60"	d'x6'	d'x6' Mod. Arched	Pipe Specials 15"x18" T	Concrete Class "E" Cu. Yds.	Riprap ~ Type A Sq. Yds.	Pipe Removal Lin. Ft. 15" & under Disposed	Pipe Removal Lin. Ft. Over 15" Disp.	Pipe Removal Lin. Ft. Store	Remove Portions Existing Structure	Removal of Existing Structure	S-27 M-6.4(c) Lin. Ft. 15"	S-27 M-6.4(c) Lin. Ft. 18"
1	301+06.91	d'x6'x104'	Pipe	221	15	10												104			12.2		10			Lump			
2	317+50	d'x6'x76'	Pipe	51	68													76			7.8		10						
3	325+50	27"x80'	Pipe	54	50					80											2.1		5						
4	341+67.73	18"x80'	Pipe	222	10	3		80													1.8			48					
5	351+04	66"x66"x132'	Pipe	223	175											132					7.0		8			Lump			
6	364+12.1	18"x56'	Pipe	225	8	6															0.4			40					56
7	375+40	36"x124'	Pipe	224	81							124									3.3				42				
8	388+85	36"x116'	Pipe	224	55	64						116									3.3	6			42				
9	407+90	80"x80"x132'	Pipe	225	400	52											132				10.8		10			Lump			
10	423+15.32	24"x104'	Pipe	226	10	2			104												2.1			30					
11	434+08	48"x96'	Pipe	226	130	5							96								5.0						Lump		
12	437+70	30"x80'	Pipe	227	20						80										2.7								
	462+25	d'x d'x 26' Box Rem.																									Lump		
13	521+61	48"x116'	Pipe	227	87	3							116								5.0								
14	538+75	d'x6'x88'	Pipe	228	80	5												88			7.8		10				Lump		
15	609+68.32	24"x125'	Pipe	228	15			125													2.1	15		115					
16	618+45.22	15"x90'	Pipe	229	10	20	90														1.4		7	40					
17	650+30	d'x6'x200'	Pipe	229	120	257													200		9.0				50				
18	660+66	15"x64'	Pipe	230	15																0.4							64	
19	670+32.74	18"x138'	Pipe	230	10	12		120													1.8			48					
20	708+00	15"x70'	Pipe	180	35		70														1.4			32					
21	716+41.95 Rt.	78"x106'	Pipe	231	380									106							24.3					Lump			
22	719+28.41	78"x104'	Pipe	232	350	1900									104						12.0						Lump		
23	727+71	15"x84'	Pipe	232	10		80													1	1.4			37					
24	732+58.75	15"x74'	Pipe	233	5		74														1.4			37					
25	738+00	15"x56'	Pipe	195	10	5															0.4			31				56	
		Table 2																				3							
		TOTAL			2149	2344	314	200	229	80	80	240	212	106	104	132	132	268	200	1	126.9	24	60	*459	*42	32	Lump	Lump	120	56

* To Table 7

(2) DRIVES & APPROACHES

From Sheet	T-70 6" Conc. Sq. Yds.	T-70 9" Conc. Sq. Yds.	I-12 4-A Curb Lin. Ft.	I-12 Type 2 Curb & Gutter Lin. Ft.	T-35 Bit. Conc. Cu. Yds.	I-1 Lin. 12"	I-1 Lin. 15"	Pipe Ft. 18"	Pipe Ft. 21"	I-2 Pipe Lin. Ft. 12"	I-2 Pipe under Appr. Lin. Ft. 12"	I-2 Pipe under Appr. Lin. Ft. 15"	I-10 Riprap Sq. Yds.	SS-10 Aggregate Cu. Yds.
7	33.34	51.1				104								27
8	27.78					48								18
9	33.34					58								21
10	55.56					46	24							18
11	27.78					48								18
12	55.56	587.8				72					130			96
13	111.12	44.4				102	24							50
14	27.78					22				48	20			21
15	72.22	64.2				142								41
16		340.6		121							64		3	53
17	27.78	727.5	206					24						20
18								48						14
19	27.78						46	22						12
20	33.34					78	56							24
21	27.78						48							16
22						24	26							12
23	55.56	1024.6	102.4		5	48						92		9
24	27.78					48								17
25	33.34						96							20
26	55.56							72						11
27	27.78	400.7				70			26		144			172
28	33.34					42		62						30
29	55.56					30								18
30							100							31
31	27.78					74								31
32	31.11	1362.2	208		38.5	84						162		79
33		150.0				54								
34		104.5					46							
35	58.89	302.7			2.0	50								63
36	220.29	61.1				100				60	24			29
37	33.34	306.7				22				452	198			26
38						46								11
38					**2.9									
TOTAL	531.49	6688.1	770.4	121	48.4	1912	466	222	26	*560	586	254	#3	1008

** Approach Slab * To Table 8 # To Table 1

(3) PAVEMENT REMOVAL

From Sheet	Surf. Treat. Macadam Sq. Yds.	Appr. Slab Sq. Yds.
14	2111	
17	2240	
23	1057	
24	460	
28	100	
29	2590	
30	3000	
31	2200	2200
32	400	
33	210	
34	160	
35	1190	
38		59
TOTAL	16,377	
	16,377	

(4) GUARD RAIL

From Sheet	Removed & Disposed of Lin. Ft.	I-15 New Lin. Ft.
8	192	525
9		300
11	1400	1475
12	158	150
13	515	325
15	120	975
16	25	
30		425
31	164	1250
33		175
34	112.5	25
35	565	1257
36	180	118
38	1739	675
TOTAL	*5170.5	7675

* Use 5171

(5) PIPE UNDERDRAINS

From Sheet	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 6"-45° Bends	I-5 6" Y
11	798	20	2	
12	2600			
13	1986	20	2	
14	1044	20	2	
15	1202	20	2	
17	2040	20	2	
18	1888	20	2	
19	3000			
20	2000			
26	2742	20	2	
27	1600			
28	968	20	2	
29	1600			
30	1298	20	2	
31	1240	10	2	1
32	1222	20	2	
33	496	10	2	1
36	1412	10	1	
37	3000			
38	748	20	2	
TOTAL	32,584	250	27	2

(6) GUTTER

From Sheet	I-1d Paved Lin. Ft. 5' wide	I-1d Paved Lin. Ft. 7' wide	L-10 Sod Sq. Yds. 6' wide	L-10 Sod Sq. Yds. 9' wide
7			203	
8	102		377	
9			529	
10			155	
11	407		202	
13	102		271	
14	10		34	
15			584	
17	50	85		1588
18	700			
19				179
21			84	
22	92			1300
23			217	100
25				1756
26				2983
27	75			647
30			779	
31	151			
32			446	
34	736			
35	305		350	
36			72	
37			437	
TOTAL	2730	85	13,235	

(7) PIPE REMOVAL

From Sheet	E-12 15" & under Lin. Ft.	E-12 Over 15" Lin. Ft.
7	270	
8	403	
9	190	50
10	204	
11	128	
13	416	
14	292	
15	64	
16	267	
18	65	
19	694	
20	338	
21	46	
22	574	32
23	155	100
24	174	
25	124	119
26	14	428
27	74	30
28	484	
32	101	
35	223	35
36	118	
37	210	
38	14	
Table 1	459	42
	6102	836

(8) STORM SEWER

From Sheet	I-2 Pipe Lin. Ft. 6"	I-2 Pipe Lin. Ft. 12"	I-8 Std. No. 7 Catch B.	I-8 Mod. 9-A Catch B.
16	124			
18		124	1	
20	200			
21	90			
36	120	106		1
Table 2		560		
37			1	
TOTAL	534	790	2	1

(9) CURB & GUTTER

From Sheet	I-12 Special Lin. Ft.
36	403
37	131
TOTAL	534

(10) SIDEWALK & STEPS

From Sheet	I-13 Conc. Steps Lin. Ft.	I-13 Sidewalk Sq. Ft.	Step Removal Lin. Ft.	E-8 Sidewalk Removal Sq. Ft.	S-14 Pipe Railing Lin. Ft.
36	36	6	21	68	9.5
37	68		25		18.5
TOTAL	104	6	*46	68	28

* Payment for step removal is included in the unit price bid for Item E-1, Roadway Excavation

(11) SUBBASE I-22

Station From	Station To	Depth x Width	Cu. Yds.
287+50	363+50	4"x26'	2240
363+50	366+50	12"x26'	289
366+50	380+00	4"x26'	433
380+00	381+50	12"x26'	144
381+50	473+00	4"x26'	2837
473+00	476+50	12"x26'	337
476+50	572+00	4"x26'	3066
572+00	582+00	12"x26'	963
582+00	592+25	4"x26'	329
592+25	595+25	12"x26'	289
595+25	659+50	4"x26'	2062
659+50	663+50	12"x26'	385
663+50	669+00	6"x40'	407
663+00	679+50	4"x26'	337
679+50	680+75	12"x26'	130
680+75	682+00	4"x26'	40
682+00	693+50	6"x34'	724
693+50	695+00	12"x26'	144
695+00	702+50	6"x34'	472
702+50	722+50	4"x26'	642
722+50	727+13 Bk.	4"x29'	166
720+50	727+13 Fwd.	4"x26'	370
738+29	739+60	4"x29'	47
739+60	747+00	4"x26'	238
747+00	753+00	12"x26'	578
753+00	760+76	4"x26'	345
Over Underdrains		4½"(Avg)x133'	602
TOTAL			18,912

(12) EARTHWORK & SEEDING

From Sheet	Excavation Cu. Yds.	Emb. Cu. Yds.	Emb.+17% Cu. Yds.	Seeding Sq. Yds.
7	4,579	1,090	1,275	11,690
8	12,291	6,587	7,707	16,339
9	4,769	7,150	8,365	15,284
10	10,323	1,163	1,361	14,242
11	3,851	34,302	40,133	19,945
12	23,129	1,752	2,050	17,375
13	14,358	6,043	7,070	15,963
14	3,782	3,402	3,965	16,033
15	5,333	21,911	25,636	17,445
16	5,123	10,206	11,941	16,440
17	18,141	3,882	4,542	18,120
18	12,804	3,277	3,834	15,411
19	10,048	710	831	14,032
20	4,771	2,457	2,875	14,467
21	6,607	2,037	2,383	14,415
22	1,539	18,380	21,505	18,443
23	6,155	6,140	7,184	16,117
24	11,445	406	475	13,931
25	11,337	1,221	1,429	14,155
26	3,803	1,791	2,095	12,669
27	20,549	6,309	7,382	18,521
28	5,721	24,459	28,617	19,634
29	20,154	3,301	3,782	19,295
30	3,249	44,089	51,584	20,671
31	10,323	59,633	69,771	20,670
32	75,503	9,157	10,714	22,880
33	55,481	14,537	17,008	21,315
34	70,372	2,109	2,538	22,797
35	1,306	71,590	83,760	23,217
36	1,363	9,376	10,970	12,330
37	6,321	1,940	2,270	13,080
38	1,071	8,967	10,491	15,424
TOTAL	422,616	334,618	401,703	554,850

CALCULATIONS & SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

5/255

LIC-16-(5.45-14.60)

Line	CALCULATIONS (RURAL ONLY)	Quantity	Unit
1	T-71 9" REINFORCED P.C. CONCRETE PAVEMENT		
2	Sheet 2 — 47,667.49 x 24 ÷ 9 = 127,113.30	127,114	Sq.Yds.
3			
4			
5	E-11 WATER		
6	Table 11 — 18,912 x 5 ÷ 1000 = 94.56		
7	Table 12 — 462,616 x 5 ÷ 1000 = 2313.08		
8	2407.64	2408	M.Gal.
9			
10	SS-10 STABILIZED SHOULDER		
11	Table 2 — 1008 + Sheet 3 — 300 + Sheet 2 — 6738 = 8046	8046	Cu.Yds.
12			
13			
14	L-9 COMMERCIAL FERTILIZER (10-6-4)		
15	Table 12 — 554,850 + Table 6 — 13,235 = (568,085 x 9 x 20) ÷ (1000 x 2000) = 51.13	51.13	Tons
16			
17	L-9 AGRICULTURAL GROUND LIMESTONE		
18	Line 15 — (568,085 x 9 x 100) ÷ (1000 x 2000) = 255.64	255.64	Tons
19			
20	E-1 COMPACTED SUBGRADE		
21	Rock (663+50 to 669+00) 550 (682+00 to 693+50) + 1150 (695+00 to 702+50) + 750 = 2450		
22	24.50 x 24 ÷ 9 = 6533.33		
23	Pavt.-(127,113.3 + 6688.1 + 1531.5 + 141.4) - 6533.3 = 128,841.0	128,841	Sq.Yds.

GENERAL SUMMARY

Item No.	Code No. 7221 Rural	Municipal	Total	Unit	Description	Carried From
					ROADWAY	
E-1	462,616	12	462,628	Cu.Yds.	Roadway Excavation, as per plan	Table 12 & S.39
E-1	128,841	85	128,926	Sq.Yds.	Compacted Subgrade	
E-8	16,377	59	16,436	Sq.Yds.	Removal and Disposal of Existing Pavement, as per plan	Table 3 & S.39
E-8	68		68	Sq.Ft.	Removal and Disposal of Existing Sidewalk	Table 10
E-9	Lump		Lump	Lump	Removal of Trees and Stumps	Sheet 3
E-11	2408		2408	M.Gal.	Water	Calc.
E-12	6102		6102	Lin.Ft.	Pipe Removed (15" and under)	Table 7
E-12	836		836	Lin.Ft.	Pipe Removed (Over 15")	Table 7
E-12	92		92	Lin.Ft.	Pipe Removed for Storage (Over 15")	Table 1
S-14	28		28	Lin.Ft.	Railing, as per plan	Table 10
I-13	6		6	Sq.Ft.	4" Concrete Sidewalk	Table 10
I-13	104		104	Lin.Ft.	Concrete Steps, as per plan	Table 10
I-15	7675		7675	Lin.Ft.	Guard Rail, Steel Beam Type (Deep)	Table 4
I-15	5171		5171	Lin.Ft.	Guard Rail Removed and Disposed of	Table 4
SS-10	8046	10	8056	Cu.Yds.	Stabilized Crushed Aggregate Shoulders and Approaches	Calc. & S.39
L-9	554,850		554,850	Sq.Yds.	Seeding and Protecting, Type 'A', as per plan	Table 12
L-9	51.13		51.13	Tons	Commercial Fertilizer (10-6-4)	Calc.
L-9	255.64		255.64	Tons	Agricultural Ground Limestone	Calc.
L-10	13,235		13,235	Sq.Yds.	Sodding	Table 6

GENERAL SUMMARY (Continued)

Item No.	Code No. 7221 Rural	Municipal	Total	Unit	Description	Carried From
					DRAINAGE	
E-2	2149		2149	Cu.Yds.	Excavation for Structures	Table 1
E-3	2344		2344	Cu.Yds.	Channel Excavation	Table 1
S-1	126.9		126.9	Cu.Yds.	Concrete For Structures, Class "E"	Table 1
S-22	Lump		Lump	Lump	Removal of Portions of Existing Structures	Table 1
S-24	Lump		Lump	Lump	Removal of Existing Structures	Table 1
S-27	314		314	Lin.Ft.	15" Pipe for Roadway Culverts	Table 1
S-27	200		200	Lin.Ft.	18" Pipe for Roadway Culverts	Table 1
S-27	229		229	Lin.Ft.	24" Pipe for Roadway Culverts	Table 1
S-27	80		80	Lin.Ft.	27" Pipe for Roadway Culverts	Table 1
S-27	80		80	Lin.Ft.	30" Pipe for Roadway Culverts	Table 1
S-27	240		240	Lin.Ft.	36" Pipe for Roadway Culverts	Table 1
S-27	212		212	Lin.Ft.	48" Pipe for Roadway Culverts	Table 1
S-27	106		106	Lin.Ft.	78" Pipe for Roadway Culverts	Table 1
S-28	164		164	Lin.Ft.	78" Sectional Corrugated Plate Pipe Structure, Sec. M-6.4(g), 10-8 gage	Table 1
S-27	132		132	Lin.Ft.	68" x 68" Reinforced Concrete Pipe for Roadway Culverts, as per plan	Table 1
S-27	132		132	Lin.Ft.	80" x 80" Reinforced Concrete Pipe for Roadway Culverts, as per plan	Table 1
S-27	268		268	Lin.Ft.	4' x 6' Reinforced Concrete Pipe for Roadway Culverts, as per plan	Table 1
S-27	200		200	Lin.Ft.	4' x 6' Modified Reinforced Concrete Pipe for Roadway Culverts, as per plan	Table 1
I-1	1412		1412	Lin.Ft.	12" Pipe for Driveways	Table 2
I-1	466		466	Lin.Ft.	15" Pipe for Driveways	Table 2
I-1	228		228	Lin.Ft.	18" Pipe for Driveways	Table 2
I-1	26		26	Lin.Ft.	21" Pipe for Driveways	Table 2
I-2	534		534	Lin.Ft.	6" Pipe for Storm Sewers	Table 8
I-2	790		790	Lin.Ft.	12" Pipe for Storm Sewers	Table 8
I-2	586		586	Lin.Ft.	12" Pipe for Storm Sewer Under Approaches	Table 2
I-2	254		254	Lin.Ft.	15" Pipe for Storm Sewer Under Approaches	Table 2
I-3	200		200	Lin.Ft.	4" Pipe for Roadway Drainage, as per plan	Sheet 3
I-3	300		300	Lin.Ft.	6" Pipe For Roadway Drainage, as per plan	Sheet 3
I-3	100		100	Lin.Ft.	8" Pipe for Roadway Drainage, as per plan	Sheet 3
I-3	100		100	Lin.Ft.	10" Pipe for Roadway Drainage, as per plan	Sheet 3
I-3	100		100	Lin.Ft.	12" Pipe For Roadway Drainage, as per plan	Sheet 3
I-4	32,584		32,584	Lin.Ft.	6" Pipe Underdrains	Table 5
I-4	250		250	Lin.Ft.	8" Outlet for Pipe Underdrains	Table 5
I-5	29		29	Units	6" Pipe Specials for Underdrains	Table 5
I-5	1		1	Units	15" Pipe Special for Roadway Culverts	Table 1
I-8	2		2	Units	Standard No.7 Side Ditch Catch Basins	Table 8
I-8	1		1	Units	Standard No.9-A Catch Basin, modified as per plan	Table 8
I-10	24		24	Sq.Yds.	Riprap, Type A	Table 1
I-10	60		60	Sq.Yds.	6" Riprap, Type A, Grout Filled	Table 1
I-10	12		12	Cu.Yds.	Dumped Rock Fill	Sheet 17
I-14	2730		2730	Lin.Ft.	5' Paved Gutter, as per plan	Table 6
I-14	85		85	Lin.Ft.	7' Paved Gutter, as per plan	Table 6
S-27	120		120	Lin.Ft.	15" Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c), for Roadway Culverts	Table 1
S-27	56		56	Lin.Ft.	18" Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c), for Roadway Culverts	Table 1
					PAVEMENT	
T-30	4	9	13	Gal.	Bituminous Tack Coat, Sec. M-5.5, M S-2 or SS-1	Sheets 38 & 39
T-35	49	25	74	Cu.Yds.	Asphaltic Concrete Surface Course, Type "A" or "C" (70-80)	Table 2 & S.39
T-70	1532		1532	Sq.Yds.	6" Portland Cement Concrete Pavement	Table 2
T-70	6688	43	6731	Sq.Yds.	9" Portland Cement Concrete Pavement	Table 2 & S.39
T-71	127,114		127,114	Sq.Yds.	9" Reinforced Portland Cement Concrete Pavement	Calc.
I-7	42	42	84	Sq.Yds.	Reinforced Concrete Approach Slabs	Sheets 38 & 39
I-12	777		777	Lin.Ft.	Standard Type 4-A Concrete Curb	Table 2
I-12	121		121	Lin.Ft.	Standard Type 2 Combination Curb and Gutter	Table 2
I-12	594		594	Lin.Ft.	Combination Curb and Gutter, as per plan	Sheet 2
I-22	18,912	11	18,923	Cu.Yds.	Subbase, Grading "C" or "D"	Table 11 & S.39

STRUCTURE OVER 20 FOOT SPAN
For Estimated Quantities, see Sheet No. 238

SUPPLEMENTAL ALIGNMENT

FED. NO. PROJECT	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO			

6
255

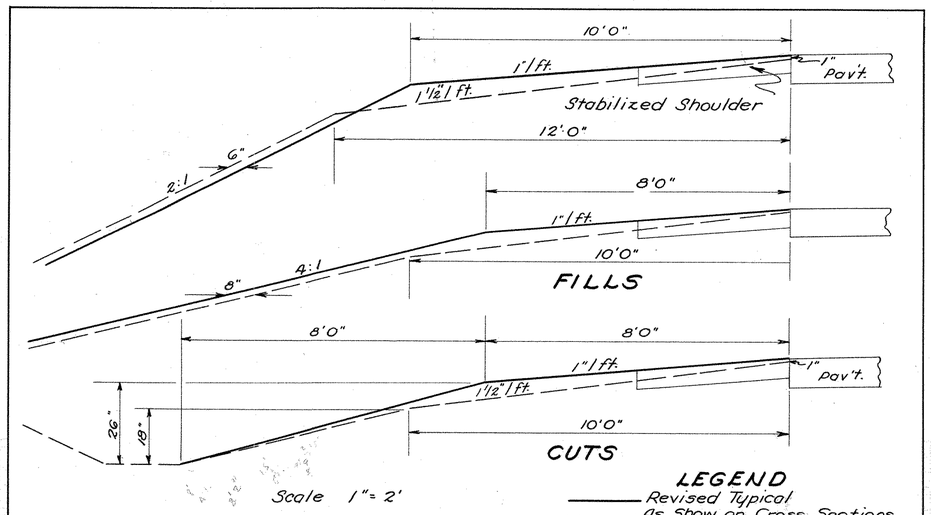
LIC-16-5.45, 14.60

← To Columbus

270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285

LI-16-53

℄ S.R. 310



Scale 1" = 2'

SKETCH SHOWING RELATION OF REVISED TYPICAL TO CROSS SECTIONS

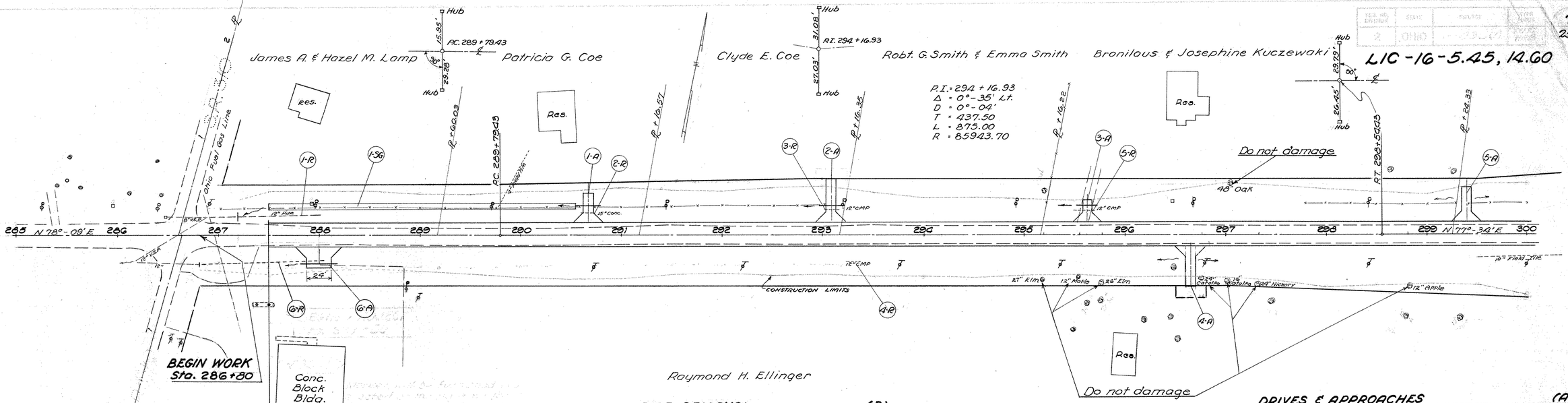
1020
1010
1000

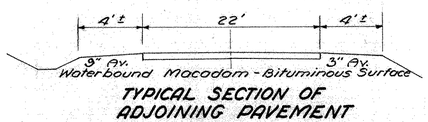
270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285

270+00 - 285+00

FED. AID PROJECT	STATE	COUNTY	SHEET
2	OHIO		7
			255

LIC-16-5.45, 14.60





TYPICAL SECTION OF ADJOINING PAVEMENT

GUTTER (PG) (SG)

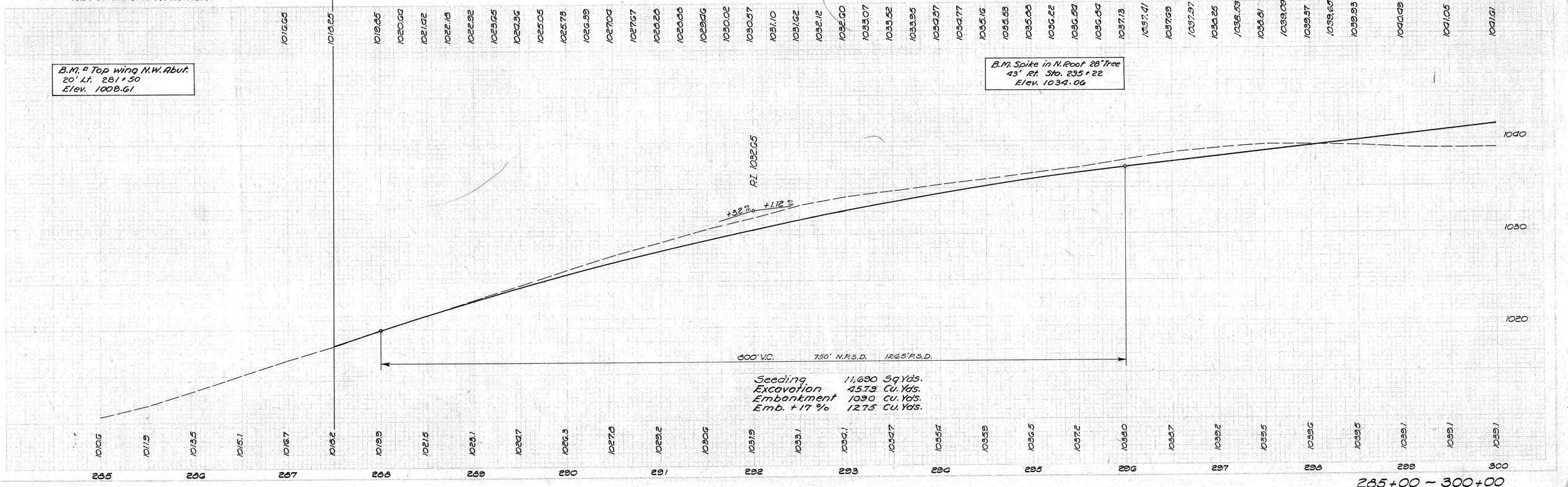
No	From	To	Side & Width	I-14 Lin. Ft.	L-10 Sod Sq. Yds.
1-SG	287+50	290+54	Lt. 6'		203
Total					203

PIPE REMOVAL (R)

No	Station		Side	E-12 15" & Under Lin. Ft.
1-R	287+20	288+02	Lt.	82
2-R	290+67		Lt.	14
3-R	293+08		Lt.	14
4-R	293+30		Rt.	14
5-R	295+62		Lt.	21
6-R	286+80	288+05	Rt.	125
Total				270

DRIVES & APPROACHES (A)

No	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 Pvt. Sq. Yds. 6"	9"	I-1 Pipe Lin. Ft. 12"	Detail on Sheet
1-A	290+67	Lt.	4	27.78		24	X-Sec.
2-A	293+09	Lt.	7			24	X-Sec.
3-A	295+62	Lt.	2	27.78		20	X-Sec.
4-A	296+64	Rt.	5	27.78			X-Sec.
5-A	299+40	Lt.	6				X-Sec.
6-A	288+00	Rt.	3		51.11	36	X-Sec.
Totals			27	83.34	51.11	104	

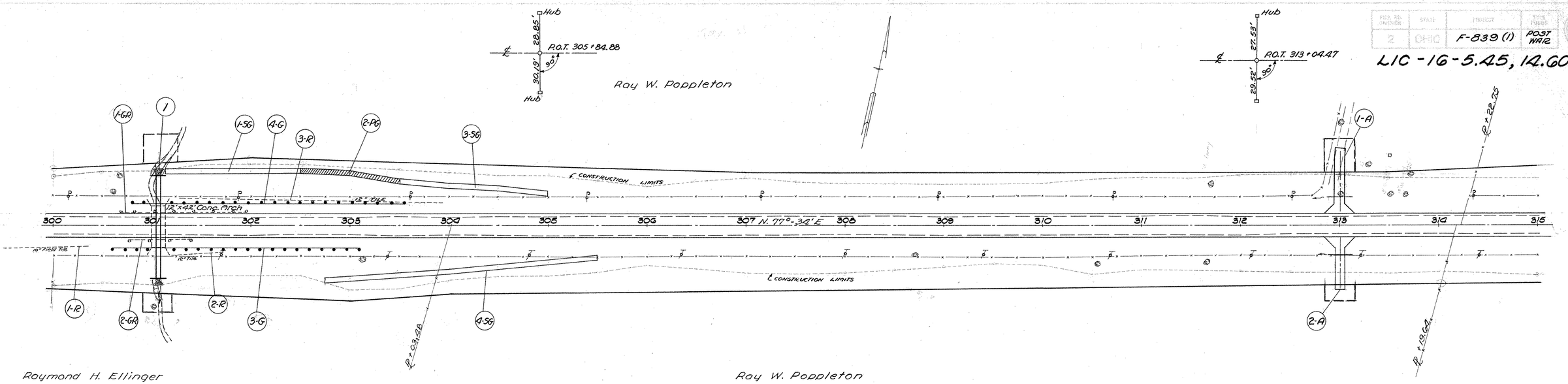


Seeding	11,690 Sq. Yds.
Excavation	457.73 Cu. Yds.
Embankment	1090 Cu. Yds.
Emb. +17 %	1275 Cu. Yds.

285+00 - 300+00

FED. RD. DIVISION	STATE	PROJECT	TOTAL FUNDS	SHEET	TOTAL SHEETS
2	OHIO	F-839 (1)	POST WAR	8	255

LIC-16-5.45, 12.60



GUARD RAIL (GR) (G)

No.	Station From	Station To	Side	Removal Lin. Ft. (GR)	New Lin. Ft. (G)
1-GR	300+08	301+96	Lt.	128	
2-GR	300+76	301+40	Rt.	64	
3-G	300+60	303+10	Rt.		250
4-G	300+80	303+55	Lt.		275
Total				192	525

GUTTER (PG) (SG)

No	From	To	Side & Width	I-14 Lin. Ft. (PG)	L-10 Sod Sq. Yds. (SG)
1-SG	301+15	302+50	Lt. 6'		91
2-PG	302+50	303+50	Lt. 5'	102	
3-SG	303+50	305+00	Lt. 6'		101
4-SG	302+75	305+50	Rt. 6'		185
Total				102	377

PIPE REMOVAL (R)

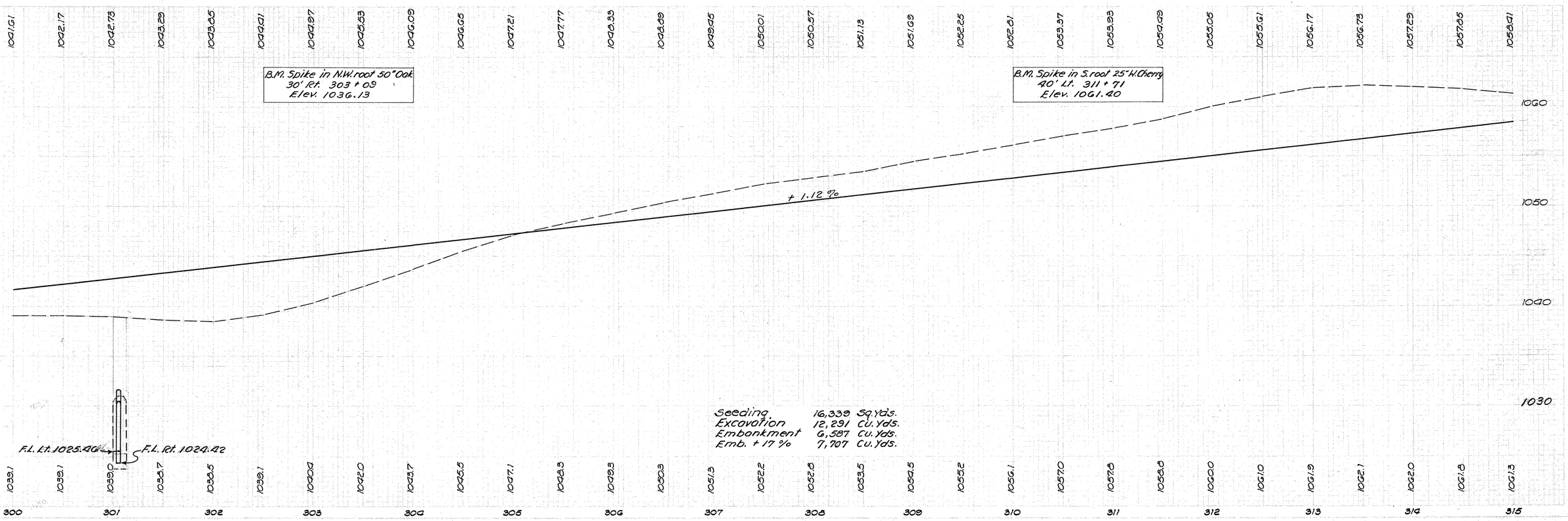
No	Station		Side	E-12 15" & Under Lin. Ft.
1-R	299+50	300+35	Rt.	85
2-R	301+20	301+72	Rt.	52
3-R	301+28	303+94	Lt.	266
Total				403

STRUCTURES - 20' SPAN & UNDER

No	Station	Type	Size	Length	Details Sh. No
1	301+06.91	Pipe	4'x 6'	104	221

DRIVES & APPROACHES (A)

No	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 6" Pav't Sq. Yds.	I-1 Pipe Lin. Ft. 12"	Detail on Sheet
1-A	313+00	Lt.	10	27.78	24	X-Sec
2-A	313+00	Rt.	8		24	X-Sec
Totals			18	27.78	48	

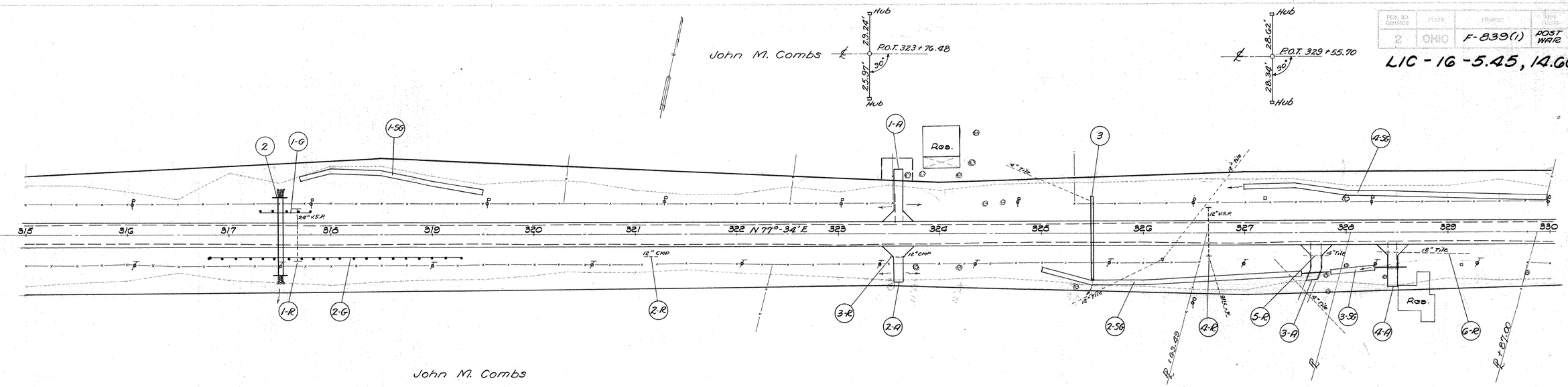


Seeding	16,339	Sq. Yds.
Excavation	12,291	Cu. Yds.
Embankment	6,587	Cu. Yds.
Emb. + 17 %	7,707	Cu. Yds.

300+00 ~ 315+00

FED. AID DIVISION	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO	F-839(1)	POST WAR	9 / 255

LIC-16-5.45, 14.60



GUARD RAIL (G)

No.	Station From	Station To	Side		New Lin. Ft.
1-G	317+30	317+80	Lt.		50
2-G	316+80	319+30	Rt.		250
Total					300

GUTTER (SG)

No.	From	To	Side & Width		L-10 Sod Sq. Yds.
1-SG	317+70	319+50	Lt. 6'		122
2-SG	325+00	327+50	Rt. 6'		172
3-SG	327+84	328+30	Rt. 6'		31
4-SG	327+00	330+00	Lt. 6'		201
Total					526

PIPE REMOVAL (R)

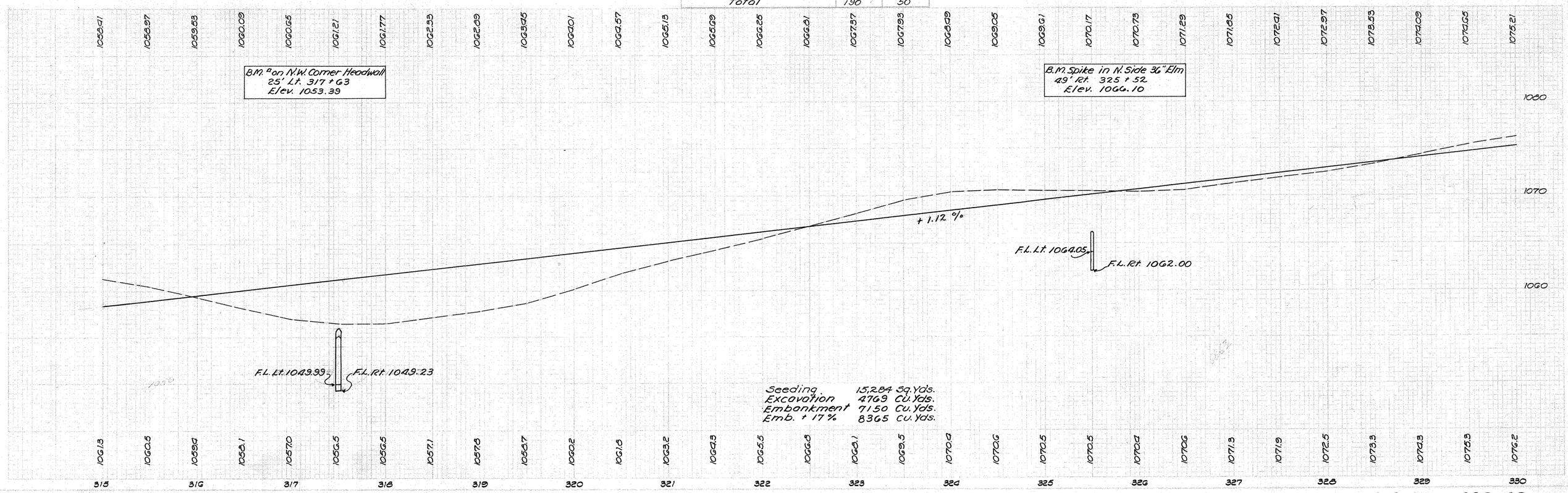
No.	Station		Side	E-12 15" & Under Lin. Ft.	E-12 Over 15" Lin. Ft.
1-R	317+67		℄		50
2-R	321+15		Rt.	14	
3-R	323+58		Rt.	14	
4-R	326+64		℄	47	
5-R	327+70		Rt.	24	
6-R	328+30	329+21	Rt.	91	
Total				190	50

STRUCTURES - 20' SPAN & UNDER

No.	Station	Type	Size	Length	Details Sh. No.
2	317+50	Pipe	4' x 6'	76	51
3	325+50	Pipe	27"	80	54

DRIVES & APPROACHES (A)

No.	Station	Side	SS-10 Aggregate Cu. Yds.	I-1 Pipe Lin. Ft. 12"	T-70 6" Pavt Sq. Yds.	Detail on Sheet
1-A	323+60	Lt.	8		27.78	X-Sec.
2-A	323+60	Rt.	5			X-Sec.
3-A	327+71	Rt.	3	28	27.78	X-Sec.
4-A	328+46	Rt.	5	30	27.78	X-Sec.
Total			21	58	83.34	

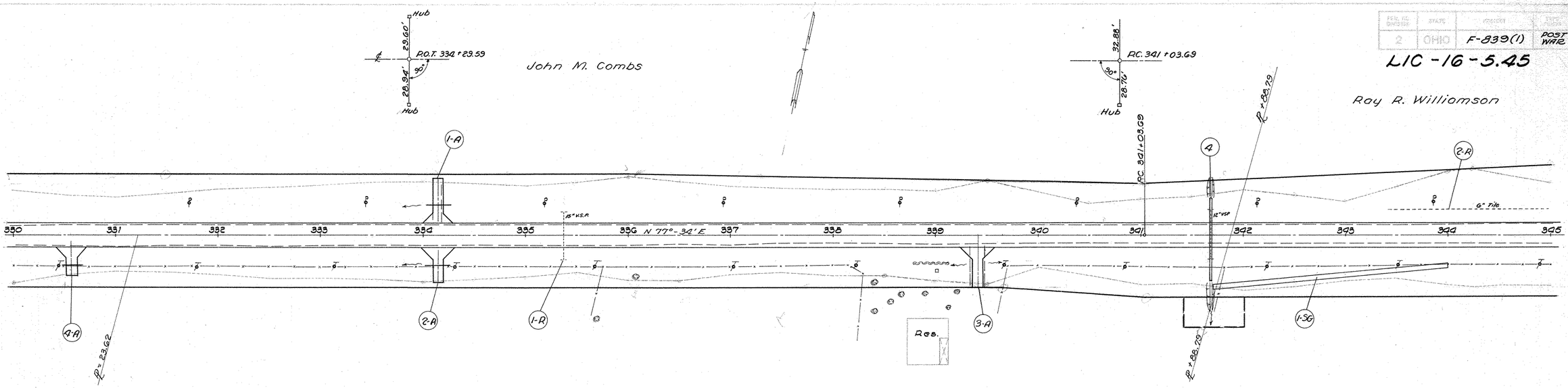


Seeding	15,284	Sq. Yds.
Excavation	4769	Cu. Yds.
Embankment	7150	Cu. Yds.
Emb. + 17%	8365	Cu. Yds.

315+00 ~ 330+00

FED. ROAD DIVISION	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO	F-839(1)	POST WAR	10	255

LIC-16-5.45



GUTTER (SG)

Nº	From	To	Side & Width		L-10 Sod Sq. Yds.
1-SG	341+70	344+00	Rt. 6'		155

PIPE REMOVAL (R)

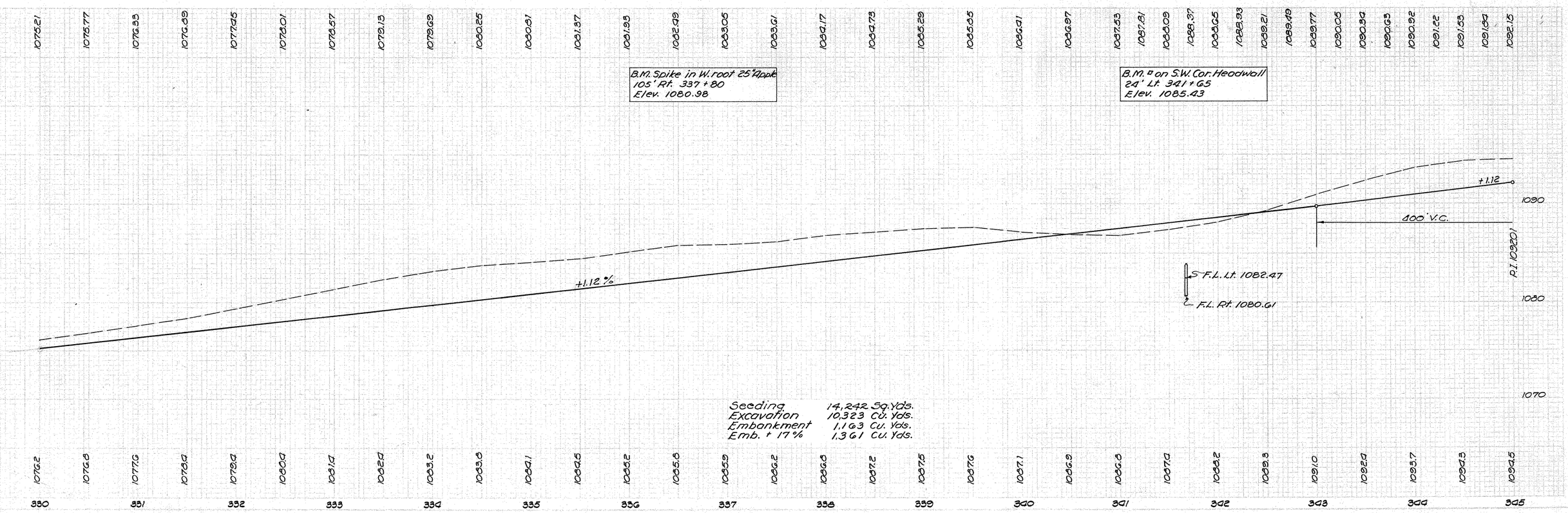
Nº	Station		Side	E-12 15" & Under Lin. Ft.	
1-R	335+38		℄	46	
2-R	343+42	345+00	Lt.	158	
				204	

STRUCTURES - 20' SPAN & UNDER

Nº	Station	Type	Size	Length	Details Sh. Nº
4	341+67.13	Pipe	18"	80'	222

DRIVES & APPROACHES (D)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-10 6" Pavt Sq. Yds.	I-1 Pipe Lin. Ft. 12"	15"	Detail on Sheet
1-A	334+15	Lt.	7			24	X-Sec.
2-A	334+15	Rt.	5		24		X-Sec.
3-A	339+41	Rt.	4	27.78			X-Sec.
4-A	330+56	Rt.	2	27.78	22		X-Sec.
Totals			18	55.56	46	24	



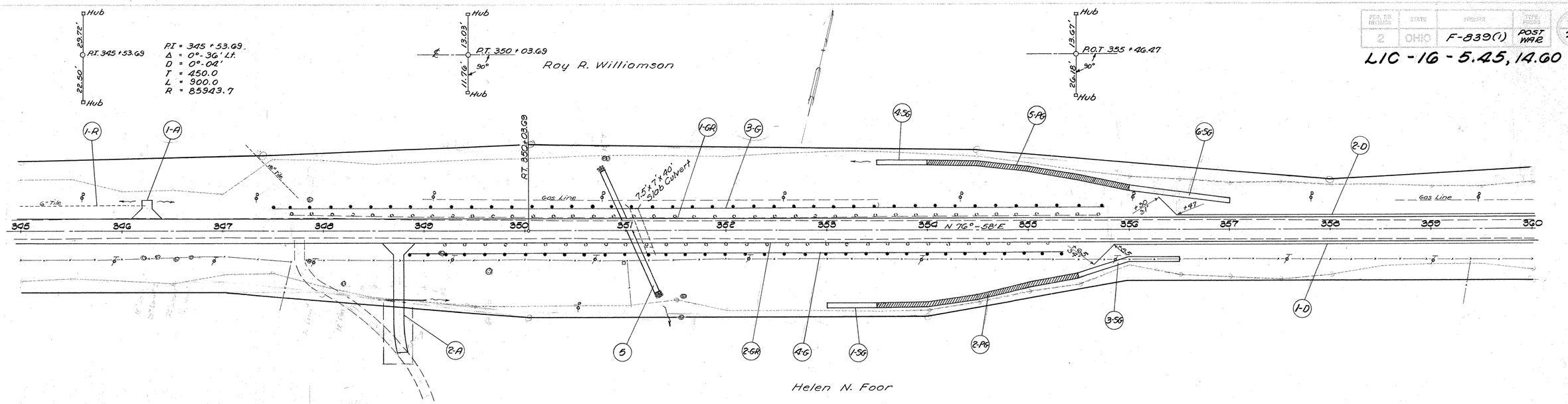
Seeding	14,242 Sq. Yds.
Excavation	10,323 Cu. Yds.
Embankment	1,163 Cu. Yds.
Emb. + 17%	1,361 Cu. Yds.

330+00 ~ 345+00

FED. AID DIVISION	STATE	PROJECT	SHEET NUMBER
2	OHIO	F-839(1)	POST WAR

11
255

LIC-16-5.45, 14.60



GUARD RAIL

No	Station From	Station To	Side	(GR) Removal Lin. Ft.	(G) New Lin. Ft.
1-GR	347+68	355+68	Lt.	800	
2-GR	349+20	355+20	Rt.	600	
3-G	347+50	355+75	Lt.		825
4-G	348+85	355+35	Rt.		650
Total				1400	1475

PIPE UNDERDRAINS (D)

No	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 45° Bends	
1-D	355+65	360+00	Rt.	432	10	1	
2-D	356+30	360+00	Lt.	366	10	1	
Total				798	20	2	

PIPE REMOVAL (R)

No	Station		Side	E-12 15" ℄ Under Lin. Ft.	
1-R	345+00	346+23	Lt.	123	

STRUCTURES - 20' SPAN & UNDER

No	Station	Type	Size	Length	Details Sh. No
5	351+04	Pipe	68"x68"	132	223

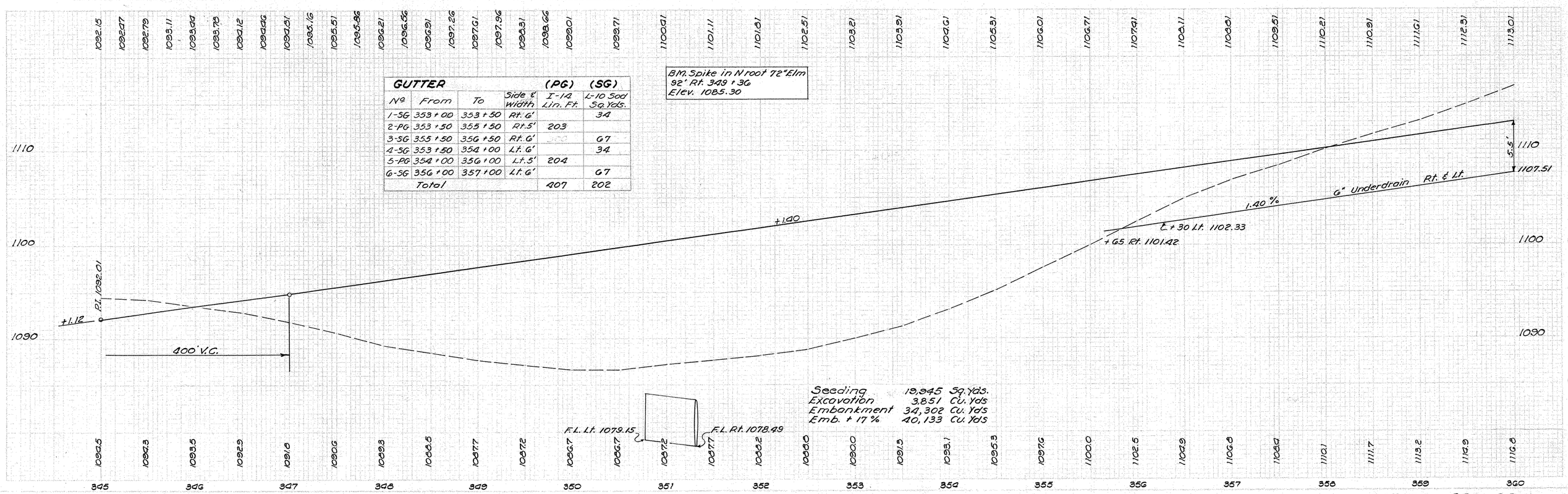
DRIVES & APPROACHES (D)

No	Station	Side	SS-10 Aggregate Cu. Yds	T-70 6" Pav't. Sq. Yds.	I-1 Pipe Lin. Ft. 12"		Detail on Sheet
1-A	346+25	Lt.	4				X-Sec.
2-A	348+75	Rt.	14	27.78	48		207
Total			18	27.78	48		

GUTTER (PG) (SG)

No	From	To	Side & Width	I-14 Lin. Ft.	L-10 Sod Sq. Yds.
1-SG	353+00	353+50	Rt. 6'		34
2-PG	353+50	355+50	Rt. 5'	203	
3-SG	355+50	356+50	Rt. 6'		67
4-SG	353+50	354+00	Lt. 6'		34
5-PG	354+00	356+00	Lt. 5'	204	
6-SG	356+00	357+00	Lt. 6'		67
Total				407	202

BM. Spike in N root 72" Elm
92' Rt. 349+36
Elev. 1085.30

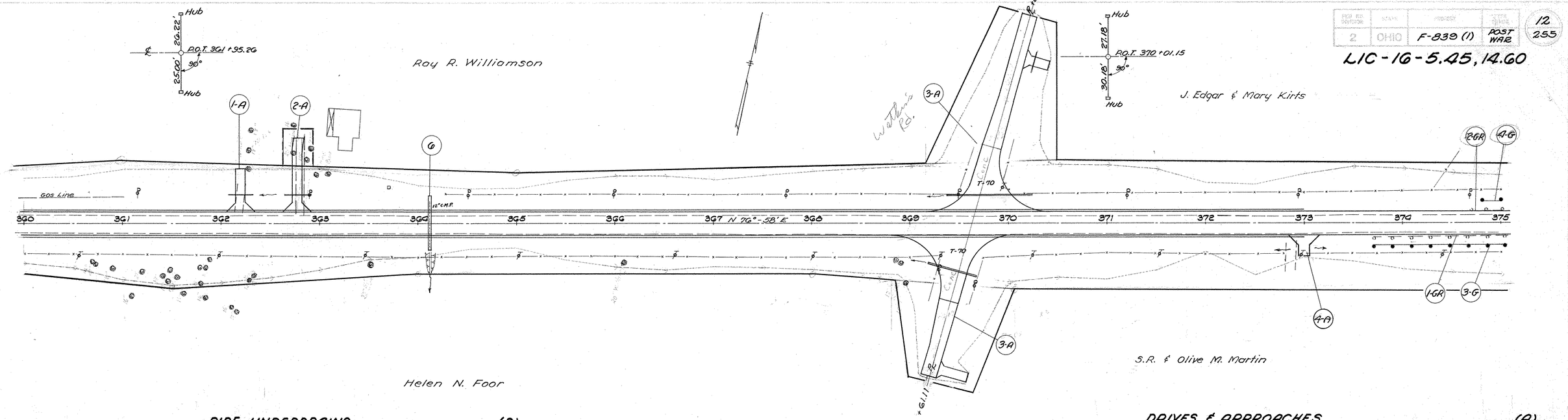


Seeding	19,945	Sq. Yds.
Excavation	3,851	Cu. Yds
Embankment	34,302	Cu. Yds
Emb. + 17 %	40,133	Cu. Yds

345+00 ~ 360+00

FED. AID PROJECT	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO	F-839 (1)	POST WAR	12 / 255

LIC-16-5.45, 14.60



GUARD RAIL (GR) (G)

Nº	Station From	Station To	Side	Removal Lin. Ft.	New Lin. Ft.
1-GR	373+72	375+00	Rt	128	
2-GR	374+70	375+00	Lt	30	
3-G	373+70	375+00	Rt.		130
4-G	374+80	375+00	Lt.		20
Total				158	150

PIPE UNDERDRAINS (D)

Nº	Station From	Station To	Side	I-A 6" Pipe Lin. Ft.
1-D	360+00	373+00	Rt.	1300
2-D	360+00	373+00	Lt.	1300
				2600

STRUCTURES – 20' SPAN & UNDER

Nº	Station	Type	Size	Length	Details Sh. Nº
G	362+12.1	Pipe	18"	56'	222

DRIVES & APPROACHES (A)

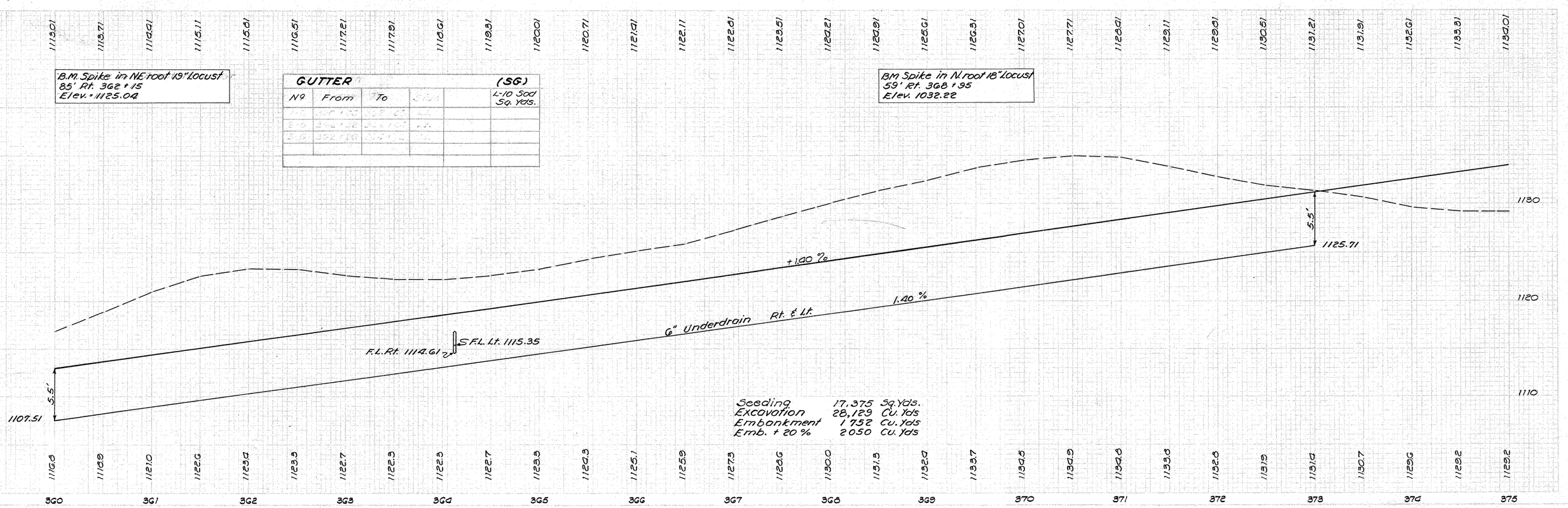
Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 9" Conc. Sq. Yds.	T-70 6" Pavt. Sq. Yds.	I-1 Pipe Lin. Ft. 12"	I-1 Pipe Lin. Ft. 15"	I-2 Pipe under Appr. Lin. Ft. 12"	Detail on Sheet
1-A	362+20	Lt.	5		27.78	24			X-Sec.
2-A	362+77	Lt.	11		27.78	26			X-Sec.
3-A	369+61	Rt & Lt.	76	587.8		22		136	208
4-A	373+00	Rt.	4						X-Sec.
Total			96	587.8	55.56	72		136	

B.M. Spike in NE root 19" Locust
85' Rt. 362+15
Elev. = 1125.04

GUTTER (SG)

Nº	From	To			L-10 Sod Sq. Yds.

B.M. Spike in N. root 18" Locust
59' Rt. 368+95
Elev. 1032.22

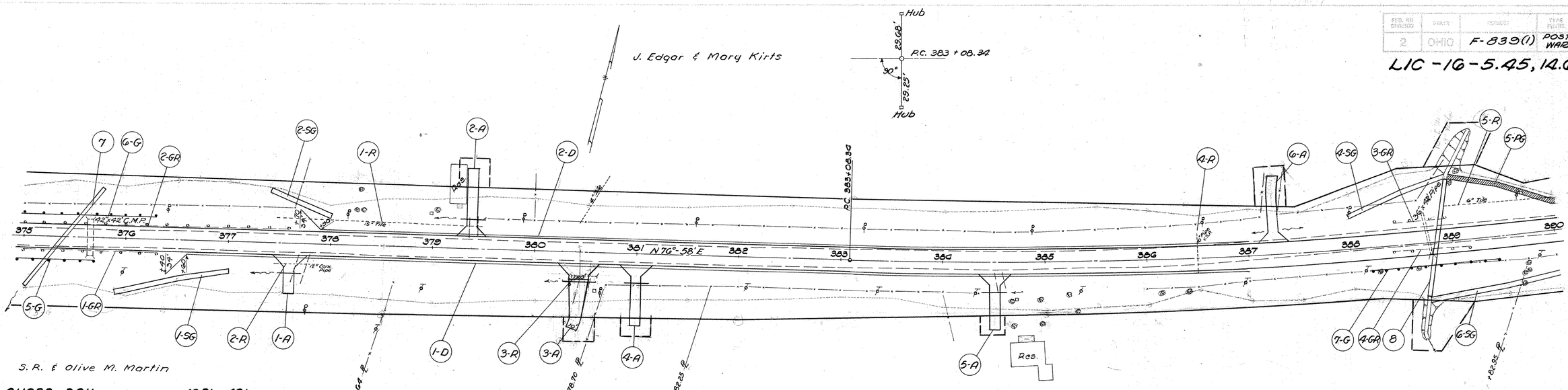


Seeding	17,375	Sq. Yds.
Excavation	28,129	Cu. Yds
Embankment	1752	Cu. Yds
Emb. + 20 %	2050	Cu. Yds

360+00 ~ 375+00

FED. RD. DIVISION	STATE	PROJECT	TYPE WORK	13
2	OHIO	F-839(1)	POST WAR	255

LIC-16-5.45, 14.60



GUARD RAIL (GR) (G)

Nº	Station From	Station To	Side	Removal Lin. Ft.	New Lin. Ft.
1-GR	375+00	376+31	Rt.	131	
2-GR	375+00	377+59	Lt.	259	
3-GR	388+45	389+95	Lt.	50	
4-GR	388+42	389+17	Rt.	75	
5-G	375+00	375+70	Rt.		70
6-G	375+00	376+30	Lt.		130
7-G	388+20	389+45	Rt.		125
Total				515	325

PIPE UNDERDRAINS (D)

Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" outlet Lin. Ft.	I-5 45° Bends	
1-D	376+40	387+00	Rt.	1058	10	1	
2-D	377+70	387+00	Lt.	928	10	1	
				1986	20	2	

PIPE REMOVAL (R)

Nº	Station		Side	E-12 15" & Under Lin. Ft.	
1-R	377+47	379+49	Lt.	202	
2-R	377+45	377+89	Rt.	44	
3-R	380+60		Rt.	25	
4-R	386+52		℄	39	
5-R	388+94	390+00	Lt.	106	
Total				416	

STRUCTURES - 20' SPAN & UNDER

Nº	Station	Type	Size	Length	Details Sh. Nº
7	375+40	Pipe	36"	124	224
8	388+85	Pipe	36"	116'	224

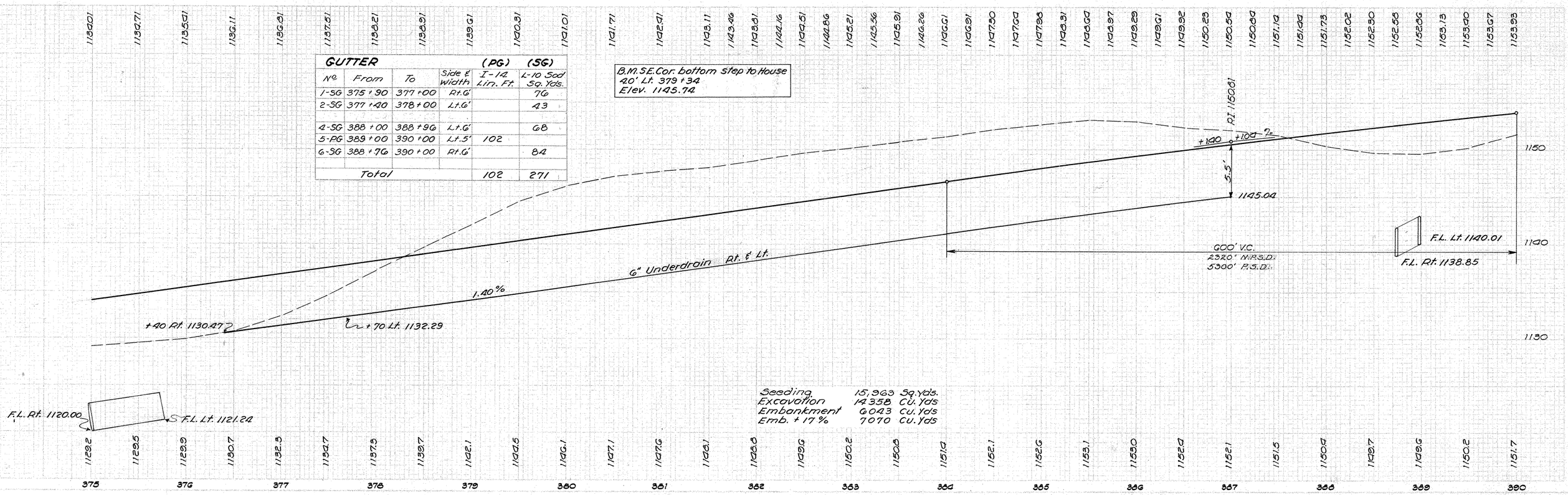
DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 Pavt. Sq. Yds. 6"	T-70 Pavt. Sq. Yds. 9"	I-1 Pipe Lin. Ft. 12"	I-1 Pipe Lin. Ft. 15"	Detail on Sheet
1-A	377+60	Rt.	4	27.78		22		X-Sec.
2-A	379+38	Lt.	10	27.78			24	X-Sec.
3-A	380+45	Rt.	13		44.44	32		X-Sec.
4-A	381+00	Rt.	7			24		X-Sec.
5-A	384+52	Rt.	7	27.78		24		X-Sec.
6-A	387+25	Lt.	9	27.78				X-Sec.
Total			50	111.12	44.44	102	24	

GUTTER (PG) (SG)

Nº	From	To	Side & Width	I-14 Lin. Ft.	L-10 Sod Sq. Yds.
1-SG	375+90	377+00	Rt. 6'		76
2-SG	377+40	378+00	Lt. 6'		43
4-SG	388+00	388+96	Lt. 6'		68
5-PG	389+00	390+00	Lt. 5'	102	
6-SG	388+76	390+00	Rt. 6'		84
Total				102	271

B.M. S.E. Cor. bottom step to House
40' Lt. 379+34
Elev. 1145.74



Seeding	15,963	Sq. Yds.
Excavation	14358	Cu. Yds
Embankment	6043	Cu. Yds
Emb. + 17 %	7070	Cu. Yds

375+00 - 390+00

FED. AID DIVISION	STATE	PROJECT	SHEET NO.	14
2	OHIO	F-839(1)	POST WAR	255

LIC - 16 - 5.45, 14.60

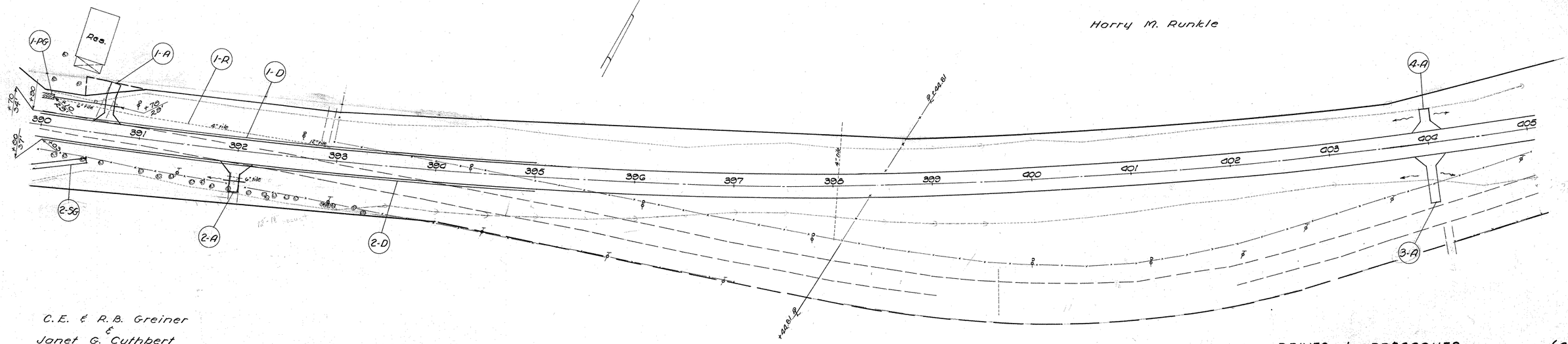
PAVEMENT REMOVAL

From	To	Sq. Yds.
394+75	405+75	2111

P.I. = 398 + 14.15
Δ = 33°-38' Lt.
D = 1°-09'
T = 1505.81
L = 2924.64
R = 4982.24

J. Edgor & Mary Kirts

Harry M. Runkle



C.E. & R.B. Greiner
& Janet G. Cuthbert

PIPE UNDERDRAINS (D)

No.	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 45° Bends	
1-D	389+70	395+00	Lt.	526	10	1	
2-D	389+80	395+00	Rt.	518	10	1	
Total				1044	20	2	

PIPE REMOVAL (R)

No.	Station		Side	E-12 15" & Under Lin. Ft.	
1-R	390+00	392+92	Lt.	292	

Harry M. Runkle

STRUCTURES - 20' SPAN & UNDER

No.	Station	Type	Size	Length	Details Sh. No.

DRIVES & APPROACHES (A)

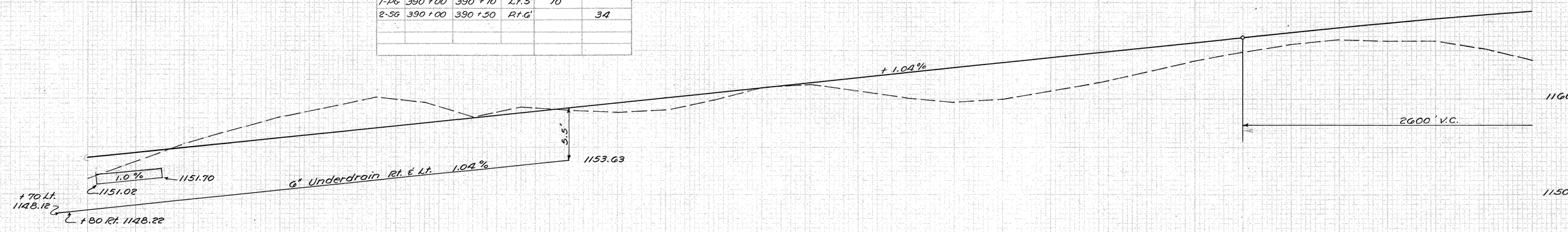
No.	Station	Side	S5-10 Aggr. Cu. Yds.	T-70 6" Pavt. Sq. Yds.	I-1 Pipe Lin. Ft. 12"		I-2 12"	I-2, Under App. 12"	Detail on Sheet
1-A	390+65	Lt.	5	27.78			48	20	X-Sec.
2-A	392+00	Rt.	5		22				X-Sec.
3-A	404+00	Rt.	7						X-Sec.
4-A	404+00	Lt.	4						X-Sec.
Total			21	27.78	22		48	20	

B.M. ⌀ S.W. Cor. Conc. Step to House
60' Lt. 390 + 32
Elev. 1159.50

GUTTER (PG) (SG)

No.	From	To	Side & Width	I-14 Lin. Ft.	L-10 Sod Sq. Yds.
1-PG	390+00	390+10	Lt. 5'	10	
2-SG	390+00	390+50	Rt. 6'		34

B.M. Spike in S. root 25" Hickory
274' Lt. 401 + 35
Elev. 1167.05

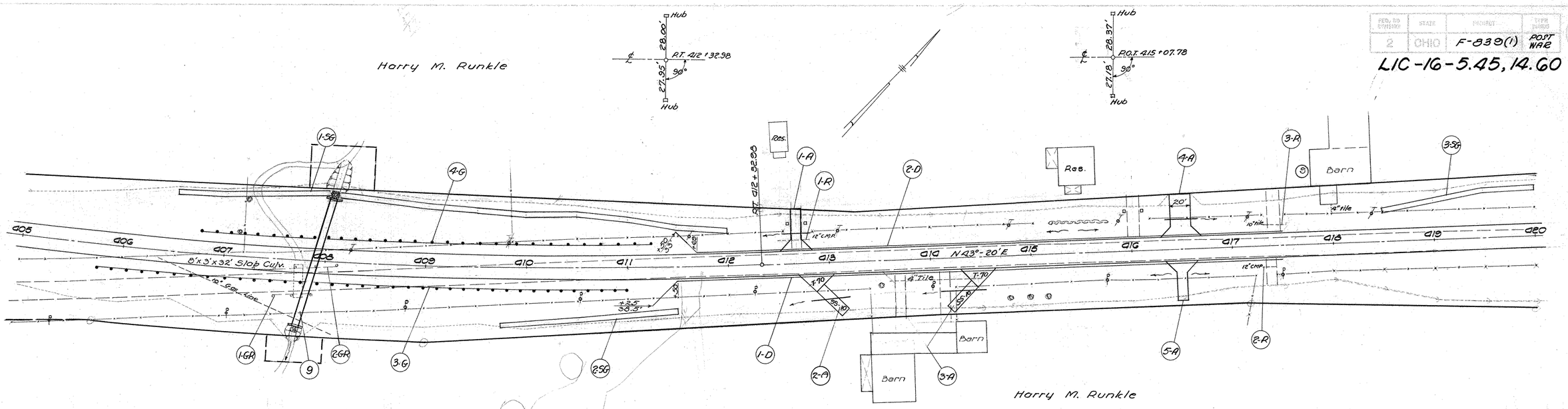


Seeding	16,033	Sq. Yds.
Excavation	3732	Cu. Yds.
Embankment	3406	Cu. Yds.
Emb. + 17%	3985	Cu. Yds.

390+00 - 405+00

FED. AID SYSTEM	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO	F-839(1)	POST WAR	15 / 255

LIC-16-5.45, 14.60



GUARD RAIL (GR) (G)

Nº	Station From	Station To	Side	Removal Lin. Ft.	New Lin. Ft.
1-GR	407+50	407+88	Rt.	38	
2-GR	407+30	408+12	Rt.	82	
3-G	405+75	411+00	Rt.		525
4-G	406+75	411+25	Lt.		450
Total				120	975

PIPE UNDERDRAINS (D)

Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 45° Bends	
1-D	411+25	417+50	Rt.	614	10	1	
2-D	411+50	417+50	Lt.	588	10	1	
Total				1202	20	2	

PIPE REMOVAL (R)

Nº	Station		Side	E-12 15" & Under Lin. Ft.	
1-R	412+65		Lt.	30	
2-R	417+36		Rt.	14	
3-R	417+41		Lt.	20	
Total				64	

STRUCTURES - 20' SPAN & UNDER

Nº	Station	Type	Size	Length	Details Sh. Nº
9	407+90	Pipe	80"x80"	132	225

DRIVES & APPROACHES

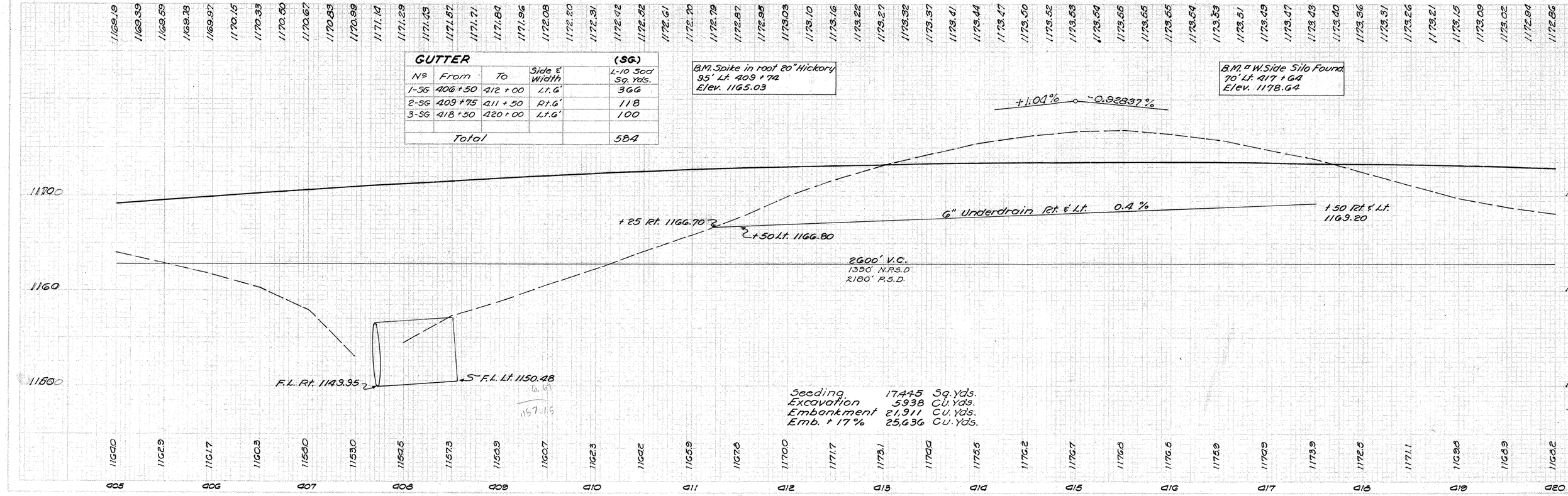
Nº	Station	Side	55-10 Aggregate Cu. Yds.	T-10 Pav't. Sq. Yds. 6"	9"	I-1 Pipe Lin. Ft. 12"		Detail on Sheet
1-A	412+65.3	Lt.	5	27.78		28		X-Sec.
2-A	412+65	Rt.	10		32.11	38		X-Sec.
3-A	414+70	Rt.	10		32.11	44		X-Sec.
4-A	416+50	Lt.	10	44.44		32		X-Sec.
5-A	416+50	Rt.	6					X-Sec.
Total			41	72.22	64.22	142		

GUTTER (SG)

Nº	From	To	Side & Width		L-10 Sod Sq. Yds.
1-SG	406+50	412+00	Lt. 6'		366
2-SG	409+75	411+50	Rt. 6'		118
3-SG	418+50	420+00	Lt. 6'		100
Total					584

B.M. Spike in root 20" Hickory
95' Lt. 409+72
Elev. 1165.03

B.M. at W. Side Silo Found
70' Lt. 417+64
Elev. 1178.64



Seeding	17,445	Sq. Yds.
Excavation	5938	Cu. Yds.
Embankment	21,911	Cu. Yds.
Emb. + 17%	25,636	Cu. Yds.

405+00 ~ 420+00

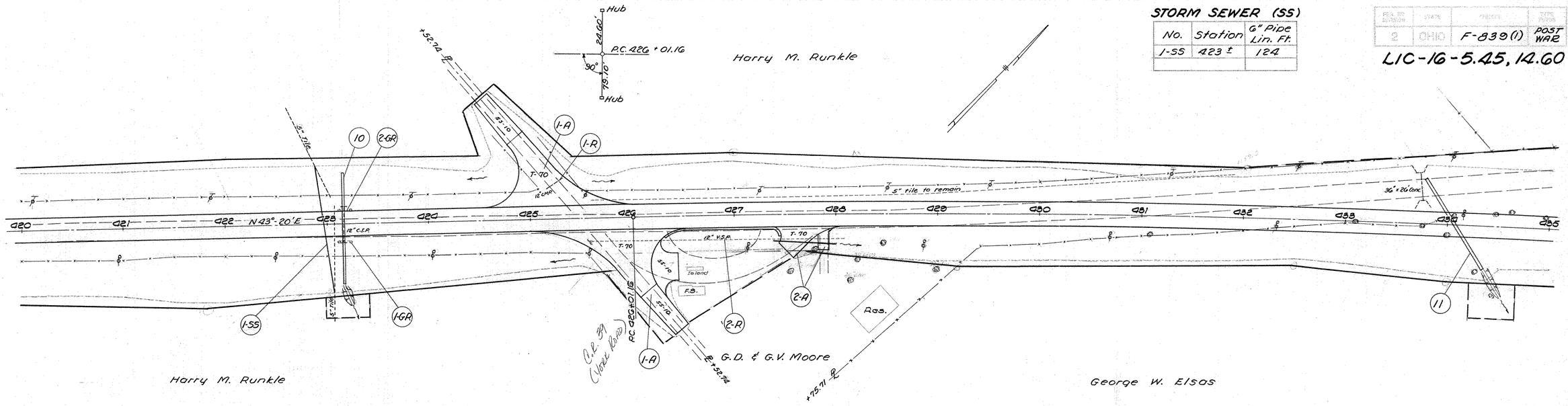
FED. AID PROJECT	STATE	PROJECT	SHEET NO.
2	OHIO	F-839(1)	POST WAR

16
255

LIC-16-5.45, 14.60

STORM SEWER (SS)

No.	Station	6" Pipe Lin. Ft.
1-SS	423 ±	124



GUARD RAIL (GR) (G)

Nº	Station From	Station To	Side	Removal Lin. Ft.	New Lin. Ft.
1-GR	423+10	423+22.5	Rt.	12.5	
2-GR	423+10	423+22.5	Lt.	12.5	
Total				25	

PIPE REMOVAL (R)

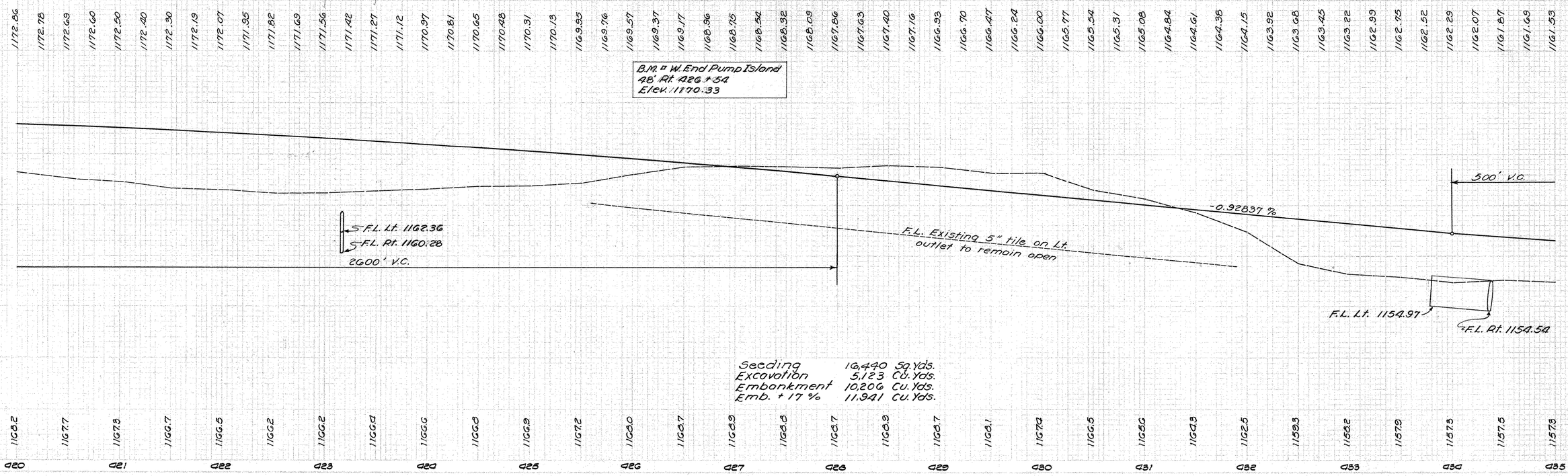
Nº	Station		Side	E-12 15" & Under Lin. Ft.	
1-R	425+25		Lt.	18	
2-R	425+58	428+07	Rt.	249	
Total				267	

STRUCTURES - 20' SPAN & UNDER

Nº	Station	Type	Size	Length	Details Sh. Nº
10	423+15.82	Pipe	24	104	226
11	434+08	Pipe	48	96	226

DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 3" Conc. Sq. Yds.	I-12 Nº 2 C.&G. Lin. Ft.		Rip-rap S. Yd.	I-2 Pipe under Appr. Lin. Ft. 12"		Detail on Sheet
1-A	425+52.74	Rt. & Lt.	50	744.7						209
2-A	427+88	Rt.	3	95.9	121		3	GA		209
Total			53	840.6	121		3	GA		



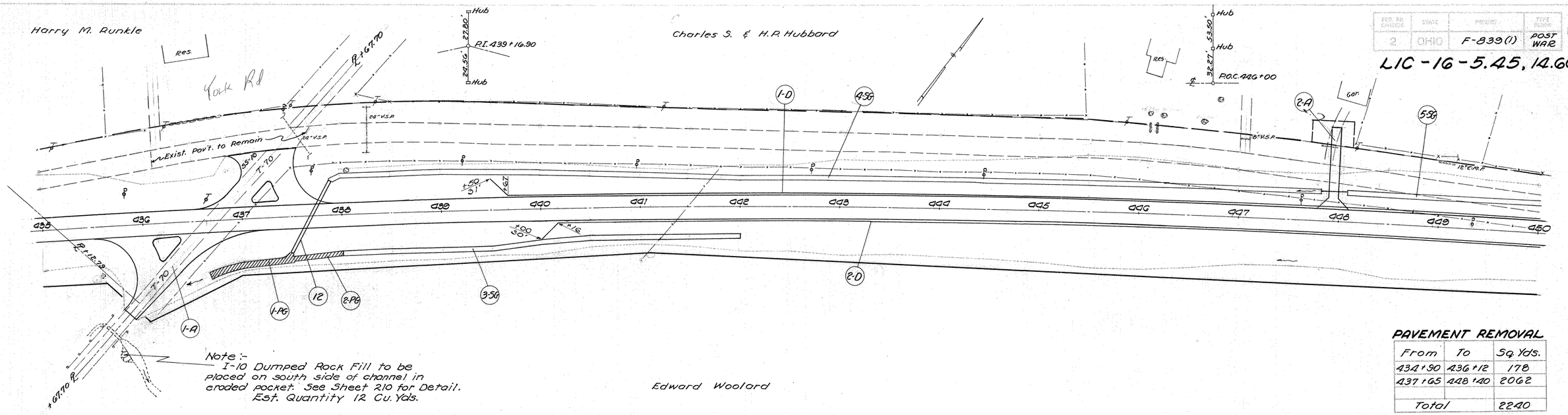
Seeding	16,440 Sq. Yds.
Excavation	5,123 Cu. Yds.
Embankment	10,206 Cu. Yds.
Emb. + 17 %	11,941 Cu. Yds.

420+00 ~ 435+00

FED. RD. SERVICE	STATE	PROJECT	TYPE WORK
2	OHIO	F-839(1)	POST WAR

17
255

LIC-16-5.45, 14.60



P.I = 439 + 16.90
Δ = 13°-06 Rt.
D = 0°-30'
T = 1315.74
L = 2620.00
R = 11459.16

PAVEMENT REMOVAL

From	To	Sq. Yds.
434+90	436+12	178
437+65	448+40	2062
Total		2240

PIPE UNDERDRAINS (D)

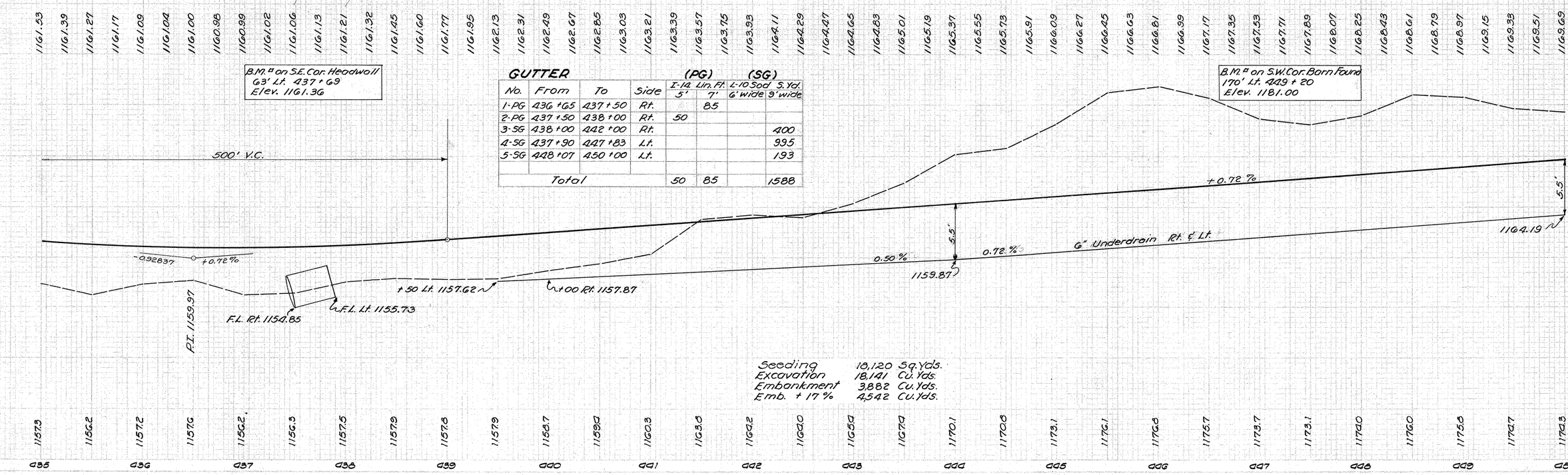
No.	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 45° Bends	
1-D	439+50	450+00	Lt.	1046	10	1	
2-D	440+00	450+00	Rt.	994	10	1	
Total				2040	20	2	

STRUCTURES - 20' SPAN & UNDER

No.	Station	Type	Size	Length	Details Sh. No.
12	437+70	Pipe	30"	80'	227

DRIVES & APPROACHES (A)

No.	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 9" Conc. Sq. Yds.	I-12 4-A Curb Lin. Ft.	I-1 Pipe Lin. Ft.		T-70 6" Pavt. Sq. Yds.	Detail on Sheet
1-A	436+13.20	Rt. & Lt.	7	727.5	206		18"		210
2-A	447+95	Lt.	13				24	27.78	X-Sec.
Total			20	727.5	206		24	27.78	



GUTTER (PG) (SG)

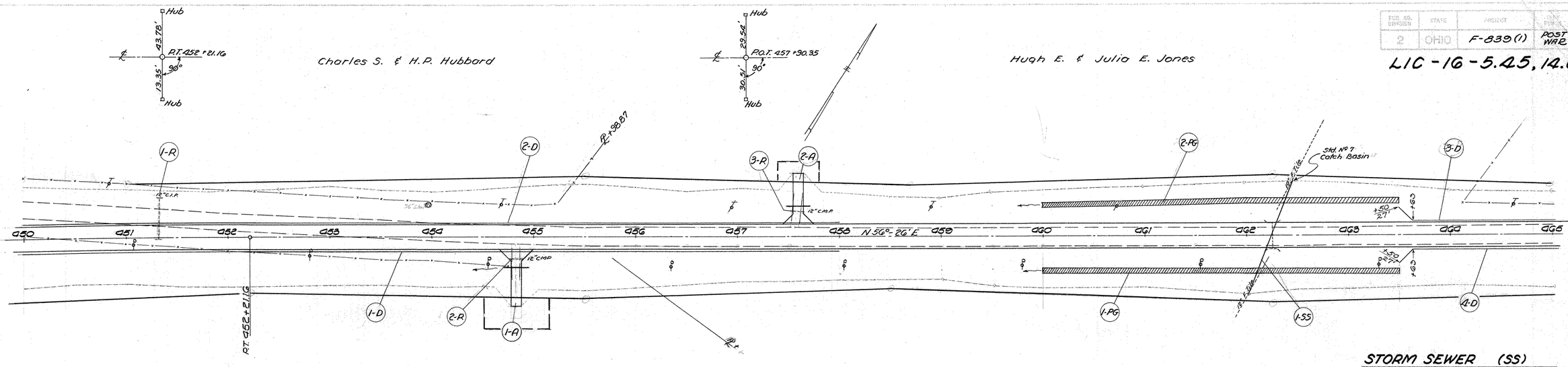
No.	From	To	Side	I-14 Lin. Ft. 5'	I-14 Lin. Ft. 7'	I-10 Sod S. Yd. 6' wide	I-10 Sod S. Yd. 9' wide
1-PG	436+65	437+50	Rt.		85		
2-PG	437+50	438+00	Rt.	50			
3-SG	438+00	442+00	Rt.				400
4-SG	437+90	447+83	Lt.				995
5-SG	448+07	450+00	Lt.				193
Total				50	85		1588

Seeding	18,120	Sq. Yds.
Excavation	18,141	Cu. Yds.
Embankment	3,882	Cu. Yds.
Emb. + 17%	4,542	Cu. Yds.

435+00 - 450+00

FED. AID DIVISION	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO	F-839(1)	POST WAR	18	255

LIC-16-5.25, 14.60



STORM SEWER (SS)

No	Station	12" Pipe Lin. Ft.	Std. No 7 Catch Basin
1-SS	AG2+25 ±	124'	1

GUTTER (PG)

No	From	To	Side	I-14 (5 Ft.) Lin. Ft.
1-PG	AG0+00	AG3+50	Rt.	350
2-PG	AG0+00	AG3+50	Lt.	350
Total				700

PIPE UNDERDRAINS (D)

No	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 45° Bend
1-D	450+00	458+00	Rt.	800		
2-D	450+00	458+00	Lt.	800		
3-D	AG3+50	AG5+00	Lt.	144	10	1
4-D	AG3+50	AG5+00	Rt.	144	10	1
Total				1888	20	2

PIPE REMOVAL (R)

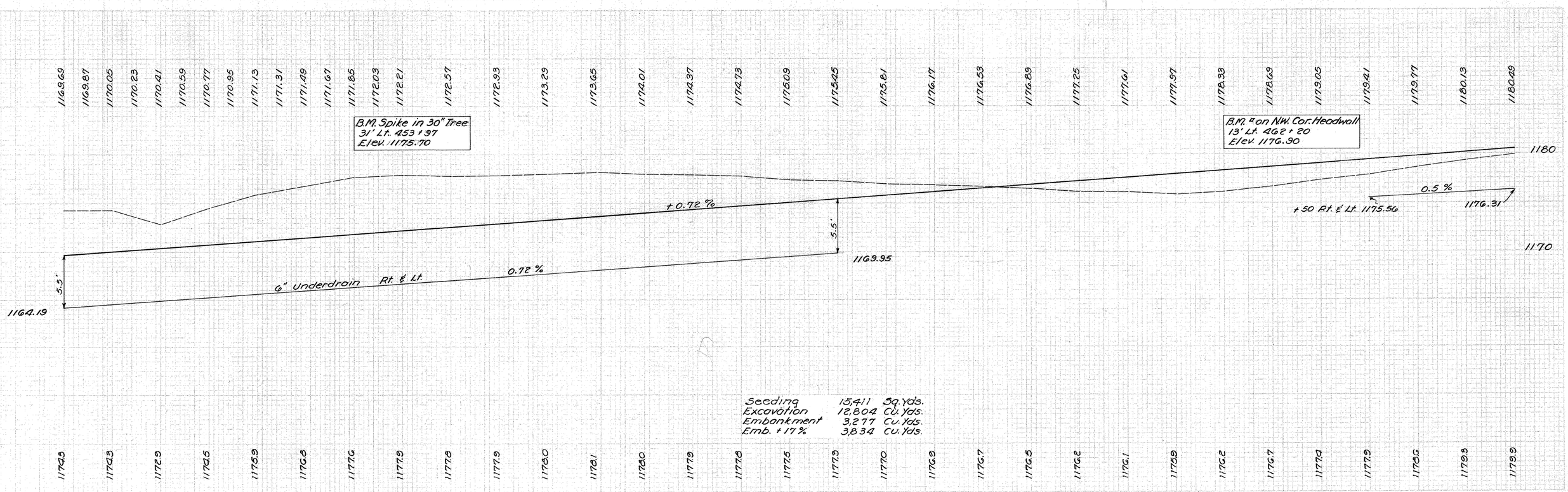
No	Station	Side	E-12 15" & Under Lin. Ft.
1-R	451+32	Lt.	37
2-R	454+83	Rt.	14
3-R	457+60	Lt.	14
Total			65

STRUCTURES - 20' SPAN & UNDER

No	Station	Type	Size	Length	
X	AG2+25	Box	4'x4'	26'	Remove

DRIVES & APPROACHES (A)

No	Station	Side	SS-10 Aggregate Cu. Yds.	I-1 Pipe Lin. Ft. 18"	Details on Sheet
1-A	454+83	Rt.	8	24	X-Sec.
2-A	457+60	Lt.	6	24	X-Sec.
Total			14	48	



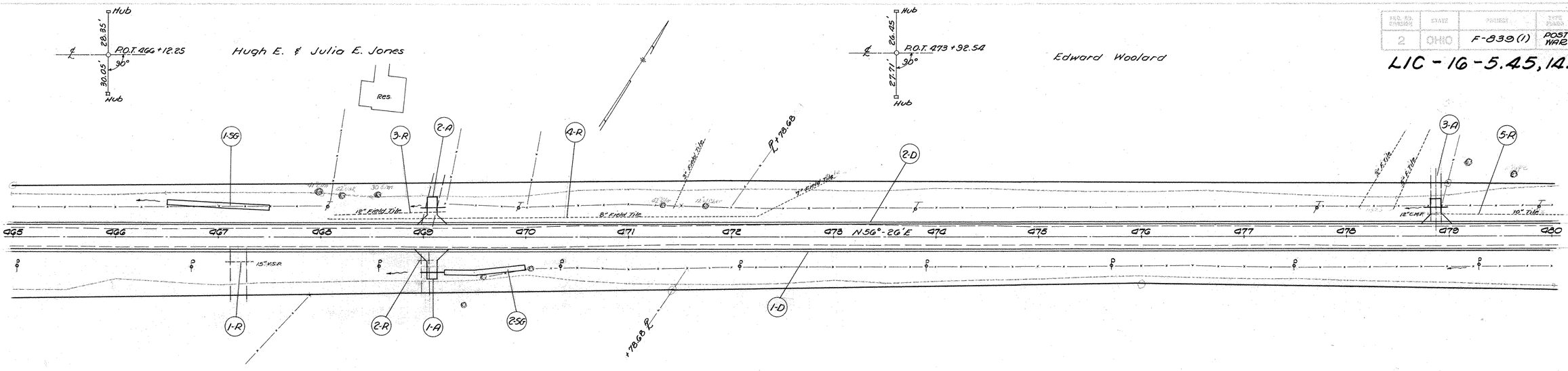
Seeding	15,411	Sq. Yds.
Excavation	12,804	Cu. Yds.
Embankment	3,277	Cu. Yds.
Emb. + 17%	3,834	Cu. Yds.

450+00 ~ AG5+00

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO	F-839(1)	POST WAR

19
255

LIC - 16 - 5.45, 14.60



Hugh E. & Julia E. Jones

Edward Woolard

GUTTER (SG)

Nº	From	To	Side		L-10 Sod - Sq Yds 9' wide
1-SG	466+50	467+50	Lt.		100
2-SG	469+21	470+00	Rt.		79
Total					179

PIPE UNDERDRAINS (D)

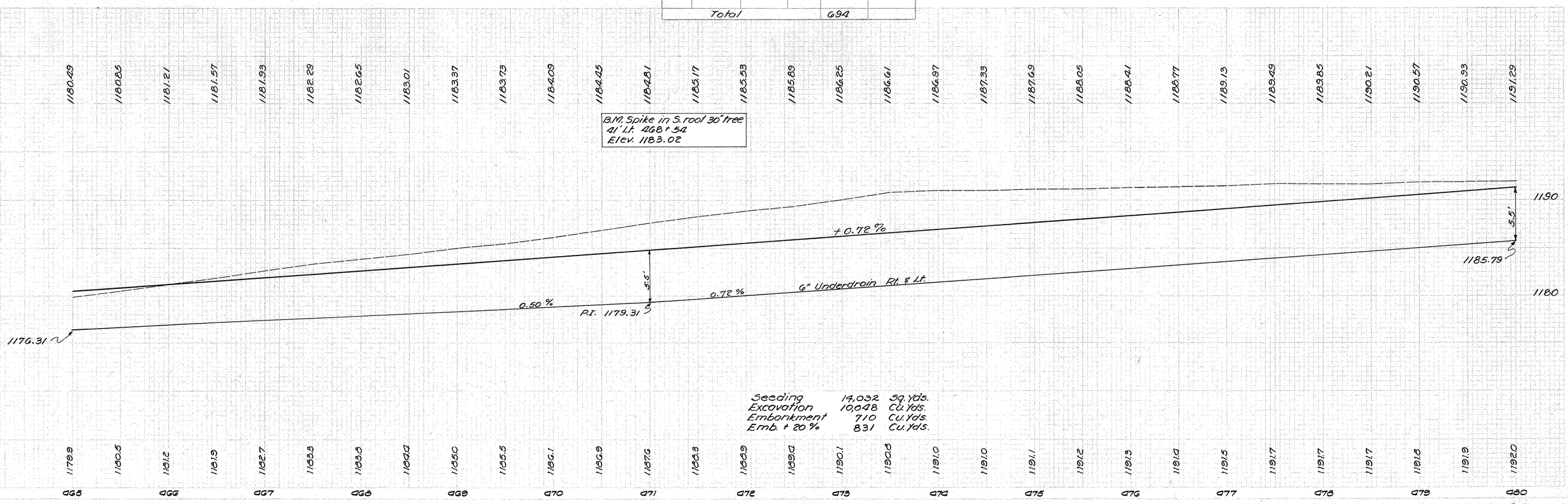
Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.		
1-D	465+00	480+00	Rt.	1500			
2-D	465+00	480+00	Lt.	1500			
Total				3000			

PIPE REMOVAL (R)

Nº	Station		Side	E-12 15" ℄ Under Lin. Ft.	
1-R	467+19		Rt.	27	
2-R	469+02		Rt.	14	
3-R	468+13	469+20	Lt.	107	
4-R	468+06	472+30	Lt.	424	
5-R	478+78	480+00	Lt.	122	
Total				694	

DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 6" Pav't. Sq. Yds.	I-1 Pipe Lin. Ft. 15"	18"	Detail on Sheet
1-A	469+10	Rt.	5			22	X-Sec.
2-A	469+10	Lt.	2	27.78	24		X-Sec.
3-A	478+86	Lt.	5		22		X-Sec.
Total			12	27.78	46	22	



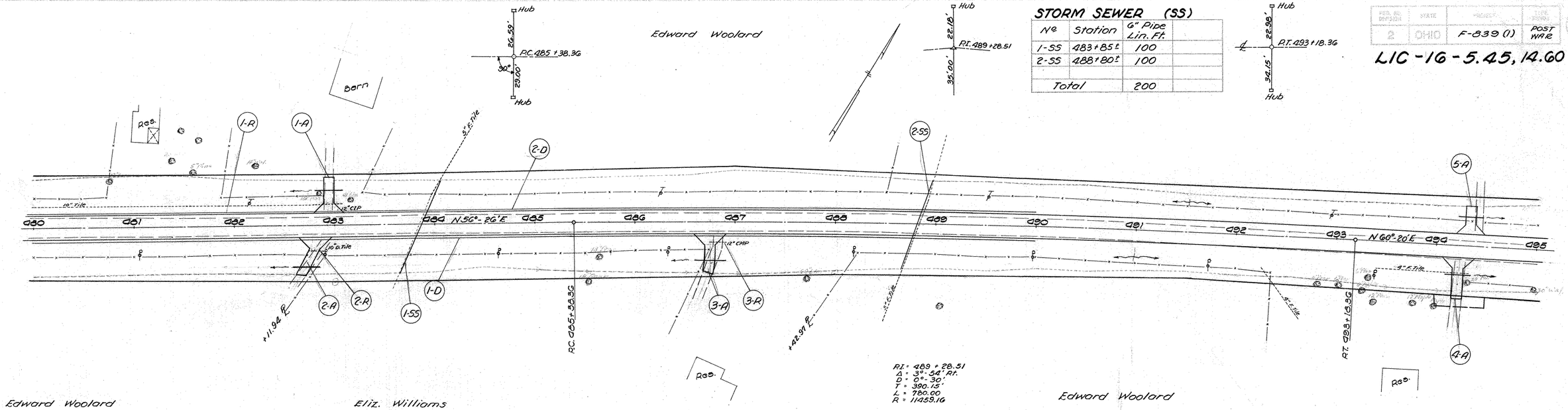
466+00 ~ 480+00

FED. AID DIVISION	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO	F-839 (1)	POST WAR	20 255

LIC-16-5.45, 14.60

STORM SEWER (SS)

No	Station	6" Pipe Lin. Ft.	
1-SS	483+85 ℄	100	
2-SS	488+80 ℄	100	
Total		200	



PIPE UNDERDRAINS (D)

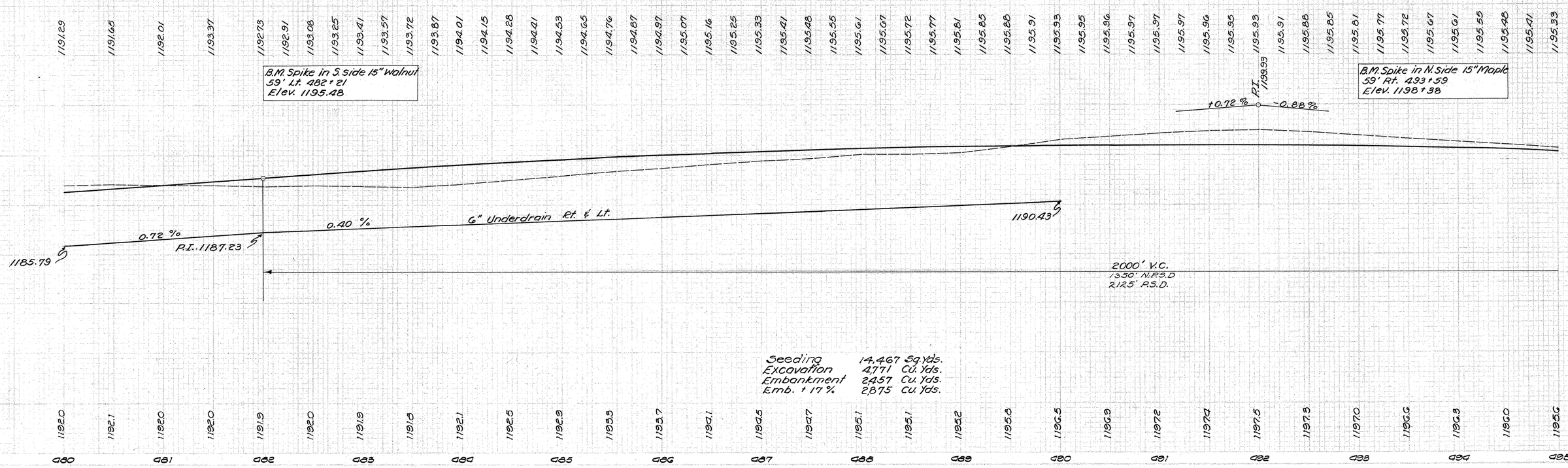
No	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.			
1-D	480+00	490+00	Rt.	1000			
2-D	480+00	490+00	Lt.	1000			
Total				2000			

PIPE REMOVAL (R)

No	Station		Side	E-12 15" & Under Lin. Ft.	
1-R	480+00	483+08	Lt.	308	
2-R	482+80		Rt.	12	
3-R	486+83		Rt.	18	
Total				338	

DRIVES & APPROACHES (A)

No	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 6" Pav't. Sq. Yds.	I-1 Pipe Lin. Ft. 12"	I-1 Pipe Lin. Ft. 15"	Detail on Sheet
1-A	482+92	Lt.	3	27.78		28	X-Sec.
2-A	482+92	Rt.	7			28	X-Sec.
3-A	486+75	Rt.	4	27.78	30		X-Sec.
4-A	494+21	Rt.	5	27.78	24		X-Sec.
5-A	494+33	Lt.	5		24		X-Sec
Total			24	83.34	78	56	

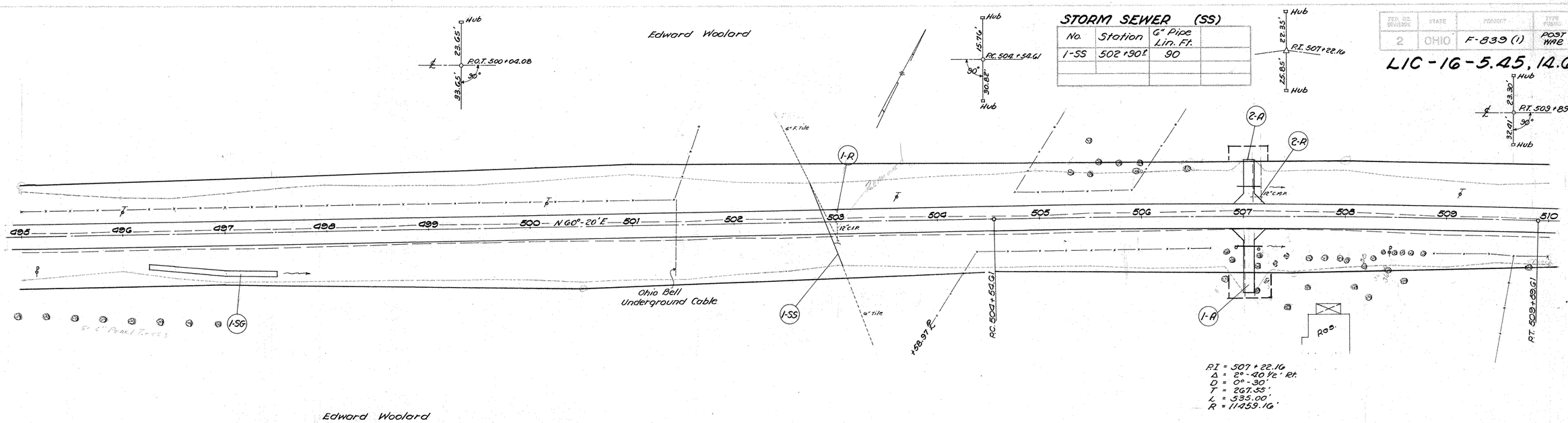


Seeding	14,467	Sq. Yds.
Excavation	4771	Cu. Yds.
Embankment	2457	Cu. Yds.
Emb. + 17 %	2875	Cu. Yds.

480+00 - 495+00

FED. AID. PROJECT	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO	F-839 (1)	POST WAR	21 255

LIC-16-5.45, 14.60



GUTTER (SG)

No	From	To	Side		L-10 Sod-Sq. Yds. 6' wide
1-SG	496+25	497+50	Rt.		84

PIPE REMOVAL (R)

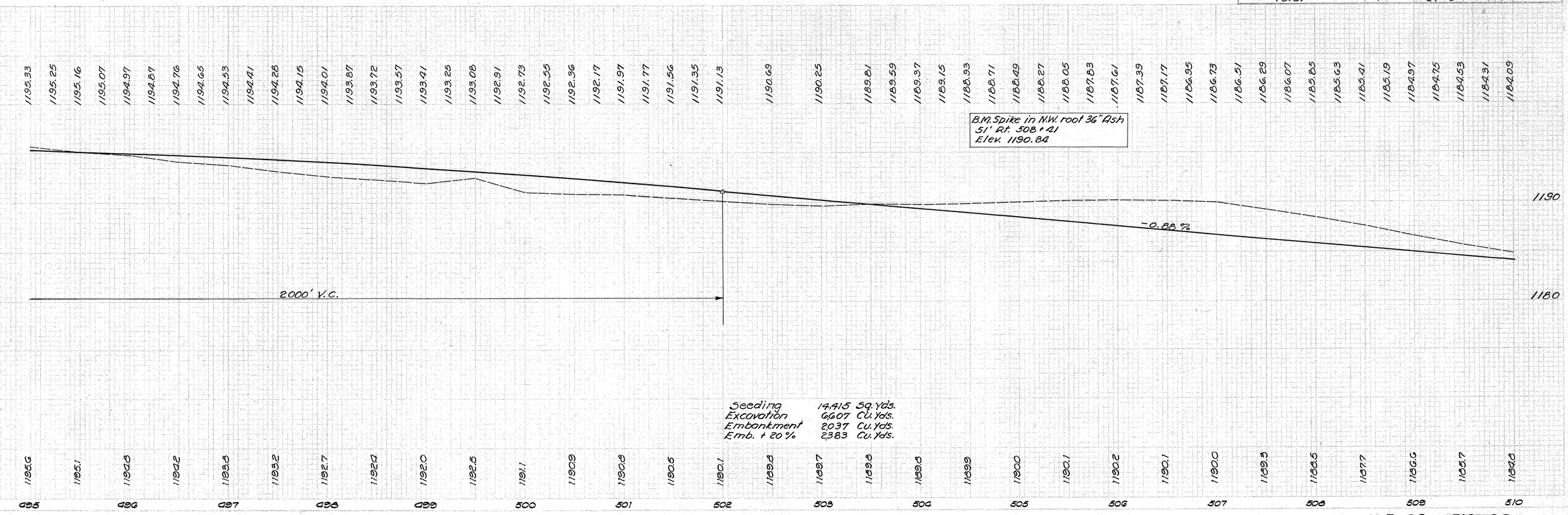
No	Station		Side	E-12 15" ℄ Under Lin. Ft.	
1-R	503+01		℄	32	
2-R	507+13		Lt.	14	
Total				46	

STRUCTURES - 20' SPAN & UNDER

No	Station	Type	Size	Length	Details Sh. No

DRIVES & APPROACHES (A)

No	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 6" Pav't Sq. Yds.	I-1 Pipe Lin. Ft. 15"	Detail on Sheet
1-A	507+04	Rt.	9	27.78	26	X-Sec.
2-A	507+04	Lt.	7		22	X-Sec.
Total			16	27.78	48	



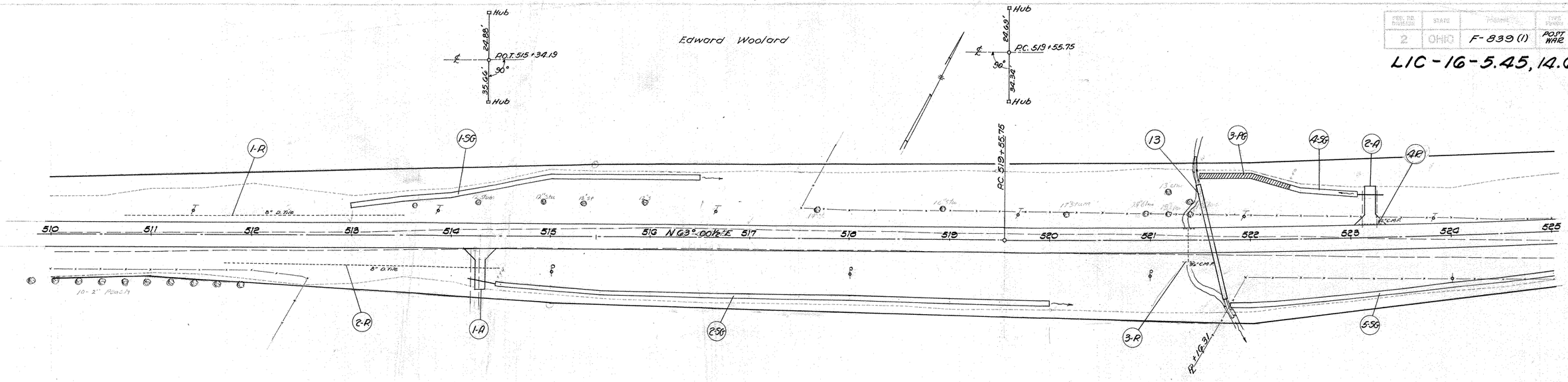
Seeding	14,415	Sq. Yds.
Excavation	6607	Cu. Yds.
Embankment	2037	Cu. Yds.
Emb. + 20%	2383	Cu. Yds.

495+00 ~ 510+00

FED. RD. PROJECT	STATE	PROJECT	SHEET NUMBER
2	OHIO	F-839(1)	POST WAR

22
255

LIC-16-5.45, 14.60



John W. & Edna M. Hite

Evah A. & Amanda V. Warrington

GUTTER

No.	From	To	Side	(PG) I-14 (5') Lin. Ft.	(SG) L-10 Sod - Sq. Yds. 9' wide
1-SG	513+00	516+50	Lt.		352
2-SG	514+44	520+00	Rt.		558
3-PG	521+50	522+40	Lt.	92	
4-SG	522+40	523+06	Lt.		66
5-SG	521+77	525+00	Rt.		324
Total				92	1300

PIPE REMOVAL (R)

No	Station		Side	E-12 15" & Under Lin. Ft.	E-12 Over 15" Lin. Ft.
1-R	510+75	513+51	Lt.	276	
2-R	511+73	514+49	Rt.	276	
3-R	521+37		℄		32
4-R	523+18		Lt.	22	
Total				574	32

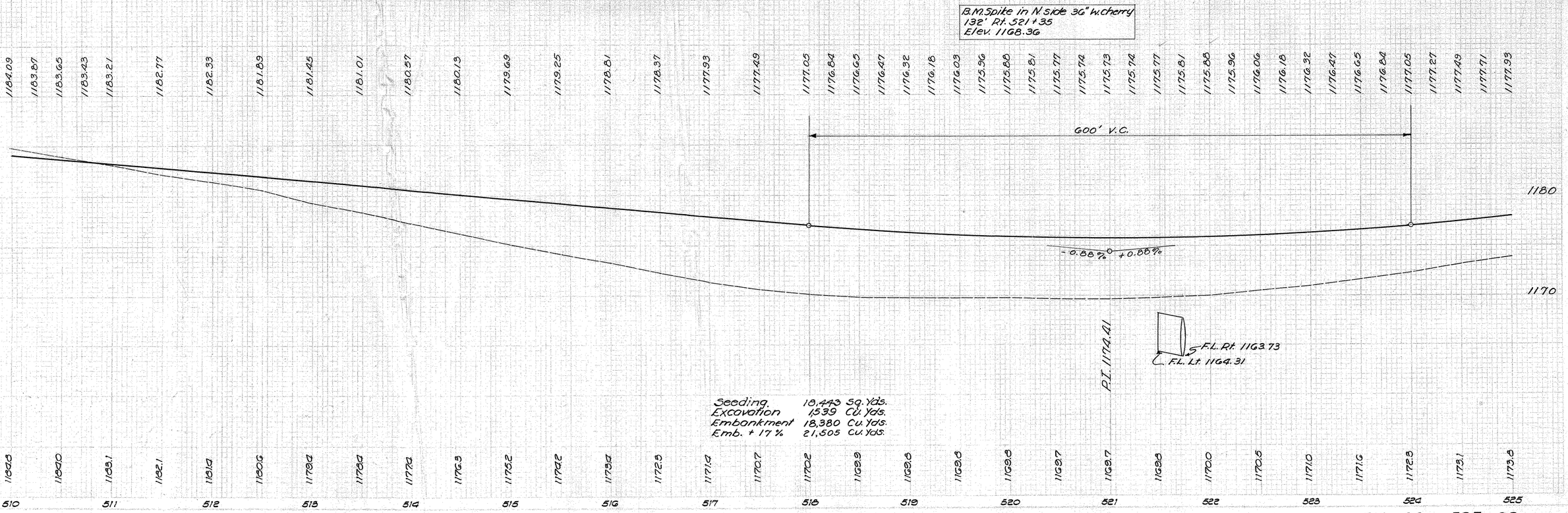
STRUCTURES - 20' SPAN & UNDER

No	Station	Type	Size	Length	Details Sh. No.
13	521+61	Pipe	48"	116	227

DRIVES & APPROACHES

No	Station	Side	SS-10 Aggregate Cu. Yds.	I-1 Pipe Lin. Ft. 12"	15"	Detail on Sheet
1-A	514+29.4	Rt.	6		26	X-Sec.
2-A	523+18	Lt.	6	24		X-Sec.
Total			12	24	26	

B.M. Spike in N. side 36" w. cherry
132' Rt. 521+35
Elev. 1168.36



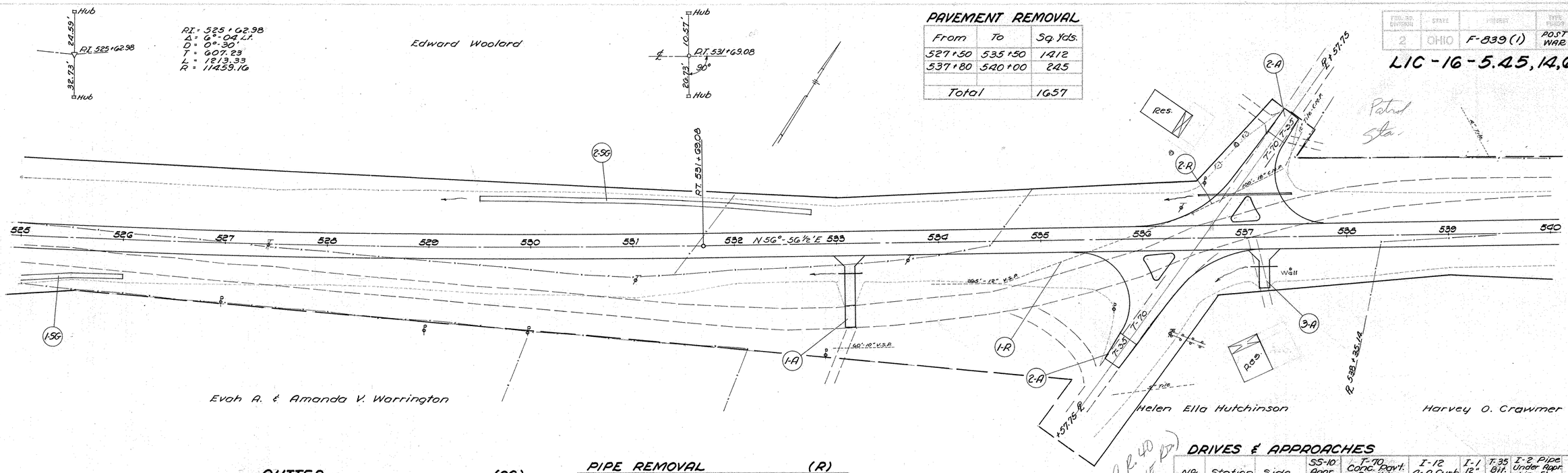
Seeding	18,443 Sq. Yds.
Excavation	1,539 Cu. Yds.
Embankment	18,380 Cu. Yds.
Emb. + 17%	21,505 Cu. Yds.

510+00 ~ 525+00

FED. RD. DIVISION	STATE	PROJECT	TYPE WORK
2	OHIO	F-839(1)	POST WAR

23
255

LIC-16-5.45, 14, 60



PAVEMENT REMOVAL

From	To	Sq. Yds.
527+50	535+50	1412
537+80	540+00	245
Total		1657

GUTTER (SG)

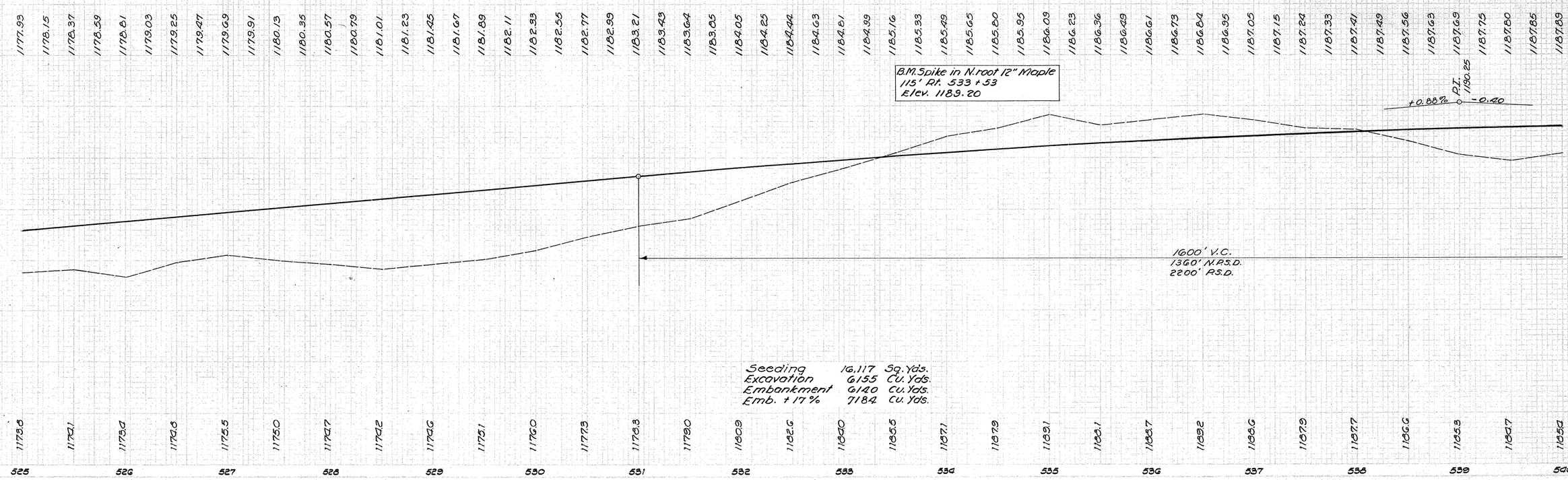
No	From	To	Side		L-10 Sod 6' wide	Sq Yds 9' wide
1-SG	525+00	526+00	Rt.			100
2-SG	529+50	532+75	Lt.		217	

PIPE REMOVAL (R)

No	Station		Side	E-12 15" & Under Lin. Ft.	E-12 over 15" Lin. Ft.
1-R	535+00 Rt	536+47 Lt.		155	
2-R	536+47	537+40	Lt.		100

DRIVES & APPROACHES

No	Station	Side	SS-10 Aggr. Cu. Yds.	T-70 Conc. Pavt. Sq. Yds. 6"	9"	I-12 4-A Curb Lin. Ft.	I-1 12" Pipe L. Ft.	T-35 Bit. Conc. C. Yds.	I-2 Pipe Under Apprs. Lin. Ft. 15"	Detail on Sheet
1-A	533+13	Rt.	5	27.78			22			X-Sec.
2-A	536+57.75	Rt. & Lt.			1024.6	162.4		5	92	211
3-A	537+18	Rt.	4	27.78			26			X-Sec.
Total			9	55.56	1024.6	162.4	48	5	92	

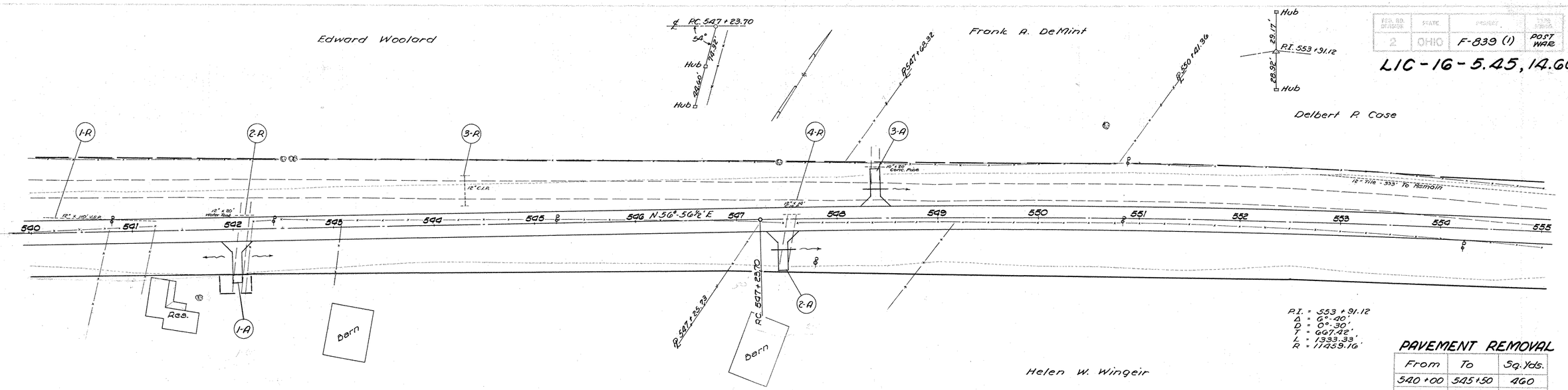


Seeding	16,117	Sq. Yds.
Excavation	6155	Cu. Yds.
Embankment	6140	Cu. Yds.
Emb. + 17%	7184	Cu. Yds.

525+00 – 540+00

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO	F-839 (1) POST WAR	24 / 255

LIC-16-5.45, 14.60



P.I. = 553 + 91.12
Δ = 6°-40'
D = 0°-30'
T = 667.42'
L = 1333.33'
R = 11459.16'

PAVEMENT REMOVAL

From	To	Sq. Yds.
540+00	545+50	460

PIPE REMOVAL (R)

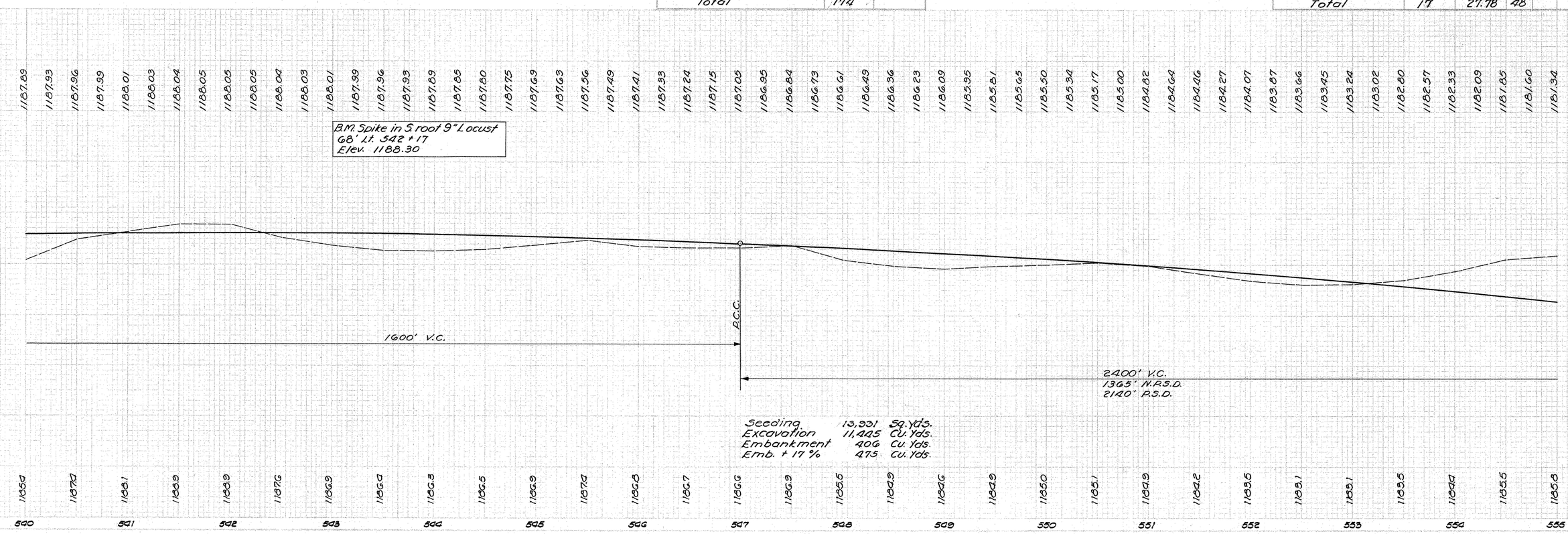
No	Station		Side	E-12 15" & Under Lin. Ft.	
1-R	540+15	541+25	Lt.	110	
2-R	542+10		Lt.	20	
3-R	544+31		Lt.	30	
4-R	547+53		Lt.	14	
	Total			174	

STRUCTURES - 20' SPAN & UNDER

No	Station	Type	Size	Length	Details Sh. No.

DRIVES & APPROACHES (A)

No	Station	Side	I-17 Aggregate Cu. Yds.	T-70 6" Pav't. Sq. Yds.	I-1 Pipe Lin. Ft. 12"		Detail on Sheet
1-A	542+03	Rt	5	27.78			X-Sec.
2-A	547+46	Rt.	6		24		X-Sec.
3-A	548+39	Lt.	6		24		X-Sec.
Total			17	27.78	48		

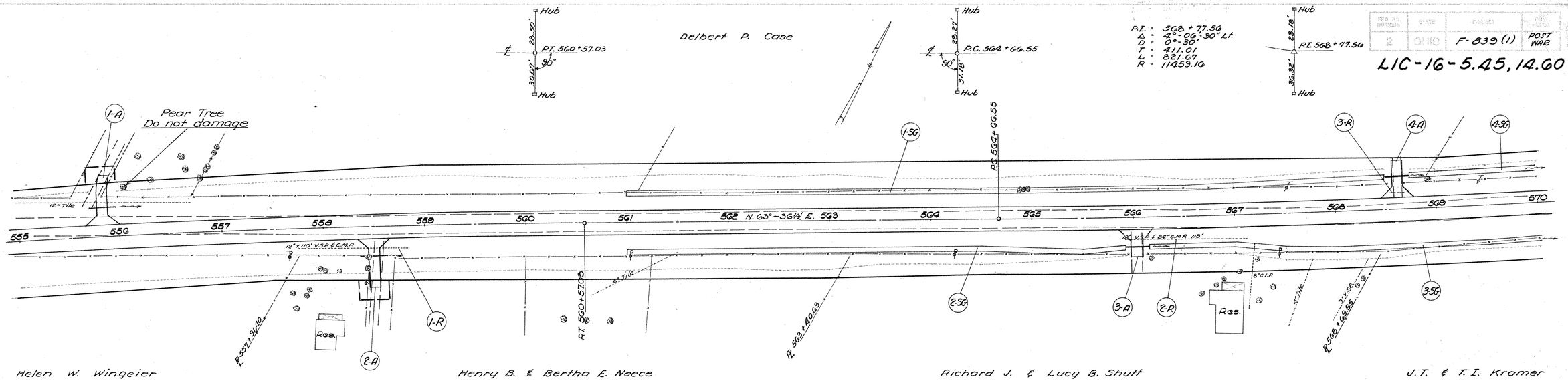


Seeding	13,931	Sq. Yds.
Excavation	11,445	Cu. Yds.
Embankment	406	Cu. Yds.
Emb. + 17 %	475	Cu. Yds.

540+00 ~ 555+00

FED. AID PROJECT	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO	F-839 (1)	POST WAR	25 255

LIC-16-5.45, 14.60



GUTTER (SG)

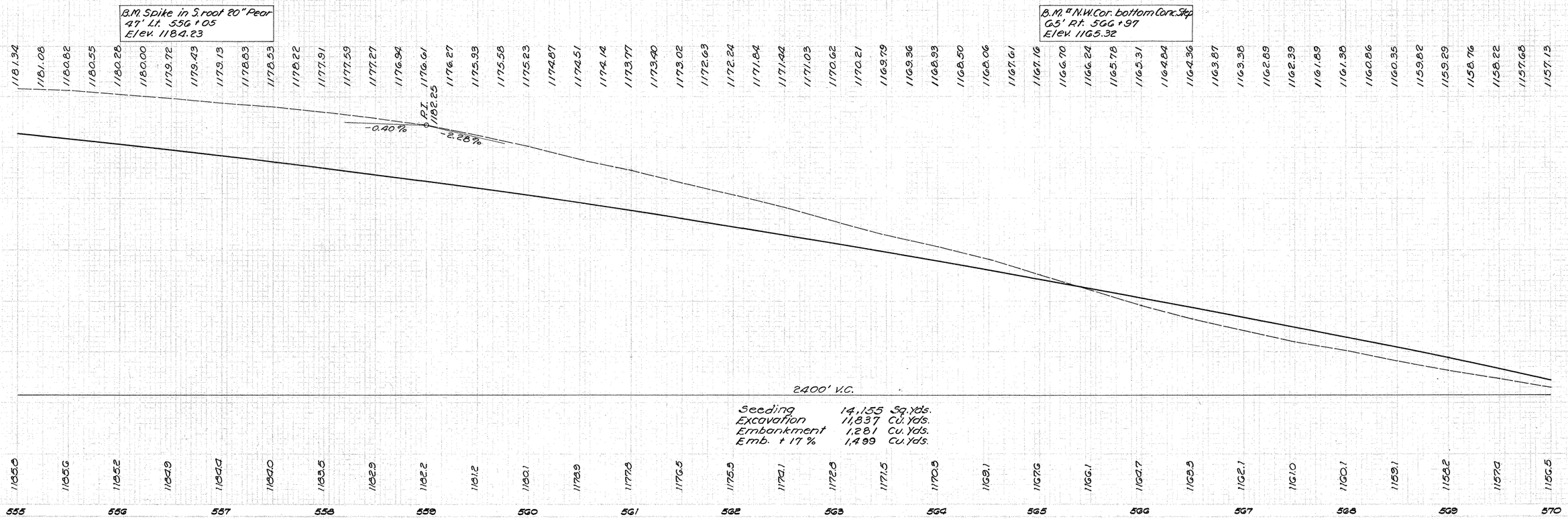
№	From	To	Side		L-10 Sod	Sq. Yds. 9' wide
1-SG	561+00	568+52	Lt.			752
2-SG	561+00	565+92	Rt.			492
3-SG	566+14	570+00	Rt.			386
4-SG	568+74	570+00	Lt.			126
	Total					1756

PIPE REMOVAL (R)

№	Station		Side	E-12 15" & Under Lin. Ft.	E-12 over 15" Lin. Ft.
1-R	557+72	558+82	Rt.	110	
2-R	565+93	567+12	Rt.		119
3-R	568+62		Lt.	14	
	Total			124	119

DRIVES & APPROACHES (A)

№	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 6" Pavt. Sq. Yds.	I-1 Pipe Lin. Ft. 15"	Detail on Sheet
1-A	555+85	Lt.	6	27.78	26	X-Sec.
2-A	558+50	Rt.	6	27.78	26	X-Sec.
3-A	566+03	Rt.	2	27.78	22	X-Sec.
4-A	568+62.5	Lt.	6		22	X-Sec.
	Total		20	83.34	96	



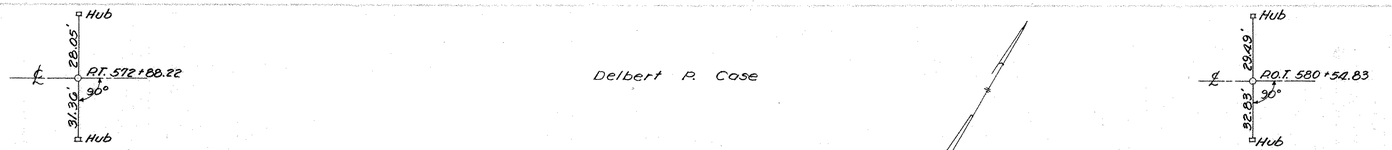
Seeding	14,155	Sq. Yds.
Excavation	11,837	Cu. Yds.
Embankment	1,281	Cu. Yds.
Emb. + 17%	1,499	Cu. Yds.

555+00 ~ 570+00

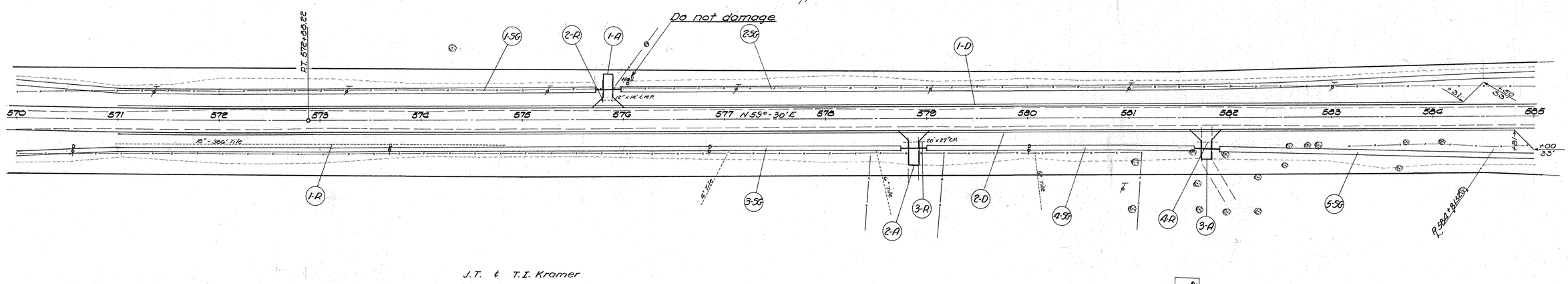
FED. ROAD DIVISION	STATE	PROJECT	FED. AID PROJ.
2	OHIO	F-839 (1)	POST WAR

2G
255

LIC-16-5.45, 12.60



Delbert P. Case



J.T. & T.I. Kramer

R 60°

GUTTER (SG)

Nº	From	To	Side		L-10 Sod Sq. Yds. 9' Wide
1-SG	570+00	575+72	Lt.		572
2-SG	575+96	585+00	Lt.		904
3-SG	570+00	578+75	Rt.		875
4-SG	578+99	581+65	Rt.		266
5-SG	581+89	585+00	Rt.		311
Total					2928

PIPE UNDERDRAINS (D)

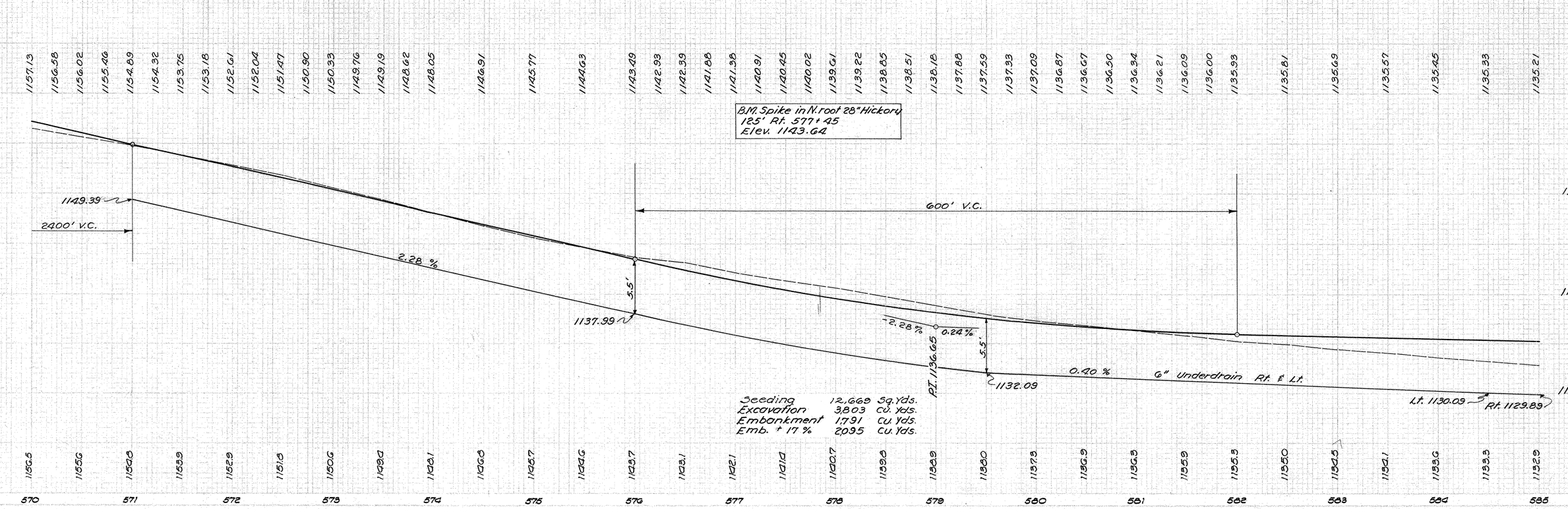
Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 45° Bends	
1-D	571+00	584+50	Lt.	1346	10	1	
2-D	571+00	585+00	Rt.	1396	10	1	
Total				2742	20	2	

PIPE REMOVAL (R)

Nº	Station		Side	E-12 15" & Under Lin. Ft.	E-12 over 15" Lin. Ft.
1-R	570+97	574+83	Rt.		386
2-R	575+84		Lt.	14	
3-R	578+87		Rt.		20
4-R	581+77.5		Rt.		22
Total				14	428

DRIVES & APPROACHES (A)

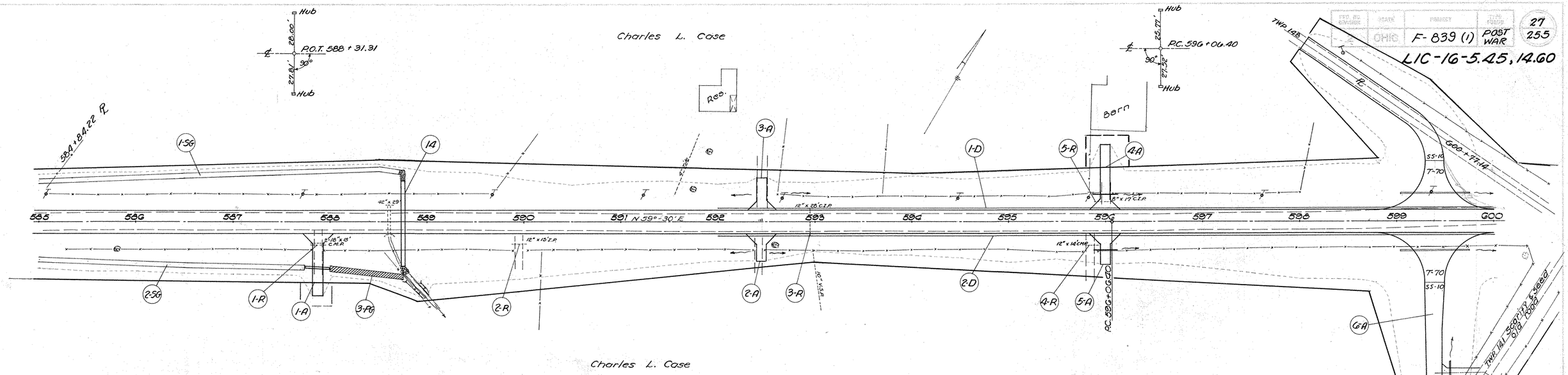
Nº	Station	Side	9S-10 Aggregate Cu. Yds.	T-70 6" Pav't Sq. Yds.	I-1 Pipe Lin. Ft.		Detail on Sheet
						18"	
1-A	575+84	Lt.	6			24	X-Sec.
2-A	578+87	Rt.	3	27.78		24	X-Sec.
3-A	581+77.5	Rt.	2	27.78		24	X-Sec.
Total			11	55.56		72	



570+00 ~ 585+00

STD. SHT. NUMBER	STATE	PROJECT	SUM SHEET
	OHIO	F-839 (1) POST WAR	27 255

LIC-16-5.45, 14.60



GUTTER (PG) (SG)

Nº	From	To	Side	I-14 (5') Lin. Ft.	L-10 Sod - Sq. Yds.	9' wide
1-SG	585+00	588+73	Lt.			373
2-SG	585+00	587+74	Rt.			274
3-PG	588+00	588+75	Rt.	75		
Total				75		647

PIPE REMOVAL

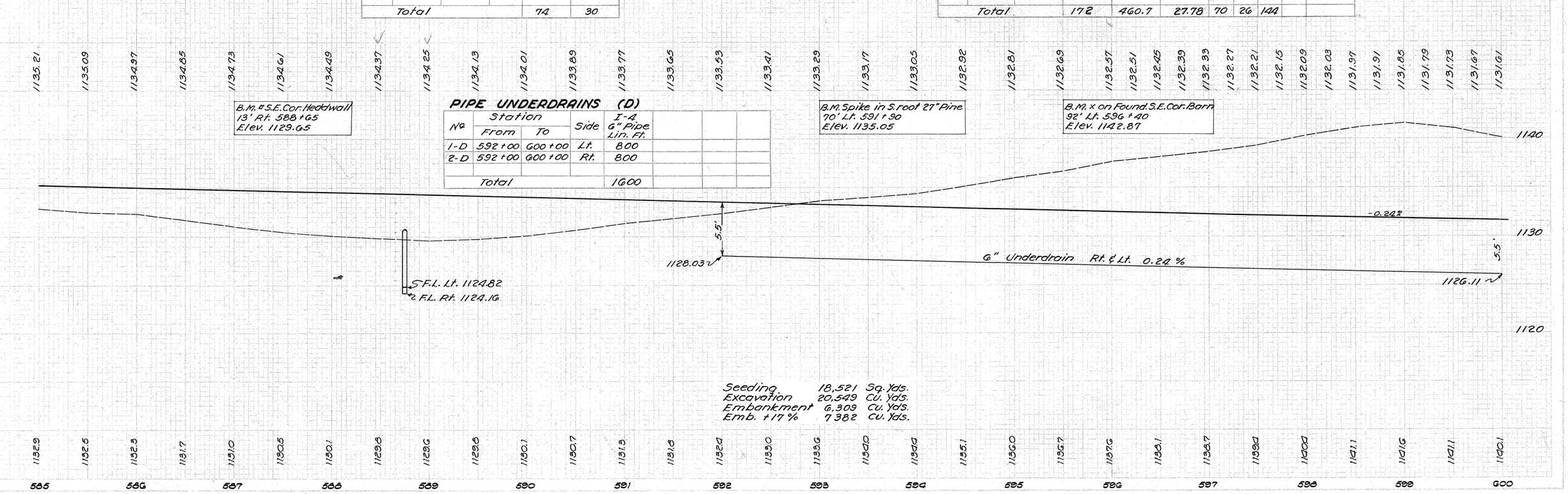
Nº	Station	Side	E-12 15" & Under Lin. Ft.	E-12 Over 15" Lin. Ft.
1-R	587+87	Rt.		30
2-R	589+95	Rt.	15	
3-R	592+35	℄	28	
4-R	595+84	Rt.	14	
5-R	595+98	Lt.	17	
Total			74	30

STRUCTURES - 20' SPAN & UNDER

Str. Nº	Station	Type	Size	Length	Details Sh. Nº
1A	588+75	Pipe	4' x 6'	88'	228

DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 9" Conc. Sq. Yds.	T-70 6" Conc. Sq. Yds.	I-1 Pipe Lin. Ft. 12"	I-1 Pipe Lin. Ft. 21"	I-2 Pipe under Appr. Lin. Ft. 12"	Detail on Sheet
1-A	587+87	Rt	9				26		X-Sec.
2-A	592+42	Rt	5						X-Sec.
3-A	592+45.3	Lt.	3		27.78				X-Sec.
4-A	596+00	Lt.	10			26			X-Sec.
5-A	596+00	Rt.	6			22			X-Sec.
6-A	599+38.9	Rt. & Lt.	139	460.7		22		144	212
Total			172	460.7	27.78	70	26	144	



PIPE UNDERDRAINS (D)

Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.			
1-D	592+00	600+00	Lt.	800			
2-D	592+00	600+00	Rt.	800			
Total				1600			

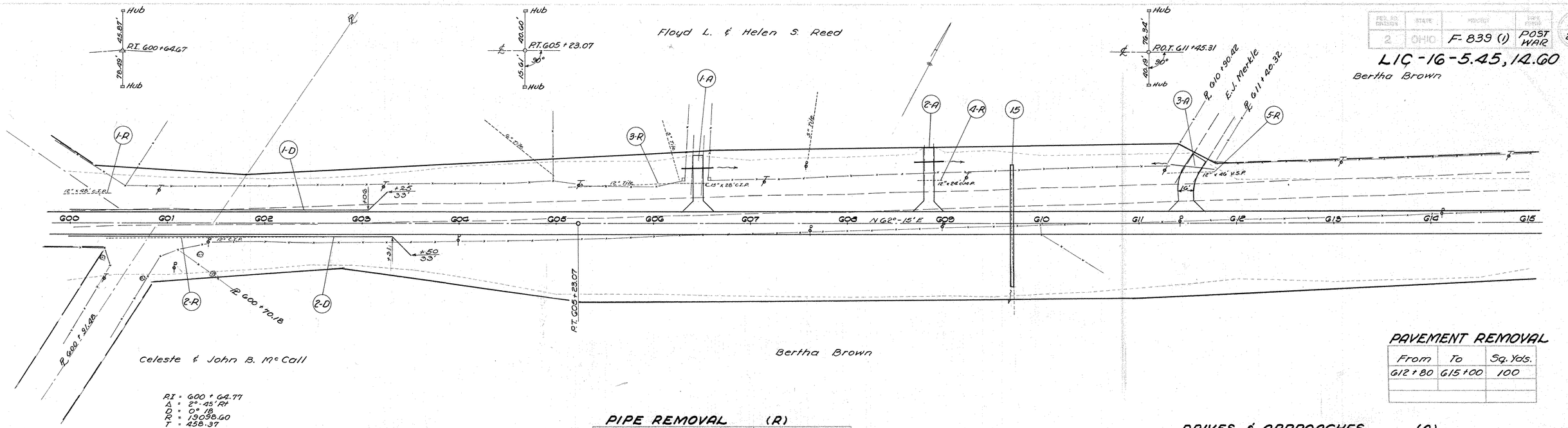
Seeding	18,521	Sq. Yds.
Excavation	20,549	Cu. Yds.
Embankment	6,309	Cu. Yds.
Emb. +17%	7382	Cu. Yds.

585+00 - 600+00

FED. AID DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO	F-839 (1) POST WAR	28 255

LIC-16-5.45, 12.60

Bertha Brown



R.I = 600 + 64.77
Δ = 2°-45' Rt
D = 0° 18
R = 19098.60
T = 458.37
L = 916.67
E = 5.50

PAVEMENT REMOVAL

From	To	Sq. Yds.
612+80	615+00	100

PIPE UNDERDRAINS

Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 45° Bends	
1-D	600+00	603+25	Lt.	322	10	1	
2-D	600+00	603+50	Rt.	346	10	1	
Total				668	20	2	

PIPE REMOVAL (R)

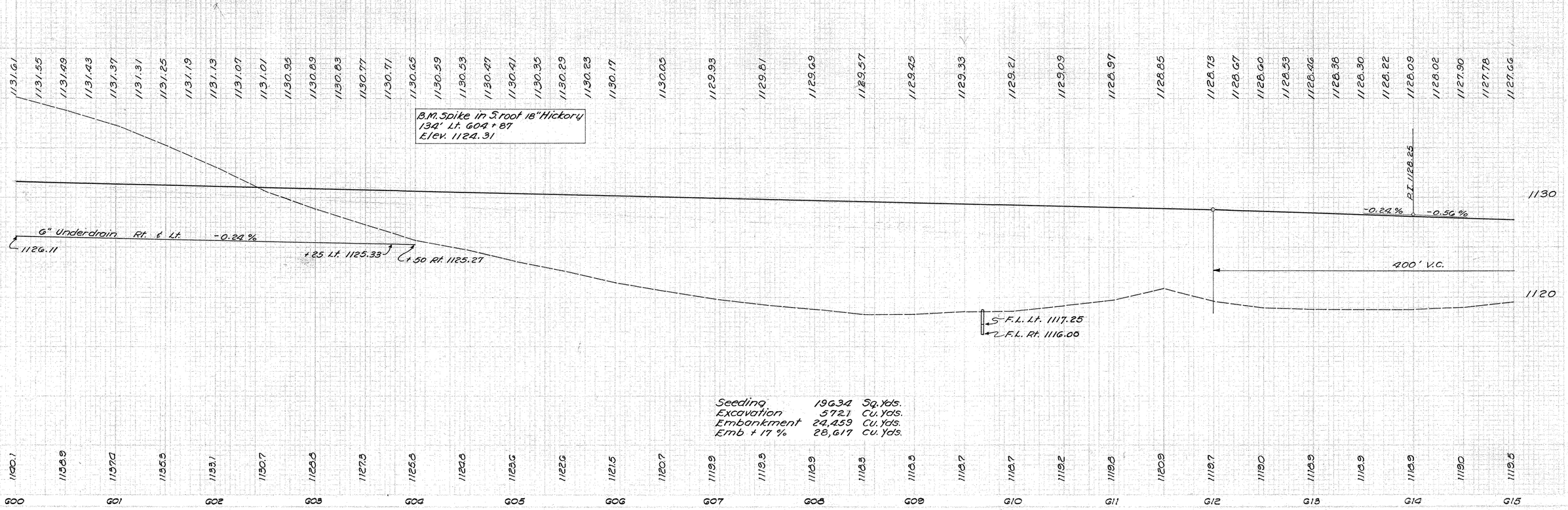
Nº	Station		Side	E-12 15" & under Lin. Ft.	
1-R	600+18		Lt.	48	
2-R	600+38	602+60	Rt.	222	
3-R	605+12	606+56	Lt.	144	
4-R	608+84		Lt.	24	
5-R	611+50		Lt.	46	
Total				484	

STRUCTURES - 20' SPAN & UNDER

Nº	Station	Type	Size	Length	Details Sh. Nº
15	609+68.32	Pipe	24"	125'	228

DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 6" Pavt. Sq. Yds.		I-1 Pipe Lin. Ft. 12"	18"		Detail on Sheet
1-A	606+46	Lt.	8	27.78			32		X-Sec.
2-A	608+84	Lt.	9	27.78			30		X-Sec.
3-A	611+50	Lt.	13	37.78		42			X-Sec.
Total			30	93.34		42	62		

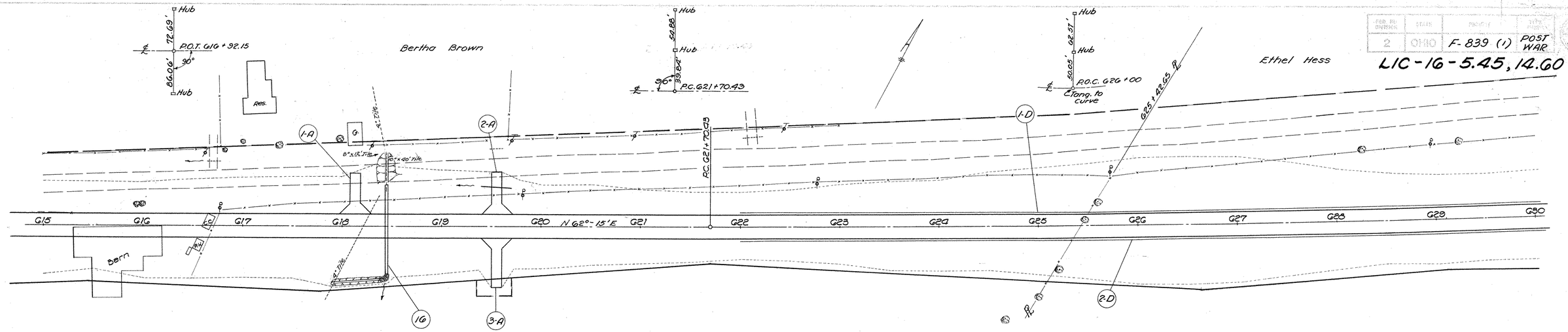


Seeding	19634	Sq. Yds.
Excavation	5721	Cu. Yds.
Embankment	24,459	Cu. Yds.
Emb + 17 %	28,617	Cu. Yds.

600+00 - 615+00

FED. RI. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO	F-839 (1) POST WAR	29 255

LIC-16-5.45, 14.60



PAVEMENT REMOVAL

From	To	Sq. Yds.
G15+00	G30+00	2530

PIPE UNDERDRAINS

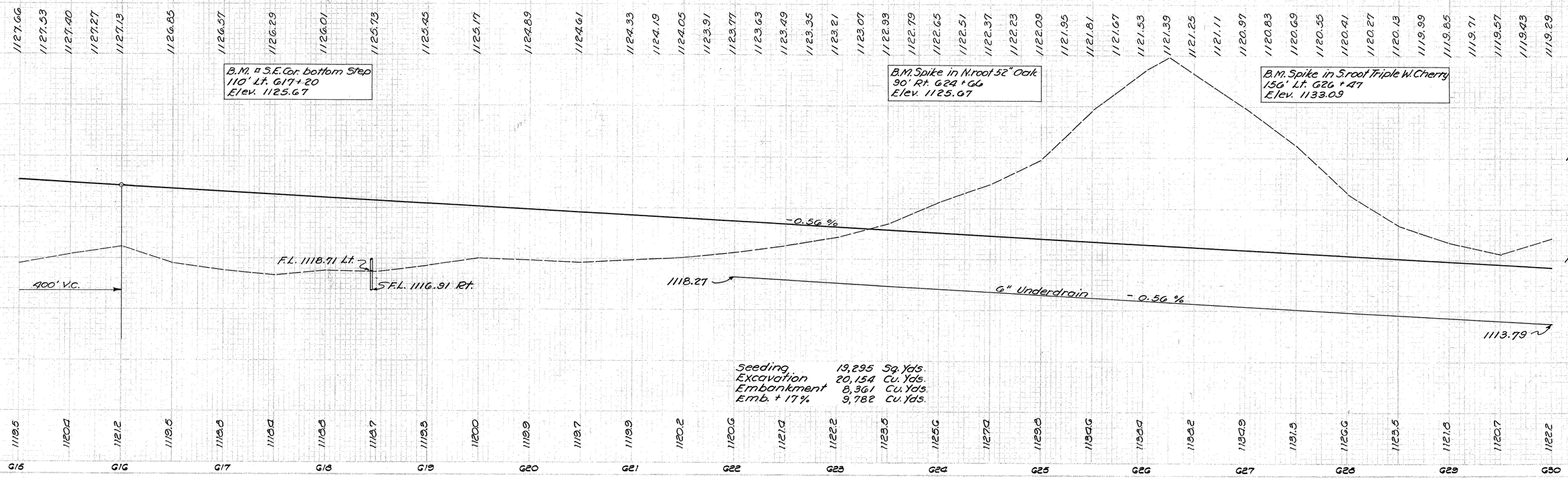
No	Station From	Station To	Side	I-A 6" Pipe Lin. Ft.			
1-D	G22+00	G30+00	Lt.	800			
2-D	G22+00	G30+00	Rt.	800			
Total				1600			

STRUCTURES - 20' SPAN & UNDER

No	Station	Type	Size	Length	Details Sh. No
1G	G18+45.22	Pipe	15"	90	229

DRIVES & APPROACHES (A)

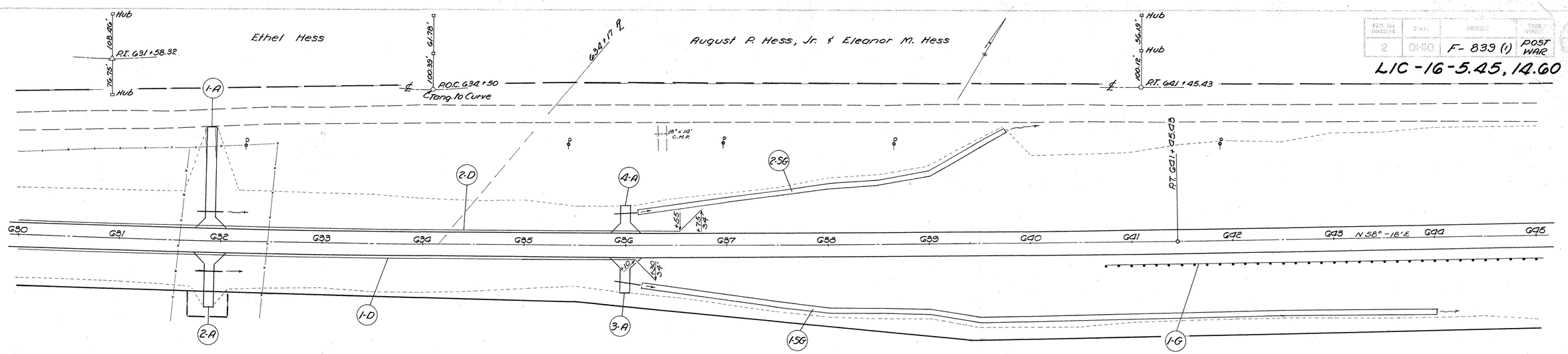
No	Station	Side	I-17 Aggregate Cu. Yds.	T-70 6" Pavt. Sq. Yds.	I-1 Pipe Lin. Ft. 12"		Detail on Sheet
1-A	G18+14	Lt.	6	27.78			X-Sec.
2-A	G19+55	Lt.	5	27.78	30		X-Sec.
3-A	G19+55	Rt.	7				X-Sec.
Total			18	55.56	30		



G15+00 ~ G30+00

FED. AID PROJECT	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO	F- 839 (1) POST WAR	30	255

LIC -16-5.45, 14.60



P.I. = G31 + 58.32
Δ = 3°-57' Lt.
D = 0°-12'
R = 28647.90
T = 987.69
L = 1975.00
E = 17.03

Ethel Hess

PAVEMENT REMOVAL

From	To	Sq. Yds.
G30+00	G45+00	3000

GUARD RAIL (G)

Nº	Station From	Station To	Side		New Lin. Ft.
1-G	G40+75	G45+00	Rt.		425

GUTTER (SG)

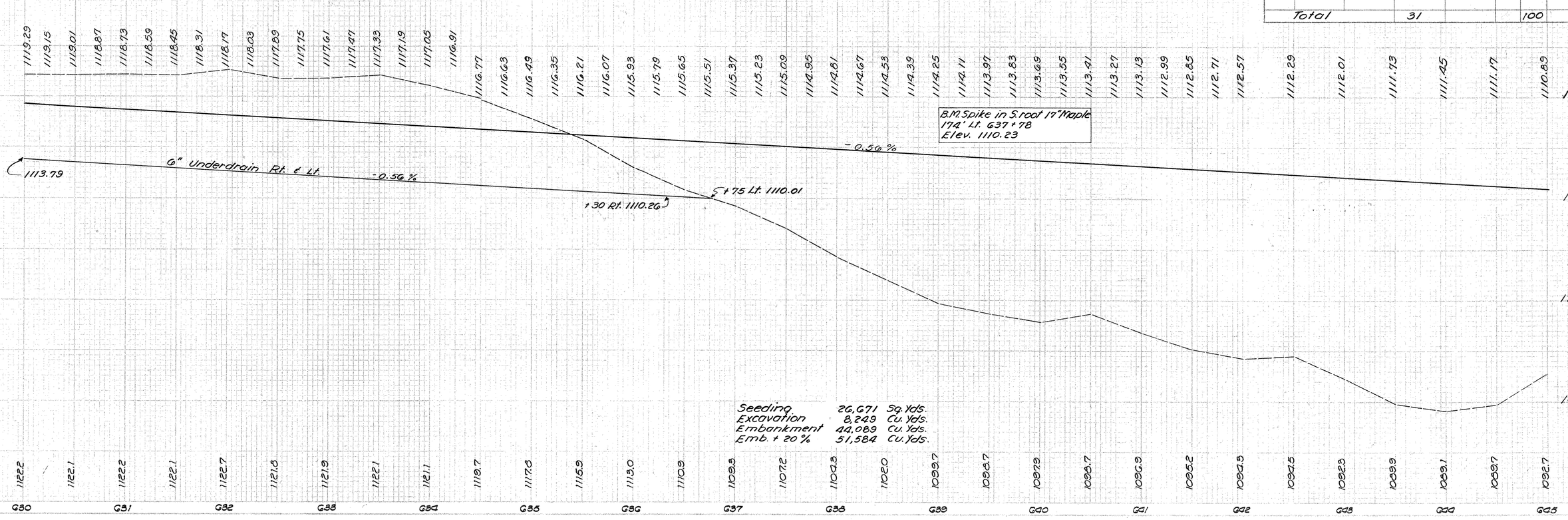
Nº	From	To	Side		L-10 Sod Sq. Yds 6' wide	
1-SG	G36+15	G44+00	Rt.		528	
2-SG	G36+11	G39+75	Lt.		251	
					779	

PIPE UNDERDRAINS (D)

Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" outlet Lin. Ft.	I-5 45° Bends	
1-D	G30+00	G36+30	Rt.	626	10	1	
2-D	G30+00	G36+75	Lt.	672	10	1	
Total				1298	20	2	

DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.		I-1 Pipe Lin. Ft. 12"	15"	Detail on Sheet
1-A	G31+85	Lt.	13			26	X-Sec.
2-A	G31+85	Rt.	8			20	X-Sec.
3-A	G36+00	Rt.	5			26	X-Sec.
4-A	G36+00	Lt.	5			22	X-Sec.
Total			31			100	

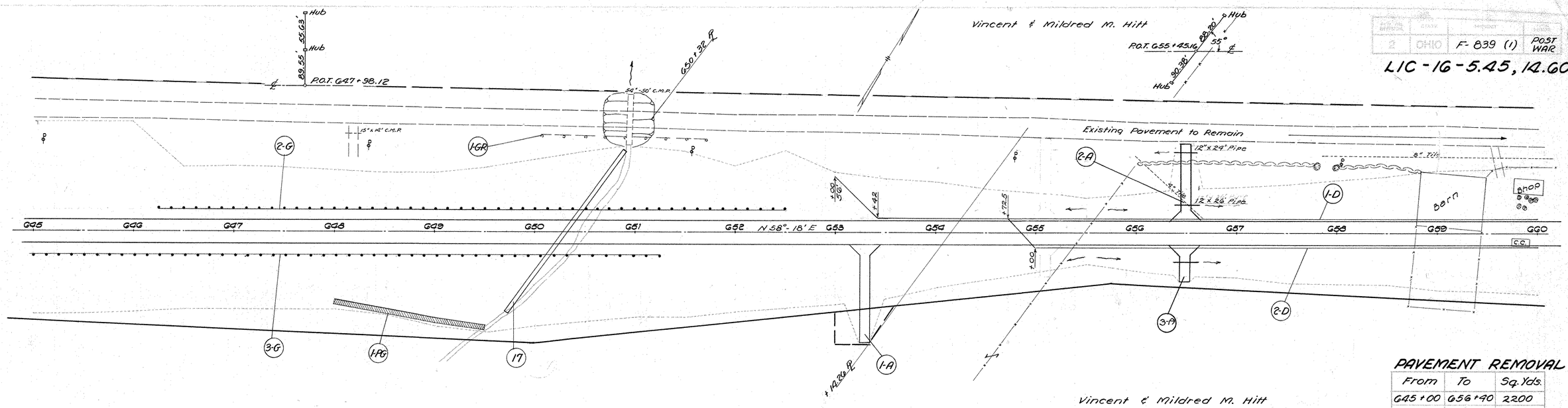


Seeding	26,671	Sq. Yds.
Excavation	8,249	Cu. Yds.
Embankment	44,089	Cu. Yds.
Emb. + 20 %	51,584	Cu. Yds.

G30+00 - G45+00

DISTRICT	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO	F-839 (1)	POST WAR	31	255

LIC-16-5.45, 12.60



PAVEMENT REMOVAL

From	To	Sq. Yds.
G45+00	G56+90	2200

GUARD RAIL (GR) (G)

Nº	Station From	Station To	Side	Removal Lin. Ft.	New Lin. Ft.
1-GR	G50+08	G51+72	Lt	164	
2-G	G46+25	G52+50	Lt		G25
3-G	G45+00	G51+25	Rt		G25
Total				164	1250

GUTTER (PG)

Nº	From	To	Side	I-1A (5') Lin. Ft.
1-PG	G48+00	G49+50	Rt	151

PIPE UNDERDRAINS (D)

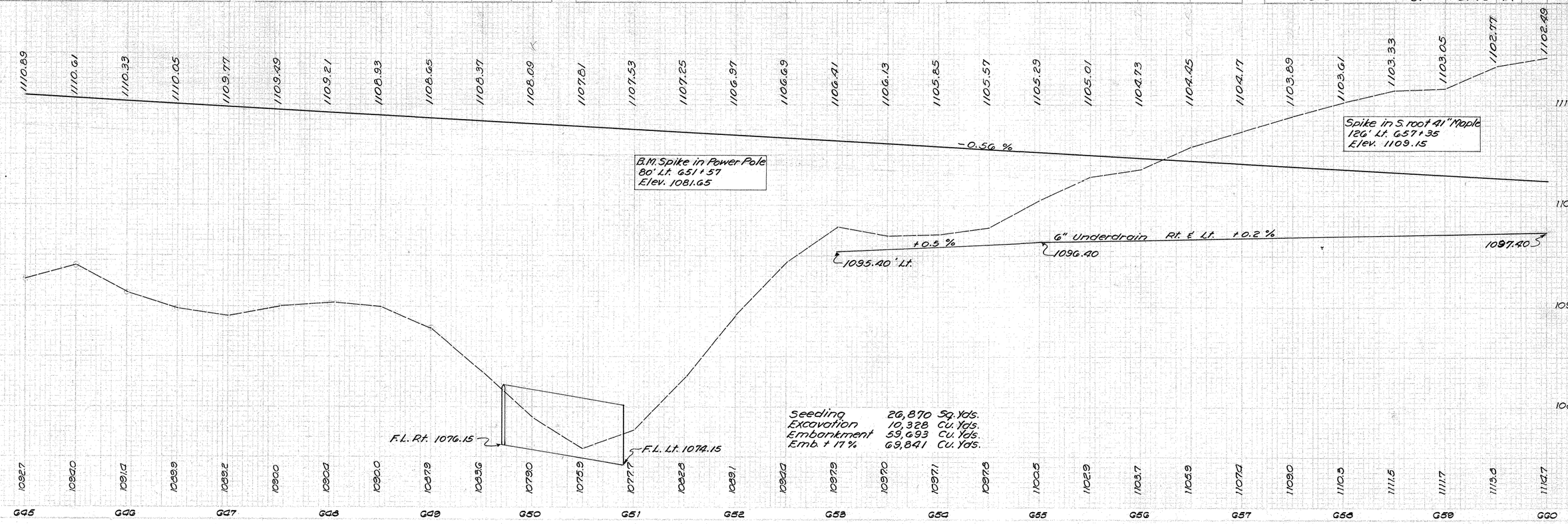
Nº	Station From	Station To	Side	I-A 6" Pipe Lin. Ft.	I-A 8" Outlet Lin. Ft.	I-5 45° Bends	I-5 6" Y
1-D	G53+00	G60+00	Lt.	704	10	1	1
2-D	G54+72.5	G60+00	Rt.	536		1	
Total				1240	10	2	1

STRUCTURES - 20' SPAN & UNDER

Nº	Station	Type	Size	Length	Details Sh. Nº
17	650+30	Pipe	4'x 6'	200	229

DRIVES & APPROACHES

Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 6" Pavt Sq. Yds.	I-1 Pipe Lin. Ft. 12"		Detail on Sheet
1-A	G53+30	Rt	13				X-Sec.
2-A	G56+50	Lt.	12	27.78	50		X-Sec.
3-A	G56+50	Rt.	6		24		X-Sec
Total			31	27.78	74		

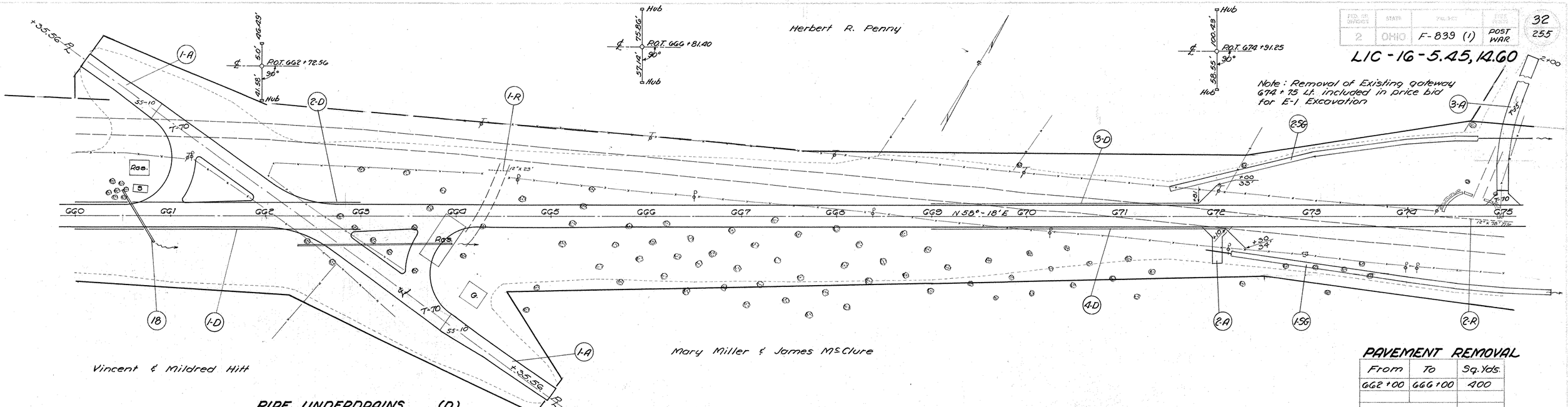


Seeding	26,870 Sq. Yds.
Excavation	10,328 Cu. Yds.
Embankment	59,693 Cu. Yds.
Emb. + 17%	69,841 Cu. Yds.

G45+00 - G60+00

FED. AID PROJECT	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO	F-839 (1)	POST WAR	32	255

LIC-16-5.45, 14.60



PAVEMENT REMOVAL

From	To	Sq. Yds.
GG2 + 00	GGG + 00	400

PIPE UNDERDRAINS (D)

Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" outlet Lin. Ft.	I-5 45° Bends	
1-D	GG0 + 00	GG3 + 00	Rt.	300			
2-D	GG0 + 00	GG3 + 00	Lt.	300			
3-D	GG9 + 00	G72 + 00	Lt.	296	10	1	
4-D	GG9 + 00	G72 + 30	Rt.	326	10	1	
Total				1222	20	2	

PIPE REMOVAL (R)

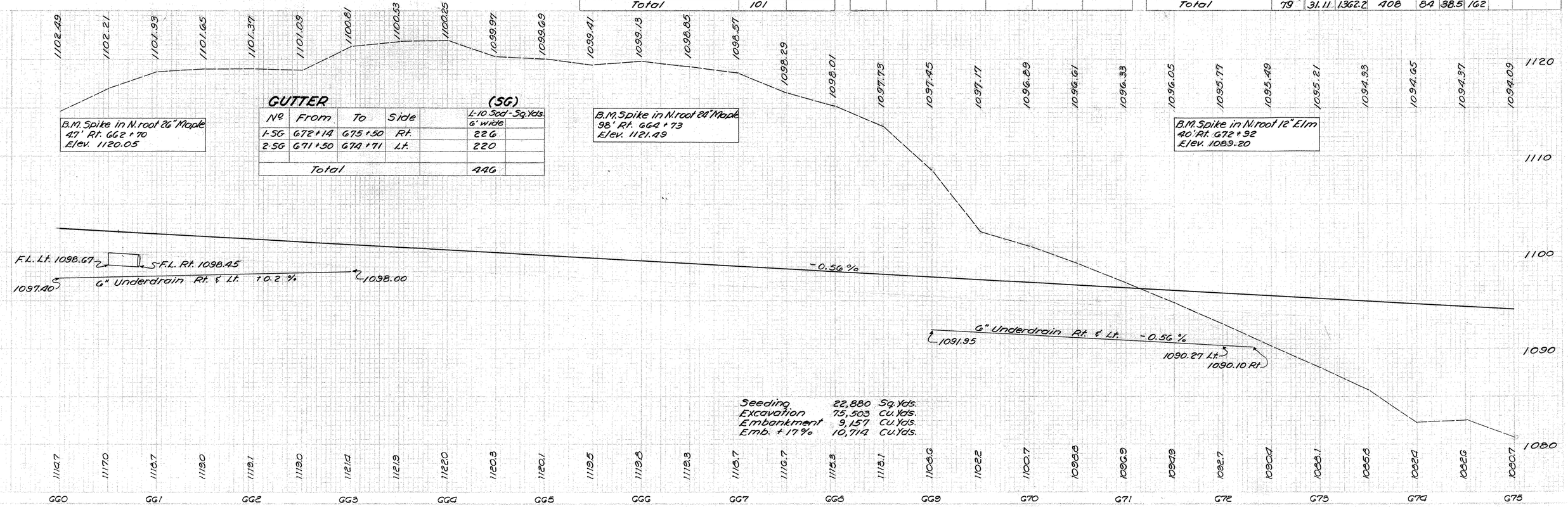
Nº	Station		Side	E-12 15" & under Lin. Ft.	
1-R	GG4 + 50		Lt.	23	
2-R	G74 + 28	G75 + 06	Rt.	78	
Total				101	

STRUCTURES - 20' SPAN & UNDER

Nº	Station	Type	Size	Length	Details Sh. Nº
18	GG0 + 66	Pipe	15"	64	230

DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Agg. Cu. Yds.	T-70 Conc. Pavt. Sq. Yds. 6"	T-70 Conc. Pavt. Sq. Yds. 9"	I-12 4-A Curb Lin. Ft.	I-1 12" Pipe L. Ft.	T-35 Bit. Conc. C. Yds.	I-2 Pipe under Appr. Lin. Ft. 15"		Detail on Sheet
1-A	GG2 + 35.56	Rt. & Lt.	73		1362.2	408			162		214
2-A	G72 + 00	Rt.	6				26				X-Sec.
3-A	G75 + 00	Lt.		31.11			58	38.5			216
Total			79	31.11	1362.2	408	84	38.5	162		



GUTTER (SG)

Nº	From	To	Side		L-10 Sod - Sq. Yds. 6" wide	
1-SG	G72 + 14	G75 + 50	Rt.		226	
2-SG	G71 + 50	G7A + 71	Lt.		220	
Total					446	

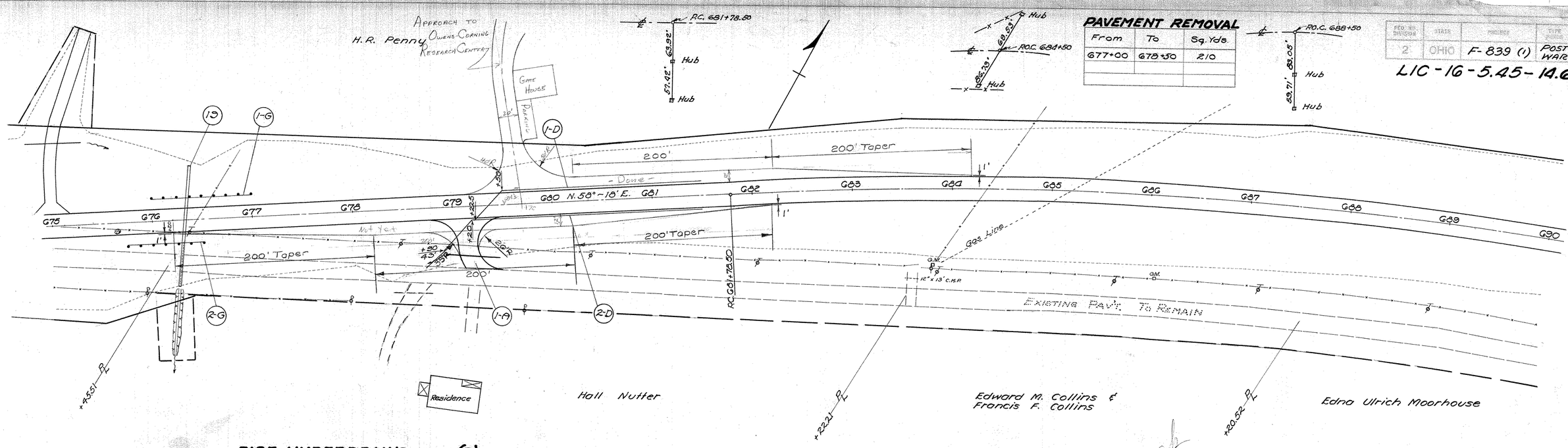
Seeding	22,880	Sq. Yds.
Excavation	75,503	Cu. Yds.
Embankment	9,157	Cu. Yds.
Emb. + 17%	10,714	Cu. Yds.

GG0+00 - G75+00

FED. AID DIVISION	STATE	PROJECT	TYPE
2	OHIO	F-839 (1)	POST WAR

33
255

LIC-16-5.45-14.60



PAVEMENT REMOVAL

From	To	Sq. Yds.
677+00	678+50	210

GUARD RAIL (G)

No	Station From	Station To	Side		New Lin. Ft.
1-G	675+75	676+50	Rt.		75
2-G	676+00	677+00	Lt.		100
. Total					175

PIPE UNDERDRAINS (D)

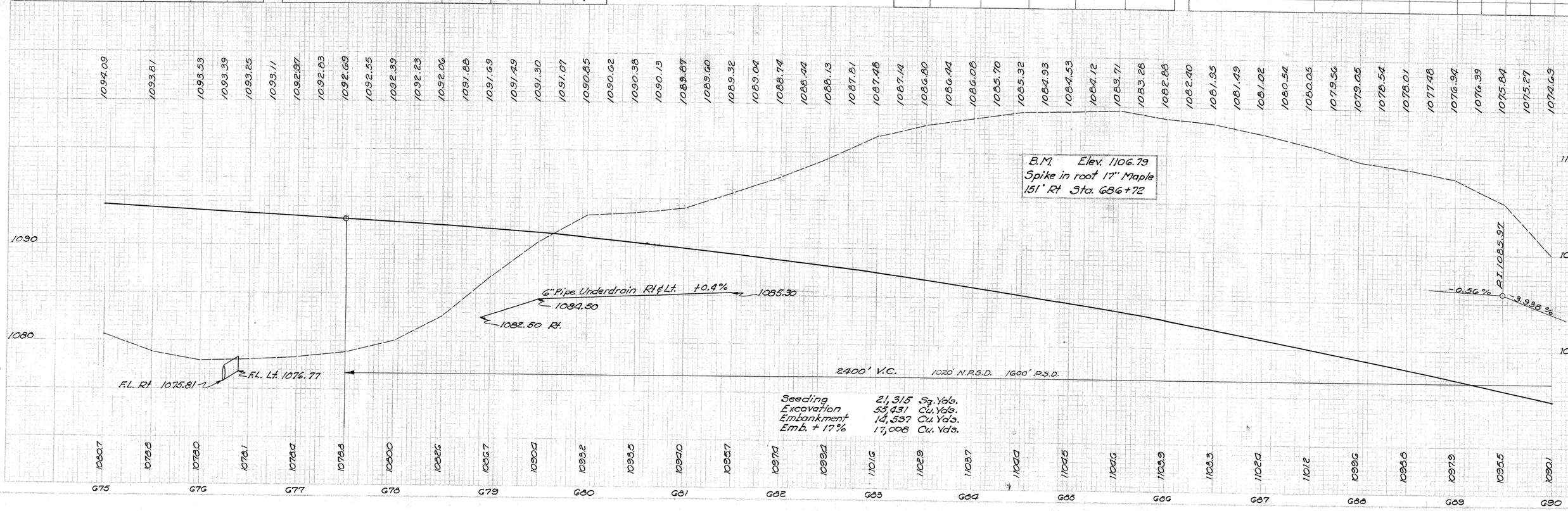
No	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 6" Outlet Lin. Ft.	I-5 45° Bends	I-5 6" Y
1-D	679+22.5	681+50	Lt	238		1	
2-D	678+90	681+50	Rt	258	10	1	1
	Totals			496	10	2	1

STRUCTURES 20' SPAN & UNDER

No	Station	Type	Size	Length	Details Sh. No
19	676+32.74	Pipe	18	120	230

DRIVES & APPROACHES (A)

No	Station	Side		T-70 8" Conc. Sq. Yds.		I-1 Pipe Lin. Ft.			Detail on Sheet
1-A	679+18.61	Rt.		150		54			216

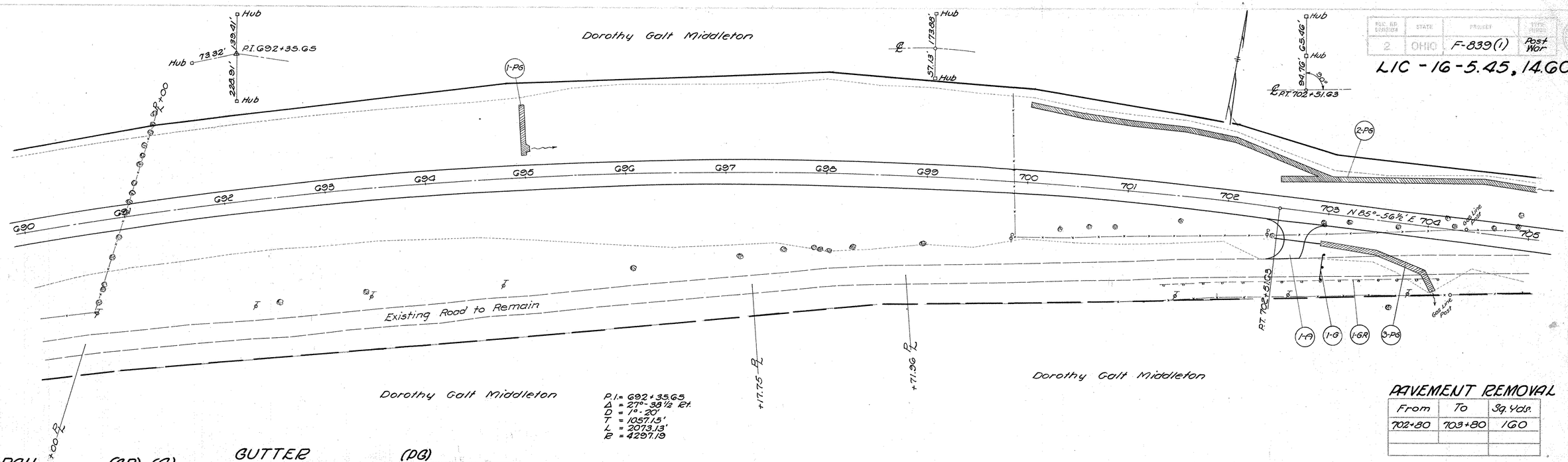


Seeding 21,315 Sq. Yds.
Excavation 55,431 Cu. Yds.
Embankment 14,537 Cu. Yds.
Emb. + 17% 17,008 Cu. Yds.

FED. RD. DIVISION	STATE	PROJECT	TYPE WORK
2	OHIO	F-839(1)	Post War

34
255

LIC-16-5.45, 14.60



P.I. = G92+35.65
Δ = 27°-38½' Rt.
D = 1°-20'
T = 1057.15'
L = 2073.13'
R = 4297.18

GUARD RAIL (GR) (G)

No.	Station From	Station To	Side	Removal Lin. Ft.	New Lin. Ft.
1-G	703+00		Rt.		25
1-GR	703+03.9	704+16.4	Rt.	112.5	
				112.5	25

GUTTER (PG)

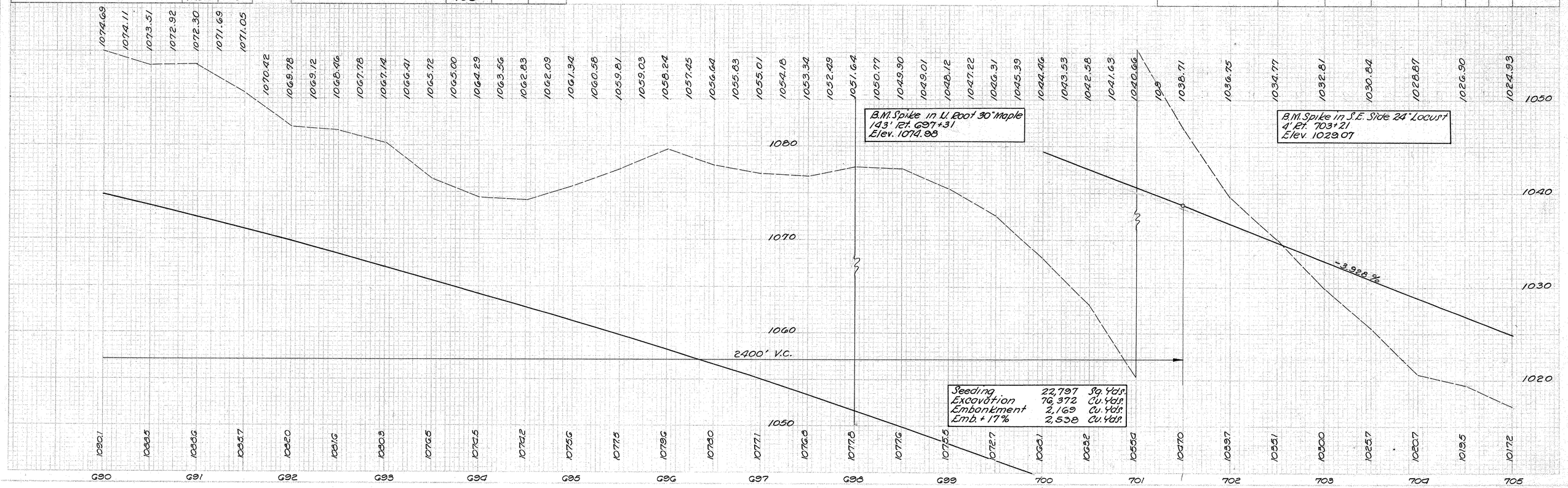
No.	From	To	Side	I-14(S) Lin. Ft.		
1-PG	G95+00		Lt.	56		
2-PG	700+00	705+00	Lt.	552		
3-PG	702+46	704+12	Rt.	128		
				736		

PAVEMENT REMOVAL

From	To	Sq. Yds.
702+80	703+80	160

DRIVES & APPROACHES (A)

No.	Station	Side		T-70 9" Conc. Sq. Yds.		I-1 Pipe Lin. Ft. 15"			Detail on Sheet
1-A	702+70.00	Rt.		104.5		46			216



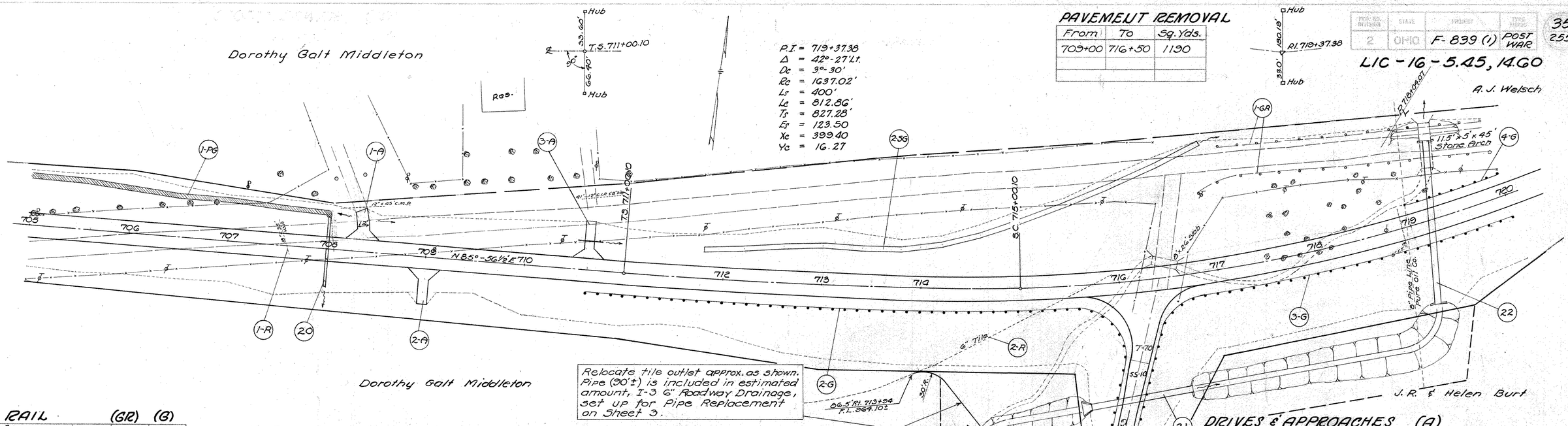
Seeding	22,797	Sq. Yds.
Excavation	76,372	Cu. Yds.
Embankment	2,169	Cu. Yds.
Emb. + 17%	2,538	Cu. Yds.

G90+00 - 705+00

DIV. NO. DIVISION	STATE	PROJECT	TYPE WORK
2	OHIO	F-839 (1)	POST WAR

35
255

Dorothy Galt Middleton



PAVEMENT REMOVAL

From	To	Sq. Yds.
709+00	716+50	1190

GUARD RAIL (GR) (B)

No.	Station From	Station To	Side	Removal Lin. Ft.	New Lin. Ft.
1-GR	717+00	720+00	Lt.	565	
2-G	710+85	1+80 Appr.	Rt.		650
3-G	1+80 Appr.	720+00	Rt.		507
4-G	719+00	720+00	Lt.		100
				565	1257

GUTTER (PG) (SG)

No.	From	To	Side	I-14(S) Lin. Ft.	L-10 Sod 6" Wide Sq. Yds.
1-PG	705+00	708+00	Lt.	305	
2-SG	711+80	717+00	Lt.		350

PIPE REMOVAL (R)

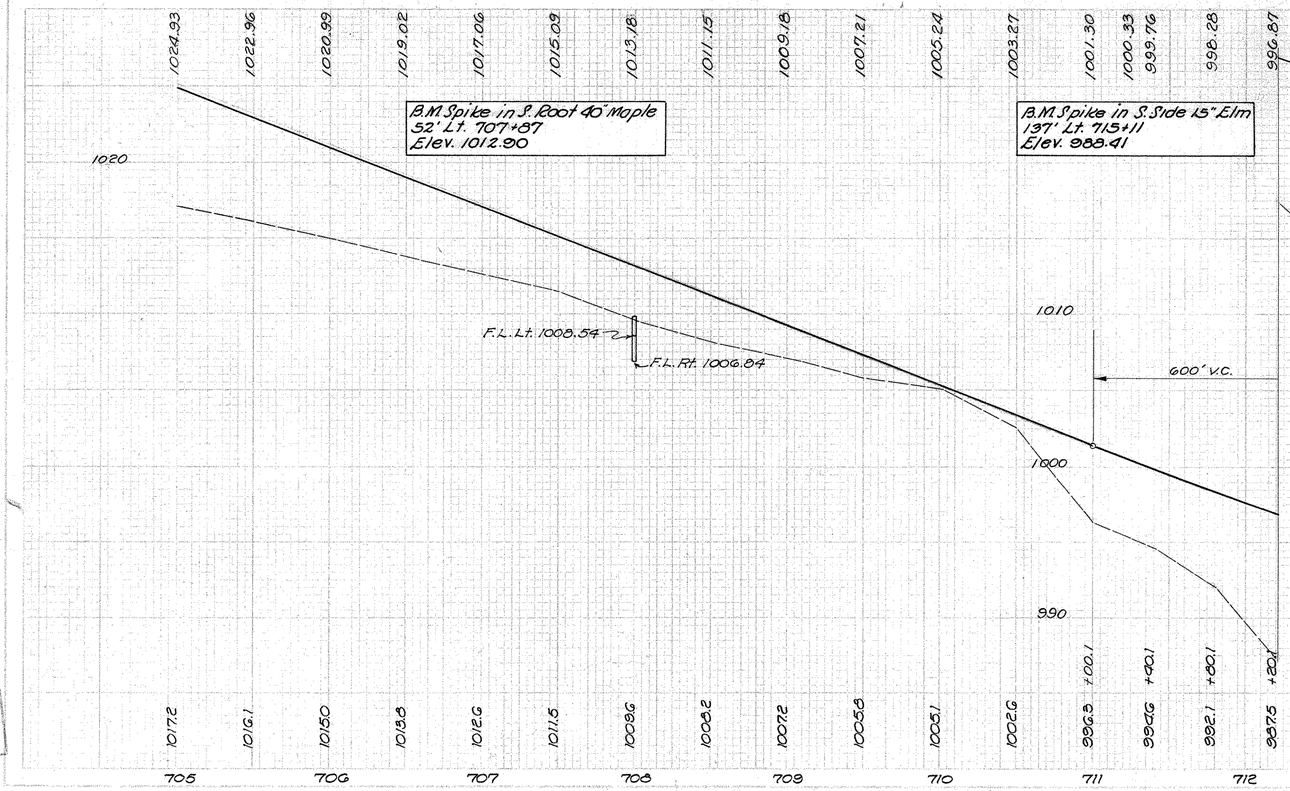
No.	Station		Side	E-12 15" & Under Lin. Ft.	E-12 Over 15" Lin. Ft.
1-R	707+60		℄		35
2-R	713+94	715+95	Rt.	223	

STRUCTURES - 20' SPAN & UNDER

Str. No.	Station	Type	Size	Length	Details Sh. No.
20	708+00	Pipe	15"	70	X-Sec.
21	716+41.05 Rt.	Pipe	78"	106	231
22	719+23.41	Pipe	78"	164	232

DRIVES & APPROACHES (A)

No.	Station	Side	SS-10 Agg. Cu. Yds.	T-70 Pav't. Sq. Yds. 6"	T-70 Pav't. Sq. Yds. 3"	*T-35 Bit. Conc. Cu. Yds.	I-1 Pipe Lin. Ft. 12"		Detail on Sheet
1-A	708+35	Lt.		31.11		2			X-Sec.
2-A	709+00	Rt.	5						X-Sec.
3-A	710+63	Lt.	4	27.78			24		X-Sec.
4-A	716+41.05	Rt.	54		302.7		26		217
Totals			63	58.89	302.7	2	50		



B.M. Spike in S. Root 40" Maple
52' Lt. 707+87
Elev. 1012.90

B.M. Spike in S. Side 15" Elm
137' Lt. 715+11
Elev. 988.41

B.M. □ U.E. Stone Wing Wall
15' Lt. 716+28
Elev. 962.27

B.M. Spike in W. Root 24" Elm
36' Rt. 720+00
Elev. 967.94

F.L. Lt. 1008.54
F.L. Rt. 1006.84

600' V.C.

-3.938 %
-1.28 %

P.I. 989.49

600' V.C.

F.L. Rt. 951.72
F.L. Lt. 951.20

Seeding	23,217 Sq. Yds.
Excavation	1,306 Cu. Yds.
Embankment	71,590 Cu. Yds.
Exc. +17%	83,760 Cu. Yds.

* T-35 Two 3" Courses

705+00 ~ 720+00

FED. AID PROJECT NO.	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO	F-839 (1)	POST WAR	36 / 255

LIC-16-5.45-14.60

STORM SEWER (SS)

№	From	To	Side	I-2 Pipe Lin. Ft. 6"	I-2 Pipe Lin. Ft. 12"	I-8 C.B. 3-A Modified
1-SS	721+40		Rt.&Lt.	120		
2-SS	726+56.71(F)	727+70	Lt		106	1
Totals				120	106	1

* Detail on Sheet 220

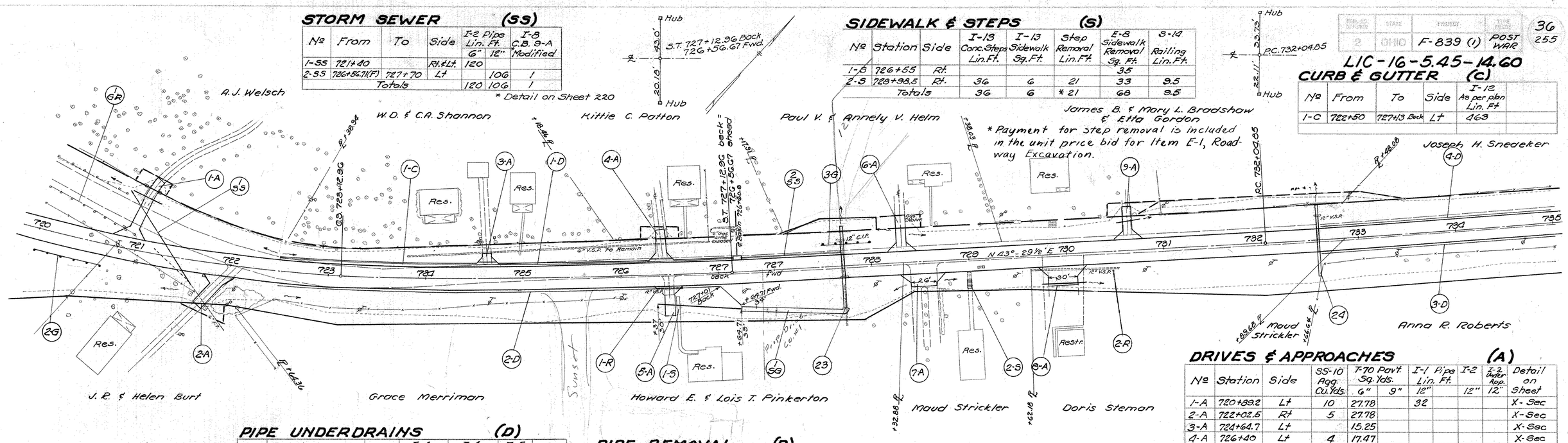
SIDEWALK & STEPS (S)

№	Station	Side	I-13 Conc. Steps Lin. Ft.	I-13 Sidewalk Sq. Ft.	Step Removal Lin. Ft.	E-8 Sidewalk Removal Sq. Ft.	S-14 Railing Lin. Ft.
1-S	726+55	Rt.				35	
2-S	728+98.5	Rt.	36	6	21	33	9.5
Totals			36	6	* 21	68	9.5

* Payment for step removal is included in the unit price bid for Item E-1, Roadway Excavation.

CURB & GUTTER (C)

№	From	To	Side	I-12 As per plan Lin. Ft
1-C	722+50	727+13 Back	Lt	463



DRIVES & APPROACHES (A)

№	Station	Side	SS-10 Agg. Cu.Yds.	T-70 Pavt. Sq. Yds. 6"	T-70 Pavt. Sq. Yds. 9"	I-1 Pipe Lin. Ft. 12"	I-2	I-2 Under App. 12"	Detail on Sheet
1-A	720+892	Lt	10	27.78		32			X-Sec
2-A	722+02.5	Rt	5	27.78					X-Sec
3-A	724+64.7	Lt		15.25					X-Sec
4-A	726+40	Lt	4	17.47					X-Sec
5-A	726+48	Rt	2	27.78			60	24	X-Sec
6-A	728+32	Lt	4	27.78					X-Sec
7-A	728+52.5	Rt		48.67					X-Sec
8-A	729+96	Rt	1		61.11	44			X-Sec
9-A	730+63.6	Lt	3	27.78		24			X-Sec
Totals			29	220.29	61.11	100	60	24	

GUARD RAIL (GR) (G)

№	Station From	Station To	Side	Removal Lin.Ft.	New Lin.Ft.
1-GR	720+00	720+98	Lt	180	
2-G	720+00	720+68	Rt		68
3-G	727+50	728+00	Lt		50
Totals				180	118

PIPE UNDERDRAINS (D)

№	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 8" Outlet Lin. Ft.	I-5 45° Bends
1-D	722+50	726+58 Fwd	Lt	461		
2-D	722+50	726+64.71 Fwd	Rt	468	10	1
3-D	732+60	735+00	Rt	240		
4-D	732+60	735+00	Lt	240		
Totals				1412	10	1

PIPE REMOVAL (R)

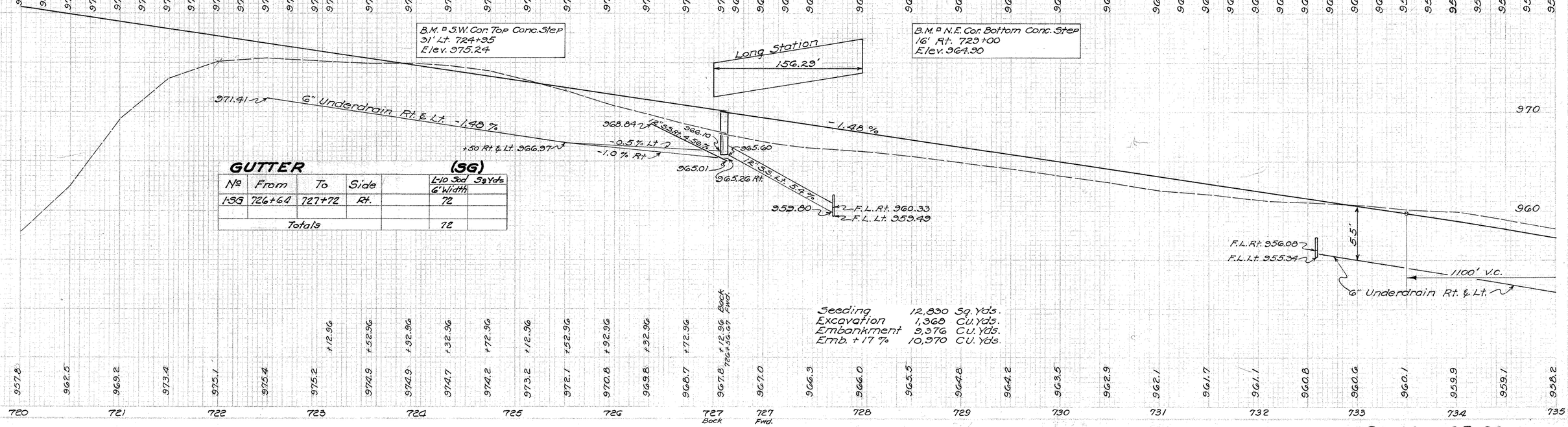
№	Station		Side	E-12 15" & Under Lin. Ft.
1-R	726+98		Rt.	28
2-R	729+62	730+52	Rt.	90
Total				118

STRUCTURES 20' SPAN & UNDER

Str. №	Station	Type	Size	Length	Details Sh. №
23	727+71	Pipe	15"	84'	232
24	732+58.75	Pipe	15"	74'	233

GUTTER (SG)

№	From	To	Side		L-10 30d 6" Width	Sq Yds
1-SG	726+64	727+72	Rt.		72	
Totals					72	



Seeding	12,830	Sq. Yds.
Excavation	1,368	Cu. Yds.
Embankment	3,376	Cu. Yds.
Emb. + 17 %	10,970	Cu. Yds.

720+00 ~ 735+00

					37
2	OHIO	F-839 (1)	POST WAR		255

LIC-16-5.45, 14.60

Joseph H. Snedeker

Willis A. Chamberlain

R.J. Quisenberry

Anna R. Roberts

Edward Williamson

Hub — 33.19' — P.I. 736+57.60 — 20.74' — Hub

Δ = 4°31⅛' Lt.
D = 0°30'
T = 452.75'
L = 905.00'
R = 11,459.16'

Hub — 23.05' — P.I. 741+09.85 — 32.19' — Hub

P.O.T. 746+37.85 — 22.25' — 39.69'

R = 1146

R = 1340

R = 1139.07

Gar.

Res.

Res.

2 Tennis Courts

Filling Station

Gas Meter

Gas Post

12" C.M.P.

18" C.M.P.

8" C.M.P.

12" R.C.P.

12" Blacktop Drive

735 736 737 738 739 740 741 742 743 N 38°-58' E 744 745 746 747 748 749 750

1-A 1-R 1-S 1-C 1-SG 2-A 2-R 3-A 3-R 3-SG 4-A 4-R 4-SG 5-A 1-D 2-D 3-SG 5-R 7-A 6-A 8-A

SIDEWALK & STEPS (S)

Nº	Station	Side	I-13 Conc. Steps Lin. Ft.		Step Removal Lin. Ft.		3-14 Railing Lin. Ft.
1-S	738+62	Lt.	68		*25		18.5

* Payment for step removal is included in the unit price bid for Item E-1, Roadway Excavation.

CURB & GUTTER (C)

Nº	From	To	Side	I-12 As per plan Lin. Ft.
1-C	738+29	739+60	Lt.	131

GUTTER (3G)

Nº	From	To	Side		L-10 Sod ~ Sq. Yds. 6' Wide	
1-SG	739+60	741+50	Lt.		130	
2-SG						
3-SG	743+41	746+50	Rt.		207	
4-SG	743+50	745+00	Lt.		100	
Total					437	

PIPE UNDERDRAINS (D)

Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.
1-D	735+00	750+00	Lt.	1500
2-D	735+00	750+00	Rt.	1500
Total				3000

PIPE REMOVAL (R)

Nº	Station		Side	E-12 15" C. Under Lin. Ft.
1-R	737+62	738+62	Rt.	100
2-R	741+64		Lt.	22
3-R	742+93		Lt.	16
4-R	743+10		Rt.	64
5-R	747+14		Lt.	14
Total				216

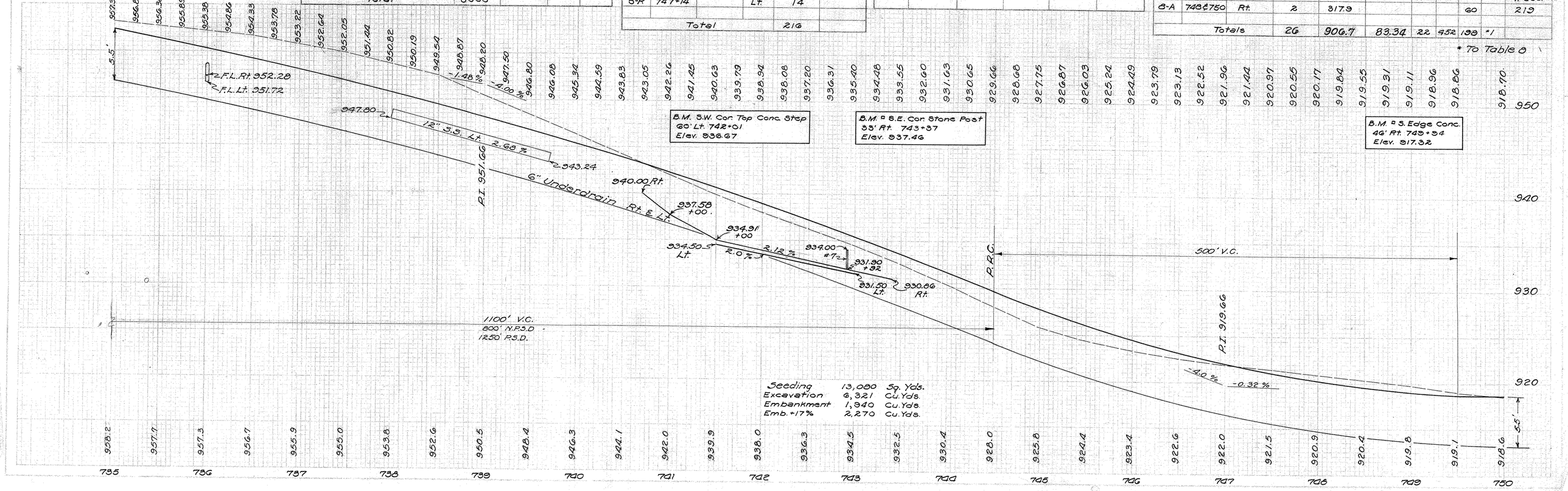
STRUCTURES — 20' SPAN & UNDER

Str. Nº	Station	Type	Size	Length	Details Sh. Nº
25	736+00	Pipe	15"	56'	195

DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.	T-70 Conc. Sq. Yds.	T-70 6" Conc. Sq. Yds.	I-1 Pipe Lin. Ft. 12"	I-2 Pipe Lin. Ft. 12"	I-2 Pipe Under Appr. Lin. Ft. 12"	#7 Basin	Detail on Sheet
1-A	736+25	Rt.	6							X-Sec.
2-A	738+14	Lt.	5		27.78		138	32		X-Sec.
3-A	741+64	Lt.	5		27.78		92	58		X-Sec.
4-A	742+84	Lt.	2		27.78					X-Sec.
5-A	743+10	Rt.		74.7			222	40	1	X-Sec.
6-A	746+39	Rt.	2	514.1						219
7-A	747+14	Lt.	4			22				X-Sec.
8-A	748&750	Rt.	2	317.9				60		219
Totals			26	906.7	83.34	22	452	190	*1	

* To Table 8

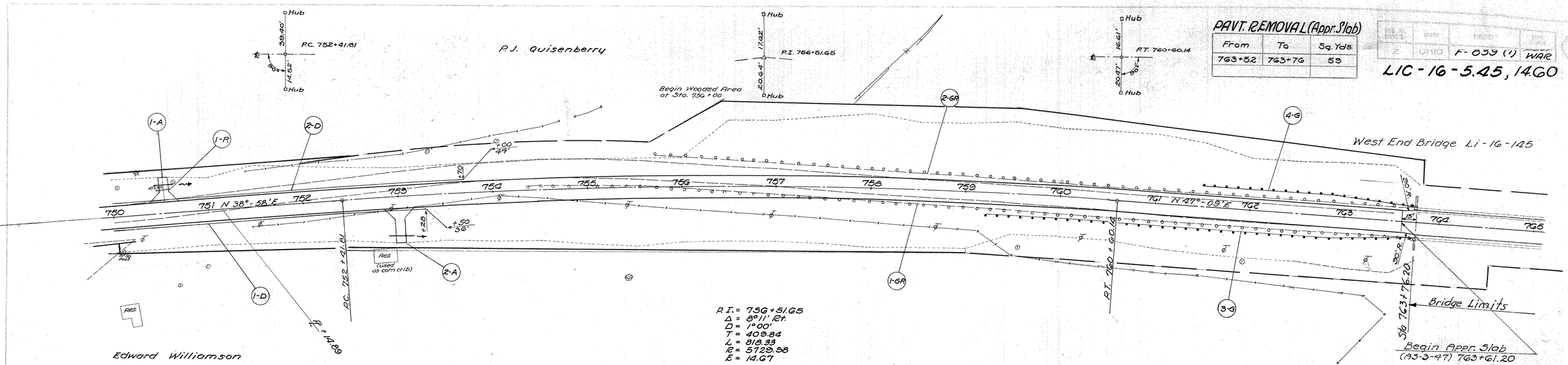


B.M. S.W. Cor. Top Conc. Step
60' Lt. 742+01
Elev. 936.67

B.M. ▫ S.E. Cor. Stone Post
33' Rt. 743+37
Elev. 937.46

B.M. ▫ S. Edge Conc.
46' Rt. 749+54
Elev. 917.32

Seeding	13,080	Sq. Yds.
Excavation	6,321	Cu. Yds.
Embankment	1,940	Cu. Yds.
Emb. +17%	2,270	Cu. Yds.



* I-7 R.C. Approach Slab 41.4 Sq. Yds.
* T-30 Bituminous Tack Coat 4 Gal.
* T-35 2½" Asphaltic Conc. 2.9 Cu. Yds.

* To General Summary
* To Table 2

Note: Item T-35 above is to be placed in two 1¼" courses.

GUARD RAIL (GR) (G)

Nº	Station From	Station To	Side	Removal Lin. Ft.	New Lin. Ft.
1-GR	754+35	763+72	Rt.	937	
2-GR	755+70	763+72	Lt.	802	
3-G	759+22	763+72	Rt.		450
4-G	761+47	763+72	Lt.		225
Total				1739	675

PIPE UNDERDRAINS (D)

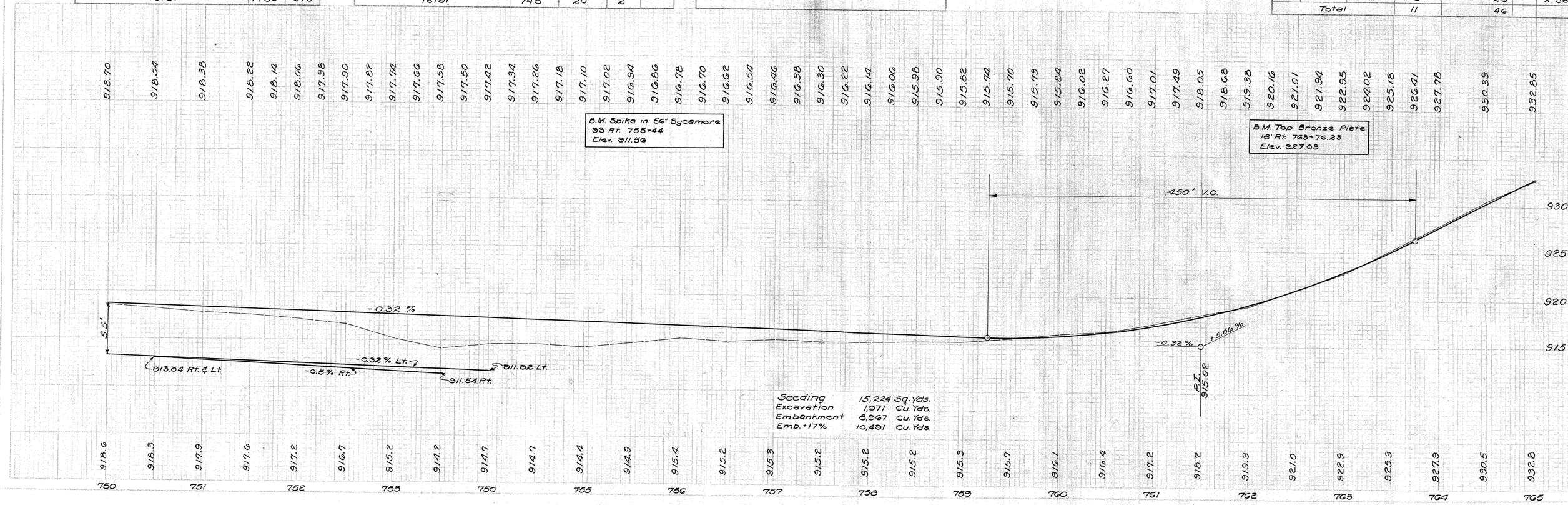
Nº	Station From	Station To	Side	I-4 6" Pipe Lin. Ft.	I-4 6" outlet Lin. Ft.	I-6 45° Bends	
1-D	750+00	753+50	Rt	348	10	1	
2-D	750+00	754+00	Lt	400	10	1	
Total				748	20	2	

PIPE REMOVAL (R)

Nº	Station		Side	E-12 15" ℄ Under Lin. Ft.	
1-R	750+54		Lt	14	

DRIVES & APPROACHES (A)

Nº	Station	Side	SS-10 Aggregate Cu. Yds.		I-1 Pipe Lin. Ft. 12"	Detail on Sheet
1-A	750+54	Lt.	5		20	X-Sec.
2-A	753+00	Rt.	6		26	X-Sec.
Total			11		46	



Seeding	15,224	Sq. Yds.
Excavation	1,071	Cu. Yds.
Embankment	8,967	Cu. Yds.
Emb. +17%	10,491	Cu. Yds.

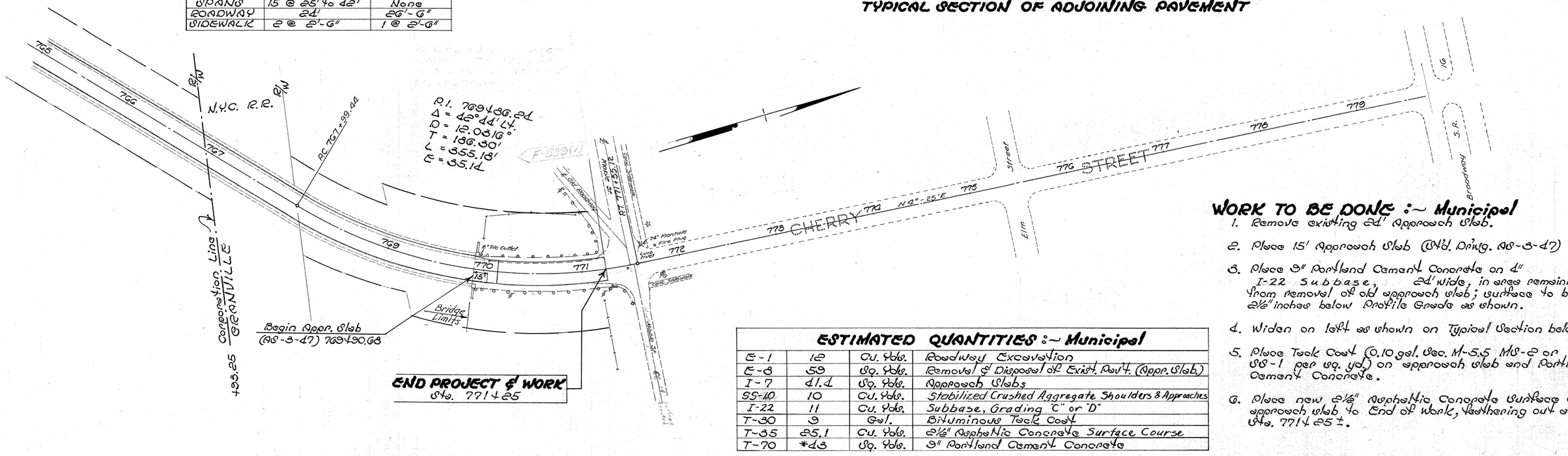
750+00 to 765+00

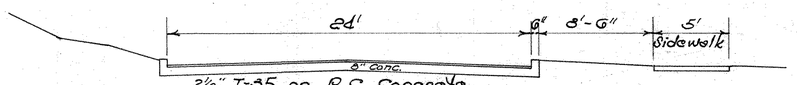
FED. RD. DIVISION	STATE	PROJECT	TYPE WORK	SHEET NO.	TOTAL SHEETS
2	OHIO	[illegible]	[illegible]	39	255

LIC-16-5.45, 14.60

STRUCTURE LI-16-145

	EXISTING	PROPOSED ALTERATION
TYPE	Concrete Beam	None
SPANS	15 @ 25' to 42'	None
ROADWAY	24'	26'-6"
SIDEWALK	2 @ 2'-6"	1 @ 2'-6"





TYPICAL SECTION OF ADJOINING PAVEMENT

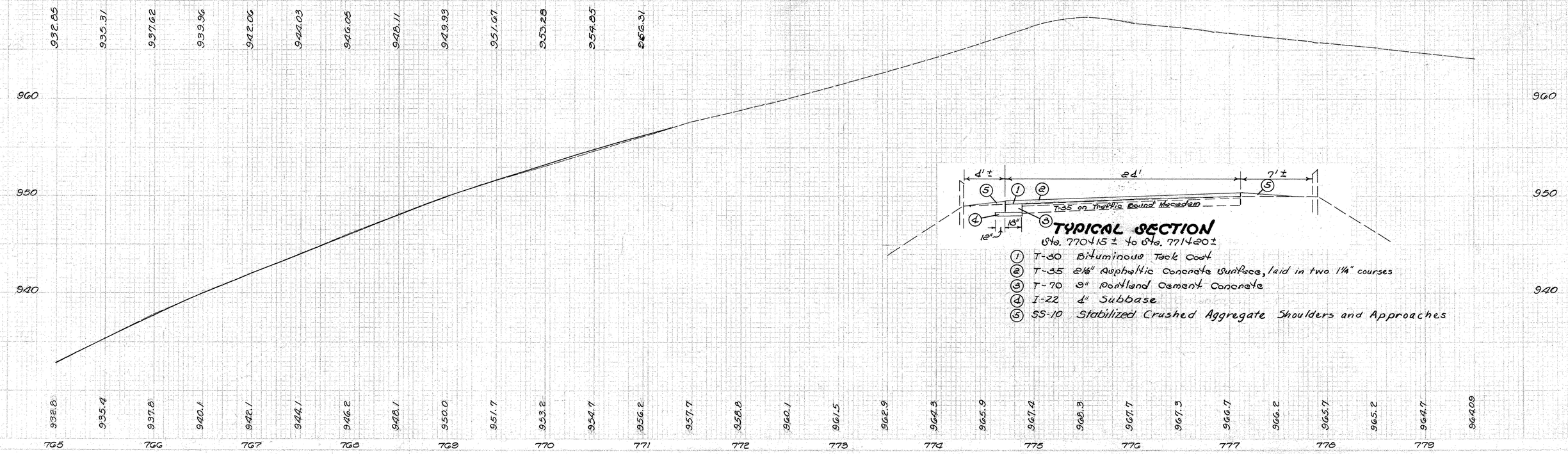
WORK TO BE DONE :~ Municipal

1. Remove existing 24' Approach Slab.
2. Place 15' Approach Slab (Std. Drwg. AS-3-47)
3. Place 9" Portland Cement Concrete on 4" I-22 Subbase, 24' wide, in area remaining from removal of old approach slab; surface to be 2½" inches below Profile Grade as shown.
4. Widen on left as shown on Typical Section below.
5. Place Tack Coat (0.10 gal. Sec. M-5.5 MS-2 or SS-1 per sq. yd.) on approach slab and Portland Cement Concrete.
6. Place new 2½" Asphaltic Concrete Surface over approach slab to End of Work, feathering out at Sta. 771+25 ±.

ESTIMATED QUANTITIES :~ Municipal

E-1	12	Cu. Yds.	Roadway Excavation
E-8	59	Sq. Yds.	Removal & Disposal of Exist. Pav't. (Appr. Slab)
I-7	41.4	Sq. Yds.	Approach Slabs
SS-10	10	Cu. Yds.	Stabilized Crushed Aggregate Shoulders & Approaches
I-22	11	Cu. Yds.	Subbase, Grading "C" or "D"
T-30	9	Gal.	Bituminous Tack Coat
T-35	25.1	Cu. Yds.	2½" Asphaltic Concrete Surface Course
T-70	*43	Sq. Yds.	9" Portland Cement Concrete

* Provisions under Sec. T-71.214 are waived for this item where used for base widening & replacement



TYPICAL SECTION

Sta. 770+15 ± to Sta. 771+20 ±

1. T-30 Bituminous Tack Coat
2. T-35 2½" Asphaltic Concrete Surface, laid in two 1¼" courses
3. T-70 9" Portland Cement Concrete
4. I-22 4" Subbase
5. SS-10 Stabilized Crushed Aggregate Shoulders and Approaches

765+00 ~ 780+00

SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-839 (1)	POST WAR

40/255

LIC-16-5.45, 14.60

P.C. 383+0834 — 1°-09 LT. — P.T. 412+3298

Elev. Lt. Edge of Pav't	Width Pav't Feet	Station	Elev. & of Pav't	Width Pav't Feet	Elev Rt. Edge of Pav't.
1143.27		381+75	1143.46		1143.27
1143.62	12'-0"	382+00	1143.81	12'-0"	1143.65
1143.97		+25	4.16		1144.08
1144.32		+50	4.51		1144.54
1144.67		+75	4.86		1145.00
1145.02		383+00	5.25		1145.47
1145.14		+0834	5.38		1145.63
1145.37		+25	5.65		1145.93
1145.72		+50	6.04		1146.36
1146.07		+75	6.40		1146.74
1146.42		384+00	6.75		1147.09
1146.77		+25	7.11		1147.44
1147.11		+50	7.45		1147.78
1147.45		+75	7.49		1148.12
1147.79		385+00	8.13		1148.46
1148.12		+25	8.46		1148.79
1148.45		+50	8.79		1149.12
1148.78		+75	9.12		1149.45
1149.10		386+00	9.44		1149.77
1149.42		+25	9.76		1150.09
1149.73		+50	50.07		1150.40
1150.04		+75	0.38		1150.71
1150.35		387+00	0.69		1151.02
1150.65		+25	0.99		1151.32
1150.95		+50	1.29		1151.62
1151.25		+75	1.59		1151.92
1151.54		388+00	1.88		1152.21
1151.83		+25	2.17		1152.50
1152.11		+50	2.45		1152.78
1152.39		+75	2.73		1153.06
1152.67		389+00	3.01		1153.34
1152.94		+25	3.28		1153.61
1153.21		+50	3.55		1153.88
1153.48		+75	3.82		1154.15
1153.74		390+00	4.08		1154.41
1154.00		+25	4.34		1154.67
1154.26		+50	4.60		1154.93
1154.52		+75	4.86		1155.18
1154.78		391+00	5.12		1155.45
1155.04		+25	5.38		1155.71
1155.30		+50	5.64		1155.97
1155.56		+75	5.90		1156.23
1155.82		392+00	6.16		1156.49
1156.08		+25	6.42		1156.75
1156.34		+50	6.68		1157.01
1156.60		+75	6.94		1157.27
1156.86		393+00	7.20		1157.53
1157.12		+25	7.46		1157.79
1157.38		+50	7.72		1158.05
1157.64		+75	7.98		1158.31
1157.90		394+00	8.24		1158.57
1158.16		+25	8.50		1158.83
1158.42		+50	8.76		1159.09
1158.68		+75	9.02		1159.35
1158.94		395+00	9.28		1159.61
1159.20		+25	9.54		1159.87
1159.46		+50	9.80		1160.13
1159.72		+75	60.06		1160.39
1159.98		396+00	0.32		1160.65
1160.24		+25	0.58		1160.91
1160.50		+50	0.74		1161.17
1160.76		+75	1.10		1161.43
1161.02		397+00	1.36		1161.69
1161.28		+25	1.62		1161.95
1161.54		+50	1.88		1162.21
1161.80		+75	2.14		1162.47
1162.06		398+00	2.40		1162.73
1162.32		+25	2.66		1162.99
1162.58		+50	9.92		1163.25
1162.84		+75	3.18		1163.51
1163.10		399+00	3.44		1163.77
1163.36		+25	1163.70		1164.03

P.C. 383+0834 — 1°-09 LT. — P.T. 412+3298

Elev. Lt. Edge of Pav't	Width Pav't Feet	Station	Elev. & of Pav't	Width Pav't Feet	Elev Rt. Edge Pav't.
1163.62	12'-0"	+50	1163.96	12'-0"	1164.29
1163.88		+75	4.22		1164.55
1164.14		400+00	4.48		1164.81
1164.40		+25	4.74		1165.07
1164.66		+50	5.00		1165.33
1164.92		+75	5.26		1165.59
1165.18		401+00	5.52		1165.85
1165.44		+25	5.78		1166.11
1165.70		+50	6.04		1166.37
1165.96		+75	6.30		1166.63
1166.22		402+00	6.56		1166.89
1166.48		+25	6.82		1167.15
1166.73		+50	7.07		1167.40
1166.98		+75	7.32		1167.65
1167.22		403+00	7.56		1167.89
1167.46		+25	7.80		1168.13
1167.79		+50	8.13		1168.46
1167.92		+75	8.26		1168.59
1168.15		404+00	8.49		1168.82
1168.37		+25	8.71		1169.04
1168.58		+50	8.92		1169.25
1168.79		+75	9.13		1169.46
1169.00		405+00	9.34		1169.67
1169.20		+25	9.54		1169.87
1169.40		+50	9.74		1170.07
1169.59		+75	9.93		1170.26
1169.78		406+00	70.12		1170.45
1169.96		+25	0.30		1170.63
1170.14		+50	0.48		1170.81
1170.31		+75	0.65		1170.98
1170.48		407+00	0.82		1171.15
1170.64		+25	0.98		1171.31
1170.80		+50	1.14		1171.47
1170.95		+75	1.29		1171.62
1171.10		408+00	1.44		1171.77
1171.24		+25	1.58		1171.91
1171.38		+50	1.72		1172.05
1171.52		+75	1.86		1172.19
1171.65		409+00	1.99		1172.32
1171.77		+25	2.11		1172.44
1171.89		+50	2.23		1172.56
1172.01		+75	2.35		1172.68
1172.12		410+00	2.46		1172.79
1172.23		+25	2.57		1172.90
1172.33		+50	2.67		1173.00
1172.42		+75	2.76		1173.09
1172.51		411+00	2.85		1173.18
1172.60		+25	2.94		1173.27
1172.68		+50	3.02		1173.35
1172.76		+75	3.10		1173.43
1172.84		412+00	3.16		1173.48
1172.91		+25	3.19		1173.47
1172.93		+32.98	3.19		1173.45
1172.97		+50	3.20		1173.42
1173.03		+75	3.22		1173.46
1173.08		413+00	3.27		1173.30
1173.13		+25	3.32		1173.24
1173.18		+50	1173.37		1173.20
1173.22		+75	1173.41		1173.22

P.C. 681+7850 — 1°-20' RT. — P.T. 702+5163

Elev. Lt. Edge of Pav't.	Width Pav't Feet	Station	Elev. & of Pav't	Width Pav't Feet	Elev. Rt. Edge of Pav't.
1090.19	12'-0"	680+50	1090.38	12'-0"	1090.19
1089.97		+75	90.13		1089.94
1089.81		681+00	89.87		1089.68
1089.67		+25	89.60		1089.41
1089.51		+50	89.32		1089.13
1089.36		+75	89.11		1088.85
1089.34		+78.50	89.07		1088.81
1089.19		682+00	88.87		1088.55
1088.99		+25	88.72		1088.25
1088.71		+50	88.33		1087.94
1088.39		+75	88.41		1087.62
1088.26		683+00	87.68		1087.29
1087.72		+25	87.34		1086.95
1087.38		+50	87.00		1086.61
1087.02		+75	86.64		1086.25
1086.66		684+00	86.28		1085.89
1086.28		+25	85.90		1085.51
1085.80		+50	85.62		1085.13
1085.51		+75	85.13		1084.74
1085.11		685+00	84.73		1084.34
1084.70		+25	84.32		1083.93
1084.19		+50	83.91		1083.52
1083.86		+75	83.48		1083.09
1083.46		686+00	83.08		1082.69
1082.98		+25	82.60		1082.21
1082.53		+50	82.15		1081.76
1082.07		+75	81.69		1081.30
1081.60		687+00	81.22		1080.83
1081.12		+25	80.74		1080.35
1080.63		+50	80.25		1079.86
1080.14		+75	79.76		1079.37
1079.63		688+00	79.25		1078.86
1079.12		+25	78.74		1078.35
1078.59		+50	78.21		1077.82
1078.06		+75	77.68		1077.29
1077.52		689+00	77.14		1076.75
1076.97		+25	76.59		1076.20
1076.42		+50	76.04		1075.65
1075.85		+75	75.47		1075.08
1075.27		690+00	74.89		1074.50
1074.69		+25	74.31		1073.92
1074.09		+50	73.71		1073.32
1073.50		+75	73.12		1072.73
1072.88		691+00	72.50		1072.11
1072.27		+25	71.89		1071.50
1071.63		+50	71.25		1070.86
1071.00		+75	70.62		1070.23
1070.36		692+00	69.98		1069.59
1069.70		+25	69.32		1068.93
1069.04		+50	68.66		1068.27
1068.36		+75	67.98		1067.59
1067.72		693+00	67.34		1066.95
1066.79		+25	66.61		1066.22
1066.30		+50	65.92		1065.53
1065.28		+75	65.20		1064.81
1064.87		694+00	64.49		1064.10
1064.14		+25	63.76		1063.37
1063.41		+50	63.03		1062.64
1062.67		+75	62.29		1061.90
1061.92		695+00	61.54		1061.15
1061.16		+25	60.78		1060.39
1060.39		+50	60.01		1059.62
1059.61		+75	59.23		1058.84
1058.82		696+00	58.44		1058.05
1058.03		+25	57.65		1057.26
1057.22		+50	56.84		1056.45
1056.41		+75	56.03		1055.64
1055.59		697+00	55.21		1054.82
1054.76		+25	1054.38		1053.99

P.C. 681+7850 — 1°-20 RT. — P.T. 702+5163

Elev. Lt. Edge of Pav't.	Width Pav't Feet	Station	Elev. & of Pav't	Width Pav't Feet	Elev. Rt. Edge of Pav't.
1053.92	12'-0"	+50	1053.54	12'-0"	1053.15
1053.07		+75	52.69		1052.30
1052.22		698+00	51.84		1051.45
1051.35		+25	50.97		1050.58
1050.48		+50	50.10		1049.71
1049.59		+75	49.21		1048.82
1048.60		699+00	48.32		1047.93
1047.80		+25	47.42		1047.03
1046.89		+50	46.51		1046.12
1045.97		+75	45.59		1045.20
1045.04		700+00	44.66		1044.27
1044.11		+25	43.73		1043.34
1043.16		+50	42.78		1042.39
1042.21		+75	41.83		1041.44
1041.24		701+00	40.86		1040.47
1040.28		+25	39.90		1039.51
1039.29		+50	38.91		1038.52
1038.31		+75	37.93		1037.54
1037.30		702+00	36.93		1036.56
1036.21		+25	35.89		1035.57
1035.10		+50	34.81		1034.59
1035.03		+5163	34.78		1034.52
1033.98		+75	33.79		1033.60
1032.88		703+00	32.81		1032.62
1031.76		+25	31.82		1031.63
1030.68		+50	30.84		1030.65
1029.66		+75	1029.85		1029.66

Note: Thirty minute (30') curves shall be Superelevated 3/16" per foot of width, as shown on cross-sections, and have normal shoulder treatment on high side. Curves over 30' shall have shoulder treatment on high side as shown on SUPERELEVATED SECTION.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839(1)	POST WAR

41/255

LIC-16-5.45, 14.60

SUPERELEVATION TABLES

T.S. 711+00.10
S.C. 715+00.10

3° – 30' LT.

C.S. 723+12.96
S.T. 727+12.96

Elev. Lt. Edge of Pavt.	Width Pavt Feet	Station	Elev ℄ of Pavt	Width Pavt. Feet	Elev. Rt Edge of Pavt.
1004.07	12'-0"	710+25	1004.26	12'-0"	1004.07
1003.08	↑	+50	03.27	↑	1003.14
1002.10		+75	02.29		1002.23
1001.11		711+00.10	1001.30		1001.30
999.57		+40.10	999.78		999.94
998.09		+80.10	98.37		998.64
996.68		712+20.10	97.05		997.41
995.33		+60.10	95.79		996.24
994.05		713+00.10	94.60		995.15
992.84		+40.10	93.48		994.12
991.69		+80.10	92.42		993.15
990.61		714+20.10	91.43		992.25
989.59		+60.10	90.50		991.41
988.64		715+00.10	89.64		990.64
988.08		+25	89.08		990.08
987.54		+50	88.54		989.54
987.03		+75	88.03		989.03
986.55		716+00	87.55		988.55
986.09		+25	87.09		988.09
985.65		+50	86.65		987.65
985.24		+75	86.24		987.24
984.86		717+00	85.86		986.86
984.49		+25	85.49		986.49
984.12		+50	85.12		986.12
983.75		+75	84.75		985.75
983.38		718+00	84.38		985.38
983.01		+25	84.01		985.01
982.64		+50	83.64		984.64
982.27		+75	83.27		984.27
981.90		719+00	82.90		983.90
981.53		+25	82.53		983.53
981.16		+50	82.16		983.16
980.79		+75	81.79		982.79
980.42		720+00	81.42		982.42
980.05		+25	81.05		982.05
979.68		+50	80.68		981.68
979.31		+75	80.31		981.31
978.94		721+00	80.94		980.94
978.57		+25	79.57		980.57
978.20		+50	79.20		980.20
977.83		+75	78.83		979.83
977.46		722+00	78.46		979.46
977.09		+25	78.09		979.09
976.72		+50	77.72		978.72
976.35		+75	77.35		978.35
975.98		723+00	76.98		977.98
975.80		+12.96	76.80		977.80
975.21		+52.96	76.12		977.03
974.61		+92.96	75.43		976.25
974.02		724+32.96	74.75		975.48
973.43		+72.96	74.07		974.71
972.83		725+12.96	73.38		973.93
972.24		+52.96	72.70		973.15
971.65		+92.96	72.02		972.38
971.06		726+32.96	71.34		971.61
970.46		+72.96	70.65		970.83
		727+12.96	Back		
969.87		= 726+56.67	Fwd 970.06		970.06
969.60		726+75	69.79		969.74
969.23	↓	727+00	69.42	↓	969.30
968.86		+25	969.05		968.86

P.C. 752+41.81

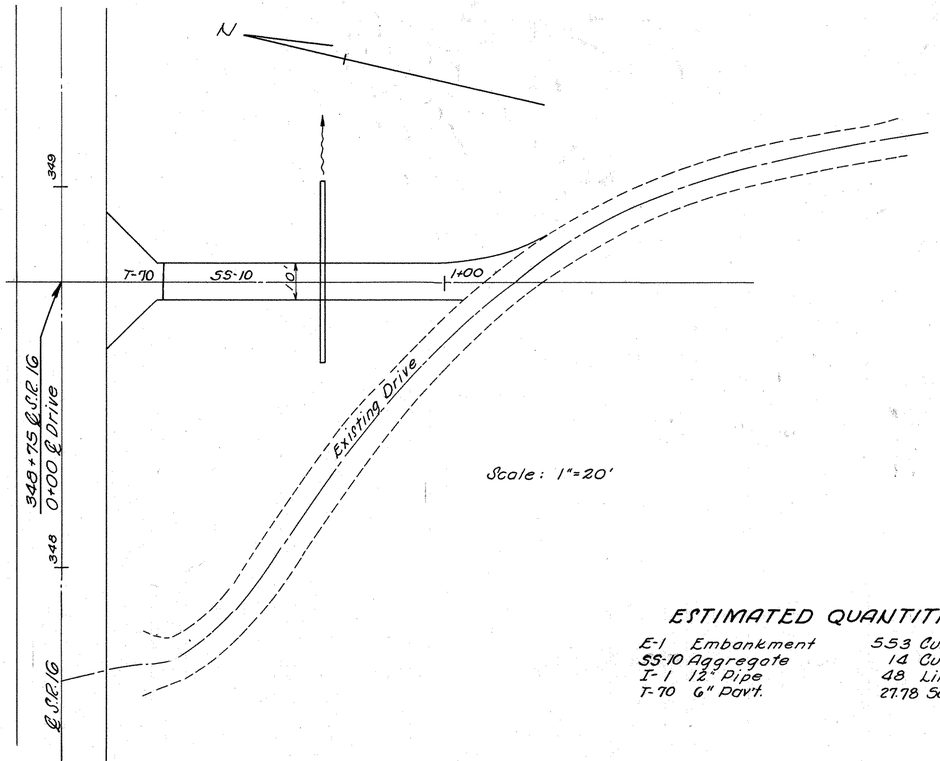
1°-00 Rt.

P.T. 760+60.14

Elev. Lt. Edge of Pavt.	Width Pavt Feet	Station	Elev ℄ of Pavt.	Width Pavt Feet	Elev. Rt. Edge of Pavt.
918.19	12'-0"	751+00	918.38	12'-0"	918.19
918.13	↑	+25	18.30	↑	918.11
918.13		+50	18.22		918.03
918.14		+75	18.14		917.95
918.16		752+00	18.06		917.87
918.18		+25	17.98		917.79
918.19		+41.81	17.97		917.74
918.19		+50	17.95		917.71
918.18		+75	17.91		917.63
918.13		753+00	17.84		917.55
918.05		+25	17.76		917.47
917.97		+50	17.68		917.39
917.89		+75	17.60		917.31
917.81		754+00	17.52		917.23
917.73		+25	17.44		917.15
917.65		+50	17.36		917.07
917.57		+75	17.28		916.99
917.49		755+00	17.20		916.91
917.41		+25	17.12		916.83
917.33		+50	17.04		916.75
917.25		+75	16.96		916.67
917.17		756+00	16.88		916.59
917.09		+25	16.80		916.51
917.01		+50	16.72		916.43
916.93		+75	16.64		916.35
916.85		757+00	16.56		916.27
916.77		+25	16.48		916.19
916.69		+50	16.40		916.11
916.61		+75	16.32		916.03
916.53		758+00	16.24		915.95
916.45		+25	16.16		915.87
916.37		+50	16.08		915.79
916.29		+75	16.00		915.71
916.21		759+00	15.92		915.63
916.13		+25	15.84		915.55
916.09		+50	15.80		915.51
916.12		+75	15.83		915.54
916.23		760+00	15.94		915.65
916.41		+25	16.12		915.83
916.66		+50	16.37		916.08
916.99		+75	16.70		916.41
917.39		761+00	17.11		916.82
917.78		+25	17.54		917.30
918.25		+50	18.06		917.86
918.45		+60.14	18.29		918.10
918.78		+75	18.68		918.49
919.38		762+00	19.38		919.19
920.07		+25	20.16		919.97
920.86	↓	+50	21.01	↓	920.82
921.75		+75	921.94		921.75

FED. AID DIVISION	STATE	PROJECT		SHEET NUMBER	TOTAL SHEETS
2	OHIO	F-839(1)	POST WAR	207	255

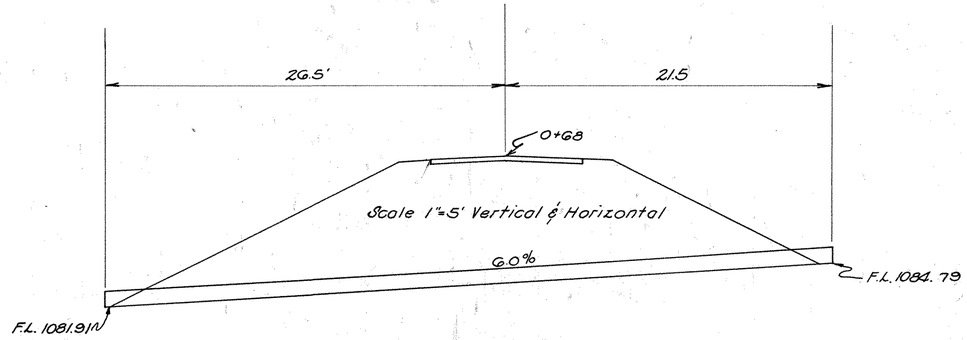
LIC-16-5.45, 14.60

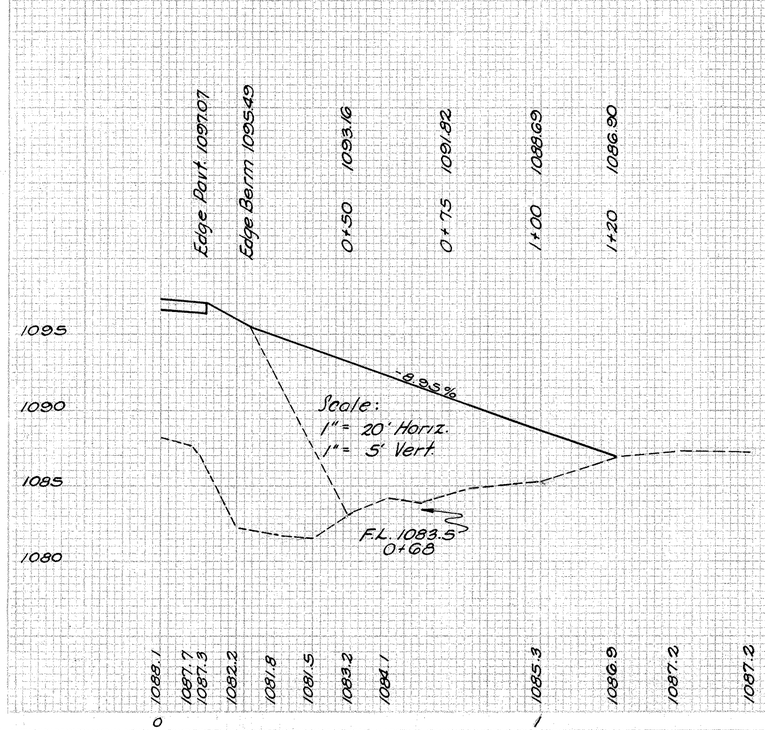


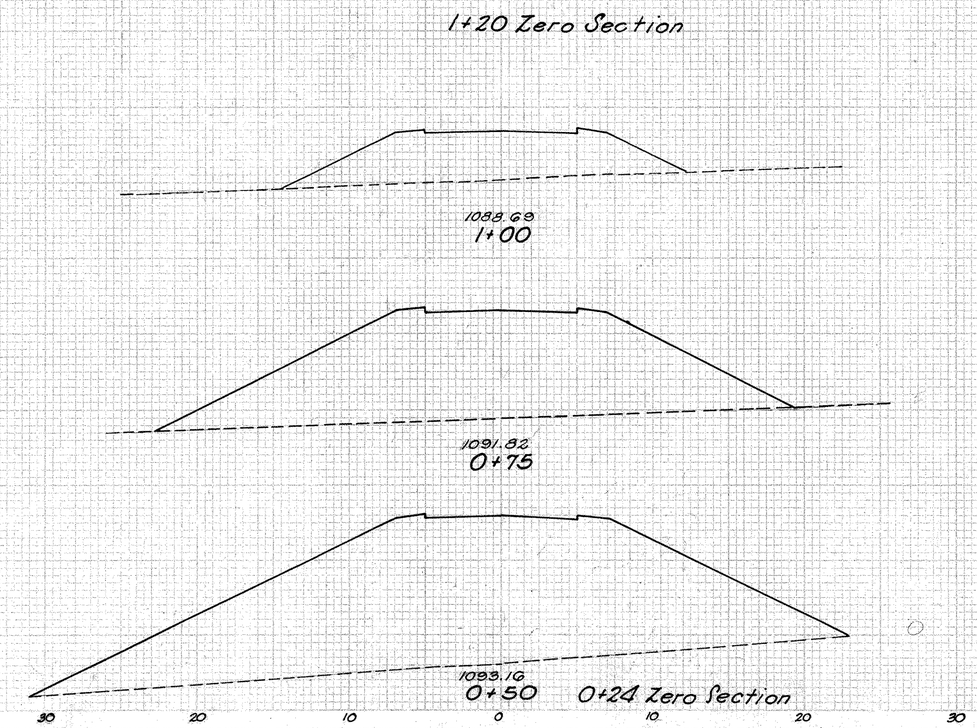
Scale: 1"=20'

ESTIMATED QUANTITIES

E-1	Embankment	553 Cu. Yds.
SS-10	Aggregate	14 Cu. Yds.
I-1	12" Pipe	48 Lin. Ft.
T-70	6" Pavt.	2778 Sq. Yds.







	End Area		Cu.Yd
	Cut	Fill	Fill
	0	0	
			24
	0	65	
			121
	0	198	
			247
	0	335	
			161
	0	0	
Total			553 Cu. Yds.

RESIDENCE DRIVE RT. STA. 348+75

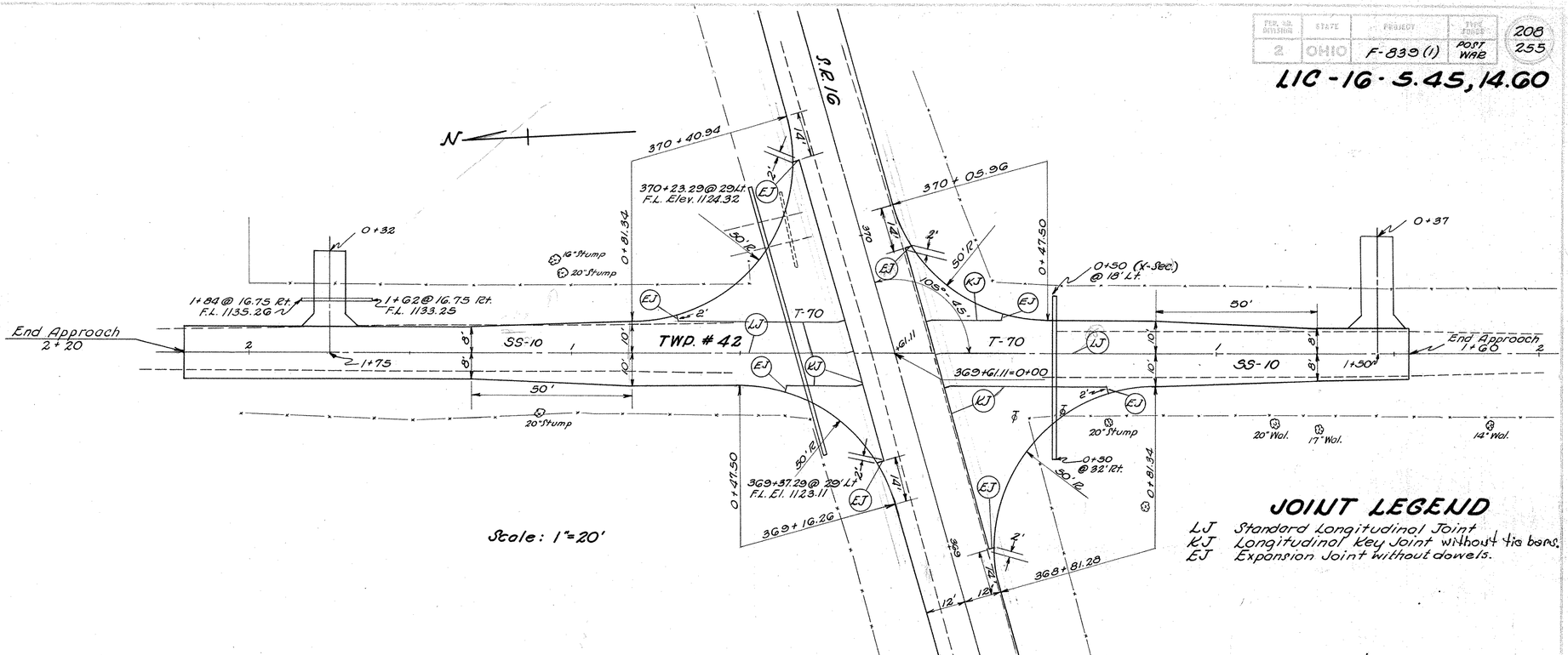
FED. AID DIVISION	STATE	PROJECT	TYPE WORKS	208
2	OHIO	F-839 (1)	POST WAR	255

LIC-16-5.45, 14.60

NOTE: Approach Pavement shall be sloped 3/16"/ft. from ℄ except where necessary to warp pavement to meet edge grade of new pavement.

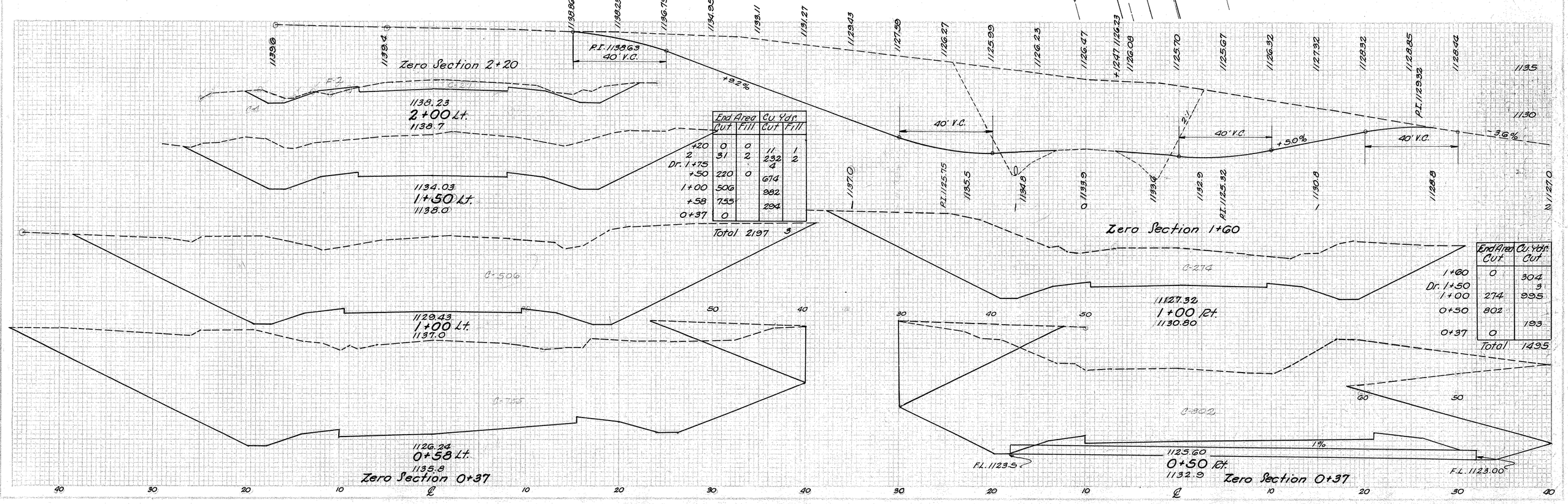
ESTIMATED QUANTITIES

	ITEMS	RIGHT		LEFT		TOTAL	
	Excavation	1495	Cu.Yds.	2197	Cu.Yds.	3692	Cu.Yds.
	Embankment	0		3	Cu.Yds.	3	Cu.Yds.
T-70	9" Pav't.	293.9	Sq.Yds.	293.9	Sq.Yds.	587.8	Sq.Yds.
SS-10	Aggregate-6"	30	Cu.Yds.	46	Cu.Yds.	76	Cu.Yds.
I-2	12" Pipe Under App.	50	Lin.Ft.	86	Lin.Ft.	136	Lin.Ft.
I-1	12" Pipe Under Dr.	0		22	Lin.Ft.	22	Lin.Ft.



JOINT LEGEND

LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars.
EJ Expansion Joint without dowels.



APPR. RT. & LT. 3G9+61.11

FED. AID PROJECT NO.	STATE	PROJECT	FED. FUNDS
2	OHIO	F-839(1)	Post War

205
255

LIC-16-5.45, 14.60

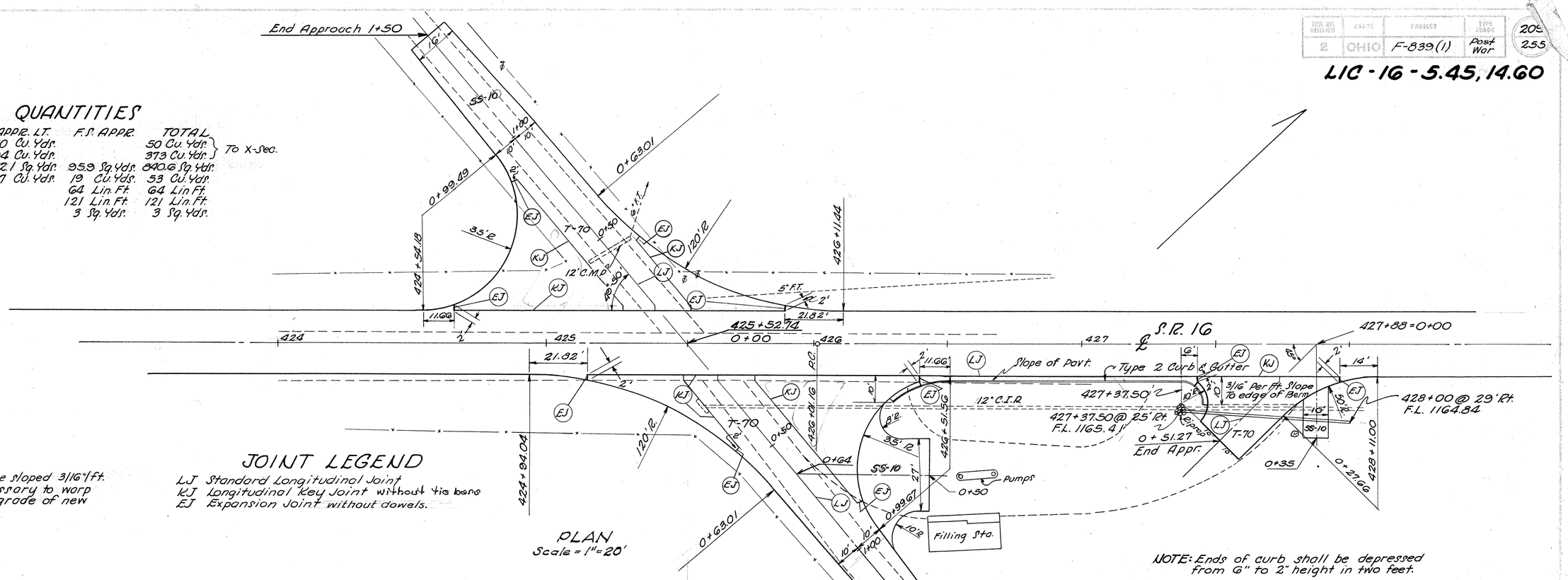
ESTIMATED QUANTITIES

ITEM	APPR. RT.	APPR. LT.	F.S. APPR.	TOTAL	
Excavation	40 Cu. Yds.	10 Cu. Yds.		50 Cu. Yds.	To X-Sec.
Embankment	79 Cu. Yds.	294 Cu. Yds.		373 Cu. Yds.	To X-Sec.
T-70 9" Pavt.	372.6 Sq. Yds.	372.1 Sq. Yds.	95.9 Sq. Yds.	840.6 Sq. Yds.	
SS-10 Aggregate (6")	17 Cu. Yds.	17 Cu. Yds.	19 Cu. Yds.	53 Cu. Yds.	
I-2 12" Pipe Under Appr.			64 Lin. Ft.	64 Lin. Ft.	
Type 2 Curb & Gutter			121 Lin. Ft.	121 Lin. Ft.	
Rip-Rap			3 Sq. Yds.	3 Sq. Yds.	

NOTE: Approach Pavement shall be sloped 3/16" / Ft. from ℄ except where necessary to warp pavement to meet edge grade of new pavement.

JOINT LEGEND

LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars
EJ Expansion Joint without dowels.



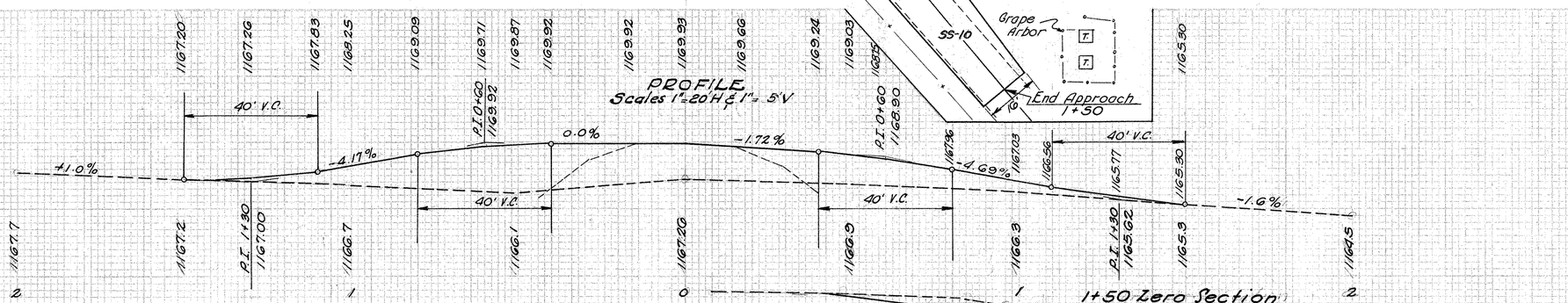
NOTE: Ends of curb shall be depressed from 6" to 2" height in two feet.

JOINT LEGEND

LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars
EJ Expansion Joint without dowels.

PLAN
Scale = 1"=20'

PROFILE
Scales 1"=20'H & 1"=5'V



LEFT

Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	0		
		5	45
5	49		
		5	166
0	130		
		0	83
0	0		
Total		10	294

RIGHT

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	0		
		20	3
22	3		
		20	46
0	47		
		0	30
0	0		
Total		40	79

40 30 20 10 | 10 20 30 | 30 20 10 | 10 20 30 40

℄ LEFT ℄ RIGHT

APPR. RT. & LT. 425+52.74

DIV. NO. DIVISION	STATE	PROJECT	TYPE PROJ.
2	OHIO	F-839 (1)	POST WAR

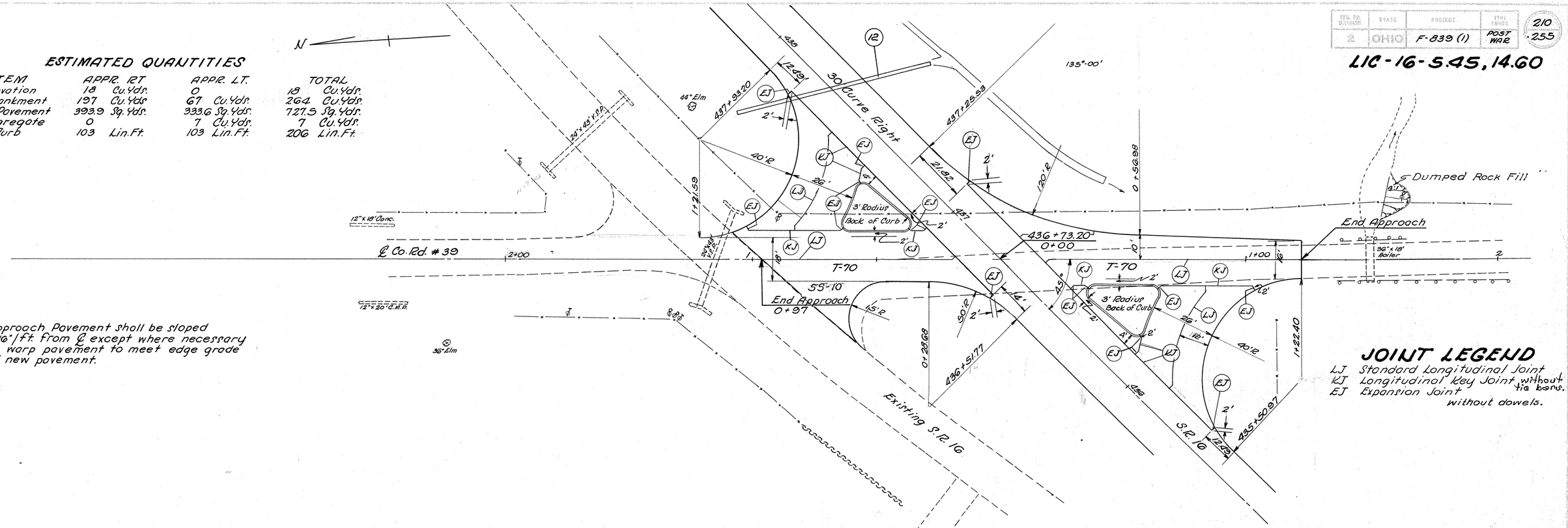
210
255

LIC-16-5.45, 14.60

ESTIMATED QUANTITIES

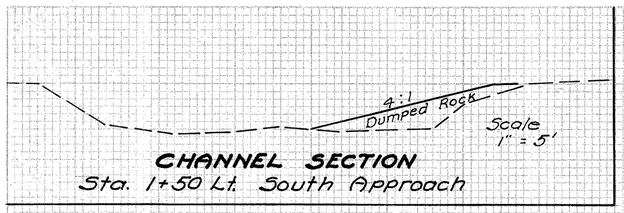
ITEM	APPR. RT		APPR. LT.		TOTAL	
Excavation	18	Cu.Yds.	0		18	Cu.Yds.
Embankment	197	Cu.Yds.	67	Cu.Yds.	264	Cu.Yds.
T-70 9" Pavement	393.9	Sq.Yds.	333.6	Sq.Yds.	727.5	Sq.Yds.
SS-110 Aggregate	0		7	Cu.Yds.	7	Cu.Yds.
Type 4A Curb	103	Lin.Ft.	103	Lin.Ft.	206	Lin.Ft.

NOTE: Approach Pavement shall be sloped 3/16"/ft. from ℄ except where necessary to warp pavement to meet edge grade of new pavement.

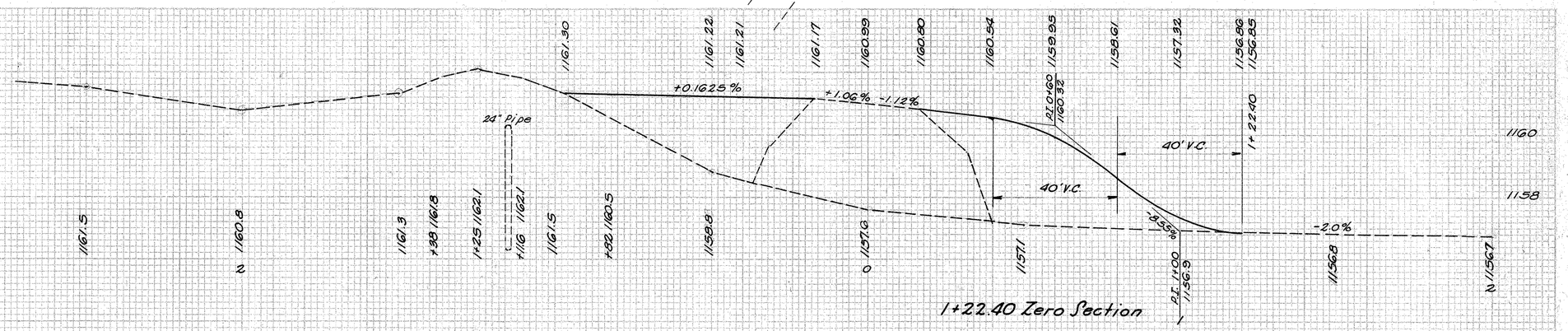


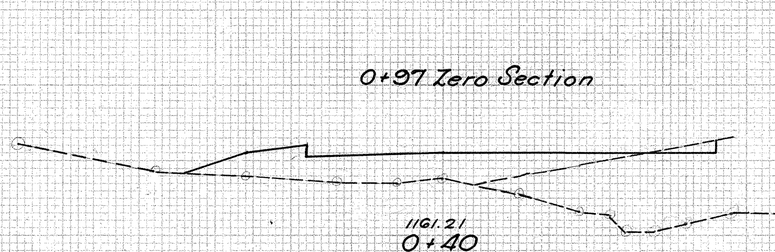
JOINT LEGEND

LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars.
EJ Expansion Joint without dowels.

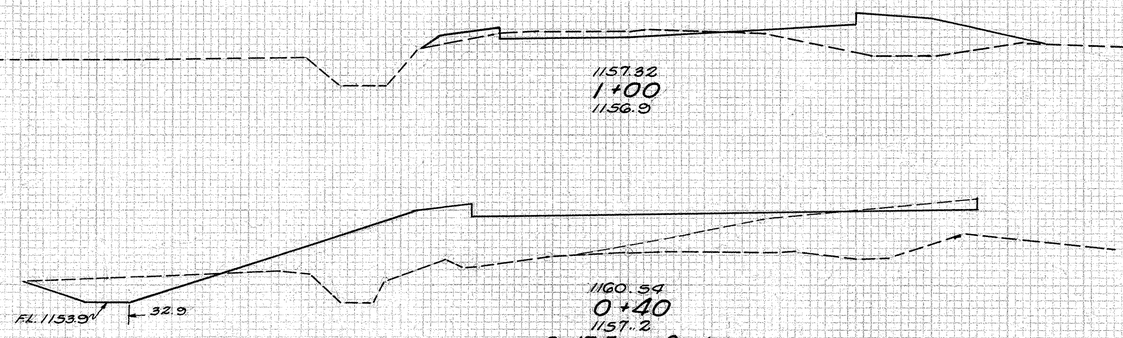


CHANNEL SECTION
Sta. 1+50 Lt. South Approach





Area Fill	Cu.Yds. Fill
0	
	48
45	
	19
0	
Total	67



Area Cut	Area Fill	Cu.Yds. Cut	Cu.Yds. Fill
0	0		
		2	13
5	31		
		13	146
7	90		
		3	38
0	0		
Total		18	197

30 20 10 ℄ 10 20 30 30 20 10 ℄ 10 20 30 40

APPROACH RT. & LT. 436+73.20

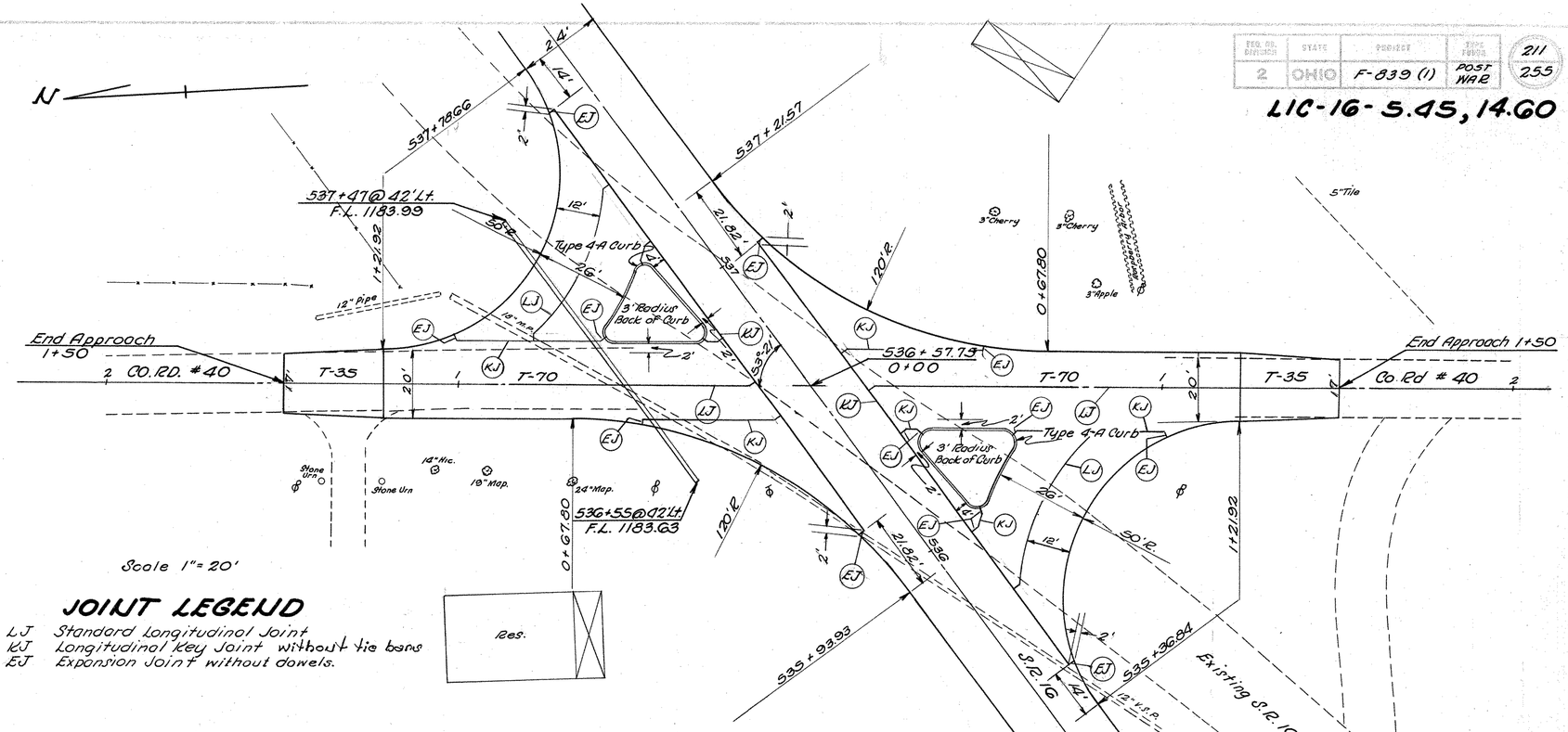
FED. RD. DIVISION	STATE	PROJECT	FED. FUNDS	211
2	OHIO	F-839 (1)	POST WAR	255

LIC-16-5.45, 14.60

ESTIMATED QUANTITIES

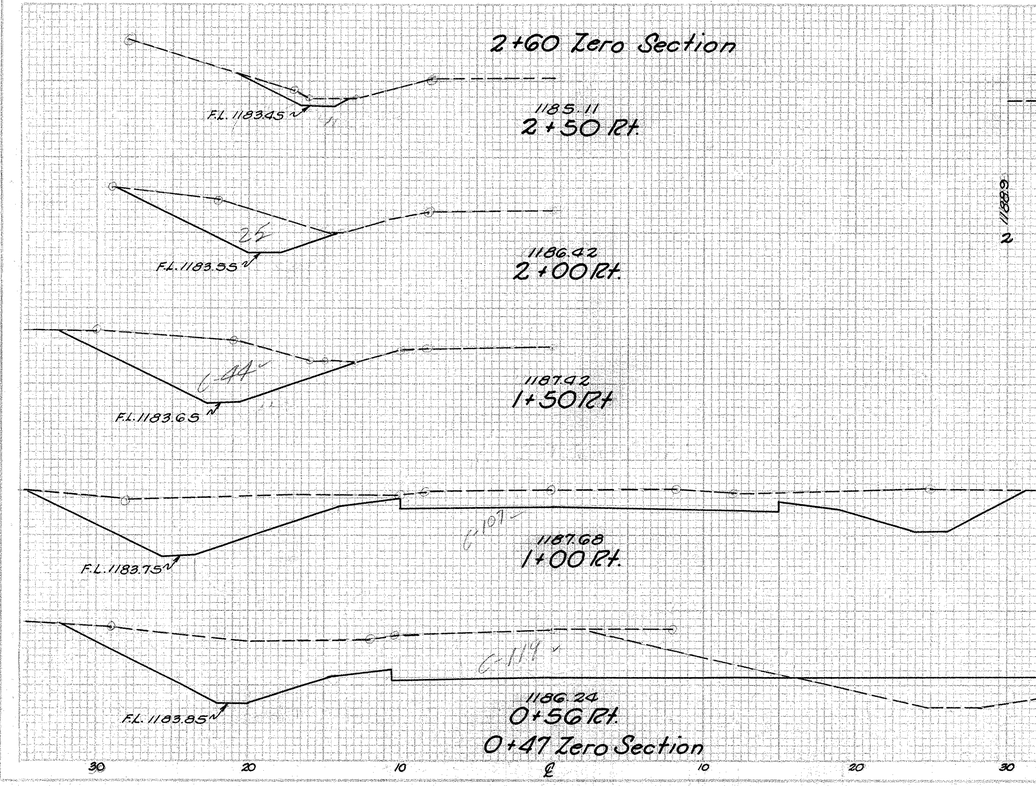
ITEM	APPR. RT.	APPR. LT.	TOTAL
Excavation	436 Cu. Yds.	182 Cu. Yds.	618 Cu. Yds.
T-70 9" Pavement	500.3 Sq. Yds.	500.3 Sq. Yds.	1000.6 Sq. Yds.
T-35 "	2.5 Cu. Yds.	2.5 Cu. Yds.	5 Cu. Yds.
I-2 15 Pipe Under Appr.	0	92 Lin. Ft.	92 Lin. Ft.
Type 4-A Curb	97.4 Lin. Ft.	97.4 Lin. Ft.	194.8 Lin. Ft.

NOTE: Approach Pavement shall be sloped 3/16"/ft. from ℄ except where necessary to warp pavement to meet edge grade of new pavement.

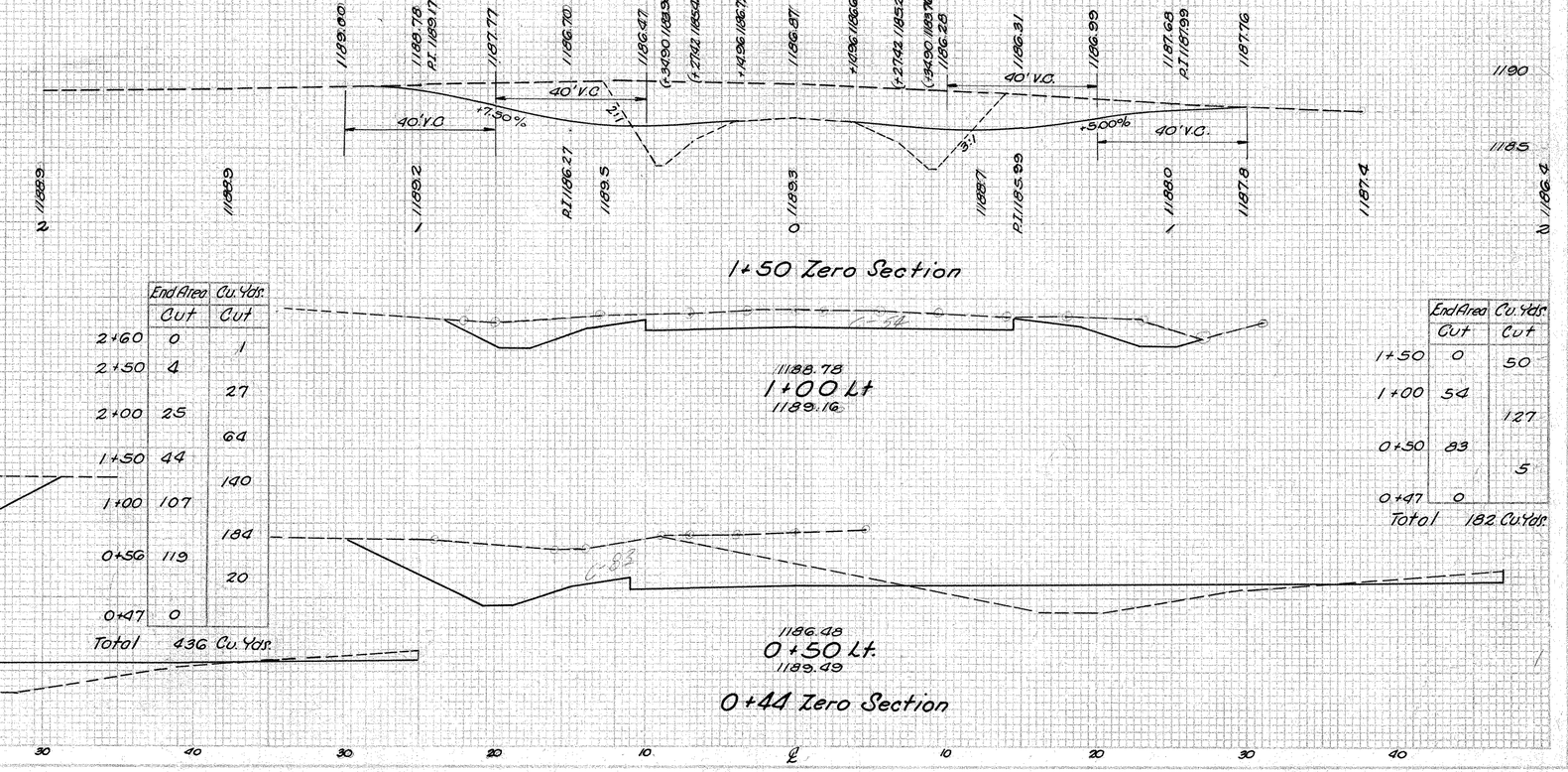


JOINT LEGEND

LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars
EJ Expansion Joint without dowels.



	End Area Cut	Cu. Yds. Cut
2+60	0	
		1
2+50	4	
		27
2+00	25	
		64
1+50	44	
		140
1+00	107	
		184
0+56	119	
		20
0+47	0	
Total		436 Cu. Yds.



	End Area Cut	Cu. Yds. Cut
1+50	0	
		50
1+00	54	
		127
0+50	83	
		5
0+47	0	
Total		182 Cu. Yds.

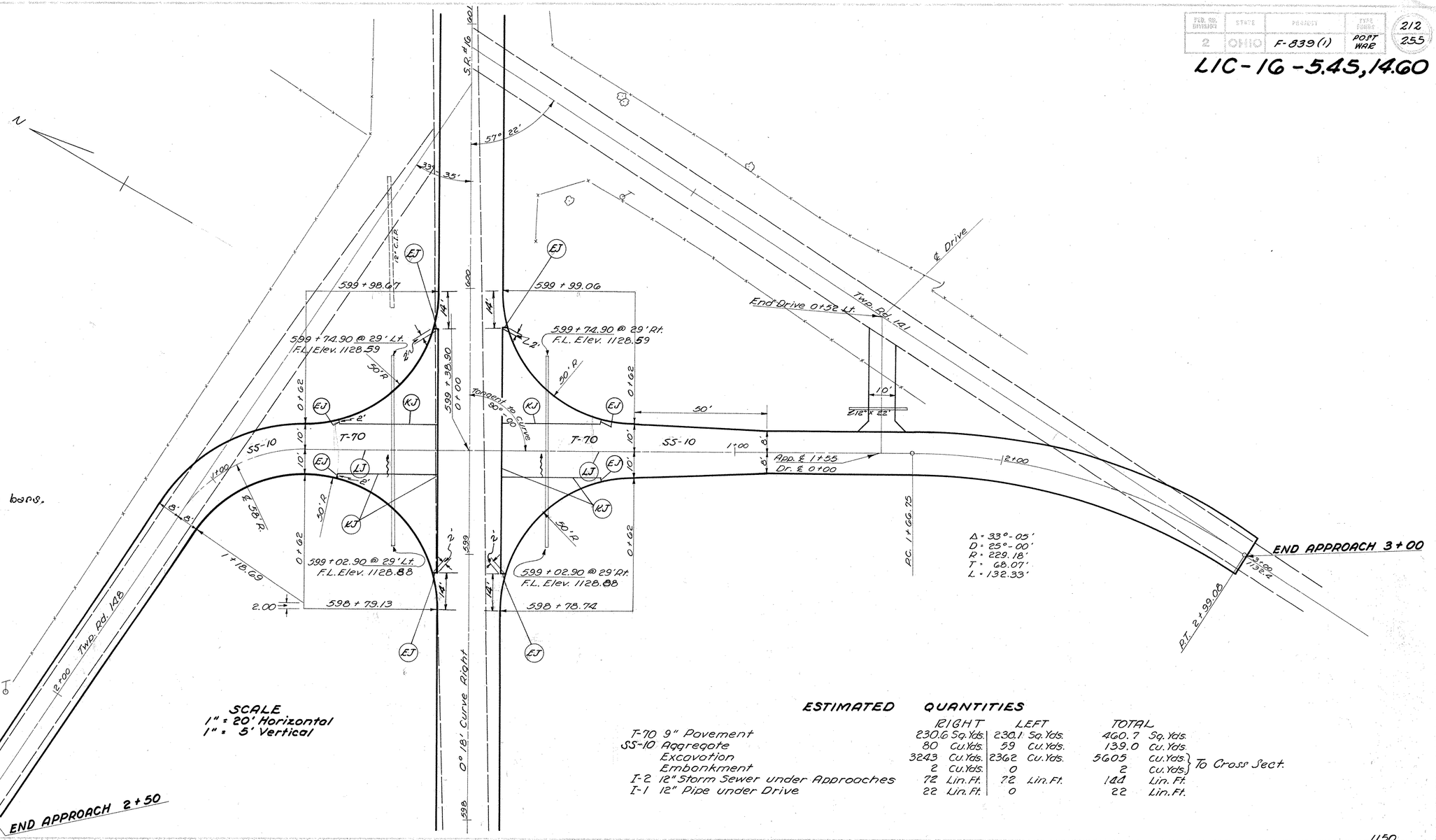
APPR. RT. & LT. 536+57.75

FED. AID DIVISION	STATE	PROJECT	SHEET NO.	212
2	OHIO	F-839(1)	POPT WAR	255

LIC-16-5.45,14.60

JOINT LEGEND

LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars.
EJ Expansion Joint without dowels.

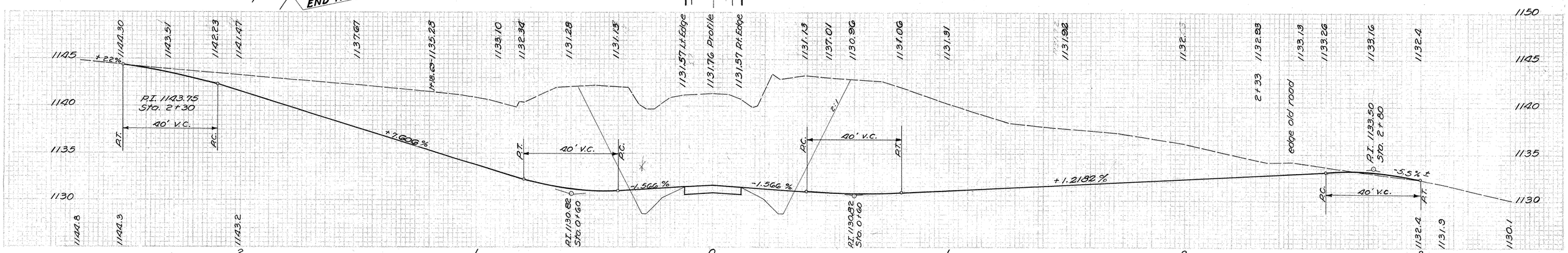


SCALE
1" = 20' Horizontal
1" = 5' Vertical

NOTE: Approach Pavement shall be sloped 3/16" / ft. from ℄ except where necessary to warp pavement to meet edge grade of new pavement.

ESTIMATED QUANTITIES

	RIGHT	LEFT	TOTAL	
T-70 9" Pavement	230.6 Sq. Yds.	230.1 Sq. Yds.	460.7 Sq. Yds.	
SS-10 Aggregate	80 Cu. Yds.	59 Cu. Yds.	139.0 Cu. Yds.	
Excavation	3243 Cu. Yds.	2362 Cu. Yds.	5605 Cu. Yds.	To Cross Sect.
Embankment	2 Cu. Yds.	0	2 Cu. Yds.	
I-2 12" Storm Sewer under Approaches	72 Lin. Ft.	72 Lin. Ft.	144 Lin. Ft.	
I-1 12" Pipe under Drive	22 Lin. Ft.	0	22 Lin. Ft.	



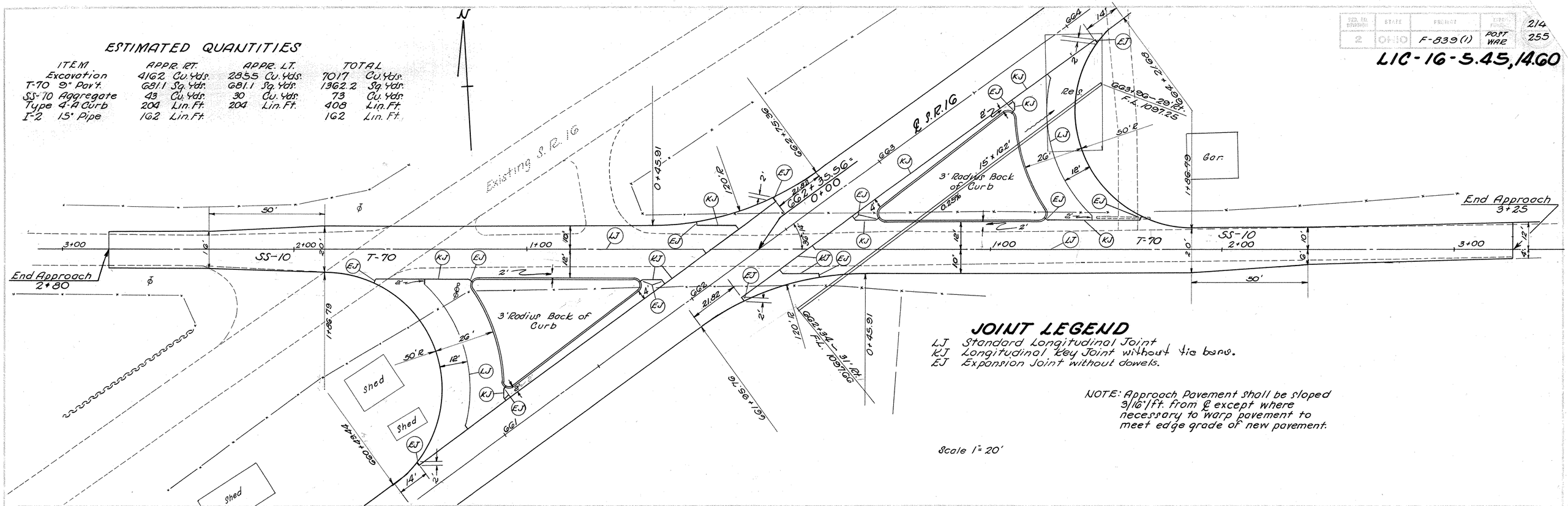
APPROACH Sta. 599+38.90

FED. AID DIVISION	STATE	PROJECT	TYPE WORK	214
2	OHIO	F-839(1)	POST WAR	255

LIC-16-5.45,14.60

ESTIMATED QUANTITIES

ITEM	APPR. RT.	APPR. LT.	TOTAL
Excavation	4162. Cu. Yds.	2855 Cu. Yds.	7017 Cu. Yds.
T-70 9" Port.	681.1 Sq. Yds.	681.1 Sq. Yds.	1362.2 Sq. Yds.
SS-10 Aggregate	43 Cu. Yds.	30 Cu. Yds.	73 Cu. Yds.
Type 4-A Curb	204 Lin. Ft.	204 Lin. Ft.	408 Lin. Ft.
I-2 15" Pipe	162 Lin. Ft.		162 Lin. Ft.

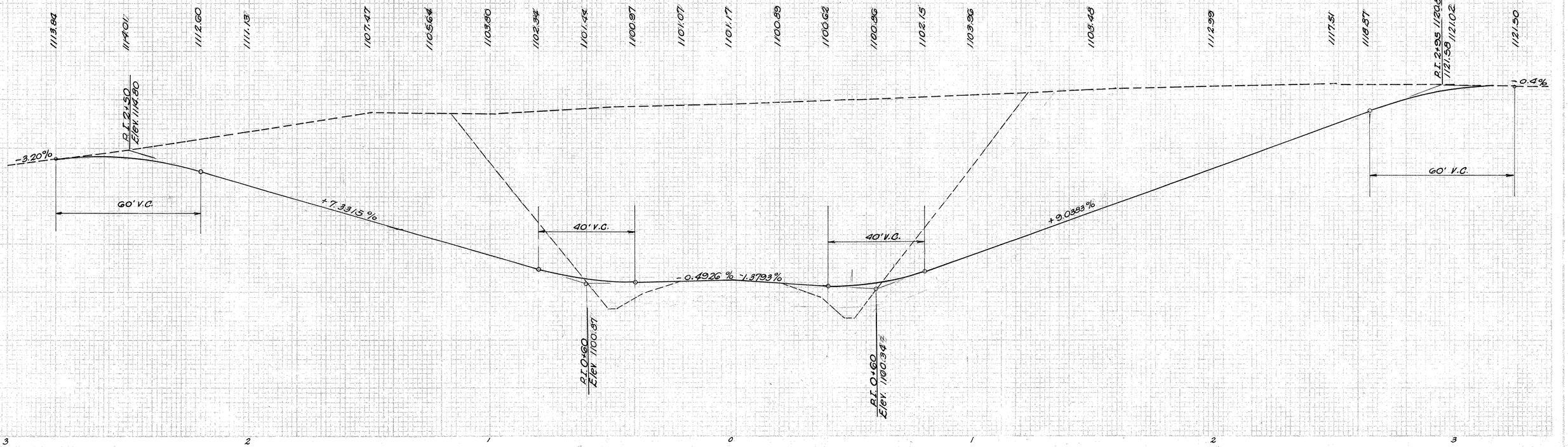


JOINT LEGEND

LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars.
EJ Expansion Joint without dowels.

NOTE: Approach Pavement shall be sloped 3/16'/ft. from ℄ except where necessary to warp pavement to meet edge grade of new pavement.

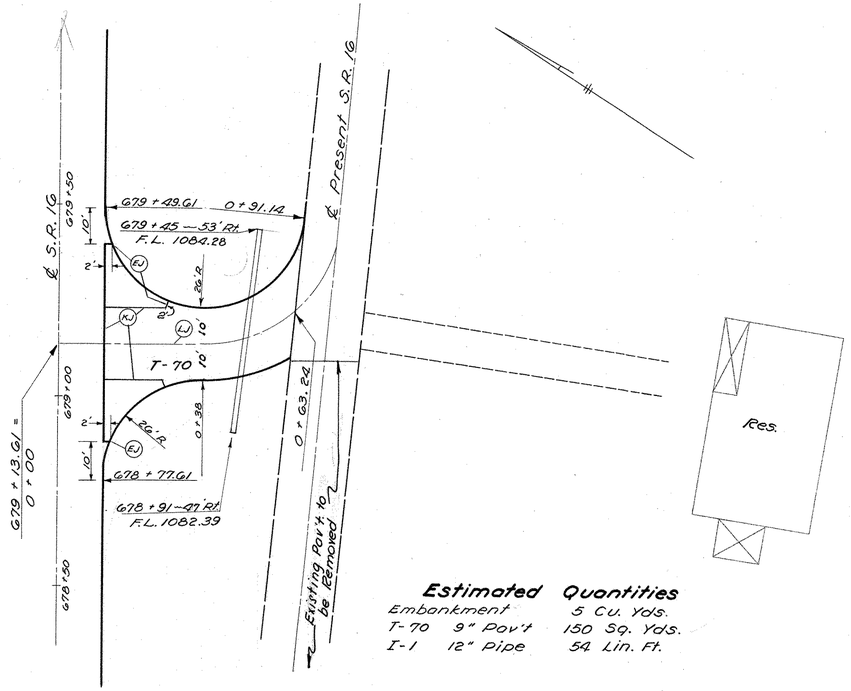
Scale 1" = 20'



APPROACH RT. & LT. GG2+35.56

RTE. NO. SYSTEM	STATE	PROJECT		SHT. NO.
2	OHIO	F-839(1)	POST MILE	216 255

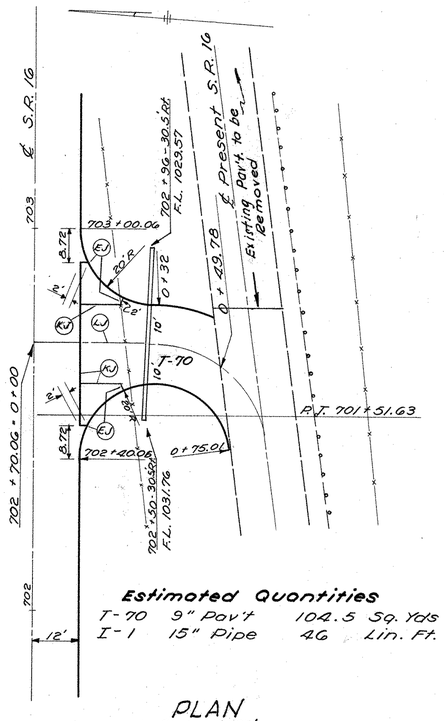
LIC-16 - 5.45, 14.60



Estimated Quantities

Embankment		5 Cu. Yds.
T-70	9" Pov't	150 Sq. Yds.
I-1	12" Pipe	54 Lin. Ft.

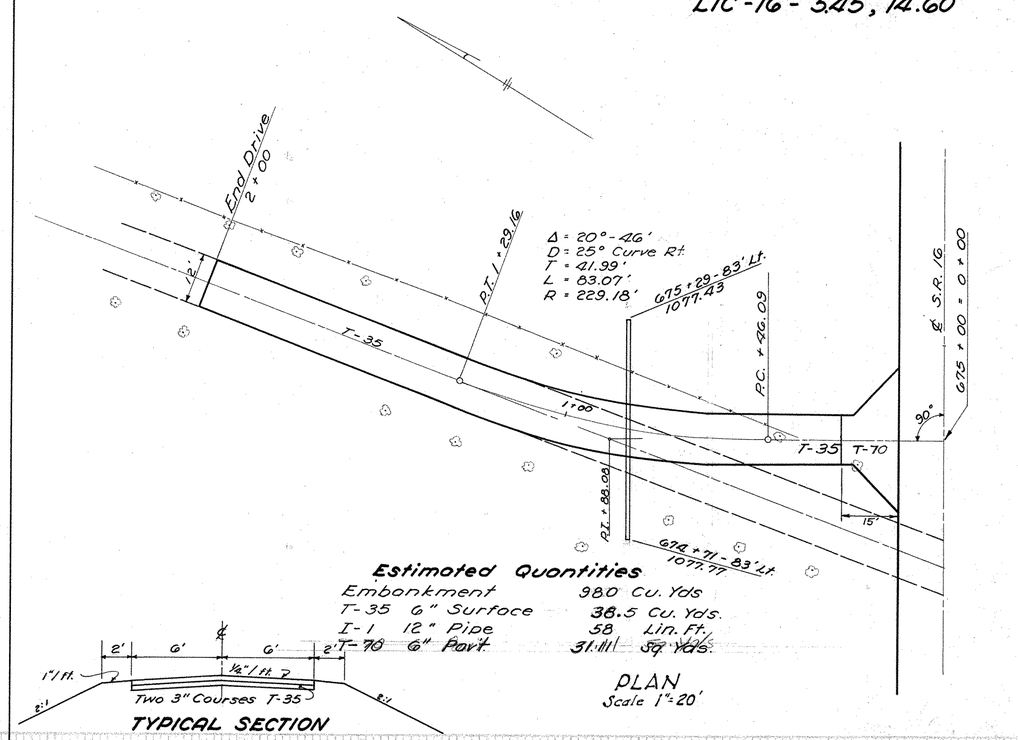
PLAN
Scale 1"=20'



Estimated Quantities

T-70	9" Pov't	104.5 Sq. Yds
I-1	15" Pipe	46 Lin. Ft.

PLAN
Scale 1"=20'

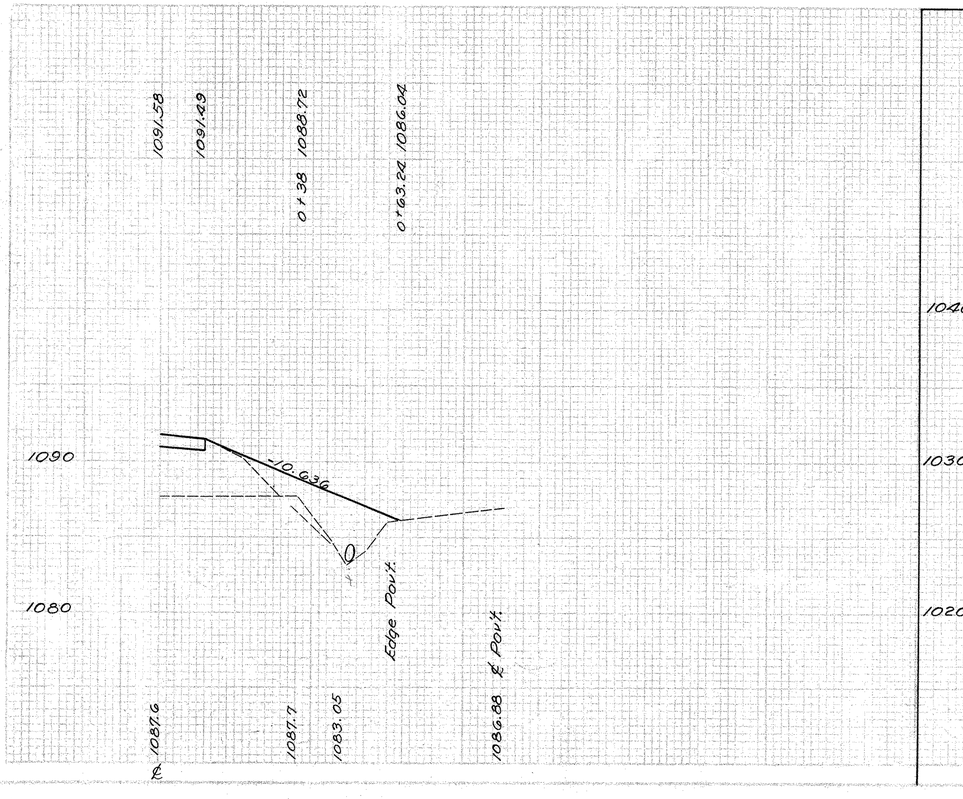


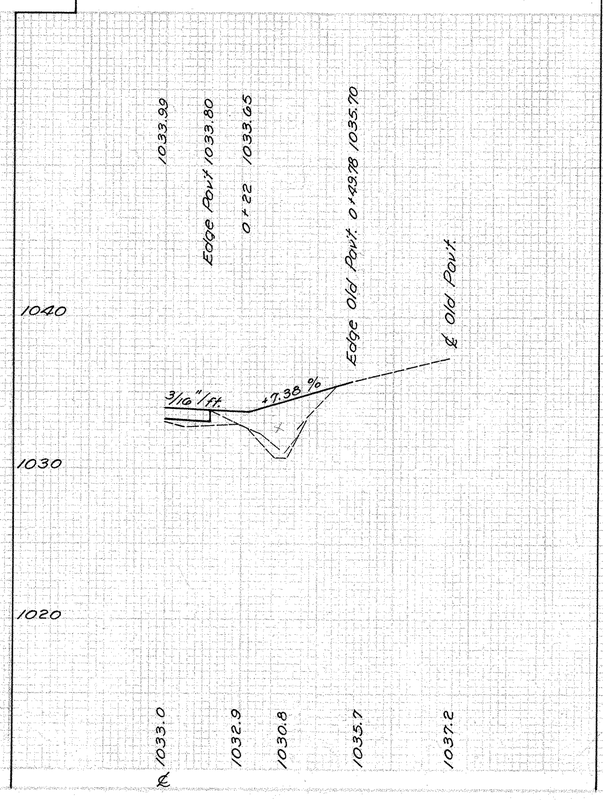
Estimated Quantities

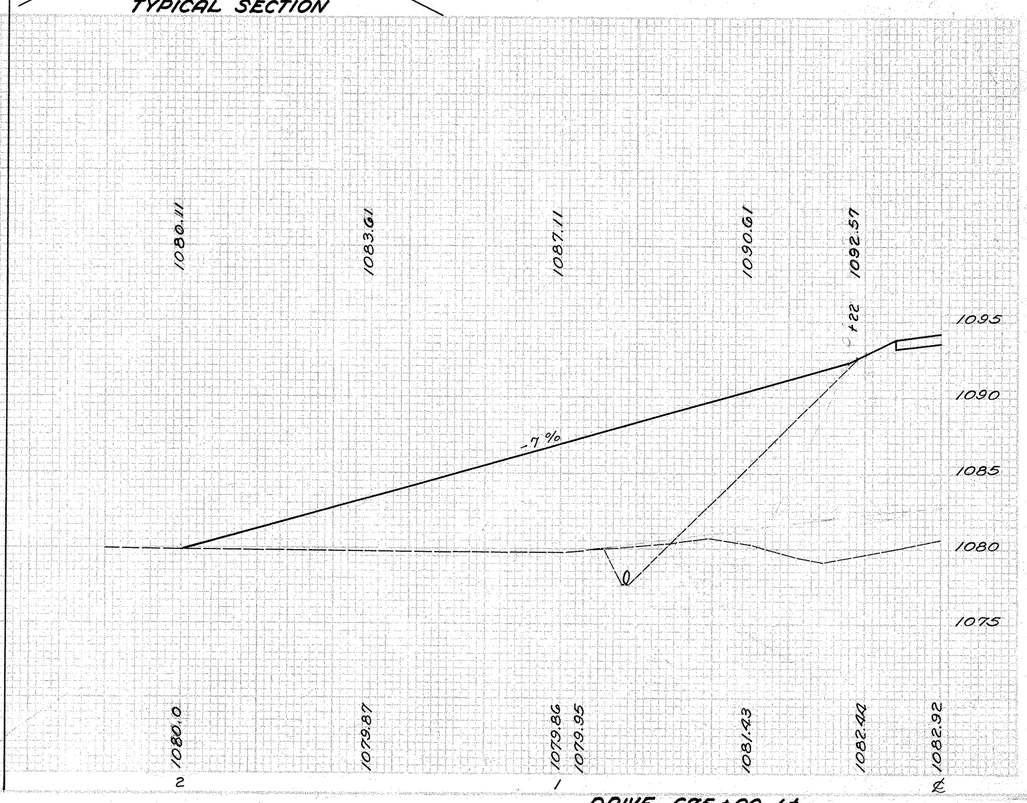
Embankment		980 Cu. Yds
T-35	6" Surface	38.5 Cu. Yds.
I-1	12" Pipe	58 Lin. Ft.
~~T-70~~	~~6" Pov't~~	~~31.111 Sq. Yds.~~

PLAN
Scale 1"=20'

TYPICAL SECTION







DRIVE 675+00 Lt.
APPROACHES 679+13.61 & 702+70.06 Rt.

FED. AID. REFERENCE	STATE	PROJECT	TYPE WORK
2	OHIO	F-839(1)	POST WAR

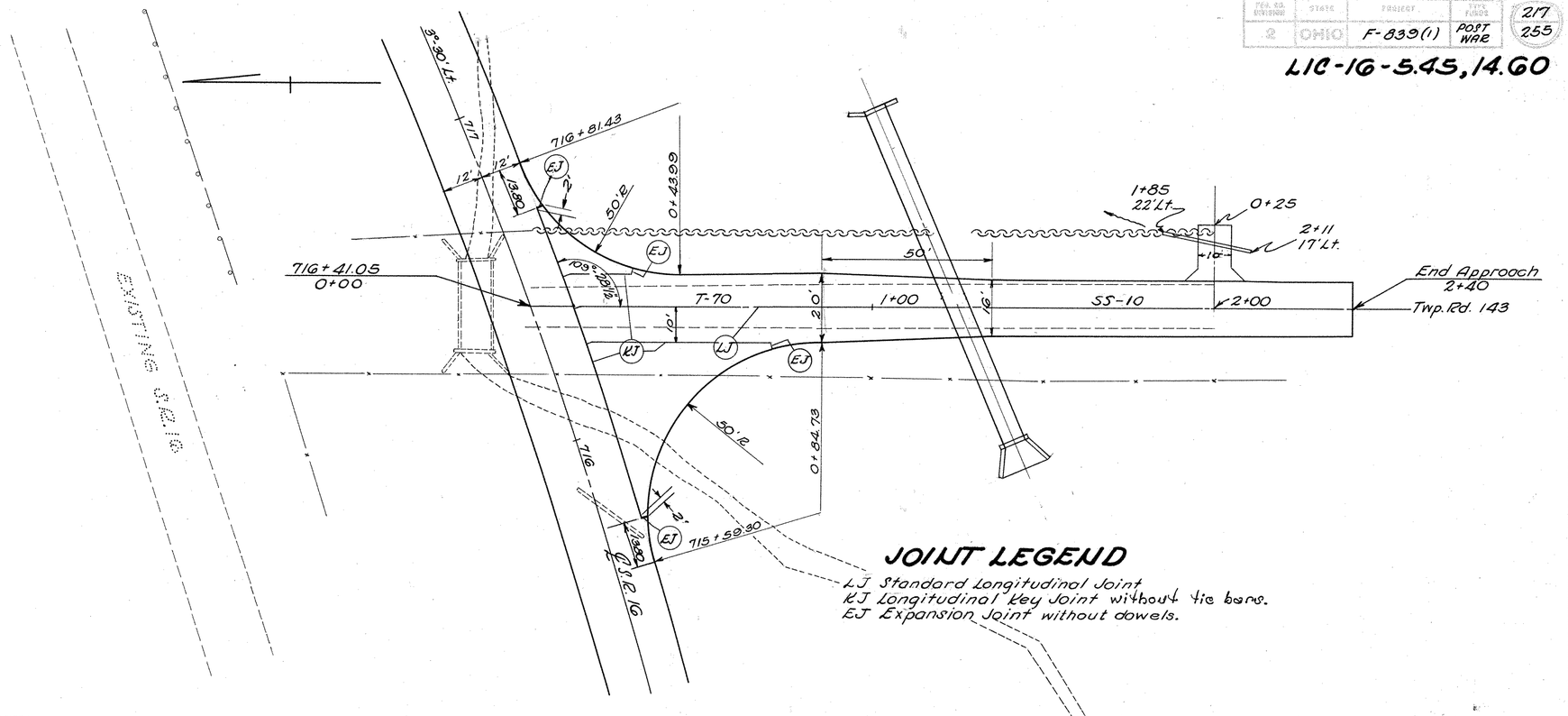
217
255

LIC-16-5.45, 14.60

NOTE: Approach Pavement shall be sloped 3/16"/ft. from ℄ except where necessary to warp pavement to meet edge grade of new pavement.

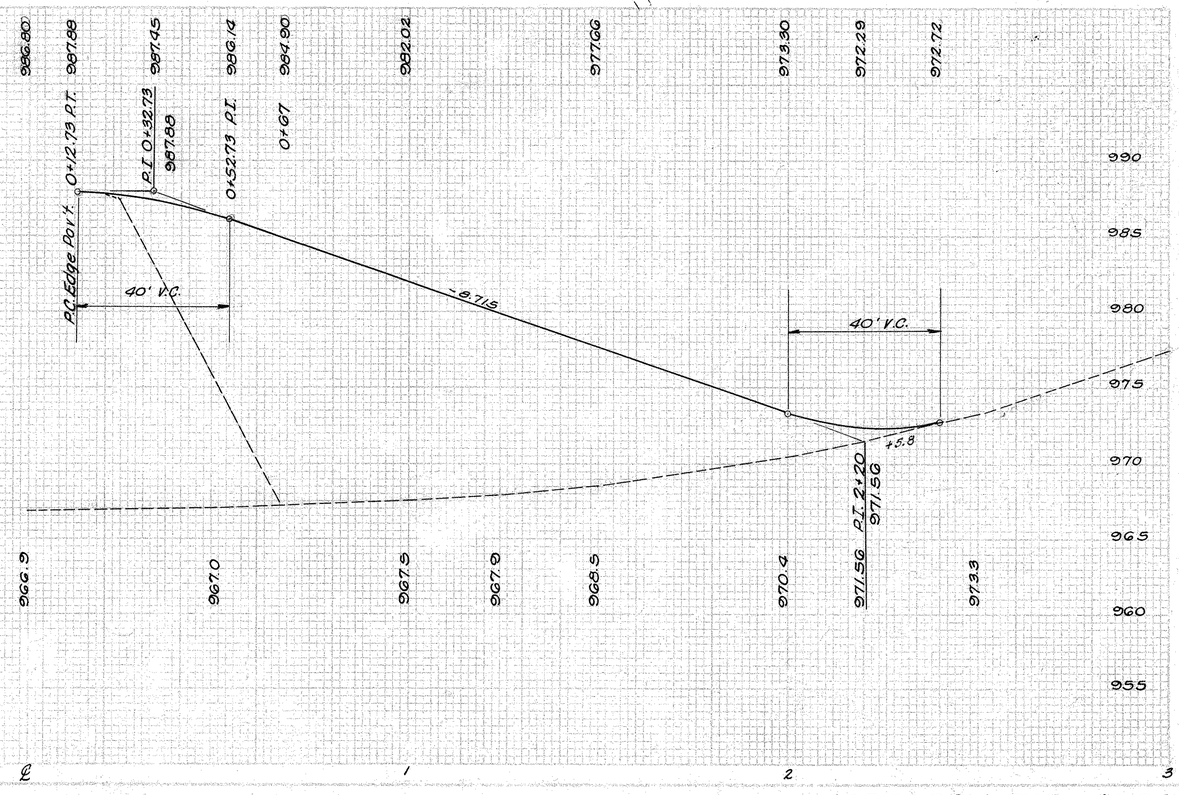
ESTIMATED QUANTITIES

	ITEM	APPROACH RIGHT	
	Embonkment	4484	Cu. Yds. (To X-Sec.)
T-70	9" Pavement	302.7	Sq. Yds.
SS-10	Aggregate 6"	51	Cu. Yds.
SS-10	Aggregate 4"	3	Cu. Yds.
I-1	12" Pipe	26	Lin. Ft.



JOINT LEGEND

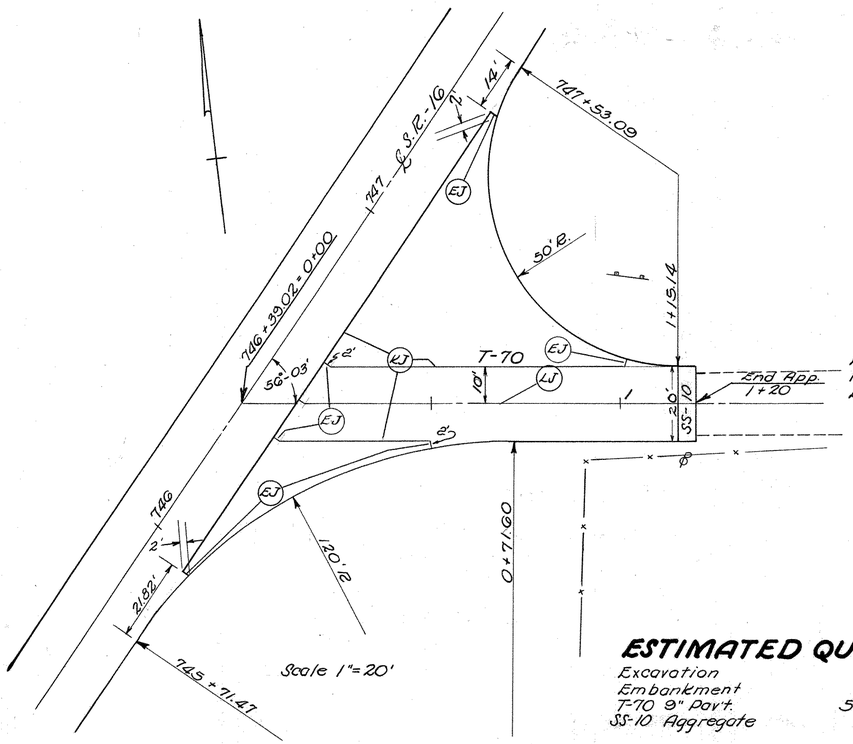
LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars.
EJ Expansion Joint without dowels.



APPROACH 716+41.05

FED. AID PROJECT	STATE	PROJECT	TOTAL SHEETS	219
2	OHIO	F-839(1)	POST WAR	255

LIC-16-5.45, 14.60

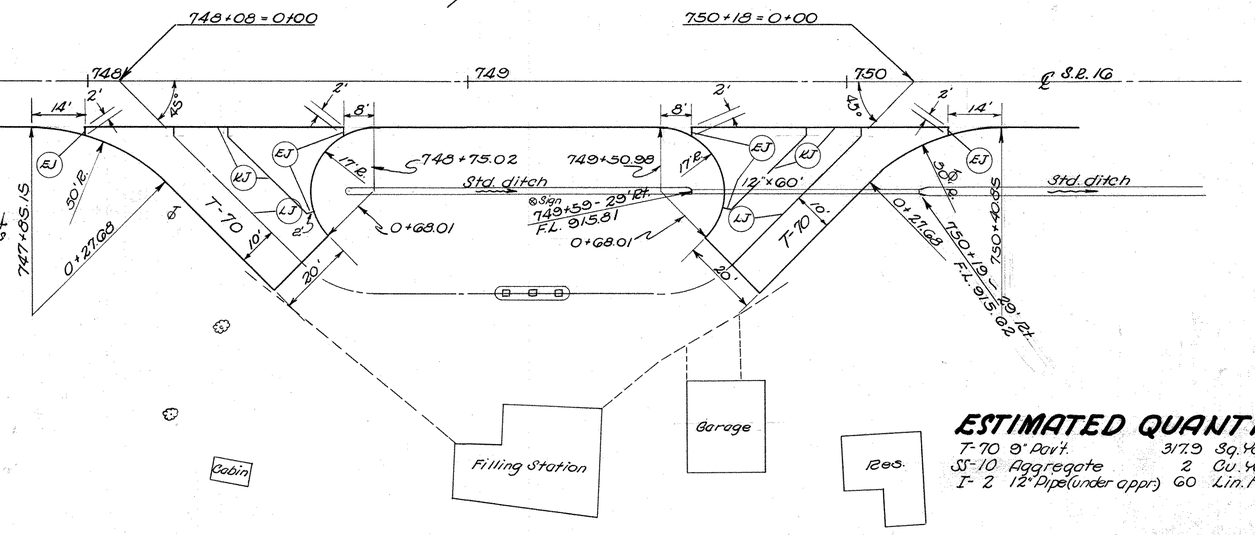


JOINT LEGEND

LJ Standard Longitudinal Joint
KJ Longitudinal Key Joint without tie bars
EJ Expansion Joint without dowels.

ESTIMATED QUANTITIES

Excavation	15	Cu. Yds.
Embankment	10	Cu. Yds.
T-70 9" pav't.	514.1	Sq. Yds.
SS-10 Aggregate	2	Cu. Yds.

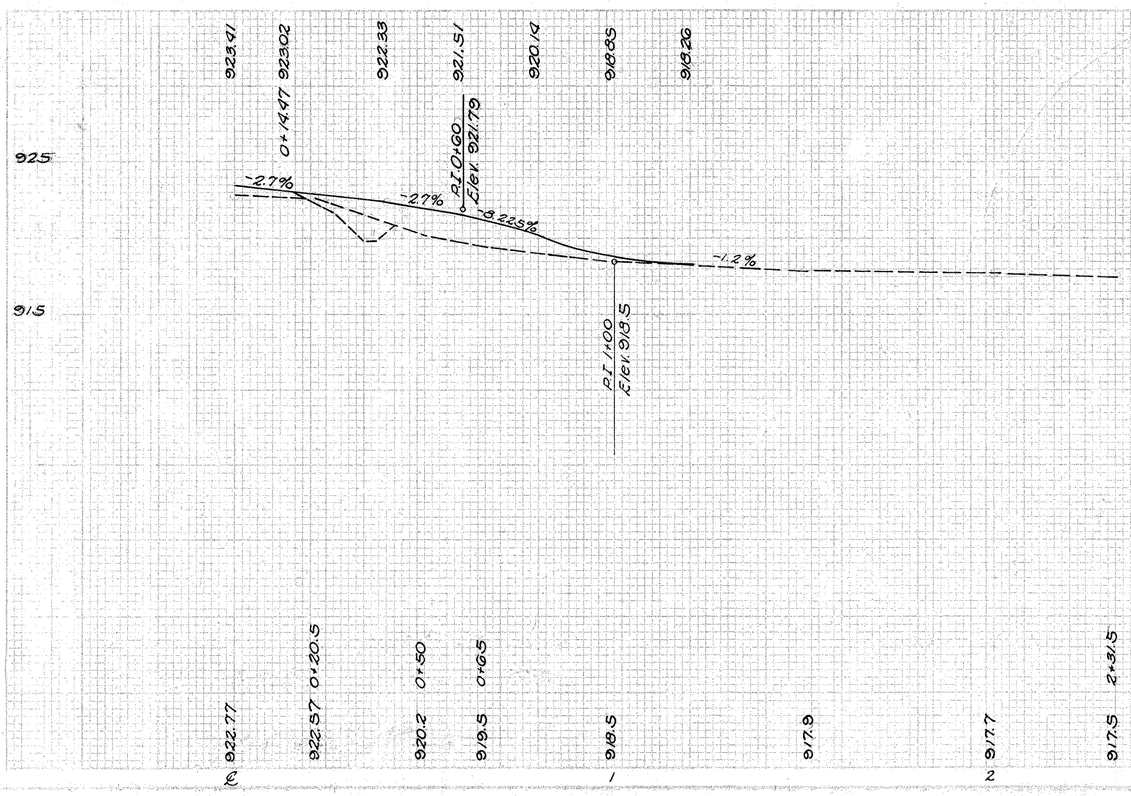


Scale 1"=20'

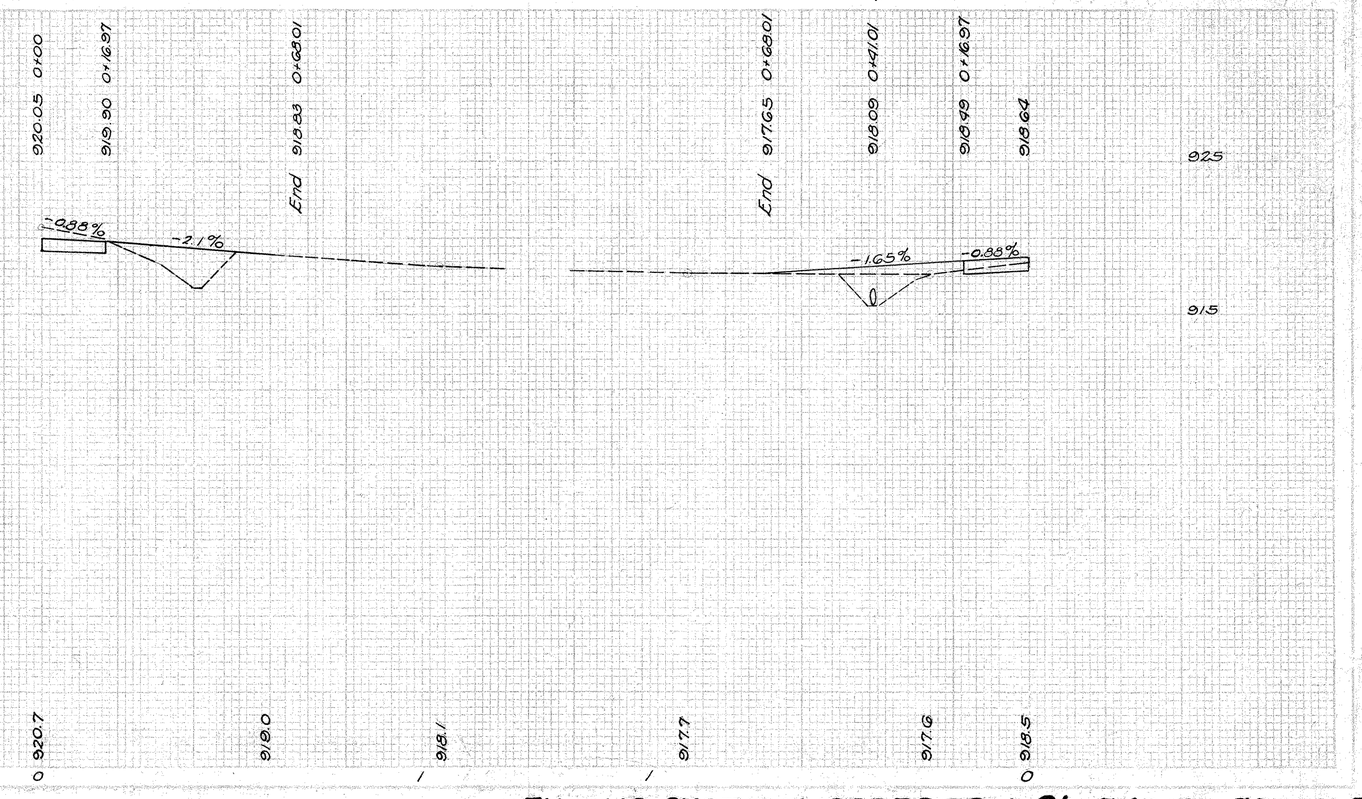
ESTIMATED QUANTITIES

T-70 9" Pav't.	317.9	Sq. Yds.
SS-10 Aggregate	2	Cu. Yds.
I- 2 12" Dipe (under appr.)	60	Lin. Ft.

NOTE: Approach Pavement shall be sloped 3/16"/ft. from ℄ except where necessary to warp pavement to meet edge grade of new pavement.



ROAD APPROACH Sta. 746+39.02 Rt.



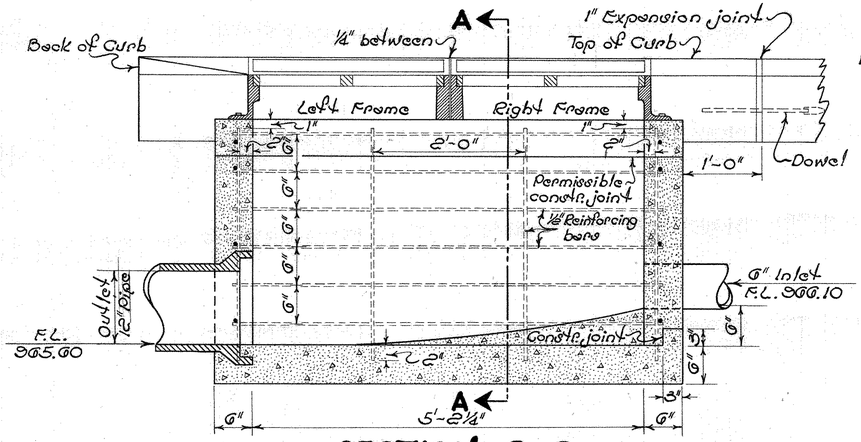
FILLING STATION APPROACH Sta. 748+08-750+18 Rt

STANDARD No. 9-A CATCH BASIN MODIFIED

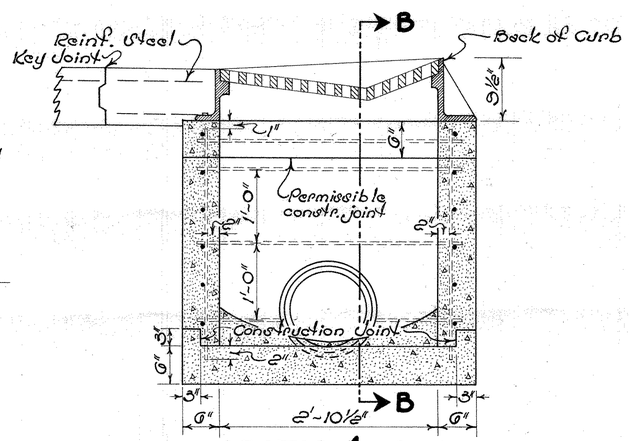
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-839 (1)	PORT WAR

220 255

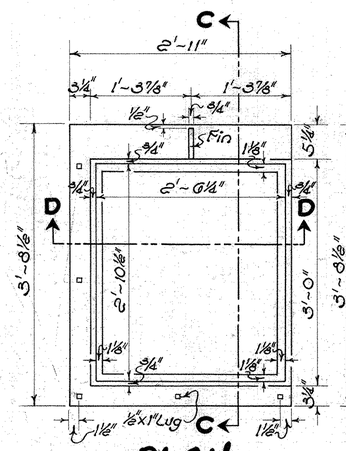
LIC-16-5.45, 14.60



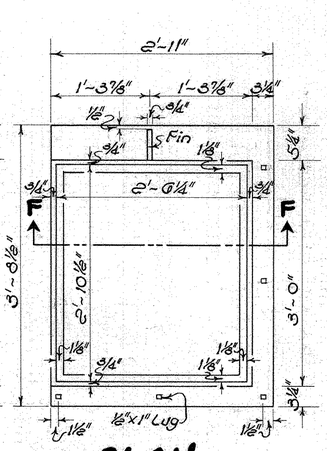
SECTION B-B



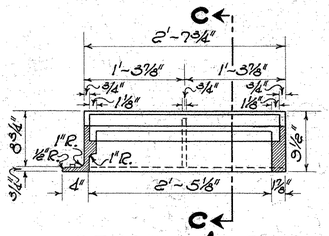
SECTION A-A



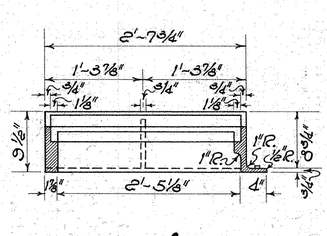
PLAN



PLAN



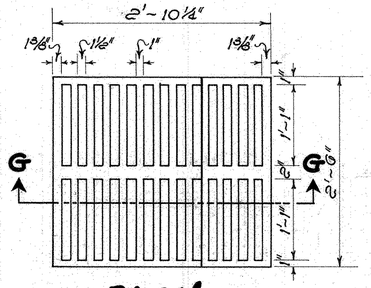
SECTION D-D



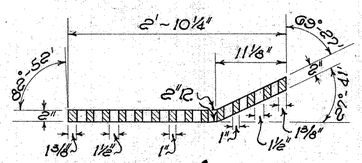
SECTION F-F

LEFT FRAME RIGHT FRAME

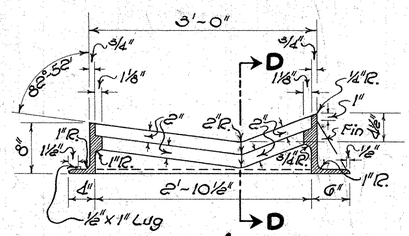
~ FRAMES ~



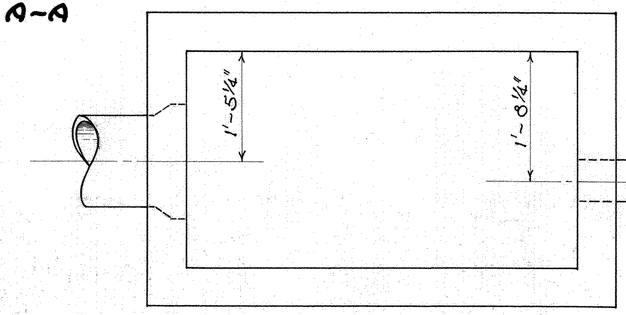
PLAN

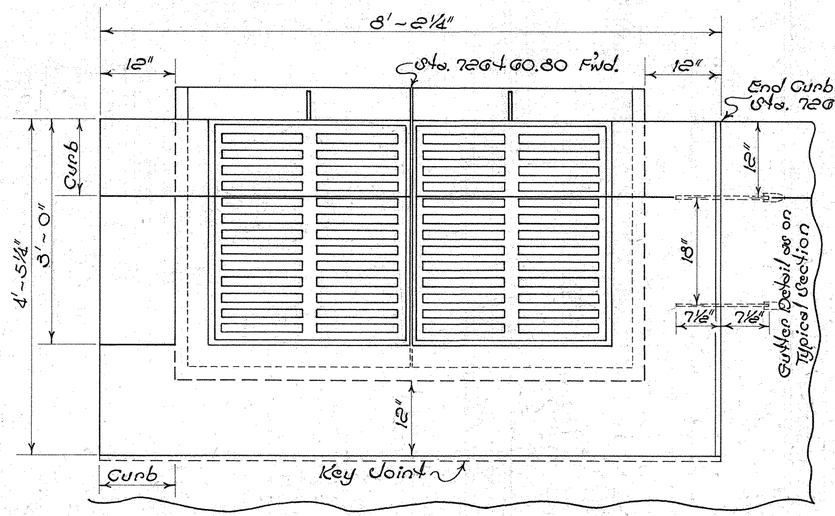


SECTION G-G



SECTION C-C





PLAN OF CATCH BASIN AND PAVEMENT JOINTS

~ NOTES ~

CASTINGS shall be of cast iron in accordance with Material Details. The design shall be essentially the same and equally as strong as those shown hereon and shall be given one coat of asphaltum paint as per specifications.

WEIGHTS approximately are :-

GRATE	362 lbs. each
FRAME (Right or Left)	460 lbs. each

BEARING AREAS of frame and grate shall be so fitted and finished as to provide a firm and even seat for all portions of the grate in the frame. No projections shall exist on bearing areas of either casting, and each grate shall seat in its frame without rocking. Frames and grates shall be fitted, matched, and marked before delivery to the project.

REINFORCE side walls with deformed bars vertical in each corner. Other bars, horizontal and vertical, to be placed as shown hereon.

DOWELS to be 3/4" inch round, smooth bars 15" inches long spaced as shown hereon and greased.

CONCRETE to be Class "C"

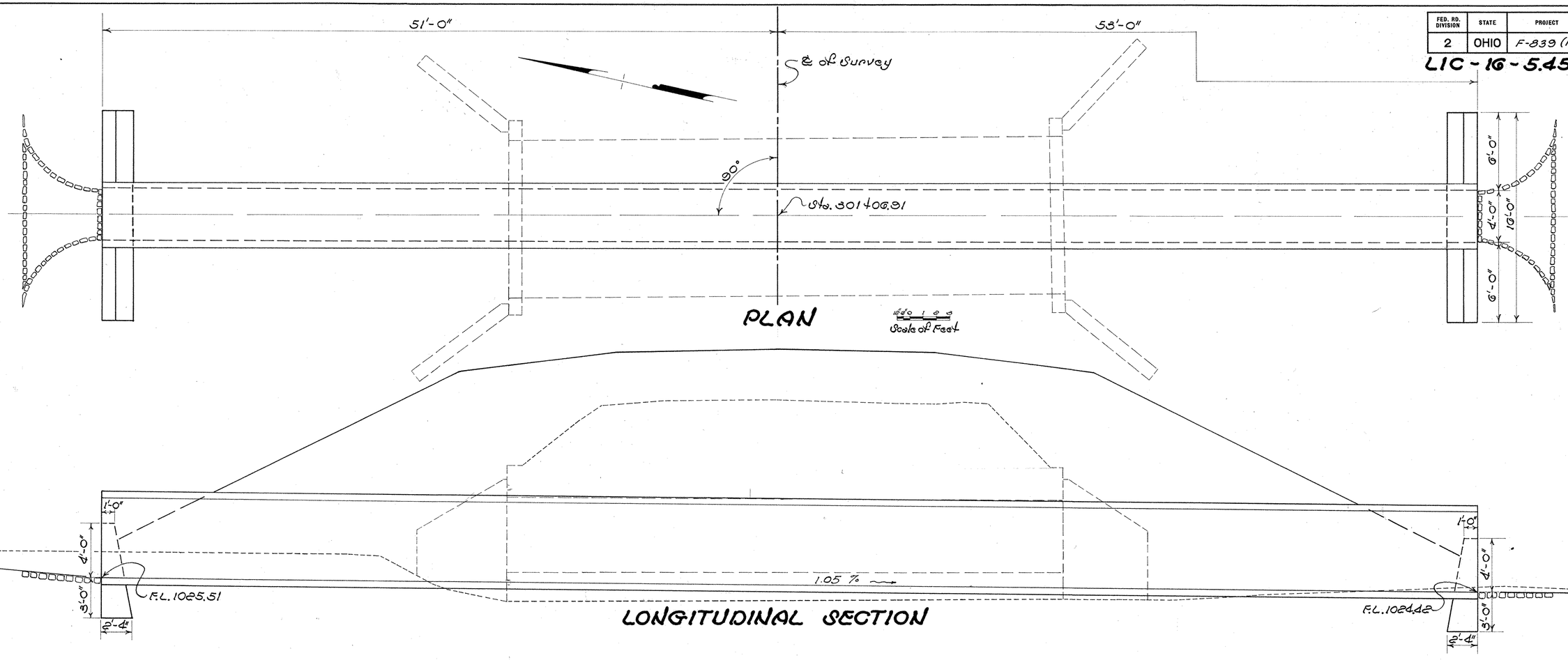
BRICK side walls, when used in place of reinforced concrete, shall be 8" inches in thickness.

CATCH BASIN @ Sta. 726+60.80

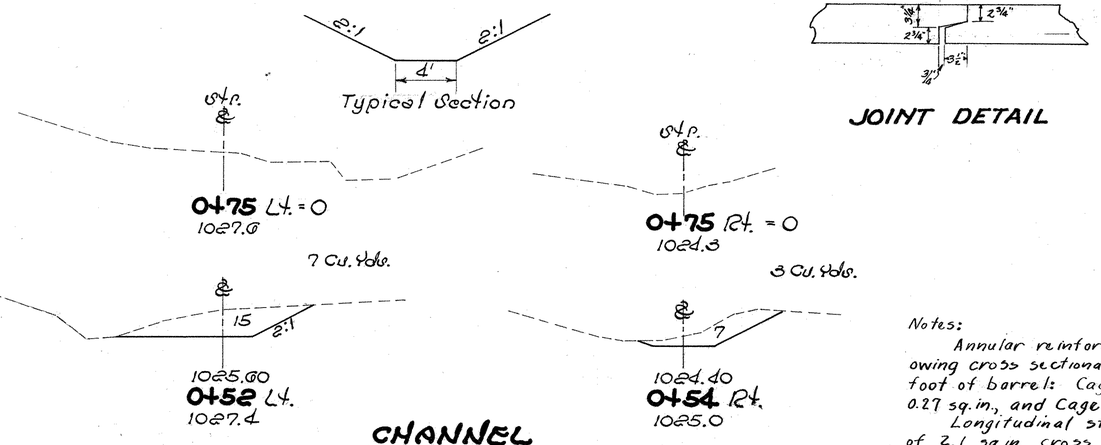
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839 (1)	POST WAR

221
255

LIC-16-5.45, 14.60

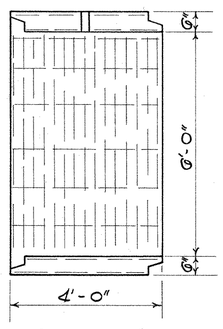


LONGITUDINAL SECTION

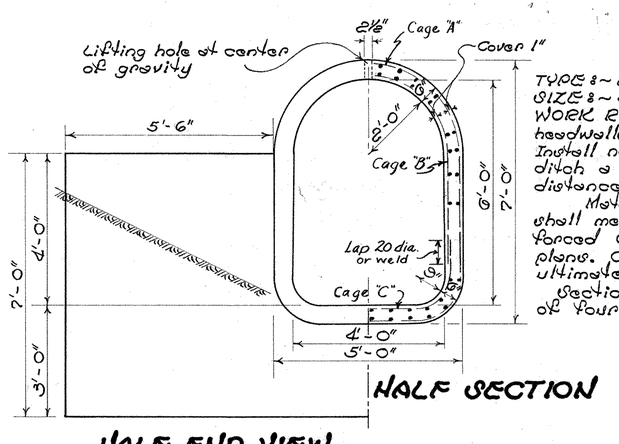


CHANNEL
Scale 1" = 5'

JOINT DETAIL



LONGITUDINAL SECTION



HALF SECTION

HALF END VIEW

Scale of Feet

CULVERT DATA

TYPE :- Pipe Culvert Std. Dwg. No. SP-53 & S-27 R.C.
SIZE :- 4'x6'x10Lt. Drainage Area 280 Ac. 140 cfs. - 10 yr.
WORK REQUIRED :- Remove barrel part of arch and headwalls of existing 12' concrete arch 42' long. Install new structure as per plan. Excavate inlet ditch a distance of 18 Ft. and outlet ditch a distance of 22 Ft.

Materials, design, and manufacturing methods shall meet the requirements of Section M-6.6 Reinforced Concrete Pipe, except as noted on these plans. Concrete used shall have a minimum ultimate compressive strength of 4500 lb. per sq. in.

Sections of pipe shall have a minimum length of four feet.

Notes:

Annular reinforcing steel shall have the following cross sectional area of steel per lineal foot of barrel: Cage "A" - 0.27 sq. in., Cage "B" - 0.27 sq. in., and Cage "C" - 0.30 sq. in.

Longitudinal steel shall have a minimum of 2.1 sq. in. cross sectional area and shall be equally spaced.

All splices in Cage A shall have 20 diameters lap for deformed bars and 40 diameters for wire or weld splice.

ESTIMATED QUANTITIES

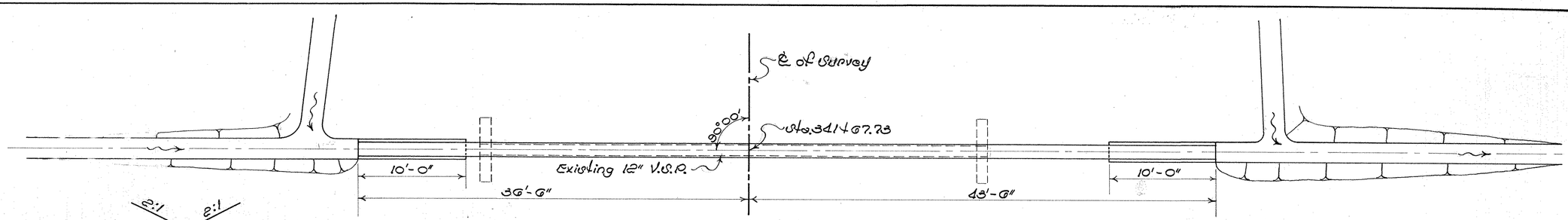
E-6	Excavation for Structure	15 Cu. Yds.
E-8	Channel Excavation	10 Cu. Yds.
C-1	Concrete for Headwalls Class "E"	12.2 Cu. Yds.
S-27	4'x6' Pipe for Roadway Culvert	104 Lin. Ft.
S-22	Removal of Portions of Existing Structure - Lump	
I-10	Riprap, Grout Filled, 6" Thick	10 Sq. Yds.

1	STA. 301+06.91	R.C. 4'x6'x104'

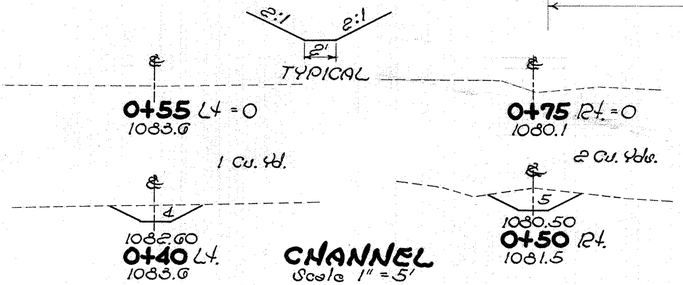
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839(1)	POST WAR

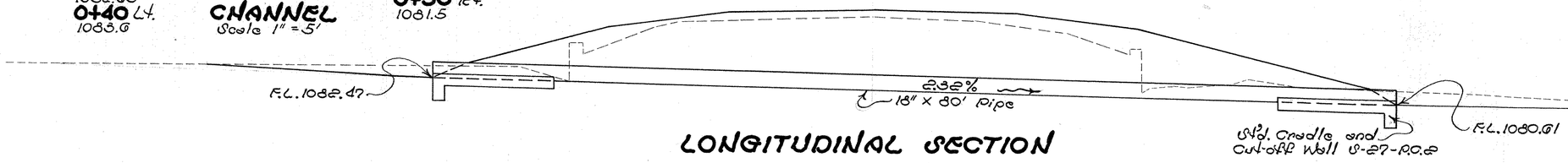
222
255

LIC-16-5.45, 14.60



PLAN
Scale 3/16" = 1'





LONGITUDINAL SECTION

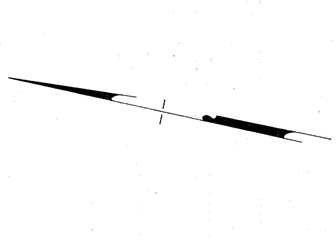
CULVERT DATA

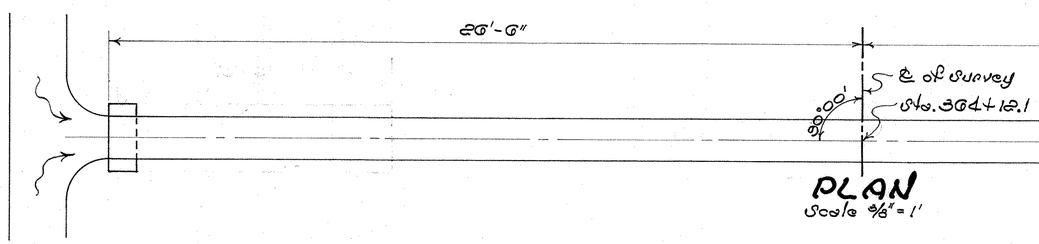
TYPE :~ Pipe Culvert Std. Drwg. No. S-27 R.C. B & S
SIZE :~ 18" x 80' Drainage Area 10 A. 10 c.f.s.~10 yr.
WORK REQUIRED :~ Install pipe, and build Std. cradle and cut-off wall and excavate channel at inlet and outlet ends. Remove and dispose of existing 12" x 48' V.S.P.

ESTIMATED QUANTITIES

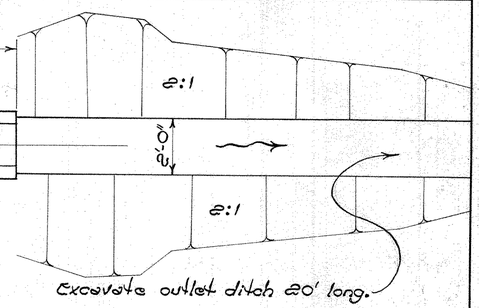
E-2	Excavation for structures	10 Cu. Yds.
E-3	Channel Excavation	3 Cu. Yds.
E-12	12" Pipe Removed and Disposed of	48 Lin. Ft.
S-1	Concrete for cradle & cut-off wall, Class "E"	1.80 Cu. Yds.
S-27	18" Pipe for Roadway Culvert	80 Lin. Ft.

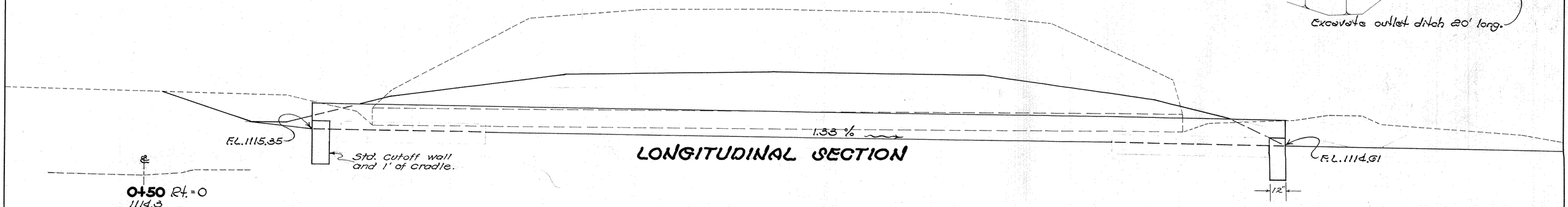
4	Sta. 341+67.73	R.C. 18" x 80'



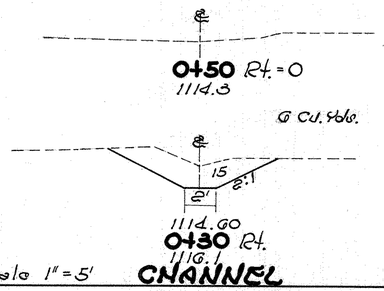


PLAN
Scale 3/16" = 1'





LONGITUDINAL SECTION



CULVERT DATA

TYPE :~ Pipe Culvert Std. Drwg. No. S-27 R.C. B & S
SIZE :~ 18" x 56' Drainage Area 10 A. 20 c.f.s.~25 yr.
WORK REQUIRED :~ Remove existing 12" x 46' C.M.P.
Install new pipe culvert as per plan.

ESTIMATED QUANTITIES

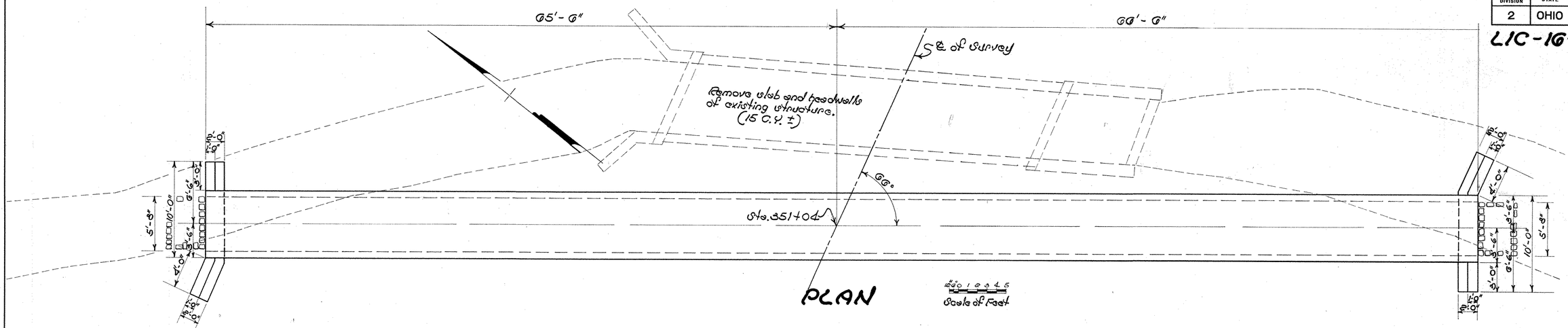
E-2	Excavation for structure	8 Cu. Yds.
E-3	Channel Excavation	6 Cu. Yds.
S-1	Concrete for cradles & cut-off walls, Class "E"	0.4 Cu. Yds.
S-27	18" Pipe for Roadway Culvert, Sec. M-6.4(c)	56 Lin. Ft.
E-12	12" Pipe Removed and Disposed of	46 Lin. Ft.

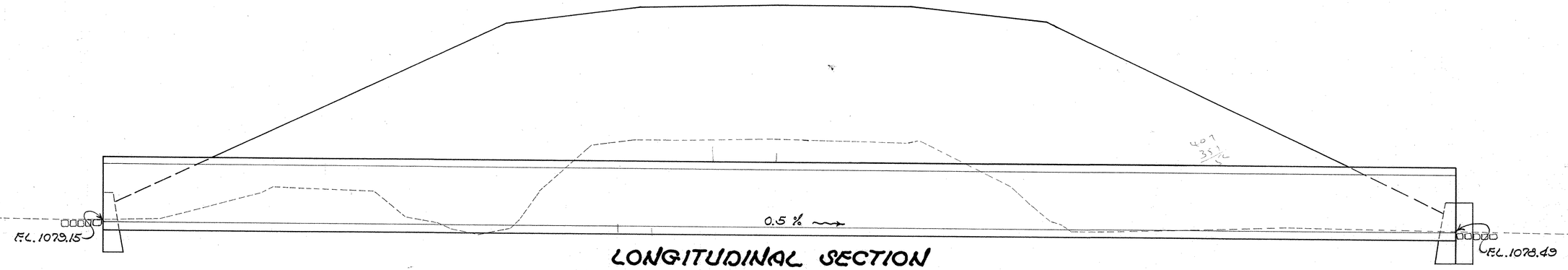
6	Sta. 304+12.1	R.C. 18" x 56'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839 (1)	POST WAR

255

LIC-16-5.45, 14.60



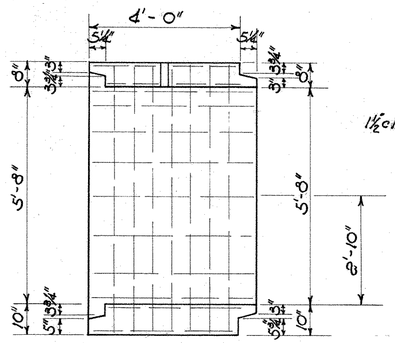


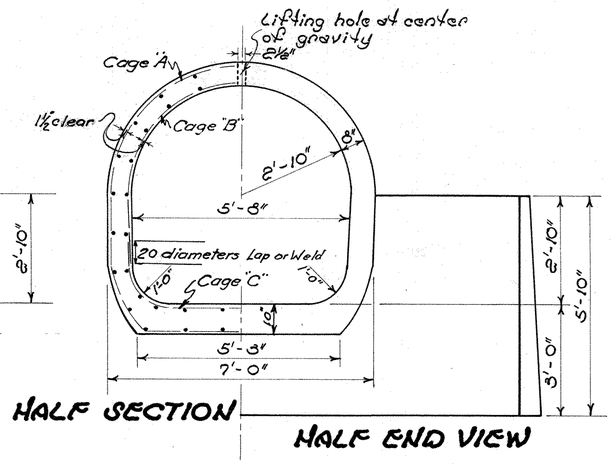
REINFORCING STEEL

Annular reinforcing steel shall have the following cross sectional area of steel per lineal foot of barrel
Cage "A" - 0.36 sq. in.; Cage "B" - 0.36 sq. in.; Cage "C" - 0.64 sq. in.

Longitudinal steel shall have a minimum of 3.25 sq. in. cross sectional area and shall be equally spaced.

All splices in Cage "A" shall have 20 diameters lap for deformed bars and 40 diameters for wire or weld splice.





Scale of Feet

CULVERT DATA

TYPE:- Pipe Culvert Std. Drwg. SP-53 and S-27 R.C.
SIZE:- 66"x 66"x 132' Drainage Area 660 A.C. 660 cfs-10yr.
WORK REQUIRED:- Remove slab and headwalls of existing 7.5'x 7.2'x 40' slab top culvert. Install new structure as per plan.

Material, design, and manufacturing methods shall meet the requirements of Section M-6.6 Reinforced Concrete Pipe, except as noted on these plans. Concrete used shall have a minimum ultimate compressive strength of 4500 lb. per sq. in. Sections of pipe shall have a minimum length of four feet.

ESTIMATED QUANTITIES

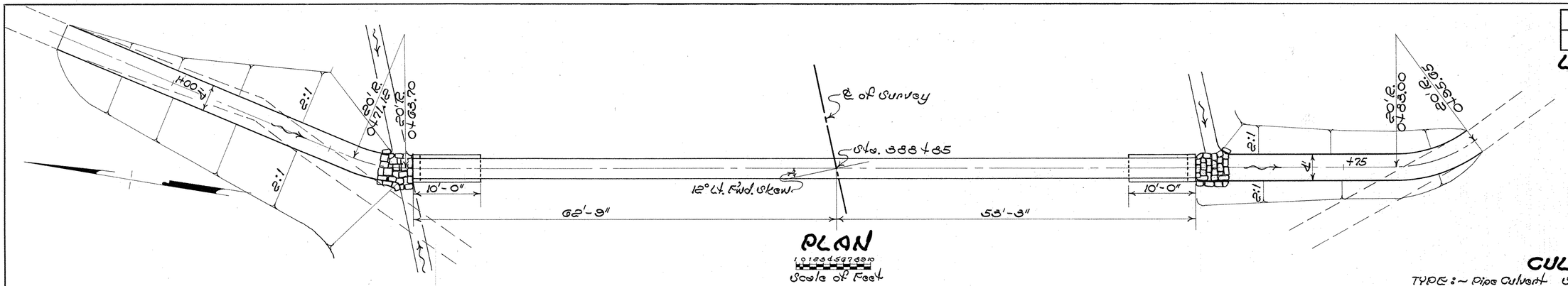
E-2	Excavation for Structure	175 Cu. Yds.
S-1	Concrete for Headwalls Class "E"	7 Cu. Yds.
S-27	66" x 66" Flat Bottom Pipe for Roadway Culvert	132 Lin. Ft.
S-22	Removal of Portions of Existing Structure	Lump
I-10	Rip Rap Grout Filled, 6" Thick.	8 Sq. Yds.

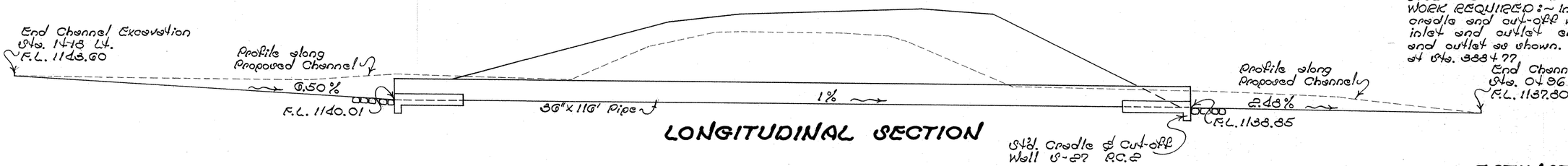
5	STA. 351+04	R.C. 66"x66"x132'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839 (1)	2007 WAE

223
255

LIC-16-5.45, 14.60





CULVERT DATA

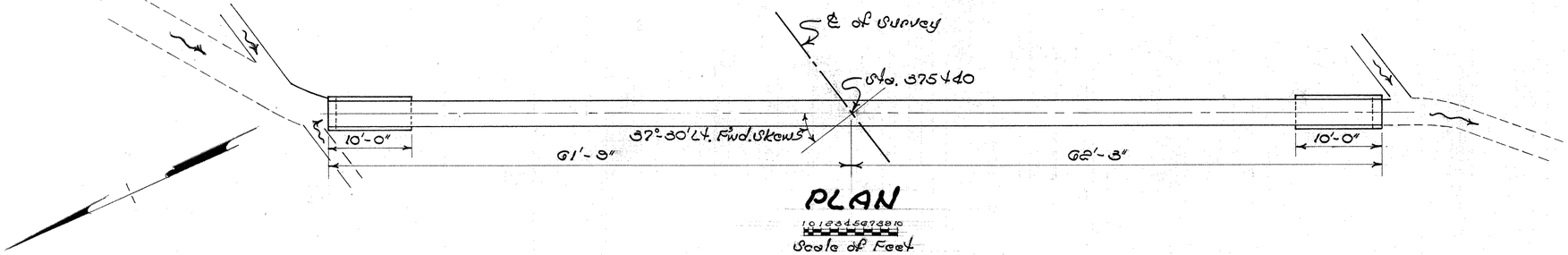
TYPE :~ Pipe Culvert Std. Drwg. No. S-27 R.C. 2 & 3
SIZE :~ 36"x116' Drainage Area 80 Ac. 58 c.f.s.~10yr.
WORK REQUIRED :~ Install pipe and build standard cradle and cut-off walls and excavate channel at inlet and outlet ends as per plan. Riprap inlet and outlet as shown. Remove existing 36"x42' structure at Sta. 388+77

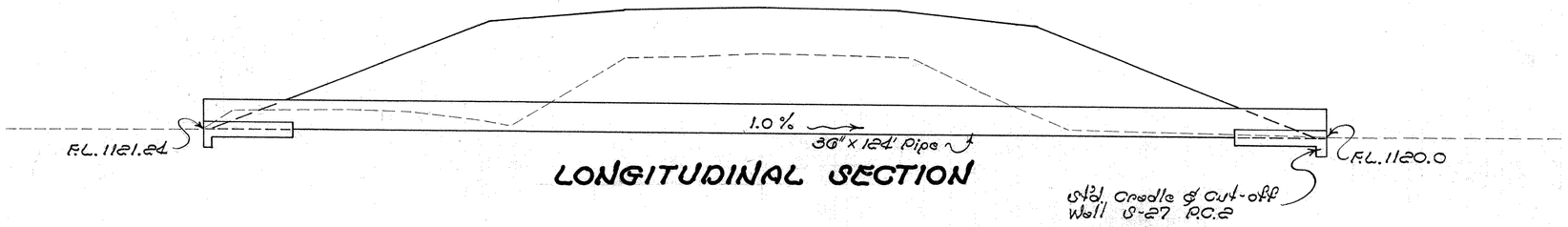
End Channel Excavation
Sta. 0+96 Rt. See Sheet 234
F.L. 1137.60

ESTIMATED QUANTITIES

E-2	Excavation for Structures	55 Cu. Yds.
E-3	Channel Excavation	64 Cu. Yds.
E-12	Pipe Removed and Disposed of (36")	42 Lin. Ft.
S-1	Concrete for cradle and cut-off Wall Class "E"	3.3 Cu. Yds.
S-27	36" Pipe for Roadway Culvert	116 Lin. Ft.
I-10	Riprap	6 Sq. Yds.

8	Sta. 388+85	R.C. 36"x116'





CULVERT DATA

TYPE :~ Pipe Culvert Std. Drwg. No. S-27 R.C. 2 & 3
SIZE :~ 36"x124' Drainage Area 55 Ac. 54 c.f.s.~10yr.
WORK REQUIRED :~ Install new structure as per plan. Remove existing 42"x42' C.M.P. at Sta. 375+65

ESTIMATED QUANTITIES

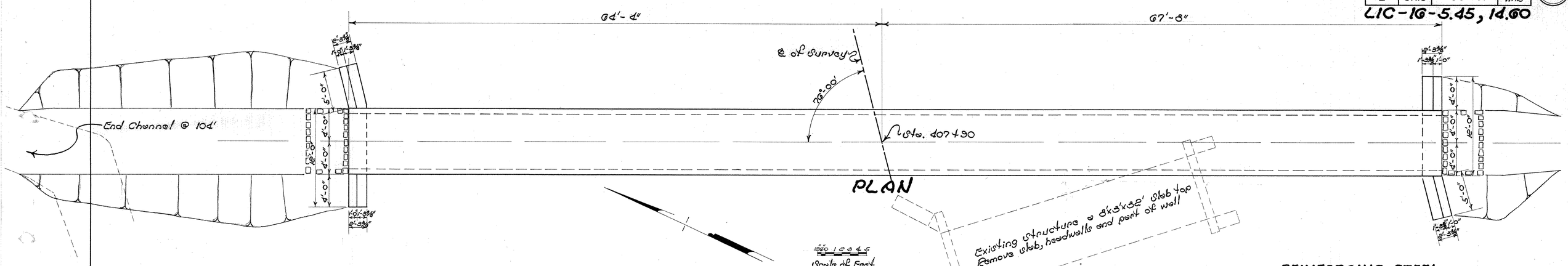
E-2	Excavation for Structure	81 Cu. Yds.
E-12	Pipe Removed and Stored (42")	42 Lin. Ft.
S-1	Concrete for cradle and cut-off wall Class "E"	3.3 Cu. Yds.
S-27	36" Pipe for Roadway Culvert	124 Lin. Ft.

7	Sta. 375+40	R.C. 36"x124'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839 (1)	POST WAR

225
255

LIC-16-5.45, 14.60

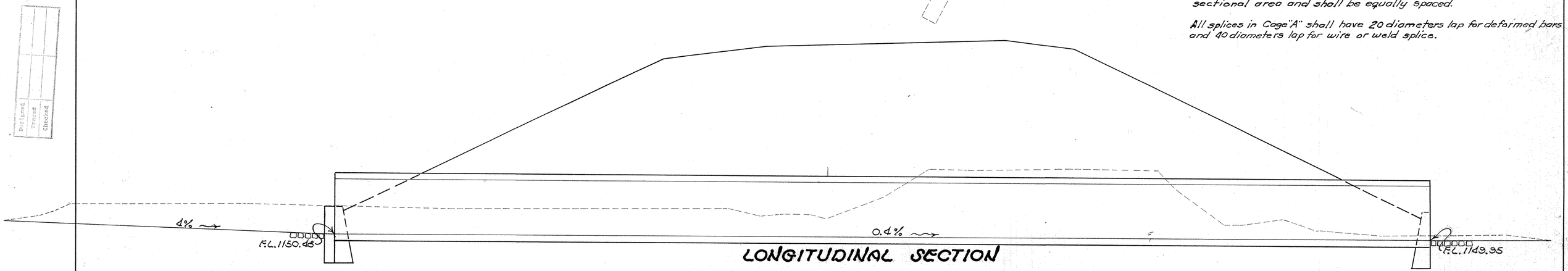


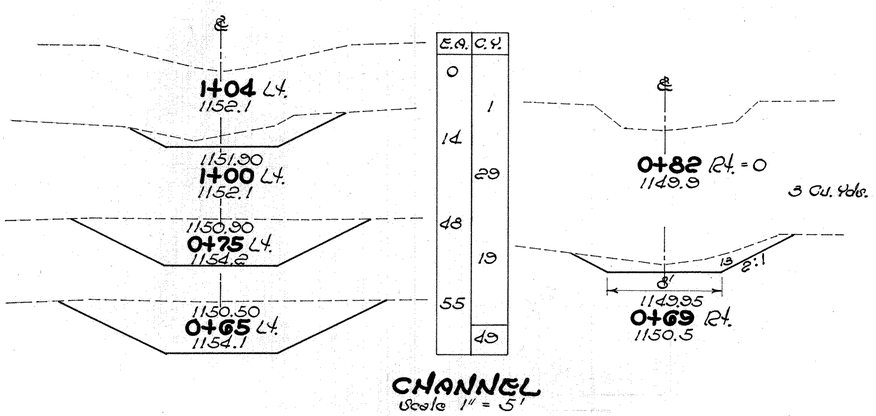
REINFORCING STEEL

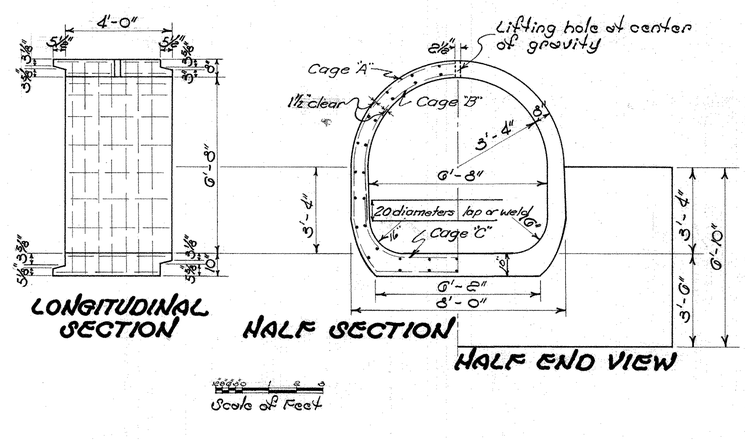
Annular reinforcing steel shall have the following cross sectional area per lineal foot of barrel :~
Cage "A" - 0.36 sq. in ; Cage "B" - 0.42 sq. in. ; Cage "C" 0.86 Sq. in.

Longitudinal steel shall have a minimum of 3.60 sq. in. cross-sectional area and shall be equally spaced.

All splices in Cage "A" shall have 20 diameters lap for deformed bars and 40 diameters lap for wire or weld splice.







CULVERT DATA

TYPE :~ Pipe Culvert Std. Dwg. SP-53 & S-27 RC. B
SIZE :~ 80"x80"x132' Drainage Area 775 Ac. 300 c.f.s. ~ 10 yr.
WORK REQUIRED :~ Remove slab headwalls and part of wall of existing slab top culvert, 8'x8'x32'. Install new structure as per plan.

Materials, design, and manufacturing methods shall meet the requirements of Section M-6.6 Reinforced Concrete Pipe, except as noted on these plans.
Concrete used shall have a minimum ultimate compressive strength of 4500 lb. per sq. in.
Sections of pipe shall have a minimum length of four feet.

ESTIMATED QUANTITIES

E-2	Excavation for Structure	400 Cu. Yds.
E-3	Channel Excavation	52 Cu. Yds.
S-1	Concrete for Headwalls Class "E"	10.8 Cu. Yds.
S-27	80"x80" Flat Bottom Pipe for Roadway Culvert	132 Lin. Ft.
S-22	Removal of Portions of Existing Structure ~Lump	
I-10	Riprap, Grout Filled, 6" Thick	10 Sq. Yds.

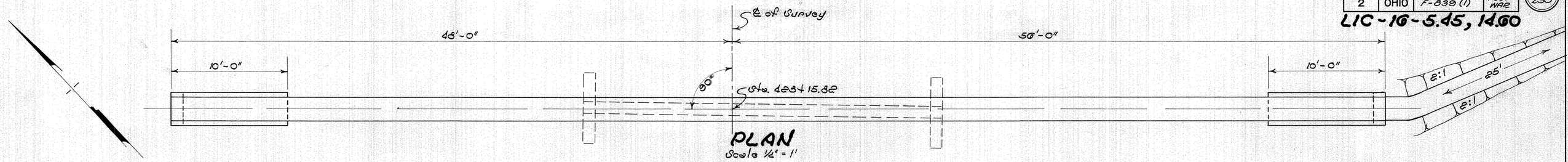
Designed	P.H.	12/12/51
Traced	R.W.	3/5/52
Checked	D.M.	

3	STA. 407+90	RC. 80"x80"x132'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839 (1)	POST WAR

226
255

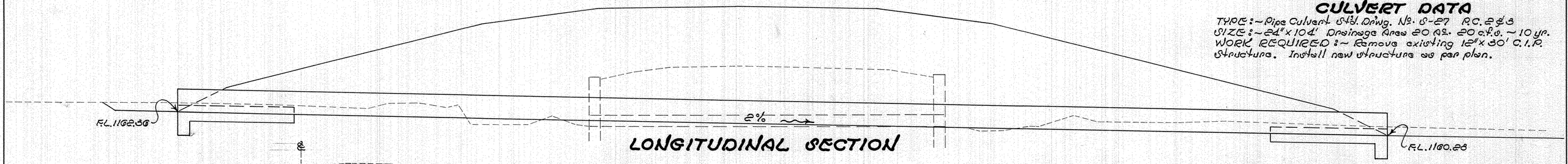
LIC-16-5.45, 14.60



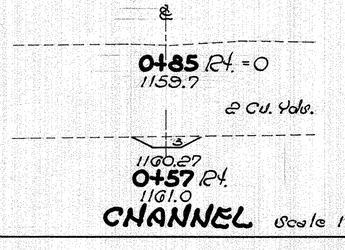
PLAN
Scale 1/4" = 1'

CULVERT DATA

TYPE:~ Pipe Culvert Std. Drwg. No. S-27 R.C. 2&3
SIZE:~ 24"x 104' Drainage Area 20 AC. 20 c.f.s. ~10 yr.
WORK REQUIRED:~ Remove existing 12"x 30' C.I.P. structure. Install new structure as per plan.



LONGITUDINAL SECTION

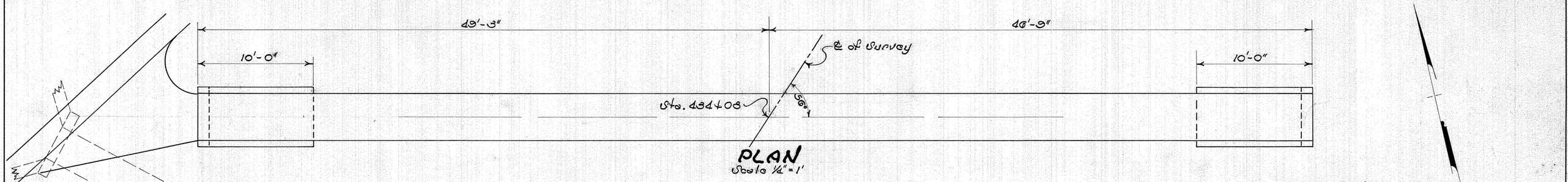


CHANNEL Scale 1"=5'

ESTIMATED QUANTITIES

E-2	Excavation for Structure	10 Cu. Yds.
E-3	Channel Excavation	2 Cu. Yds.
S-27	24" Pipe for Roadway Culvert	104 Lin. Ft.
S-1	Concrete for Cradle and Cut-off Wall, Class "E"	2.1 Cu. Yds.
E-12	12" Pipe Removed and Disposed of	30 Lin. Ft.

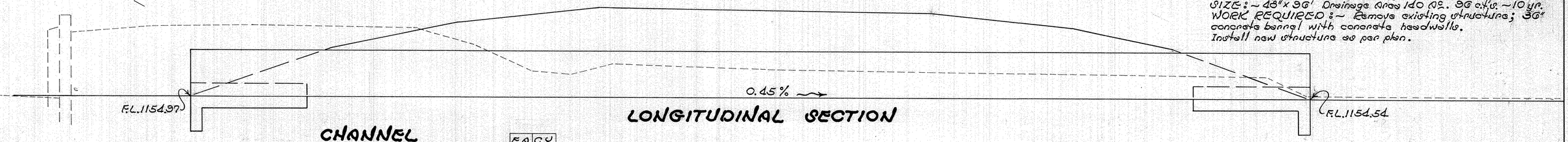
10	Sta. 423+15.82	R.C. 24"x 104'



PLAN
Scale 1/4" = 1'

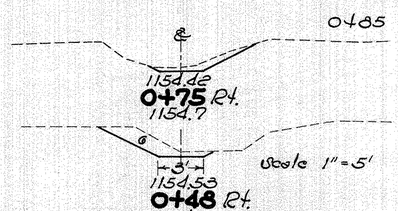
CULVERT DATA

TYPE:~ Pipe Culvert Std. Drwg. No. S-27 R.C. 2&3
SIZE:~ 48"x 96' Drainage Area 140 AC. 96 c.f.s. ~10 yr.
WORK REQUIRED:~ Remove existing structure; 36" concrete barrel with concrete headwalls. Install new structure as per plan.



LONGITUDINAL SECTION

CHANNEL



Scale 1"=5'

E.A.	C.Y.
0	1
8	4
6	5

ESTIMATED QUANTITIES

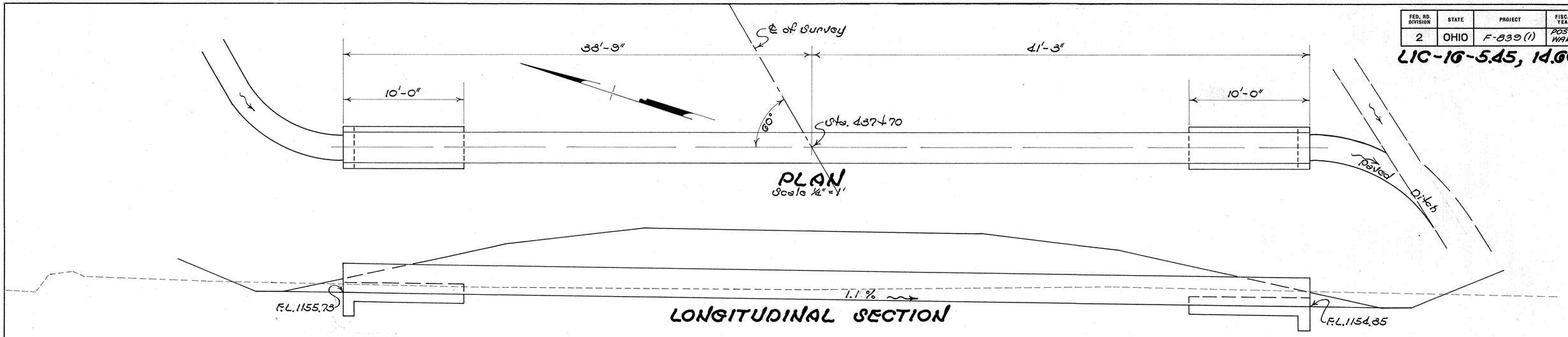
E-2	Excavation for Structure	130 Cu. Yds.
E-3	Channel Excavation	5 Cu. Yds.
S-1	Concrete for cradle and cut-off wall Class "E"	5.0 Cu. Yds.
S-27	48" Pipe for Roadway Culvert	96 Lin. Ft.
S-24	Removal of Existing Structure	Lump

11	Sta. 434+08	R.C. 48"x 96'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839(1)	POST WAR

227
255

LIC-16-5.45, 14.60



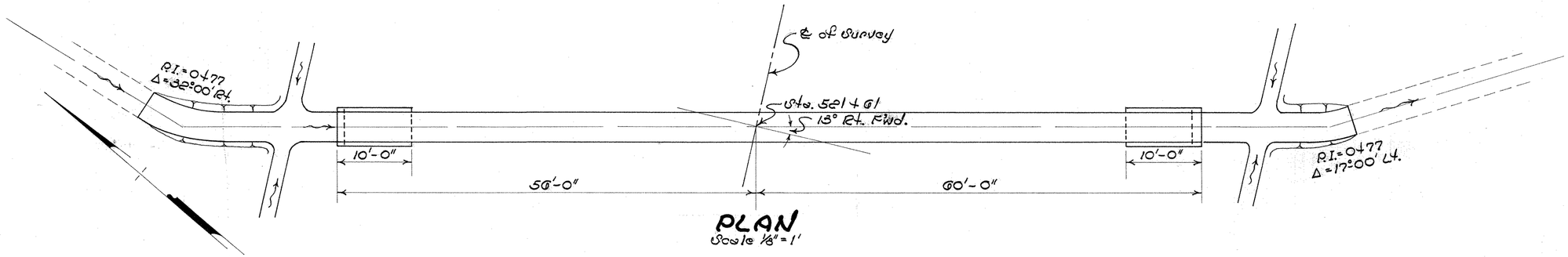
CULVERT DATA

TYPE :~ Pipe Culvert Std. Drwg. No. S-27 R.C. 2 ℄ 3
SIZE :~ 30" x 80' Drainage Area 40 Ac. 40 c.f.s. ~ 10yr.
WORK REQUIRED :~ Install new pipe culvert as per plan.

ESTIMATED QUANTITIES

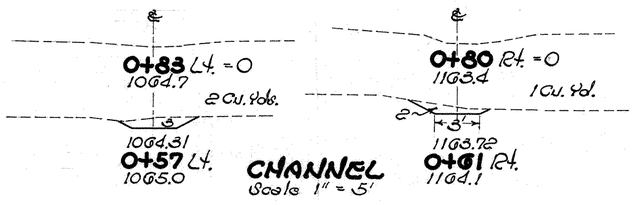
E-2	Excavation for Structure	20 Cu. Yds.
S-1	Concrete for cradle and cut-off wall Class "E"	2.7 Cu. Yds.
S-27	30" Pipe for Roadway Culvert	80 Lin. Ft.

12	Sta. 437+70	R.C. 30" x 80'



CULVERT DATA

TYPE :~ Pipe Culvert Std. Drwg. No. S-27 R.C. 2 ℄ 3
SIZE :~ 48" x 110' Drainage Area 200 Ac. 185 c.f.s. ~ 10yr.
WORK REQUIRED :~ Install new pipe culvert as per plan.



ESTIMATED QUANTITIES

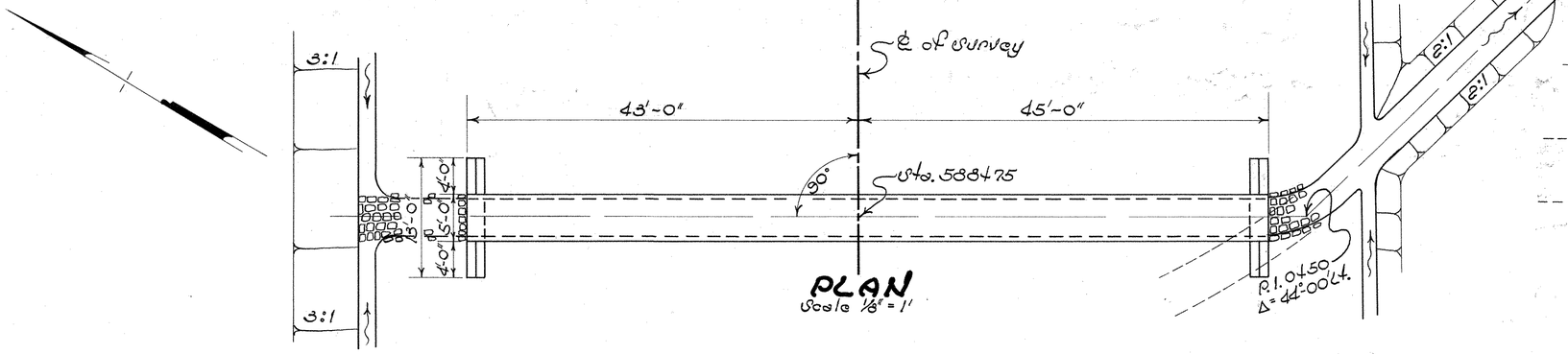
E-2	Excavation for Structure	87 Cu. Yds.
E-3	Channel Excavation	3 Cu. Yds.
S-1	Concrete for cradle and cut-off wall Class "E"	5.0 Cu. Yds.
S-27	48" Pipe for Roadway Culvert	110 Lin. Ft.

13	Sta. 521+61	R.C. 48" x 110'

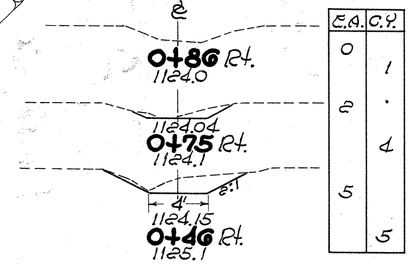
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-839 (1)	POST WAR

228
255

LIC-16-5.45, 14.60



PLAN
Scale 1/8" = 1'

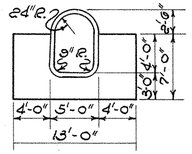


E.A.	C.Y.
0	1
2	4
5	5

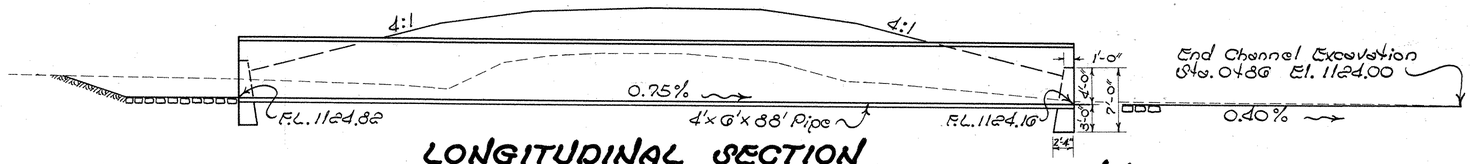
CHANNEL
Scale 1" = 5'

CULVERT DATA

TYPE :~ Pipe Culvert Std. Drwg. No. S-27 P.C. 3 & SP-53
SIZE :~ 4'x6'x88' Drainage Area 150 Ac. 120 cfs. ~ 10 yr.
WORK REQUIRED :~ Install new structure and riprap inlet and outlet ends as per plan. Remove existing pipe and concrete structure at Sta. 588+61.



END ELEVATION



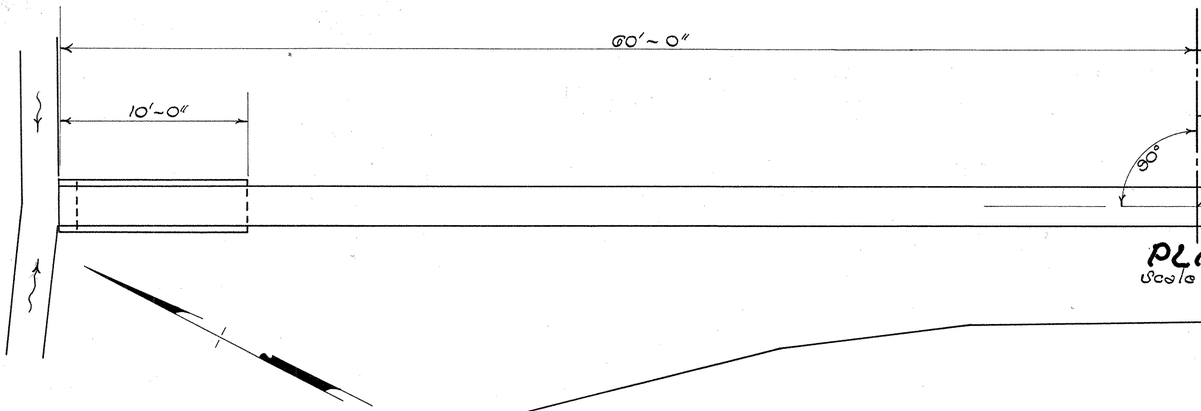
LONGITUDINAL SECTION

Note:~ Material design and manufacturing methods shall meet the requirements of Sec. 706, Reinforced Concrete Pipe, except as noted in these plans. Concrete used shall have a minimum ultimate compressive strength of 4500 lbs. per sq. in.
Sections of Pipe shall have a minimum length of 4 ft.
For joint and reinforcing details, see Structure No. 1

ESTIMATED QUANTITIES

E-2	Excavation for Structure	80 Cu. Yds.
E-3	Channel Excavation	5 Cu. Yds.
I-10	Riprap, Grout Filled, 9" Thick	10 Sq. Yds.
S-1	Concrete for Headwall Class "E"	7.8 Cu. Yds.
S-24	Removal of Existing Structure	Lump
S-27	4'x6' Pipe for Roadway Culvert	88 Lin. Ft.

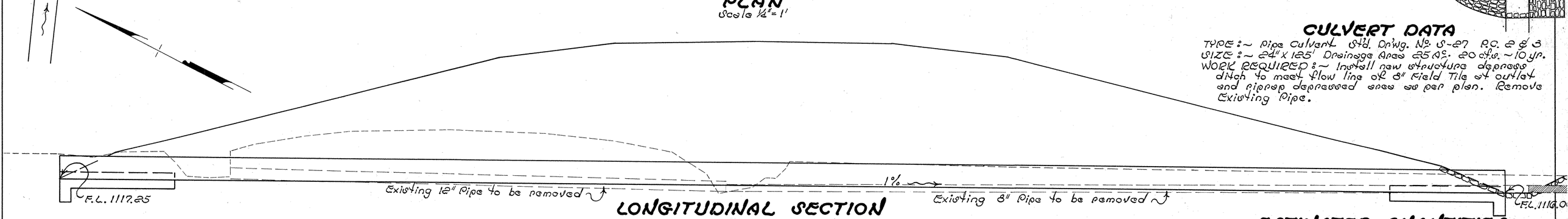
14	Sta. 588+75	P.C. 4'x6'x88'



PLAN
Scale 1/4" = 1'

CULVERT DATA

TYPE :~ Pipe Culvert Std. Drwg. No. S-27 P.C. 2 & 3
SIZE :~ 24" x 125' Drainage Area 25 Ac. 20 cfs. ~ 10 yr.
WORK REQUIRED :~ Install new structure depressed ditch to meet flow line of 8" Field Tile at outlet and riprap depressed area as per plan. Remove Existing Pipe.



LONGITUDINAL SECTION

ESTIMATED QUANTITIES

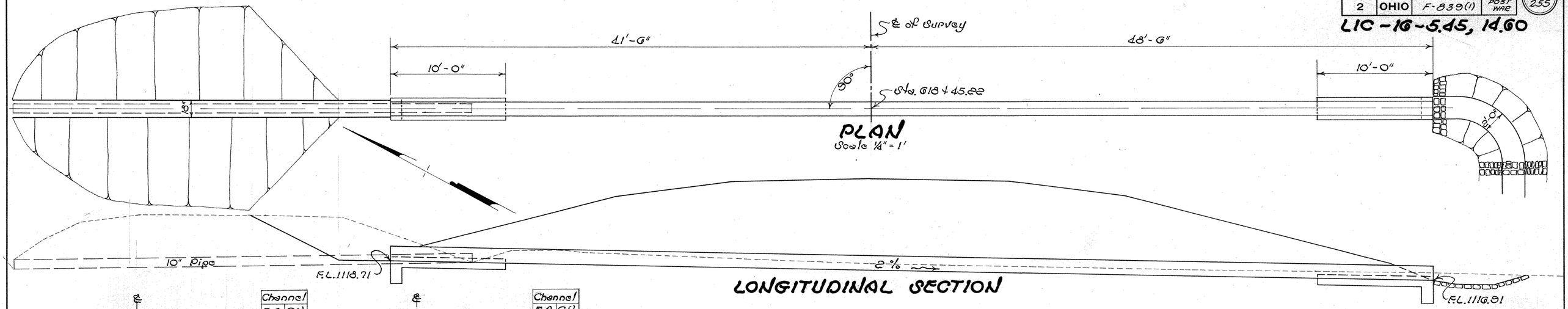
E-2	Excavation for Structure	15 Cu. Yds.
S-1	Concrete for cradle and cut-off walls, Cl. "E"	2.1 Cu. Yds.
S-27	24" Pipe for Roadway Culvert	125 Lin. Ft.
E-12	Pipe Removed and Disposed of	115 Lin. Ft.
I-10	Riprap	15 Sq. Yds.

15	Sta. 609+68.32	P.C. 24" x 125'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-839(1)	POST WAR

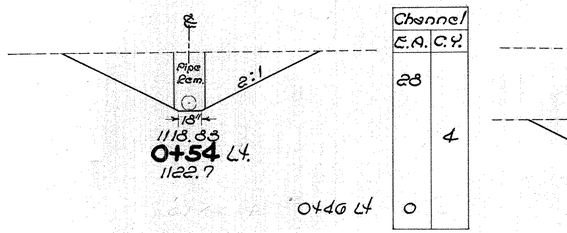
229
255

LIC-16-5.45, 14.60

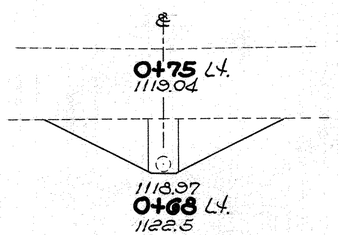


PLAN
Scale 1/4" = 1'

LONGITUDINAL SECTION



Channel	
E.A.	C.Y.
28	4
0	



Channel	
E.A.	C.Y.
0	3
24	13
	20

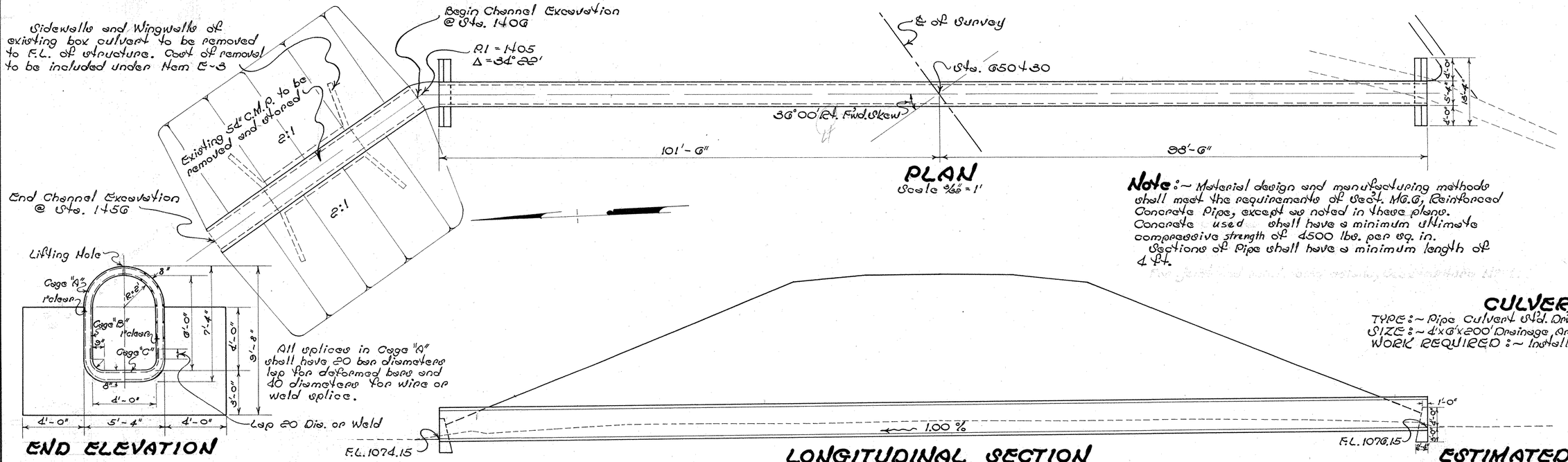
CULVERT DATA

TYPE :~ Pipe Culvert Std. Dwg. No. S-27 P.C. 2 & 3
SIZE :~ 15"x 90' Drainage Area 4 Ac. 3 c.f.s. ~10yr.
WORK REQUIRED :~ Remove existing 10"x 40' pipe. Install new pipe culvert as per plan. Excavate channel on right to tie as shown on plan and cross section sheets.

ESTIMATED QUANTITIES

E-2	Excavation for Structure	10 Cu. Yds.
E-3	Channel Excavation	20 Cu. Yds.
S-1	Concrete for cradles and cut-off walls Class "E"	1.4 Cu. Yds.
S-27	15" Pipe for Roadway Culvert	90 Lin. Ft.
E-12	Remove and Dispose of 10" Pipe	40 Lin. Ft.
I-10	Riprap, 6 Grout Filled	7 Sq. Yds.

16	Sta. 618+45.22	P.C. 15"x 90'



END ELEVATION

PLAN
Scale 3/16" = 1'

LONGITUDINAL SECTION

Note :~ The minimum cross sectional area of annular reinforcement per lin. ft. of barrel for each cage shall be as follows :

Cage "A"	~.27 sq. inch	per ft. of pipe.
Cage "B"	~.27 sq. inch	per ft. of pipe.
Cage "C"	~.50 sq. inch	per ft. of pipe.

Longitudinal steel shall have a minimum of 2.1 sq. in. cross sectional area and shall be equally spaced.

Note :~ Material design and manufacturing methods shall meet the requirements of Sect. M.6, Reinforced Concrete Pipe, except as noted in these plans. Concrete used shall have a minimum ultimate compressive strength of 4500 lbs. per sq. in. Sections of Pipe shall have a minimum length of 4 ft.

CULVERT DATA

TYPE :~ Pipe Culvert Std. Dwg. No. S-27 P.C. 3 & SP-53
SIZE :~ 4'x6'x200' Drainage Area 125 Ac. 90 c.f.s. ~10yr.
WORK REQUIRED :~ Install new structure.

ESTIMATED QUANTITIES

E-2	Excavation for Structure	120 Cu. Yds.
* E-3	Channel Excavation	257 Cu. Yds.
E-12	Pipe Removed and Stored (54")	50 Lin. Ft.
S-1	Concrete for Headwall (Class "E")	3.0 Cu. Yds.
S-27	4'x6' Pipe for Roadway Culvert Modified as per plan.	200 Lin. Ft.

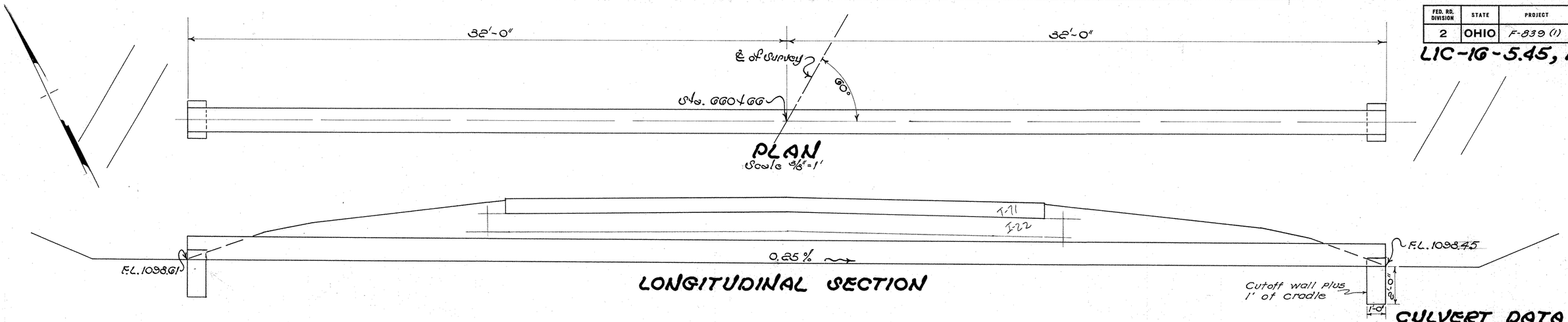
* **Note**:~ Cost of Removing Sidewalls and Wingwalls to flow line of Existing Box Culvert to be included under Item E-3 Channel Excavation ~ See Sheet No. 234

17	Sta. 650+30	P.C. 4'x6'x200'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-839 (1)	POST WAR

230
255

LIC-16-5.45, 14.60



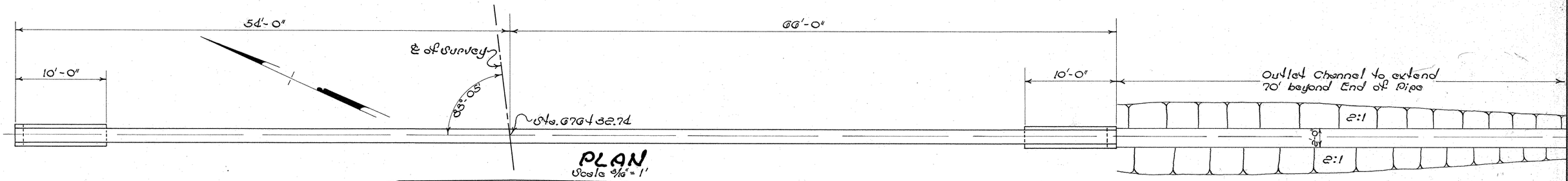
CULVERT DATA

TYPE :~ Pipe Culvert Std. Dwg. No. S-27 P.C. 2 of 3
SIZE :~ 15" x 64' Drainage Area & Dr. C of S. ~ 10 yr.
WORK REQUIRED :~ Install new pipe culvert as per plan.

ESTIMATED QUANTITIES

E-2	Excavation for Structure	15 Cu. Yds.
S-1	Concrete for cut-off walls Class "E"	0.4 Cu. Yds.
S-27	15" Pipe for Roadway Culvert, Sec. M-6.4(c)	64 Lin. Ft.

18	Sta. 6604+66	P.C. 15" x 64'

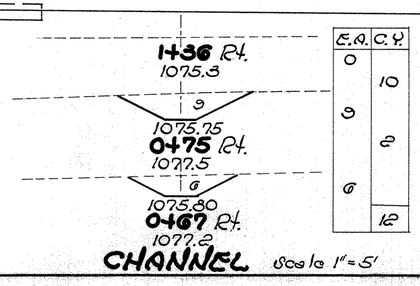


CULVERT DATA

TYPE :~ Pipe Culvert Std. Dwg. No. S-27 P.C. 2 of 3
SIZE :~ 18" x 120' Drainage Area 4 Ac. C of S. ~ 10 yr.
WORK REQUIRED :~ Remove existing 12" x 48' pipe. Install new pipe culvert. Excavate outlet channel.

ESTIMATED QUANTITIES

E-2	Excavation for Structure	10 Cu. Yds.
E-3	Channel Excavation	12 Cu. Yds.
S-1	Concrete for cradle and cut-off wall Class "E"	1.3 Cu. Yds.
S-27	18" Pipe for Roadway Culvert	120 Lin. Ft.
E-12	Remove and Dispose of 12" Pipe	48 Lin. Ft.

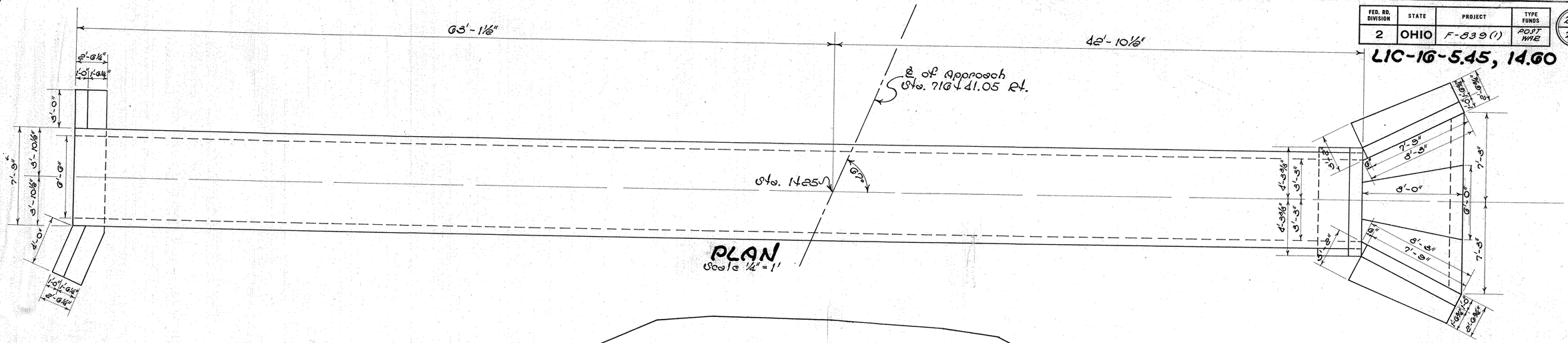


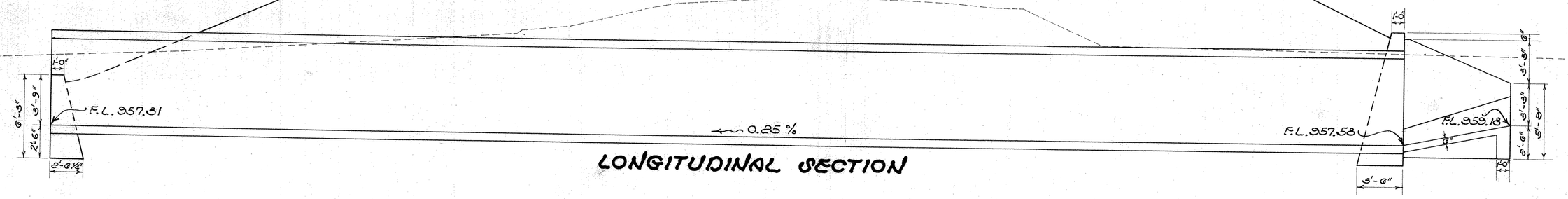
19	Sta. 6764+32.74	P.C. 18" x 120'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-839(1)	POST WAR

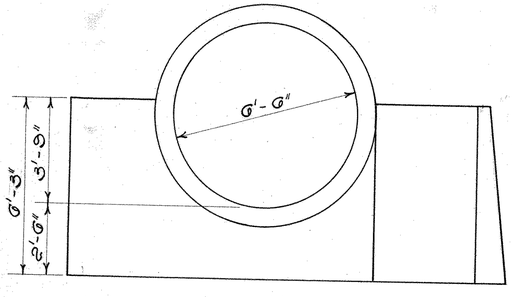
231
255

LIC-16-5.45, 14.60

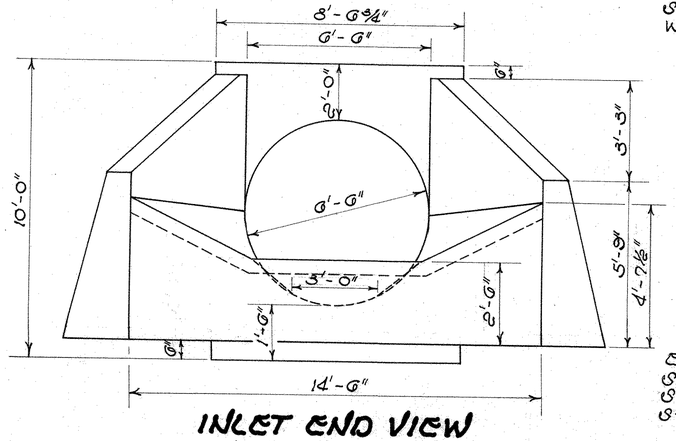




LONGITUDINAL SECTION



OUTLET END VIEW



INLET END VIEW

CULVERT DATA

TYPE:~ Pipe Culvert Std. Dwg. Nos. SP-53 & S-27 R.C. 3
SIZE:~ 78" x 106' Drainage Area 225 Ac.: 200 c.f.s. ~ 10 yr.
WORK REQUIRED:~ Install new structure as per plan. Remove slab of existing 8'x 26' structure at Sta. 716+45 Lt. and fill existing channel as per Item E-1.08.

ESTIMATED QUANTITIES

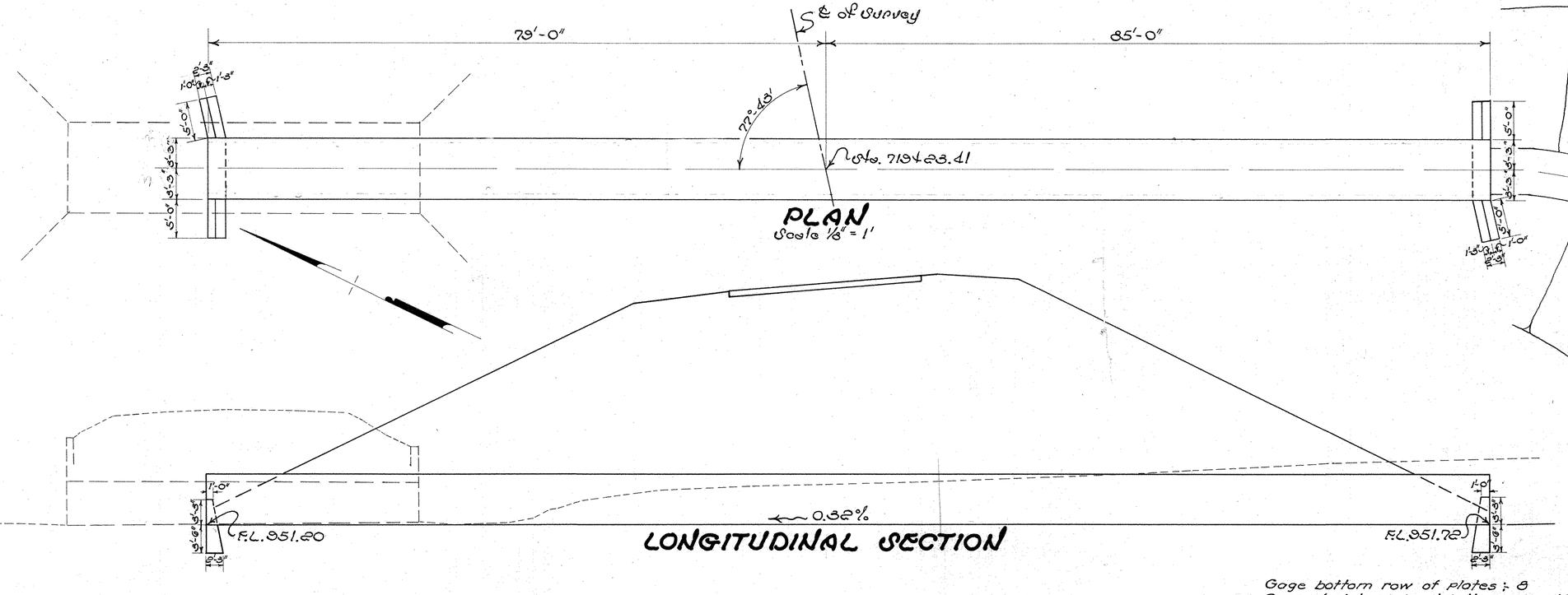
E-2	Excavation for Structure	330 Cu. Yds.
S-1	Concrete for Headwalls Class "E"	24.3 Cu. Yds.
S-27	78" Pipe for Roadway Culvert	106 Lin. Ft.
S-22	Removal of Portions of Exist. Str.	Lump

21	716+41.05 Rt.	R.C. 78"x106'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-839(1)	PORT WAR

232
255

LIC-16-5.45, 14.60



CULVERT DATA

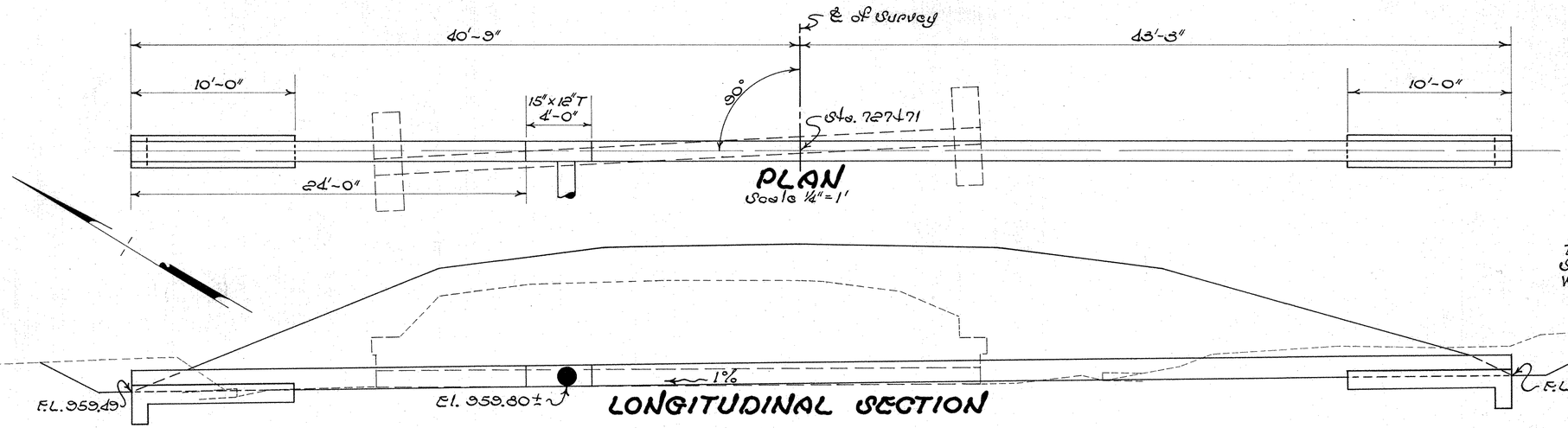
TYPE :~ Pipe Structure Std. Dwg. No. SP-53
SIZE :~ 78" x 164' Drainage Area 250 Ac. 2250 c.f.s. ~ 10yr.
WORK REQUIRED :~ Remove existing arch culvert. Install new Structure as per plan.

ESTIMATED QUANTITIES

E-2	Excavation for Structure	350 Cu. Yds.
E-3	Channel Excavation	1900 Cu. Yds.
S-1	Concrete for Headwall Class "E"	12.0 Cu. Yds.
S-28	78" Sec. Corr. Pipe Structure, Sec. M-6.49	164 Lin. Ft.
S-24	Removal of Existing Structure	Lump Sum

Gage bottom row of plates :- 8
Gage of plates, except bottom row :- 10

22 | Sta. 7194+23.41 | R.C. 78" x 164'



CULVERT DATA

TYPE :~ Pipe Culvert Std. Dwg. No. S-27 R.C. 2 @ 3
SIZE :~ 15" x 84' Drainage Area 2 Sq. Mi. 5 c.f.s. ~ 10yr.
WORK REQUIRED :~ Remove existing 12" x 37' pipe culvert. Install new pipe culvert as per plan.

ESTIMATED QUANTITIES

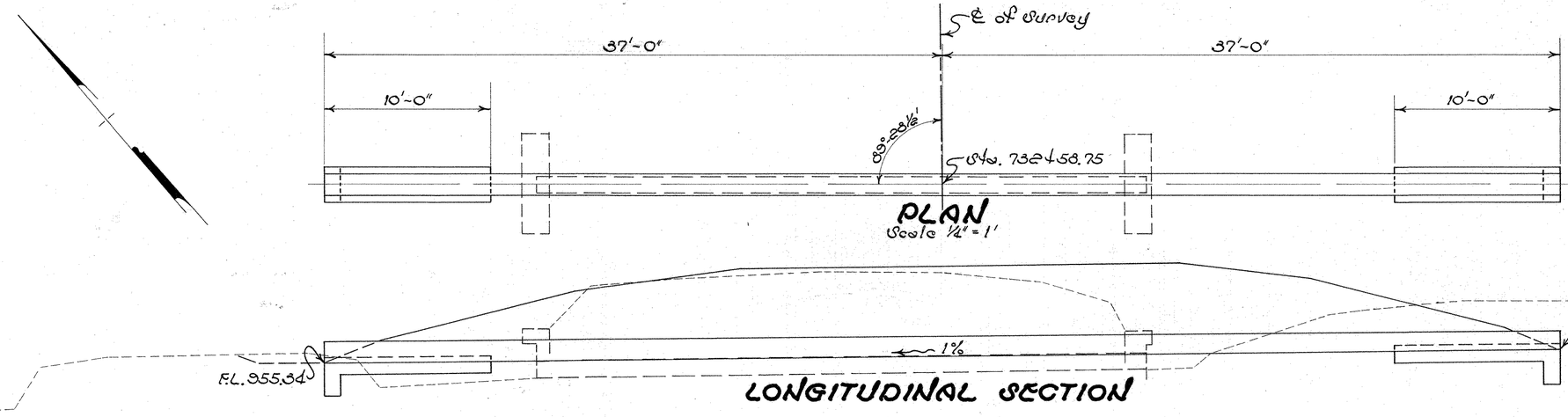
E-2	Excavation for Structure	10 Cu. Yds.
E-12	Pipe Removed and Disposed of (12")	37 Lin. Ft.
S-1	Concrete for cradle and cut-off wall Class "E"	1.4 Cu. Yds.
S-27	15" Pipe for Roadway Culvert	80 Lin. Ft.
I-5	Pipe Special, 12" T on 15" Pipe	1 Only

23 | Sta. 727+71 | R.C. 15" x 84'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-839 (1)	POST WAR

233
255

LIC-16-5.45, 14.60



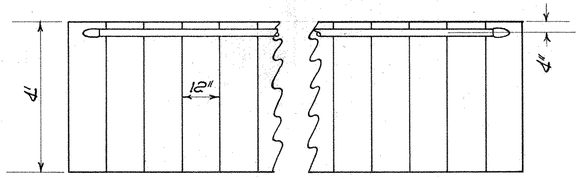
CULVERT DATA

TYPE:~ Pipe Culvert Std. Dwg. No. S-27 R.C. 2@3
SIZE:~ 15" x 74' Drainage Area 2 Sq. Mi. 50 Yrs.~10 Yrs.
WORK REQUIRED:~ Remove existing 12"x37' C.I. Pipe. Install new structure as per plan.

ESTIMATED QUANTITIES

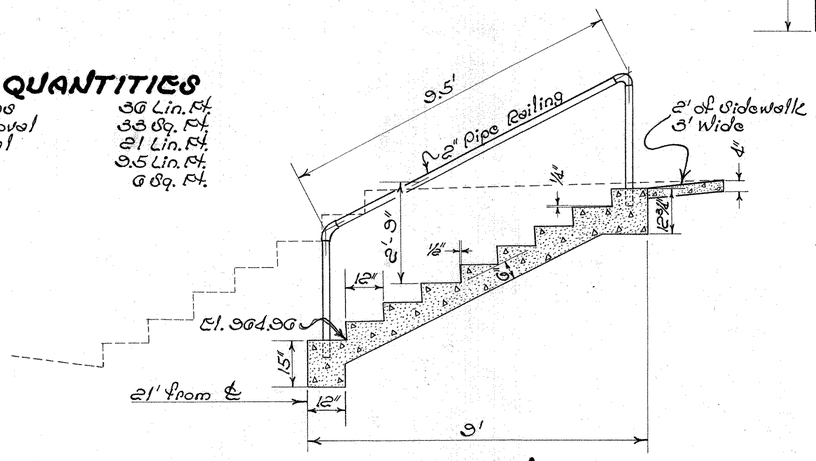
E-2	Excavation for Structure	5 Cu. Yds.
S-1	Concrete for cradle and cut-off wall Class "E"	1.2 Cu. Yds.
S-27	15" Pipe for Roadway Culvert	74 Lin. Ft.
E-12	Pipe Removed and Disposed of (12")	37 Lin. Ft.

24	Sta. 732+58.75	R.C. 15" x 74'

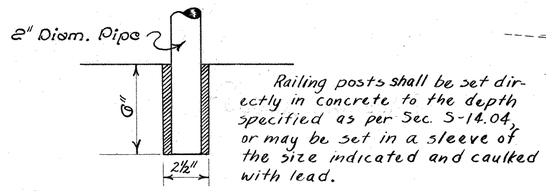


ESTIMATED QUANTITIES

I-13	Concrete Steps	36 Lin. Ft.
E-8	Sidewalk Removal	33 Sq. Ft.
	Step Removal	21 Lin. Ft.
S-14	Pipe Railing	9.5 Lin. Ft.
	Sidewalk	6 Sq. Ft.

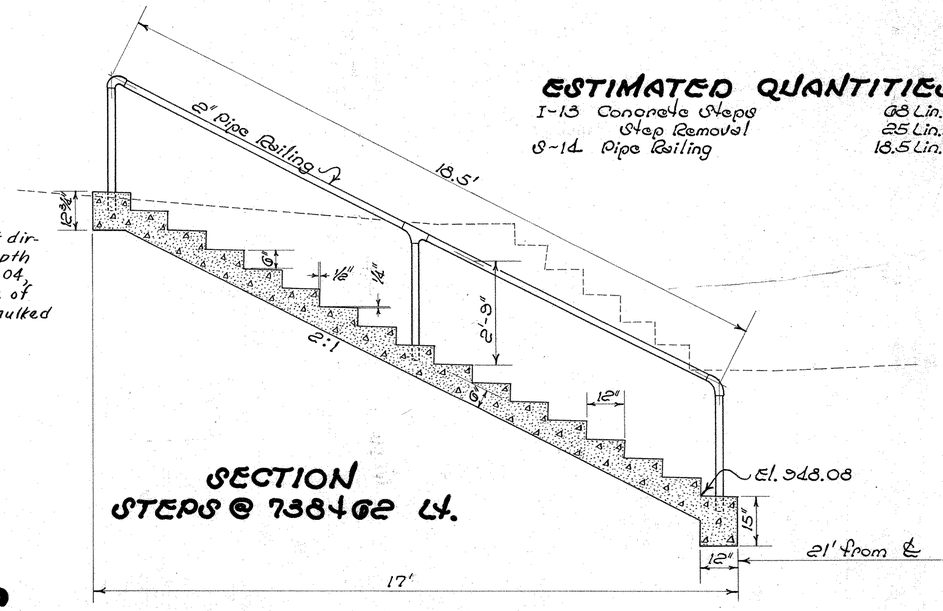


Note :~ In lieu of fittings, pipe railing joints may be welded.
Payment for step removal is included in the unit price bid for Item E-1, Roadway Excavation.



ESTIMATED QUANTITIES

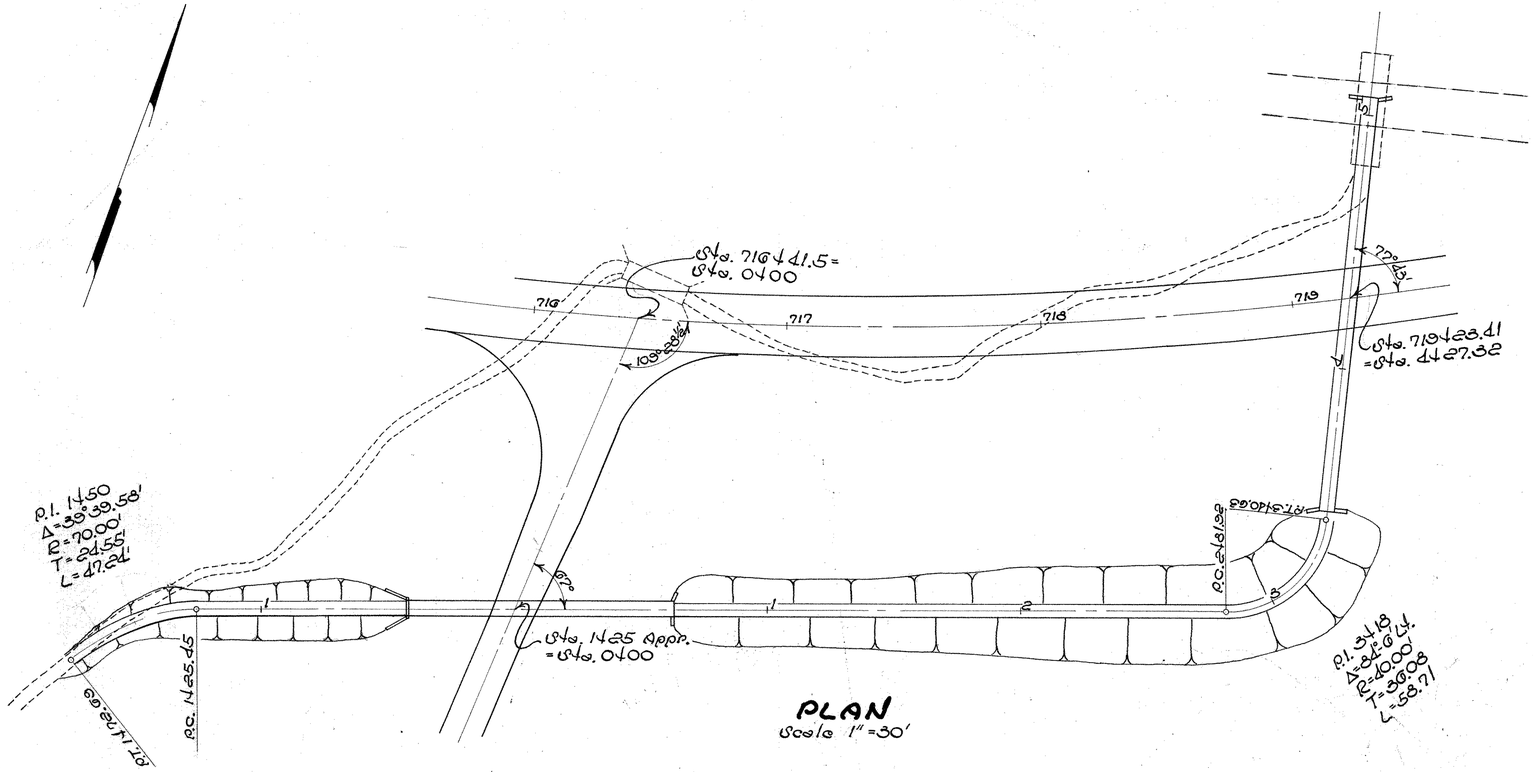
I-13	Concrete Steps	68 Lin. Ft.
	Step Removal	25 Lin. Ft.
S-14	Pipe Railing	18.5 Lin. Ft.

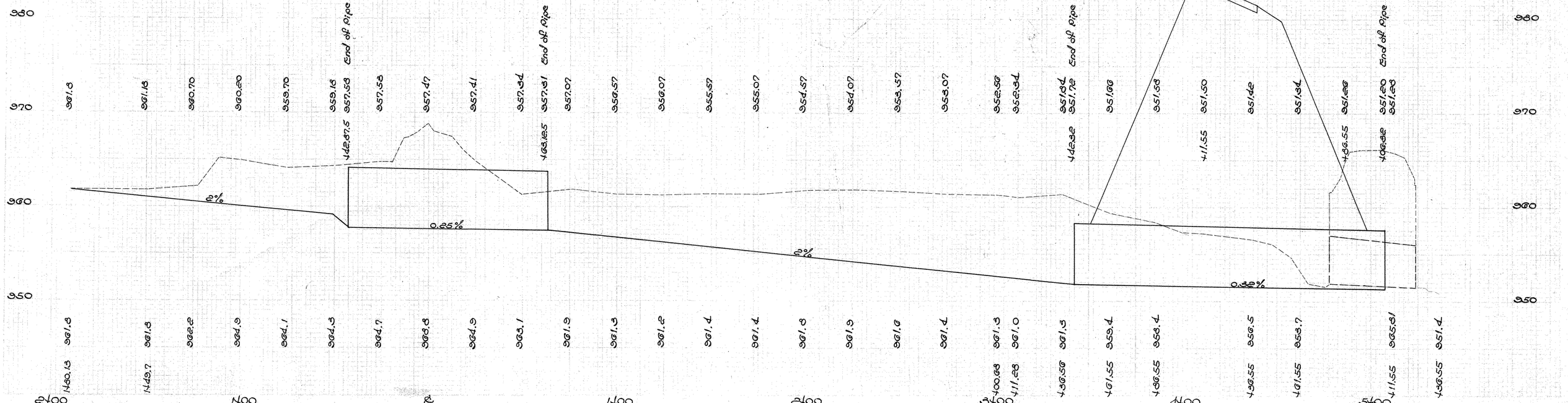


CONCRETE STEPS

FED. OR STATE	STATE	PROJECT		SHT. NO.	TOT. SHTS.
2	OHIO	F-839(1)	POST WAR	23.5	25.5

LIC-16-5.45, 14.60

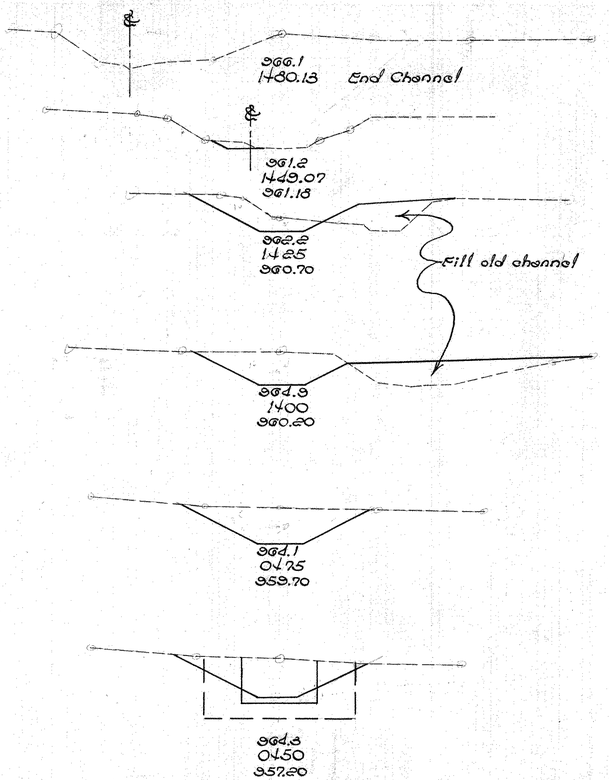




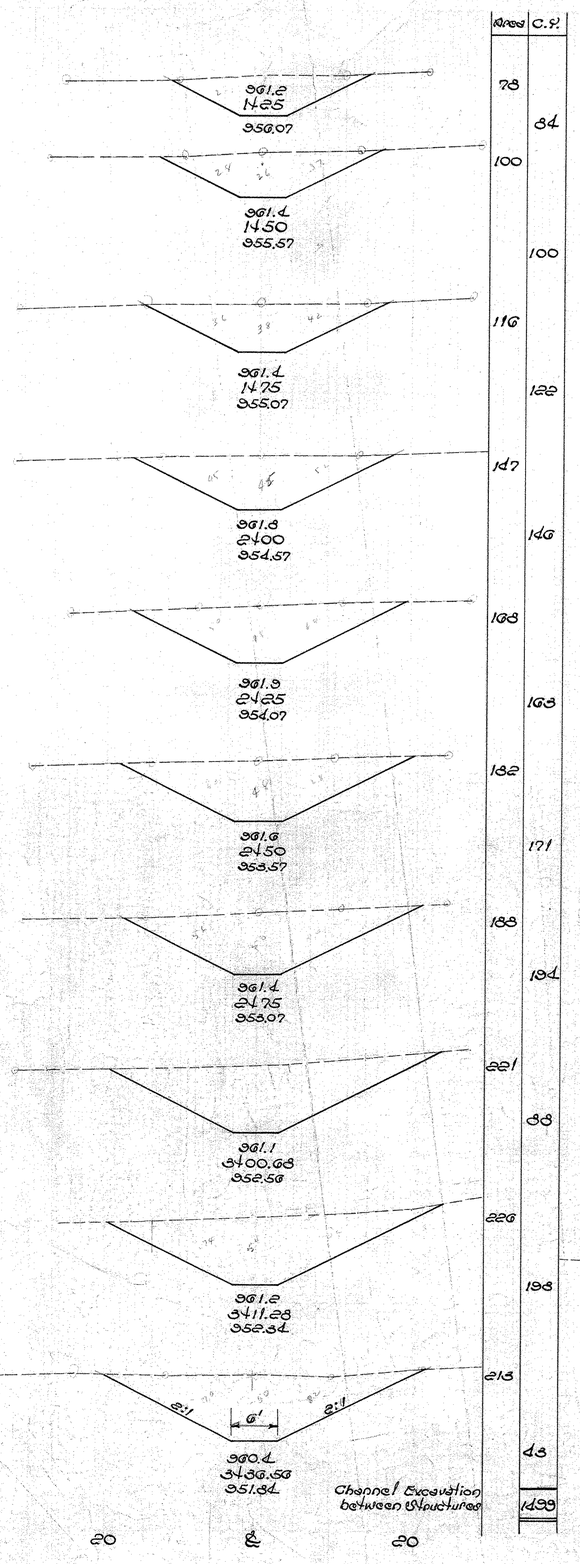
CHANNEL PLAN ~ 719+28.41

236
F-839(1) POST WAR 255

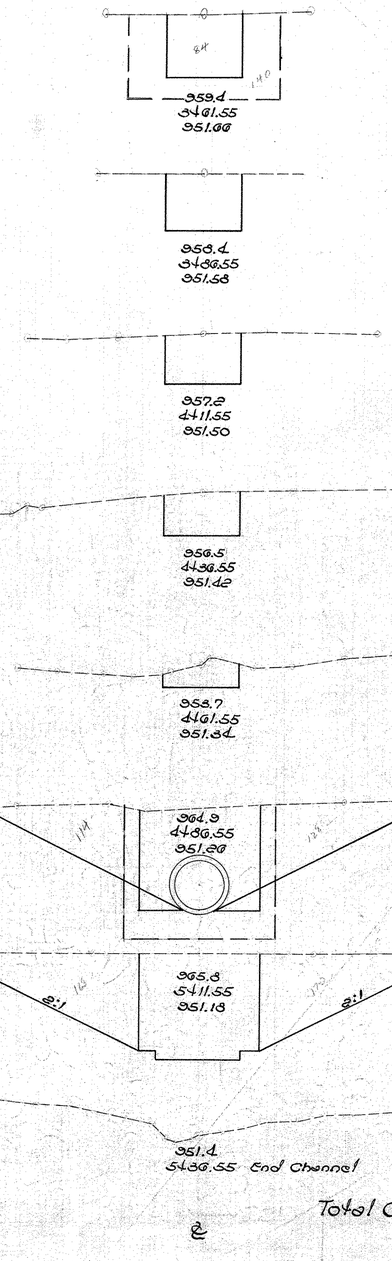
LIC-16-5.45, 14.60



	Area	C.Y.
	0	
	5	3
	32	17
	61	45
	69	60
		67
Channel Excavation West of Twp. Rd.		190
End Channel 0450.88	76	
End Headwall 0450.88	152	61
End Headwall 0440.32	180	
End Pipe 0440.32	77	
0442.87.5 End Pipe		44
	80	
		39
STRUCTURE EXCAVATION For Structure under Side Road 380 c.y. Carried to Structure at Plan	112	
		90
	81	
		33
End Pipe 0459.6	64	
End Headwall 0459.6	185	
End Headwall 0463.2	185	12
End Channel 0463.2	75	
	34	
	80	
	74	
	79	
		73



	Area	C.Y.
	78	
		84
	100	
		100
	116	
		122
	107	
		106
	168	
		163
	132	
		171
	188	
	194	
		221
	88	
	226	
	198	
	218	
	43	
	1499	



Excavation for Structure @ Sta. 719+23.41 350 c.y.
Carried to Structure plan

	Area	C.Y.
End Channel 3442	218	
End Headwall 3442	185	
End Headwall 3440	185	11
End Pipe 3440	84	
		67
	84	
		74
	75	
		64
	63	
		58
	57	
		42
	33	
		25
End old arch 4479.2	43	
	7	
		7
End Pipe 3405	7	
End Headwall 3405	80	4
End Headwall 3408.32	80	
End Channel 3408.32	242	
		58
End old arch 3434.2	388	
		158
Outlet Channel	0	211
Total Channel Excavation		1900

CHANNEL SECTIONS ~ 719+23.41