MICROFILMED
JAN 14 1980

CALCULATED BY RR DATE 4-4-73
CHECKED BY R.W. DATE 5/10/73

FHWA REGION	STATE	PROJECT	
5	OHIO	STATE	

1/9

LIC~310~9.86

DESIGN DESIGNATION	
Current A.D.T. (1971)	1380
Design Year A.D.T. (1991)	2070
D (Directional Distribution)	50-50
T (Percent B&C Trucks)	10%
V (Design Speed)	60 M.P.H.
D.H.V.	207

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
LICKING~310~9.86
JERSEY & ST. ALBANS TOWNSHIPS
LICKING COUNTY

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line
Trees , Stumps , (to be removed)
Utility Poles: Telephone , Power

Right of Way (only) RW
Existing Right of Way
Property Line (in existing fence)
Railroad
Guardrail (existing) (proposed)
Construction Limits

INDEX OF SHEETS

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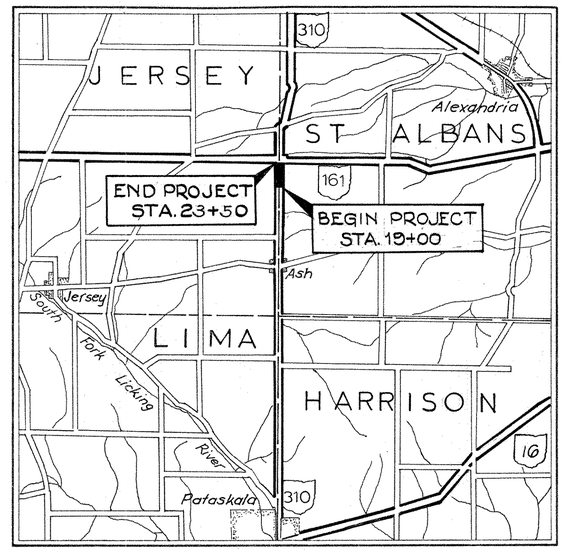
Right of Way - PRINT ONLY -	9



LOCATION MAP

SCALE OF MILES
1 0 1 2 3

Portion to be improved
State Roads
Other Roads

SCALES

Plan 0 50 100
Profile: Horizontal 0 50 100
Profile: Vertical 0 10 20

LINE DATA

Begin Project Sta. 19+00
End Project Sta. 23+50
Length of Project = 450 Lin. Ft. or 0.085 Mi.

Begin Work Sta. 17+00
End Work Sta. 25+20
Length of Work = 820 Lin. Ft. or 0.155 Mi.

1973 SPECIFICATIONS

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

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

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

Approved Stephen L. Petty
Date 5-15-73 District Deputy Director of Transportation.

Approved Robert B. Pfeifer
Date 6/8/73 Engineer, Bureau of Bridges.

Approved E. J. Schaefer
Date 6-20-73 Engineer, Bureau of Roadway Design.

Approved William E. Shell
Date 7-12-73 Assistant Deputy Director for Highway Design.

Approved Julian J. Greenway
Date 7-12-73 Assistant Deputy Director for Real Estate.

Approved William Bunkley
Date 7-12-73 Assistant Deputy Director for Program Development.

Approved
Date Chief Engineer, Division of Highways.

Approved William W. Baker
Date 7-12-73 Deputy Director, Division of Highways.

Approved William P. McKenna
Date 7-13-73 Assistant Director, Department of Transportation.

Approved Robert Quade
Date 7/13/73 Director, Department of Transportation.

K-4

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS				
BP-5	6-1-72			
BP-6	6-1-65			
MC-3	6-1-73			
HW4	1-1-70			
L-1	6-1-73			
MC-4	6-13-69			
CB 2-2-A&B	6-1-65			
BP-2	12-1-68			

SUPPLEMENTAL SPECIFICATIONS	
1001	9-20-72

K-4

Project: LIC-310-9.86 LICKING COUNTY
Date of Letting _____ 19__, Contract No. _____

LD 0300 3-1-72

TYPICAL SECTIONS

TYPE 404 on 301

TYPICAL DETAILS

CALCULATED BY REP DATE 4-4-73
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FHWA REGION	STATE	PROJECT	
5	OHIO		

LIC-310-9.86

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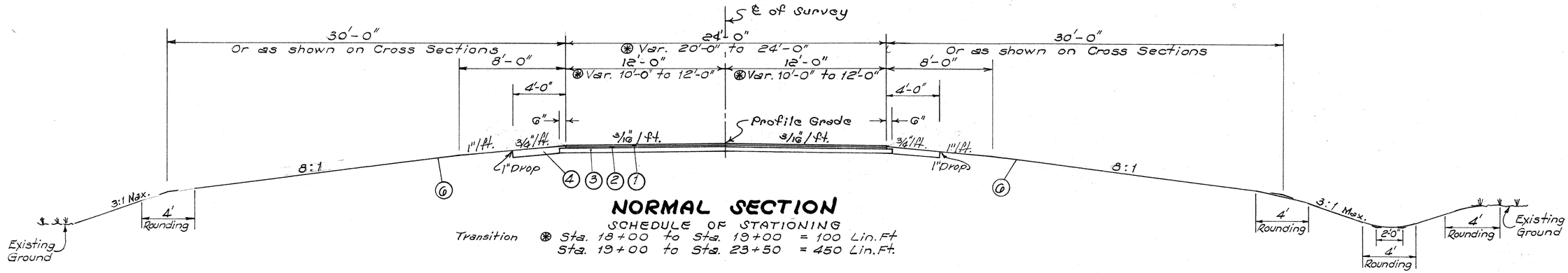
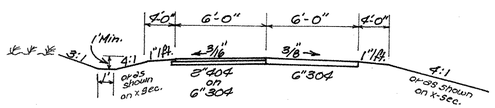


NORMAL SECTION

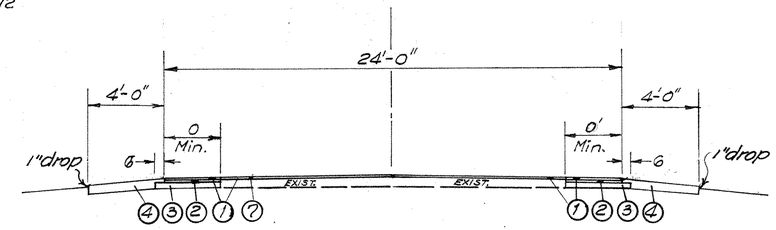
SCHEDULE OF STATIONING

Transition ⊛ Sta. 18+00 to Sta. 19+00 = 100 Lin. Ft
Sta. 19+00 to Sta. 23+50 = 450 Lin. Ft.

1. 404 1¼" Asphalt Concrete (70-85 or AC-20)
2. 402 1¾" Asphalt Concrete (70-85 or AC-20)
3. 301 5" Bituminous Aggregate Base 702.01 (85-100 or AC20) on 702.09 RT11 or RT12
4. 304 6½" Aggregate Base
5. 304 2" Aggregate Base
6. 659 Seeding and Mulching
7. 407 Tack Coat 702.04, MS-2 or RS1 or 702.02 RC-70 or RC250 applied at the rate of 0.10 Gal. per Sq. Yd. and Cover Aggregate.



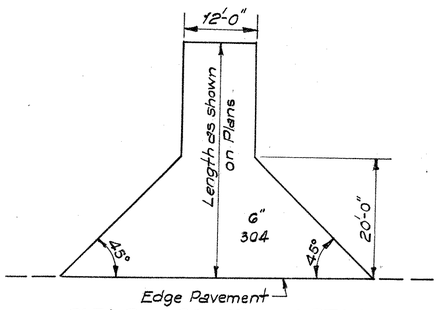
Field & Res. Drive Typical



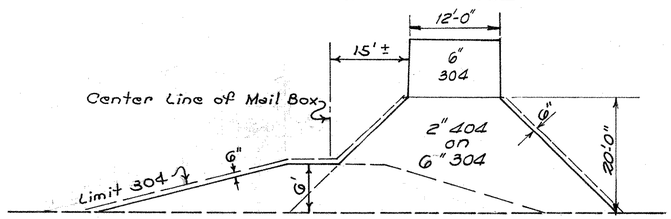
WIDENING & RESURF. SECTION

SCHEDULE OF STATIONING

23+50 to 24+25 = 75 Lin. Ft.



FIELD DRIVE DETAIL



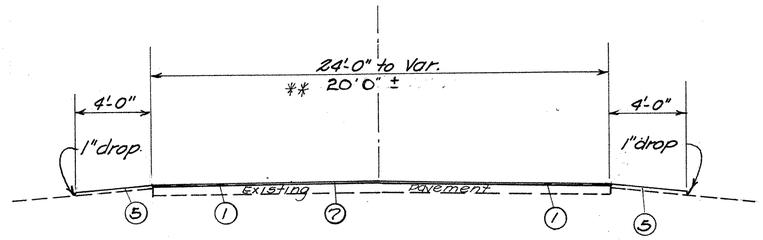
COMBINED DRIVEWAY & MAIL BOX APPROACH TO RESIDENCE DRIVE

MAIL BOX TURNOUT

(Combined with Residence Drive)

ITEM	DESCRIPTION	QUANT. EACH	EST. №	TOTAL	UNIT
404	2" Asphalt Concrete 70-85 or AC-20	1.0	1	* 1.0	Cu. Yds.
304	6" Aggregate Base	2.0	1	* 2.0	Cu. Yds.
408	Bit. Prime Coat 702.09 RT-2 or RT-3 or 702.02 MC-30 or MC70 at 0.40 Gal. / S.Y.	5	1	* 5	Gal's.

* Quantities carried to Sheet 4



RESURFACING SECTION

SCHEDULE OF STATIONING

** 17+00 to 18+00 = 100 Lin. Ft.
24+25 to 25+20 = 95 Lin. Ft.

GENERAL NOTES

FIELD OFFICE:

The Contractor shall provide a suitable field office having a minimum of 150 sq. ft. of floor space and in addition to the requirements of Item 619 he shall provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for Item 619, Field Office.

SEEDING:

Quantities for seeding are calculated for the soil areas between the work limits, as shown on the cross section.

ROUNDING OF CORNERS SHOW ON TYPICAL SECTIONS:

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

REMOVAL OF TREES AND STUMPS:

All trees and stumps specifically marked for removal within the construction limits of this project shall be removed under the lump sum price bid for Item 201 Clearing and Grubbing except that those trees for which protection and preservation work is indicated elsewhere in these plans shall not be removed.

The following is an approximate estimate of the number of trees and stumps to be removed:

SIZES	18"	30"	48"	60"
Trees	8			
Stumps	2			

The above estimate is approximate and the State of Ohio reserves the right to order the removal of additional trees or stumps outside of the limits of construction but within the right-of-way and/or easement lines. Payment for the removal of these additional trees or stumps shall be included in the lump sum price bid for Item 201 Clearing and Grubbing. See Note Sheet 5

PLACEMENT OF ASPHALT CONCRETE:

Two-way traffic shall be maintained at all times except that one-way traffic will be permitted for minimum periods of time consistent with the requirements of the specifications for protection of completed asphalt concrete courses.

TRAFFIC MAINTENANCE:

The temporary road shall be surfaced with 410 aggregate and stabilized with 616 Calcium Chloride. The limits and duration of use of temporary roadway shall be held to an absolute minimum, and in all cases shall be subject to the approval of the Engineer. (See Method of Operations)

410 Traffic Compacted Surface Type A or B	162	Cu. Yds.
410 Traffic Compacted Surface Type C	163	Cu. Yds.
614 Maintaining Traffic	Lump	Lump
615 Temporary Roads	Lump	Lump
616 Calcium Chloride	7	Tons
616 Water	7	M. Gals.

UTILITY OWNERS:

Telephone:	United Telephone Co.	Pataskala, Ohio
Electric:	Columbus & Southern Ohio Electric Co	Columbus, Ohio

REMOVAL OF EXISTING PIPES:

The removal of all existing pipe drains which would normally be removed in various excavation items shall be included for payment in the unit prices bid for the respective excavation items, unless otherwise itemized in the plans.

PIPE ENDS:

All culverts, whether terminating in headwalls or endwalls, shall begin and end with pipe ends as normally fabricated by the manufacturer. Ends shall not be cut to fit either skew or slope. If field cutting is found to be necessary to fit an exact length control, the cut end shall be located at an interior joint and cradle, collar or band shall be provided to assure a stable joint. Payment for the joint shall be included in the price bid for the pertinent 603 conduit item.

EROSION CONTROL:

Item 601-660 is provided in the plans for erosion control. Rock of a stable nature will not be removed in order to place any of this item. The Engineer shall check and non-perform quantities or adjust locations and quantities for this item where indicated by field conditions during construction.

MAINTENANCE OF FLOWS:

The Contractor shall conduct his operations so as to maintain at all times flows thru existing facilities to remain in place and through existing facilities to be replaced until new facilities are completed and placed in use.

Payment for any additional costs involved in maintaining these flows by pumping or by any other means approved by the Engineer shall be included in the unit prices bid for the respective items of 603 Conduit.

CHANNEL EMBANKMENTS:

Portions of the existing channel outside the roadbed shall be filled and sloped to drain as called for on the plans and included for payment in the price bid for Item 203 Embankment. The Contractor shall use either suitable or unsuitable material to the extent available for channel embankments.

Areas where channel embankments are to be placed shall be cleared of weeds and brush.

The requirements for moisture, density control, benching and suitable materials shall be waived.

The depth of layers in which the embankments are placed and their compaction shall, in lieu of the requirements of Item 203 conform with acceptable construction practices as determined by the Engineer.

No provision of the specifications shall be waived for embankments which support any portion of the new road bed or structural members.

An estimated quantity of 77 cubic yards has been provided in the plans for channel embankment.

TRENCH FOR WIDENING:

Trench excavation for base widening shall be performed only on one side of the pavement at a time. The open trench shall be adequately maintained and protected with temporary guide markers or barricades at all times. Placement of proposed subbase and base material shall follow as closely as possible behind the excavation operations. The length of widening trench which is open at any one time shall be held to a minimum and shall at all times be subject to approval of the Engineer.

PROFILE: (Resurfacing and Salvage Projects)

(a) The profile of the proposed Asphalt Concrete course shall be approximately 1½ inches above that of the existing pavement in the areas to be resurf. only.

METHOD OF OPERATIONS:

1. Construct the proposed structure at Station 21+32 between its inlet end and the left berm of existing S.R. 310.
2. Construct the temporary runaround over the partially completed structure according to the plans while maintaining stream flow through the existing structure.
3. Divert traffic to runaround and complete proposed structure and all other work possible.
4. Divert stream flow through proposed structure and complete project.

CALCULATIONS

659 Commercial Fertilizer (12-12-12)
Seeding
From Sheet 5 - 5591 Sq. Yds. & Sheet 8 - 167 Sq. Yds. = Total 5758
5758 x 9 x 20 x 1/1000 x 1/2000 = 0.5 Tons

659 Agricultural Liming
Seeding
From Sheet 5 - 5591 Sq. Yds. & Sheet 8 - 167 Sq. Yds. = Total 5758
5758 x 9 x 100 x 1/1000 x 1/2000 = 2.6 Tons

CALCULATIONS FOR TEMPORARY ROAD

17+50 to 24+00 = 650 Lin. Ft.
6.5 x 50 = 325 Cu. Yds. 410
325 ÷ 50 = 6.5 x 1 = 6.5 Tons Calcium Use 7 Tons
6.5 x 1 = 6.5 M. Gals. Water Use 7 M. Gals.

CALCULATED BY BR DATE 4-4-73
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FHWA REGION	STATE	PROJECT	
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LIC-310-9.86

GENERAL SUMMARY

ITEM	SHEET NUMBER 2	3	5	8	ITEM	QUANT.	UNIT	DESCRIPTION
								ROADWAY
201		Lump			201	Lump		Clearing and Grubbing
202			Lump		202	Lump		Structures Removed
202			53		202	53	Lin. Ft.	Pipe Removed 15" & Under
202			96.6		202	96.6	Lin. Ft.	Guard Rail Removed
203			610	100	203	710	Cu. Yds.	Excavation Not Including Embankment Construction
203			7140	77	203	7217	Cu. Yds.	Embankment
203			1444		203	1444	Sq. Yds.	Subgrade Compaction
410		162			410	162	Cu. Yds.	Traffic Compacted Surface Type A or B
410		163			410	163	Cu. Yds.	Traffic Compacted Surface Type C
616		7			616	7	Tons	Calcium Chloride
616		7			616	7	M. Gals.	Water
615		Lump			615	Lump		Temporary Roads
								EROSION CONTROL
601				10	601	10	Sq. Yds.	Riprap Using 6" Reinforced Concrete Slab
601			2	55	601	57	Cu. Yds.	Rock Channel Protection Type B
659		0.5			659	0.5	Tons	Commercial Fertilizer (12-12-12)
659		2.6			659	2.6	Tons	Agricultural Liming
659			5591	167	659	5758	Sq. Yds.	Seeding and Mulching
660			248		660	248	Sq. Yds.	Sodding
								DRAINAGE
				8.1	602	8.1	Cu. Yds.	Concrete Masonry
603			38		603	38	Lin. Ft.	12" Conduit Type D 707.01
603			40		603	40	Lin. Ft.	12" Conduit Type D
603			44		603	44	Lin. Ft.	18" Conduit Type D
603				134	603	134	Lin. Ft.	Conduit, Type A, 113"x72" 706.04 Cl. HE II or 117"x79" 707.07
604			1		604	1	Each	Catch Basin, Standard № 2-2B
								PAVEMENT
301			214		301	214	Cu. Yds.	Bituminous Aggregate Base: 702.01 (85-100 or AC-20) or 702.09 RT11 or RT12
304	2		166		304	166	Cu. Yds.	Aggregate Base
402			71		402	71	Cu. Yds.	Asphalt Concrete (70-85 or AC-20)
404	1		83		404	84.0	Cu. Yds.	Asphalt Concrete (70-85 or AC-20)
407			81		407	81	Gals.	Tack Coat: 702.04, MS-2 or RS-1 or 702.02 RC-70 or RC-250
407			2		407	2	Tons.	Cover Aggregate
408	5		28		408	33	Gals.	Bituminous Prime Coat: 702.09 RT-2 or RT-3 or 702.02 MC-30 or MC-70
614		Lump			614	Lump		Maintaining Traffic
619		Lump			619	Lump		Field Office
623					623	Lump		Construction Layout Stakes

FHWA REGION	STATE	PROJECT		
5	OHIO			

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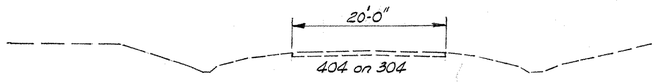
CALCULATED BY PGR DATE 4-4-73
CHECKED BY R.(G) DATE 5/10/73



TYPICAL SECTION OF ADJOINING PAVEMENT STA. 18+00

STRUCTURES 20' SPAN & UNDER

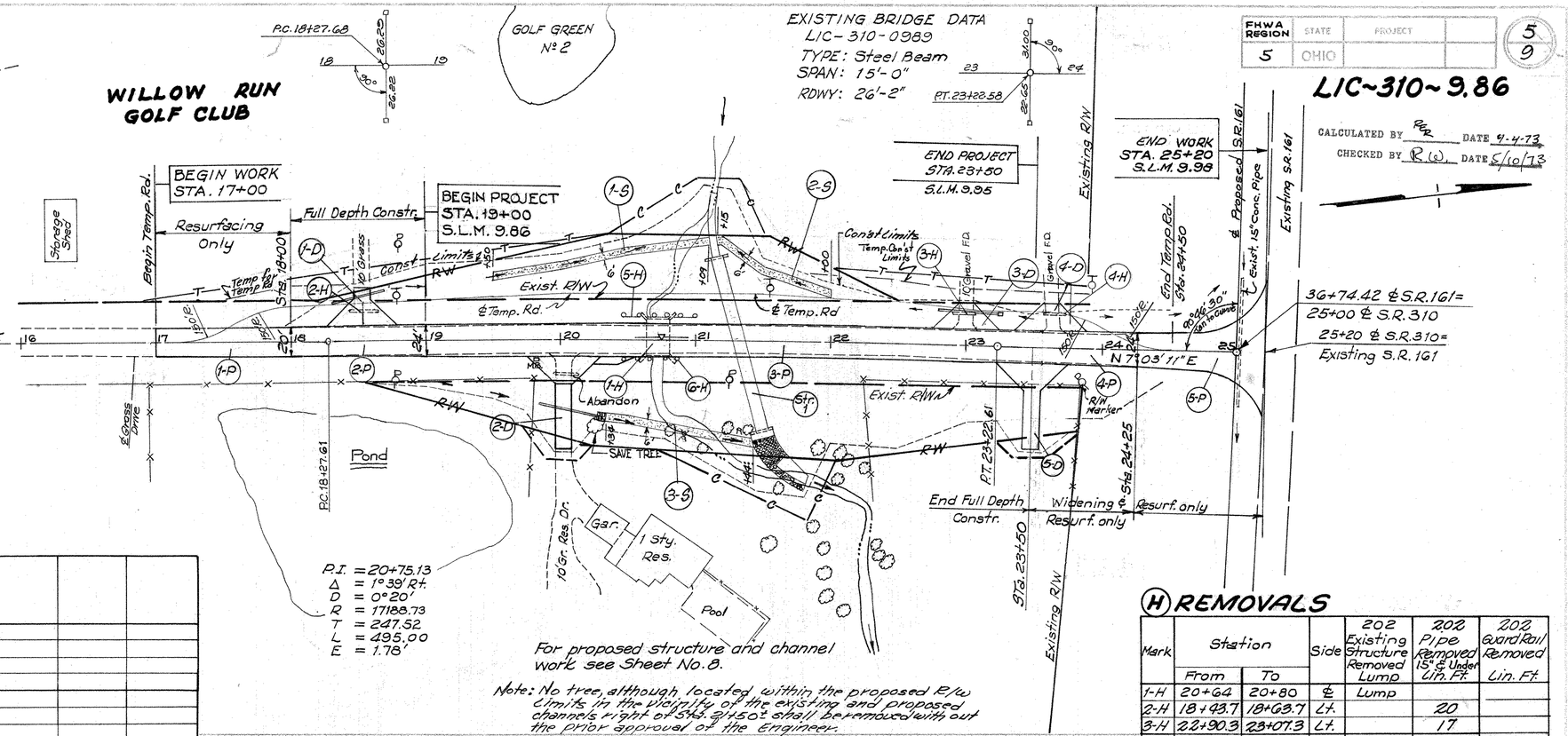
Str. No	S.L.M.	Station	Proposed Type	Proposed Size	Proposed Length	Details on Sheet
1	9.90	21+32	A 706.04 707.07	113" x 72" OR 117" x 79"	134'	8

(S) DITCHES

Mark	Station From	Station To	Side	660 Sodding Sq. Yds.	
1-S	19+50	21+09	Lt.	107	
2-S	21+15	22+00	Lt.	68	
3-S	20+34	21+44	Rt.	72	
				248	

(P) PAVEMENT

Mark	Station From	Station To	404 Asphalt Concrete Cu.Yds.	402 Asphalt Concrete Cu. Yds.	301 Bit. Aggr. Base Cu.Yds.	304 Aggregate Base Cu.Yds.	407 Tack Coat Gal's.	407 Cover Aggregate Tons	203 Subgrade Compaction Sq.Yds.			
1-P	17+00	18+00	7.7			4.9	22.2	0.8				
2-P	18+00	19+00	8.5	11.9	35.5	14.6			244			
3-P	19+00	23+50	41.6	58.3	173.6	65.3			1200			
4-P	23+50	24+25	6.9	1.2	4.6	10.8	17.5	0.6				
5-P	24+25	25+20	14.5			4.9	41.7	0.15				
Carried from Drive Table			4.0			63.5						
Totals			83.2	71.4	213.7	164.0	81.4	1.55	1444			
Use			83	71	214		81	2				



P.I. = 20+75.13
Δ = 1° 39' Rt.
D = 0° 20'
R = 17188.73
T = 247.52
L = 495.00
E = 1.78'

For proposed structure and channel work see Sheet No. 8.

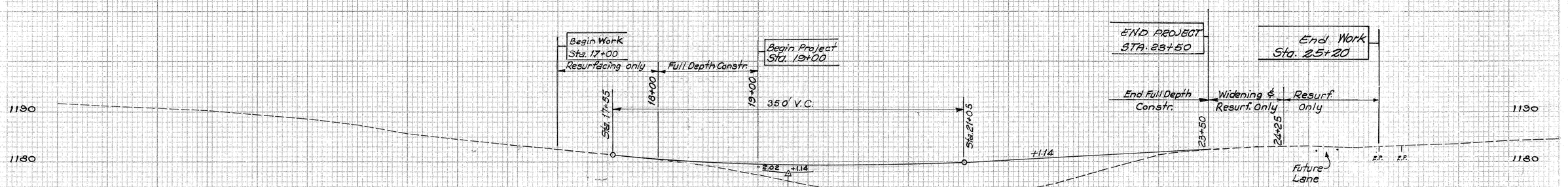
Note: No tree, although located within the proposed R/W limits in the vicinity of the existing and proposed channels right of Sta. 21+50± shall be removed with out the prior approval of the Engineer.

(H) REMOVALS

Mark	Station From	Station To	Side	202 Existing Structure Removed Lump	202 Pipe Removed 15" & Under Lin. Ft.	202 Guard Rail Removed Lin. Ft.
1-H	20+64	20+80	℄	Lump		
2-H	18+93.7	18+63.7	Lt.		20	
3-H	22+90.3	23+07.3	Lt.		17	
4-H	23+57.0	23+73.0	Lt.		16	
5-H	20+45.4	20+99.5	Lt			54.1
6-H	20+45.0	20+87.5	Rt.			42.5
	Totals			Lump	53	96.6

ALL ELEVATIONS REFER TO U.S.G.S. DATUM

1181.44 +55, 1181.34 +80, 1180.87 +05, 1180.44 +30, 1180.08 +55, 1179.77 +80, 1179.53 +05, 1179.33 +30, 1179.18 +55, 1179.11 +80, 1179.08 +05, 1179.11 +30, 1179.19 +55, 1179.34 +80, 1179.54 +05, 1179.80, 1180.31, 1180.88, 1181.45, 1182.02, 1182.59



(D) DRIVES

Mark	Station	Side	Type	404 Asphalt Concrete Cu.Yds.	304 Aggregate Base Cu.Yds.	408 Prime Coat Gals.	603 12" Conduit Type D Lin. Ft.	603 18" Conduit Type D Lin. Ft.		601 Rock Chan. Prot. Type B Cu. Yds.	604 Catch Basin 22 B Each	603 12" Conduit 707.01 Type D Lin. Ft.	Details on Sheet
1-D	18+50	Lt.	Field		10.5		40						6
2-D	20+02	Rt.	Res.	4.0	18.6	28.4		44		2			6
3-D	23+00	Lt.	Field		8.3						1	38	7
4-D	23+63	Lt.	Field		8.3								7
5-D	23+50	Rt.	Field		17.8								7
Totals				* 4.0	* 63.5	Use 28	40	44		2	1	38	

* Carried to Pavement Table

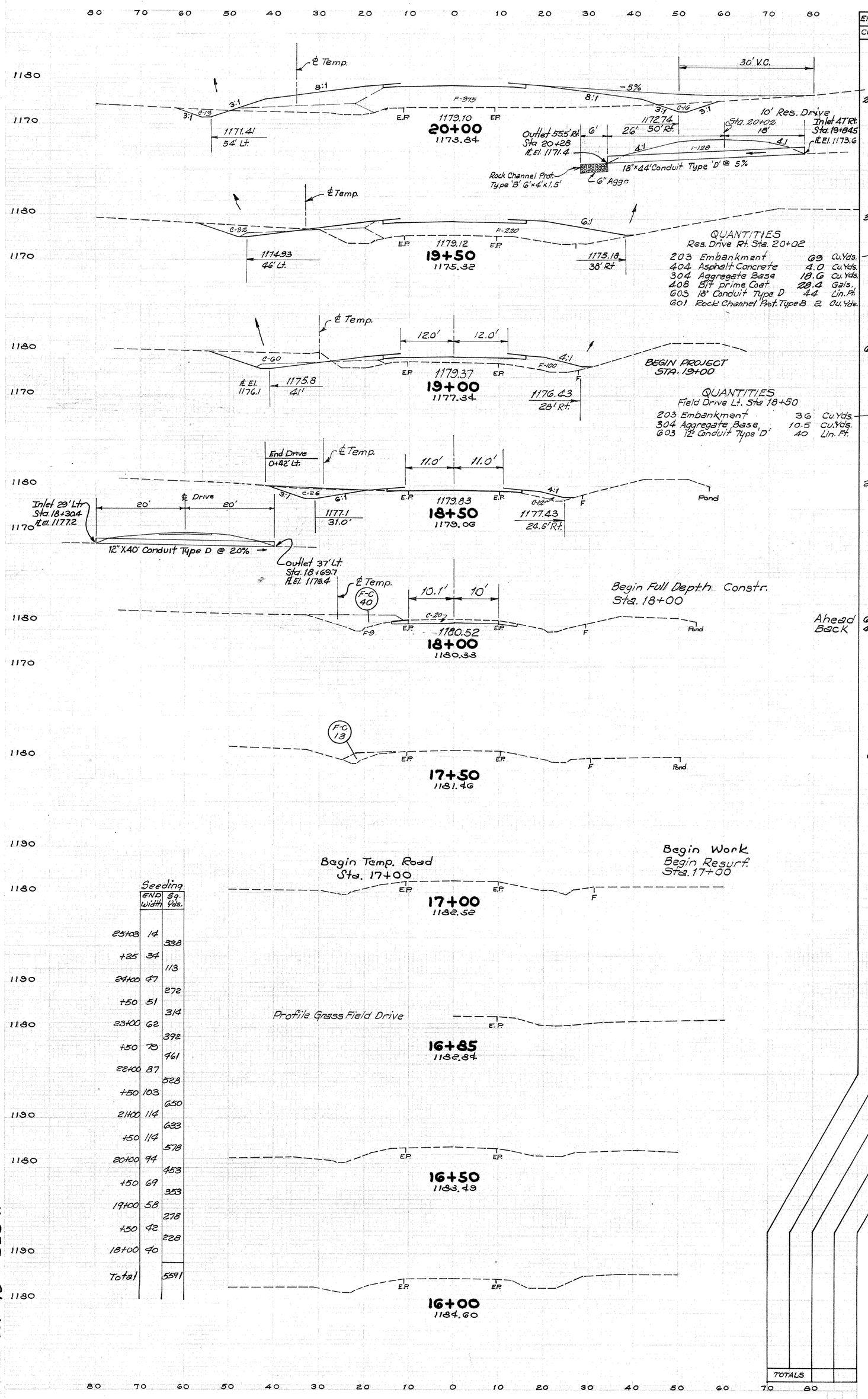
Excavation	610 Cu.Yds.
Embankment	7140 Cu.Yds.
Seeding	5591 Sq.Yds.

B.M. Top of steel post 30' Lt. Sta. 19+50 Elev. 1176.56

1191.84, 1191.07, 1190.63, 1190.17, 1189.44, 1188.54, 1187.24, 1185.83, 1184.60, 1183.48, 1182.51, 1181.64, 1180.33, 1179.04, 1177.30, 1175.27, 1173.79, 1173.14, 1173.42, 1173.98, 1175.92, 1178.83, 1181.33, 1182.59, 1183.12, 1183.09, 1182.95, 1183.08 +20 E.P., 1183.23 +32 E.P., 1183.35 +44 E.P., 1183.81, 1184.52, 1184.85

12 13 14 15 16 17 18 19 20 21 22 23 24 25

PLAN & PROFILE



	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	29	375		
			56	551
	32	220		
				69
			85	296
	60	100		
			80	93
				36
	26	0		
			87	0
Ahead	68	9		
Back	48	9		
			44	0
	0	0		
TOTALS				

Seeding

	END Width	Sq. Yds.
25+03	14	
		338
+25	34	
		113
24+00	47	
		272
+50	51	
		314
23+00	62	
		392
+50	73	
		461
22+00	87	
		528
+50	103	
		650
21+00	114	
		633
+50	114	
		578
20+00	94	
		453
+50	69	
		353
19+00	58	
		278
+50	42	
		228
18+00	40	
Total		5591

X-SEC. Sta. 16+00 ~ 20+00

CALCULATED BY: DATE: 4-4-73
CHECKED BY: DATE: 5/10/73
FHWA REGION 5

LIC-310-9.86

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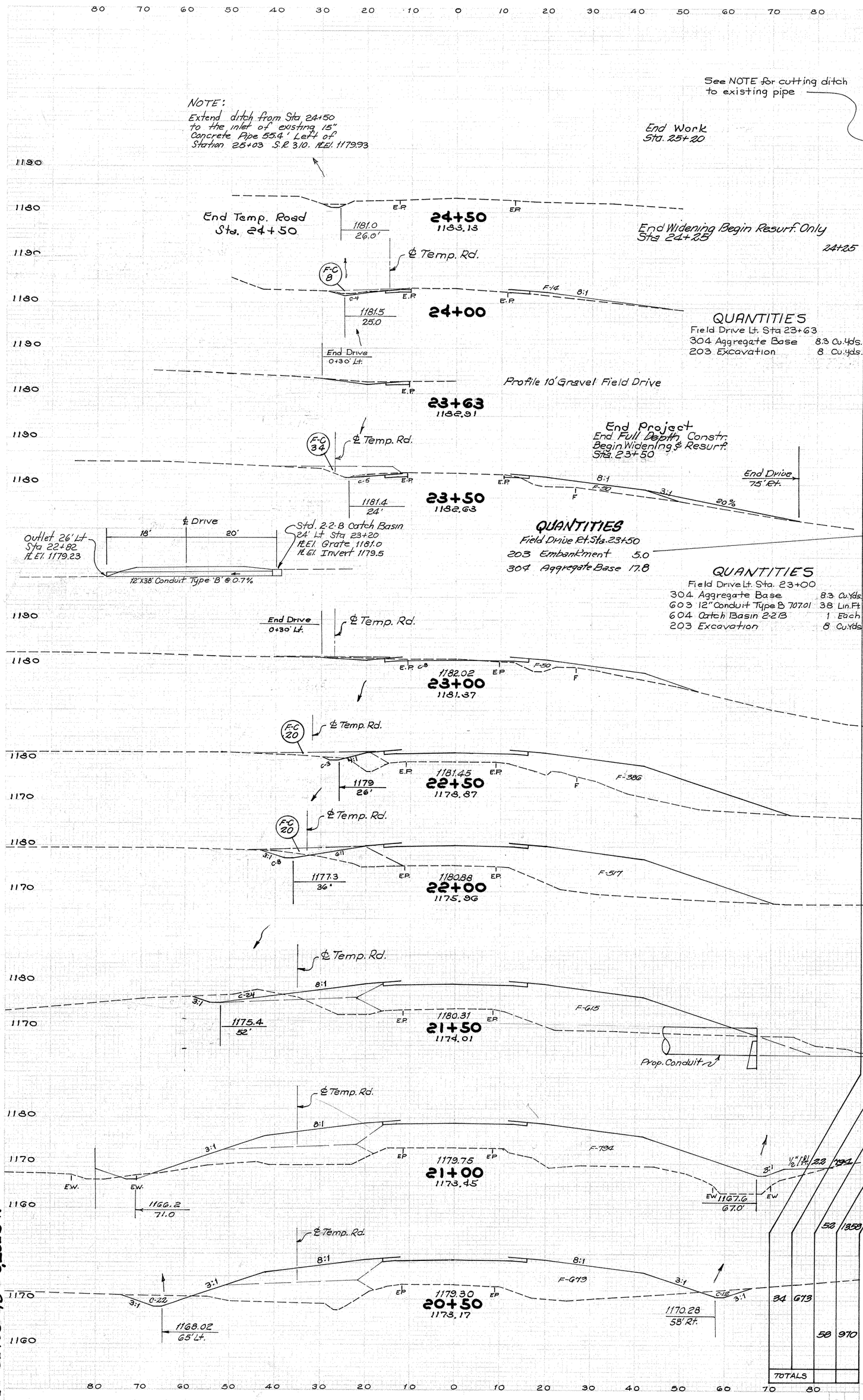
NOTE:
Extend ditch from Sta. 24+50 to the inlet of existing 15" Concrete Pipe 55.4' Left of Station 25+03 S.R. 3/0. FLEl. 1179.93
See NOTE for cutting ditch to existing pipe
End Work Sta. 25+20
End Temp. Road Sta. 24+50
24+50
1183.13
1181.0
26.0'
End Widening Begin Resurf. Only Sta. 24+25
24+25
℄ Temp. Rd.
F-C 8
F-14
8:1
24+00
1181.5
25.0
QUANTITIES
Field Drive Lt. Sta 23+63
304 Aggregate Base 8.3 Cu.Yds.
203 Excavation 8 Cu.Yds.
End Drive 0+30' Lt.
Profile 10' Gravel Field Drive
23+63
1182.91
End Project
End Full Depth Constr.
Begin Widening & Resurf.
Sta. 23+50
F-C 34
F-20
3:1
20%
End Drive 75' Rt.
23+50
1182.63
1181.4
24'
℄ Drive
18'
20'
Outlet 26' Lt. Sta 22+82 FLEl. 1179.23
Std. 2-2-B Catch Basin 24' Lt. Sta 23+20 FLEl. Grate 1181.0 FLEl. Invert 1179.5
12"X38' Conduit Type 'B' @ 0.7%
QUANTITIES
Field Drive Rt. Sta. 23+50
203 Embankment 5.0
304 Aggregate Base 17.8
QUANTITIES
Field Drive Lt. Sta. 23+00
304 Aggregate Base 8.3 Cu.Yds.
603 12" Conduit Type B 707.01 38 Lin.Ft.
604 Catch Basin 2-2-B 1 Each
203 Excavation 8 Cu.Yds.
End Drive 0+30' Lt.
F-50
23+00
1182.02
1181.37
F-C 20
F-386
22+50
1181.45
1178.87
1179
26'
F-517
22+00
1180.88
1175.96
1177.3
36'
F-615
21+00
1180.31
1174.01
1175.4
52'
Prop. Conduit
F-794
21+00
1179.75
1173.45
1166.2
71.0
1167.6
67.0'
F-913
20+50
1179.30
1173.17
1168.02
65' Lt.
1170.28
58' Rt.
END AREA
CUT
FILL
VOLUME
CUT
FILL
24+25 4 0
4 14
20
4 6
8
9 59
5 50
5
9 100
8
5 50
7 404
3 386
10 836
8 517
30 1045
24 615
43 1905
22 794
58 1358
34 913
58 970
TOTALS
X-SECTS. Sta. 20+50 ~ 24+50
CALCULATED BY
CHECKED BY
DATE 4-4-73
DATE 5/10/73
FHWA REGION 5
OHIO
LIC-310-9.86
9
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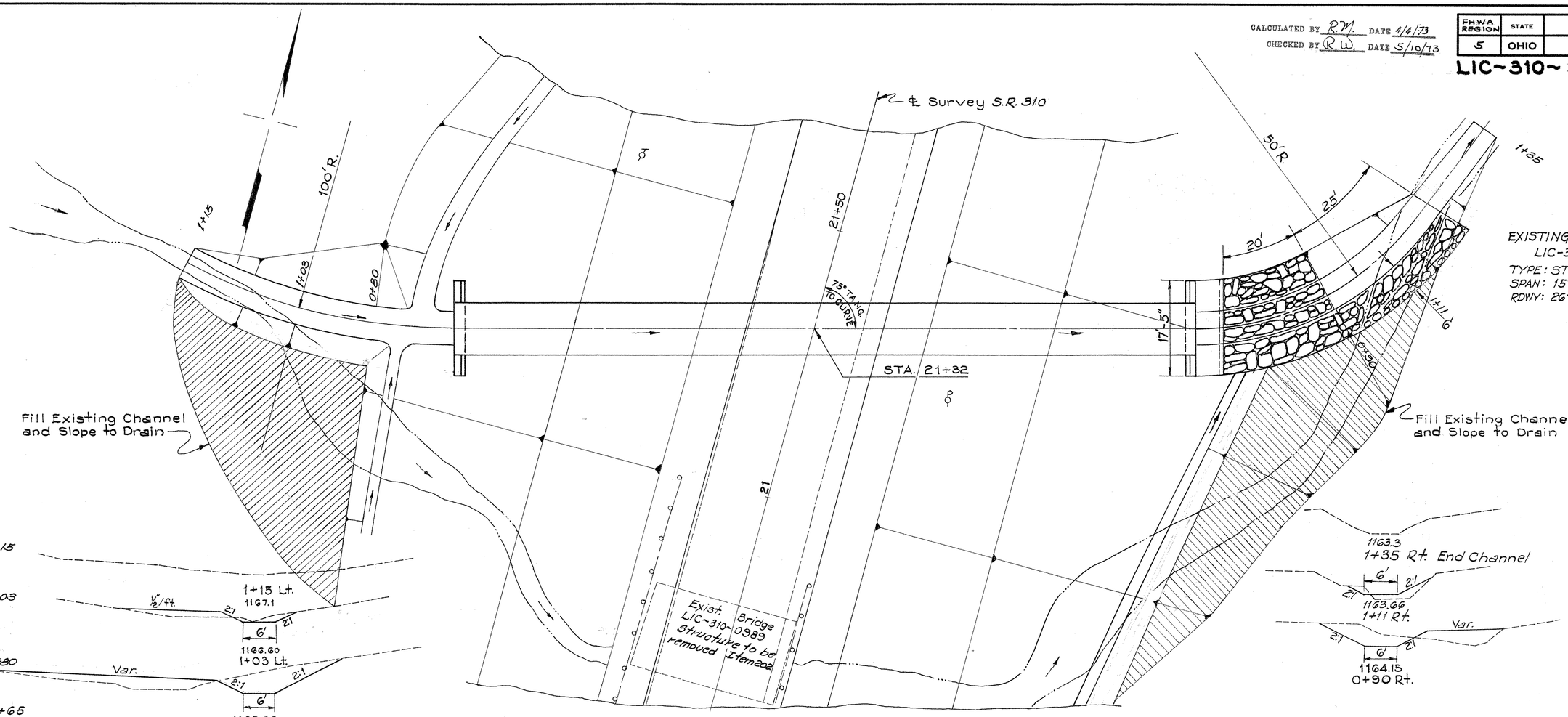
CALCULATED BY R.M. DATE 4/4/73
CHECKED BY R.W. DATE 5/10/73

FHWA REGION	STATE	PROJECT	
5	OHIO		

8/9

LIC-310-9.86



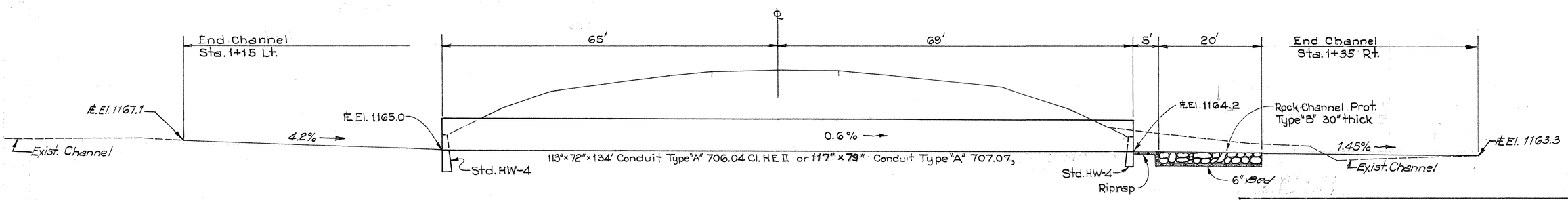
	END AREA CUT	END AREA FILL	CU. YDS CUT	CU. YDS FILL
1+15	0	0		
			2	4
1+03	7	18		
			27	30
0+80	56	52		
			31	
0+65	56			
TOTALS			60	34

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
1+35	0	8		
			1	3
1+11	3	11		
			14	16
0+90	32	31		
			25	24
0+63	32	31		
TOTALS			40	43

EXISTING BRIDGE DATA
LIC-310-0989
TYPE: STEEL BEAM (Simple)
SPAN: 15'-0"
RDWY: 26'-2"

PLAN

0 5 10
SCALE IN FEET



LONGITUDINAL SECTION

QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION
603	134	Lin. Ft.	113"×72" Conduit Type "A" 706.04 Cl. H.E II or 117"×79" Conduit Type "A" 707.07
602	8.1	Cu. Yds.	Concrete Masonry
601		Sq. Yds.	Riprap using 6" Reinf. Conc. Slab
601	55	Cu. Yds.	Rock Channel Protection Type "B"
203	100	Cu. Yds.	Excavation not Includ. Embankment Const.
203	77	Cu. Yds.	Embankment
659	167	Sq. Yds.	Seeding & Mulching

Drainage Area = 360 A² Q25 = 256 c.f.s.

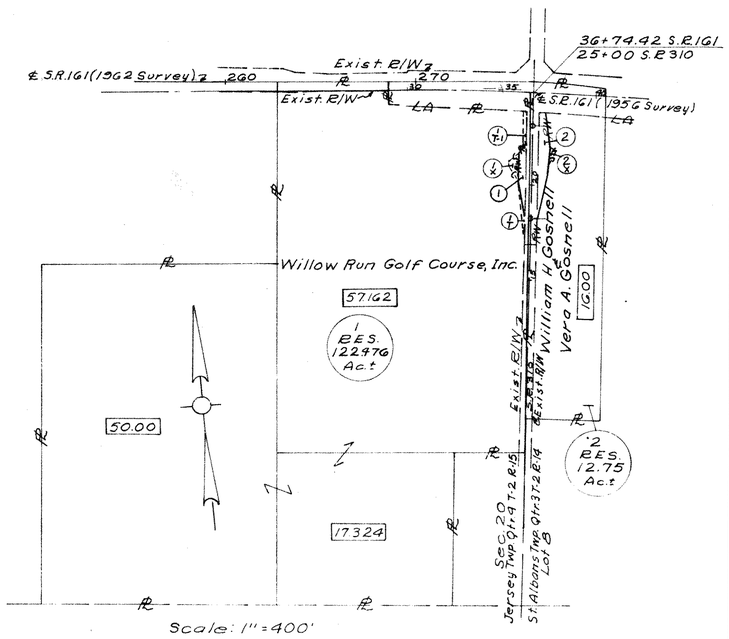
1	STA. 21+32	113"×72"×134' or 117"×79"×134'	LIC-310-0990

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

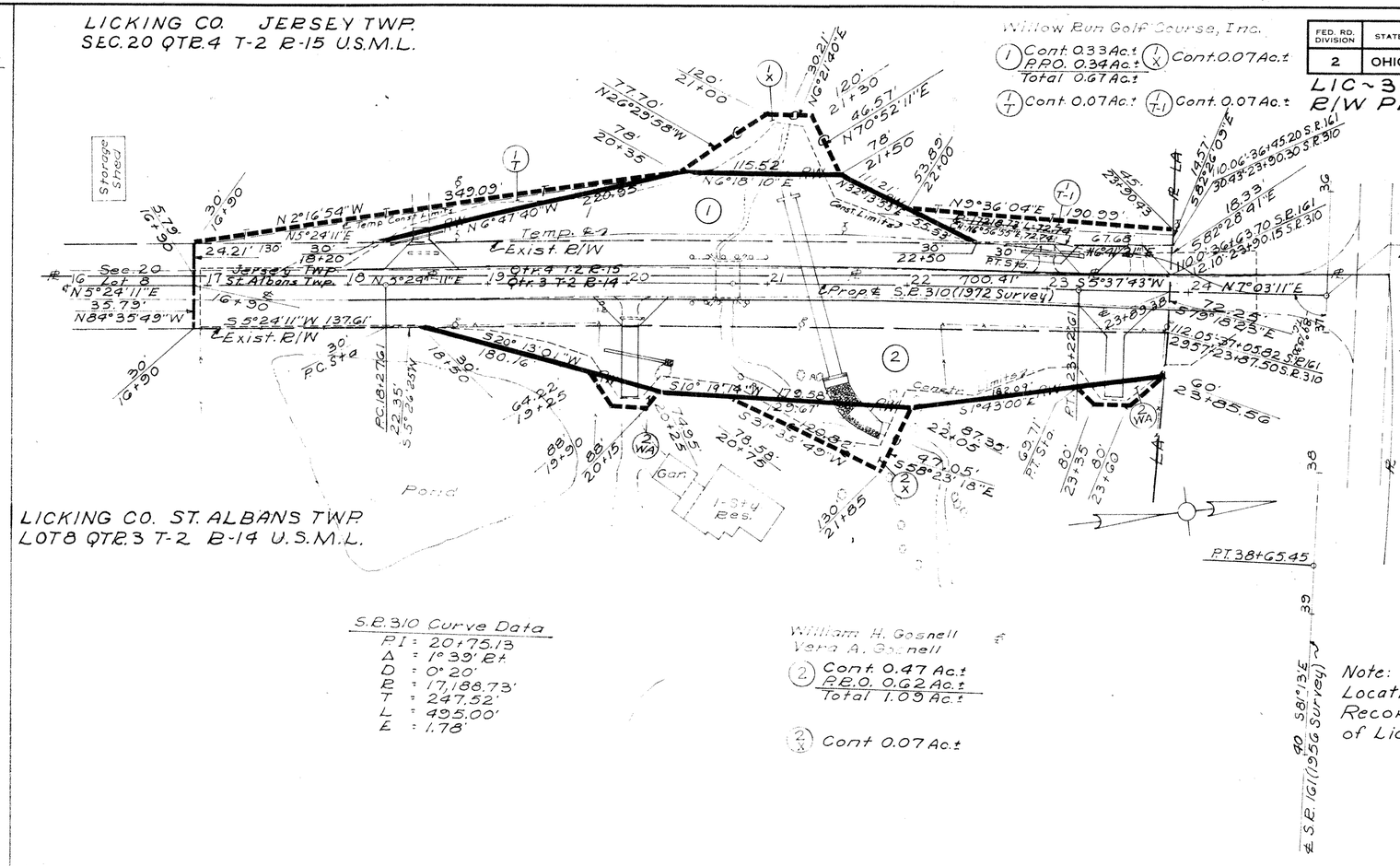
9/9

1/1

LIC~310~9.86
R/W PLAN



PROPERTY PLAN



S.R. 161 Curve Data

PI	34+87.16
Δ	3°47' Rt.
D	0°30'
R	11,459.16'
T	378.38'
L	756.67'
E	6.19'

S.R. 310 Curve Data

PI	20+75.13
Δ	1°39' Rt.
D	0°20'
R	17,188.73'
T	247.52'
L	495.00'
E	1.78'

William H. Gosnell
Vera A. Gosnell
2 Cont. 0.47 Ac.±
P.R.O. 0.62 Ac.±
Total 1.09 Ac.±

2X Cont 0.07 Ac.±

Note:
Location Plan for Lic.-161-5.12
Recorded in Vol. 6 Pg. 78
of Lic. Co. Plat Records.

Total No. Owners - 2
Total Takes - 0
Structure Parcels - 0

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

Parcel No.	Owner	Sheet No.	Deed Record Book	Deed Record Page	Deed Area	Total P.R.O.	Gross Take	P.R.O. in Take	To Be Acq'd. Net Take	To Be Acq'd. Bld'g.	Net Residue Left	Net Residue Right	Type Fund	Remarks	Recorded Volume	Recorded Page
1	Willow Run Golf Course, Inc.	1	624	405	124.486	1.68	0.67	0.34	0.33	No	122.476	—			707	541
1X		1					0.07	0	0.07	—	—	—		Channel	707	543
1T		1					0.07	0	0.07	—	—	—		Temporary Roadway		
1T-1		1					0.07	0	0.07	—	—	—		Temporary Roadway		
2	William H. Gosnell & Vera A. Gosnell	1	452	436	16.00	2.78	1.09	0.62	0.47	No	—	12.75			706	397
2X		1					0.07	0	0.07	—	—	—		Channel	706	399
2WA		1					—	—	—	—	—	—		Driveway		
2WA		1					—	—	—	—	—	—		Driveway		

50 0 50 100
Scale in Feet

Completion Date ~ 6-11-73

Rev.	Date	Description:

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE GLACIATED DISSECTED MISSISSIPPI VALLEY PLAIN, IN AN AREA WHERE MODERATELY DEEP GLACIAL-DERIVED SOILS OVERLIE BEDROCK, OF THE MISSISSIPPIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE BORINGS, MADE ON FEBRUARY 20 AND 21, 1973.

INVESTIGATIONAL FINDINGS

THE BORINGS ENCOUNTERED LOOSE TO VERY DENSE GRAVELLY SANDY SILTS AND SOME MEDIUM-STIFF SANDY CLAYS, THAT INCREASE IN DENSITY WITH INCREASE IN DEPTH. THE BORINGS WERE TERMINATED AT 50 AND 51-FOOT DEPTHS, ELEVATIONS 1120 AND 1117 FEET, AFTER PENETRATING IN EXCESS OF 25 FEET OF MATERIAL THAT REQUIRED IN EXCESS OF 28 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST.

BEDROCK SURFACE WAS NOT ENCOUNTERED.

LEGEND

- Auger Boring Location - Plan View.
- Press and / or Drive Sample and / or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR — Top of Rock
- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- X/Y — Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
  X = Number of Blows for First 6 inches.
  Y = Number of Blows for Second 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Casing
- Resistance "R" < 10,000 lbs.
- Resistance "R" > 10,000 lbs.
- Z — Indicates Final Measurement of Penetration, in Inches.
- W — Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

Drive-press sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. drive sampler, and 3" O.D. thin-wall press sampler. The press sampler is advanced by continuous uniform pressure, applied by the drill rig.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.

LOG OF BORING

Date Started 2-21-73 | Sampler Type SS | Dia 1 3/8" | Water Elev
Date Completed 2-21-73 | Casing Length | Dia
Boring No. B-1 | Station & Offset 21+40, 20' LT. (CULVERT) | Surface Elev 1170.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
1170.9	0														
	2														
1168.4															
	4	15/40			BROWN SANDY SILT	1	13	9	17	35	26	24	8	12	A-4a
1165.9															
	6	21/22			BROWN SANDY SILT	2	12	9	17	35	27	23	8	11	A-4a
1163.4															
	8	15/17			GRAY GRAVELLY SANDY SILT	3	18	10	16	33	23	23	8	11	A-4a
1160.9															
	10	10/10			GRAY SANDY SILT	4	13	11	17	36	23	22	7	12	A-4a
1158.4															
	12														
	14	7/13			GRAY GRAVELLY SANDY SILT	5	19	8	17	33	23	22	7	11	A-4a
1155.9															
	16	6/26			GRAY GRAVELLY SANDY SILT	6	15	10	17	35	23	22	8	12	A-4a
1153.4															
	18	10/17			GRAY SANDY GRAVELLY SILT	7	25	9	14	31	21	22	7	11	A-4a
1150.9															
	20	12/21			GRAY GRAVELLY SANDY SILT	8	18	9	15	33	25	23	9	13	A-4a
	22														
	24														
1145.9															
	26	12/16			GRAY GRAVELLY SANDY SILT	9	18	9	15	34	24	21	8	12	A-4a
	28														
1140.9															
	30	11/17			GRAY GRAVELLY SANDY SILT	10	18	8	14	37	23	23	7	12	A-4a
	32														
	34														
1135.9															
	36	12/17			GRAY GRAVELLY SANDY SILT	11	15	8	14	40	23	22	8	13	A-4a
	38														
1130.9	40														
		13/19			GRAY SANDY GRAVELLY SILT	12	26	8	13	31	22	23	8	10	A-4a
	42														
	44														
1125.9															
	46	30/40			GRAY SANDY GRAVELLY SILT	13	26	9	13	31	21	24	8	11	A-4a
	48														
1120.9	50	50													
1120.3		(0.6')			GRAY SILTY GRAVEL	14	57	5	8	18	12	23	9	12	A-2-4

BOTTOM OF BORING

LOG OF BORING

Date Started 2-20-73 | Sampler Type SS | Dia 1 3/8" | Water Elev
Date Completed 2-20-73 | Casing Length | Dia
Boring No. B-2 | Station & Offset 21+50, 60' RT. (CULVERT) | Surface Elev 1168.0'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.	SHTL Class.
1168.0	0														
1167.7					SOD & TOPSOIL										
1165.5	2														
	4	4/6			BROWN SANDY SILT	1	12	16	25	31	16	NP	NP	26	A-4a
1163.0															
	6	4/8			BROWN SANDY CLAY	2	6	5	22	41	26	31	12	25	A-6a
1160.5	8														
		13/15			BROWN GRAVELLY SANDY SILT	3	23	9	16	30	22	25	9	15	A-4a
1158.0	10														
		12/15			GRAY GRAVELLY SANDY SILT	4	17	8	16	34	25	22	8	11	A-4a
	12														
1155.5															
	14	11/15			GRAY SANDY GRAVELLY SILT	5	23	9	14	34	20	22	7	14	A-4a
1153.0															
	16	12/17			GRAY SILTY GRAVELLY SAND	6	36	34	13	-17	-	NP	NP	15	A-1-b
1150.5	18														
		10/12			GRAY SANDY GRAVELLY SILT	7	31	41	13	-15	-	NP	NP	18	A-1-b
1148.0	20														
		12/21			GRAY SILTY GRAVELLY SAND	8	22	37	21	-20	-	NP	NP	17	A-1-b
	22														
	24														
1143.0															
	26	13/18			GRAY GRAVELLY SANDY SILT	9	20	11	15	30	24	22	7	13	A-4a
	28														
1138.0															
	30	12/16			GRAY GRAVELLY SANDY SILT	10	17	9	15	34	25	23	8	12	A-4a
	32														
	34														
1133.0															
	36	10/18			GRAY GRAVELLY SANDY SILT	11	21	8	13	35	23	24	10	13	A-4a
	38														
1128.0	40														
		15/17			GRAY GRAVELLY SANDY SILT	12	18	10	14	33	25	23	8	18	A-4a
	42														
	44														
1123.0															
	46	11/16			GRAY SANDY SILT	13	12	8	16	37	27	22	8	14	A-4a
	48														
1118.0	50														
1117.0		14/22			GRAY SANDY SILT	14	10	7	12	46	25	21	6	18	A-4a

BOTTOM OF BORING

Particle Size Definitions

Boulders	Cobbles	Gravel	Coarse Sand	Fine Sand	Silt	Clay
12"	3"	2.0mm (No. 10 sieve)	0.42mm (No. 40 sieve)	0.074mm (No. 200 sieve)	0.005mm	

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

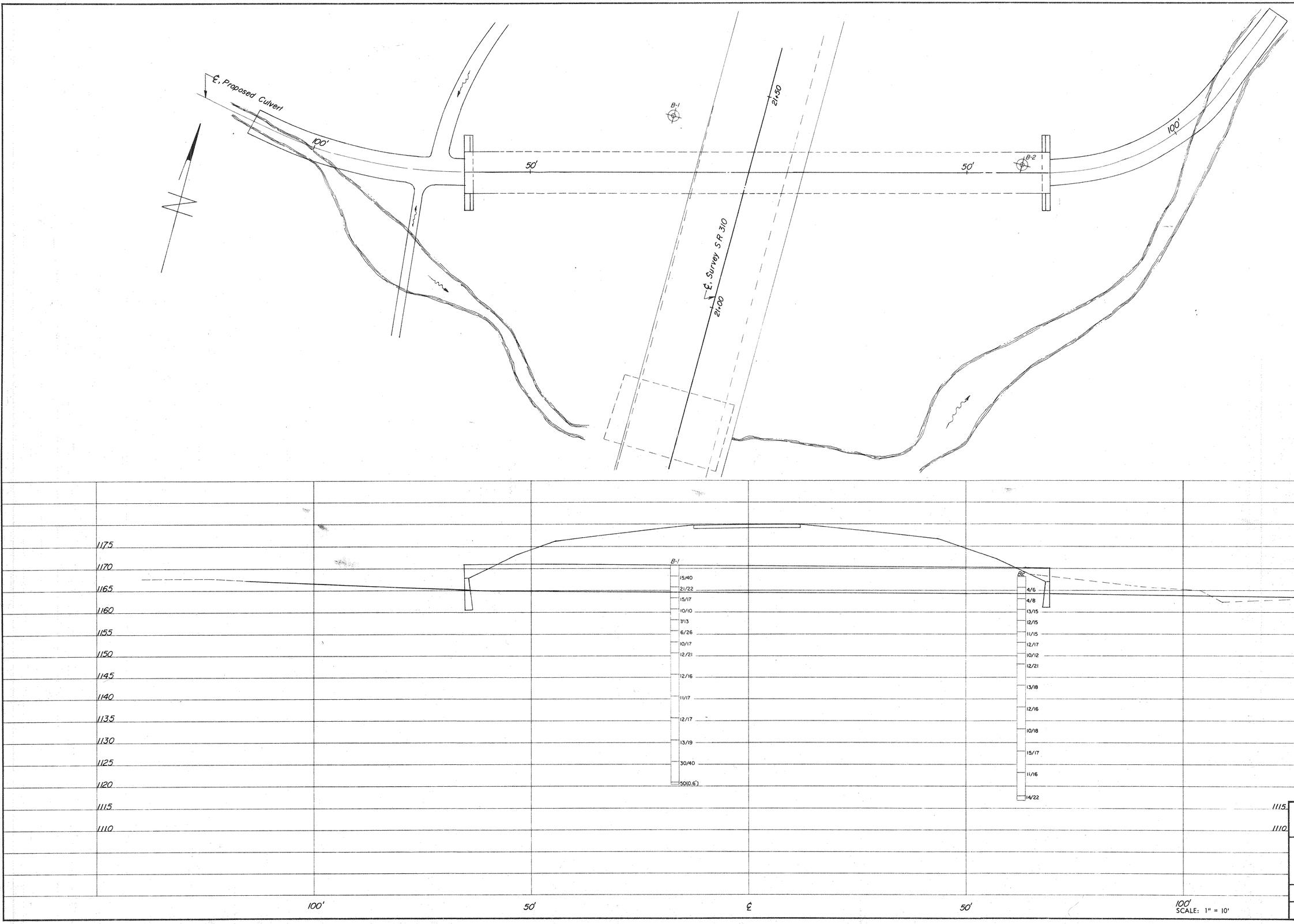
STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. LIC-310-
PIPE ARCH CULVERT
SEC. LIC-310-9.86

CHECKED BY	REVIEWED BY	DATE
R. D. R.	G. P. H.	3/9/73

LIC-310-9.86

1/2

2/2



OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. LIC-310-
PIPE ARCH CULVERT
SEC. LIC-310-9.86

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
R.C.	R. D. R.	G. P. H.	3/9/73