U.S.W.P.H.P. Nº OHIO
W.P.H. 666F

FED. AID DIST.	STATE	U.S.W.P.H. PROJECT	FISCAL YEAR	1/24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H. 2 SEC. K (pt.)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

CLEVELAND-BUFFALO ROAD
S.H. Nº 2 SEC. K (PT.)
ASHTABULA COUNTY
SAYBROOK TOWNSHIP

NET LENGTH OF PROJECT 7052.23 LIN. FT. or 1.335 Mi.
No Additions or Deductions

The Standard Specifications of the State of Ohio, Department of Highways, and Special Provisions for U.S.W.P.H. Projects" and Supplemental Specifications Nos. 1, 2 (Rev. 7-25-35), 21, 22, 23, 33, T-150-31, T-150-32, B-150-25, & B-150-26, E-11, in force on date of contract will govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require that the Highway be closed to traffic. (See Sheet Nº 2 for traffic Notes.)

The necessary right of way has been provided.

Approved E N Bruce
Date 6-17-35 Resident District Deputy Director

Approved Archie E Ramsay
Date 6-21-35 Resident Division Deputy Director

Approved
Date Chief Engineer, Bureau of Maintenance

Approved J R Baskey P.E. 45
Date 8/22/35 Chief Engineer, Bureau of Bridges

Approved Nicholas Petrunevich
Date 8/20/35 Chief Engineer, Location & Design

Approved Carl J. Wahl P.E. 68
Date 8-30-35 First Asst. Director and Chief Engineer

Approved John Marshall Jr.
Date 8/30/35 Director of Highways

Recommended for Approval
Date District Engineer, Bureau of Public Roads

Recommended for Approval
Date Chief Engineer, Bureau of Public Roads

Approved
Date Chief of Bureau

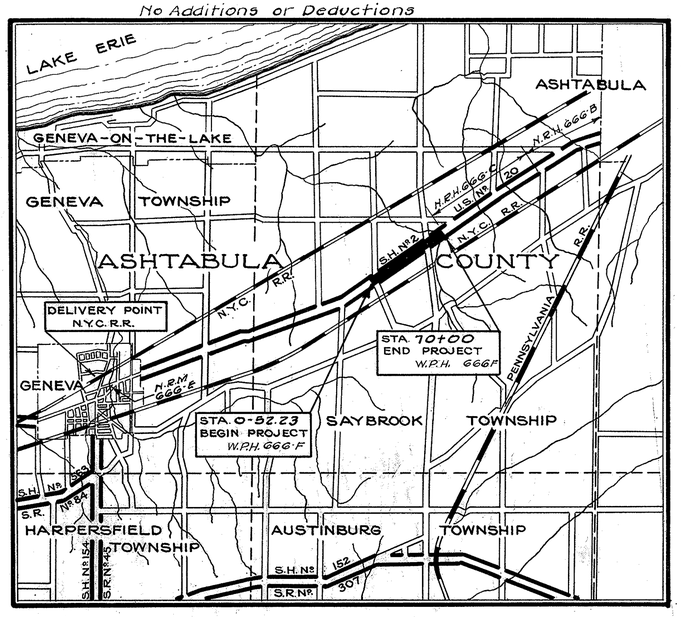
CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
CENTER LINE
PROPERTY LINE
CITY OR VILLAGE LINE
FENCE LINE
STEAM RAILROAD
POLE LINE
GUARD RAIL
DRAIN PIPE, NEW
DRAIN PIPE, OLD
MAIL BOXES

SINGLE DOUBLE TRIPLE

INDEX OF SHEETS

	SHEET
TITLE SHEET	1
TYPICAL SECTIONS	2
INTERSECTION DETAILS	3
PLAN AND PROFILE	4 to 10.
CURVE TABLES	11 to 19
CROSS SECTIONS	20 to 23
STRUCTURAL DETAILS	24
SUMMARY OF QUANTITIES	

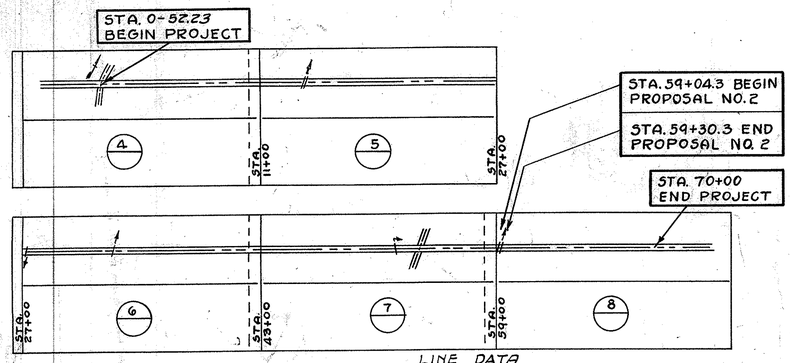


AVERAGE HAUL 4½ MILES

LOCATION PLAN

SCALE OF MILES 0 2 3

PORTION TO BE IMPROVED
DETOURS SHOWN THUS
STATE HIGHWAYS
COUNTY ROADS



LINE DATA
PROPOSAL Nº 1
From Sta. 0-52.23 to Sta. 59+04.3 = 5956.53 Lin. Ft.
From Sta. 59+30.3 to Sta. 70+00 = 1069.70 Lin. Ft.
Gross Length = Net Length = 7026.23 Lin. Ft. = 1.330 Mi.
PROPOSAL Nº 2
From Sta. 59+04.3 to Sta. 59+30.3 = Gross Length = Net Length 26 Lin. Ft. or .005 Mi.
PROPOSALS Nº 1 & 2
Gross Length = Net Length = 7052.23 Lin. Ft. = 1.335 Mi.

SCALES

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

CONSTRUCTION BUREAU
SEP 15 1955
GROUND PHOTOLAB

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS
B-70 J (10-1-34); T-71 J (10-3-34), B-T-71 R (6-1-35), S-27 P.C. 2 (May 1934), S-27 P.C. 3 (May 1934); I-12, 3, 4 & 5 (May 1934), I-8 C.B.*G. (Dec. 1935); I-8 I** 1 (Aug 1933), I-8 I** 2, 3 & 4 (Aug. 1934), I-8 M.H.** 1 (Apr. 1934), I-12 (7-10-35), G-707 (Oct. 1933), B-T-50-70-71 E. Nº 1 (Oct. 1933), B-T-70-71 E. Nº 1 (Oct. 1933), B-T-71 E. Nº 1 (Oct. 1933), T-10-71 E (Oct. 1933). SB-33, E-5 (JULY 12, 1935)

FILE Nº	ASHTABULA-2-SEC. K(PT)
22-7	DATE OF LETTING 19
	CONTRACT Nº

CHECKING RECORD		
OFFICE	BY	DATE
RESIDENT	D.W.	6-18-35
DIVISION	G.W.H.	6-18-35
BUREAU OF MAINTENANCE		
BUREAU OF BRIDGES	E.K.C. M.W.R.	8-22-35
LOCATION & DESIGN	M.C.H.	7-26-35
BUREAU OF PUBLIC ROADS		

RECEIVED
By M. Curnal
Clerk of Sales
9-11
9-2 1935
Date

APPROVED
C. M. Moyer P.E. 167 8/27 1935
Planning Engineer Date
Remarks 40' Width - 2-10-6" T-71 Lights, 19-T-30 Right of Center Lines, Grdy. 3015 Landscaping

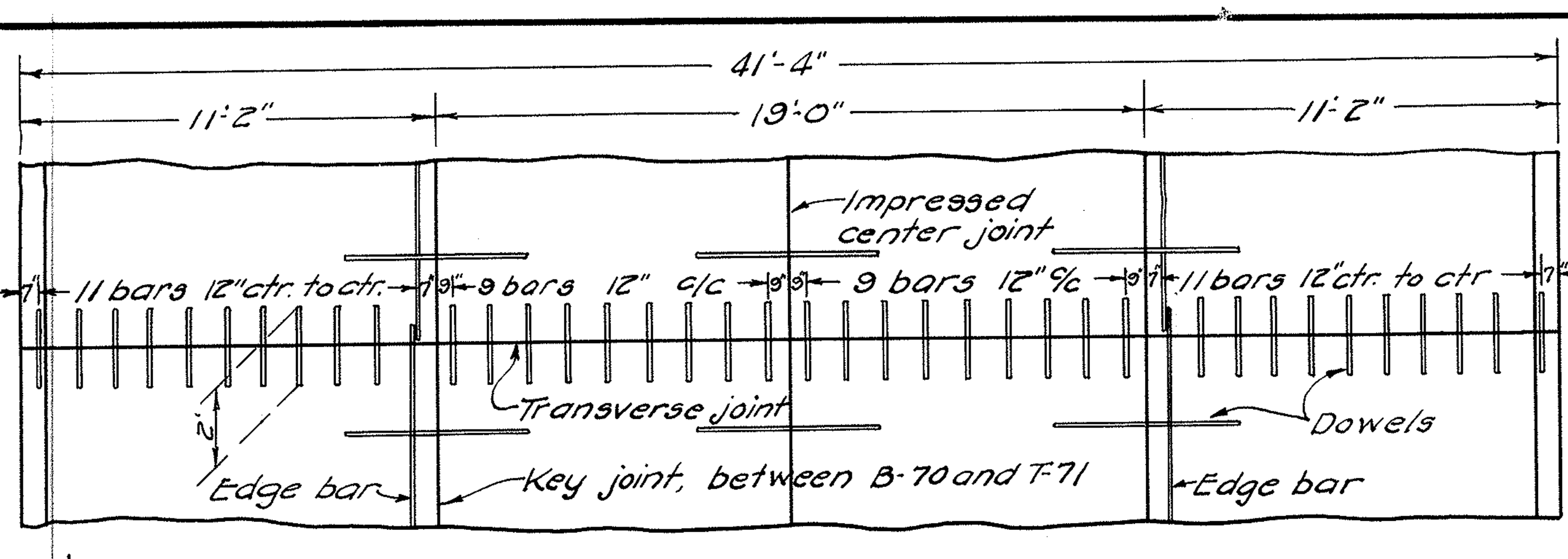
FED. AID DIST. NO.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR
10	OHIO	W.P.H. 666-F	1936

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)

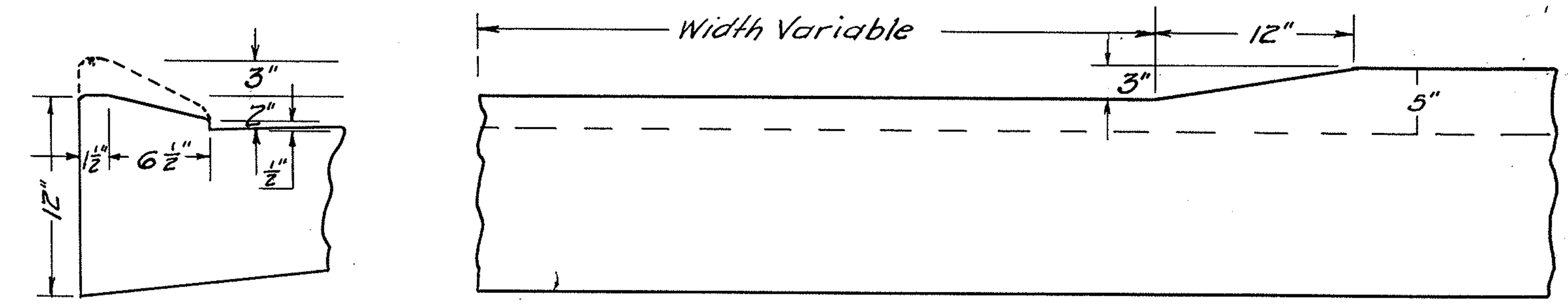
TYPICAL CROSS-SECTION

FOR
10" 8" 8" 10" CONCRETE ITEM T-71
2½" ASPHALTIC CONCRETE T-50
TRANSVERSE JOINTS, DOWELS AND EDGE BARS PER STD. DWG. T-71-J

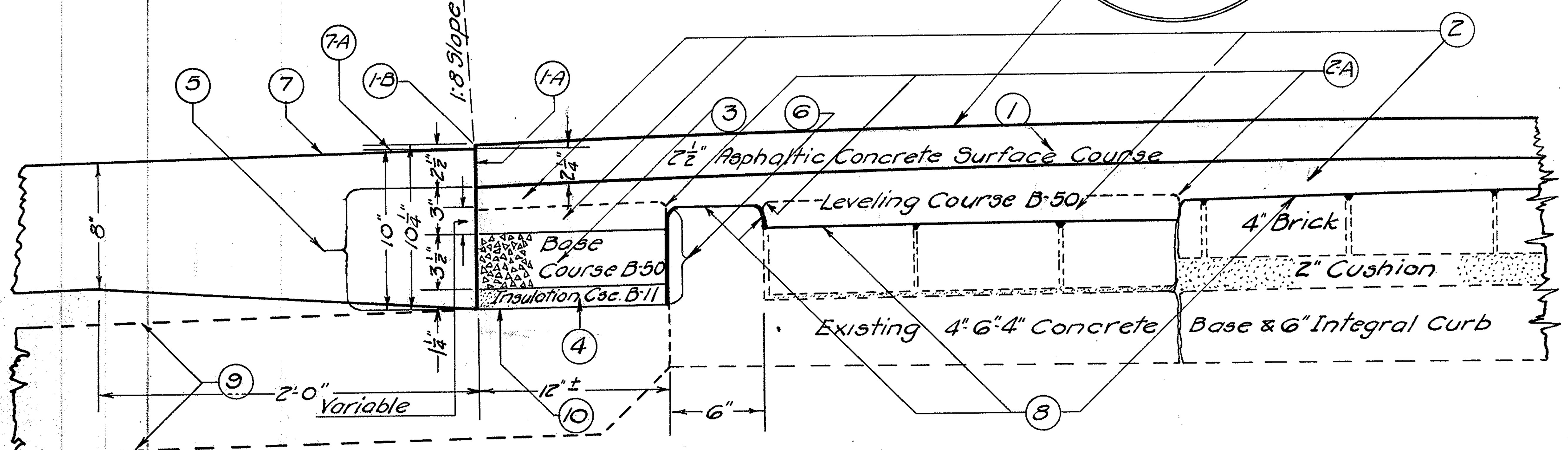
PROPOSAL Nº 1 - Sta. 0-52.23 to Sta. 59+04.3 = 5956.53 Lin. Ft.
Sta. 59+30.3 to Sta. 70+00 = 1069.7 Lin. Ft.
Total Length = 7026.23 Lin. Ft. or 1.330 mi.
PROPOSAL Nº 2 - Sta. 59+04.3 to Sta. 59+30.3 = 26 Lin. Ft.
Total Length = 26 Lin. Ft. or .005 mi.

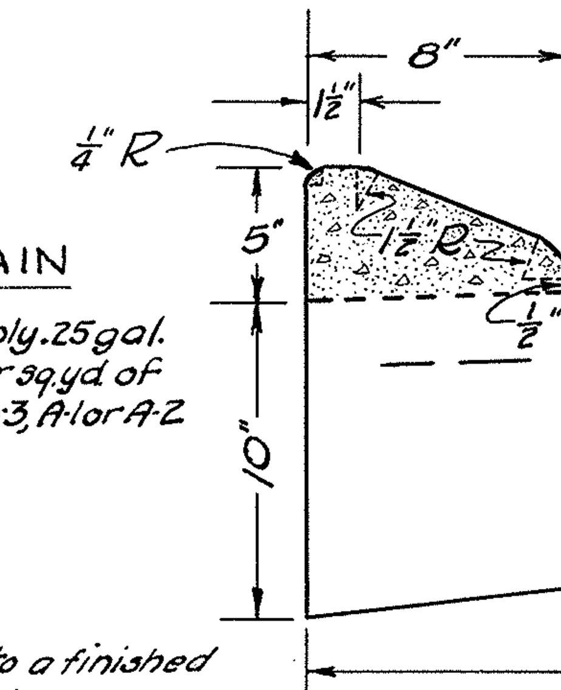


DETAIL SHOWING DOWEL SPACING TRANSVERSE JOINTS



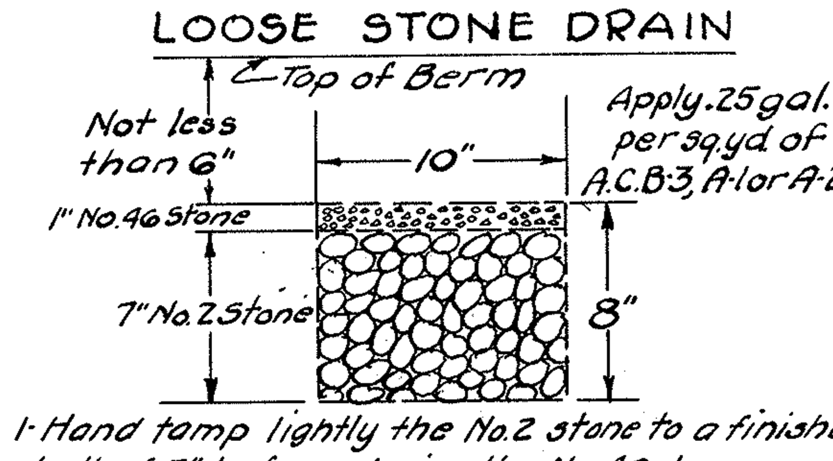
DETAIL OF CURB AT DRIVEWAYS AND STREET INTERSECTIONS





DETAIL OF CURB (TYPE 4-A)
Std Drwg. I-12

DETAIL OF NO. 2
LOOSE STONE DRAIN

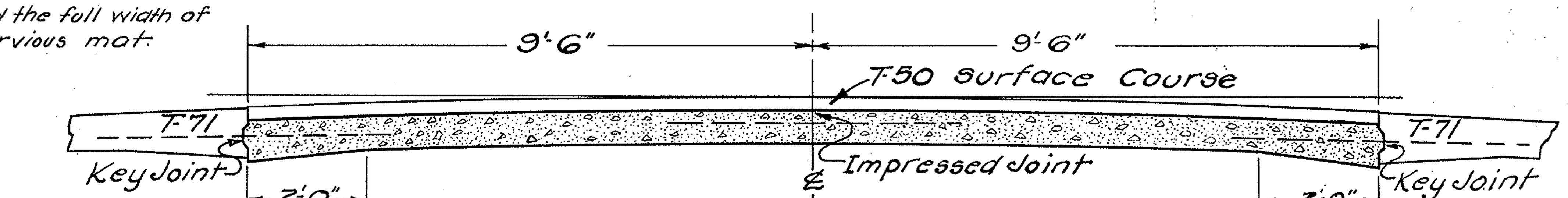


1-Hand tamp lightly the No. 2 stone to a finished depth of 7" before placing the No. 46 layer.
2-Hand tamp lightly the No. 46 stone to a finished depth of 1" before applying the bituminous material.
3-In the application of bituminous material see that the surface is covered the full width of trench forming an impervious mat.

Note: The final curing shall be performed only by the method described under Secs. T-70.22 (a) and B-70.20(a), (water Curing).

Note: In lieu of the specifications for the construction of Construction Joints Items T-70.26, B-70.24, Contraction Joints, Items T-70.27, B-70.25 and Expansion Joints Item T-70.28, they shall be placed in accordance with the frequency, dowel length and metal expansion caps as shown on Standard Construction Drawings T-71-J and B-70-J respectively. Dowel spacing shall be as shown on above detail.

See Sheet No. 3 for Private Drive Return.



TYPICAL SECTION
B-70 CONCRETE BASE
To be used

Station 33+40 Storm Sewer, Crossover and Defective Areas as Directed by Engineer

NOTE: SEE SHEET NO. 3 FOR CONSTRUCTION NOTE ON WINTER OPERATIONS

(1) 2½" Asphaltic Concrete Surface Course, Item T-50, 1" Type "B" Wearing Course, 1½" Binder Course.

(1-A) Bituminous Seal applied by brush, or poured as directed, cost included in price bid for Item T-50 Surface Course.

(1-B) Finish Wearing Course ¼" inch above edge of pavement.

(2) Asphaltic Concrete Leveling Course, Item B-50 using "Binder" Composition. Shaded section over Base widening and all depressions in old pav't shall be spread by strik-off or raked by hand, setting joints by rakes along edges of curb or projecting brick as shown at (2-A) and finished ¼ inch above all projections when compaction is completed.

(3) 3½" Asphaltic Concrete Base Course, Item B-50 to be struck off by hand templet and compacted by power tamper or approved compression strips & Roller.

(4) 1¼" Insulation Course, Item B-11 to be struck off by hand and tamped with hand tamps.

(5) Sealing only, 7¾" of vertical face of new Concrete Surface Course using emulsion Section M-5.7 A.E.3. applied at the rate of .25 gal. per Sq. yd. in two applications Item E-10.

(6) Sealing only, exposed face of old integral curb and base, with the same material and at same rate as under note (5).

(7) 10"-8"-8"-10" Reinforced Concrete Surface Course Item T-71.

(7-A) Finishing smoothness requirements for 9" inside of Concrete Surface Course to meet provisions under Section T-70.21.

(8) Bituminous Prime Coat, Item T-30, of bituminous material Section M-5.7 A.E.3 applied by distributor or by brooms at the rate of 0.2 gallons per sq. yd. and sand cover, Section M-2.1 uniformly spread at the rate of from 4 to 7 pounds per sq. yd. After Bituminous material is applied, all material not required to give a uniform coating to base shall be swept into all cracks and open joints before sand cover is placed. (payment for sand cover including in Bituminous Material)

(9) Standard No. 2 Drain (see detail) to be constructed at such points as may be directed by the Engineer where the subgrade material is other than sand or gravel.

(10) Subgrade for bituminous base widening sections, shall be prepared and compacted at the time the subgrade is constructed for the concrete widening lane.

Note: The Contractor shall complete the North Side Concrete widening before excavating for South Side widening or as the Engineer may order.

— SEWER CROSSOVERS —

Where openings are made across the road for Culverts and Sewer Connections, same shall be immediately backfilled, compacted and protected in order to provide the minimum of inconvenience to two-way traffic.

The Contractor shall maintain two-way traffic on this project and protect his work and traffic at all times with at least two watchmen. He shall also maintain lights not to exceed 300 feet apart along the work and all other necessary lights, signs, and barricades required to insure proper protection at all times, and provide for laying dust at direction of Engineer.

Concrete widening to be finished ¼ inch below theoretical Crown.

APPROVED
PEM
8-29-35

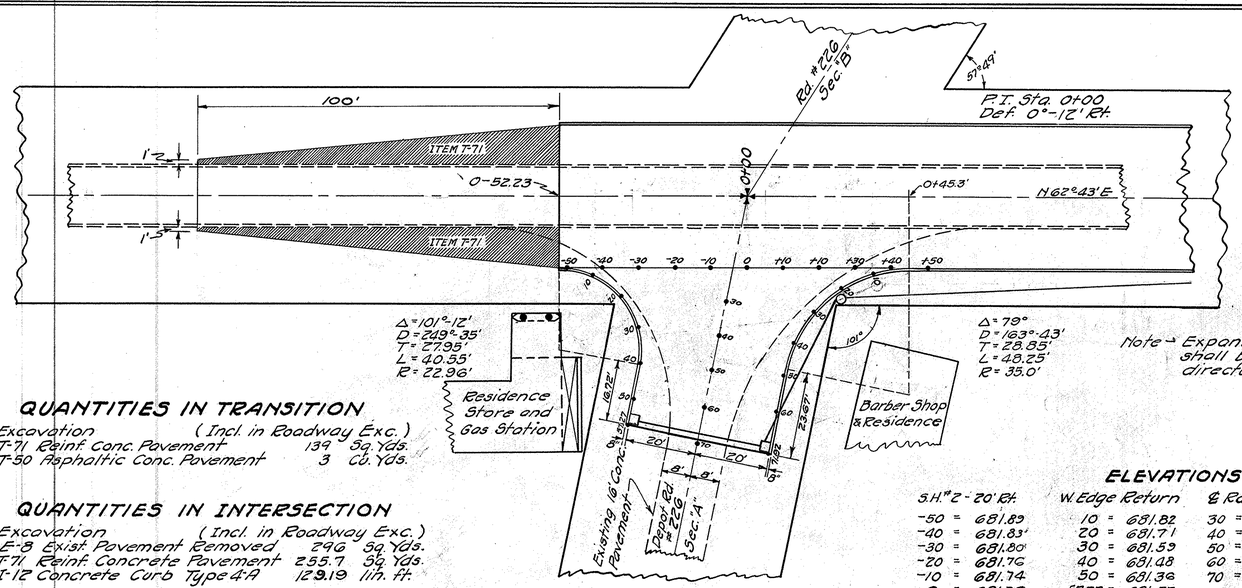
FED. AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	3 / 24
10	OHIO	W.P.H. 686-F	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)

CONSTRUCTION NOTE ON WINTER OPERATIONS

The work covered by this contract shall be conducted in such a manner that maximum employment of labor is afforded so far as is practicable during the life of the contract.

Contractor shall commence construction operations within ten (10) days after execution of the contract. He shall prosecute during the winter months the work pertaining to side drainage, storm sewer, and structures, and he shall perform such work of grading, paving, finishing of berms or other items as may be permitted or requested by the Director.



Note → Expansion and Contraction joints shall be placed where and as directed by the Engineer. (incl. Dowels)

QUANTITIES IN TRANSITION

Excavation	(Incl. in Roadway Exc.)	
T-71 Reinf. Conc. Pavement	139	Sq. Yds.
T-50 Asphaltic Conc. Pavement	3	Cu. Yds.

QUANTITIES IN INTERSECTION

Excavation	(Incl. in Roadway Exc.)	
E-8 Exist. Pavement Removed	296	Sq. Yds.
T-71 Reinf. Concrete Pavement	255.7	Sq. Yds.
I-12 Concrete Curb Type 4-A	129.19	l/in. ft.

I-12 Concrete Curb

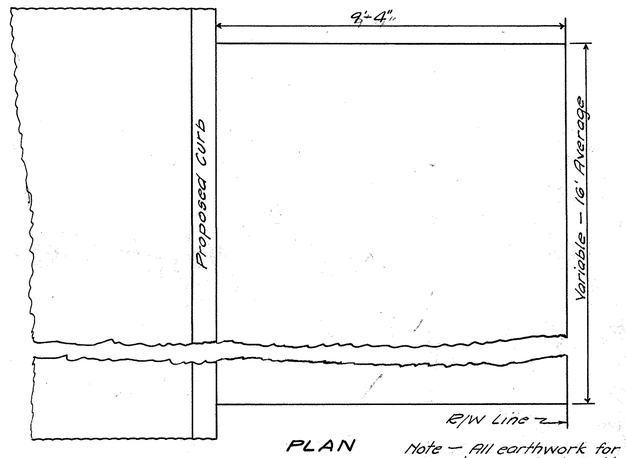
Left Return	=	57.27 l/in. ft.
Right Return	=	71.92 " "
Total length	=	129.19 l/in. ft.

ELEVATIONS

S.H. "Z" - 20' Rt.		W. Edge Return		℄ Rd. "226-A"		E. Edge Return	
-50	= 681.89	10	= 681.82	30	= 681.73	10	= 681.64
-40	= 681.83'	20	= 681.71	40	= 681.69	20	= 681.58
-30	= 681.80'	30	= 681.59	50	= 681.65	30	= 681.32
-20	= 681.76	40	= 681.48	60	= 681.61	40	= 681.46
-10	= 681.74	50	= 681.36	70	= 681.57	50	= 681.40
0	= 681.72	57.27	= 681.27			60	= 681.34
+10	= 681.70					71.92	= 681.27
+20	= 681.68						
+30	= 681.66						
+40	= 681.64						
+50	= 681.64						

DETAILS OF TRANSITION and INTERSECTION at STATION 0+00

Scale 1"=20'



PLAN

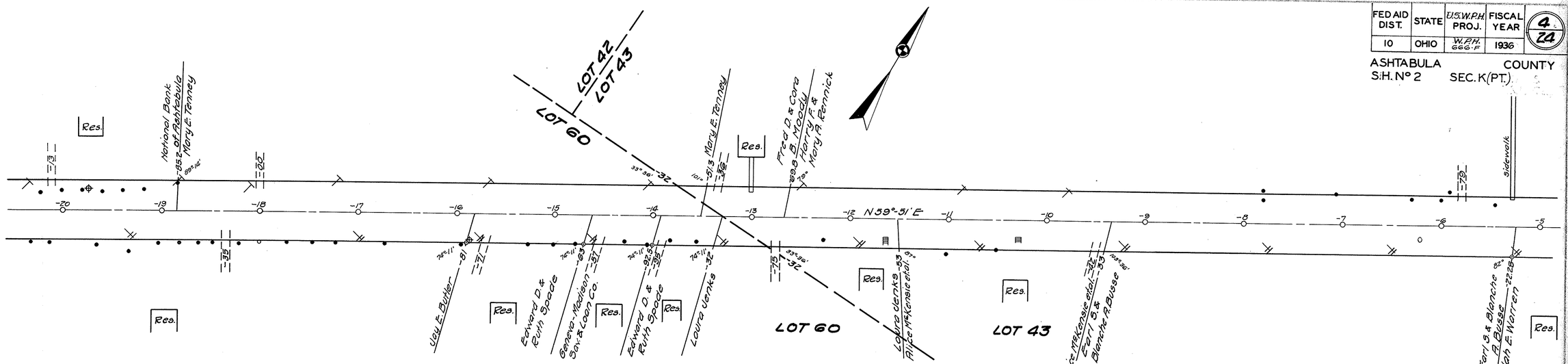
Note — All earthwork for Private Drives is included in Roadway Excavation and Embankment.

CROSS SECTION

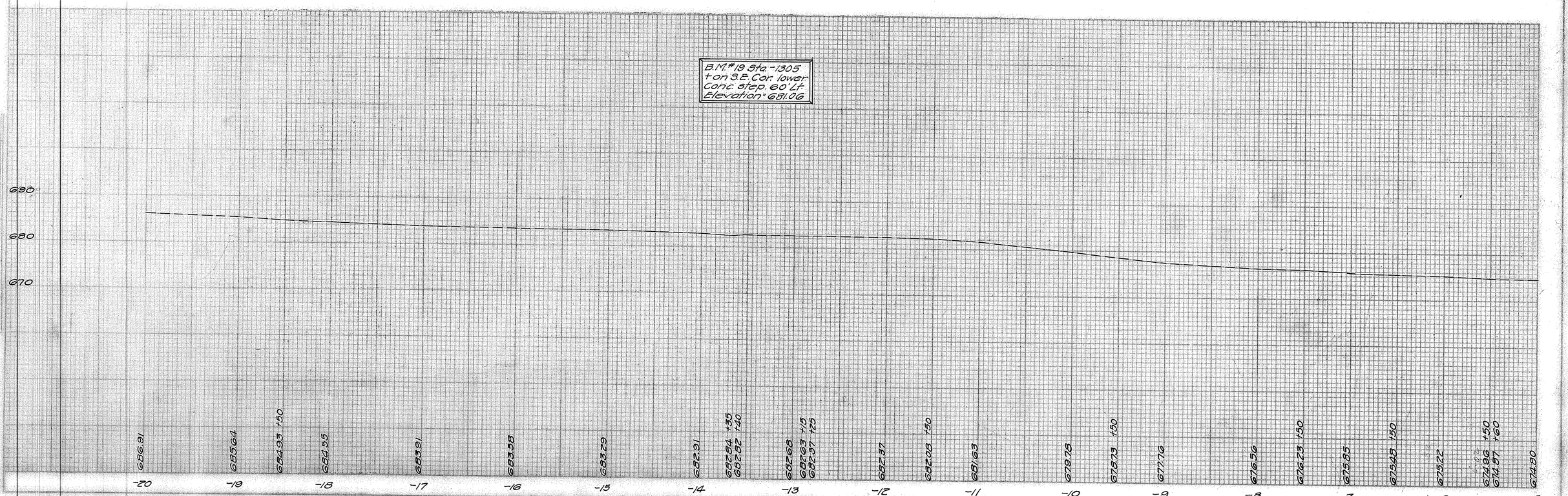
TYPICAL PRIVATE DRIVE

FED AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	4 / 24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H. Nº 2 SEC. K(PT.)

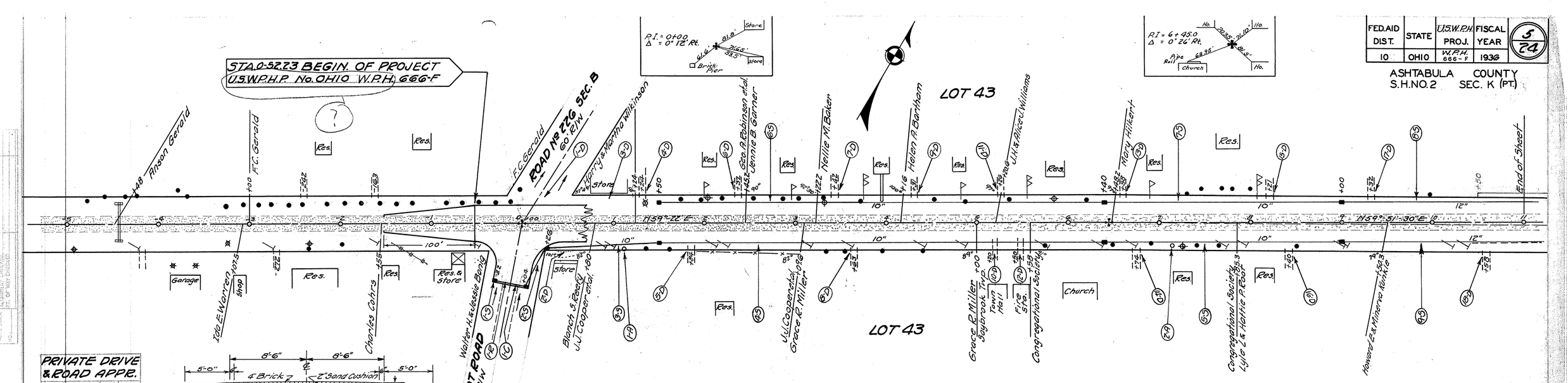


B.M.#19 Sta -1305 +on S.E. Cor. lower Conc. step. 60' Lf. Elevation = 651.06



FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	SHEET
10	OHIO	W.P.H. 666-F	1936	5/24

ASHTABULA COUNTY
S.H.NO.2 SEC. K (PT.)



PRIVATE DRIVE & ROAD APPR.

Item No.	Station	Rt. or Lt.	Pgg. Cu.Yds.
1-D	0+00	Lt.	8.0
2-D	0+50	Rt.	3.0
3-D	0+90	Lt.	3.0
4-D	1+24	Lt.	1.5
5-D	1+84	Rt.	1.5
6-D	2+32	Lt.	1.5
7-D	3+42	Lt.	1.5
8-D	3+63	Rt.	1.5
9-D	4+31	Lt.	1.5
10-D	5+20	Rt.	1.5
11-D	5+26	Lt.	1.5
12-D	5+30	Rt.	1.5
13-D	6+38	Lt.	1.5
14-D	6+74	Rt.	1.5
15-D	8+21	Lt.	1.5
16-D	8+40	Rt.	1.5
17-D	9+32	Lt.	1.5
18-D	10+53	Rt.	1.5
TOTAL			36.5

TYPICAL CROSS SECTION ADJOINING THIS PROJECT AT STATION 0-52.23

STORM SEWER

Item No	Station From	Station To	Rt. or Lt.	I-S-1 Inlet No.	I-S-1 Storm Sewer Pipe 10"	Lin. Ft. 12"	Lin. Ft. 15"	I-S-1 Ditch Inlet No.	I-S-1 M.H. No.	Concrete Sta. Cu.Yds. Cradle	Cut-off	Std No. C.B.	Remarks
1-S	0-32		Rt.									1	C.Basin Sta.0-32±
2-S	0+04	0+26	Rt.			44	(skew)		1			1	C.Basin Sta.0+04± 30°-0"Skew Manhole Sta. 0+22±
3-S	0+26	1+49	Rt.	1	123								Curb Inlet Sta. 1+50
4-S	1+51	6+39	Rt.	1	488								Curb Inlet Sta. 6+40
5-S	6+41	8+99	Rt.	1	258								Curb Inlet Sta. 9+00
6-S	1+51	6+39	Lt.	2	488								Curb Inlet Sta. 6+38
7-S	6+41	8+99	Lt.	1	258								Curb Inlet Sta. 9+00
8-S	9+01	11+00	Lt.			199							
9-S	9+01	11+00	Rt.			199							
TOTALS				6	1659	398			1			2	

TRENCH REINFORCING

Item No	Station	No.	Size	Length	Weight Lbs.
1-R	0-04	81	3/8 ϕ	8'-0"	676
TOTAL 676 lbs.					

STRUCTURES 20' SPAN AND UNDER

Item No	Station	Type	Size	Excav. Cu.Yds.	Channel Excav. Cu.Yds.	Concrete 1-5½ Cu.Yds.	Concrete 1-6½ Cu.Yds.	Reinf. Steel Lbs.	¾"x1' Dowel Holes Each	Pipe for Culverts Lin. ft. 10"	12"	15"	18"	24"	Pipe for Storm Sewer Lin. Ft. 10"	12"	Removal of Exist. Masonry Cu.Yds.	½" Bitum. Prem. Exp. Jt. Filler Sq.Ft.	Waterproofing Type "A" Sq.Yds.	Type "B" Sq.Yds.	Culvert Number
1-C	0-04	Pipe Cul.	10"x36'-0"	21						36											New Struc.
TOTAL				21						36											

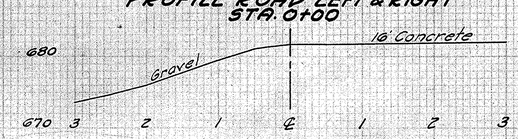
STUMP REMOVAL

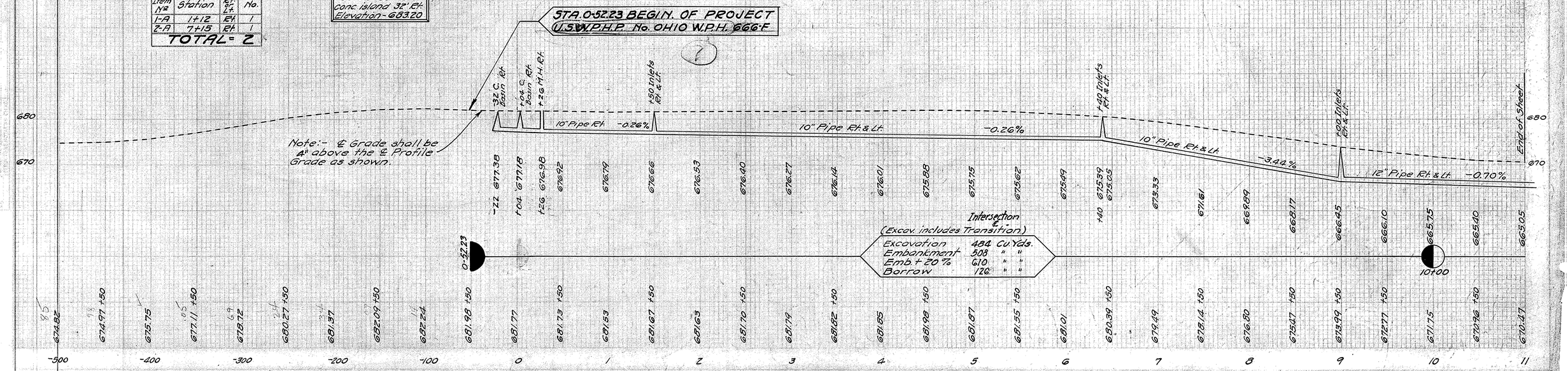
Item No	Station	Rt. or Lt.	No.
1-A	1+12	Rt.	1
2-A	7+15	Rt.	1
TOTAL = 2			

B.M.#1 Station 0-55 ± on N.E. corner Conc. Island 32' Rt. Elevation - 683.20

B.M.#2 Station 5+08 U.S.G.S. Tablet wall of Town Hall 68' Rt. Elevation - 681.90

PROFILE ROAD LEFT & RIGHT STA. 0+00

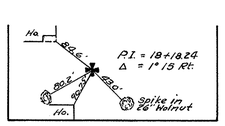


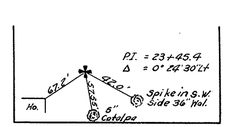


FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	6 / 74
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H.NO.2 SEC. K (PT.)

1-53A





PRIVATE DRIVE & ROAD APPR.

Item No	Station	Rt. or Lt.	Agg. Cu.Yds.
1-D	14+91	Rt.	1.5
2-D	15+21	Lt.	1.5
3-D	15+47	Lt.	1.5
4-D	16+27	Rt.	1.5
5-D	17+57	Rt.	1.5
6-D	17+94	Lt.	1.5
7-D	18+45	Rt.	1.5
8-D	19+90	Rt.	1.5
9-D	20+12	Lt.	1.5
10-D	20+38	Lt.	1.5
11-D	21+00	Lt.	1.5
12-D	21+31	Lt.	1.5
13-D	21+78	Rt.	1.5
14-D	23+26	Rt.	1.5
15-D	25+97	Lt.	1.5
TOTAL			22.5

STORM SEWER

Item No	Station From	Station To	Rt. or Lt.	I-8-I Inlet No.	Storm Sewer Pipe Lin. Ft. 10"	12"	15"	I-6-I Ditch Inlet No.	I-8-I M.H. No.	Concrete I-9h Cu.Yds. Cradle	Cover	Remarks
1-S	11+00	11+25	Rt.	1		25						Curb Inlet Sta. 11+26
2-S	11+27	12+49	Rt.	1		122						Curb Inlet Sta. 12+50
3-S	12+51	13+49	Rt.	1		98						Curb Inlet Sta. 13+50
4-S	13+51	14+00	Rt.			49						Connect thru Culvert
5-S	11+00	11+25	Lt.	1		25						Curb Inlet Sta. 11+26
6-S	11+27	12+49	Lt.	1		122						Curb Inlet Sta. 12+50
7-S	12+51	13+49	Lt.	1		98						Curb Inlet Sta. 13+50
8-S	13+51	14+16	Lt.			65						Connect thru Culvert
9-S	14+33	15+74	Lt.	1	141							Curb Inlet Sta. 15+75
10-S	15+76	18+34	Lt.	1	258							Curb Inlet Sta. 18+35
11-S	14+17	15+74	Rt.	1	157							Curb Inlet Sta. 15+75
12-S	15+76	18+34	Rt.	1	258							Curb Inlet Sta. 18+35
13-S	24+31	27+00	Rt.	1	269							Curb Inlet Sta. 24+30
14-S	24+31	27+00	Lt.	1	269							Curb Inlet Sta. 24+30
TOTALS				12	1352	604						

TREE REMOVAL

Item No	Station	Rt. or Lt.	Size
1-T	16+68	Rt.	36"
2-T	17+13	Lt.	30"
3-T	17+61	Lt.	30"
4-T	23+81	Rt.	40"
5-T	20+74	Lt.	34"
TOTAL = 5			

B.M. #3 Station 15+20 ton E. end of lower conc step Rea. Lt. Elevation = 673.52

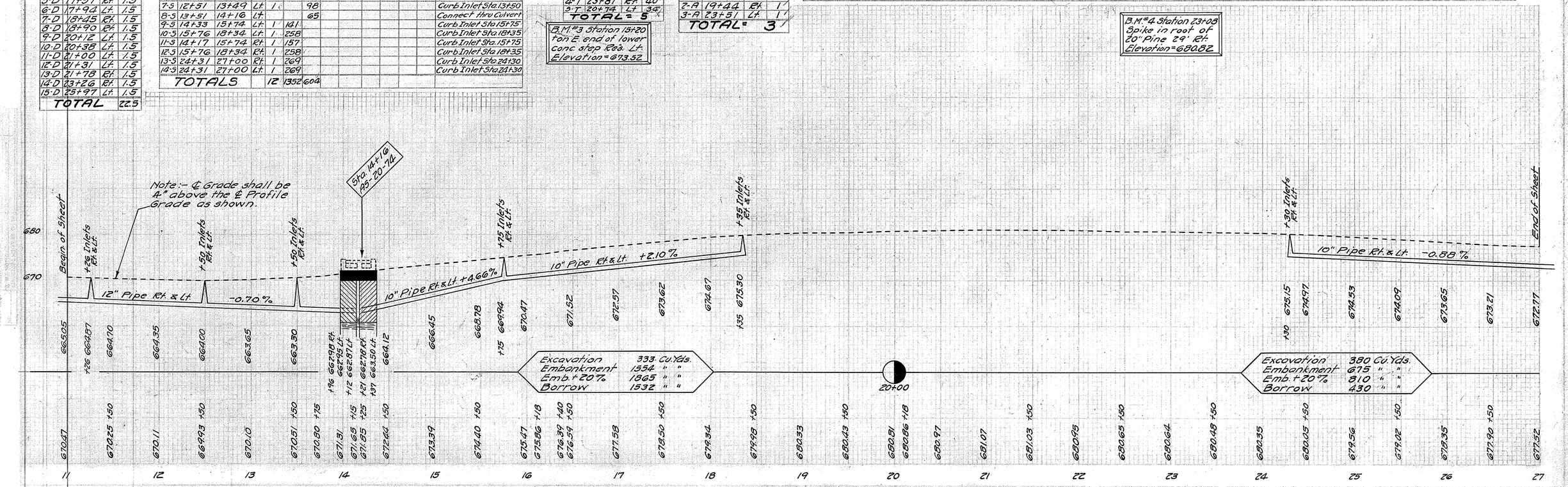
STUMP REMOVAL

Item No	Station	Rt. or Lt.	No.
1-A	12+64	Lt.	1
2-A	19+44	Rt.	1
3-A	23+51	Lt.	1
TOTAL = 3			

STRUCTURES 20' SPAN AND UNDER

Item No	Station	Type	Size	Excav. Cu.Yds.	Channel Excav. Cu.Yds.	Concrete 1-5½ Cu.Yds.	Concrete I-6½ Cu.Yds. Walls	Concrete I-6½ Cu.Yds. Ftng.	Reinf. Steel lbs.	⅝"x11" Panel Holes Each	Pipe for Culverts Lin. Ft. 10"	12"	15"	18"	24"	Pipe for Storm Sewer Lin. Ft. 10"	12"	Removal of Ex. Str. Masonry Cu.Yds.	½" Bitum. Prem. Exp. Filler Sq.Yds.	Waterproofing Type 'A' Sq.Yds.	Type 'B' Sq.Yds.	Bridge Number
Z-C	14+16	Slab Bridge	18'-6" Span	117	20	78	78	43	13040	44								67.0	22	22	14	As-20-74
TOTALS =				117	20	78	78	43	13040	44								67.0	22	22	14	

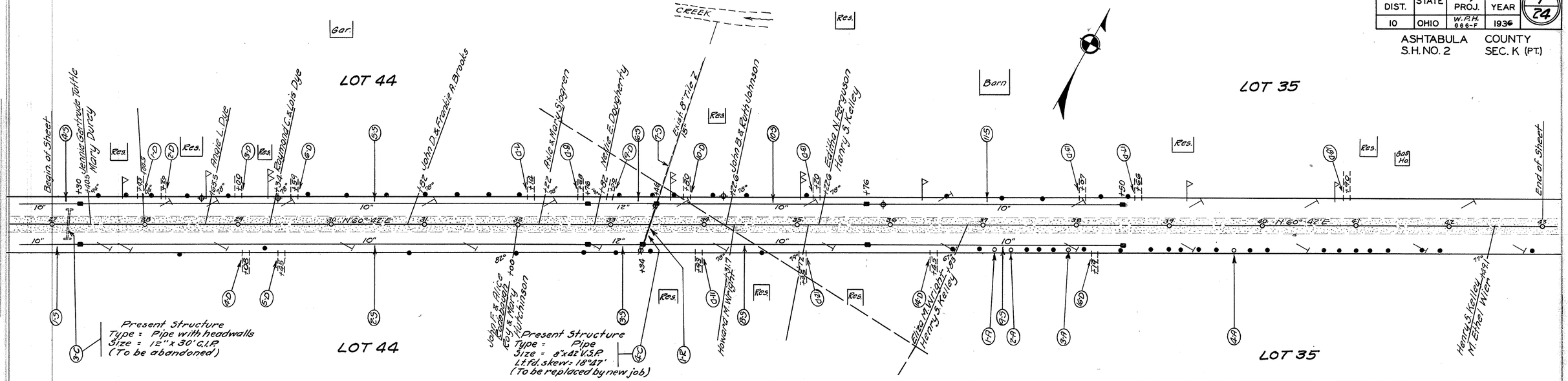
B.M. #4 Station 23+08 Spike in root of 20" Pine 29' Rt. Elevation = 680.82



HIGHWAY PLAN - PROFILE PLATE
TYPE 'B' CURB OF CONCRETE CONSTRUCTION

FED. AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	7 / 24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)



PRIVATE DRIVE & ROAD APPR.

Item Nº	Station	Rt. or Lt.	Agg. Cu Yds
1-D	27+93	Lt.	1.5
2-D	28+20	Lt.	1.5
3-D	29+00	Lt.	1.5
4-D	29+08	Rt.	1.5
5-D	29+45	Rt.	1.5
6-D	29+59	Lt.	1.5
7-D	32+14	Lt.	1.5
8-D	32+68	Lt.	1.5
9-D	33+00	Lt.	1.5
10-D	33+80	Lt.	1.5
11-D	33+93	Rt.	1.5
12-D	35+05	Rt.	1.5
13-D	35+20	Lt.	1.5
14-D	36+45	Rt.	1.5
15-D	36+07	Lt.	1.5
16-D	38+19	Rt.	1.5
17-D	38+66	Lt.	1.5
18-D	40+30	Lt.	1.5
TOTAL 27.0			

TRENCH REINFORCING

Item Nº	Station	No.	Size	Length	Weight Lbs.
1-R	33+40	33	5/8 ø	8'-0"	693

STRUCTURES 20' SPAN AND UNDER

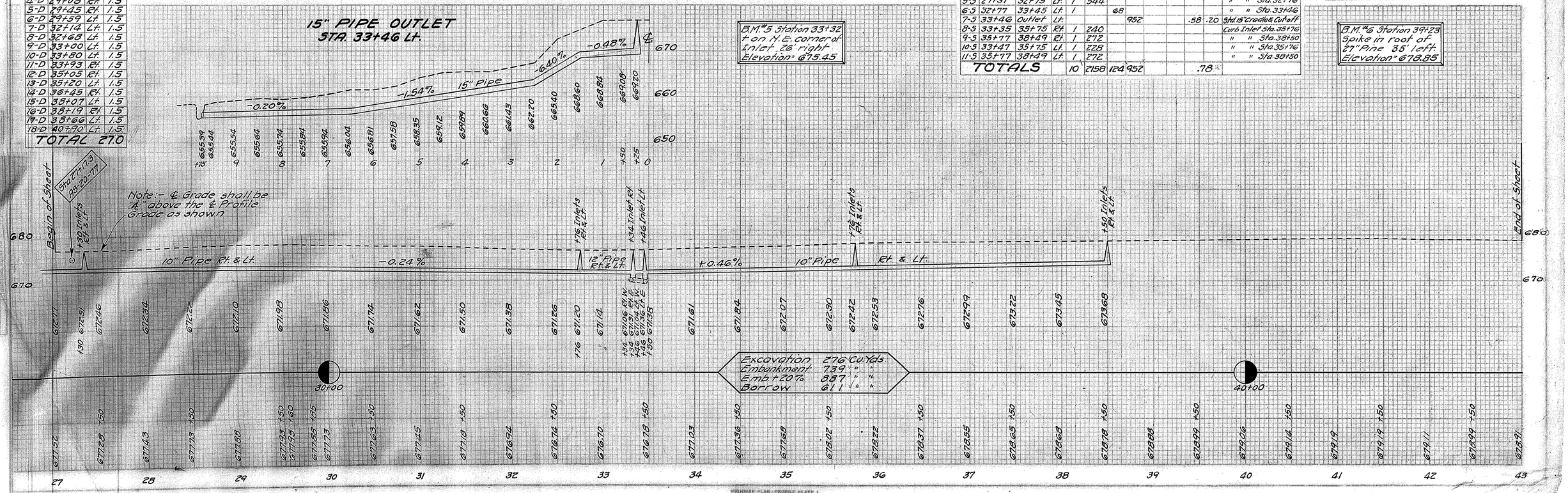
Item Nº	Station	Type	Size	Excav. Cu Yds.	Channel Excav. Cu Yds.	Concrete 1-3½ Cu Yds.	Concrete 1-2½ Cu Yds. Walls	Concrete 1-2½ Cu Yds. Ftgs.	Reinf. Steel Lbs.	Rdg"x1" Dowel Holes Each	Pipe for Culverts Lin. Ft. 10"	12"	15"	18"	24"	Removal of Exist. Masonry Cu. Yds.	Removal of Exist. Inlets Each	8" V.S.P. Rem. & Stored Lin. Ft.	Culvert Number
3-C	27+17.3	Pipe	12" abond.	1		0.2										1.0			As-20-77
4-C	33+40	Pipe	15"x45'-6"	46									45½				1	42	
TOTAL				47		0.2							45½			1.0	1	42	

STORM SEWER

Item Nº	Station From	Station To	Rt. or Lt.	I-B-I Inlet Nº2	Storm Sewer Pipe 10"	Storm Sewer Lin. Ft. 12"	Storm Sewer Lin. Ft. 15"	I-B-I Ditch Inlet No.1	I-B-I M.H. No.1	Concrete 1-3½ Cu Yds. Cradle	Concrete 1-3½ Cu Yds. Cut-off	Remarks
1-S	27+00	27+29	Rt.	1	29							Curb Inlet Sta. 27+30
2-S	27+31	32+75	Rt.	1	544							" " Sta. 32+76
3-S	32+77	33+33	Rt.	1		56						" " Sta. 33+34 Connect to exist. Inlet
4-S	27+00	27+29	Lt.	1	29							Curb Inlet Sta. 27+30
5-S	27+31	32+75	Lt.	1	544							" " Sta. 32+76
6-S	32+77	33+45	Lt.	1		68						" " Sta. 33+46
7-S	33+46	Outlet	Lt.				952			.58	.20	Std. 15" Cradle & Cut-off
8-S	33+35	35+75	Rt.	1	240							Curb Inlet Sta. 35+76
9-S	35+77	38+49	Rt.	1	272							" " Sta. 38+50
10-S	33+47	35+75	Lt.	1	228							" " Sta. 35+76
11-S	35+77	38+49	Lt.	1	272							" " Sta. 38+50
TOTALS				10	2158	124	952			.78		

STUMP REMOVAL

Item Nº	Station	Rt. or Lt.	No.
1-A	27+13	Rt.	1
2-A	27+30	Rt.	1
3-A	27+87	Rt.	1
4-A	39+69	Rt.	1
TOTAL			4



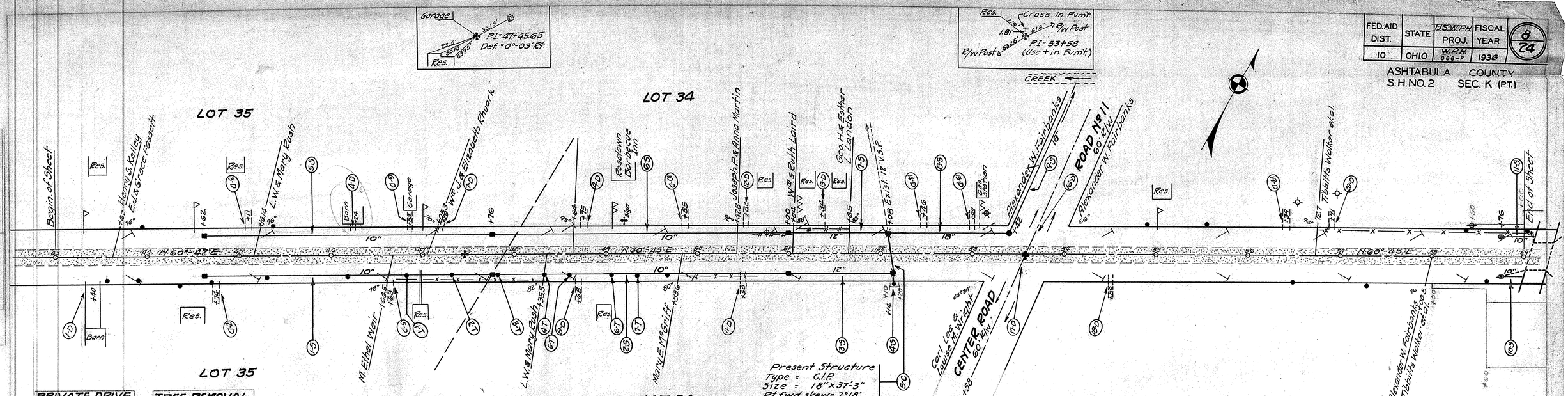
HIGHWAY PLAN-PROFILE PLATE 1
THE F. COLE CO., COLUMBUS, OHIO

FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR
10	OHIO	W.P.H. 666-F	1936

ASHTABULA COUNTY
S.H.NO.2 SEC. K (PT.)

8/74

PLAN: SURVEYED ___ DRAWN ___ QUANTITIES CHECKED ___ NOTE BOOK ___ ALIGNMENT CHECKED ___ BY ___ RT.-OF-WAY CHECKED ___ NO. ___ DATE ___



PRIVATE DRIVE & ROAD APPR.

Item No.	Station	Rt. or Lt.	Agg. Cu.Yds.
1-D	43+40	Rt.	1.5
2-D	44+74	Rt.	1.5
3-D	45+11	Lt.	1.5
4-D	46+24	Lt.	1.5
5-D	46+63	Rt.	1.5
6-D	46+83	Lt.	1.5
7-D	47+20	Lt.	1.5
8-D	48+68	Rt.	1.5
9-D	48+75	Lt.	1.5
10-D	49+85	Lt.	1.5
11-D	50+50	Rt.	1.5
12-D	50+52	Lt.	1.5
13-D	51+34	Lt.	1.5
14-D	52+46	Lt.	1.5
15-D	53+00	Lt.	4.0
16-D	53+58	Lt.	3.0
17-D	53+58	Rt.	3.0
18-D	54+50	Rt.	1.5
19-D	56+39	Lt.	1.5
20-D	56+91	Lt.	1.5
TOTAL			45.5

TREE REMOVAL

Item No.	Station	Rt. or Lt.	Size
1-T	46+81	Rt.	30"
2-T	47+32	Rt.	27"
3-T	47+82	Rt.	27"
4-T	48+32	Rt.	20"
5-T	48+58	Rt.	24"
6-T	49+06	Rt.	20"
7-T	49+33	Rt.	25"
TOTAL	7		

B.M. #7 Station 44+50 + on W. end Lower Step Wier's Res. Lt. Elevation = 679.02

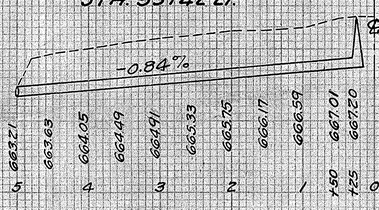
STRUCTURES 20' SPAN AND UNDER

Item No.	Station	Type	Size	Excav. Cu.Yds.	Channel Excav. Cu.Yds.	Concrete 1-5½ Cu.Yds.	Concrete 1-6½ Cu.Yds. Walls	Concrete 1-6½ Cu.Yds. Fhrs.	Reinf. Steel lbs.	¾"x1' Dowel Holes Each	Pipe for Culverts Lin.Ft. 10"	12"	15"	18"	24"	Pipe for Storm Sewer Lin.Ft. 10"	12"	Removal of Exist. Masonry Cu.Yds.	Removal of Exist. Inlets Each	8"V.S.P. Rem. & Shred Lin.Ft.	Culvert Number
5-C	52+11.5	Pipe Ext.	18"x3'-9"Rt. & 3'Lt.	6										6					2		
TOTALS				6										6					2		

STORM SEWER

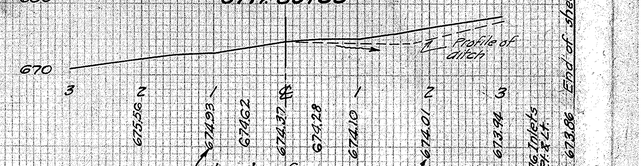
Item No.	Station From	Station To	Rt. or Lt.	I-B.I. Inlet No.2	Storm Sewer Pipe 10"	12"	18"	I-B.I. Ditch Inlet No.1	I-B.I. M.H. No.1	Concrete 1-3½ Cu.Yds. Cradle	Cut-off	Remarks
1-S	44+63	47+75	Rt.	1	312							Curb Inlet Sta. 44+61
2-S	47+77	50+99	Rt.	1	322							" " Sta. 47+76
3-S	51+01	52+13	Rt.	2		112						" " Sta. 51+98 Sta. 51+13
4-S	52+14		Rt.		12			1				No. 1 D.I. Sta. 52+14
5-S	44+63	47+75	Lt.	1	312							Curb Inlet Sta. 44+61
6-S	47+77	50+99	Lt.	1	322							" " Sta. 47+76
7-S	51+01	52+07	Lt.	2		106						" " Sta. 51+98 Sta. 52+03
8-S	52+09	53+40	Lt.				131	1				No. 1 M.H. Sta. 53+42
9-S	53+42	Outlet	Lt.				476			.80	.20	5 Yd. 18 Cradle & Cut-off
10-S	58+77	59+00	Rt.	1	23							Curb Inlet Sta. 58+76
11-S	58+77	59+00	Lt.	1	23							" " Sta. 58+76
TOTAL				10	1326	218	607	1	1	1.00		

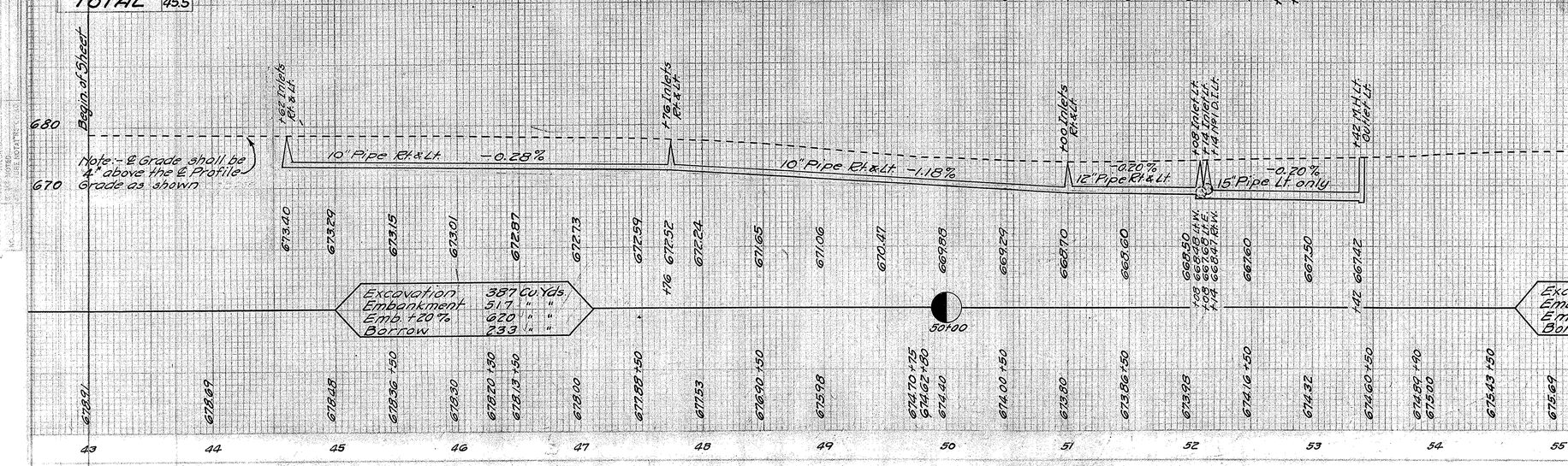
18" PIPE OUTLET STA. 53+42 Lt.



B.M. #8 Station 53+12 + on S.W. cor. conc. island 45' left. Elevation = 674.13

PROFILE ROAD LEFT & RIGHT STA. 53+58





Excavation 217 Cu.Yds.
Embankment 1507 " "
Emb. +20% 1808 " "
Borrow 1591 " "

FED.AID DIST.	STATE	U.S.W.P.H. PROJ	FISCAL YEAR	SHEET / 24
10	OHIO	W.P.H. 666-F	1936	

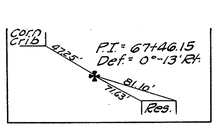
ASHTABULA COUNTY
S.H.NO.2 SEC. K (PT.)

BEGIN. PROPOSAL NO.2
STA. 59+04.3

END PROPOSAL NO.2
STA. 59+30.3

PRES. STRUCTURE: I-Beams encased in concrete, concrete slab top, 21'-0" span, 26'-0" roadway, Bridge, No. A5. 20-83, Built in 1915.

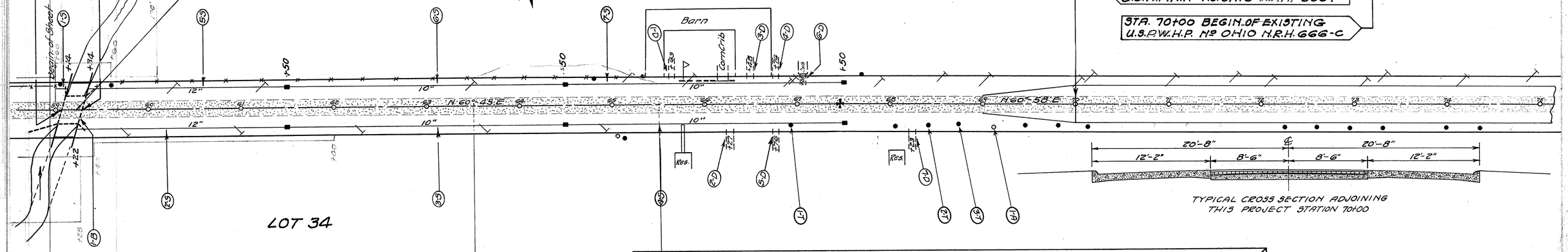
PROPOSED STRUCTURE: Beam bridge widened with concrete slab 21'-9" span, 59'-0" roadway, Loading H-15-33.
DRAINAGE AREA 4.15 Sq. Mi.



LOT 34

STA. 70+00 END OF PROJECT
U.S.W.P.H.P. No. OHIO W.P.H. 666 F

STA. 70+00 BEGIN. OF EXISTING
U.S.P.W.H.P. No OHIO W.P.H. 666-C



TYPICAL CROSS SECTION ADJOINING THIS PROJECT STATION 70+00

PRIVATE DRIVE & ROAD APPR.

Item No.	Station	Rt. or Lt.	Agg. Cu.Yds.
1-D	65+63	Lt.	1.5
2-D	66+27	Rt.	1.5
3-D	66+48	Lt.	1.5
4-D	66+76	Lt.	1.5
5-D	66+76	Rt.	1.5
6-D	67+05	Lt.	1.5
7-D	68+23	Rt.	1.5
TOTAL			10.5

TREE REMOVAL

Item No.	Station	Rt. or Lt.	Size
1-T	66+92	Rt.	17"
2-T	68+41	Rt.	16"
3-T	68+75	Rt.	22"
TOTAL			3

STUMP REMOVAL

Item No.	Station	Rt. or Lt.	No.
1-A	69+12	Rt.	1
TOTAL			1

STORM SEWER

Item No.	Station From	Station To	Rt. or Lt.	I-B-I Inlet No.	Storm Sewer Pipe 10"	Storm Sewer Pipe 12"	Storm Sewer Pipe 18"	I-B-I Ditch Inlet No.	I-B-I M.H. No.	Concrete, 1-5/8 Cu.Yds. Cradle	Concrete, 1-5/8 Cu.Yds. Cut-off	Remarks
												Connect to Culvert
1-S	59+00	59+14	Lt.		14							Curb Inlet Sta. 61+50
2-S	59+22	61+49	Rt.	1		227						" " Sta. 64+50
3-S	61+51	64+49	Rt.	1	298							" " Sta. 67+50
4-S	64+51	67+49	Rt.	1	298							" " Sta. 61+50
5-S	59+34	61+49	Lt.	1		215						" " Sta. 64+50
6-S	61+51	64+49	Lt.	1	298							" " Sta. 67+50
7-S	64+51	67+49	Lt.	1	298							
				6	1206	442						

PROPOSAL NO. 2 (Sta. 59+04.3 to Sta. 59+30.3)

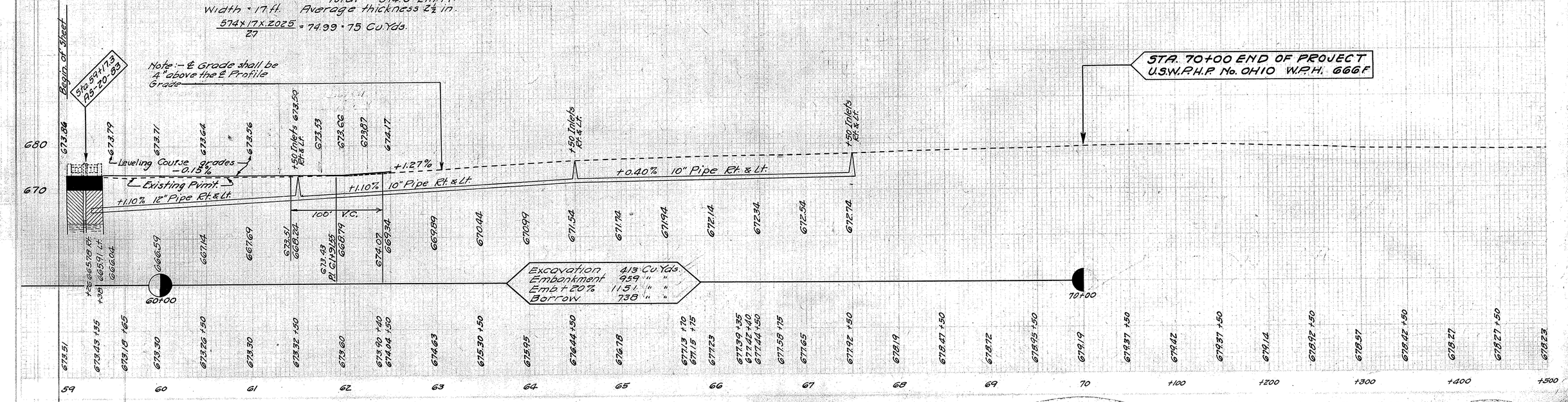
STRUCTURES OVER 20' SPAN

Item No.	Station	Type	Size	Excav. Cu.Yds.	Channel Excav. Cu.Yds.	Concrete 1-5/8 Cu.Yds. Walls	Concrete 1-6½ Cu.Yds. Ftrs.	Reinf. Steel lbs.	8"x1" Dowel Holes Each	8" Cast Iron Pipe Lin.Ft.	Rip-rap Backfill	Removal of Exist. Masonry Cu.Yds.	½" Bitum. Prem. Exp. Jt. Filler Sq. Ft.	Waterproofing Type "B" Sq.Yds.	Type "B" Sq.Yds.	Bridge Number
1-B	59+17.3	Slab Bridge	21'-9" Span	117	225	53.4	68.8	38.3	9120	44	7	Lump	27	22	16	12	As-20-83
				117	225	53.4	68.8	38.3	9120	44	7	Lump	27	22	16	12	

B-50 Leveling Course
From Sta 56+50 to Sta 59+04.3 = 254.3 Lin. Ft.
From Sta 59+30.3 to Sta 62+50 = 319.7 Lin. Ft.
Total = 574.0 Lin. Ft.
Width = 17 ft. Average thickness 2½ in.

$\frac{574 \times 17 \times .2025}{27} = 74.99 = 75$ Cu.Yds.

B.M. #8 Station 65+83 +on E. end of lower step to Eds. 50' Rt. Elevation = 681.25



FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	10 / 24
10	OHIO	W.P.H. 666-P	1936	

ASHTABULA COUNTY
S.H. Nº 2 SEC. K (PT.)

LOT 34 — LOT 27 — LOT 33

New London Road 60'
Ne 217 Section F.
+814

Res. C.E. & Ida Armstrong
Mable Van Pelt
J.M. Sweet
George W. Cooper
Res.
1 2 3 George W. Cooper
4 A. Paul & Feral E. Crosby Res.
5 George W. Cooper
6

Tibbitts Walker +72
John E. & Helen Armstrong
Ruth H. Wilkerson +05
Ruth H. Wilkerson 1.09
Ines Loveland
Martha & Harvey Wilkerson Res.
G.R. Wilkinson
G.R. Wilkinson
G.R. Wilkinson +64
F.C. Brown
P.C. 87+86.53
P.T. 89+02.36
Res.

75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90

B.M. #9 Sta 79+61
Rto. side rim of
Gas well casing
45 Lt. El. = 678.62

PROFILE ROAD LEFT
Sta. 81+81.4
680
670
3 2 1 E

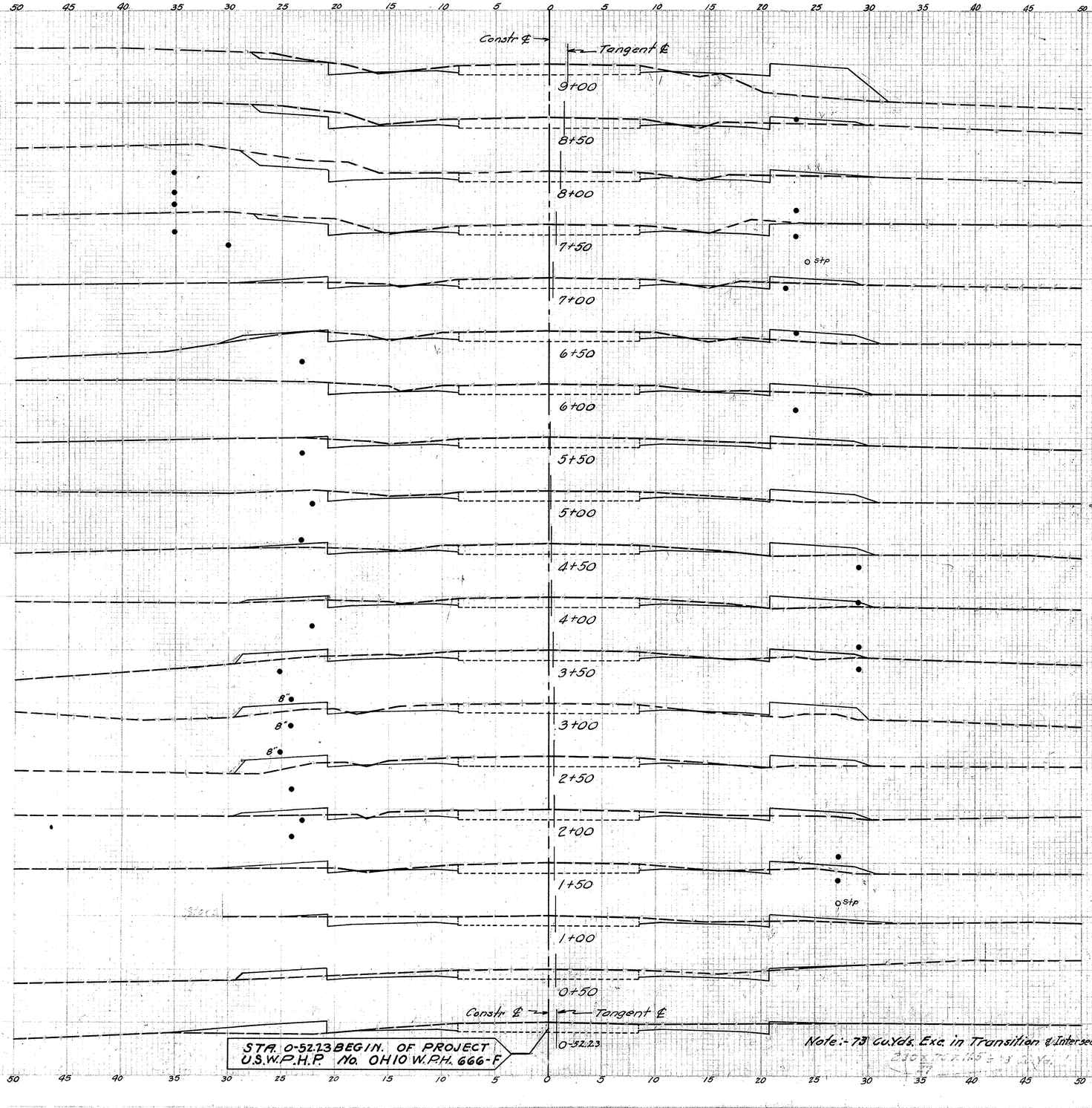
680
670

678.23 678.21 +50 678.13 679.08 +50 679.13 679.13 +50 678.13 +35 678.23 678.33 +50 678.42 679.33 +50 679.63 679.85 +50 679.00 679.16 +50 679.31 679.31 +50 679.27 679.22 +50 679.07 679.00 +50 678.90 678.80 +30 678.82 678.85 +50 679.14 679.34 +90 679.40 679.60 +50 677.14 675.70 +50 674.50

75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90

FED.AID DIST	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	11 / 24
10	OHIO	W.P.H. 666-F	1936	

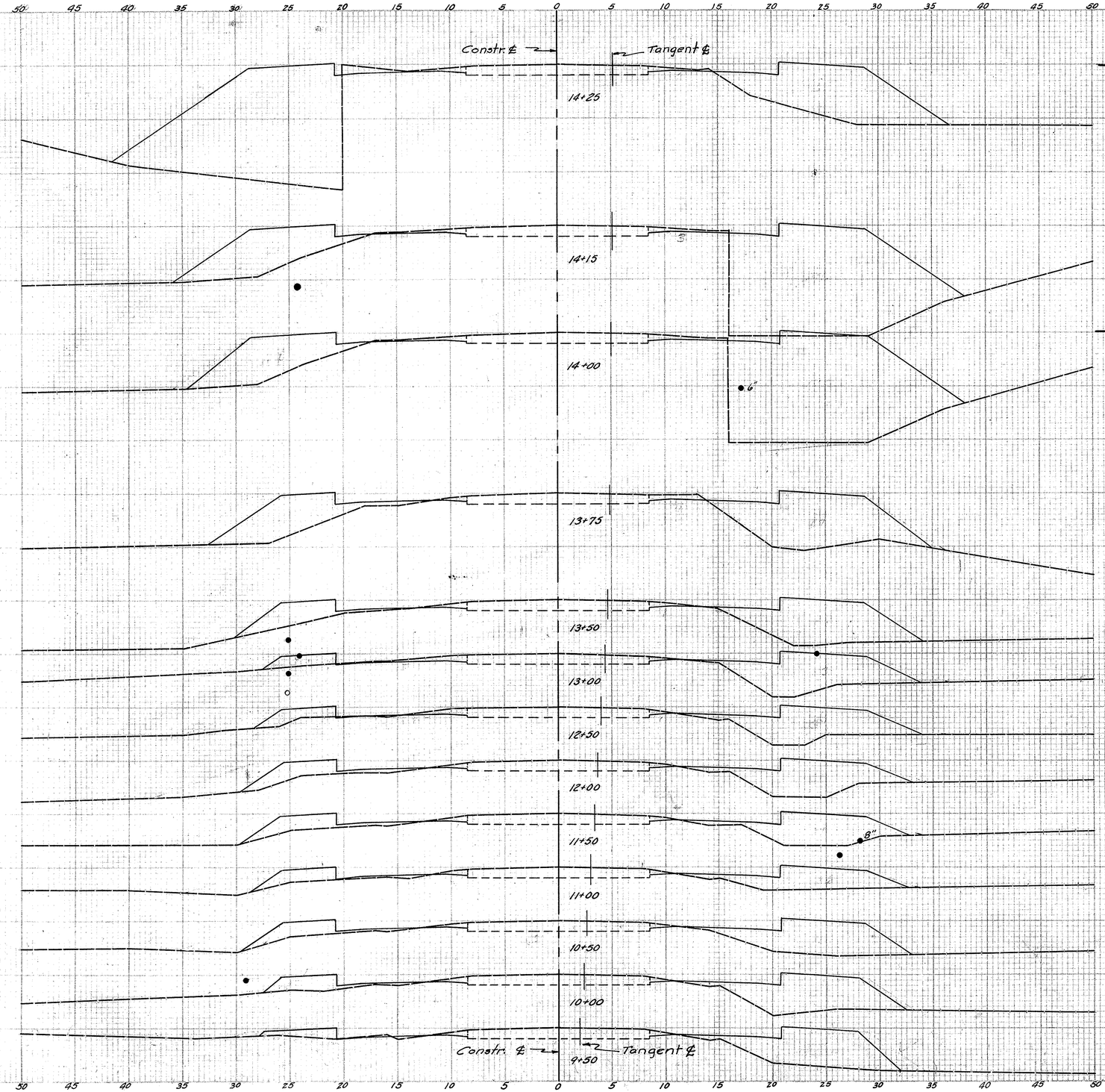
ASHTABULA COUNTY
S.H. NO. 2 SEC. K(PT.)



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill	
9	33			
		23.1	34.3	
16	4			
		36.1	6.5	
		4.0		8+21 Dr. Lt.
23	3			
		37.0	2.8	
17	0			
		23.1	5.6	
8	6			
		2.0		6+74 Dr. Rt.
		5.0		6+58 Dr. Lt.
		15.8	15.8	
9	11			
		20.4	15.8	
13	6			
		23.1	10.2	
12	5			
		1.0		5+30 Dr. Rt.
		2.0		5+20 Dr. Rt.
		19.5	13.0	
9	9			
		15.8	18.5	
8	11			
		16.6	20.4	
10	11			
		17.6	22.2	
9	13			
		5.0		3+42 Dr. Lt.
		14.8	26.9	
7	16			
		13.9	30.5	
8	17			
		17.6	23.1	
		4.0		2+34 Dr. Lt.
11	8			
		13.9	16.7	
4	10			
		14.8	14.0	
12	5			
		23.1	10.2	
13	6			
		4.7	31.7	
12	11			
		73.0		

FED AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	12/24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)



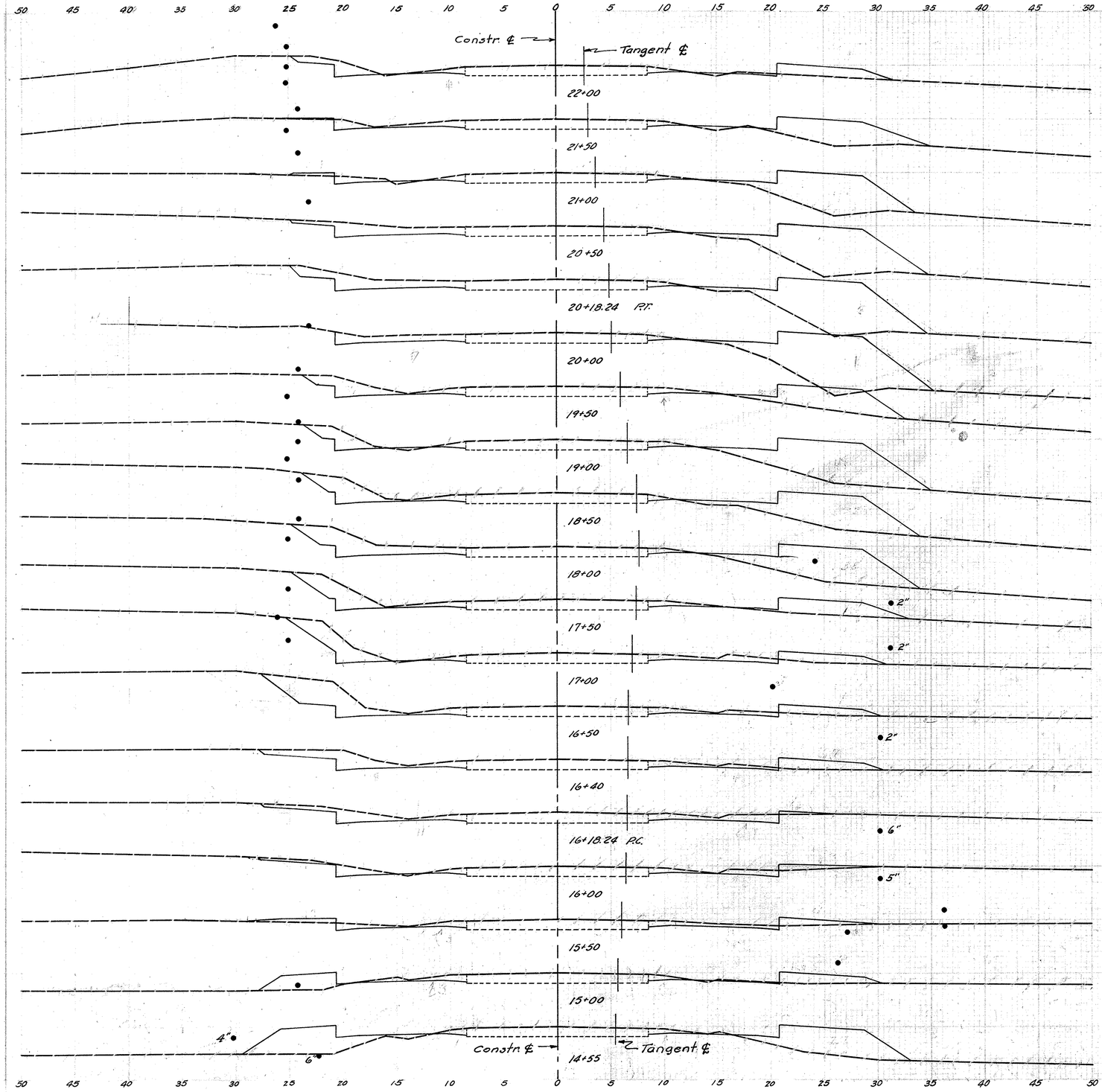
Sta. 10+00 to 20+00

	Cu. Yds.
Excavation	333
Embankment	1534
Emb. + 20%	1845
Borrow	1532

End Area		Cu Yds	
Cut	Fill	Cut	Fill
6	234		
		0.7	8.4
5	220		
5	212		
		3.7	145.8
3	103		
		2.3	79.6
2	69		
		5.6	110.2
4	50		
		6.5	88.0
3	45		
		4.6	88.0
2	50		
		3.7	87.0
2	44		
		3.7	81.4
2	36		
		3.7	82.3
		1.5.0	10+58 Dr. Rt.
2	53		
		3.7	100.0
2	55		
		3.7	95.4
2	48		
		10.2	75.0

Sta. 9+50 to 14+25

PLATE 2 - CROSS SECTION



End Area Cut	End Area Fill	Cu. Yds Cut	Cu. Yds Fill	
10	10			
		16.7	35.2	
			6.0	21+78 Dr. Rt.
8	28			
		13.0	64.8	
6	42			
		17.6	85.2	
13	50			
		18.8	61.6	
19	53			
		9.8	38.5	
10	61			
		22.2	78.7	
14	24			
		23.1	66.6	
11	48			
			16.0	18+90 Dr. Rt.
		22.2	79.6	
13	38			
			14.0	18+45 Dr. Rt.
		30.6	70.4	
20	38			
		6.0		17+94 Dr. Lt.
		34.2	47.2	
			4.0	17+57 Dr. Rt.
17	13			
		34.3	19.5	
20	8			
		44.4	13.9	
28	7			
		8.5	2.6	
18	7			
		14.1	3.2	
17	1			
		9.8	1.3	
12	3			
		20.4	8.3	
10	6			
		14.0	21.3	
			4.0	13+18 Dr. Lt.
5	17			
			3.0	14+91 Dr. Rt.
		6.7	36.7	
3	51			
		5.0	150.3	

FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	13/24
10	OHIO	W.P.H. 666-F	1936	

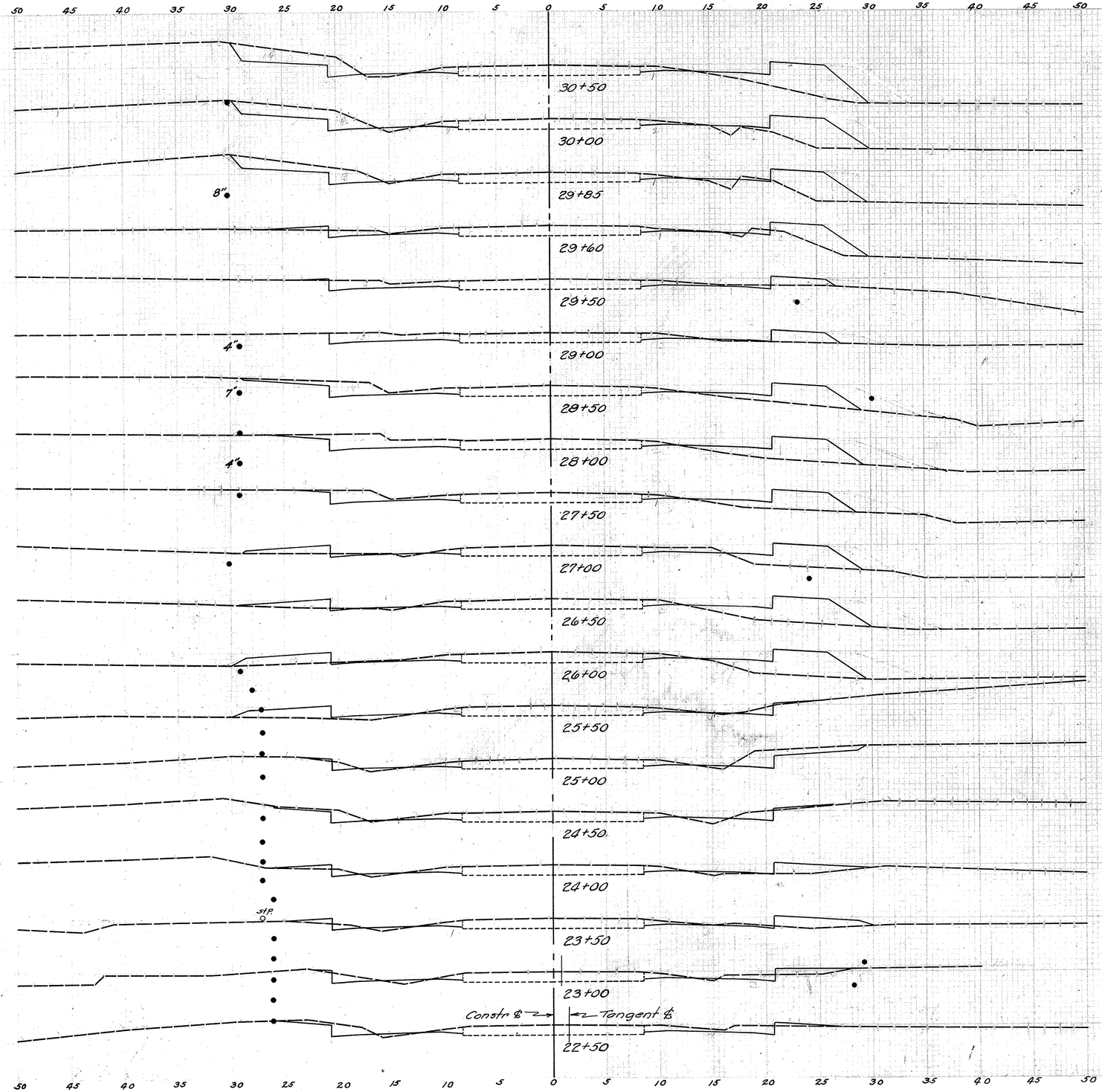
ASHTABULA COUNTY
S.H. NO. 2 SEC. K. (PT.)

Sta. 14+55 to 22+00

FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR
10	OHIO	W.P.H. 666-F	1936

14/24

ASHTABULA COUNTY
S.H.NO. 2 SEC. K.(PT.)

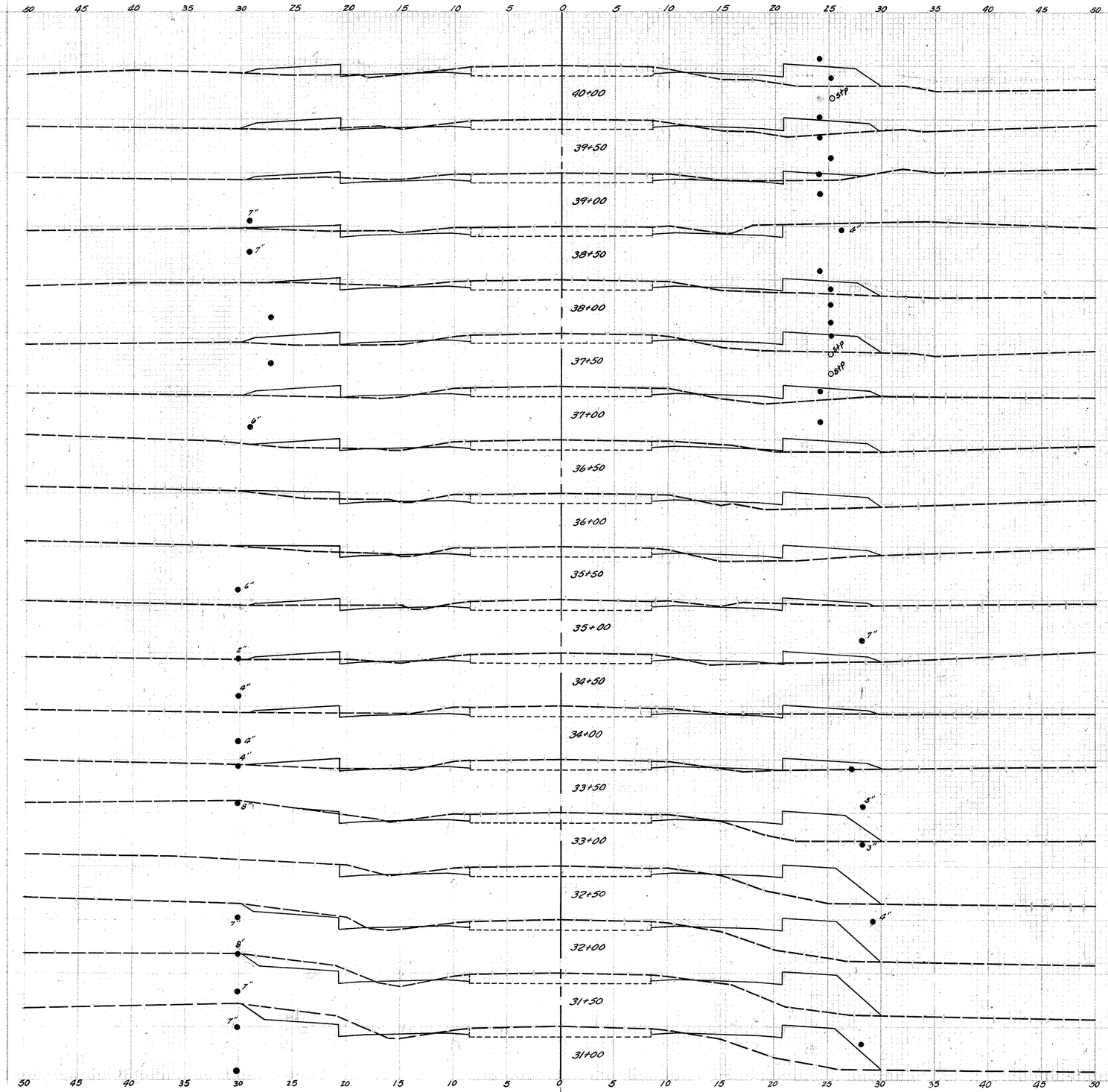


Sta. 22+50 to 30+50

Excavation	380 Cu. Yds.
Embankment	975 " "
Emb. + 20%	810 " "
Borrow	430 " "

End Area Cut	End Area Fill	Cu Yds. Cut	Cu Yds. Fill	
17	25			
		32.4	42.6	
18	21			
		9.7	10.8	
17	18			
		11.6	14.8	
8	14			
		3.9	5.2	
13	4			
			2.0	29+45 Dr. Rt.
		24.1	10.2	
			3.0	29+08 Dr. Rt.
13	7			
		25.9	21.3	
15	16			
		29.6	33.3	
17	20			
		25.9	32.4	
11	15			
		15.7	34.3	
6	22			
		9.3	50.0	
4	30			
		9.3	56.5	
6	31			
		10.2	38.0	
			1.0	25+97 Dr Lt.
5	10			
		19.5	10.2	
16	1			
		27.8	1.9	
14	1			
		16.7	9.2	
4	9			
		8.3	17.6	
5	10			
		13.0	13.9	
9	5			
		21.3	6.5	
14	2			
		22.7	11.1	

Sta. 22+50 to 30+50



Sta 30+00 to 40+00

Excavation	276 Cu. Yds.
Emb. +20%	739 " "
Borrow	897 " "
	611 " "

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill	
3	25			
		5.6	43.5	
3	27			
		10.2	27.9	
8	8			
		19.5	10.2	
13	3			
		16.7	15.8	
			3.0	38+19 Dr. Rt.
5	14			
		6.5	38.0	
2	27			
		4.6	44.4	
3	21			
		8.4	32.4	
6	14			
			3.0	36+45 Dr. Rt.
		11.1	29.6	
6	18			
		9.3	33.3	
4	18			
		11.1	24.1	
8	8			
		10.2	19.5	
3	13			
		10.2	21.3	
8	10			
			1.0	33+93 Dr. Rt.
		11.1	22.2	
4	14			
		9.3	36.1	
6	25			
		12.1	49.1	
7	28			
		14.0	58.4	
		2.0		32+14 Dr. Lt.
8	35			
		18.5	62.9	
12	33			
		24.1	63.9	
14	30			
		28.7	56.5	

Sta 31+00 to 40+00

FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR
10	OHIO	W.P.H. 666-F	1936

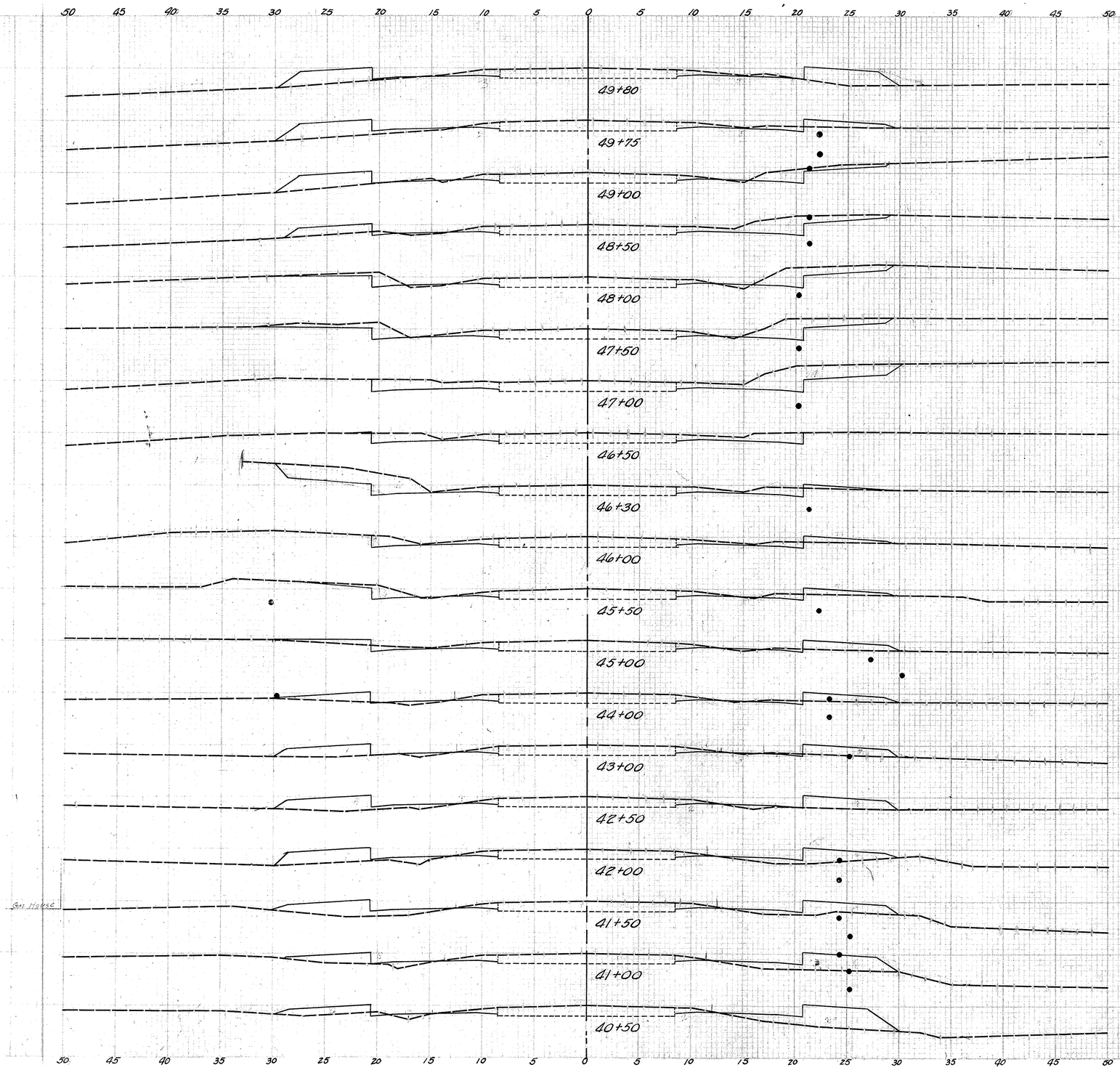
15
24

ASHTABULA COUNTY
S.H. NO. 2 SEC. K. (PT.)

PLATE 7 - CROSS SECTION

FED. AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	16/24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K. (PT.)



Sta. 40+00 to 50+00
Excavation 387 Cu. Yds.
Embankment 577 " "
Ent. to Waste 232 " "
Borrow 232 " "

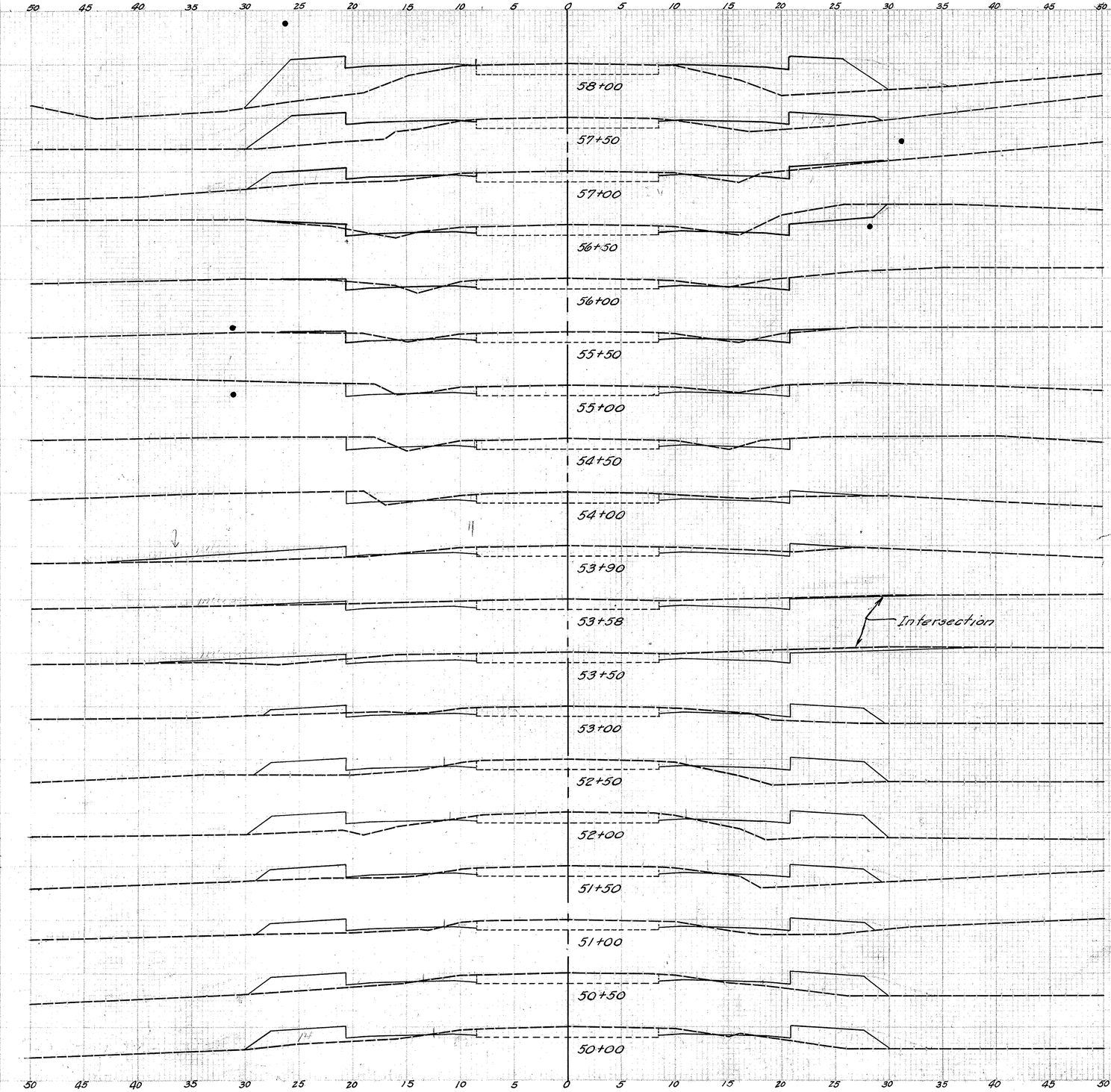
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill	
			7.0	49+85 Dr. Lt.
6	31			
		1.2	50	
7	23			
		25.0	51.4	
11	14			
		25.9	20.4	
			5.0	48+75 Dr. Lt.
17	8			
		35.2	8.4	
21	1			
		41.7	1.0	
24	0			
		53.7	0.0	
34	0			
		46.3	0.0	
16	0			
		16.7	0.7	
29	2			
		1.0		46+24 Dr. Lt.
		22.2	3.3	
11	4			
		19.5	7.4	
10	4			
		15.8	12.1	
7	9			
		22.2	38.9	
			2.0	44+74 Dr. Rt.
5	12			
		16.7	53.7	
			2.0	43+40 Dr. Rt.
4	17			
		6.5	37.9	
3	24			
		5.6	46.3	
3	26			
		6.5	48.2	
4	26			
		7.4	47.2	
4	25			
		7.4	48.2	
4	27			
		6.5	48.2	

Sta. 40+50 to 49+80

PLATE II - CROSS SECTION

FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	17 / 24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)



Sta. 50+00 to 60+00

Excavation	217	Cu. Yds.
Embankment	1507	" "
Emb. + 20%	1808	" "
Borrow	1591	" "

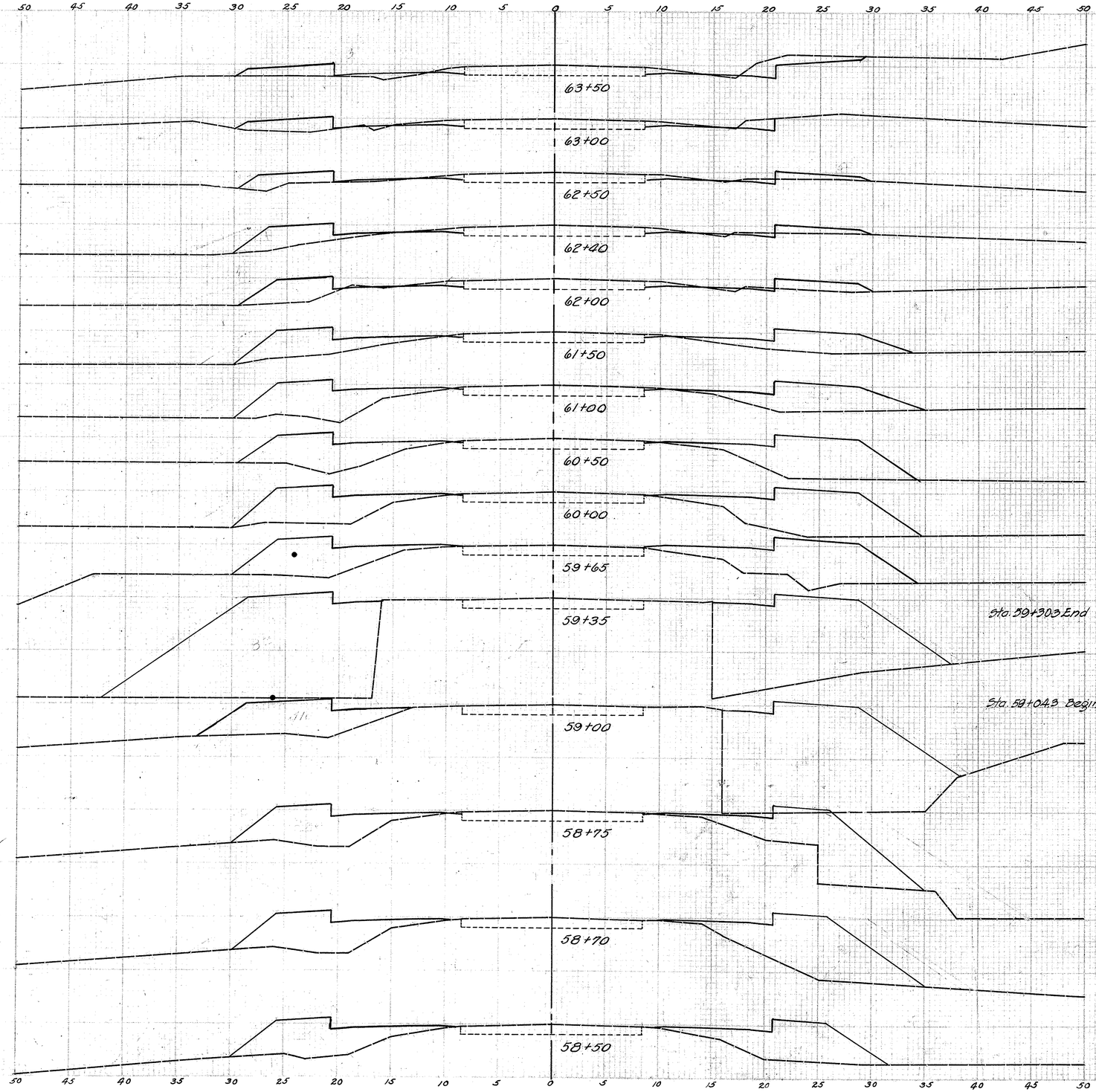
End Area Cut	End Area Fill	Cu. Yds Cut	Cu. Yds Fill	
0	82			
		0	120.4	
0	48			
		2.8	61.1	
3	18			
		3.0		56+91 Dr. Lt.
		23.2	17.6	
22	1			
		29.6	1.9	
10	1			
		18.5	1.9	
10	1			
		20.4	1.0	
12	0			
		21.3	0.0	
11	0			
		18.5	1.9	
9	2			
		30	3.2	
7	15			
		14.8	9.5	
18	1			
		59	1.3	
22	8			53+58 Cr. Rd. Rt. & Lt.
		259	24.1	
6	18		2.0	53+00 Dr. Lt.
		7.4	55.6	
2	42			
			6.0	52+46 Dr. Lt.
		2.8	82.4	
1	47			
		3.7	69.5	
3	28			
		4.6	49.1	
			4.0	51+34 Dr. Lt.
2	25			
		6.5	51.9	
			6.0	50+52 Dr. Lt.
5	31		8.0	50+50 " Rt.
		8.4	55.6	
4	29			
		3.7	22.2	

Sta. 50+00 to 58+00

PLATE 2 CROSS SECTION

FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	18 / 24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K. (PT.)



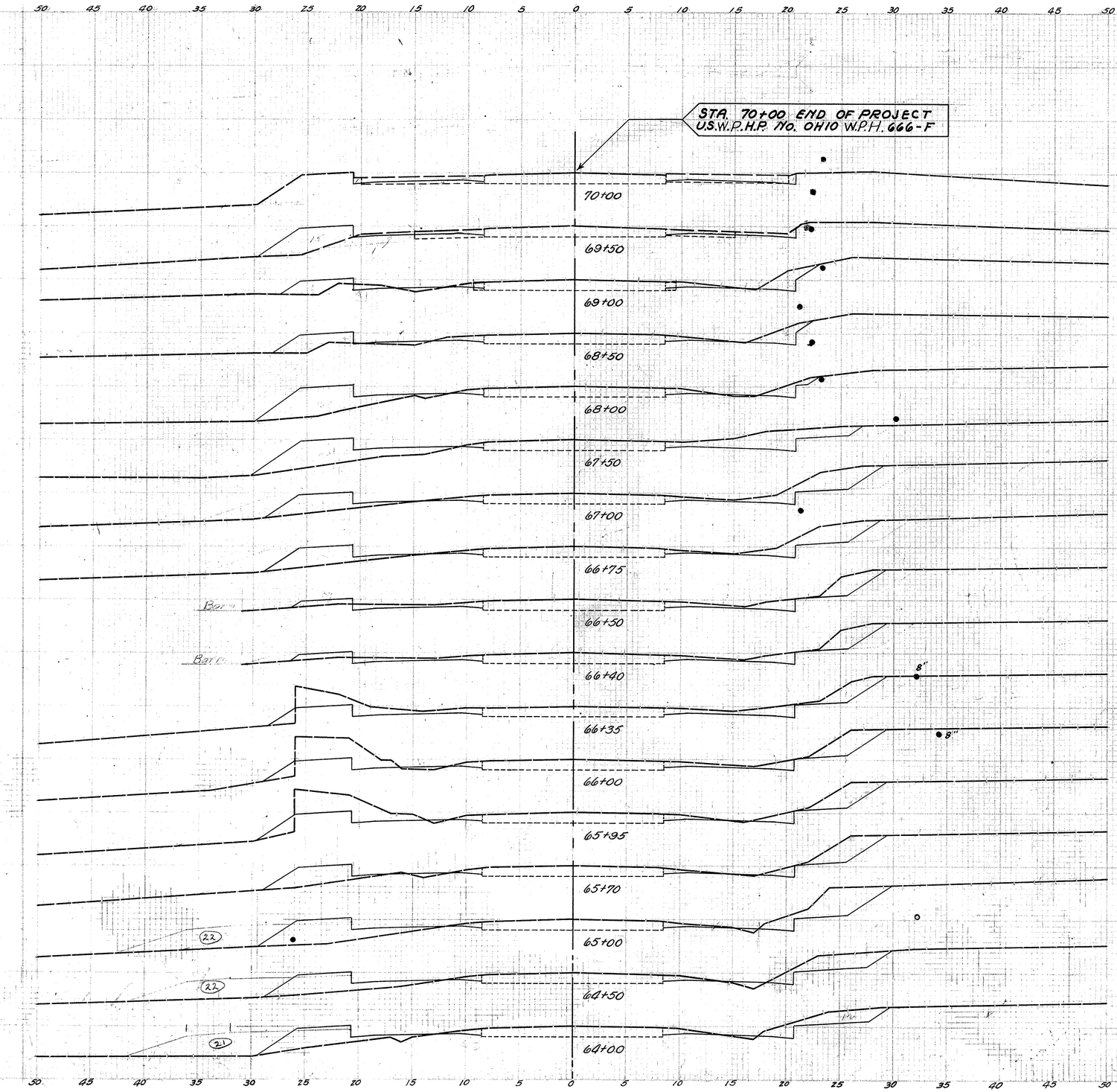
End Area Cut	End Area Fill	Cu Yds Cut	Cu Yds Fill
12	13		
		19.5	22.2
9	11		
		12.1	24.1
4	15		
		1.3	7.0
3	23		
		5.2	35.5
4	25		
		3.7	71.3
0	52		
		0	118.5
0	76		
		0	153.7
0	90		
		0	178.7
0	103		
		0	191.6
0	100		
		0	235.6
0	324		
		0	101.6
0	225		
		0	152.3
0	105		
		0	20.1
0	112		
		0	73.3
0	80		
		0	156.6

Sta. 58+50 to 63+50

PLATE 2 - CROSS SECTION

FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	19/24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H.NO. 2 SEC. K.(PT.)



Sta. 64+00 To 70+00
Excavation 413 Cu. Yds.
Embankment 959 " "
Emb. +20% 1151 " "
Borrow 738 " "

End Area Cut	End Area Fill	Cu Yds Cut	Cu Yds Fill		
2	4				
		4.1	21.3		
3	19				
		12.0	24.1		
10	7				
		18.5	14.8		
10	9				
		15.8	30.5		
		2.0		68+23	Dr. Rt.
7	24				
		22.2	44.4		
17	24				
		32.4	34.3		
19	13		5.0	67+05	Dr. Lt.
		15.7	12.1		
10	13	6.0		66+76	Dr. Rt.
			5.0	66+76	Dr. Lt.
		15.7	7.4		
18	3				
		6.7	1.1		
18	3				
		4.4	0.5		
29	2				
		46.8	3.3		
		6.0		66+17	Dr. Rt.
34	13				
		6.2	0.6		
33	3				
		22.2	7.9		
15	14				
			5.0	65+63	Dr. Lt.
		49.3	45.4		
23	21				
		35.2	36.1		
15	18				
		28.7	30.6		
16	15				
		25.9	16.7		

Sta. 64+00 to 71+00

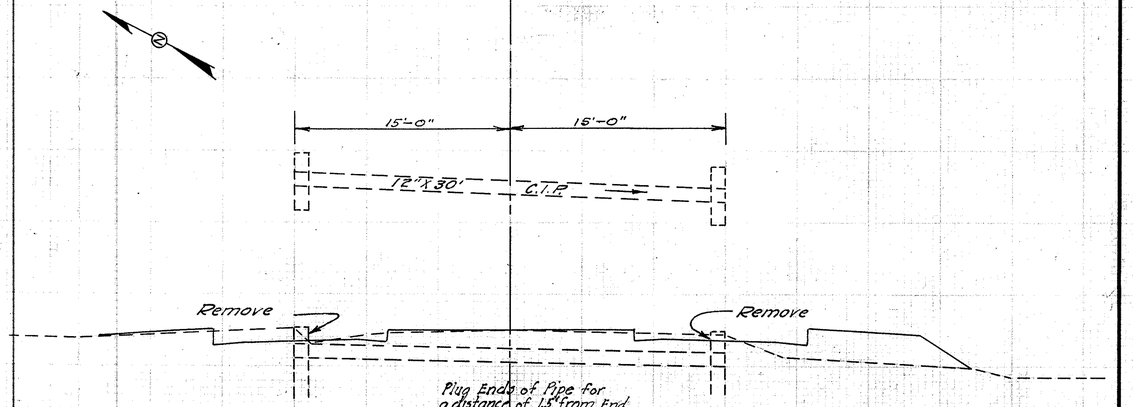
PLATE 4 - CROSS SECTION

FED. AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR
10	OHIO	W.P.H. 666-F	1936

20/24

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)

Sta. 27+17.3
Drainage Structure 3-C



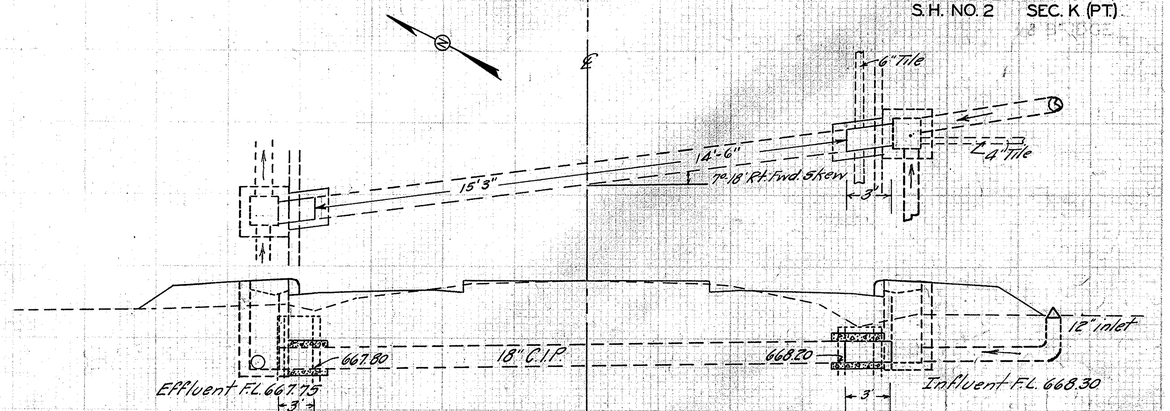
CULVERT DATA

Work Required: Remove 18" off top of existing headwalls. Plug existing 12"x30' C.I.P. and abandon culvert.

ESTIMATED QUANTITIES

Excavation	1.0 Cu. Yds.
Removal of portions of existing masonry	1.0 Cu. Yds.
Conc. 1:5½ mix	0.2 Cu Yds.

Sta. 52+11.5
Drainage Structure 5-C
Std. Drwg's. Nos. 5-27. P.C.3



CULVERT DATA

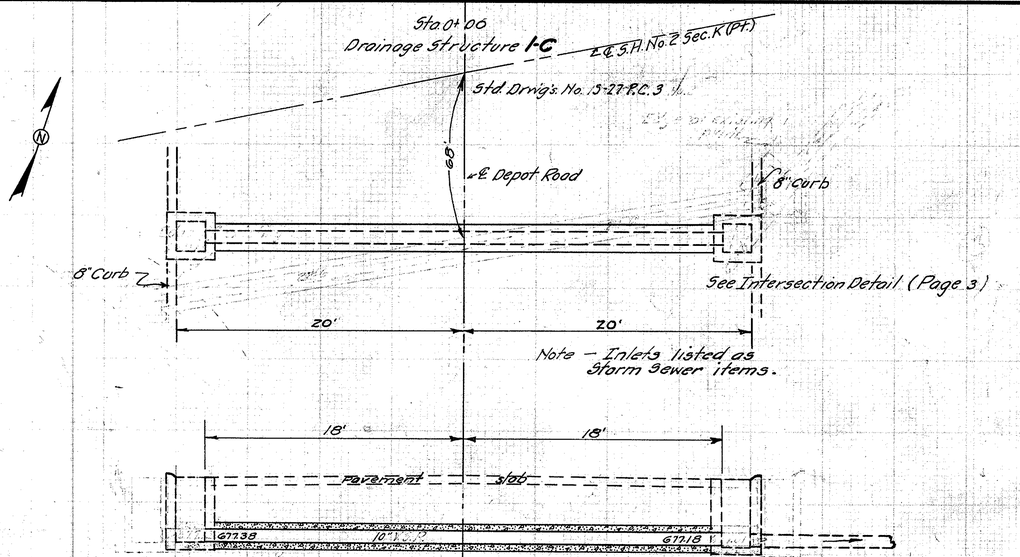
Type	Pipe
Size	18"X3'& 18"X3' extensions

Work Required: Remove existing Inlets Lt. & Rt.
Extend 3' Lt. & 3' Rt. with 18" Pipe Culvert.
Connect all existing drains. Clean Exist. C.I.P. (incl. inexcavation)
Note: Ditch Inlet included in Storm Sewer Items.

ESTIMATED QUANTITIES

Excavation	6 Cu Yds
18" Pipe for Culvert	6 Lin. Ft.
Existing Inlets removed	2

Sta. 0+00
Drainage Structure 1-C
L & S.H. No. 2 Sec. K (Pt.)
Std. Drwg's. No. 15-27 P.C. 3



Note — Inlets listed as Storm Sewer items.

CULVERT DATA

Type	Pipe
Size	10"
Length	36'

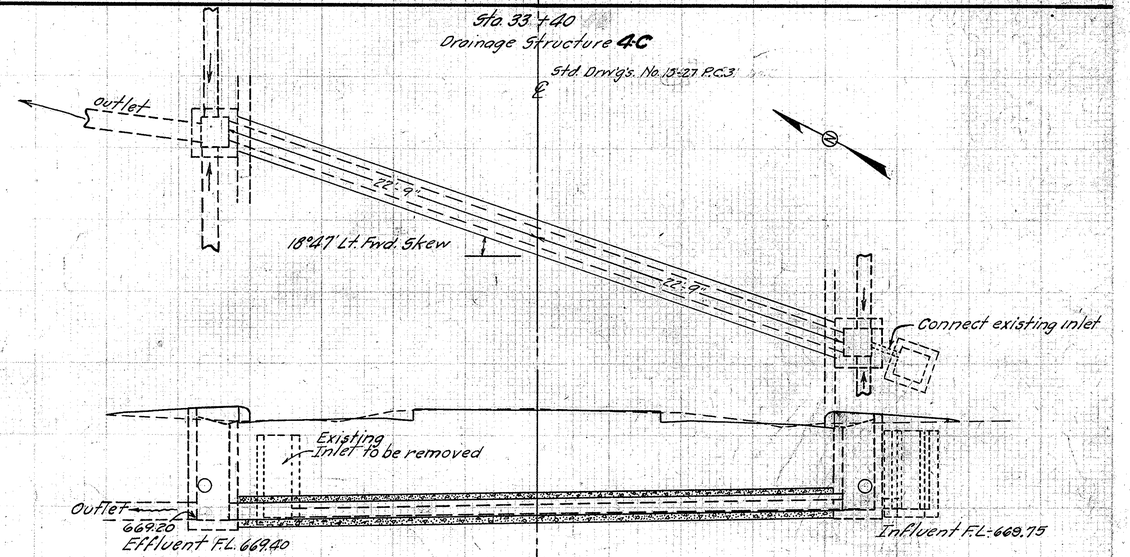
Work Required: Build new 10"X36' Pipe Culvert — cross over culvert (Connecting special inlets)

ESTIMATED QUANTITIES

Excavation	21 Cu. Yds.
10" Pipe for Culvert	36 Lin. Ft.

Note:- Pvmt. removal is paid for and listed under Roadway Items.

Sta. 33+40
Drainage Structure 4C
Std. Drwg's. No. 15-27 P.C.3



CULVERT DATA

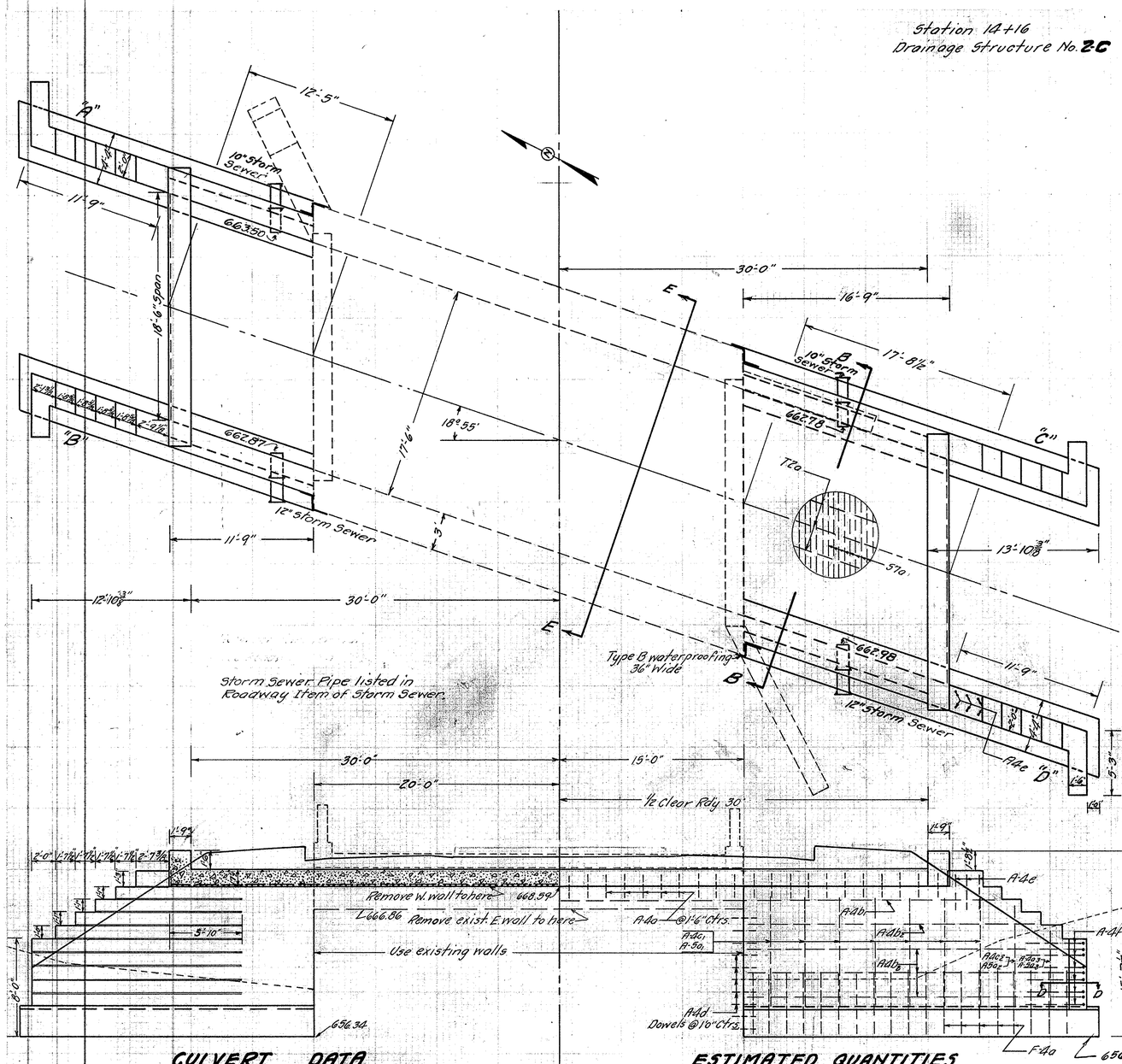
Type	Pipe
Size	15"X45.5'

Work Required: Remove & store as directed 42 Lin. Ft. existing 8" V.S.P. crossover, Remove exist. inlet, build new 15"X45½' Pipe Culvert crossover, Connect existing drains

ESTIMATED QUANTITIES

Excavation	46 Cu. Yds.
Exist. 8" V.S.P. removed & stored	42 Lin. Ft.
Exist. Inlet removed	1
15" Pipe for Culverts	45½ Lin. Ft.

Station 14+16
Drainage Structure No. 2-C



CULVERT DATA

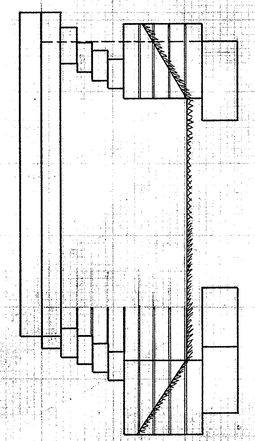
TYPE — Slab bridge (Dr. S.B.-33 Modified)
SIZE — 18'-6" Span 60° Roadway 18°55' Lt. Fwd Skew
WORK REQUIRED: Remove existing wings, parapets railing, slab and portions of walls as per diagram Rebuild and extend walls and build new slab and parapets. Open channel left & Right. Dowel new work into old structure.

ESTIMATED QUANTITIES

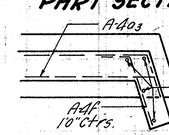
Excavation Unclassified (inc. porous backfill)	117	Cu. Yds.
Channel Exc.	20	Cu. Yd.
1-5½ Concrete (Slabs & parapets)	78	Cu. Yd.
1-6½ " (Footers)	43	Cu. Yd.
1-6½ " (walls)	78	Cu. Yd.
Reinf. Steel (Including Dowels)	13040	Lbs.
Dowel Holes for ⅝" dowels	44	Lin. Ft.
Removal of Exist. Masonry	67	Cu. Yds.
½" Bit. Prem. Exp. Joint Filler	22	Sq. Ft.
Type B waterproofing	22	Sq. Yds.
" B "	12	Sq. Yd.

STEEL REQUIRED

Mark	No.	Size	Length	Spac.	Weight	Location
T-2o	34	½" ø	32'-3"	As shown	777	Slab
S-7o	136	1" ø	22'-6"	3" Ctrs.	9372	Slab
A-4o	64	⅝" ø	2'-0"	1'-6" Ctrs.	134	Slab Dowels
A-4b1	2	⅝" ø	38'-6"	2'-0" "	161	East Abut.
A-4b1	2	⅝" ø	16'-3"	" "	34	West Abut.
A-4b1	2	⅝" ø	21'-6"	" "	45	West Abut Ret. Ext.
A-4b2	4	⅝" ø	19'-9"	" "	83	Lt. Ext.
A-4b2	4	⅝" ø	24'-9"	" "	103	Rt. Ext.
A-4b3	12	⅝" ø	25'-3"	" "	316	Lt. Ext.
A-4b3	12	⅝" ø	30'-6"	" "	382	Rt. Ext.
A-4c1	12	⅝" ø	9'-0"	3'-0" "	113	Lt. Ext.
A-4c1	14	⅝" ø	9'-0"	3'-0" "	131	Rt. Ext.
A-5o1	12	⅝" ø	9'-0"	" "	102	Lt. Ext.
A-5o1	14	⅝" ø	9'-0"	" "	189	Rt. Ext.
A-4c2	2	⅝" ø	8'-0"	" "	17	Lt. Ext.
A-4c2	2	⅝" ø	8'-0	" "	17	Rt. Ext.
A-5o2	2	¾" ø	8'-0"	" "	24	Lt. Ext.
A-5o2	2	¾" ø	8'-0"	" "	24	Rt. Ext.
A-4c3	2	⅝" ø	6'-0"	" "	13	Lt. Ext.
A-4c3	2	⅝" ø	6'-0"	" "	13	Rt. Ext.
A-5o3	2	¾" ø	6'-0"	" "	18	Lt. Ext.
A-5o3	2	¾" ø	6'-0"	" "	18	Rt. Ext.
A-4d	44	⅝" ø	2'-0"	1'-0" Ctrs.	92	Dowels in Old Struc.
A-4e	24	⅝" ø	3'-0"	as Shown	75	Wings
A-4f1	12	⅝" ø	7'-9"	1'-0" Ctrs.	97	Wings A & D
A-4f2	12	⅝" ø	7'-3"	" "	91	Wings B & C
A-4g	16	⅝" ø	5'-3"	as Shown	88	Wings
F-4o	72	⅞" ø	6'-0"	1'-6" Ctrs.	451	Footers
Total Weight					**13040 Lbs.**	

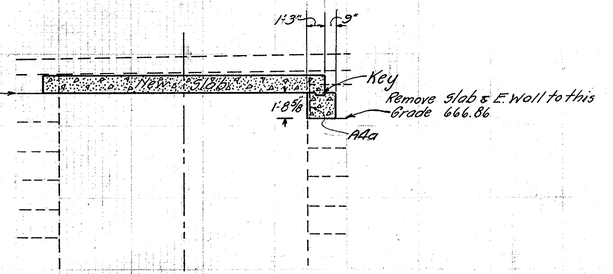


PART SECTION B-B

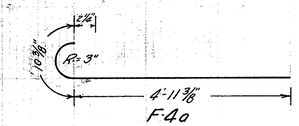


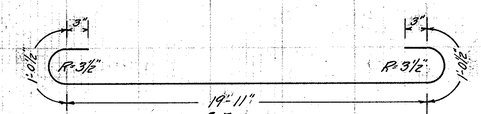
PART SECTION D-D

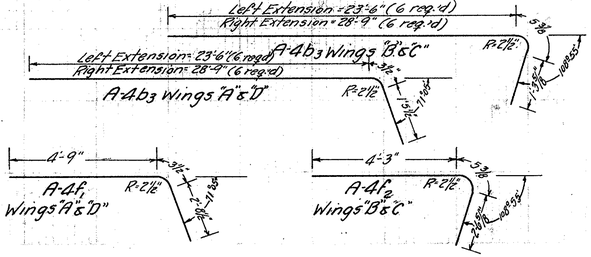
Showing reinforcing in End Wings
Wing "D"



SECTION E-E







FEDAID. DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	21/74
10	OHIO	W.P.H. 666-E	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)

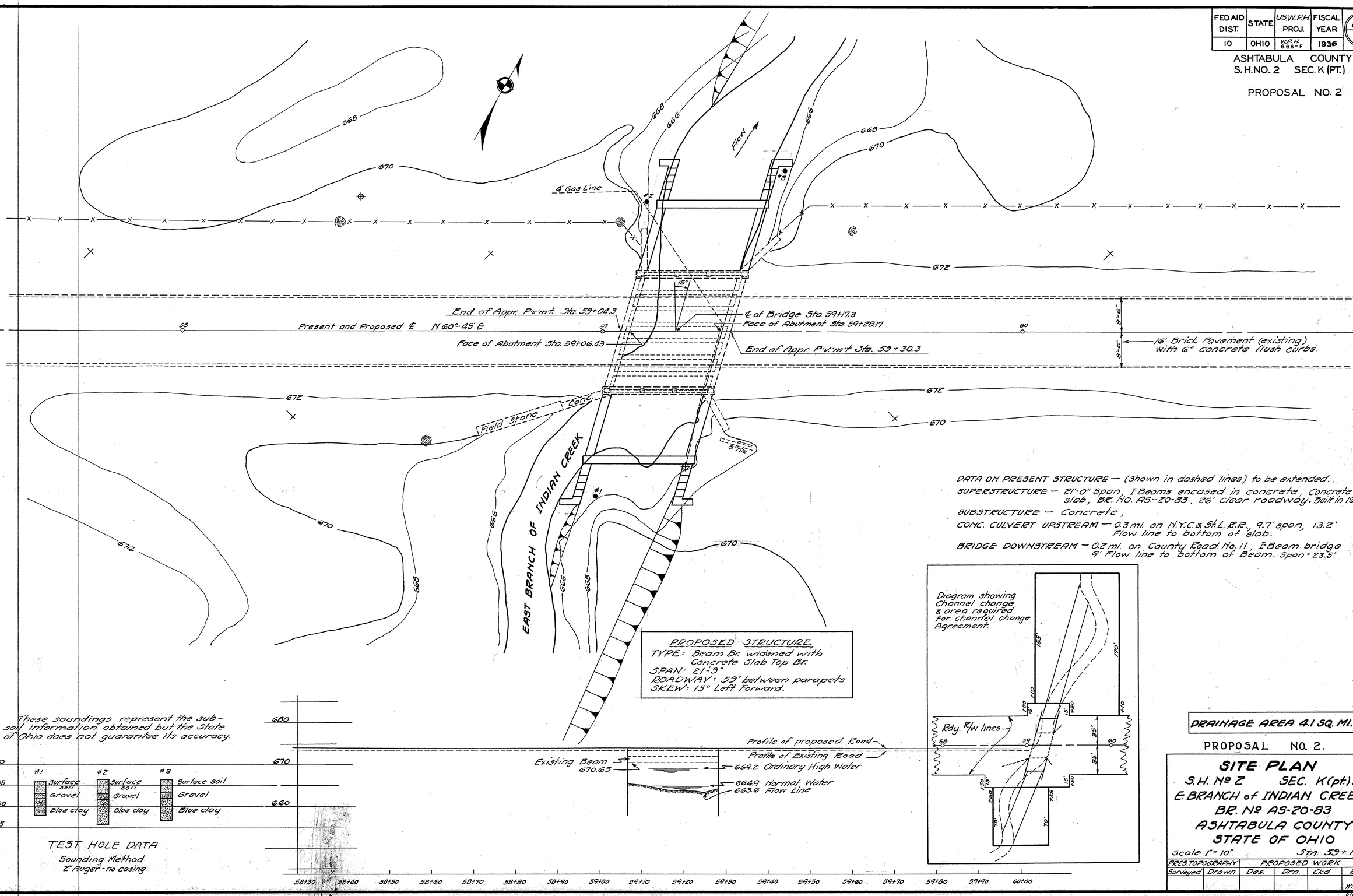
BR. NO. ~ AS-20-74

Checked
Reviewed by [illegible] 6/22/35

FED. AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	22/24
10	OH10	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H.NO. 2 SEC. K (PT.)

PROPOSAL NO. 2



DATA ON PRESENT STRUCTURE — (Shown in dashed lines) to be extended.
SUPERSTRUCTURE — 21'-0" Span, I-Beams encased in concrete, Concrete slab, BR. NO. AS-20-83, 26' clear roadway. Built in 1915.
SUBSTRUCTURE — Concrete,
CONC. CULVERT UPSTREAM — 0.3 mi. on N.Y.C. & St.L.R.R., 9.7' span, 13.2' Flow line to bottom of slab.
BRIDGE DOWNSTREAM — 0.2 mi. on County Road No. 11, I-Beam bridge 9' Flow line to bottom of Beam. Span = 23.5'

PROPOSED STRUCTURE
TYPE: Beam Br. widened with Concrete Slab Top Br.
SPAN: 21'-9"
ROADWAY: 59' between parapets
SKEW: 15° Left Forward.

These soundings represent the sub-soil information obtained but the State of Ohio does not guarantee its accuracy.

TEST HOLE DATA
Sounding Method
2" Auger - no casing

DRAINAGE AREA 4.1 SQ. MI.

PROPOSAL NO. 2.

SITE PLAN

S.H. Nº 2 SEC. K (pt.) 2
E. BRANCH of INDIAN CREEK
BR. Nº AS-20-83
ASHTABULA COUNTY
STATE OF OHIO

Scale 1" = 10" STA. 59 + 17.3

PRES. TOPOGRAPHY		PROPOSED WORK			
Surveyed	Drawn	Des.	Drn.	Ckd	Rev.
					W.H.B. 8/22/35

FED. AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	23 / 74
10	OHIO	W.P.H. 686-F	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)

PROPOSAL NO. 2

Sta. 59+17.3
Drainage Structure No. 1-B

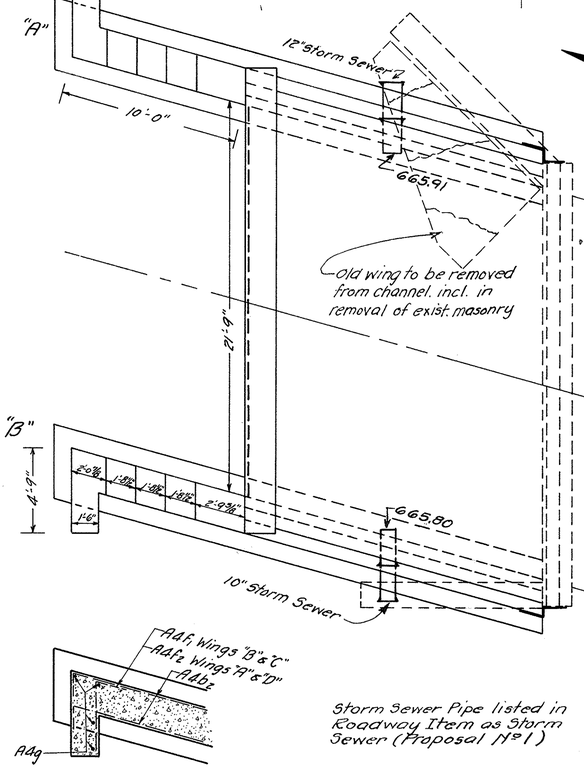
STEEL REQUIRED

	Mark	No.	Size	Length	Spac.	Weight
RIGHT EXTENSION	T2a	16	1/2" ø	16'-3"	straight	175
	S3a	35	1" ø	25'-9"	5½ Ctrs.	3064
	A4b1	22	5/8" ø	2'-0"	1'6" "	46
	A4b2	4	5/8" ø	22'-9"	2'0" "	96
	A4c1	12	5/8" ø	27'-9"	2'0" "	347
	A4c2	14	5/8" ø	8'-0"	3'0" "	117
	A5a1	4	5/8" ø	5'-6"	" "	23
	A5a2	14	5/8" ø	7'-9"	" "	163
	A4d	22	5/8" ø	5'-6"	1'0" "	33
	A4e	12	5/8" ø	2'-0"	1'0" "	46
	A4f1	5	5/8" ø	6'-0"	10 Ctrs.	38
	A4f2	4	5/8" ø	7'-3"	" "	38
	F4a	36	5/8" ø	4'-1"	straight	225
	Total LEFT EXT.					4,582 Lbs.
LEFT EXTENSION	Mark	No.	Size	Length	Spac.	Weight
	T2a	16	1/2" ø	16'-6"	straight	177
	S3a	36	1" ø	25'-9"	5½ Ctrs.	3152
	A4b1	22	5/8" ø	2'-0"	1'6" "	46
	A4b2	4	5/8" ø	23'-3"	1'0" "	97
	A4c1	12	5/8" ø	28'-3"	" "	332
	A4c2	14	5/8" ø	8'-0"	3'0 Ctrs.	117
	A5a1	4	5/8" ø	5'-6"	" "	23
	A5a2	14	5/8" ø	7'-9"	" "	163
	A4d	22	5/8" ø	5'-6"	1'0" "	33
	A4e	12	5/8" ø	2'-0"	1'0" "	46
	A4f1	5	5/8" ø	6'-0"	10 Ctrs.	38
	A4f2	4	5/8" ø	7'-3"	" "	38
	F4a	36	5/8" ø	4'-1"	straight	225
	Total LEFT EXT.					4,582 Lbs.
					TOTAL BOTH EXTS.	9065 Lbs.

Work	T2a	1	1" ø	4'-0"
	S3a	1	1" ø	4'-6"
	A4b1	1	5/8" ø	9'-6"
	A4b2	1	5/8" ø	3'-6"
Concr.	EE-2	1		4
	EE-4	1		11
	EE-5	1		17
	EE-8	1		33

Concr. REPLACEMENT STEEL = 55 lbs.

125 bars are to replace test specimens cut from as near the roadway as possible. Two 2'-0" tests should be cut from one bar.



PART SECTION D-D
Showing Reinforcing in end Wings
Wing "B"

BRIDGE DATA

TYPE Slab Bridge Dr. #S8-33 (Modified)
SIZE 21'-9" Span 59 Roadway
SKEW 15° Lt. Foreward
WORK REQ'D. Remove portions existing wings, parapets & railing. Extend 15' Lt. & 14'-6" Rt. Connect stormdrain thru walls. Open channel Lt. & Rt. Dowel new work into old structure.

ESTIMATED QUANTITIES

Foundation Excavation (unclassified)	117 Cu. Yds.
Channel Exc.	225 " "
1-5½ Concrete (Slab & Parapets)	53.4 " "
1-6½ Concrete (Footers)	38.3 " "
1-6½ Concrete (Walls & Wings)	68.8 " "
Reinf. Steel (Including Dowels)	9120 Lbs.
Dowel Holes for ⅝" dowels	44 Lin. Ft.

ESTIMATED QUANTITIES

Type A Waterproofing	16 Sq. Yds.
Type B Waterproofing	12 " "
¼" Prem. Exp. Joint Filler	22 Sq. Ft.
Removal of Existing Masonry	27 Cu. Yds.
8" Cast Iron Pipe, Sec. M 6.2 (A-1)	7 lin. Ft.
Porous Backfill	Lump Sum

for calculations of, and list of Roadway and pavement quantities for Proposal No. see sheet No. 24 (Summary of Quantities)

NOTES

LOADING: H-15-33 SUPPLEMENTAL STD. DRWG. SB-33.
EXCAVATION: Channel Excavation within limits shown on Channel Cross-Section. All other Excavation Unclassified.
CHAMFER exposed edges ¾".

PROPOSAL NO. 2

BRIDGE No. A3-20-83
Over E. Br of Indian Cr.
Sta. 59+17.3

Scale ¼" = 1'

checked by L.J.M.
Reviewed by M.H.B. 7/28/36

SUMMARY OF QUANTITIES

FED.AID DIST.	STATE	U.S.W.P.H. PROJ.	FISCAL YEAR	24/24
10	OHIO	W.P.H. 666-F	1936	

ASHTABULA COUNTY
S.H. NO. 2 SEC. K (PT.)

PROPOSAL NUMBER 1

STRUCTURES 20 FT. SPAN AND UNDER

Item Numbers	Sheet Number	Excav. Cu.Yds.	Channel Excav. Cu.Yds.	Concrete I-5½ Cu.Yds.	Concrete I-6½ Cu.Yds.	Concrete Walls	Concrete Ftrs.	Reinf. Steel lbs.	⅝"x1" Dowel Holes Each	Pipe for Culverts lin.ft. 10"	15"	18"	Pipe for Storm Sewer Lin.Ft. 10"	12"	Removal of Exist. Masonry Cu.Yds.	Removal of Exist. Inlets Each	8'x3'P. Rem.& Stored lin.ft.	½ Bitum. Prem.Exp. of Filler Sq.Ft.	Waterproofing Type"A" Sq.Yds.	Waterproofing Type"B" Sq.Yds.
I-C	5	21								36										
2-C	6	117	20	78	78	43	13040	44							67.0			22	22	14
3-C to 4-C	7	47		0.2							45½				1.0	1	42			
5-C	8	6										6				2				
TOTALS		191	20	78.2	78	43	13040	44	36	45½		6			68.0	3	42	22	22	14

STORM SEWER

Item Numbers	Sheet Number	I-8-I Inlet Nº2	Pipe for Storm Sewer lin. Ft. 10"	12"	15"	18"	3'd Nº6 C.B.	I-8-I Ditch Inlet Nº1	I-8-I M.H. Nº1	Conc. I-5½ Cu.Yds.
1-3 to 9-3	5	6	1659	396			2		1	
1-3 to 14-3	6	12	1382	604						
1-3 to 11-3	7	10	2158	124	952					7.8
1-3 to 11-3	8	10	1326	218		607		1	1	1.00
1-3 to 7-3	9	6	1206	442						
TOTALS		44	7701	1786	952	607	2	1	2	1.78

I-12 CONCRETE CURB

Sta. 0+00 Intersection (per detail)		129.19 lin.ft
Sta. 0-52.23 to Sta. 59+04.3	Lt.	5956.53 " "
Sta. 0+4.3 to Sta. 59+04.3	Rt.	5889.00 " "
Sta. 59+30.3 to Sta. 70+00	Lt.	1069.70 " "
Sta. 59+30.3 to Sta. 70+00	Rt.	1069.70 " "
Total		14084.12 " "
Deductions — 44 I-8 Inlets Nº2 @ 4'-7" each		201.52 " "
14084.12 - 201.52 = 13882.60		USE* 13883 Lin. Ft.

* 89 Lin. Ft. Radial, 13794 Straight

T-71 REINF. CONCRETE PAVEMENT

Sta. 0-52.23 to Sta. 59+04.3	Lt.	5956.53 lin.ft.
Sta. 0-52.23 to Sta. 59+04.3	Rt.	5956.53 " "
Sta. 59+30.3 to Sta. 70+00	Lt.	1069.70 " "
Sta. 59+30.3 to Sta. 70+00	Rt.	1069.70 " "
Total length		14052.46 " "
14052.46 x 11.17 / 9		17440.66 Sq.Yds.
Additions Sta. 0+00 Intersection (per detail)		255.70 " "
Sta. 0+00 Transition (per detail)		139.00 " "
TOTAL		17835 Sq.Yds.

EXCAVATION AND EMBANKMENT

Station From	Station To	Excav.	Emb.	Emb+20%	Borrow
0-52.23	10+00	484	508	610	126
10+00	20+00	333	1554	1865	1532
20+00	30+00	380	675	810	430
30+00	40+00	276	739	887	611
40+00	50+00	387	517	620	233
50+00	60+00	217	1507	1808	1591
60+00	70+00	413	959	1151	738
TOTALS		2490	6459	7751	5261

These Quantities were figured for a pavt. having a 2½" resurface. The addition of 1½" of resurface changes Quantities as shown in Revised Table

Calculations

Station 33+40 Crossover 18.8 / 9 = 16.9 Sq.Yds.
Defective Areas (Estimated) = 483.1 " "
Total = 500.0 Sq.Yds.

ITEMS

E-8 REM. & DISP. of EXISTING BASE
TOTAL (per above) 500 Sq.Yds.

E-8 REM. & DISP. of EXIST. SURF. COURSE
TOTAL (per above) 500 Sq.Yds.

B-70 CONCRETE BASE COURSE
TOTAL (per above) 300 Sq.Yds.

E-8 REM.& DISP. of EXISTING PAVEMENT
Station 0+00 Intersection (per detail) 296 Sq.Yds.
Station 70+00 Transition 139 " "
TOTAL 435 Sq.Yds.

E-5 FINISHING SHOULDERS AND SLOPES

Station 0-52.23 to Station 59+04.3 = 6056.23 Lin.Ft.
Station 59+30.3 to Station 70+00 = 1069.70 " "
TOTAL (both sides) = 7126 Lin.Ft.

PRIVATE DRIVE & ROAD APPROACHES

Item Numbers	Sheet Number	Agg. Cu.Yds.
1-D to 18-D	5	36.5
1-D to 15-D	6	22.5
1-D to 18 D	7	27.0
1-D to 20-D	8	45.5
1-D to 7-D	9	10.5
TOTAL		142.0

STUMP REMOVAL

Item Numbers	Sheet Number	Number
1-A to 7-A	5	2
1-A to 3-A	6	3
1-A to 4-A	7	4
1-A	9	1
TOTAL		10

I-9 STD. Nº2 DRAIN

Estimated 250 Lin. Ft.

TREE REMOVAL

Item Numbers	Sheet Number	Number
1-T to 4-T	6	5
1-T to 7-T	8	7
1-T to 3-T	9	3
TOTAL		15

TRENCH REINFORCING

Item Numbers	Sheet Number	Reinf. Steel-lbs.
1-E	5	676
1-E	7	693
TOTAL		1369

6" DRAIN TILE

500 lin. ft. 6" Drain Tile to be used as herringbone or longitudional Underdrain as directed by the Engineer.

T-50 SURFACE COURSE

Sta. 0-52.23 to Sta. 59+04.3	=	5956.53 Lin.Ft.
Sta. 59+30.3 to Sta. 70+00	=	1069.70 " "
Total length	=	7026.23 Lin.Ft.
7026.23 x 19 / 9	=	14833.15 Sq.Yds.
TOTAL		14833 Sq.Yds.
Sta. 0+00 Transition (per detail)	=	3 Cu.Yds.
TOTAL		3 Cu.Yds.

B-50 BASE COURSE

14036.46 x 1 x .2917 / 27 = 152 Cu.Yds.
TOTAL 152 Cu.Yds.

B-50 LEVELING COURSE

½" Uniform Thickness Sta. 0-52.23 to 59+04 = Sta. 62+50 to 70+00 = (6252.23 - 31) x 17 x .125 ÷ 27 = 507.2 Cu.Yds.
1'x3" Widening Section 14036.46 x 1 x .25 ÷ 27 = 129.9 Cu.Yds.
Estimated for Wedge Section 170.1 Cu.Yds.
Approaches to Bridge (17'x2½')
Sta. 56+50 to 59+04.3 = 254.3 Lin.Ft.
Sta. 59+30.3 to 62+50 = 319.7 Lin.Ft.
574 Lin.Ft.
574 x 17 x .2025 ÷ 27 = 75.0 Cu.Yds.
TOTAL 882.2 Cu.Yds.

T-30 BITUMINOUS PRIME COAT

7018.23 x 17 / 9 = 13256.66 Sq.Yds @ 0.2 gal = 2651 Gals.

B-11 INSULATION COURSE

7018.23 x 2 / 9 = 1560 Sq.Yds.

E-10 SEALING PAVEMENT EDGE

NEW PVM'T. = 7018.23 x 2 = 14037 Lin.Ft.
EXIST. PVMT. = 7018.23 x 2 = 14037 Lin.Ft.

Net Length = Crossover 70.8 Lin.Ft. + Bridge 7018.23

(REVISED) EXCAVATION & EMBANKMENT

	Excav.	Emb.	Emb+20%	Borrow
Total for 2½" Resurface	2490	6459	7751	5261
Change for add'l 1½" resurf.				100
Revised Total				5362
Top Soil Borrow				1988
Rev. Grand Total				

PROPOSAL NUMBER 2

STRUCTURES OVER 20' SPAN

Item Numbers	Sheet Number	Excav. Cu.Yds.	Channel Excav. Cu.Yds.	Concrete I-5½ Cu.Yds.	Concrete I-6½ Cu.Yds.	Concrete Walls	Concrete Ftrs.	Reinf. Steel lbs.	⅝"x1" Dowel Holes Each	8" Cast Iron Pipe Lin.Ft.	Removal of Exist. Masonry Cu.Yds.	½" Bitum. Prem. Exp. of Filler Sq.Ft.	Waterproofing Type"A" Sq.Yds.	Waterproofing Type"B" Sq.Yds.	Porous Backfill
1-B	9	117	225	53.4	68.8	38.3		9120	44	7	27	22	16	12	Lump
		117	225	53.4	68.8	38.3		9120	44	7	27	22	16	12	Lump

EMBANKMENT

Borrow to be used to prepare subgrade and construct shoulders over Bridge Slab.
TOTAL 35 Cu.Yds.

I-12 CONCRETE CURB

Station 59+04.3 to Station 59+30.4 Rt. 26 lin. ft.
Station 59+04.3 to Station 59+30.4 Lt. 26 lin. ft.
TOTAL = 52 lin. ft.

T-71 REINF. CONCRETE PAVEMENT

Station 59+04.3 to Station 59+30.3 Rt. 26 lin. ft.
Station 59+04.3 to Station 59+30.3 Lt. 26 lin. ft.
Total length = 52
52 x 11.17' / 9 = 64.54 Sq.Yds.
(Variable Thickness) TOTAL = 65 Sq.Yds.

T-50 SURFACE COURSE

Station 59+04.3 to Station 59+30.3 = 26 lin. ft.
26 x 19 / 9 = 54.89 Sq.Yds.
TOTAL = 55 Sq.Yds.

B-50 BASE COURSE

52 x 1 x .2917 ÷ 27 = 0.5 Cu.Yd. TOTAL 0.5 Cu.Yds.

B-50 LEVELING COURSE

Sta. 59+04.3 to 59+30.3 (Est.) 3.5 Cu.Yds.
TOTAL 3.5 Cu.Yds.

E-5 FINISHING SHOULDERS & SLOPES

Station 59+04.3 to Station 59+30.3 = 26 lin. ft.
TOTAL (both sides) = 26 lin. ft.

T-30 BITUMINOUS PRIME COAT

26 x 17 / 9 = 49.11 Sq.Yds. @ 0.2 gal. = 10 Gals.

B-11 INSULATION COURSE

26 x 2 / 9 = 6 Sq.Yds.

E-10 SEALING PAVEMENT EDGE

NEW PVM'T. = 26 x 2 = 52 Lin.Ft.
EXIST. PVM'T. = 26 x 2 = 52 Lin.Ft.

— GENERAL SUMMARY —

Item Nº		Units	Proposal Nº1	Proposal Nº2
	— Roadway —			
E-1	Roadway Excavation (unclassified)	Cu.Yds.	1988	
E-4	Borrow (Contractor to furnish)	Cu.Yds.	6562	35
E-5	Finishing Shoulders and Slopes & Ditches	Lin.Ft.	7126	26
E-8	Removal and Disposal of Existing Pavement (Conc)	Sq.Yds.	435	
E-8	Removal and Disposal of Existing Base (Conc.)	Sq.Yds.	500	
E-8	Removal and Disposal of Exist. Brick Wear. Course	Sq.Yds.	500	
I-2	10" V.S.P. Sec. M-6.8 (b) for Storm Sewer	Lin.Ft.	7701	
I-2	12" V.S.P. Sec. M-6.8 (b) for Storm Sewer	Lin.Ft.	1786	
I-2	15" V.S.P. Sec. M-6.8 (b) for Storm Sewer	Lin.Ft.	952	
I-2	18" V.S.P. Sec. M-6.8 (b) for Storm Sewer	Lin.Ft.	607	
I-4	6" Drain Tile Sec. M-6.7 (b) for Underdrain	Lin.Ft.	500	
S-1	Concrete for Cradle and Cut-off Walls, I-5½ mix.	Cu.Yds.	1.78	
I-7	Trench Reinforcing Steel	Lbs.	1369	
I-8	Standard Nº1 Manholes	Each	2	
I-8	Standard Nº2 Curb Inlets	Each	44	
I-8	Standard Nº6 Catch Basin	Each	2	
I-8	Standard Nº1 Ditch Inlet	Each	1	
I-17	Aggregate for Traffic Bound side approaches & drives	Cu.Yds.	142	
E-9	Trees & Stumps Removed & Disposed of	Each	25	
Spec.	Watering Embankment (Estimated)	Gallons	36000	200
E-10	Sealing new pavement edge (7"&4")	Lin.Ft.	14037	52
E-10	Sealing (only) Existing Pavement edge	Lin.Ft.	14037	52
I-9	Stone Underdrain (French Drain) Nº2	Lin.Ft.	250	
	— Pavement —			
B-70	9"-7"-7"-9" Portland Cement Concrete Base Course	Sq.Yds.	300	
T-50	2½" Hot-mixed, hot-laid Asphaltic Conc. Surface Course	Sq.Yds.	14833	55
T-71	Reinforced Portland Cement Conc. Pavt. (Variable Thickness)	Sq.Yds.		65
T-50	Hot-mixed, hot-laid Asphaltic Concrete surface course	Cu.Yds.	3	
T-71	10"-8"-8"-10" Reinforced Portland Cement Conc. Pavement	Sq.Yds.	17835	
I-12	Concrete Curb Type 4-A (Straight)	Lin.Ft.	13794	52
T-30	Bituminous Prime Coat Sec. M-5.7 A.E.3	Gal.	2651	10
B-11	Insulation Course	Sq.Yds.	1560	6
B-50	Hot-laid, hot-mixed, asphaltic Conc. Base Course	Cu.Yds.	152	0.5
B-50	Hot-laid, hot-mixed, asphaltic Conc. Leveling Course	Cu.Yds.	882.2	3.5
I-12	Concrete Curb Type 4-A (Radial)	Lin.Ft.	89	
	← Structures under 20 ft. Span →			
S-1	Concrete for Footings (1-6½ mix)	Cu.Yds.	43.0	
S-1	Concrete for Walls (1-6½ mix)	Cu.Yds.	78.0	
S-1	Concrete for Superstructure (1-5½ mix)	Cu.Yds.	78.2	
S-3	Waterproofing Type "A"	Sq.Yds.	22	
S-3	Waterproofing Type "B"	Sq.Yds.	14	
S-4	Reinforcing Steel	Lbs.	13040	
S-9	¼" Structural Expansion Joint	Sq.Ft.	22	
S-22	Removal of Portions of Existing Masonry	Cu.Yds.	68	
S-23	Dowel Holes ⅝"x1"	Each	44	
S-27	10" R.C.P. Sec. M-6.6 (b) for Roadway Culverts	Lin.Ft.	36	
S-27	15" R.C.P. Sec. M-6.6 (b) for Roadway Culverts	Lin.Ft.	45½	
S-27	18" R.C.P. Sec. M-6.6 (b) for Roadway Culverts	Lin.Ft.	6	
S-22	Existing Inlets Removed and Disposed of	Each	3	
T-6	8' V.S.P. Removed and Stored	Lin.Ft.	42	
E-2	Excavation for Structures (unclassified)	Cu.Yds.	191	
E-3	Channel Excavation	Cu.Yds.	20	
	~ Roadside Improvement ~			
Spec.	Top Soil Removed & placed on new shoulders (4" Thick)	Cu.Yds.	979	
Spec.	Top Soil Borrow in place (Contractor to Furnish)	Cu.Yds.	77	
	— Structures over 20 Ft. Span —			
E-2	Excavation for Structures (Unclassified)	Cu.Yds.		117
E-3	Channel Excavation	Cu.Yds.		225
S-1	Concrete for Footings (1-6½ mix)	Cu.Yds.		38.3
S-1	Concrete for Walls (1-6½ mix)	Cu.Yds.		68.8
S-1	Concrete for Superstructure (1-5½ mix)	Cu.Yds.		53.4
S-3	Waterproofing Type "A"	Sq.Yds.		16
S-3	Waterproofing Type "B"	Sq.Yds.		12
S-4	Reinforcing Steel	Lbs.		9120
S-9	¼" Structural Expansion Joint	Sq.Ft.		22
S-22	Removal of Portions of Existing Masonry	Cu.Yds.		27
S-23	Dowel Holes ⅝"x1"	Each		44
I-2	8" Cast Iron Pipe (Sec M-6.2 (A-1)) for Storm Sewer	Lin.Ft.		7
E-2	Porous Backfill	Lump Sum		Lump Sum

TOP SOIL PROPOSAL Nº1

Left Side			Right Side		
3710 Lin.Ft.	8' Shoulder x 4"	= 9895 Cu.Ft.	4750 Lin.Ft.	8' Shoulder x 4"	= 12669 Cu.Ft.
500 Lin.Ft.	7' Shoulder x 4"	= 1167 Cu.Ft.	675 Lin.Ft.	7' Shoulder x 4"	= 1575 Cu.Ft.
350 Lin.Ft.	6½' Shoulder x 4"	= 758 Cu.Ft.	150 Lin.Ft.	6½' Shoulder x 4"	= 325 Cu.Ft.
2090 Lin.Ft.	5' Shoulder x 4"	= 3484 Cu.Ft.	1175 Lin.Ft.	5' Shoulder x 4"	= 1959 Cu.Ft.
	Total =	15304 Cu.Ft.		Total =	16528 Cu.Ft.

15304 + 16528 = 1179 Cu.Yds.
27
Deduct 78 drives @ 16'x8'x4" = 123 Cu.Yds.
1179 - 123 = 1056 Cu.Yds Top Soil Required.

SPECIAL - Top Soil Removed & placed on new shoulders (4" thick) = 979 Cu.Yds.
SPECIAL - Top Soil Borrow in place (Contractor to Furnish) = 77 Cu.Yds.