

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF CONSTRUCTION

USDWHP
OHIO NRH 228
UNIT-1 (1935)

FED. AID DIST.	STATE	FED. AID PROJECT UNIT-1	FISCAL YEAR	1
10	OHIO	NRH 228	1935	27

GEAUGA COUNTY
S.H. 35 SEC. W₂
PROPOSAL No. 2

CHAGRIN FALLS - GREENVILLE ROAD

S.H. No. 35 SEC. W₂

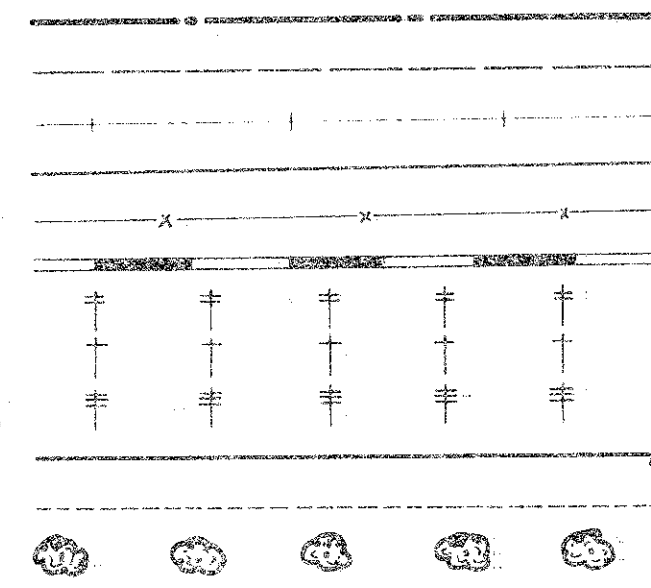
GEAUGA COUNTY

PARKMAN TOWNSHIP

NET LENGTH OF PROJECT 9958.72 LIN. FT.
1.886 MILES

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
CENTER LINE
PROPERTY LINE
FENCE LINE
STEAM RAILROAD
POLE LINE, TELEPHONE
POLE LINE, ELECTRIC
POLE LINE, TEL. & ELECTRIC
STORM SEWER & INLET
DRAIN PIPE, OLD
TREES

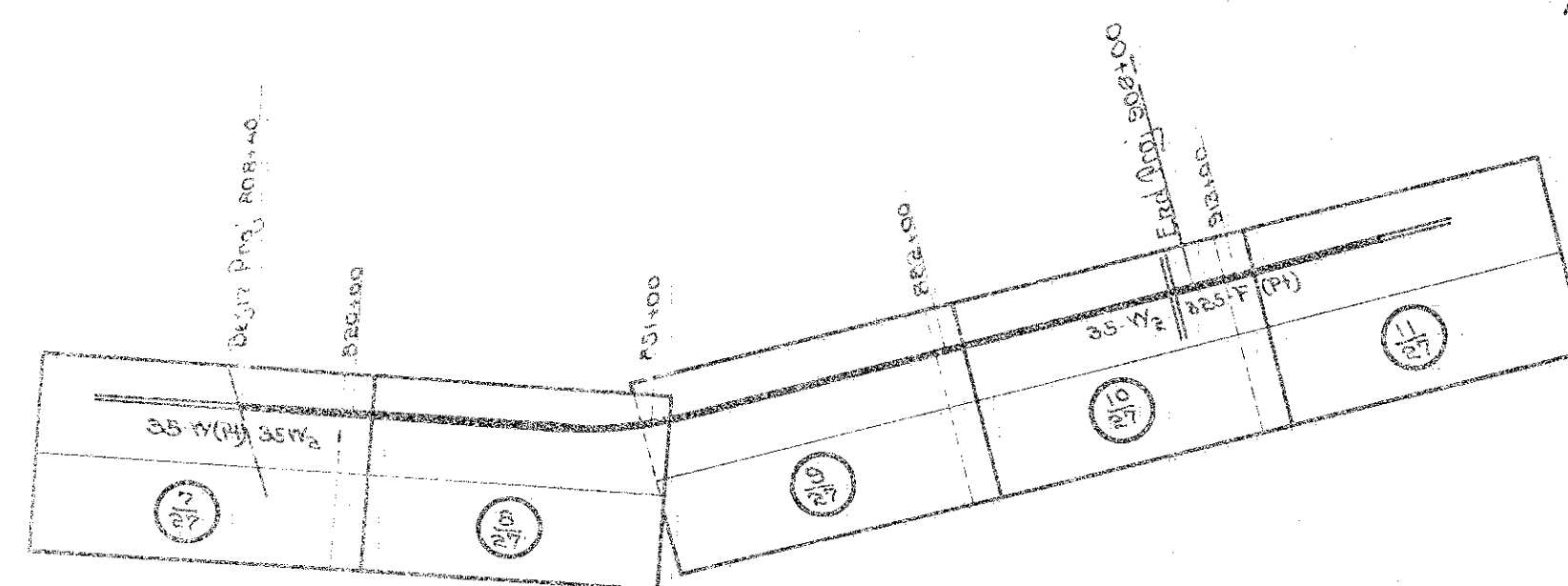


INDEX OF SHEETS

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TYPICAL SECTIONS
INTERSECTION DETAILS AND NOTES
PLAN AND PROFILE
CURVE TABLES
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DELIVERY POINT
Garrettsville, O.
Erie RR
Average Haul = 8 Mi.



ROAD INDEX

RIGHT OF WAY IS 60' MIN.
SCALE 1"=2000'

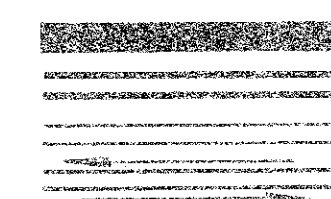
FILE GEAUGA COUNTY
S.H. No. 35 SEC. W₂
1935

STAND. CONST. DYES.	DATE
E-105	
T-10-1	
G-70.7	
I-B-12.24	
I-12.66	
S-27.62	
S-27.63	
SBC-34	
I-8 H.H. 191	

LOCATION PLAN

SCALE OF MILES
0 1 2 3

PORTION TO BE IMPROVED
STATE HIGHWAYS
COUNTY ROADS
DETOURS



SCALES

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

LINE DATA

STA. 808+40 to 908+00 9960.00 Lin. Ft.
SHORT STA. 854+00 to 855+00 1.28 Lin. Ft.
NET LENGTH OF PROJECT 9958.72 Lin. Ft.

The Standard Specifications of the State of Ohio, Department of Highways, together with the Special Provisions for United States Public Works Highway Projects, in force on date of contract, will govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing of the highway to traffic and that detours will be provided as indicated on the plans. East of the intersection of S.H. 326 with S.H. 325 one-way traffic will be maintained at all times (Station 906+53.34 to 908+00).

The necessary right of way has been provided:

Approved _____
Date _____ Resident District Deputy Director

Approved _____
Date _____ Resident Division Deputy Director

Approved _____
Date _____ Chief Engineer, Bureau of Maintenance

Approved _____
Date _____ Chief Engineer, Bureau of Bridges

Approved _____
Date _____ Chief Engineer, Location and Design

Approved _____
Date _____ First Asst. Director and Chief Engineer

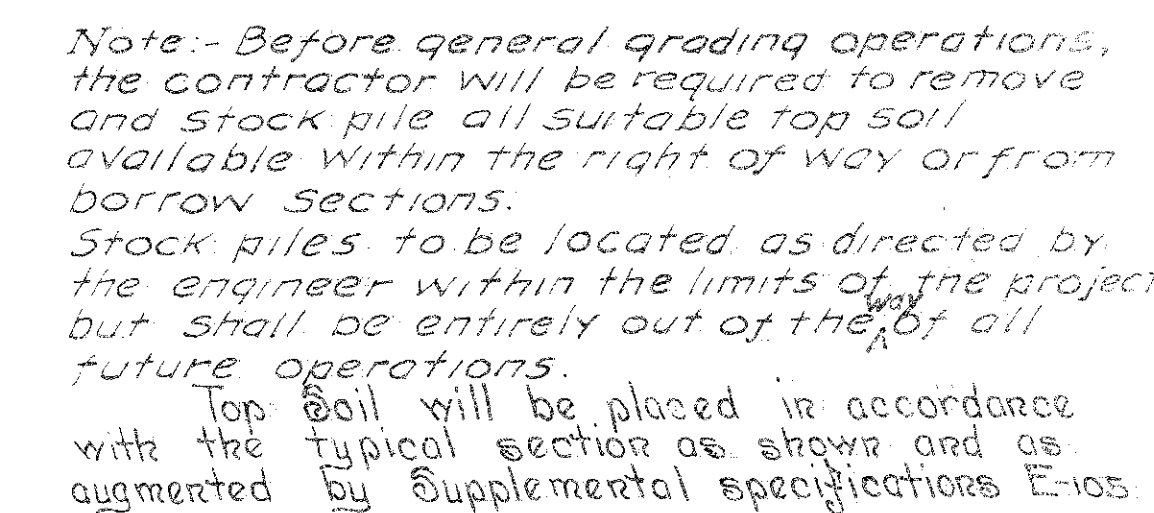
Approved _____
Date _____ Director of Highways

Recommended for Approval _____
Date _____ District Engineer, Bureau of Public Roads

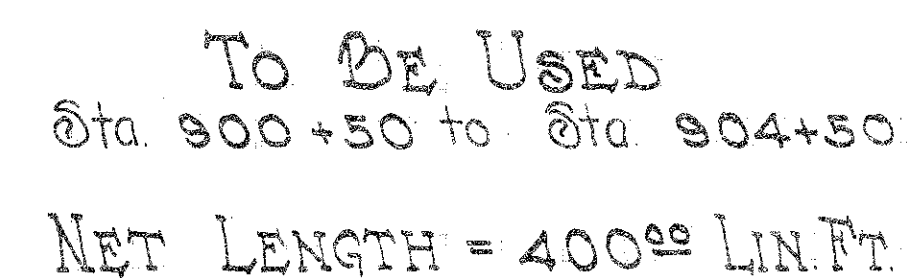
Recommended for Approval _____
Date _____ Chief Engineer, Bureau of Public Roads

Approved _____
Date _____ Chief of Bureau

S.H. 35-Y₂
GEAUGA COUNTY



S.H. 35 SEC. W₂
GEAUGA COUNTY



Note:- Before general grading operations the contractor will be required to remove and stock pile all suitable top soil available within the right of way or from borrow sections.

Stock piles to be located as directed by the engineer within the limits of the project but shall be entirely out of the way of all future operations.

Top Soil will be placed in accordance with the typical section as shown and as augmented by Supplemental Specifications E105

APPROVED

TYPE T-70 TYPICAL SECTION

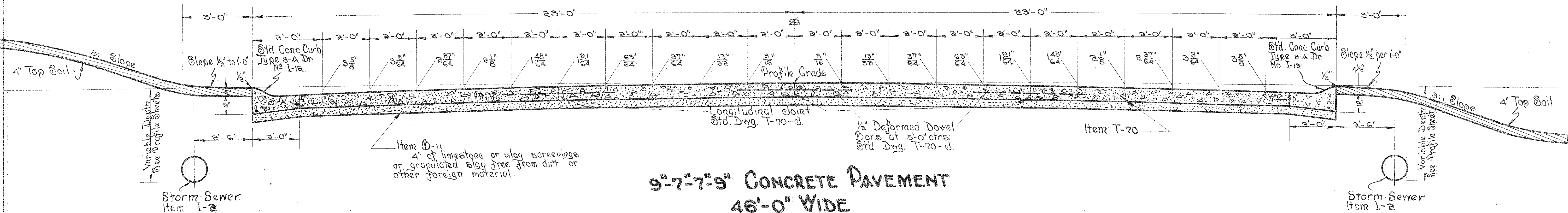
FED. AID DIST.	STATE	FED. AID PROJECT	FISCAL YEAR	4
10	OHIO	NRH 228 UNIT - 1	1935	27

S.H. 35 SEC. W₂
GEAUGA COUNTY

SCALE IN FEET

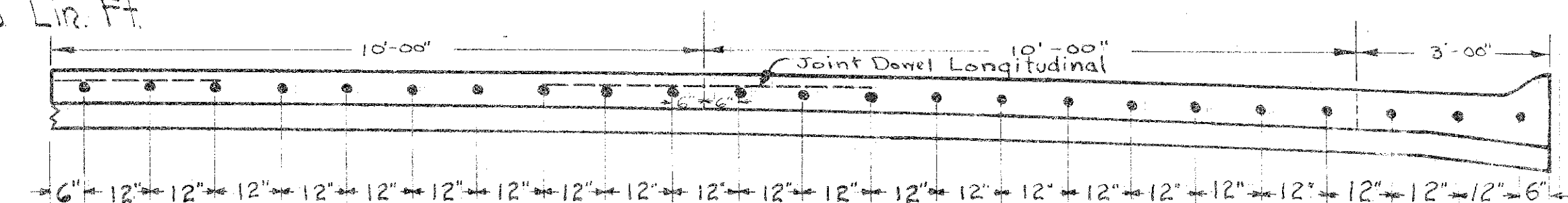


FOR CONSTRUCTION DETAILS
SEE STD. DWGS. T-70-d & 1-12-C.C.



9"-7"-7"-9" CONCRETE PAVEMENT
46'-0" WIDE

TO BE USED
Sta. 904+50. to 908+00
350 Lin. Ft.



DETAIL OF DOWEL SPACING

Note: - Before general grading operations, the contractor will be required to remove and stock pile all suitable top soil, available within the right of way or from borrow sections. Stock piles to be located as directed by the engineer, within the limits of the project but shall be entirely out of the way of all future operations. Top soil will be placed in accordance with the typical section as shown and as augmented by supplemental specifications E105

APPROVED

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S. H. 35 W₂
GEAUGA COUNTY



Diagram of a trapezoidal excavation. The top width is 20'-0" and the bottom width is 14'-0". The height is 10'-0". The area is calculated as:

$$\frac{20'-0" + 14'-0"}{2} \times 10'-0" \times 3' = 1.5 \text{ Cu Yds.}$$

Drives On Rt = 1.6 Cu Yds.
 Drives On Lt = 3.2 Cu Yds.

Edge of Port.

Aggregate to be Stone, Grag, or Gravel applied to a depth of 3 inches. Curb to be dropped 2" at every drive. 1/2" per 1'-0" slope on driveway.

TOTAL = 2743.36 SQ. FT.
TOTAL = 304.82 SQ. YDS.
Item T-20 to be constructed 8" Thick
All necessary Excav. included in the price
per square yard of concrete
Item I-12 Concrete Curb 165.66 Lin. Ft.
Type 3-A Dwg. No I-12



$\Delta = 5^{\circ} 45' 25''$
 $\theta = 0^{\circ} 11' 38''$
 $\Delta = 300.84'$
 $L = 15.04'$
 $L = 30.05'$

60'-0"
 3'-0"
 40'-0"
 Edge of 40'-0" Pavt.
 Curb
 6" Conc. Item T-20 Necessary
 Exccy. included in price per
 Sq Yd of Pavt.
 P.R.C.
 10.0 Sq Yds Item T-20
 60:1 Lin Ft. Item I-12

PAVEMENT FLARE

PAVEMENT FLARE

Hand-drawn plan view of a rectangular building with rounded corners. The building is 50'-0" wide and 80'-0" deep. The corners are rounded with a radius of 20'-0". The drawing includes dimensions for the straight sections and the curved sections, as well as a note about the material: "500 sq. Ft. Item T-20 8' TRICK". The drawing is signed "m" in the top right corner.

Dimensions and Notes:

- Overall Width: 50'-0"
- Overall Depth: 80'-0"
- Corner Radius: Radius = 20'-0"
- Material Note: 500 sq. Ft. Item T-20 8' TRICK
- Dimensions for the rounded corners (from the outside edge to the center of the corner):
 - Top Left: 20'-2 1/2"
 - Top Right: 18'-2 1/2"
 - Bottom Left: 23'-6 1/2"
 - Bottom Right: 23'-2 1/2"
- Dimensions for the straight sections (from the center of the corner to the inside edge):
 - Top Left: 20'-0"
 - Top Right: 20'-0"
 - Bottom Left: 20'-0"
 - Bottom Right: 20'-0"

APPROACH AT STA 904+98

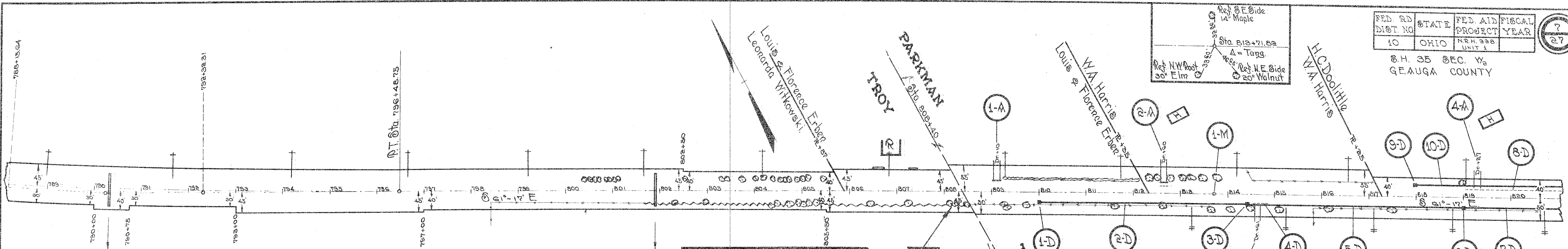
119.08 Sq Yds. Item T-20 8" Thick including
in price per sq Yd. all necessary excavation.
62.83 Lin Ft. Type 3-A Conc. Curb Dwg I-12.

PLAN
DATE
BY
CHECKED
NOTE: BANK ACCOUNTS USED IN
EST. OF WAY, ETC.

PROFILE
DATE
BY
CHECKED
NOTE: R.O.D.
ELEVATION AND MILES, ETC.

FED. RD. DIST. NO.	STATE	FED. AID PROJECT YEAR	FISCAL YEAR
10	OHIO	N.H. 228 UNIT 1	27

S.H. 35 SEC. 1/2
GEAUGA COUNTY

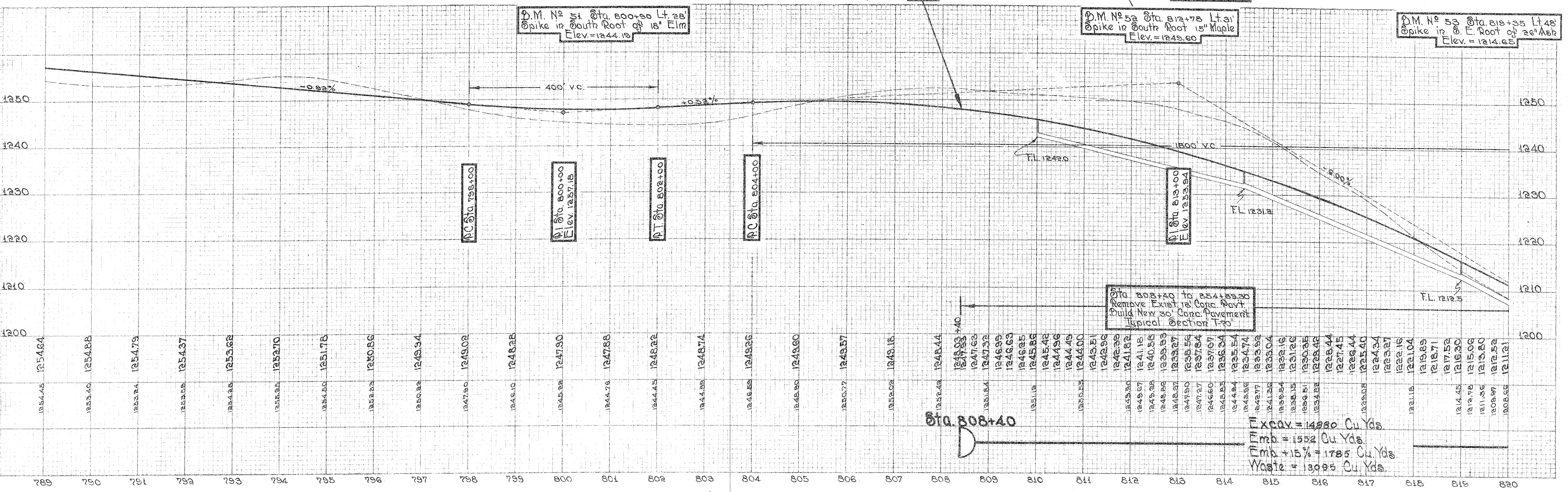


APPROACHES						
ITEM	STA.	SIDE	AGG. CUYDS	LINEAL FEET PIPE FOR DRIVES	EXCAV. CUYDS	FILL CUYDS
1-A	808+10	Lt	6.2	20		
2-A	812+80	Rt	12.5	20		5.00
3-A	814+51	Rt	10.8	20		4.00
4-A	818+27	Lt	4.8		20	50
TOTALS			34.3	20	40	1020

PAVEMENT REMOVAL			
From Sta.	To Sta.	Lin. Ft.	Remarks
808+40	820+00	1160.0	18' Wide
1160.0 x 18 = 20,880.0 Sq. Ft.			

TREES TO BE REMOVED					
NO.	STA.	DIST. OUT	SIDE	SIZE	KIND
1	808+28	27	Rt	10"	Maple
2	808+30	20	Rt	20"	Maple
3	808+75	25	Rt	12"	Maple
4	811+00	27	Rt	12"	Maple
5	812+35	22	Lt	15"	Maple
6	812+40	24	Lt	15"	Maple
7	812+60	24	Rt	15"	Maple
8	812+78	22	Lt	18"	Maple
9	812+85	22	Lt	15"	Maple
10	812+80	26	Lt	15"	Maple
11	813+47	22	Lt	15"	Maple
12	813+65	23	Rt	36"	Elm
13	813+75	23	Lt	15"	Maple
14	814+05	23	Rt	18"	Walnut
15	814+51	25	Rt	20"	Locust
16	815+10	22	Rt	24"	Maple
17	816+12	25	Rt	15"	Elm
18	817+30	27	Rt	15"	Maple
TOTAL TREES = 18					

STATION		SIDE	LINEAL FEET PIPE			CURB INLET	PIPE REMOVED	STD NO. 1-2 CATCH BASIN
FROM	TO		12"	15"	18"			
1-D	810+00	Rt						
2-D	810+01	Rt	436					
3-D	814+38	Rt						
4-D	814+44	Rt					45	
5-D	814+89	Rt						
6-D	815+00	Rt			440			
7-D	815+01	Rt						
8-D	815+08	Lt					32	
9-D	815+08	Lt						1
10-D	815+01	Lt			173			
TOTALS			436	440	278	3	137	1



HIGHWAY PLAN, PROFILE PLATE 1
THE H. 1011 CO., CLEVELAND, OHIO

STATION 808+40 TO 820+00

GUARD RAIL				
ITEM	STATION	FROM	TO	REMOVED STACKED LIN. FT.
1-G	847+27	851+00	Lt	373
2-G	847+63	851+00	Rt	337
TOTAL				710

APPROACHES									
ITEM	STA.	SIDE	AGG	EXCAV	FILL	REMARKS			
1-A	841+43	Rt	3.6						
2-A	841+42	Lt	6.2	20	150	25			
3-A	842+02	Rt				Abandon			
4-A	843+25	Rt	1.6						
5-A	845+50	Lt	3.2	20					
6-A	846+54	Rt	1.6						
TOTALS				162	40	130	25	20	

FED. RD DIST. NO.	STATE	FED. AID PROJECT YEAR	FISCAL YEAR
10	OHIO	1948	UNIT 1

S.H. 35 SEC. 1/2
GEAUGA COUNTY

OLD CURVE
Δ = 18°-44' Lt
R = 1909.86'
P.T. = 824.44'
M = 818.04'
T = 25.81'

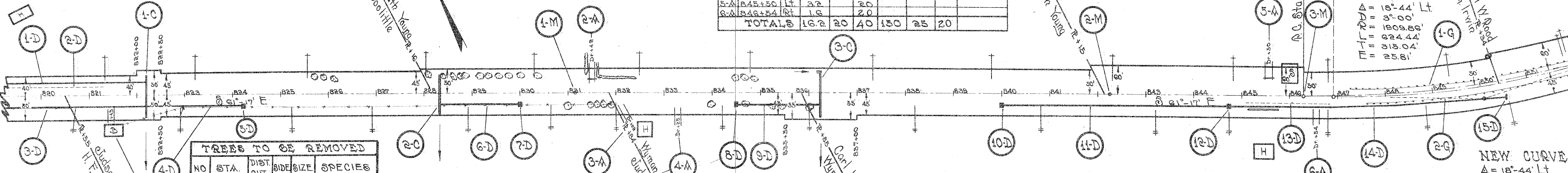
NEW CURVE
Δ = 18°-44' Lt
R = 2252.01'
P.T. = 749.22'
M = 378.07'
T = 30.97'

TREES TO BE REMOVED				
NO	STA.	DIST. OUT	SIDE	SPECIES
1	825+66	32'	Lt	Wild Cherry
2	825+80	32'	Lt	Locust
3	826+10	25'	Lt	Locust
4	826+104	31'	Lt	Pine
5	828+37	31'	Lt	Pine
6	830+30	31'	Lt	Pine
7	830+37	22'	Rt	Asb
8	831+48	22'	Rt	Asb
9	831+57	22'	Rt	Asb
10	831+66	24'	Rt	Maple
11	831+74	24'	Rt	Asb
12	831+88	25'	Rt	Asb
13	833+35	25'	Rt	Maple
14	834+46	26'	Lt	Asb
15	834+64	27'	Lt	Hickory
16	834+64	25'	Rt	Maple
17	834+85	25'	Lt	Oak
18	835+21	28'	Rt	Maple
19	835+33	28'	Rt	Maple
20	835+35	32'	Rt	Maple
21	835+38	16'	Lt	Beach
TOTAL TREES = 21				

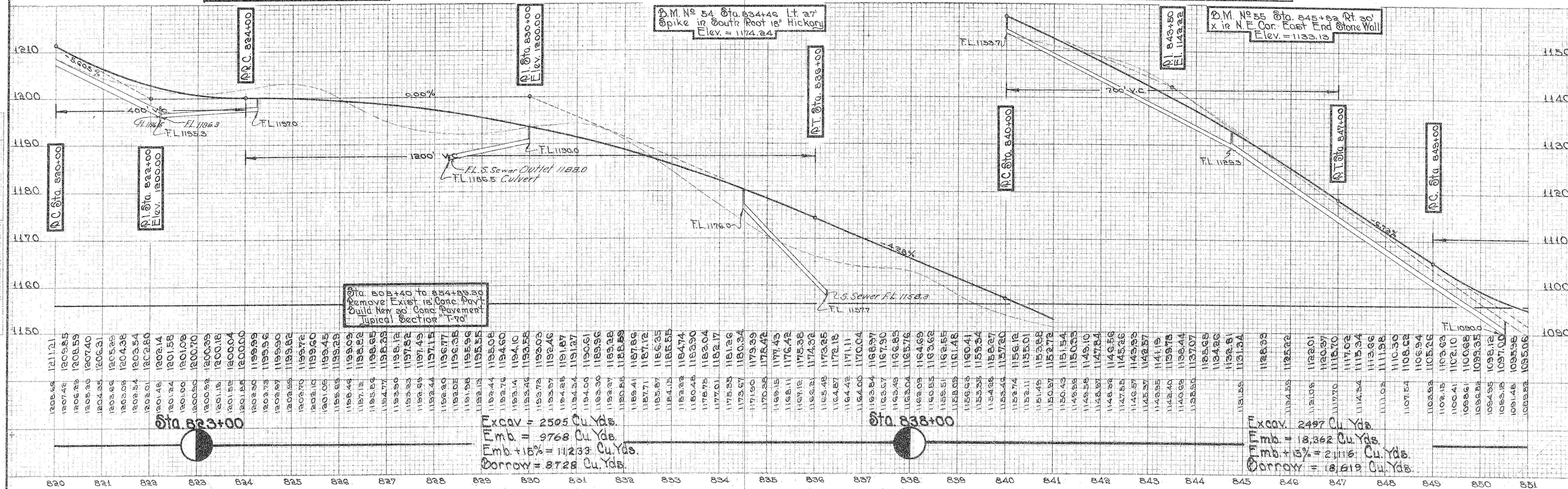
PAVEMENT REMOVED			
From Sta.	To Sta.	Lin. Ft.	Remarks
820+00	851+00	3100.0	18' Wide
3100.0 x 18 = 55,800.0 Sq. Ft.			

STRUCTURES 20' SPAN AND UNDER				
ITEM	STATION	TYPE	SIZE	WORK REQUIRED
1-C	822+20.7	Box	36"x36"	Remove Existing Box Culvert & Build New 36"x36" Std. Conc. Culvert
2-C	822+52.3	Pipe	18"x24"	Extend Existing 18"x24" Standard Pipe Culvert
3-C	828+28.8	Pipe	18"x24"	Remove Existing 18"x24" Standard Pipe Culvert & Build New 18"x24" Standard Pipe Culvert

STORM SEWER									
ITEM	STATION	FROM	TO	SIDE	LINEAL FEET	PIPE	CURB	PIPE	REMARKS
1-D	820+00	822+19	Lt			219		122	Connect to Culvert
2-D	820+00	821+22	Lt						Removed & Stored
3-D	820+00	821+22	Lt						Connect to Culvert
4-D	821+26	824+26	Rt		200				Connect to Culvert
5-D	824+27		Rt						
6-D	828+24	830+00	Rt		166				Connect to Culvert
7-D	830+01		Rt						
8-D	834+49		Rt						
9-D	834+50	836+24	Rt		174				Connect to Culvert
10-D	840+00		Rt						
11-D	840+01	844+75	Rt		474				
12-D	844+76		Rt						
13-D	845+05	846+27	Rt					182	Removed & Stored
14-D	844+77	850+51	Rt		554				Drain to Top of Slope
15-D	850+51		Rt					9.29	Std. Dwg. S. 27 P.C. 1
TOTALS					1014	554	418	5	314



MONUMENT BOXES				
ITEM	STATION	LOCATN	NO.	REMARKS
1-M	831+4.89	E	1	POT
2-M	842+24.87	E	1	POT
3-M	849+20.17	E	1	POT
TOTAL 3				

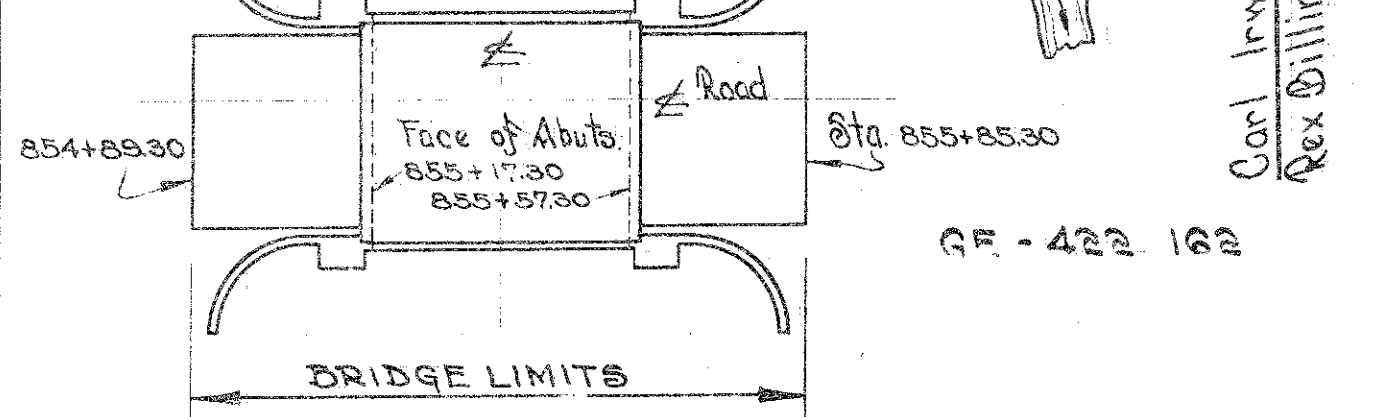
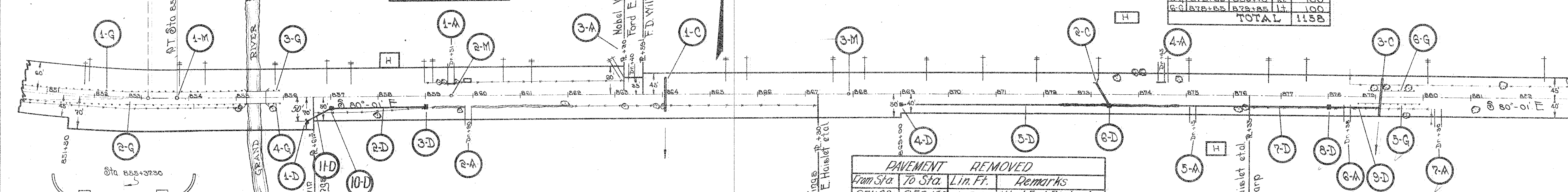


Excav = 2505 Cu. Yds.
Emb. = 9768 Cu. Yds.
Emb + 15% = 11233 Cu. Yds.
Borrow = 8728 Cu. Yds.

Excav = 2497 Cu. Yds.
Emb. = 18,362 Cu. Yds.
Emb + 15% = 21,116 Cu. Yds.
Borrow = 18,619 Cu. Yds.

PRESENT STRUCTURE
To be Dismantled & Stocked
Type: Cross Timber on Steel Bms.
Span: 37'-0"
Rwy: 24'-0"
Substr: Stone & Conc.

PROPOSED STRUCTURE
Type: Rigid Frame Concrete
Span: 40'-0"
Rwy: 24'-0"
We Sur: 4" Conc. with Curb
App. Slabs: 14 1/2" Reinf. Conc.



STRUCTURES 20' SPAN AND UNDER

ITEM	STA.	TYPE	SIZE	WORK REQUIRED
1-C	854+04.4	Pipe	12"x44"	Extend Existing 12" Encased V.S.P. With Std. Pipe Cul.
2-C	873+27.0	Pipe	18"x32"	"
3-C	879+10.4	Box	36"x48"	Extend Existing 36" Conc. Box With Std. Conc. Box Cul. See Detail Sheet No. 22

TREES TO BE REMOVED

NO.	STA.	DIST.	SIZE	SPECIES
1	855+04	14	12"	Elm
2	855+04	15	12"	Elm
3	855+04	16	12"	Elm
4	855+04	17	12"	Elm
5	855+04	18	12"	Elm
6	855+04	19	12"	Elm
7	855+04	20	12"	Elm
8	855+04	21	12"	Elm
9	855+04	22	12"	Elm
10	855+04	23	12"	Elm
11	855+04	24	12"	Elm
12	855+04	25	12"	Elm
13	855+04	26	12"	Elm
14	855+04	27	12"	Elm
15	855+04	28	12"	Elm
16	855+04	29	12"	Elm
17	855+04	30	12"	Elm
18	855+04	31	12"	Elm
19	855+04	32	12"	Elm
20	855+04	33	12"	Elm
21	855+04	34	12"	Elm
22	855+04	35	12"	Elm
23	855+04	36	12"	Elm
24	855+04	37	12"	Elm
25	855+04	38	12"	Elm
26	855+04	39	12"	Elm
27	855+04	40	12"	Elm
28	855+04	41	12"	Elm
29	855+04	42	12"	Elm
30	855+04	43	12"	Elm
31	855+04	44	12"	Elm
32	855+04	45	12"	Elm
33	855+04	46	12"	Elm
34	855+04	47	12"	Elm
35	855+04	48	12"	Elm
36	855+04	49	12"	Elm
37	855+04	50	12"	Elm
38	855+04	51	12"	Elm
39	855+04	52	12"	Elm
40	855+04	53	12"	Elm
41	855+04	54	12"	Elm
42	855+04	55	12"	Elm
43	855+04	56	12"	Elm
44	855+04	57	12"	Elm
45	855+04	58	12"	Elm
46	855+04	59	12"	Elm
47	855+04	60	12"	Elm
48	855+04	61	12"	Elm
49	855+04	62	12"	Elm
50	855+04	63	12"	Elm
51	855+04	64	12"	Elm
52	855+04	65	12"	Elm
53	855+04	66	12"	Elm
54	855+04	67	12"	Elm
55	855+04	68	12"	Elm
56	855+04	69	12"	Elm
57	855+04	70	12"	Elm
58	855+04	71	12"	Elm
59	855+04	72	12"	Elm
60	855+04	73	12"	Elm
61	855+04	74	12"	Elm
62	855+04	75	12"	Elm
63	855+04	76	12"	Elm
64	855+04	77	12"	Elm
65	855+04	78	12"	Elm
66	855+04	79	12"	Elm
67	855+04	80	12"	Elm
68	855+04	81	12"	Elm
69	855+04	82	12"	Elm
70	855+04	83	12"	Elm
71	855+04	84	12"	Elm
72	855+04	85	12"	Elm
73	855+04	86	12"	Elm
74	855+04	87	12"	Elm
75	855+04	88	12"	Elm
76	855+04	89	12"	Elm
77	855+04	90	12"	Elm
78	855+04	91	12"	Elm
79	855+04	92	12"	Elm
80	855+04	93	12"	Elm
81	855+04	94	12"	Elm
82	855+04	95	12"	Elm
83	855+04	96	12"	Elm
84	855+04	97	12"	Elm
85	855+04	98	12"	Elm
86	855+04	99	12"	Elm
87	855+04	100	12"	Elm

PAVEMENT REMOVED

From Sta.	To Sta.	Lin. Ft.	Remarks
851+00	855+15.5	415.5	West End Bridge App.
855+15.5	882+100	263.53	East End Bridge App.
TOTAL		3050.8	15-54.9144 SQ. FT.

STORM SEWER

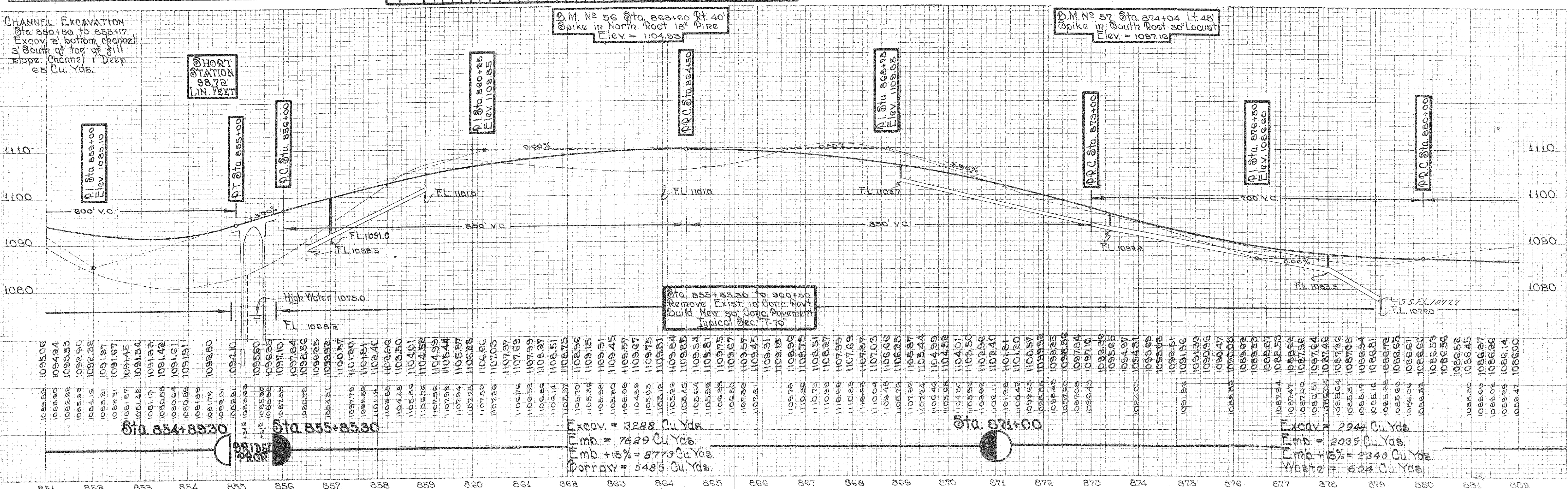
ITEM	STATION	SIZE	INLET	REMARKS
1-D	855+30	24"		Stk. Dwg. 827-001
2-D	857+00	24"		
3-D	859+00	24"		
4-D	859+100	24"		
5-D	859+101	24"		
6-D	873+40	24"		Connect to Culvert
7-D	873+41	24"		Connect to Culvert
8-D	873+100	24"		
9-D	873+101	24"		
10-D	873+102	24"		
11-D	873+103	24"		
12-D	873+104	24"		
TOTALS		702	542	5 20 0.7

GUARD RAIL

ITEM	STATION	REMOVED
1-G	851+00	423
2-G	851+00	423
3-G	855+10	31
4-G	855+10	31
5-G	873+10	150
6-G	873+10	100
TOTAL		1158

FED. RD DIST NO	STATE	FED AID PROJECT	FISCAL YEAR
10	OHIO	N.H. 235 UNIT 1	

S.H. 35 SEC. W₂
GEAUGA COUNTY



Excavation and Embankment Data

Station	Excavation (Cu Yds)	Embankment (Cu Yds)	Waste (Cu Yds)
Sta. 854+89.30	3288	7629	5485
Sta. 855+83.30	2244	2035	604

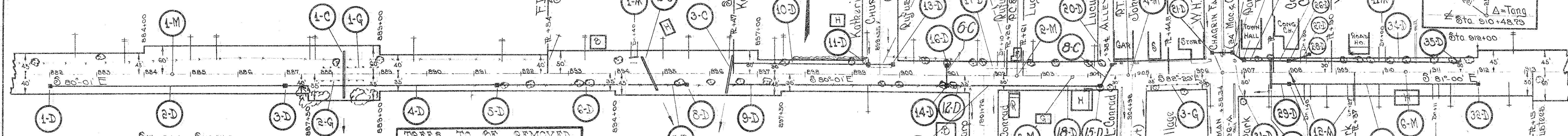
RETAINING WALL
Sta 884+00 to 884+32
Price per cu yd of wall
includes the following:
Quarry-faced stone 60.4 Cu Yds
Gravel backfill 15.9 Cu Yds
4" Drain Tile 178 Lin Ft
6" Drain Tile 168 Lin Ft
Excav (Found) 70 Cu Yds

Locked Stakes Ref NW Side
OAS Pole
Sta 884+60.50
Δ = Tang

MONUMENT BOXES

ITEM	STA.	LOC'N	NO.	REMARKS
1-M	884+80.50	R	1	P.O.T.
2-M	884+84.48	R	1	P.O.
3-M	884+88.32	Angle	1	P.O.
4-M	884+88.15	R	1	P.O.
5-M	884+88.34	R	1	Angle Point
TOTAL			5	

6" CONC SIDEWALK
Item I-13
Sta 884+87 to 884+87
300 sq. Ft. Sidewalk
as directed by the
Engineer to replace
existing walk on Lt.



STORM SEWER

ITEM	STATION		SIDE	LINEAL FEET			12" PIPE		CURB		STD. I-2	
				PIPE			SLAG BT	INLETS	C-B			
	FROM	TO		12"	15"	18"	No. 1 M-H No.	PIPE RMV'D	LIN. FT.	Nº2	Nº3	NUMBER
1-D	882+01		Rt									
2-D	882+02	882+08	Rt	496								
3-D	882+09		Rt									
4-D	882+00	891+42	Rt		448							
5-D	891+49		Rt									
6-D	891+30	894+80	Rt			330						
7-D	894+27	895+49	Rt	62								
8-D	895+20		Rt							1		
9-D	892+24	901+00	Rt		486							
10-D	896+50	899+28	Rt					278				
11-D	899+29		Lt									1
12-D	901+02	901+51	Rt	49								
13-D	899+81		Lt									1
14-D	901+01		Rt									
15-D	904+25		Rt									
16-D	901+01		Lt									1
17-D	901+84	902+71	Lt				87					
18-D	902+01	904+24	Rt	223								
19-D	906+80	906+98	Lt	26								
20-D	904+50		Lt									
SUB TOTALS				356	914	330	0	87	278	1	7	2

TREES TO BE REMOVED

NO.	STA.	DIST. OUT	SIZE	KIND
1	882+08	23'	18"	Maple
2	882+25	30'	10"	Locust
3	882+50	27'	10"	Locust
4	882+12	23'	12"	Elm
5	882+24	20'	30"	Elm
6	882+40	20'	15"	Maple
7	884+04	25'	10"	Maple
8	885+25	19'	36"	Elm
9	885+33	18'	36"	Elm
10	886+10	17'	36"	Elm
11	887+19	12'	40"	Elm
12	888+65	20'	15"	Maple
13	890+00	19'	12"	Maple
14	890+94	19'	12"	Maple
15	891+16	19'	12"	Maple
16	891+38	19'	15"	Maple
17	892+25	27'	12"	Maple
18	896+27	20'	10"	Maple
TOTAL TREES = 18				

STORM SEWER

ITEM	STATION	SIDE	LINEAL FEET			CURB No.	STD. I-2 C-B	CONE No.	TOP RWD No.
			FROM	TO	PIPE				
21-D	896+36	Lt							
22-D	896+38	Lt							
23-D	896+40	Lt							
24-D	896+42	Lt							
25-D	896+44	Lt							
26-D	896+46	Lt							
27-D	896+48	Lt							
28-D	896+50	Lt							
29-D	896+52	Lt							
30-D	896+54	Lt							
31-D	896+56	Lt							
32-D	896+58	Lt							
SUB-TOTALS			856	914	330	0	278	1	7
TOTALS			1020	114	330	0	278	3	8

CURVE DATA
Δ = 2°-23' Lt
R = 118.35
T = 236.67
M = 5729.58

GUARD RAIL

ITEM	STATION	SIDE	REMOVED STACKED LINEAL FT
1-G	882+80	Lt	110
2-G	882+85	Rt	102
3-G	883+00	Rt	130
TOTALS			342

SIDEWALK RELOCATION
Sta. 886+87 to Sta. 888+24
136 Lin Ft.
544 sq. Ft. Stone sidewalk
relocated, including preparation
of subgrade and 4" sand-base
Locate 30' lot of Δ

PREVIOUS SURVEY F.A.P. #228
Sta. 886+88.18 Sta. 888+50.05

END 35-W
Sta. 886+88.34

BEGIN 325-F
Sta. 886+88.34

USBRWA N.H. Exp. 228
UNIT 1 STA. 888+00
END PROJECT

D.M. No. 58 Sta. 882+50 Lt. 48'
Spoke in South Root of Elm
Elev. = 1055.2

D.M. No. 59 Sta. 892+15 Lt. 27'
Spoke in S.W. Root of S. Maple
Elev. = 1070.25

D.M. No. 60 Sta. 890+55 Lt. 27'
Spoke in South Root 40' Elm
Elev. = 1075.76

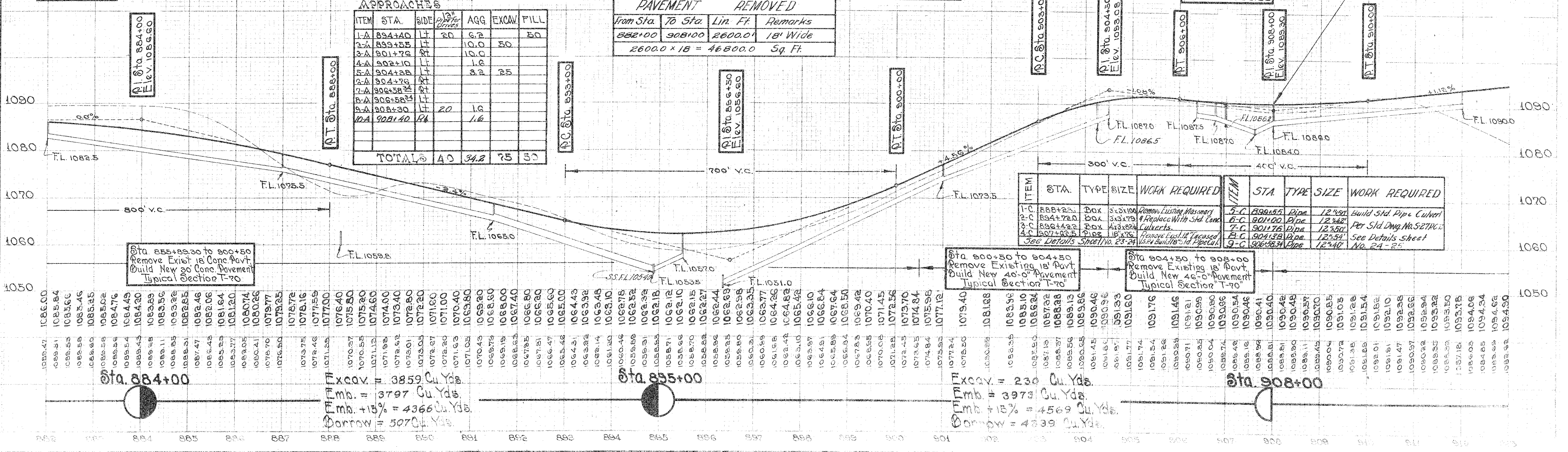
D.M. No. 61 Sta. 897+00 Lt. 50'
x S.W. Corner of Town Hall
Elev. = 1080.39

APPROACHES

ITEM	STA.	SIDE	12" PIPE No.	AGG	EXCAV	FILL
1-A	884+40	Lt	20	6.2	50	50
2-A	885+35	Lt		10.0	50	
3-A	891+76	Rt		10.0		
4-A	892+10	Rt		1.6		
5-A	894+28	Rt		3.2	25	
6-A	894+76	Rt				
7-A	896+58	Rt				
8-A	896+58	Rt				
9-A	898+30	Lt	20	1.6		
10-A	898+40	Rt		1.6		
TOTALS			40	34.2	75	50

PAVEMENT REMOVED

From Sta.	To Sta.	Lin. Ft.	Remarks
882+00	908+00	2600.0	18" Wide
			2600.0 x 18 = 46800.0 Sq. Ft.



ITEM	STA.	TYPE	SIZE	WORK REQUIRED	ITEM	STA.	TYPE	SIZE	WORK REQUIRED
1-C	888+23	Box	36x100	Remove Existing Manhole	5-C	890+55	Pipe	12x40	Build Std. Pipe Culvert
2-C	884+72	Box	36x179	Replace With Std. Conc.	6-C	891+00	Pipe	12x40	Per Sld. Dwg. No. 527HC
3-C	886+42	Box	48x82	Culverts	7-C	891+76	Pipe	12x40	See Details Sheet No. 24-25
4-C	897+25	Pipe	18x75	Remove Existing Culvert	8-C	894+38	Pipe	12x40	
				See Details Sheet No. 23-24	9-C	896+58	Pipe	12x40	

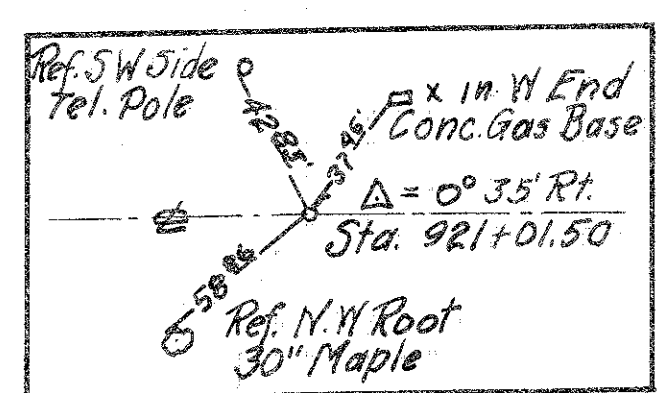
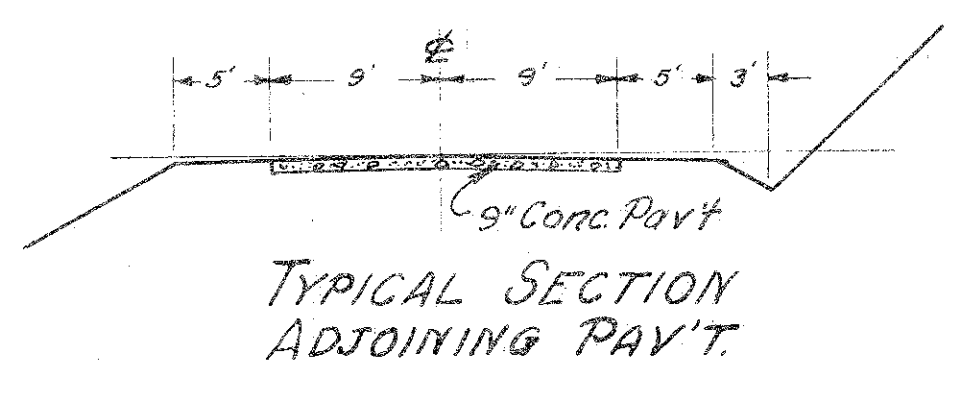
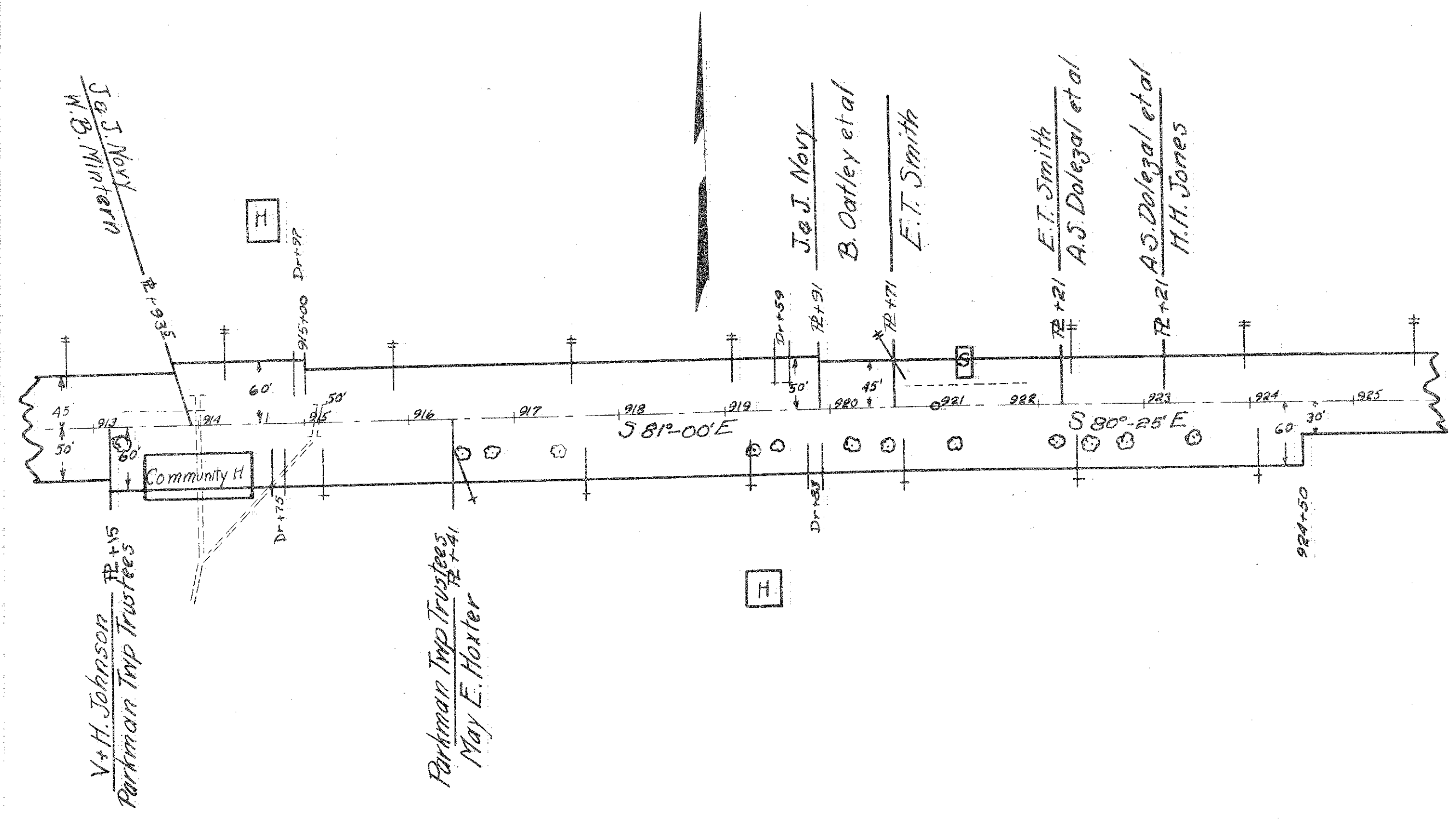
Excav. = 230 Cu Yds.
Emb. = 3973 Cu Yds.
Emb. + 15% = 4569 Cu Yds.
Borrow = 4339 Cu Yds.

Sta. 884+00

Sta. 895+00

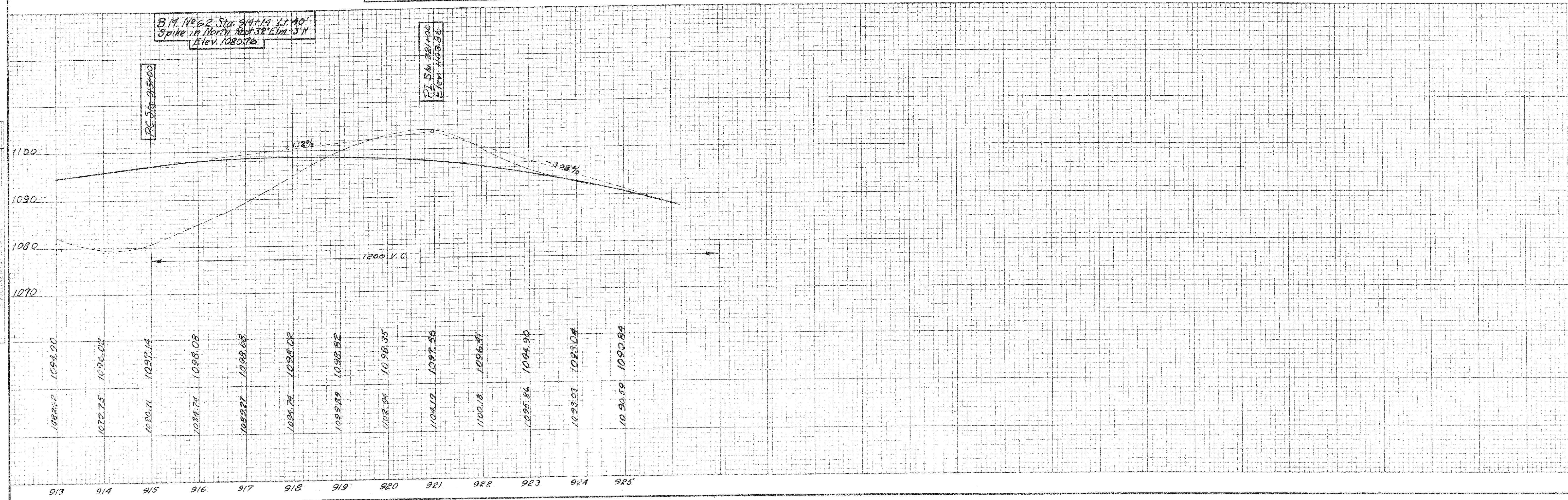
Excav. = 3859 Cu Yds.
Emb. = 3797 Cu Yds.
Emb. + 15% = 4366 Cu Yds.
Borrow = 5970 Cu Yds.

PLAN
SURVEYED
NOTED
NO. 1



B.M. No. 62 Sta. 914+14.17 40' Spike in North Root 32' Elm 3\"/>

P.I. Sta. 921+00 Elev. 1093.86



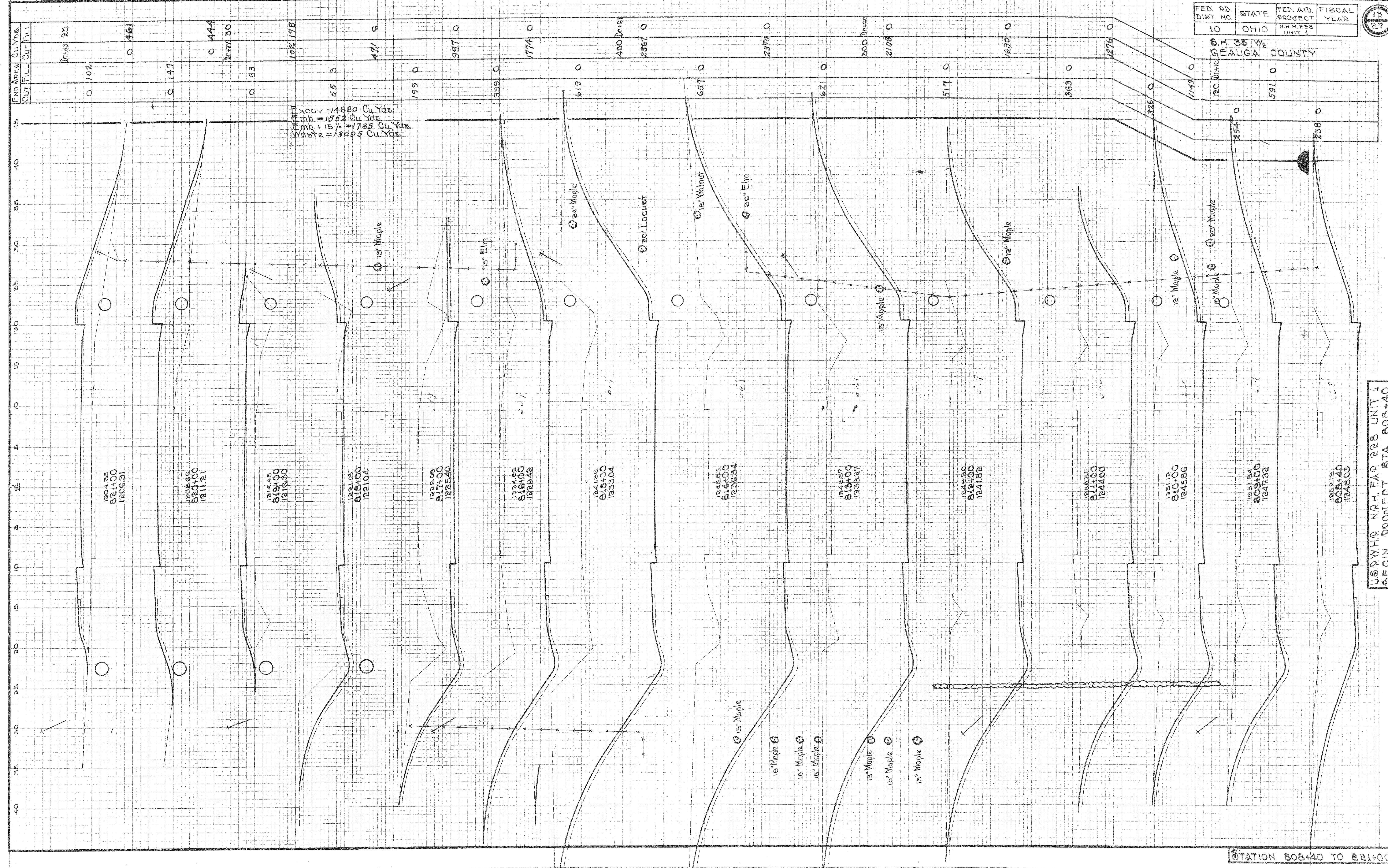
PROFILE
SURVEYED
NOTED
NO. 1

P.C. STA. 846+28.17			P.T. STA. 853+77.39				
DEGREE = 2°-30'							
LEFT			CENTER		RIGHT		
DEDUCT FROM PROFILE	EDGE OF PAVT.	WIDTH	STATION	PROFILE ELEVATION	WIDTH	EDGE OF PAVT.	ADD TO LEFT EDGE
0.11	1132.51	10.00	844+78.17	1132.62	20.00	1132.31	-0.20
	1131.23		845+00	1131.34		1131.29	0.06
	1131.05		+03.17	1131.16		1131.14	0.09
	1129.55		+28.17	1129.66		1129.54	0.39
	1128.22		+50	1128.33		1128.27	0.65
	1128.03		+53.17	1128.14		1128.73	0.68
	1126.48		+78.17	1126.59		1127.45	0.97
	1125.11		846+00	1125.22		1126.34	1.23
	1124.92		+03.17	1125.03		1126.15	1.27
	1123.32		(P.C.) +28.17	1123.43		1124.88	1.56
	1121.80		+50	1122.01		1123.48	
	1120.26		+75	1120.37		1121.82	
	1118.59		847+00	1118.70		1120.15	
	1116.91		+25	1117.02		1118.47	
	1115.23		+50	1115.34		1116.79	
	1113.55		+75	1113.66		1115.11	
	1111.87		848+00	1111.88		1113.43	
	1110.19		+25	1110.30		1111.75	
	1108.51		+50	1108.62		1110.07	
	1106.83		+75	1106.94		1108.39	
	1105.15		849+00	1105.26		1106.71	
	1103.52		+25	1103.63		1105.08	
	1101.99		+50	1102.10		1103.55	
	1100.57		+75	1100.68		1102.13	
	1099.24		850+00	1099.35		1100.80	
	1098.01		+25	1098.12		1099.57	
	1096.89		+50	1097.00		1098.45	
	1095.87		+75	1095.98		1097.43	
	1094.95		851+00	1095.06		1096.51	
	1094.13		+25	1094.24		1095.69	
	1093.42		+50	1093.53		1094.98	
	1092.79		+75	1092.90		1094.35	
	1092.28		852+00	1092.39		1093.84	
	1091.86		+25	1091.97		1093.42	
	1091.56		+50	1091.67		1093.12	
	1091.34		+75	1091.45		1092.90	
	1091.23		853+00	1091.34		1092.79	
	1091.22		+25	1091.33		1092.78	
	1091.31		+50	1091.42		1092.87	
	1091.50		+75	1091.61		1093.06	
	1091.52		(P.T.) +77.39	1091.63		1093.08	1.56
	1091.80		854+00	1091.91		1093.09	1.29
	1091.83		+02.39	1091.94		1093.10	1.27
	1092.24		+27.39	1092.35		1093.31	0.97
	1092.69		+50	1092.80		1093.39	0.70
	1092.74		+52.39	1092.85		1093.42	0.68
	1093.35		+77.39	1093.46		1093.74	0.39
	1093.68		+83.30	1093.79		1093.93	0.25
	1093.99		855+00	1094.10		1094.11	0.12
	1094.06		+02.39	1094.17		1094.15	0.09
0.11	1094.81	10.00	+27.39	1094.92	20.00	1094.61	-0.20

P.C. STA. 902+48.48				P.T. STA. 904+85.15			
DEGREE = 1°-00'							
LEFT			CENTER		RIGHT		
DEDUCT FROM PROFILE	EDGE OF PAVT.	WIDTH	STATION	PROFILE ELEVATION	WIDTH	EDGE OF PAVT.	ADD TO LEFT EDGE
0.31	1076.74	20.00	900+98.48	1077.05	20.00	1076.74	0.00
"	1076.81	"	901+00	1077.12	"	1076.82	0.01
"	1077.88	"	+23.48	1078.19	"	1078.02	0.14
"	1079.02	"	+48.48	1079.33	"	1079.30	0.28
"	1079.09	"	+50	1079.40	"	1079.38	0.29
"	1080.16	"	+73.48	1080.47	"	1080.58	0.42
"	1081.30	"	+98.48	1081.61	"	1081.86	0.56
"	1081.37	"	902+00	1081.68	"	1081.94	0.57
"	1082.44	"	+23.48	1082.75	"	1083.14	0.70
"	1083.58	"	(P.C.) +48.48	1083.89	"	1084.42	0.84
"	1083.65	"	+50	1083.96	"	1084.49	"
"	1084.79	"	+75	1085.10	"	1085.62	"
"	1085.93	"	903+00	1086.34	"	1086.77	"
"	1087.01	"	+25	1087.32	"	1087.85	"
"	1087.97	"	+50	1088.28	"	1088.81	"
"	1088.82	"	+75	1089.13	"	1089.68	"
"	1089.55	"	904+00	1089.86	"	1090.39	"
0.31	1090.15	20.00	+25	1090.46	20.00	1090.99	0.84
0.38	1090.54	23.00	+50	1090.92	23.00	1091.51	0.97
"	1090.95	"	+75	1091.33	"	1091.92	0.97
"	1091.08	"	(P.T.) +85.15	1091.46	"	1092.05	0.97
"	1091.22	"	905+00	1091.60	"	1092.09	0.87
"	1091.29	"	+10.15	1091.67	"	1092.10	0.81
"	1091.38	"	+35.15	1091.76	"	1092.02	0.65
"	1091.38	"	+50	1091.76	"	1091.93	0.55
"	1091.23	"	+60.15	1091.64	"	1091.74	0.48
"	1091.23	"	+85.15	1091.60	"	1091.54	0.32
"	1091.08	"	906+00	1091.46	"	1091.31	0.23
"	1090.97	"	+10.15	1091.35	"	1091.13	0.16
0.38	1090.70	23.00	+35.15	1091.08	23.00	1090.70	0.00

FINAL SURVEY PROJECT
DATE: 10/1/88
BY: J. J. JONES

ORIGINAL SURVEY
DATE: 10/1/88
BY: J. J. JONES



FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	NRH 228 UNIT 1	1988

S.H. 35 W.
DEALGA COUNTY

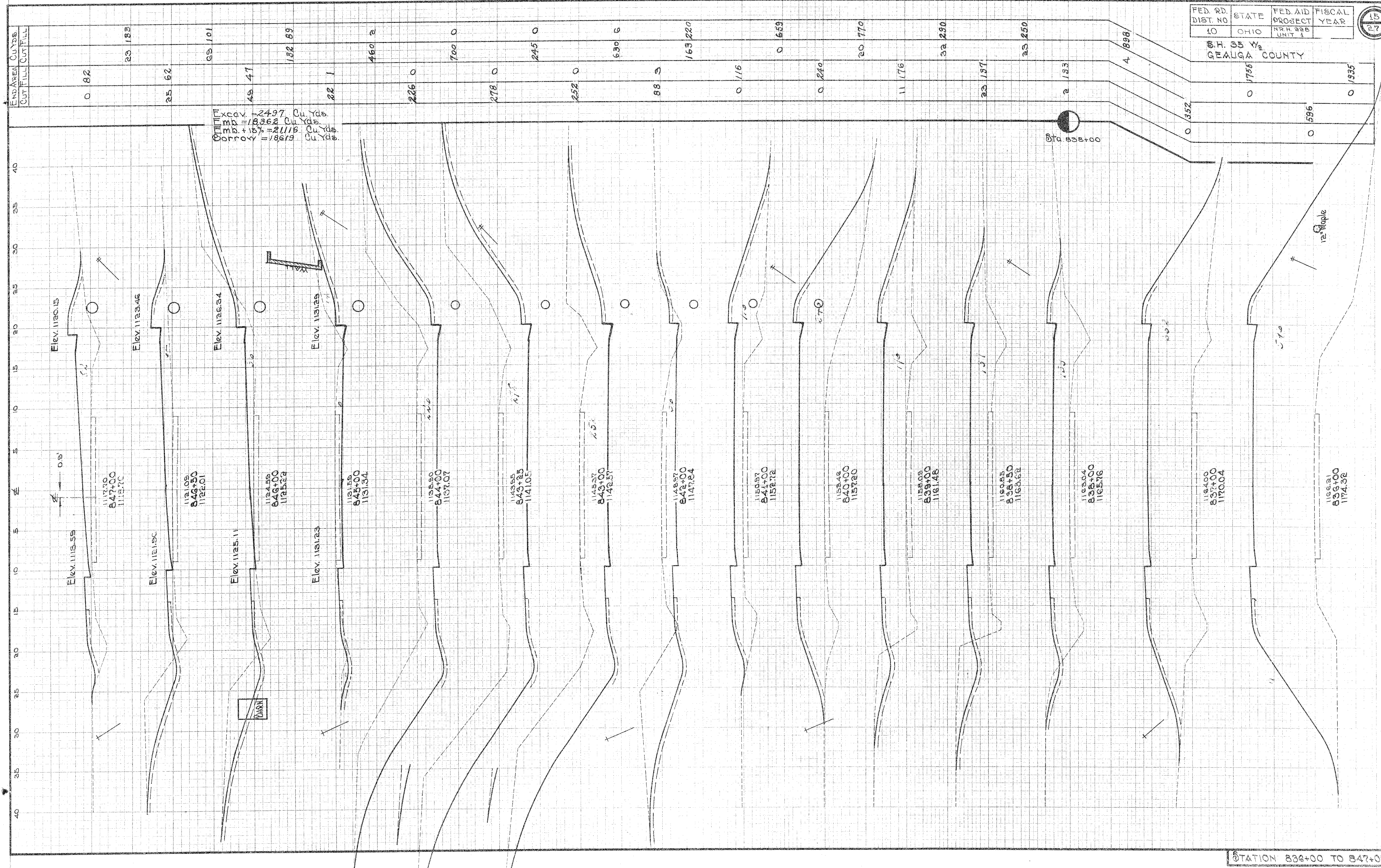
USRWH NRH FAR 228 UNIT 1
BEGIN PROJECT STA. 808+40

STATION 808+40 TO 821+00

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	HRH 228 UNIT 1	

15
2.7

S.H. 35 W.
GEAUGA COUNTY



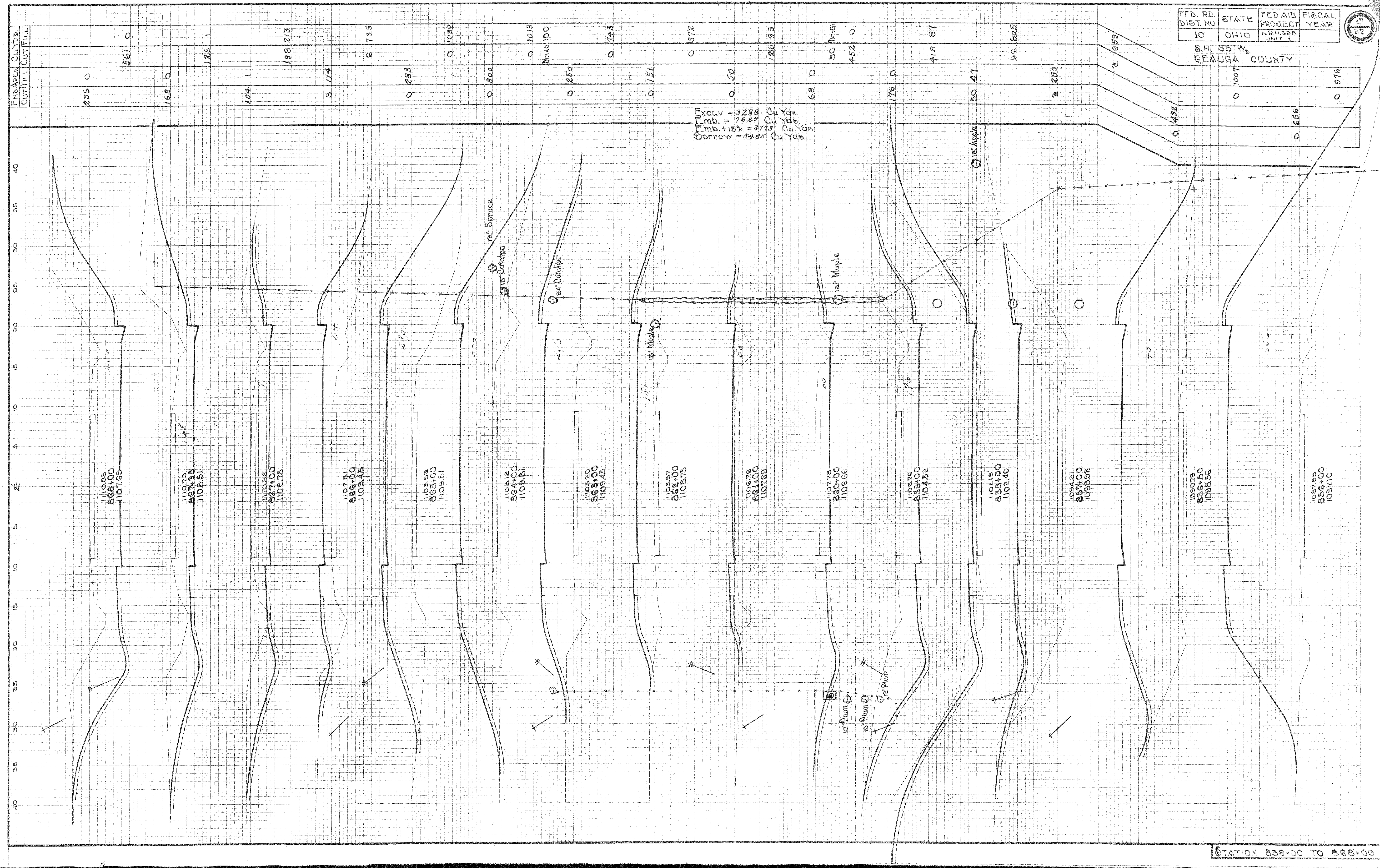
FINAL
SURVEY
NOTES
DATE

ORIGINAL
SURVEY
NOTES
DATE

STATION 834+00 TO 847+00

FINAL SURVEY
DATE: 12/1/83
BY: J. H. HARRIS
NOTE: P.O. BOX 100, COLUMBUS, OH 43260

ORIGINAL SURVEY
DATE: 12/1/83
BY: J. H. HARRIS
NOTE: P.O. BOX 100, COLUMBUS, OH 43260



Quantity
KCAV = 3288 Cu Yds.
mb. = 7629 Cu Yds.
mb. + 15% = 8773 Cu Yds.
Corroy = 5486 Cu Yds.

FED. RD. DIST. NO.	STATE	FED. AID PROJECT UNIT	FISCAL YEAR
10	OHIO	NRH-228 UNIT 1	1983

S.H. 35 W₂
GEAUGA COUNTY

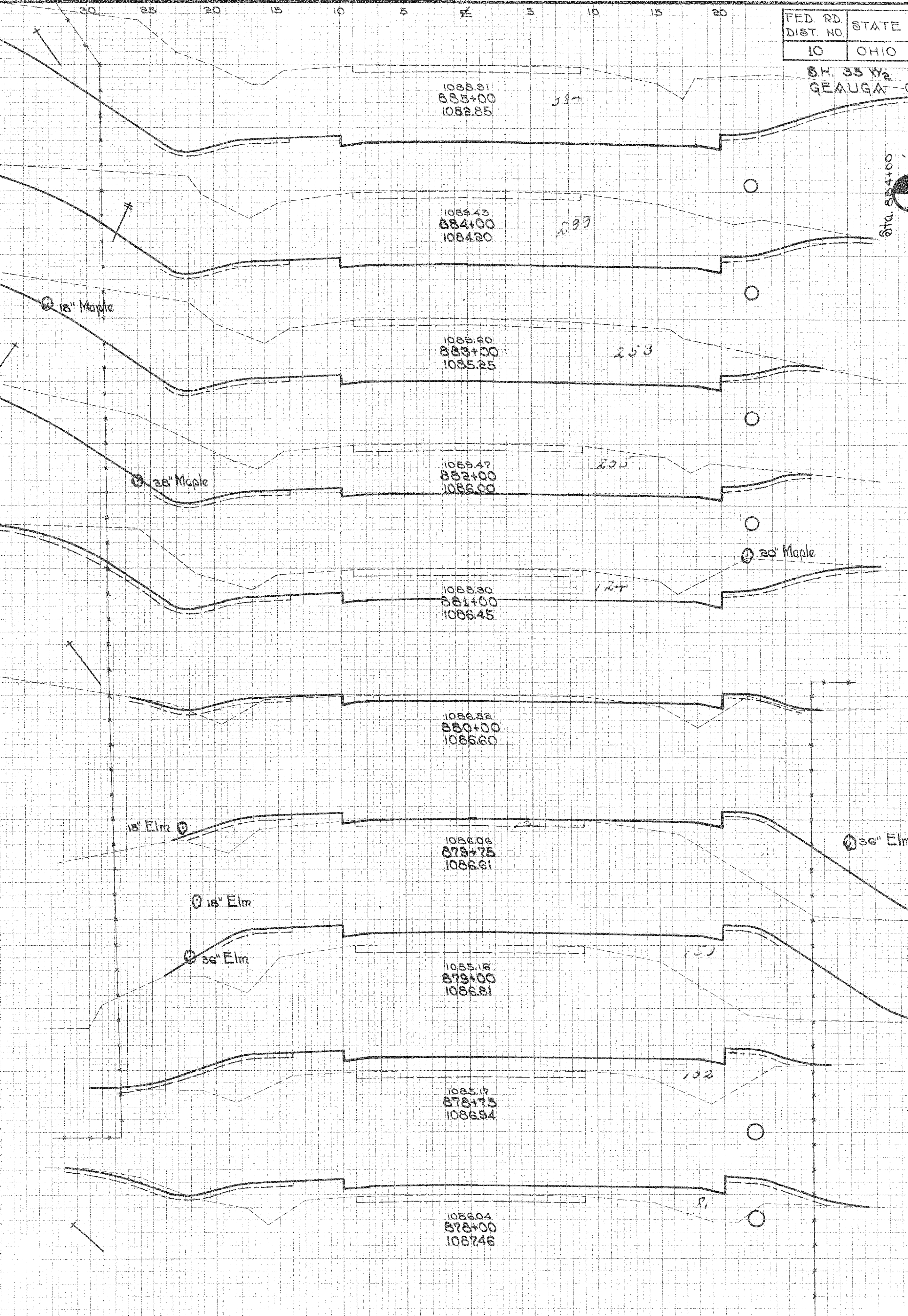
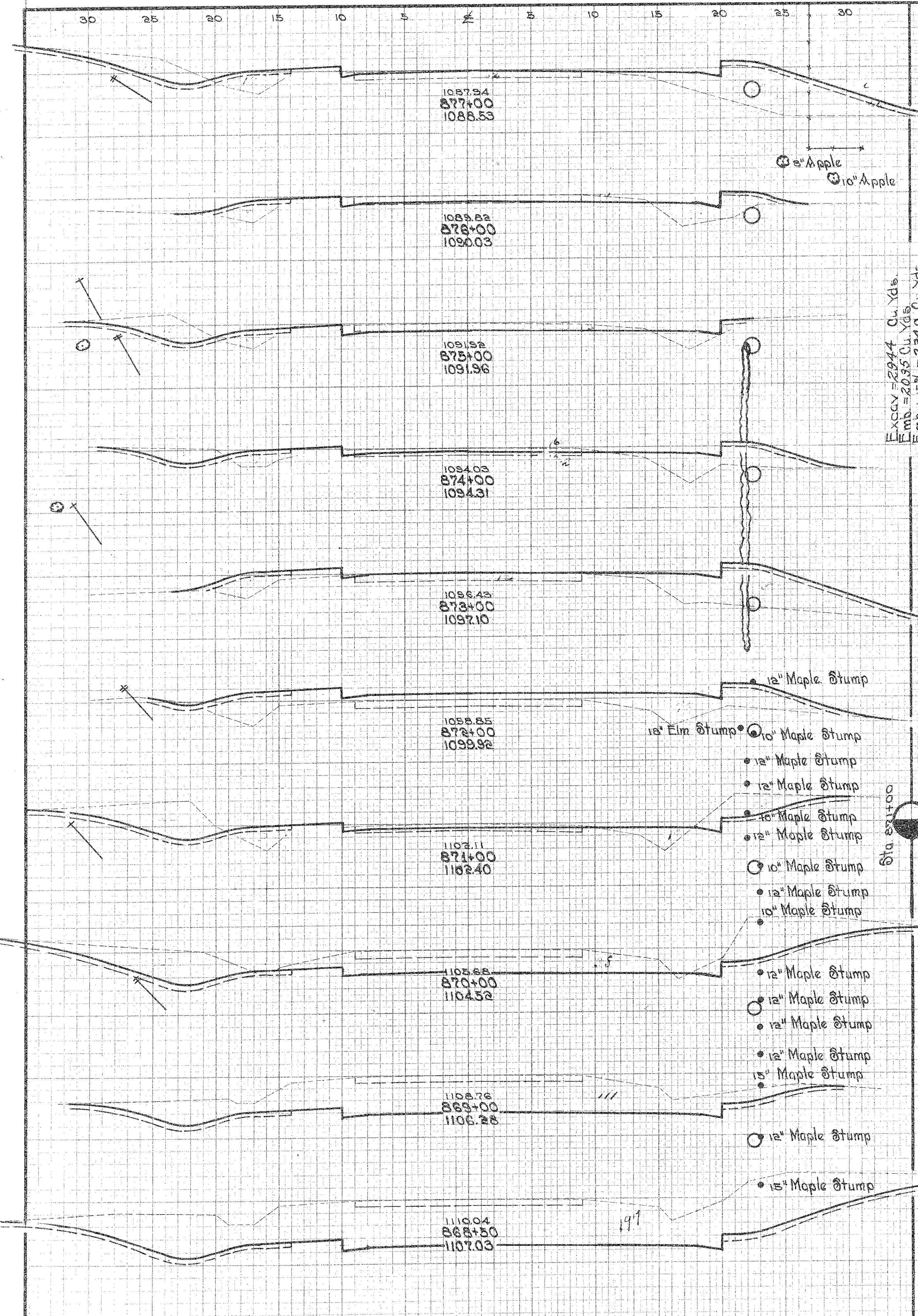
236 0	561 0	168 0	104 1	3 114	0 283	0 300	0 1019	0 743	0 372	126 93	50 0	452 0	176 0	50 47	96 605	2 280	2 659	0 432	0 656	0 1007	0 976
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STATION 858+00 TO 868+00

END AREA		CU YDS.	
CUT	FILL	CUT	FILL
16	69		
	33	165	
2	20		
	30	57	
14	11		
	44	85	
10	35		
	19	138	
0	72		
	2	263	
1	70		
	69	168	
36	21		
	239	39	
93	0		
	373		
111	0		
	285	0	
197	0		
	401	0	

Excav = 2944 Cu Yds
Emd = 2035 Cu Yds
Emd + 15% = 2340 Cu Yds
Waste = 604 Cu Yds

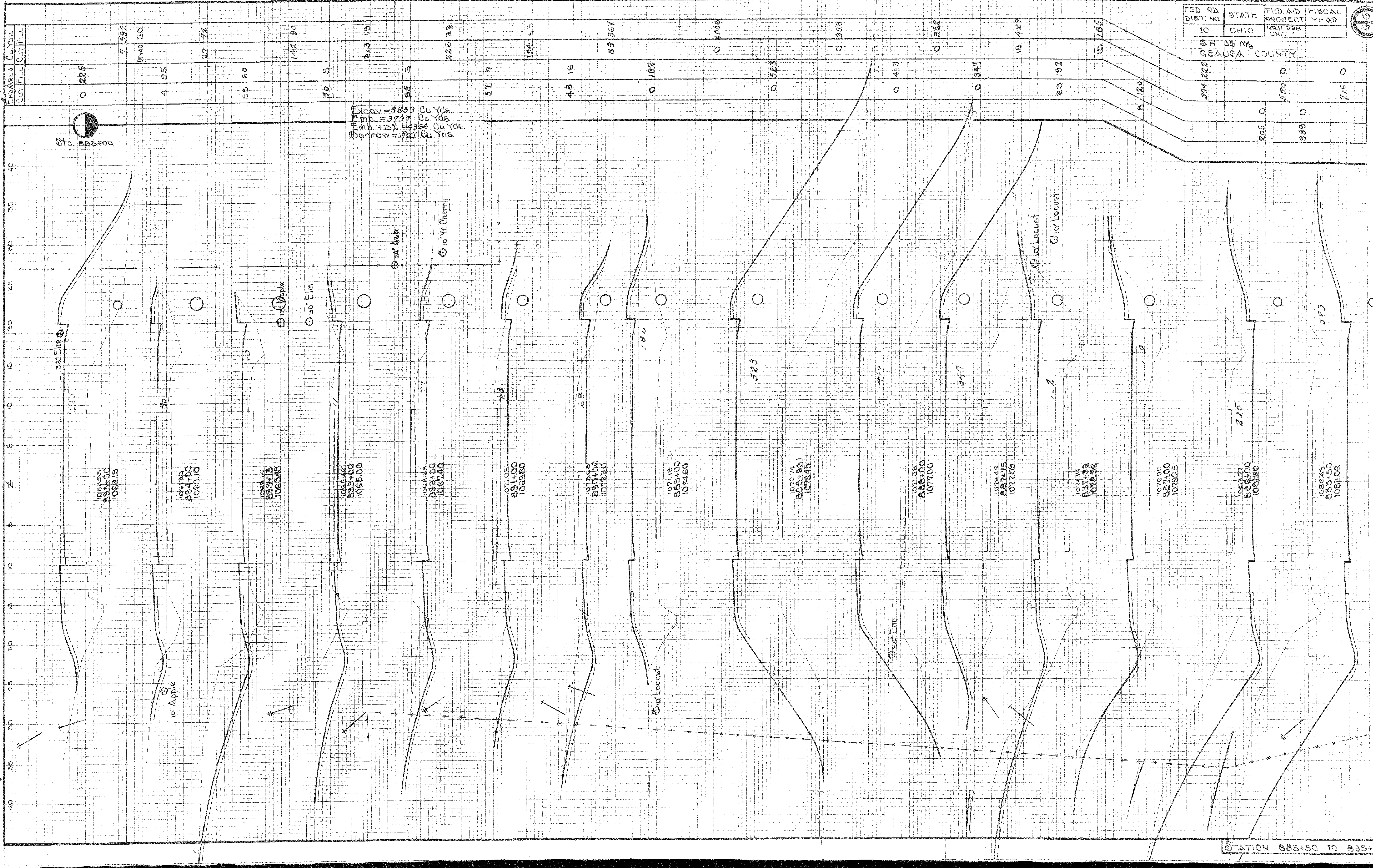
Sta 871+00



END AREA		CU YDS.	
CUT	FILL	CUT	FILL
384	0	1265	0
299	0		
		1022	0
253	0		
		848	0
205	0		
		609	0
124	0		
		231	31
1	17		
		1	54
0	101		
		0	361
0	152		
		0	121
0	102		
		3	254
2	81		
		33	278

ORIGINAL SURVEY MAP
NOT BE USED FOR CONSTRUCTION
DATE: 10/1/77
BY: J. L. GILBERT

FINAL SURVEY MAP
NOT BE USED FOR CONSTRUCTION
DATE: 10/1/77
BY: J. L. GILBERT

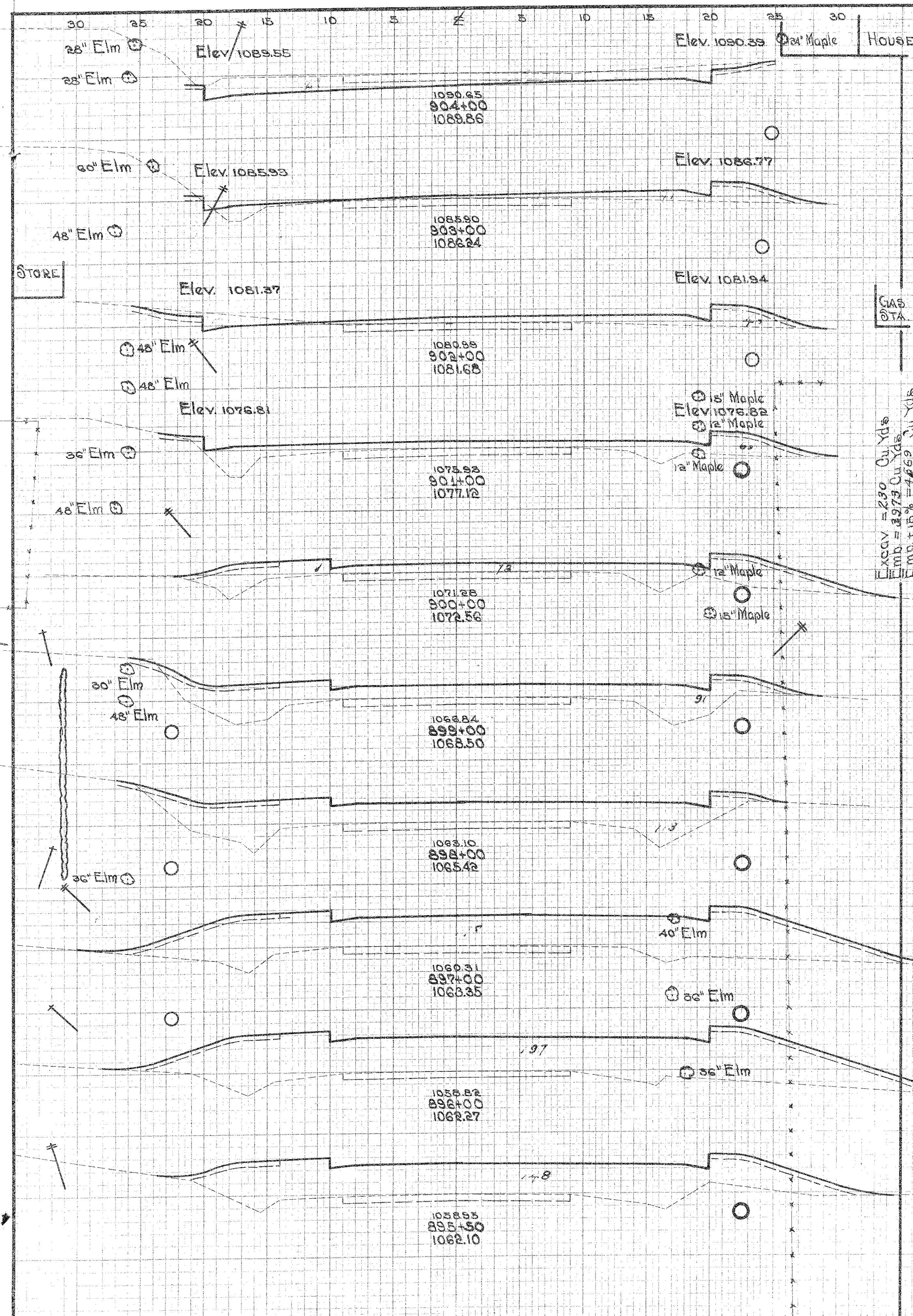


FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	HRH 228 UNIT 1	
S.H. 35 W. 1/2			
GEAUGA COUNTY			
394.222		0	0
	205	0	0
		389	0
			716

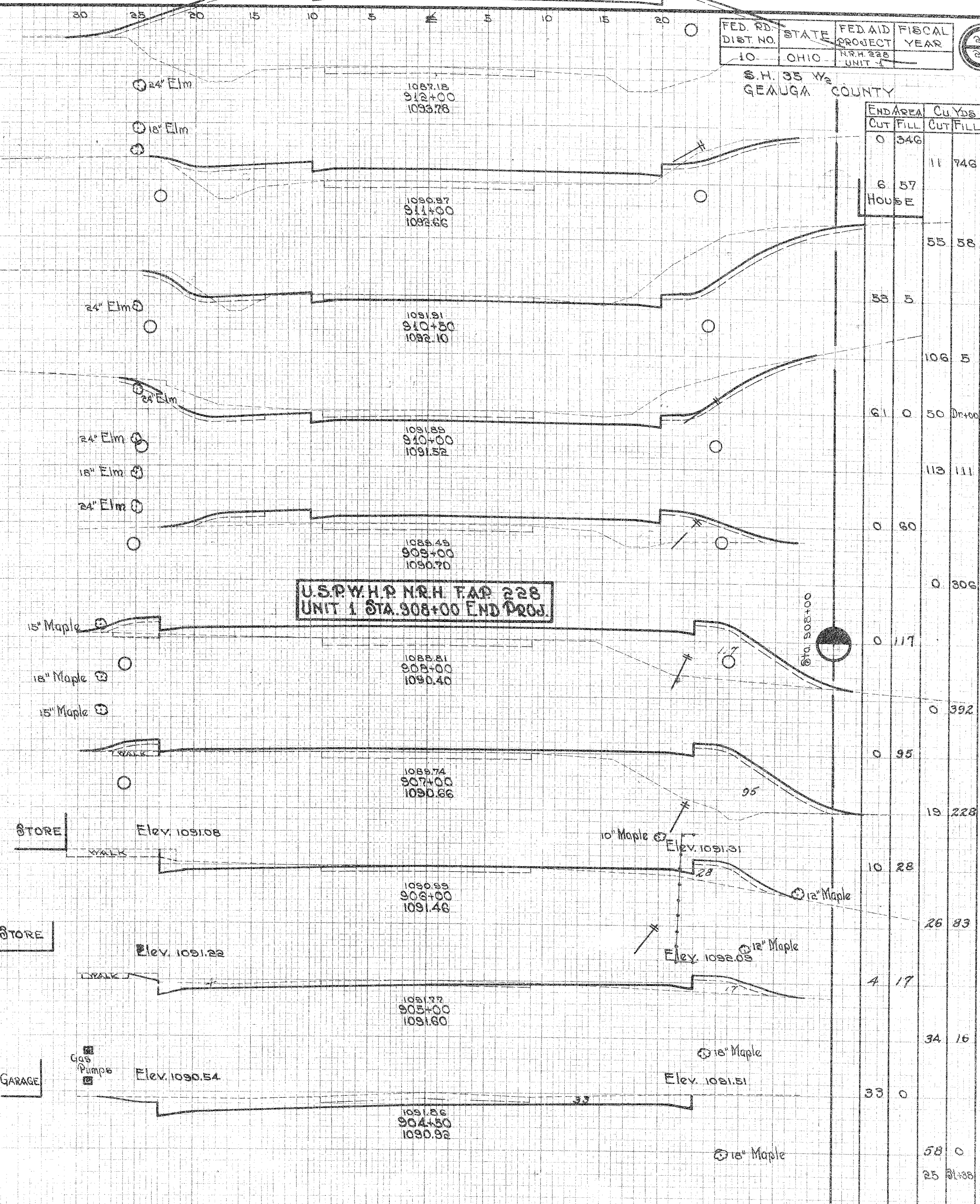
STATION 885+50 TO 895+00

FINAL SURVEY
SHEET NO. 1
DATE 10/1/00
BY [Signature]

ORIGINAL SURVEY
SHEET NO. 1
DATE 10/1/00
BY [Signature]



END AREA	Cu. Yds.	END AREA	Cu. Yds.
CUT	FILL	CUT	FILL
28	0	54	76
1	41	20	150
10	40	15	185
0	60	0	255
0	78	50	81.65
0	313	0	91
0	378	0	113
0	539	0	178
0	694	0	197
0	319	0	148
0	345		

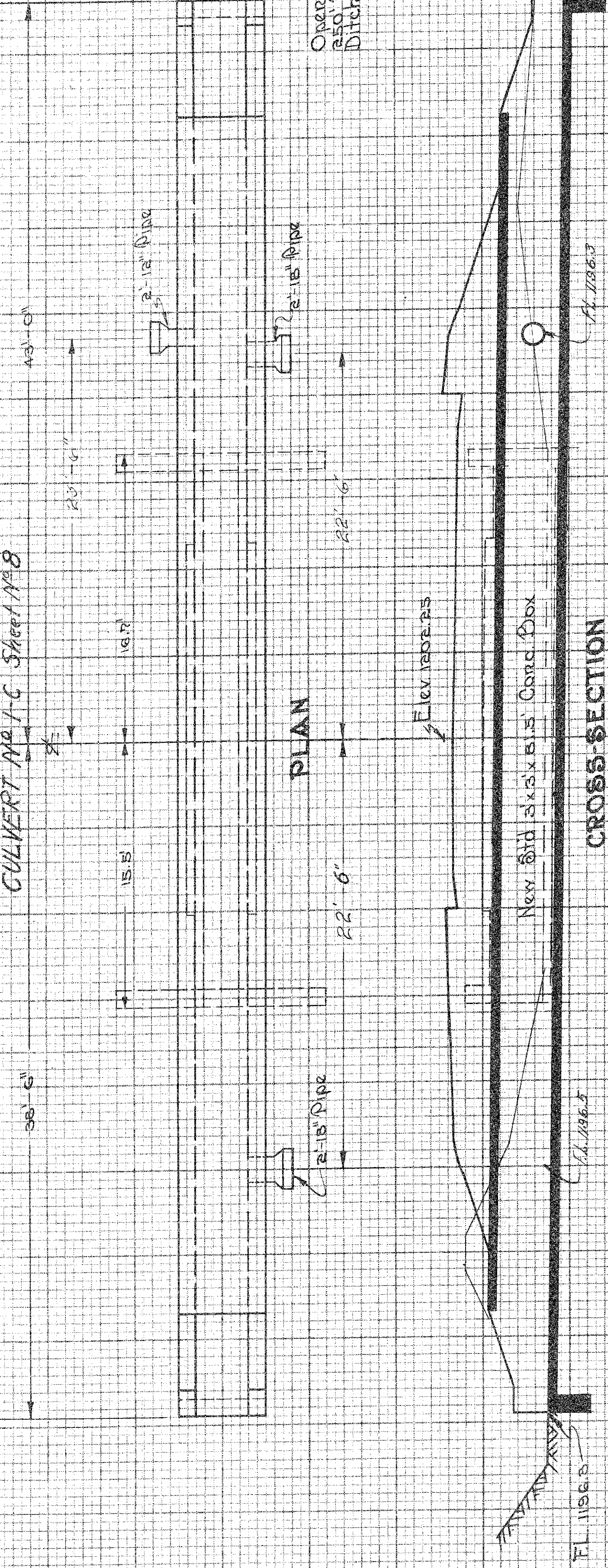


FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	NRH 228 UNIT 1	2007
S.H. 35 W2 GEauga COUNTY			
END AREA	Cu. Yds.	END AREA	Cu. Yds.
CUT	FILL	CUT	FILL
0	346	11	746
6	57	55	58
HOUSE		53	5
		61	0
		113	111
		0	60
		0	306
		0	117
		0	392
		0	95
		19	228
		10	28
		26	83
		4	17
		34	16
		33	0
		58	0
		25	81.35

STATION 893+50 TO 912+00

STA. 822+20.7
CULVERT No. 1-C Sheet No. 8

10



CULVERT DATA

Type: Std. Conc. Box, Std. Dr. No. 8-20-34
Size: 5' x 3' x 1' 6"
Work Req'd: Remove existing six-sided stone and conc. box culvert
Build new Std. six-sided Conc. Box Culvert with Std. cut-off wall Rt. & Lt. Open Outlet Channel 250' Rt.

CROSS-SECTION

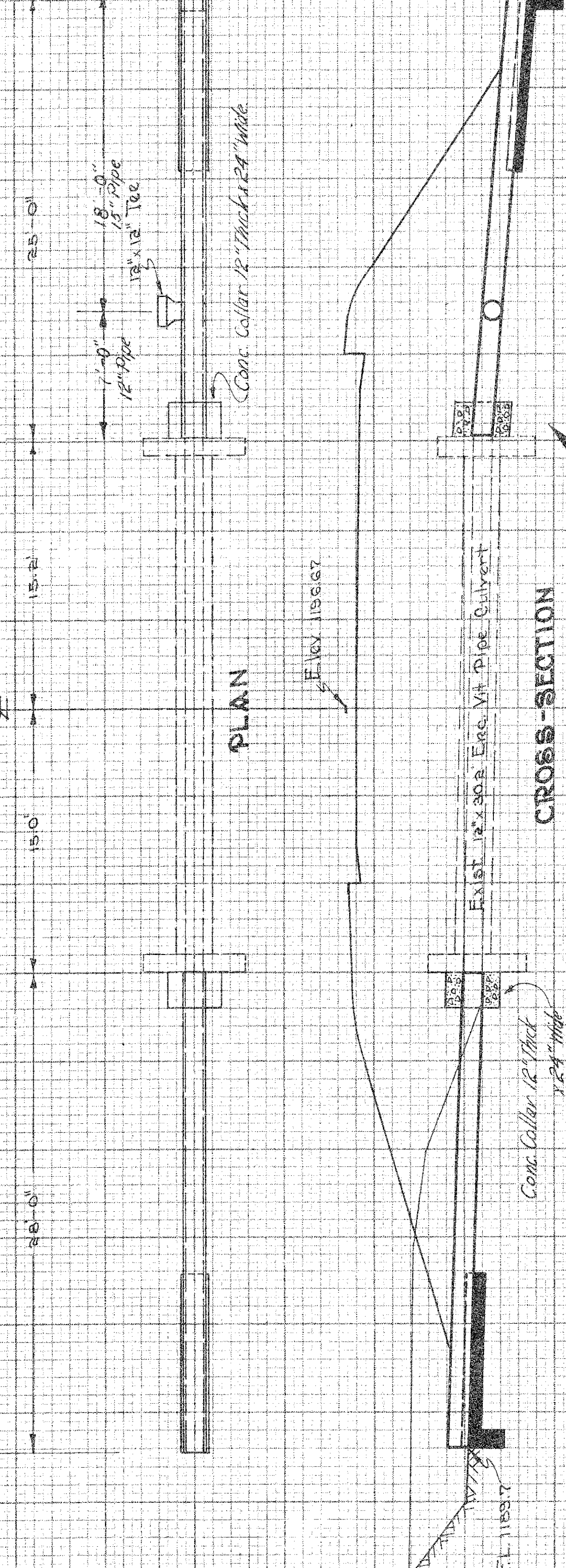
EST. QUANTITIES

Excav. (Found)	17	Cu. Yds.
Excav. (Channel)	35	Cu. Yds.
Conc. (1-5%)	274	Cu. Yds.
Reinft. Steel	2557	Lbs.
18" Pipe	4	Lin. Ft.
12" Pipe	2	Lin. Ft.
Removal Existing Masonry	18	Cu. Yds.

STA. 822+20.7

STA. 828+32.3
CULVERT No. 2-C Sheet No. 8

11



CULVERT DATA

Type: Std. Pipe Culvert, Std. Dr. No. 8-20-34
Size: 15' x 5' x 1' 6"
Work Req'd: Extend existing existing Enc. V. 8' 0"
Culvert 25' 0" Rt. & Lt. with Std. Pipe Culvert
Build Std. cut-off walls Rt. & Lt. Build Conc. Collar 12' 0" thick 12' 0" wide
9" into old Hdwls

CROSS-SECTION

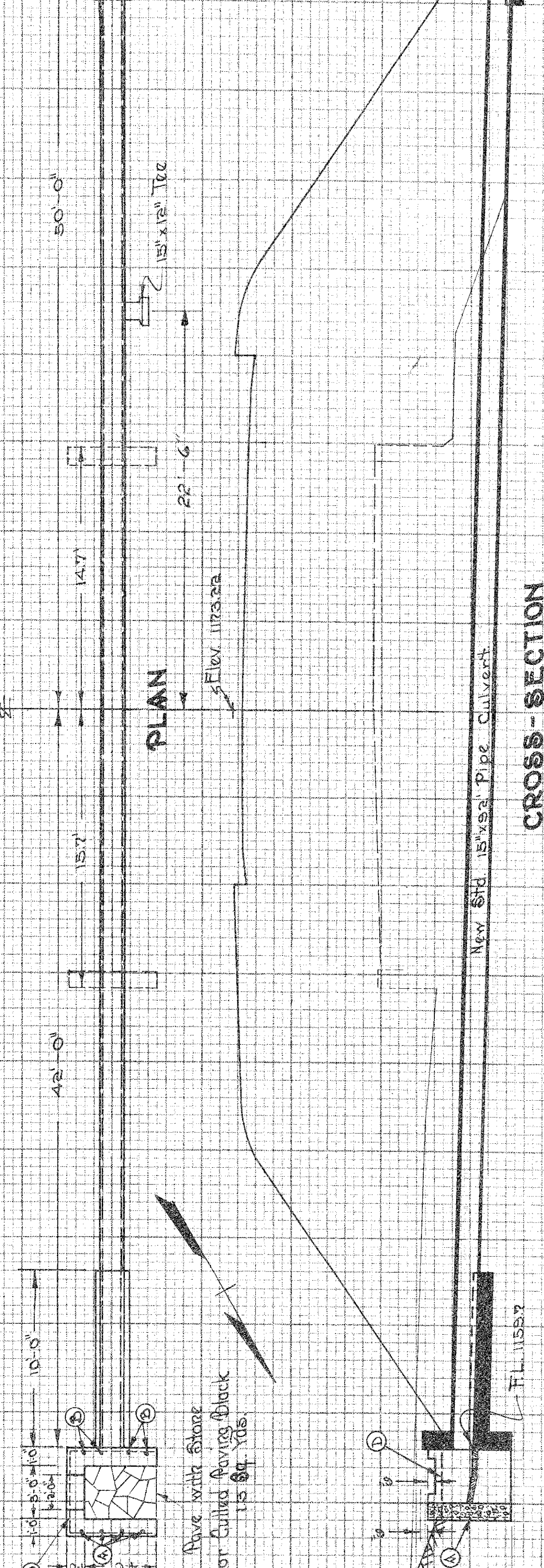
EST. QUANTITIES

Excav. (Found)	10	Cu. Yds.
Conc. (1-5%)	12	Cu. Yds.
15' x 5' Pipe Tee	1	Only
12" Pipe for Culv'ts	34	Lin. Ft.
15" Pipe for Culv'ts	18	Lin. Ft.
1/2" x 18" Dowels	16	Lbs.
Dowel Hooks	16	Complete

STA. 828+32.3

STA. 836+25.8
CULVERT No. 3-C Sheet No. 8

12



CULVERT DATA

Type: Std. Pipe Culvert, Std. Dr. No. 8-20-34
Size: 15' x 5' x 1' 6"
Work Req'd: Remove existing 12' x 30.4' Enc. V. 8' 0" Culvert
Build new Std. 15' x 5' Pipe Culvert with Special Hdwls on Lt. and Std. Cut-off wall on Rt.
Lay 1/2" x 18" Dows. of Rip Rap

CROSS-SECTION

EST. QUANTITIES

Excav. (Found)	45	Cu. Yds.
Conc. (1-5% Mix)	33	Cu. Yds.
Reinft. Steel	32	Lbs.
15" Pipe for Culv'ts	90	Lin. Ft.
Hand Laid Rip Rap	13	Sq. Yds.
15' x 12" Pipe Tee	1	Only
Removal of Masonry	2	Cu. Yds.
Removal of Existing Pipe	30	Lin. Ft.

STEEL LIST

MARKS	SIZE	LGTH	NO.	WT.
A	1/2"	4'-0"	4	11
B	3/8"	4'-0"	4	12
D	1/2"	13'-0"	1	5
TOTAL				32

All bars are straight
"D" bars to be bent in the field.

EST. QUANTITIES

Excav. (Found)	45	Cu. Yds.
Conc. (1-5% Mix)	33	Cu. Yds.
Reinft. Steel	32	Lbs.
15" Pipe for Culv'ts	90	Lin. Ft.
Hand Laid Rip Rap	13	Sq. Yds.
15' x 12" Pipe Tee	1	Only
Removal of Masonry	2	Cu. Yds.
Removal of Existing Pipe	30	Lin. Ft.

STA. 836+25.8

FED. RD. DIST.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	NRH 228 UNIT 2	

S.H. 33-W₂
GEAUGA COUNTY

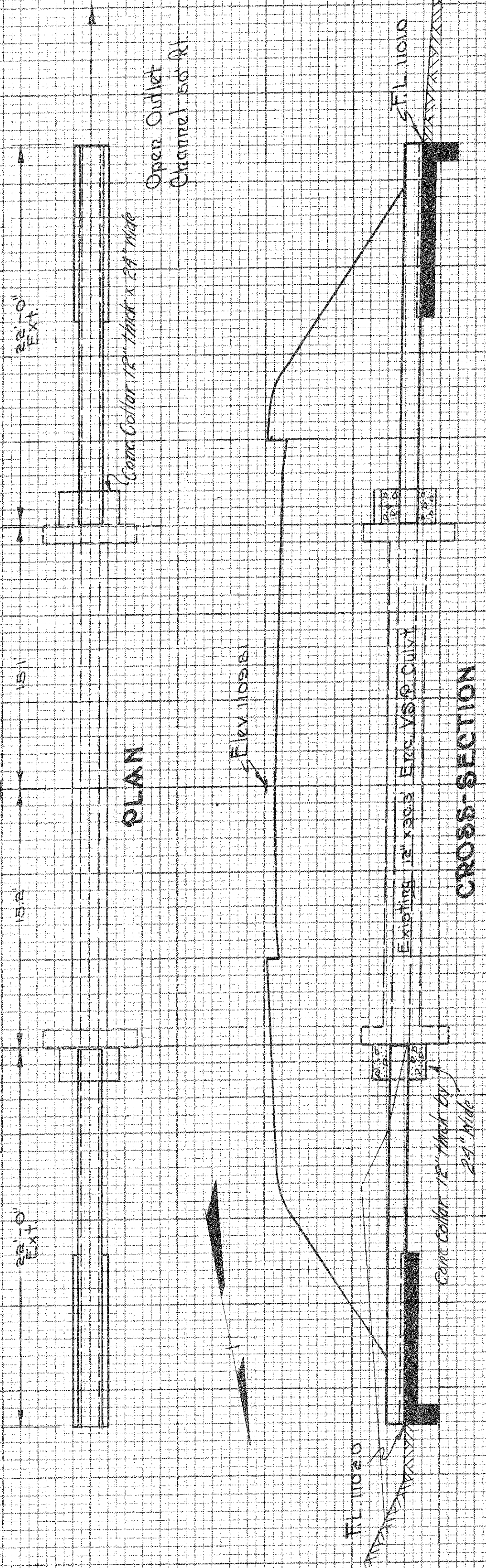
21

Sta. 855+45.3 ± of 32.7' Span 24' Roadway Crossed Timber on Steel Beams Stone and Conc. Abutments (Built in 1932)
Diamond and Stack Superstructure and build New 40' Span 24' Roadway Rigid Type Conc. Bridge with Conc. Approaches
See Separate Bridge Plans

13
STA. 855+37.30

CULVERT No. 1-C Sheet No. 9
Sta. 864+04.4

14



CULVERT DATA

Type: Std. Pipe Culvert. Sld. Dr. No. 8-27 P.C. 2
Size: 12' x 24' Exts.
Work Req'd: Extend Existing 12' x 24' Ex. V. S. P. Culvert
22' Rt. & 22' Lt. with Std. Pipe Culvert. Build Std.
Cut-off wall Rt. & Lt. Open Outlet Channel
50' Lt. Build Conc. Collar 12' x 24' and Dowel
with 4" x 8" Conc. Pins into old headwall.

CROSS-SECTION

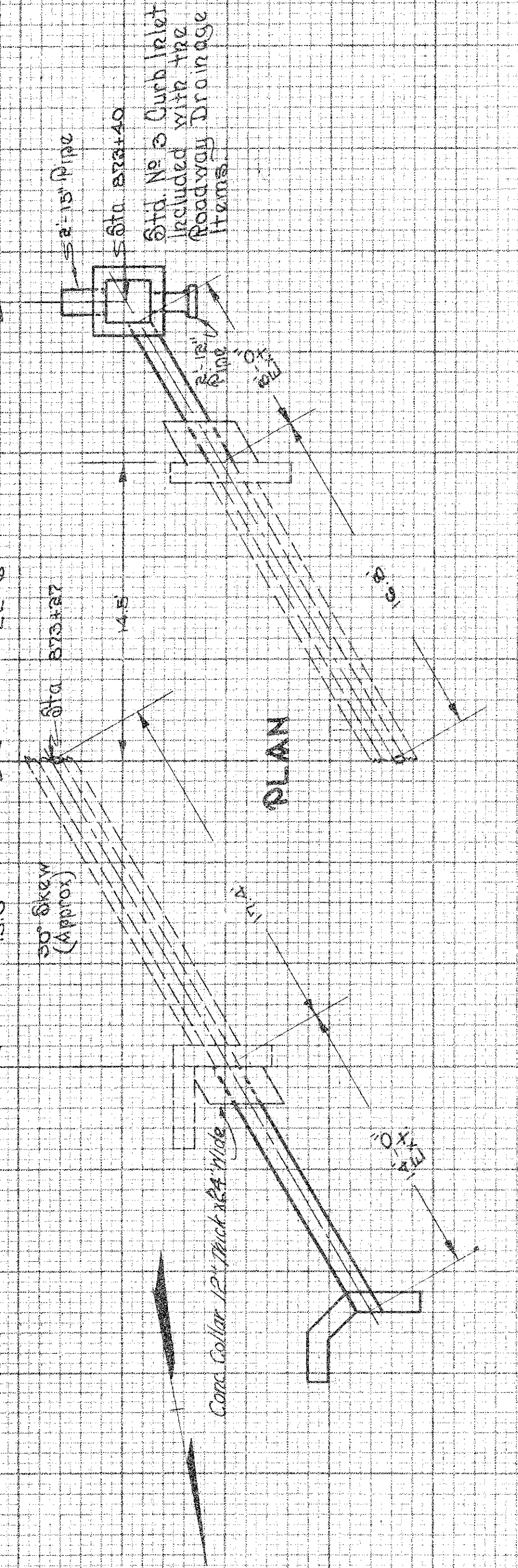
EST. QUANTITIES

Excav. (Found)	10	Cu. Yds.
Excav. (Channel)	5	Cu. Yds.
Conc. (1-1/2 Mix)	12	Cu. Yds.
12" Pipe for Culvert	44	Lt. Ft.
4" x 8" Pins	16	Lbs.
Dowel Nails	16	Complete

STA. 864+04.4

15

CULVERT No. 2-C Sheet No. 9



CULVERT DATA

Type: Std. Pipe Culvert. Sld. Dr. No. 8-27 P.C. 12.2
Size: 12' x 24' Exts.
Work Req'd: Extend Existing 12' x 24' Ex. V. S. P. Culvert
22' Rt. & 22' Lt. with Std. Pipe Culvert. Build Std. Side
Road, Headwall on Lt. Connect to Curb Inlet on Rt.
Build Conc. Collar 12' x 24' and Dowel with 4" x 8"
Dowels 5" into old headwalls.

CROSS-SECTION

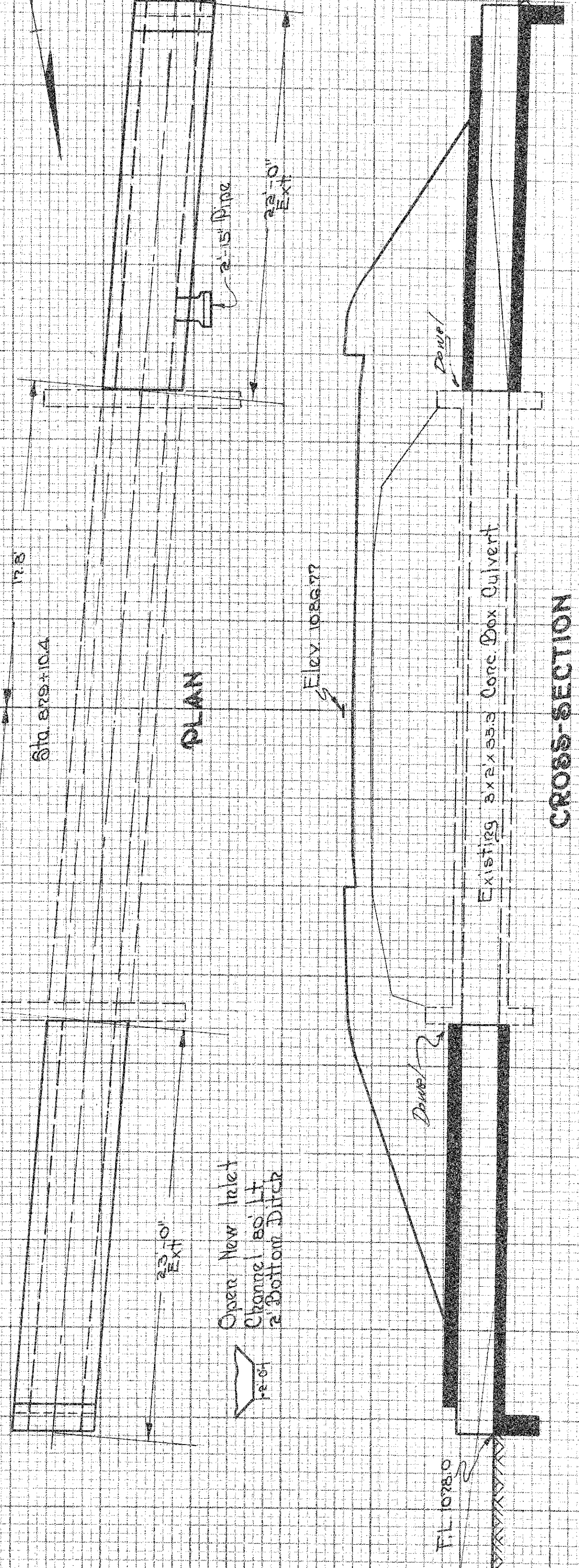
EST. QUANTITIES

Excav. (Found)	10	Cu. Yds.
Excav. (Channel)	11	Cu. Yds.
Conc. (1-1/2 Mix)	30	Lbs.
12" Pipe for Culvert	22	Lt. Ft.
Remove Exst. Masonry	0.5	Cu. Yds.
12" x 18" Dowels	16	Lbs.
Dowel Nails	16	Complete

STA. 873+27.0

16

CULVERT No. 3-C Sheet No. 9



CULVERT DATA

Type: Std. Conc. Box Culvert. Dr. No. 8-27 P.C. 34
Size: 34' x 45' Exts.
Work Req'd: Extend existing 34' x 45' Conc. Box
Culvert 22' Rt. & 22' Lt. with New Std. Conc.
Box Culvert. Build New Std. Cut-off wall Rt.
& Lt. Open Channel 25' Rt. & 20' Lt. Dowel
New Culvert to old as shown on Std. Drawg
SDC-34

EST. QUANTITIES

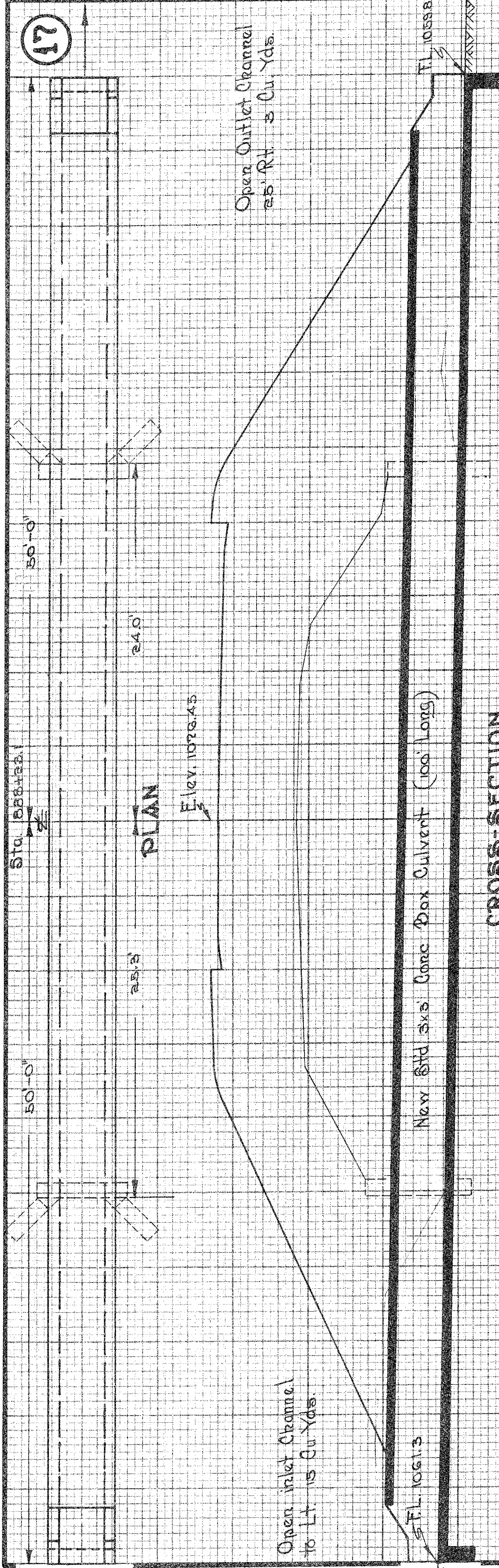
Excav. (Found)	15	Cu. Yds.
Excav. (Channel)	20	Cu. Yds.
Conc. (1-1/2 Mix)	134	Cu. Yds.
Rein. Steel	1383	Lbs.
15" Pipe	2	Lt. Ft.
Dowel Nails	20	Complete

FED. RD. DIST.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	NRH 238 UNIT 1	

S.H. 85-1/2
GEAUGA COUNTY

STA. 879+10.4

22
27



CULVERT DATA

Type: Std. Conc. Box Culvert, Dr. No. 880-34
Size: 36" x 36"
Work Req'd: Remove Existing 36" x 36" Stone & Conc. Box Culvert
36" x 36" Conc. Box Culvert with Std. Cut-off walls
Rt. & Lt. Excavate 25' to outlet channel and
remove 15 Cu. Yds. in inlet channel.

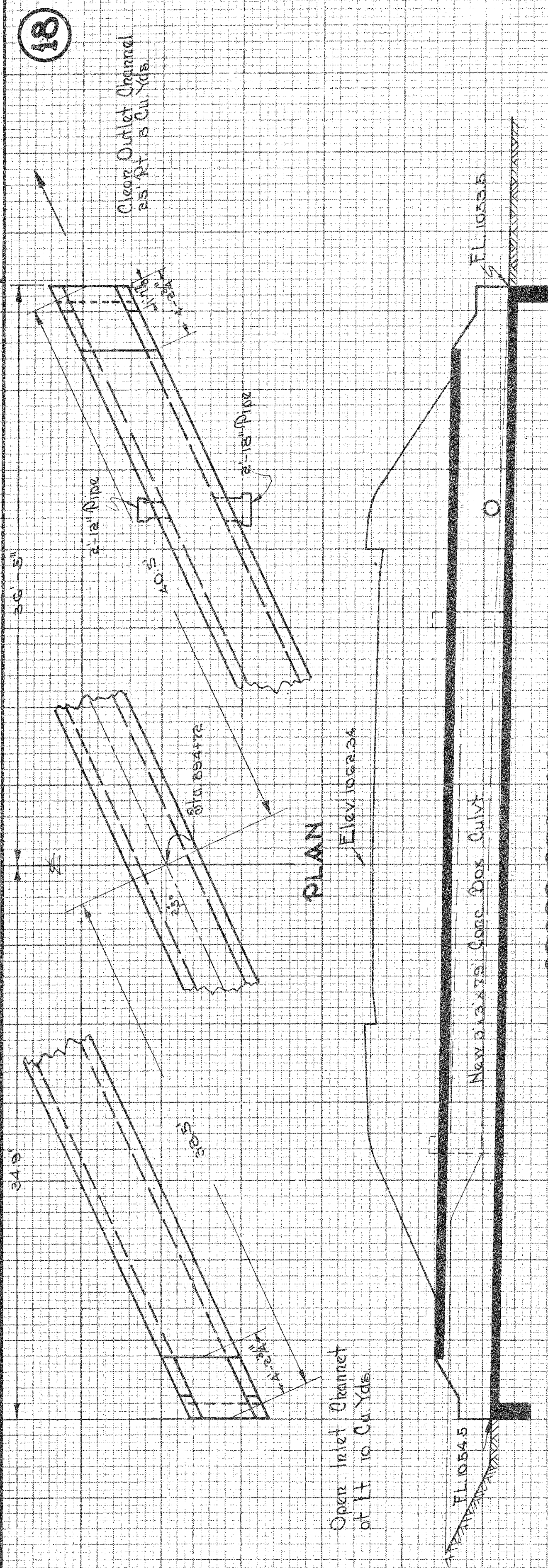
CULVERT No. 1-C Sheet No. 10

CROSS-SECTION

EST. QUANTITIES

Excav. (Found) 115 Cu. Yds.
Excav. (Channel) 15 Cu. Yds.
Conc. (1-5/8" Mix) 53.7 Cu. Yds.
Reinf. Steel 2147 Lbs.
Removal Exist. Masonry 25 Cu. Yds.

STA. 888+23.1



CULVERT DATA

Type: Std. Skewed Conc. Box, Dr. No. 880-34
Size: 36" x 36"
Work Req'd: Remove Exist. 36" x 36" Conc. Box Culvert at
Sta. 884+72 and build New Std. 36" x 36" Conc. Box
Culvert on 25' Skew. Build Std. Cut-off wall Rt.
and Lt. Open inlet and outlet channels.

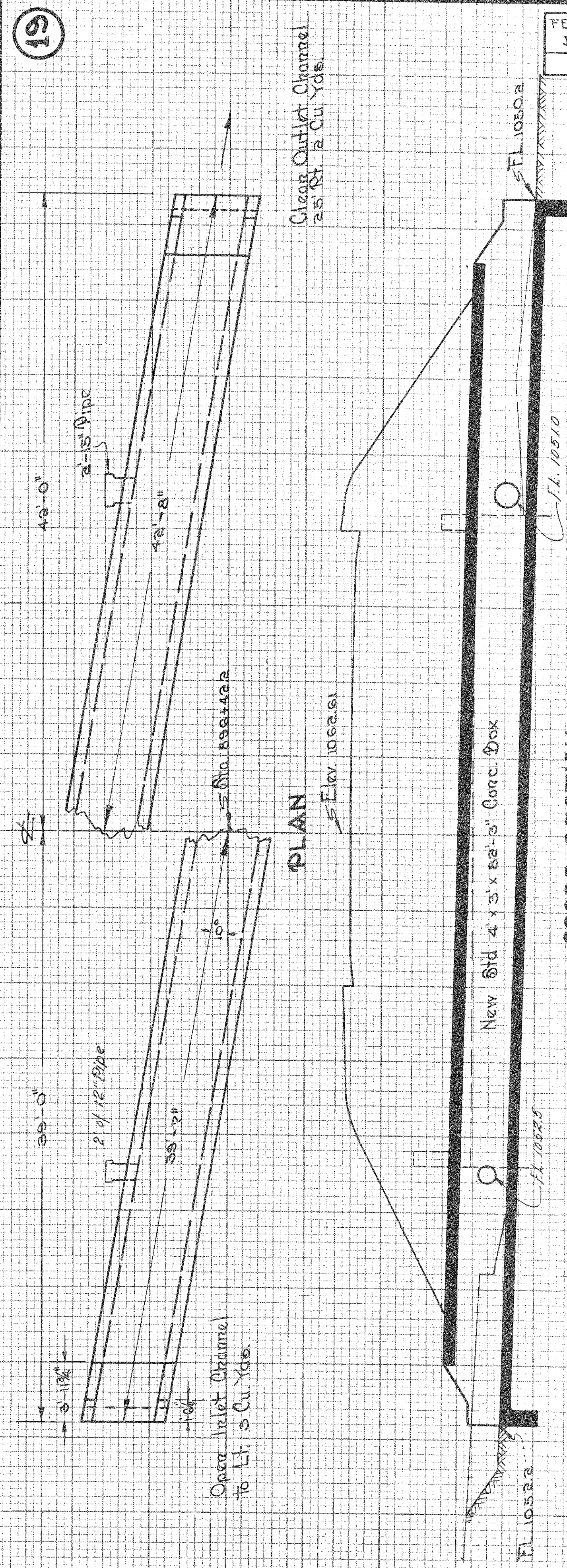
CULVERT No. 2-C Sheet No. 10

CROSS-SECTION

EST. QUANTITIES

Excav. (Found) 59 Cu. Yds.
Excav. (Channel) 15 Cu. Yds.
Conc. (1-5/8" Mix) 25.3 Cu. Yds.
Reinf. Steel 2452 Lbs.
15" Pipe 2 Lin. Ft.
12" Pipe 2 Lin. Ft.
Removal Exist. Masonry 11 Cu. Yds.

STA. 894+72



CULVERT DATA

Type: Std. Conc. Box Culvert, Dr. No. 880-34
Size: 48" x 36"
Work Req'd: Remove Exist. 36" x 36" Stone
and Conc. Box Culvert
Build New Std. 48" x 36" Conc. Box
on 10' Skew with Std. Cut-off walls Rt. & Lt.
Open inlet and outlet channels.

CULVERT No. 3-C Sheet No. 10

CROSS-SECTION

EST. QUANTITIES

Excav. (Found) 77 Cu. Yds.
Excav. (Channel) 5 Cu. Yds.
Conc. (1-5/8" Mix) 33.2 Cu. Yds.
Reinf. Steel 3236 Lbs.
15" Pipe 2 Lin. Ft.
Removal Exist. Masonry 18 Cu. Yds.
12" Pipe 2 Lin. Ft.

FED. RD. DIST.	STATE	FED. AID PROJECT UNIT	FISCAL YEAR
10	OHIO	NRH-228 UNIT 1	23

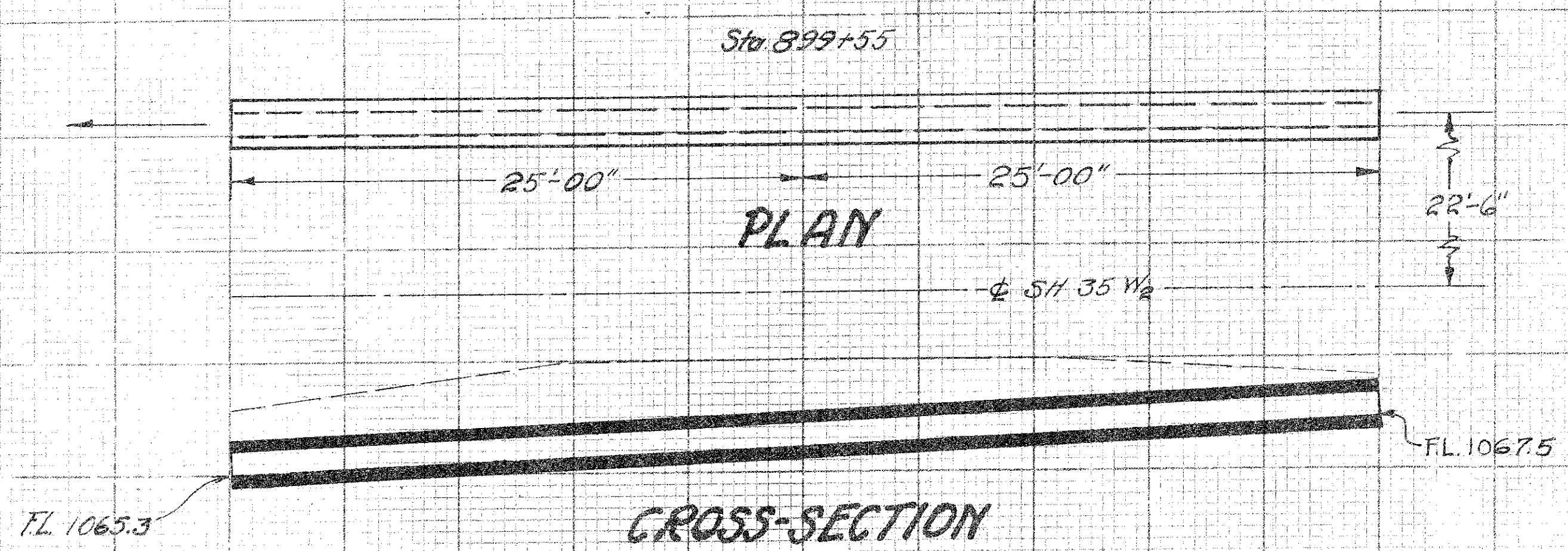
S.H. 35-W
GEAUGA COUNTY

STA. 896+42.2



CULVERT No 5-C Sheet No 10

20



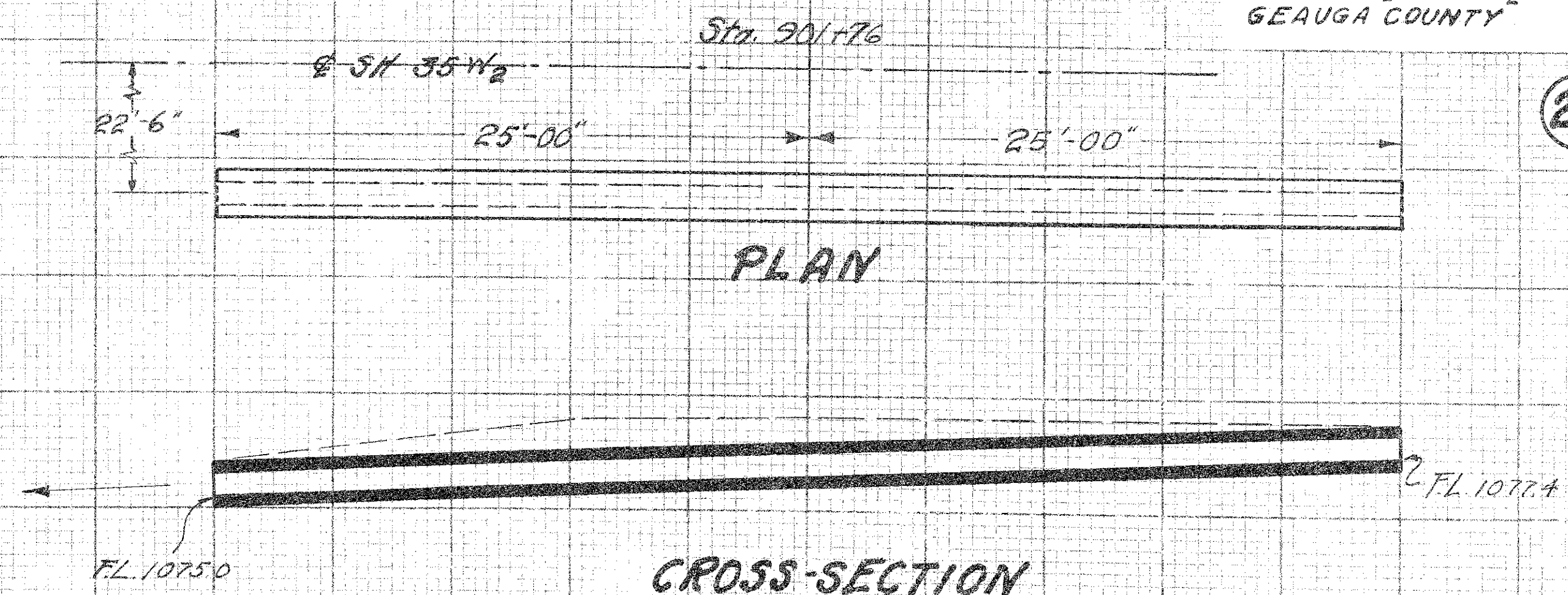
CULVERT DATA
Type: Std. Pipe Culv't Std. Dwg. No. S-27 P.C. 2
Size: 12" x 50'
Work Req'd: Build new Std. Pipe Culv't with no headwalls. Connect Rt. and Lt. with No. 3 Curb Inlet.

EST. QUANTITIES
Excav. (Found) 22 Cu. Yds.
12" Pipe for Culv't 50 Lin. Ft.

STA. 899+55

CULVERT No 7-C Sheet No 10

22



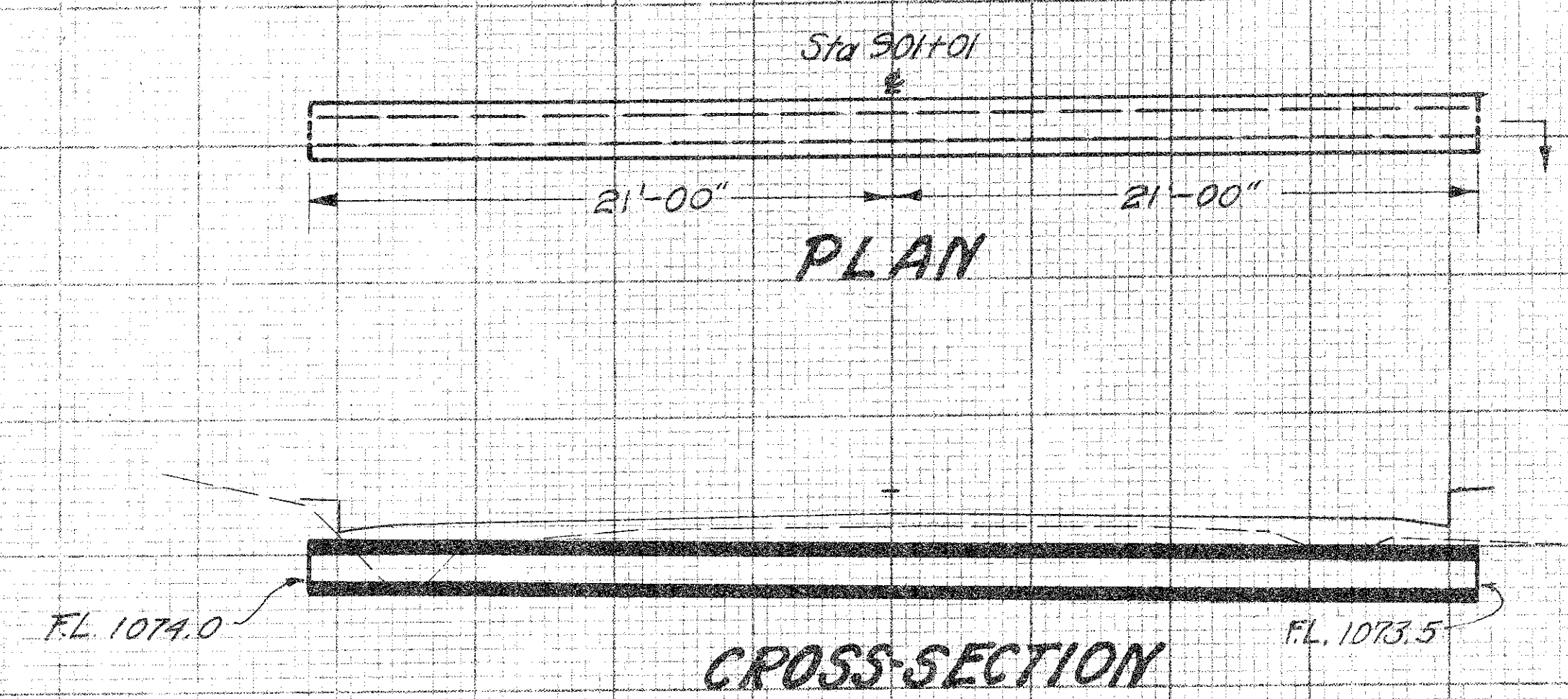
CULVERT DATA
Type: Std. Pipe Culv't Std. Dwg. No. S-27 P.C. 2
Size: 12" x 50'
Work Req'd: Build new Std. Pipe Culv't with no headwalls. Connect with new Storm Sewer Rt. + Lt.

EST. QUANTITIES
Excav. (Found) 16 Cu. Yds.
12" Pipe for Culv't 50 Lin. Ft.

STA. 901+76

CULVERT No 6-C Sheet No 10

21



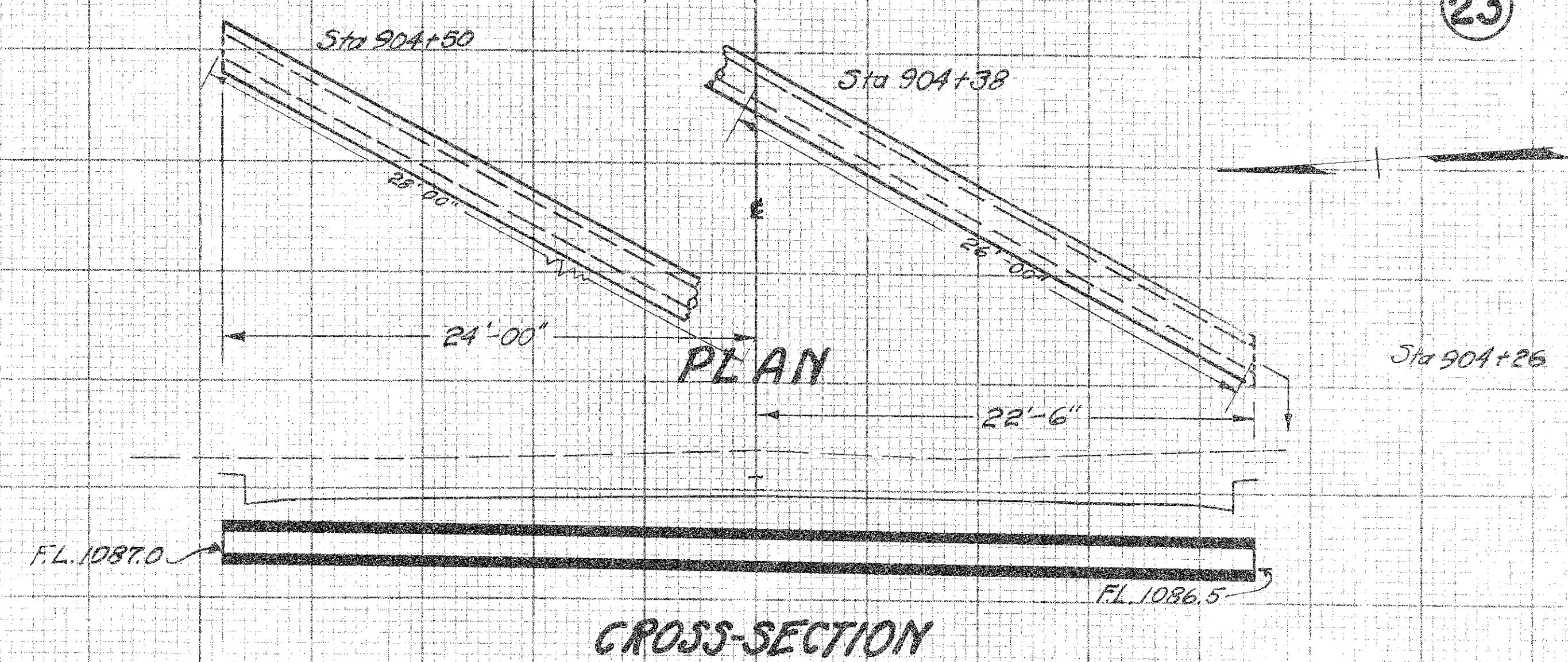
CULVERT DATA
Type: Std. Pipe Culv't Std. Dwg. S-27 P.C. 2
Size: 12" x 42'
Work Req'd: Build New Std. Pipe Culv't with no headwalls. Connect Rt. and Lt. with No. 3 Curb Inlet.

EST. QUANTITIES
Excav. (Found) 12 Cu. Yds.
12" Pipe for Culv't 42 Lin. Ft.

STA. 901+01

CULVERT No 8-C Sheet No 10

23



CULVT. DATA
Type: Std. Pipe Culv't Std. Dwg. No. S-27 P.C. 2
Size: 12" x 54'
Work Req'd: Build New Std. Pipe Culv't on Skew with no headwalls. Connect with Curb Inlet on Lt. at Sta. 904+50 and Curb Inlet on Rt. at Sta. 904+26

EST. QUANTITIES
Excav. (Found) 20 Cu. Yds.
12" Pipe for Culv't 54 Lin. Ft.

STA. 904+38

20-00

20-00

PLAN

2/1/88

FL. 1087.0

CROSS-SECTION

CULVERT DATA

Type: Std. Pipe Culvert. Std. Long No. 27 P.C. 2
Size: 12"x140"
Work Req'd: Build new Std. Pipe Culvert with
no Adwls. Connect to Carb. Inlet RA 4t.

EST. QUANTITIES

Excav. (Found)	22 Cu. Yds.
12" Pipe for Culvert	40 Lin. Ft.

STA. 906+50



CULVERT No 4-C Sheet No 10

$$5 + a \quad 907 + 62.5$$

05-10-80

$\frac{1}{2}$

opening in a brick

opening in a brick

Plus with Conc.

Plus with Conc.

PLAN

✓E12V/1000.43

[illegible]

New Std Pipe Cuff? 10 x 76

7-1083.5

CROSS-SECTION

CULVERT DATA

Type: STD Pipe for Culvert STD Dr. No S.P.7 P.C.2
Size: 18"x26"
Work Req'd: Remove existing 18"x26.5" Enc. V.C.P.
Culvert
Build New STD
Pipe Culvert with STD cut-off wall on R^h and
18"x12" Double Tee on Lt. One end of Special
Tee to be plugged with Concrete.

EST. QUANTITIES

19 Cu Yds	19 Cu Yds
07 Cu Yds	07 Cu Yds
1 Only	1 Only
1 Only	1 Only
72 Lin Ft	72 Lin Ft
2 Cu Yds	2 Cu Yds
46 Lin Ft	46 Lin Ft

STA. 907+62.5

SUMMARY OF QUANTITIES

FED. RD. DIST.	STATE	FED. AID DIST.	FISCAL YEAR
10	OHIO	NRH 228 UNIT 1	

S.H. 35 W₂
GEAUGA COUNTY

APPROACHES					
SHEET No.	PIPE FOR DRIVEWAYS			AGG.	EXCAV. FILL
	LIN. FT.			CUYDS.	CUYDS.
	F-1			T-17	F-1
	12"	15"	18"		
7	20	40	40	34.2	1020
8	20	40	20	16.2	150
9	40	20		22.0	50
10	40			34.2	75
11					50
TOTAL	120	100	60	106.6	1295

G-RAIL	
SHEET No.	REMOVED STACKED LIN. FT.
7	
8	710
9	1158
10	342
TOTAL	2210

MONUMENTS	
SHEET No.	MON. BOXES
7	1
8	3
9	3
10	5
TOTAL	12

CHANNEL EXCAV.		
LOCATION	SIDE	CUYDS.
FROM STA. TO STA.	F-3	
850+50 855+17	RT.	65
TOTAL		65

EXCAVATION					
REMARKS	CUBIC YARDS				
	E-1				
	EXCAV.	EMB.	+15%	WASTE	BORROW
808+40 823+00	14880	1552	1785	13095	
823+00 838+00	2505	9768	11233		8728
838+00 855+15	2497	18362	21116		18619
855+60 871+00	3288	7629	8173		5485
871+00 884+00	2944	2035	2340	604	
884+00 895+00	3859	3797	4366		507
895+00 908+00	230	3973	4569		4339
CORR. FOR 4" INS. CO.	2067	-2567	-2952	5019	
CORR. FOR 4" TOP SOIL	2272	-1388	-1596	3868	
APPROACHES	1295	225	259	1036	
WASTE FROM 35-W (P.D.)				738	
SUB-TOTALS	35837	43386	49893	24460	37678
TOTAL	35837				13318

STORM SEWER													
SHEET No.	PIPE FOR STORM SEWER			Std. CB.	Std. MH.	Std. Inlet	CURB INLETS	PIPE REMOVED	REINF. STEEL	CONC.	C.B. TOP		
	LINEAL FEET			NO. 1-2	NO. 1	NO. 1	EACH	EACH	EACH	EACH	EACH		
	F-2			F-2	F-8	F-8	F-8	F-8	F-6	S-4	S-1	SPEC.	
	12"	15"	18"	12"	1-8	1-8	1-8	1-8	12"				
7	436	440	278		1				3	137			
8	1014	554	418						5	314	29	0.9	
9	702	542							5	20	0.7		
10	1020	914	330	278	2	1	1	3	8	87		1	
TOTAL	3172	2450	1026	278	3	1	1	3	22	538	49	1.6	1

STRUCTURES UNDER 20' SPAN																				
ITEM	SHEET No.	DETAIL SHEET	EXCAV.		CONC.	REINF.	PIPE REMOVED	PIPE FOR STORM SEWER			PIPE FOR CULVERTS			PIPE TEES FOR CULVERTS			PIP RAP	DOWEL HOLES	MASONRY REMOVED	
			CU YDS.		1 1/2 MIN	STEEL		LINEAL FEET			LINEAL FEET			EACH			SQ YDS.	COMPLETE	CU YDS.	
			F-2	F-3	S-1	S-4		16	12"	15"	18"	12"	15"	18"	15/12/12	15/12/18/12	18/12/12	F-10	S-23	S-22
1-C	8	21	17	35	274	2557		2		4								18.0		
2-C	8	21	10		1.2	16					34	18		1			16			
3-C	8	21	45		3.3	32	30					90			1		1.3	2.0		
1-C	9	22	10	5	1.2	16					44						16			
2-C	9	22	10		1.1	46					22						16	0.5		
3-C	9	22	18	20	13.4	1383			2								20			
1-C	10	23	115	18	33.7	3147												25.0		
2-C	10	23	59	13	26.3	2452		2		2								11.0		
3-C	10	23	77	5	33.2	3236		2	2									18.0		
4-C	10	25	19		0.7		46						72		1	1		2.0		
5-C	10	24	22								50									
6-C	10	24	12								42									
7-C	10	24	16								50									
8-C	10	24	20								54									
9-C	10	25	22								40									
TOTAL			472	96	441.5	12885	76	6	4	6	336	108	72	1	1	1	1	1.3	68	76.5

PAV'T REMOVED	
SHEET No.	SQ. YDS.
	F-8
7	2320.0
8	6200.0
9	6101.6
10	3200.0
6	400.0
TOTAL	20221.6

SIDEWALK			
SHEET No.	SQ. FT.		LUMP SUM
	NEW 6" CONC.	STONE RESET	STEPS
6			1
10	600	544	
TOTAL	600	544	1

RETAINING WALL	
SHEET No.	CU. YDS. SPECIAL
10	66.4
TOTAL	66.4
PRICE BID PER CUBIC YARD OF WALL TO INCLUDE ALL LABOR AND MATERIAL NECESSARY TO CONSTRUCT WALL AS PER DETAIL ON SHEET NO. 6	

TREES REM'D	
SHEET No.	EACH
	F-8
7	18
8	21
9	36
10	18
TOTAL	93

PAVEMENT CALCULATIONS

9"-7"-7"-9" CONC. PAVE. T-70 30' WIDE
STA. 808+40 TO STA. 900+50 9210.00 LIN. FT.
DEDUCTIONS STA. 854+89.30 TO STA. 855+85.30 96.00 LIN. FT.
STA. 854+00 TO STA. 855+00 1.28 LIN. FT.
NET LENGTH 9112.72 LIN. FT.
TOTAL = 9112.72 x 30 ÷ 9 = 30375.7 SQ. YDS.

9"-7"-7"-9" CONC. PAVE. T-70 40' WIDE
STA. 900+50 TO STA. 904+50 NET LENGTH 400.00 LIN. FT.
TOTAL 400.0 x 40 ÷ 9 = 1777.8 SQ. YDS.

9"-7"-7"-9" CONC. PAVE. T-70 46' WIDE
STA. 904+50 TO STA. 908+00 NET LENGTH 350.00 LIN. FT.
TOTAL 350.0 x 46 ÷ 9 = 1788.9 SQ. YDS.

8" CONC. PAVE. T-70
TOTAL EXTRA AREA SHEET NO. 6 910.6 SQ. YDS.

4" INSULATION COURSE B-11
T-70 30' WIDE 30375.7 SQ. YDS.
T-70 40' WIDE 1777.8 SQ. YDS.
T-70 46' WIDE 1788.9 SQ. YDS.
EXTRA AREA SHEET NO. 6 910.6 SQ. YDS.
TOTAL 34853.0 SQ. YDS.

ST. CONC. CURB F-12 TYPE 3-A
STA. 808+40 TO 900+50 NET LENGTH 9112.72 LIN. FT.
STA. 900+50 TO 904+50 NET LENGTH 400 x 2 800.00 LIN. FT.
STA. 904+50 TO 908+00 NET LENGTH 350 x 2 700.00 LIN. FT.
EXTRA AREA SHEET NO. 6 180.20 LIN. FT.
DEDUCT - CUTOUTS SHEET NO. 6 350.00 LIN. FT.
TOTAL 10442.92 LIN. FT.
RADIAL CONC. CURB F-12 TYPE 3-A
TOTAL SHEET NO. 6 188.50 LIN. FT.

BERMS, SLOPES & DITCHES		
STATION		LENGTH
FROM	TO	LIN. FT. BOTH SIDES
808+40	900+50	9164.7
900+50	908+00	759.4
TOTAL		9924.1

PAVEMENT DRAINS	
450 LINEAL FEET STONE UNDERDRAIN (FRENCH DRAIN) NO. 1 PLACED WHERE DIRECTED BY THE ENGINEER.	

SUMMARY OF QUANTITIES

FED. RD. DIST.	STATE	FED. AID PROJECT	YET
10	OHIO	NEW 228 UNIT 1	

S.H. 35 W₂
GEAUGA COUNTY

GENERAL SUMMARY			
ITEM NO.	ITEMS	QUANTITIES	
ROADWAY			
E-1	Roadway Excav (Unclassified)	358.77	Cu. Yds.
E-4	Borrow (Contractor to furnish)	13318	Cu. Yds.
E-3	Channel Excav.	65	Cu. Yds.
E-8	Removal and Disposal of Existing 9'-9"x18" Conc. Pav't	20221.6	Sq. Yds.
E-9	Trees Removed and Disposed of	93	Only
E-10	Sealing (Only) Existing Pavement	78	Lin. Ft.
I-1	12" Pipe for Drives	120	Lin. Ft.
I-1	15" Pipe for Drives	120	Lin. Ft.
I-1	18" Pipe for Drives	60	Lin. Ft.
I-2	12" Storm Sewer Pipe	3172	Lin. Ft.
I-2	15" Storm Sewer Pipe	2450	Lin. Ft.
I-2	18" Storm Sewer Pipe	1026	Lin. Ft.
I-6	Pipe Removed and Stored	538	Lin. Ft.
I-8	Std No 1-2 Catch Basin Dwg I-8-I	3	Only
I-8	Std No 1 Man Hole Dwg No 1-8-MH No 1	1	Only
I-8	Std No 2 Catch Inlet	3	Only
I-8	Std No 3 Curb Inlet	22	Only
I-8	Monument Boxes in Place	12	Complete
I-9	Stone Underdrain (French Drain) No 1	430	Lin. Ft.
I-13	6" Conc. Sidewalk	6.00	Sq. Ft.
I-15	Guard Rail Removed and Stored	2210	Lin. Ft.
I-17	Aggregate for Traffic Bound Side Approaches	106.6	Cu. Yds.
Special	Stone retaining walls as per Detail	66.4	Cu. Yds.
Ed Spec.	Stone sidewalk relocated	544	Sq. Ft.
Special	Stone Steps Relocated	Complete	Lump Sum
Special	Catch Basin Top removed and capped with Concrete	1	Only
I-3	12" Pipe with slag Backfill	278	Lin. Ft.
I-8	Std No 1 Side Ditch Inlet Dwg No I-8-I	1	Only
S-4	Reinforcing Steel	49	Lbs.
S-1	Concrete (1-3/4 Mix)	16	Cu. Yds.
PAVEMENT			
B-11	Insulation Course (Limestone or Slag screenings as per Spec)	34853.0	Sq. Yds.
T-70	Portland Cement Concrete Pavement (9'-7'-7'-9' x 30'-0")	30373.7	Sq. Yds.
T-70	Portland Cement Concrete Pavement (9'-7'-7'-9' x 40'-0")	1777.8	Sq. Yds.
T-70	Portland Cement Concrete Pavement (9'-7'-7'-9' x 46'-0")	1788.9	Sq. Yds.
T-70	Portland Cement Concrete Pavement (2" Thick)	910.6	Sq. Yds.
I-12	Type 3-A Concrete Curb (Straight)	10443	Lin. Ft.
I-12	Type 3-A Concrete Curb (Radial)	189	Lin. Ft.
STRUCTURES UNDER 20 FT. SPAN			
E-2	Excav for Structures (Unclassified)	472	Cu. Yds.
E-3	Channel Excav.	86	Cu. Yds.
S-1	Concrete for Culverts (1-5 1/4 Mix)	141.5	Cu. Yds.
S-4	Reinforcing Steel	12885	Lbs.
S-22	Removal of Existing Masonry	76.5	Cu. Yds.
S-23	Dowel Holes	68	Each
S-27	12" Pipe for Culverts	336	Lin. Ft.
S-27	15" Pipe for Culverts	102	Lin. Ft.
S-27	18" Pipe for Culverts	72	Lin. Ft.
I-2	12" Pipe for Storm Sewers	6	Lin. Ft.
I-2	15" Pipe for Storm Sewers	4	Lin. Ft.
I-2	18" Pipe for Storm Sewers	6	Lin. Ft.
I-5	12"x12" Pipe Tee for Culverts	1	Only
I-5	15"x12" Pipe Tee for Culverts	1	Only
I-5	18"x12" Pipe Tee for Culverts	1	Only
I-5	18"x12" Pipe Double Tee for Culverts	1	Only
I-10	Hand Laid Rip Rap	1.3	Sq. Yds.
I-6	Pipe Removed (12")	16	Lin. Ft.
ROADSIDE IMPROVEMENT			
E-105	Finishing Shoulders Slopes & Ditches	9984	Lin. Ft.
E-105	Packet Hole Preparation	3702	Complete
I-16	Seeding	32,946	Sq. Yds.