

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
	OHIO		

1/22

I.C.H. 536 STARK  
SEC. H-1 COUNTY

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS  
DIVISION OF HIGHWAYS  
BUREAU OF CONSTRUCTION

# CANAL FULTON — BREWSTER

I.C.H.-No. 536 SEC. H-1 PET. NO. 6059

## STARK COUNTY

LAWRENCE TOWNSHIP

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Structural Plans	P <sup>s</sup> 18-20 "
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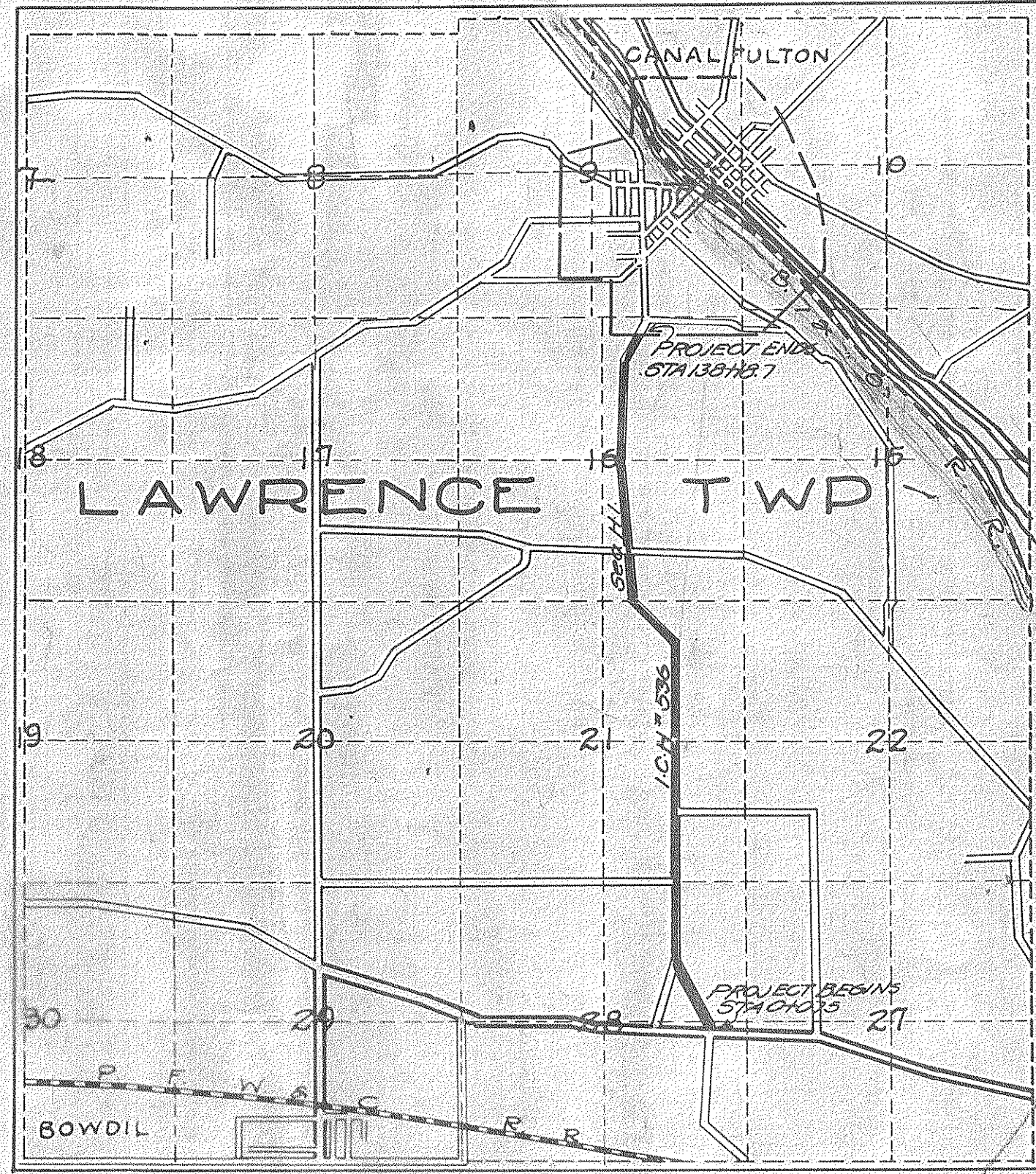
### CONVENTIONAL SIGNS

County line	-----
Township line	-----
Section line	-----
Property line not fenced	-----
Center line	-----
City or Village line	-----
Fence	-----
Telephone or telegraph	TTTTTTTTTT
Steam railway	=====
Electric line	-----
Guard rail	-----
Drain pipe - new	-----
Drain pipe - old	-----

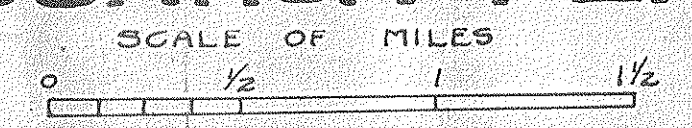
We the commissioners of Stark County hereby approve these plans and certify that the right of way 60 feet wide is available for the construction maintenance and repair of the above highway.

*Charles W. Franke*  
*Walter S. Agler*  
*Neal Purvine*

Date \_\_\_\_\_ County Commissioners



### LOCATION PLAN



Portion to be improved   
Detours shown thus   
Improved roads

### SCALES

Plan	1" = 100'
Profile (Vertical)	1" = 10'
Profile (Horizontal)	1" = 100'
Cross Sections	1" = 5'

The Standard Specifications of the State of Ohio, Division of Highways, 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 to traffic of the highway and that detours will be provided as shown on the plans and estimates.

Approved *C. M. Wise*  
Date 5-17-26 Resident Engr.

Approved *Ed. Ring*  
Date 5/28/26 Resident Deputy State Highway Comm.

Approved \_\_\_\_\_  
Date \_\_\_\_\_ Chief Engr. of Bridges

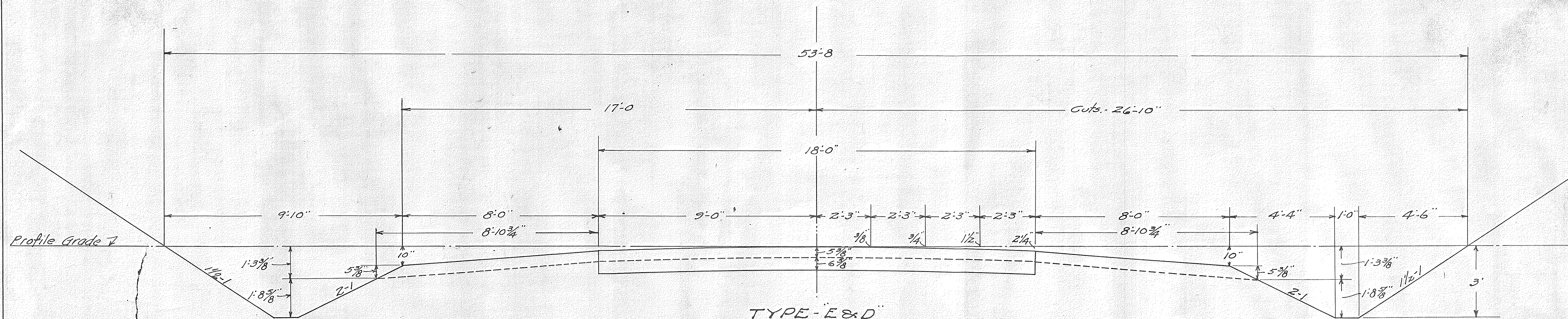
Approved *Harry J. Kirk*  
Date 6-3-26 State Highway Engr.

Approved *G. F. Applegate*  
Date 6-3-26 Director of Highways & Public Works

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
	OHIO		

2  
22

Canal/Fulton - Brewster  
I.C.H. 536 Sec. H-1  
Lawrence Township

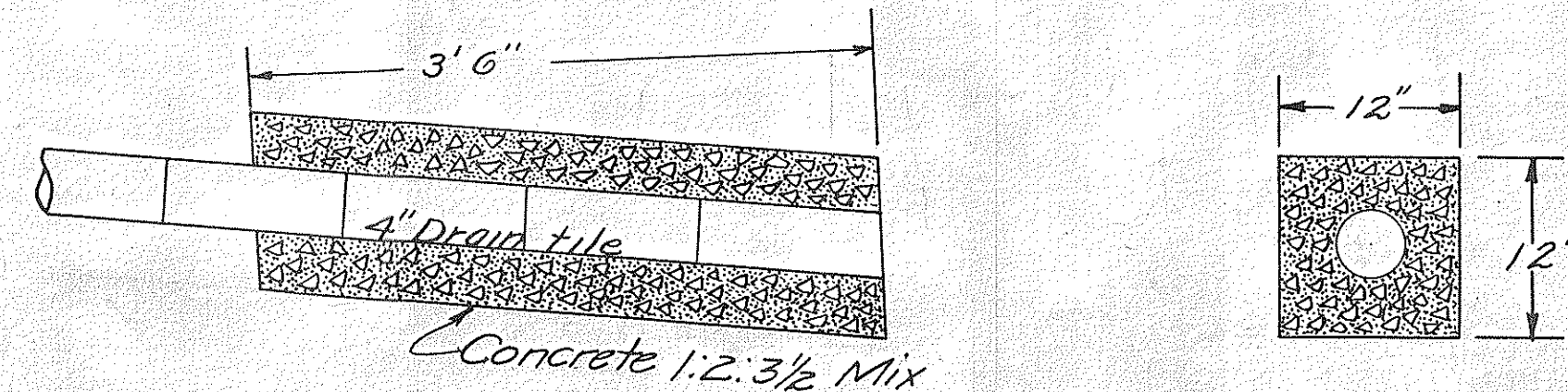
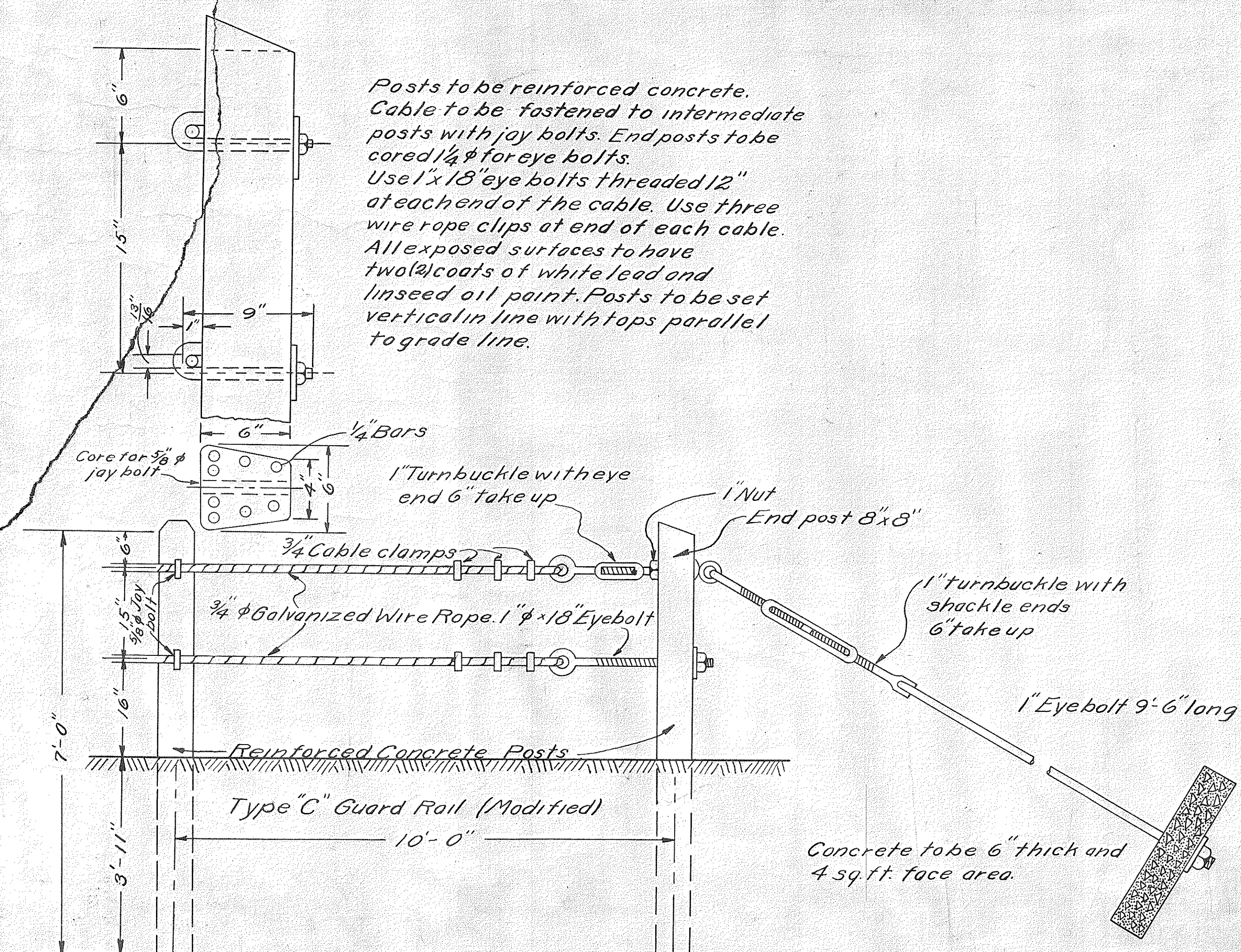


TYPE - E & D

TYPICAL SECTION

Note: Excavation is figured from paving section, by lowering grading section 5 3/8" at E and widening berms, as shown, the end area of the part paving trench will equal the end areas of both lowered berms, as follows:  
 Decreased Excavation - Metal Section  
 $18' \times .5521 = 9.94 \text{ sq. ft.}$   
 Increased Excavation - Berms  
 $(8' - 10 \frac{3}{4} \times 2) \times .4479 = 7.968 \text{ sq. ft.} + 25\% = 9.96 \text{ sq. ft.}$   
 ∴ there is no correction of grading quantities if paving is omitted  
 Note: Berms shall be widened as shown on cross-sections and guard rail built as noted on plans Type C. (modified) guard rail shall be built.  
 Note: Pavement and earthwork on all curves shall be super-elevated, and on all curves of 5° and over shall be widened. See tabulations on plans.  
 Note: Rough grading shall be completed to cross section shown by dashed line shown on "Typical Section," pavement trench shall be excavated and berms built immediately preceding placing of pavement.  
 Note: The grading of all approaches and drives to a maximum grade of 5% and to a minimum width of 16' has been included in the computations.  
 Note: No estimate will be allowed on excavation until ditches are according to plans as grading progresses.

Posts to be reinforced concrete. Cable to be fastened to intermediate posts with jay bolts. End posts to be cored 1/4" for eye bolts. Use 1" x 18" eye bolts threaded 12" at each end of the cable. Use three wire rope clips at end of each cable. All exposed surfaces to have two coats of white lead and linseed oil paint. Posts to be set vertical in line with tops parallel to grade line.



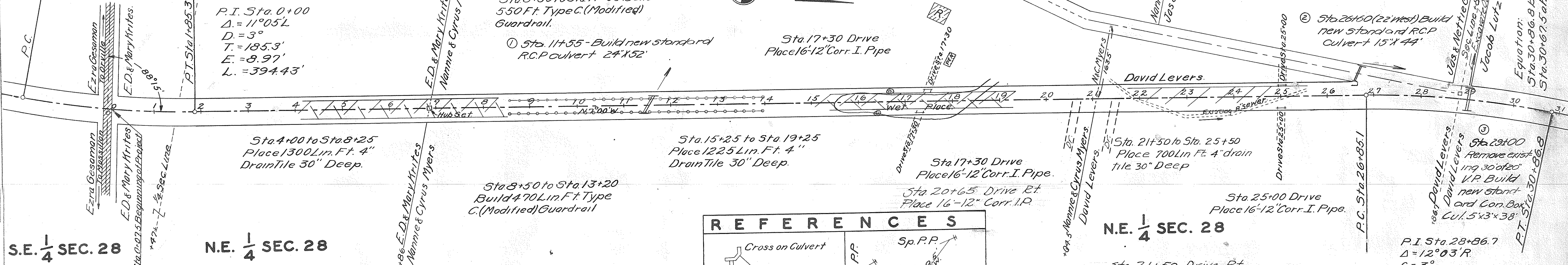
Detail of Drain Tile Headwall.

Canal Fulton Brewster  
I.C.H. 536 Sec. H-1  
Lawrence Twp.

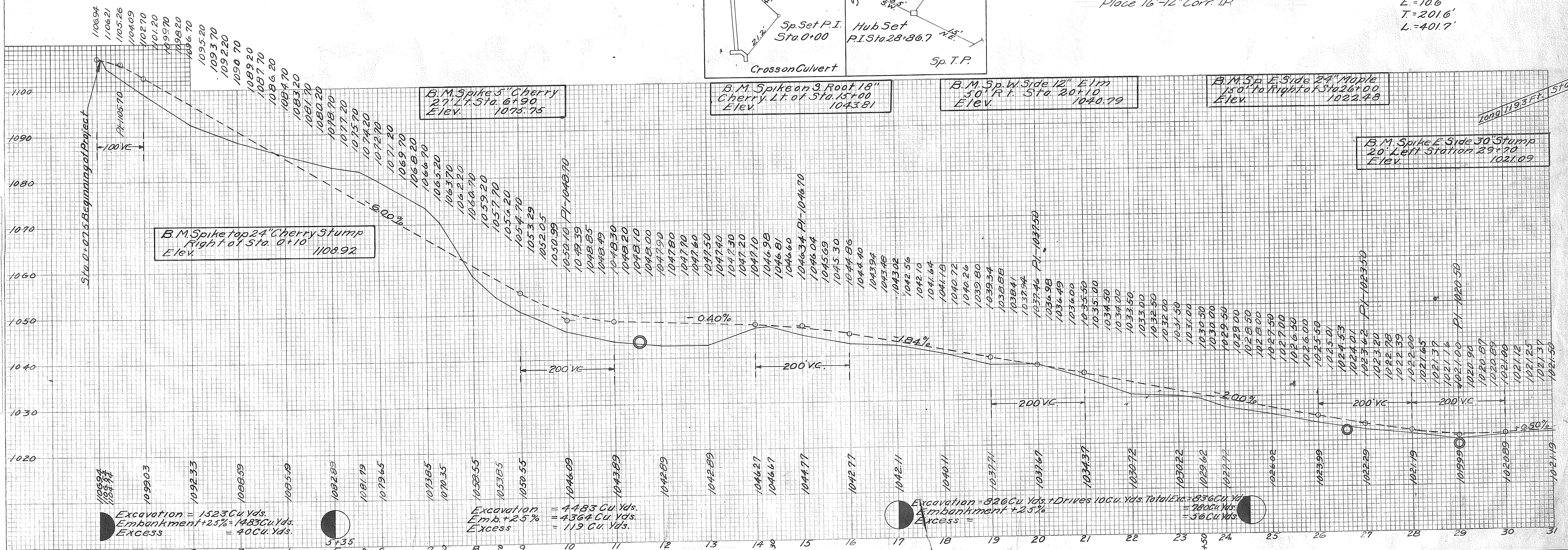
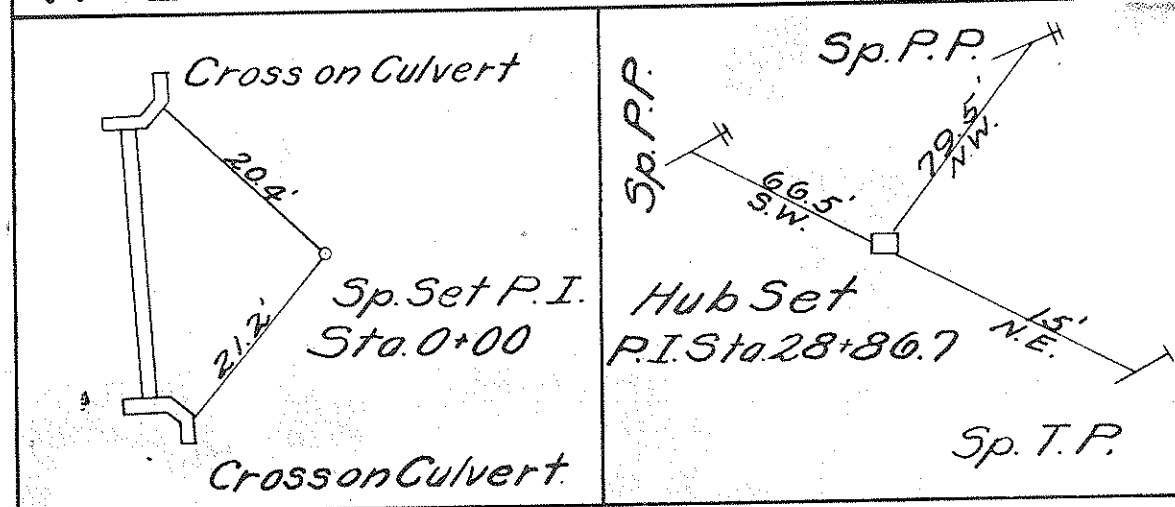
S.E. 1/4 SEC. 28

N.E. 1/4 SEC. 28

N.E. 1/4 SEC. 28



**REFERENCES**



PLAN SURVEYED, PLOTTED, ALIGNMENT CHECKED, NOTE BOOK, ST. OF WAY CHECKED.

PROFILE SURVEYED, PLOTTED, B.M. NOTED, STRUCTURE NOTATION OK.

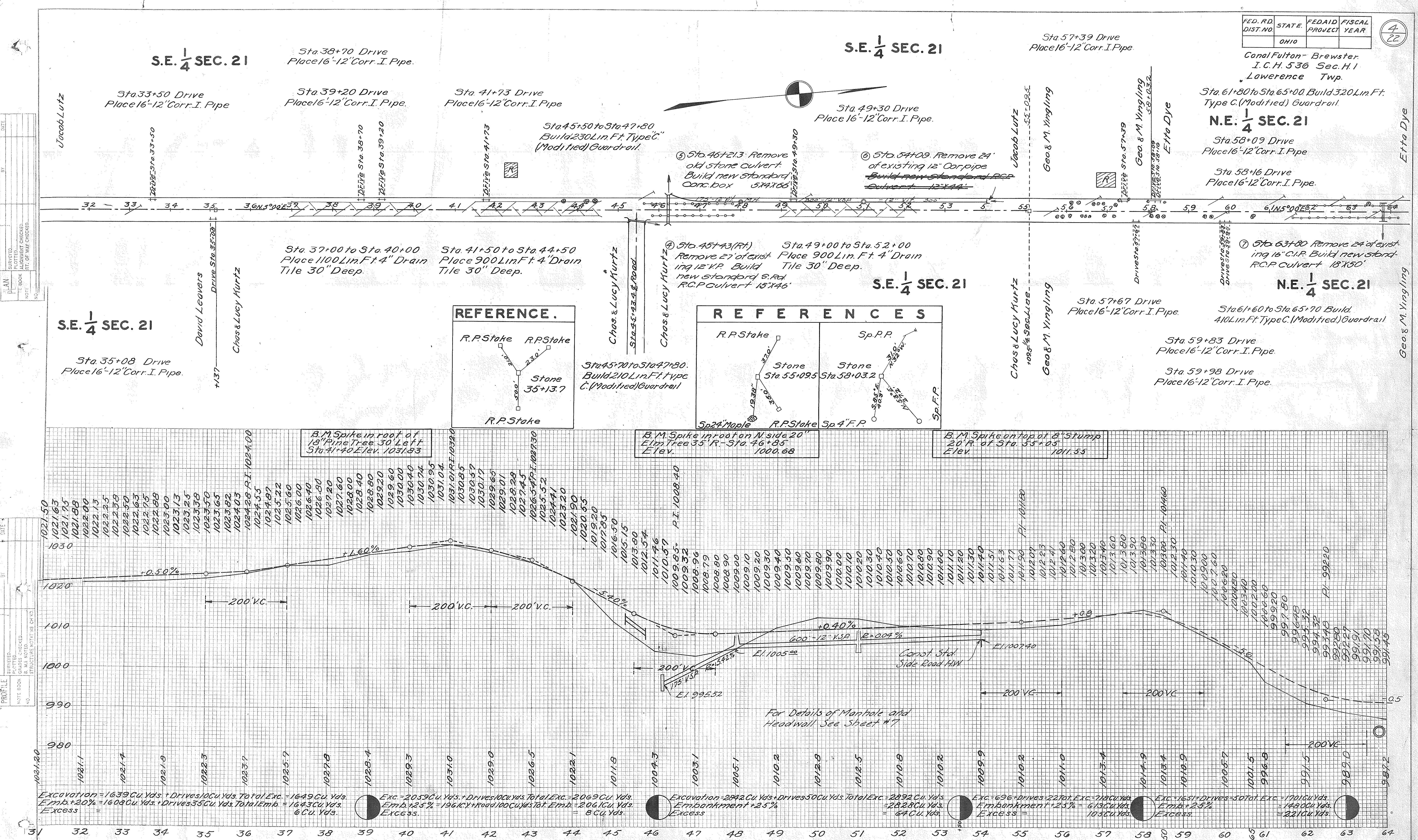
Excavation = 1523 Cu. Yds.  
Embankment +25% = 1483 Cu. Yds.  
Excess = 40 Cu. Yds.

Excavation = 4483 Cu. Yds.  
Emb. +25% = 4364 Cu. Yds.  
Excess = 119 Cu. Yds.

Excavation = 826 Cu. Yds. + Drives 10 Cu. Yds. Total Exc. = 836 Cu. Yds.  
Embankment +25% = 780 Cu. Yds.  
Excess = 50 Cu. Yds.

PLAN  
SURVEYED BY  
CHECKED BY  
NOTE BOOK ALPHABETICALLY CHECKED  
RT. OF WAY CHECKED  
NO.

PROFILE  
SURVEYED BY  
CHECKED BY  
NOTE BOOK ALPHABETICALLY CHECKED  
STRUCTURE NOTE (S. CH. 40)  
NO.



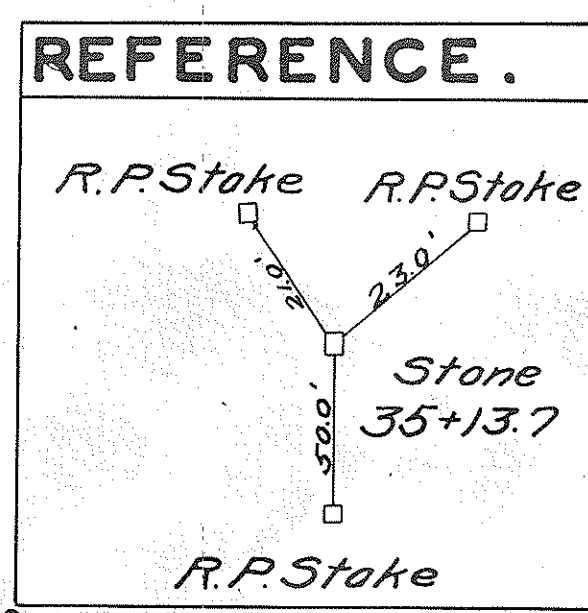
S.E. 1/4 SEC. 21  
Sta 35+08 Drive  
Place 16'-12" Corr. I. Pipe.

David Leavers  
Drive Sta 35+08  
+137

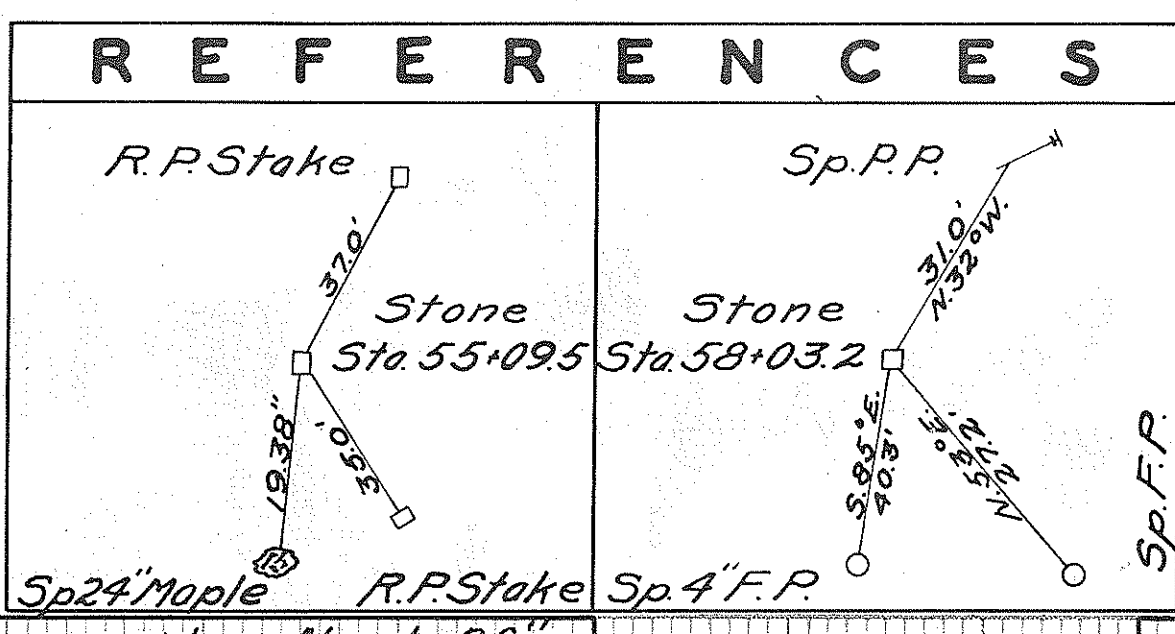
Chos & Lucy Hurtz

Sta 37+00 to Sta 40+00  
Place 100 Lin. Ft. 4' Drain  
Tile 30" Deep.

Sta 41+50 to Sta 44+50  
Place 900 Lin. Ft. 4' Drain  
Tile 30" Deep.



Sta 45+70 to Sta 47+80.  
Build 210 Lin. Ft. type  
C (Modified) Guardrail



B.M. Spike in root on N. side 20"  
Elm Tree 35' R. Sta. 46+85  
Elev. 1000.68

B.M. Spike on top of 8" Stump  
20' R. of Sta. 55+05  
Elev. 1011.55

Excavation = 1639 Cu. Yds. + Drives 10 Cu. Yds. Total Exc. = 1649 Cu. Yds.  
Emb. +20% = 1608 Cu. Yds. + Drives 35 Cu. Yds. Total Emb. = 1643 Cu. Yds.  
Excess = 6 Cu. Yds.

Exc = 2059 Cu. Yds. + Drives 10 Cu. Yds. Total Exc. = 2069 Cu. Yds.  
Emb. +25% = 1961 Cu. Yds. + Road 100 Cu. Yds. Total Emb. = 2061 Cu. Yds.  
Excess = 8 Cu. Yds.

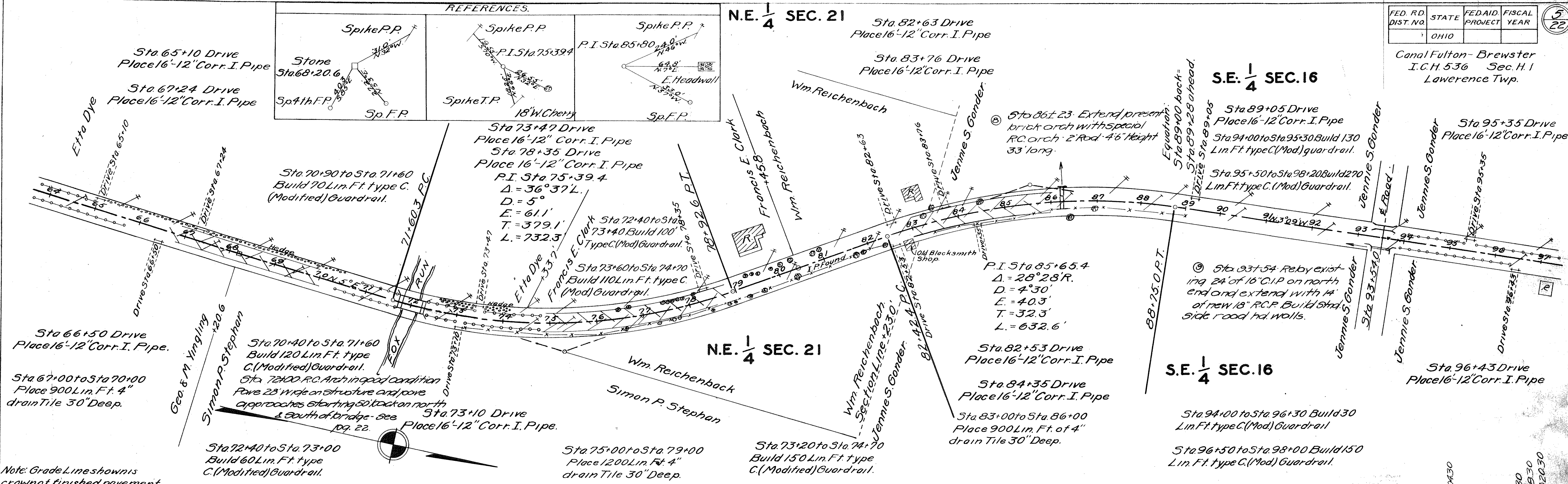
Excavation = 2842 Cu. Yds. + Drives 50 Cu. Yds. Total Exc. = 2892 Cu. Yds.  
Emb. +25% = 2828 Cu. Yds.  
Excess = 64 Cu. Yds.

Exc = 696 + Drives = 22 Total Exc. = 718 Cu. Yds.  
Emb. +25% = 613 Cu. Yds.  
Excess = 105 Cu. Yds.

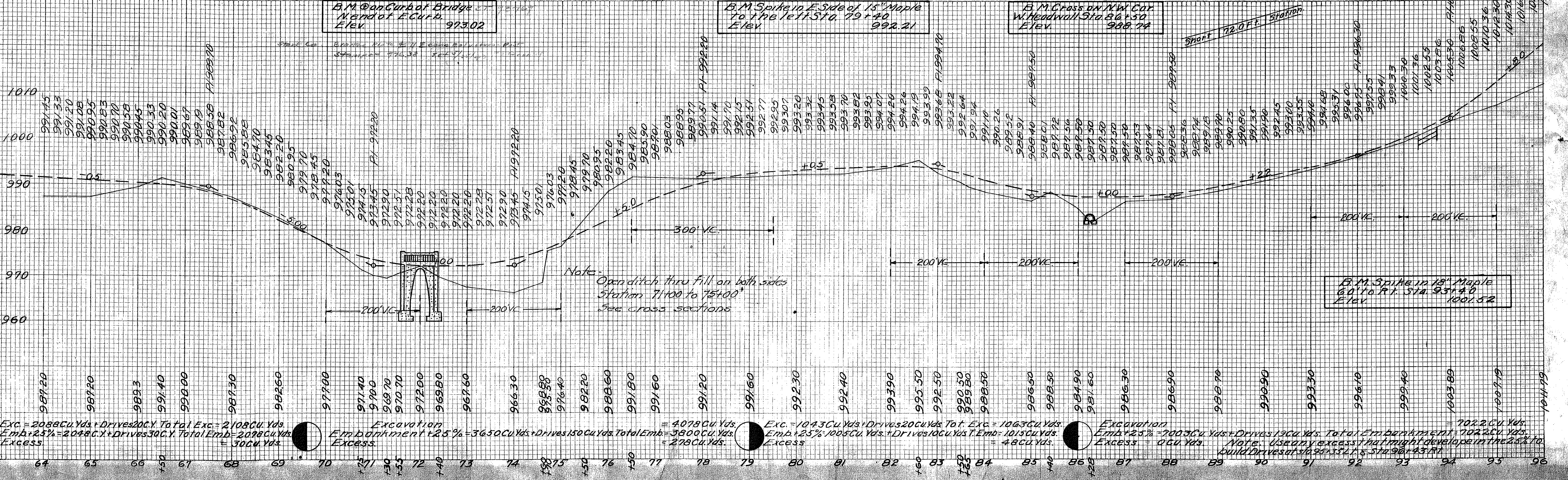
Exc = 1651 + Drives = 50 Total Exc. = 1701 Cu. Yds.  
Emb. +25% = 1480 Cu. Yds.  
Excess = 221 Cu. Yds.

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BY: \_\_\_\_\_  
CHECKED: \_\_\_\_\_  
NO. \_\_\_\_\_



Note: Grade Lines shown in crown of finished pavement.



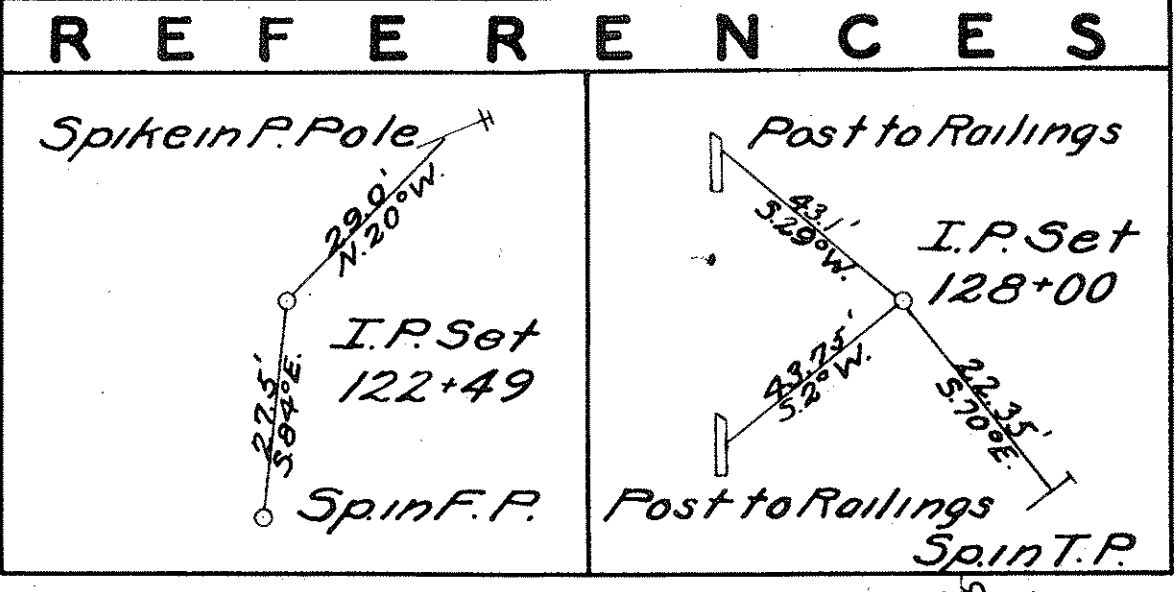
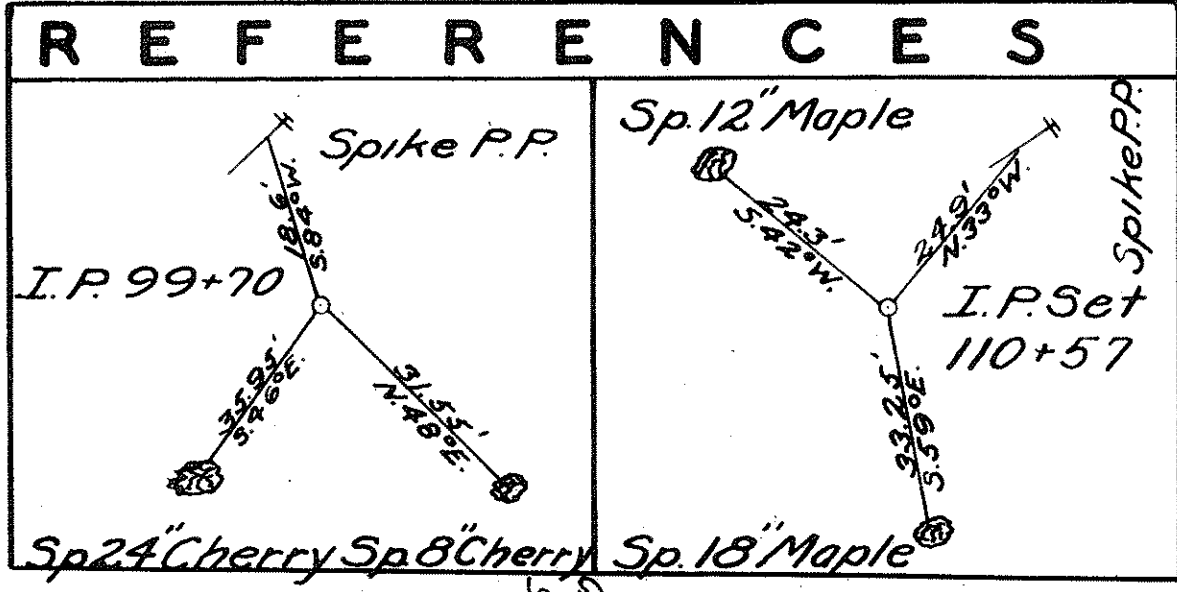
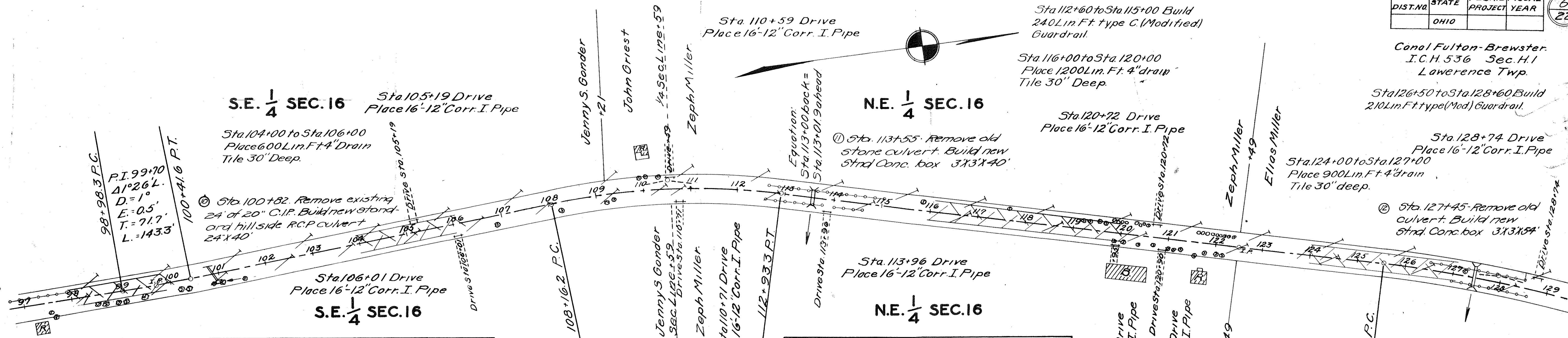
Exc. = 2088 Cu. Yds + Drives 200 Y. Tot. Exc. = 2108 Cu. Yds  
 Emb. + 25% = 2048 Cu. Yds + Drives 300 Y. Total Emb. = 2078 Cu. Yds  
 Excess = 30 Cu. Yds

Excavation Emb. + 25% = 702.2 Cu. Yds + Drives 190 Cu. Yds. Total Embankment = 702.2 Cu. Yds  
 Exc. = 1043 Cu. Yds + Drives 20 Cu. Yds Tot. Exc. = 1063 Cu. Yds  
 Emb. + 25% = 1005 Cu. Yds + Drives 10 Cu. Yds Total Emb. = 1015 Cu. Yds  
 Excess = 48 Cu. Yds

Excavation Emb. + 25% = 702.2 Cu. Yds + Drives 190 Cu. Yds. Total Embankment = 702.2 Cu. Yds  
 Exc. = 1043 Cu. Yds + Drives 20 Cu. Yds Tot. Exc. = 1063 Cu. Yds  
 Emb. + 25% = 1005 Cu. Yds + Drives 10 Cu. Yds Total Emb. = 1015 Cu. Yds  
 Excess = 48 Cu. Yds

Note: Use any excess that might develop in the 2.5% to build Drives at Sta. 90+33, 91+15, 96+43 RT.

PLAN	DATE
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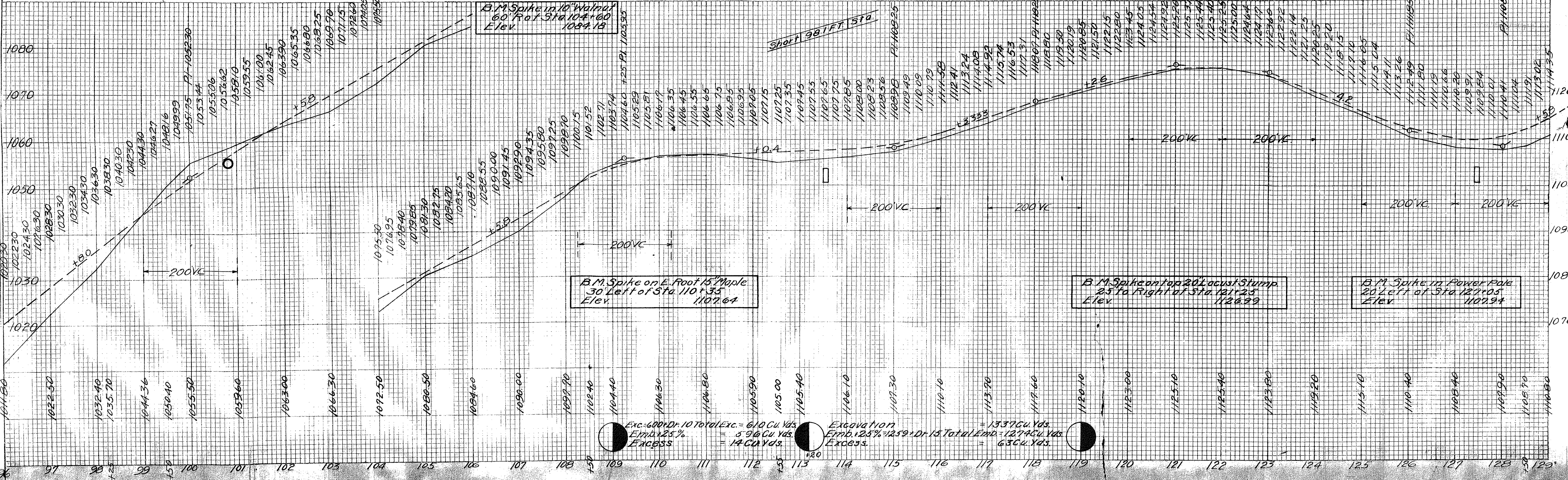
Sta. 98+00 to Sta. 100+00  
Place 600 Lin. Ft. 4\"/>

Note: Grade line shown is crown of finished pavement.

Sta. 112+60 to Sta. 113+90  
Build 130 Lin. Ft. type C (Mod) Guardrail. P.I. Sta. 110+57  
 $\Delta = 19^{\circ}05'R$ .

Sta. 114+10 to 114+60  $D = 4^{\circ}$   
Build 50 Lin. Ft. type E.  $T = 240.8'$   
C (Mod) Guardrail.  $L = 477.1'$

P.I. Sta. 128+00  
 $\Delta = 9^{\circ}40'R$   
 $C = 2^{\circ}$   
 $E = 10.2'$   
 $T = 242.2'$   
 $L = 483.3'$



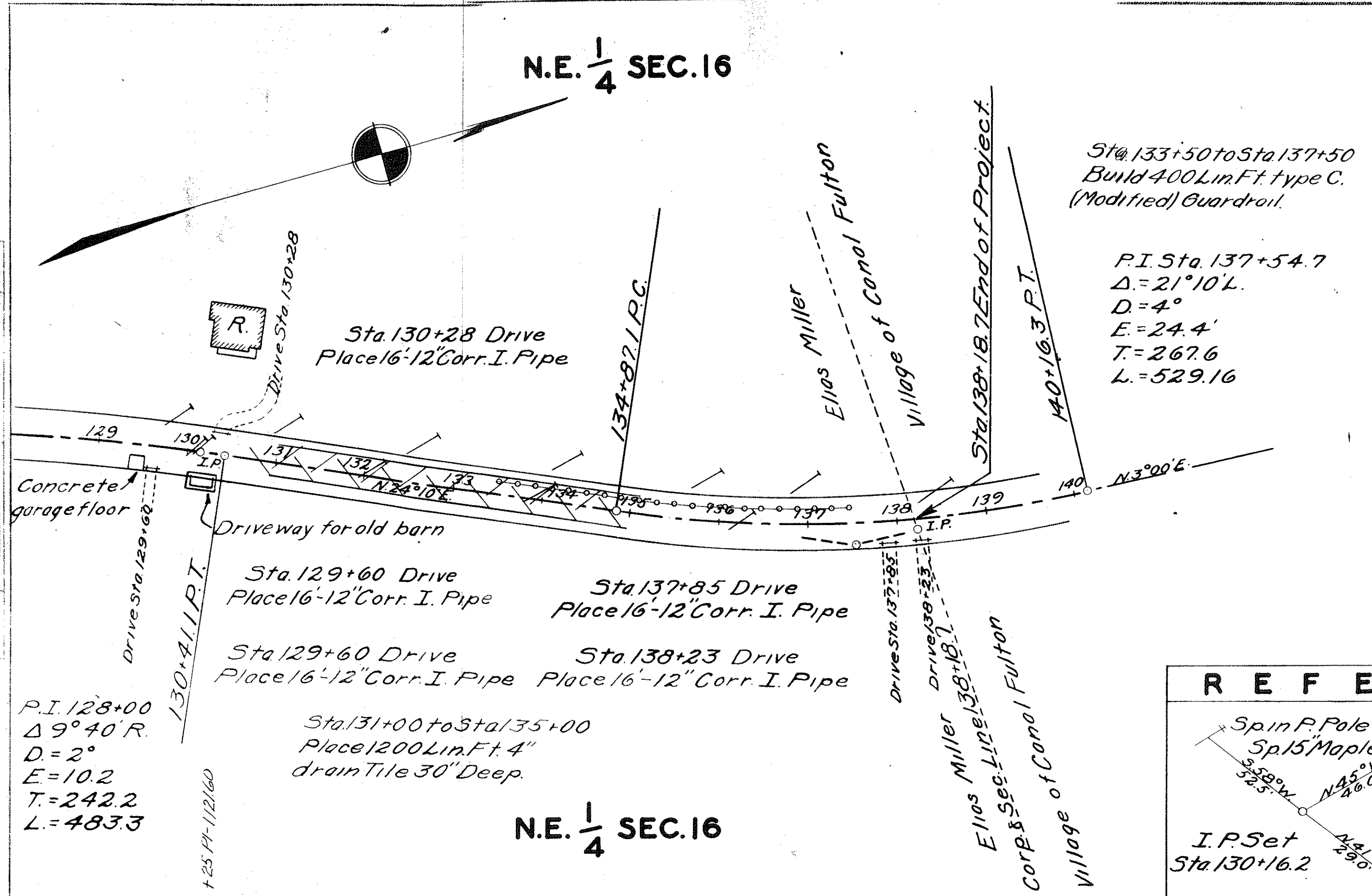
PROFILE	DATE
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Exc. 600' Dr. 10' Total Exc. = 610 Cu. Yds.  
Emb. 25% = 596 Cu. Yds.  
Excess = 14 Cu. Yds.

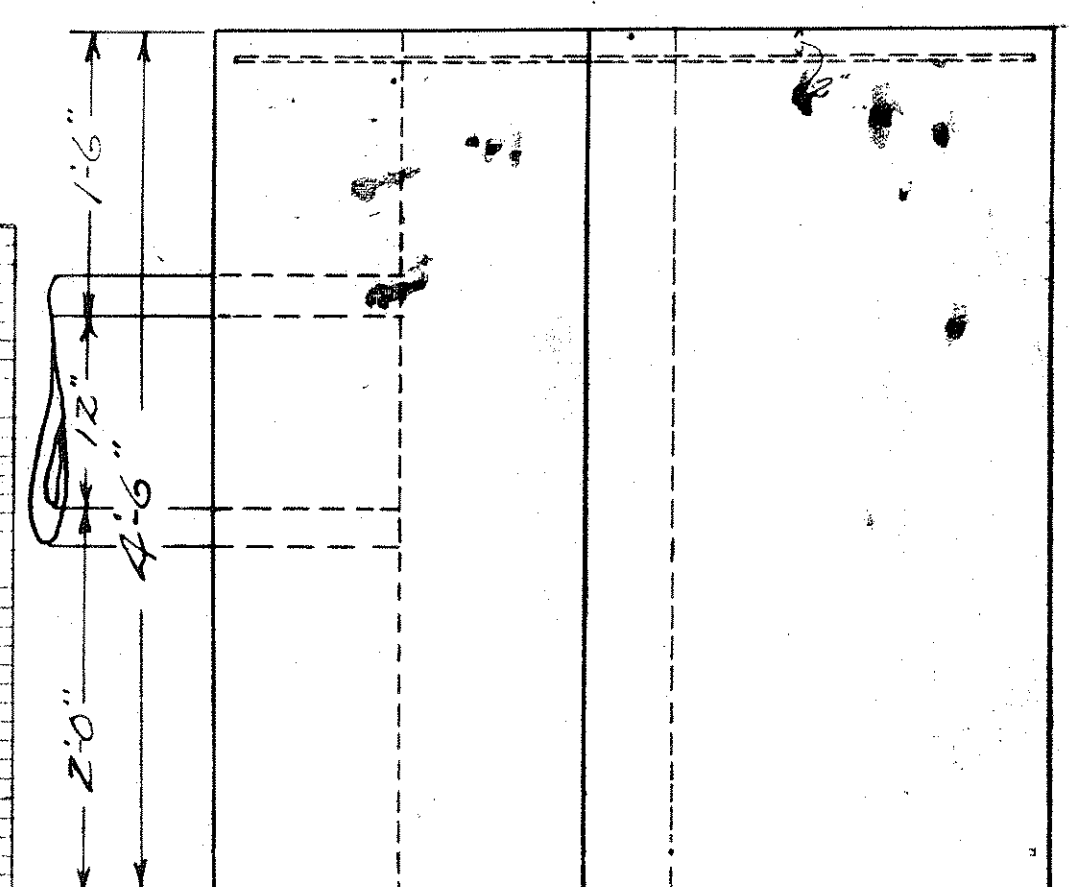
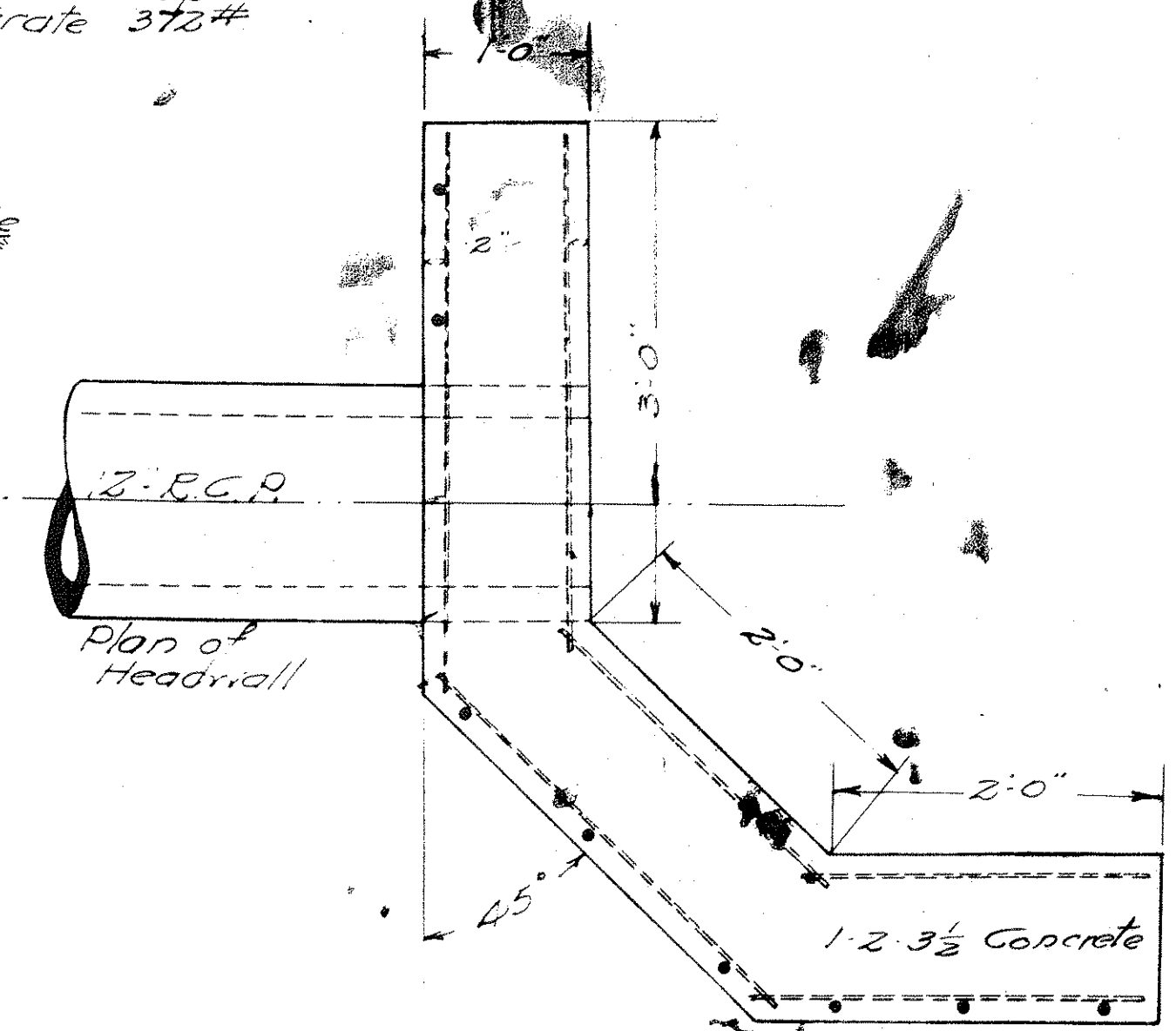
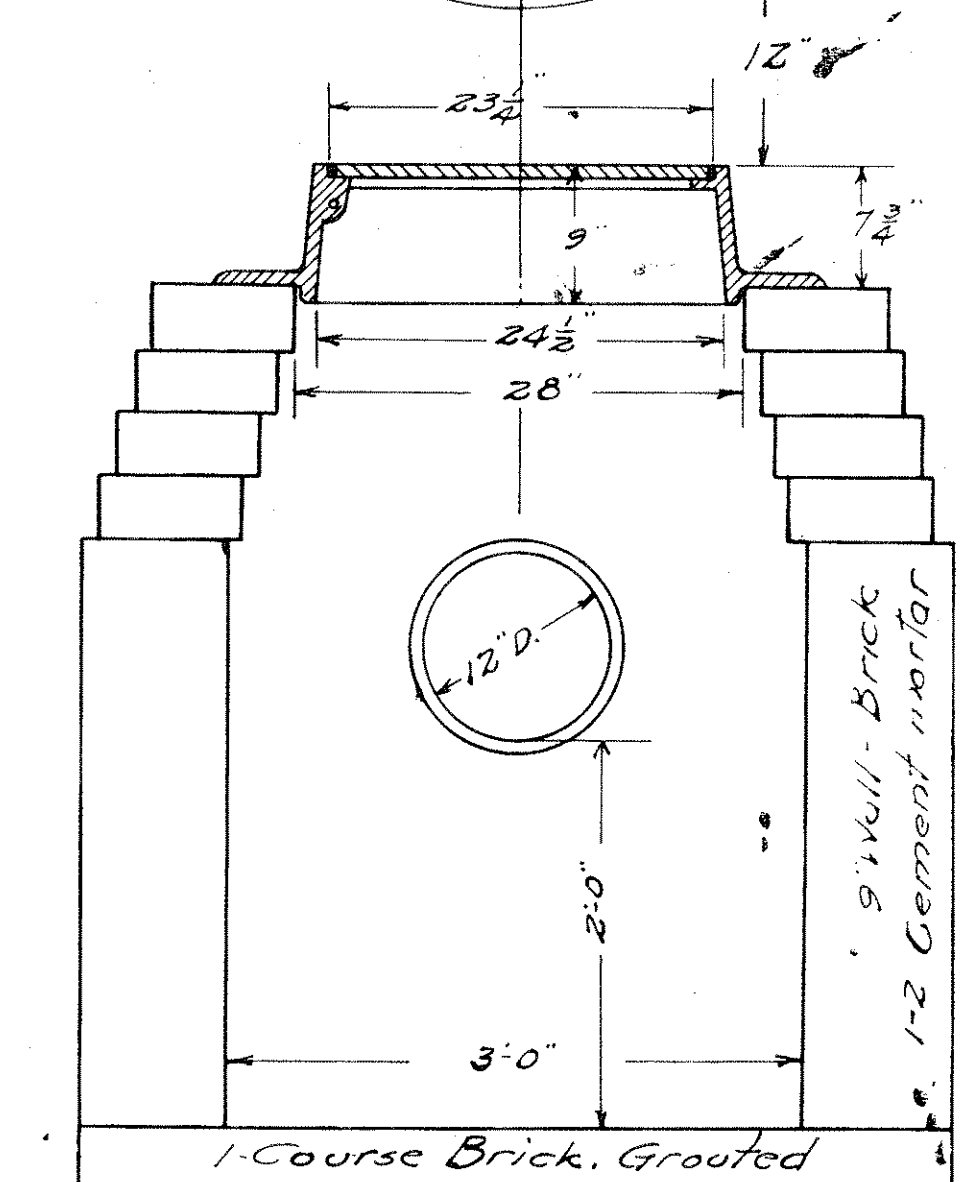
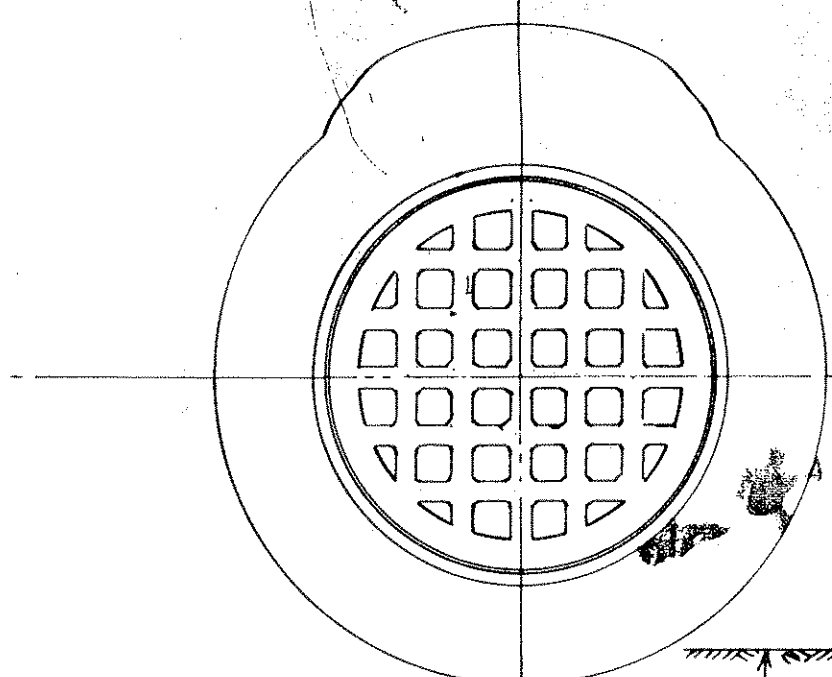
Excavation  
Emb. 25% = 1259' Dr. 15' Total Emb. = 1274 Cu. Yds.  
Excess = 63 Cu. Yds.

PLAN  
SURVEYED  
P.L. 128+00  
ALIGNED CHECKED  
P.L. 130+00  
P.L. 137+50

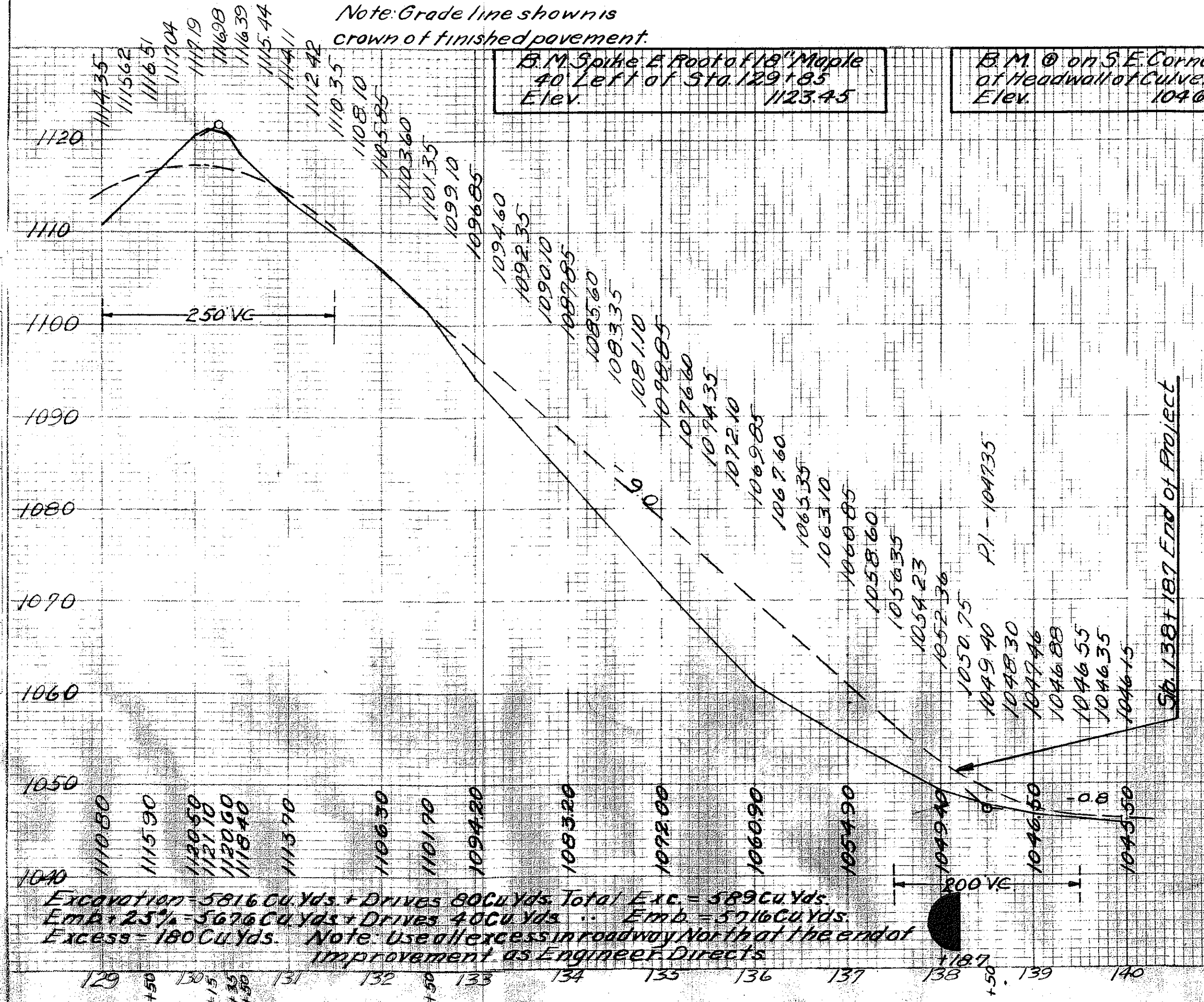
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SURVEYED  
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P.L. 130+00  
P.L. 137+50

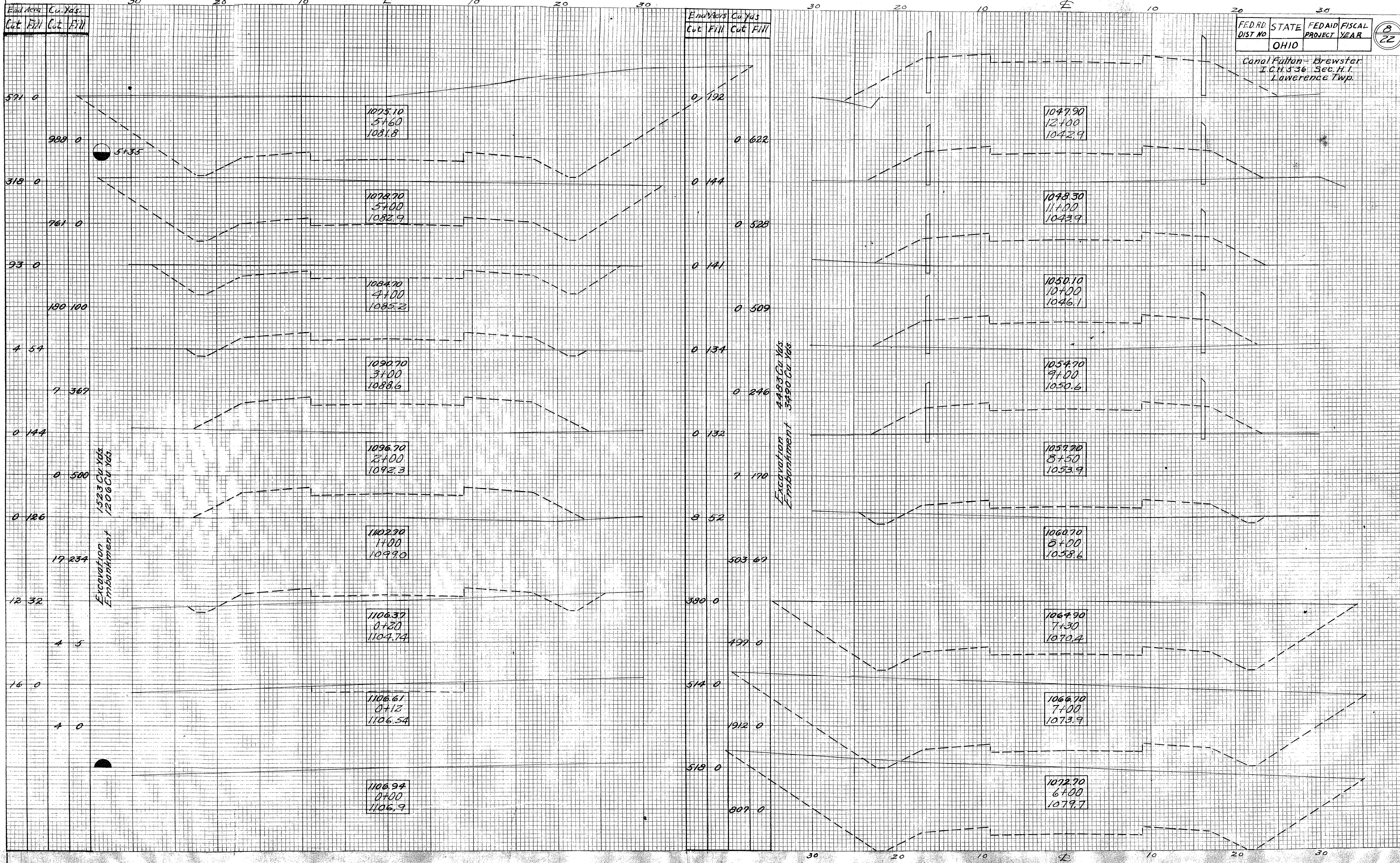


REFERENCES	
Spin F. Pole Sp. 15 Maple N 45° W 32.5'	Spin F. Post Spin F.P. N 30° W 32.5'
I.P. Set Sta. 130+16.2 Sp. 20' Locust.	Hub Set Sta. 137+54.7 Spin T.P.



5th Side Road Culvert Headwall  
Build at Sta. 54+00  
Quantities in Headwall { 1.3 Cu. Yd. Conc.  
33 # 5 steel





FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
	OHIO		

Canal Fulton - Brewster  
 E.C.H. 536 Sec. 11.1  
 Lawrence Twp.

8  
22

DATE  
 BY  
 SURVEYED  
 CHECKED  
 DRAWN  
 NOTE BOOK  
 AREAS CHECKED

DATE  
 BY  
 SURVEYED  
 CHECKED  
 DRAWN  
 NOTE BOOK  
 AREAS CHECKED



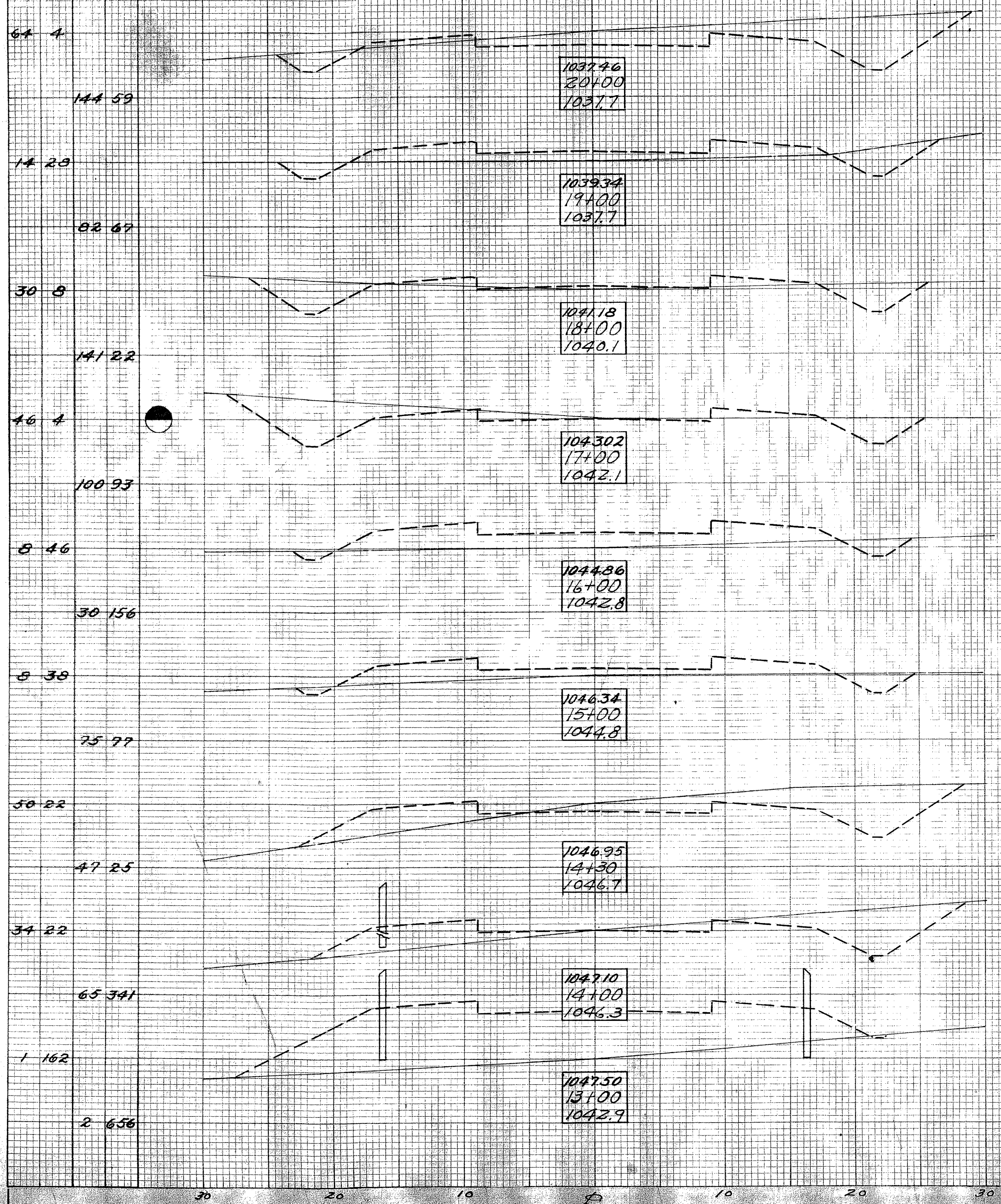
End Area Cu. Yds.  
Cut Fill Cut Fill

End Area Cu. Yds.  
Cut Fill Cut Fill

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
	OHIO		

Canal/Fulton - Brewster  
T.C.H. 536  
Lawrence Township

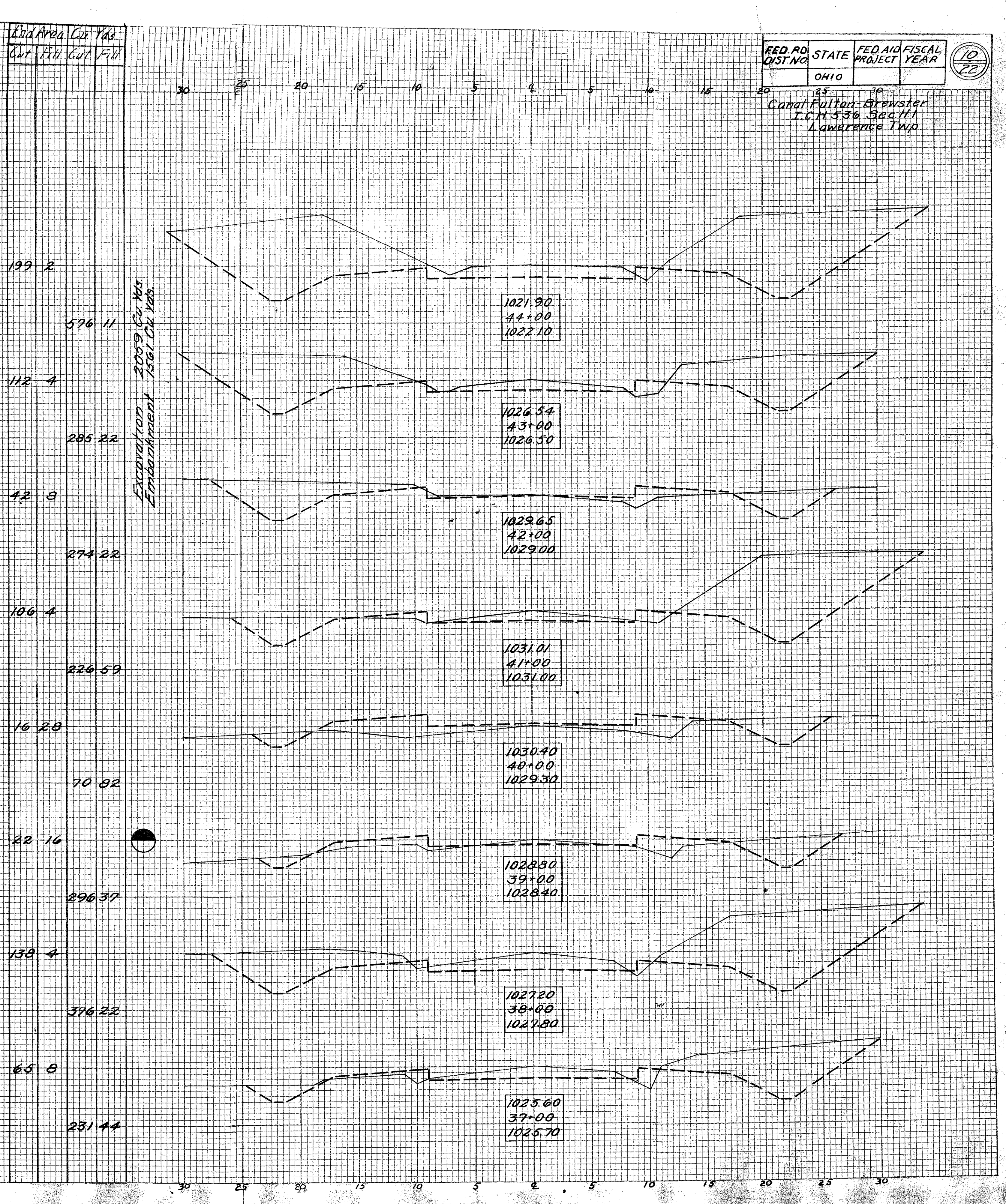
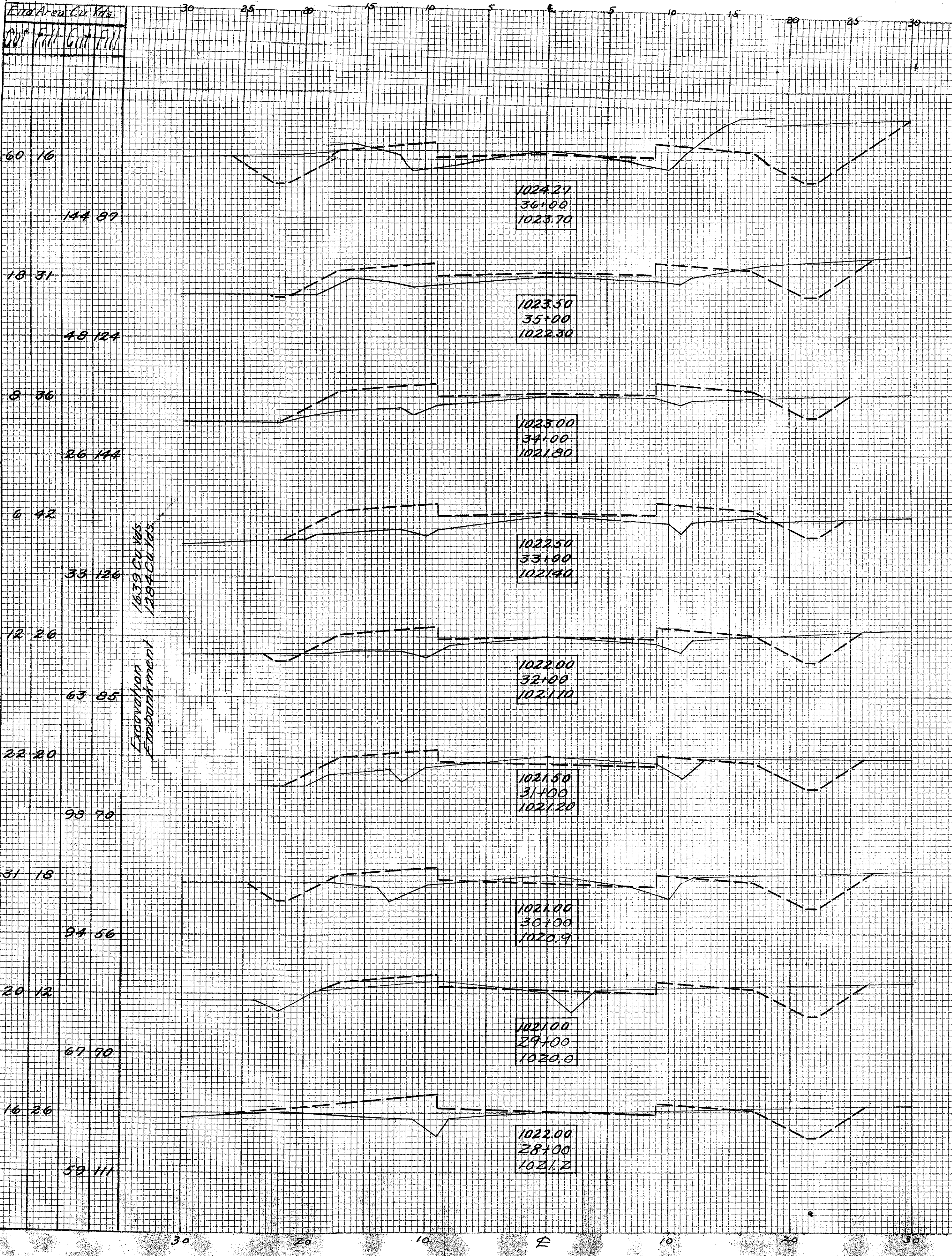
9  
22



Excavation 826 Cu. Yds  
Embankment 624 Cu. Yds

DATE  
BY  
SURVEYED  
NOTED  
TEMPERATURE  
APPROX  
AREAS CHECKED

DATE  
BY  
SURVEYED  
NOTED  
TEMPERATURE  
APPROX  
AREAS CHECKED



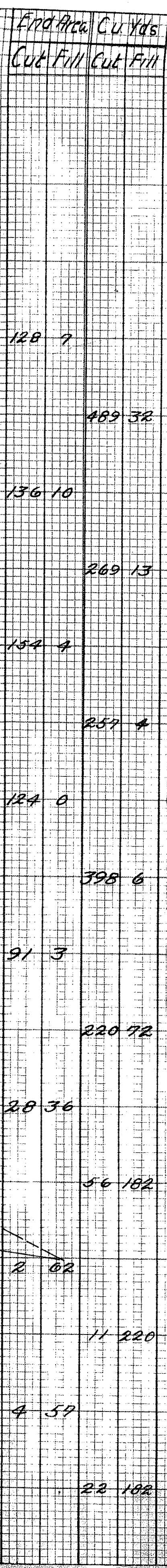
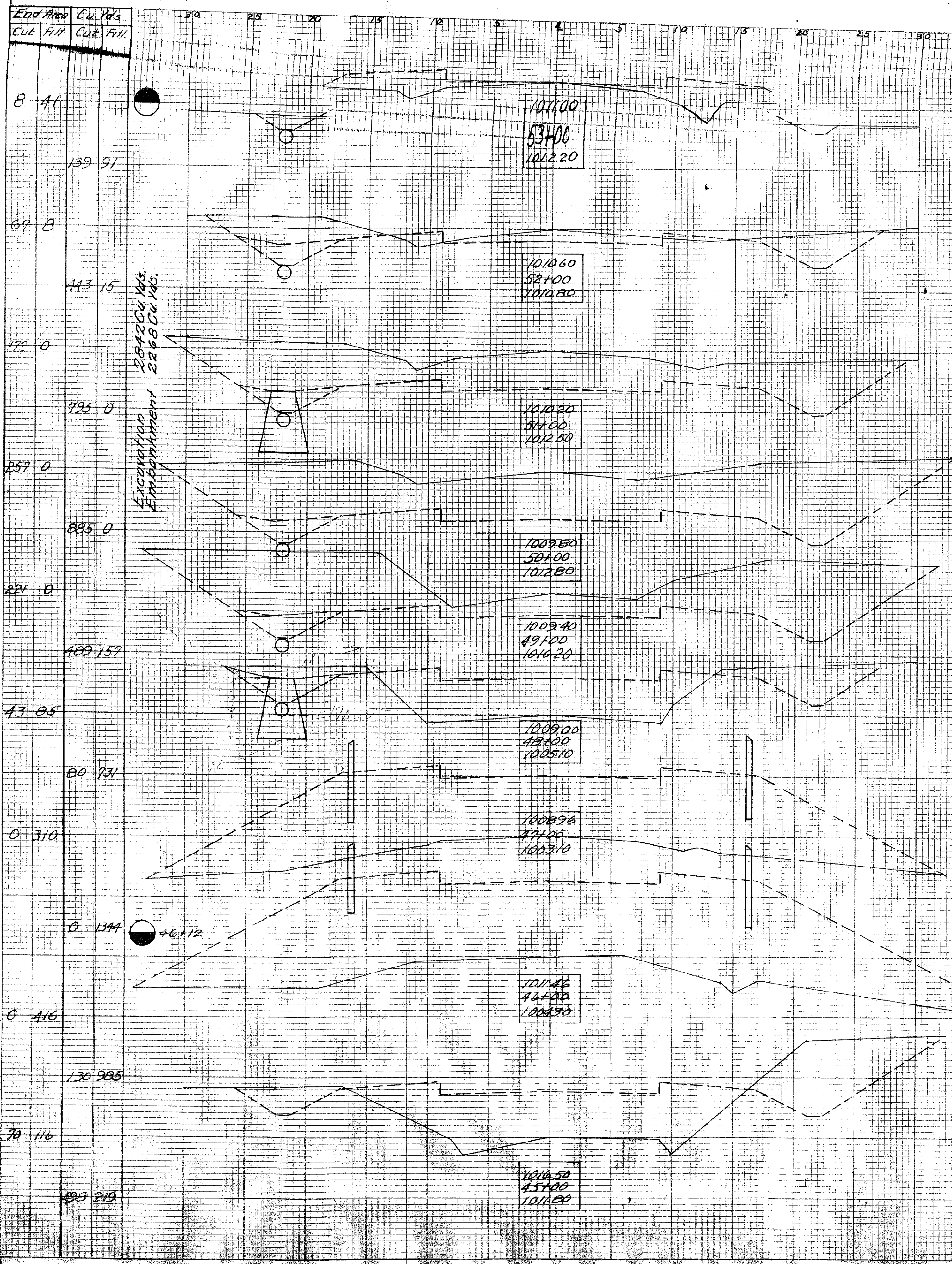
FED. RD DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
	OHIO		

Canal Fulton-Brewster  
I.C.H. 536 Sec. H1  
Lawrence Twp

10  
22

DATE  
BY  
SUBMITTED  
SURVEY  
PLOTTED  
TEMPLATE  
AREAS  
NOTE BOOK  
AREAS CHECKED

DATE  
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FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
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Canal Milton Brewster  
 I.C.H. 536 Sec. H-1  
 Lawrence Township

2842 Cu Yds.  
 2268 Cu Yds.  
 Excavation  
 Embankment

896 Cu Yds.  
 571 Cu Yds.  
 Excavation  
 Embankment

101100  
 53+00  
 101220

101060  
 52+00  
 101080

101020  
 51+00  
 101250

100960  
 50+00  
 101280

100940  
 49+00  
 101420

100900  
 48+00  
 100510

100896  
 47+00  
 100310

101146  
 46+00  
 100230

101050  
 45+00  
 101180

100620  
 60+00  
 100570

101140  
 59+00  
 101090

101300  
 58+50  
 101340

101380  
 58+00  
 101490

101340  
 57+00  
 101340

101260  
 56+00  
 101100

101190  
 55+00  
 101020

101140  
 54+00  
 10099

FINAL SURVEY  
 BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 AREA CHECKED \_\_\_\_\_

ORIGINAL SURVEY  
 BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 AREA CHECKED \_\_\_\_\_

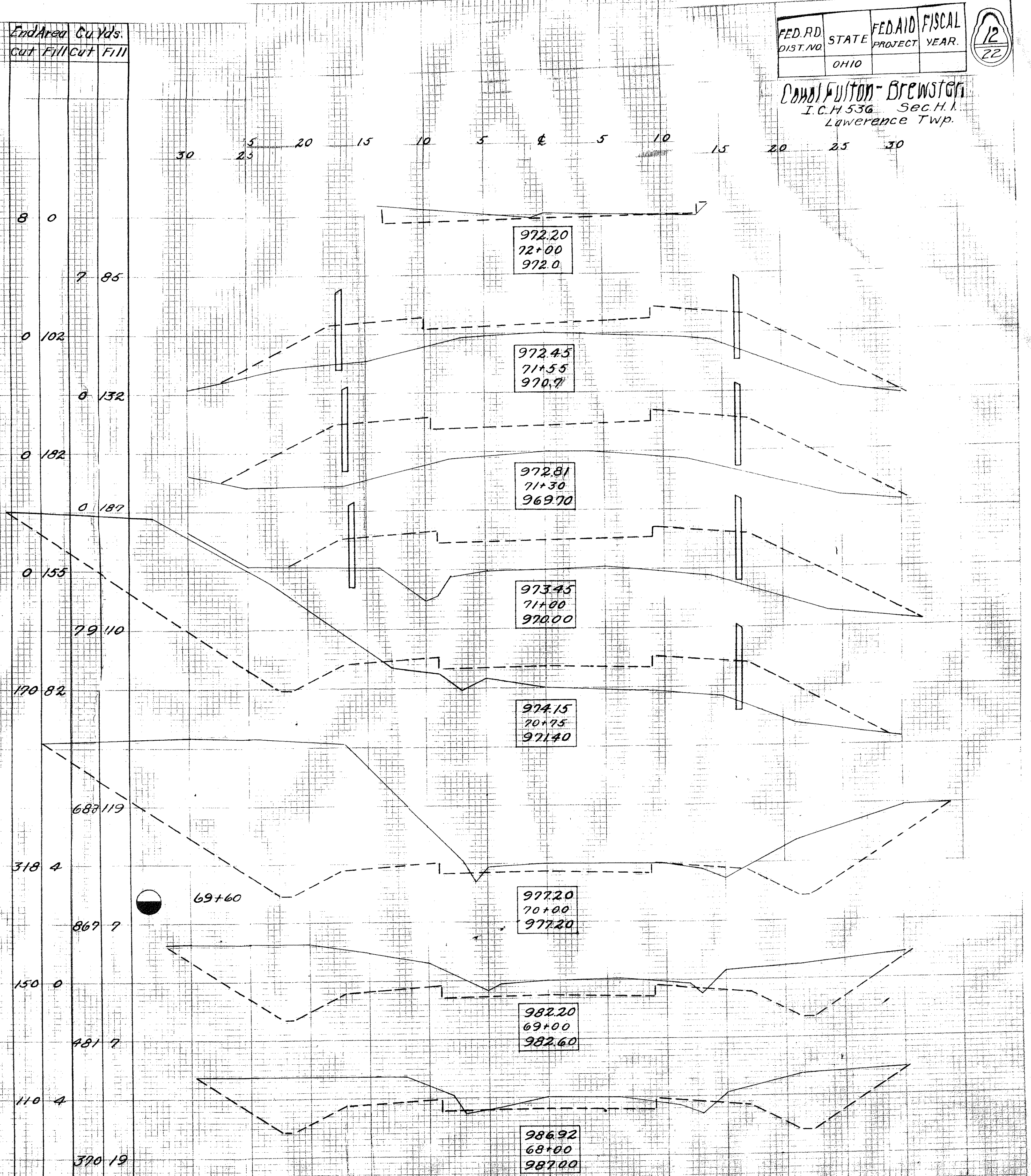
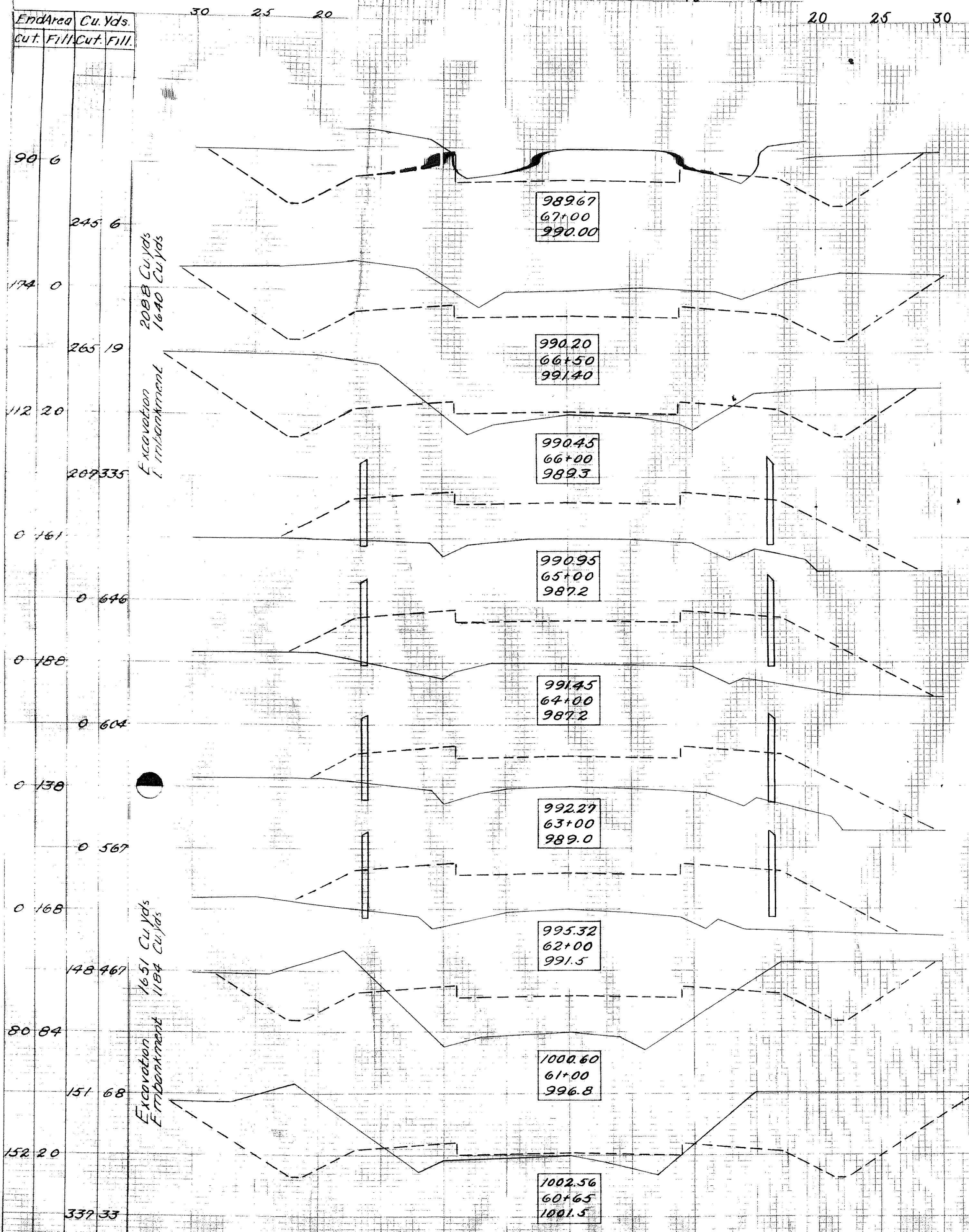
End Area Cu. Yds.  
Cut Fill Cut Fill

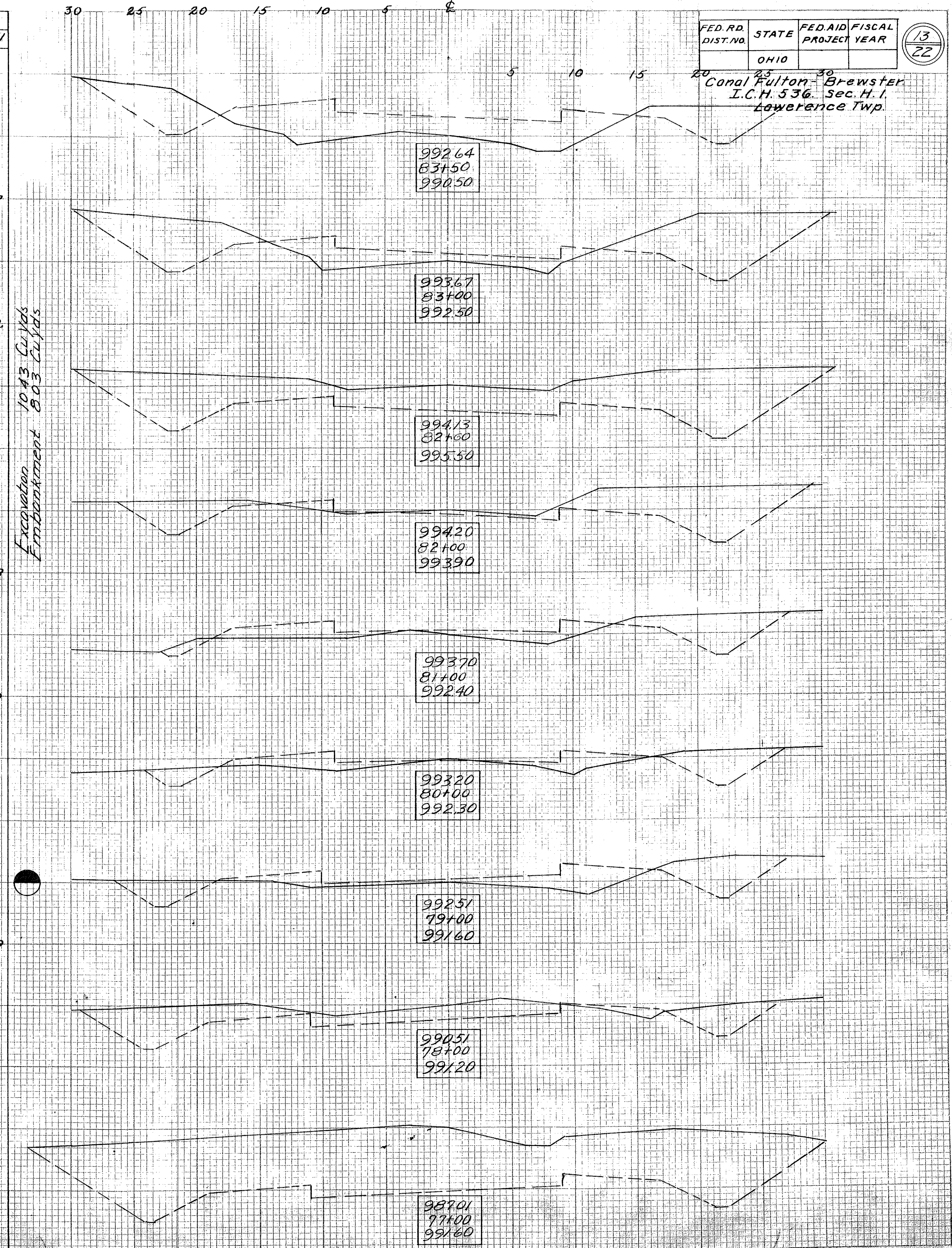
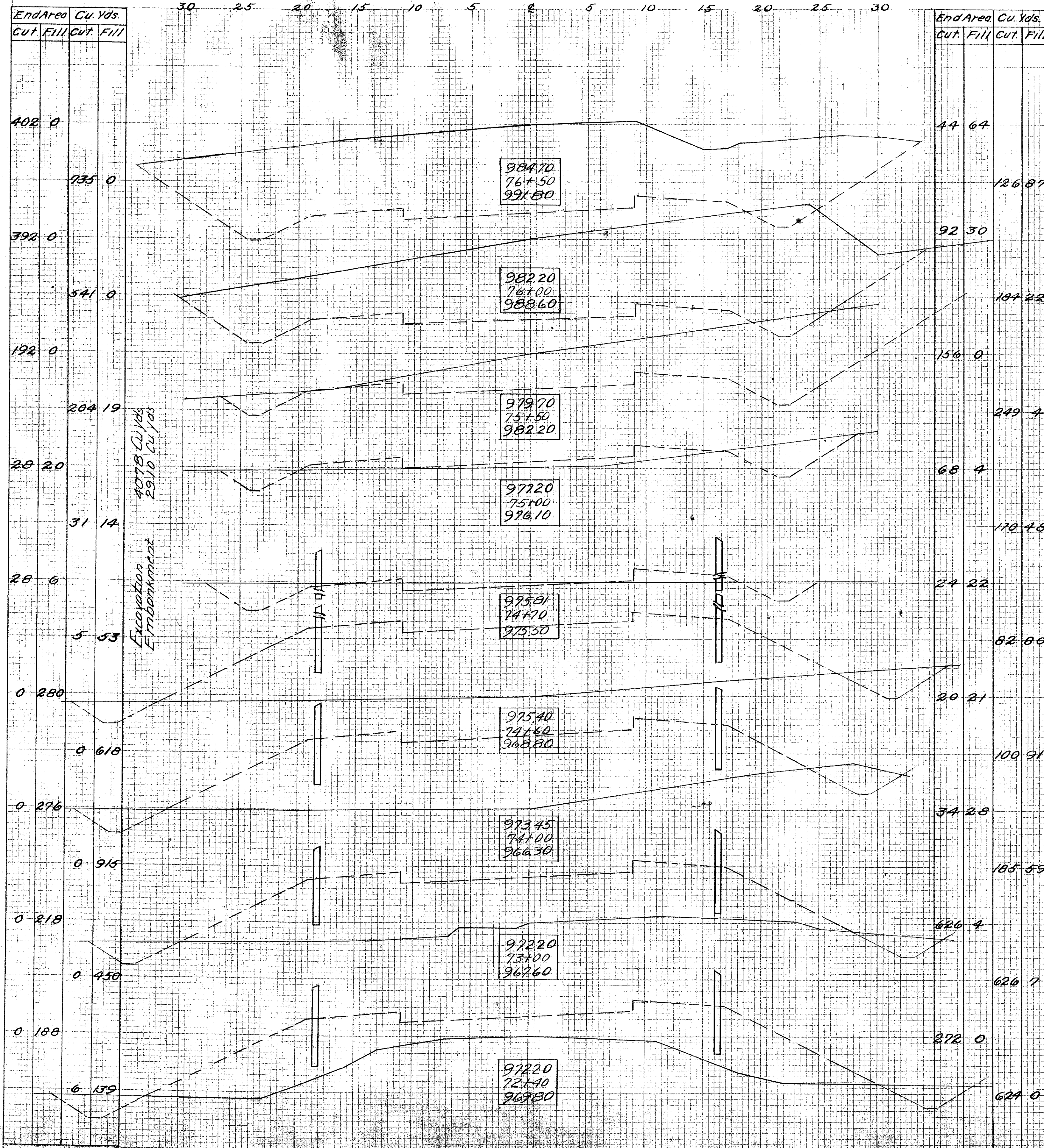
End Area Cu. Yds.  
Cut Fill Cut Fill

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR.
	OHIO		

Canal Fulton-Brewster  
I.C.H. 536 Sec. H. 1  
Lawrence Twp.

12  
72

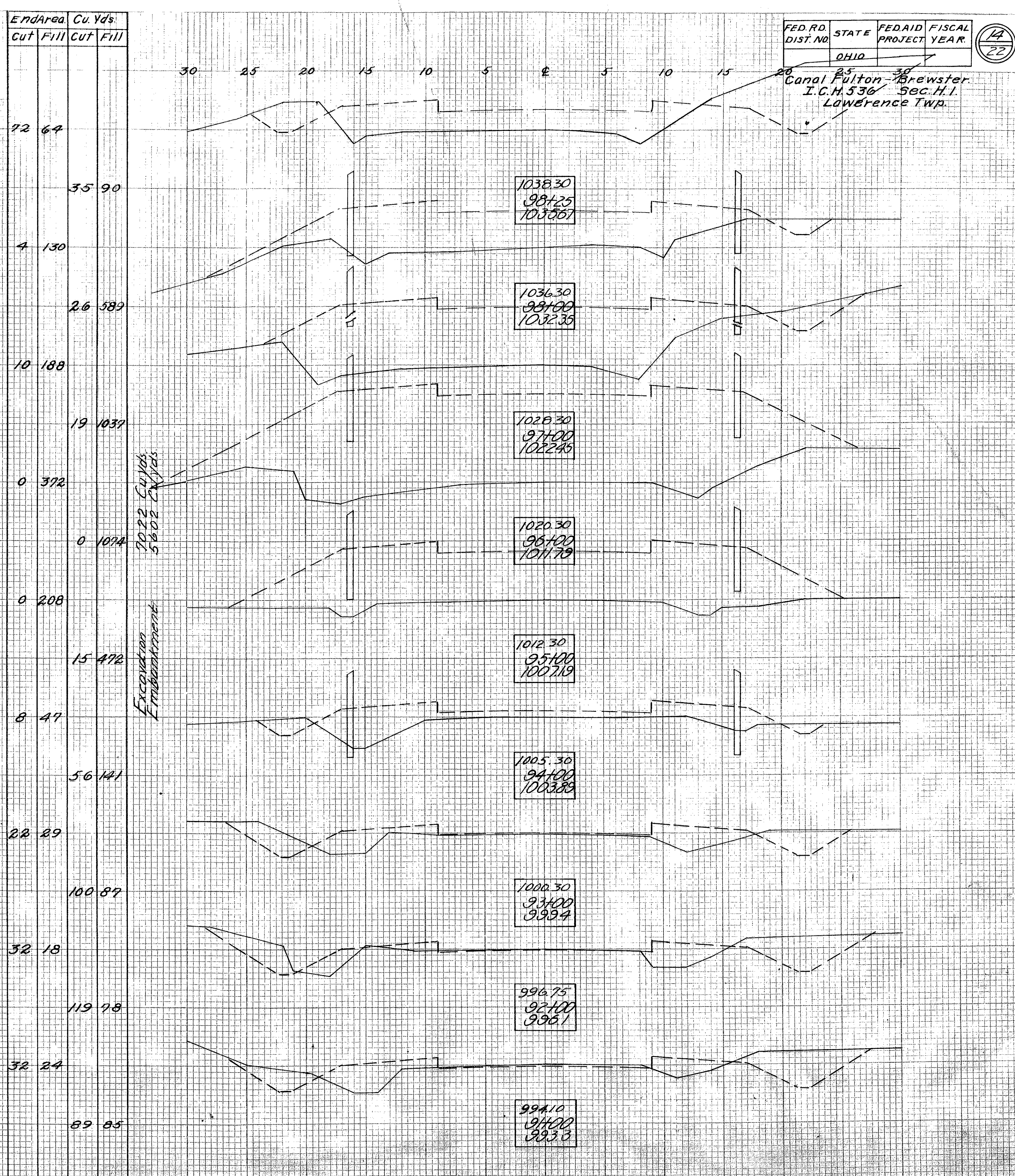
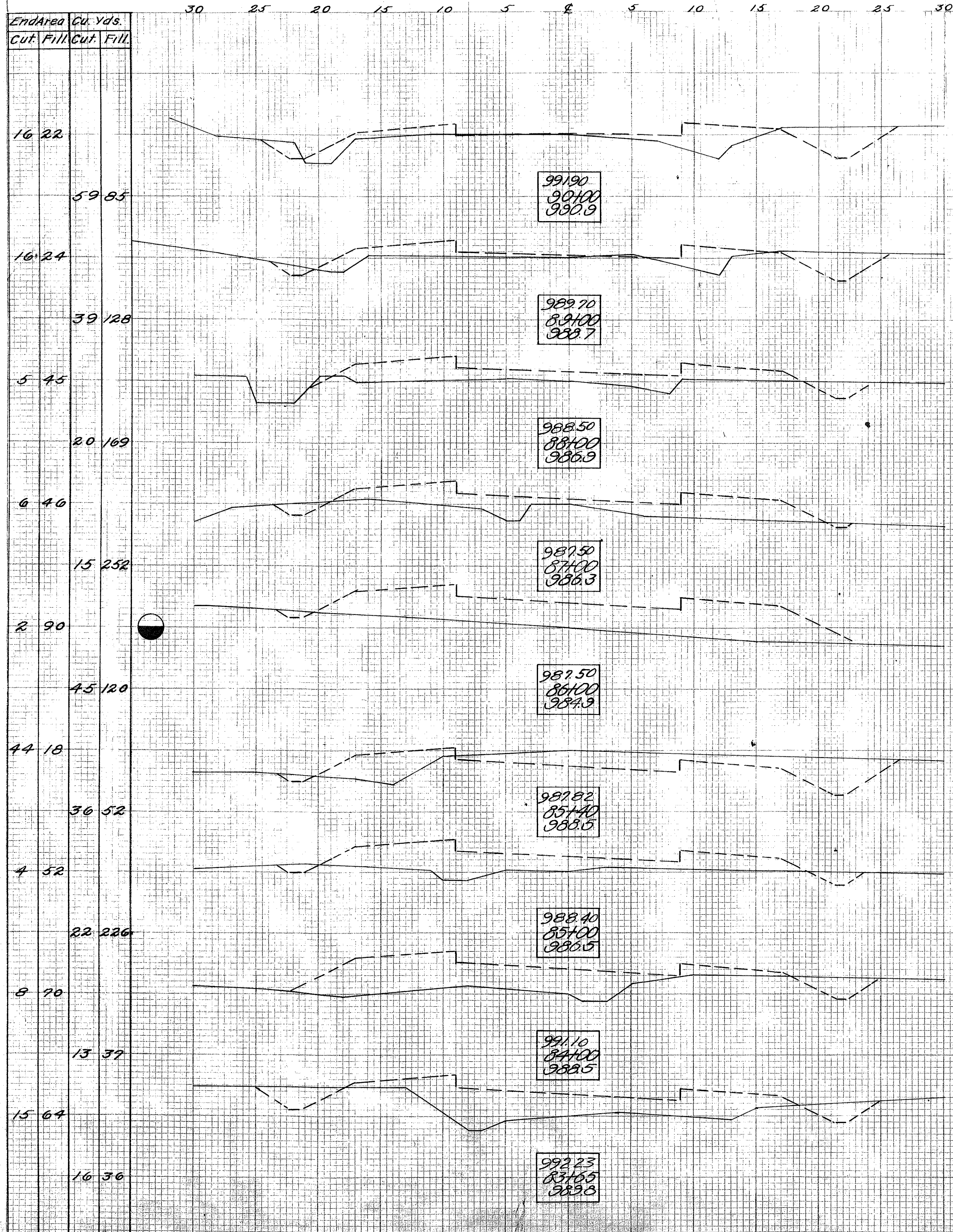




FED. RD. DIST. NO. STATE OHIO FED. AID PROJECT YEAR 13/22  
 Canal Fulton-Brewster I.C.H. 536 Sec. H.1. Lawrence Twp.

FINAL SURVEY BY DATE  
 SURVEY NO. PROJECT NO. AREA NO. AREA CURVE NO.

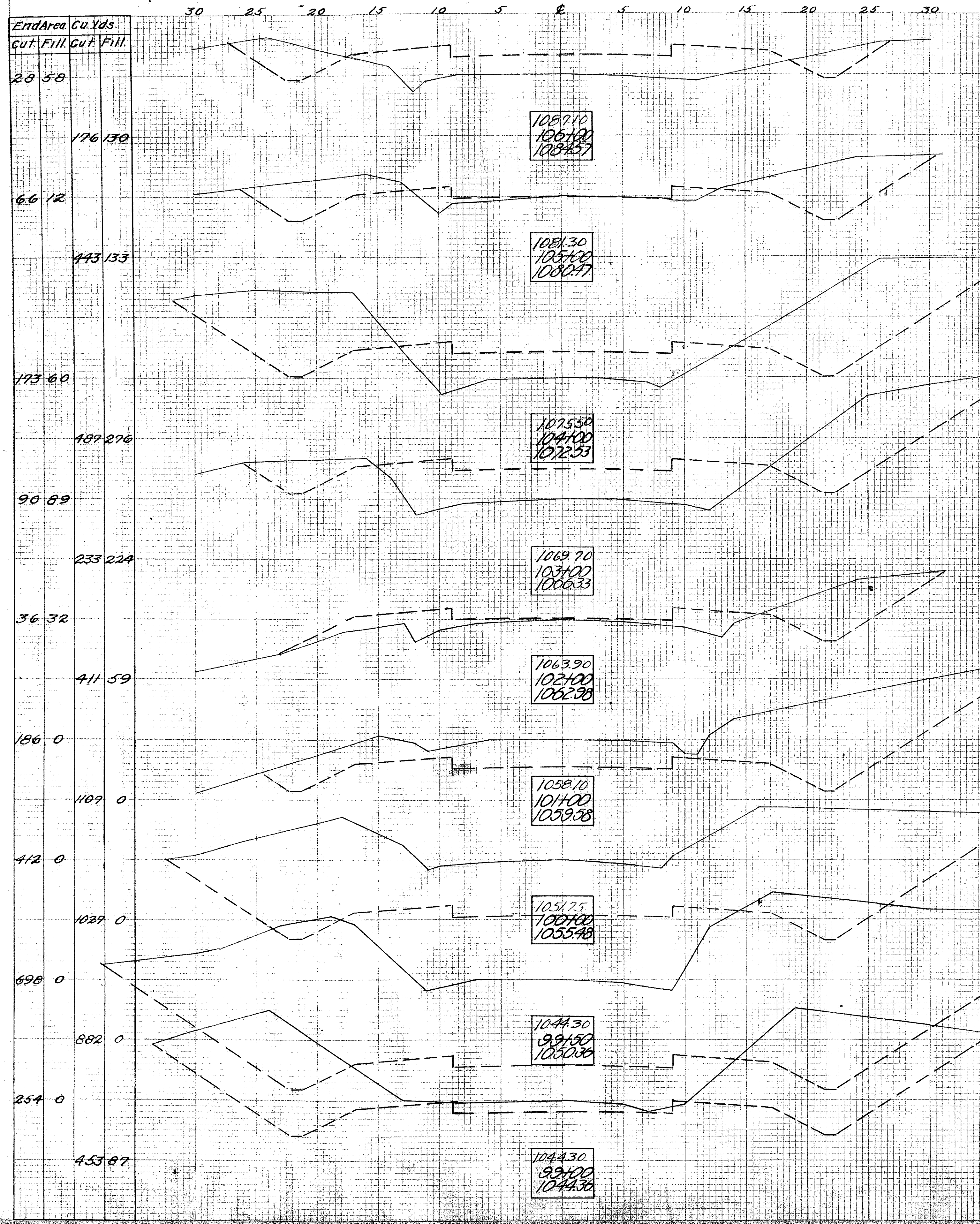
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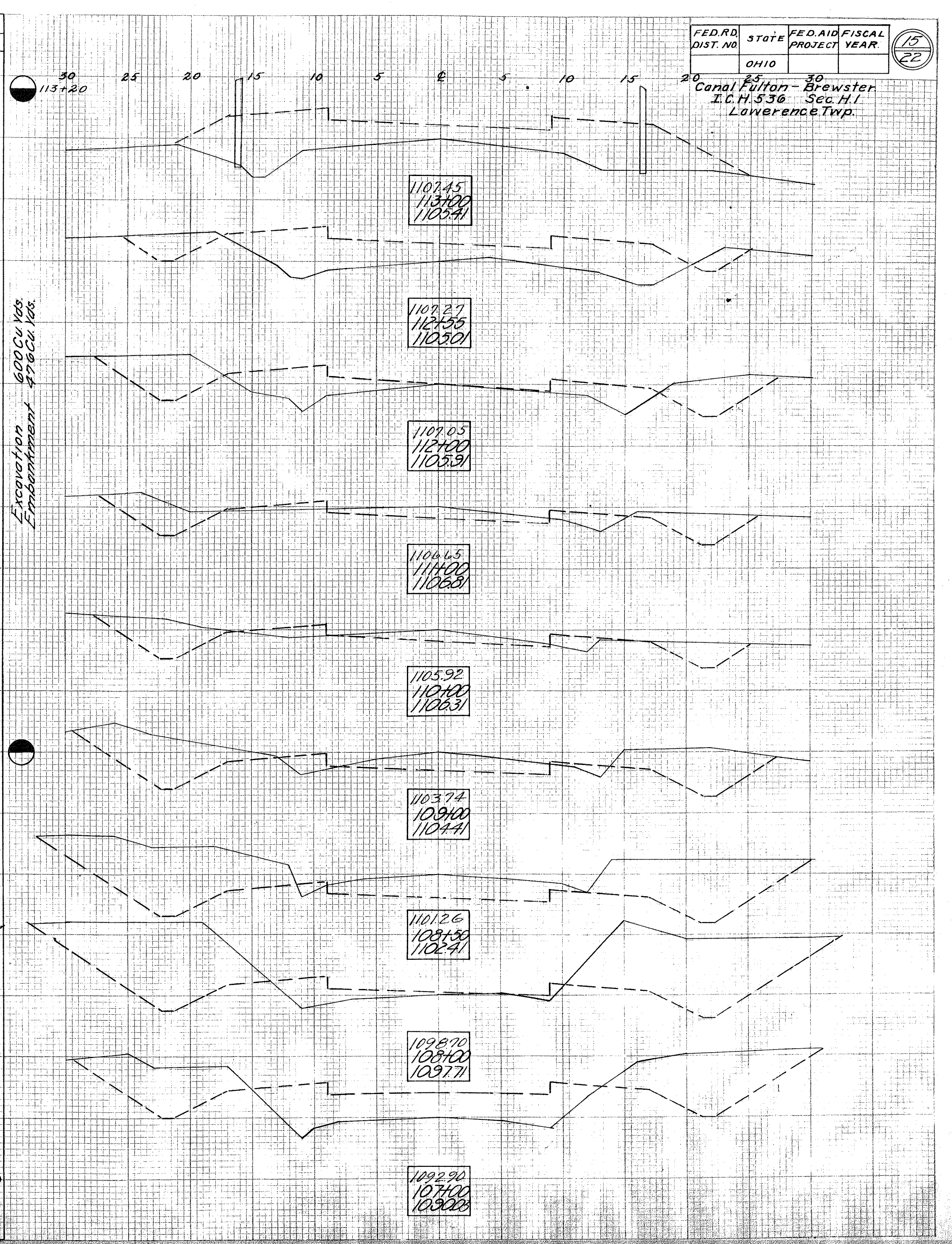
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 STATE OHIO  
 FED. AID PROJECT YEAR. 14/22  
 FISCAL YEAR. 14/22  
 Canal Fulton - Brewster  
 I.C.M. 536 Sec. H.1  
 Lawrence Twp.

Excavation  
 Embankment  
 70.22 Cu. Yds.  
 5.602 Cu. Yds.

ORIGINAL SURVEY  
 BY DATE  
 FINEL SURVEY  
 BY DATE  
 ACCE. BOOK NO. AREA CHECKED



End Area	Cu. Yds.
Cut	Fill
0	112
13	158
16	78
60	118
43	38
157	89
42	10
148	22
38	2
222	15
82	6
222	7
158	2
302	17
168	16
474	152
88	66
215	230

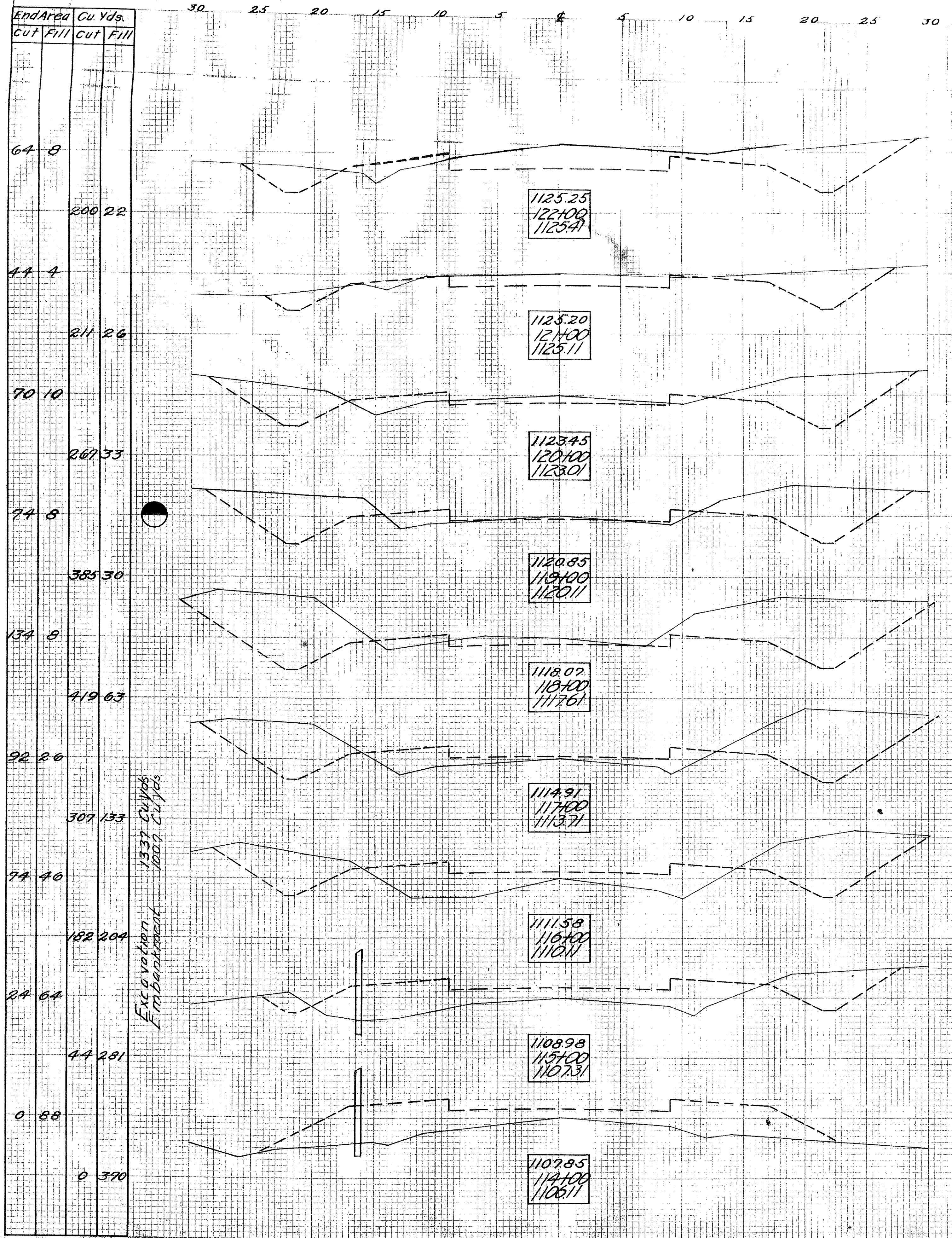


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 STATE PROJECT YEAR. 15 22  
 Canal Fulton - Brewster  
 I.C.H. 536 Sec. H.1  
 Lawrence Twp.

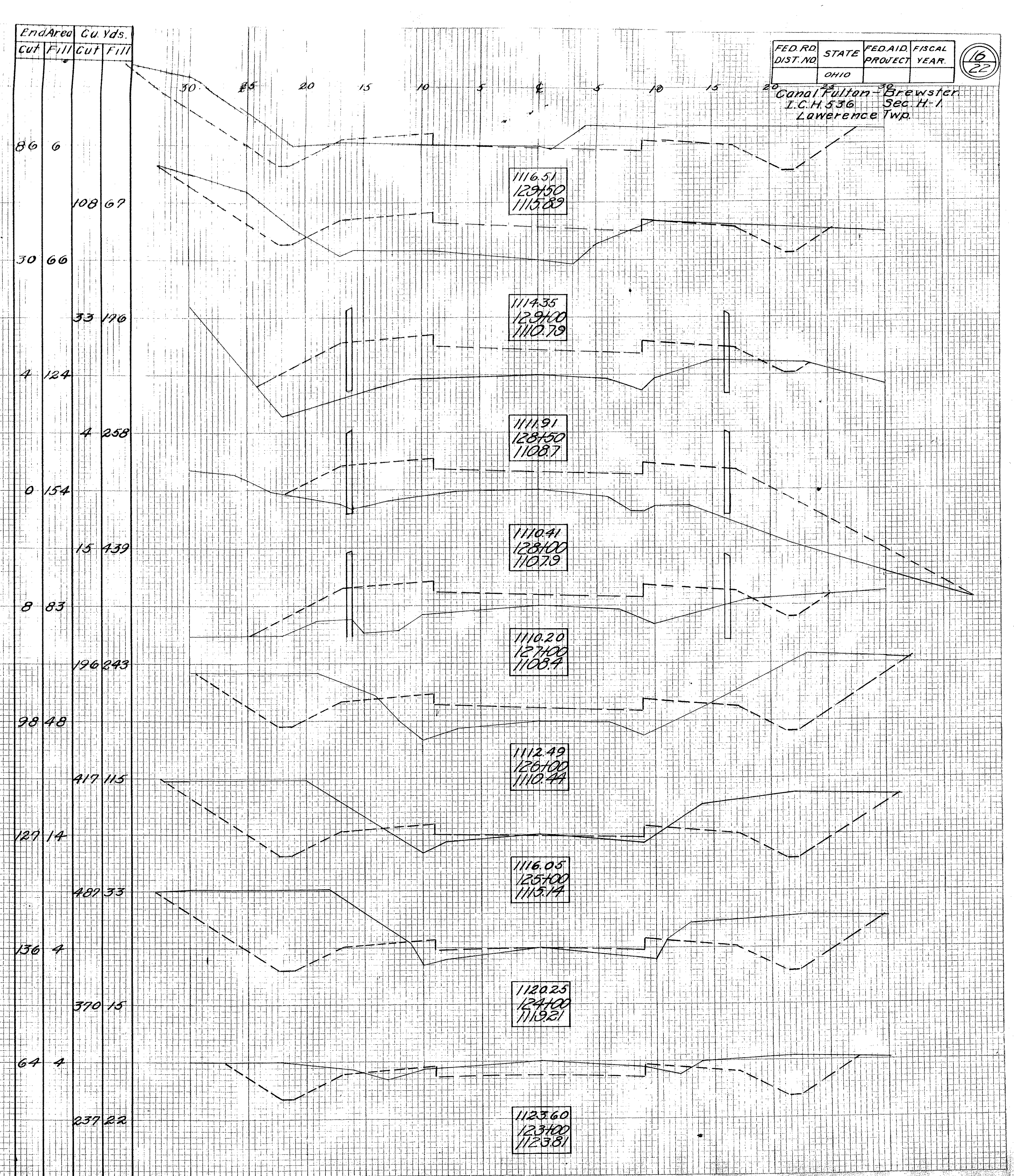
Excavation 600 Cu. Yds.  
 Embankment 276 Cu. Yds.

FINAL SURVEY  
 DATE  
 BY  
 CHECKED  
 NOTE BOOK  
 AREAS CHECKED

ORIGINAL SURVEY  
 DATE  
 BY  
 CHECKED  
 NOTE BOOK  
 AREAS CHECKED

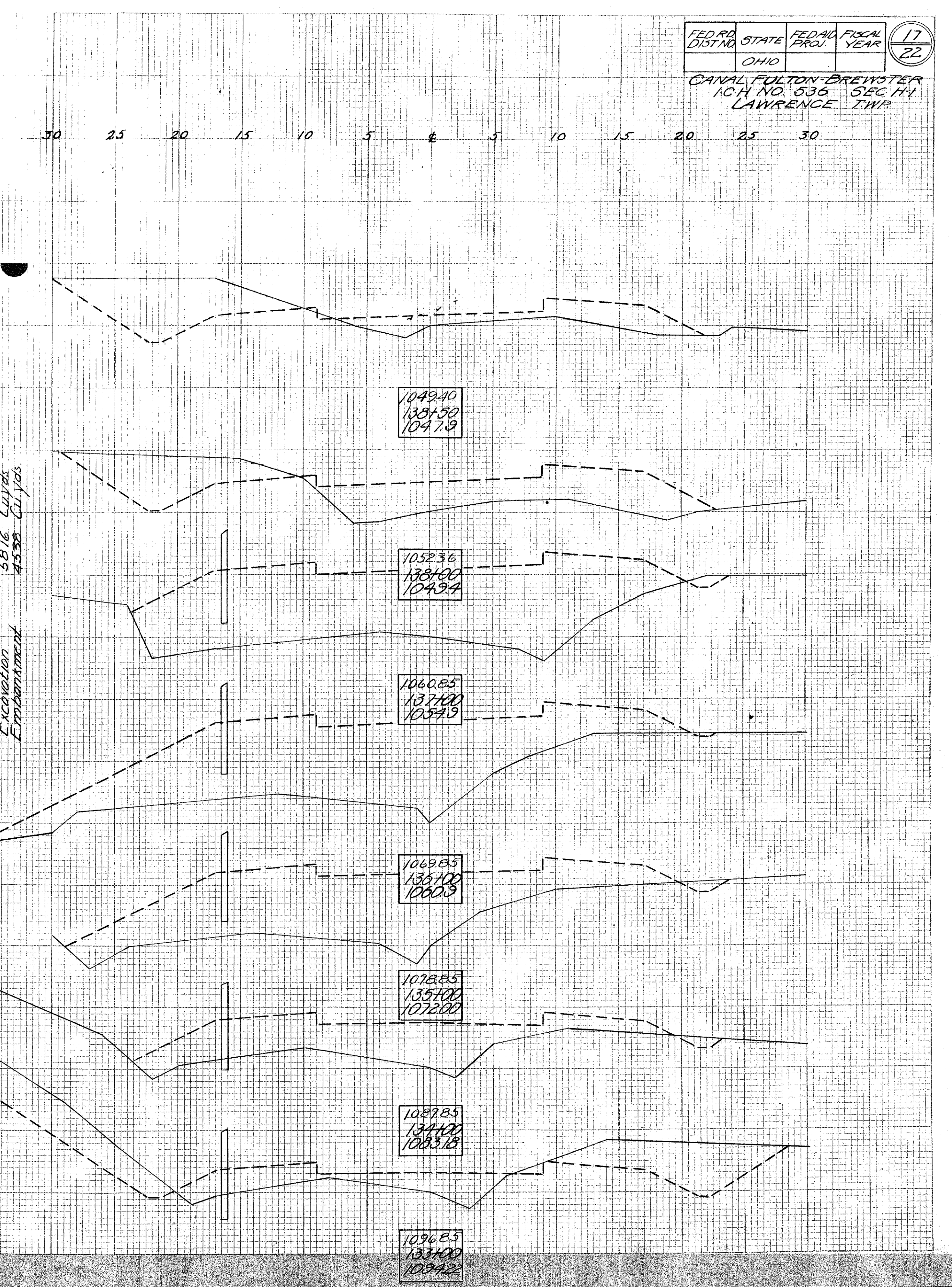
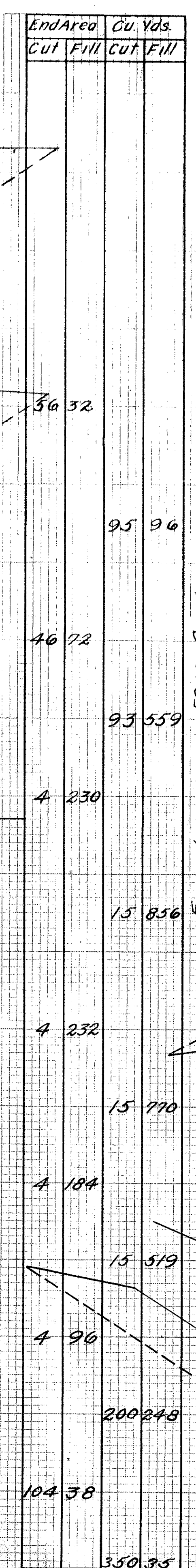
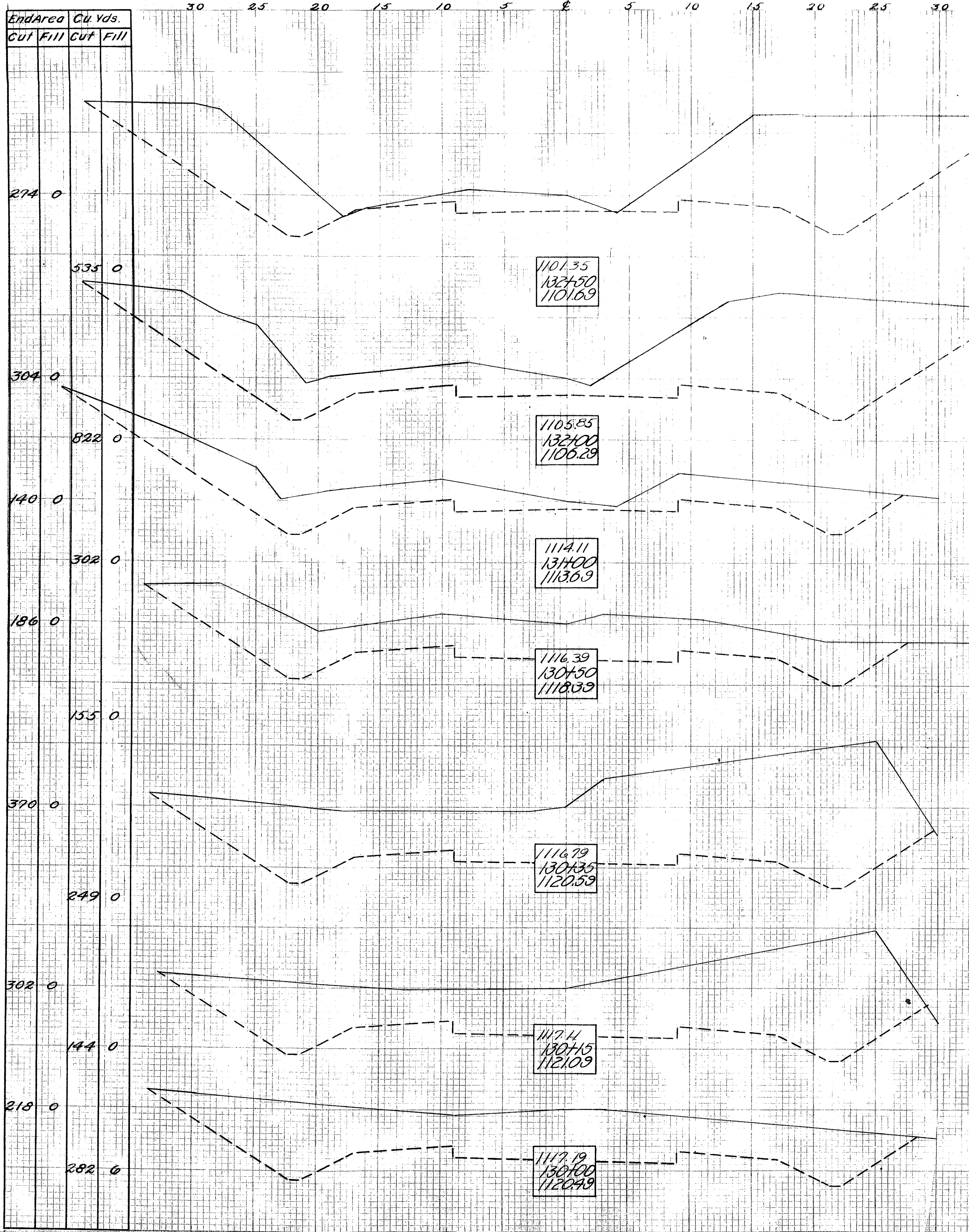


Excavation  
 Embankment  
 13.37 Cu Yds  
 100.7 Cu Yds



FED. RD. DIST. NO. STATE OHIO FED. AID PROJECT YEAR. FISCAL YEAR. 16 22  
 Canal Fulton - Brewster  
 I.C.H. 536 Sec. H-1  
 Lawrence Twp.





FED. RD. DIST. NO. STATE PROJ. FISCAL YEAR

OHIO

CANAL FULTON-BREWSTER  
I.C.H. NO. 536 SEC. H1  
LAWRENCE TWP.

17  
22

Excavation  
Embankment

5816 Cu. Yds.  
4538 Cu. Yds.

BY DATE

ORIGINAL SURVEY

REVISIONS

DATE REVISION

AREA CHECKED

BY DATE

ORIGINAL SURVEY

REVISIONS

DATE REVISION

AREA CHECKED

2

**Culvert Data**  
 Type: Standard hillside  
 R.C.P. Culvert  
 Size: 15" X 44"  
 Work required: Build new  
 R.C.P. Culvert as shown

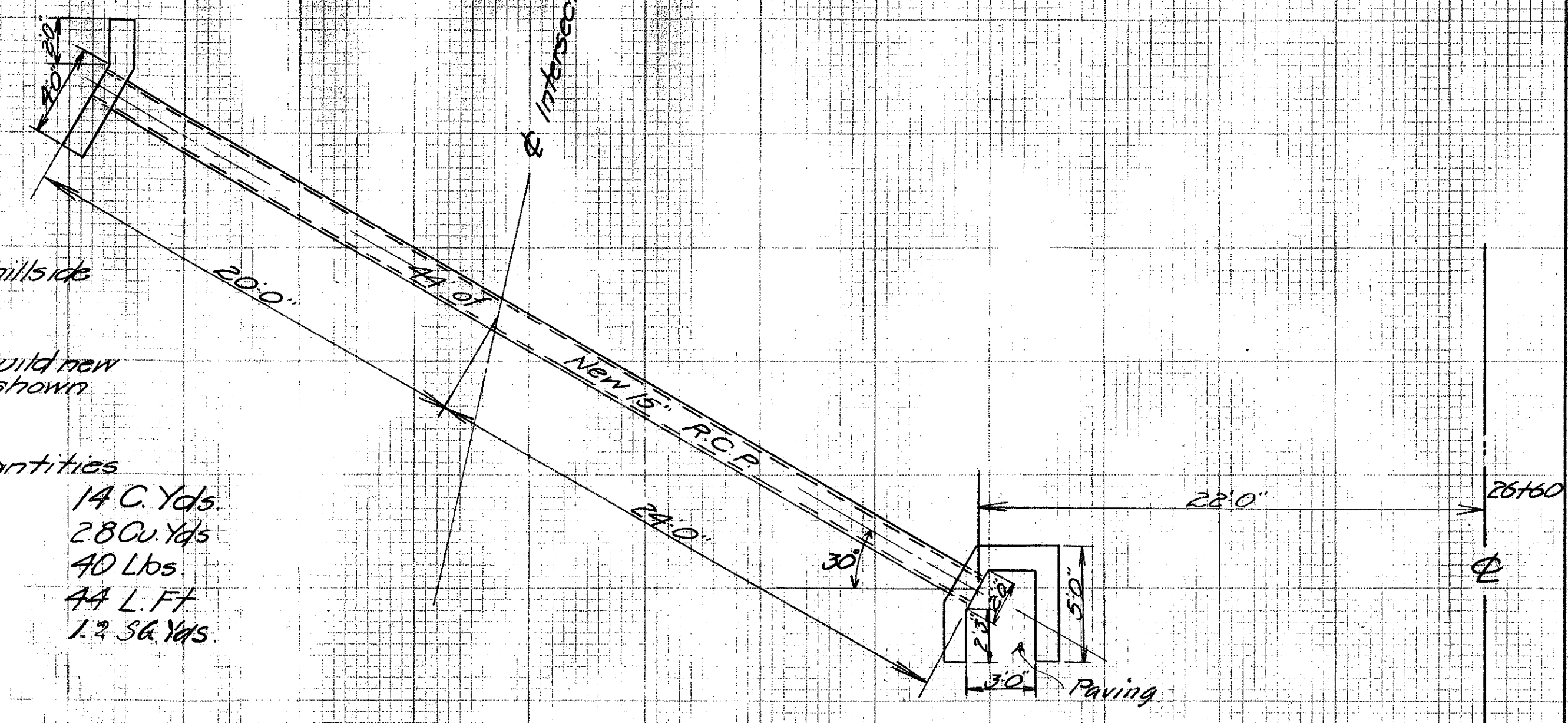
**Estimated Quantities**  
 Excavation 14 C. Yds.  
 Concrete (12.3%) 28 Cu. Yds.  
 Reinf. Steel 40 Lbs.  
 R.C.P. (15") 44 L. Ft.  
 Brick Pavement 1.2 Sq. Yds.

Clean outlet ditch  
 100'

Elev. 10207

Elev. 10213

Sta. 26+60 (Left)



1

**Culvert Data**  
 Type: Standard R.C.P. Culvert  
 Size: 24" X 52"  
 Work required: Build new  
 R.C.P. Culvert as shown

**Estimated Quantities**  
 Excavation 60 C. Yds.  
 Concrete (12.3%) 28 C. Yds.  
 Reinf. Steel 65 Lbs.  
 R.C.P. 52 L. Ft.

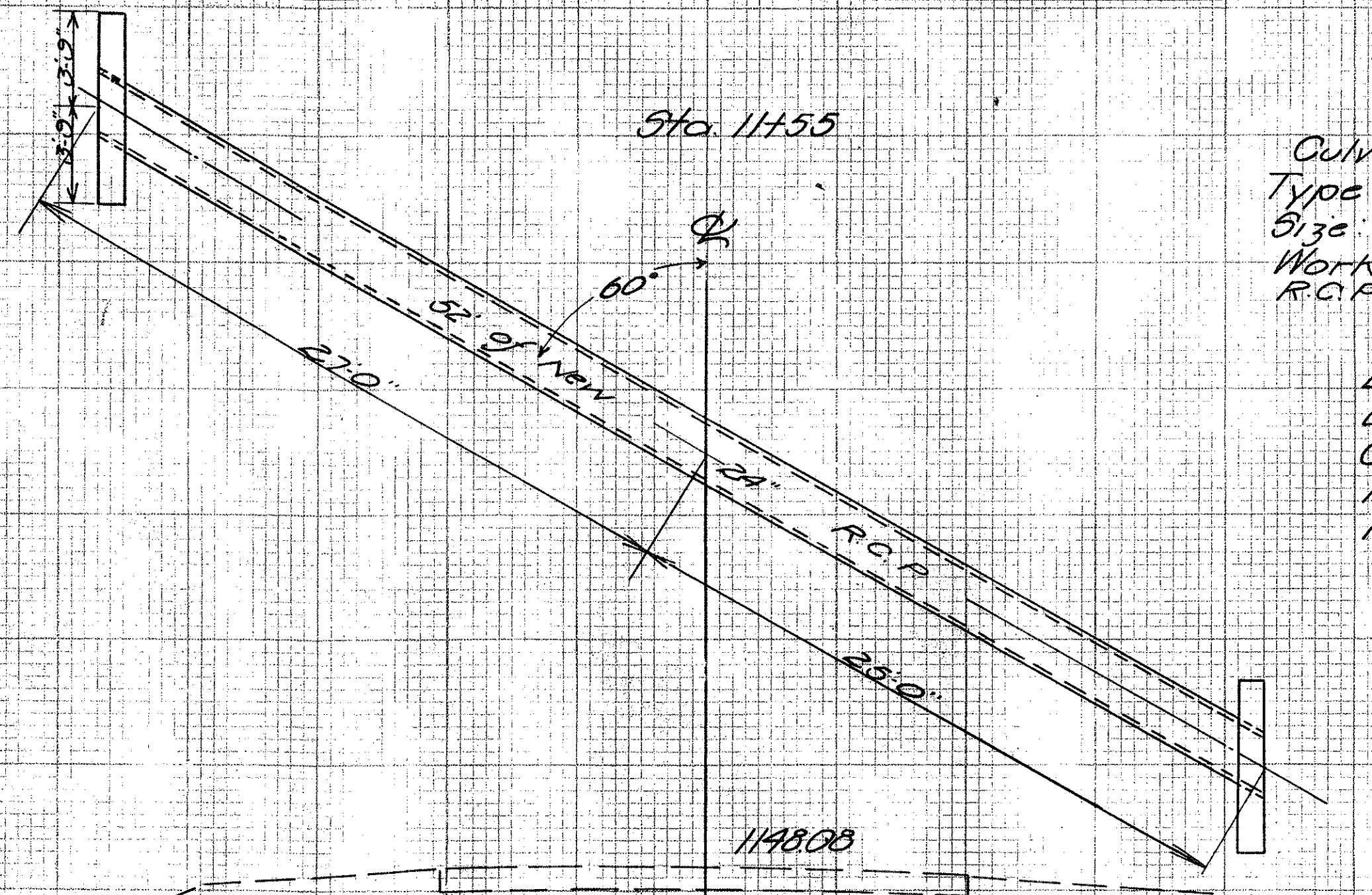
Sta. 11+55

11+80.8

Elev. 10418

Elev. 10426

Cross Section thru Culvert



4

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	18 22
	OHIO			

Conal Fulton Brew  
 I.C.H. 536 Sec. 111  
 Lawrence Twp.

**Culvert Data**  
 Type: Standard  
 5' Rd R.C.P. Culvert  
 Size: 15" X 46"  
 Work required:  
 Remove 27' of exist-  
 ing 12" V.P. and use  
 for drives. Build  
 new R.C.P. Culvert

**Estimated Quantities**  
 Excavation 7 C. Yds.  
 Concrete (12.3%) 29  
 Reinf. Steel 65 Lbs.  
 R.C.P. (15") 46 L. Ft.

Sta. 45+71

Sta. 45+43

Sta. 45+25

Sta. 45+25

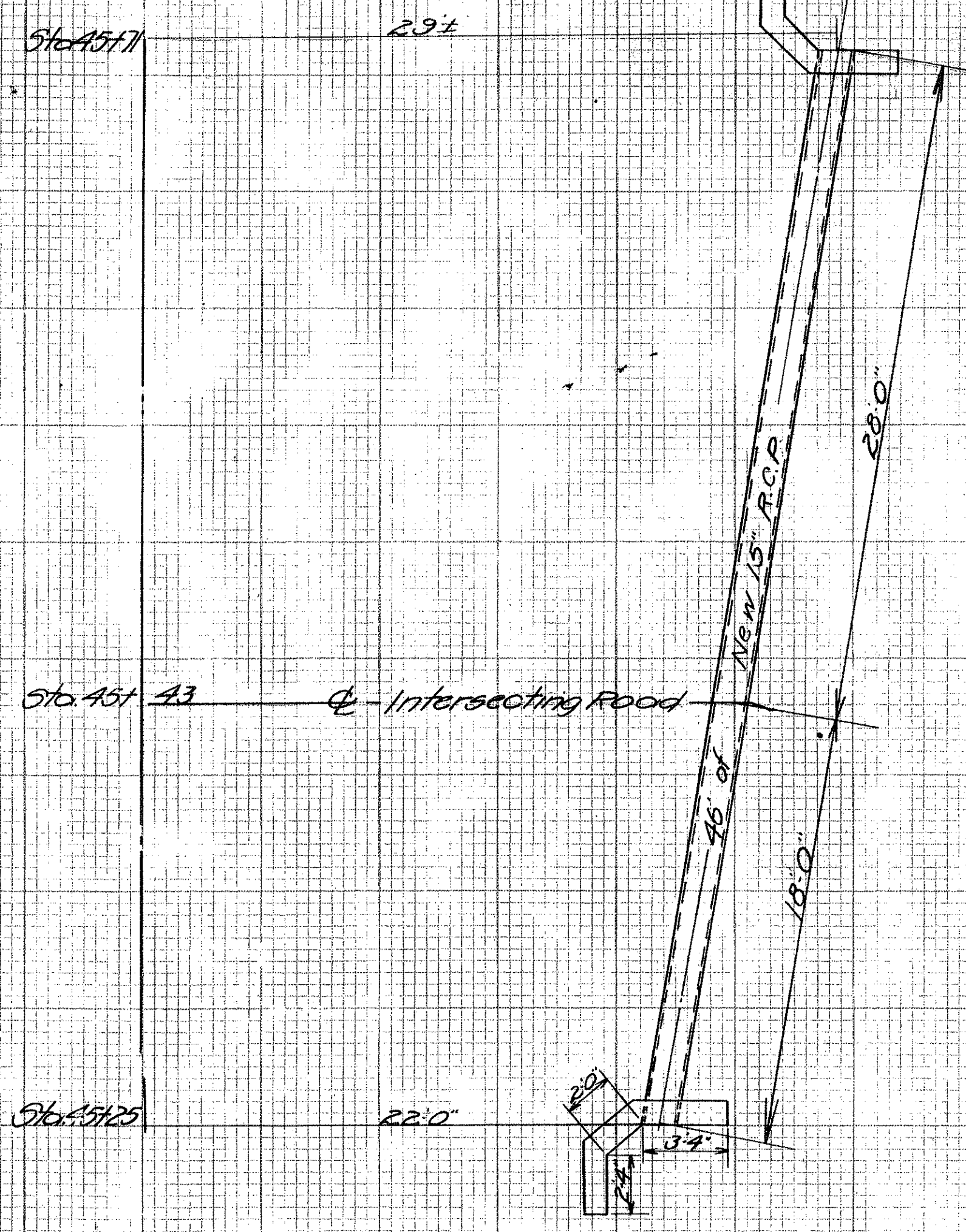
101275

Grade

101215

Elev. 10121

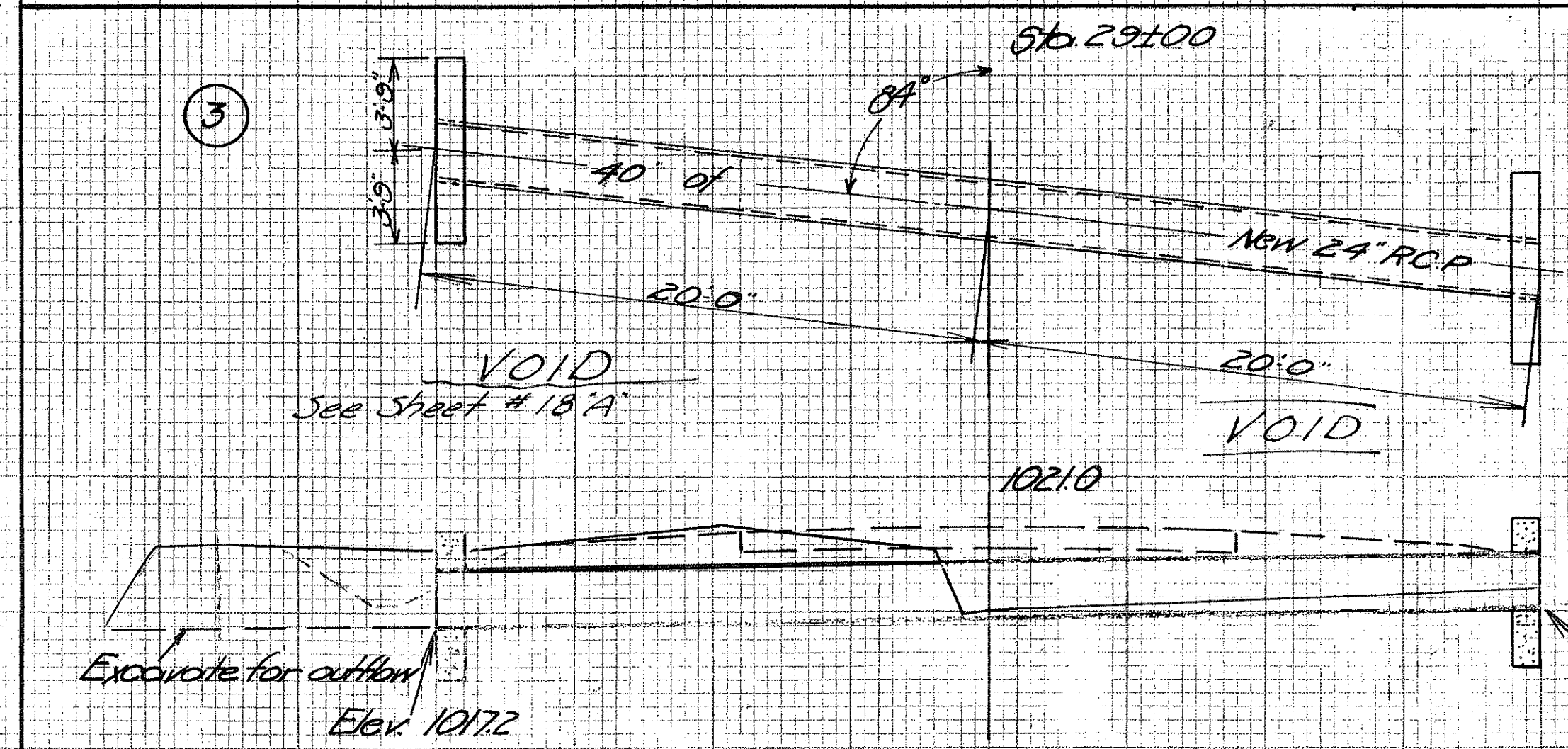
Intersecting Road



3

**Culvert Data**  
 Type: Standard R.C.P.  
 Culvert  
 Size: 24" X 40"  
 Work required: Remove  
 existing 20" X 30" V.P. Build  
 new R.C.P. Culvert

**Estimated Quantities**  
 Excavation 15 C. Yds.  
 Concrete (12.3%) 28 C. Yds.  
 Reinf. Steel 65 Lbs.  
 R.C.P. (15") 40 L. Ft.  
 Removing V.P. 30'

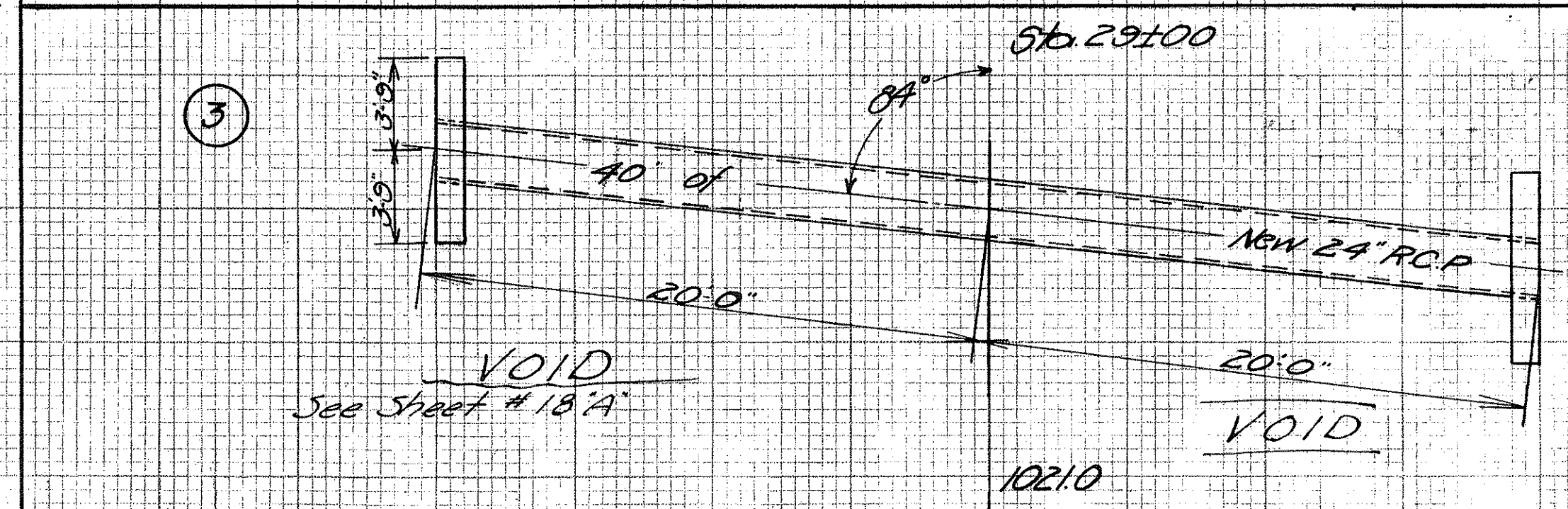


VOID  
 See Sheet # 18 'A'

VOID

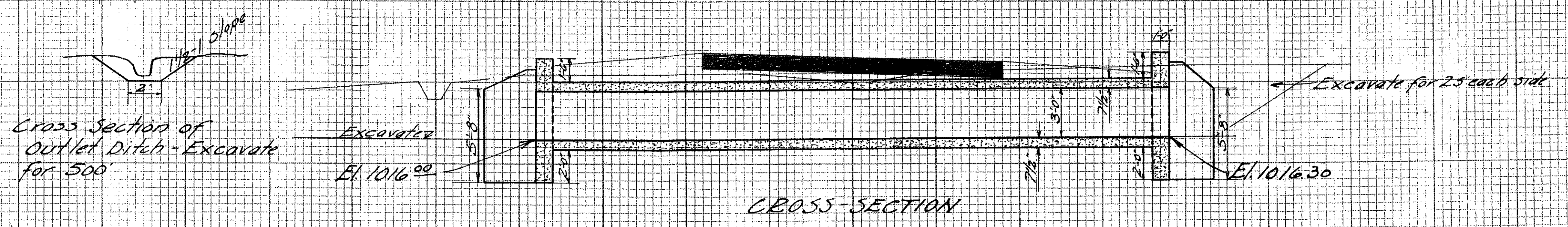
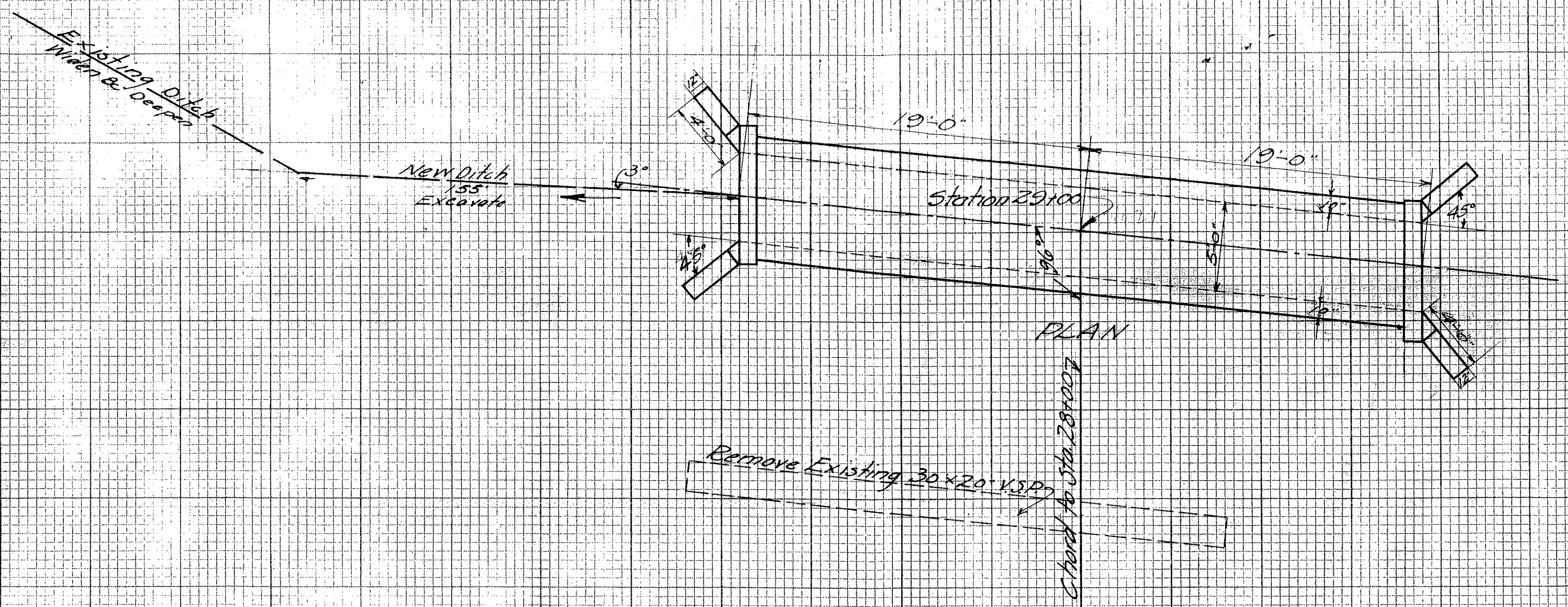
Excavate for outflow  
 Elev. 10172

Elev. 10178



FED. RD DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	18.7 22
	OHIO			

Canal Fulton Breewater  
 L.G.H. 536 Sec 11-1  
 Lawrence Twp.



**CULVERT DATA**  
 Type - Std Concrete Box Cul. Dr. #301  
 Size 5' x 3' x 38'  
 Work Req. Remove existing 30x20 VSP at Sta 289+84. Build Std Con. Box Cul. 5' x 3' x 38' Open Outlet Ditch for 500'

**EST QUANTITIES**  
 Excav 151 Cu. Yds  
 Con 1-2-3/4 245 Cu. Yds  
 Reinf Steel 1384 Lbs

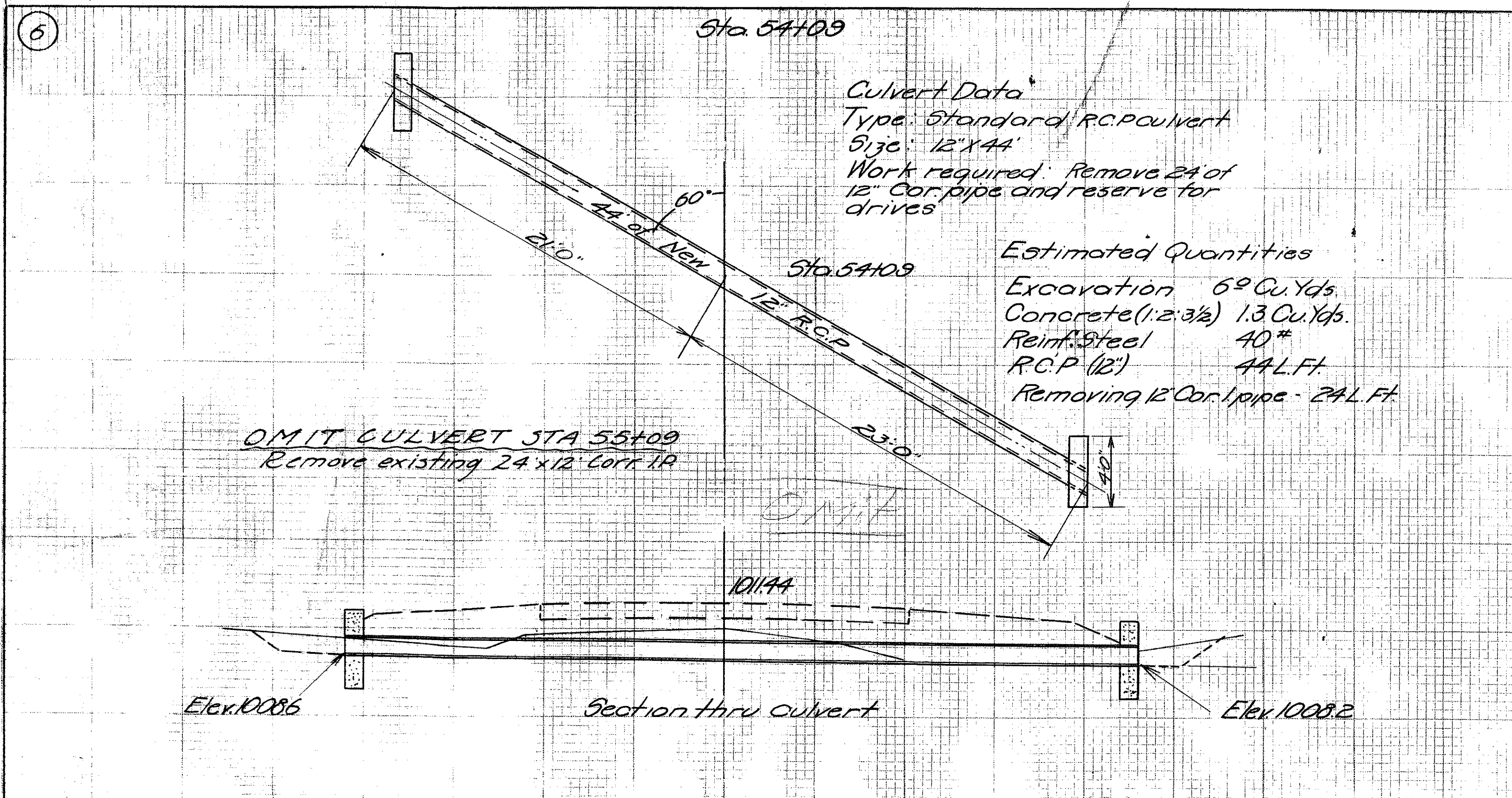
③ STA 29+00

DATE: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 SUPERVISOR: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 FINAL SURVEY NOTE BOOK NO. \_\_\_\_\_  
 AREAS CHECKED: \_\_\_\_\_

DATE: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 SUPERVISOR: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 ORIGINAL SURVEY NOTE BOOK NO. \_\_\_\_\_  
 AREAS CHECKED: \_\_\_\_\_

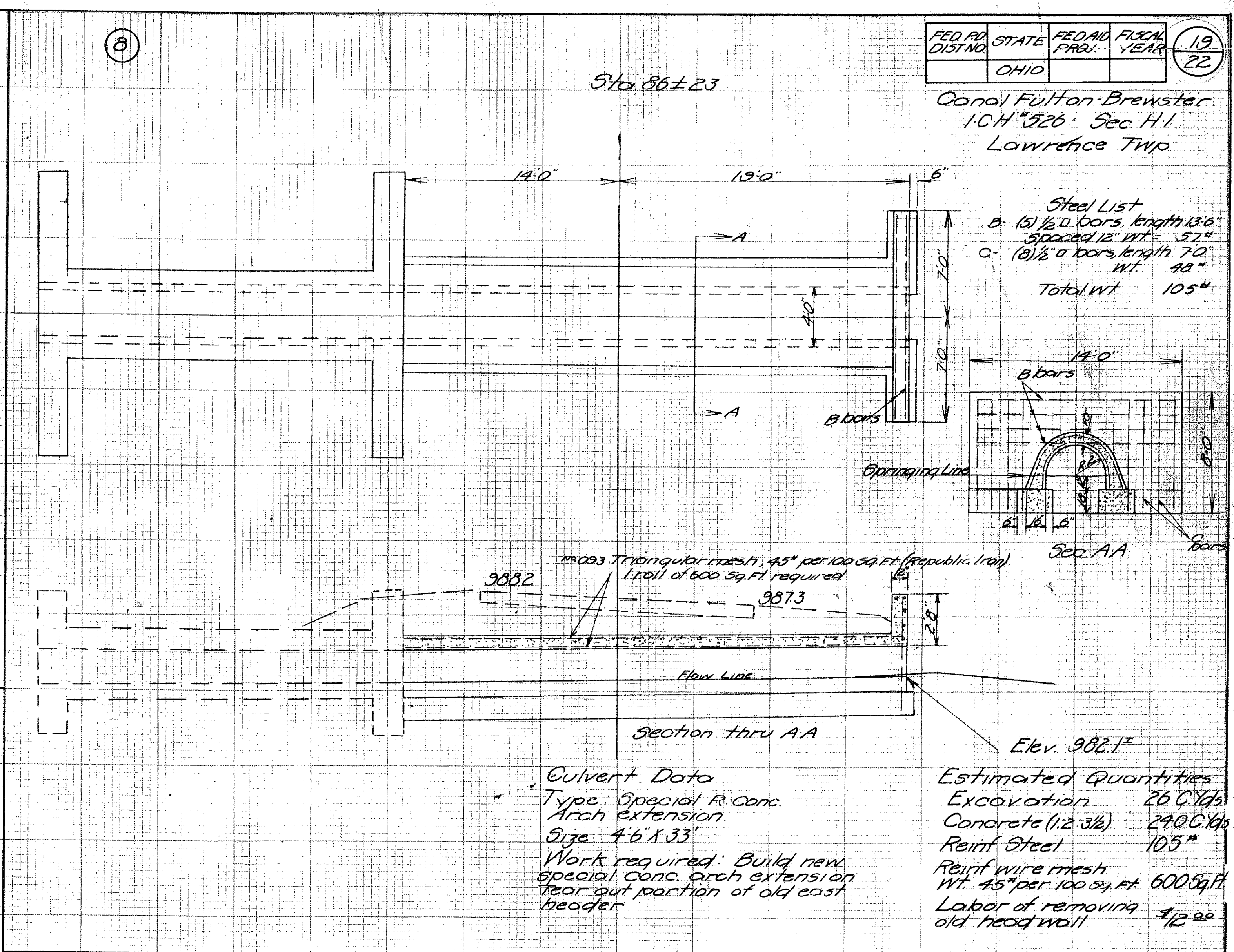
FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
	OHIO		1922

Canal Fulton-Brewster  
1CH 526 Sec. H.1  
Lawrence Twp

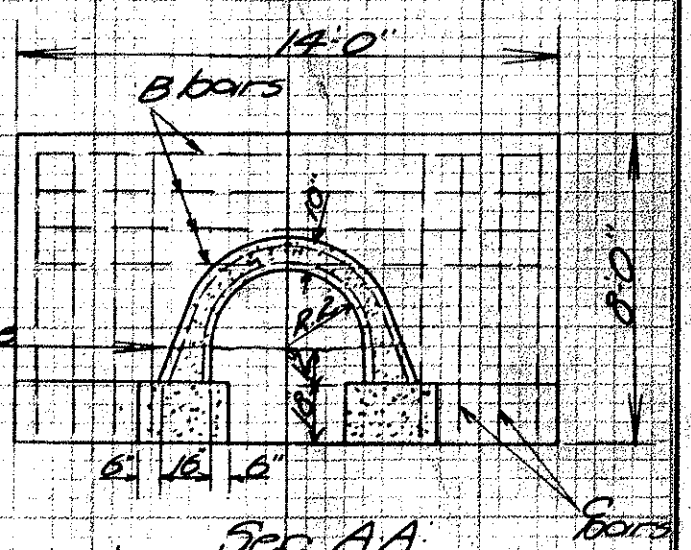


**Culvert Data**  
Type: Standard R.C.P. culvert  
Size: 12' x 44'  
Work required: Remove 24' of 12" Cor pipe and reserve for drives

**Estimated Quantities**  
Excavation 69 Cu. Yds.  
Concrete (1:2:3 1/2) 1.3 Cu. Yds.  
Reinf. Steel 40#  
R.C.P. (12") 44 L.Ft.  
Removing 12" Cor pipe - 24 L.Ft.

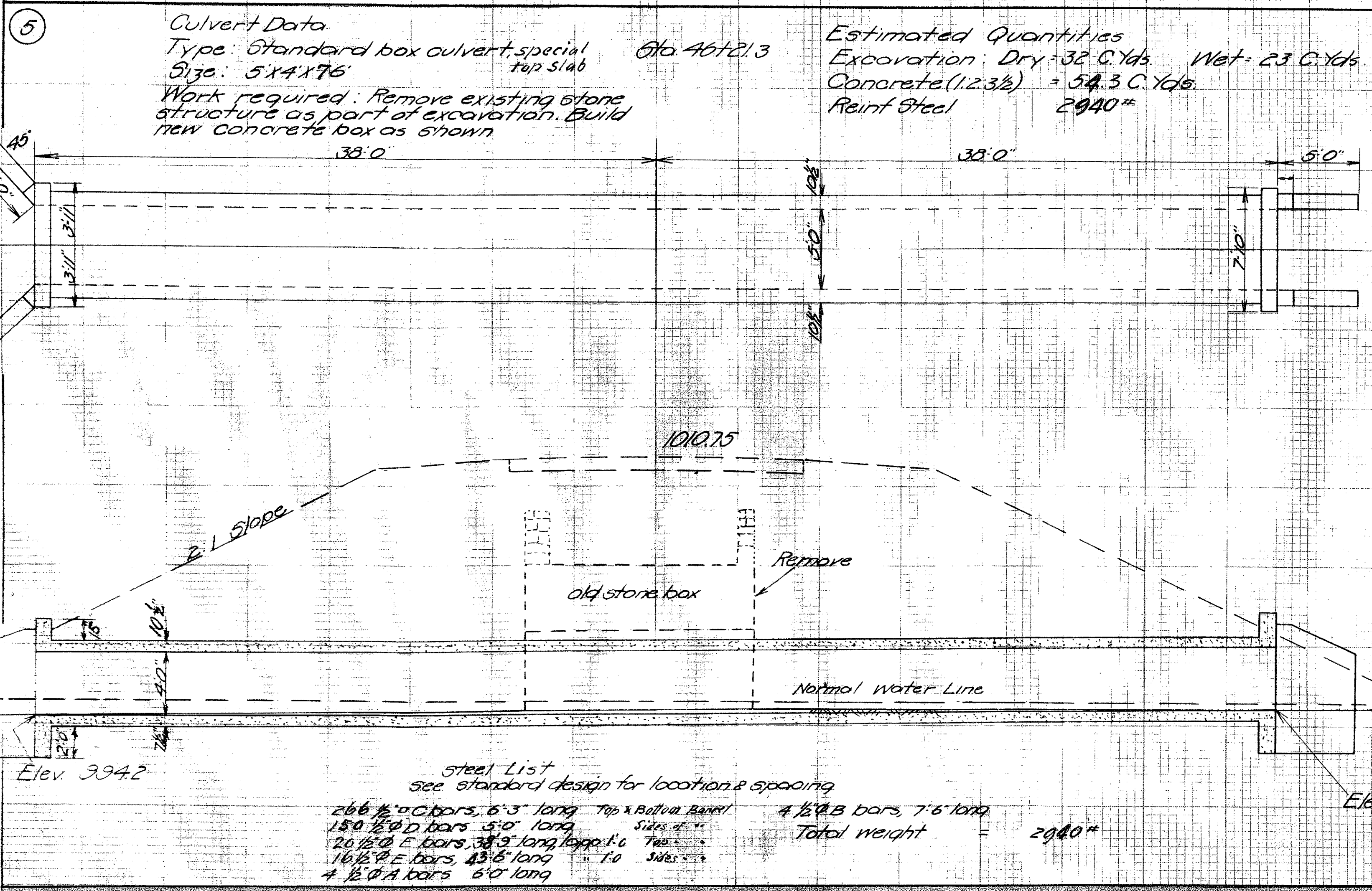


**Steel List**  
B- (3) 1/2" bars, length 13'-6" spaced 12" wt. = 57#  
C- (2) 1/2" bars, length 7'-0" wt. = 48#  
Total wt. 105#



**Culvert Data**  
Type: Special R. conc. Arch extension  
Size: 4'6" x 33'  
Work required: Build new special conc. arch extension. Tear out portion of old east header

**Estimated Quantities**  
Excavation 26 C. Yds.  
Concrete (1:2:3 1/2) 290 C. Yds.  
Reinf. Steel 105#  
Reinf. wire mesh Wt. 45# per 100 sq. ft. 600 sq. ft.  
Labor of removing old head wall 1/2 ee



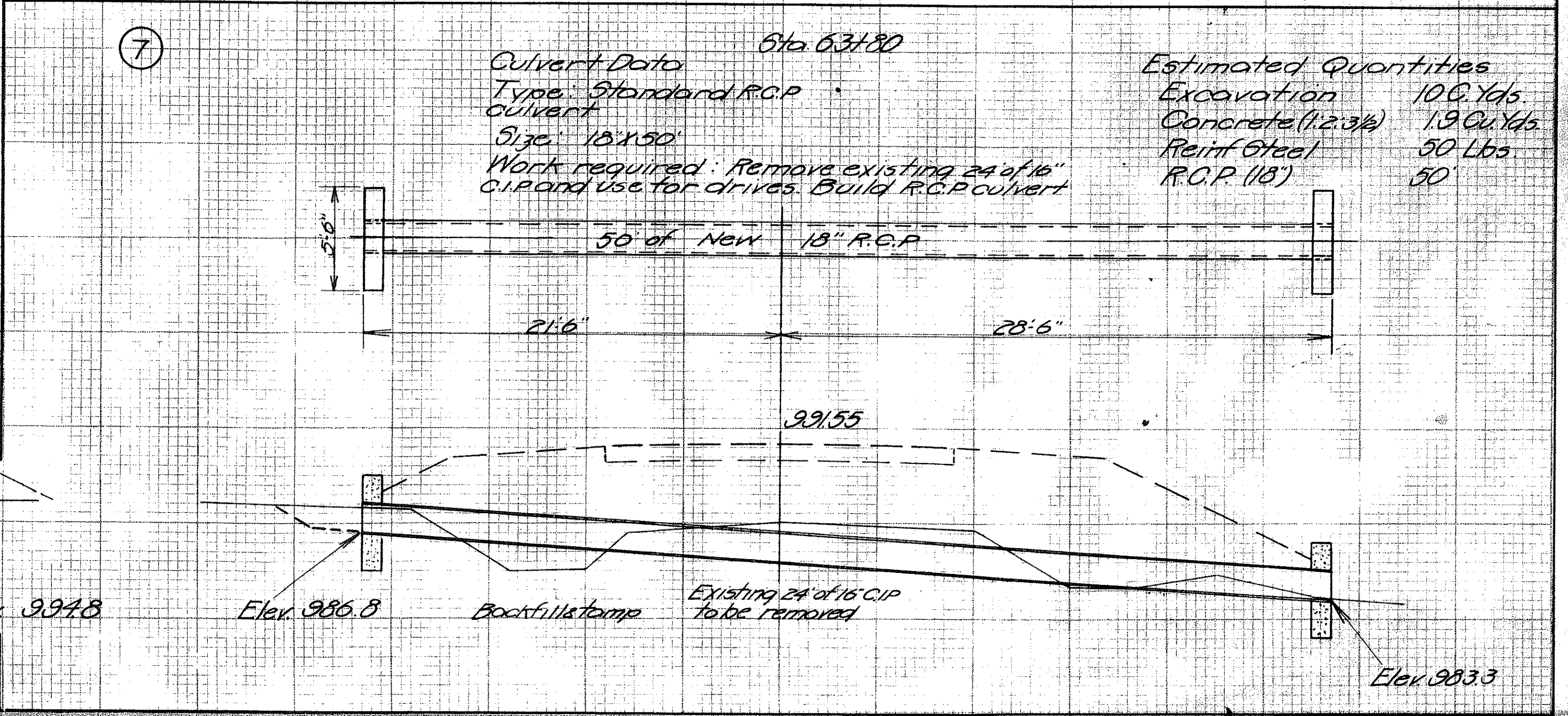
**Culvert Data**  
Type: Standard box culvert, special top slab  
Size: 5' x 4' x 7'6"  
Work required: Remove existing stone structure as part of excavation. Build new concrete box as shown

**Estimated Quantities**  
Excavation: Dry - 32 C. Yds. Wet - 23 C. Yds.  
Concrete (1:2:3 1/2) = 54.3 C. Yds.  
Reinf. Steel 2940#

**Steel List**  
See standard design for location & spacing

266 #4 bars, 6'-3" long	Top x Bottom Barrel	4 #4 B bars, 7'-6" long	Total weight = 2940#
150 #4 bars, 5'-0" long	Sides of "		
20 #4 bars, 38'-9" long	Top of "		
16 #4 bars, 43'-6" long	Bottom of "		

4 #4 A bars 6'-0" long



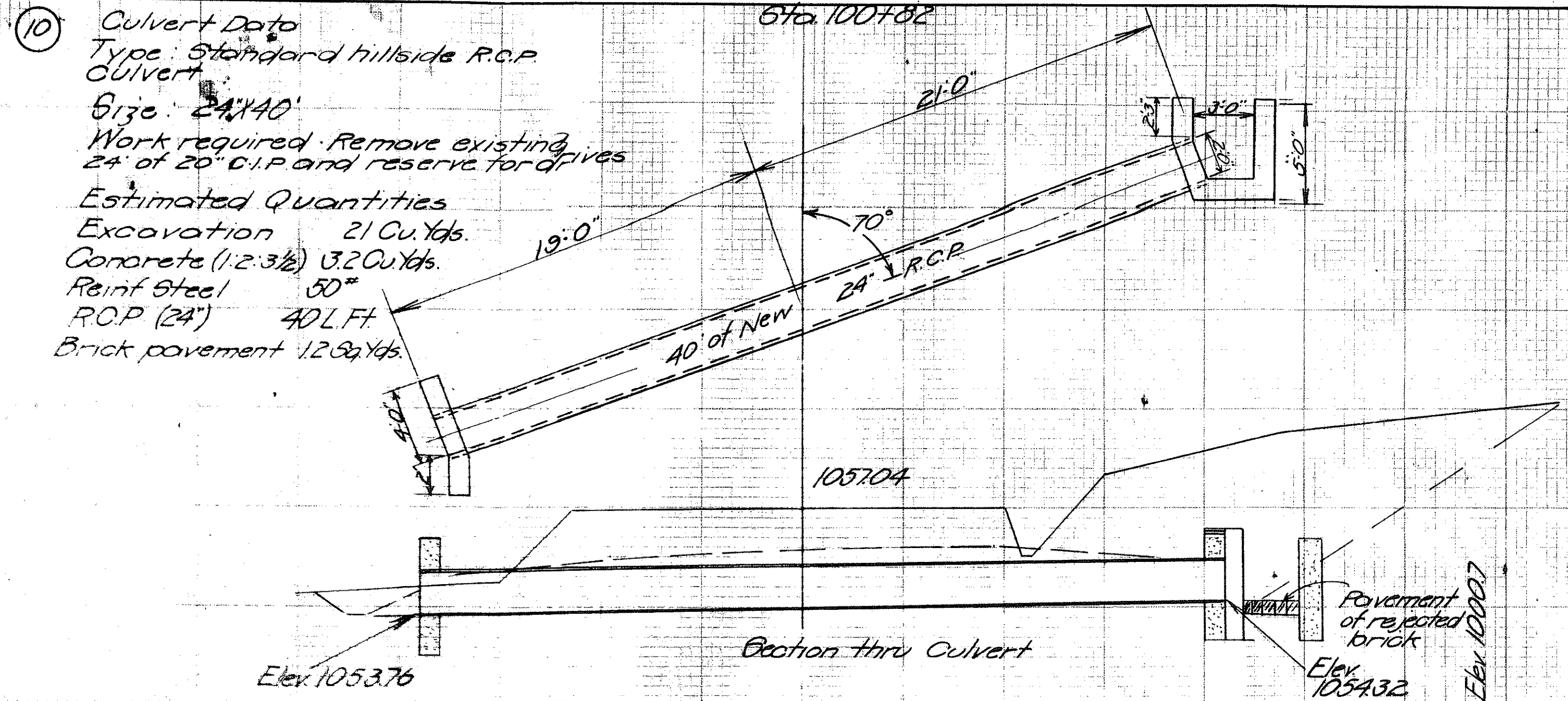
**Culvert Data**  
Type: Standard R.C.P. culvert  
Size: 18' x 50'  
Work required: Remove existing 24 of 18" C.P. and use for drives. Build R.C.P. culvert

**Estimated Quantities**  
Excavation 100 Yds.  
Concrete (1:2:3 1/2) 19 Cu. Yds.  
Reinf. Steel 50 Lbs  
R.C.P. (18") 50'

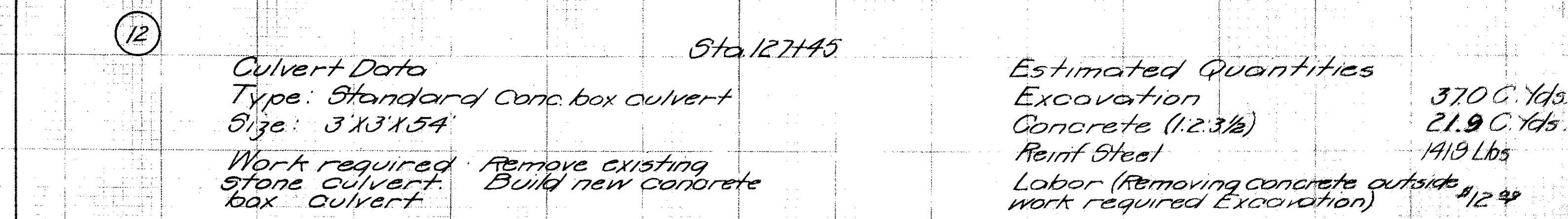
Backfill & ramp  
Existing 24' of 18" C.P. to be removed

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	20
	OHIO			22

Canal Fulton-Brewster  
I.C.H. # 536 Sec. H-1  
Lawrence Twp.

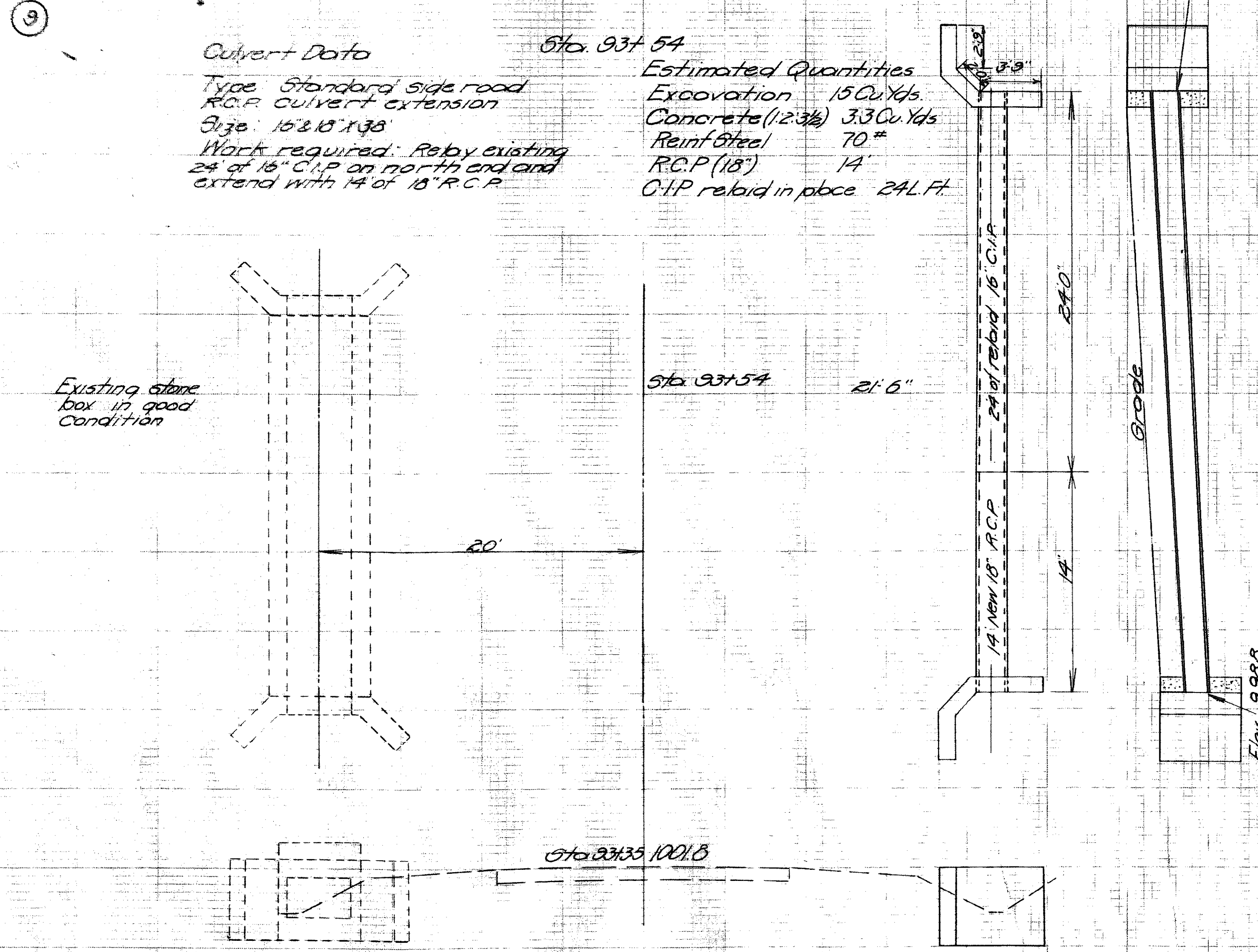


10 Culvert Data  
Type: Standard hillside R.C.P. Culvert  
Size: 24x40  
Work required: Remove existing 24" of 20" C.I.P. and reserve for dr  
Estimated Quantities  
Excavation 21 Cu.Yds.  
Concrete (1:2.3 1/2) 3.2 Cu.Yds.  
Reinf Steel 50#  
R.C.P. (24") 40L.Ft.  
Brick pavement 12 Sq.Yds.



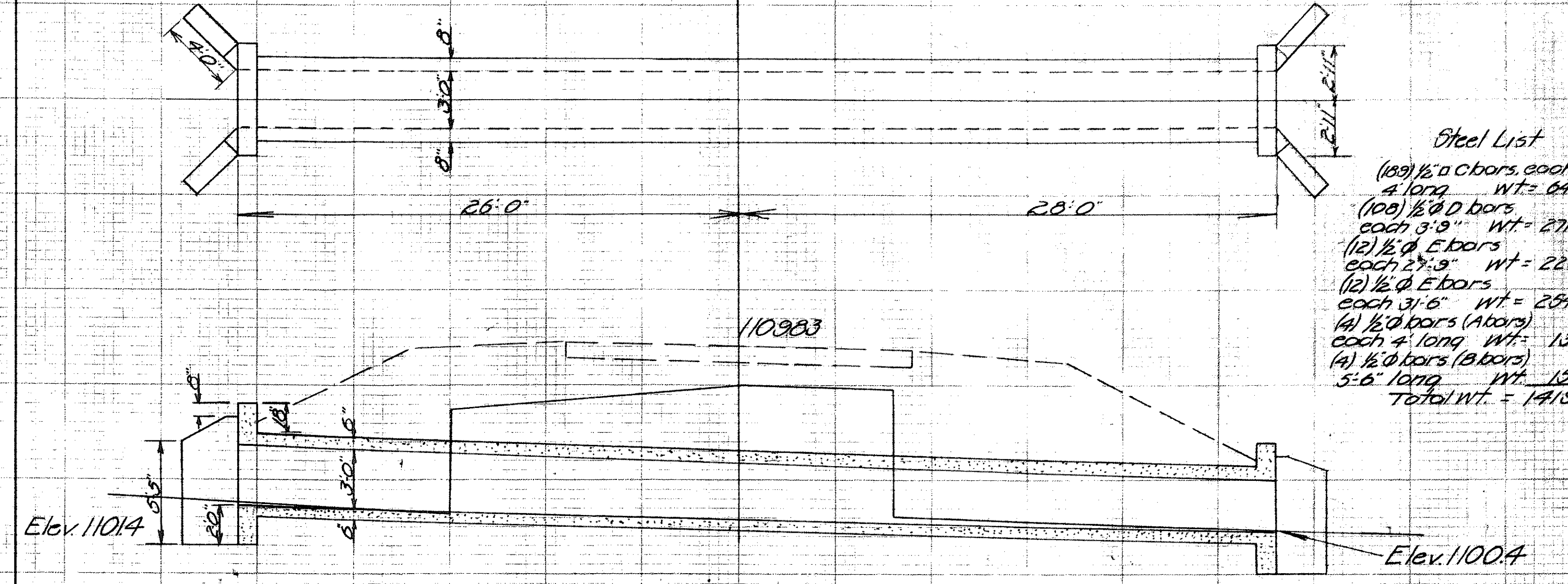
12 Culvert Data  
Type: Standard Conc. box culvert  
Size: 3x13x54  
Work required: Remove existing stone culvert. Build new concrete box culvert.

Estimated Quantities  
Excavation 370 C.Yds.  
Concrete (1:2.3 1/2) 21.9 C.Yds.  
Reinf Steel 1419 Lbs  
Labor (Removing concrete outside work required Excavation) 12



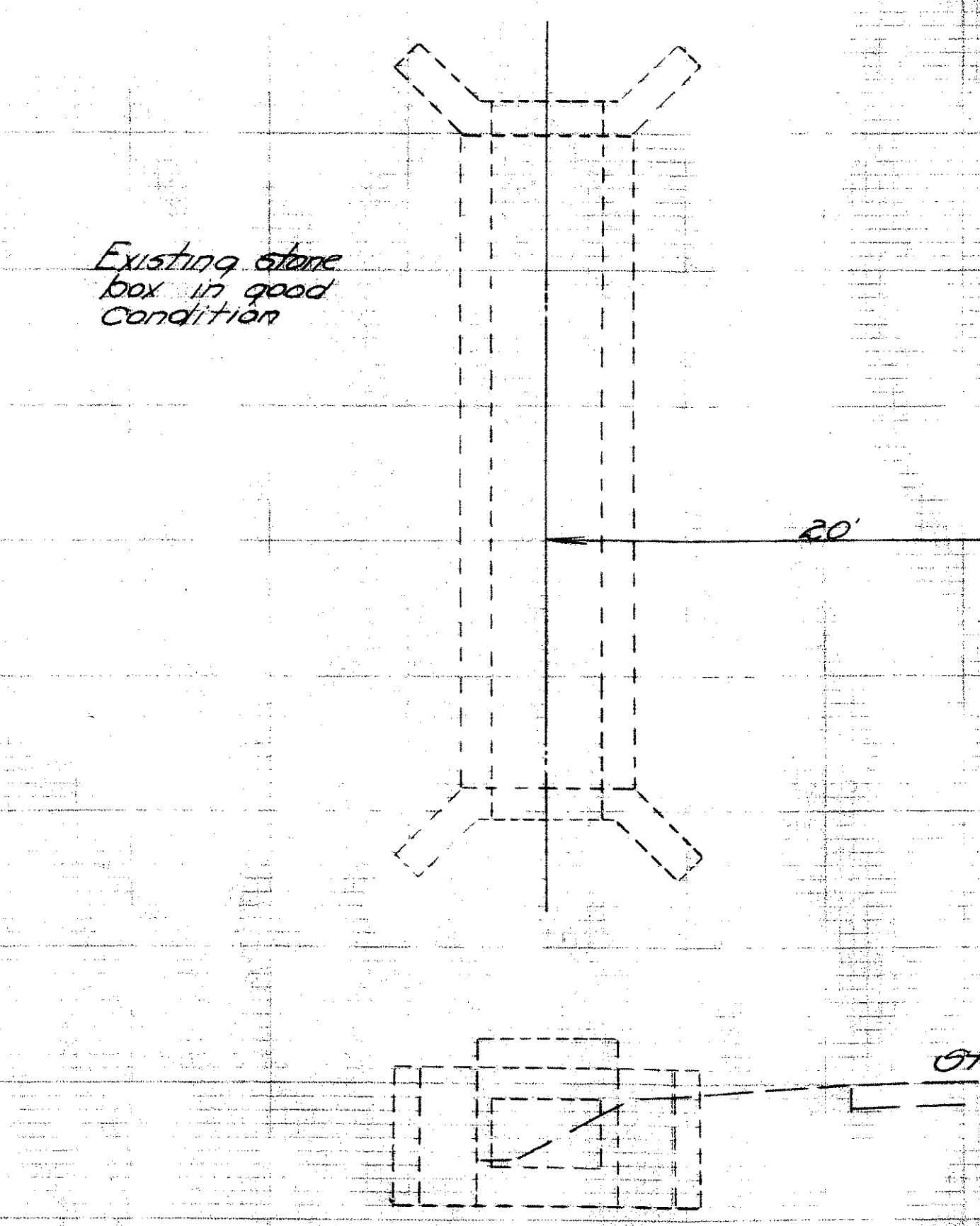
9 Culvert Data  
Type: Standard side road R.C.P. culvert extension  
Size: 15x18x38  
Work required: Reby existing 24" of 18" C.I.P. on north end and extend with 14' of 18" R.C.P.

Estimated Quantities  
Excavation 15 Cu.Yds.  
Concrete (1:2.3 1/2) 3.3 Cu.Yds.  
Reinf Steel 70#  
R.C.P. (18") 14  
C.I.P. relaid in place 24L.Ft.

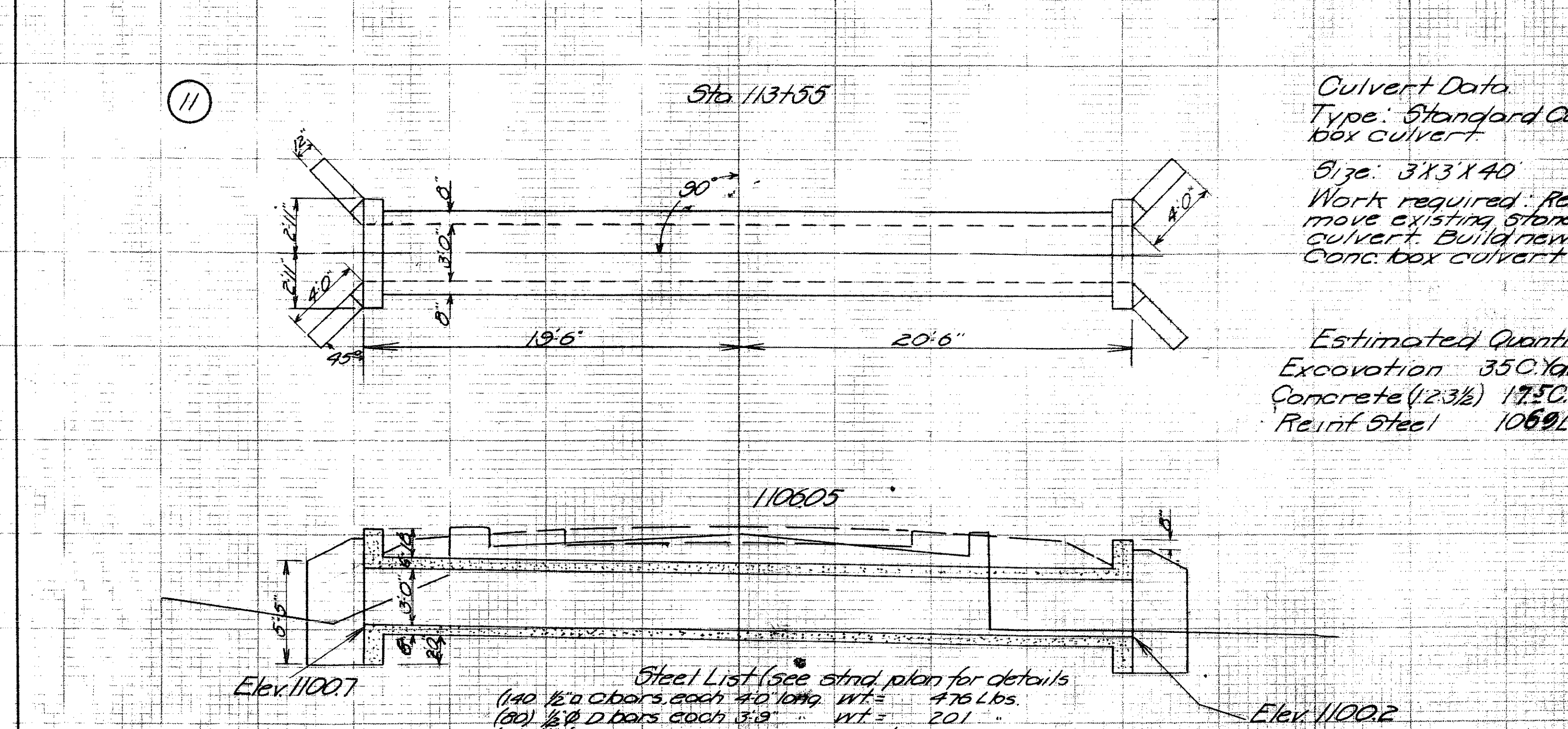


11 Culvert Data  
Type: Standard Conc. box culvert  
Size: 3x13x40  
Work required: Remove existing stone culvert. Build new Conc. box culvert.

Steel List  
(89) 1/2" A bars, each 4.0 long, wt = 643#  
(100) 1/2" D bars, each 3.9 long, wt = 271#  
(12) 1/2" E bars, each 27.9 long, wt = 223#  
(2) 1/2" E bars, each 31.6 long, wt = 254#  
(4) 1/2" A bars (A bars), each 4.0 long, wt = 13#  
(4) 1/2" B bars (B bars), each 5.6 long, wt = 15#  
Total Wt. = 1419#



Existing stone box in good condition



11 Culvert Data  
Type: Standard Conc. box culvert  
Size: 3x13x40  
Work required: Remove existing stone culvert. Build new Conc. box culvert.

Estimated Quantities  
Excavation 350 Yds.  
Concrete (1:2.3 1/2) 17.5 C.Yds.  
Reinf Steel 1069 Lbs

Steel List (see std. plan for details)  
(140) 1/2" A bars, each 4.0 long, wt = 476 Lbs.  
(80) 1/2" D bars, each 3.9 long, wt = 201#  
(12) 1/2" E bars, each 20.9 long, wt = 167#  
(12) 1/2" E bars, each 24.6 long, wt = 197#  
(4) 1/2" A bars, each 5.0 long, wt = 13#  
(4) 1/2" B bars, each 5.6 long, wt = 15#  
Total Wt. = 1069#

Canal Fulton - Brewster  
I.C.H. 536 - Sec. H. 1  
Stark County

Table with columns: Left Edge of Pavement, Width, Station, Grade Elev., Right Width, Edge of Pavement. Contains road profile data for a 3-degree curve.

Table with columns: Left Edge of Pavement, Width, Station, Grade Elev., Right Width, Edge of Pavement. Contains road profile data for a 5-degree curve to the left.

Table with columns: Left Edge of Pavement, Width, Station, Grade Elev., Right Width, Edge of Pavement. Contains road profile data for a 4-degree 30' to the right curve.

Table with columns: Left Edge of Pavement, Width, Station, Grade Elev., Right Width, Edge of Pavement. Contains road profile data for a 1-degree curve.

Table with columns: Left Edge of Pavement, Width, Station, Grade Elev., Right Width, Edge of Pavement. Contains road profile data for a 4-degree curve.

Table with columns: Left Edge of Pavement, Width, Station, Grade Elev., Right Width, Edge of Pavement. Contains road profile data for a 2-degree curve.

Table with columns: Left Edge of Pavement, Width, Station, Grade Elev., Right Width, Edge of Pavement. Contains road profile data for a 4-degree curve.

Table with columns: Left Edge of Pavement, Width, Station, Grade Elev., Right Width, Edge of Pavement. Contains road profile data for a 4-degree curve.

Summary of Land Taken

Table with columns: Name of Owner, Location, Account, Acres. Lists landowners and their respective acreage.

Note - Existing width of road as follows  
Sta. 0+00 to Sta. 28+86.7 New Location  
Sta. 28+86.7 to Sta. 93+54.0 40' Wide  
Sta. 93+54.0 to Sta. 138+18.7 60' ..

# SUMMARY OF QUANTITIES

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR
	OHIO		

Canal Fulton-Brewster  
164<sup>th</sup> 536 Sec. H1  
Lawrence Twp.



NO	STATION	TYPE	SIZE	LENGTH	EXCAVATION		CONCRETE	MESH	REINF.	REINF. CONC. PIPE				REMOVING		C.I.P. RELAID PAVMT.	BRICK	REMARKS
					DRY	WET				12"	15"	18"	24"	12" W.P.	18" W.P.			
STRUCTURES UNDER 20 FT.																		
1	11+55	Strd R.C.P.	24"	52'	6.0		2.8		65			52						Build new Strd R.C.P. Culvert
2	26+60	Strd H. Side R.C.P.	15"	44'	14		2.8		40		44						1.2	Build new Strd H. Side R.C.P. Culvert
3	29+00	Strd Conc Box	5'x3'	38'	151		24.5		1384						30			Remove existing 30' of 20" V.P. Build new Strd Conc Box Cul. 5'x3'x3.8'
4	45+43.9	Strd Side R.C.P.	15"	46'	7		2.9		65		46							Remove existing 27' of 12" V.P. Build new Strd Side Road R.C.P. Culvert
5	46+21.3	Strd Conc Box	5'x4'	66'	32	23	54.3		2940									Remove existing stone culvert. Build new Conc Box
6	54+00	Strd R.C.P.	12"	44'	6		1.3		40		44			24" CIP				Remove existing 24' of 12" C.I.P. Build new Strd R.C.P. Culvert
7	53+30	Strd R.C.P.	18"	50'	10		1.9		50			50						Remove existing 24' of 16" C.I.P. Build new Strd R.C.P. Culvert
8	86+23	Spec R.C. Arch	2 Rod	33'	26		24.0	66.7	105									Build new special Conc. Arch extension to present brick Arch
9	93+54	Strd S. Rd R.C.P. #1	16" 18"	38'	15		3.3		70		14			24" CIP				Relay existing 24' of 16" C.I.P. on north end and extend with new R.C.P.
10	100+32	Strd H. Side R.C.P.	24"	40'	21		3.2		50		40						1.2	Remove existing 24' of 20" C.I.P. Build new Strd R.C.P. Culvert
11	113+55	Strd Conc Box	3'x3'	40'	35		17.5		1009									Remove existing stone culvert. Build new Conc box Culvert
12	127+25		3'x3'	54'	37		22.5		1419									
Total of Quantities					354	23	158.7	66.7	72.57		90	104	52	24" CIP	30	24	2.4	Labor *88"12 = 24"

ITEM	ROAD PROPER	PROPER TYPE E-D
Excavation (Unclassified)	37,985	CU.Yds.
Excess	1,232	CU.Yds.
Borrow		
Slopes, ditches and slopes	13,800	Lin.Ft.
Corrugated iron pipe for drives	752	Lin.Ft.
Drain tile	13,625	Lin.Ft.
Guard rail	4620	Lin.Ft.
Drain tile headwalls	74	
Pavement	27,867	Sq. Yds.
12" V.P. Pipe Sewer	775	Lin. Ft.
Brick Manholes Complete	2	Each
5-3/4" Concrete - Side Rd Headwall on Sewer	13	CU.Yds.

Station	For	Sq. Yds.
72+00	Bridges & Appro.	100
75+33.4	Curve	163.9
Total		263.934

From Sta.	To Sta.	Lin. Ft.	No. Side Headwalls
4+00	8+25	1300	6
15+25	19+25	1225	6
21+50	25+50	700	4
37+00	40+00	1100	6
41+50	44+50	900	4
49+00	52+00	900	6
67+00	70+00	900	6
75+00	78+00	1200	6
83+00	86+00	900	4
93+00	100+00	600	4
104+00	106+00	600	4
116+00	120+00	1200	6
124+00	127+00	900	6
131+00	135+00	1200	6
Total		13,625	74

Station	Side	12" C.I.P. Lin. Ft.	Excav. CU.Yds.	Emb. CU.Yds.
17+30	LT	16	10	
17+30	RT			
25+00	LT			10
25+00	RT			10
33+50	LT			15
35+00	RT		10	
38+00	LT			
39+00	LT			
41+00	LT		10	
45+43.9	RT			100
49+00	LT		50	
57+00	LT		12	
57+00	RT		10	
58+00	LT		15	
58+00	RT		15	
59+00	RT		10	
67+00	LT			30
66+50	RT		10	
67+24	LT		10	
73+10	RT			15
73+47	LT			75
78+35	LT			
82+33	RT		10	
82+63	LT		10	
83+26	LT			10
84+35	RT			
89+25	LT			
95+43	LT			19
105+19	LT			
106+01	RT			
110+59	LT		10	
110+71	RT			
113+36	RT			15
119+35	RT		10	
120+72	LT			
120+30	RT			
128+74	LT		10	10
129+60	RT		10	
130+28	LT		50	
132+85	RT			
138+23	RT			15
Extra		80		
Total		752	282	384

From Sta.	To Sta.	Side	Lin. Ft.
81+50	141+00	LT	550
81+50	131+20	RT	420
45+50	47+80	LT	230
45+70	47+80	RT	210
61+80	65+00	LT	320
61+80	65+70	RT	410
70+30	71+60	LT	70
70+40	71+60	RT	120
72+40	73+40	LT	100
73+60	74+70	LT	110
72+40	73+00	RT	60
73+20	74+70	RT	150
94+00	95+30	LT	130
95+50	98+20	LT	270
94+00	96+30	RT	230
112+60	115+00	LT	240
112+60	113+30	RT	130
114+10	114+60	RT	50
126+50	128+60	LT	210
127+00	128+60	RT	160
133+50	137+50	LT	400
Total			4620

\*Type C (modified)

From Sta.	To Sta.	Account	Lin. Ft. Add	Lin. Ft. Deduct	Lin. Ft. Net
0+07.5	138+18.7	Right of Way	13,811.2		
30+00	31+00	Long Slope	19.3		
89+00	90+00	Short Slope		28.0	
		Short Slope		1.9	
Totals			13,830.5	29.9	13,800.6
Net length = 13,800.6 Ft = 2.6137 Miles					

From Sta.	To Sta.	Excav. CU.Yds.	Emb. CU.Yds.	Excess CU.Yds.	Borrow CU.Yds.
0+00	5+35	152.3	143.3	40	00
5+35	17+00	448.3	436.4	11.9	"
17+00	24+50	836	790	56	"
24+50	39+00	164.9	164.3	6	"
39+00	46+12	202.9	202.1	8	"
46+12	53+50	28.92	28.28	64	"
53+50	53+00	71.8	61.3	105	"
53+00	63+00	170.1	145.0	22.1	"
63+00	69+60	210.8	207.8	30	"
69+60	79+00	407.8	380.0	27.8	"
79+00	86+00	106.3	101.5	4.8	"
86+00	109+00	702.2	702.2	00	"
109+00	113+20	61.0	59.6	1.4	"
113+20	119+00	133.7	12.74	63	"
119+00	138+18.7	58.96	571.6	180	"
Totals		37,985	36,753	1,232	00

Excavation & embankment for drives have been included in the road quantities