

Specifications of 1961



STATE OF OHIO DEPARTMENT OF HIGHWAYS

PROJ. No. 699(40)

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	STATE

MUS-75-12.56

MUS ~ 75 ~ 12.56 MUSKINGUM COUNTY CITY OF ZANESVILLE

1961 SPECIFICATION

Traffic
V.P.D. 2200

Box #11

CONVENTIONAL SIGNS

Township Line	-----
Corporation Line	-----
Center Line	-----
Property Line	-----
Fence Line	-----
Pole Line	⊕ Power ⊕ Telephone
Railroad	-----
Guard Rail	Old a a a a a New
Pipe	Old ----- New
Exist. R/W	-----
Prop. R/W	-----

INDEX OF SHEETS

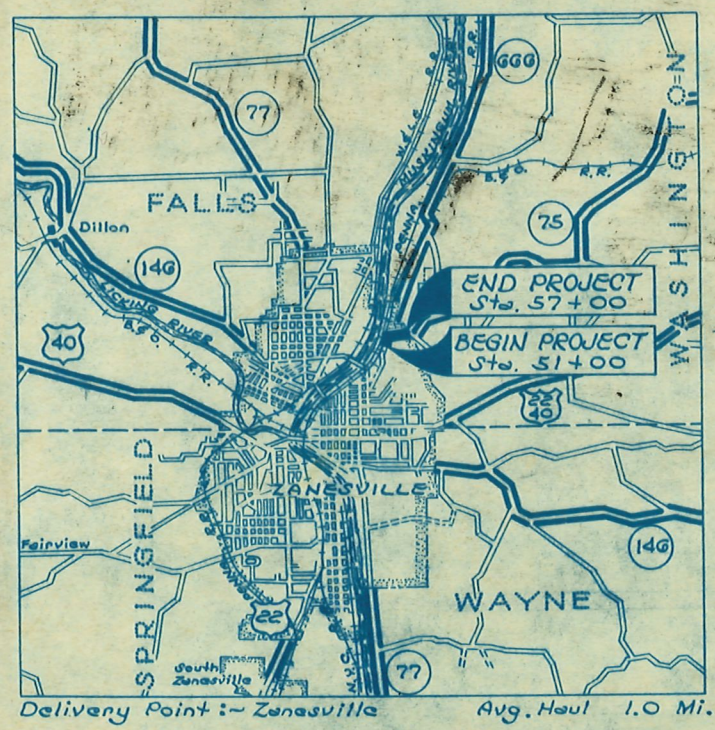
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Plan & Profile	5-6
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Structura (EO' Span & Under)	13-14
Right of Way	15-16

Plans only

LINE DATA

Begin Project Sta. 51+00
 End Project Sta. 57+00
 Net Length of Project = 600 Lin. Ft. or 0.113 Mi.

Begin Work Sta. 50+50
 End Work Sta. 57+86
 Net Length of Work = 736 Lin. Ft. or 0.139 Mi.



Portion to be improved
 State Roads
 Other Roads

SCALES

Plan	
Profile (Horizontal)	
Profile (Vertical)	
Cross Sections	

Scales of Feet

STANDARD CONSTRUCTION DRAWINGS			
G-7.07	6-1-56	I-12	7-1-54
RI-1	7-15-58	DR-1	1-3-55
T-35	1-2-56	L-1	4-1-50
L-3	4-1-50	L-3-A	4-1-50
SP-53	6-30-61		
I-1	11-15-60		
I-308.3-A	1-26-59		
I-15 N2.1	11-15-60		
I-15 N2.2-A	8-17-60		

SUPPL. SPECIFICATIONS
NONE

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

The Right of Way necessary for this improvement will be provided by the State of Ohio.

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

- Approved David P. Biannon
 Date 8-16-61 Division Deputy Director
- Approved R.A. Morrison
 Date 8-22-61 Engineer of Bridges
- Approved J. L. Lunsford
 Date 8-21-61 Engineer of Location and Design
- Approved O.W. McCaughey
 Date 6-30-61 Deputy Director of Design and Construction
- Approved _____
 Date _____ Deputy Director of Right of Way
- Approved Louis E. Yeager
 Date 8-5-61 Deputy Director of Planning and Programming
- Approved W. B. Berry
 Date 9-1-61 First Assistant Director
- Approved E. A. Preston
 Date 9-5-61 Director of Highways

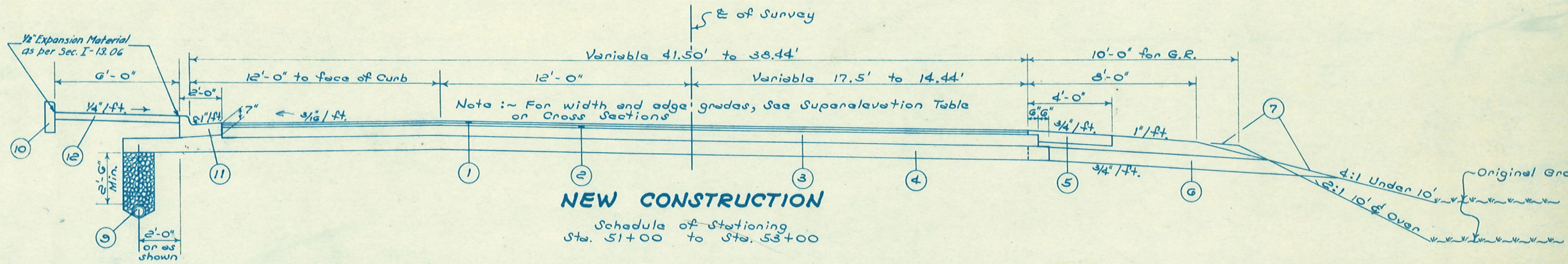
No RR
 8-10-61
 9-30-61

Approved R.H. Custer
 Date 8-24-61 City Manager City of Zanesville

FILE NO.	MUSKINGUM CO. S.R. 75
	Sec. MUS-75-12.56
	Date of Letting 1961
	Contract No. _____

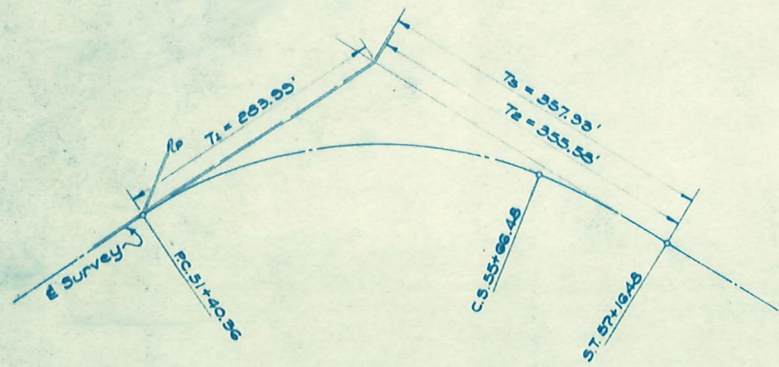
TYPICAL SECTIONS

TYPE T-35



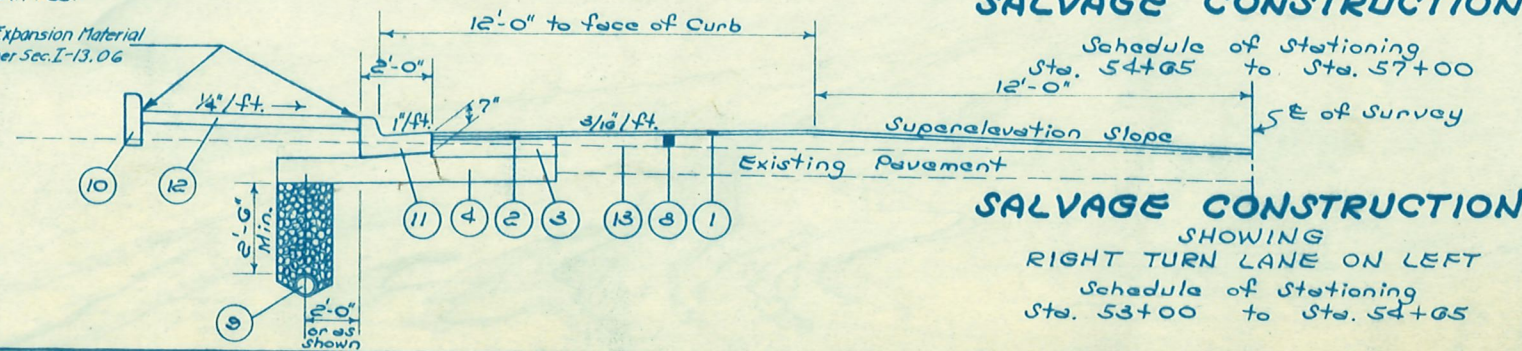
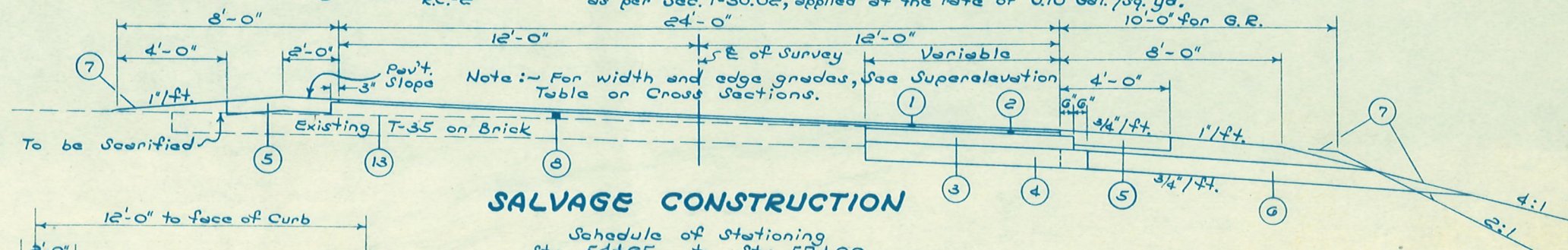
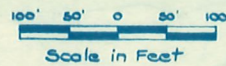
- ① T-35 *1/4" Asphaltic Concrete Surface Course, Type "C" (70-85)
- ② B-35 *1/4" Asphaltic Concrete Leveling Course, (70-85)
- ③ B-21 *6" Waterproofed Aggregate Base Course
- ④ I-22 3" Subbase
- ⑤ I-18 6" Stabilized Crushed Aggregate Shoulders & Approaches (See Note in Proposal for mixing Calcium Chloride)
- ⑥ I-9 Stone Underdrains, No. 2
- ⑦ L-9 Seeding & Protecting
- ⑧ B-35 0" to 4" Asphaltic Concrete Leveling Course (70-85) for Superelevation Correction (Maximum compacted thickness placed in one operation shall be 3 inches)
- ⑨ I-1 6" Pipe Underdrains, Class I-3
- ⑩ I-12 Standard Type G Curb
- ⑪ I-12 Standard Combined Curb & Gutter, Type 2
- ⑫ I-13 4" Concrete Sidewalk
- ⑬ T-30 Bituminous Tack Coat Sec. M-5.5, M.S.-2 or R.S.-1; or Sec. M-5.2, R.C.-1 or R.C.-2 as per Sec. T-30.02, applied at the rate of 0.10 Gal./sq. yd.

* Thicknesses shown are "designed" thickness as described in Section T-3-B-35.01 and B-21.01.



Δ	= 65°-05'-30" Rt
Δ_c	= 55°-24'-30"
D_c	= 15°-00'
R_c	= 440.74'
T_1	= 269.95'
T_2	= 357.95'
E_s	= 64.50'
L_c	= 426.22'
L_s	= 150.00'
X_c	= 149.57'
Y_c	= 3.45'
θ_s	= 9.75°
P	= 2.15'
K	= 74.55'

CURVE LAYOUT



Approved: ~ *J.P. Blanton*
 Date: ~ 3-28-61
 Division Engineer

Approved: ~ *Frank C. Welford*
 Date: ~ 3-27-61
 Field Engineer

GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

MUS-75-12.50

DESIGN SPEED:-

The geometrics for this project have been planned for a design speed of 30 miles per hour.

FIELD OFFICE:-

The contractor shall, in accordance with Sec. 0.01(b), provide, for the exclusive use of the State's employees, a suitable field office having a minimum of 150 square feet of floor space. The contractor shall have a telephone installed and maintained in this field office during the construction of this project. Maintenance of the telephone is to apply only to the basic monthly charge to maintain said facilities and is not intended to require the contractor to furnish long distance service.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS:-

The rounded corners shown on Standard Drawing RI-1, as modified by the typical sections, apply to all cross sections, even though otherwise shown on these plans.

UNDERGROUND UTILITIES:-

The locations of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the State of Ohio makes no guarantees as to their accuracy or completeness.

UTILITY ADJUSTMENT:-

Any or all work required for Public or Private Utilities will be done by and at the expense of their respective owners, unless otherwise noted on these plans.

ELECTRIC: Ohio Power Co.
TELEPHONE: Ohio Bell Telephone Co.
WATER: Zanesville Water Co.

CONSTRUCTION LAYOUT STAKES:-

See note in proposal describing the work included in this lump sum pay item.

SUPERELEVATION:-

Superelevated curves shall be built without crown. The crown shall be worked out of the pavement in the portion between the beginning of the transition and the point where the superelevation equals twice the crown.

GUARD RAIL ADJUSTMENT:-

The stationing of individual runs of guard rail shall be adjusted, if necessary, by the Engineer at the time of construction to accommodate the standard panel lengths furnished.

DRIVE LOCATION:-

The location of drives on this project may be varied at the direction of the Engineer, providing there is no additional cost to the State.

REMOVAL OF TREES AND STUMPS:-

All trees and stumps lying within the construction limits of this project shall be removed under the lump sum price bid for Item E-9, Removal of Trees and Stumps, except that those trees and stumps for which protection and preservation work is indicated elsewhere in these plans shall not be removed.

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

SIZES	12"-18"	18"-24"	24"-30"	30"-36"	36"-42"	42"-48"	Over 48"
Trees	2	2	1				
Stumps							

The above estimate is approximate and the State of Ohio reserves the right to order the removal of additional trees or stumps outside of the limits of construction but within the right-of-way and/or easement lines. Payment for the removal of these additional trees or stumps shall be included in the lump sum price bid for Item E-9, Removal of Trees and Stumps.

ITEM I-9 STONE UNDERDRAINS NO. 2:-

Stone Underdrains shall be placed at 50 foot intervals on each side of normal crowned sections and at 25 foot intervals on the low side only of superelevated sections, except where Underdrains have been provided.

DRAINAGE OF BASE MATERIAL:-

Where the base material is drained by I-9 Stone Underdrains or by extensions of the subbase through the shoulders to the fill slope or the ditch line, the contractor shall finish, seed and mulch the slopes so as not to impede drainage of the base material. The actual area of the outcrop of the subbase material or the I-9 Underdrains shall not be seeded.

TRENCH FOR WIDENING:-

Trench excavation for base widening shall be performed only on one side of the pavement at a time. The open trench shall be adequately maintained and protected with temporary guide markers or barricades at all times.

PROFILE:-

The profile of the proposed surface course shall be approximately 1/4 to 4 inches above that of the existing pavements, as indicated on the typical sections.

ITEM T-30 TACK COAT:-

Although this item has been estimated for use on the entire existing pavement area to be salvaged, it shall be used only on dry or checked pavement areas where specifically directed by the Engineer.

Pay quantities for this item shall be determined by final measurement.

PAVEMENT REMOVAL:-

Removal and disposal of existing pavement, unless otherwise indicated on these plans, shall be measured and paid for as Item E-1, Roadway Excavation.

REMOVAL OF EXISTING PIPE:-

The removal of all existing pipe drains within the limits of proposed excavation items shall be included for payment in the unit prices bid for the respective excavation items unless otherwise itemized in the plans.

DUMPED ROCK CHANNEL PROTECTION, AS PER PLAN:-

The stone furnished for this item, as provided in Section I-10.06 is hereby modified to include use of any piece of stone or broken masonry resulting from the removal of existing structures.

PIPE CONNECTIONS TO CORRUGATED METAL STRUCTURES

Connections of proposed longitudinal drainage to the proposed corrugated metal structure shall be by means of a shop fabricated or field welded stub on the structure. The stub shall meet the requirements of Section M-6.4 and have a minimum length of two feet and a minimum gage of 14. Location and elevation of the stub are to be considered approximate and may be adjusted by the the Engineer to avoid cutting through joints in the structure. The field weld joint, if used, shall be painted on the inside and outside with two coats of red lead, Section M-9.9, and two coats of graphite paint, Section M-9.11. Welding shall be Class "B". Payment for cutting into the structure and providing the connection described shall be included in the unit price bid for Item I-5.

CONNECTIONS TO EXISTING PIPE

At places where the plans provide for proposed drainage pipe to be connected to existing pipes, it shall be the responsibility of the Contractor to locate the existing pipe both as to line and grade before he starts to lay the proposed pipe. The cost of this operation shall be included in the unit price bid for the pertinent pipe item.

SEEDING:-

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

SEEDING FORMULA:-

The following seed mixture shall, in lieu of the mixtures listed Section L-9.11, be used throughout the limits of this project.

60% Kentucky 31 Fescue
25% Kentucky Bluegrass
10% Creeping Red Fescue
5% Alsike Clover

PRIVATE SEWER TAPS:-

This plan makes no provision for connecting, nor shall the Engineer contractor connect, any existing or new private drainage to the new highway drainage system when such private drains carry effluent drainage from leaching bed outlets, cellar drains, or sink drains, polluted water of any kind. Connections may be made to the existing or new highway drainage system when the water carried to the drainage system does not come within the category outlined above. Acceptable water includes flow from roof drains, field drains, an enclosed natural drainage sources which would reach the road natural channels if such water was not conducted artificially. Existing sewer taps which do not carry acceptable water as defined above and which must be disturbed because of the highway improvement shall be reconnected to the existing sanitary sewer system, by the City of Zanesville.

TRAFFIC MAINTENANCE:-

Two-way traffic shall be maintained at all times (except as stated below) by use of either the existing pavement, the proposed pavement, temporary roadways or a combination of these.

TEMPORARY ROADWAYS:-

Temporary roadways shall have a minimum 20 foot pavement and 26 foot roadway width and shall be surfaced with Item T-10 Aggregate and stabilized with Item M-10 calcium chloride. Items T-10 and T-10 shall be applied where directed and in amounts requested by the Engineer.

The following quantities of aggregate and calcium chloride have been provided for maintaining local traffic.

T-10 Traffic Compacted Surface Course 75 Cu. Yds.
M-10 Calcium Chloride, Furnished and Applied 1.5 Tons

PLACEMENT OF ASPHALTIC CONCRETE:-

One way traffic will be permitted for minimum periods of time in the salvage portion only, consistent with the requirements of Section T-35.23.

SEQUENCE OF CONSTRUCTION:-

Following is a suggested sequence of construction for this project. The suggested method of maintaining traffic and construction may be varied at the request of the contractor and upon written approval of the Engineer, provided there is no additional inconvenience to the travel of the public and no additional cost to the State.

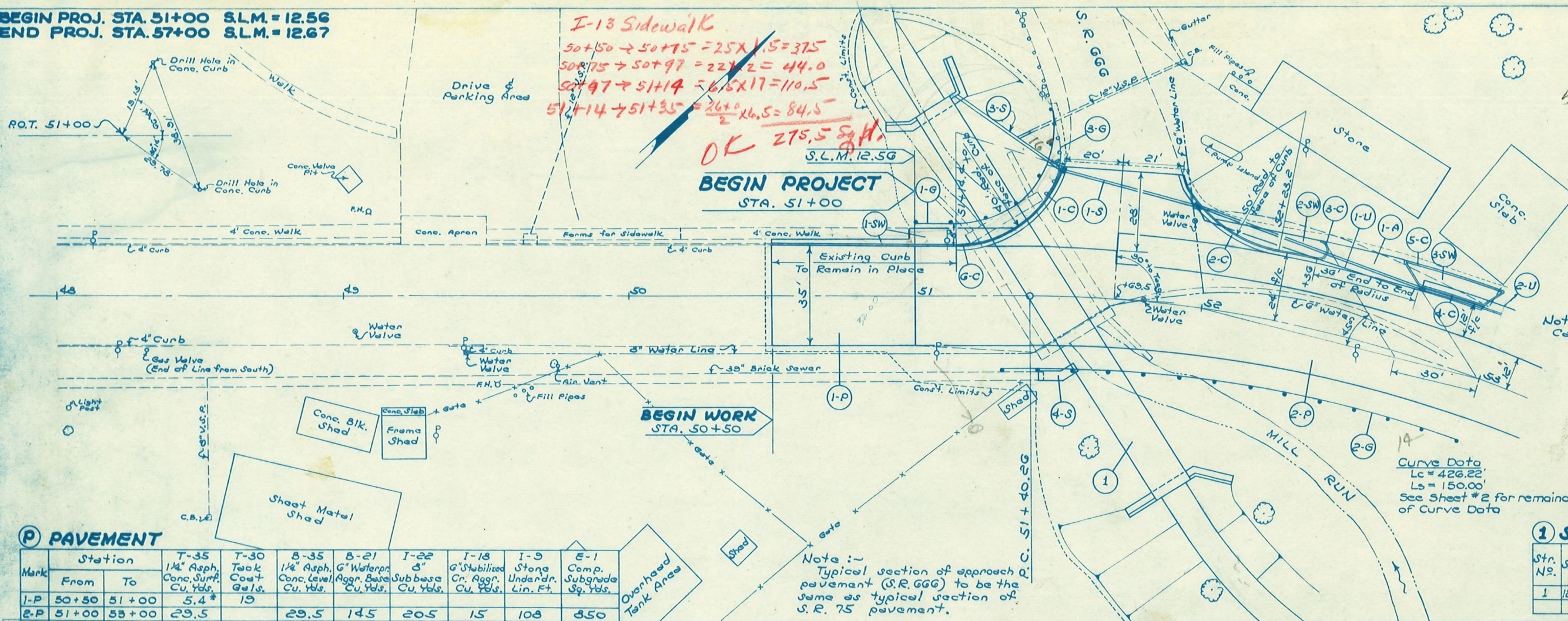
Construct the sectional pipe through the existing structure and excavate the channel. A minimum cover of 2 feet over the top of the pipe shall be placed when the pipe is laid and no more than one v shall elapse before the upstream headwall is built.

Remove the portion of the existing structure which is right of centerline. Construct pavement and embankment right of the centerline throughout the length of the project. During this time traffic will be carried on the existing pavement which is left of the centerline, which will be widened where necessary with T-10 to provide at least 20 feet of travelled surface.

When completed, re-route traffic over the right half of the pavement using T-10 to widen the travelled portion to 20 feet. Remove the remainder of the existing structure and construct the pavement approaches on the left side of the centerline.

S.R. GGG shall also be kept open to two-way traffic during construction.

BEGIN PROJ. STA. 51+00 S.L.M. = 12.56
 END PROJ. STA. 57+00 S.L.M. = 12.67



I-13 Sidewalk
 $50+50 \rightarrow 50+75 = 25 \times 1.5 = 37.5$
 $50+75 \rightarrow 50+97 = 22 \times 2 = 44.0$
 $50+97 \rightarrow 51+14 = 16.5 \times 1.7 = 110.5$
 $51+14 \rightarrow 51+35 = 21 \times 4.05 = 84.5$
OK 275.5 S.H.
 S.L.M. 12.56

BEGIN PROJECT
 STA. 51+00

BEGIN WORK
 STA. 50+50

Note: For details of Std. No. 3-A (Mod.) Catch Basin and Curb Transition, See Sheet #2

(G) GUARD RAIL

Mark	Station		Side	Guard Rail	I-15	I-15
	From	To				
1-G	51+00	51+49	Lt.		75	
2-G	51+30	53+00	Rt.		162.5	
3-G	51+46	51+51	Lt.			3
Totals					237.5	3

Curve Data
 Lc = 426.22'
 Ls = 150.00'
 See Sheet #2 for remainder of Curve Data

(P) PAVEMENT

Mark	Station		T-35 1 1/2" Asp. Conc. Surf. Cu. Yds.	T-30 Tack Coat Gal.	B-35 1 1/2" Asp. Conc. Level Cu. Yds.	B-21 6" Waterpr. Aggr. Base Cu. Yds.	I-22 8" Subbase Cu. Yds.	I-18 6" Stabilized Cr. Aggr. Cu. Yds.	I-9 Stone Underdr. Lin. Ft.	E-1 Comp. Subgrade Sq. Yds.
	From	To								
1-P	50+50	51+00	5.4*	19						
2-P	51+00	53+00	29.5		29.5	145	205	15	108	350
3-P	Appr. Lt.	51+69.5	5.1		5.1	25	38			172
	From Drive Table		1.6	3						
Totals			41.6	22	34.6	170	243	15	108	1022

*Variable Thickness

Note: Typical section of approach pavement (S.R. 666) to be the same as typical section of S.R. 75 pavement.

(I) STRUCTURES 20' SPAN & UN

Str. No.	S.L.M.	Station	Existing		Proposed		Det. or She.
			Type	Size	Type	Size	
1	12.57	51+43	Stone Arch	22' 50"	Sec. A, 14'	133'	15'

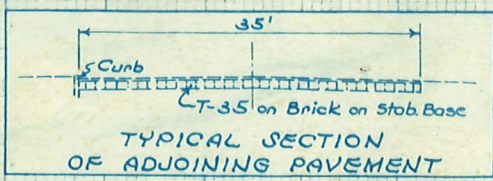
ALL ELEVATIONS REFER TO U.S.G.S. DATUM

(S) STORM SEWERS

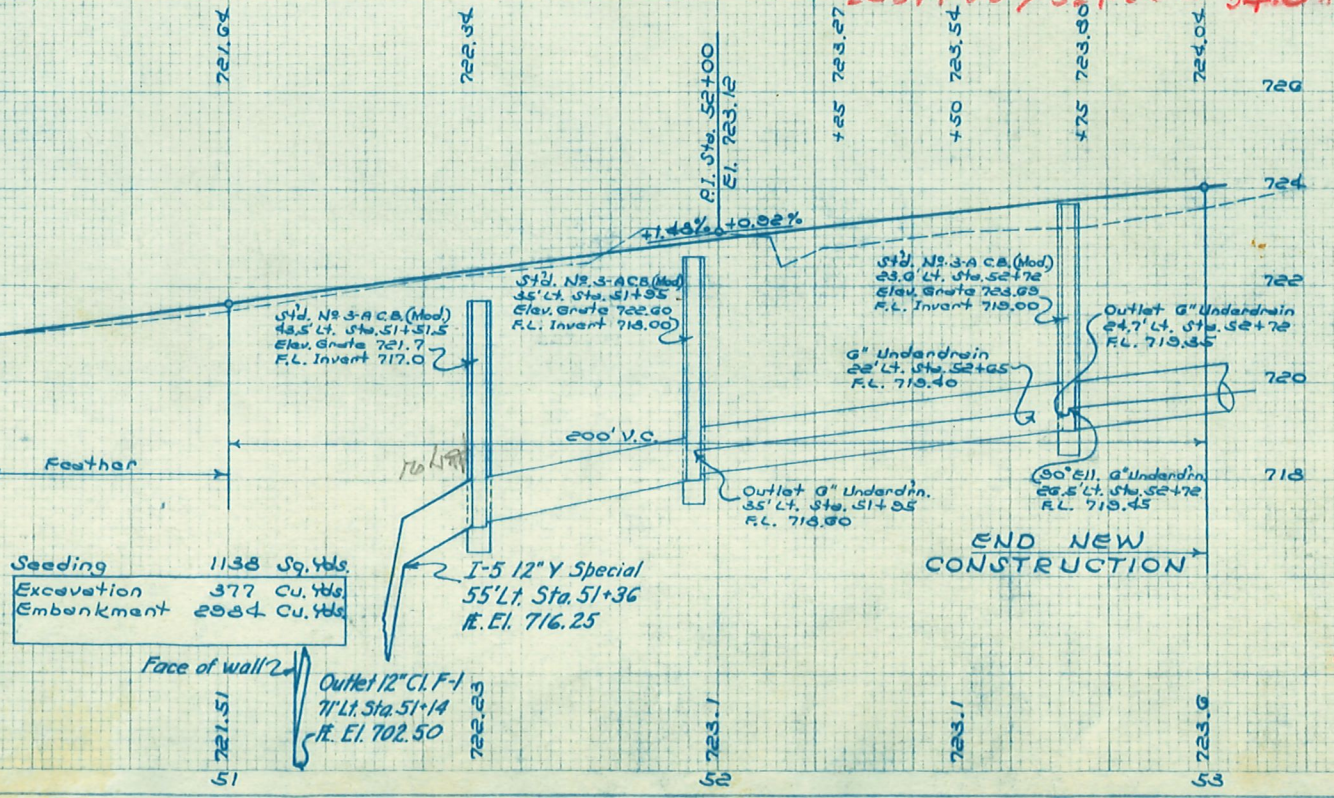
Mark	Station		Side	I-1 Storm Sewer		I-8 Std. 3-A C.B. (Modified) Each	I-2 Masonry (Conc. Collar) Cu. Yds.	I-5 Pipe Specials	
	From	To		12" Class B-1 Lin. Ft.	12" CID-1 Sec. M-6.4(c) Lin. Ft.			42" CID-1 M-6.4(c) Lin. Ft.	42" 35° Tee
1-S	51+37.3	53+00	Lt.	182	26	3	0.20	1	
3-S	51+23	51+40.5	Lt.	5			0.24		
4-S	51+43	51+56	Rt.			14	1.16	1	
Totals				187	26	14	1.60	1	1

(U) PIPE UNDERDRAINS

Mark	Station		Side	I-1 CI, I-3, 6" Underdr.	I-10, F-1 6" Outlets for Underdr.	I-5 Pipe Spec.	
	From	To				6"x90" Band	6"x45" Band
1-U	51+35	52+65	Lt.	48	30		1
2-U	52+72	53+00	Lt.	28			1
Totals				76	30		1



Seeding 1138 Sq. Yds.
 Excavation 377 Cu. Yds.
 Embankment 2984 Cu. Yds.



(C) CURB

Mark	Station		Side	I-12 Std. Type 2" Mod. Lin. Ft.	I-12 Std. Type 6" Curb Lin. Ft.
	From	To			
1-C	51+15	51+50	Lt.	51	
2-C	51+85	52+36	Lt.	60	16
3-C	52+36	52+43	Lt.		10
4-C	52+71	52+92	Lt.	23	25
5-C	52+63	52+97	Lt.		55
6-C	51+15	51+20	Lt.		
Totals				134	65

(A) DRIVES & APPROACH

Mark	Station	Side	Type	T-35 Asph. Conc. Sum. Cnse. Cu. Yds.	T-3 Tack Coat Gal.	
						1-A
Totals					1.6	3

* Carried to Pavement Table

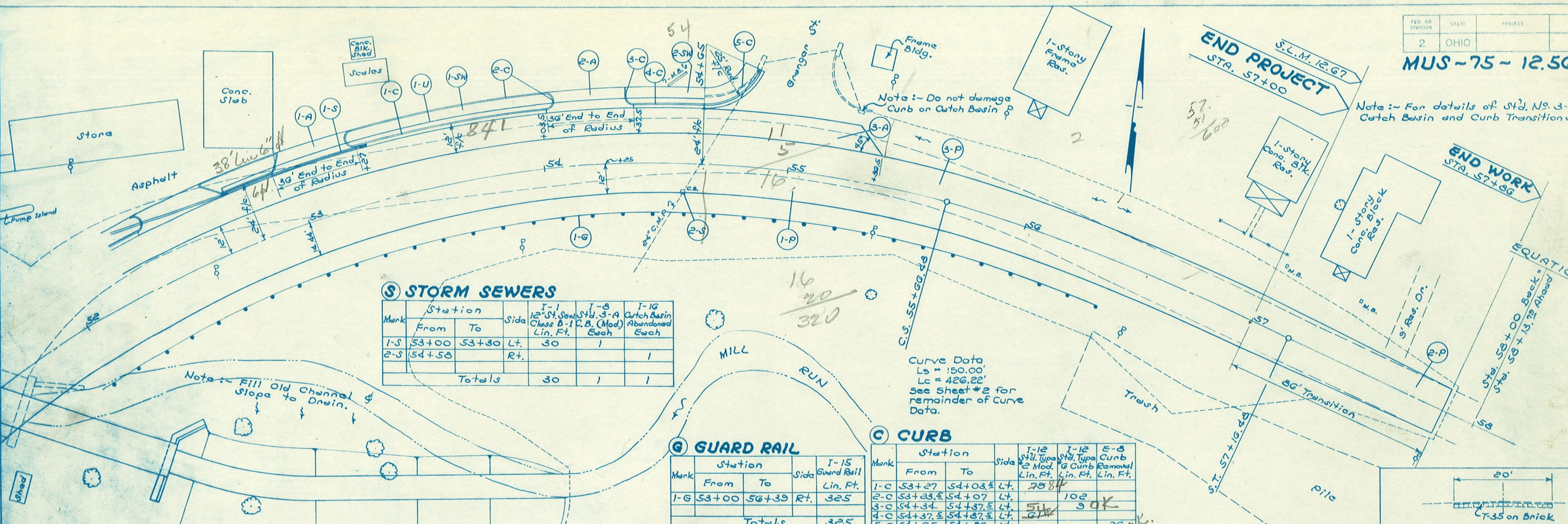
(SW) SIDEWALK

Mark	Station		Side	I-13 4" Conc. Sidewalk Sq. Ft.
	From	To		
1-SW	50+50	51+35	Lt.	276
2-SW	52+00	52+39	Lt.	186
3-SW	52+62.5	52+96.5	Lt.	174
Totals				636

HC I-12 702 Curb gutter = 277.7
 SC I-12 Std 6" Curb gutter = 524.52

END PROJECT
STA. 57+00
S.L.M. 12.67

Note: - For details of Std. No. 3-A Catch Basin and Curb Transition



STORM SEWERS

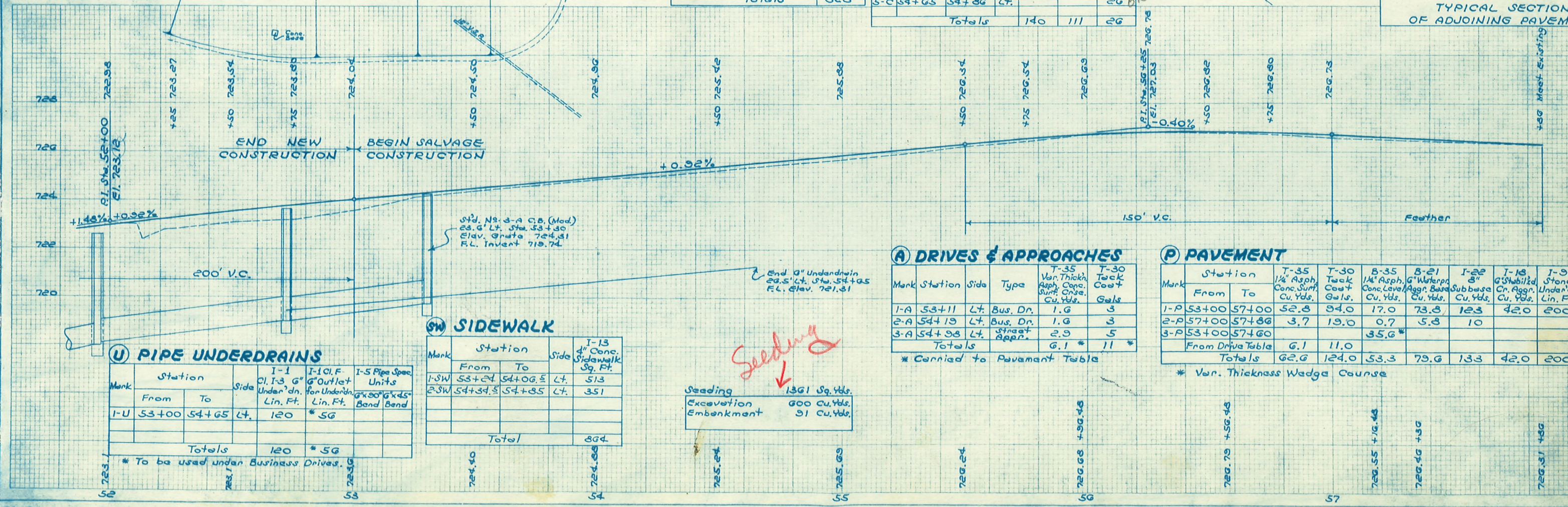
Mark	Station From	Station To	Side	I-1 12" Std. Sewer Class B-1 Lin. Ft.	I-8 12" Std. C.B. (Mod) Each	I-16 Catch Basin Abandoned Each
1-S	53+00	53+30	Lt.	30	1	
2-S	54+58		Rt.			1
Totals				30	1	1

GUARD RAIL

Mark	Station From	Station To	Side	I-15 Guard Rail Lin. Ft.
1-G	53+00	56+39	Rt.	325
Totals				325

CURB

Mark	Station From	Station To	Side	I-12 5 1/2" Type 2 Mod. Curb Lin. Ft.	I-12 5 1/2" Type 3 Curb Lin. Ft.	E-8 Curb Removal Lin. Ft.
1-C	53+27	54+03.5	Lt.	78.8		
2-C	53+23.5	54+07	Lt.		102	
3-C	54+34	54+37.5	Lt.	5.1	9	OK
4-C	54+37.5	54+37.5	Lt.			
5-C	54+65	54+86	Lt.			26 D.
Totals				140	111	26



PIPE UNDERDRAINS

Mark	Station From	Station To	Side	I-1 4" x 1.3 6" Under 'dn. Lin. Ft.	I-10 1.5 6" x 4.5" Band Bend
1-U	53+00	54+65	Lt.	120	* 56
Totals				120	* 56

* To be used under Business Drives.

SIDWALK

Mark	Station From	Station To	Side	I-13 4" Conc. Sidewalk Sq. Ft.
1-SW	53+24	54+06.5	Lt.	513
2-SW	54+34.5	54+85	Lt.	351
Total				864

Seeding
Excavation 600 Cu. Yds.
Embankment 91 Cu. Yds.

DRIVES & APPROACHES

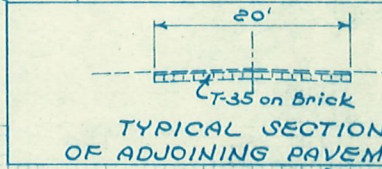
Mark	Station	Side	Type	T-35 Var. Thickn. 1 1/2" Asphalt Conc. Surf. Cu. Yds.	T-30 Tack Coat Gals.
1-A	53+11	Lt.	Bus. Dr.	1.6	3
2-A	54+19	Lt.	Bus. Dr.	1.6	3
3-A	54+98	Lt.	Street Approach	2.9	5
Totals				6.1	11

* Carried to Pavement Table

PAVEMENT

Mark	Station From	Station To	T-35 1 1/2" Asphalt Conc. Surf. Cu. Yds.	T-30 Tack Coat Gals.	B-35 1 1/2" Asphalt Conc. Layer Cu. Yds.	B-21 6" Waterpro. Aggr. Base Cu. Yds.	I-22 8" Subbase Cu. Yds.	I-18 6" Stabilized Cr. Aggr. Cu. Yds.	I-9 Stone Underdr. Lin. Ft.
1-P	53+00	57+00	52.8	94.0	17.0	73.8	123	42.0	200
2-P	57+00	57+86	3.7	19.0	0.7	5.8	10		
3-P	53+00	57+60			35.6*				
From Drive Table			6.1	11.0					
Totals			62.6	124.0	53.3	79.6	133	42.0	200

* Var. Thickness Wedge Course



Curve Data
Ls = 150.00'
Lc = 426.22'
See Sheet #2 for remainder of Curve Data.

Note: - Fill Old Channel & Slope to Drain.

Note: - Do not damage Curb on Catch Basin

END WORK
STA. 57+86

EQUATION

Sta. 58+00 Back =
Sta. 58+13.72 Ahead

End Area	Out	Fill	Cut
1	0		
0			0

50+50
720.95 BEGIN WORK

50+00
720.18

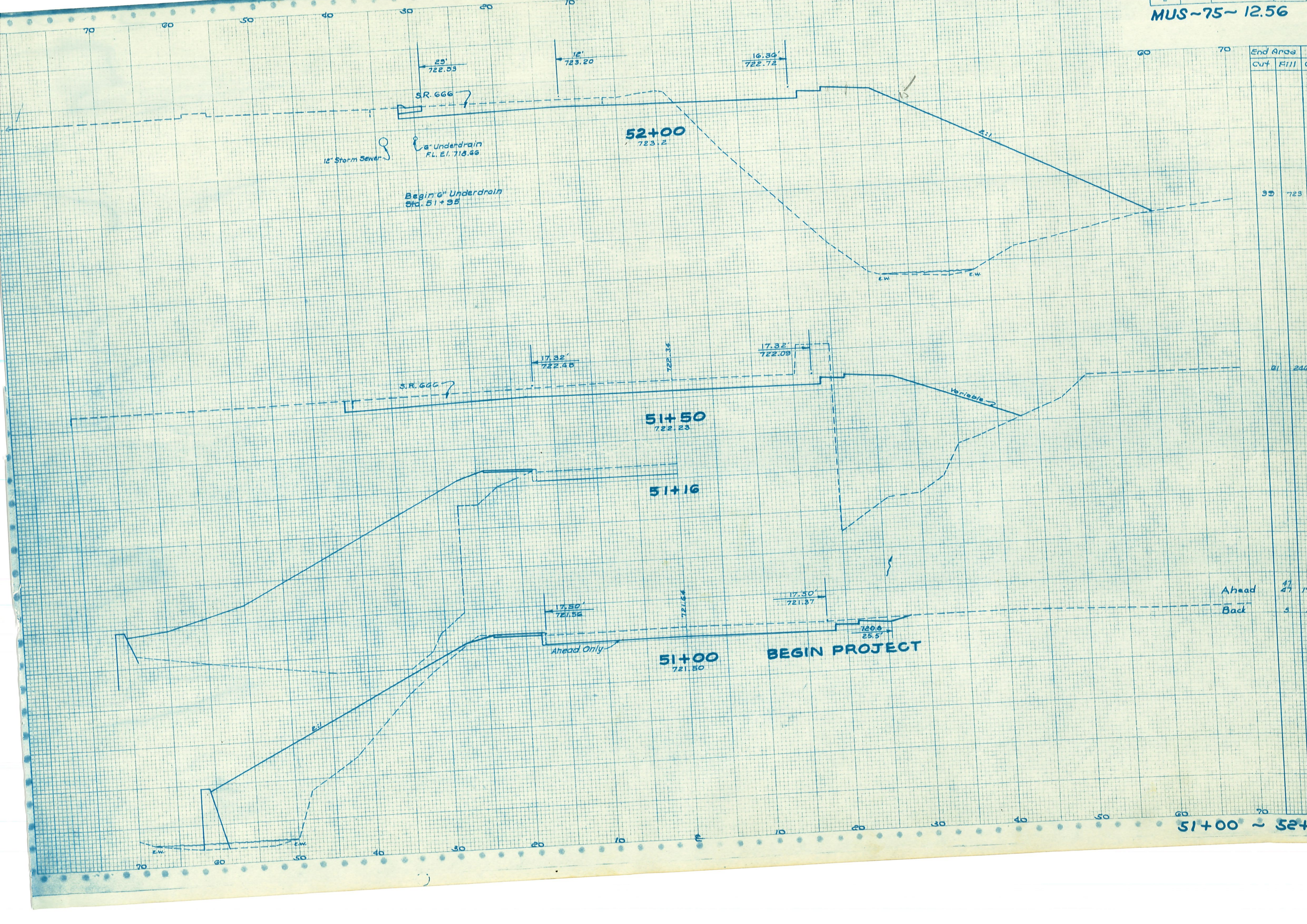
49+50
720.54

49+00
722.52

48+50
724.38

48+00
726.33

48+00 ~ 50+



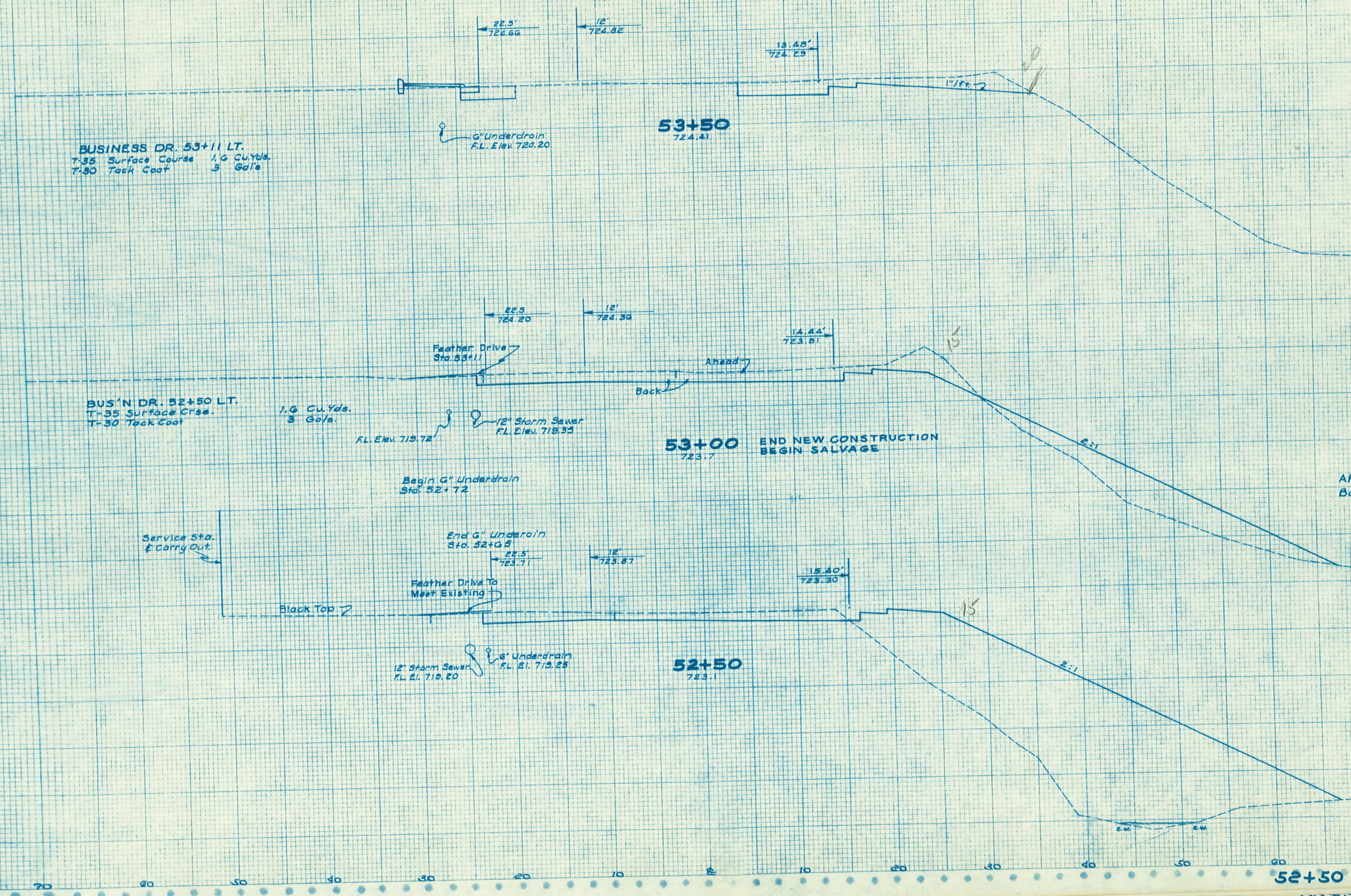
End Area	
Out	Fill
33	723
81	246
47	5

Ahead
Back

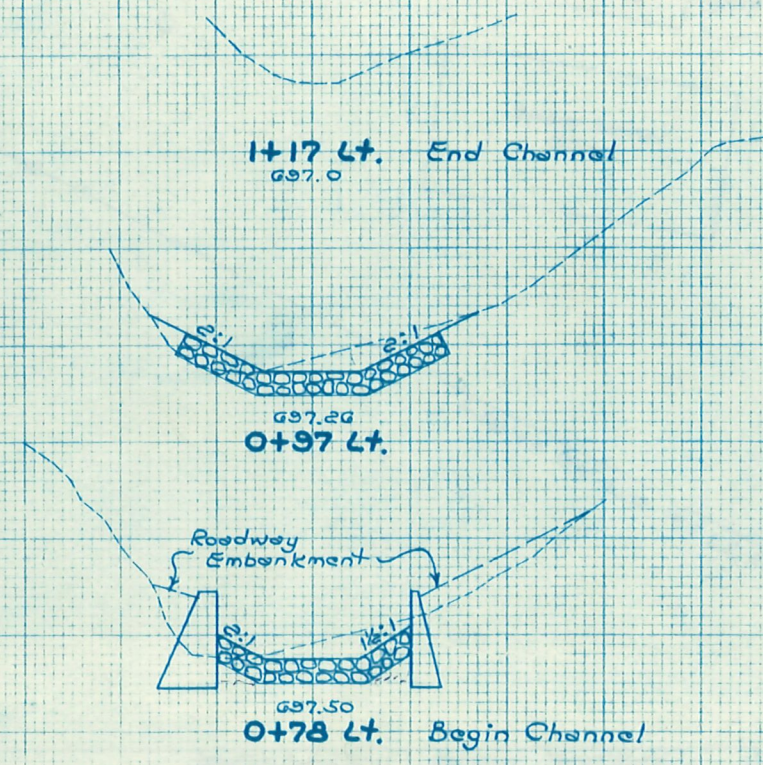
51+00 ~ 52+00

BUSINESS DR. 53+11 LT.
 T-35 Surface Course 1.6 Cu.Yds.
 T-30 Tack Coat 3 Gal's

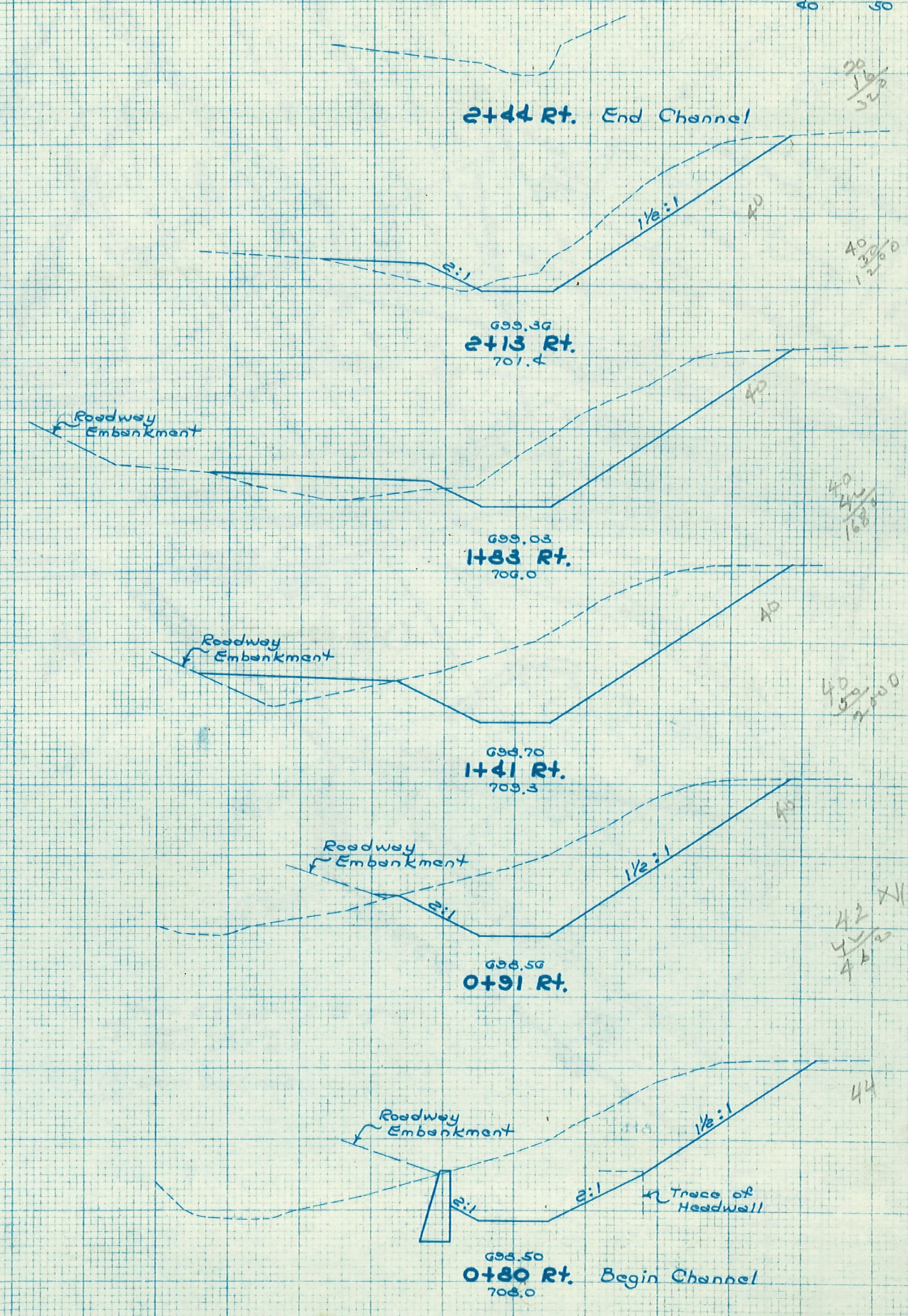
BUS'N DR. 52+50 LT.
 T-35 Surface Crse. 1.6 Cu.Yds.
 T-30 Tack Coat 3 Gal's.



50 40 30 20 10 E 10 20 30 40 50



End Area	Cu. Yds.		
Cut	Fill	Cut	Fill
0	0	11	7
31	20		
		20	9
27	6		
Sub-Total	51	16	

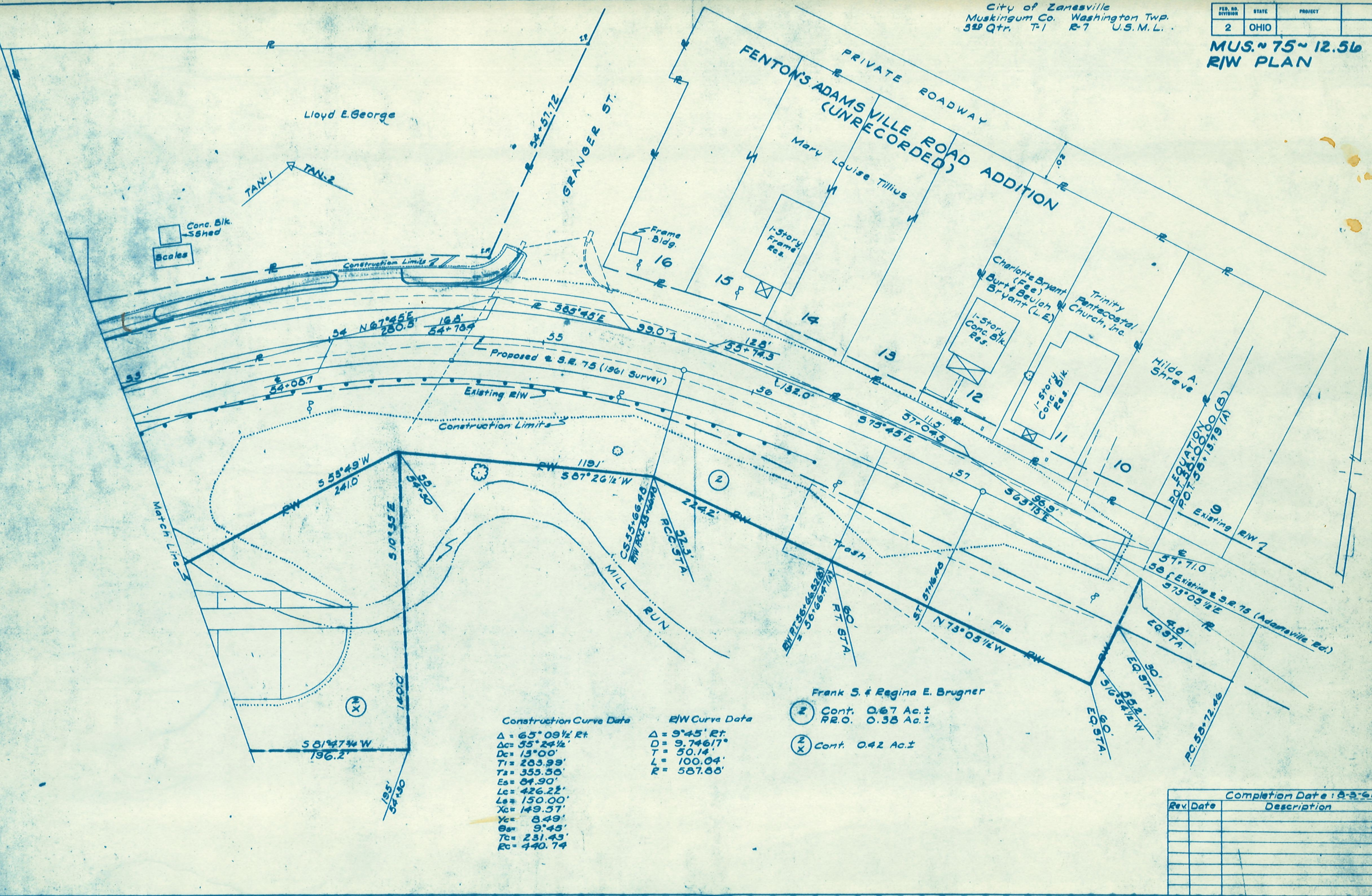


50 40 30 20 10 E 10 20 30 40 50

60 50 40 30 20 10 E 10 20 30 40 50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

MUS. 75-12.56
R/W PLAN



Construction Curve Data

$\Delta = 65^{\circ}09\frac{1}{2}' Rt.$
 $\Delta C = 55^{\circ}24\frac{1}{2}'$
 $D_c = 13^{\circ}00'$
 $T_1 = 283.99'$
 $T_2 = 355.56'$
 $E_s = 84.90'$
 $L_c = 426.22'$
 $L_s = 150.00'$
 $X_c = 149.57'$
 $Y_c = 8.49'$
 $\theta_s = 9^{\circ}45'$
 $T_c = 231.43'$
 $R_c = 440.74'$

R/W Curve Data

$\Delta = 9^{\circ}45' Rt.$
 $D = 9.74617'$
 $T = 50.14'$
 $L = 100.04'$
 $R = 587.68'$

Frank S. & Regina E. Brugner

(2) Cont. 0.67 Ac. ±
R.R.O. 0.38 Ac. ±

(2 X) Cont. 0.42 Ac. ±

Completion Date: 8-3-61

Rev. Date	Description