

#6043

F-657 (3)

FED. RD. DIVISION	STATE	PROJECT	1/163
2	OHIO	F-657(3)	

SEN-18-(1.79-8.60)

519

STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
SEN-18-(1.79-8.60)
 SENECA COUNTY
 LOUDON AND HOPEWELL TOWNSHIPS
 & CITY OF FOSTORIA

CONVENTIONAL SIGNS

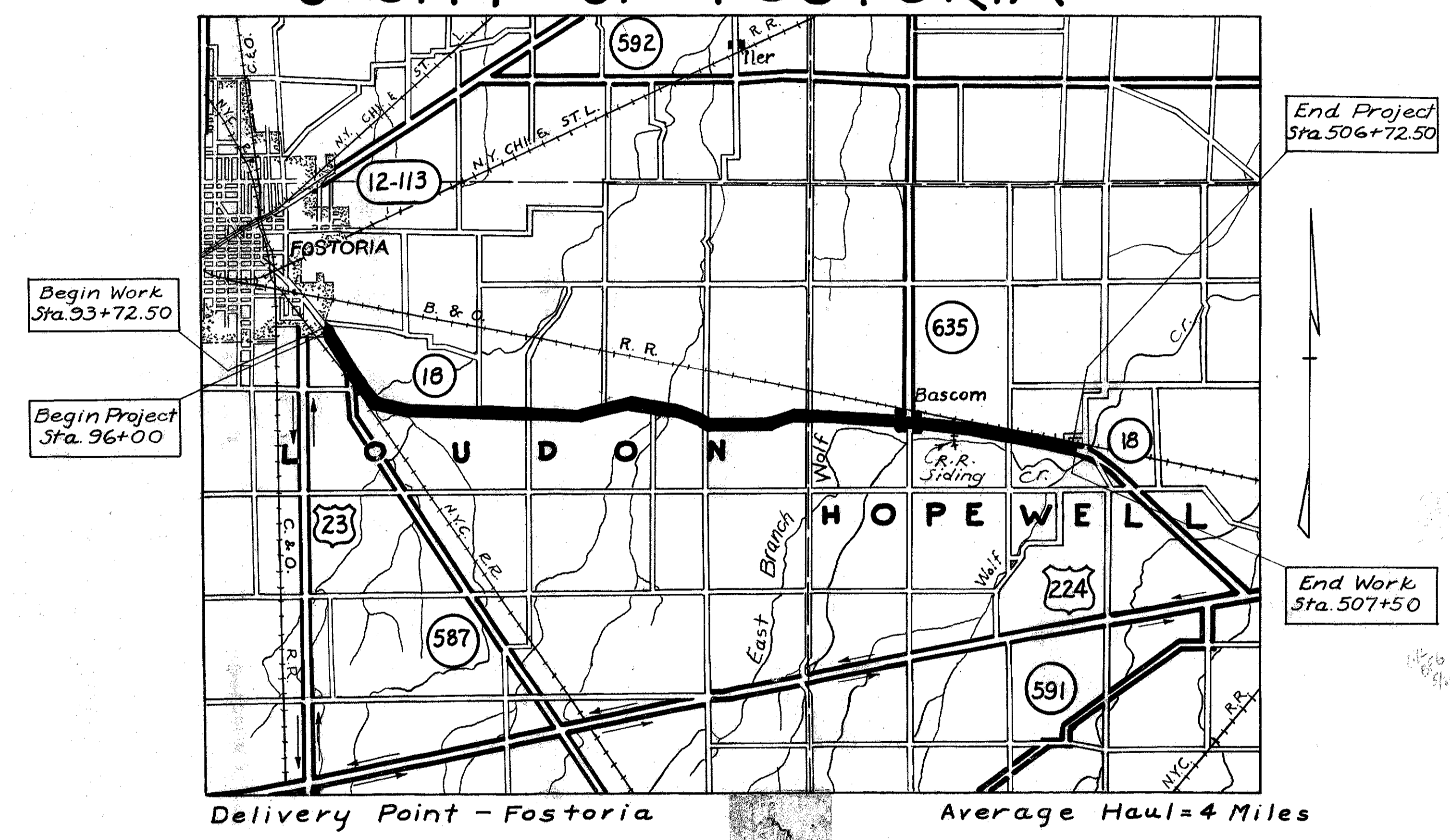
State Line	-----
County Line	-----
Township Line	-----
Section Line	-----
Center Line	-----
Corporation Line	-----
Fence Line	-----
Guard Rail (existing)	-----
Guard Rail (proposed)	-----
Railroad	-----
Power Poles & Telephone Poles	⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥ ⊥
Trees or Stumps (existing)	⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗
Trees or Stumps (to be removed)	⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗

INDEX OF SHEETS

Title Sheet	1
Typical Sections	2-4
General Notes	5
Summary of Quantities	6-22
General Summary	23
Plan & Profile	24-52
Cross Sections	53-115
Channel Sections	116-129
Sewer & Ditch Outlet Cross Sections	130-133
Intersection Details	134-135
Extra Pavement & Drive Details	136
Curb & Street Return Details	137
Miscellaneous Details	138
Structures under 20 Ft. Span	139-144
Structures over 20 Ft. Span	145-146
Right-of-way	147-163

LINE DATA

Begin Work	- 93+72.50
Begin Project	- 96+00.00
End Project	- 506+72.50
End Work	- 507+50.00
Gross Length of Work	= 41,377.50 Lin. Ft.
Gross Length of Project	= 41,072.50 Lin. Ft.
Deduct for R.R. Spur Crossing	- 9.00 Lin. Ft.
Deduct for Station Equations	- 42.87 Lin. Ft.
Net Length of Work	= 41,325.63 Lin. Ft. = 7.826 Mi.
Net Length of Project	= 41,020.63 Lin. Ft. = 7.769 Mi.



SCALE OF MILES

LOCATION MAP

SCALE

Plan 1"=50'
 Profile Horizontal 1"=50'
 Profile Vertical 1"=5'
 Cross Sections 1"=5'

LEGEND

Portion to be improved **=====**
 State roads **=====**
 Other roads **=====**
 Detours Shown Thus **====>>>====**

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 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 require the closing of the highway to traffic, except as noted on sheet No. 5, and that detours will be provided as indicated on the plans.

Approved L.C. Rank
 Date 5-7-58 Division Deputy Director

Approved C. H. Mahoney
 Date 6-4-58 Deputy Director of Planning & Programming

Approved J. J. Brennan
 Date 5-29-58 Engineer of Bridges

Approved R. E. Shultz
 Date 5-31-58 Engineer of Location & Design

Approved R. E. Washburn
 Date 5-31-58 Deputy Director of Design & Construction

Approved _____
 Date _____ First Assistant Director

Approved George J. Shorman
 Date 6/4/58 Acting Director of Highways

APR 21 1961
 GROUND PHOTOLAB

Sheets 147, 158, 159 - R/W Parcels
 Revised 10-30-58 AWG

519

FILE SENeca COUNTY
 NO. SEN-18-(1.79-8.60)
 Date of Letting _____
 Contract No. _____

SUPPLEMENTAL SPECIFICATIONS

E-101	1-1-57	
B-119 Rev.	8-11-57	
M-206.6 (b)	5-25-56	

STANDARD DRAWINGS

G-7.07	6-1-56	I-8 C.B. 1-2A & B	5-1-52	L-3	4-1-50	AS-1-54	12-1-54
I-1,2,3,4, & 5	4-24-58	I-8 M.H. No. 1	5-1-52	L-3-A	4-1-50	CS-1-54(2sh)	7-16-56
I-8 C.B. 1-3 & 4	5-1-52	I-8 M.H. No. 1-A	1-3-55	RI-1	1-3-55	A-1-54	12-1-54
I-8 C.B. 2-2A & B	8-1-56	I-12	7-1-54	S-27 P.C.-3	2-20-45	P-1-54	12-1-54
I-8 C.B. No. 3	5-1-52	I-15 No. 1	8-1-55	S-27 P.C.-4	1-4-54	DR-1	1-3-55
I-8 C.B. No. 3-A	5-1-52	I-15 No. 2-A	6-1-57	T-35	1-2-56	I-8 M.H. No. 2	5-1-52
I-8 C.B. No. 6	5-1-52	L-1	4-1-50	SP-53	7-21-53		

DEPARTMENT OF COMMERCE
 BUREAU OF PUBLIC ROADS

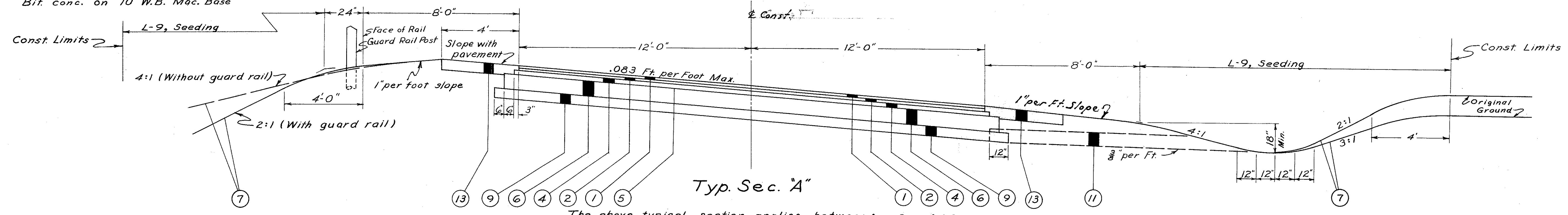
APPROVED: _____

DIVISION ENGINEER DATE

TYPICAL SECTIONS

TYPE T-35

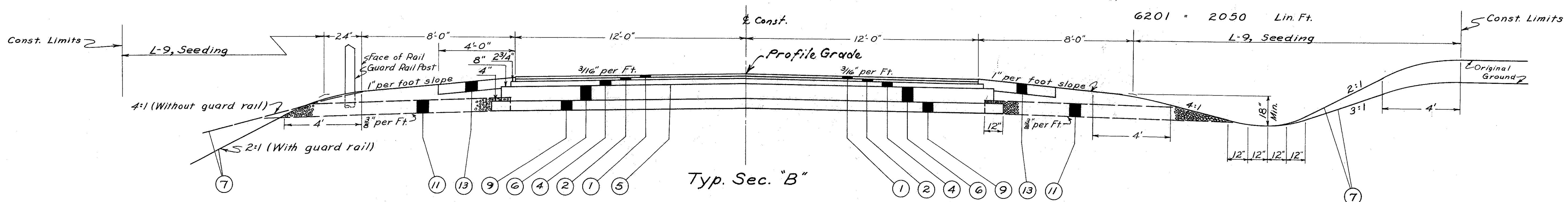
EXISTING PAVEMENT
 Sta. 95+00 to 121+45
 3" Roadmix on 2" Bit conc.
 on 7" Portland Cem. Conc. Base
 Sta. 121+45 to 143+89
 Bit conc. on 10" W.B. Mac. Base
 Sta. 143+89 to 504+50
 3" Road mix on 2" Bit Conc.
 on 7" Portland Cem. Conc. Base
 Sta. 504+50 to 507+50
 Bit conc. on 10" W.B. Mac. Base



The above typical section applies between:

Sta. 208+00	and Sta. 214+00	= 600.00 Lin. Ft.
Sta. 350+00	and Sta. 353+75	= 375.00 Lin. Ft.
Sta. 380+25	and Sta. 388+50	= 825.00 Lin. Ft.
Sta. 464+50	and Sta. 467+00	= 250.00 Lin. Ft.

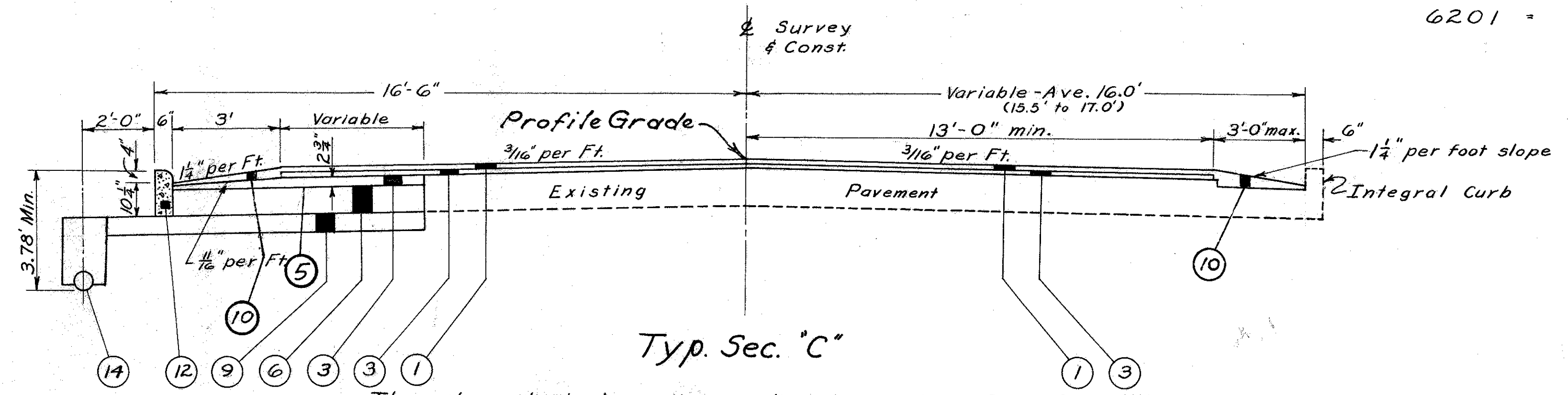
Total Length Typical Sec. "A" = 2050 Lin. Ft.



The above typical section applies between:

Sta. 214+00	and Sta. 215+25	= 125.00 Lin. Ft.
Sta. 289+27	and Sta. 290+25	= 98.00 Lin. Ft.

Total Length Typical Sec. "B" = 223 Lin. Ft.



The above typical section applies between:

Sta. 403+78	and Sta. 410+25	= 647.00 Lin. Ft.
Sta. 433+70	and Sta. 434+48	= 78.00 Lin. Ft.

Total length Typical Sec. "C" = 725 Lin. Ft.

- ① Item T-35, 1 1/2" Asphaltic Concrete Surface Course Type C (70-85)
- ② Item B-35, 1 1/4" Asphaltic Concrete Leveling Course (70-85)
- ③ Item B-35, 1 1/4" Minimum Asphaltic Concrete Leveling Course (70-85)
- ④ Item B-35, 2 3/4" Asphaltic Concrete Base Course (70-85)
- ⑤ Item T-30, Bituminous Prime Coat; M-5.3, MC-0 or MC-1; or Sec. M-5.7, RT-2 or RT-3, applied at the rate of 0.35 gal. per sq. yd. (Item T-30 is not to be applied to existing pavement surfaces)
- ⑥ Item B-119, 8" Crushed Aggregate Base Course
- ⑦ Item L-9, Seeding and Protecting, As per Plan

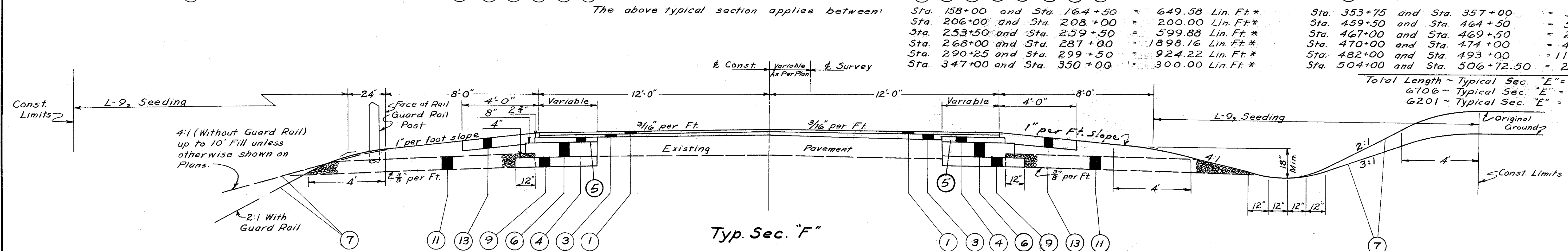
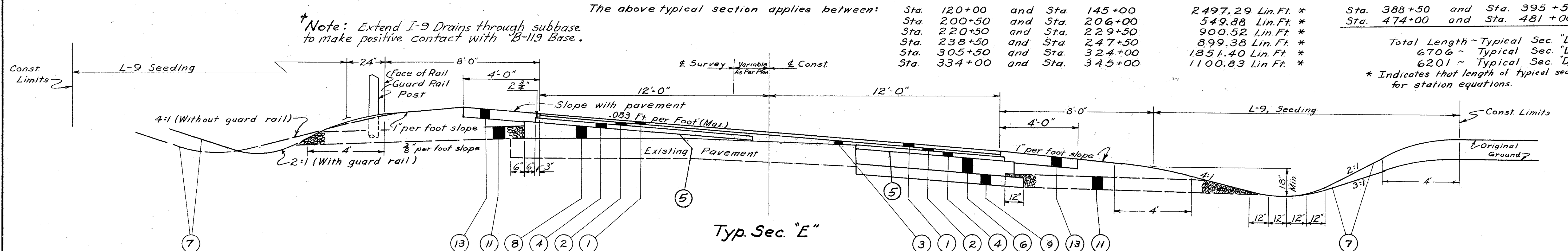
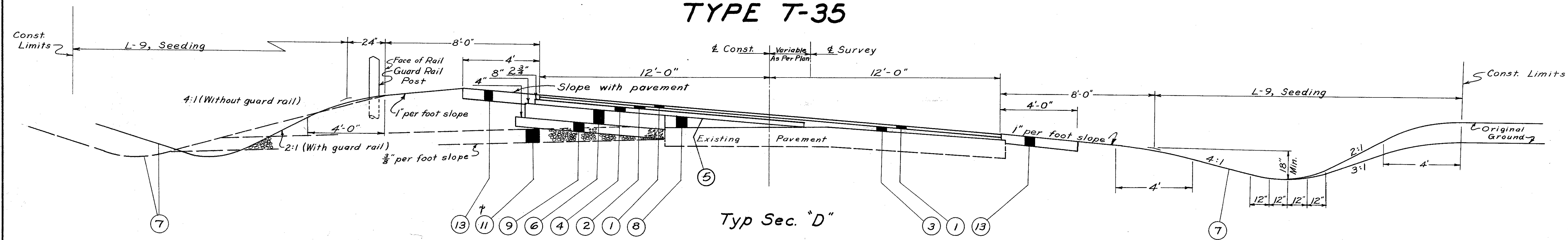
- ⑧ Item B-119, 0" Minimum Crushed Aggregate Base Course
- ⑨ Item I-22, 4" Subbase
- ⑩ Item T-35, 1" Minimum Asphaltic Concrete Surface Course, Type C (70-85)
- ⑪ Item I-9, Stone Underdrain No. 2
- ⑫ Item I-12, Standard Type 6 Curb Modified
- ⑬ Item I-18, 6" Stabilized Crushed Aggregate Shoulders (For additional stabilization of upper three (3") inches of this item with calcium chloride, see note in proposal)
- ⑭ Item I-4, 6" Pipe Underdrains

ADT Present = 2865
 ADT Design = 9189
 Designed Hourly Volume = 780
 Directional Percentage 50%-50%
 Percent of Trucks = 27%
 Traffic Volume on intersecting roads
 S.R. 587
 ADT Present = 786
 S.R. 635
 ADT Present = 506
 Design Speed = 60 MPH
 2030 Pass. & A, 520 B & C,
 1956 A. D. V.

SEN-18-(1.79-8.60)

TYPICAL SECTIONS

TYPE T-35



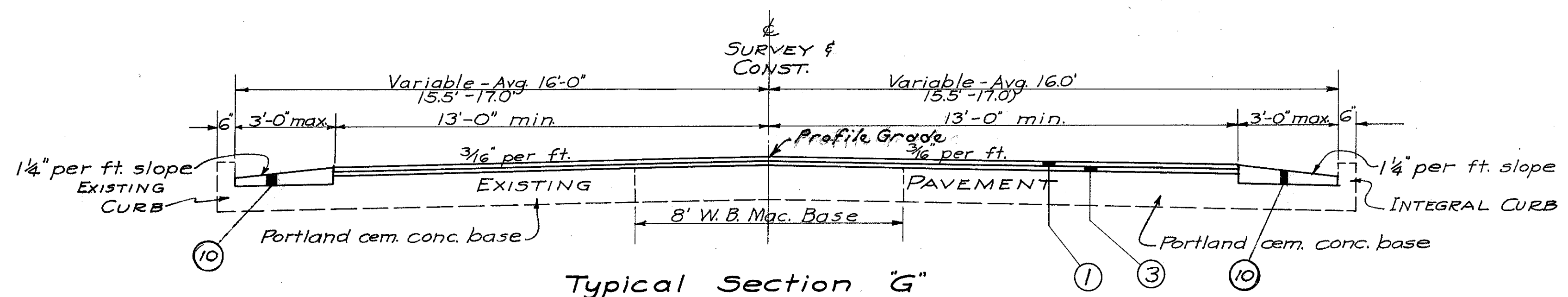
Note: For Pavement Legend, See Sheet No. 2.

* Indicates that length of typical section has been adjusted for station equations.

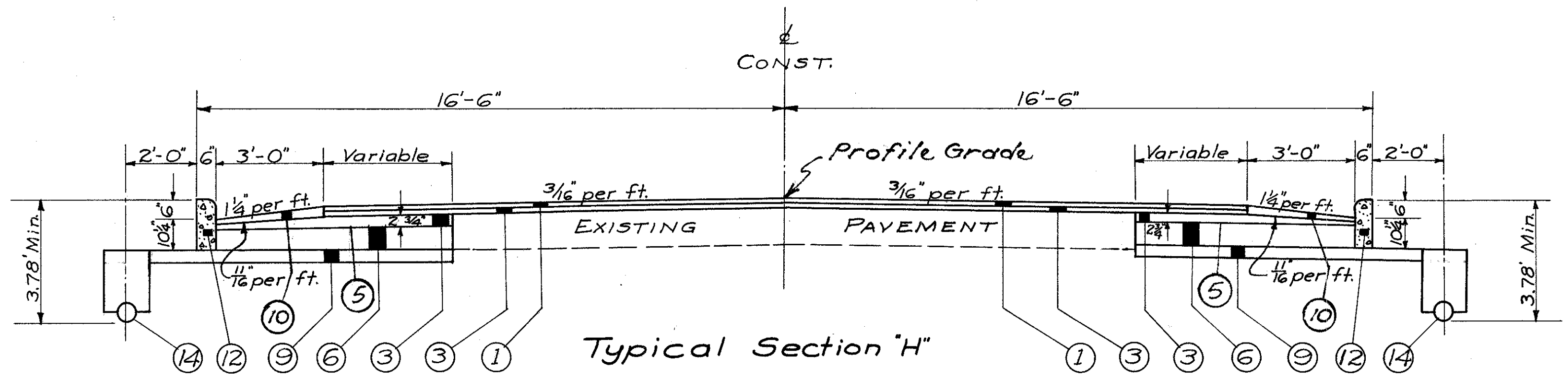
Design Speed = 60 MPH
 2030 Pass. #A, 520 B & C, 195 A.D.V.

TYPICAL SECTIONS

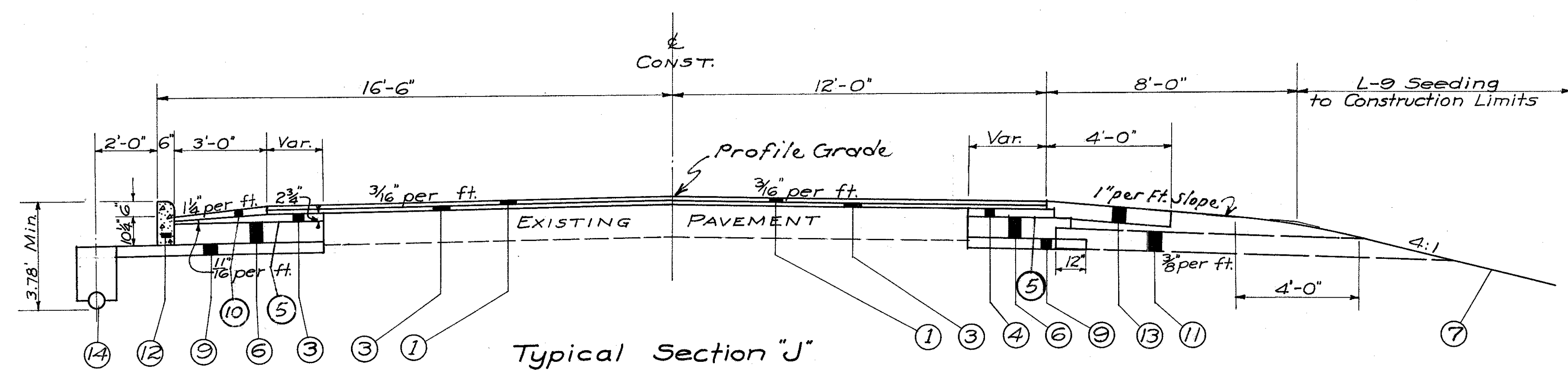
TYPE T-35



The above typical section applies between: Sta. 410+25 and Sta. 433+70 = 2,345.00 Lin. Ft.
Code 6706 = 2,345.00 Lin. Ft.



The above typical section applies between: Sta. 434+48 and Sta. 448+90 = 1,442.00 Lin. Ft.
Deduct for R.R. Spur Sta. 442+37 = 9.00 Lin. Ft.
Net length Code 6706 = 1,433.00 Lin. Ft.



The above typical section applies between Sta. 449+35 and Sta. 452+90 = 355.00 Lin. Ft.
Code 6706 = 355.00 Lin. Ft.

Note: For Pavement Legend, See Sheet No. 2.

GENERAL

NOTES

FED. RD. DIVISION	STATE	PROJECT	5 163
2	OHIO	F-657(3)	

SEN-18-(1.79-8.60)

Seeding and Sodding: Commercial fertilizer (12-12-12) shall be applied at the rate of 20 lbs. per 1000 sq. ft. to all areas to be seeded or sodded.

Seeding in the following urban areas:
Sta. 93+72.50 to Sta. 114+20 on the left.
Sta. 398+30 to Sta. 442+40 on the right.
Sta. 399+62 to Sta. 453+00 on the left.

shall be at the rate of 3 lbs. per 1000 sq. ft. with the following seed mix:

Kentucky Blue	20%
Meadow Fescue	20%
Creeping Red Fescue	40%
Red Top	15%
White Dutch Clover	5%

All other areas shall be seeded at the rate of 3 lbs. per 1000 sq. ft. with the following seed mix:

Kentucky Blue	20%
Red Creeping Fescue	35%
Alta Fescue	40%
Alsike Clover	5%

Salvage Castings: All castings of existing inlets, manholes and other drainage structures which are to be removed or replaced, shall be removed and handled in such a manner as to prevent their being damaged. After removal, the castings shall be stored within the right-of-way as directed by the Engineer, for disposal by State Forces.

Boring Refusal: The State of Ohio does not guarantee the accuracy of elevations of boring refusal as shown on the soil profile.

Drives and Mailbox Turnouts: It may be necessary to relocate the drives and mailbox turnouts as shown on the plans, to better serve the property owners. It is recommended that whenever possible, the mailbox turnouts be combined with the drives to reduce the amount of material required for their construction.

Utilities: All work required to relocate and/or adjust, etc., all gas, oil, telephone, telegraph, electric, water or other services to conform to the new grade and alignment shall be completed by the Utilities involved.

Utility Ownership:

- North Central Electric Co-op., Attica, Ohio
- Ohio Power Co., 301-315 Cleveland Ave., Canton, Ohio
- Standard Oil Co., North County Line Rd., Fostoria, Ohio
- Sinclair Oil Co., 341 Mt. Vernon St., Marion, Ohio
- Ohio Bell Telephone Co., 121 Huron St., Toledo, Ohio
- Bascorn Mutual Telephone Co., Bascorn, Ohio
- B & O. Rr. Company, Chicago Division
- Ohio Fuel Gas Co., 99 N. Front St., Columbus, Ohio
- Fostoria Water Dept., City Building, Fostoria, Ohio

Field Office: The contractor shall provide a suitable field office in accordance with Section S-0.01, having a minimum floor area of 300 sq. ft. The contractor shall have a telephone installed and maintained during the construction of this project.

Rounding of Corners on Cross Sections: The rounded corners shown on the typical sections apply to all sections even though shown otherwise on cross sections.

Estimated Quantities:

Specific locations and usage of estimated quantities set up on this plan to be used "as directed by the Engineer" shall be made a matter of record by incorporation into the final change order governing completion of this project.

Removal of Existing Guard Rail: Existing guard rail, when required by the plan and/or Engineer to be removed, shall be removed by State Forces. The Engineer shall advise the Division Maintenance Engineer of such impending work at least two weeks before such work is to be performed. All such work must be integrated with the Contractor's operation.

I-9 Stone Underdrains No. 2: Stone underdrains shall be constructed at approximately 50 ft. intervals or as directed by the Engineer, except in yard areas or where I-4 underdrains are specified. Care shall be taken to prevent blocking of the I-9 drains during shaping and seeding operations. Note that stone underdrains have been provided for draining the widening on the high side of super-elevated curves. The Engineer shall keep a record of the location of all such I-9 Stone Underdrains.

Non-Rigid Pavement Removal:

Removal and disposal of existing non-rigid pavement, unless otherwise indicated on these plans, shall be measured and paid for as Item E-101, Roadway Excavation.

Private Sewer Taps:

(A) The plan makes no provision for connecting, nor shall the Engineer or Contractor connect, any existing or new private drainage to the existing or new highway drainage system when such private drains carry off effluent or drainage from leaching bed outlets, cellar drains, sink drains, or polluted water of any kind.

Compacted Subgrade under Drives: The subgrade for drives shall be compacted for a depth of 6" to the density requirements in Table III, Item E-101. Payment for this subgrade compaction shall be included in the unit price bid for Item E-101 Roadway Excavation.

Compacted Subgrade under Widening:

In lieu of the applicable provisions of Sec. E-101.09, the subgrade for all widening on this project shall be compacted for a depth of six (6) inches to the density requirements shown in table III, Item E-101. Payment for subgrade compaction, as specified above, is to be included in the unit price bid for Roadway Excavation, Item E-101.

(B) Connections may be made to the existing or new highway drainage system when the water carried to the project drainage system does not come within the category outlined in paragraph A. Acceptable water includes flow from roof drains and enclosed natural drainage courses which would reach the road through natural channels if such water was not conducted artificially.

Removal of Trees and Stumps: Trees or stumps shall be removed or preserved as indicated on the Plans by the following symbols:

- Trees or stumps to be removed: ☒ ☓ *
- Trees to be preserved: ☉ *

The number of trees or stumps to be removed, as indicated by the above symbol, is approximate and the State reserves the right to order the removal of additional trees or stumps, even though these trees or stumps are not shown on the plans or are indicated to be preserved. Payment for the removal of these additional trees or stumps shall be at the unit price bid per each for Item E-9, Removal of Trees and Stumps.

Traffic:

A detour as shown on sheet No. 1, has been provided for this project. This detour however shall not be in effect between the dates of December 1st and April 1st. Two-way traffic shall be maintained at all times during which the detour is not in effect. Local traffic shall be maintained at all times in accordance with Sec. G-4.05. Estimated quantities of aggregate and calcium chloride have been provided, in the general summary, for use as directed by the Engineer in maintaining traffic.

Control Points: Before construction operations begin, the Engineer will reference all existing control points, and after completion of the project replace them in the new pavement.

Curb Modifications - Type G (Mod) Curb: Modification of section and height of curb will be as shown on typical sections.

Plugging Pipe: Where pipe is to be plugged as per Plan, and is not included in any pay item, the cost of plugging such pipe shall be included in the unit price bid for the various drainage items or for Roadway Excavation, Item E-101.

Catch Basin Modification - No. 6 (Mod) C.B. - No. 3-A (Mod) C.B.: For details of catch basin modification see Sheet No. 138

Removal of Pipe: All drainage pipe shown on the plans to be removed, shall be removed in accordance with Item E-12. All pipe which can be salvaged shall be removed and stored. All pay quantities for these items shall be determined by final measurement.

Guard Rail Modification - I-15 (Mod) For details of guard rail modification see Sheet No. 138

Hand Finishing: Hand finishing will be permitted on B-70 Base Replacement, and T-70 Driveways.

Design Speed: The design speed for this project is 60 M.P.H.

2/15 DRAINAGE SUMMARY - "D"

SEN-18-(179-860)

Main data table with columns for Line No., Outlets for Storm Sewers, Outlets for Roadway Drainage, Pipe Specials, Catch Basins, Manholes, and various material codes like CODE 6706 and CODE 6201. Includes sub-headers like M-6.4(c), No. 1, No. 2, Heavy Castg., etc.

Table with columns: Line No., Quantities Conf'd from same Line No. of Previous Sheet, Pipe for Roadway Culverts (12", 15", 21", 30", 34", 36", 42", 48", 54", 60", 66", 72", 78", 84", 90", 96", 102", 108", 114", 120", 126", 132", 138", 144", 150", 156", 162", 168", 174", 180", 186", 192", 198", 204), # of M-6.8(b), and Remarks.

PIPE UNDERDRAINS

Table with columns: Reach of Pipe, Station (From, To), Location (I-4 Under-drains, I-5 Under-drains), I-4 Underdrains As Per Plan (6", To correct undesirable sub-surface drainage conditions...), Underdrains (With or without porous backfill...), Pipe Outlets for Underdrains (M-6.4(h) without perforations), and Remarks.

STONE UNDERDRAINS - NO. 2

Table with columns: Station - Right, Distance, Av. Length, Est. No., Total Length, Code. Includes summary rows: By Engineer, CODE 6706 - Totals, CODE 6201, and To General Summary - Total - 6706 = 12206 Lin. Ft., To General Summary - Total - 6201 = 1105 Lin. Ft.

Table with columns for Line No., Quantities Cont'd from same Line No. of Previous Sheet, Pipe for Roadway Culverts, and Remarks. Includes codes like CODE 6706 and CODE 6201.

TABLE "C" - CURB SCHEDULE. Table with columns: Sheet No., Station, Right or Left, Type 6 (Mod) Lin. Ft., Type 2 Comb. C.C.P. Lin. Ft., Type 6 (Std) Lin. Ft., Type I Removal Lin. Ft., Type II Removal Lin. Ft., Type III Removal Lin. Ft., Federal Code.

Totals to General Summary
Type 6 (Mod) - For modifications, see Typical Sections
Type I & Type II Removal - For details, see sheet 137
Type III Removal - This item consists of removing and disposing of 6" x 12" concrete curb that is buried with the top flush with the existing ground.

TABLE "S" - SIDEWALK SCHEDULE. Table with columns: Sheet No., Station, Right or Left, E-8 Remove & dispose of Sq. Ft., F-13 4" Conc. Sidewalk Sq. Ft., Federal Code.

Totals to General Summary

TABLE "GR" - GUARDRAIL. Table with columns: Sheet No., Station, Right or Left, Length Lin. Ft., Federal Code, Remarks.

Totals to General Summary

TABLE "P" - EXTRA PAVEMENT. Table with columns: Reference No., Sheet No., T-35 Wear. Surf. Cu. Yds., B-35 Leveling Cu. Yds., B-35 Base Cu. Yds., B-19 Sub-base Cu. Yds., F-22 Sub-base Cu. Yds., F-15 Berm Cu. Yds., Federal Code, T-30 Prime Gal.

Totals to Pavement Summary

12/15 DRAINAGE SUMMARY - "D"

SEN-18-(1.79-8.60)

Line No.	Quantities Cont'd. from same Line No. of Previous Sheet	Pipe for Roadway Culverts							# or M.G.8(b)	Remarks
		M.G.8(d)-Paved Bit-Coated Corr. Metal Pipe								
		12"	15"	21"	30"	36"	48"	60"		
1	X	CODE 6201 (Cont'd)								
2										
3										
4										
5										
6										
7	X	CODE 6706								
8										
9										
10										
11										
12	X	65								
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
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28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43	X	65								
44	X	CODE 6201								
45										
46										
47										
48										
49										
50	X	CODE 6706								
51										
52										
53										
54										
55										
56										
57										
58										
59										

Sheet No.	Station		Right or Left	Removal of Existing Pav't	Remarks
	From	To			
Federal Code 6706					
25	102+00	115+00	RI	419	
26	115+00	116+55	RI	90	Includes removal to west edge of S.R. 587
26	117+59	121+50	RI	138	Includes removal to east edge of S.R. 587
28	148+50	159+50	RI	134	
32	216+95	218+50	RI	26	Includes removal to east edge of (5-P)
33	220+50	227+50	LI	257	
37	280+50	283+50	LI	148	
39	311+45	317+50	LI	81	Includes removal to east edge of (8-P)
40	339+50	340+00	LI	3	
41	340+00	341+50	LI	20	
43	379+50	380+25	LI	50	
44	388+50	389+25	LI	67	
45	410+15		LI	8	
46	429+90		LI	5	
49	467+00	469+50	LI	178	
49	471+00	472+45	RI	145	Includes removal to west edge (19-P)
49	473+00	473+25	RI	9	Includes removal to east edge (19-P)
49	474+40	475+00	LI	31	
50	475+00	478+75	LI	413	
50	487+25	487+80	LI	46	Includes removal to west edge (20-P)
50	488+25	490+00	LI	241	Includes removal to east edge (20-P)
51	490+00	501+75	LI	992	
Total From Table A				266	
Total From Table D				384	
Total - Code 6706				4151	sq. yds. - Total to General Summary
Federal Code 6201					
43	380+25	385+00	LI	830	
44	385+00	388+50	LI	665	
49	464+50	467+00	LI	414	
51	505+25	506+25	RI	9	
Total From Table D				68	
Total - Code 6201				1986	sq. yds. Total to General Summary

Code	Size	12" to 18"	19" to 24"	25" to 30"	31" to 36"	43" to 48"	Total	Total
6706	Trees	38	12	20	1	1	70	79
	Stumps	2	2	4	1	-	9	-
6201	Trees	3	-	2	-	-	5	5
	Stumps	-	-	-	-	-	0	0

Totals to General Summary

DRAINAGE SUMMARY - "D"

Line No.	Quantities Cont'd. from same Line No. of Previous Sheet	5-27							Pipe for Roadway Culverts #: or M-6.8 (6)	
		Pipe for Roadway Culverts								
		M-6.4(a) Flowed Bit-Coated Corr. Metal Pipe	M-6.6(b) Std. Strength #1 Reinf. Conc. Culv. Pipe	M-6.6(b) Std. Strength #2 Reinf. Conc. Culv. Pipe	M-6.6(b) Std. Strength #3 Reinf. Conc. Culv. Pipe	M-6.6(b) Std. Strength #4 Reinf. Conc. Culv. Pipe	M-206.6(b) Reinf. Elliptical Conc. Culv. Pipe	M-206.6(b) Reinf. Elliptical Conc. Culv. Pipe		
1	X	12"	15"	21"	30"	84"	58"	70"	66"	
2	X	CODE 6706 (cont'd.)								
3										
4										
5	X	61								
6										
7	X	57								
8										
9	X	118								
10	X	CODE 6201								
11										
12										
13	X	CODE 6201-TOTALS								
14										
15	X				180					
16	X							96		
17										
18	X				180			96		
19	X	CODE 6706-TOTALS								
20										
21	X	257								
22	X	164	63					180		
23	X	118	65							
24										
25	X	282	580	80	120			180		
26										
27										
28										
29										
30										

PAVEMENT SUMMARY - TABULATION OF CALCULATIONS

Section	Typical Length Lin. Ft.	T-35-Wear Surf.	B-35-Leveling	B-35-Base	B-119-Base	I-22-Sub-base	T-30-Prime	I-18-Berm	7'-7-70-Drives	9'-B-70-Base
		Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Gallons	Cu. Yds.	Sq. Yds.	Sq. Yds.
A	2050.00	227.8	189.8	426.3	1290.7	670.7	1953.2	303.7		
B	223.00	24.8	20.6	46.4	140.4	73.0	212.5	33.0		
C	725.00	113.6	150.4		132.4	90.2	209			
D	6922.56	769.2	842.1	422.9	772.5	242.1	1887.7	364.6	833.6	155.4
E	7194.70	799.4	24.4	960.8	33.6	1112.0	2702.6	35.2	1211.1	19.6
F	17015.63	1890.6	2043.5	1087.8	3247.3		1697.4	5114		2520.8
G	2345.00	387.2	250.0							
H	1433.00	223.1	334.5			515.1	359.1	811		
J	355.00	48.7	53.3	46.9	111.5	60.4	176	26.3		
From Table P		228.8	81	184.6	46	176.8	07	532.2	12	289.1
From Table A		267.8	79.1			582.8	197.7			0.8
From Table D										838
Br. No. SEN-18-0252								1507.2	498.1	-36.4
Br. No. SEN-18-0546									-75.1	802.6
										-9.0
								3.7	3.7	
Totals		4728.4	613.5	4819.2	671.5	3196.0	726.8	9711.6	2029.8	4540.9
Totals to Gen. Summary		4728	614	4819	672	3196	727	9712	2030	4541

PAVEMENT CALCULATIONS

TYPICAL SECTION "A" CODE 6201
 T-35 = 2050.00 x 24 x 1.5 ÷ 12 x 27 = 227.8 Cu. Yds. - Total to above table
 B-35-Leveling = 2050.00 x 24 x 1.25 ÷ 12 x 27 = 189.8 Cu. Yds.
 B-35-Base = 2050.00 x 24.5 x 2.75 ÷ 12 x 27 = 426.3 Cu. Yds.
 B-119 = 2050.00 x 25.5 x 8 ÷ 12 x 27 = 1290.7 Cu. Yds.
 I-22 = 2050.00 x 26.5 x 4 ÷ 12 x 27 = 670.7 Cu. Yds.
 T-30 = 2050.00 x 24.5 x 0.35 ÷ 9 = 1953.2 Gallons
 I-18 = 2050.00 x 8 x 6 ÷ 12 x 27 = 303.7 Cu. Yds.

TYPICAL SECTION "B" CODE 6201
 T-35 = 223.00 x 24 x 1.5 ÷ 12 x 27 = 24.8 Cu. Yds. Total to above table
 B-35-Leveling = 223.00 x 24 x 1.25 ÷ 12 x 27 = 20.6 Cu. Yds.
 B-35-Base = 223.00 x 24.5 x 2.75 ÷ 12 x 27 = 46.4 Cu. Yds.
 B-119 = 223.00 x 25.5 x 8 ÷ 12 x 27 = 140.4 Cu. Yds.
 I-22 = 223.00 x 26.5 x 4 ÷ 12 x 27 = 73.0 Cu. Yds.
 T-30 = 223.00 x 24.5 x 0.35 ÷ 9 = 212.5 Gallons
 I-18 = 223.00 x 8 x 6 ÷ 12 x 27 = 33.0 Cu. Yds.

TYPICAL SECTION "D" CODE 6706
 T-35 = 6922.56 x 24 x 1.5 ÷ 12 x 27 = 769.2 Cu. Yds. Total to above table
 I-18 = 6922.56 x 8 x 6 ÷ 12 x 27 = 1025.6 Cu. Yds.

CODE 6201
 T-35 = 2244.00 x 24 x 1.5 ÷ 12 x 27 = 249.3 Cu. Yds. Total to above table
 I-18 = 2244.00 x 8 x 6 ÷ 12 x 27 = 332.4 Cu. Yds.

TYPICAL SECTION "E" CODE 6706
 T-35 = 7194.70 x 24 x 1.5 ÷ 12 x 27 = 799.4 Cu. Yds. Total to above table
 I-18 = 7194.70 x 8 x 6 ÷ 12 x 27 = 1065.9 Cu. Yds.

CODE 6201
 T-35 = 219.74 x 24 x 1.5 ÷ 12 x 27 = 24.4 Cu. Yds. Total to above table
 I-18 = 219.74 x 8 x 6 ÷ 12 x 27 = 32.6 Cu. Yds.

TYPICAL SECTION "F" CODE 6706
 T-35 = 17015.63 x 24 x 1.5 ÷ 12 x 27 = 1890.6 Cu. Yds. Total to above table
 I-18 = 17015.63 x 8 x 6 ÷ 12 x 27 = 2520.8 Cu. Yds.

TYPICAL SECTION "J" CODE 6706
 I-18 = 355.00 x 4 x 6 ÷ 12 x 27 = 26.3 Cu. Yds. Total to above table

APPROACH SLABS for Br. No. SEN-18-0546 CODE 6706
 I-7 = 25.00 x 24 ÷ 9 = 67 Sq. Yds. Total to General Summary
 I-18 = 25.00 x 8 x 6 ÷ 12 x 27 = 3.7 Cu. Yds. Total to above table

CODE 6201
 I-7 = 25.00 x 24 ÷ 9 = 67 Sq. Yds. Total to General Summary
 I-18 = 25.00 x 8 x 6 ÷ 12 x 27 = 3.7 Cu. Yds. Total to above table

Br. No. SEN-18-0252 CODE 6201
 I-18 (Deduction) = 60.40 x 8 x 6 ÷ 12 x 27 = 9.0 Cu. Yds. Total to above table

MISCELLANEOUS CALCULATIONS

E-101 COMPACTED SUBGRADE CODE 6201
 Length of Typical Section A+B = 2050.00 + 223.00 = 2273.00 Lin. Ft.
 2273.00 x 24 ÷ 9 = 6819 sq. yds. - Total to General Summary

E-4 BORROW CODE 6706
 E-101 Excavation = 52755 Cu. Yds.
 Embankment +20% = 27,710 Cu. Yds.
 Gross Surplus Excav. = 25,045 Cu. Yds.
 50% E-2 Structure Excavation = 546 Cu. Yds.
 50% E-3 Channel Excavation = 425 Cu. Yds.
 Net Surplus Excav. = 26,016 Cu. Yds.

CODE 6201
 Embankment +20% = 34,562 Cu. Yds.
 E-101 Excavation = 3578 Cu. Yds.
 Gross Borrow Req'd = 30,984 Cu. Yds.
 50% E-2 Structure Excavation = 547
 50% E-3 Channel Excavation = 2646
 3193 Cu. Yds.
 Embankment = 27,791 Cu. Yds.
 Surplus from Code 6706 = 26,016 Cu. Yds.
 Net Borrow Req'd = 1775 Cu. Yds. - Total to Gen. Summary

E-11 Water @ 5 gal. per Cu. Yd. CODE 6706
 Embankment +20% = 27,710 Cu. Yds.
 I-22 Sub-base = 4541 Cu. Yds.
 I-18 Stabilized Berm = 4292 Cu. Yds.
 B-119 Base Course = 9711 Cu. Yds.
 Total = 46,254 Cu. Yds.
 46254 x 5 ÷ 1000 = 231 M. gallons - Total to Gen. Summary

CODE 6201
 Embankment +20% = 34,562 Cu. Yds.
 I-22 Sub-base = 920 Cu. Yds.
 I-18 Stabilized Berm = 633 Cu. Yds.
 B-119 Base Course = 2030 Cu. Yds.
 E-101 Compacted Sub-grade
 6819 x 12 ÷ 36 = 2273 Cu. Yds.
 Total = 40,418 Cu. Yds.
 40418 x 5 ÷ 1000 = 202 M. gallons - Total to General Summary

Item Special - Mixing Calcium Chloride and Crushed Aggregate
 Code 6706: 4292 x 36 ÷ 6 = 25,752 Sq. Yd. To Gen. Summary
 Code 6201: 633 x 36 ÷ 6 = 3,798 Sq. Yd. To Gen. Summary

Item M-10 - Calcium Chloride for Stabilized Shoulders
 Code 6706: 25,752 (1.5 + 0.6) ÷ 2000 = 27 Tons. To Gen. Summary
 Code 6201: 3,798 (1.5 + 0.6) ÷ 2000 = 4 Tons. To Gen. Summary

TABLE 'A' DRIVES & APPROACHES

Table 'A' (left page) detailing drives and approaches. Columns include SHEET No., REF. No., STATION, SIDE, SIZE (WIDTH-FRONT, WIDTH-BACK, LENGTH), B-119, T-30, T-35, I-18 DEDUCT, E-8 REMOVAL, REMARKS. Includes summary rows for CODE 6706 and CODE 6201.

Table 'A' (right page) continuing the drive and approach details from the previous page, including summary rows for CODE 6706 and CODE 6201.

FED. RD. DIVISION: 2, STATE: OHIO, PROJECT: F-657(3), SHEET: 21/163

SEN-18- (179-860)

Table 'B' (right page) detailing drives and approaches. Columns include SHEET No., REF. No., STATION, SIDE, SIZE, B-119, T-30, T-35, T-70, I-18 DEDUCT, E-8 REMOVAL, REMARKS. Includes summary rows for CODE 6706 and CODE 6201, and a SHEET TOTAL row.

T-35 - SURFACE COURSE CODE 6706
4195.90 x 2 ÷ 36 = 233.1 Cu.Yds.
Variable Thickness T-35 = 347 Cu.Yds.
Total = 267.8 Cu.Yds. - To Pavement Summary
CODE 6201 = 79.1 Cu.Yds. - To Pavement Summary
B-119 - BASE COURSE CODE 6706 = 582.8 Cu.Yds. - To Pavement Summary
CODE 6201 = 197.7 Cu.Yds. - To Pavement Summary
T-30 - PRIME COAT CODE 6706 = 1507.2 Gals. - To Pavement Summary
CODE 6201 = 498.1 Gals. - To Pavement Summary

For Details of Drives & Approaches, See Sheet Nos. 136 & 137

DRIVES & APPROACHES - SCHEDULE

TABLE "E" EARTHWORK SUMMARY

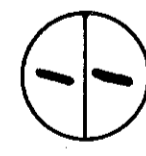
SHEET No.	E-101 EXCAVATION Cu. Yds.		EMBANKMENT Cu. Yds.		EMBANKMENT +20% Cu. Yds.		E-2 EXCAV. FOR STRUCT. Cu. Yds.		E-3 CHANNEL EXCAVATION Cu. Yds.		L-9 SEEDING SQ. Yds.		L-10 SODDING SQ. Yds.			
	6706	6201	6706	6201	6706	6201	6706	6201	6706	6201	6706	6201	6706	6201		
53	1000		157								2648					
54	1472		225								4418					
55	643		204								1824					
56	284	477	364	253							1611	2290				
57		233		1041								4177				
58	243	322	554	503							1698	2970				
59	1291		667								5204					
60	2605		628								6039					
61	2233		737								6136					
62	1471		543								4455					
63	522		420								1865					
64	2581		743								6644					
65	257	471	109	3930							722	3534				
66	206	12	201	35							815	106				
67	2402		534								5053					
68	4123		703								7989					
69	3022		911								7322					
70	937		214								2962					
71	943		446								3039					
72	1688		655								4824					
73	1706		538								4652					
74	1893		326								3480					
75	37	71	37	185							64	459				
75	517		453								2570					
76	1071		988								5142					
77	372		455								2241					
78	556		416								2271					
79	1191		638								4511					
80	1097		348								4531					
81	719		1139								4300					
82	156	421	247	1431							961	2439				
82	147		263								638					
83	1162		787								4606					
84	156		108								527					
85	1031		620								4518					
86	574	95	317	73							1632	99				
88		438		4700								3467				
90		649		13,140								5908				
91									3800							
92	16	41	120	702							209	778				
93	45		223								480					
94	1539		489								4618					
95	547		51								899					
96	20		0								0					
97	39		10								81					
98	3		0								0					
100	2		0								0					
102	102		22								206					
103	668		151								1421					
104	414		339								1299					
105	1197		800								4121					
106	484	125	320	529							1887	887				
107	583	150	1031	573							2693	775				
108	146		11								129					
109	120		45								577					
110	732		918								3055					
111	1592		503								2780					
112	16		81								226					
113	1499		271								3177					
114	1767		252								4058					
115	154	73	30	95							406	530				
												395				
Total	51,993	3,578	22,362	27,190						3800	154,233	28,814				
Table D	762		730	1,612			1,091	1,093	849	1,492	1,202	2,139	4,104	2,891		
Total	52,755	3,578	23,092	28,802	27,710	34,562	1,091	1,093	849	5,292	155,435	30,953	4,104	2,891		
	*	*		**	**	**	*	*	*	*	*	*	*	*		
							* To General Summary									
							** To Earthwork Computation - Sheet No. 20									

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-657(3)	

22
163

SEN-18-(1.79-8.60)

L-9 Commercial Fertilizer - CODE 6706
 Seeding = 155,435
 Sodding = 4,104
 Total 159,539
 (159,539)(9)(20) ÷ 1000 = 28,717 lbs. = 14.36 Tons - To General Summary
 CODE 6201
 Seeding = 30,953
 Sodding = 2,891
 Total 33,844
 (33,844)(9)(20) ÷ 1000 = 6092 lbs. = 3.05 Tons - To General Summary



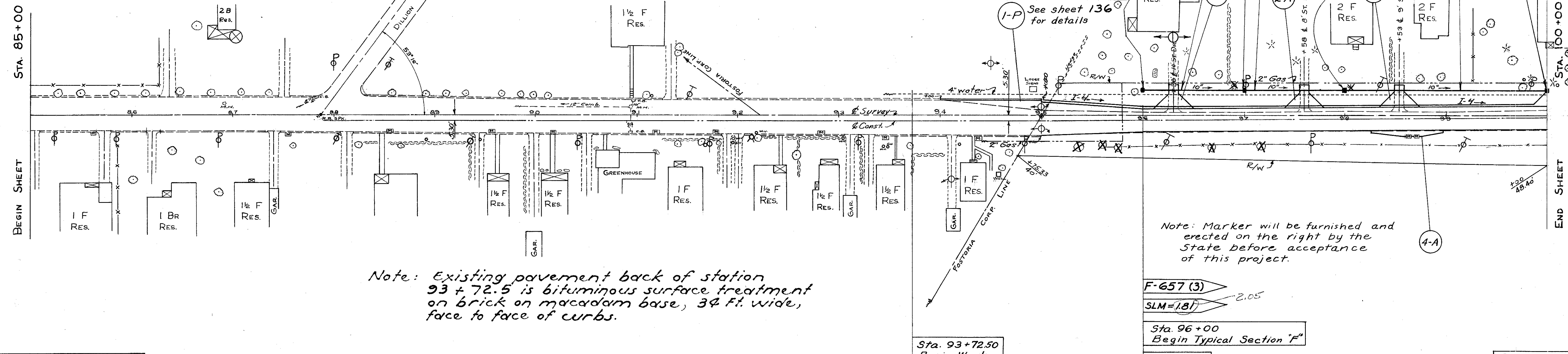
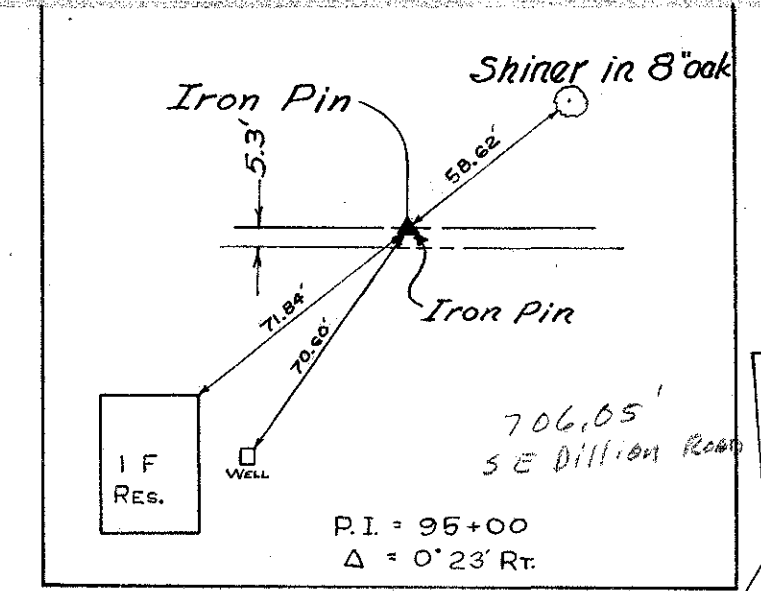
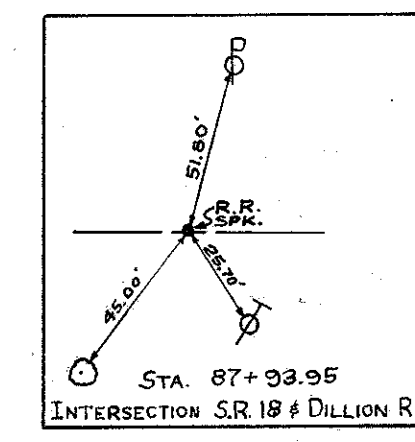
GENERAL SUMMARY

Item	Quantity		Description	Unit
	Code	Grand Total		
6201			Roadway	
E-101	3578	52,755	Roadway Excavation, as per Plan	Cu. Yd.
E-101	6819	6819	Compacted Subgrade	Sq. Yd.
E-4	1775	1775	Borrow	Cu. Yd.
E-8	1986	4151	Removal and disposal of existing pavement	Sq. Yd.
E-8		2199	Rem. & Disp. of Existing Sidewalk	Sq. Ft.
E-8		230	Rem. & Disp. of Existing Curb (Type I) as per Plan	Lin. Ft.
E-8		227	Rem. & Disp. of Existing Curb (Type II) as per Plan	Lin. Ft.
E-8		637	Rem. & Disp. of Existing Curb (Type III) as per Plan	Lin. Ft.
E-9	5	79	Removal of Trees and Stumps	Each
E-11	202	231	Water	M-Gal.
E-12	41	89	Pipe Removed ~ (15" & Under)	Lin. Ft.
E-12	144	90	Pipe Removed for Re-use or Storage ~ (Over 15")	Lin. Ft.
E-12	18	7101	Pipe Removed for Re-use or Storage ~ (15" & Under)	Lin. Ft.
E-12	18	7101	Pipe Removed for Re-use or Storage ~ (Over 15")	Lin. Ft.
I-13		140	4 Concrete Sidewalk	Sq. Ft.
I-15	230221	1440.89	Guard Rail - Steel Beam Style (Type Deep)	Lin. Ft.
I-15	6250	6250	Guard Rail - Steel Beam Style (Type Shallow)	Lin. Ft.
L-9	30,953	155,435	Seeding and Protecting - As per Plan	Sq. Yd.
L-9	3,05	14.36	Commercial Fertilizer (12-12-12)	Tons
L-10	2891	4104	Sodding	Sq. Yd.
M-10	60	440	Traffic Compacted Surface Course for Maintaining Traffic	Cu. Yd.
M-10	5	36	Calcium Chloride and Crushed Aggregate	Tons
Special	3798	25752	Mixing Calcium Chloride and Crushed Aggregate	Sq. Yd.
E-2	1093	1091	Excavation for Structures	Cu. Yd.
E-2	Lump	Lump	Cofferdams, Cribs and Sheet Piling	Lump
E-3	5,292	849	Channel Excavation	Cu. Yd.
I-1	215	525	12" Pipe for Driveways, Plain Corrugated Metal Pipe, Sec. M-6.4(a)	Lin. Ft.
I-1		272	15" Pipe for Driveways, Plain Corrugated Metal Pipe, Sec. M-6.4(a)	Lin. Ft.
I-1		136	18" Pipe for Driveways, Plain Corrugated Metal Pipe, Sec. M-6.4(a)	Lin. Ft.
I-1	64	164	24" Pipe for Driveways, Plain Corrugated Metal Pipe, Sec. M-6.4(a)	Lin. Ft.
I-2		60	6" Class "A" Storm Sewers	Lin. Ft.
I-2	12	12	8" Class "A" Storm Sewers	Lin. Ft.
I-2	1,178	1,178	10" Class "A" Storm Sewers	Lin. Ft.
I-2	90	1,882	12" Class "A" Storm Sewers	Lin. Ft.
I-2	588	153	15" Class "A" Storm Sewers	Lin. Ft.
I-2		608	18" Class "A" Storm Sewers	Lin. Ft.
I-2	662	1,345	21" Class "A" Storm Sewers	Lin. Ft.
I-2		67	24" Class "A" Storm Sewers	Lin. Ft.
I-2	225	221	24" Class "A" Storm Sewers, Standard	Lin. Ft.
I-2		20	24" Class "A" Storm Sewers, Standard	Lin. Ft.
I-2		165	24" Class "A" Storm Sewers, Standard	Lin. Ft.
I-2		111	24" Class "A" Storm Sewers, Standard	Lin. Ft.
I-2	58	16	8" Class "A" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2		58	10" Class "A" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2		205	12" Class "A" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2	395	1,228	15" Class "A" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2	94	306	18" Class "A" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2		100	21" Class "A" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2		58	24" Class "A" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2		60	6" Class "A" Storm Sewers with Shallow Cover, Helical Corrugated Metal Pipe, Sec. M-6.4(h)	Lin. Ft.
I-2	100	100	8" Class "A" Storm Sewers with Shallow Cover, Helical Corrugated Metal Pipe, Sec. M-6.4(h)	Lin. Ft.
I-2		262	10" Class "A" Storm Sewers with Shallow Cover, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2		897	12" Class "A" Storm Sewers with Shallow Cover, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2	212	212	15" Class "A" Storm Sewers with Shallow Cover, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2		331	18" Class "A" Storm Sewers with Shallow Cover, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2	400	90	21" Class "A" Storm Sewers with Shallow Cover, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2		58	24" Class "A" Storm Sewers with Shallow Cover, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2		699	12" Class "B" Storm Sewers	Lin. Ft.
I-2		2,235	12" Class "B" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2		1,351	15" Class "B" Storm Sewers Under Pavement or Approaches	Lin. Ft.
I-2		6	6" Outlets for Storm Sewers, Helical Corrugated Metal Pipe without Perforations, Sec. M-6.4(h)	Lin. Ft.
I-2	10	8	8" Outlets for Storm Sewers, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2	194	42	12" Outlets for Storm Sewers, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2	108	20	15" Outlets for Storm Sewers, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2	40	40	18" Outlets for Storm Sewers, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2	44	32	21" Outlets for Storm Sewers, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-2		10	24" Outlets for Storm Sewers, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-3	140	140	12" Roadway Drainage with Shallow Cover, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-3		6	6" Outlets for Roadway Drainage, Helical Corrugated Metal Pipe without Perforations, Sec. M-6.4(h)	Lin. Ft.
I-3	30	44	12" Outlets for Roadway Drainage, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-3		98	15" Outlets for Roadway Drainage, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-3		22	18" Outlets for Roadway Drainage, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-3	54	54	24" Outlets for Roadway Drainage, Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(c)	Lin. Ft.
I-4		5,948	6" Underdrains	Lin. Ft.
I-4	200	800	6" Underdrains, As per Plan	Lin. Ft.
I-4	20	152	6" Pipe Outlets for Underdrains	Lin. Ft.
I-5		1	6" Pipe Specials for Class "A" Storm Sewers	Each
I-5		18	8" Pipe Specials for Class "A" Storm Sewers	Each
I-5		1	10" Pipe Specials for Class "A" Storm Sewers Under Pavement or Approaches	Each
I-5		3	12" Pipe Specials for Class "A" Storm Sewers Under Pavement or Approaches	Each
I-5		1	15" Pipe Specials for Class "A" Storm Sewers with Shallow Cover	Each
I-5		1	18" Pipe Specials for Class "A" Storm Sewers Under Pavement or Approaches	Each
I-5		1	21" Pipe Specials for Class "A" Storm Sewers Under Pavement or Approaches	Each
I-5		2	24" Pipe Specials for Class "A" Storm Sewers Under Pavement or Approaches	Each
I-5	2	2	12" Pipe Specials for Class "B" Storm Sewers Under Pavement or Approaches	Each
I-5	2	1	15" Pipe Specials for Class "B" Storm Sewers Under Pavement or Approaches	Each
I-5	2	4	18" Pipe Specials for Class "B" Storm Sewers Under Pavement or Approaches	Each
I-8	5	5	Standard No. 1-2-A Catch Basins	Each
I-8	1	2	Standard No. 1-3 Catch Basins	Each
I-8		2	Standard No. 1-4 Catch Basins	Each
I-8	5	15	Standard No. 2-2-A Catch Basins	Each
I-8	3	37	Standard No. 2-2-B Catch Basins	Each
I-8	2	13	Standard No. 3 Catch Basins	Each
I-8		13	Standard No. 3-A Catch Basins	Each
I-8	2	18	Standard No. 6 Catch Basins, Modified as per Plan	Each
I-8	2	13	Standard No. 1 Manholes	Each
I-8	1	1	Standard No. 2 Manholes	Each
I-8		1	Catch Basins adjusted to grade, including furnishing and placing New Standard No. 1 Light Manhole Frame and Covers as per Plan	Each
I-8	2	2	Manholes adjusted to grade, including furnishing and placing New Standard No. 1 Heavy Manhole Frame and Covers as per Plan	Each
I-9	1105	12,206	Stone Underdrains, No. 2	Lin. Ft.
I-10	67	74	Dumped Rock Channel Protection	Cu. Yd.
I-16	1	30	Catch Basins abandoned	Each
I-16		1	Inlets abandoned	Each
I-16		18	Inlets abandoned, as per Plan	Each
S-1	18.2	42.6	Concrete for Structures, Class "E"	Cu. Yd.
S-24	Lump	Lump	Removal of Existing Structures	Lump
S-27		282	12" Pipe for Roadway Culverts, Paved Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(d)	Lin. Ft.
S-27		580	15" Pipe for Roadway Culverts	Lin. Ft.
S-27		80	21" Pipe for Roadway Culverts, Standard Strength Reinforced Concrete Culvert Pipe, Sec. M-6.6(b) or Sec. M-6.8(b)	Lin. Ft.
S-27		120	30" Pipe for Roadway Culverts, Standard Strength Reinforced Concrete Culvert Pipe, Sec. M-6.6(b) or Sec. M-6.8(b)	Lin. Ft.
S-27	180	180	84" Pipe for Roadway Culverts, Standard Strength Reinforced Concrete Culvert Pipe, Sec. M-20.6.6(b), for Roadway Culverts	Lin. Ft.
S-27		180	91" Span x 58" Rise, Reinforced Elliptical Concrete Culvert Pipe, Sec. M-20.6.6(b), for Roadway Culverts	Lin. Ft.
S-27	96	96	106" Span x 68" Rise, Reinforced Elliptical Concrete Culvert Pipe, Sec. M-20.6.6(b), for Roadway Culverts	Lin. Ft.
B-119	2030	9712	Crushed Aggregate Base Course	Cu. Yd.
B-35	727	3196	Asphaltic Concrete Base Course (70-85)	Cu. Yd.
B-35	672	4819	Asphaltic Concrete Leveling Course (70-85)	Cu. Yd.
B-70	9	2,765	9" Portland Cement Concrete Base Course	Sq. Yd.
B-70	3827	17289	Bituminous Prime Coat, Sec. M-5.3 MC-0 or MC-1, or Sec. M-5.7, RT-2 or RT-3	Gal.
T-30	614	4728	Asphaltic Concrete Surface Course, Type C (70-85)	Cu. Yd.
T-75		803	7" Portland Cement Concrete Pavement	Sq. Yd.
T-7	67	67	Reinforced Concrete Approach Slabs	Sq. Ft.
I-12	338	241	Concrete Curb, Type 6 Standard	Lin. Ft.
I-12		4475	Concrete Curb, Type 6 Modified as per Plan	Lin. Ft.
I-12	550	350	Concrete Curb, Type 6 and Gutter, Type 2	Lin. Ft.
I-18	633	4292	Stabilized Crushed Aggregate Shoulders & Approaches	Cu. Yd.
I-22	920	4541	Subbase	Cu. Yd.

FED. RD. DIVISION 2	STATE OHIO	PROJECT F-657(3)		23 163
SEN-18 - (179-860)				

CODE 6706

SEN-18-(179-8.60)



Note: Marker will be furnished and erected on the right by the State before acceptance of this project.

F-657(3)
SLM=181

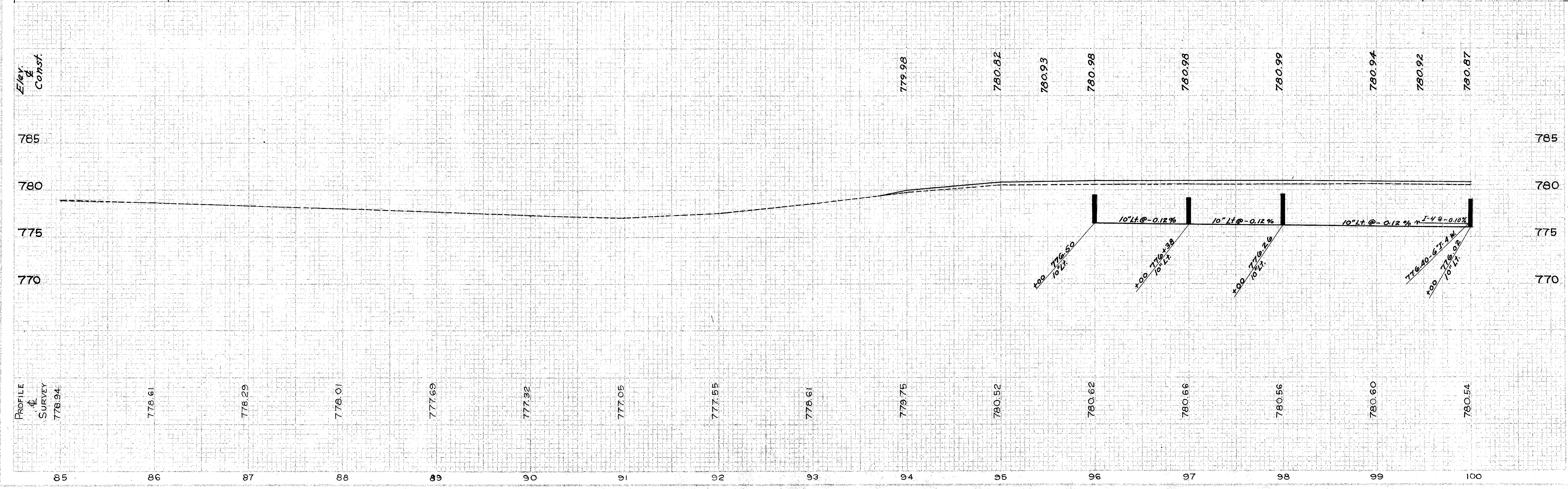
Sta. 96+00
Begin Typical Section "F"

Begin Project

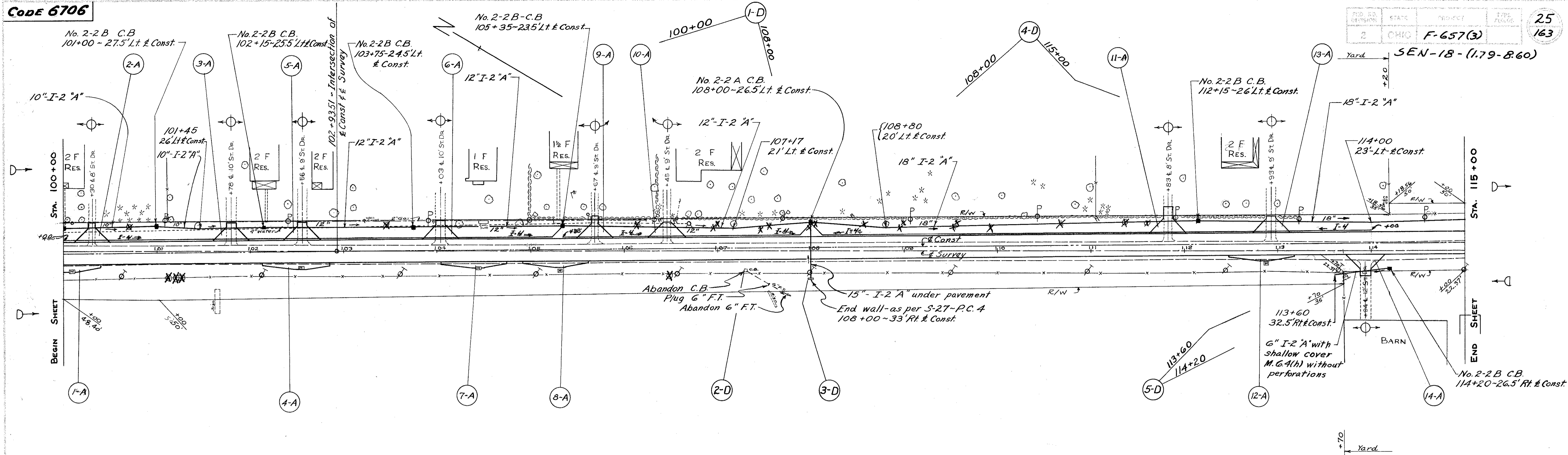
B.M., N.E. Cor 1st Step to House #813 Rt
Elev. = 778.17

Sta. 93+72.50
Begin Work

B.M., Spike in 12" Elm 22'
Lt. Sta. 95+91.
Elev. = 781.01

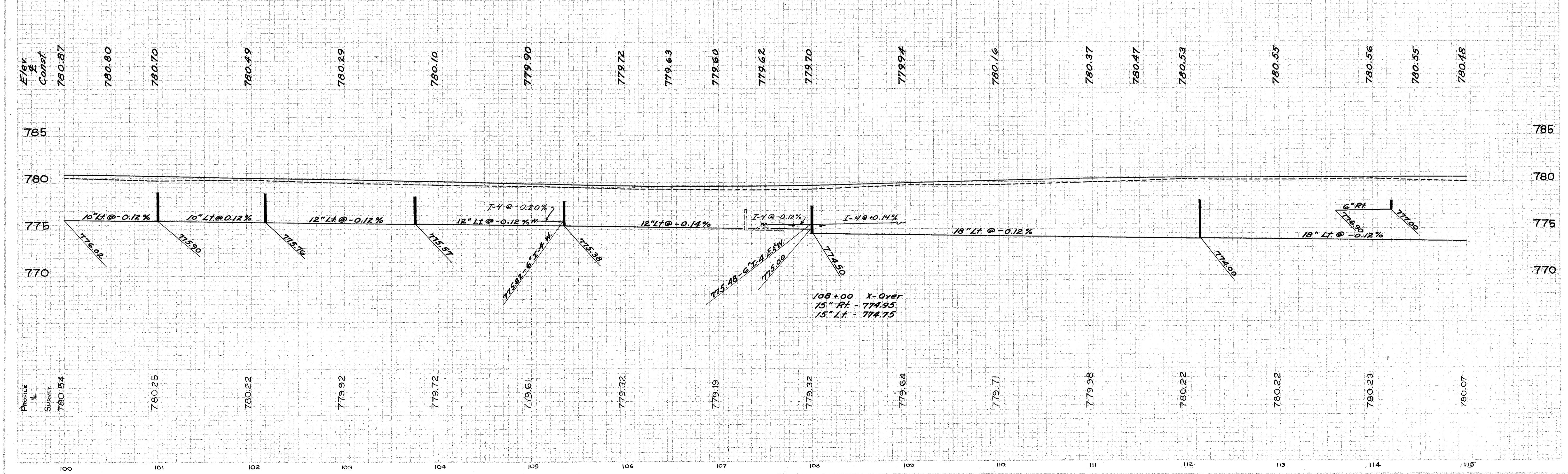


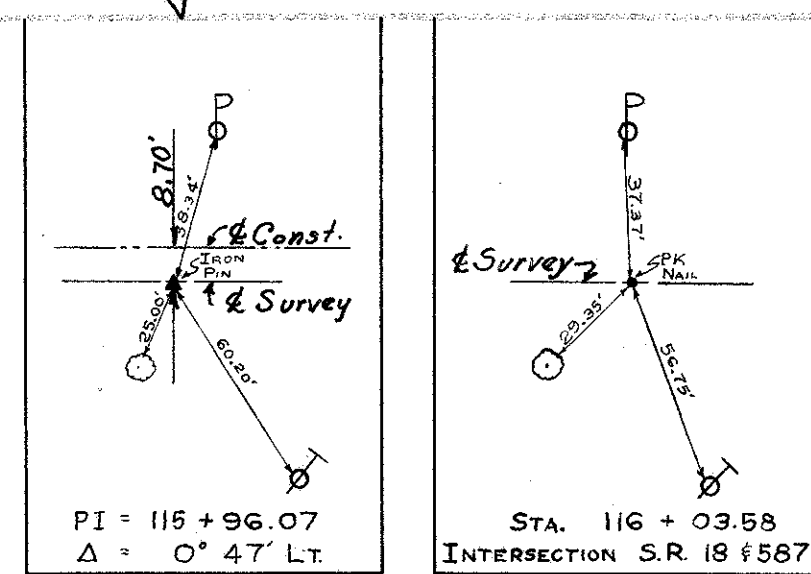
STA. 85+00 TO STA. 100+00



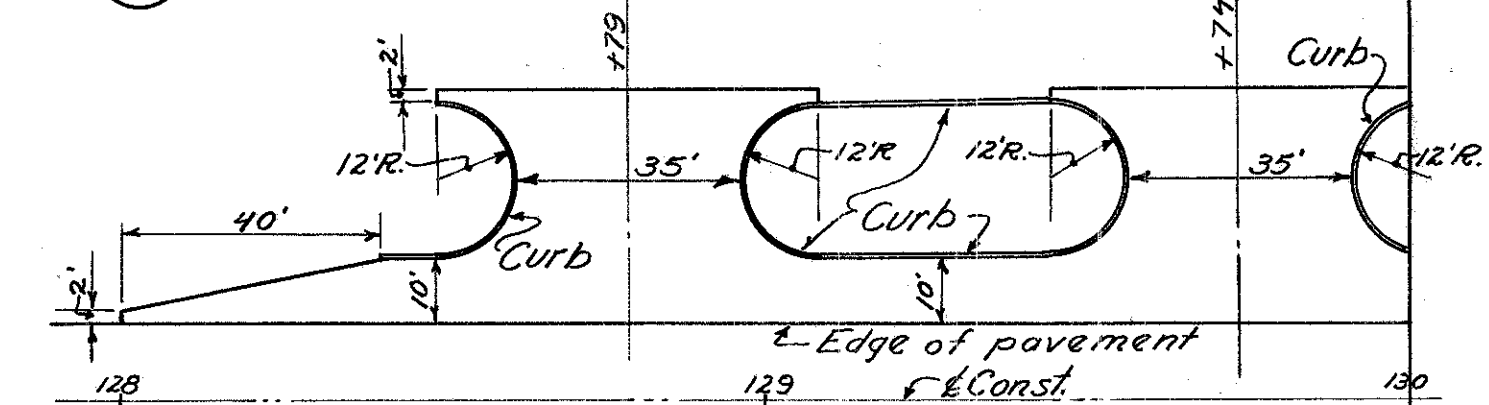
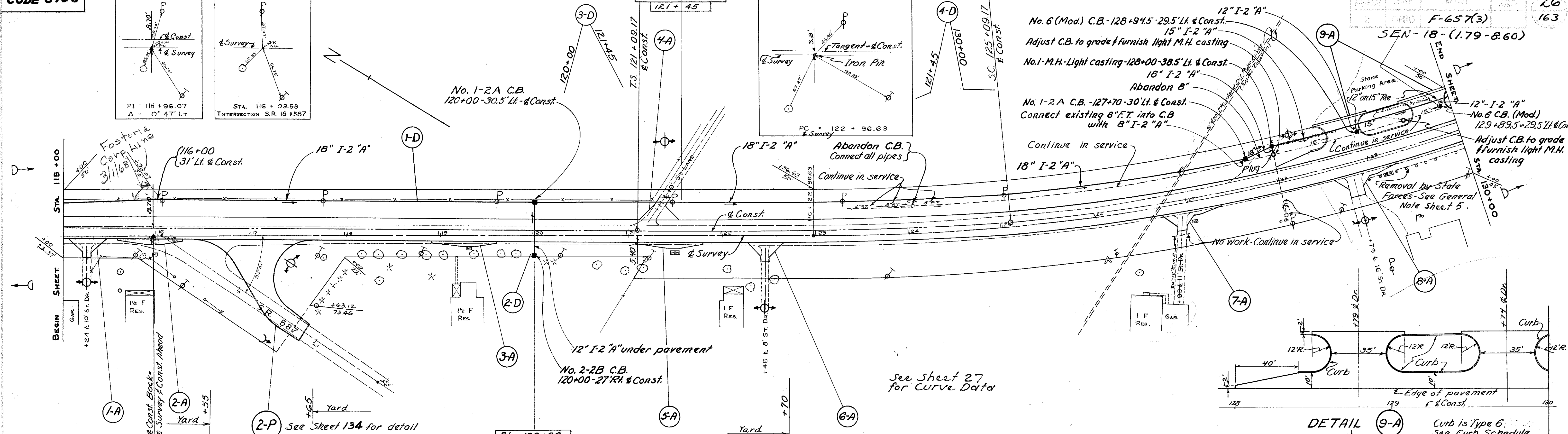
B.M., Spike in 12" Elm 22'
Lt. Sta. 102+91
Elev. = 780.28

B.M., Bent Spk in cluster of
Wild Cherry Lt. Sta. 110+31
Elev. = 779.88





6706 6201



see sheet 27 for Curve Data

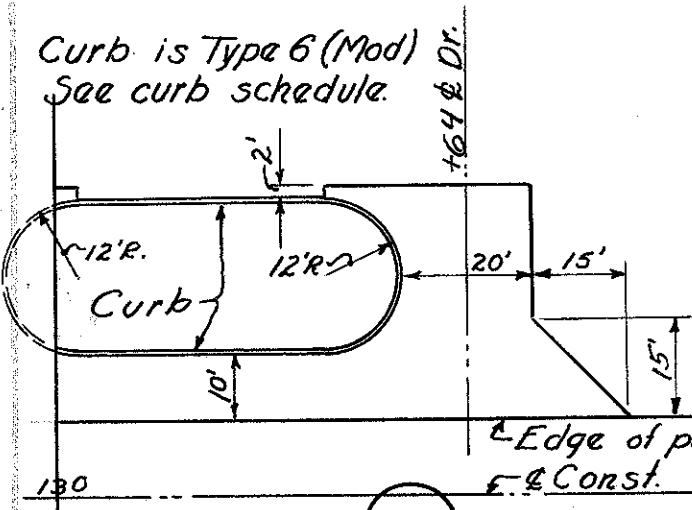
Sta. 120+00
Suspend Typical Sec. F
Begin Typical Sec. D

B.M. #5, S.E. Cor. Bottom Step to House Rt, Sta. 122+13
Elev. = 779.87

B.M. #6, S.E. Cor. Bottom Step to House Rt, Sta. 126+38
Elev. = 777.81

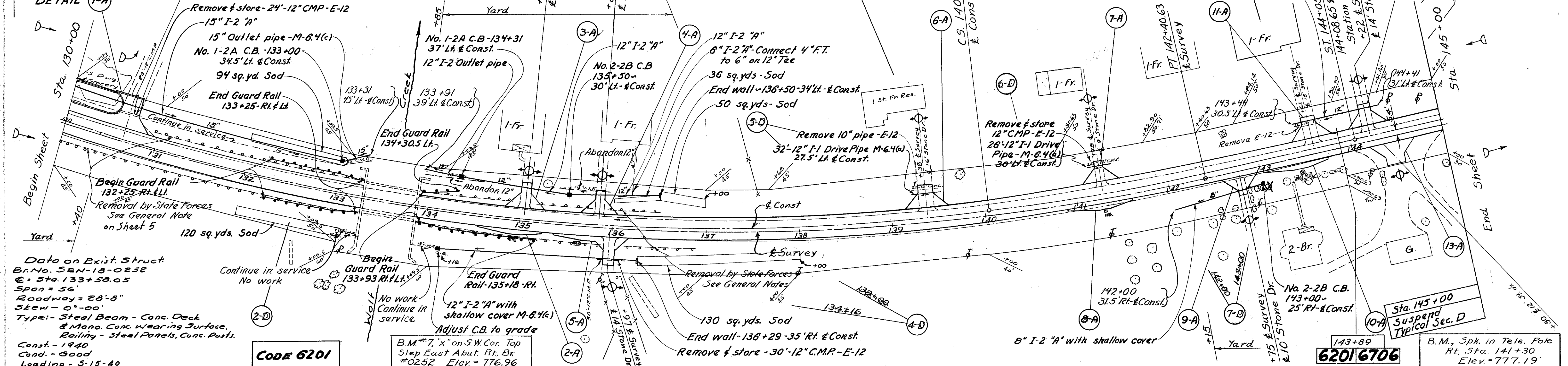
Profile & Survey	Elev. Left Edge	Elev. Const.	Elev. Right Edge
780.07	780.48	780.48	785
779.97	780.32	780.32	780
779.81	780.17	780.17	775
779.71	780.02	780.02	770
779.55	779.86	779.86	775
779.34	779.51	779.51	770
779.20	779.43	779.43	775
779.00	779.35	779.35	770
778.92	779.28	779.28	775
779.18	779.20	779.20	770
779.00	779.10	779.10	775
778.85	779.05	779.05	770
778.25	778.92	778.92	775
777.91	778.82	778.82	770
777.47	778.80	778.80	775
777.22	778.50	778.50	770
777.00	778.15	778.15	775
776.88	777.83	777.83	770
	777.78	777.78	775
	777.45	777.45	770

74
17.5
91.5
12
103.5



Const. Curve Data
 PI = 133 + 21.24
 Δ = 49°00'
 D = 2°-35'
 Ls = 400.00'
 Lc = 1496.77'
 Ts = 1212.07'
 R = 2217.90'
 T.S. = 121 + 09.17
 S.C. = 125 + 09.17
 C.S. = 140 + 05.94
 S.T. = 144 + 05.94

Survey Curve Data
 PI = 133 + 31.43
 Δ = 48°36'
 D = 2°-30'
 L = 1944.00'
 T = 1034.80'
 P.C. = 122 + 96.63
 P.T. = 142 + 40.63



Data on Exist. Struct.
 Br. No. SEN-18-0252
 C. Sta. 133 + 58.05
 Span = 56'
 Roadway = 28'-8"
 Stew = 0'-00"
 Type: - Steel Beam - Conc. Deck
 & Mono. Conc. Wearing Surface,
 Railing - Steel Panels, Conc. Posts.
 Const. - 1940
 Cond. - Good
 Loading - S-15-40

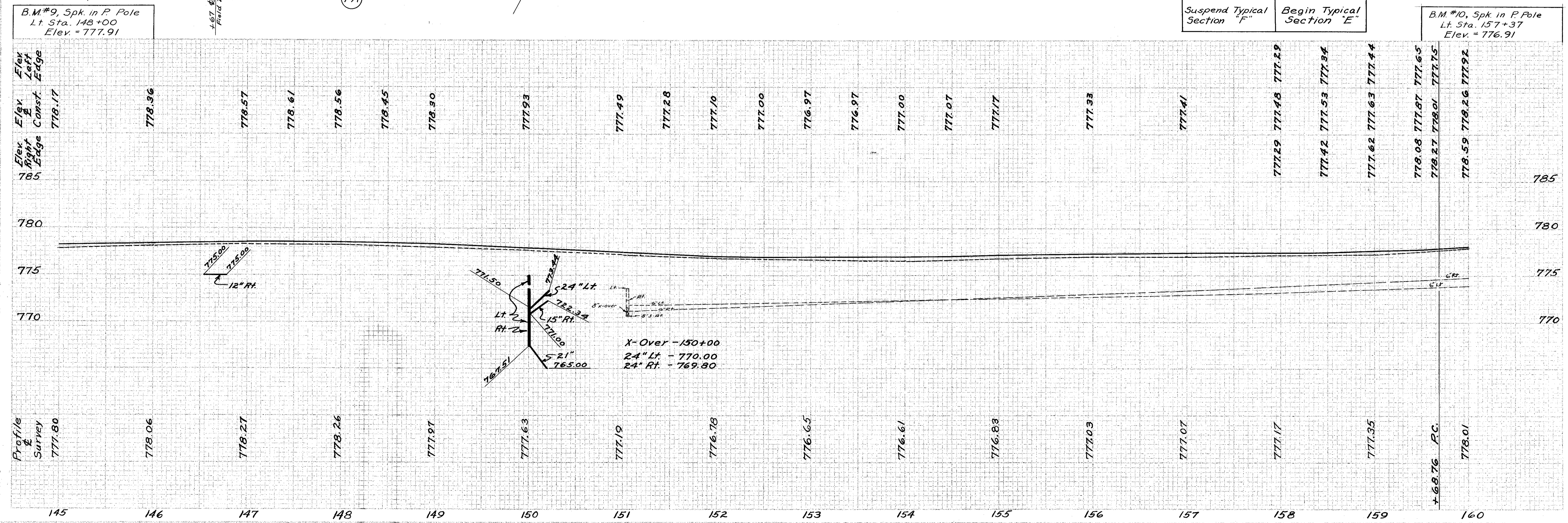
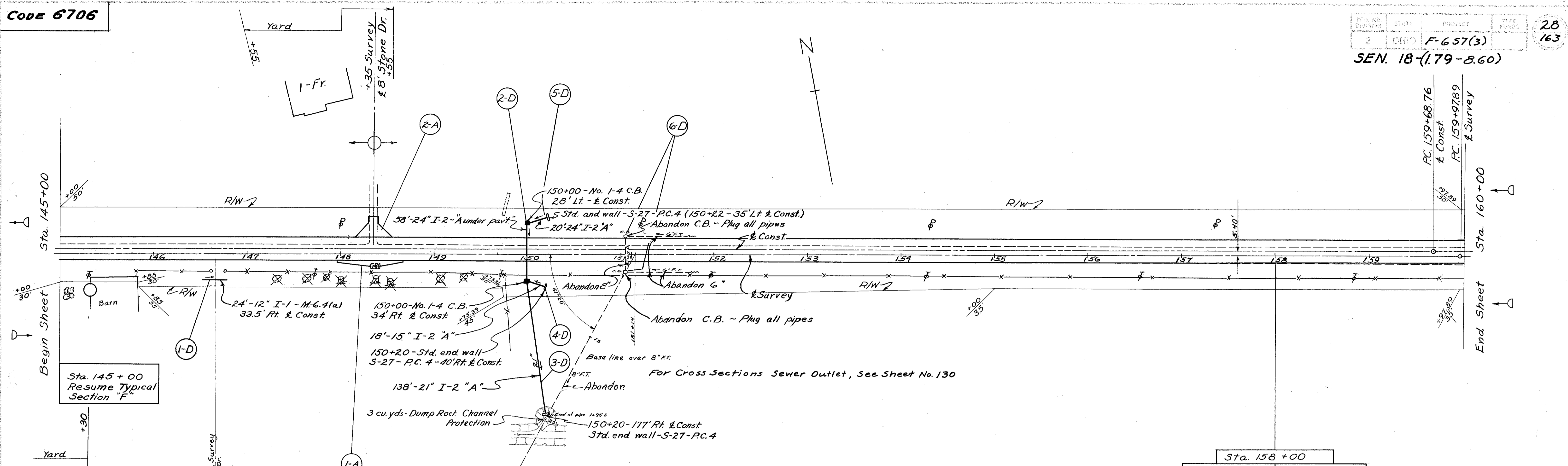
CODE 6201

B.M. #7, 'x' on SW Cor. Top
 Step East Abut. Rt. Br.
 #0252 Elev. = 776.96

62016706

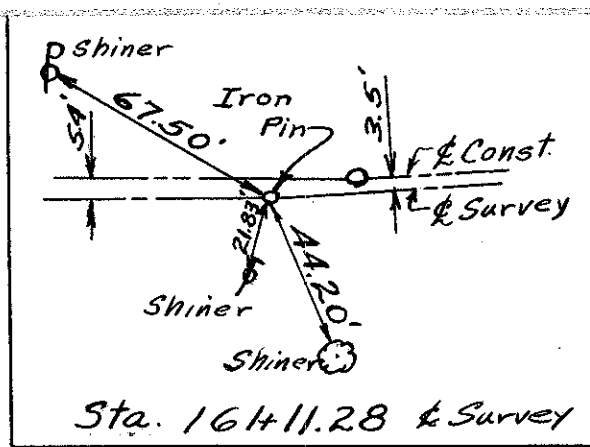
B.M., Spk. in Tele. Pole
 Rt. Sta. 141 + 30
 Elev. = 777.19

Profile & Survey	776.88	776.49	775.97	775.74	775.33	775.23	775.04	775.00	774.87	774.80	774.80	774.84	774.93	775.08	775.36	775.55	775.80	775.82	776.07	776.95	776.62	776.89	777.12	777.33	777.53	777.72	777.91	777.93	777.93	777.94	777.98	777.98
Elev. Right Edge	777.91	777.18	776.43	776.06	775.96	775.96	775.77	775.73	775.60	775.53	775.53	775.57	775.66	775.81	776.09	776.28	776.53	776.55	776.73	776.93	777.12	777.31	777.46	777.60	777.72	777.91	777.93	777.93	777.94	777.98	777.98	
Elev. Const.	777.54	776.81	776.43	776.06	775.96	775.96	775.77	775.73	775.60	775.53	775.53	775.57	775.66	775.81	776.09	776.28	776.53	776.55	776.73	776.93	777.12	777.31	777.46	777.60	777.72	777.91	777.93	777.93	777.94	777.98	777.98	
Elev. Left Edge	777.91	777.18	776.43	776.06	775.96	775.96	775.77	775.73	775.60	775.53	775.53	775.57	775.66	775.81	776.09	776.28	776.53	776.55	776.73	776.93	777.12	777.31	777.46	777.60	777.72	777.91	777.93	777.93	777.94	777.98	777.98	



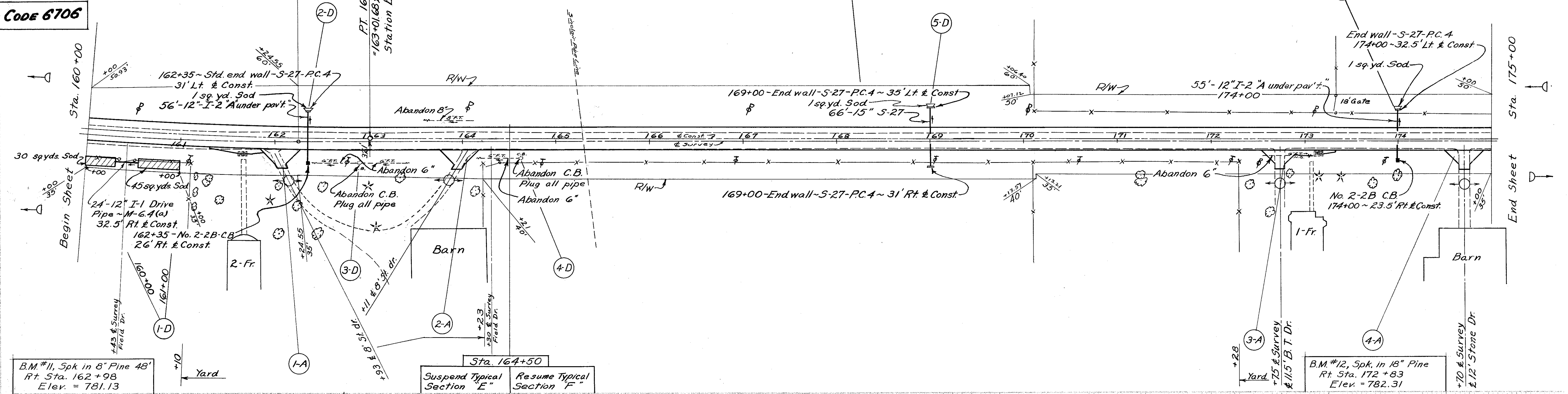
Sta. 145+00 to Sta. 160+00

Survey Curve Data
 P.I. = 161+11.28
 $\Delta = 4^\circ 32' Lt$
 $D = 2^\circ 00'$
 $T = 113.39'$
 $L = 226.66'$
 $R = 2864.79'$
 $PC = 159+97.89$
 $PT = 162+24.55$



Const. Curve Data
 P.I. = 161+35.10
 $\Delta = 4^\circ 26'$
 $D = 1^\circ 20'$
 $T = 166.34'$
 $L = 332.50'$
 $R = 4297.19'$
 $PC = 159+68.76$
 $PT = 163+01.26$

Code 6706



B.M. #11, Spk. in 8" Pine 48"
 Rt. Sta. 162+98
 Elev. = 781.13

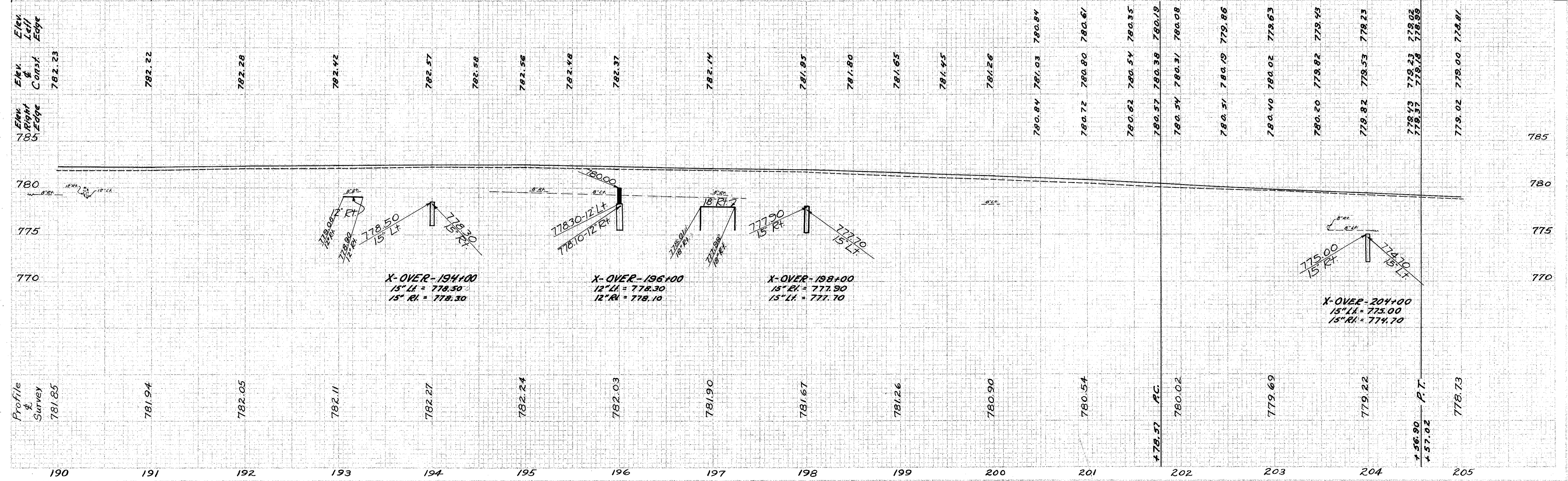
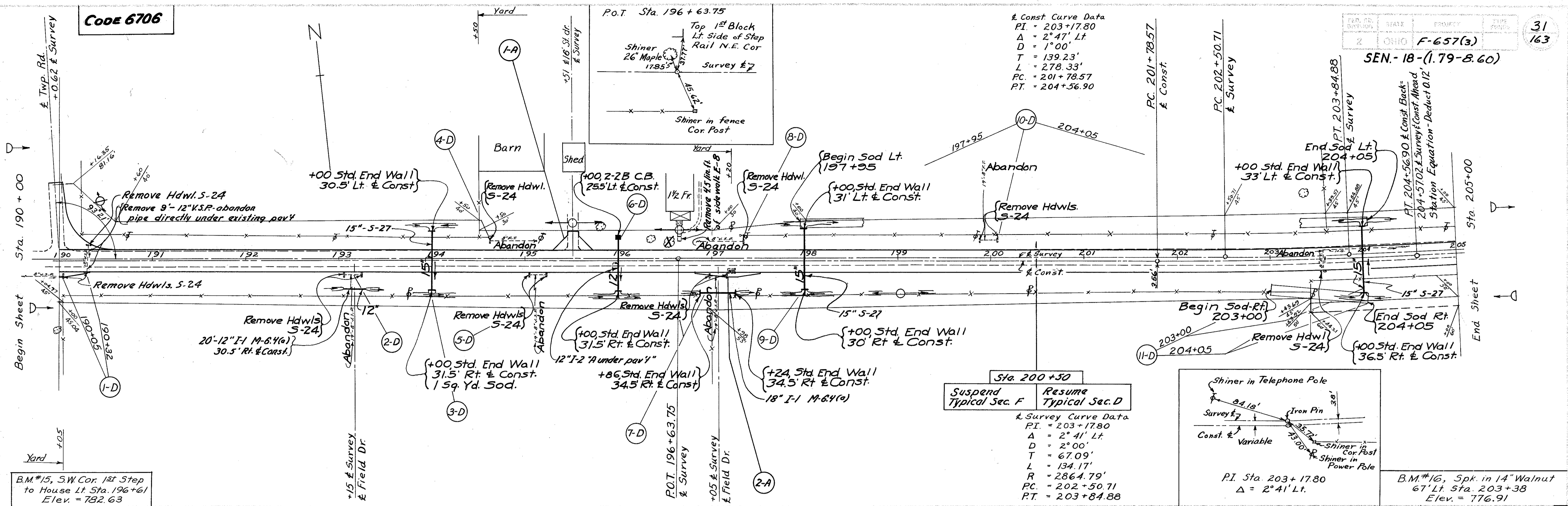
Sta. 164+50
 Suspend Typical Section E
 Resume Typical Section F

B.M. #12, Spk. in 18" Pine
 Rt. Sta. 172+83
 Elev. = 782.31

Elev. Right Edge	779.59	779.18	779.64	780.06	780.51	780.77	781.04	781.17	781.25	781.32	781.57	781.60	781.62	781.65	781.65	781.62	781.59	781.58	781.54	781.52	781.48	
Elev. Const. Edge	778.26	778.72	779.13	779.55	780.00	780.39	780.78	781.09	781.33	781.51	781.57	781.60	781.62	781.65	781.65	781.62	781.59	781.58	781.54	781.52	781.48	
Elev. Left Edge	778.26	778.72	779.13	779.55	780.00	780.39	780.78	781.09	781.33	781.51	781.57	781.60	781.62	781.65	781.65	781.62	781.59	781.58	781.54	781.52	781.48	
Profile & Survey	778.01	778.87	779.78	780.57	781.10	781.26	781.28	781.33	781.40	781.40	781.35	781.29	781.26	781.27	781.29	781.25						
Stationing	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175						

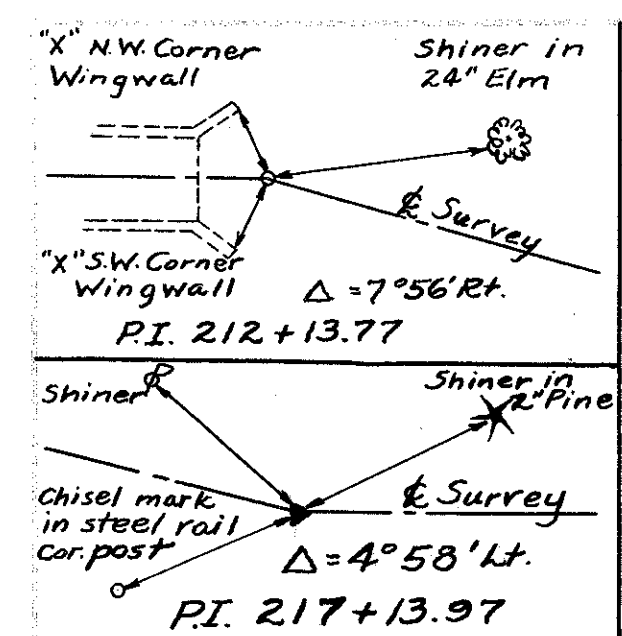
CODE 6706

SEN-18-(1.79-8.60)



Sta. 190+00 to Sta. 205+00

SEN. 18-(1.79-8.66)

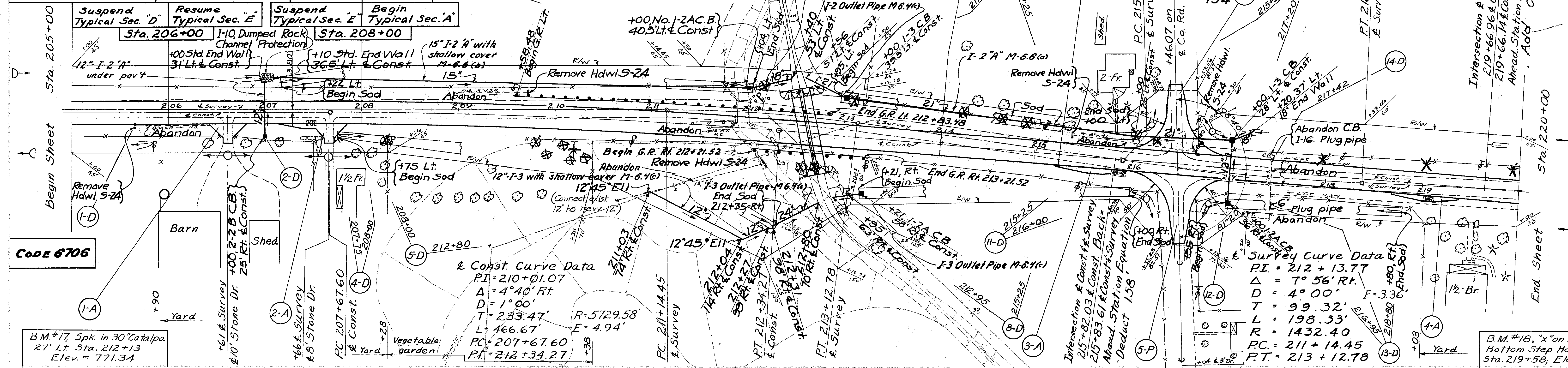


Data on Existing Structure
Br. No. Sen.-18-0401
Sta. 211+93.80 & Survey
Span = 13'-0"
Roadway = 20'
Skew = 0°-00'
Type = Concrete Slab, 3" Wearing Surface, Conc. Capped Stone Abutments, Left Wings Conc., Rt. Wings Conc. Capped Stone, Conc. Railings.
Waterway = 78 Sq. Ft.
Condition = Fair

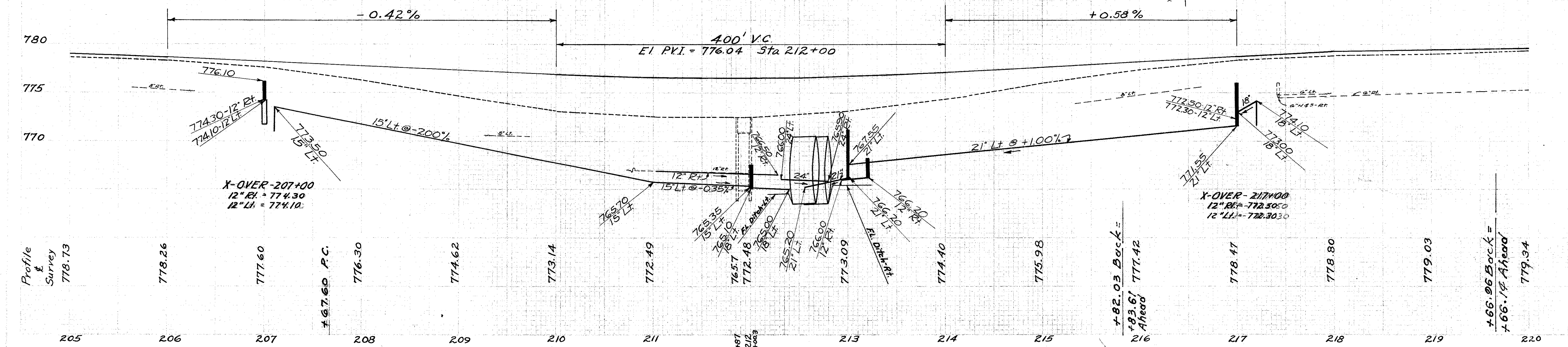
Data on New Structure
Sta. 212+65 & Const.
Br. No. Sen.-18-0401
Type: 2-8" Dia. x 90' Length Reinf. conc. culvert pipe with conc. end walls
Skew = 16°-30' R.F.
Roadway: 40'
Drainage Area: 660 Ac.
For details of Structure, See Sheet No. 139

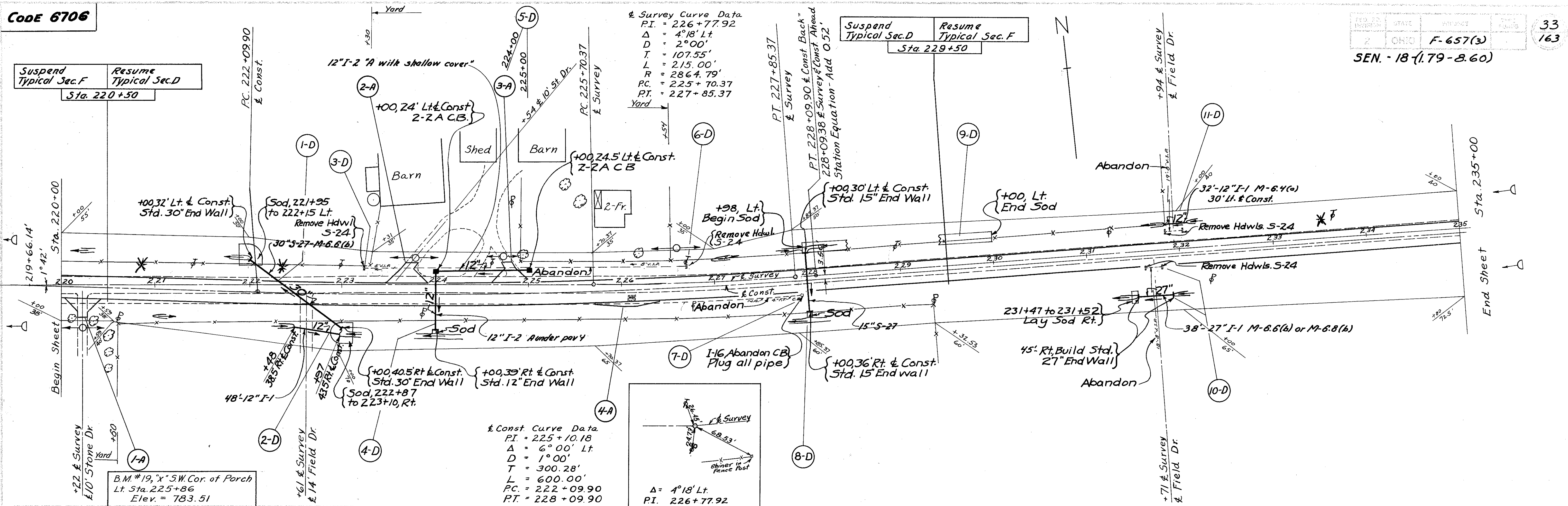
Suspend Typical Sec. A
Begin Typical Sec. B
Sta. 214+00
Suspend Typical Sec. B
Resume Typical Sec. F
Sta. 215+25

Survey Curve Data
PI = 217+13.97
Δ = 4°58' Lt.
D = 2°00'
T = 124.24'
L = 248.33'
R = 2864.79'
PC = 215+89.73
PT = 218+38.06

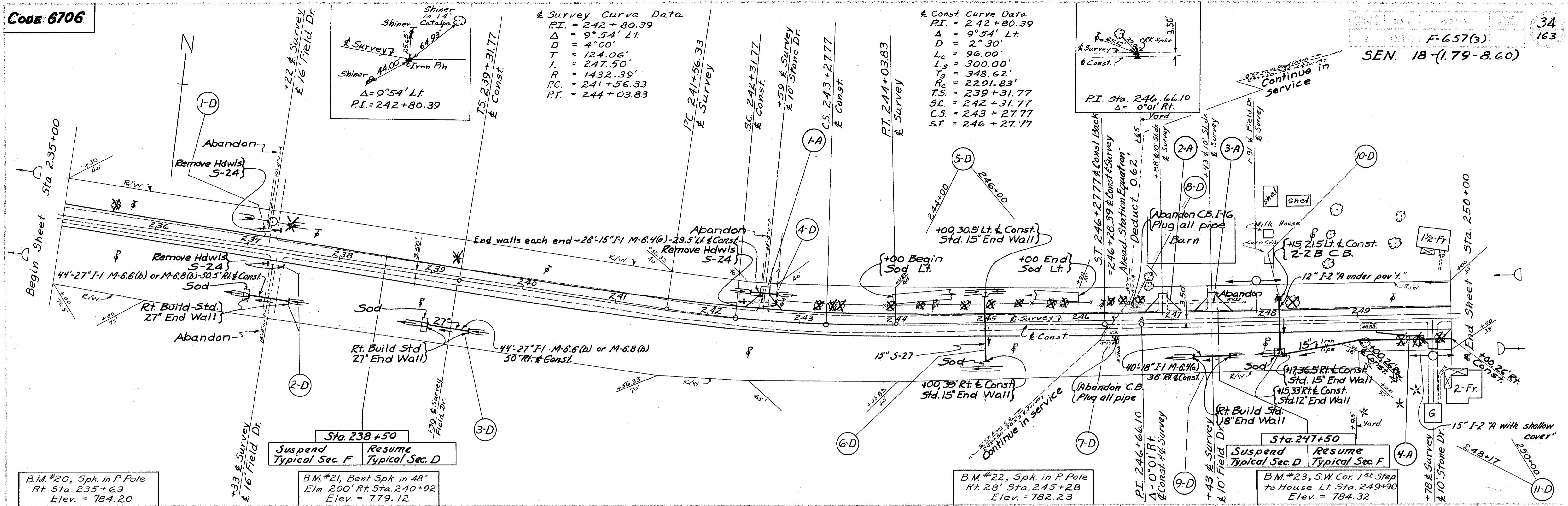


Elev. Right Edge	Elev. Const. Edge	Elev. Left Edge
779.02	779.00	778.81
778.67	778.78	778.59
778.37	778.56	778.37
778.16	778.95	778.18
777.95	778.14	778.09
777.74	777.93	778.05
777.67	777.86	778.05
777.53	777.78	778.03
777.32	777.67	778.02
777.11	777.50	777.88
776.69	777.08	777.46
776.51	776.90	777.28
776.40	776.79	777.17
776.34	776.73	777.11
776.35	776.61	776.86
776.39	776.58	776.77
776.42	776.61	776.74
776.56	776.75	776.71
776.75	776.94	776.77
777.01	777.20	777.01
777.78		
778.36		
778.91		
779.11		
779.23		
779.40		
779.66		





Profile & Survey	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235
Elev. Left Edge			779.59	779.71	779.83	780.29	780.36	780.47	780.59	780.62	780.72	780.81	780.90	781.02	781.11	781.20
Elev. Const.	779.66	779.78	779.90	780.02	780.14	780.26	780.38	780.50	780.62	780.74	780.86	780.98	781.10	781.22	781.34	781.46
Elev. Right Edge			779.59	779.75	779.99	780.29	780.36	780.60	780.92	781.08	781.20	781.30	781.39	781.49	781.58	781.67
Profile & Survey	779.34	779.62	779.75	779.99	780.22	780.35	780.76	781.02	781.37	781.81	782.23	782.70	783.20	783.69	784.28	784.89



B.M. #20, Spk. in P Pole
Rt Sta. 235+63
Elev. = 784.20

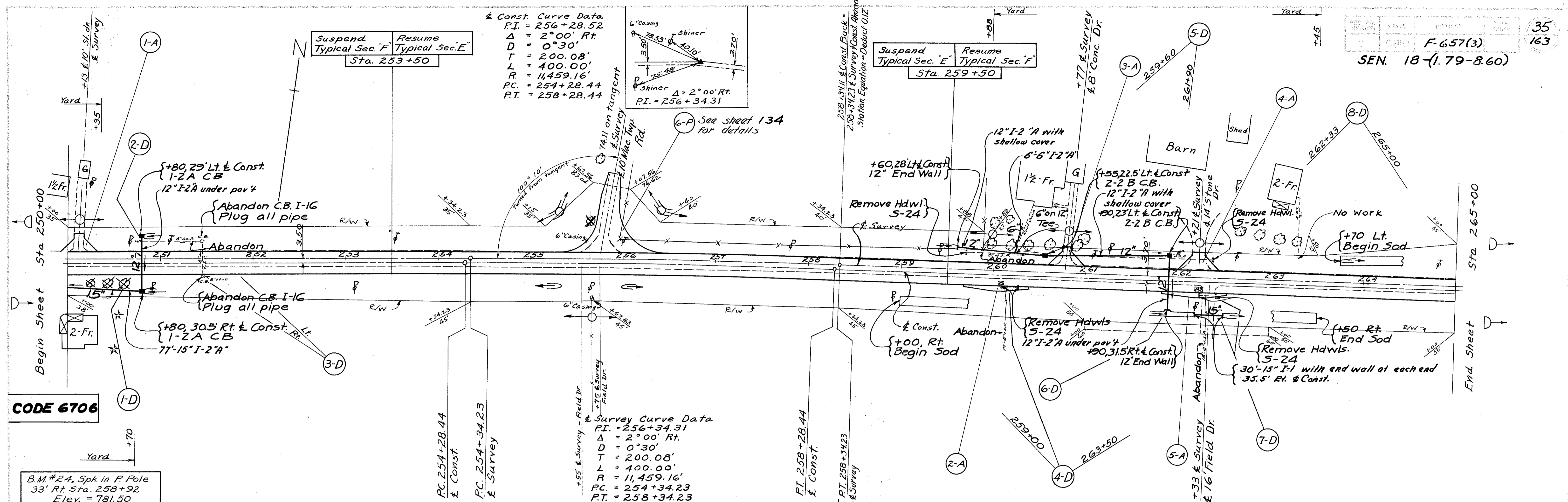
B.M. #21, Bent Spk. in 48"
Elm 200' Rt. Sta. 240+92
Elev. = 779.12

B.M. #22, Spk. in P Pole
Rt. Sta. 245+28
Elev. = 782.23

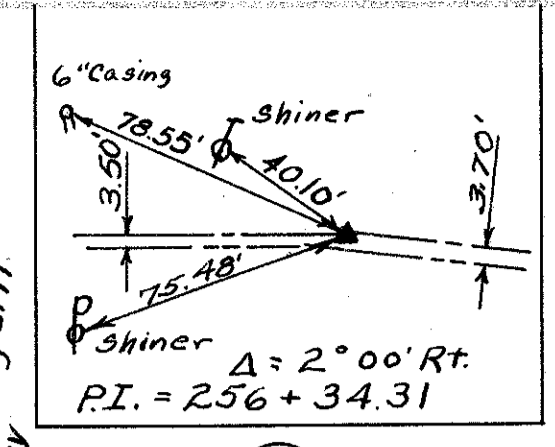
B.M. #23, S.W. Cor. 1st Step
to House Lt. Sta. 249+90
Elev. = 784.32

Profile & Survey	Station	Elev. Right Edge	Elev. Const.	Elev. Left Edge
784.89	235	785.18	785.18	
	236	785.34	785.34	
	237	785.41	785.41	
	238	785.26	785.26	
	239	785.10	785.10	
	240	784.83	784.83	784.83
	241	784.96	784.96	784.96
	242	784.88	784.88	784.88
	243	784.95	784.95	784.95
	244	785.14	785.14	785.14
	245	785.26	785.26	785.26
	246	785.25	785.25	785.25
	247	785.01	785.01	785.01
	248	784.82	784.82	784.82
	249	785.07	785.07	785.07
	250	785.13	785.13	785.13
	251	785.01	785.01	785.01
	252	784.82	784.82	784.82
	253	785.26	785.26	785.26
	254	785.25	785.25	785.25
	255	785.01	785.01	785.01
	256	784.82	784.82	784.82
	257	785.07	785.07	785.07
	258	785.13	785.13	785.13
	259	785.01	785.01	785.01
	260	784.82	784.82	784.82
	261	785.26	785.26	785.26
	262	785.25	785.25	785.25
	263	785.01	785.01	785.01
	264	784.82	784.82	784.82
	265	785.07	785.07	785.07
	266	785.13	785.13	785.13
	267	785.01	785.01	785.01
	268	784.82	784.82	784.82
	269	785.26	785.26	785.26
	270	785.25	785.25	785.25
	271	785.01	785.01	785.01
	272	784.82	784.82	784.82
	273	785.07	785.07	785.07
	274	785.13	785.13	785.13
	275	785.01	785.01	785.01
	276	784.82	784.82	784.82
	277	785.26	785.26	785.26
	278	785.25	785.25	785.25
	279	785.01	785.01	785.01
	280	784.82	784.82	784.82
	281	785.07	785.07	785.07
	282	785.13	785.13	785.13
	283	785.01	785.01	785.01
	284	784.82	784.82	784.82
	285	785.26	785.26	785.26
	286	785.25	785.25	785.25
	287	785.01	785.01	785.01
	288	784.82	784.82	784.82
	289	785.07	785.07	785.07
	290	785.13	785.13	785.13
	291	785.01	785.01	785.01
	292	784.82	784.82	784.82
	293	785.26	785.26	785.26
	294	785.25	785.25	785.25
	295	785.01	785.01	785.01
	296	784.82	784.82	784.82
	297	785.07	785.07	785.07
	298	785.13	785.13	785.13
	299	785.01	785.01	785.01
	300	784.82	784.82	784.82





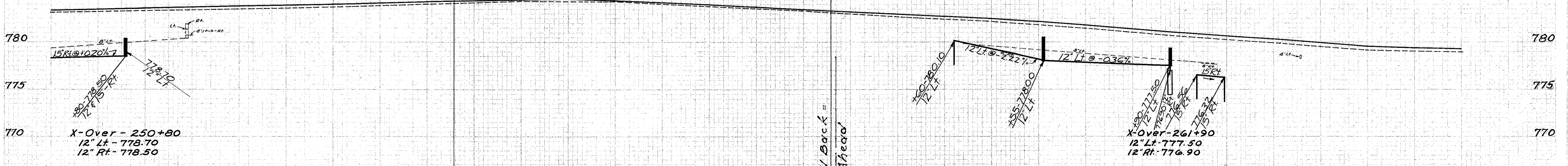
& Const. Curve Data
 P.I. = 256+28.52
 $\Delta = 2^{\circ}00' \text{ Rt.}$
 $D = 0^{\circ}30'$
 $T = 200.08'$
 $L = 400.00'$
 $R = 11,459.16'$
 $PC = 254+28.44$
 $PT = 258+28.44$

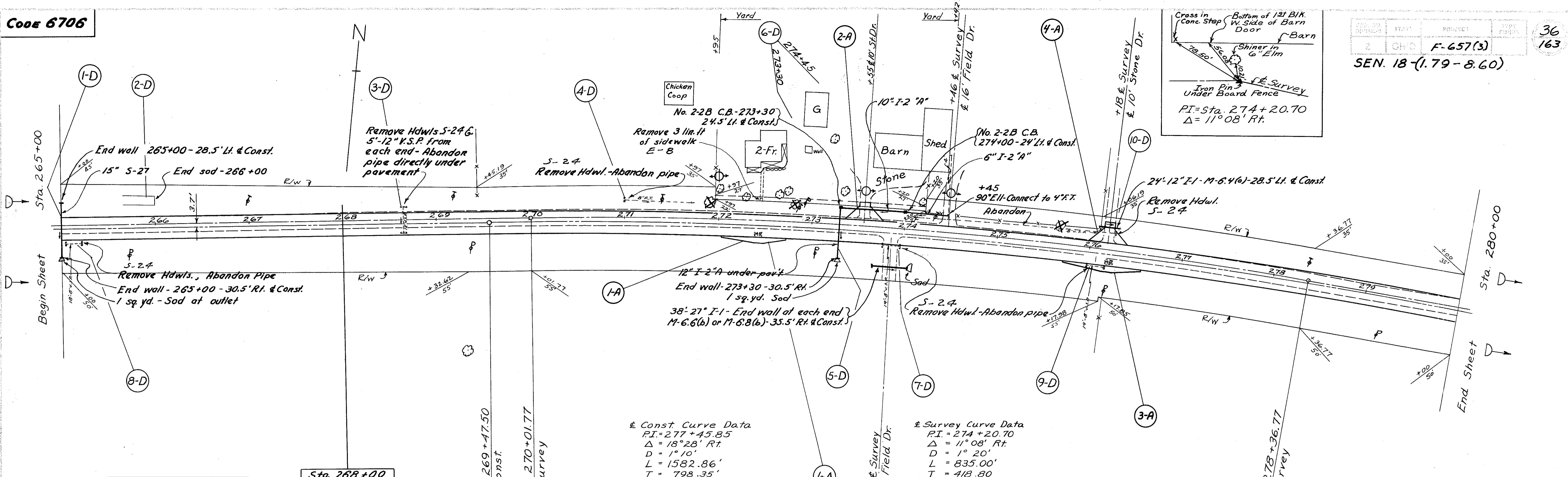


& Survey Curve Data
 P.I. = 256+34.31
 $\Delta = 2^{\circ}00' \text{ Rt.}$
 $D = 0^{\circ}30'$
 $T = 200.08'$
 $L = 400.00'$
 $R = 11,459.16'$
 $PC = 254+34.23$
 $PT = 258+34.23$

B.M. #24, Spk. in P. Pole
 33' Rt. Sta. 258+92
 Elev. = 781.50

Profile & Survey	Elev. Right Edge	Elev. Const. Edge	Elev. Left Edge
783.09		783.36	
783.30		783.58	
783.54		783.83	
783.74		784.04	
784.04		784.16	783.97
PC		784.27	784.19
784.33		784.35	784.35
784.44		784.40	784.48
784.58		784.52	784.71
784.79		784.54	784.73
784.99		784.39	784.58
785.19		783.94	784.13
785.39		783.71	783.90
785.59		783.46	783.57
785.79		783.32	783.32
785.99		783.23	783.17
786.19		782.99	782.81
786.39		782.74	782.55
786.59		782.47	
786.79		781.76	
786.99		781.02	
787.19		780.30	
787.39		779.57	
787.59		779.39	
787.79		779.31	





B.M. #25, Spk. in 36" Elm 140
Rt. Sta. 269+32
Elev. = 778.16

Sta. 268+00
Suspend Typical Sec. F
Resume Typical Sec. E

& Const. Curve Data
PI = 277+45.85
Δ = 18°28' Rt.
D = 1°10'
L = 1582.86'
T = 798.35'
R = 4911.07'
PC = 269+47.50
PT = 285+30.36

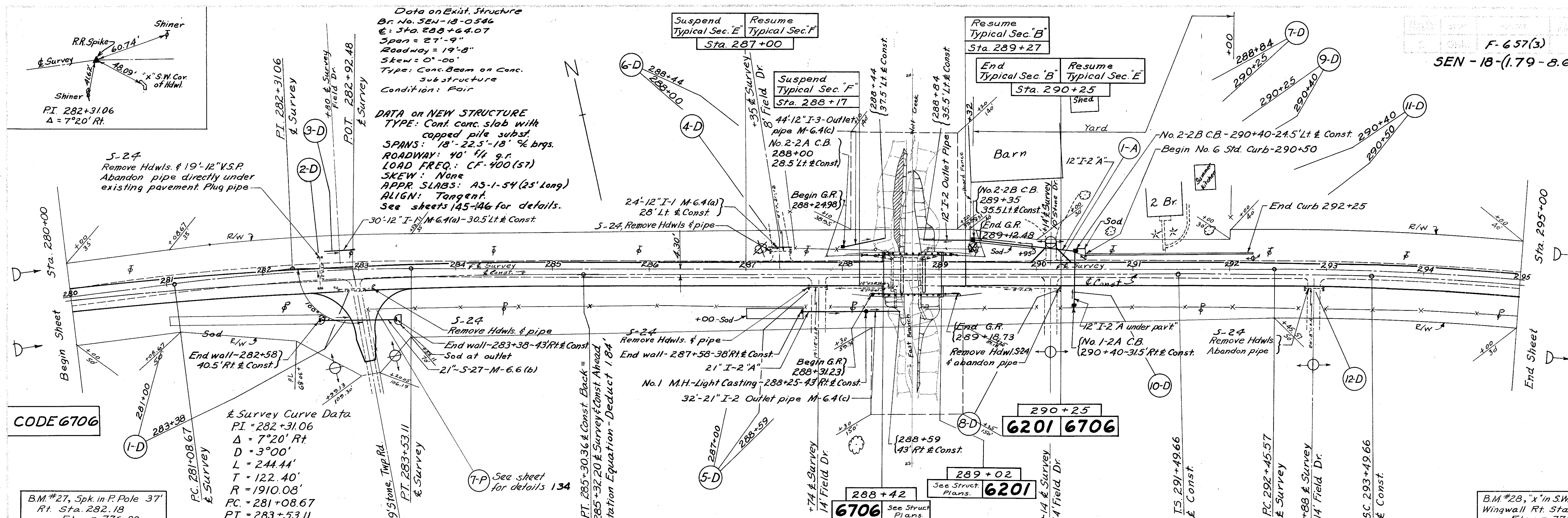
& Survey Curve Data
PI = 274+20.70
Δ = 11°08' Rt.
D = 1°20'
L = 835.00'
T = 418.80'
R = 4297.18'
PC = 270+01.77
PT = 278+36.77

B.M. #26, "x" S.W. Cor. Step to Milk House Lt. Sta. 273+57
Elev. = 780.30

Profile & Survey	778.99	778.99	778.95	778.94	779.01	778.95	778.98	779.01	779.02	778.82	778.47	778.24	777.91	777.68	777.56
Elev. Left Edge															
Elev. Const.	779.31	779.31	779.30	779.25	779.20	779.19	779.24	779.32	779.29	779.18	778.94	778.71	778.48	778.28	778.04
Elev. Right Edge			779.11	779.06	779.01	778.96	778.90	778.87	778.83	778.72	778.48	778.25	778.02	777.82	777.58
Station	265	266	267	268	269	270	271	272	273	274	275	276	277	278	280

X-OVER-265+00
15" Lt. 775.50
15" Rt. 775.30

X-OVER-273+30
12" Lt. = 775.70
12" Rt. = 775.00



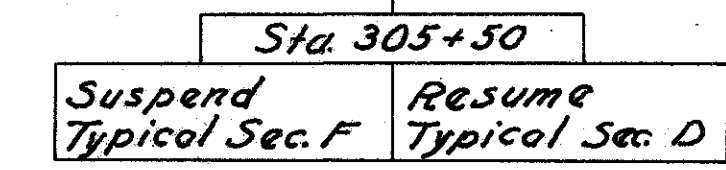
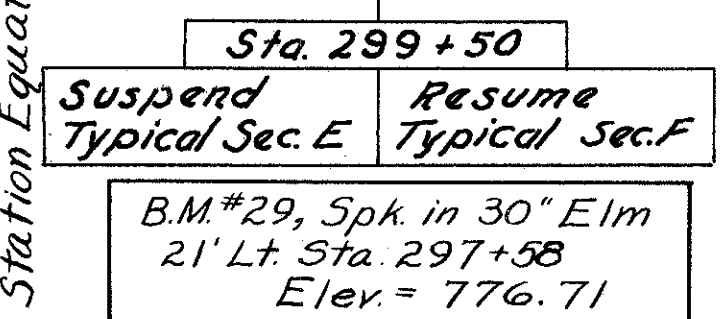
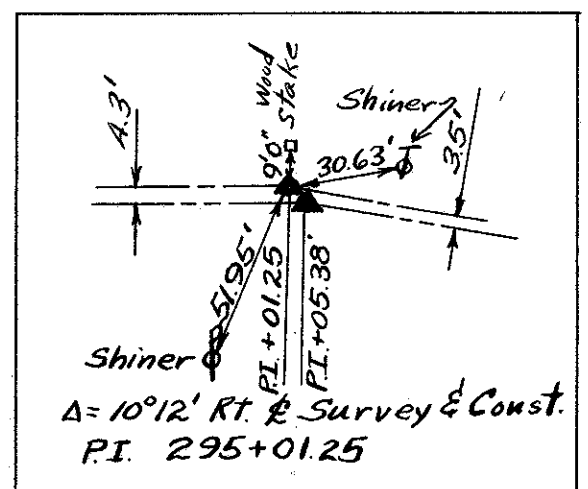
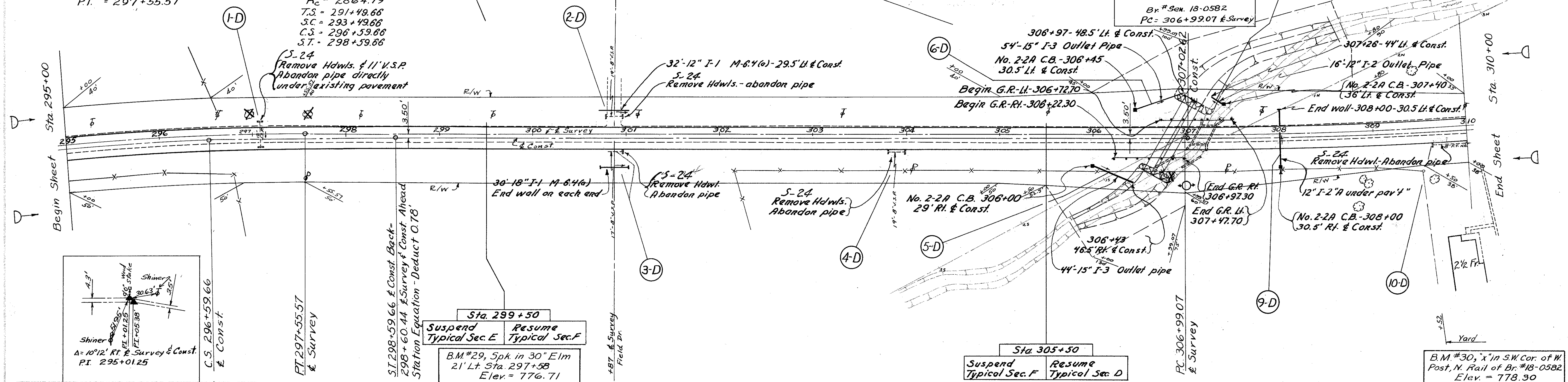
Profile & Survey	Elev. At Edge	Elev. Const.	Elev. Lt.
777.56	777.38	777.84	778.29
777.51	777.15	777.61	778.06
777.44	777.05	777.51	777.96
777.35	777.00	777.46	777.91
777.18	777.00	777.46	777.91
777.08	777.00	777.40	777.80
776.77	777.00	777.30	777.59
776.19	777.00	777.23	777.46
775.88	777.00	777.19	777.38
775.71	777.00	777.19	777.17
775.38	776.93	777.12	777.01
775.14	776.85	777.04	776.85
775.78	776.89		776.89
+49.66 T.S.	776.74		776.74
776.62	776.82		776.82
776.82	776.68	776.87	776.68
776.82	776.72	776.91	776.78
776.82	776.76	776.95	776.95
776.82	776.80	777.07	777.93
776.82	776.78	777.21	777.65
776.82	776.72	777.92	777.92
776.82	776.66	777.35	778.03
776.82	776.60	777.34	778.08
776.82	776.52	777.30	778.07
776.82	776.45	777.22	777.99
776.55	776.15	776.92	777.69

Survey Curve Data
 P.I. = 295+01.25
 $\Delta = 10^\circ 12' \text{ Rt.}$
 $D = 2^\circ 00'$
 $R = 2864.93'$
 $L = 510.00'$
 $T = 255.68'$
 $PC = 292+45.57$
 $PT = 297+55.57$

Const. Curve Data
 P.I. = 295+05.38
 $\Delta = 10^\circ 12' \text{ Rt.}$
 $D = 2^\circ 00'$
 $L_c = 310.00'$
 $L_s = 200.00'$
 $T_s = 355.72'$
 $E_s = 11.96'$
 $R_c = 2864.79'$
 $T.S. = 291+49.66$
 $S.C. = 293+49.66$
 $C.S. = 296+59.66$
 $S.T. = 298+59.66$

Data on Exist. Structure
 Br. No. SEN-18-0582
 $\Delta = 30^\circ 19' 19.0 \text{ \& Survey}$
 $\text{Span} = 14'-6"$
 $\text{Roadway} = 19'-6"$
 $\text{Skew} = 28^\circ-57'$
 Type: Conc. Slab, Conc. Substructure
 & Wing Walls, Conc. Railing
 Waterway = 6 & 5/8 Ft.
 Condition: Poor

DATA on NEW STRUCTURE
 Br. No. SEN-18-0582
 Sta. 308+85 & Const.
 Type: 2-90"-91"x58" (72" Equiv. Round) Rein. Conc. Elliptical Pipe Culvert with Conc. End Walls
 Skew: 30° L.F.
 Roadway: 40'
 Drainage Area: 865 Ac.
 For details, see Sheet 141

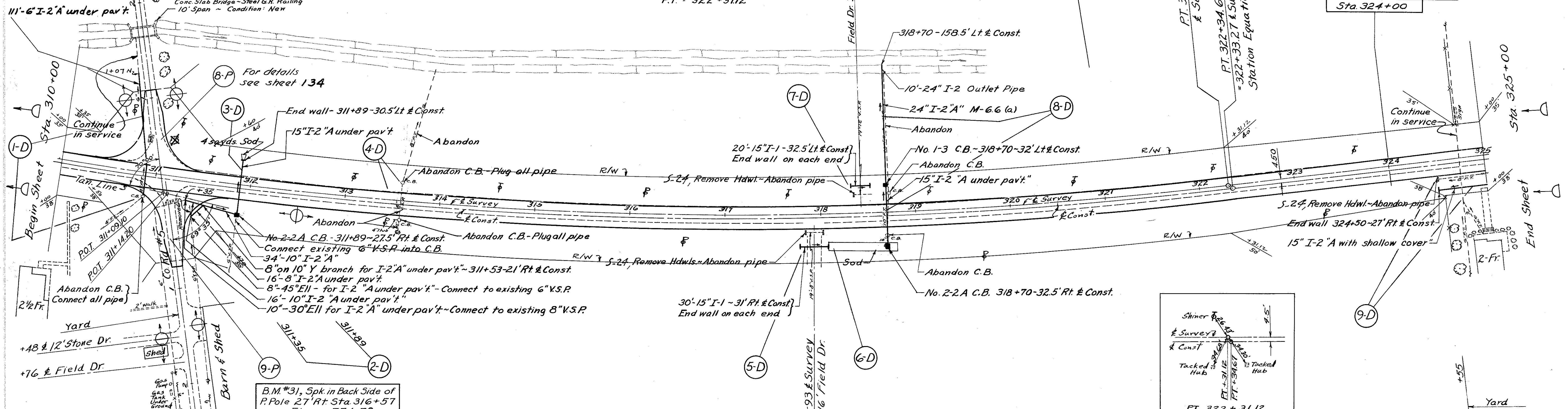


Profile & Survey	776.55	776.01	775.66 C.S.	775.59	775.63	775.70	775.85	775.85	775.66	775.30	775.04	774.60	774.59	774.86	774.86	774.87	774.78
Elev. Right Edge	778.15	775.85	775.77	775.70	775.67	775.63	776.36	777.12	775.58	776.22	776.85	775.50	775.97	776.46	775.50	775.80	776.09
Elev. Const.	776.82	776.62	777.32	777.22	777.17	777.12	776.85	776.46	775.97	776.46	775.86	775.82	775.82	775.82	775.82	775.82	775.82
Elev. Left Edge	777.89	777.39	777.32	777.22	777.17	777.12	776.85	776.46	775.97	776.46	775.86	775.82	775.82	775.82	775.82	775.82	775.82

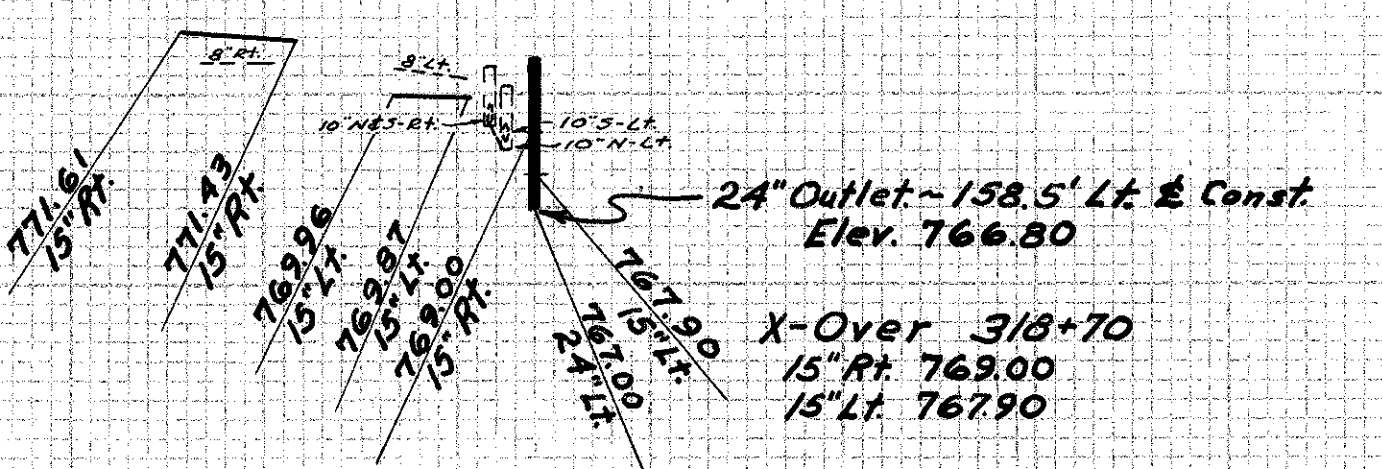
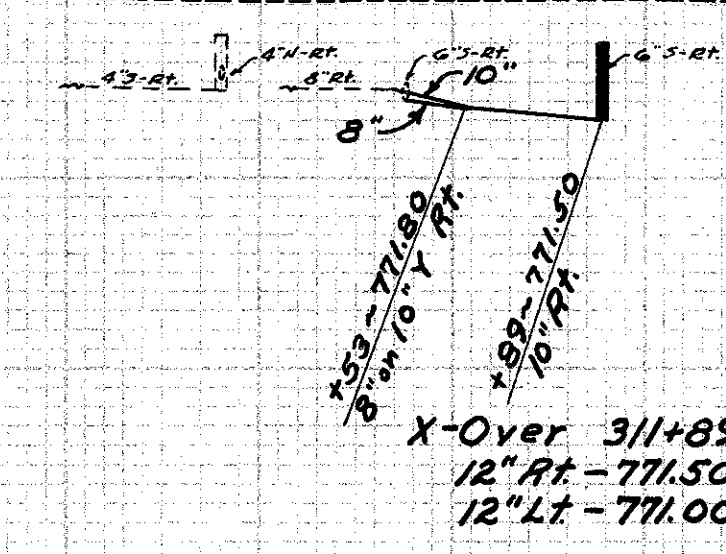
Suspend Typical Sec. "D"
Resume Typical Sec. "F"
Sta. 324+00

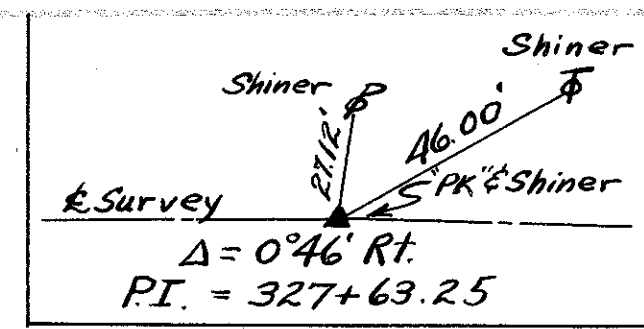
Survey Curve Data
 P.I. = 314+72.85
 Δ = 19°55' Lt
 D = 1°18'
 R = 4407.37'
 T = 773.78'
 L = 1532.05'
 P.C. = 306+99.07
 P.T. = 322+31.12

Const. Curve Data
 P.I. = 314+76.40
 Δ = 19°55' Lt
 D = 1°18'
 T = 773.78'
 L = 1532.05'
 P.C. = 307+02.62
 P.T. = 322+34.67

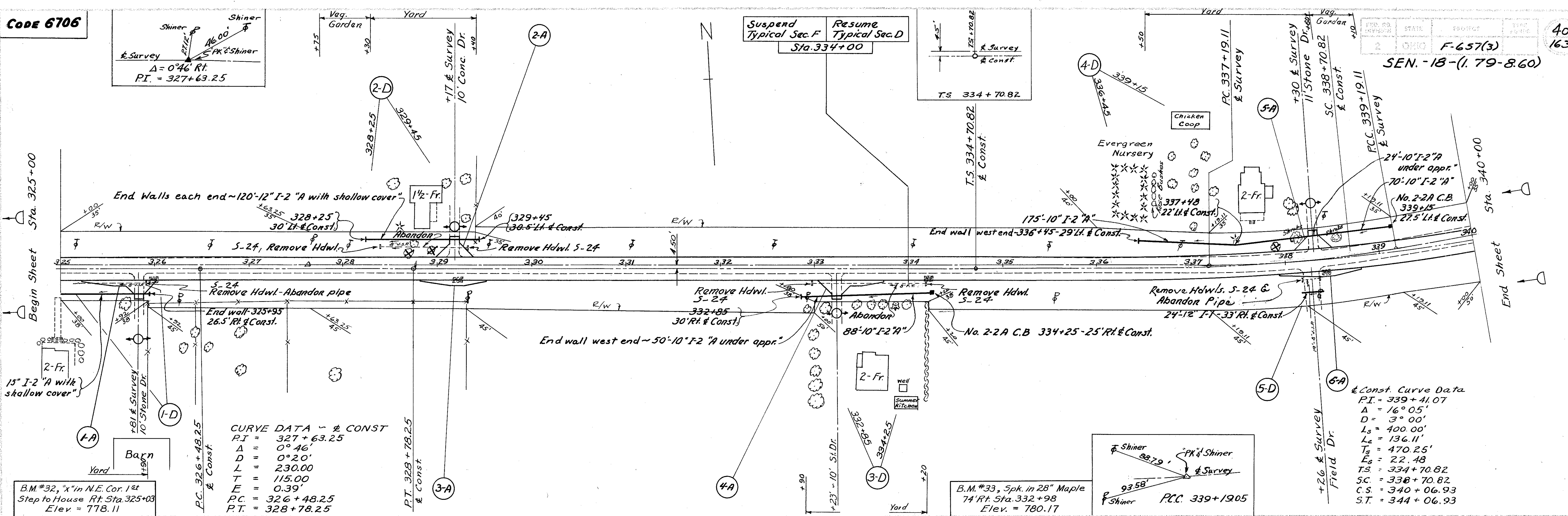


Profile & Survey	Elev. Right Edge	Elev. Const.	Elev. Left Edge	Station
774.78	775.58	775.20	774.82	310
774.64	775.47	775.09	774.71	311
774.58	775.36	774.98	774.60	312
774.48	775.26	774.88	774.50	313
774.41	775.14	774.76	774.38	314
774.27	774.99	774.61	774.23	315
774.11	774.82	774.44	774.06	316
773.82	774.56	774.18	773.80	317
773.56	774.29	773.91	773.53	318
773.38	774.20	773.82	773.44	319
773.36	774.13	773.75	773.37	320
773.36	774.10	773.72	773.34	321
773.36	774.09	773.71	773.33	322
773.36	774.11	773.73	773.35	323
773.36	774.14	773.76	773.38	324
773.36	774.11	773.78	773.45	325
773.51	774.05	773.81	773.56	326
773.85	774.06	773.87	773.68	327
773.85	774.07	773.94	773.75	328
773.85	774.16	774.19	774.00	329
773.85	774.30	774.45	774.26	330
774.37	774.47	774.66	774.47	331
774.71	774.75	774.98	774.75	332





Suspend Typical Sec. F
Resume Typical Sec. D
Sta. 334+00



CURVE DATA - & CONST
P.I. = 327 + 63.25
Δ = 0° 46'
D = 0° 20'
L = 230.00
T = 115.00
E = 0.39'
P.C. = 326 + 48.25
P.T. = 328 + 78.25

B.M. #32, "x" in N.E. Cor. 1st Step to House Rt. Sta. 325+03 Elev. = 778.11

B.M. #33, Spk. in 28" Maple 74' Rt. Sta. 332+98 Elev. = 780.17

& Const. Curve Data
P.I. = 339 + 41.07
Δ = 16° 05'
D = 3° 00'
L_s = 400.00'
L_c = 136.11'
T_s = 470.25'
E_s = 22.48'
T_c = 334 + 70.82
S.C. = 338 + 70.82
C.S. = 340 + 06.93
S.T. = 344 + 06.93

Profile & Survey	774.71	774.96	775.41	776.09	776.70	777.28	777.87	778.44	778.81	779.42	779.88	780.32	780.68	781.19	781.33
Elev. Left Edge	774.98	775.28	775.48	775.73	776.37	776.98	777.61	778.16	778.36	778.48	778.72	778.89	779.12	780.15	780.40
Elev. Const.	774.98	775.28	775.48	775.73	776.37	776.98	777.61	778.16	778.36	778.48	778.72	778.89	779.12	780.15	780.40
Elev. Right Edge	785	785	785	785	785	785	785	785	785	785	785	785	785	785	785
Profile & Survey	774.71	774.96	775.41	776.09	776.70	777.28	777.87	778.44	778.81	779.42	779.88	780.32	780.68	781.19	781.33

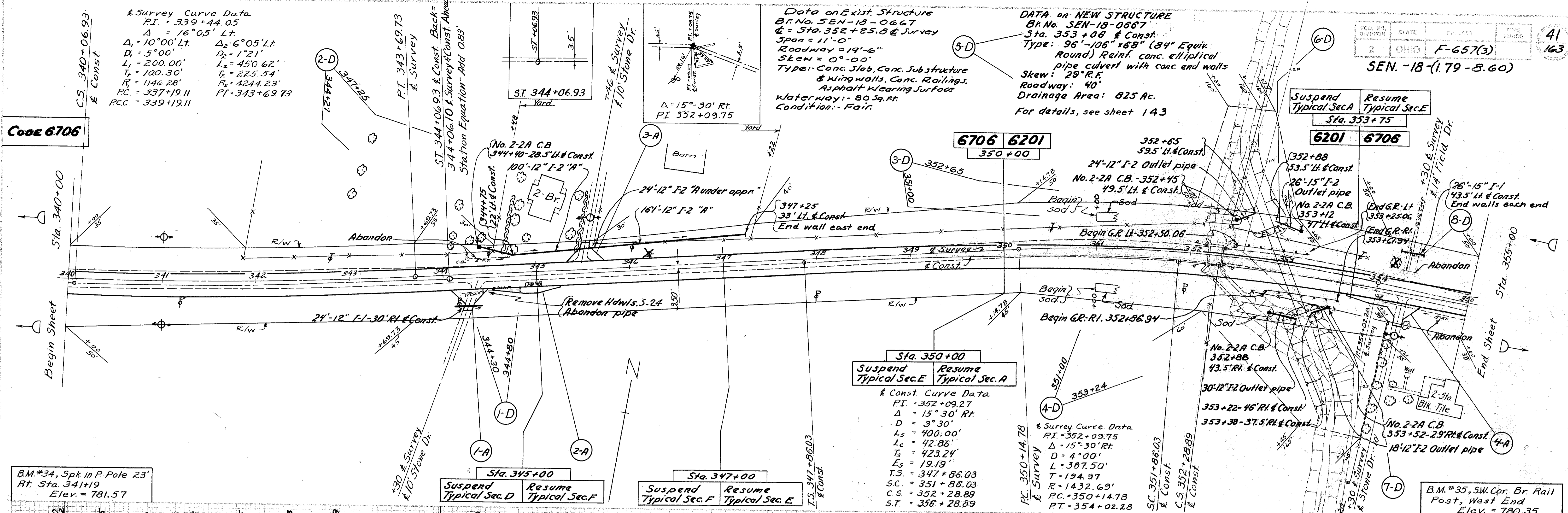
SEN.-18-(1.79-8.60)

Code 6706

& Survey Curve Data
 P.I. = 339+44.05
 $\Delta = 16^{\circ}05' Lt.$
 $\Delta_1 = 10^{\circ}00' Lt.$
 $D_1 = 5^{\circ}00'$
 $L_1 = 200.00'$
 $T_1 = 120.30'$
 $R_1 = 1146.28'$
 $PC = 337+19.11$
 $PCC = 339+19.11$
 $\Delta_2 = 6^{\circ}05' Lt.$
 $D_2 = 1^{\circ}21'$
 $L_2 = 450.62'$
 $T_2 = 225.54'$
 $R_2 = 4244.23'$
 $PT = 343+69.73$

Data on Exist. Structure
 B.N. No. SEN-18-0667
 $\Delta = 5^{\circ}35'22.8$ & Survey
 Span = 11'-0"
 Roadway = 19'-6"
 Skew = 0°-00'
 Type: Conc. Slab, Conc. Substructure
 & wing walls, Conc. Railings,
 Asphalt Wearing Surface
 Waterway: 80 Sq. Ft.
 Condition: Fair

DATA ON NEW STRUCTURE
 B.N. No. SEN-18-0667
 Sta. 353+08 & Const.
 Type: 96'-106" x 68" (84" Equiv.
 Round) Reinf. conc. elliptical
 pipe culvert with conc. end walls
 Skew: 29° R.F.
 Roadway: 40'
 Drainage Area: 825 Ac.
 For details, see sheet 143



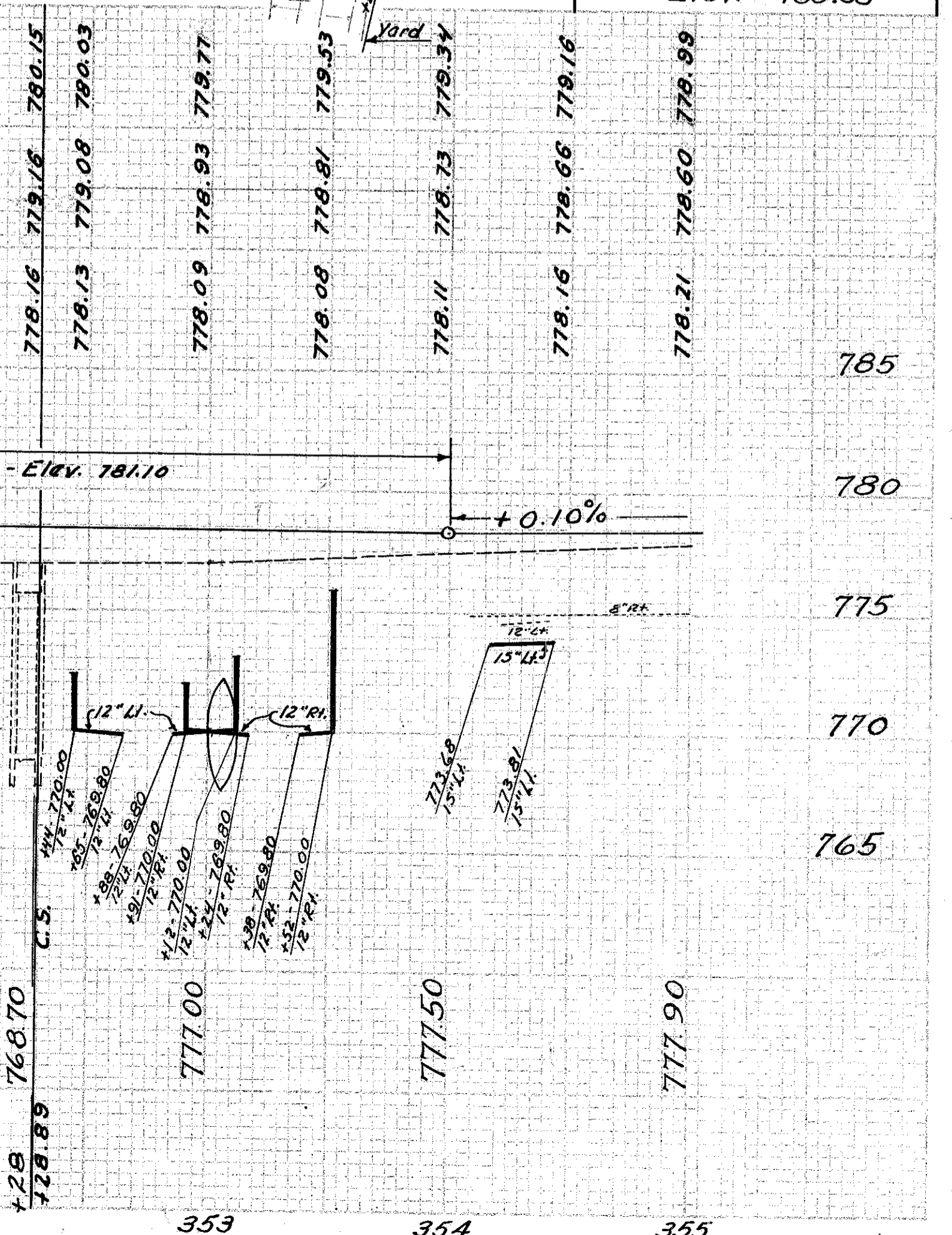
B.M. #34, Spk in P. Pole 23'
 Rt. Sta. 341+19
 Elev. = 781.57

Profile & Survey	Sta.	Elev. Right Edge	Elev. Left Edge
785	340	783.39	781.40
		783.41	781.42
	341	783.35	781.55
		783.19	781.62
	342	783.00	781.65
		782.77	781.65
	343	782.53	781.63
		782.26	781.59
	344	781.98	781.53
		781.65	781.43
		781.67	781.42
	345	781.32	781.40
		781.19	781.19
	346	781.10	
	347	780.41	780.41
		780.16	780.26
	348	779.98	780.17
		779.91	780.10
	349	779.66	779.90
		779.41	780.11
	350	779.16	779.62
		778.91	780.08
	351	778.68	779.37
		778.49	780.09
	352	778.33	779.25
		778.24	780.20
		778.21	780.20
	353	778.16	779.18
		778.13	779.08
	354	778.09	778.93
		778.08	779.53
	355	778.16	778.66
		778.21	778.60
		778.21	778.99

Sta. 350+00
 Suspend Typical Sec. E
 Resume Typical Sec. A
 & Const. Curve Data
 P.I. = 352+09.27
 $\Delta = 15^{\circ}30' Rt.$
 $D = 3^{\circ}30'$
 $L_s = 400.00'$
 $T_s = 42.86'$
 $E_s = 19.19'$
 $T.S. = 347+86.03$
 $S.C. = 351+86.03$
 $C.S. = 352+28.89$
 $S.T. = 356+28.89$

Sta. 352+00
 Suspend Typical Sec. E
 Resume Typical Sec. A
 & Survey Curve Data
 P.I. = 352+09.75
 $\Delta = 15^{\circ}30' Rt.$
 $D = 4^{\circ}00'$
 $L = 387.50'$
 $T = 194.97$
 $R = 1432.69'$
 $PC = 350+14.78$
 $PT = 354+02.28$

B.M. #35, SW. Cor. Br. Rail
 Post, West End
 Elev. = 780.35



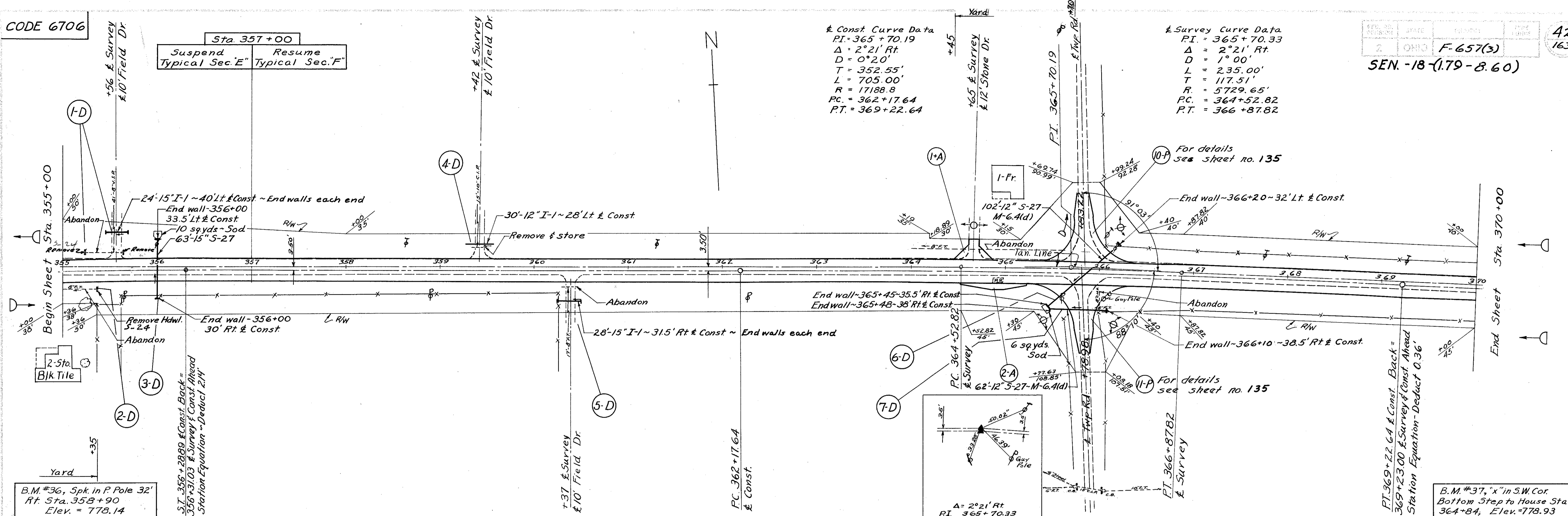
CODE 6706

Sta 357+00
Suspend Typical Sec. "E"
Resume Typical Sec. "F"

Const Curve Data
PI = 365+70.19
Δ = 2°21' Rt
D = 0°20'
T = 352.55'
L = 705.00'
R = 17188.8
PC = 362+17.64
PT = 369+22.64

Survey Curve Data
PI = 365+70.33
Δ = 2°21' Rt
D = 1°00'
L = 235.00'
T = 117.51'
R = 5729.65'
PC = 364+52.82
PT = 366+87.82

SEN-18-(1.79-8.60)
42
163



B.M. #36, Spk in P. Pole 32'
Rt Sta. 358+90
Elev. = 778.14

St. 356+2889 & Const. Back =
356+3103 & Survey & Const. Ahead
Station Equation - Deduct 2.14'

PI 369+22.64 & Const. Back =
369+23.00 & Survey & Const. Ahead
Station Equation - Deduct 0.36'

B.M. #37, 'x' in SW. Cor.
Bottom Step to House Sta.
364+84, Elev. = 778.93

Profile & Survey	Elev. Right Edge	Elev. Const	Elev. Left Edge
777.90	778.21	778.60	778.99
778.19	778.26	778.54	778.81
778.31	778.31	778.50	778.63
778.18	778.34	778.53	778.53
778.30	778.36	778.55	778.50
778.36	778.39	778.58	778.40
778.40	778.40	778.59	778.40
778.40	778.59		
778.42	778.60		
778.42	778.62		
778.49	778.67		
778.49	778.67		
778.58	778.67		
778.58	778.78		
778.58	778.88		
778.50	778.96		
778.76	779.03		
778.92	779.26		
779.22	779.48		
779.40	779.67		

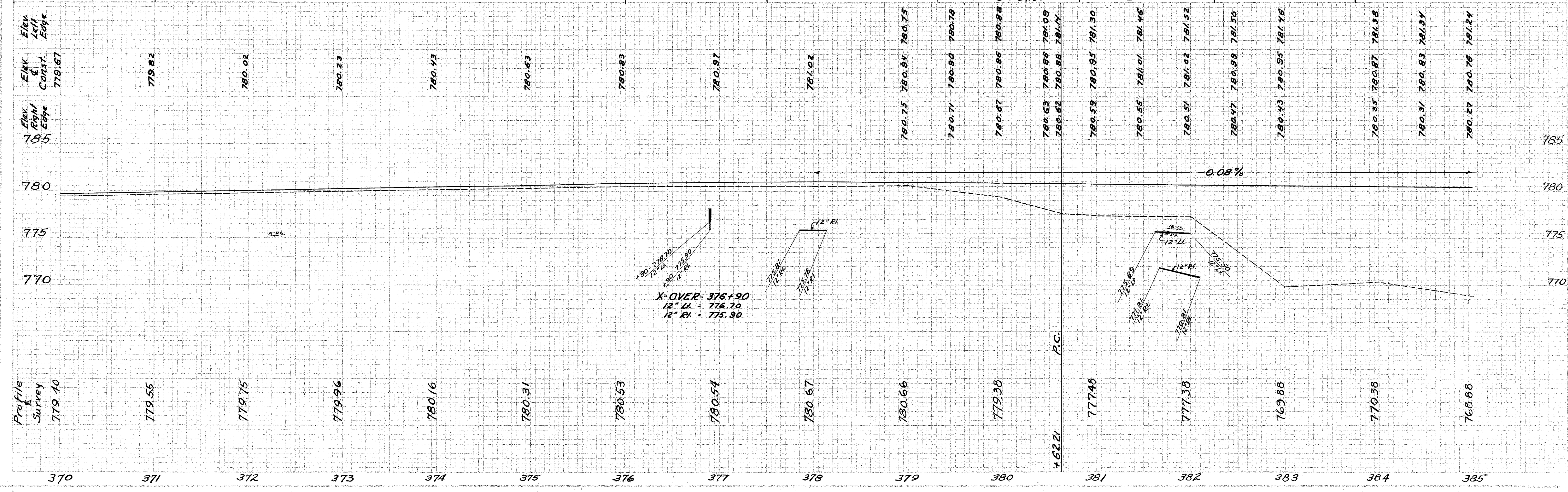
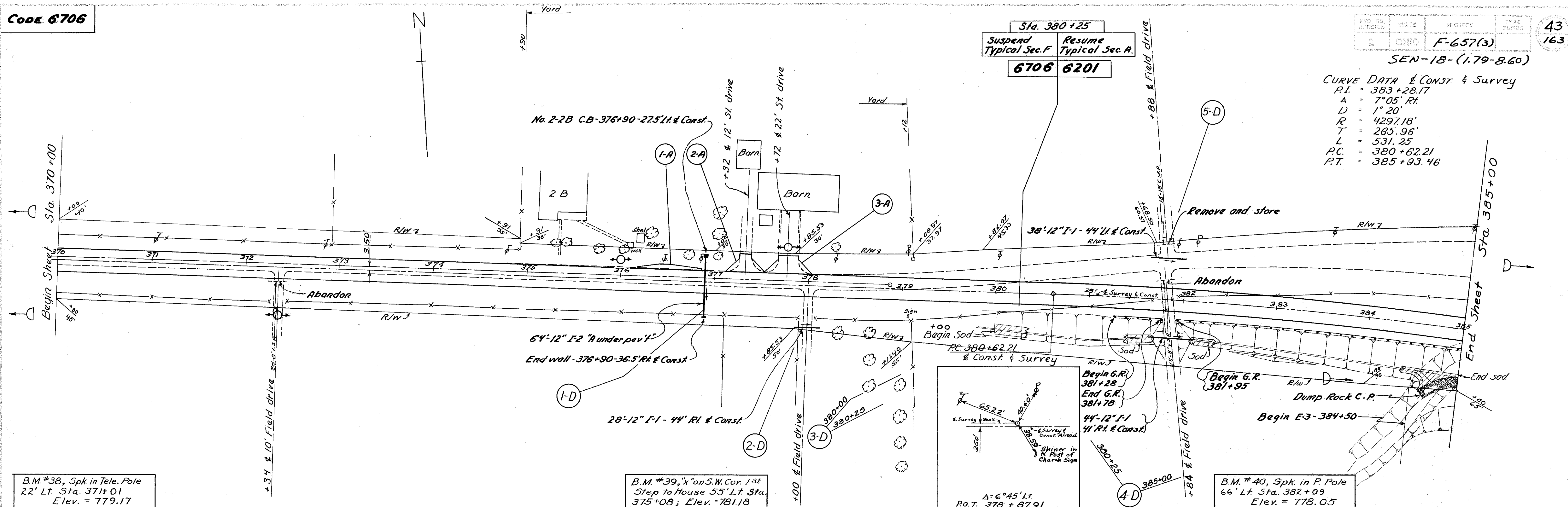
X-Over - 356+00
15' Rt - 774.80
15' Lt - 774.60

+2889
+3103
+22.64 Back
+23.00 Ahead

Sta. 355+00 to Sta. 370+00

SEN-18-(1.79-8.60)

CURVE DATA & CONST. & SURVEY
 P.I. = 383+28.17
 A = 7°05' Rt
 D = 1°20'
 R = 4297.18'
 T = 265.96'
 L = 531.25
 P.C. = 380+62.21
 P.T. = 385+93.46



X-OVER- 376+90
 12" Lt. = 776.70
 12" Rt. = 775.90

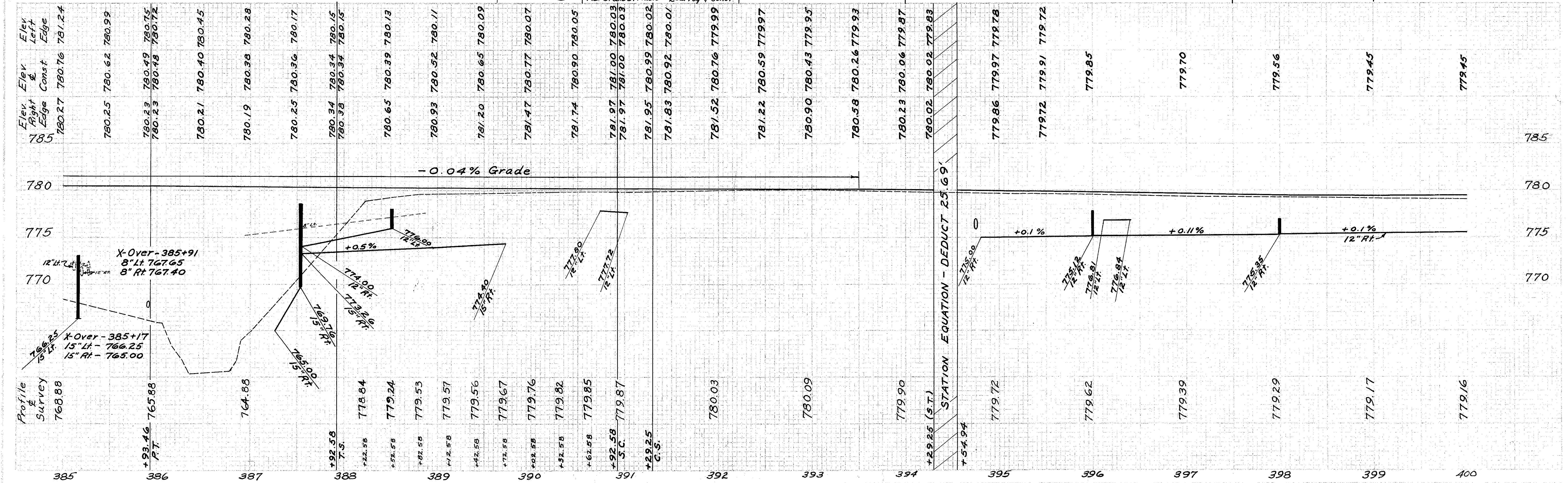
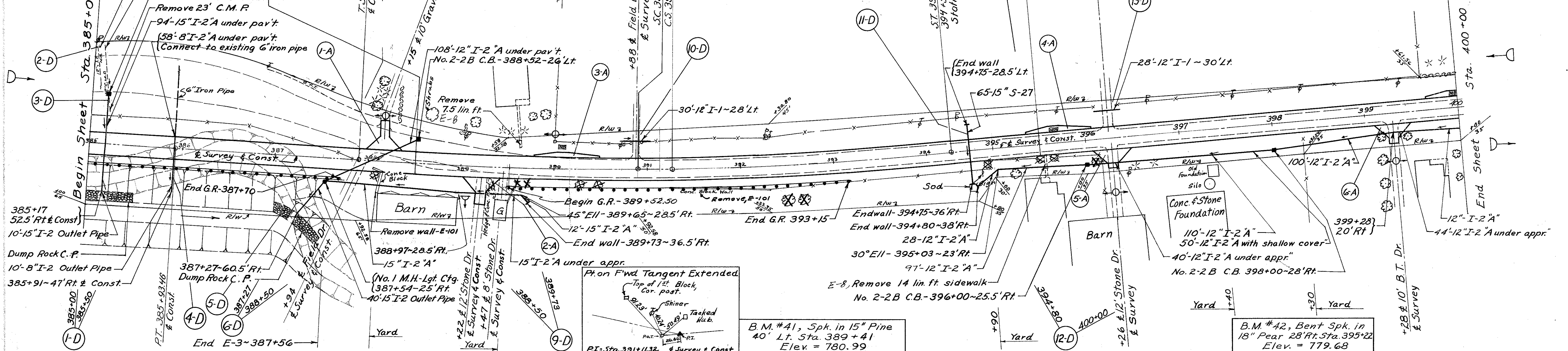
-0.08%

P.C.
+62.21

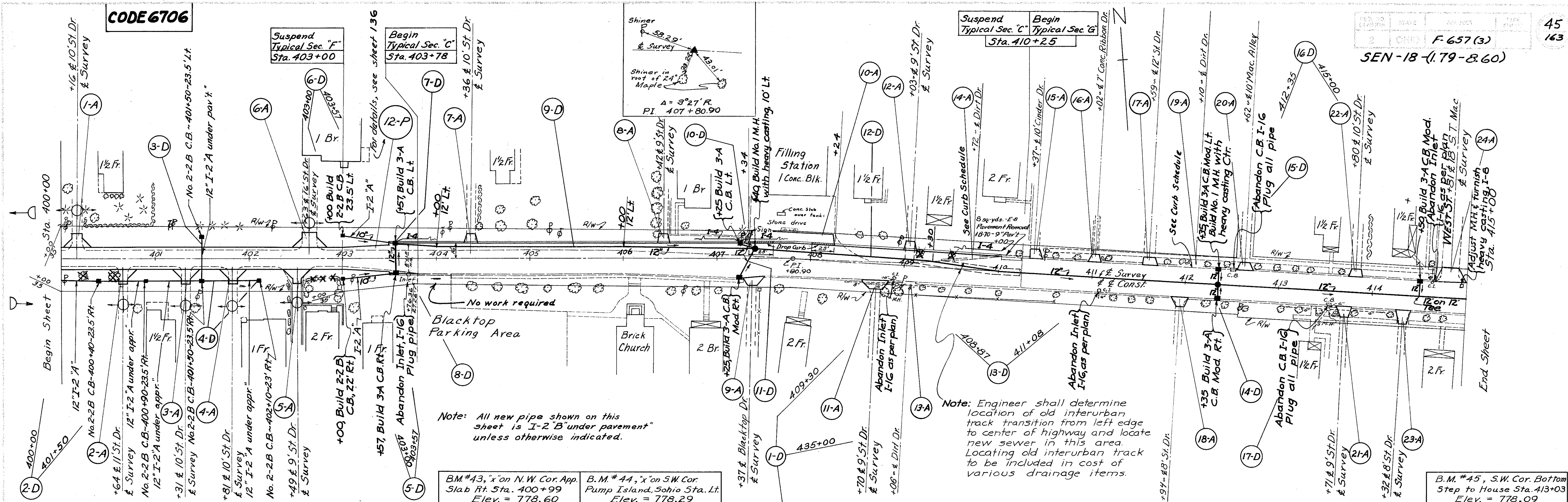
CURVE DATA - CONST. & SURVEY

P.I. = 391+11.32
 A = 8°25' Lt.
 D = 2°30'
 L_s = 300.00'
 T_s = 318.74'
 L_c = 36.67'
 E_s = 7.83'
 R = 2291.83'
 T.S. = 387+92.58
 S.C. = 390+92.58
 C.S. = 391+29.25
 S.T. = 394+29.25

No. 2-A C.B.-385+17-53' Lt & Const.
 Continue in service
 Connect into C.B.
 Remove Hdwl & 12" Pipe
 S-24



Sta. 385+00 to Sta. 400+00



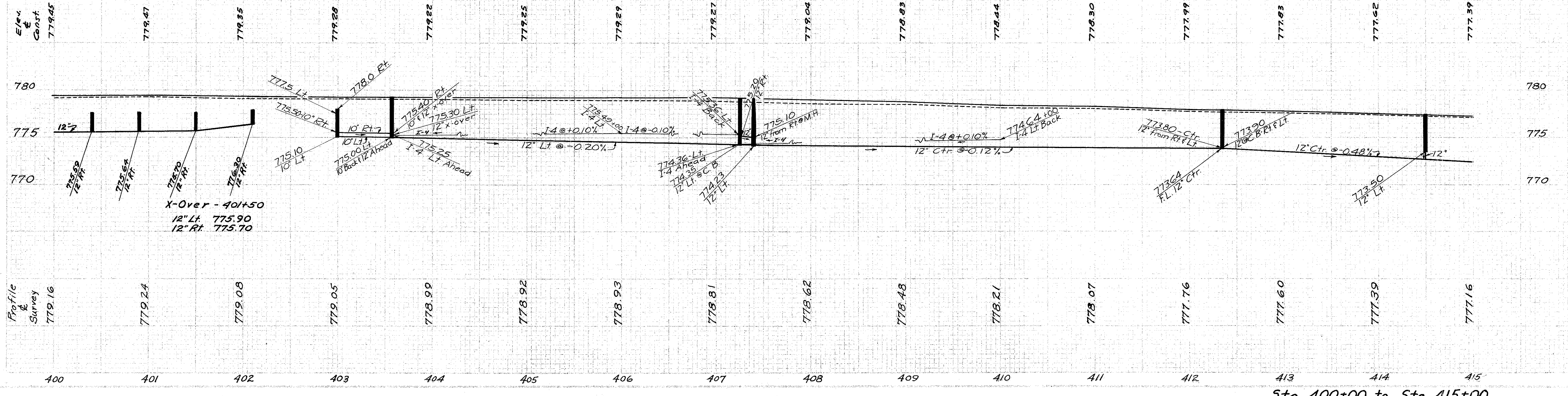
Sta. 409+30 to Sta. 435+00
 Exist. Pavt. area which was formerly unpaved and occupied by an Electric Interurban track now removed.

1. In the above area, which is 8 feet wide, all of the old rails and an unknown number of the old wooden ties have been removed. This area, after rail and partial tie removal, was paved with W.B. Macadam approx. 9" thick and one or more Bituminous Surface Treatments. It is through this area that the new 12 inch and 15 inch Main Storm Sewers are to be constructed.

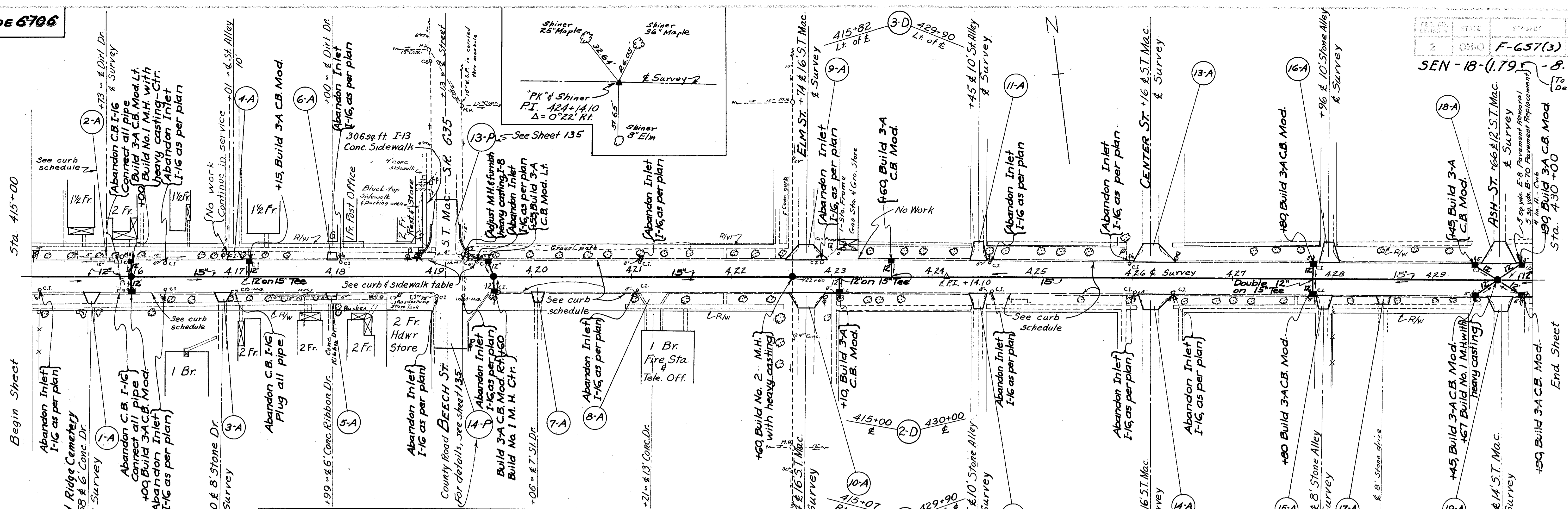
2. It is possible that all of the above area may have to be removed and replaced in order to construct the said Sewers, so the following Work Items are provided.

3. The following Work Items are itemized under

1-D, Sheet 45 but include all such work between Sta. 409+30 and Sta. 435+00, Sheets 45, 46 and 47
 Sta. 409+30 to Sta. 435+00 = 2570 Lin. Ft.
 B-101 Earthwork
 Excavation = $(2570 \times 8 \times 1) \div 27 = 761.5$, Use 762 Cu. Yd.
 Embankment = $(2570 \times 8 \times 0.25) \div 27 = 190.4$, Use 191 Cu. Yd.
 B-70 - 9" Thick (Base replacement)
 $(2570 \times 8) \div 9 = 2284.4$, Use 2285 3/4 yd.

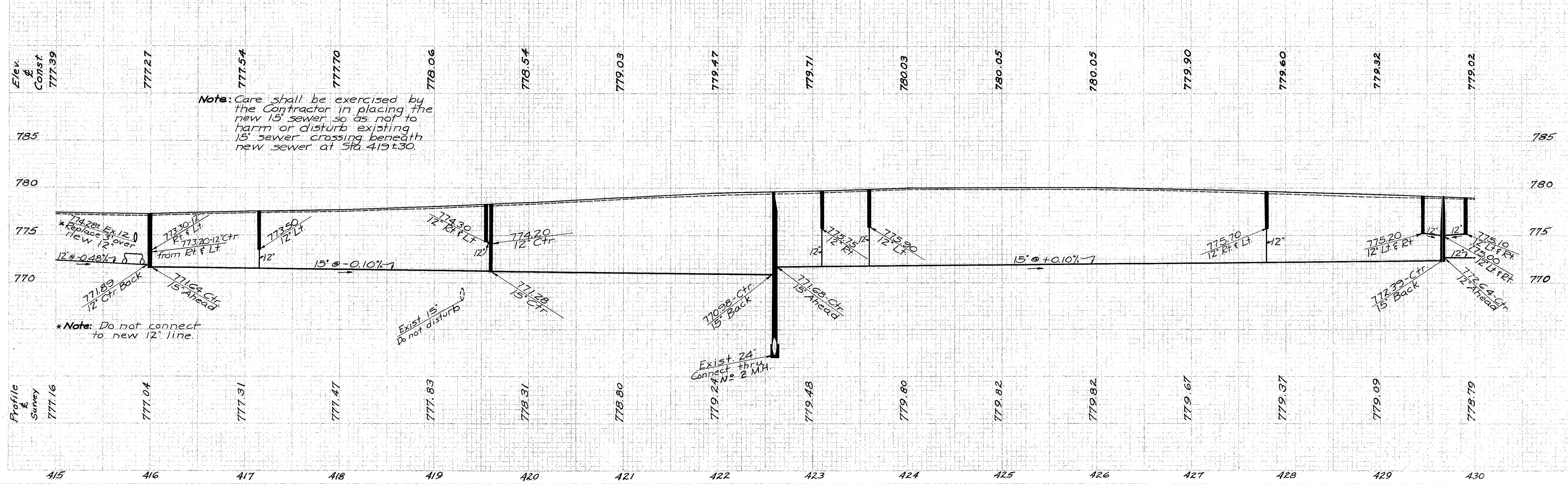


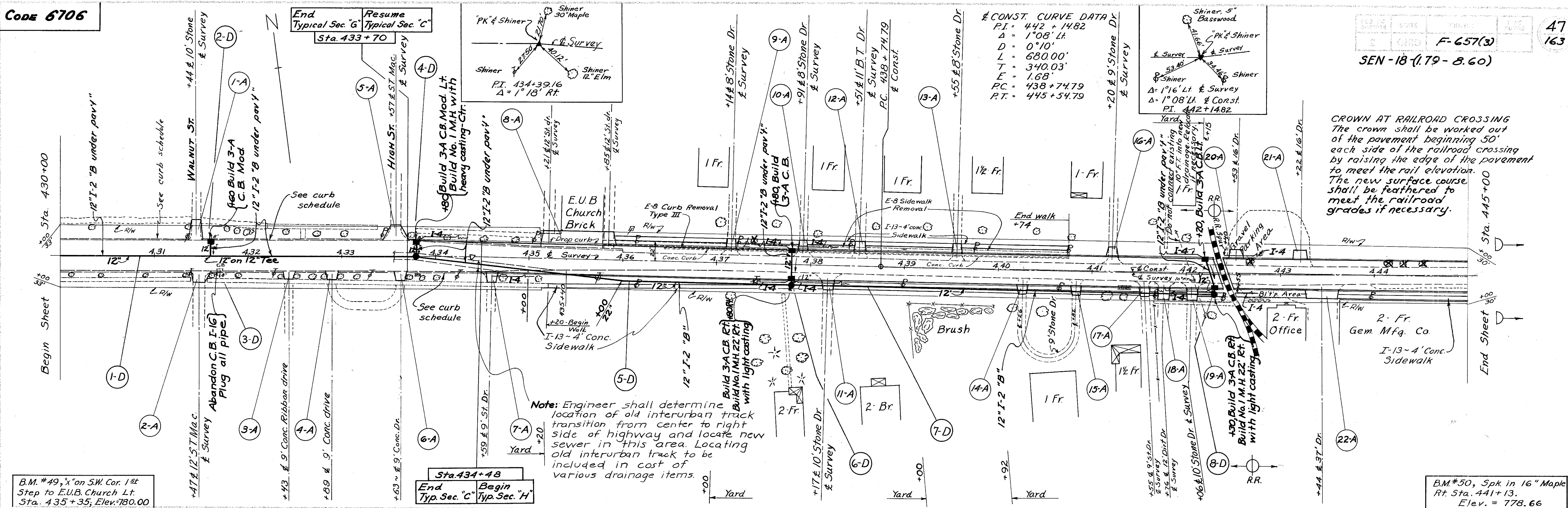
Sta. 400+00 to Sta. 415+00



B.M. #46, "x" on S.W. Cor. Top Step to Walt's Lunch, Lt. Sta. 418+79; Elev. = 778.77	B.M. #47, "x" on S.W. Cor. 1st Step to Clouse Store Lt. Sta. 423+10; Elev. = 780.23	B.M. #48, "x" on S.W. Cor. 1st Step to House Lt. Sta. 428+30; Elev. = 779.92
--------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	------------------------------------------------------------------------------

NOTE: All new pipe shown on this sheet is I-2 "B" under pav't unless otherwise indicated.

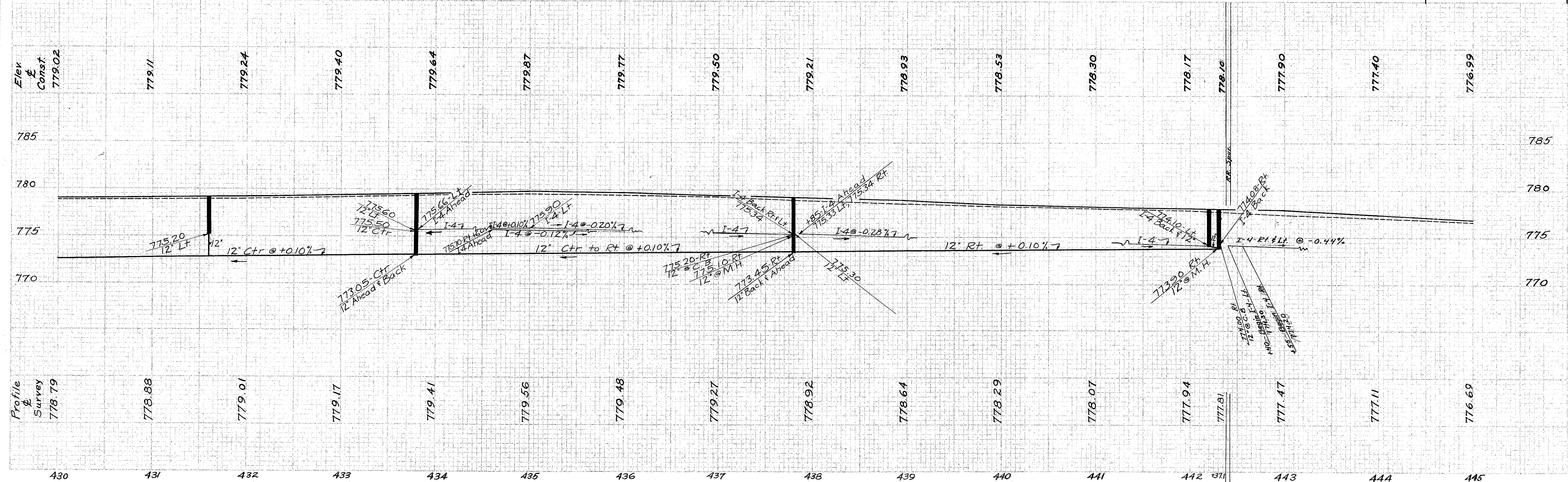




B.M. #49, "x" on S.W. Cor. 1st Step to E.U.B. Church Lt. Sta. 435 + 35; Elev. = 780.00

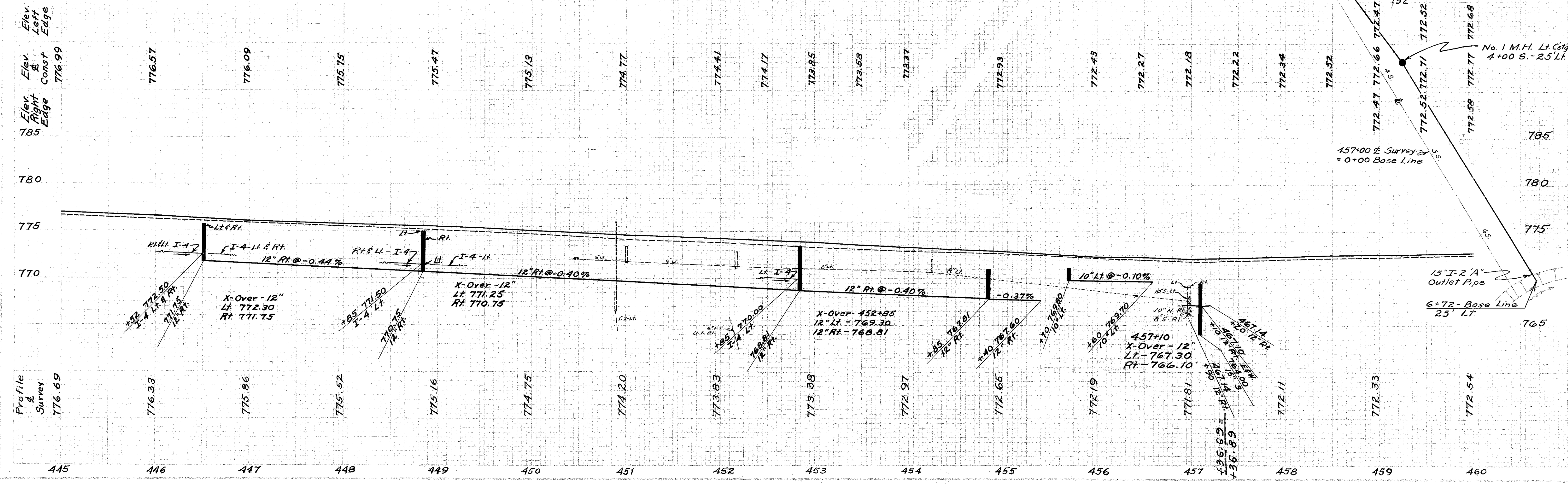
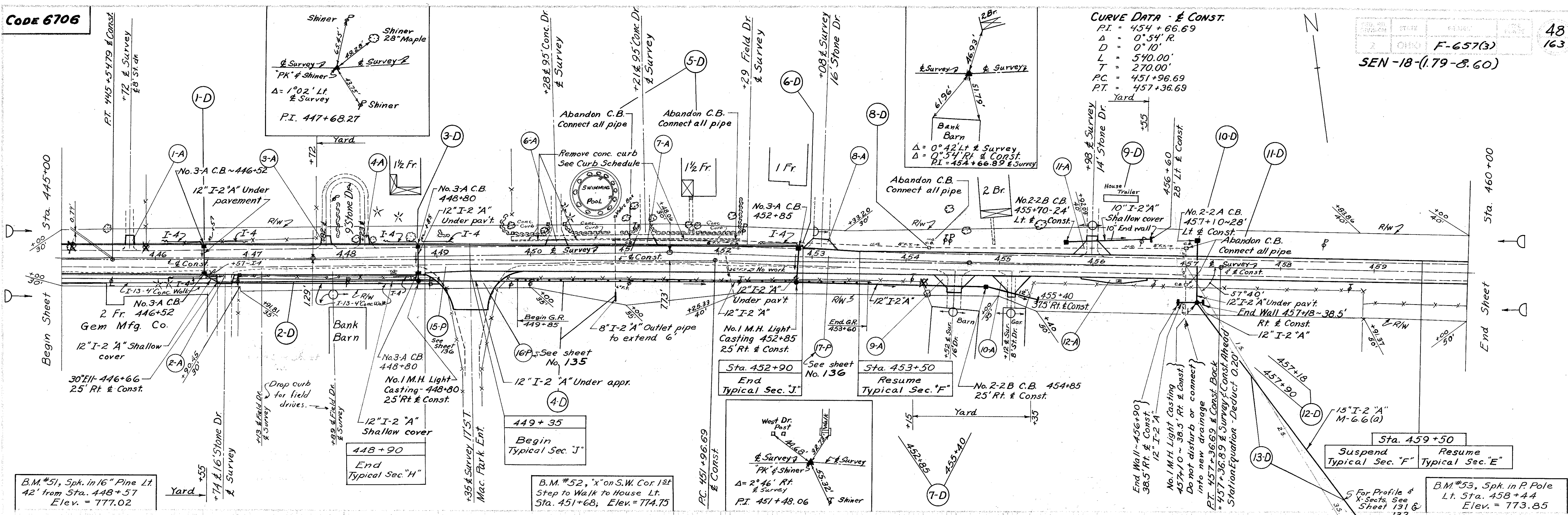
Sta. 434 + 48
 End Typ. Sec. "C" Begin Typ. Sec. "H"

B.M. #50, Spk in 16" Maple Rt. Sta. 441 + 13. Elev. = 778.66



CURVE DATA - & CONST.

PI.	= 454 + 66.69
Δ	= 0° 54' R.
D	= 0° 10'
L	= 540.00'
T	= 270.00'
PC	= 451 + 96.69
PT	= 457 + 36.69



Sta. 445+00 to Sta. 460+00

CURVE DATA - & CONST.

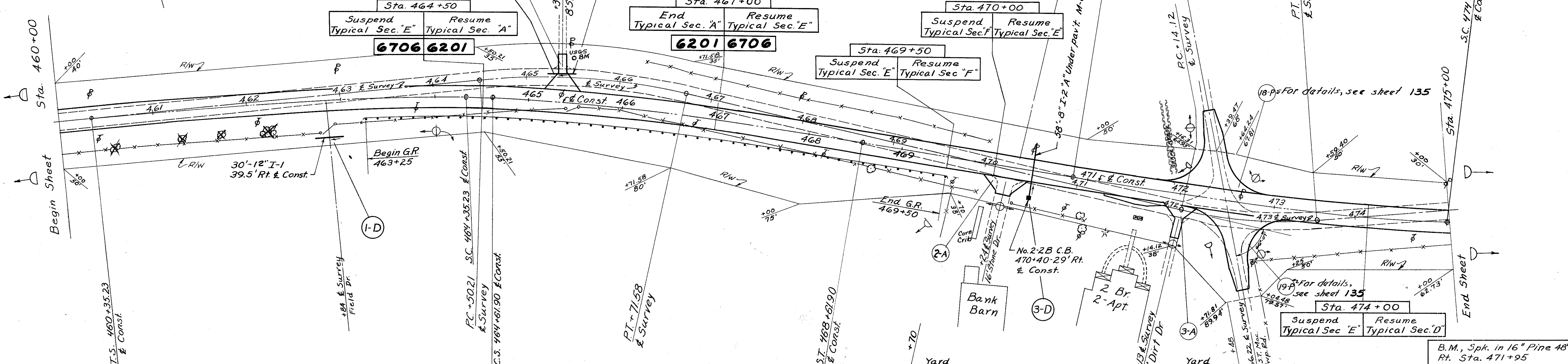
P.I. = 464+50.21
 Δ = 14°-56' Rt.
 D = 3"-30"
 L_s = 400.00'
 L_c = 26.67'
 T_s = 414.98'
 E_s = 18.07'
 T_s = 460+35.23
 S.C. = 464+35.23
 C.S. = 464+61.90
 S.T. = 468+61.90

Survey Curve Data

P.I. = 465+61.90
 Δ = 18°-49' Rt.
 D = 8"-30"
 T = 111.69'
 L = 221.37'
 R = 674.07'

Survey Curve Data

P.I. = 472+87.33
 Δ = 17°-26' Lt.
 D = 12"-00"
 T = 73.21'
 L = 145.28'
 R = 477.46'

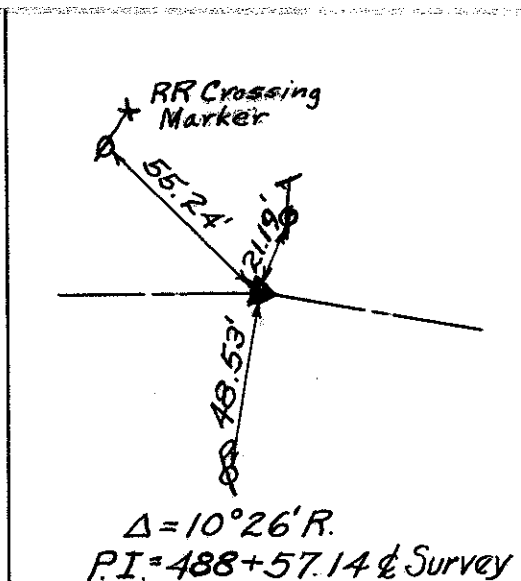
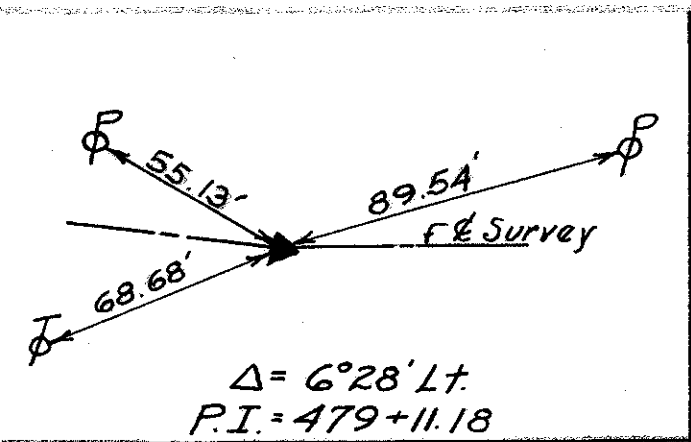


B.M., Spk. in 16" Pine 48 Rt. Sta. 471+95 Elev. = 779.84

X-Over - 470+40
 8' Lt. - 777.00
 8' Rt. - 777.20

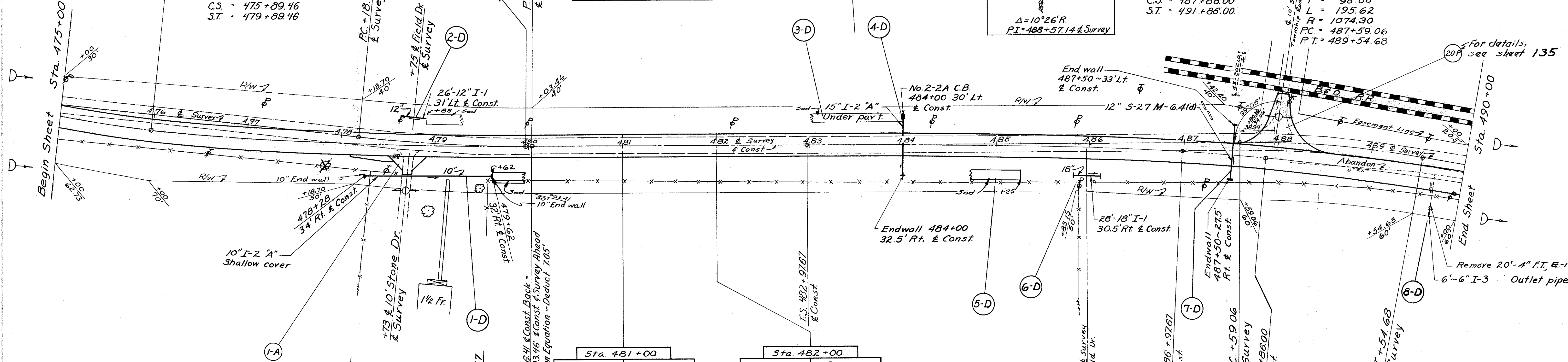
CURVE DATA - CONST.
 P.I. = 475+42.50
 Δ = 20° 01' Lt.
 D = 4° 00'
 L_s = 400.00'
 L_c = 100.42'
 T_s = 453.46'
 E_s = 26.86'
 T.S. = 470+89.04
 S.C. = 474+89.04
 C.S. = 475+89.46
 S.T. = 479+89.46

& Survey CURVE DATA
 P.I. = 479+11.18
 Δ = 6° 28' Lt.
 D = 3° 30'
 T = 92.48
 L = 184.76
 R = 1637.02
 P.C. = 478+18.70
 P.T. = 480+03.46



CURVE DATA - CONST.
 P.I. = 487+42.60
 Δ = 9° 46' Rt.
 D = 2° 00'
 L_s = 400.00'
 L_c = 88.33'
 T_s = 444.93'
 T.S. = 482+97.67
 S.C. = 486+97.67
 C.S. = 487+86.00
 S.T. = 491+86.00

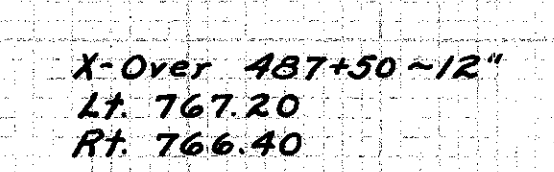
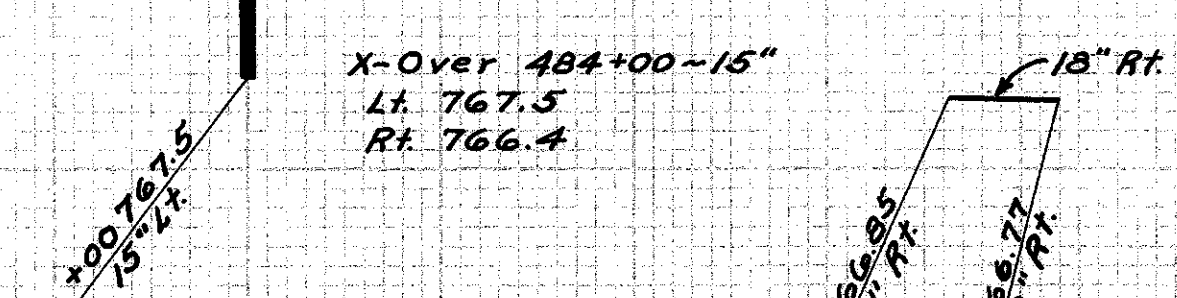
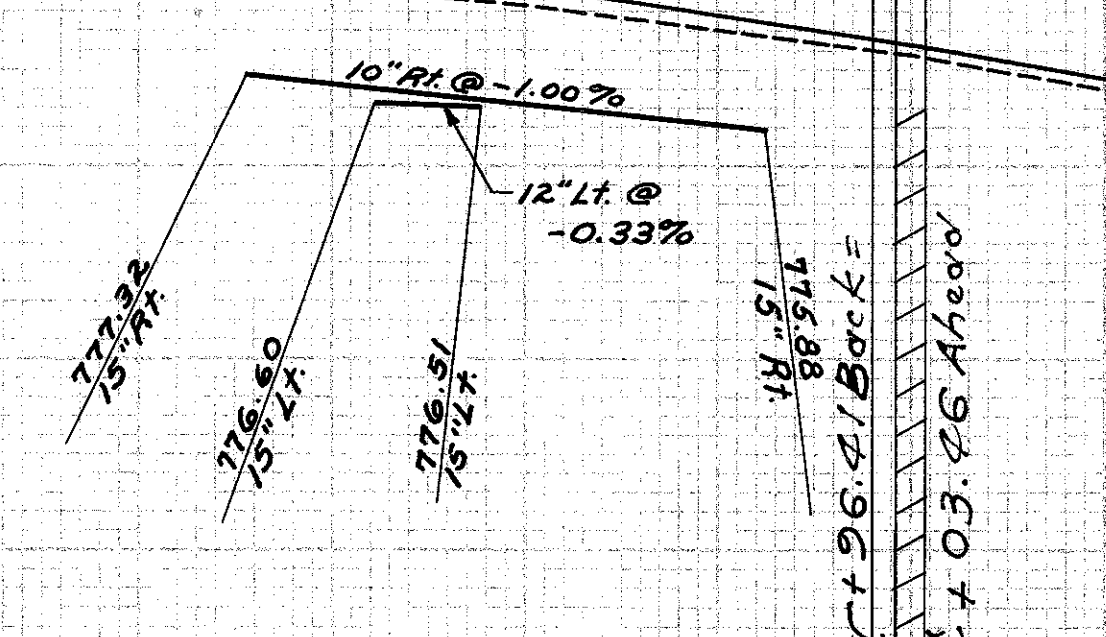
& Survey CURVE DATA
 P.I. = 488+57.14
 Δ = 10° 26' Rt.
 D = 5° 20'
 T = 98.08'
 L = 195.62
 R = 1074.30
 P.C. = 487+59.06
 P.T. = 489+54.68



B.M. #56, Spk. in 36" Willow
 72' Rt. Sta. 478+97
 Elev. = 780.45

B.M. #57, Spk. in P.Pole
 with brace. Lt. Sta. 485+30
 Elev. = 769.83

Profile & Survey	Elev. Right Edge	Elev. Const.	Elev. Left Edge
781.37	783.59	782.60	781.60
	783.51	782.52	781.52
	783.36	782.39	781.39
	783.29	782.32	781.35
	783.85	781.98	781.13
	782.39	781.65	780.90
	781.85	781.22	780.57
	781.29	780.77	780.25
	780.66	780.25	779.84
	780.02	779.73	779.43
	779.17	779.04	778.80
	779.40	778.40	778.21
	778.32	778.33	778.15
	777.23	777.37	777.19
	776.21	776.40	776.21
	774.45	774.64	774.45
	773.64	773.83	773.71
	772.88	773.07	773.07
	772.10	772.29	772.47
	771.36	771.63	771.90
	770.80	771.16	771.51
	770.35	770.79	771.22
	770.03	770.55	771.07
	769.76	770.37	770.98
	769.55	770.24	770.93
	769.36	770.13	770.90
	769.22	769.99	770.76
	769.13	769.90	770.67
	769.09	769.84	770.58
	768.98	769.65	770.31
	768.90	769.48	770.06
	768.82	769.32	769.81
	768.76	769.17	769.59
			785
			780
			775
			770
			765

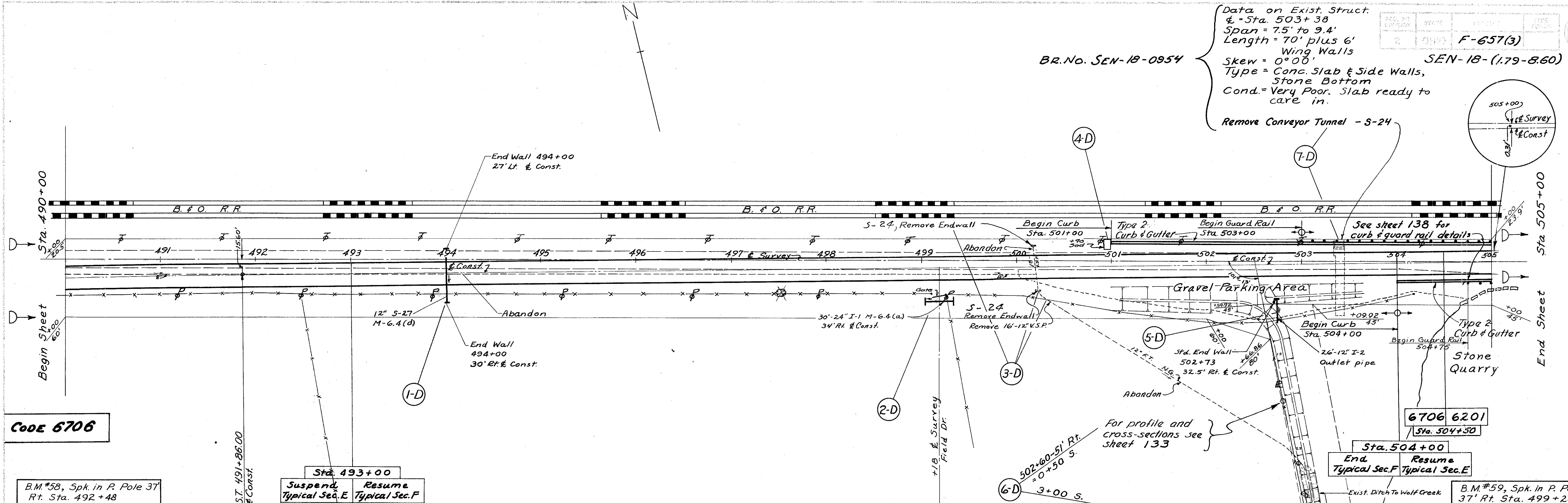


BR. NO. SEN-18-0954

Data on Exist. Struct.
 & = Sta. 503+38
 Span = 7.5' to 9.4'
 Length = 70' plus 6'
 Wing Walls
 Skew = 0° 00'
 Type = Conc. Slab & Side Walls,
 Stone Bottom
 Cond. = Very Poor. Slab ready to
 care in.

Remove Conveyor Tunnel - S-24

FED. DIST.	STATE	FED. AID	PROJECT	SHEET NO.
2	OHIO	F-657(3)		51/163



CODE 6706

B.M.#58, Spk. in P. Pole 37'
 Rt. Sta. 492+48
 Elev. = 770.57

Sta. 493+00
 Suspend Typical Sec. E
 Resume Typical Sec. F

6706 6201
 Sta. 504+50
 End Typical Sec. F
 Resume Typical Sec. E

B.M.#59, Spk. in P. Pole 37'
 Rt. Sta. 499+25
 Elev. = 768.00

Profile & Survey	Elev. Right Edge 785	Elev. & Const.	Elev. Left Edge
769.05	768.76	769.17	779.58
768.69	768.70	769.03	769.35
768.47	768.65	768.89	769.13
768.42	768.60	768.79	768.91
768.40	768.60	768.79	768.79
768.38	768.60	768.79	768.75
768.37	768.60	768.79	768.63
768.40	768.60	768.79	768.60
768.34	768.79	768.79	768.79
768.40	768.79	768.79	768.79
768.40	768.78	768.79	768.78
768.40	768.78	768.79	768.78
768.40	768.76	768.79	768.76
768.35	768.72	768.79	768.72
768.34	768.73	768.79	768.73
768.51	768.77	768.79	768.77
768.95	768.85	768.79	768.85
769.12	769.02	768.79	769.02
768.36	769.25	768.79	769.25
766.91	769.38	768.79	769.38
	769.41	768.79	769.41
	769.20	768.79	769.20
	768.43	768.79	768.43
	767.75	768.79	767.75
	766.99	768.79	766.99
	767.18	768.79	767.18
	767.18	768.79	767.18
		768.79	767.18

Profile & Survey 769.05 768.69 768.47 768.42 768.40 768.38 768.37 768.40 768.40 768.40 768.35 768.34 768.51 768.95 769.12 768.36 766.91

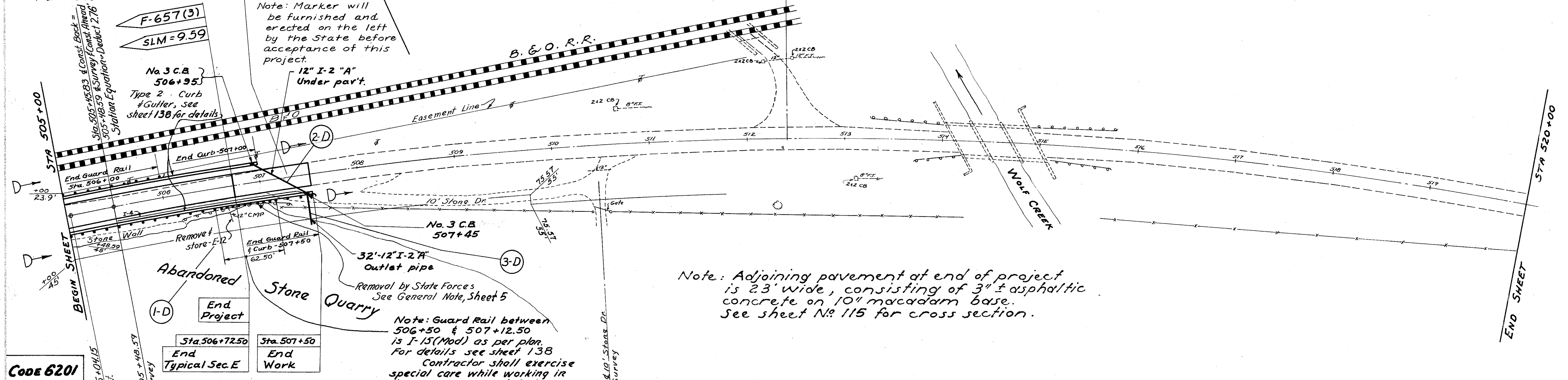
X-over 12' Lt. 765.80 Rt. 765.20

Outlet pipe - 12" 32.5' Rt. - 765.7 58.5' Rt. - 765.6

Sta. 490+00 to Sta. 505+00

CURVE DATA ~ & SURVEY
 P.I. = 516 + 40.87
 Δ = 31° 55'
 D = 1° 30'
 R = 3819.72
 T = 1092.28
 L = 2127.78
 E = 153.1
 P.C. = 505 + 48.59

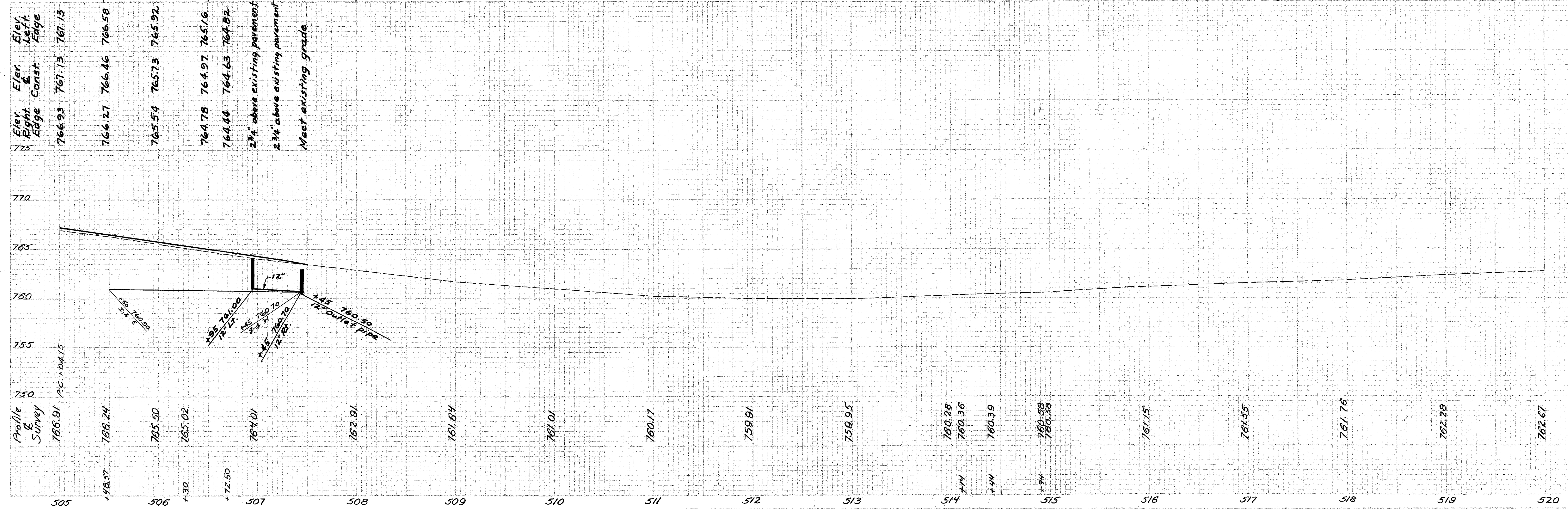
CURVE DATA ~ & CONST.
 P.I. = 516 + 20.42
 Δ = 32° - 35'
 D = 1° - 30'
 R = 3819.72
 T = 1116.27
 L = 2172.22
 E = 159.82
 P.C. = 505 + 04.15



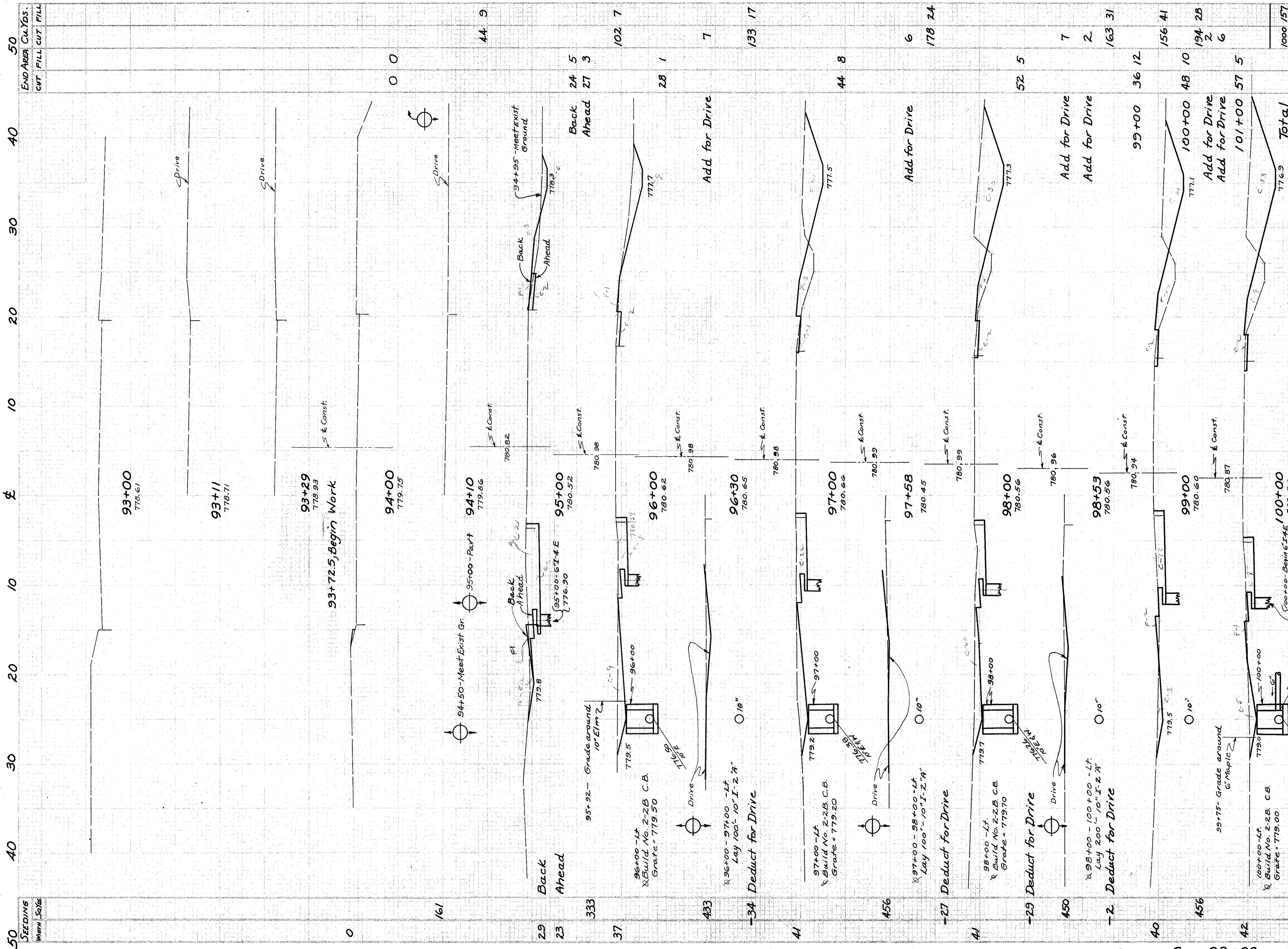
Code 6201

Sta. 506+72.50 End Typical Sec. E
 Sta. 507+50 End Work

B.M. #60, Spk. in Tele. Pole 21' Lt Sta. 505+67 Elev. 766.09



Sta. 505+00 to 520+00



STATION	END AREA	Cu. Yds.
93+00	776.61	
93+10	778.71	
93+20	779.93	
94+00	779.75	
94+10	779.86	
95+00	780.52	
96+00	780.62	
96+30	780.65	
97+00	780.66	
97+58	780.45	
98+00	780.56	
98+53	780.56	
99+00	780.60	
100+00	780.54	
100+30	780.46	
101+00	780.25	
Total		6706

STATION	CUT	FILL	CUT	FILL
93+00				
93+10				
93+20				
94+00				
94+10				
95+00				
96+00				
96+30				
97+00				
97+58				
98+00				
98+53				
99+00				
100+00				
100+30				
101+00				
Total			1000	157

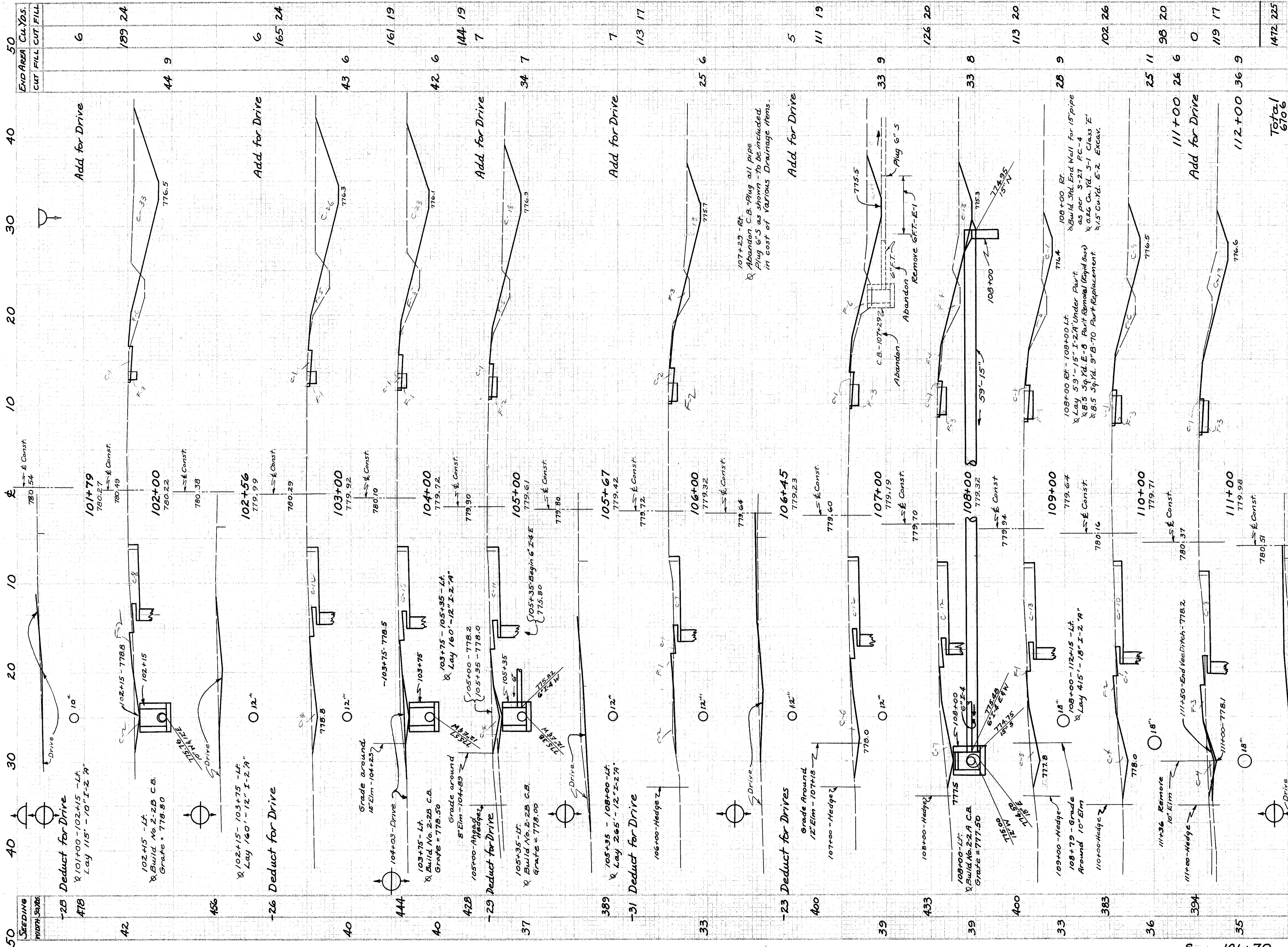
SEN. - 18 - (179-8.60)

F-657(3)

53
163

STA. 93+00 TO STA. 101+00

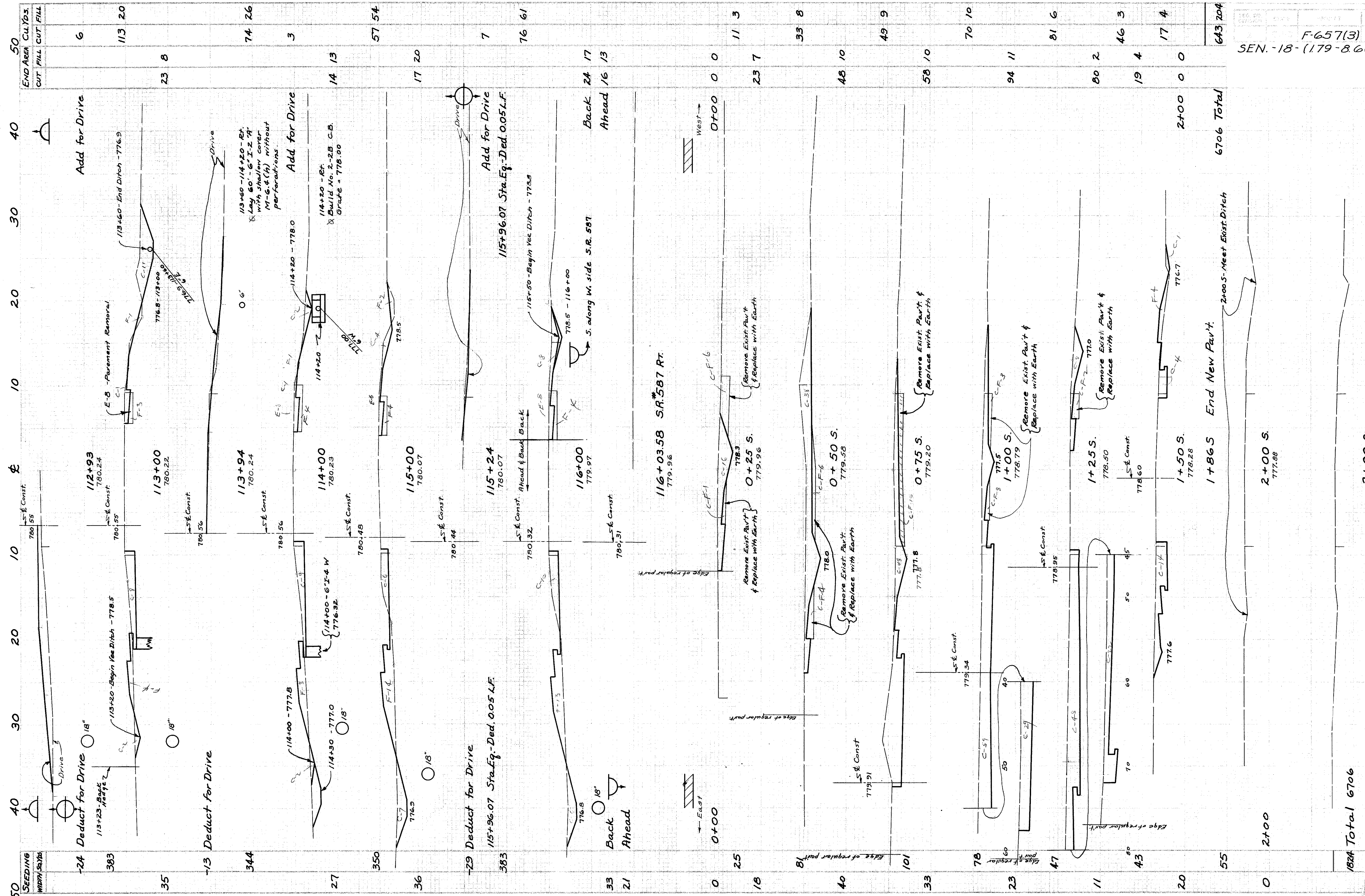
2648 Total 6706



END AREA	CU. YDS.
CUT	6
FILL	189
TOTAL	195
CUT	6
FILL	165
TOTAL	171
CUT	6
FILL	161
TOTAL	167
CUT	6
FILL	144
TOTAL	150
CUT	7
FILL	113
TOTAL	120
CUT	7
FILL	111
TOTAL	118
CUT	5
FILL	126
TOTAL	131
CUT	5
FILL	113
TOTAL	118
CUT	5
FILL	102
TOTAL	107
CUT	5
FILL	98
TOTAL	103
CUT	6
FILL	0
TOTAL	6
CUT	119
FILL	119
TOTAL	238
CUT	1472
FILL	225
TOTAL	1697

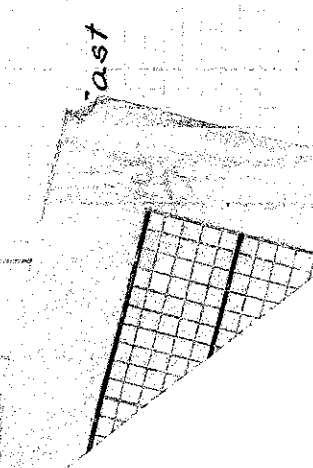
STATION	SEEDING WIDTH	SEEDING	DRIVE	CONSTRUCTION	ELEVATION	REMARKS
101+79	42	-25	10\"	Deduct for Drive	780.27	102+15 - Lt. Build No. 2-2B C.B. Grade = 778.80
102+00	44	-26	12\"	Deduct for Drive	780.38	103+75 - Lt. Build No. 2-2B C.B. Grade = 778.50
103+00	40	-29	12\"	Deduct for Drive	780.10	105+35 - Lt. Build No. 2-2B C.B. Grade = 778.00
104+00	40	-31	12\"	Deduct for Drive	779.72	107+00 - Lt. Build No. 2-2B C.B. Grade = 777.50
105+00	37	-23	12\"	Deduct for Drive	779.80	108+00 - Lt. Build No. 2-2A C.B. Grade = 777.50
106+00	33	-23	12\"	Deduct for Drive	779.64	109+00 - Lt. Build No. 2-2C C.B. Grade = 778.50
107+00	39	-23	12\"	Deduct for Drive	779.70	110+00 - Lt. Build No. 2-2D C.B. Grade = 779.00
108+00	39	-23	12\"	Deduct for Drive	779.94	111+00 - Lt. Build No. 2-2E C.B. Grade = 779.50
109+00	33	-23	12\"	Deduct for Drive	779.64	112+00 - Lt. Build No. 2-2F C.B. Grade = 780.00
110+00	36	-23	12\"	Deduct for Drive	780.37	
111+00	35	-23	12\"	Deduct for Drive	780.51	
112+00	34	-23	12\"	Deduct for Drive	780.53	
112+00	448	Total	6706			

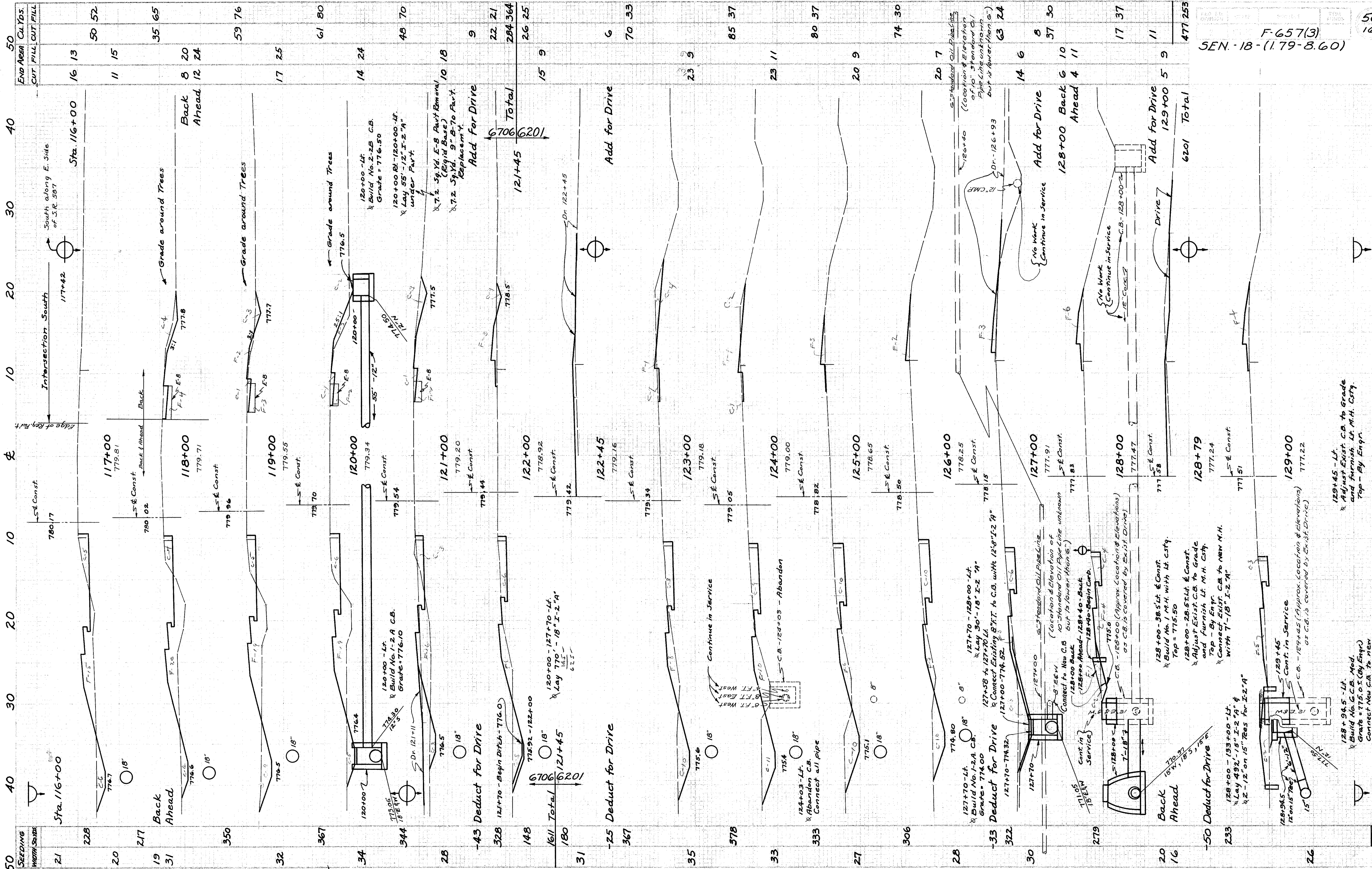
STA. 101+79 TO STA. 112+00



SEEDING WIDTH (Sq. Yds.)	SEEDING	STATION	END AREA CU. YDS.
-24	Deduct for Drive	112+93	6
383		113+00	113 20
35		113+94	23 8
-13	Deduct for Drive	114+00	74 26
344		115+00	3
27		115+24	14 13
350		116+00	57 54
36		116+03.58	17 20
-29	Deduct for Drive		7
383			76 61
33	Back		24 17
21	Ahead		16 13
0		0+00	0 0
25		0+25 S.	11 3
18		0+50 S.	23 7
81		0+75 S.	33 8
40		1+00 S.	48 10
33		1+25 S.	49 9
78		1+50 S.	58 10
23		1+75 S.	70 10
47		2+00 S.	81 6
11		2+25 S.	80 2
43		2+50 S.	46 3
20		2+75 S.	19 4
55		3+00 S.	17 4
0		2+00	0 0
1824	Total		6706
			643 204

STA. 112+93 TO STA. 116+03.58





SEEDING WIDTH STATIONS	STA.	END AREA CUT	FILL	CUT FILL	CUT FILL	CLYDS.
21	116+00	16	13	50	52	50
20	117+00	11	15	35	65	65
19	118+00	8	20	59	76	76
32	119+00	17	25	61	80	80
34	120+00	14	24	48	70	70
28	121+00	9	18	22	21	21
148	122+00	15	9	284	364	364
31	123+00	6	6	70	33	33
35	124+00	23	11	85	37	37
33	125+00	20	9	80	37	37
27	126+00	20	9	74	30	30
30	127+00	20	7	63	24	24
20	128+00	14	6	8	30	30
16	129+00	6	10	17	37	37
26	129+00	5	9	11	11	11
2290	Total	6201	6201	477	253	253

F-657(3)
SEN-18-(1.79-8.60)

56
163

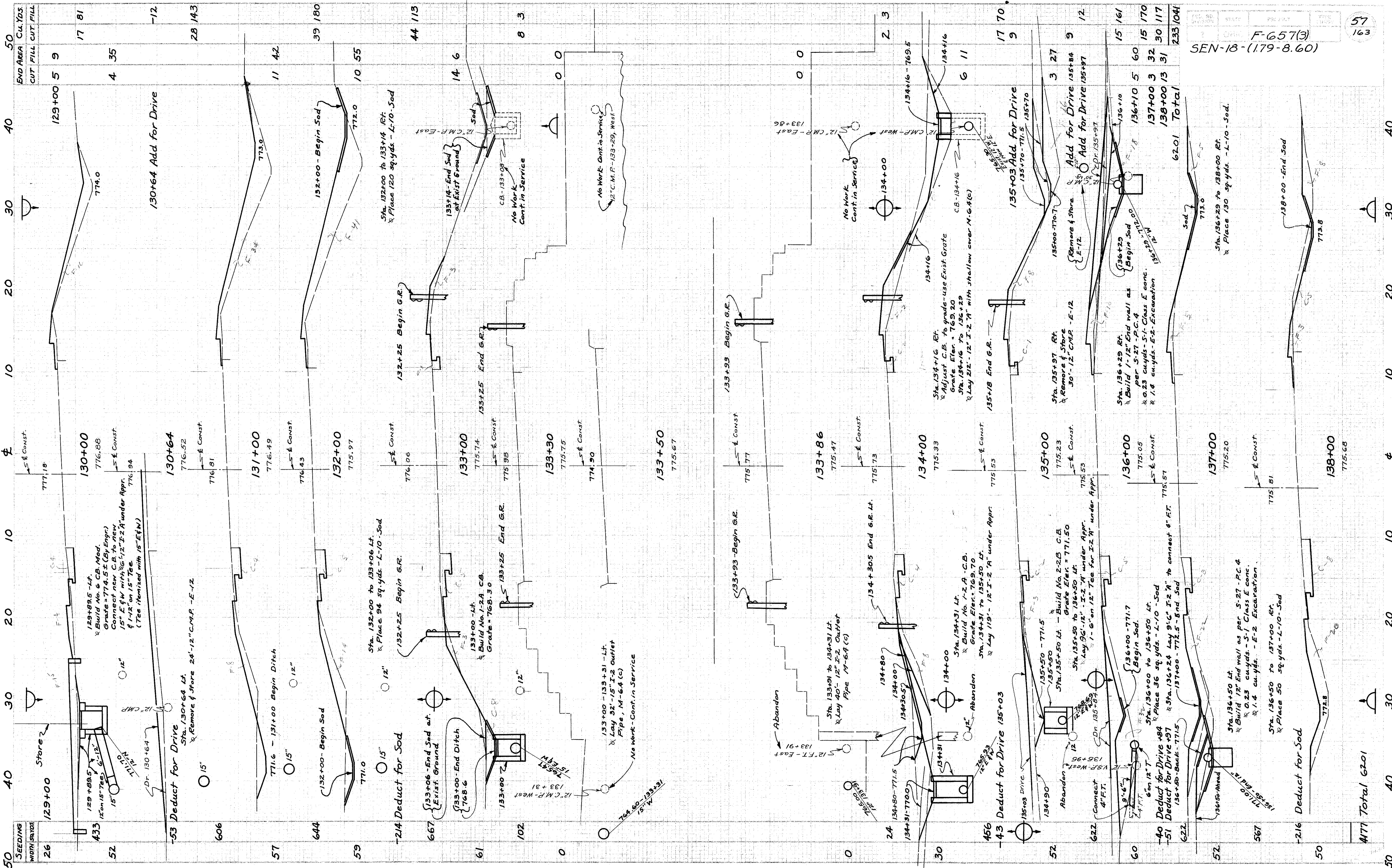
STA. 117+00 TO STA. 129+00

129+45 - Lt.
& Adjust Exist. C.B. to grade
and furnish Lt. M.H. Cstg.
Top - By Engr.

128+94.5 - Lt.
Build No. G.C.B. Mod.
Grade = 775.0 ± (By Engr.)
Connect New C.B. to new
15" E.M. with 12" I-2" A
& 1-12" on 15" Res. (See itemized with 15" E.F.W.)

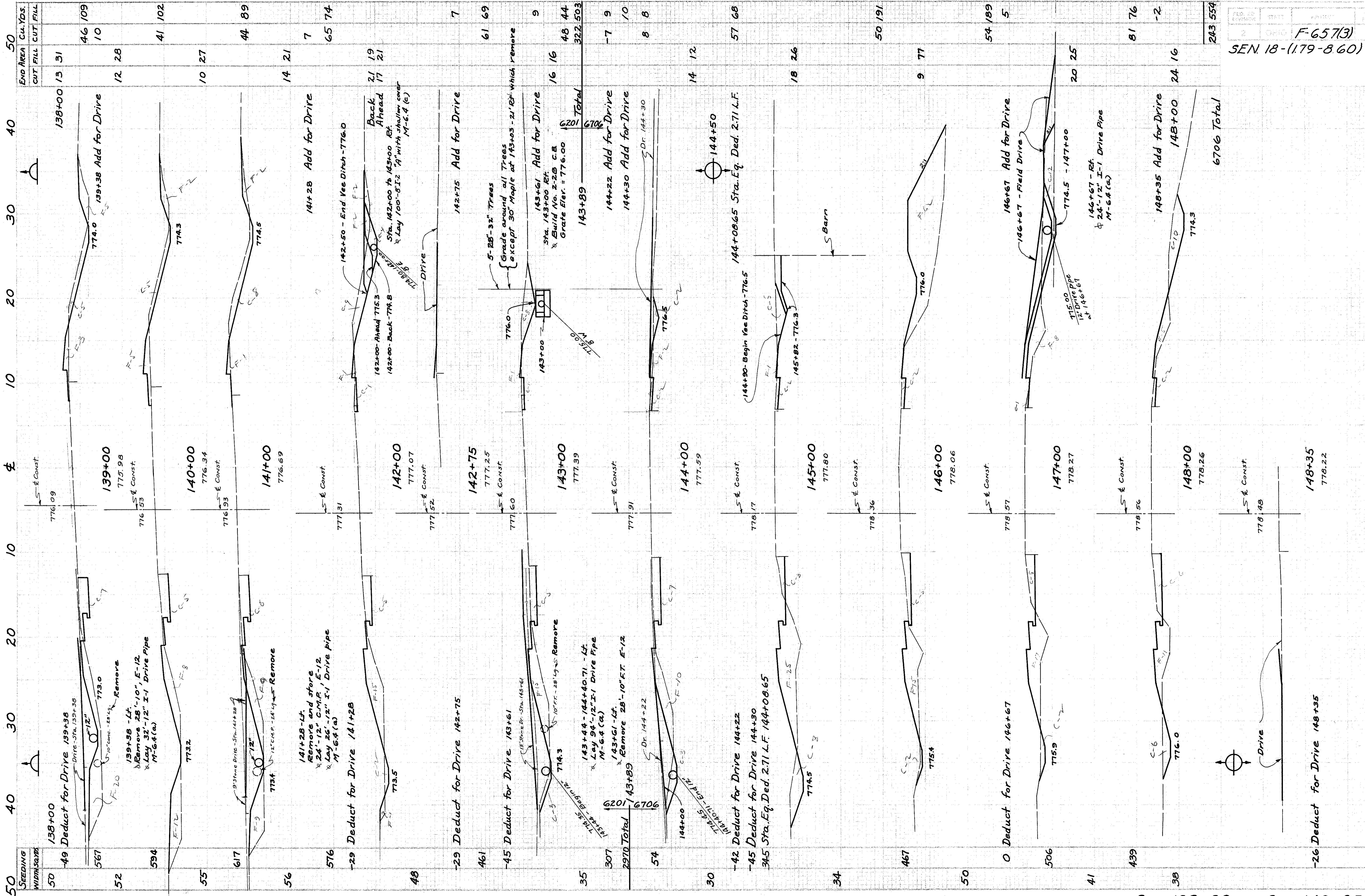
128+94.5 - Lt.
Build No. G.C.B. Mod.
Grade = 775.0 ± (By Engr.)
Connect New C.B. to new
15" E.M. with 12" I-2" A
& 1-12" on 15" Res. (See itemized with 15" E.F.W.)

128+94.5 - Lt.
Build No. G.C.B. Mod.
Grade = 775.0 ± (By Engr.)
Connect New C.B. to new
15" E.M. with 12" I-2" A
& 1-12" on 15" Res. (See itemized with 15" E.F.W.)



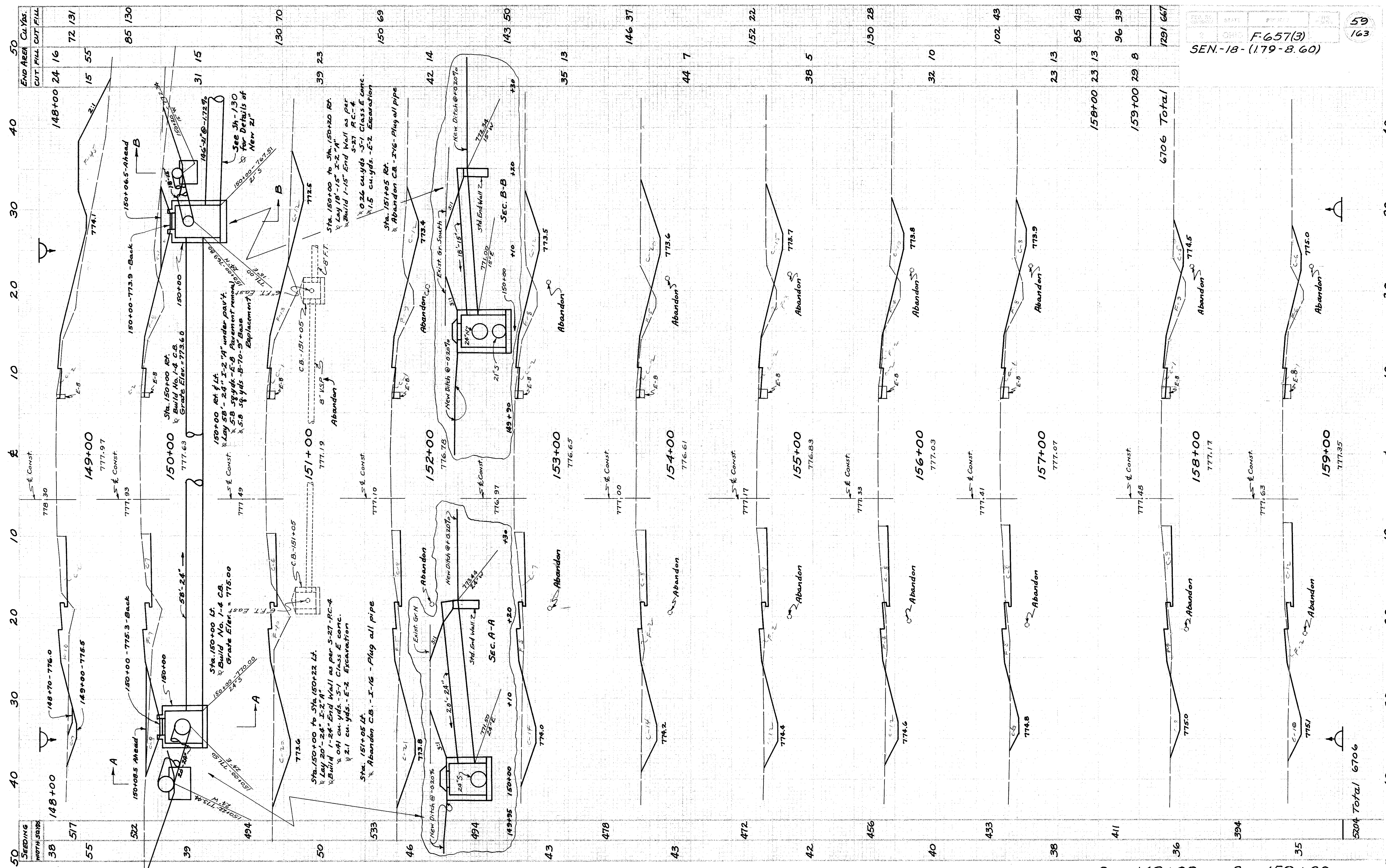
SEEDING WIDTH S&YDS	STATION	ELEVATION	CONSTRUCTION	END AREA CUT	END AREA FILL	C.U. YDS.
26	129+00	777.18	5' Const.	129+00	5	9
433	129+89.5	776.98	Build No. 6 C.B. Mod. Grate = 774.5 ± (By Engr.) Connect new C.B. to new 15" E & W with 12" I-2 under appr. 1-1/2" on 15" Tee. (Tee itemized with 15" E & W)	129+89.5	4	35
52	130+64	776.94	5' Const.	130+64	9	17
606	130+64	776.81	5' Const.	130+64	9	17
57	131+00	776.49	5' Const.	131+00	11	42
644	132+00	776.43	5' Const.	132+00	10	55
59	132+00	775.97	5' Const.	132+00	10	55
-214	132+25	776.06	5' Const.	132+25	14	6
667	133+00	775.74	5' Const.	133+00	14	6
61	133+00	775.95	5' Const.	133+00	14	6
102	133+30	775.75	5' Const.	133+30	0	0
0	133+50	774.90	5' Const.	133+50	0	0
0	133+50	775.67	5' Const.	133+50	0	0
0	134+00	775.47	5' Const.	134+00	0	0
24	134+00	775.73	5' Const.	134+00	2	3
30	134+00	775.93	5' Const.	134+00	6	11
456	135+00	775.53	5' Const.	135+00	3	27
-43	135+03	775.53	5' Const.	135+03	3	27
52	135+00	775.23	5' Const.	135+00	3	27
60	136+00	775.05	5' Const.	136+00	5	60
-40	136+00	775.57	5' Const.	136+00	3	30
-51	136+00	775.57	5' Const.	136+00	3	30
622	137+00	775.20	5' Const.	137+00	13	31
52	137+00	775.81	5' Const.	137+00	13	31
567	138+00	775.68	5' Const.	138+00	13	31
-216	138+00	775.68	5' Const.	138+00	13	31
477	Total			Total	62.01	233.04

STA. 130+00 TO STA. 138+00



SEEDING WIDTH 36 FT	50	40	30	20	10	0	10	20	30	40	50	CU. YDS.	
												CUT	FILL
												13	31
												46	109
												12	28
												41	102
												10	27
												14	21
												7	7
												65	74
												7	7
												61	69
												9	9
												48	44
												16	16
												322	503
												620	6706
												14	12
												57	68
												18	26
												50	191
												9	71
												54	189
												5	5
												20	25
												81	76
												-2	-2
												24	16
												6706	Total
												243	554

STA. 139+00 TO STA. 148+35



SEEDING WIDTH SIDE 38 55 52 39 50 46 43 47 42 45 43 47 42 45 43 38 36 39 35

END AREA CUT FILL CUT FILL 50 148+00 24 16 72 131 15 55 85 130 31 15 130 70 150 69 143 50 35 13 146 37 152 22 190 28 102 43 85 48 96 39 129 667

STA. 149+00 TO STA. 159+00

5804 Total 6706

6706 Total

See 34-130 for Details of New 21" Pipe

Sta. 151+05 Rt. & Abandon C.B. - I-16 - Plug all pipe

Sta. 150+00 to Sta. 150+20 Rt. & Lay 18"-15" I-2" A" & Build 1'-15" End Wall as per S-27 RC-4 & 0.26 cu. yds. - E-2 Excavation

Sta. 151+05 Lt. & Abandon C.B. - I-16 - Plug all pipe

Sta. 150+00 Lt. & Build No. 1-4 C.B. Grate Elev. = 775.00

Sta. 150+00 to Sta. 150+22 Lt. & Lay 20"-24" I-2" A" & Build 1'-24" End Wall as per S-27-RC-4 & 0.91 cu. yds. - S-1 Class E conc. & 2.1 cu. yds. - E-2 Excavation

Sta. 151+05 Lt. & Abandon C.B. - I-16 - Plug all pipe

Sta. 150+00 Lt. & Build No. 1-4 C.B. Grate Elev. = 775.00

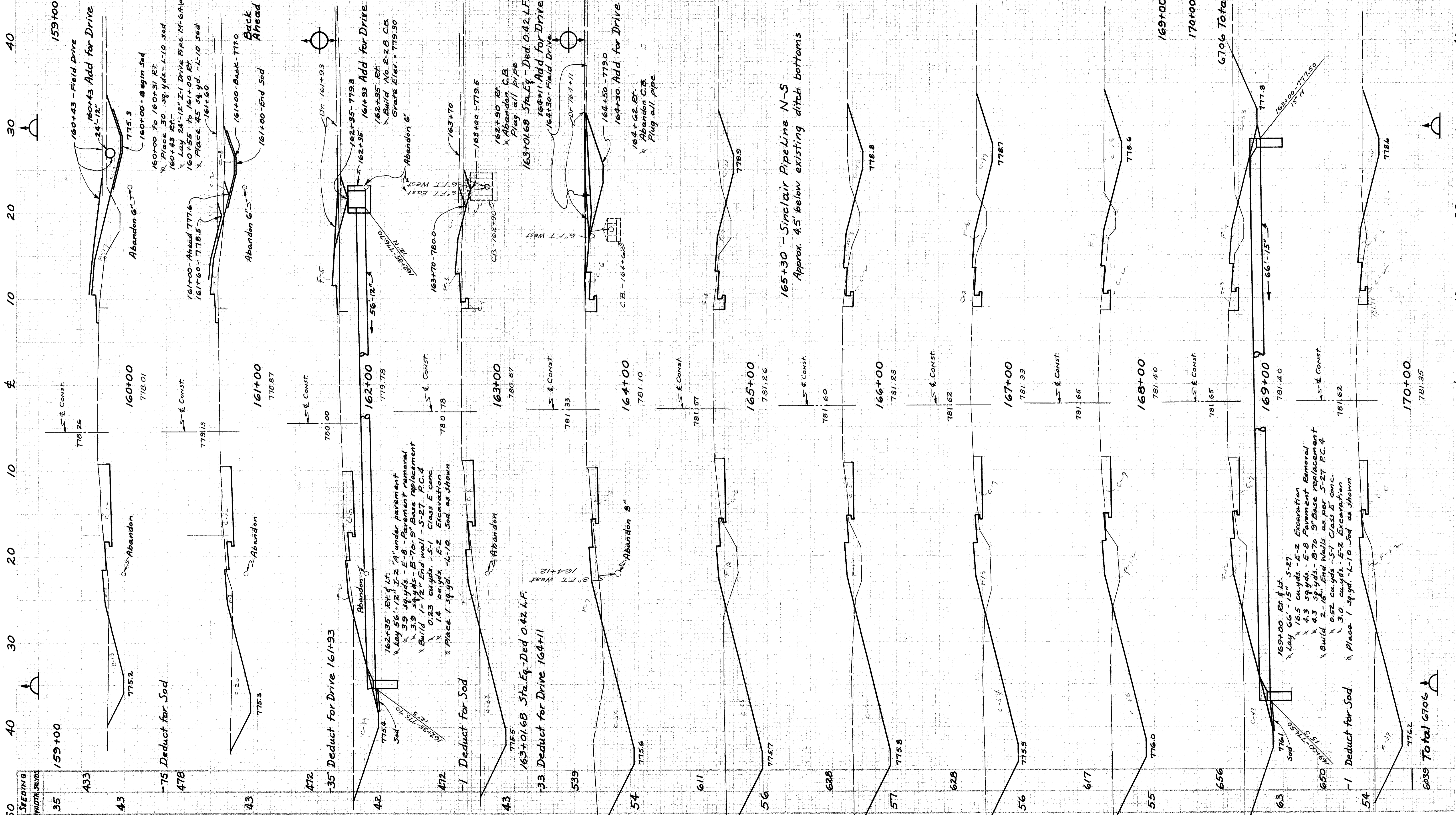
Sta. 150+00 to Sta. 150+22 Lt. & Lay 20"-24" I-2" A" & Build 1'-24" End Wall as per S-27-RC-4 & 0.91 cu. yds. - S-1 Class E conc. & 2.1 cu. yds. - E-2 Excavation

Sta. 151+05 Lt. & Abandon C.B. - I-16 - Plug all pipe

Sta. 150+00 Lt. & Build No. 1-4 C.B. Grate Elev. = 775.00

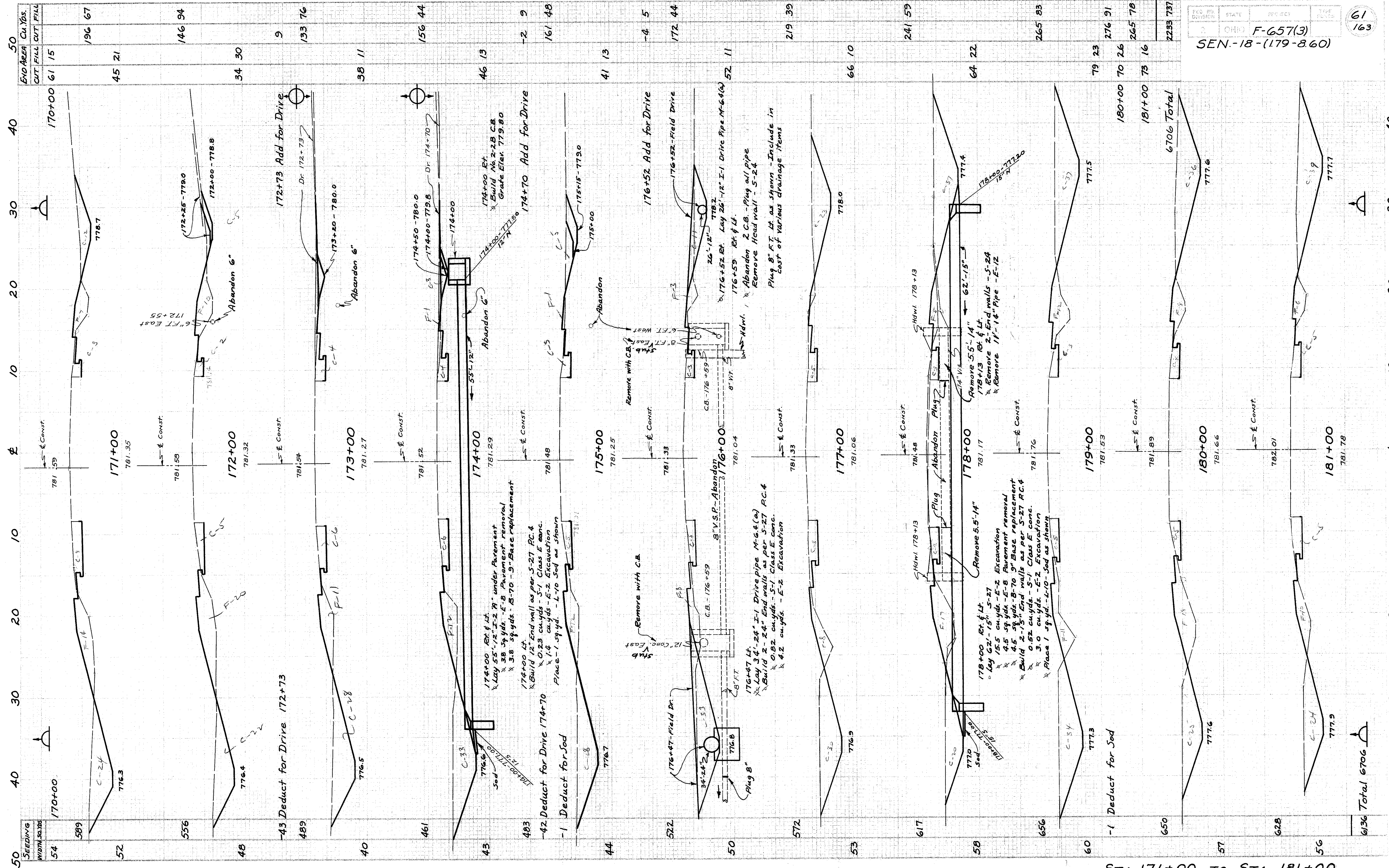
Sta. 150+00 to Sta. 150+22 Lt. & Lay 20"-24" I-2" A" & Build 1'-24" End Wall as per S-27-RC-4 & 0.91 cu. yds. - S-1 Class E conc. & 2.1 cu. yds. - E-2 Excavation

STATION	STRENGTH	WIDTH	DEPTH	END AREA	CUT	FILL	CUT/FILL	CUT/FILL
159+00	35	433	43	159+00	29	8	122	54
160+00	43	478	43	160+00	37	21	143	59
161+00	472	472	43	161+00	40	11	143	33
162+00	42	472	43	162+00	43	7	8	8
163+00	43	472	43	163+00	44	12	7	7
164+00	539	54	43	164+00	68	7	207	35
165+00	611	56	43	165+00	85	22	283	54
166+00	628	57	43	166+00	84	19	313	76
167+00	628	56	43	167+00	81	19	306	70
168+00	617	55	43	168+00	83	19	304	70
169+00	656	63	43	169+00	91	20	322	72
170+00	650	54	43	170+00	61	15	281	65
Total	6039	6706	6706	Total	6706	6706	2605	628

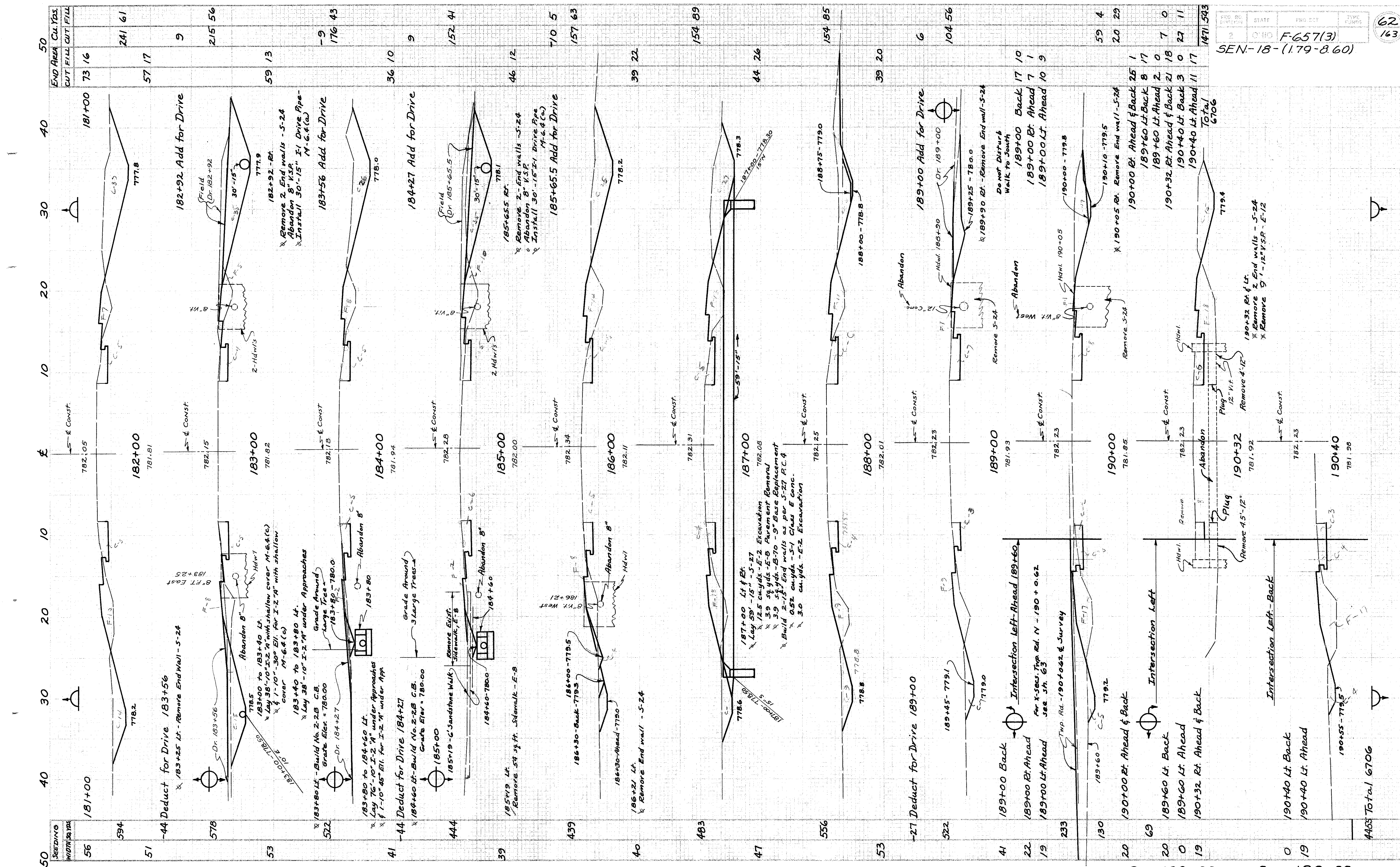


STATION	STRENGTH	WIDTH	DEPTH	END AREA	CUT	FILL	CUT/FILL	CUT/FILL
159+00	35	433	43	159+00	29	8	122	54
160+00	43	478	43	160+00	37	21	143	59
161+00	472	472	43	161+00	40	11	143	33
162+00	42	472	43	162+00	43	7	8	8
163+00	43	472	43	163+00	44	12	7	7
164+00	539	54	43	164+00	68	7	207	35
165+00	611	56	43	165+00	85	22	283	54
166+00	628	57	43	166+00	84	19	313	76
167+00	628	56	43	167+00	81	19	306	70
168+00	617	55	43	168+00	83	19	304	70
169+00	656	63	43	169+00	91	20	322	72
170+00	650	54	43	170+00	61	15	281	65
Total	6039	6706	6706	Total	6706	6706	2605	628

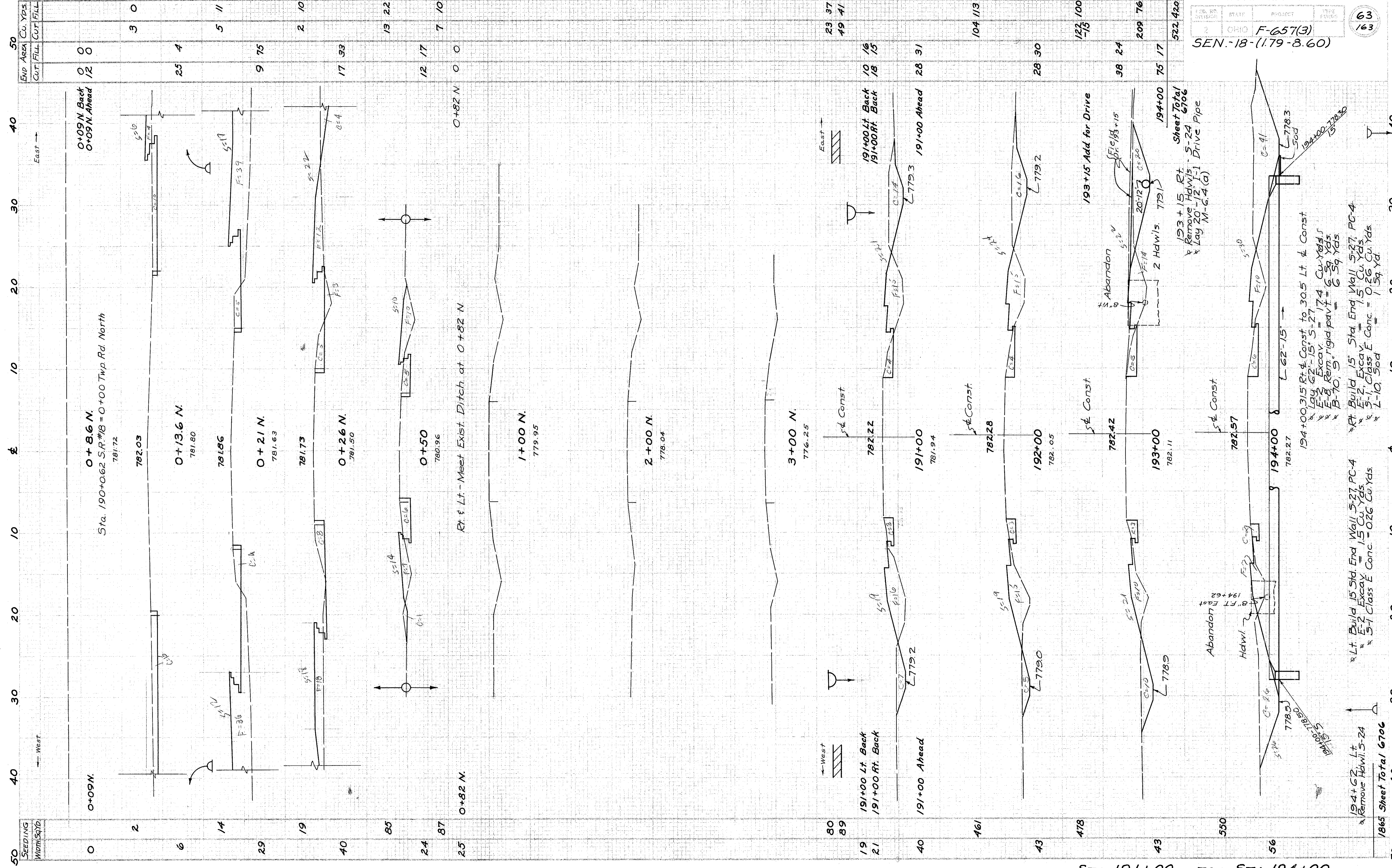
STA. 160+00 TO STA. 170+00



SEEDING INVT. NO.	STA.	END AREA CUT	AREA FILL	CUT	FILL	CUT	FILL
54	170+00	716.3	778.7	61	15	196	67
52	171+00	716.3	778.7	45	21	146	94
48	172+00	716.4	778.8	34	30	9	76
40	173+00	716.5	778.9	38	11	156	44
43	174+00	716.6	779.0	46	13	-2	9
44	175+00	716.7	779.1	41	13	-4	5
50	176+00	716.8	779.2	52	11	172	44
53	177+00	716.9	779.3	66	10	219	39
58	178+00	717.0	779.4	64	22	241	59
60	179+00	717.1	779.5	79	23	265	83
65	180+00	717.2	779.6	180+00	70	276	91
62	181+00	717.3	779.7	181+00	73	265	78
56	Total	6706	6706	2233	737		



SEEDING WIDTH	50	40	30	20	10	0	10	20	30	40	50	END AREA	CUT	FILL	CUT/FILL	
56												73	16			
594												241	61			
51												57	17			
578												9				
53												215	56			
572												-9				
41												176	43			
444												36	10			
39												9				
439												152	41			
40												46	12			
483												710	5			
47												157	63			
556												39	22			
53												154	89			
522												6				
41												104	56			
22												17	10			
19												7	1			
233												10	9			
130												190+10	-779.5			
20												190+00	Rt. Ahead & Back	25	1	
69												189+60	Lt. Back	8	17	
20												189+60	Lt. Ahead	2	0	
0												190+32	Rt. Ahead & Back	21	18	
19												190+40	Lt. Back	3	0	
0												190+40	Lt. Ahead	11	17	
19												Total		6706		
4455															1471	543



SEEDING WIDTH SQ YD	END AREA	CU. YDS CUT	CU. YDS FILL
0	0	0	0
6	25	4	0
14	5	11	0
29	9	75	0
40	17	53	0
80	13	22	0
87	12	17	0
25	0	0	0
80	23	37	0
89	49	41	0
19	10	16	0
21	18	15	0
40	28	31	0
46	104	113	0
43	28	30	0
478	122	100	0
43	38	24	0
550	209	76	0
56	75	17	0
1865	522	420	0

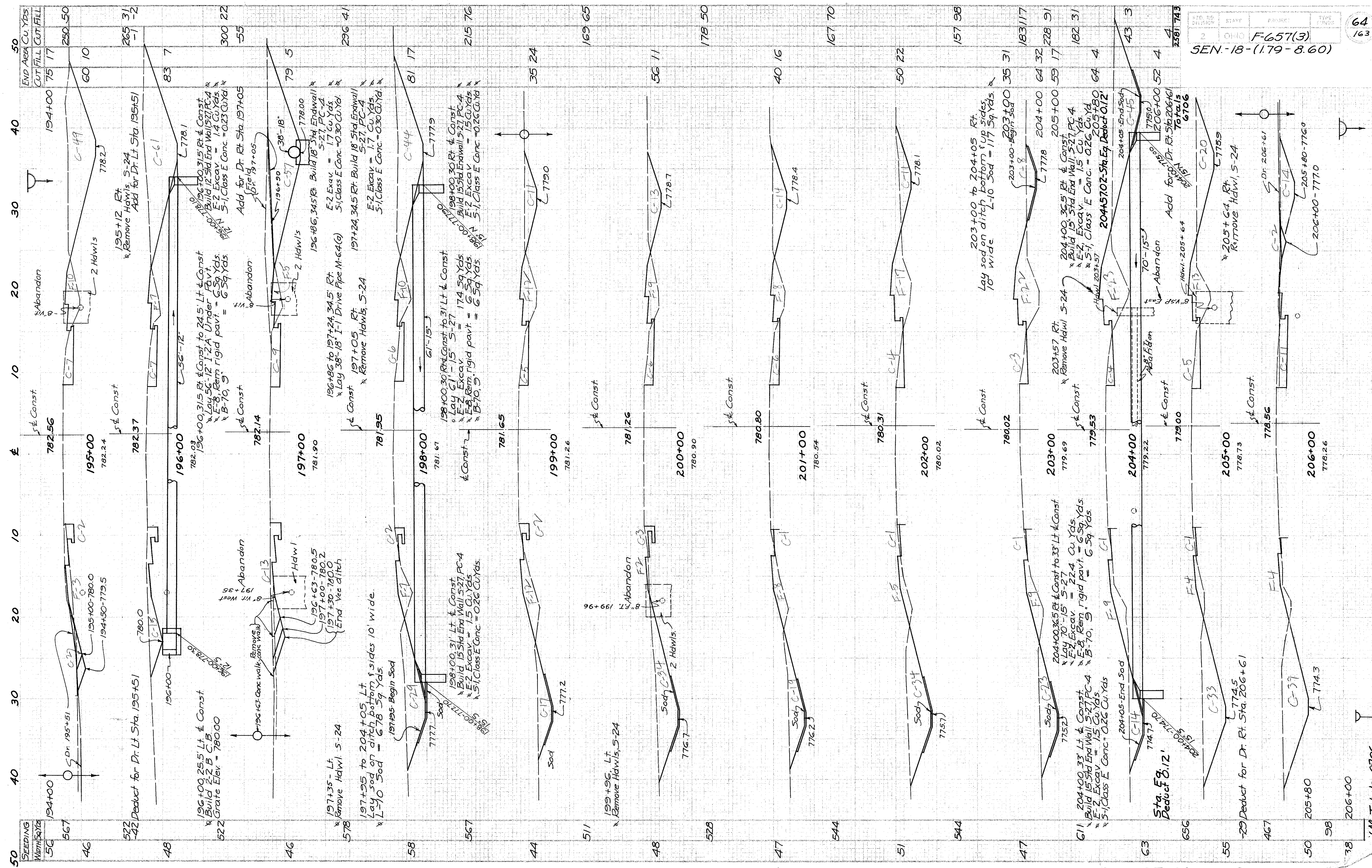
STA. 191+00 TO STA. 194+00

194+00, 315 Rt. & Const. to 30.5 Lt. & Const.
 Lay 6" - 15" S-27 PG-4
 Excav. = 174 Cu. Yds.
 E-8 Rem. rigid pavt = 6.59 Yds.
 B-70, 9" rigid pavt = 6.59 Yds.
 Lt. Build 15" Sid. End Wall S-27 PG-4
 E-2 Excav = 15 Cu. Yds.
 S-7 Class E Conc. = 0.26 Cu. Yds.
 L-10, Sod = 1.54 Yds.
 194+00, 315 Rt. & Const. to 30.5 Lt. & Const.
 Lay 6" - 15" S-27 PG-4
 Excav. = 174 Cu. Yds.
 E-8 Rem. rigid pavt = 6.59 Yds.
 B-70, 9" rigid pavt = 6.59 Yds.
 Lt. Build 15" Sid. End Wall S-27 PG-4
 E-2 Excav = 15 Cu. Yds.
 S-7 Class E Conc. = 0.26 Cu. Yds.
 L-10, Sod = 1.54 Yds.

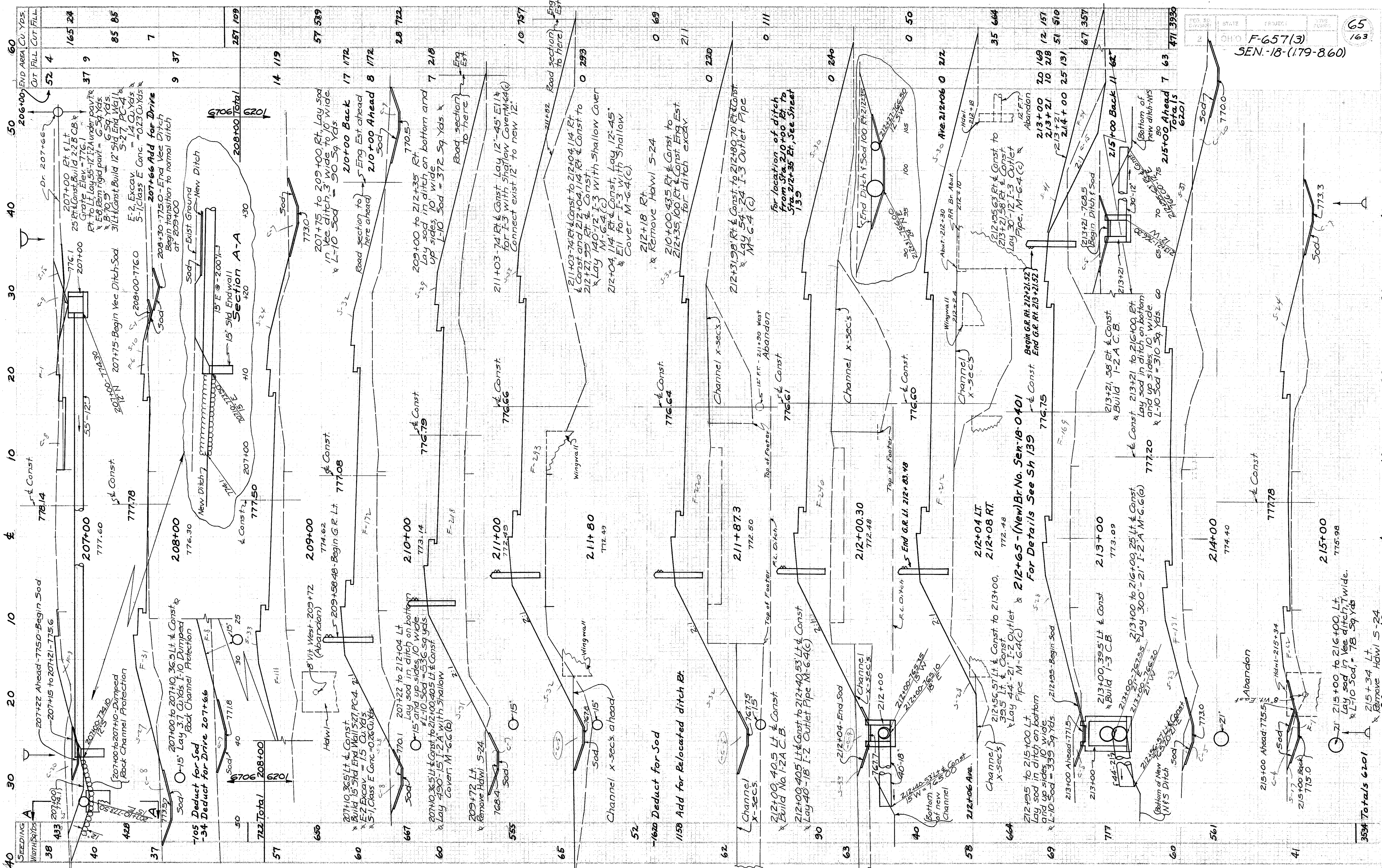
193+15 Add for Drive
 194+00 75 17
 Sheet Total
 Remove Hdwl's - S-24
 Lay 20" - 12" J-1
 Drive Pipe
 M-6.4 (a)

193+15 Rt.
 Remove Hdwl's - S-24
 Lay 20" - 12" J-1
 Drive Pipe
 M-6.4 (a)

194+00, 315 Rt. & Const. to 30.5 Lt. & Const.
 Lay 6" - 15" S-27 PG-4
 Excav. = 174 Cu. Yds.
 E-8 Rem. rigid pavt = 6.59 Yds.
 B-70, 9" rigid pavt = 6.59 Yds.
 Lt. Build 15" Sid. End Wall S-27 PG-4
 E-2 Excav = 15 Cu. Yds.
 S-7 Class E Conc. = 0.26 Cu. Yds.
 L-10, Sod = 1.54 Yds.



STA. 195+00 TO STA. 206+

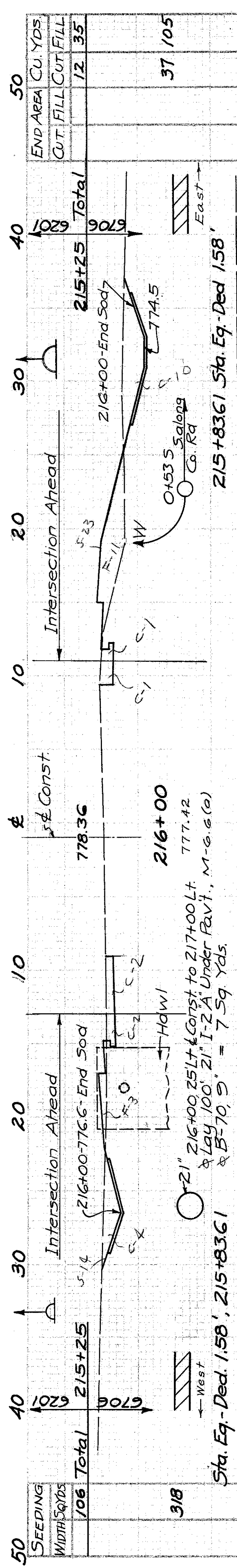


NO. OF DIVISION	STATE	PROJECT	SCALE
2	CHO	F-657(3)	1" = 40'

SEN-18-(179-860)

65
163

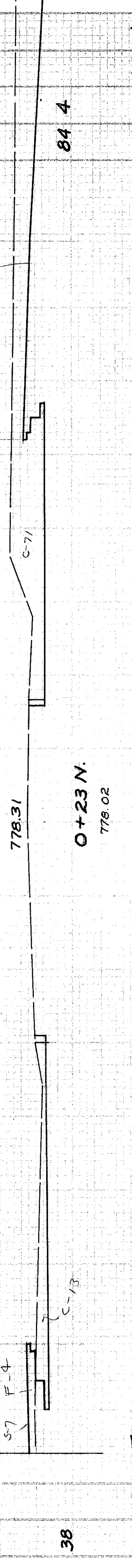
STA. 207+00 TO STA. 215+00



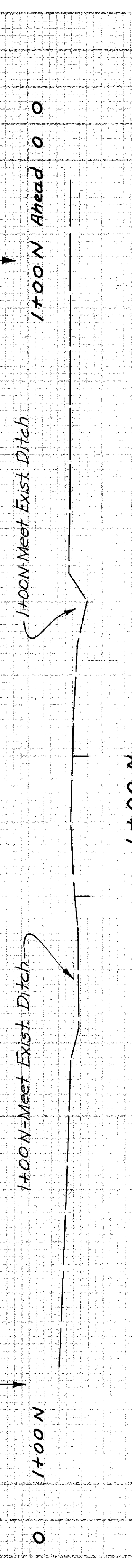
Sta. Eq. Dec. 158', 215+83.61
 216+00 216+00 End Sod
 215+25 215+25 Total

216+00 216+00 Back 20 14
 216+00 Ahead 3 0
 0+15.5 N Back 0 0
 0+15.5 N Ahead 15 5

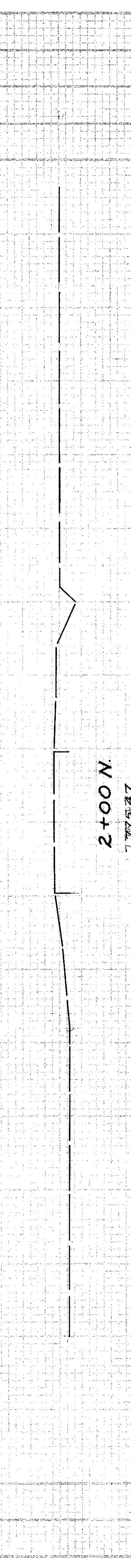
217+00 217+00
 1 24
 9 5
 217+00



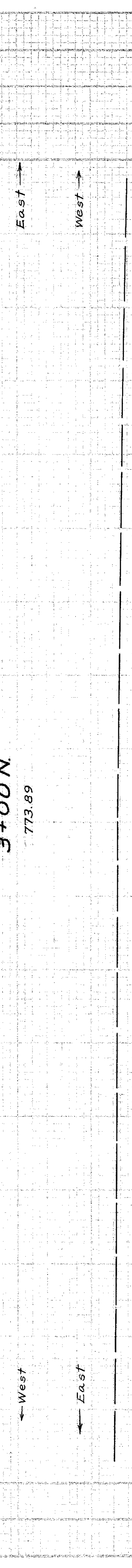
0+10 N 777.89
 0+18 N 777.94
 0+23 N 778.02
 0+50 N 777.78
 1+00 N 777.04



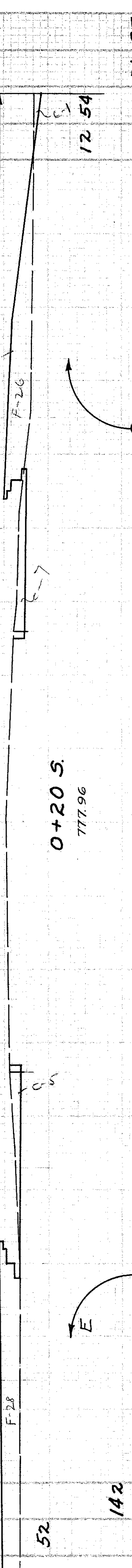
2+00 N 778.06
 3+00 N 773.89
 4+00 N 773.89



0+13 S Back 0 0
 0+13 S Ahead 30 0
 0+08.3 S 778.21
 0+20 S 777.96
 0+23 S 777.23
 0+48 S 777.95
 1+00 S 773.80
 2+00 S 771.95
 3+00 S 771.82



6706 Totals

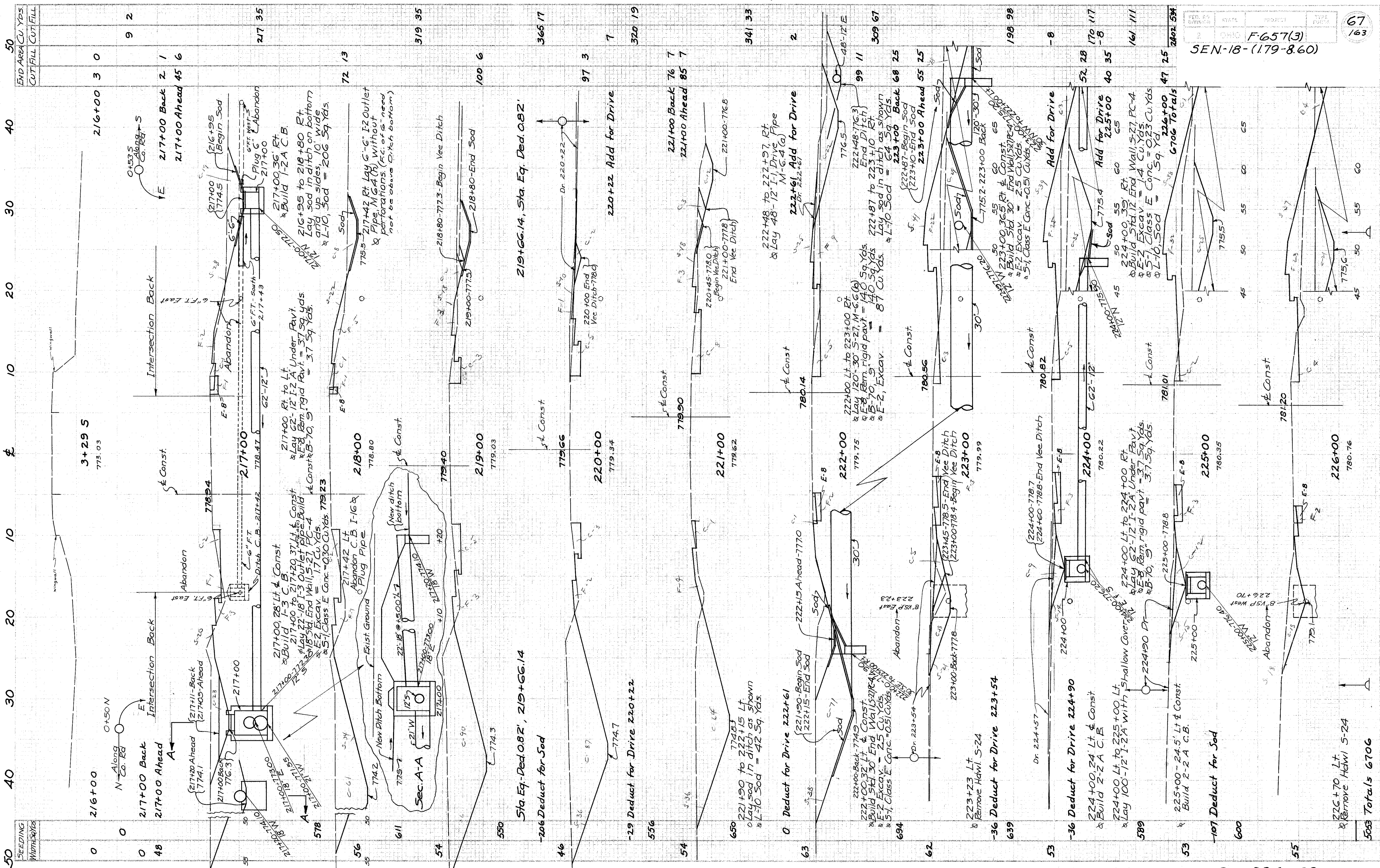


6706 Totals



6706 Totals

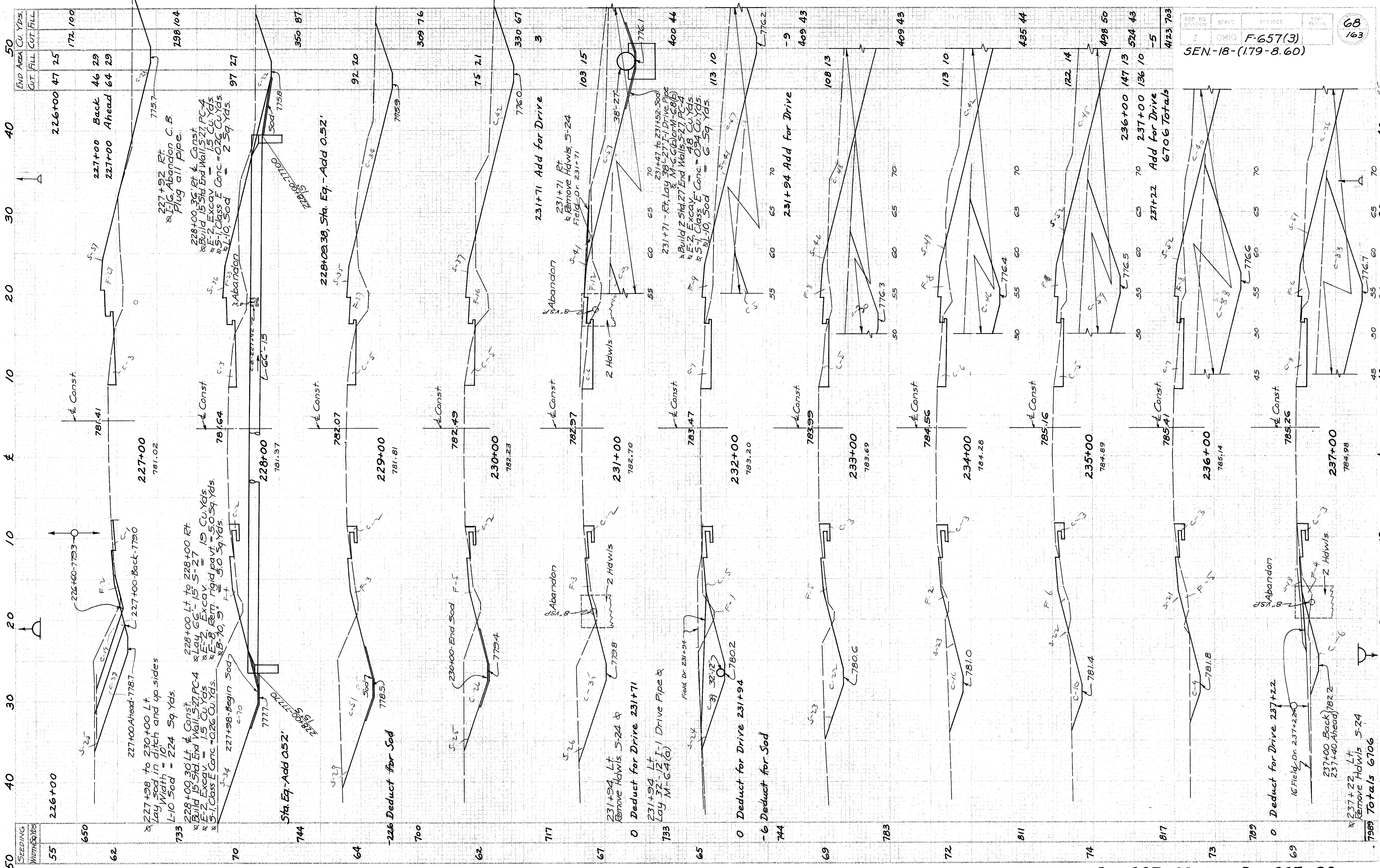
SEEDING	Width	Soils	END AREA CU YDS	CUT	FILL	CUT/FILL
106	Total	215+25	6706	12	35	37 105
37	0	0+10 N	777.89	20	14	
0	0	216+00 Back		3	0	
27	0	0+15.5 N Back		0	0	
0	27	0+15.5 N Ahead		15	5	
13	216+00			13	46	
38	106	0+50 N	777.78	39	3	
33	91	1+00 N	777.04	84	4	
0	0	2+00 N	778.06	63	4	
39	52	3+00 N	773.89	42	3	
0	29	0+13 S Back		0	0	
0	29	0+13 S Ahead		30	0	
52	32	0+08.3 S	778.21	9	11	
0	52	0+20 S	777.96	21	35	
142	142	0+23 S	777.23	12	54	
39	113	0+48 S	777.95	28	14	
0	0	1+00 S	773.80	27	14	
0	0	2+00 S	771.95	206	201	
0	0	3+00 S	771.82			
815	Totals	6706				

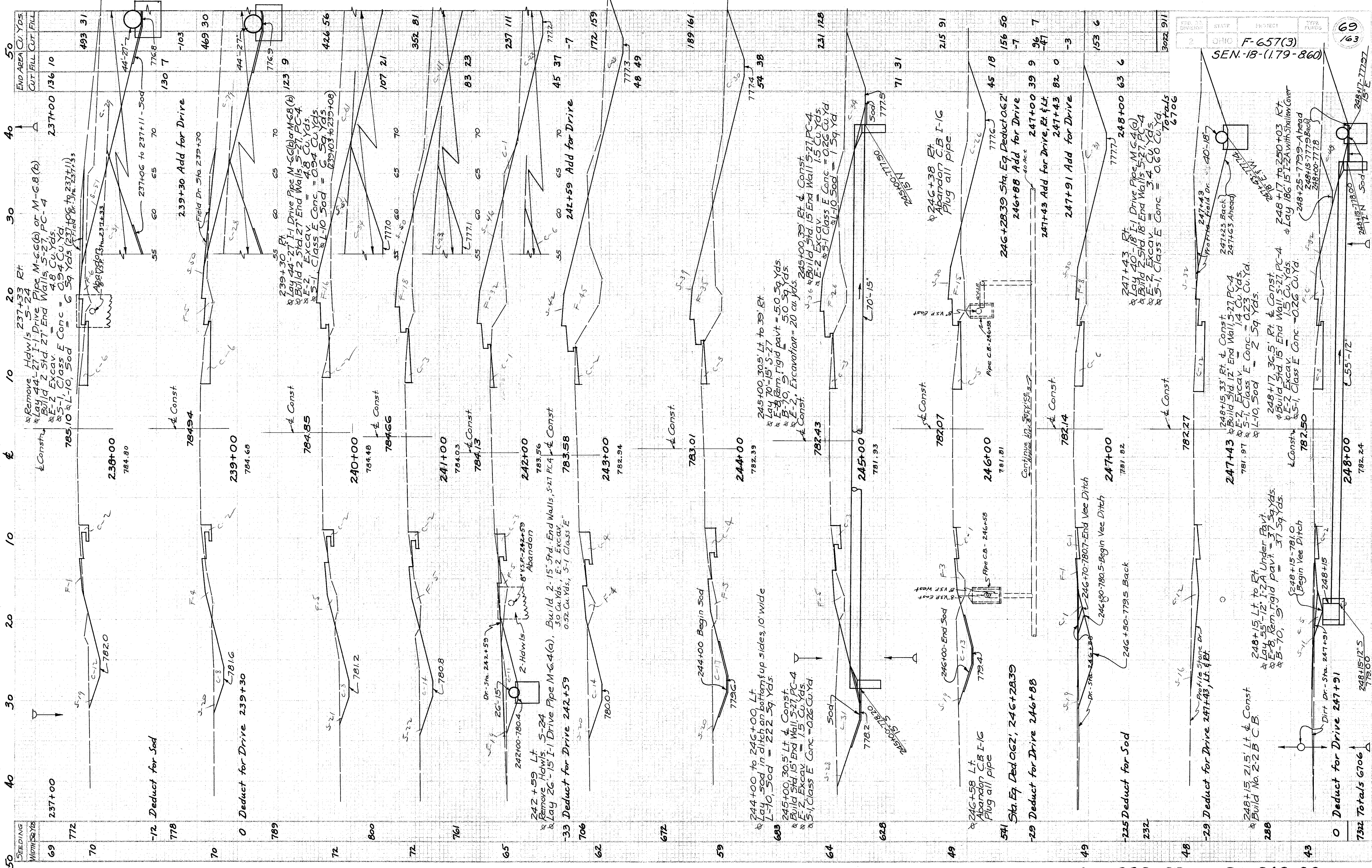


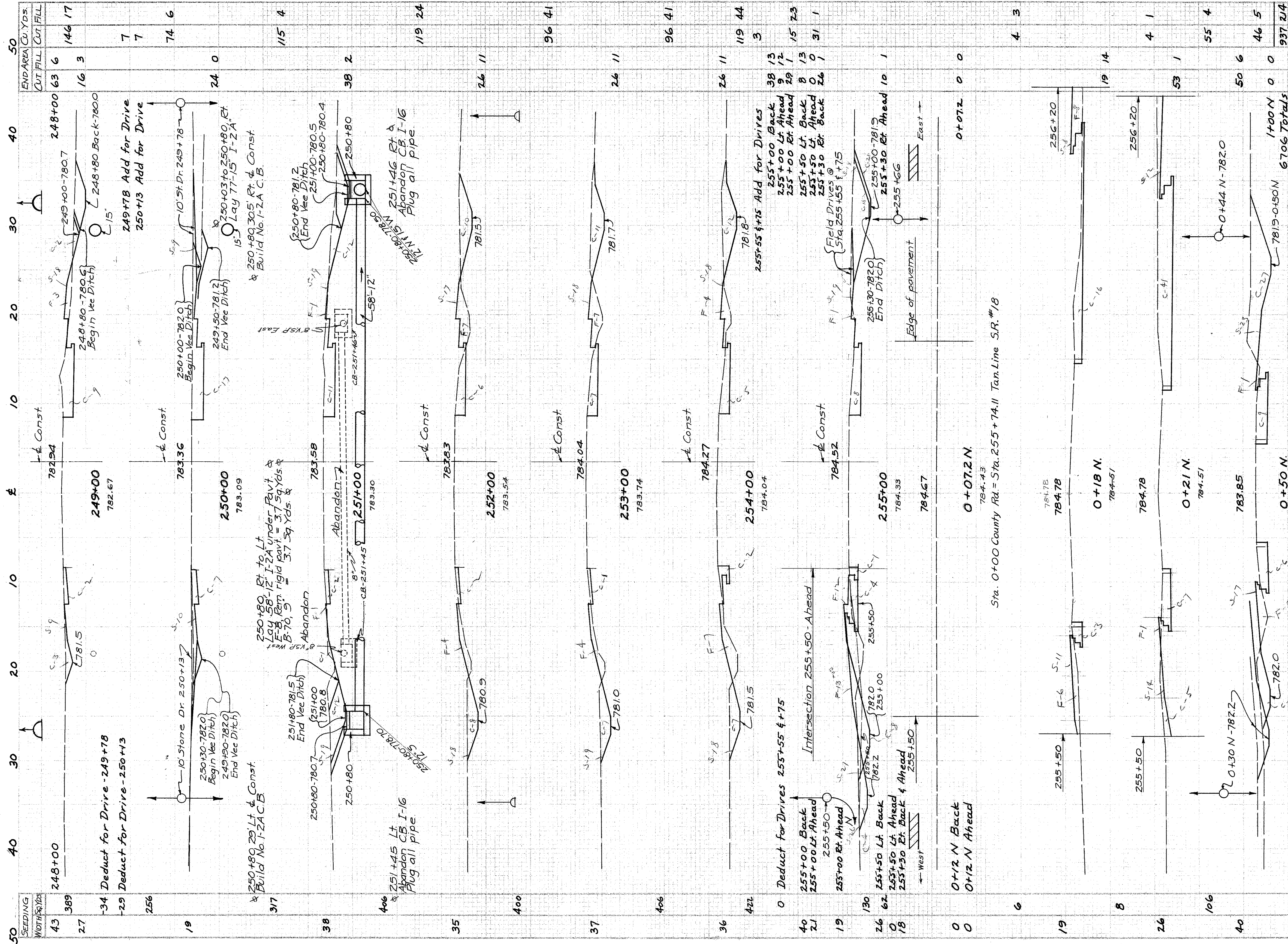
SEEDING WIDTH (YDS)	CUT/FILL	CUT/FILL
0	3	0
0	2	1
48	45	6
55	217	35
56	72	13
54	319	35
550	100	6
46	365	17
54	97	3
63	2	7
62	341	33
63	309	67
62	68	25
62	55	25
53	195	98
53	52	28
53	40	35
53	161	111
53	226	00
53	47	25
53	2802	534

END AREA (CU YDS)	CUT/FILL	CUT/FILL
50	3	0
40	2	1
30	45	6
20	217	35
10	72	13
0	319	35
50	100	6
40	365	17
30	97	3
20	2	7
10	341	33
0	309	67
50	68	25
40	55	25
30	195	98
20	52	28
10	40	35
0	161	111
50	226	00
40	47	25
30	2802	534

STA. 217+00 TO STA. 226+00

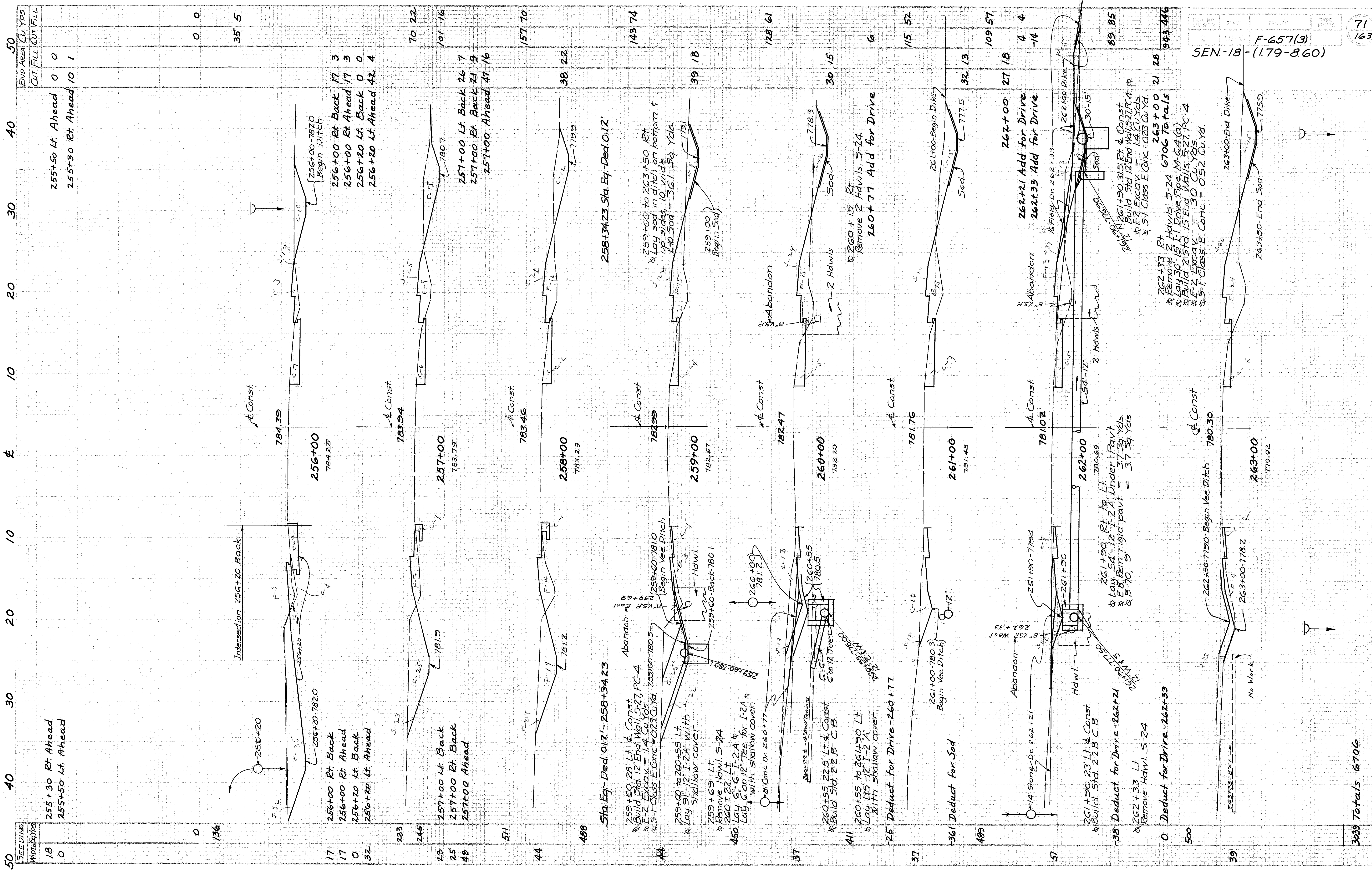






STATION	SPACING WIDTH (50 Yds)	CUT	FILL	END AREA (Cu. Yds.)
248+00	43	63	6	146
249+00	27	16	3	17
250+00	19	7	7	6
251+00	38	24	0	115
252+00	35	26	11	24
253+00	37	26	11	41
254+00	36	26	11	41
255+00	42	3	3	44
Totals	0	38	13	23
	0	29	1	15
	19	8	13	31
	26	0	0	1
	106	53	1	4
	40	50	6	55
	117	0	0	46
Totals	20	6706	0	214

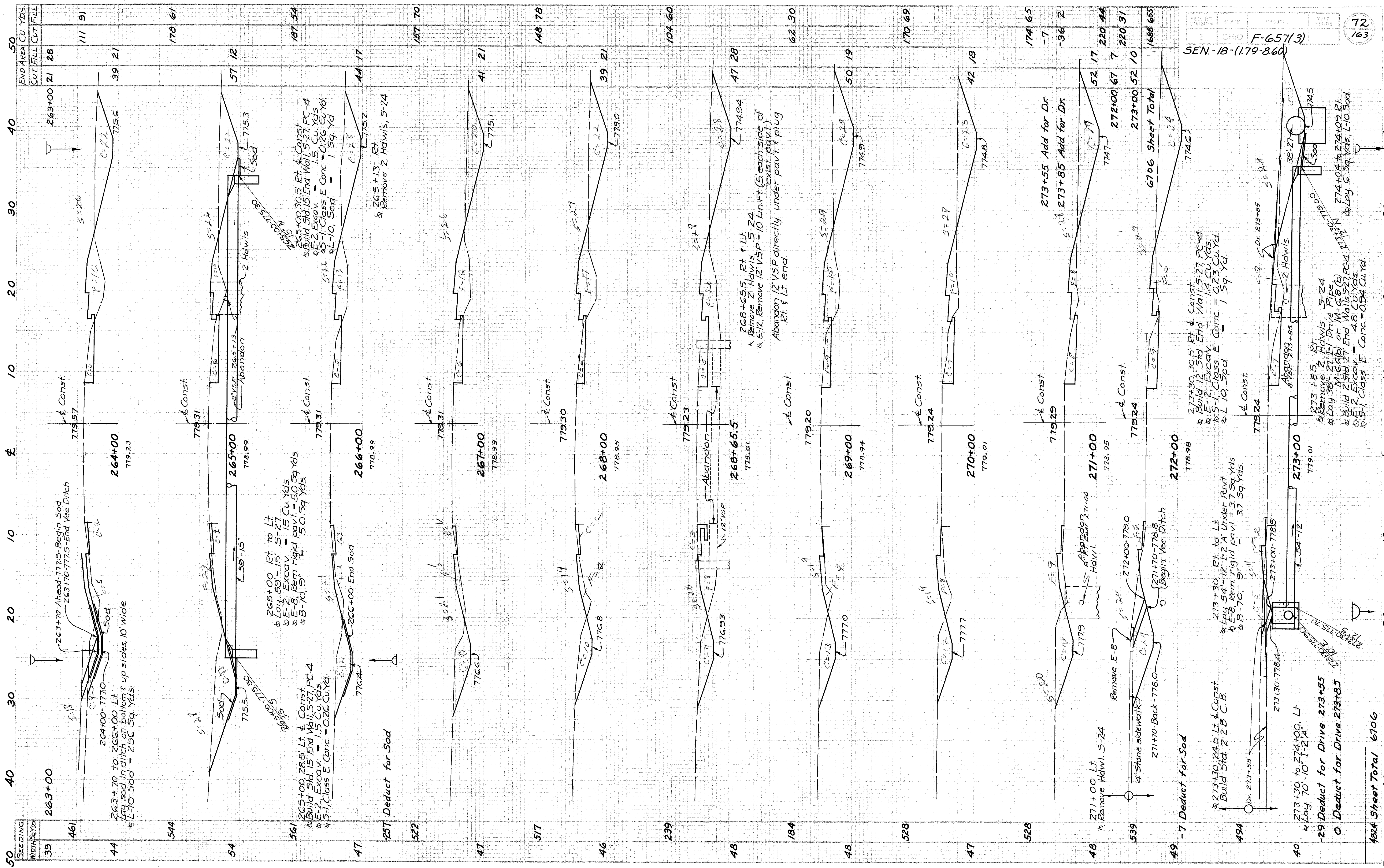
STA. 249+00 TO STA. 255+00



SEEDING WIDTH (Cu Yds)	END AREA CUT FILL CUT FILL
18	0
0	0
17	35
0	0
32	0
23	70
25	101
48	157
51	170
44	38
498	143
44	39
37	128
37	6
37	115
489	109
57	4
57	-4
38	89
0	28
500	943
39	28
39	943

STA. 256+00 TO STA. 263+00

3039 Totals 6706



SEEDING WIDTH Sq. Yds	END AREA CUT	FILL	CUT	FILL	CUT	FILL
39	263+00	21	28	111	91	
44	264+00	39	21	178	61	
54	265+00	57	12	187	54	
47	266+00	44	17	157	70	
47	267+00	41	21	148	78	
46	268+00	39	21	104	60	
48	269+00	47	28	62	30	
48	270+00	50	19	170	69	
47	271+00	42	18	174	65	
48	272+00	52	17	-36	2	
49	273+00	272	00	220	44	
40	273+00	273	00	220	31	
49	273+00	6706	655	1688	655	

STA. 264+00 TO STA. 273+00

4924 Sheet Total 6706

265+00 30.5 Rt. & Const
Build Std. 15' End Wall, S-27, PC-4
E-2 Excav. = 1.5 Cu. Yds.
S-1 Class E Conc = 0.26 Cu. Yd.
L-10, Sod = 1 Sq. Yd.

265+00 Rt. to Lt
Lay 59'-15" S-27
E-2 Excav. = 15 Cu. Yds.
E-8 Rem. rigid pavt. = 50 Sq. Yds.
B-70, S = 5.0 Sq. Yds.

265+00 28.5 Lt. & Const
Build Std. 15' End Wall, S-27, PC-4
E-2 Excav. = 1.5 Cu. Yds.
S-1 Class E Conc = 0.26 Cu. Yd.

268+65.5 Rt. & Lt
Remove 2 Hdwl's, S-24
E-12, Remove 12' VSP = 10 Lin. Ft. (5 each side of exist. pavt.)
Abandon 12' VSP directly under pavt. & plug Rt. & Lt. end.

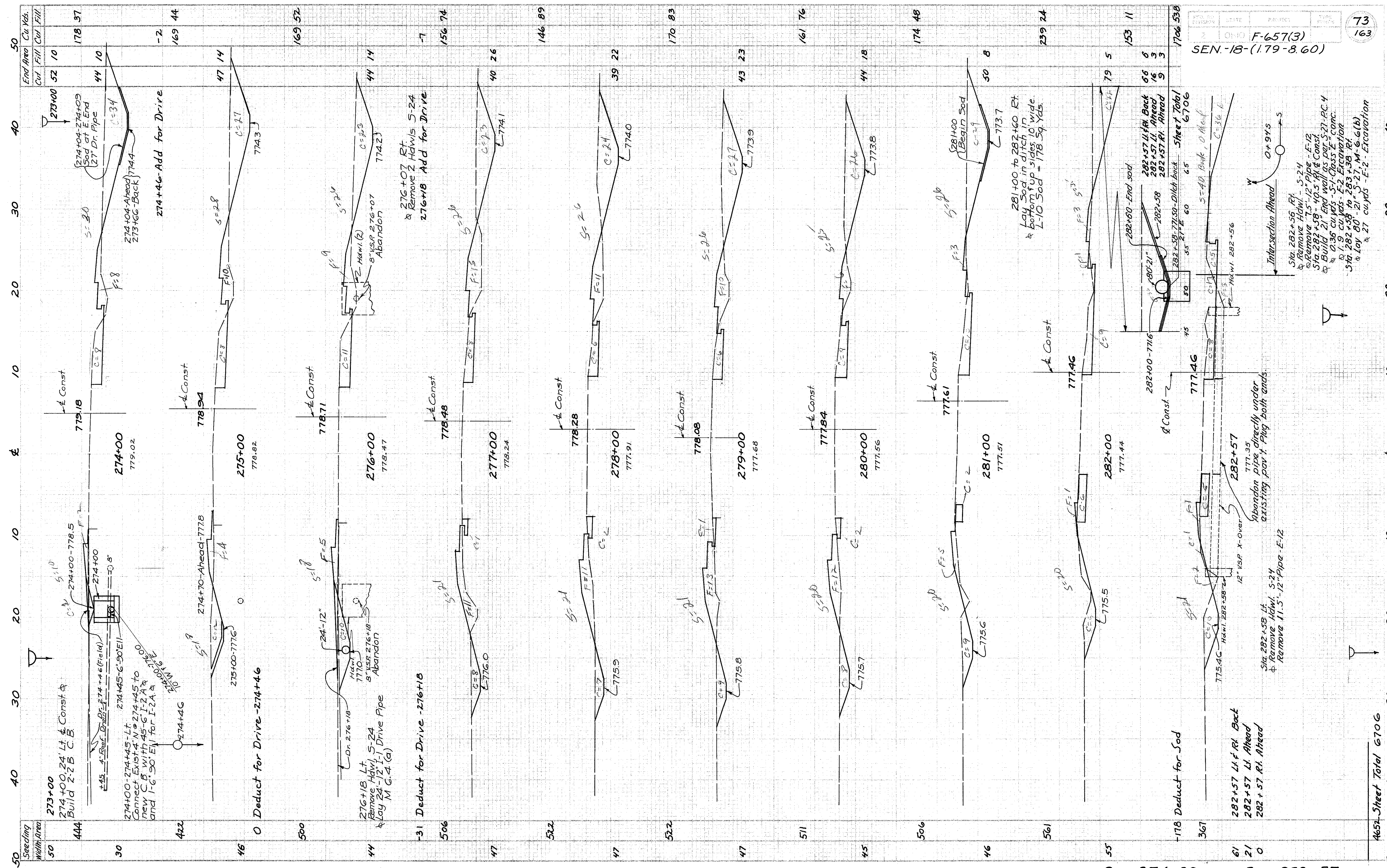
273+30, 30.5 Rt. & Const
Build 12' Std. End Wall, S-27, PC-4
E-2 Excav. = 1.5 Cu. Yds.
S-1 Class E Conc = 0.26 Cu. Yd.
L-10, Sod = 1 Sq. Yd.

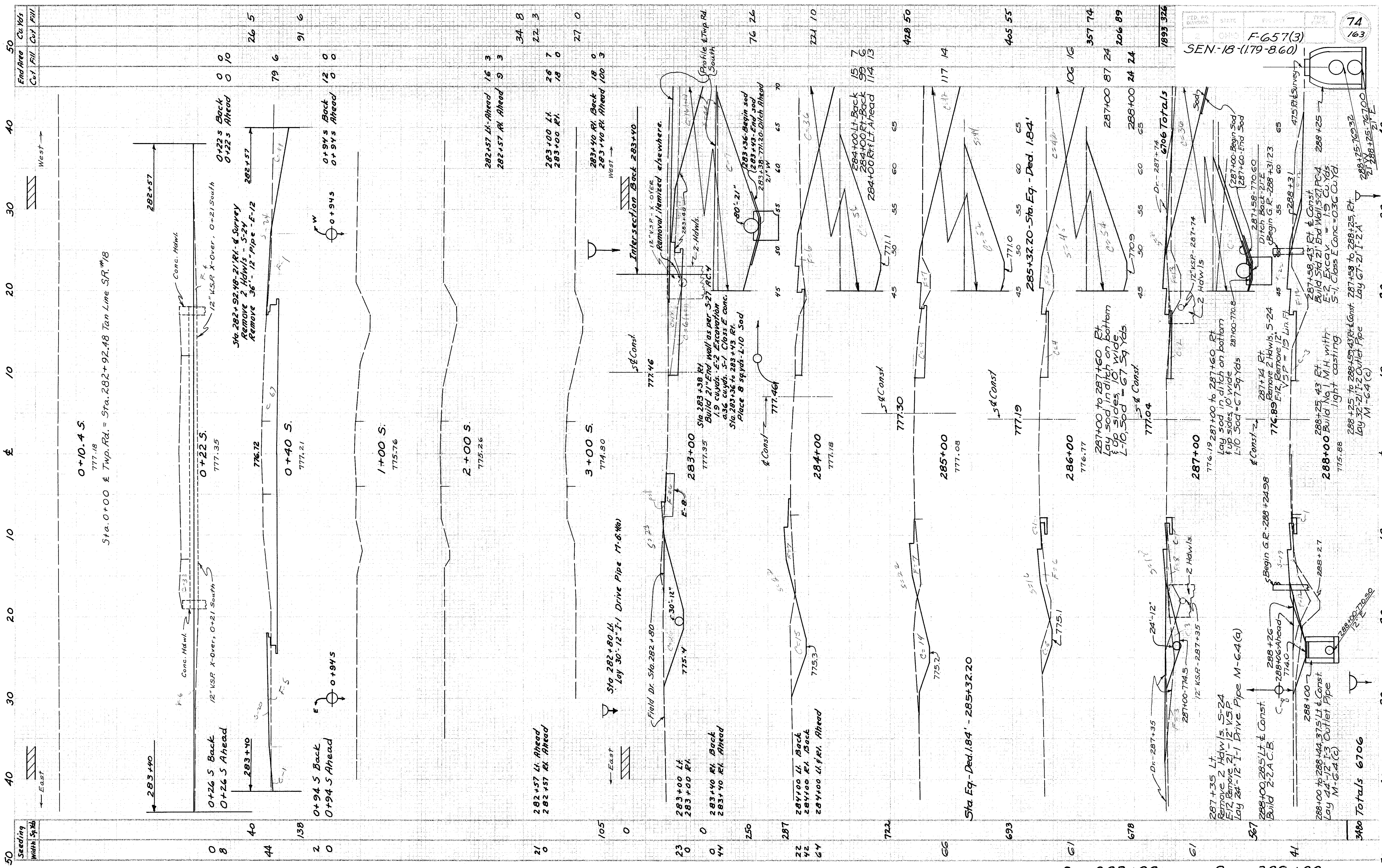
273+30, Rt. to Lt.
Lay 54'-12" I-2 A Under Pavt.
E-8 Rem. rigid pavt. = 37 Sq. Yds.
B-70, S = 3.7 Sq. Yds.

273+30, 24.5 Lt. & Const
Build Std. 2-2 B C.B.
Dr. 273+55
273+30 to 274+00, Lt
Lay 70'-10" I-2 A
Deduct for Drive 273+55
Deduct for Drive 273+85

273+85, Rt.
Remove 2 Hdwl's, S-24
Lay 38'-27" I-1 Drive Pipe M-6 (b) or M-6 (c)
Build 2' Std. 27' End Wall, S-27, PC-4
E-2 Excav. = 4.8 Cu. Yds.
S-1 Class E Conc = 0.94 Cu. Yd.

273+85, Rt.
Remove 2 Hdwl's, S-24
Lay 38'-27" I-1 Drive Pipe M-6 (b) or M-6 (c)
Build 2' Std. 27' End Wall, S-27, PC-4
E-2 Excav. = 4.8 Cu. Yds.
S-1 Class E Conc = 0.94 Cu. Yd.



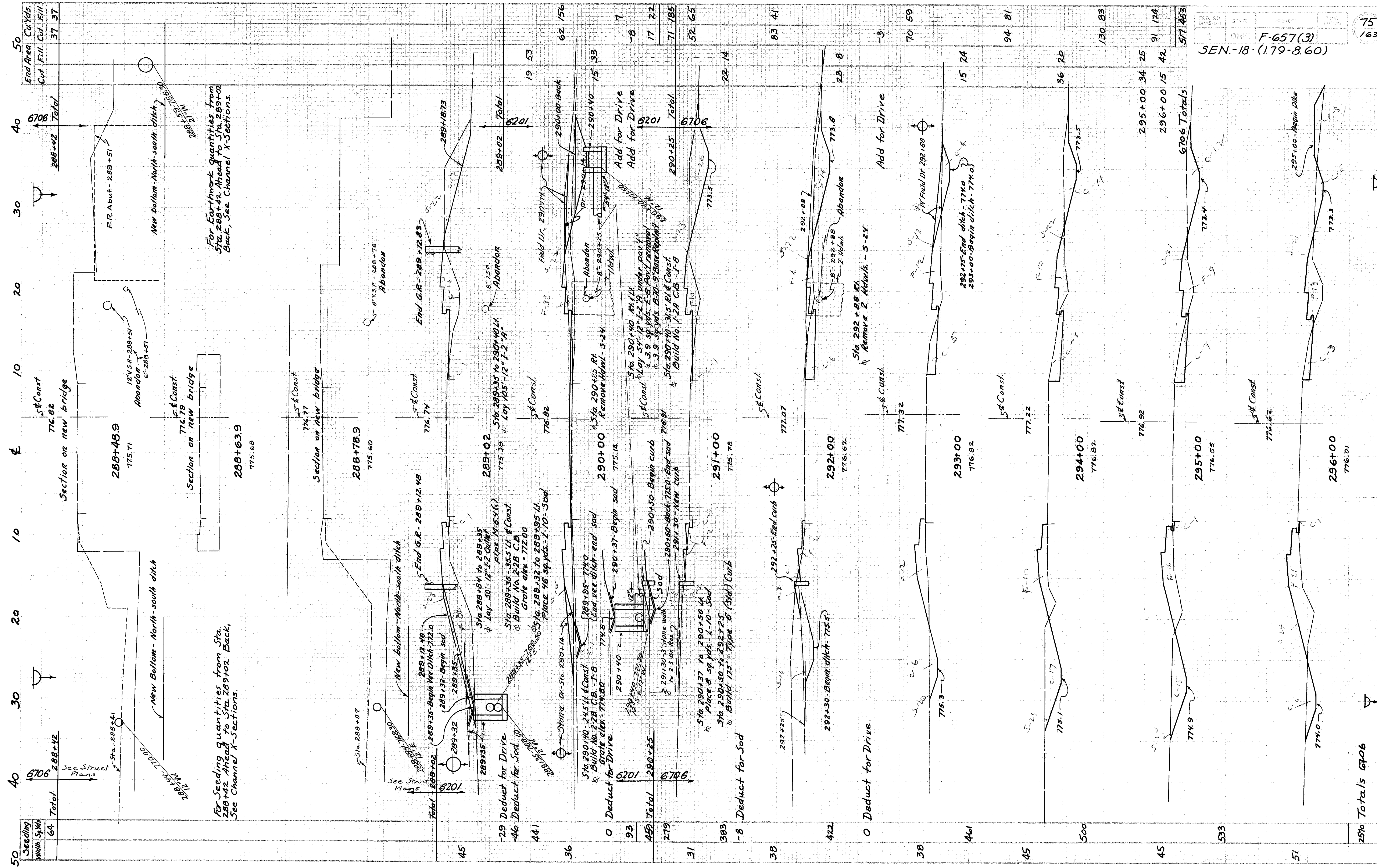


Station	Seeding Width Sq. Yds	End Area	Cu. Yds
283+00	0	0	0
284+00	8	0	0
285+00	44	79	26
286+00	138	91	6
287+00	2	12	0
288+00	0	0	0
Totals	182	192	32

Station	Cut	Fill	Cu. Yds
283+00	0	0	0
284+00	0	0	0
285+00	0	0	0
286+00	0	0	0
287+00	0	0	0
288+00	0	0	0
Totals	0	0	0

F-657(3)
 SEN-18-(179-860)
 74
 163

STA. 283+00 TO STA. 288+00

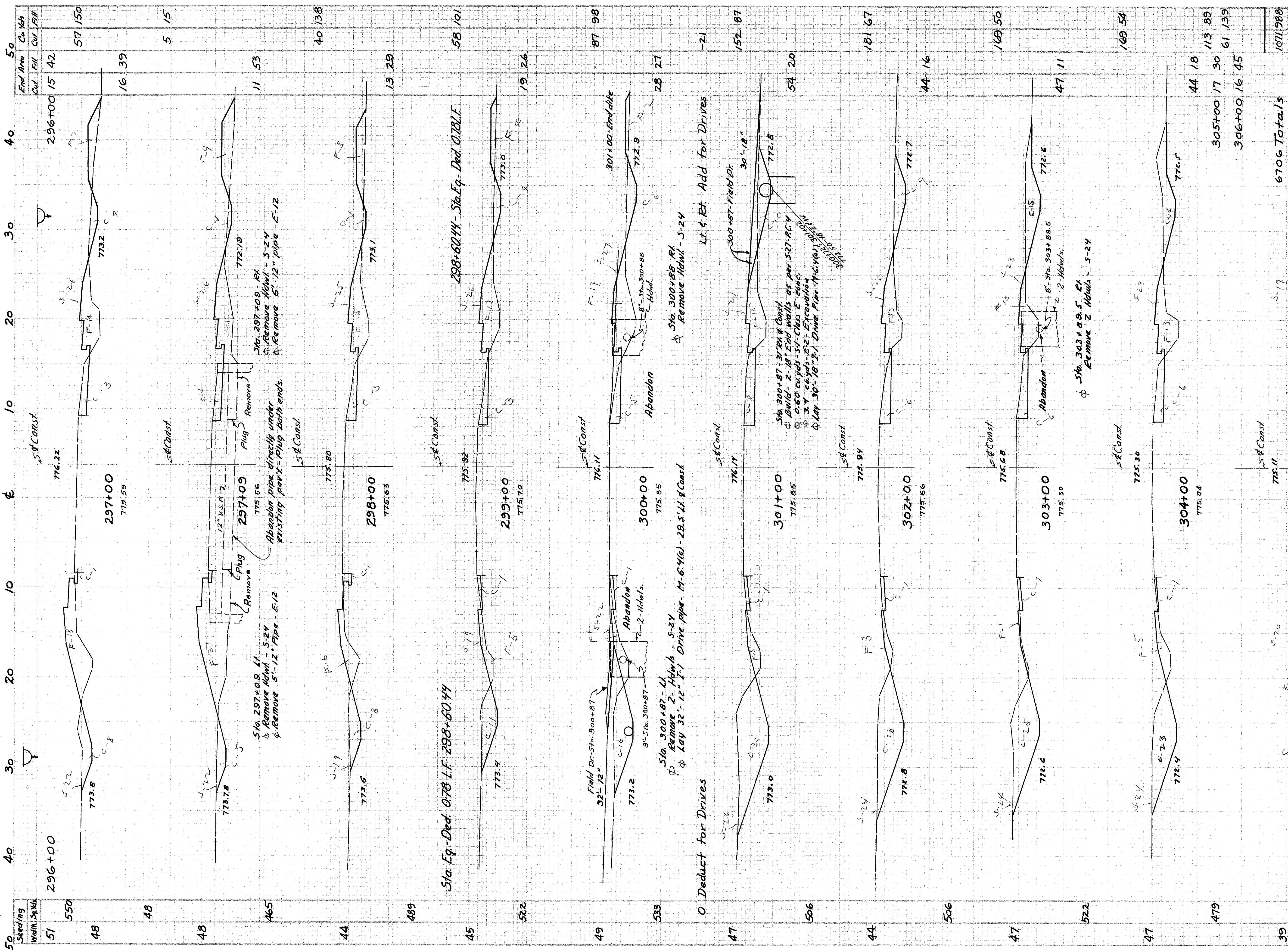


Seeding Width Sp. Yds	64
Total	6706

End Area Cu Yds	50
Cut	37
Fill	37
Total	6706

289+02	19
289+02	15
290+25	71
290+25	52
291+00	22
292+00	83
293+00	70
294+00	94
295+00	130
296+00	91
Totals	571

289+35	45
289+35	36
290+37	36
290+37	93
291+30	459
291+30	279
291+30	31
291+30	383
292+25	-8
292+25	38
293+30	422
293+30	38
294+00	461
294+00	45
295+00	500
295+00	45
296+00	533
296+00	51
Totals	2576



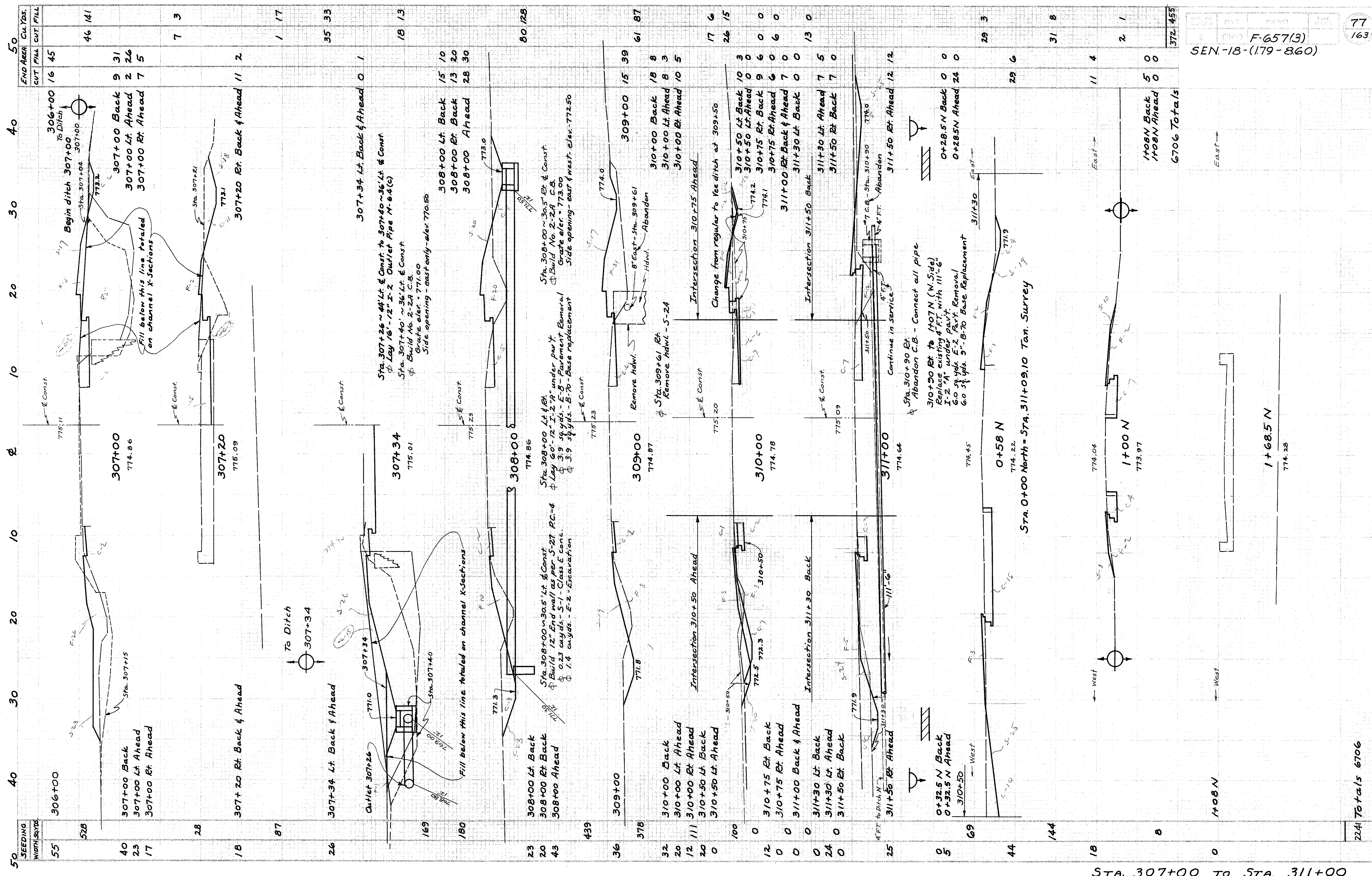
Seedling Width, Sq Yds	End Area Cut Fill	Co. Yds
51	15	42
48	16	39
48	5	15
48	11	53
44	13	29
489	58	101
45	19	26
522	87	98
49	-21	
47	152	87
506	54	20
44	181	67
506	44	16
47	169	50
522	47	11
47	169	54
479	44	18
39	113	89
522	61	139
55	306+00	16
5142	6706	Totals

STA. 297+00 TO STA. 306+00

306+85 (New) Br. No. SEN-18-0582 For Details See Sh. 141

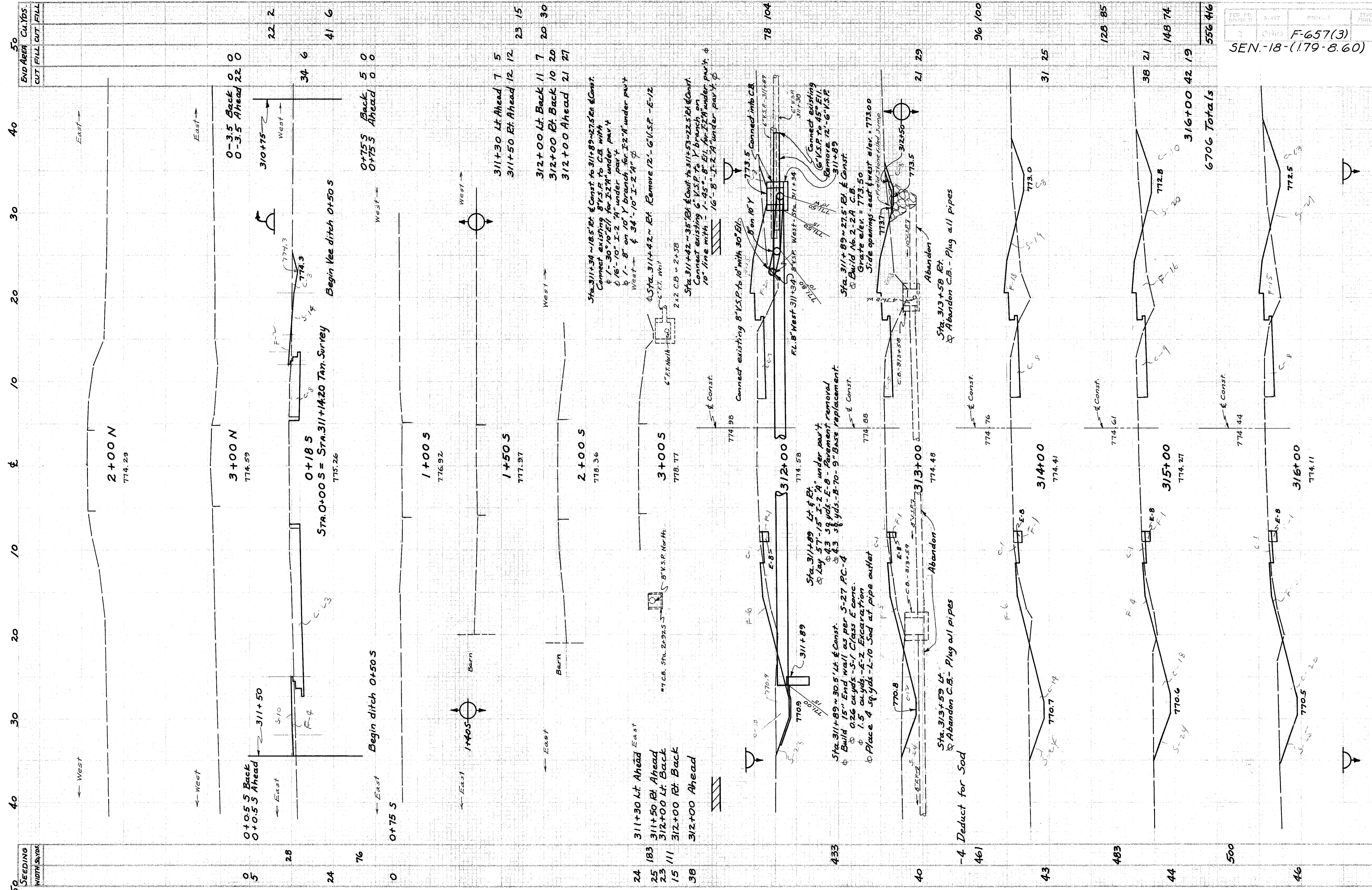
Bottom new N-5 ditch Downstream from new 15" 306+55

To Ditch 177.00 Bottom of 306+55 New N-5 ditch 306+55



SEEDING WIDTH FEET	CUT	FILL	Cu. Yds.
55	16	45	46
40	9	31	7
23	2	26	1
17	7	5	35
18			3
87			17
26			33
169			13
180			80
439			128
36			61
378			87
32			17
20			6
12			26
20			15
0			0
100			0
0			0
12			0
0			0
0			0
24			0
0			0
25			13
0			0
5			0
69			29
44			6
144			31
18			4
8			2
0			1
2241	Totals	6706	372
			455

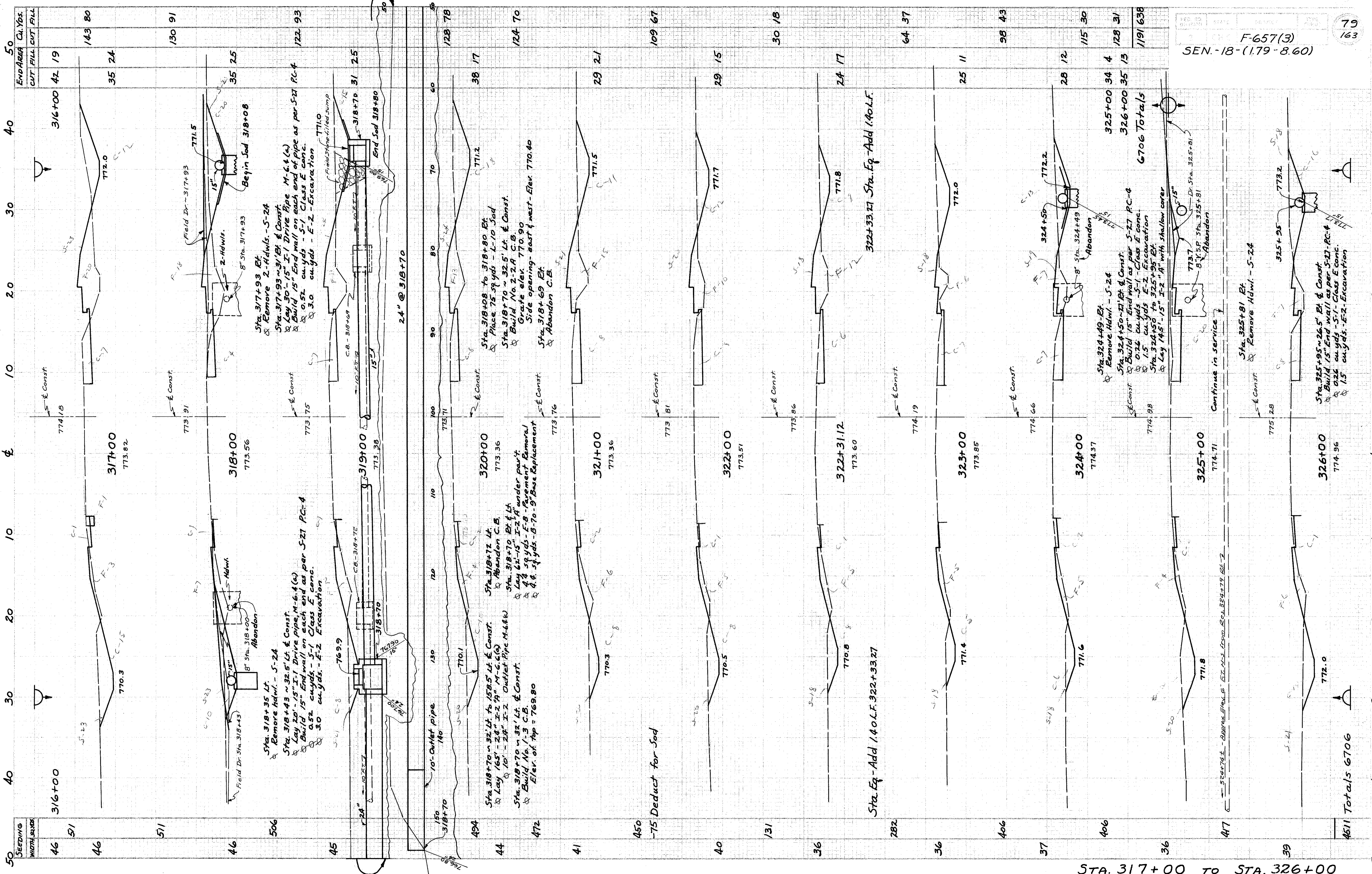
STA. 307+00 TO STA. 311+00



SEEDING WIDTH S.Y.S.	STA.	END AREA CUT FILL	CUT	FILL	CU. YDS.
0	5	0	0	0	0
24	28	34	6	0	34
76	76	5	0	0	5
0	0	7	12	5	12
24	15	11	20	7	20
38	30	15	27	10	27
24	25	13	12	12	15
40	40	21	20	11	20
43	43	21	29	7	29
46	46	21	27	10	27
44	44	42	19	20	30
500	500	6706	Totals	416	556

STA. 312+00 TO STA. 316+00

227 Totals 6706



SEEDING WIDTH (ft)	STATION	END AREA CUT/FILL (cu yds)
46	316+00	42 19
46	317+00	35 24
46	318+00	35 25
45	319+00	31 25
44	320+00	38 17
41	321+00	29 21
40	322+00	29 15
36	322+31.12	24 17
36	323+00	25 11
37	324+00	28 12
406	325+00	34 4
406	326+00	35 13
47	Totals	6706

STA. 317+00 TO STA. 326+00

Sta. 317+93 Rt
Remove 2-Hdws. - S-24
Sta. 317+93 ~ 317+93 I-1 Drive Pipe M-6.4 (a)
Lay 30' - 15" End wall on each end of pipe as per S-27 RC-4
Build 15" End wall on each end of pipe as per S-27 RC-4
0.52 cu yds - S-1 Class E conc.
3.0 cu yds - E-2 Excavation

Sta. 318+08 Rt
Remove Hdwl. - S-24
Sta. 324+50 ~ 324+50 I-1 Drive Pipe M-6.4 (a)
Lay 30' - 15" End wall on each end of pipe as per S-27 RC-4
Build 15" End wall on each end of pipe as per S-27 RC-4
0.26 cu yds - S-1 Class E conc.
1.5 cu yds - E-2 Excavation
Sta. 324+50 to 325+95 Rt
Lay 145' - 15" I-2 "A" with shallow cover

Sta. 318+70 ~ 321+70 Lt & Const.
Lay 165' - 24" I-2 19" M-6.6 (a)
10' - 24" I-2 Outlet Pipe M-6.6 (a)
Sta. 318+70 Rt & Lt
Lay 62' - 15" I-2 "A" under part
& 4 sq yds - E-8 Pavement Removal
& 4 sq yds - B-70 - 9' Base Replacement
Elev. of top = 769.80

Sta. 318+08 Rt
Place 75 sq yds - L-10 Sod
Sta. 318+70 ~ 325' Lt & Const.
Build No. 2-2-A C.B.
Grate elev. 770.90
Side opening: east & west - Elev. 770.40
Sta. 318+69 Rt
Abandon C.B.

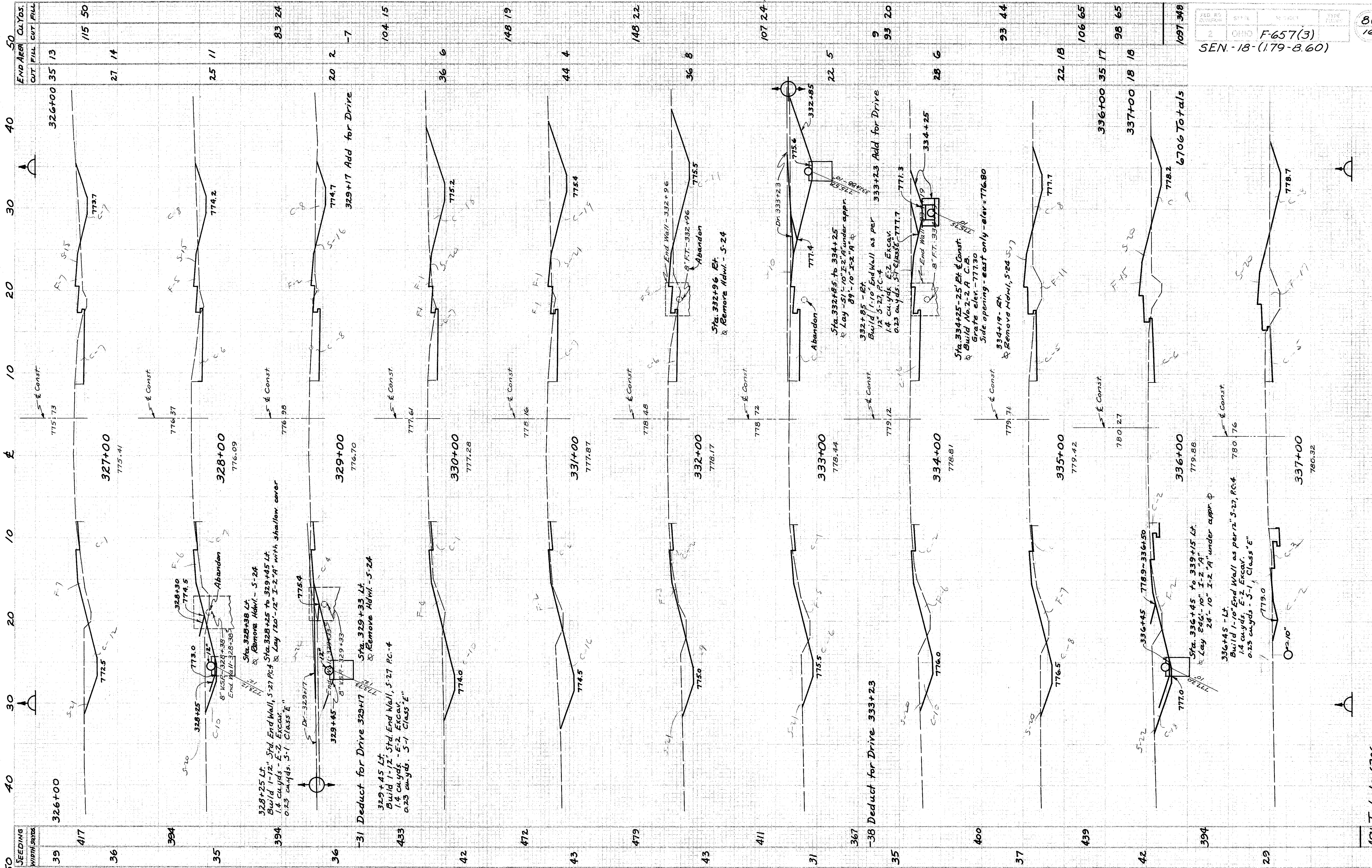
Sta. 319+72 Lt
Abandon C.B.
Sta. 318+70 Rt & Lt
Lay 62' - 15" I-2 "A" under part
& 4 sq yds - E-8 Pavement Removal
& 4 sq yds - B-70 - 9' Base Replacement
Elev. of top = 769.80

Sta. 318+70 ~ 321+70 Lt & Const.
Lay 165' - 24" I-2 19" M-6.6 (a)
10' - 24" I-2 Outlet Pipe M-6.6 (a)
Sta. 318+70 Rt & Lt
Lay 62' - 15" I-2 "A" under part
& 4 sq yds - E-8 Pavement Removal
& 4 sq yds - B-70 - 9' Base Replacement
Elev. of top = 769.80

Sta. 324+49 - Rt
Remove Hdwl. - S-24
Sta. 324+50 ~ 324+50 I-1 Drive Pipe M-6.4 (a)
Lay 30' - 15" End wall on each end of pipe as per S-27 RC-4
Build 15" End wall on each end of pipe as per S-27 RC-4
0.26 cu yds - S-1 Class E conc.
1.5 cu yds - E-2 Excavation
Sta. 324+50 to 325+95 Rt
Lay 145' - 15" I-2 "A" with shallow cover

Sta. 325+81 Rt
Remove Hdwl. - S-24

Sta. 325+95 ~ 326' Lt & Const.
Build 15" End wall on each end of pipe as per S-27 RC-4
0.26 cu yds - S-1 Class E conc.
1.5 cu yds - E-2 Excavation



STA. 327+00 TO STA. 337+00

328+25 Lt.
Build 1'-12" Std. End Wall, S-27 RC-4
1.4 cu.yds. E-2 Excav.
0.23 cu.yds. S-1 Class "E"

329+45 Lt.
Build 1'-12" Std. End Wall, S-27 RC-4
1.4 cu.yds. E-2 Excav.
0.23 cu.yds. S-1 Class "E"

329+45 Lt.
Build 1'-12" Std. End Wall, S-27 RC-4
1.4 cu.yds. E-2 Excav.
0.23 cu.yds. S-1 Class "E"

332+85 - Rt.
Build 1'-10" End Wall as per
1/2 S-27 RC-4
1.4 cu.yds. E-2 Excav.
0.23 cu.yds. S-1 Class "E"

332+96 Rt.
Remove Adm'l. - S-24

333+85 to 334+25
Lay 8'-10" I-2 "A" under app.
0.23 cu.yds. S-1 Class "E"

333+85 - Rt.
Build 1'-10" End Wall as per
1/2 S-27 RC-4
1.4 cu.yds. E-2 Excav.
0.23 cu.yds. S-1 Class "E"

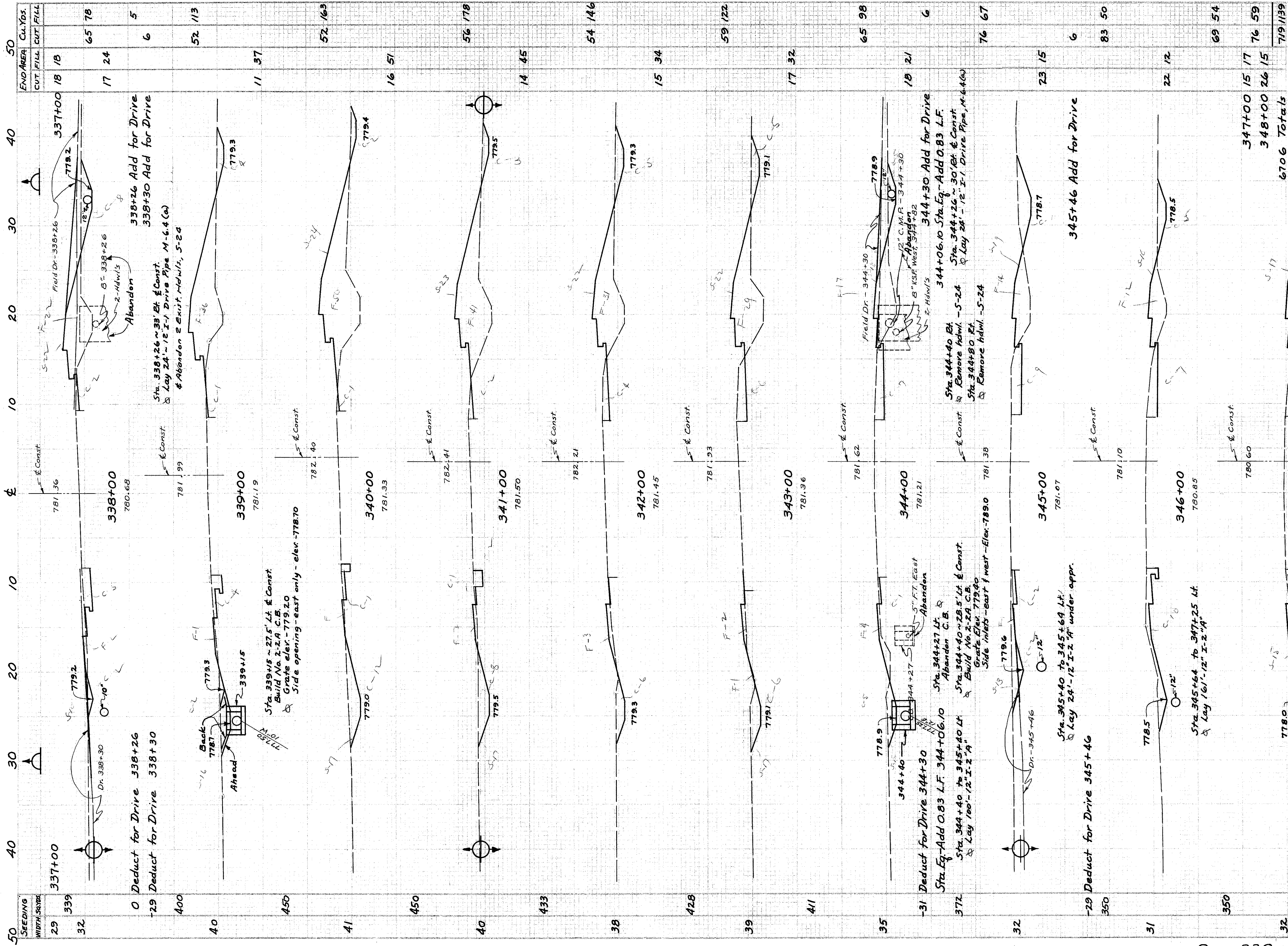
334+19 - Rt.
Remove Adm'l. S-24

334+25 - Rt.
Build No. 2-2 A C.B.
Grate elev. - 777.30
Side opening - east only - elev. = 776.80

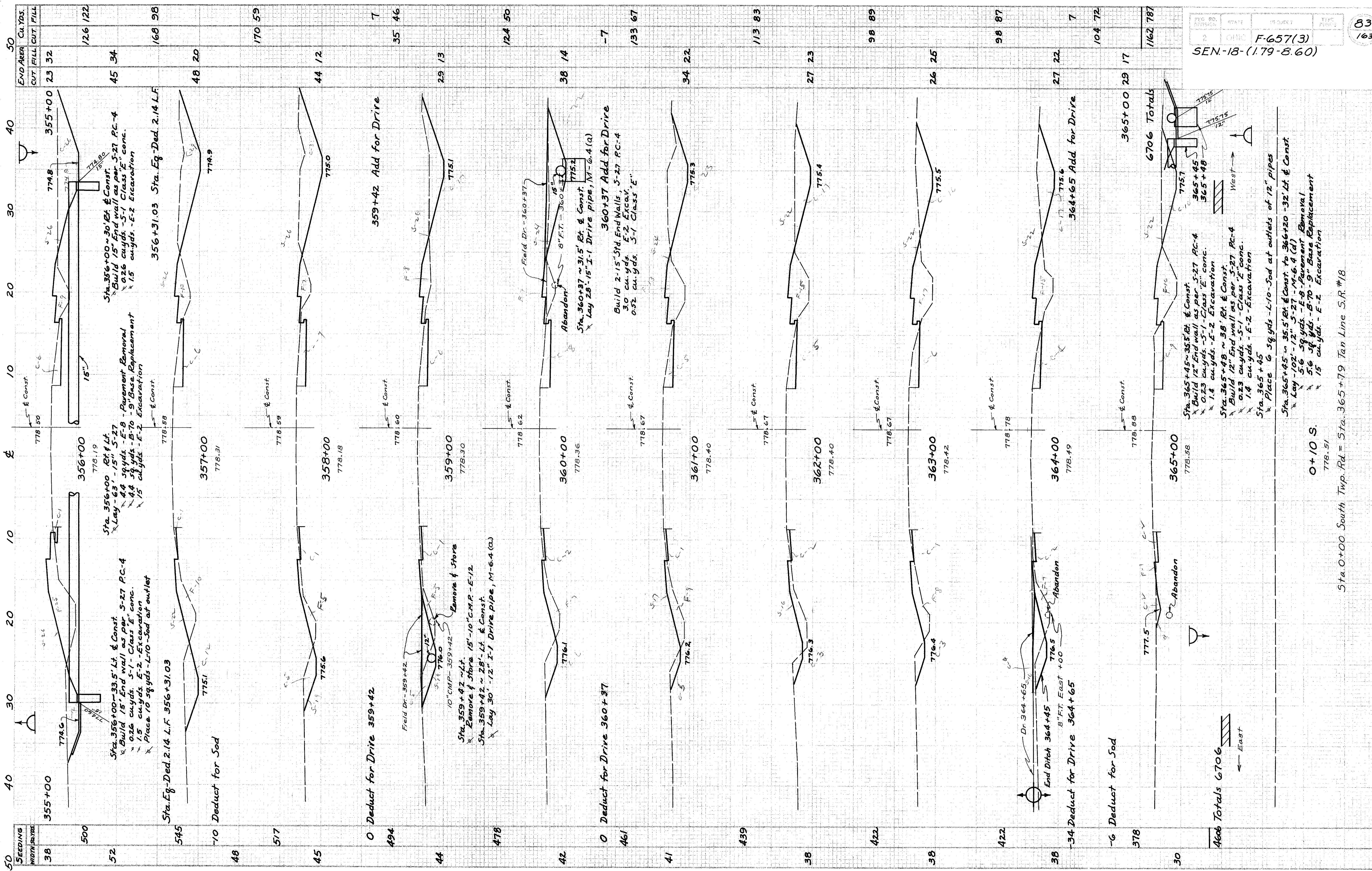
336+45 Lt.
Build 1'-10" End Wall as per 1/2 S-27 RC-4
1.4 cu.yds. E-2 Excav.
0.23 cu.yds. S-1 Class "E"

336+45 - Lt.
Build 1'-10" End Wall as per 1/2 S-27 RC-4
1.4 cu.yds. E-2 Excav.
0.23 cu.yds. S-1 Class "E"

4531 Totals 6706

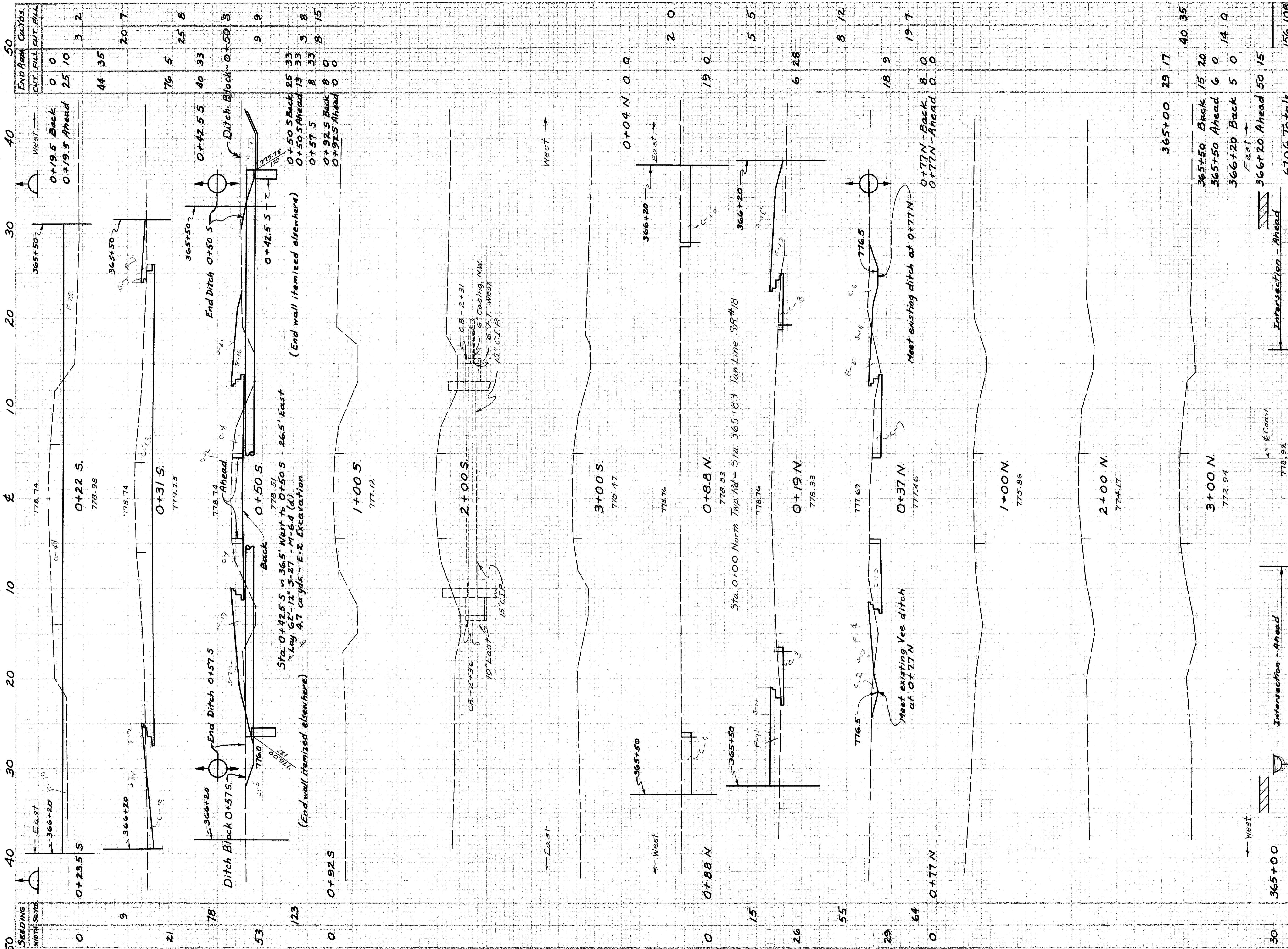


END AREA	CUT	FILL	CUT	FILL
18	18	18	18	18
17	24	17	24	17
11	37	11	37	11
16	51	16	51	16
52	113	52	113	52
56	178	56	178	56
14	45	14	45	14
54	146	54	146	54
15	34	15	34	15
17	32	17	32	17
65	98	65	98	65
19	21	19	21	19
23	15	23	15	23
22	12	22	12	22
347+00	15	347+00	15	15
348+00	26	348+00	26	26
6706 Totals	719	6706 Totals	719	719

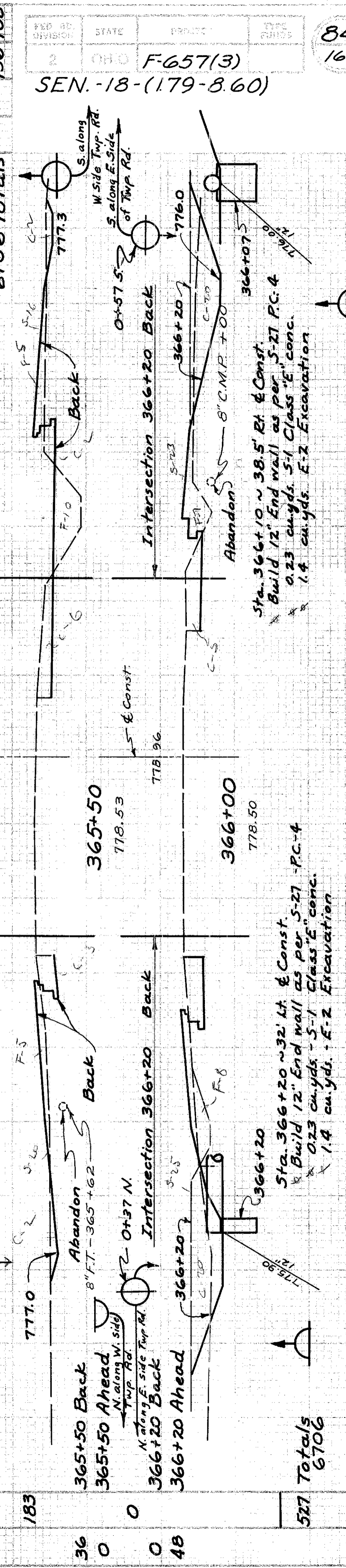


STA. 356+00 TO STA. 365+00

Sta. 0+00 South Twp. Rd. = Sta. 365+79 Tan Line S.R. #18

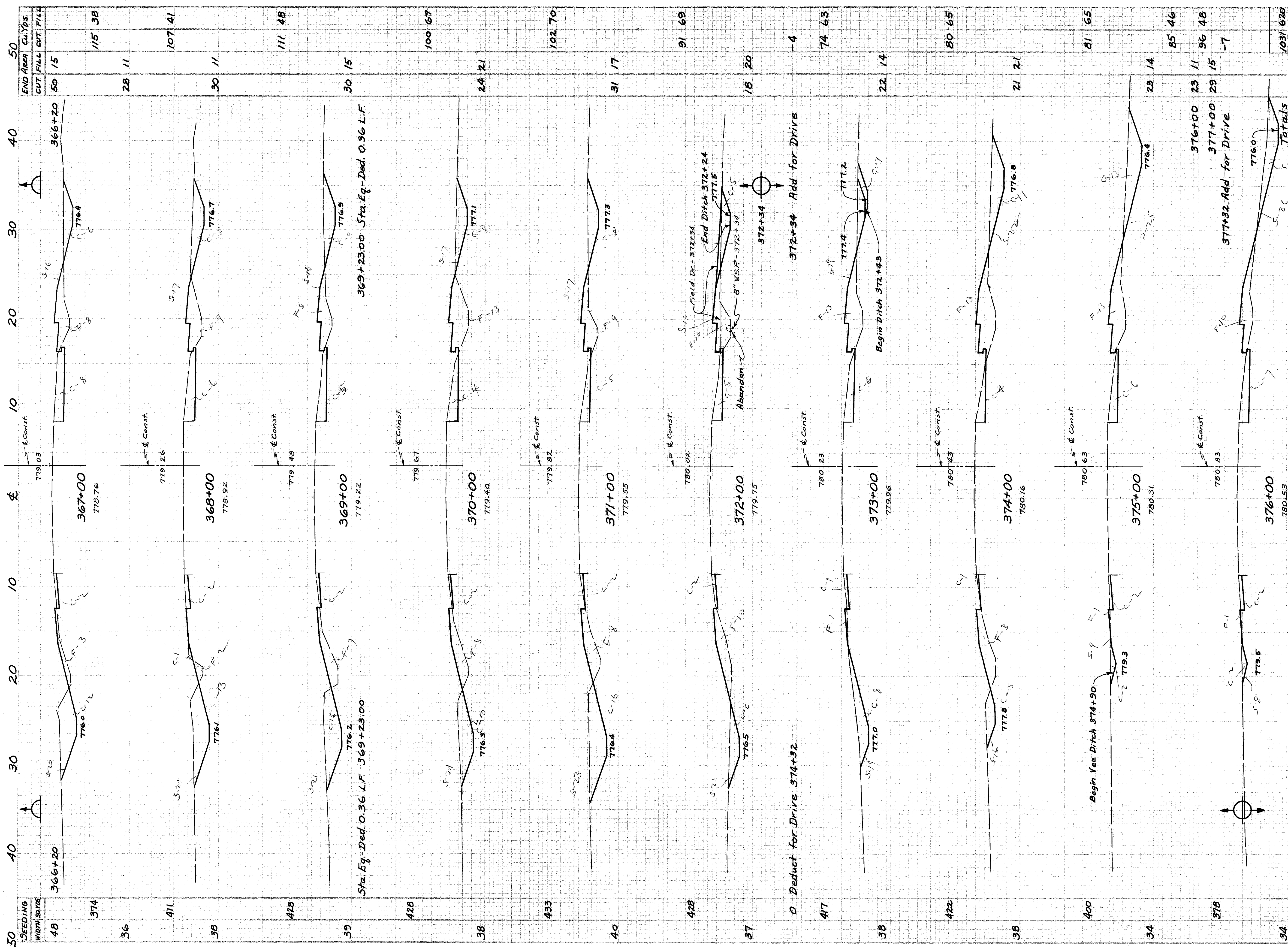


SEEDING WIDTH 33.705	0	9	21	53	123	0	21	53	123	0	26	55	29	64	0	30	183	36	0	0	48	587
0	0	21	53	123	0	21	53	123	0	26	55	29	64	0	30	183	36	0	0	48	587	
0	0	21	53	123	0	21	53	123	0	26	55	29	64	0	30	183	36	0	0	48	587	



END AREA CUT FILL	50	40	30	20	10	0	10	20	30	40	50
0	0	25	10	3	2	0	0	0	0	0	0
0	0	25	10	3	2	0	0	0	0	0	0

STA. 365+50 TO STA. 366+00



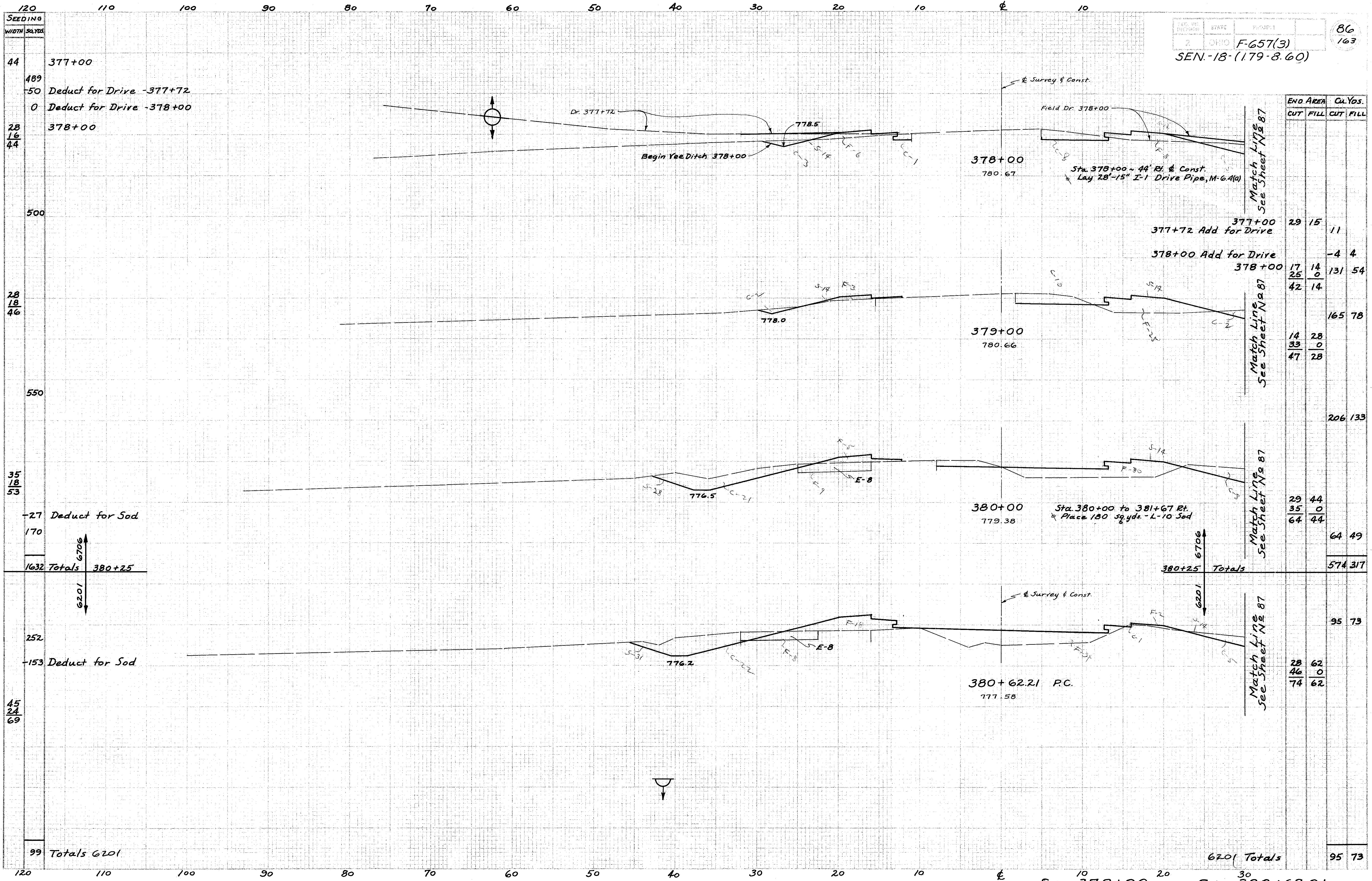
SEEDING WIDTH SIZES	END AREA CUT FILL	CU Yds.
48	50	15
36	28	11
41	30	11
428	111	48
39	30	15
428	24	21
38	102	70
433	31	17
428	18	20
37	-4	
417	74	63
38	22	14
422	80	65
38	21	21
400	81	65
34	23	14
378	85	46
34	377+00	23 11
433	377+00	29 15
44	Totals	6706
		1031 620

STA. 367+00 TO STA. 377+00

Sta. 376+90 Rt. & Lt. Lay out 12' 2.2" under pavement 3.9 sq. yds. - E-B - Pavement Removal 3.9 sq. yds. - B-70 - 9" Base Replacement Sta. 376+90 ~ 36.5' Rt. & Const. Build 12' End wall as per S-27 P.C.-4 0.23 cu. yds. - S-1 Class E. conc. 1.4 cu. yds. - E-R Excavation

Sta. 376+90 ~ 27.5' Lt. & Const. Build No. 2: 2.5 C.B. Grate Elev. 776.20

-34 Deduct for Drive -377+92 4518 Totals 6706



44 377+00
489
-50 Deduct for Drive -377+72
0 Deduct for Drive -378+00

28
16
44 378+00

500

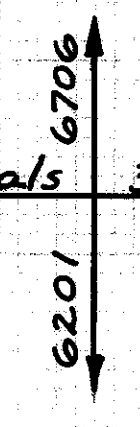
28
18
46

550

35
18
53

-27 Deduct for Sod
170

1632 Totals 380+25



252
-153 Deduct for Sod

45
24
69

99 Totals 6201

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
29	15		11
		-4	4
17	14	131	54
25	0		
42	14		
		165	78
14	28		
33	0		
47	28		
		206	133
29	44		
35	0		
64	44		
		64	49
		574	317
		95	73
28	62		
46	0		
74	62		
		95	73

377+00 29 15 11
377+72 Add for Drive

378+00 Add for Drive -4 4

378+00 17 14 131 54
25 0

42 14

14 28
33 0
47 28

206 133

29 44
35 0
64 44

64 49

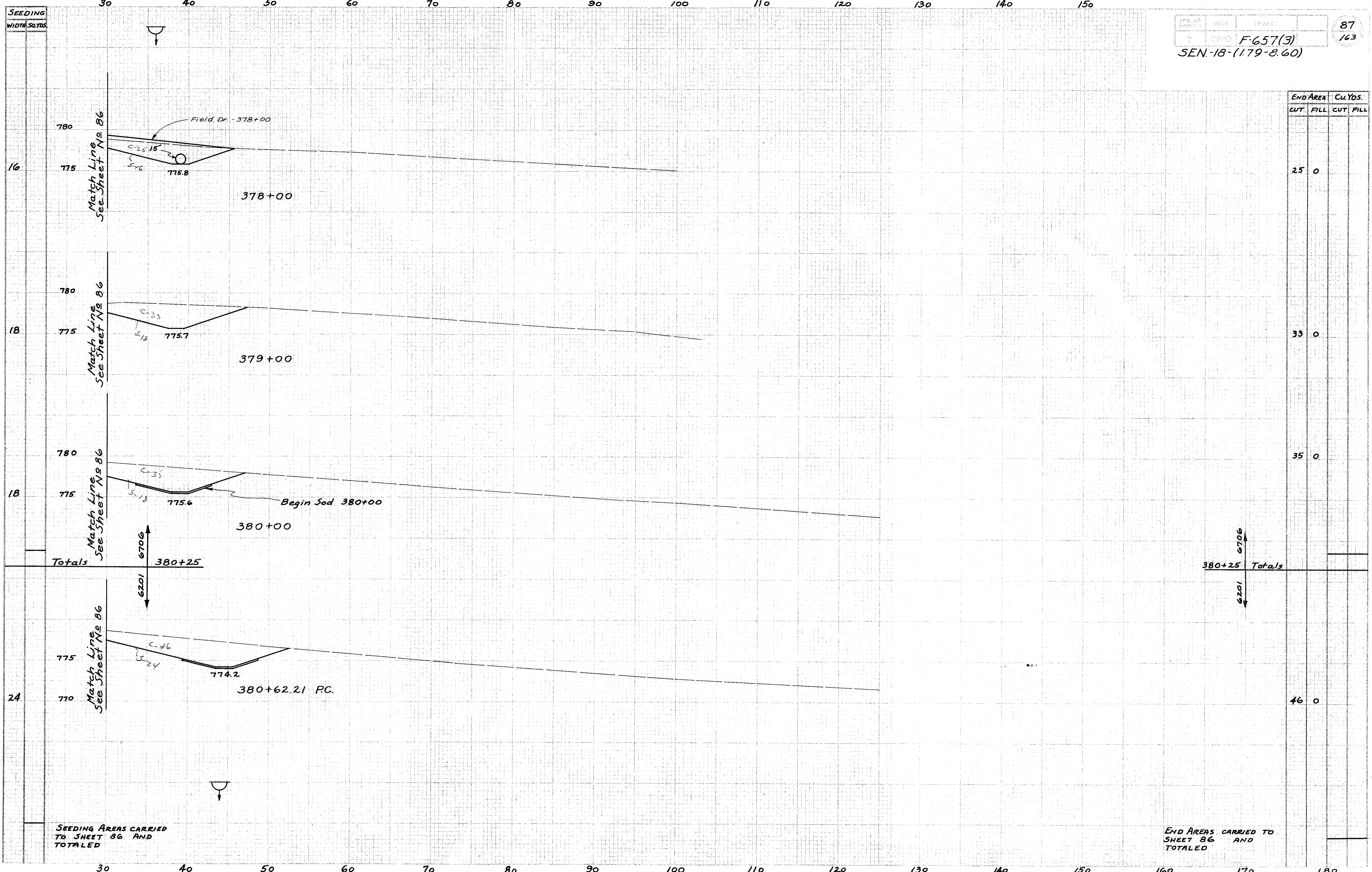
574 317

95 73

28 62
46 0
74 62

95 73

6201 Totals 95 73
STA. 378+00 TO STA. 380+62.21



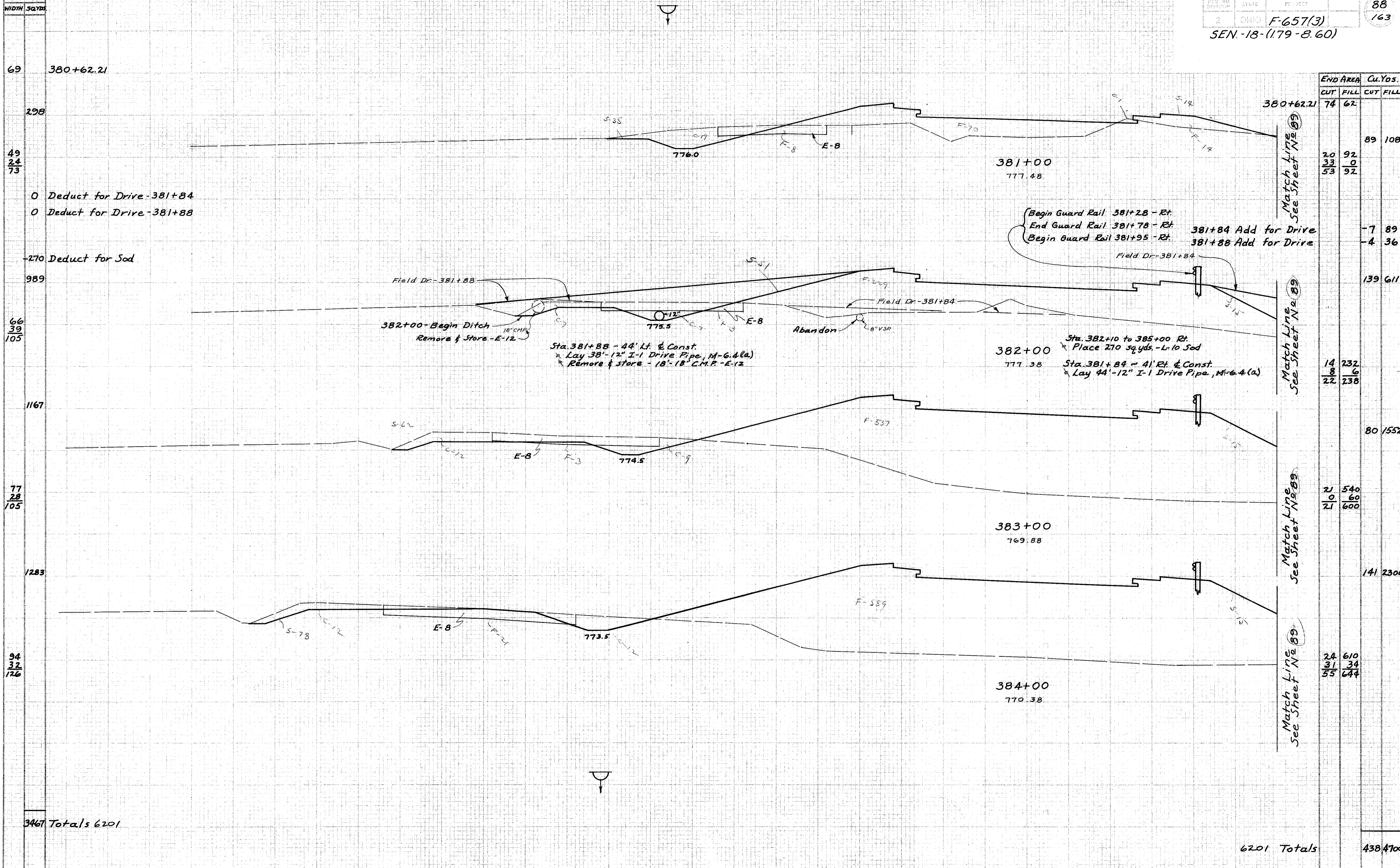
END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
25	0		
33	0		
35	0		
Totals			
46	0		

SEEDING AREAS CARRIED TO SHEET 86 AND TOTALED

END AREAS CARRIED TO SHEET 86 AND TOTALED

STA. 378+00 TO STA. 380+62.21

120 110 100 90 80 70 60 50 40 30 20 10 0 10

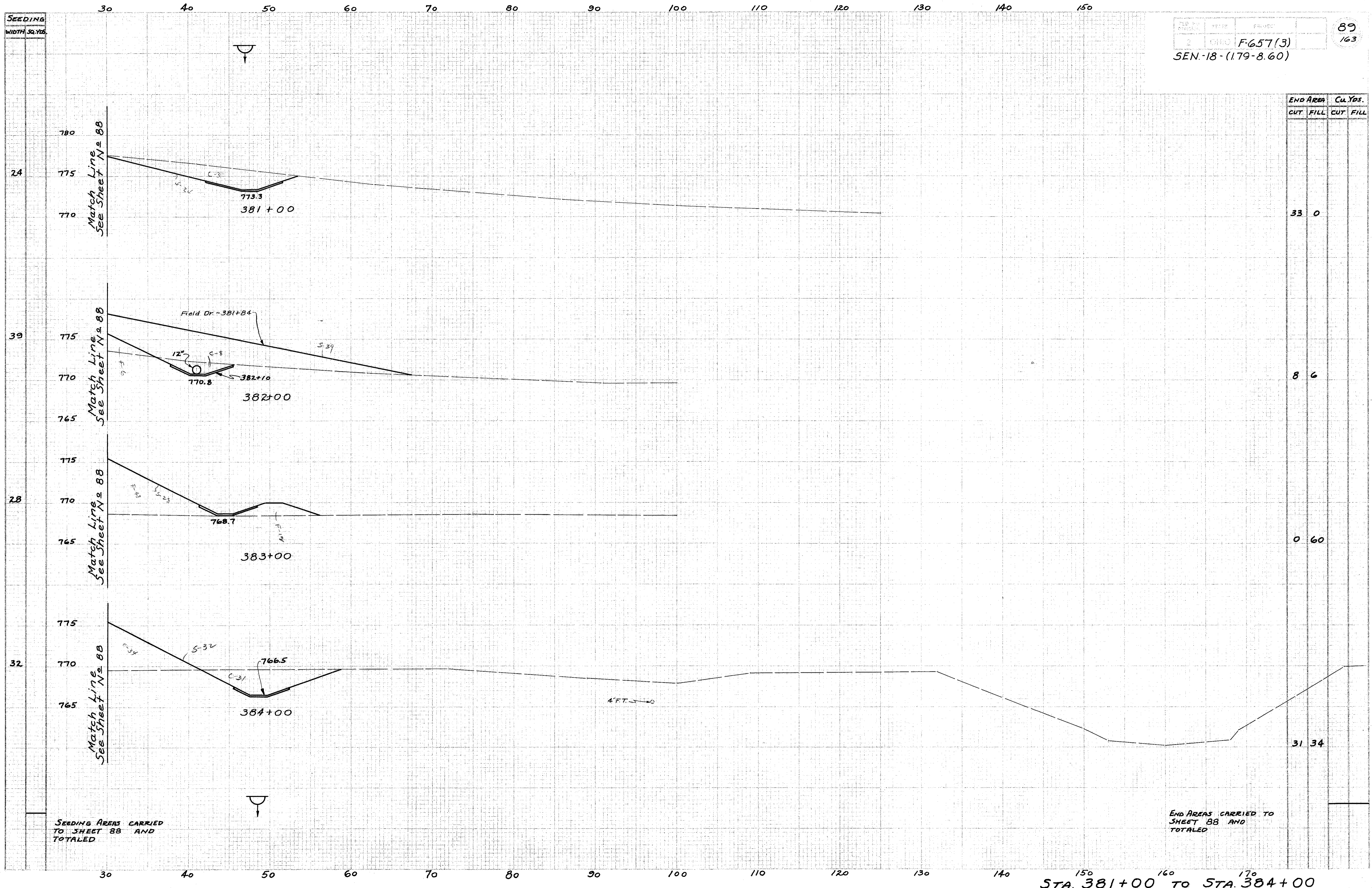


69 380+62.21
298
49
24
73
0 Deduct for Drive-381+84
0 Deduct for Drive-381+88
-270 Deduct for Sod
989
66
39
105
1167
77
28
105
1283
94
32
126
3467 Totals 6201

END AREA	Cu. Yds.	
	CUT	FILL
74	67	
		89 108
20	92	
33	0	
53	92	
		-7 89
		-4 36
		139 611
14	232	
8	6	
22	238	
		80 1552
21	540	
0	60	
21	600	
		141 2304
24	610	
31	34	
55	644	
		6201 Totals 4384700

STA. 381+00 TO STA. 384+00

SEEDING
WIDTH SQ. YDS.

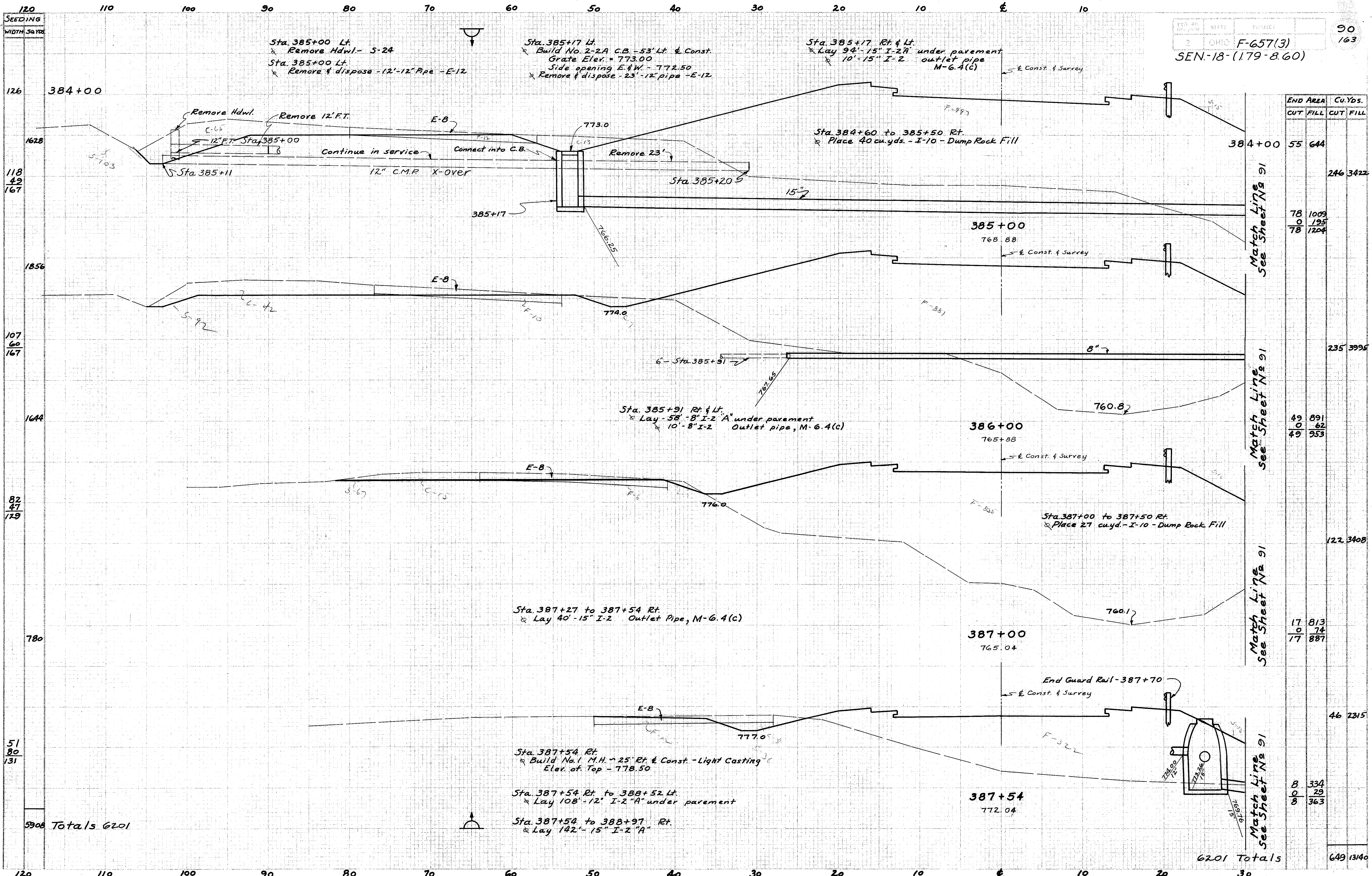


END AREA		Cu. Yds.	
CUT	FILL	CUT	FILL
33	0		
8	6		
0	60		
31	34		

SEEDING AREAS CARRIED TO SHEET 88 AND TOTALED

END AREAS CARRIED TO SHEET 88 AND TOTALED

STA. 381+00 TO STA. 384+00

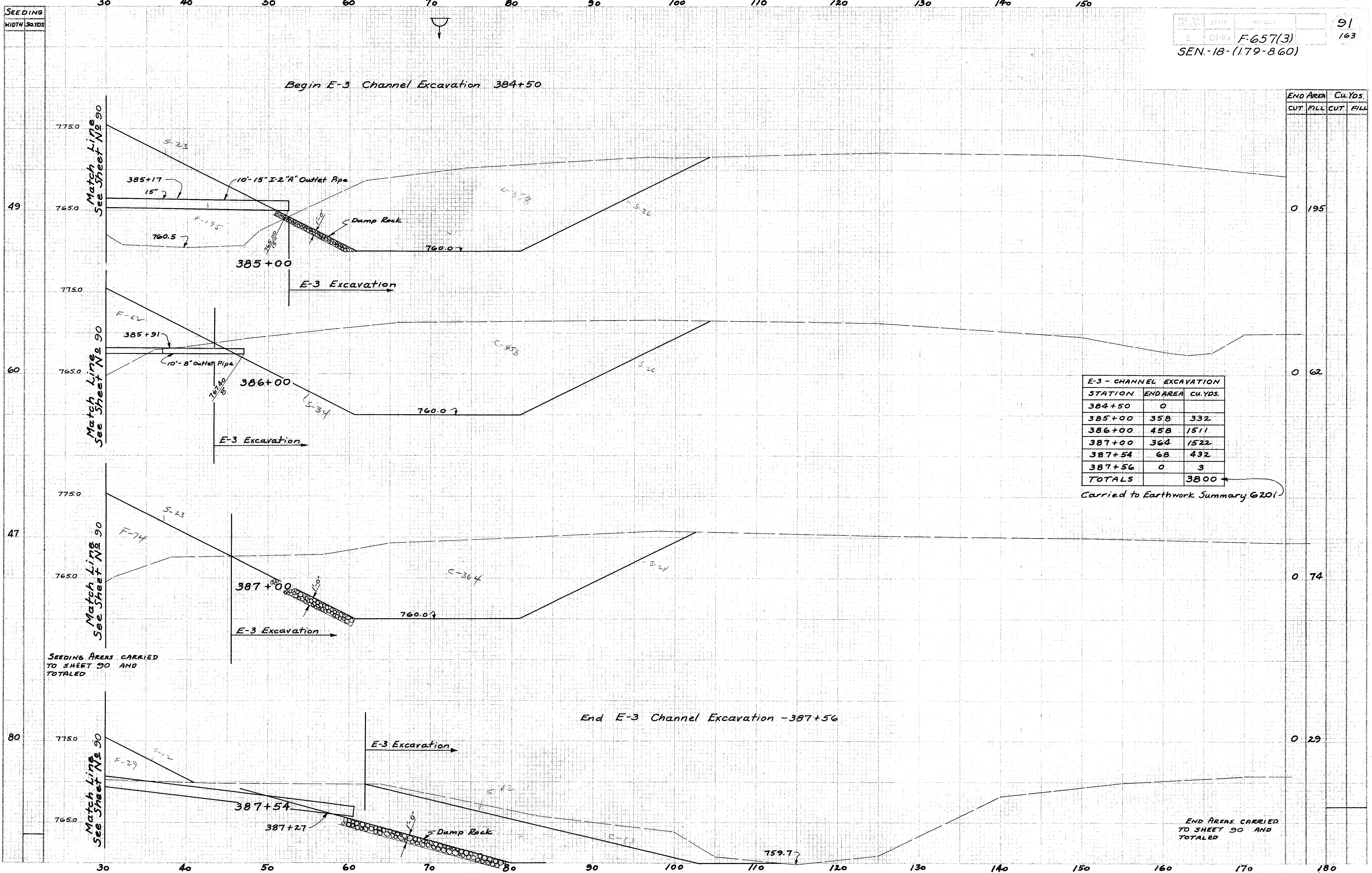


END AREA		Cu. Yds.	
CUT	FILL	CUT	FILL
55	644		
78	1009	246	3422
78	1204		
49	891		
49	953		
17	813		
17	887		
8	334		
8	29		
8	363		
6201 Totals		649	13140

5908 Totals 6201

6201 Totals

STA. 385+00 TO STA. 387+54



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	195		
0	62		
0	74		
0	29		

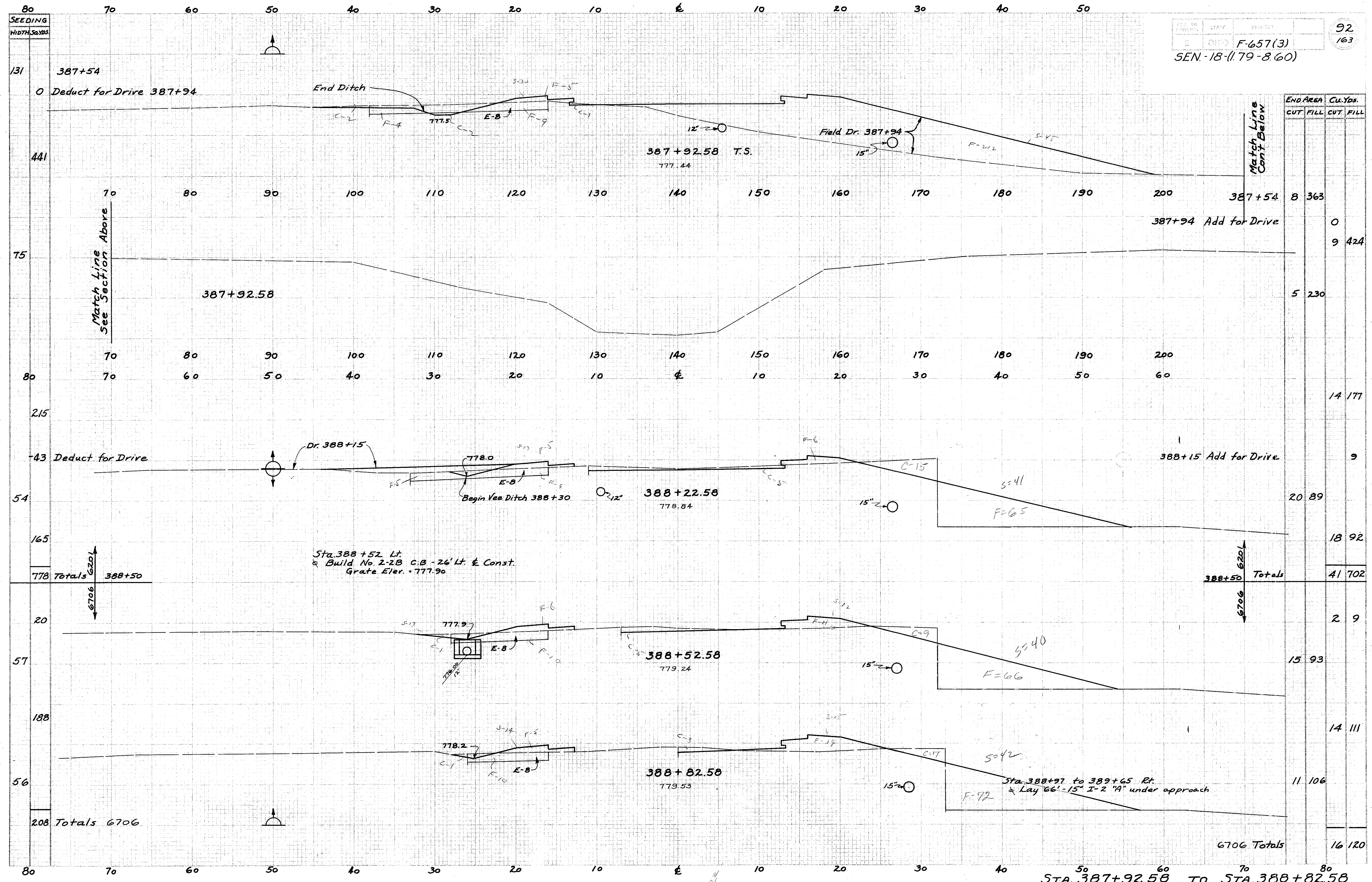
E-3 - CHANNEL EXCAVATION

STATION	END AREA	CU. YDS.
384+50	0	
385+00	358	332
386+00	458	1511
387+00	364	1522
387+54	68	432
387+56	0	3
TOTALS		3800

Carried to Earthwork Summary G201

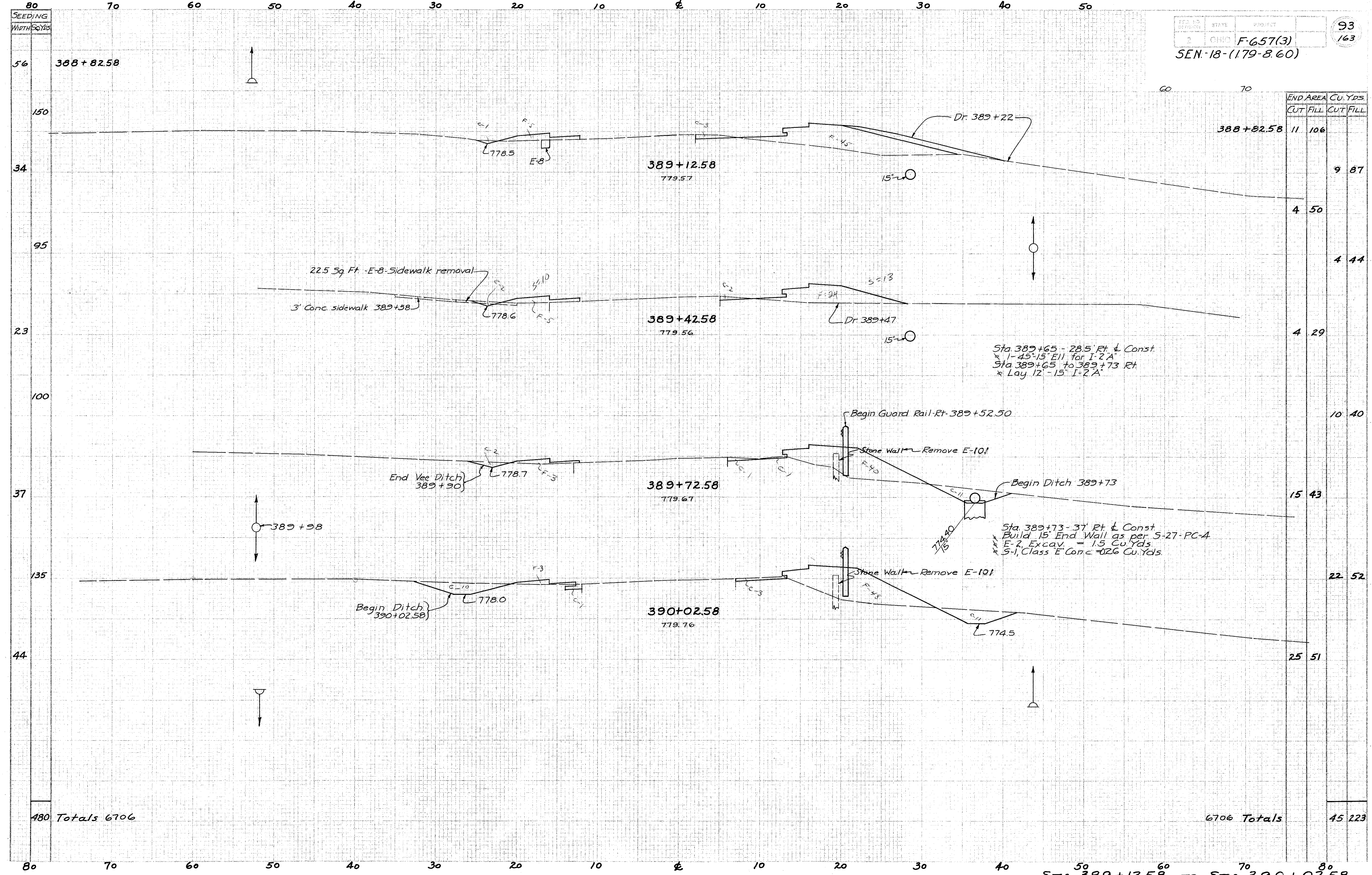
END AREAS CARRIED TO SHEET 90 AND TOTALED

STA. 385+00 TO STA. 387+54



STATION	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
387+54	8	363		
387+94 Add for Drive		0		
		9	424	
387+92.58	5	230		
				14
				177
388+15 Add for Drive		9		
		20	89	
				18
				92
388+50 Totals			41	702
				2
				9
				15
				93
				14
				111
				11
				106
6706 Totals			16	120

STA. 387+92.58 TO STA. 388+82.58

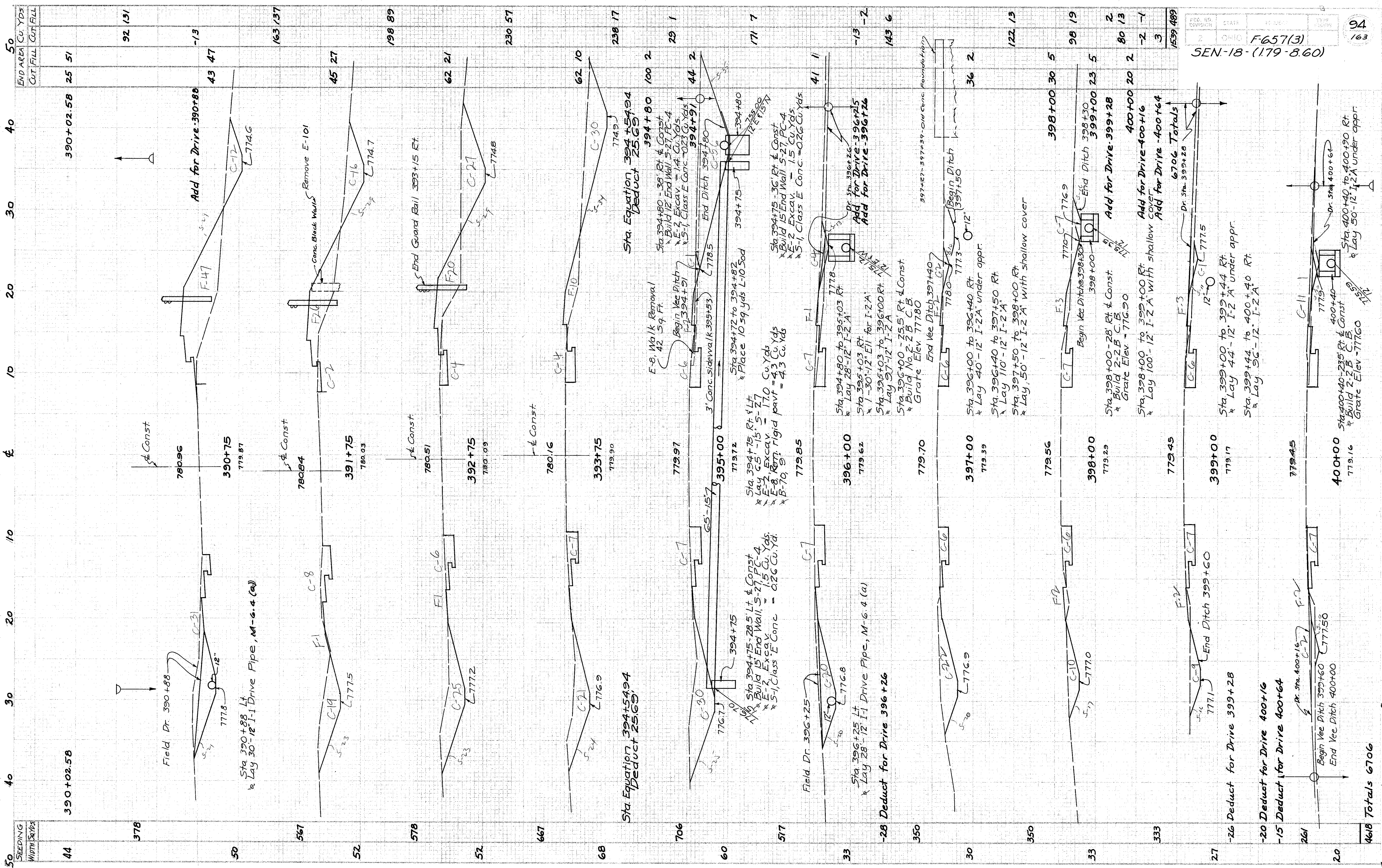


END AREA	CU. YDS.	
	CUT	FILL
388+82.58	11	106
		9 87
	4	50
		4 44
	4	29
		10 40
	15	43
		22 52
	25	51
6706 Totals	45	223

480 Totals 6706

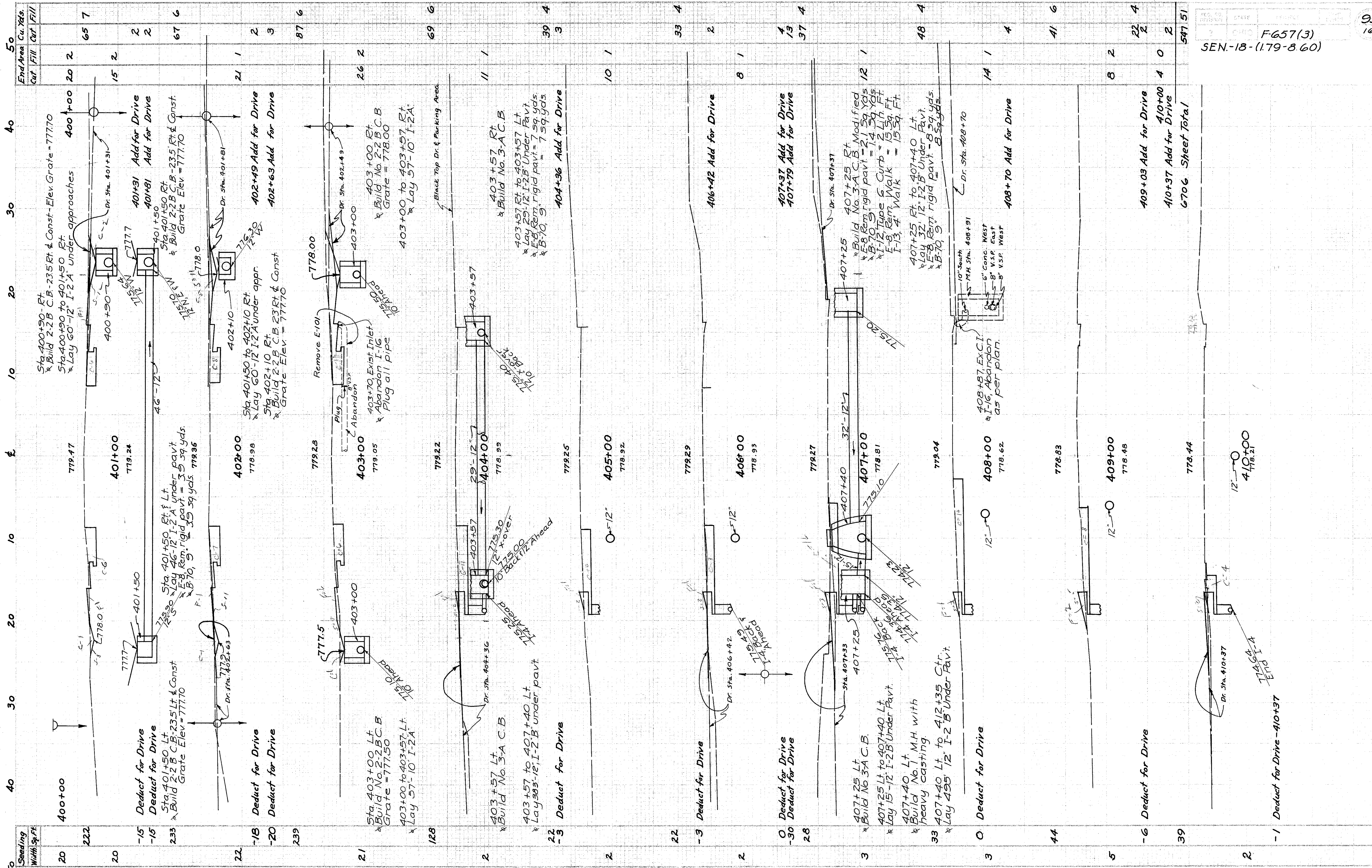
6706 Totals

STA. 389+12.58 TO STA. 390+02.58



STATION	DESCRIPTION	END AREA CUT	END AREA FILL	CUT FILL	CUT FILL
44	390+02.58		25	51	
378					92 / 131
50					-13
567					163 / 137
52					45 / 27
578					198 / 89
52					62 / 21
667					230 / 57
68					62 / 10
706					238 / 17
60					29 / 1
577					44 / 2
33					171 / 7
-28					-13 / -2
350					143 / 6
30					122 / 13
350					398+00 / 30 / 5
33					98 / 19
333					80 / 13
27					-2 / -1
-26					3
-20					1539 / 489
261					
20					

STA. 390+75 TO STA. 400+00



Stn. No.	Width	Depth	Area	End Area	Cu. Yds.
20	22.2	20	779.47	400+00	20
20	-15	20	779.24	401+00	2
22	22.2	20	779.98	402+00	2
21	21	20	778.00	403+00	2
2	2	20	779.99	404+00	3
2	2	20	779.25	405+00	3
2	2	20	779.29	406+42	2
3	3	20	779.27	407+25	1
3	3	20	779.27	407+40	1
3	3	20	778.62	408+00	1
5	5	20	778.83	409+00	1
39	39	20	778.44	410+00	4
				6706	Sheet Total

SEN-18-(1.79-8.60)

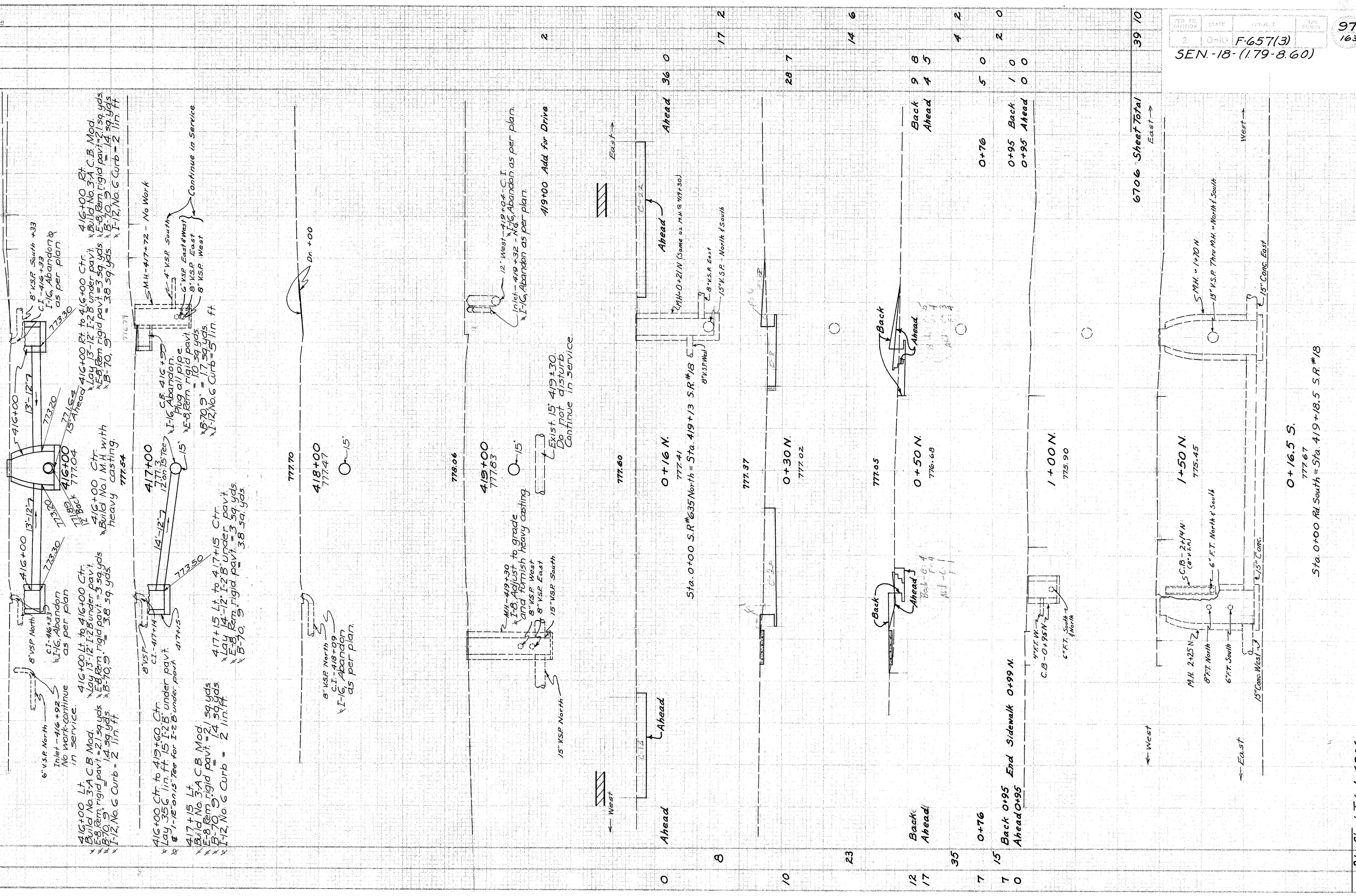
F657(3)

95
163

STA. 401+00 TO STA. 410+00

999 Sheet Total 6706

50	Seeding	50	End Area	Cu. Yds.
40	Width Sp. Yds.	40	Cut	Fill
30		30		
20		20		
10		10		
0		0		



6706 Sheet Total

Sta. 0+00 Rd South = Sta. 419+18.5 S.R. #18

STA. 416+00 TO STA. 419+00

81 Sheet Total 6706

Seeding
Width Sq. Yd.

End Area Cu. Yds.
Cut Fill Cut Fill

← East

West →

0+46 S.
777.34

1+00 S.
777.22

1+50 S.
777.17

778.54

419+55
14-12.7

419+60
13-12.7

419+60
174.30

420+00
174.20

420+00
171.28

420+00
178.31

420+00
779.09

421+00
778.80

422+60
779.47

422+60
779.24

0+32 N.
779.09

1+50 N.
775.87

670.6 Sheet Total

3 0

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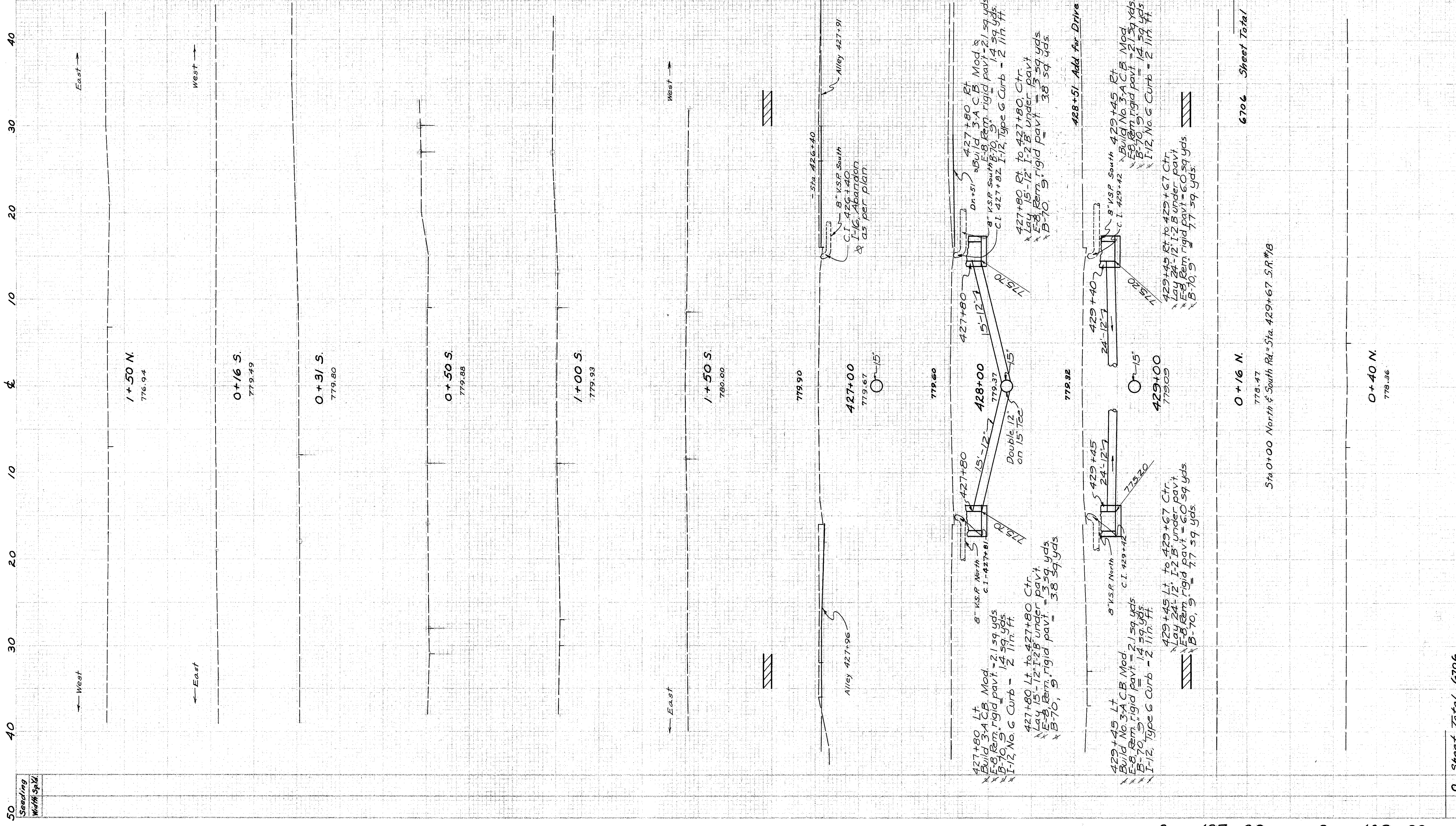
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50	End Area Cu Yds	
	Cut	
	Fill	



2	OHIO	F-657(3)	SEN-18-(1.79-8.60)
2			

100
163

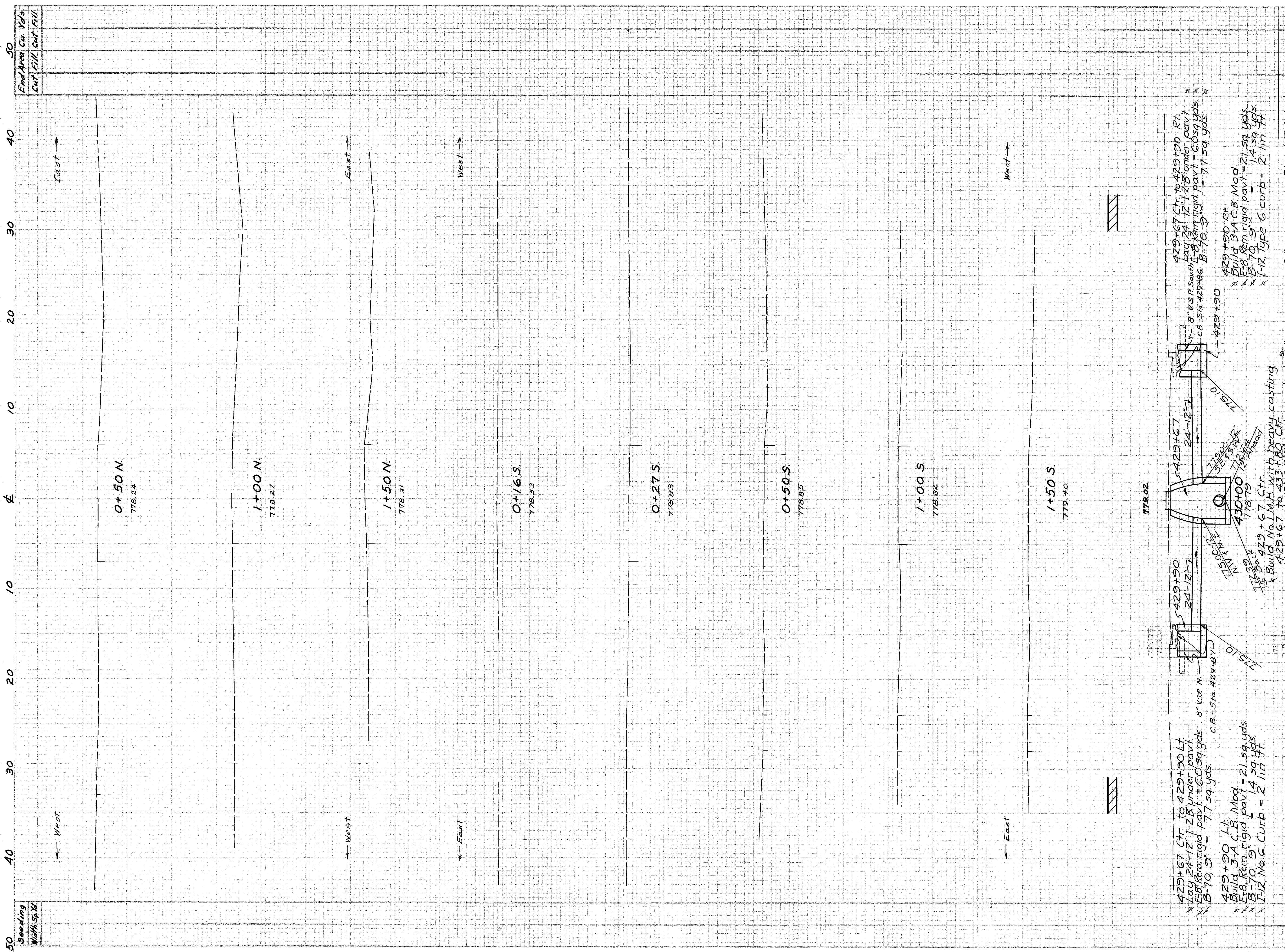
6706 Sheet Total

Sta. 0+00 North & South Rd. = Sta. 429+67 S.R.#18

0+16 N

0 Sheet Total 6706

STA. 427+00 TO STA. 429+00



FED. RD. DIVISION	STATE	PROJECT	TYPE	PLANS
2	OHIO	F-657(3)		101
SEN-18-(1.79-8.60)				

Seeding Width Sq. Yd.

End Area Cu. Yds.

Cut Fill

Sheet Total 6706

429+67 Ctr. to 429+90 Lt.
Lay 24-12 I-2B under pavt.
F-8 Rem. rigid pavt. = 6.0 sq. yds.
B-70, 9" = 7.7 sq. yds.

429+90 Lt.
Build 3-A C.B. Mod.
F-8 Rem. rigid pavt. = 21 sq. yds.
B-70, 9" = 14 sq. yds.
I-12, No. 6 Curb = 2 lin. ft.

430+00
Build No. 1 M.H. with heavy casting
429+67 to 433+60 Ctr.
Lay 409-12 I-2B under pavt. & 1-12 on 12" Tee

431+60 Lt. to 431+60 Ctr.
Lay 14-12 I-2B under pavt.
F-8 Rem. rigid pavt. = 3.8 sq. yds.
B-70, 9" = 3.8 sq. yds.

431+00
Build 3-A C.B. Lt.
F-8 Rem. rigid pavt. = 21 sq. yds.
B-70, 9" = 14 sq. yds.
I-12, No. 6 Curb = 2 lin. ft.

8" K.S.R. North
C.I. Sta. 431+60

8" K.S.R. South
C.B. 431+67

Alley - Sta. 431+47

8" V.S.P. Tee for I-2B under pavt.

8" V.S.P. Tee for I-2B under pavt.

Alley - Sta. 431+47

8" V.S.P. Tee for I-2B under pavt.

Alley - Sta. 431+47

8" V.S.P. Tee for I-2B under pavt.

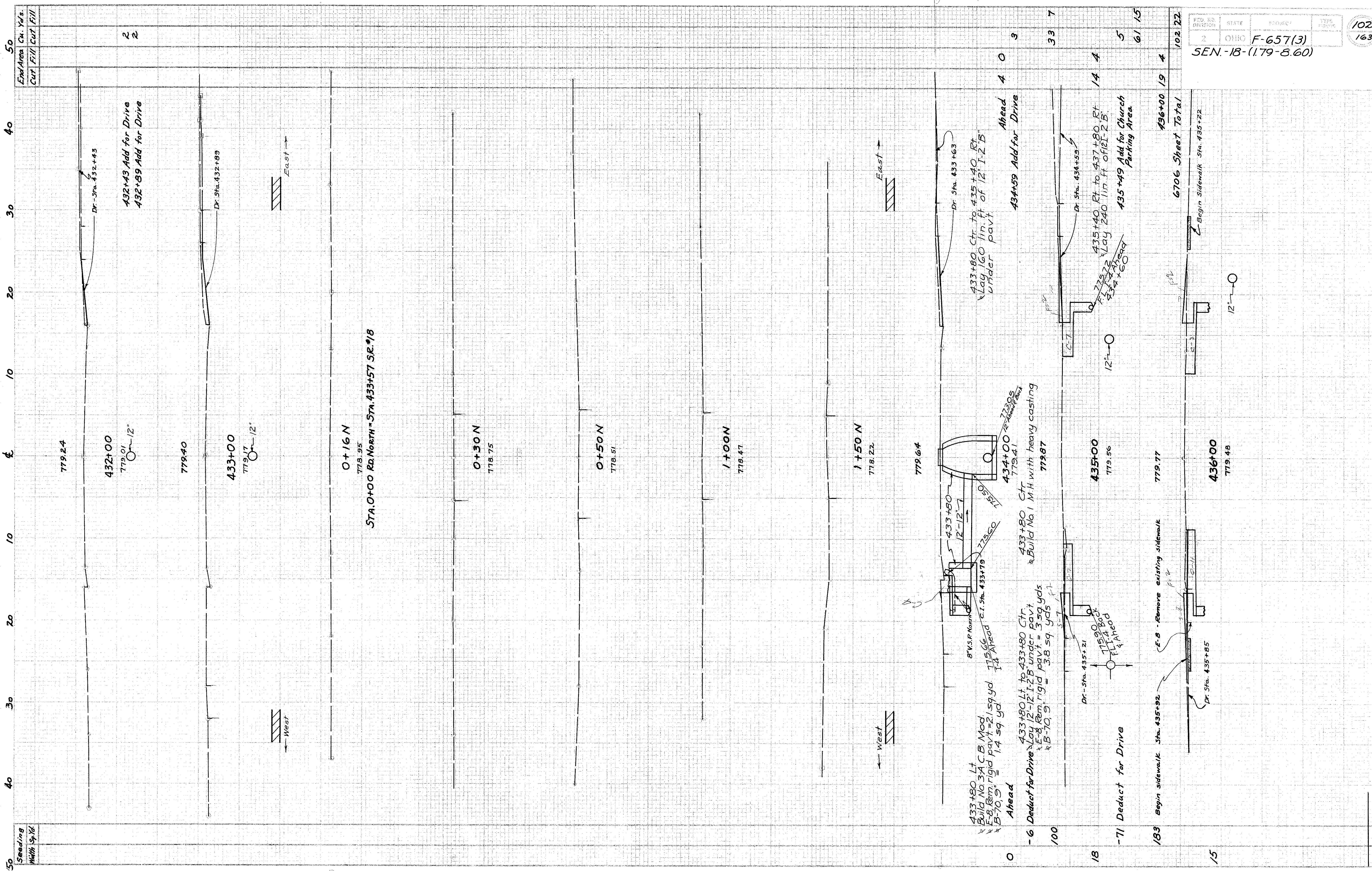
Alley - Sta. 431+47

50 40 30 20 10 0

0 10 20 30 40 50

50 40 30 20 10 0

0 10 20 30 40 50

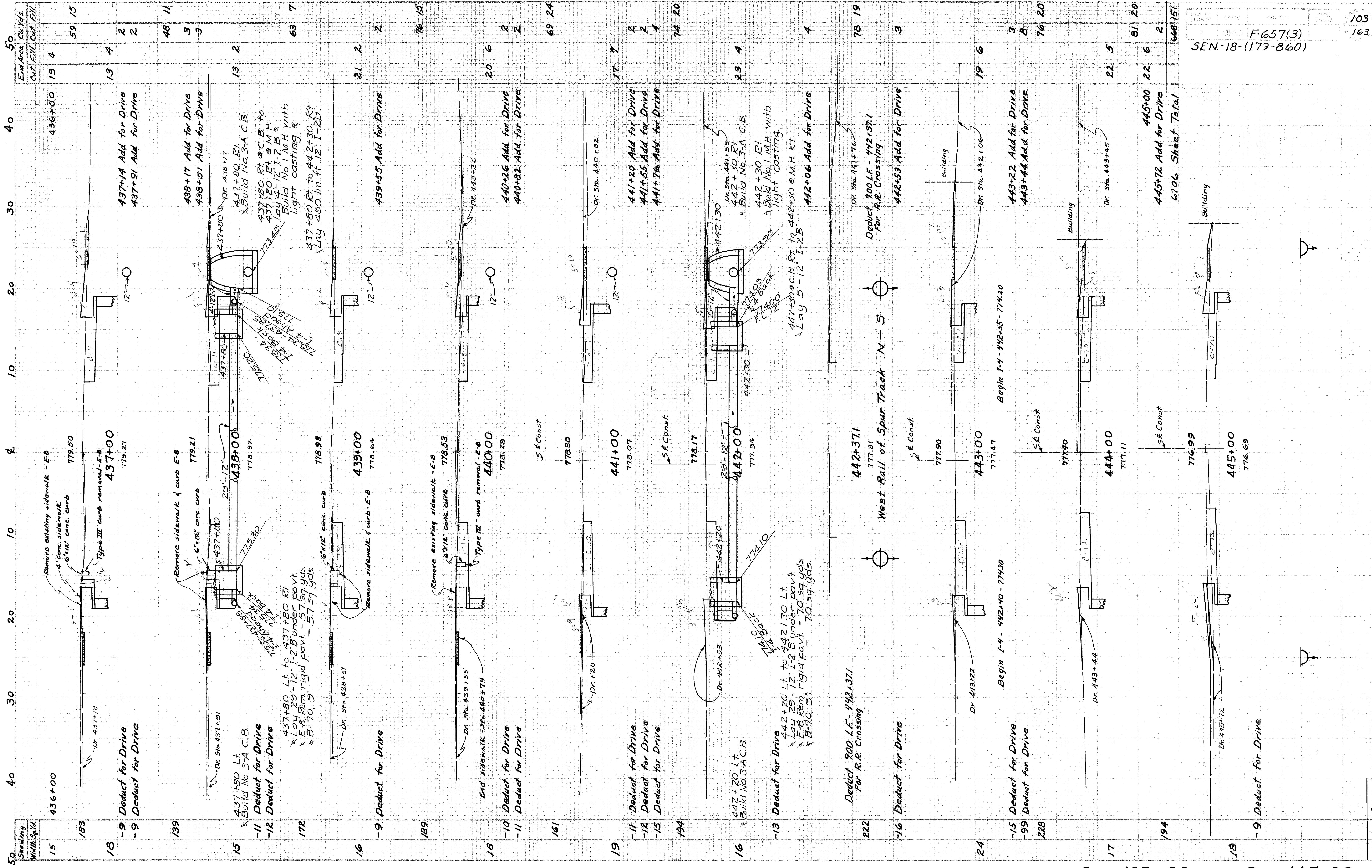


50	Seeding	50	Exp. Area
40	Width Sq. Yd.	40	Cu. Yds.
30		30	Cut
20		20	Fill
10		10	Cut
0		0	Fill

102	163		
2	OHIO	F-657(3)	SEN.-18-(179-8.60)

STA. 432+00 TO STA. 436+00

206 Sheet Total 6706



Station	Seeding Width Sq. Yd.	End Area Cu. Yds.	Cut	Fill
436+00	15	436+00	19	4
437+00	18	437+00	13	4
438+00	139	438+00	48	11
439+00	15	439+00	3	3
440+00	172	440+00	63	7
441+00	16	441+00	21	2
442+00	189	442+00	76	15
443+00	18	443+00	20	6
444+00	161	444+00	69	24
445+00	19	445+00	17	7
446+00	194	446+00	23	4
447+00	16	447+00	74	20
448+00	222	448+00	78	19
449+00	17	449+00	3	3
450+00	194	450+00	8	8
451+00	17	451+00	76	20
452+00	18	452+00	22	6
453+00	194	453+00	668	151

STA. 437+00 TO STA. 445+00

Sheet Total 6706

445+00 Add for Drive
6706 Sheet Total

443+22 Add for Drive
443+44 Add for Drive

442+53 Add for Drive

442+06 Add for Drive

441+20 Add for Drive
441+55 Add for Drive
441+76 Add for Drive

440+26 Add for Drive
440+82 Add for Drive

439+55 Add for Drive

438+17 Add for Drive
438+51 Add for Drive

437+14 Add for Drive
437+91 Add for Drive

436+00

Building

Building

Building

Building

Building

Building

Building

Building

Building

Building

Building

Building

Building

Building

Building

Building

West Rail of Spur Track N-S

Begin I-4 - 442+55 - 774+20

Begin I-4 - 442+10 - 774+30

Deduct 900 L.F. - 442+37.1 For R.R. Crossing

442+20 Lt. to 442+30 Lt. Lay 29'-12" I-2'B under pav't F-8 Rem. rigid pav't = 70 sq. yds. B-70, 9.

442+20 Lt. to 442+30 Rt. Lay 29'-12" I-2'B under pav't F-8 Rem. rigid pav't = 70 sq. yds. B-70, 9.

441+20 Lt. to 441+30 Lt. Lay 29'-12" I-2'B under pav't F-8 Rem. rigid pav't = 70 sq. yds. B-70, 9.

440+20 Lt. to 440+30 Lt. Lay 29'-12" I-2'B under pav't F-8 Rem. rigid pav't = 70 sq. yds. B-70, 9.

439+20 Lt. to 439+30 Lt. Lay 29'-12" I-2'B under pav't F-8 Rem. rigid pav't = 70 sq. yds. B-70, 9.

437+80 Lt. to 437+80 Rt. Lay 29'-12" I-2'B under pav't F-8 Rem. rigid pav't = 70 sq. yds. B-70, 9.

437+80 Lt. to 437+80 Rt. Lay 29'-12" I-2'B under pav't F-8 Rem. rigid pav't = 70 sq. yds. B-70, 9.

437+80 Lt. to 437+80 Rt. Lay 29'-12" I-2'B under pav't F-8 Rem. rigid pav't = 70 sq. yds. B-70, 9.

436+00

Dr. 445+72

Dr. 443+44

Dr. 443+22

Dr. 442+53

Dr. 440+26

Dr. Sta. 438+51

Dr. Sta. 437+91

Dr. 437+14

Dr. 436+00

Dr. Sta. 443+45

Dr. Sta. 442+06

Dr. Sta. 441+76

Dr. Sta. 441+55

Dr. Sta. 440+82

Dr. Sta. 438+17

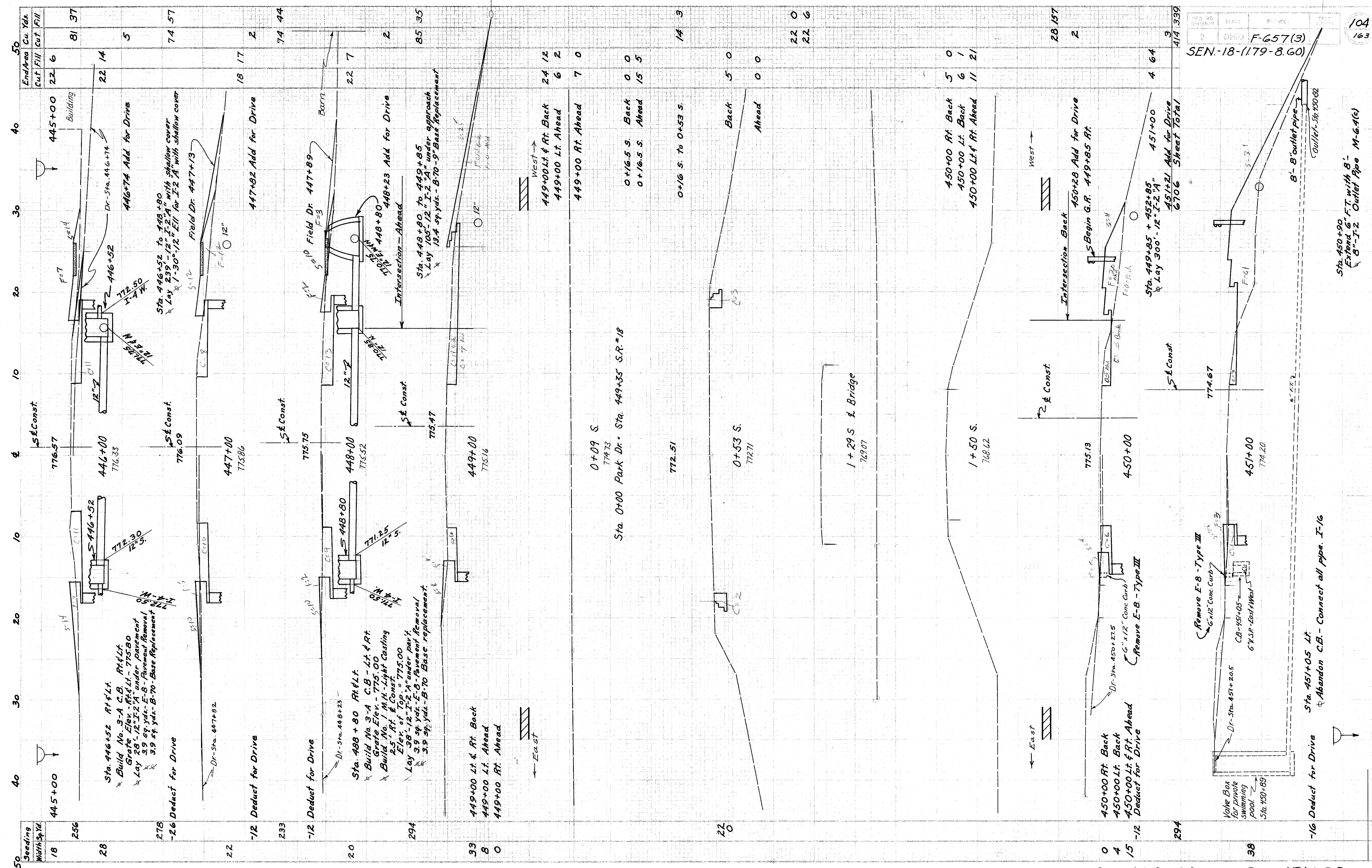
Dr. Sta. 437+91

Dr. Sta. 437+14

Dr. Sta. 436+00

Dr. Sta. 436+00

0.2' - 2.4'

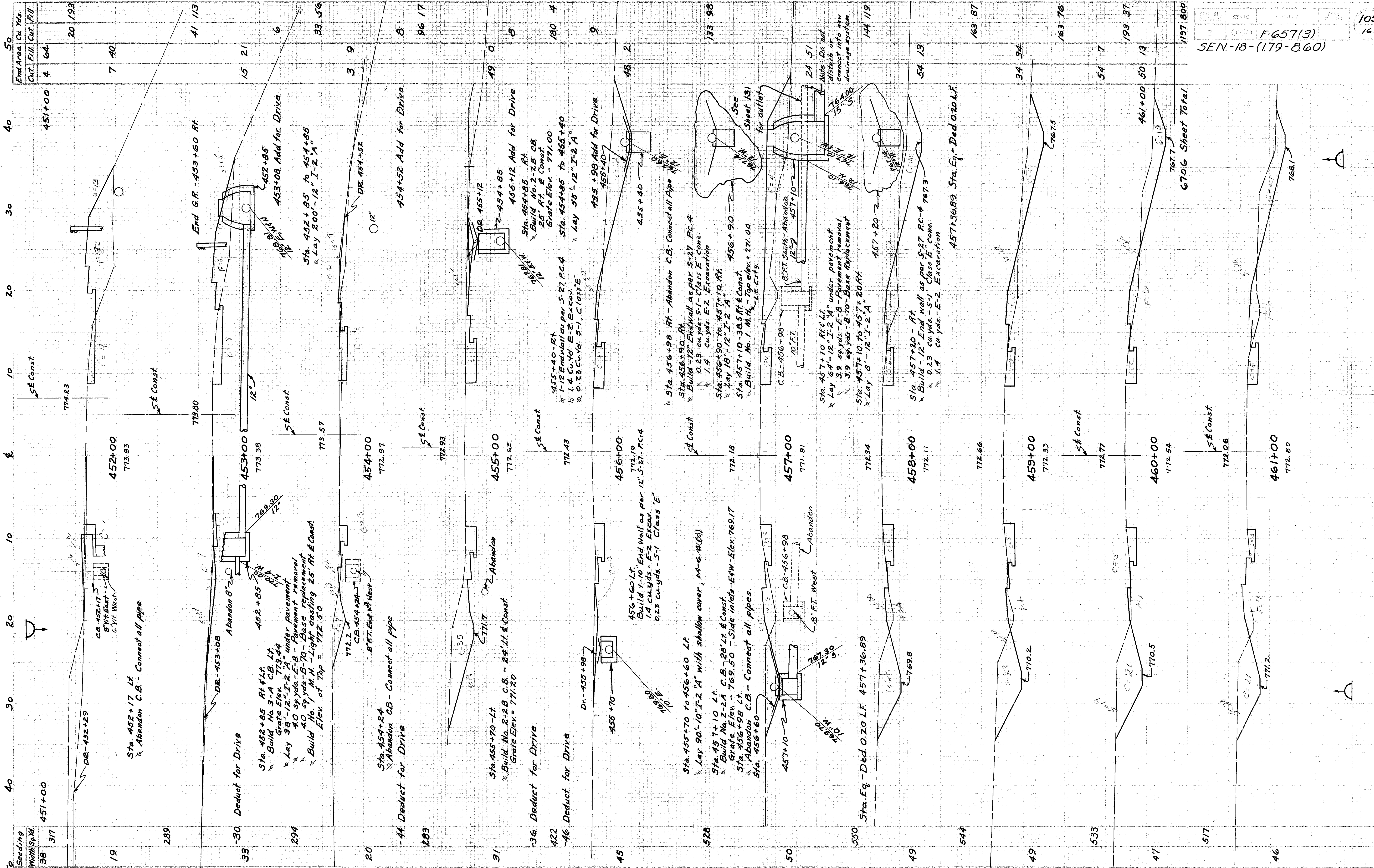


Station	Width	Sp. Yd.	End Area	Cu. Yds.	Fill	Cut
445+00	18	256	22	6	22	6
446+00	28	218	22	14	22	14
447+00	22	233	18	17	2	2
448+00	20	294	22	7	2	2
449+00	33	8	24	12	6	2
450+00	15	220	7	0	0	0
451+00	38	294	5	0	6	1
Total			22	0	22	6

STA. 446+00 TO STA. 451+00

Sta. 0+00 Park Dr. Sta. 449+35 S.R. #18

1299 Sheet Total 6706
Sta. 451+05 Lt. Abandon C.B. - Connect all pipe. I-16
Sta. 450+90 Extend 6" FT. with 8" 8"-I-2 Outlet Pipe M-6.4(c)



Seedling Width Sp. Yd.	End Area Cu Yds.	Cut	Fill	Cut	Fill
38	317	4	64	20	193

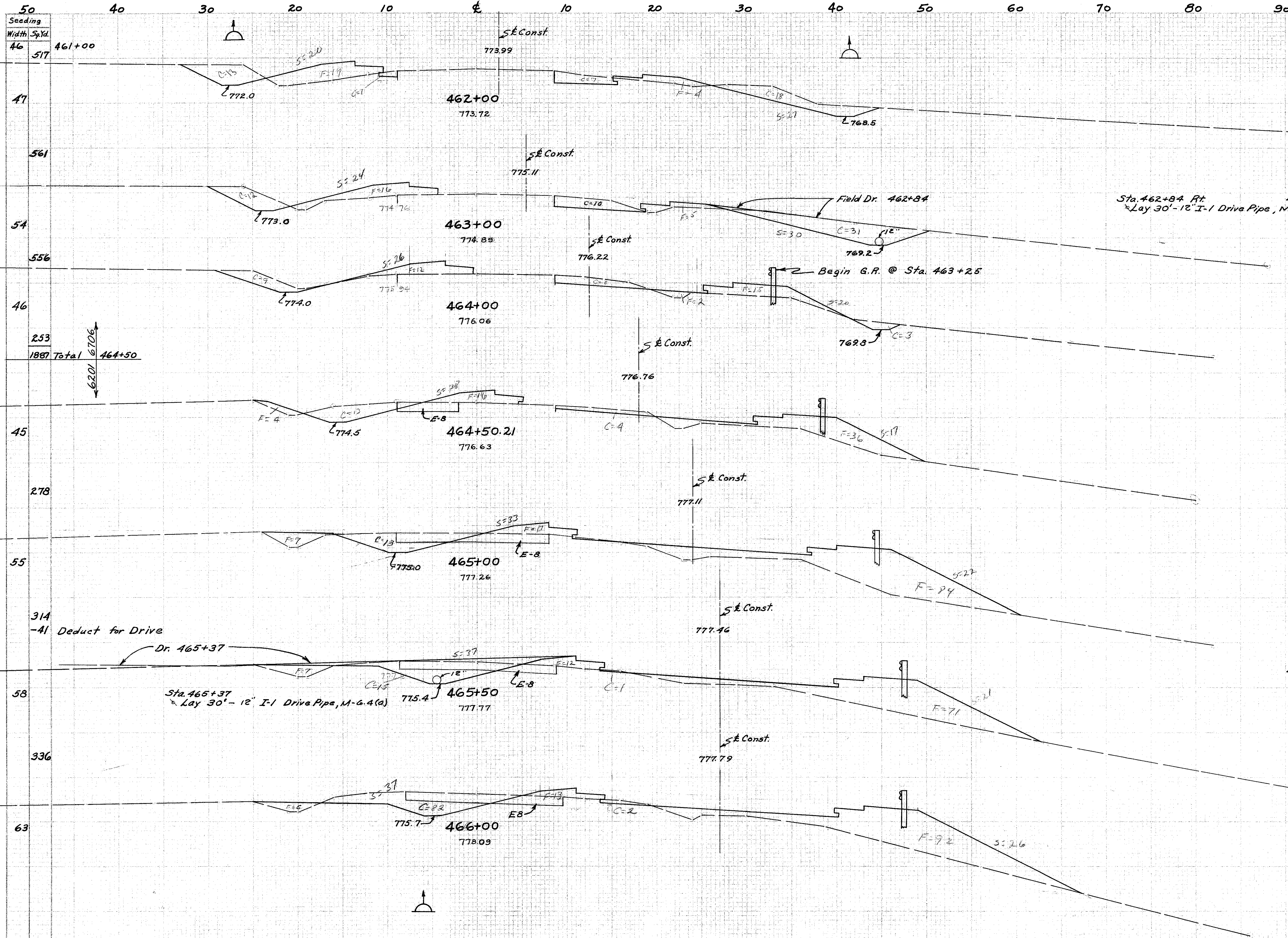
Seedling Width Sp. Yd.	End Area Cu Yds.	Cut	Fill	Cut	Fill
38	317	4	64	20	193

STA. 452+00 TO STA. 461+00

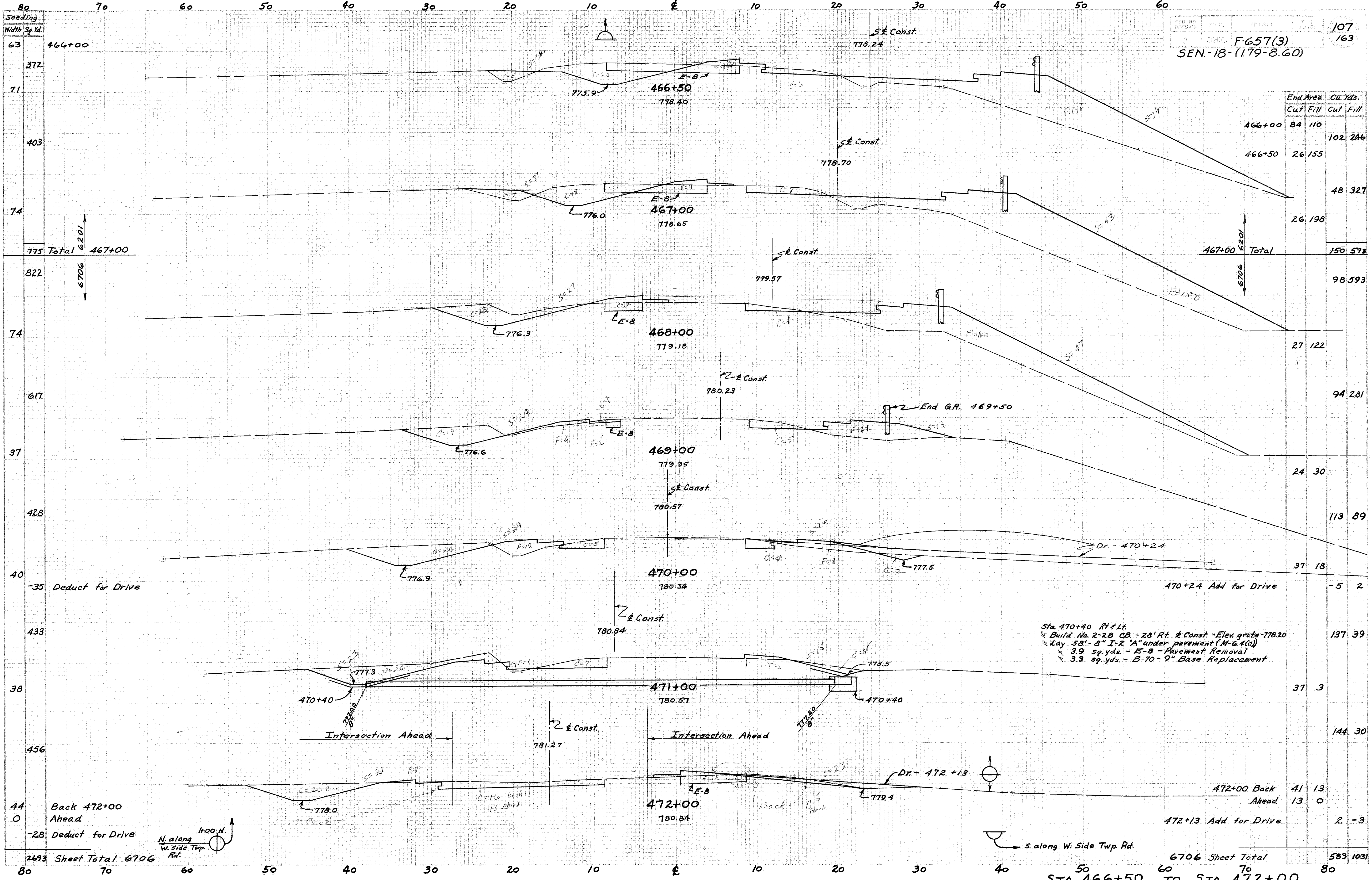
4121 Sheet Total 6706

6706 Sheet Total

1197800

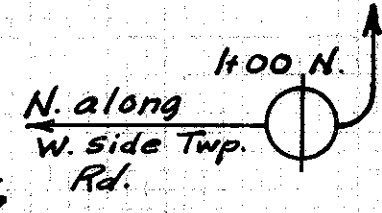


Sta.	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
461+00	50	13	165	67
462+00	39	23	170	81
			-21	
463+00	53	21		
			135	93
464+00	20	29		
			35	79
464+50 Total			484	320
465+00	17	56		
			18	152
465+50	13	108		
			27	184
466+00	16	90		
			-12	8
466+00	84	110		
			92	185
Sheet Total	6201		125	529



Station	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
466+00	84	110		
466+50	26	155	102	246
467+00			48	327
467+00 Total			150	573
468+00				98
468+50			27	122
469+00				94
469+50			24	30
470+00				113
470+24			37	18
470+24 Add for Drive			-5	2
471+00				137
471+40			37	3
471+40 Intersection Ahead				144
472+00				37
472+00 Back Ahead	41	13		
472+13				2
472+13 Add for Drive				-3
Sheet Total	2693	6706	6706	583
Sheet Total				1031

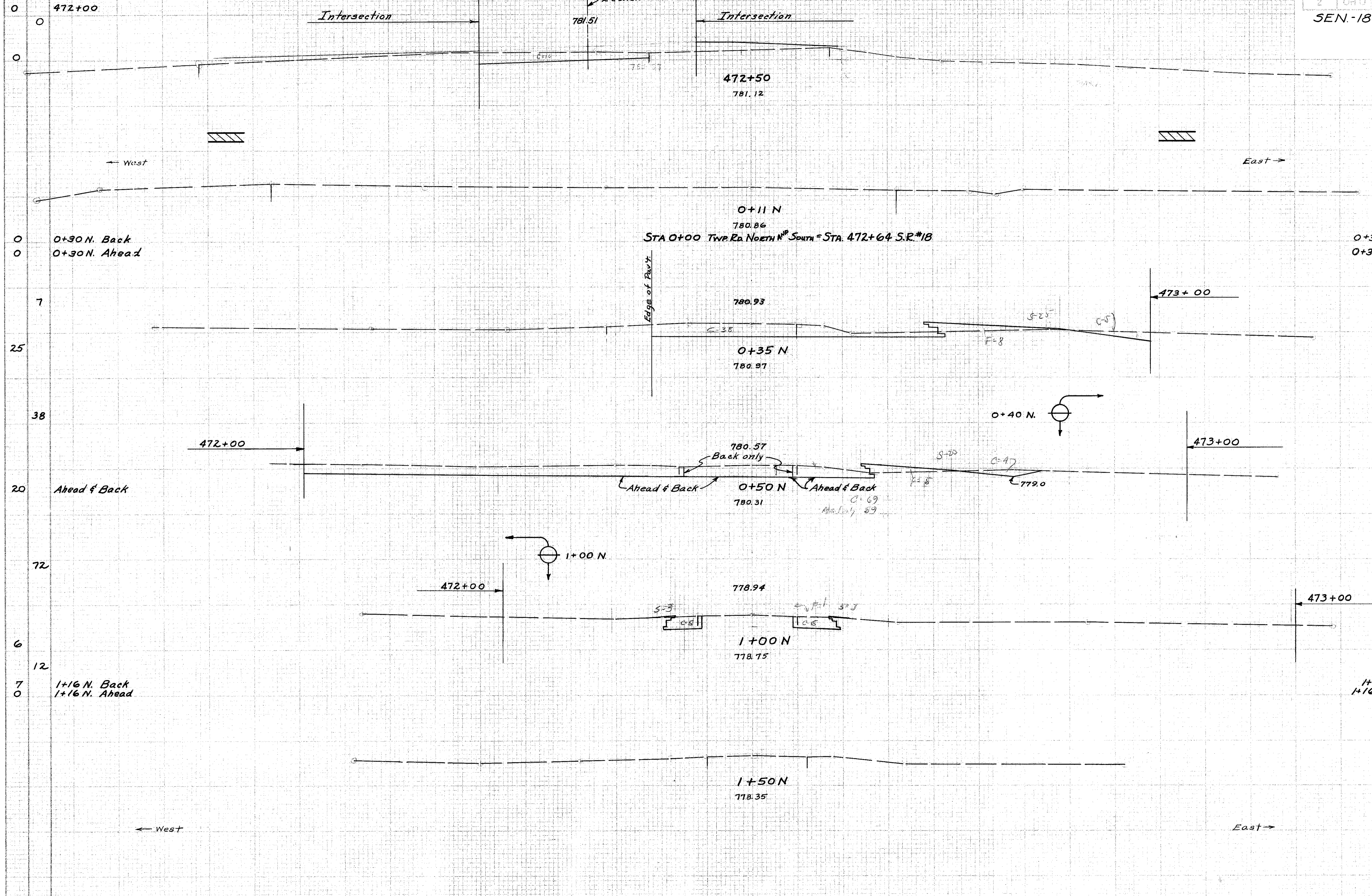
Sta. 470+40 Rt & Lt
 Build No. 2-2B CB - 28' Rt & Const - Elev grate - 778.20
 Lay 58'-8" I-2 'A' under pavement (M-6+ (c))
 3.9 sq. yds. - E-8 - Pavement Removal
 3.9 sq. yds. - B-70-9" Base Replacement



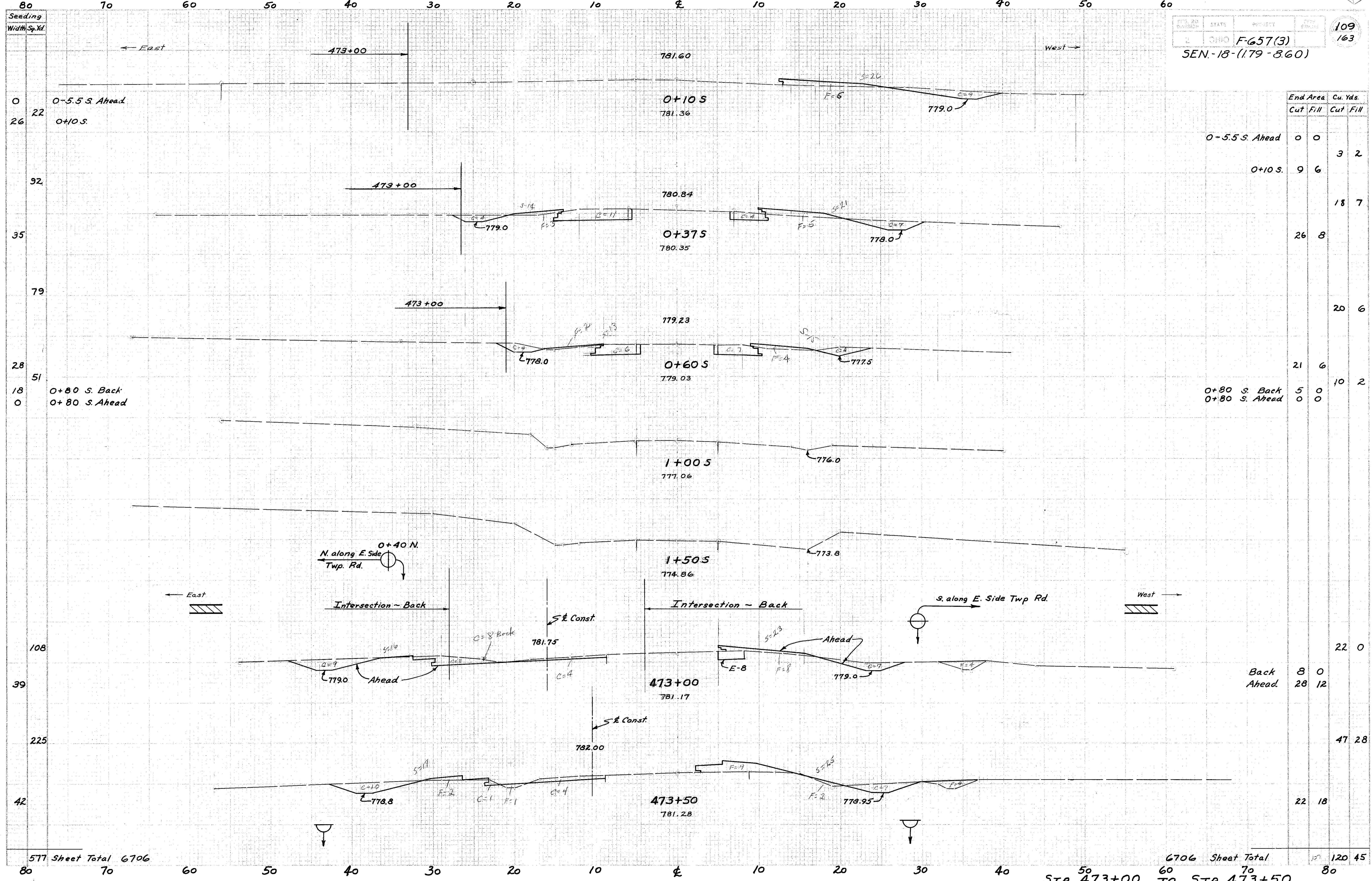
S. along W. Side Twp. Rd.

6706 Sheet Total
 STA. 466+50 TO STA. 472+00

Seeding
Width Sp. d.

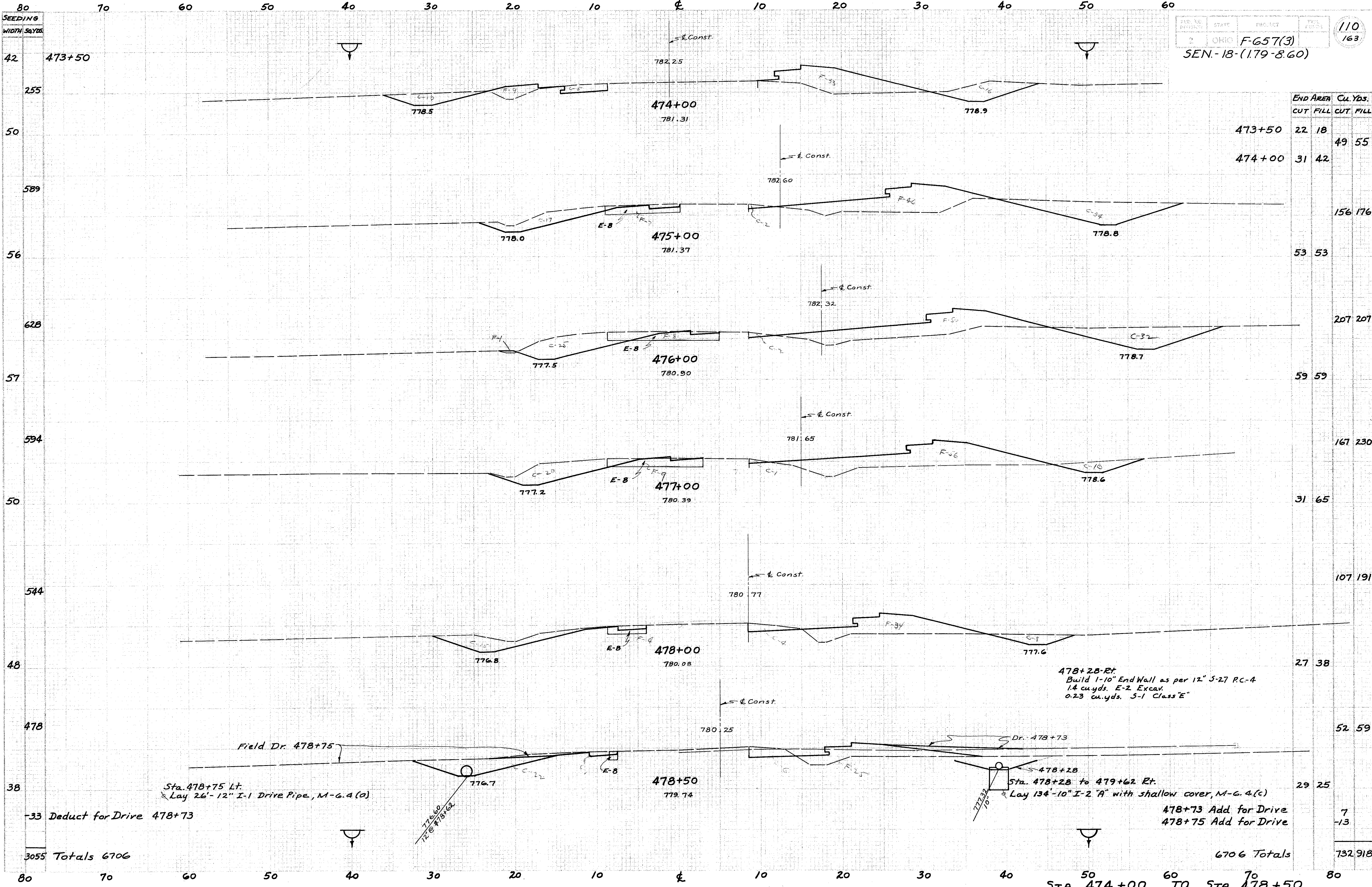


Station	End Area		Cu. Yd.	
	Cut	Fill	Cut	Fill
472+00	13	0	27	0
	16	0		
0+30 N. Back	0	0		
0+30 N. Ahead	112	0		
			14	1
	43	8		
			32	4
Back	73	5		
Ahead	63	5		
			68	5
	11	1		
			5	1
1+16 N. Back	5	0		
1+16 N. Ahead	0	0		



	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
0-5.5 S. Ahead	0	0		
0+10.5	9	6	3	2
			18	7
	26	8		
			20	6
	21	6		
0+80 S. Back	5	0	10	2
0+80 S. Ahead	0	0		
			22	0
Back	8	0		
Ahead	28	12		
			47	28
	22	18		
			15	120
			45	

4762438



PROJ. NO.	STATE	PROJECT	DATE
2	OHIO	F-657(3)	110
SEN.-18-(179-8.60)			163

STATION	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
473+50	22	18		
474+00	31	42	49	55
475+00	53	53	156	176
476+00	59	59	207	207
477+00	31	65	167	230
478+00	27	38	107	191
478+28			27	38
478+50	29	25	52	59
Totals	3055	6706	6706	7329

478+28-Rt.
Build 1-10" End Wall as per 12" S-27 RC-4
1.4 cu.yds. E-2 Excav.
0.23 cu.yds. S-1 Class "E"

Sta. 478+75 Lt.
Lay 26'-12" I-1 Drive Pipe, M-G. 4 (a)

Sta. 478+28 to 479+62 Rt.
Lay 134'-10" I-2 "A" with shallow cover, M-G. 4 (c)

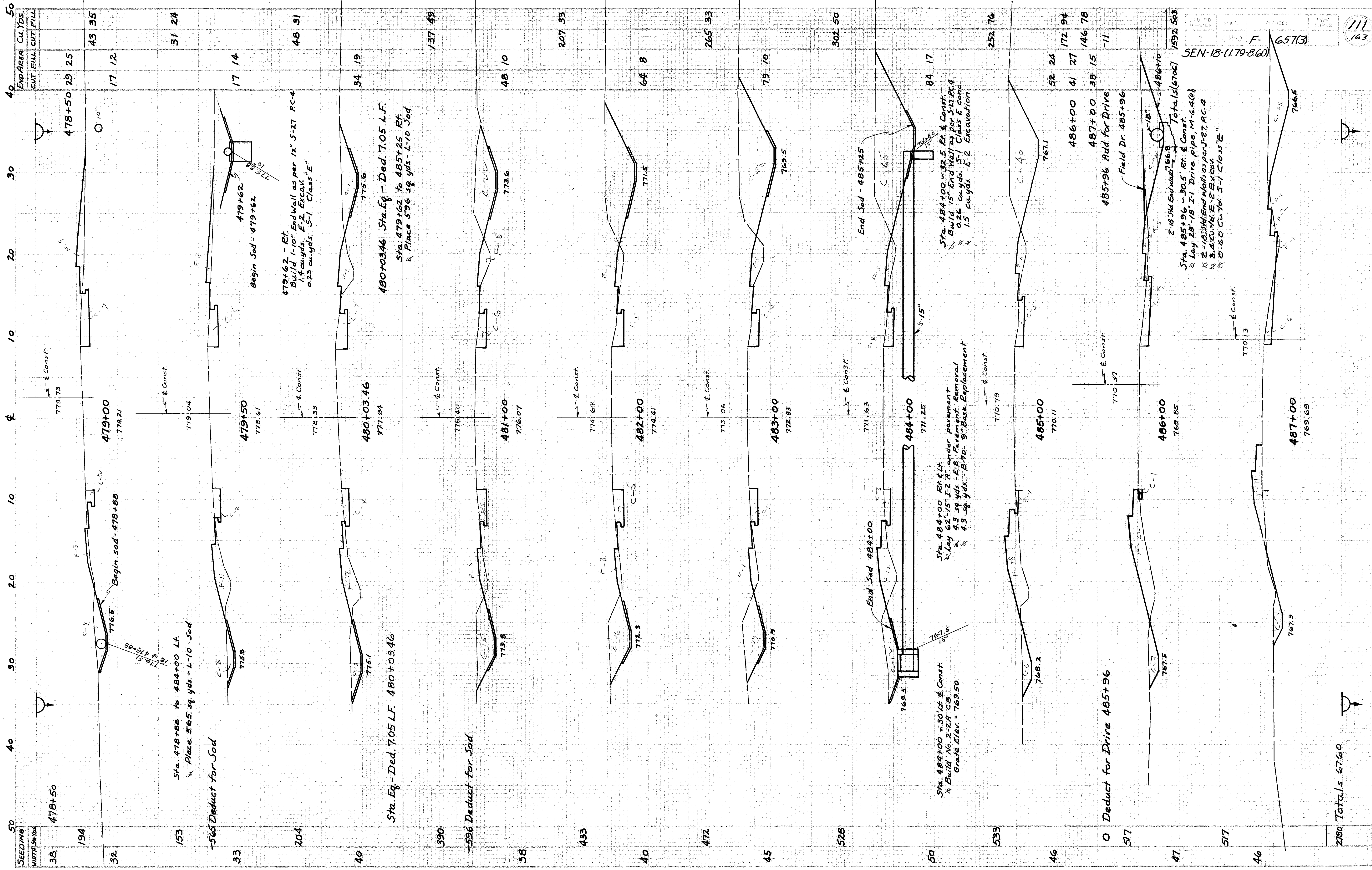
478+73 Add for Drive
478+75 Add for Drive

-33 Deduct for Drive 478+73

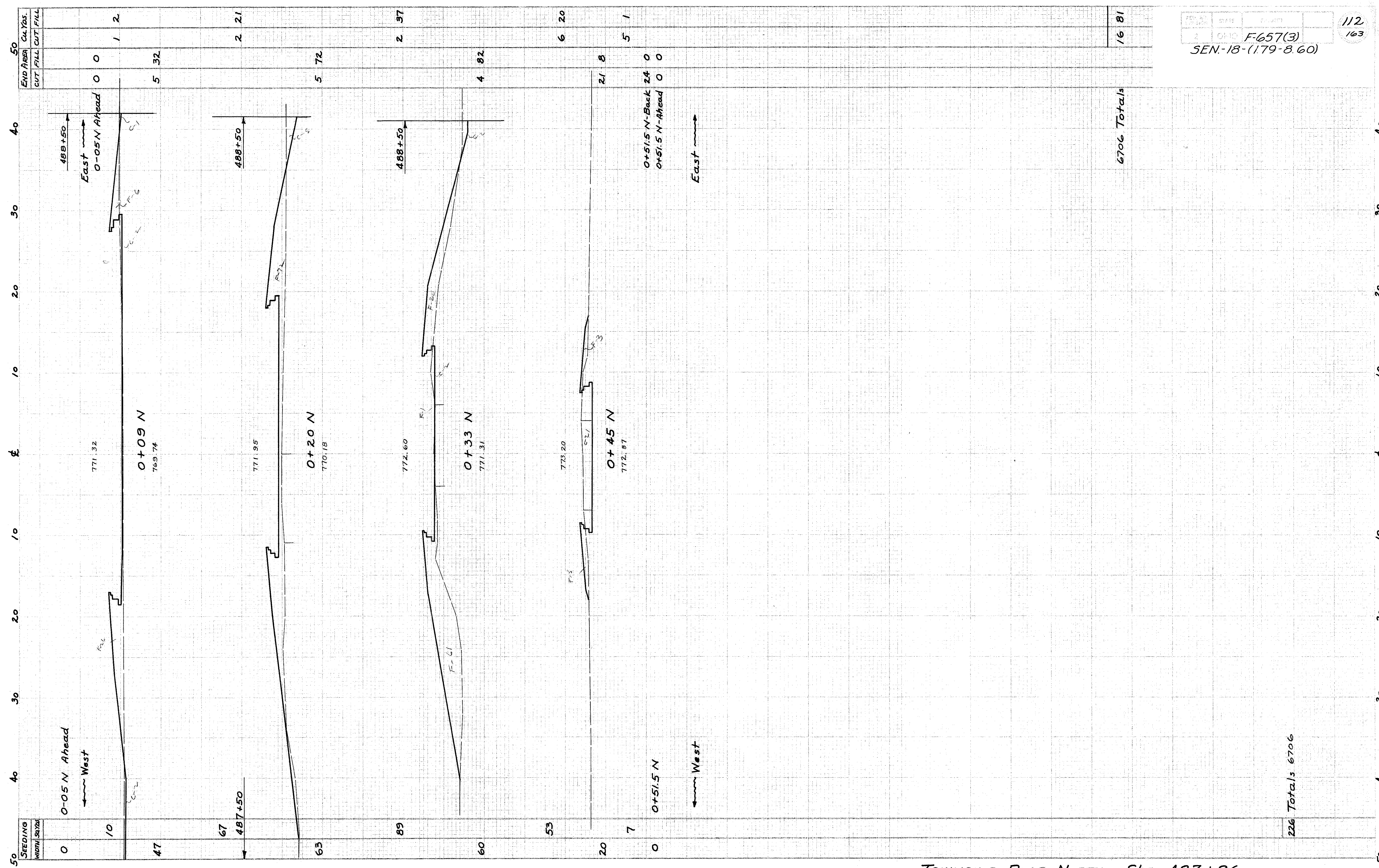
3055 Totals 6706

6706 Totals

STA. 474+00 TO STA. 478+50



STA. 479+00 TO STA. 487+00

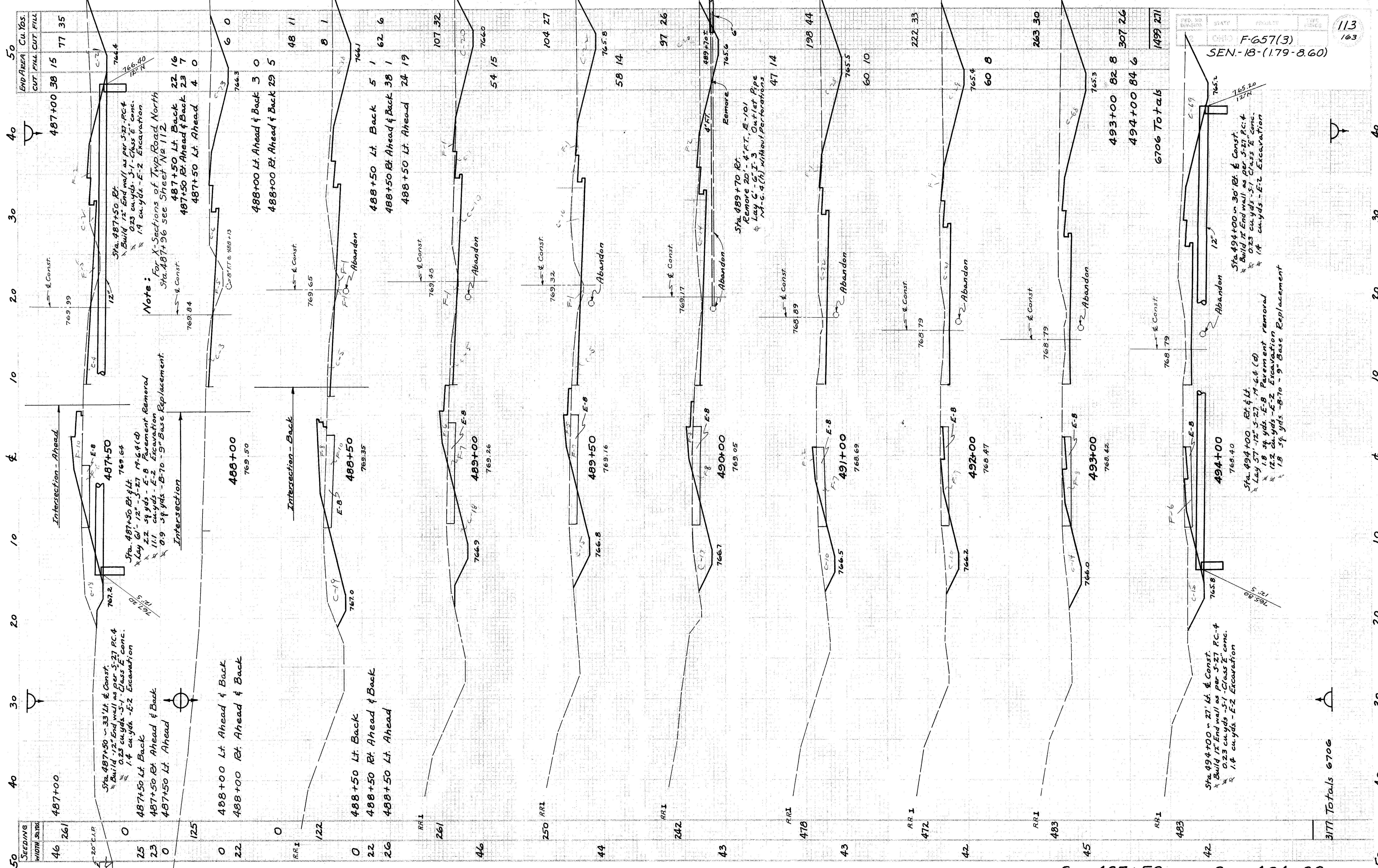


TOWNSHIP ROAD NORTH -Sta. 487+96

226 Totals 6706

6706 Totals

16 81



STA. 487+50 TO STA. 494+00

3177 Totals 6706
 493+00 82.8
 494+00 84.6
 6706 Totals

Sta 494+00 ~ 27' Lt. & Const.
 Build 15" End wall as per S-27 P.C.-4
 0.23 cu yds. - 5-1 Class E conc.
 1.4 cu yds. - E-2 Excavation

Sta. 494+00 Rt. & Lt.
 Lay 57' 12" S-27 - 14' 6.4 (d)
 1.8 sq yds. - E-8 Pavement removal
 12.2 cu yds. - E-2 Excavation
 1.8 sq yds. - 8-70 - 9" Base Replacement

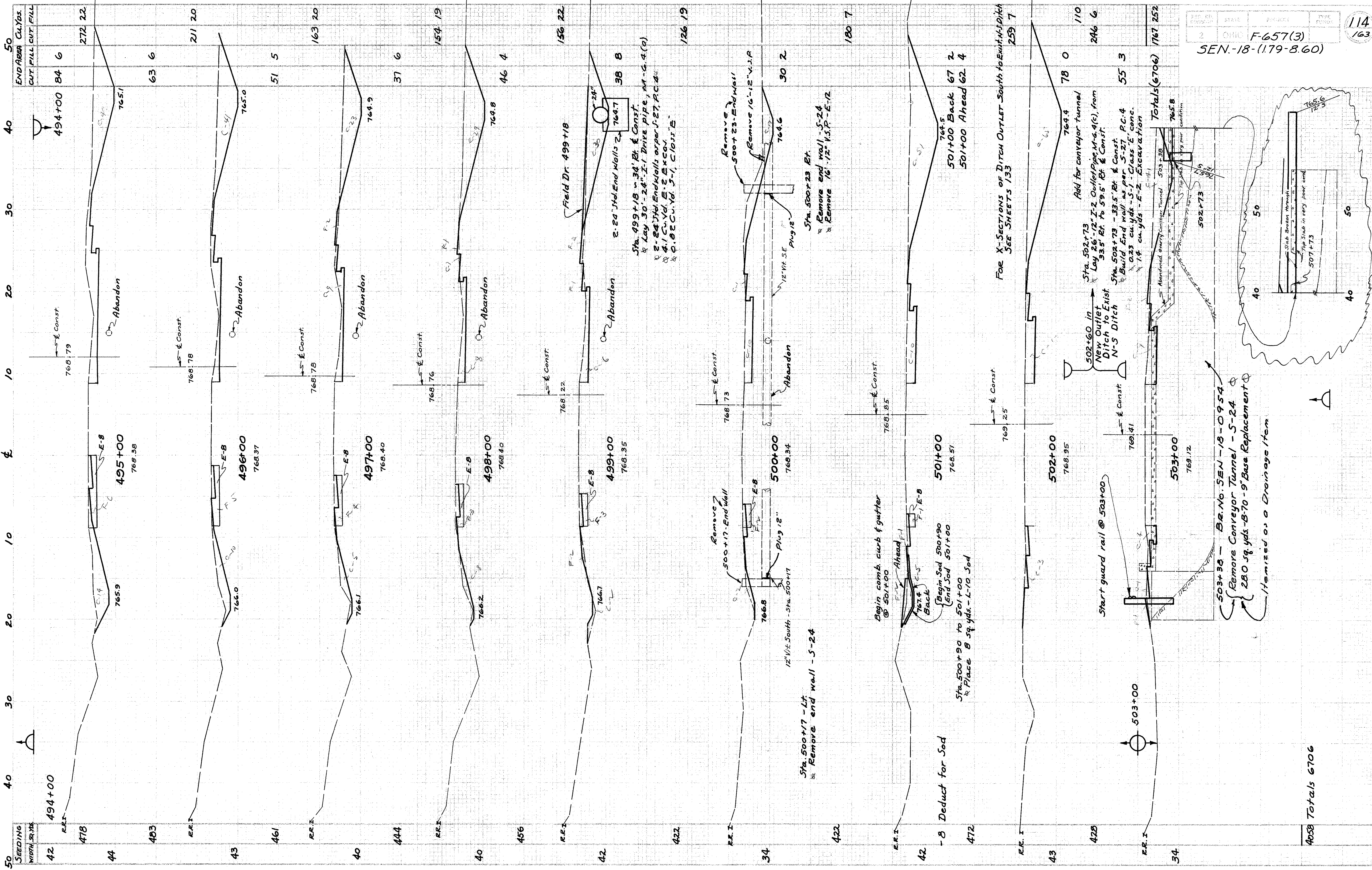
Sta. 494+00 ~ 30' Rt. & Const.
 Build 12" End wall as per S-27 P.C.-4
 0.23 cu yds. - 5-1 Class E conc.
 1.4 cu yds. - E-2 Excavation

Sta. 487+50 ~ 33' Lt. & Const.
 Build 12" End wall as per S-27 P.C.-4
 0.23 cu yds. - 5-1 Class E conc.
 1.4 cu yds. - E-2 Excavation

Sta. 487+50 Rt. & Lt.
 Lay 61' 12" S-27 - 17' 6.4 (d)
 2.2 sq yds. - E-8 Pavement Removal
 11.1 cu yds. - E-2 Excavation
 0.9 sq yds. - 8-70 - 9" Base Replacement

Sta. 487+50 Rt.
 Build 12" End wall as per S-27 P.C.-4
 0.23 cu yds. - 5-1 Class E conc.
 1.4 cu yds. - E-2 Excavation

Note:
 For X-Sections of Twp. Road North
 Sta. 487+96 see Sheet No. 112



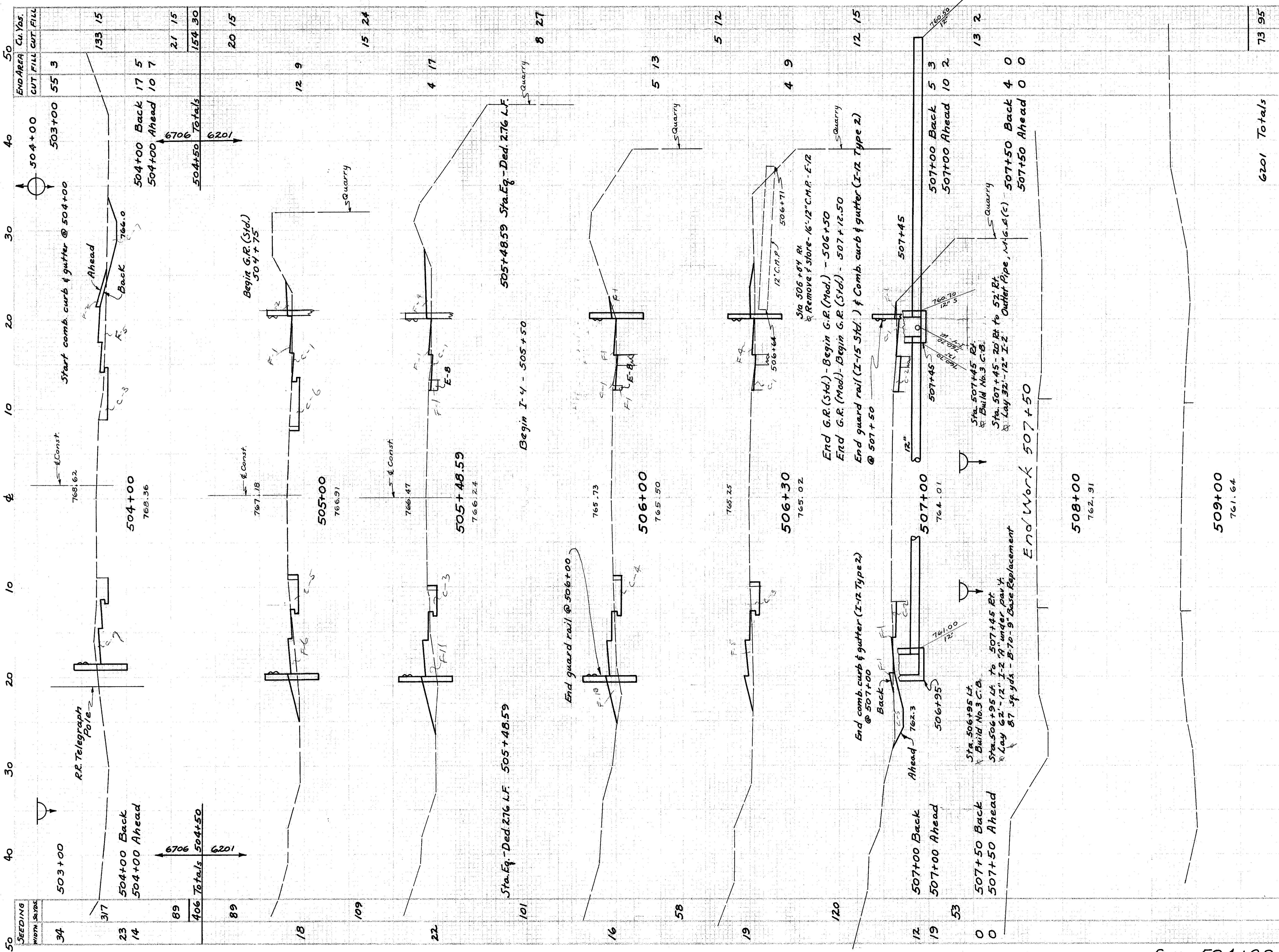
SEEDING WIDTH OR Yds.	END AREA	CU. Yds.
42	494+00	84 6
44	495+00	272 22
43	496+00	63 6
40	497+00	211 20
43	498+00	163 20
40	499+00	51 5
42	500+00	154 19
34	501+00	156 22
42	502+00	38 8
42	503+00	180 7

FOR X-SECTIONS OF DITCH OUTLET SOUTH TO EXISTING DITCH SEE SHEETS 133

503+36 - BE. NO. SEN-18-0954
 Remove Conveyor Tunnel - S-24
 280 sq. yds. 8'-7" x 9" Base Replacement
 Itemized as a Drainage Item

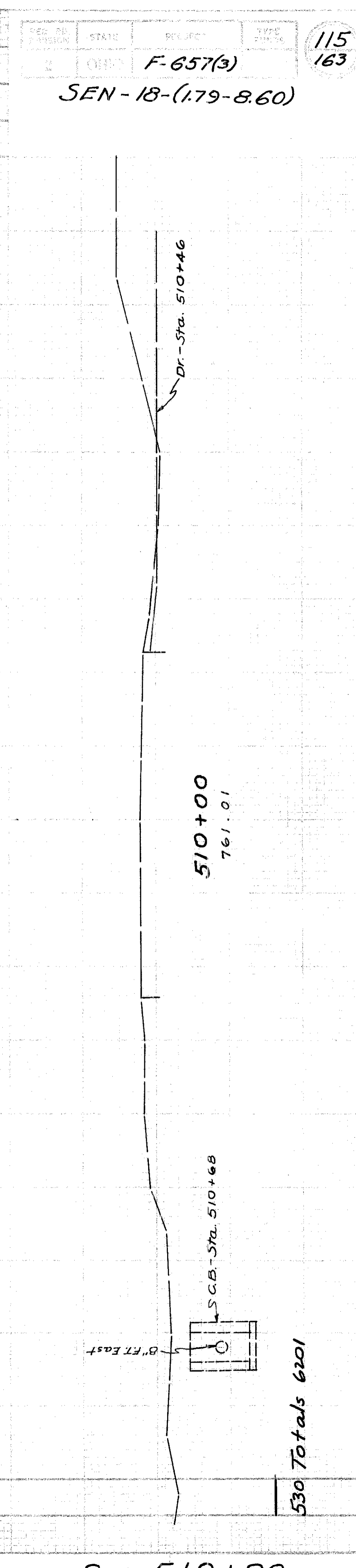
Totals 6706

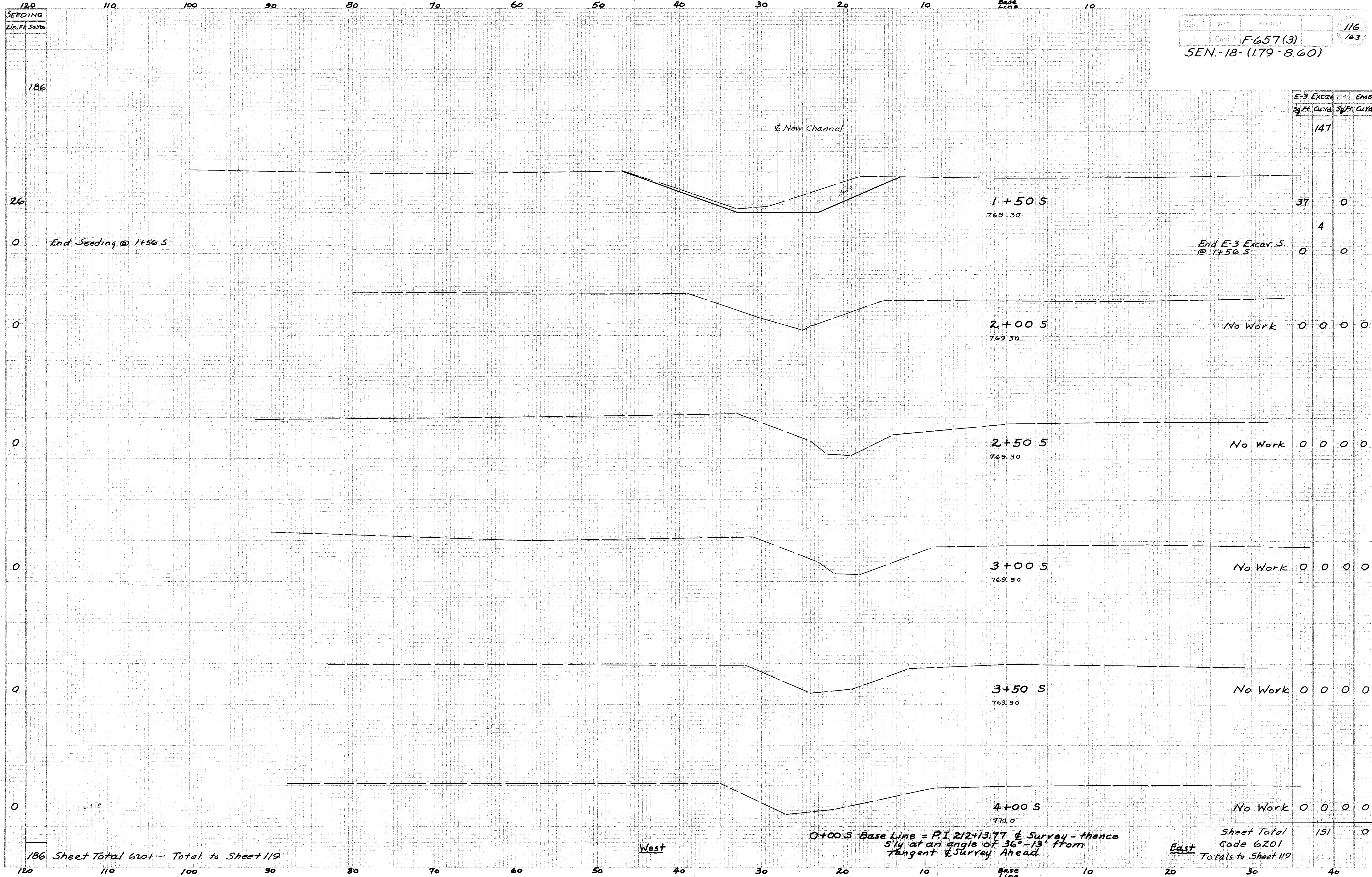
STA. 495+00 TO STA. 503+00



SEEDING WITH SOIL	50	40	30	20	10	0	10	20	30	40	50
34						768.62					504+00
23						768.36					504+00
14											504+00
89											504+50
406											Totals
89											505+00
18											505+00
109											505+48.59
22											505+48.59
101											506+00
16											506+00
58											506+30
19											506+30
120											507+00
12											507+00
19											507+00
53											507+50
0											507+50
0											507+50
530 Totals 6201											

END AREA	Cu. Yds.	CUT	FILL	CUT	FILL
193	15			55	3
17	5			17	5
10	7			10	7
Totals		12	9	154	30
20	15			20	15
15	24			15	24
4	17			4	17
8	27			8	27
5	12			5	12
4	9			4	9
5	3			5	3
10	2			10	2
4	0			4	0
0	0			0	0
Totals		73	95	6201	





FED. DIVISION STATE PROJECT
 2 OHIO F.657(3)
 SEN.-18-(179-8.60)

116
163

E-3 EXCAV.		EMB.	
Sq. Ft.	Cu. Yd.	Sq. Ft.	Cu. Yd.
	147		
37	0		
4			
0	0		
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
		151	0
		72	

End Seeding @ 1+56 S

End E-3 Excav. S.
@ 1+56 S

No Work

No Work

No Work

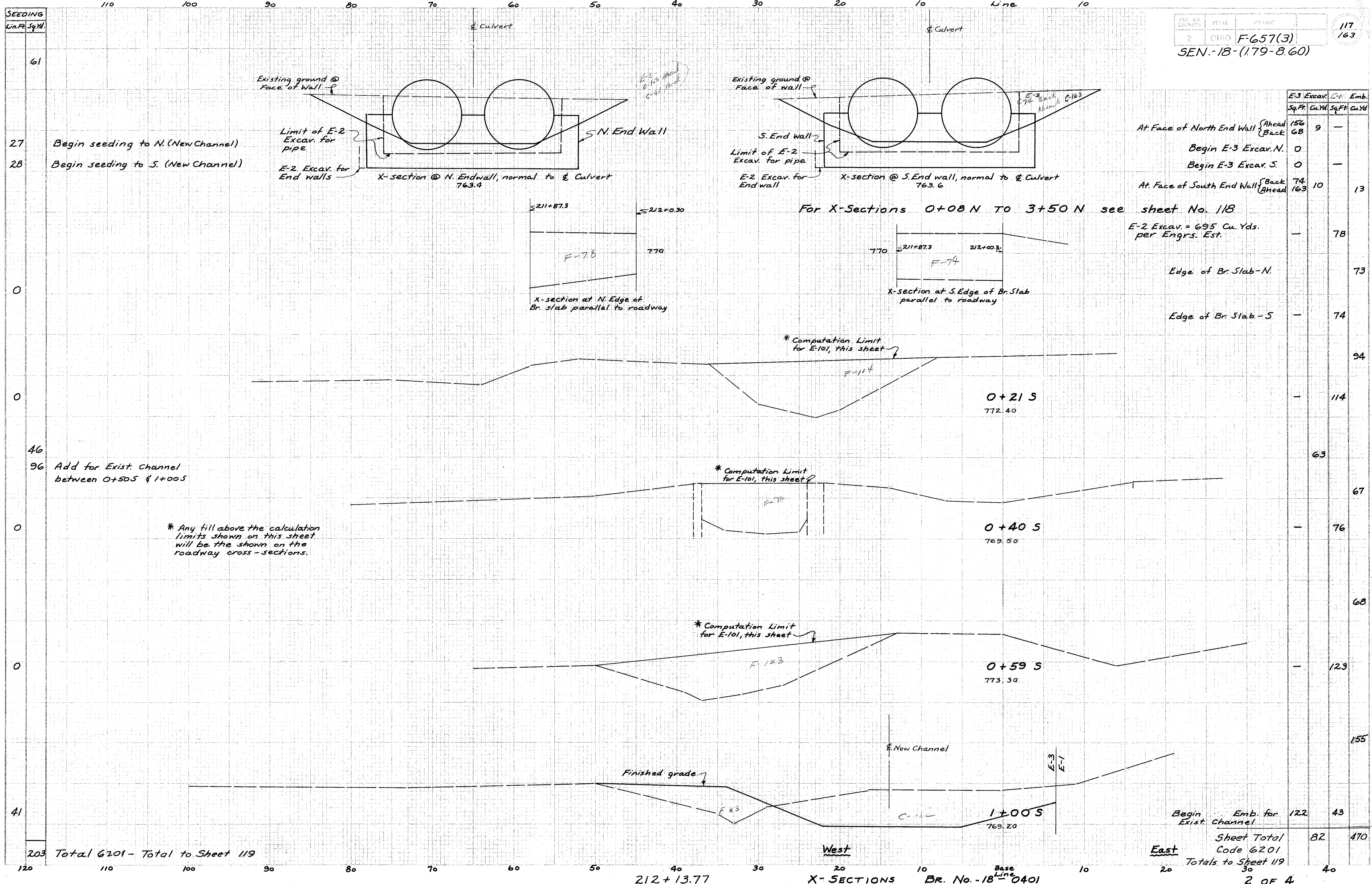
No Work

No Work

186 Sheet Total 6201 - Total to Sheet 119

Sheet Total
Code 6201
Totals to Sheet 119

West
 0+00 S Base Line = P.I. 212+13.77 & Survey - thence
 S'ly at an angle of 36°-13' from
 Tangent & Survey Ahead
 East
 212+13.77 X-SECTIONS BR. NO. SEN.-18-0401



	E-3 Excav.		E-1 Emb.	
	Sq. Ft.	Cu. Yds.	Sq. Ft.	Cu. Yds.
At Face of North End Wall { Ahead 156 Back 68	9	—		
Begin E-3 Excav. N.	0	—		
Begin E-3 Excav. S.	0	—		
At Face of South End Wall { Back 74 Ahead 163	10	13		

For X-Sections 0+08 N TO 3+50 N see sheet No. 118
 E-2 Excav. = 695 Cu. Yds. per Engrs. Est.
 Edge of Br. Slab - N. 73
 Edge of Br. Slab - S. 74

46
 96 Add for Exist. Channel between 0+50 S & 1+00 S

* Any fill above the calculation limits shown on this sheet will be the shown on the roadway cross-sections.

* Computation Limit for E-101, this sheet

* Computation Limit for E-101, this sheet

Begin Exist. Channel	Emb. for	122	43
Sheet Total		82	470
Code 6201			
Totals to Sheet 119			

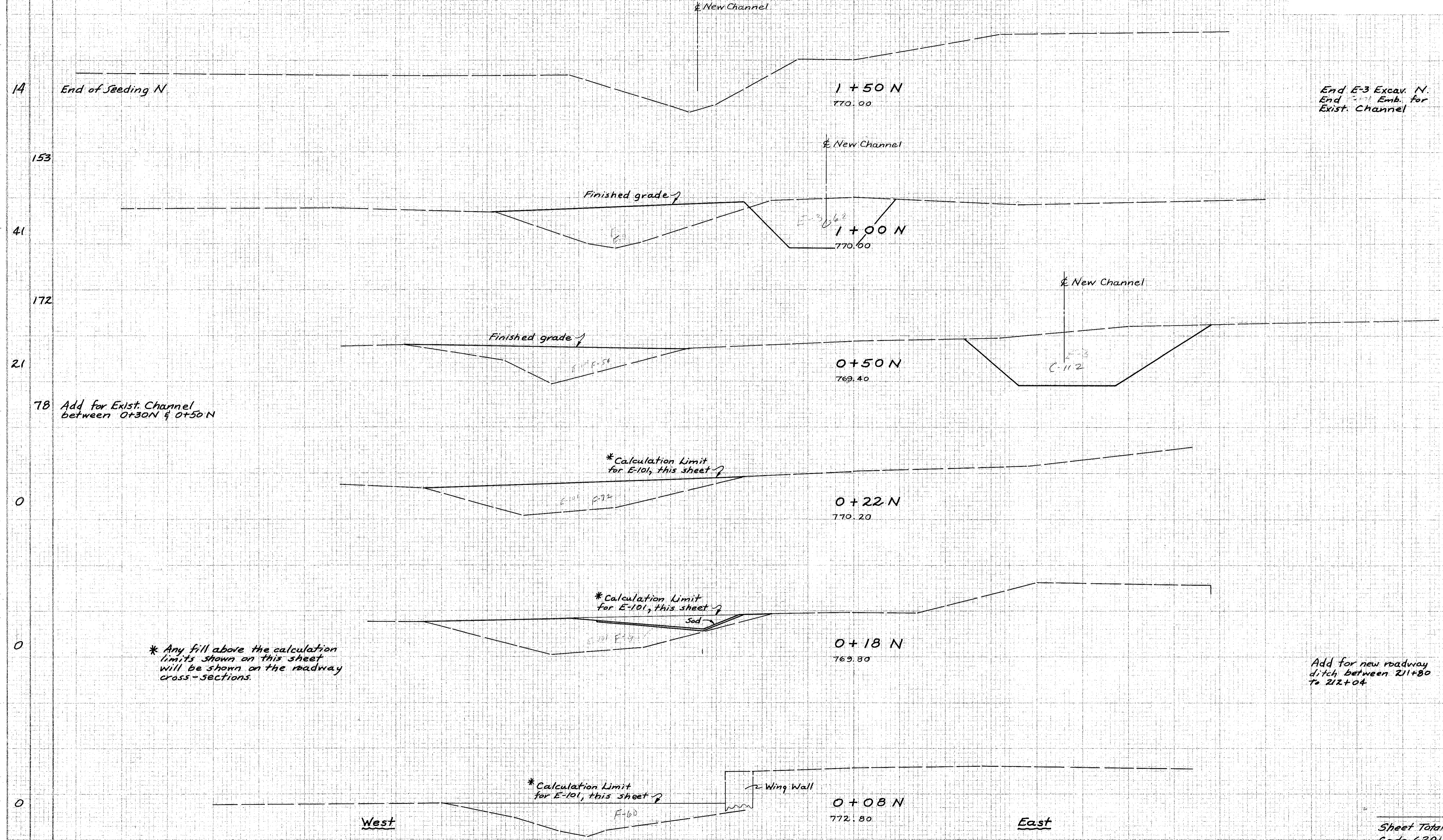
203 Total 6201 - Total to Sheet 119

212+13.77

West X-SECTIONS BR. No.-18-0401

East 2 OF 4

90 80 70 60 50 40 30 20 10 Base Line 10 20 30 40



E-3 Excav.		E-101 Emb.	
Sq. Ft.	Cu. Yd.	Sq. Ft.	Cu. Yd.
0	0	0	0
		58	67
62		72	
		161	117
112		54	
		65	
		72	
		114	12
		90	
		8	
		38	
		60	
Sheet Total		333	291
Code 6201			
Totals to Sheet 119			

403 Totals 6201 - Total to Sheet 119

0+00 N Base Line = P.I. 212+13.77 & Survey - thence N 1/4 at an angle of 82°-11' from Tangent & Survey Ahead

90 80 70 60 50 40 30 20 10 Base Line 10 20 30 40

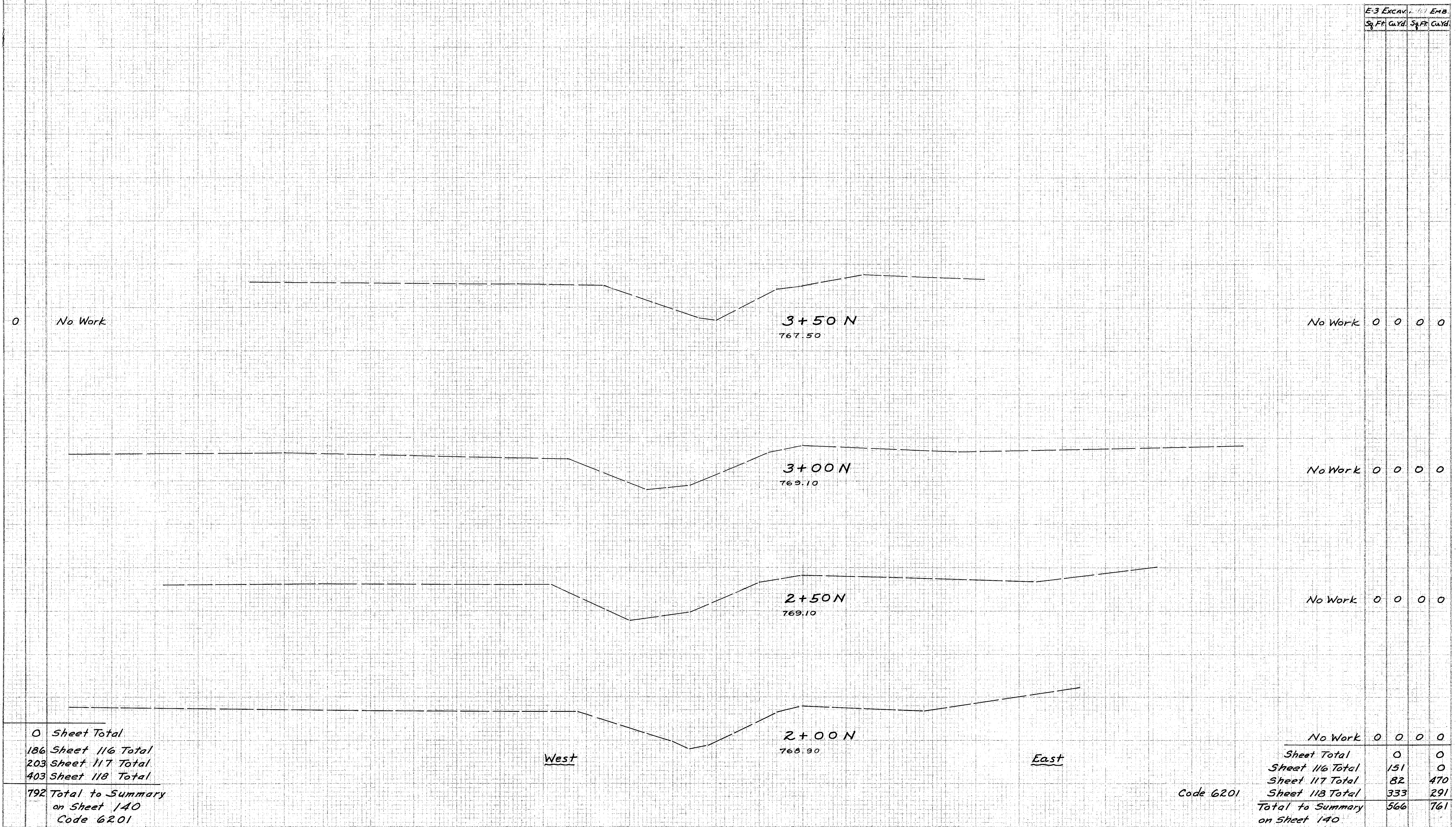
NO. AND DIVISION	STATE	PROJECT	
2	OHIO	F-657(3)	

SEN-18-(179-8.60)

119
163

SEEDING
Lin. Ft. Sq. Yd.

E-3 Excav. Emb.
Sq. Ft. Cu. Yd. Sq. Ft. Cu. Yd.



0 No Work

3+50 N
767.50

No Work 0 0 0 0

3+00 N
769.10

No Work 0 0 0 0

2+50 N
769.10

No Work 0 0 0 0

2+00 N
768.90

No Work 0 0 0 0

West

East

0 Sheet Total
186 Sheet 116 Total
203 Sheet 117 Total
403 Sheet 118 Total

792 Total to Summary
on Sheet 140
Code 6201

Code 6201

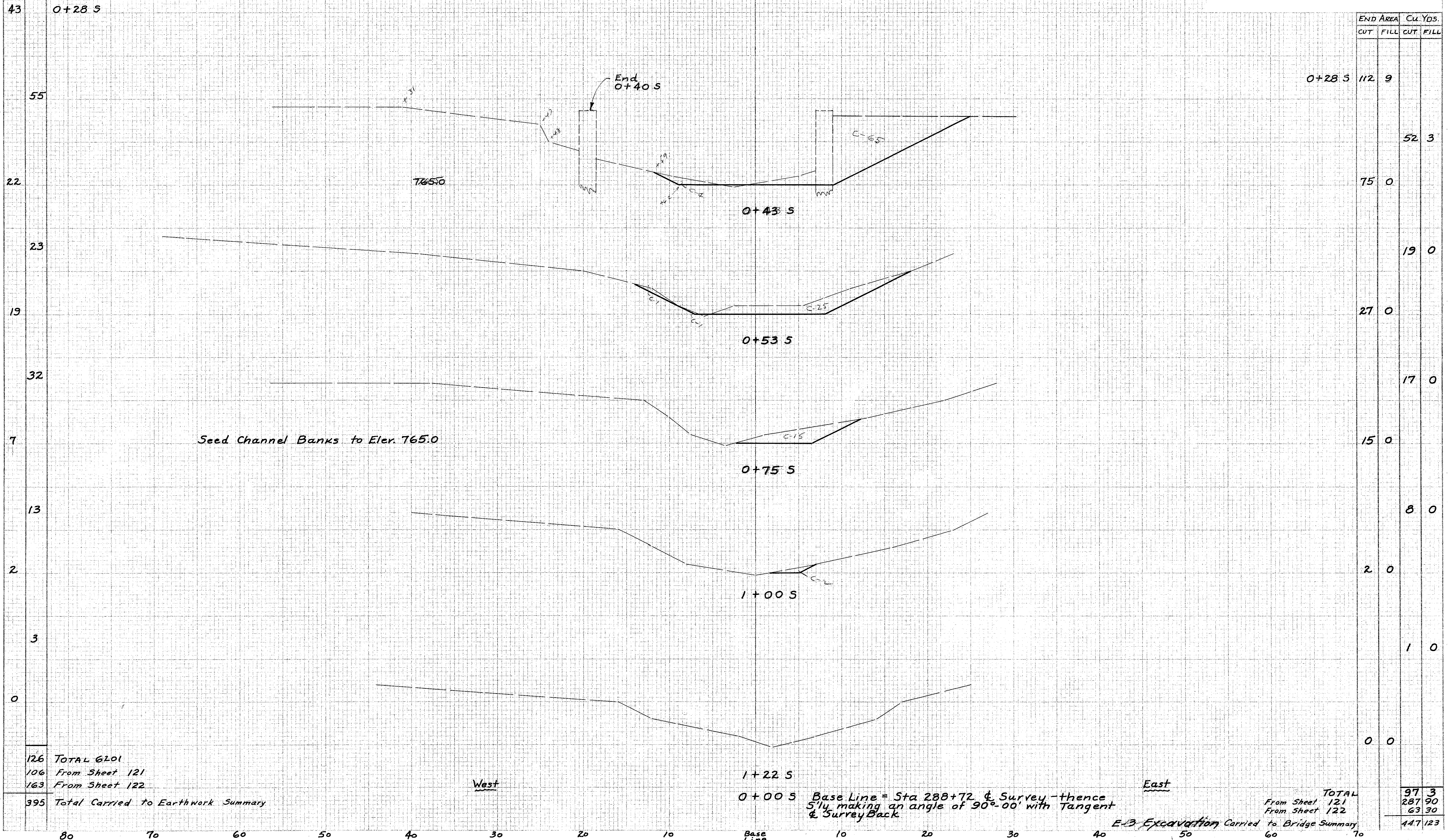
No Work	0	0	0	0
Sheet Total	0	0	0	0
Sheet 116 Total	151	0	0	0
Sheet 117 Total	82	470	0	0
Sheet 118 Total	333	291	0	0
Total to Summary on Sheet 140	566	761	0	0

90 80 70 60 50 40 30 20 10 Base Line 10 20 30 40 50 60 70

X-SECTIONS BR. NO. SEN-18-0401

4 of 4

SEEDING
WIDTH SAYD.



END AREA	Cu. Yds.	
	CUT	FILL
0+28 S	112 9	
		52 3
	75 0	
		19 0
	27 0	
		17 0
	15 0	
		8 0
	2 0	
		1 0
	0 0	
TOTAL	97 3	
From Sheet 121	287 90	
From Sheet 122	63 30	
TOTAL	447 123	

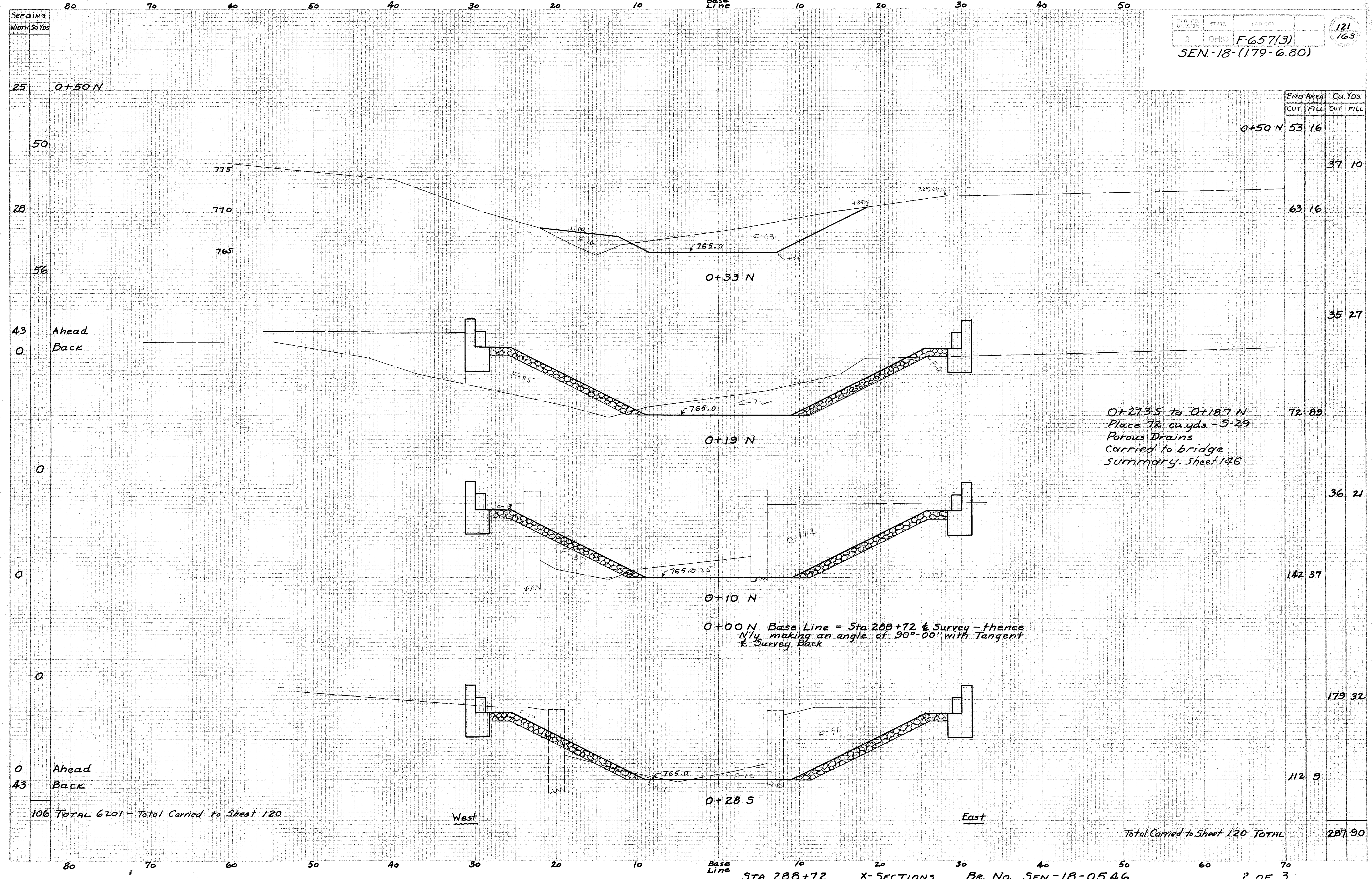
126 TOTAL 6201
106 From Sheet 121
163 From Sheet 122
395 Total Carried to Earthwork Summary

1+22 S
0+00 S Base Line = Sta 288+72 & Survey thence 5'ly making an angle of 90°-00' with Tangent & Survey Back

E-B Excavation Carried to Bridge Summary

TOTAL
From Sheet 121
From Sheet 122
447 123

1 OF 3



STATION	END AREA		CU. YDS.	
	CUT	FILL	CUT	FILL
0+50 N	53	16		
			37	10
	63	16		
			35	27
	72	89		
			36	21
	142	37		
			179	32
	112	9		
			287	90

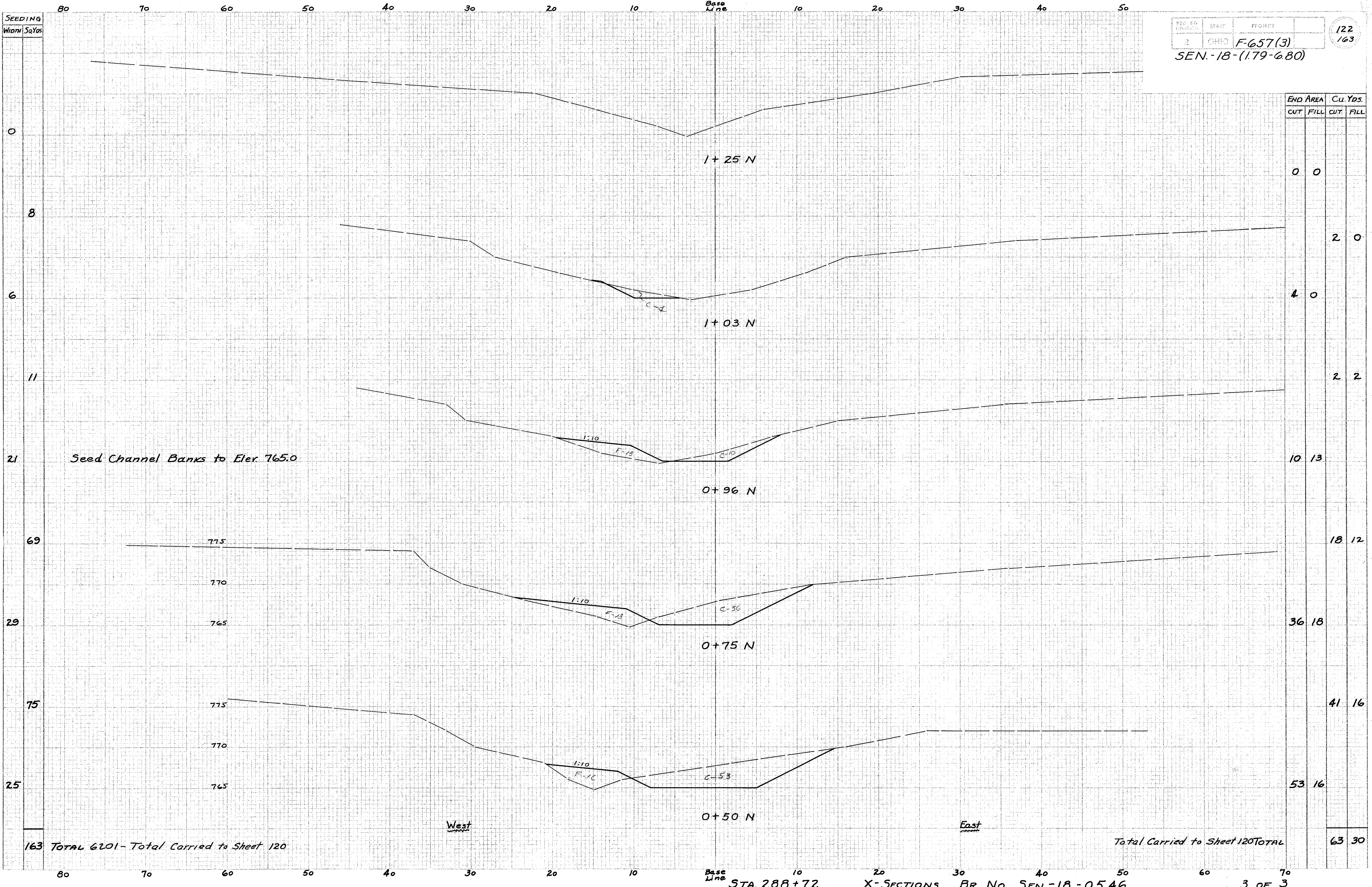
106 Total 6201 - Total Carried to Sheet 120

Total Carried to Sheet 120 TOTAL

SEEDING
WIDTH SqYds

NO. OF DIVISIONS: 2 STATE: OHIO PROJECT: F-657(3)
SEN.-18-(179-680)

122
163



163 Total 6201 - Total Carried to Sheet 120

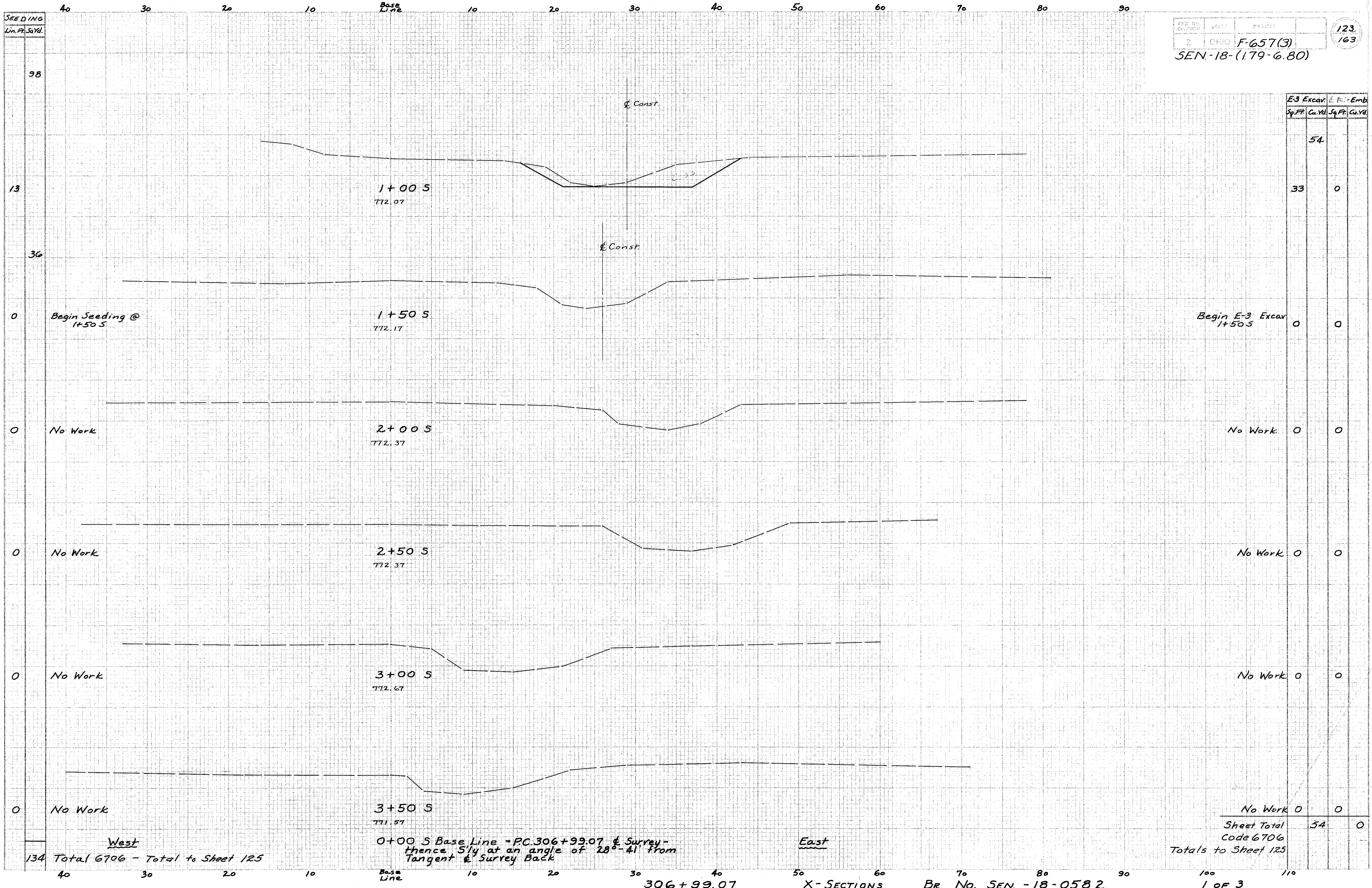
Total Carried to Sheet 120 Total

SEEDING
Un. Ft. Sq. Yd.

FED. NO.	STATE	PROJECT
2	OHIO	F-657(3)

SEN-18-(179-6.80)

123
163

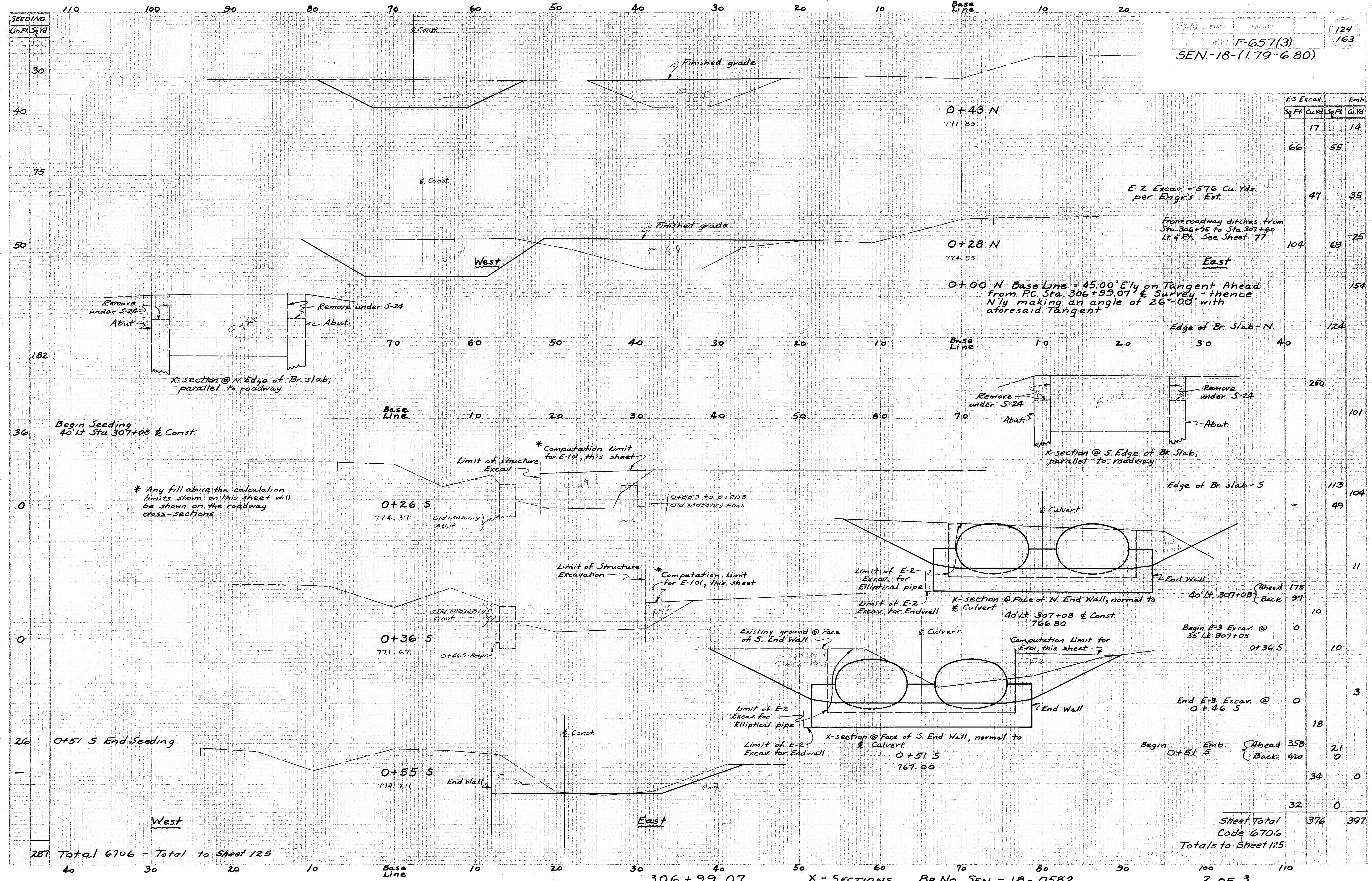


E-3 Excav.		E. Ft. - Emb.	
Sq. Ft.	Cu. Yd.	Sq. Ft.	Cu. Yd.
	54		
	33	0	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
Sheet Total		54	0

134 Total 6706 - Total to Sheet 125

0+00 S Base Line = P.C. 306+99.07 & Surrey -
thence S 1/4 at an angle of 28°-41' from
Tangent & Surrey Back

Totals to Sheet 125



E-3 Excav.		Emb.	
Sq. Ft.	Cu. Yd.	Sq. Ft.	Cu. Yd.
17	14		
66	55		
47	35		
104	69	-25	
		154	
		124	
		250	
		101	
		113	
		104	
		49	
		11	
		178	
		97	
		10	
		0	
		10	
		3	
		18	
		358	
		21	
		0	
		34	
		0	
		32	
		0	
		376	
		397	

Begin Seeding 40' Lt. Sta. 307+08 & Const.

* Any fill above the calculation limits shown on this sheet will be shown on the roadway cross-sections.

* Computation Limit for E-101, this sheet

* Computation Limit for E-101, this sheet

* Computation Limit for E-101, this sheet

O+51 S. End Seeding

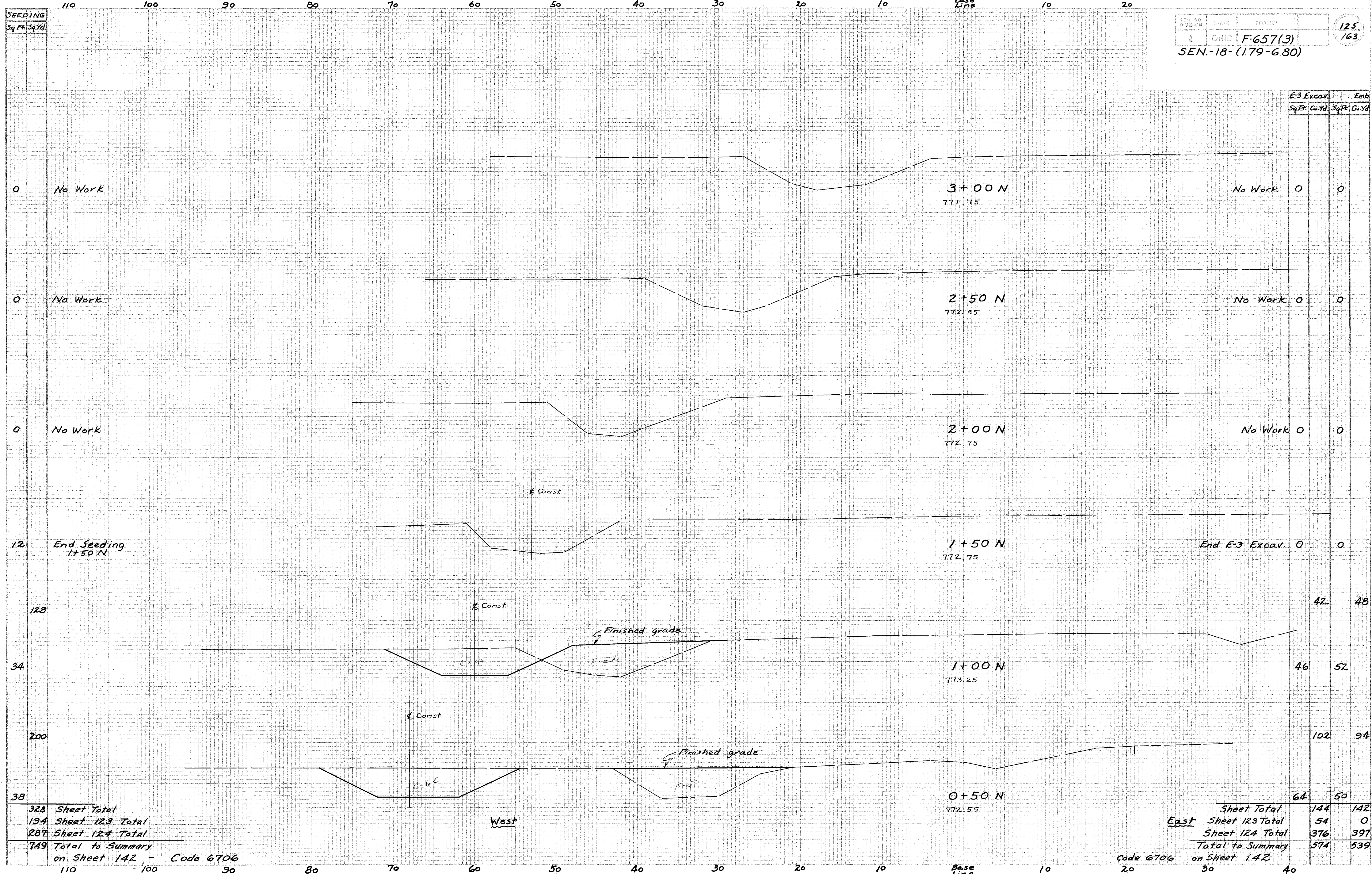
Begin E-3 Excav. @ 35' Lt. 307+05

End E-3 Excav. @ O+46 S

Begin O+51 S Emb. Ahead Back

Sheet Total Code 6706 Totals to Sheet 125

287 Total 6706 - Total to Sheet 125



FEY. NO. DIVISION	STATE	PROJECT
2	OHIO	F-657(3)

SEN-18-(179-6.80)

125
163

E-3 Excav.	Emb.	
	Sq. Ft.	Cu. Yd.
0	0	0
0	0	0
0	0	0
0	0	0
0	42	48
46	52	
102	94	
64	50	
Sheet Total		144 142
East Sheet 123 Total		54 0
Sheet 124 Total		376 397
Total to Summary on Sheet 142		574 539

328 Sheet Total
 134 Sheet 123 Total
 287 Sheet 124 Total
 749 Total to Summary on Sheet 142 - Code 6706

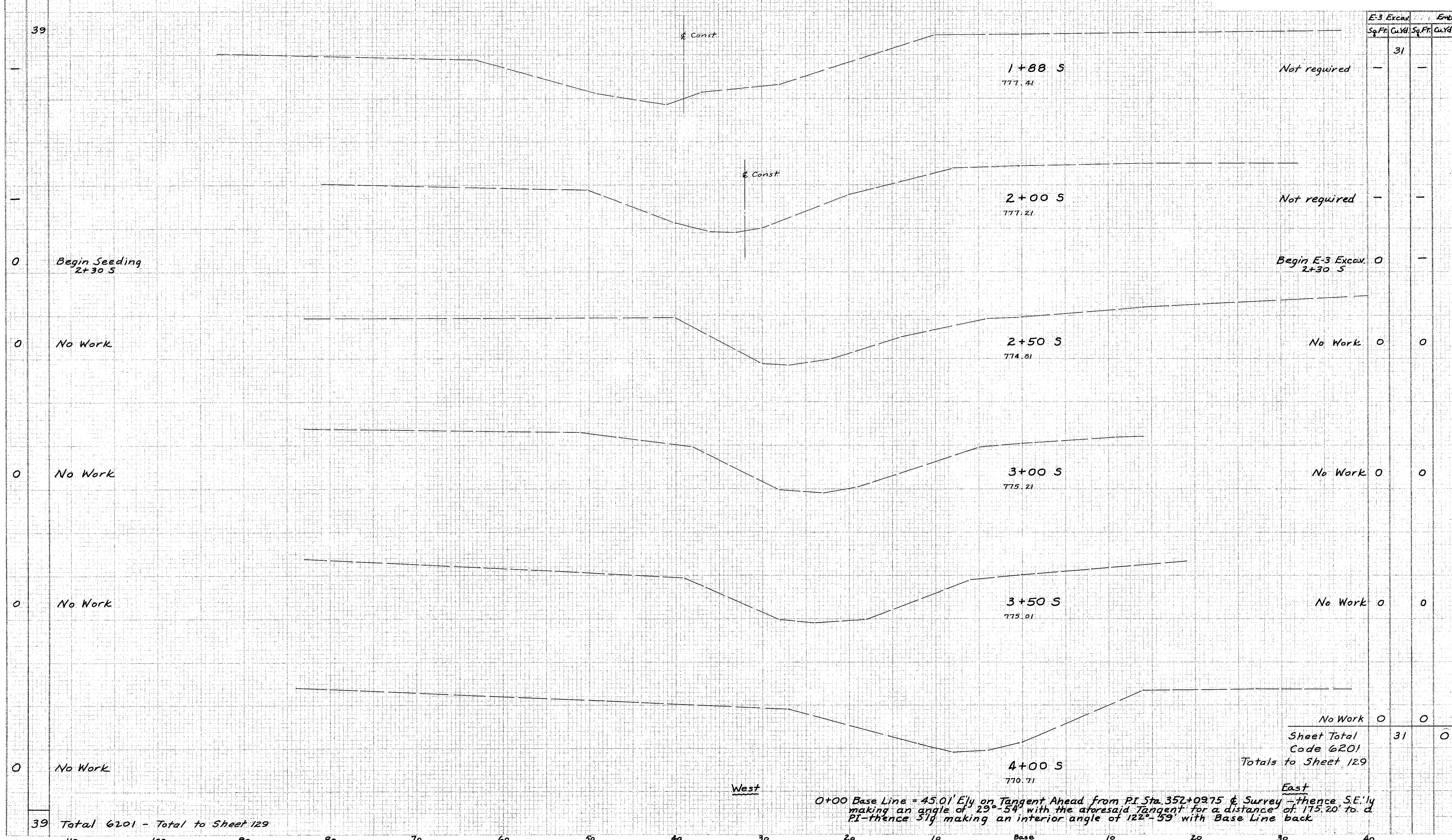
Code 6706
 3 of 3

SEEDING
Lin. Ft. Sq. Yd.

110 100 90 80 70 60 50 40 30 20 10 Base Line 10 20

PROJECT NO. 2 STATE OHIO PROJECT F-657(3)
SEN-18-(1.79-6.80)

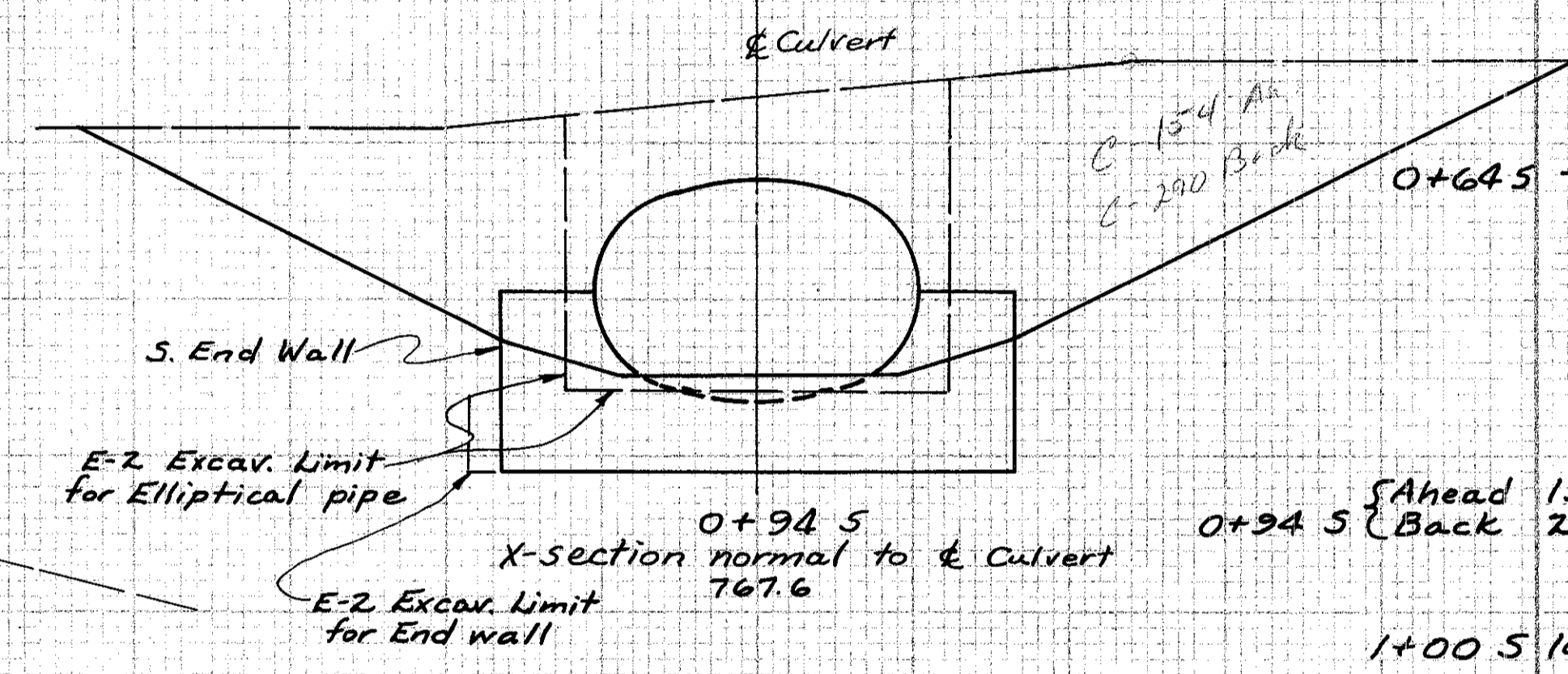
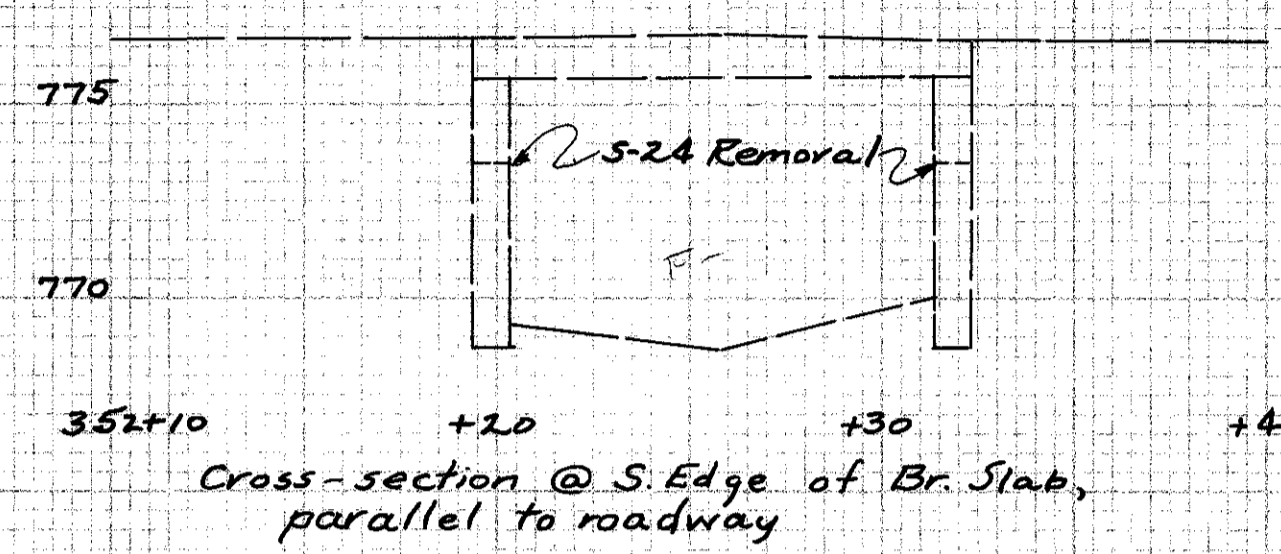
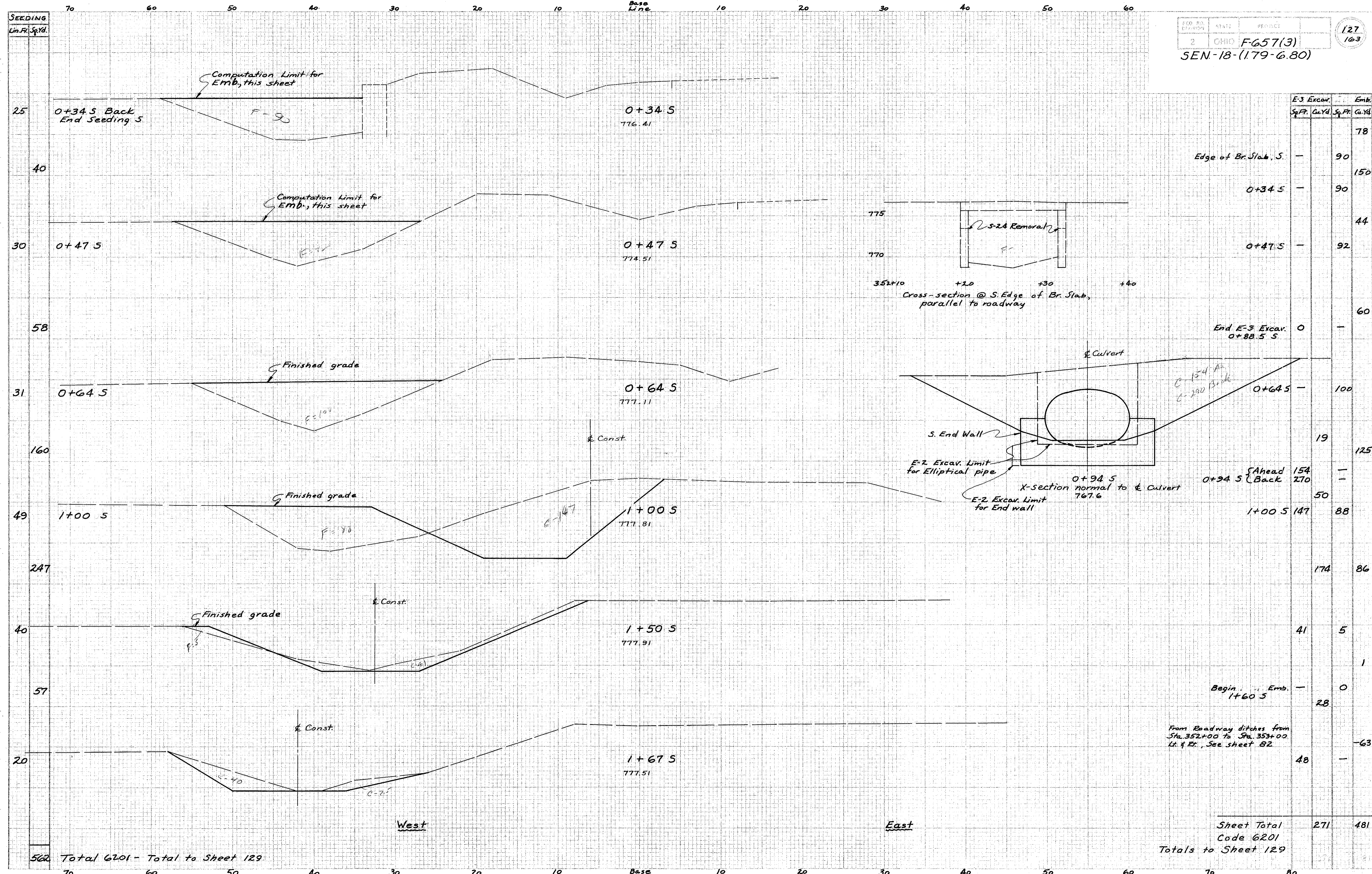
126
163



Station	E-3 Excav.		Emb.	
	Sq. Ft.	Cu. Yd.	Sq. Ft.	Cu. Yd.
1+88 S	-	31	-	-
2+00 S	-	-	-	-
2+30 S	0	-	-	-
2+50 S	0	0	0	0
3+00 S	0	0	0	0
3+50 S	0	0	0	0
4+00 S	0	0	0	0
Sheet Total	0	31	0	0

39 Total 6201 - Total to Sheet 129

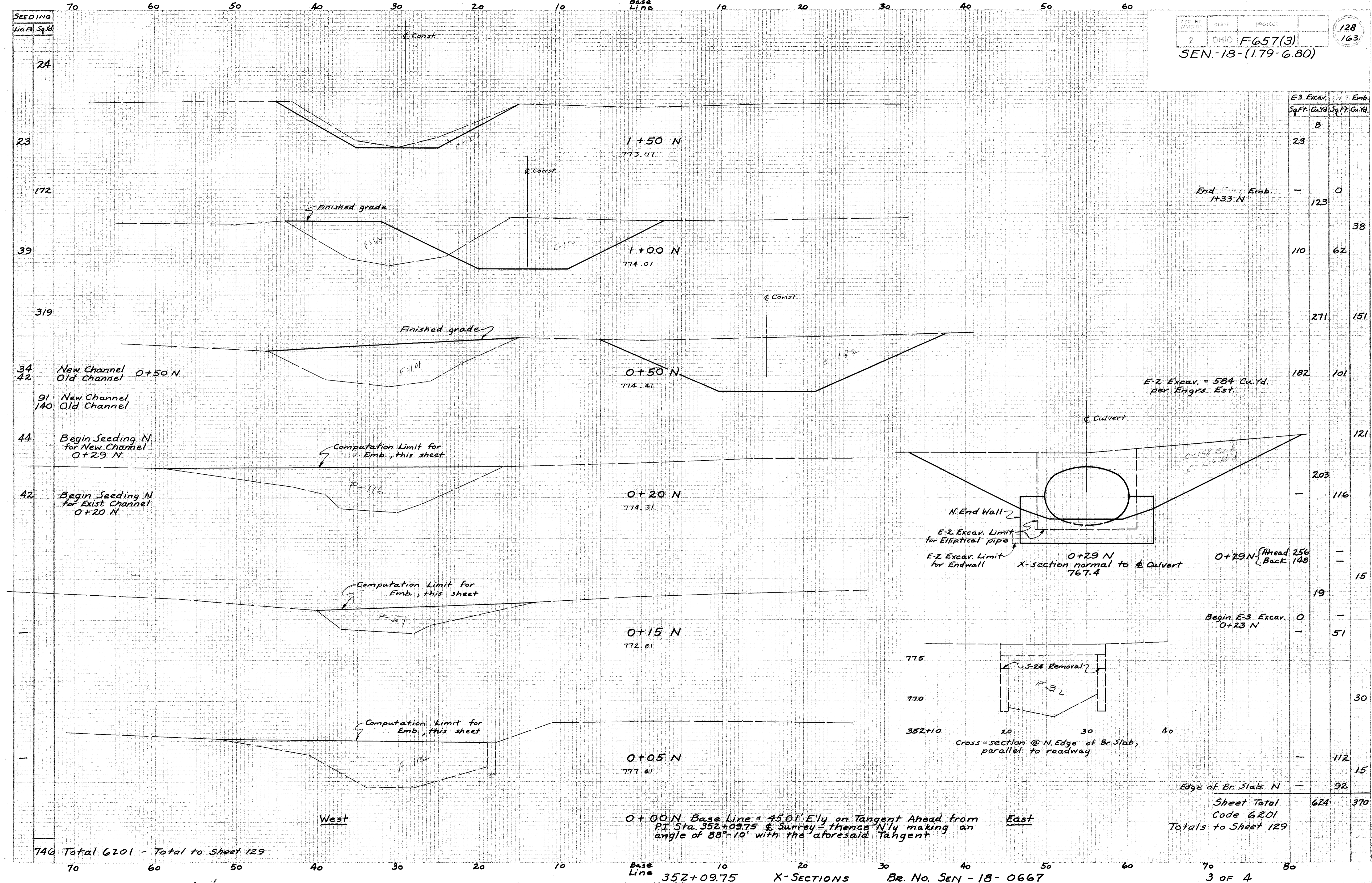
0+00 Base Line = 45.01' Ely on Tangent Ahead from P.I. Sta. 352+09.75 & Survey - thence S.E.'ly making an angle of 29°-54' with the aforesaid Tangent for a distance of 175.20' to a P.I. - thence Sly making an interior angle of 122°-59' with Base Line back



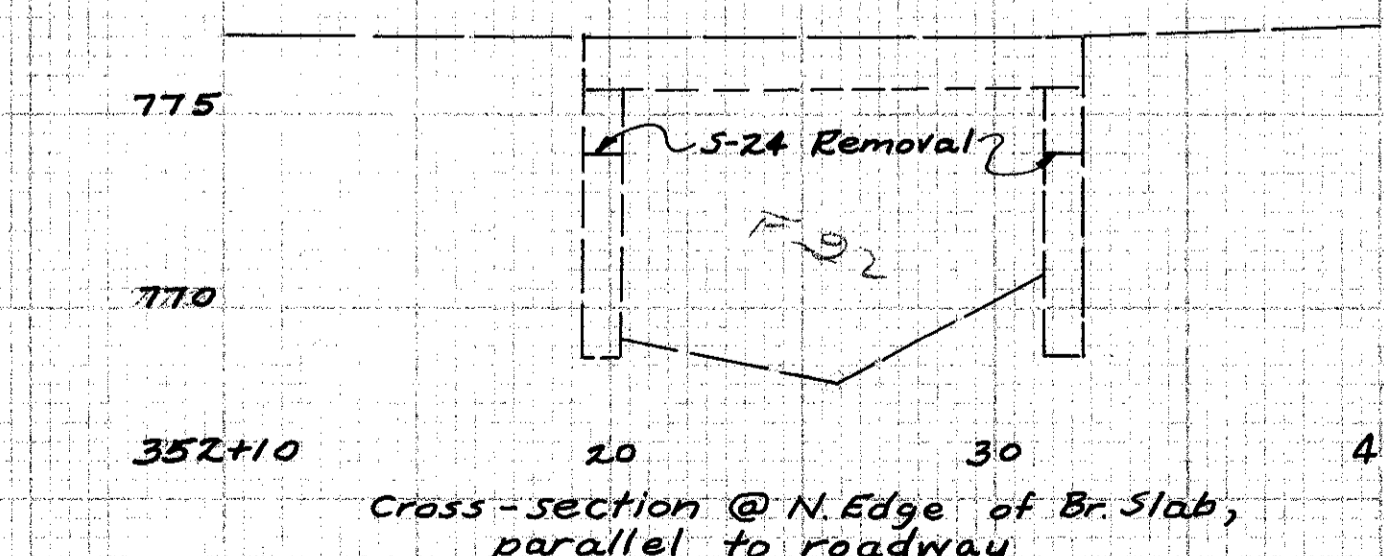
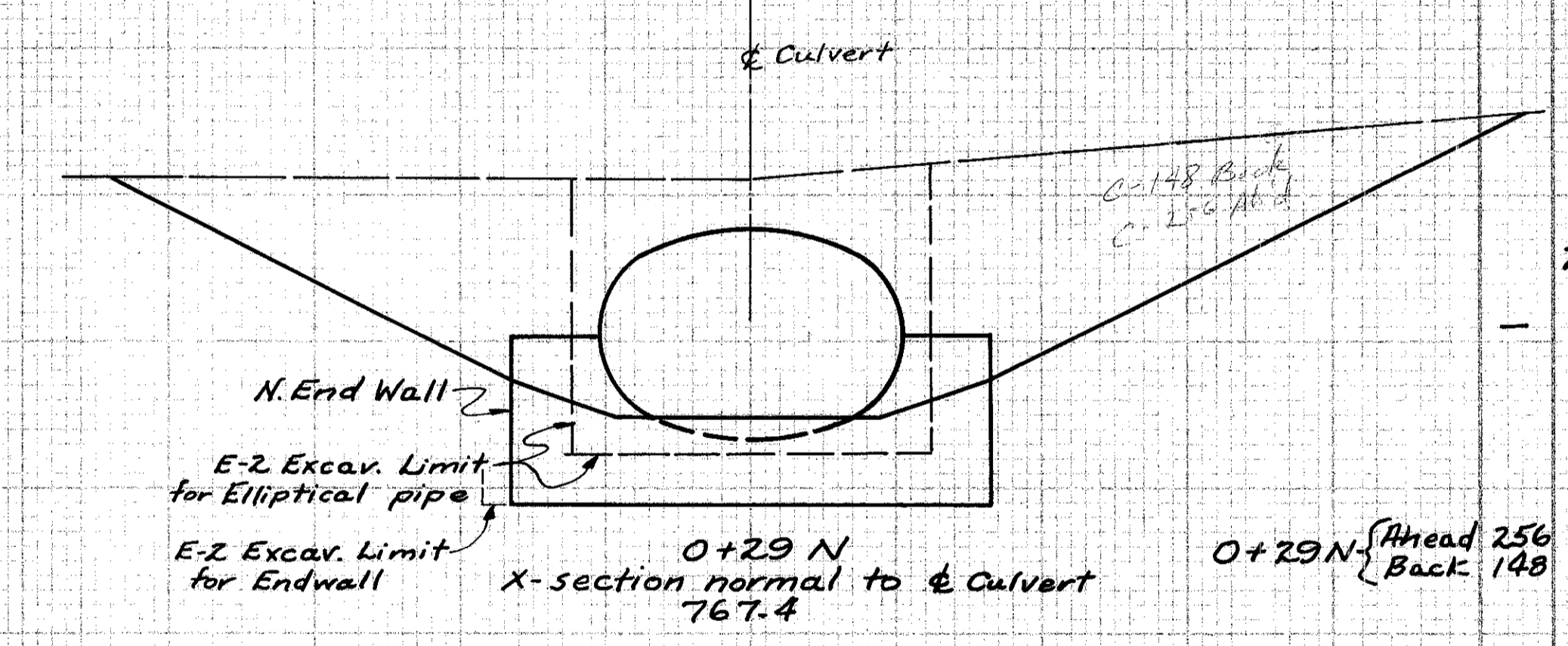
Sta.	E-3 Excav.		Emb.	
	Sq. Ft.	Cu. Yd.	Sq. Ft.	Cu. Yd.
0+34.5 Back End Seeding S	-	-	-	78
Edge of Br. Slab, S	-	90	-	150
0+34.5	-	90	-	44
0+47.5	-	92	-	60
End E-3 Excav. 0+88.5 S	0	-	-	125
0+64.5	-	100	-	19
0+94.5 Ahead (Back)	154 (270)	-	-	50
1+00.5	147	88	-	174
1+50.5	41	5	-	1
1+60.5 Begin Emb.	-	0	-	28
From Roadway ditches from Sta. 352+00 To Sta. 353+00 Lt. & Rt., See sheet 82	-	-	-	-63
1+67.5	48	-	-	-
Sheet Total	271	481		

562 Total 6201 - Total to Sheet 129

Sheet Total 271 481
 Code 6201
 Totals to Sheet 129



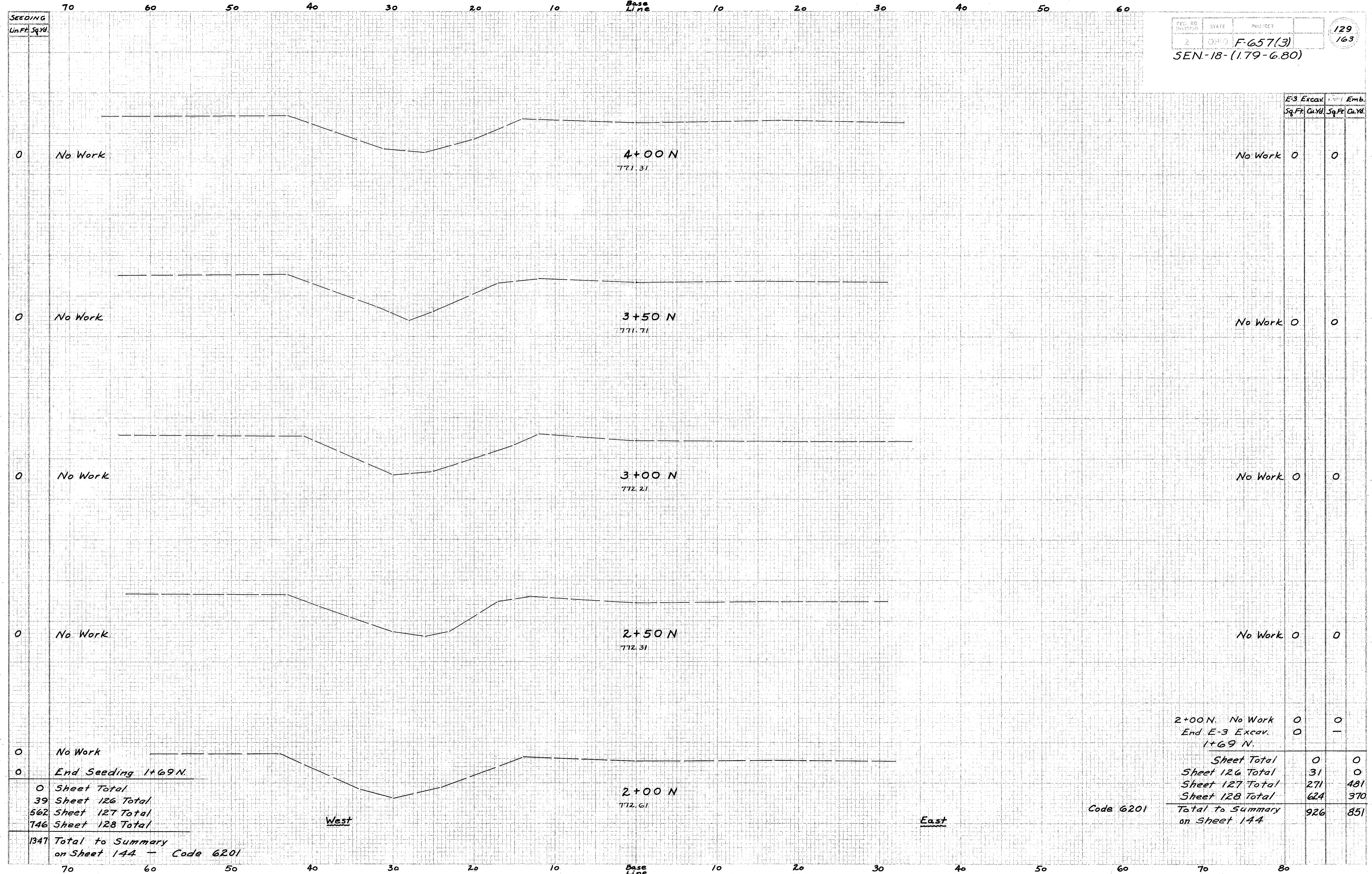
Sta.	E-3 Excav.		Emb.	
	Sq.Ft.	Cu.Yd.	Sq.Ft.	Cu.Yd.
23		8		
172				0
123				38
39	110	62		
319			271	151
34	182	101		
42				121
44				203
42				116
15				15
19				19
0				51
30				30
112				112
15				15
92				92
624				370



0+00 N Base Line = 45.01' E'ly on Tangent Ahead from P.I. Sta. 352+09.75 & Surrey - thence N'ly making an angle of 88°-10' with the aforesaid Tangent

746 Total 6201 - Total to Sheet 129

Sheet Total Code 6201 Totals to Sheet 129



E-3 Excav.	Emb.				
		Sq. Ft.	Cu. Yd.	Sq. Ft.	Cu. Yd.
0	0	0	0	0	0

0 No Work

4+00 N
771.31

No Work 0 0

0 No Work

3+50 N
771.71

No Work 0 0

0 No Work

3+00 N
772.21

No Work 0 0

0 No Work

2+50 N
772.31

No Work 0 0

0 No Work

2+00 N
772.61

2+00 N: No Work 0 0
End E-3 Excav. 0 -

	E-3 Excav.	Emb.
	Sq. Ft.	Cu. Yd.
1+69 N:		
Sheet Total	0	0
Sheet 126 Total	31	0
Sheet 127 Total	271	481
Sheet 128 Total	624	370
Total to Summary on Sheet 144	926	851

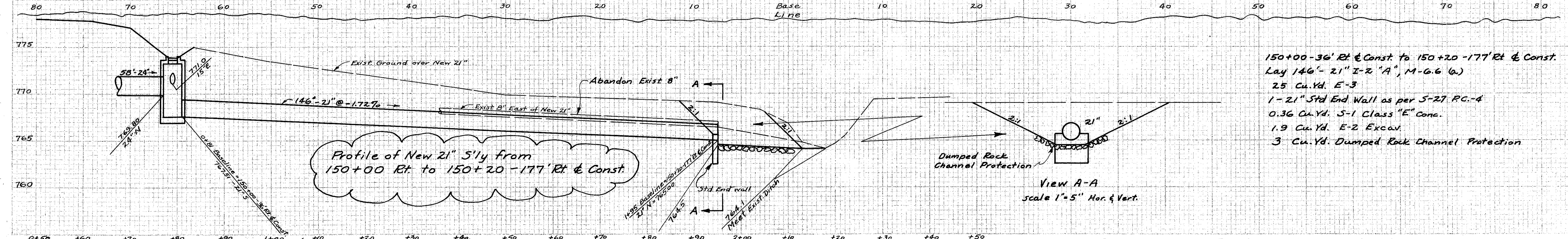
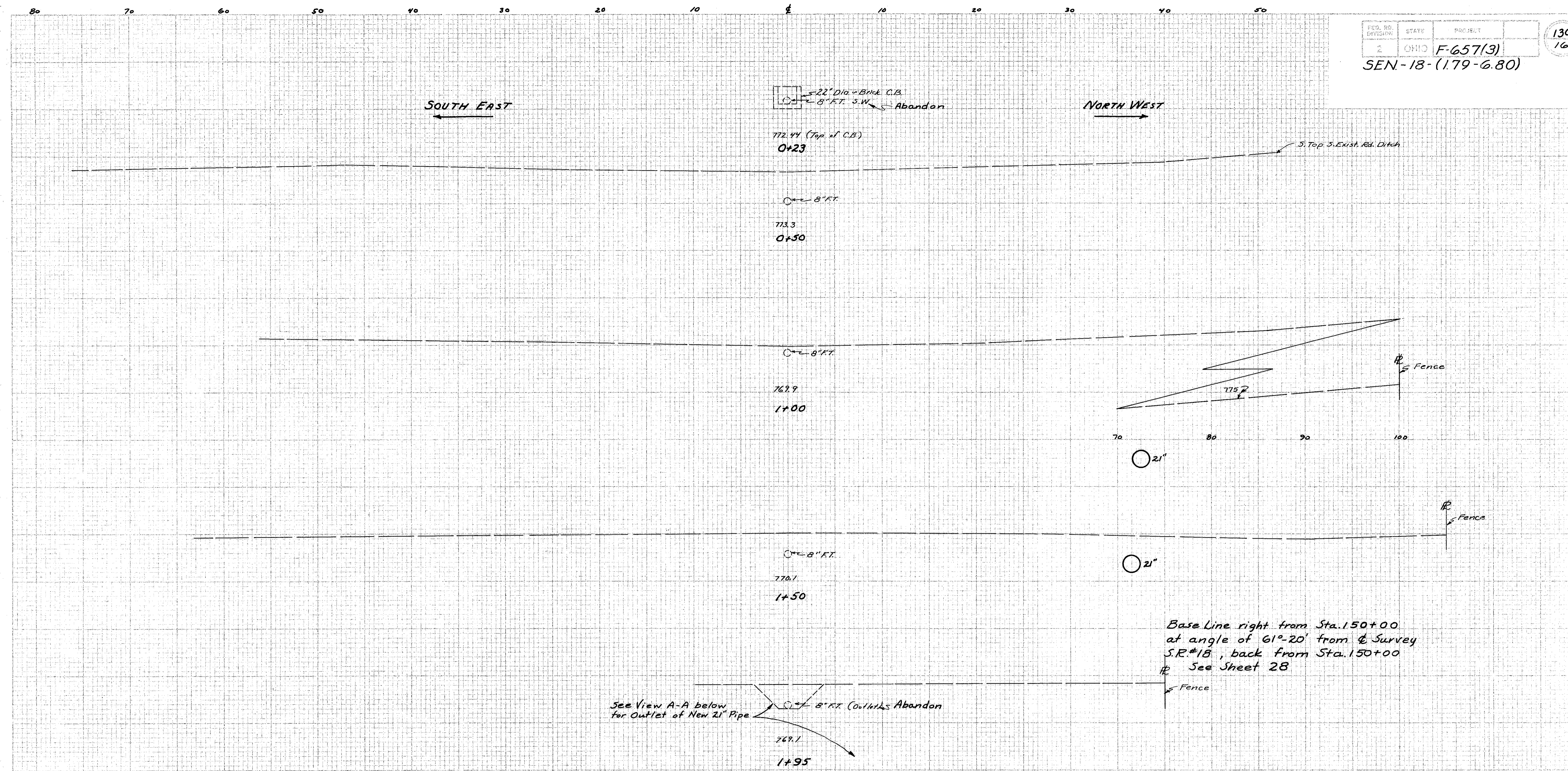
0 Sheet Total
39 Sheet 126 Total
562 Sheet 127 Total
746 Sheet 128 Total

1347 Total to Summary on Sheet 144 - Code 6201

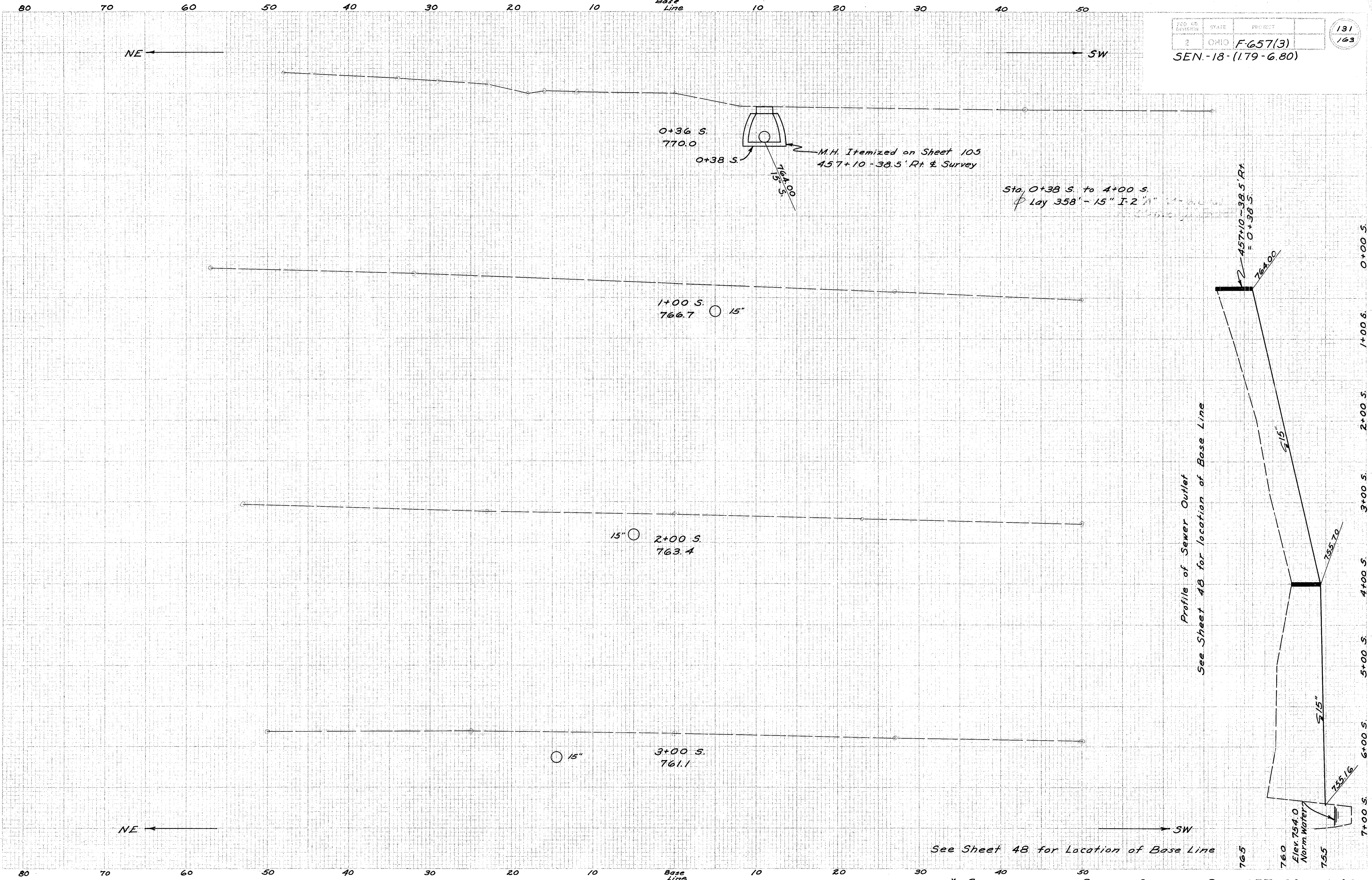
Code 6201

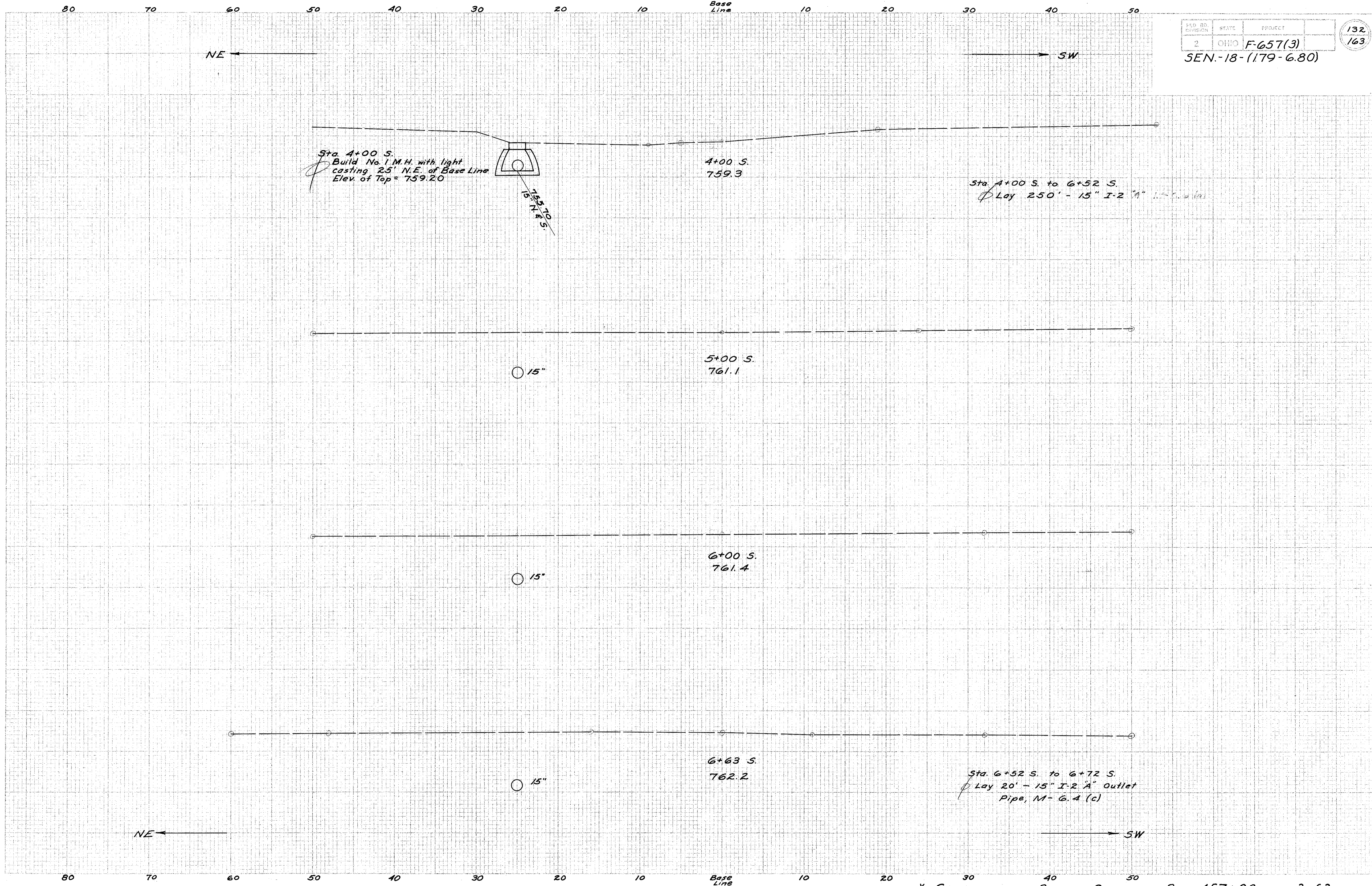
West

East



CROSS SECTIONS FOR SEWER OUTLET AT STA. 150+00





Sta. 4+00 S.
Build No. 1 M.H. with light
casting 25' N.E. of Base Line
Elev. of Top = 759.20

155.70 S.
18' N.E. S.

4+00 S.
759.3

Sta. 4+00 S. to 6+52 S.
Lay 250' - 15" I-2 "A" Pipe, M-6.4 (c)

15"

5+00 S.
761.1

15"

6+00 S.
761.4

15"

6+63 S.
762.2

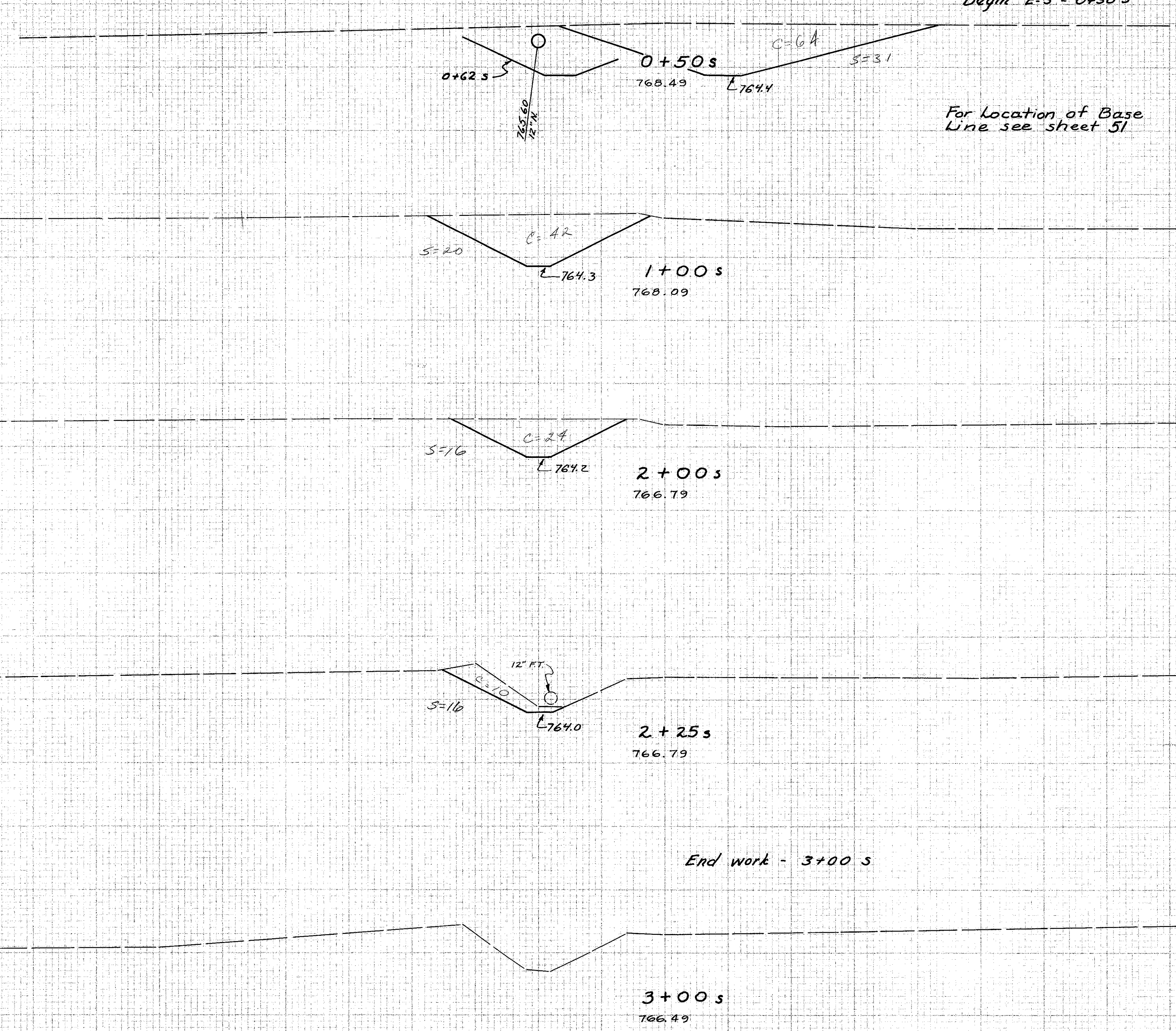
Sta. 6+52 S. to 6+72 S.
Lay 20' - 15" I-2 "A" Outlet
Pipe, M-6.4 (c)

SEEDING
WIDTH 38.75

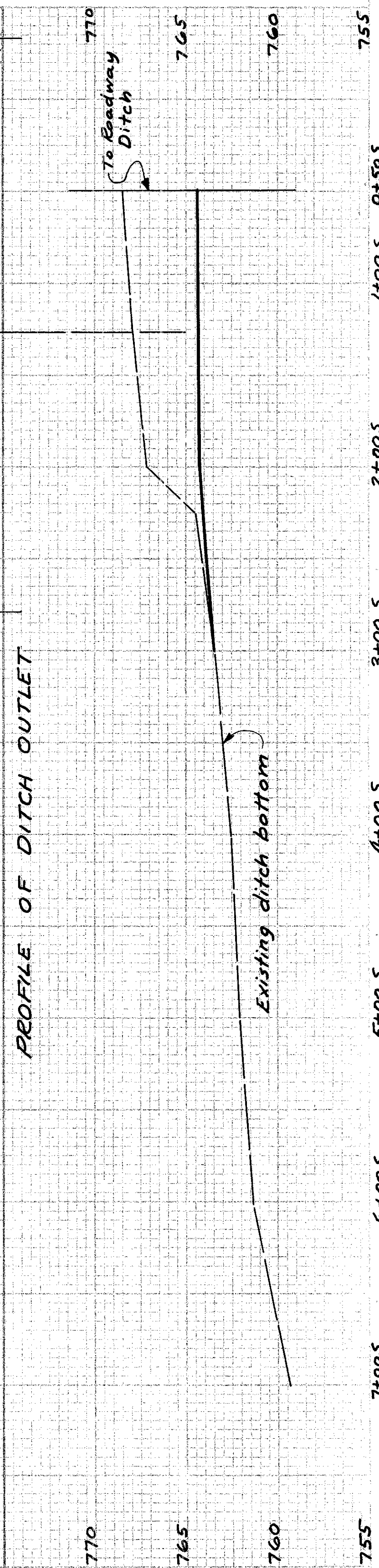
80 70 60 50 40 30 20 10 0 10 20 30 40

31
142
20
200
16
44
16
67
0

← East



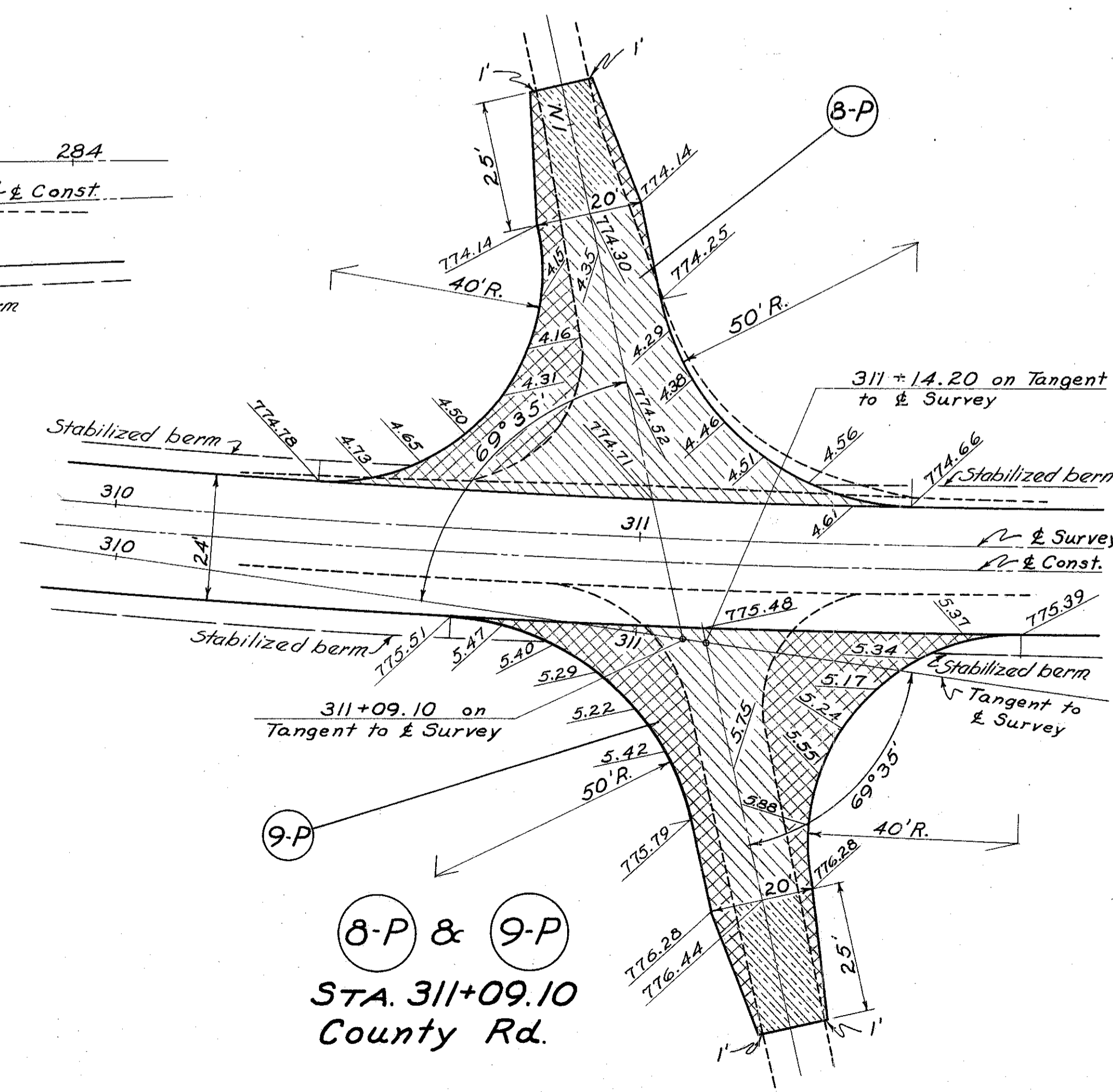
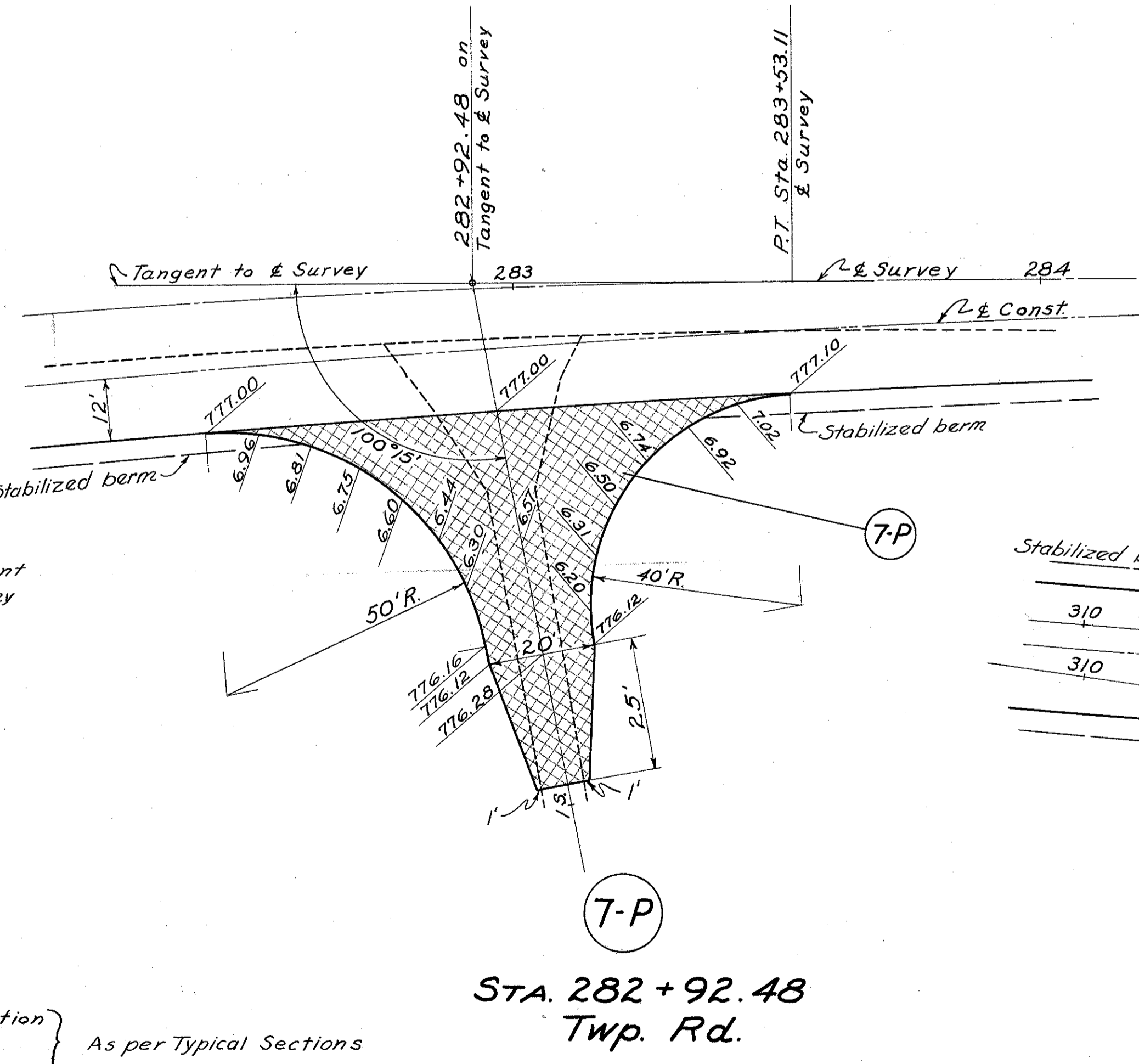
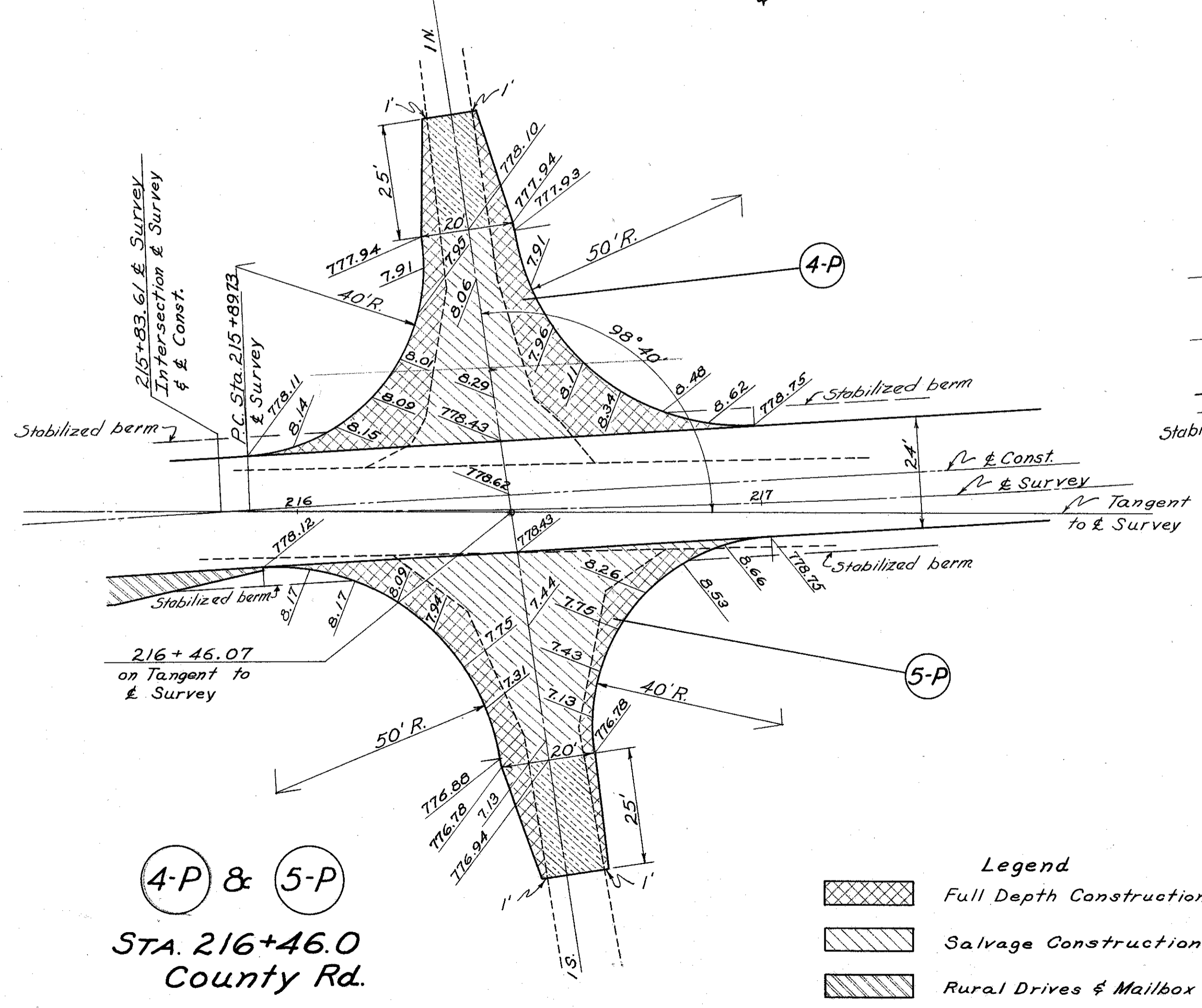
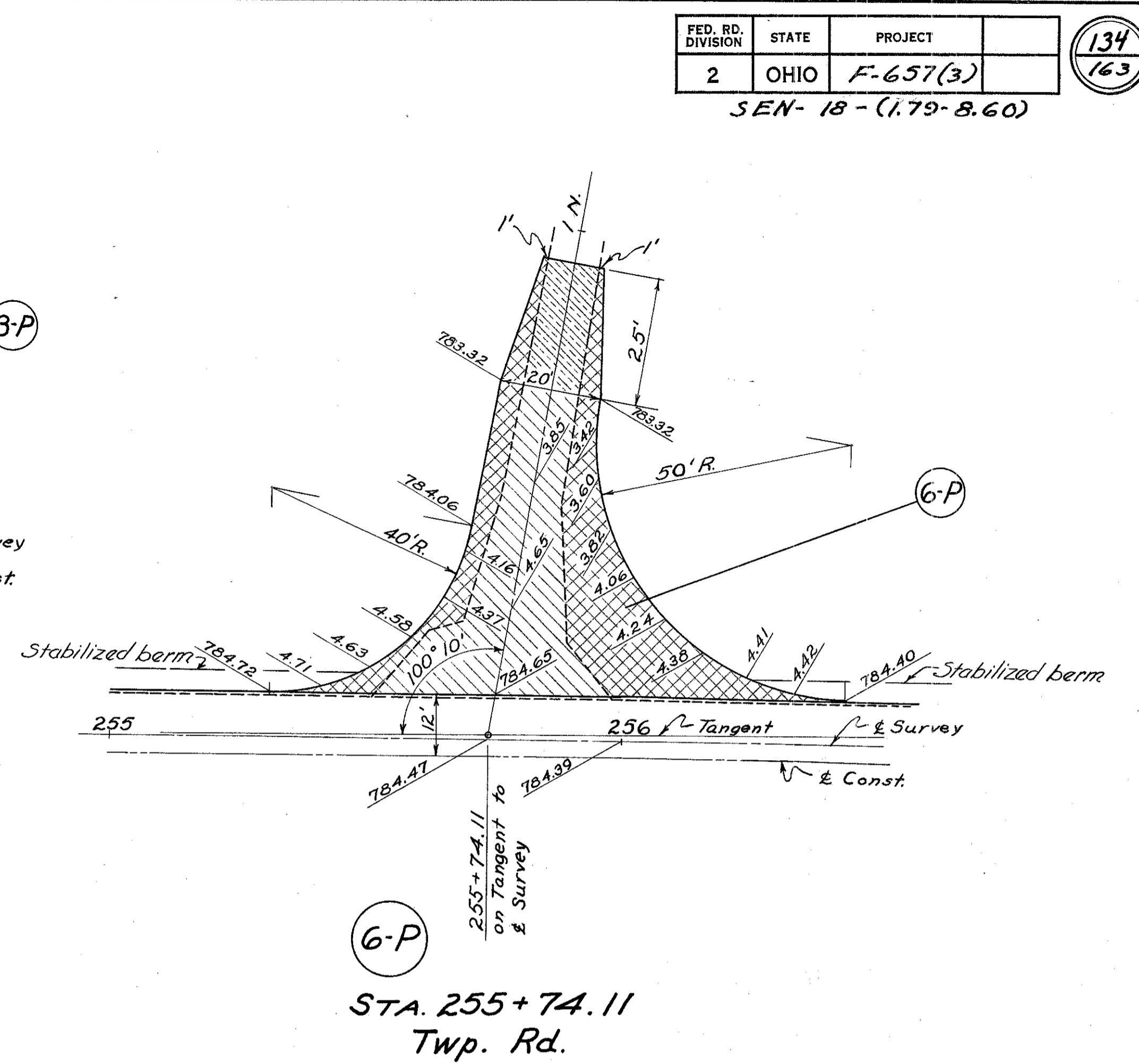
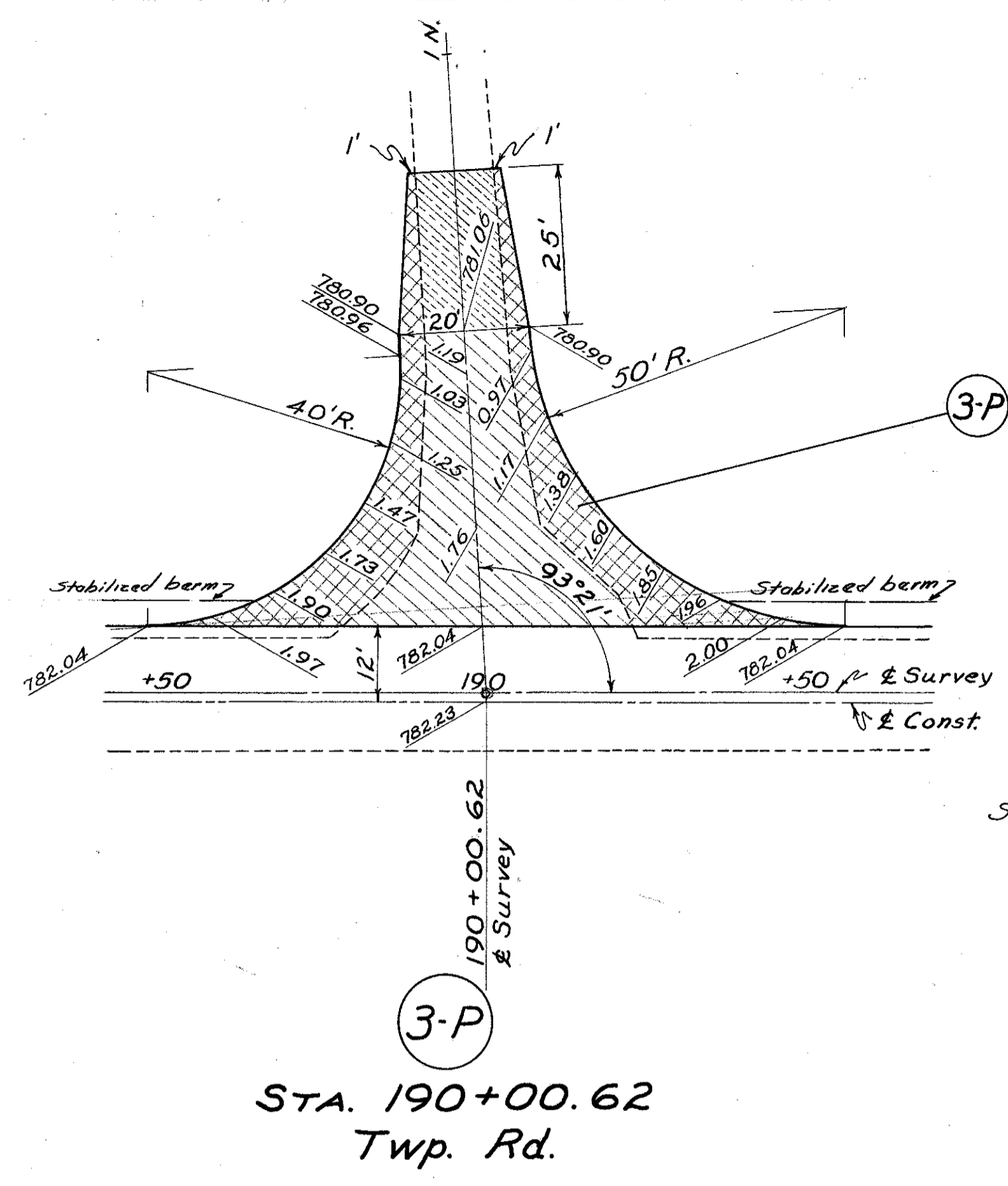
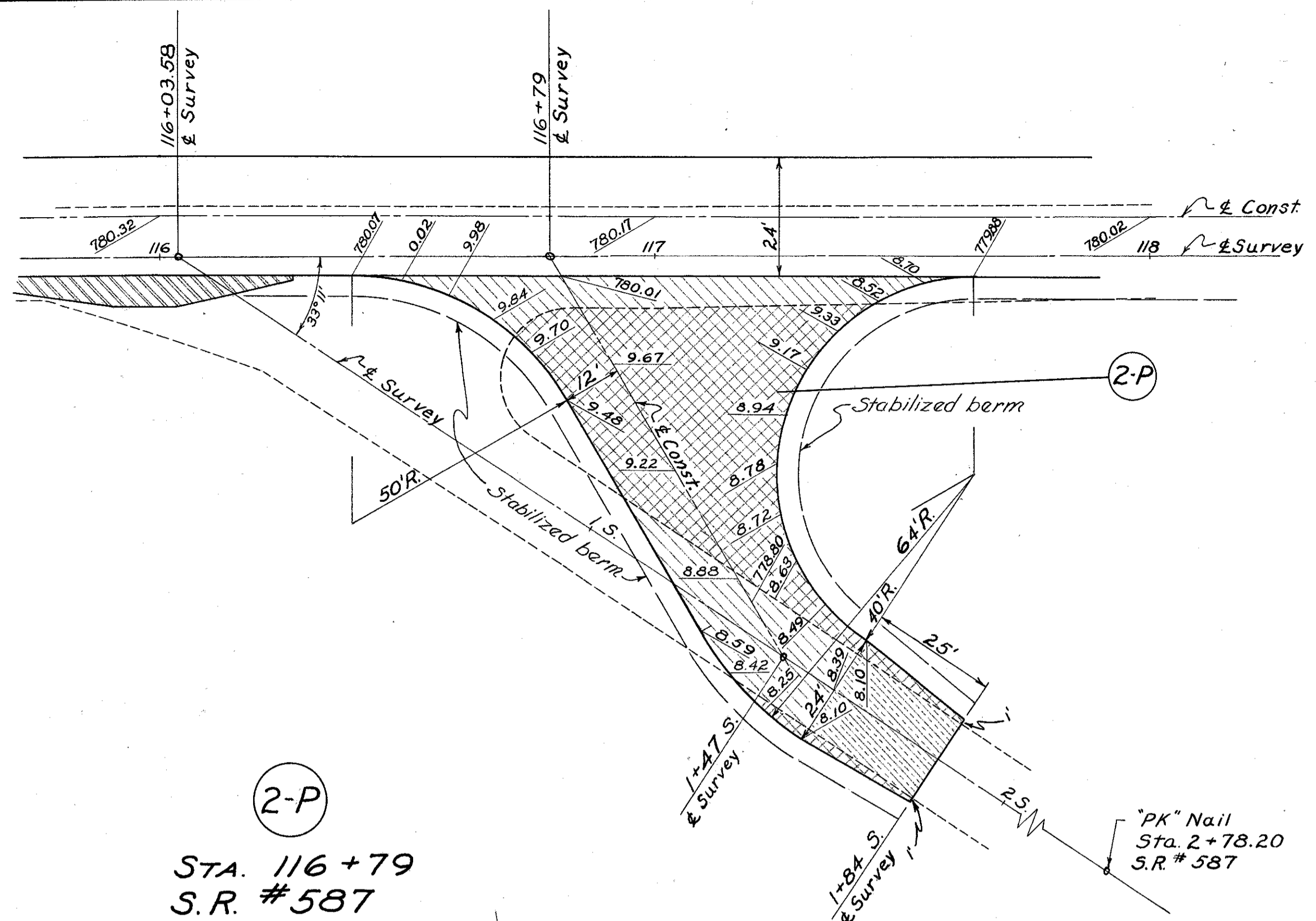
END AREA CU. YDS.	
CUT	FILL
64	
	98
42	
	122
24	
	16
10	
	14
0	



453 Total ← Carried to Drainage Summary

Carried to Drainage Summary - Total E-3 Excal. Total (6706) 250

X-SECTIONS OF DITCH OUTLET - STA. 502+51

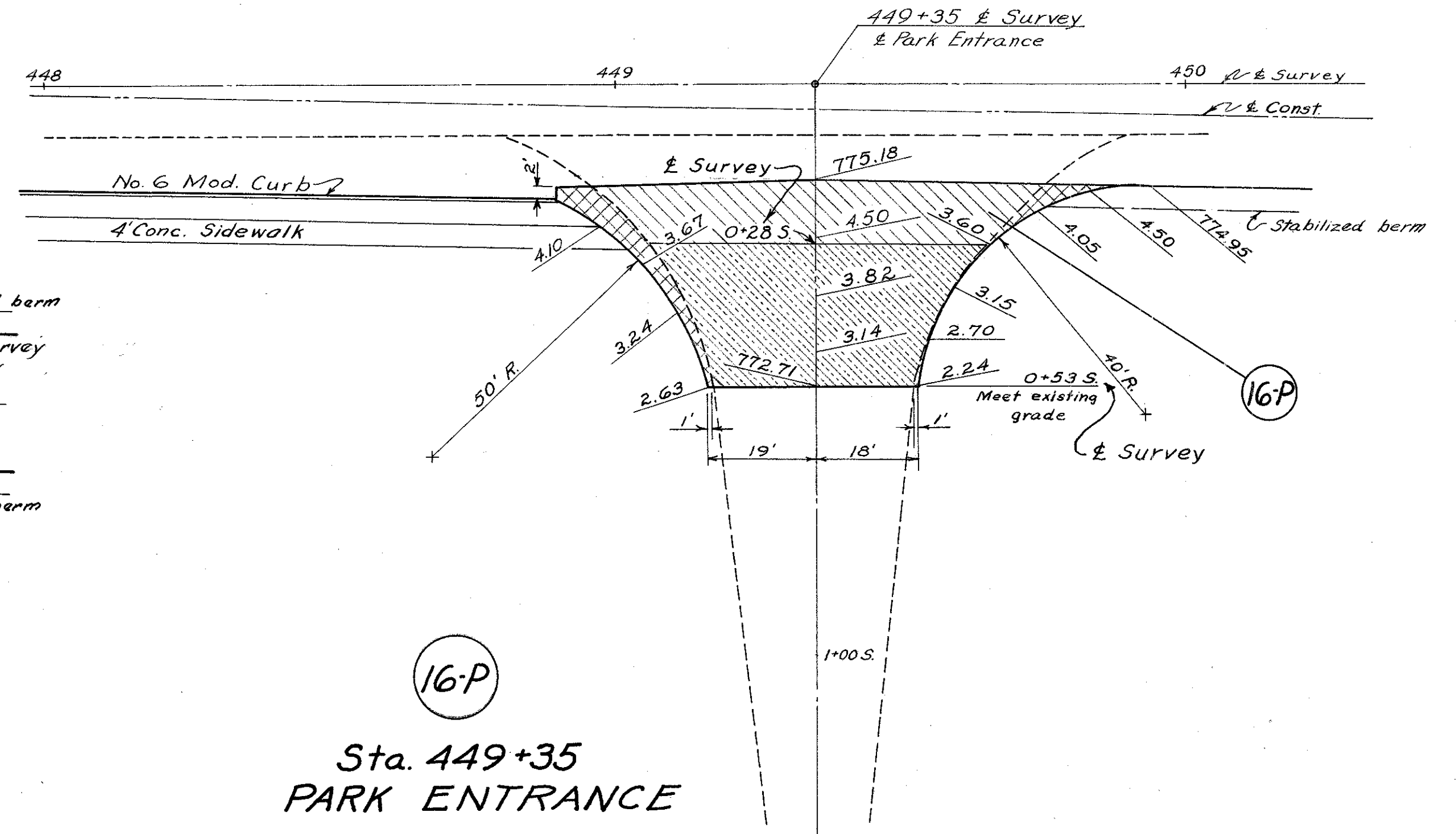
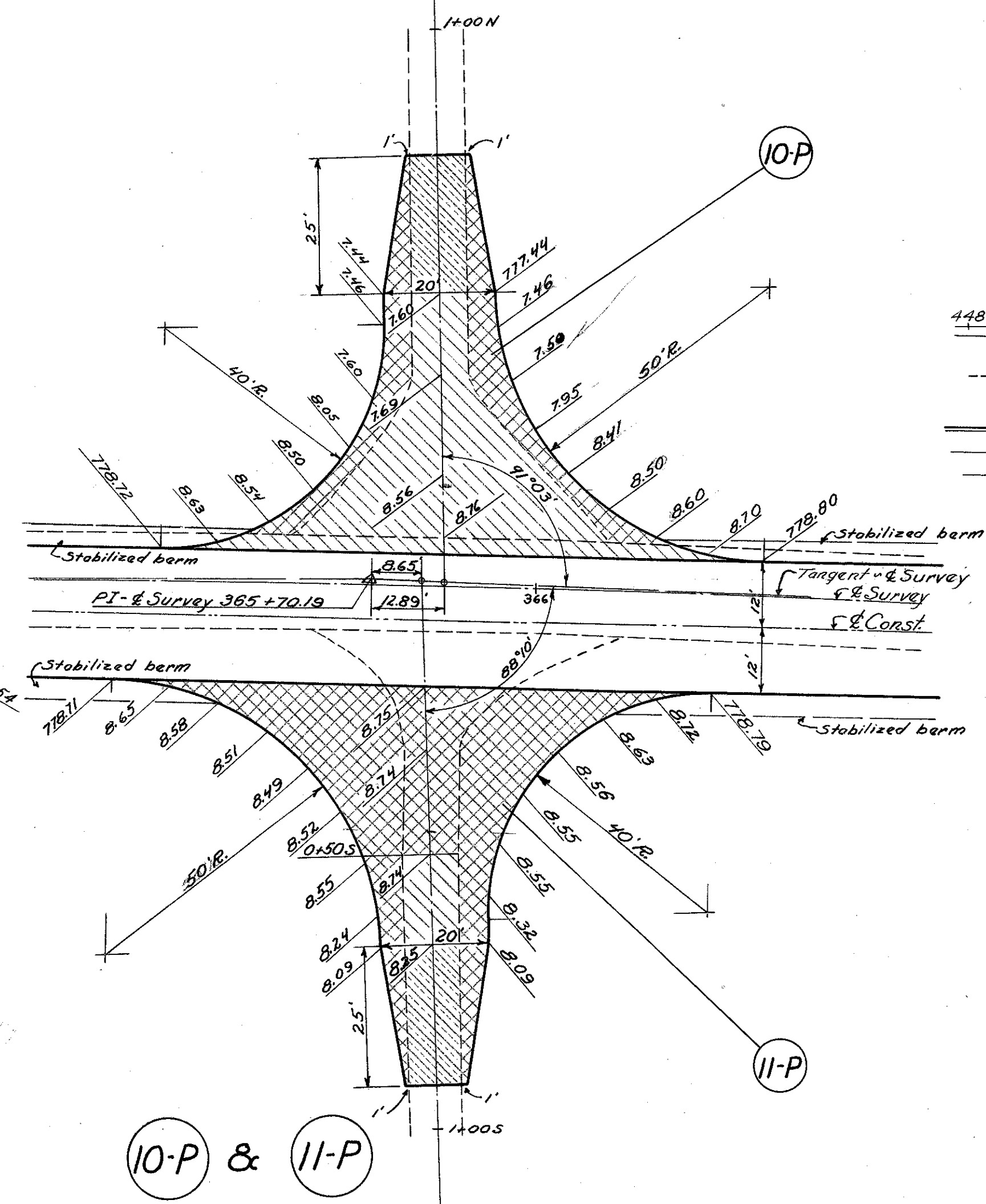
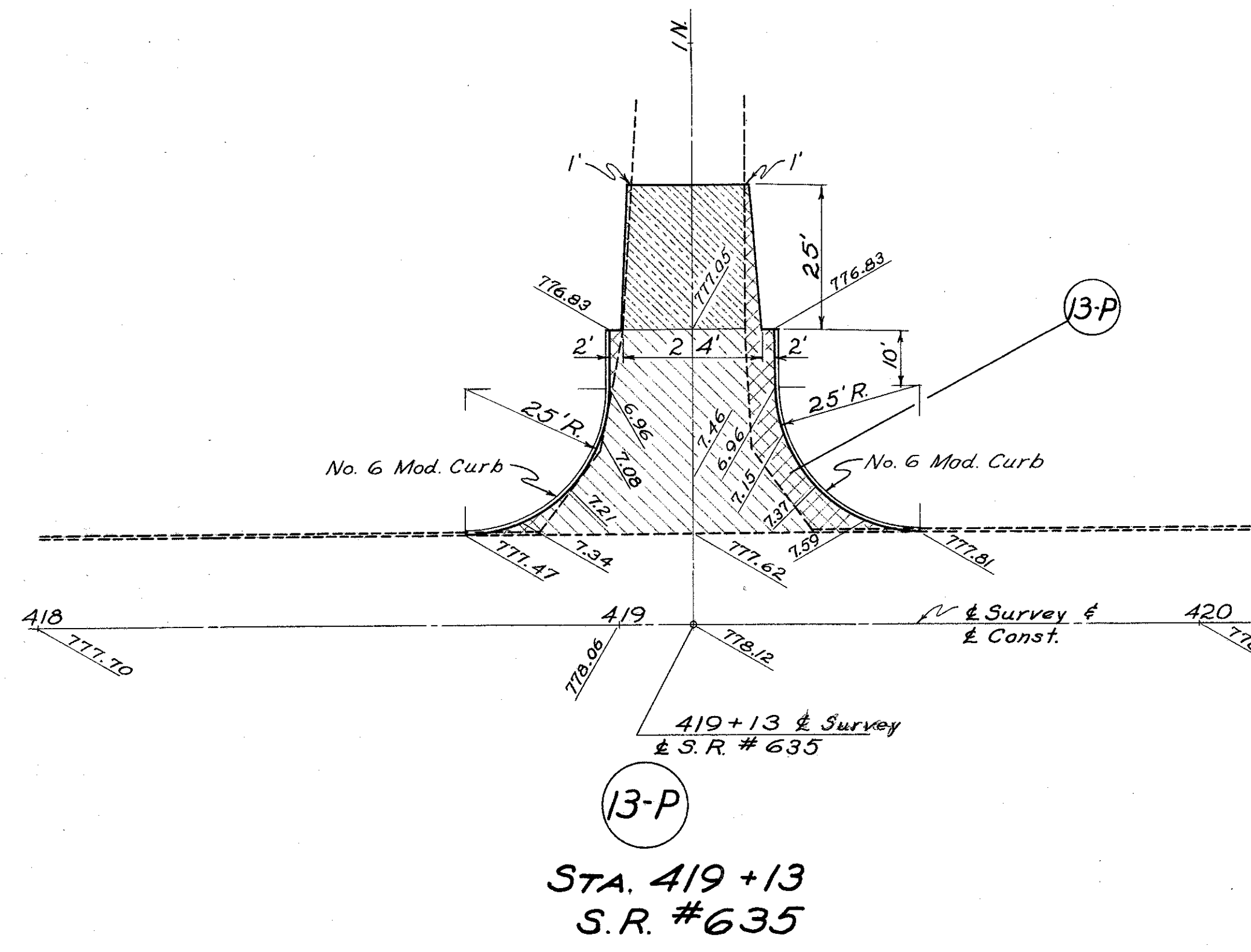


Legend

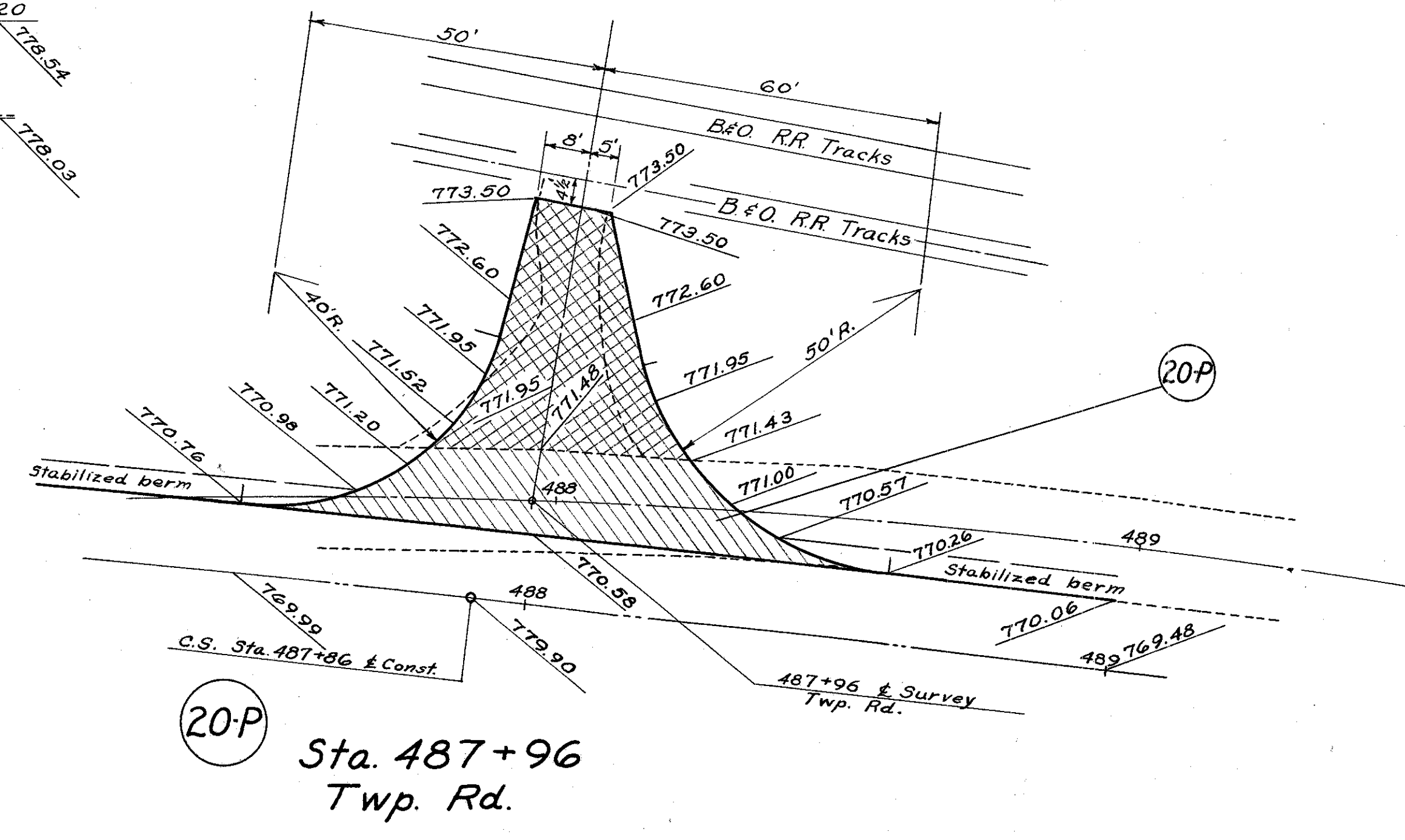
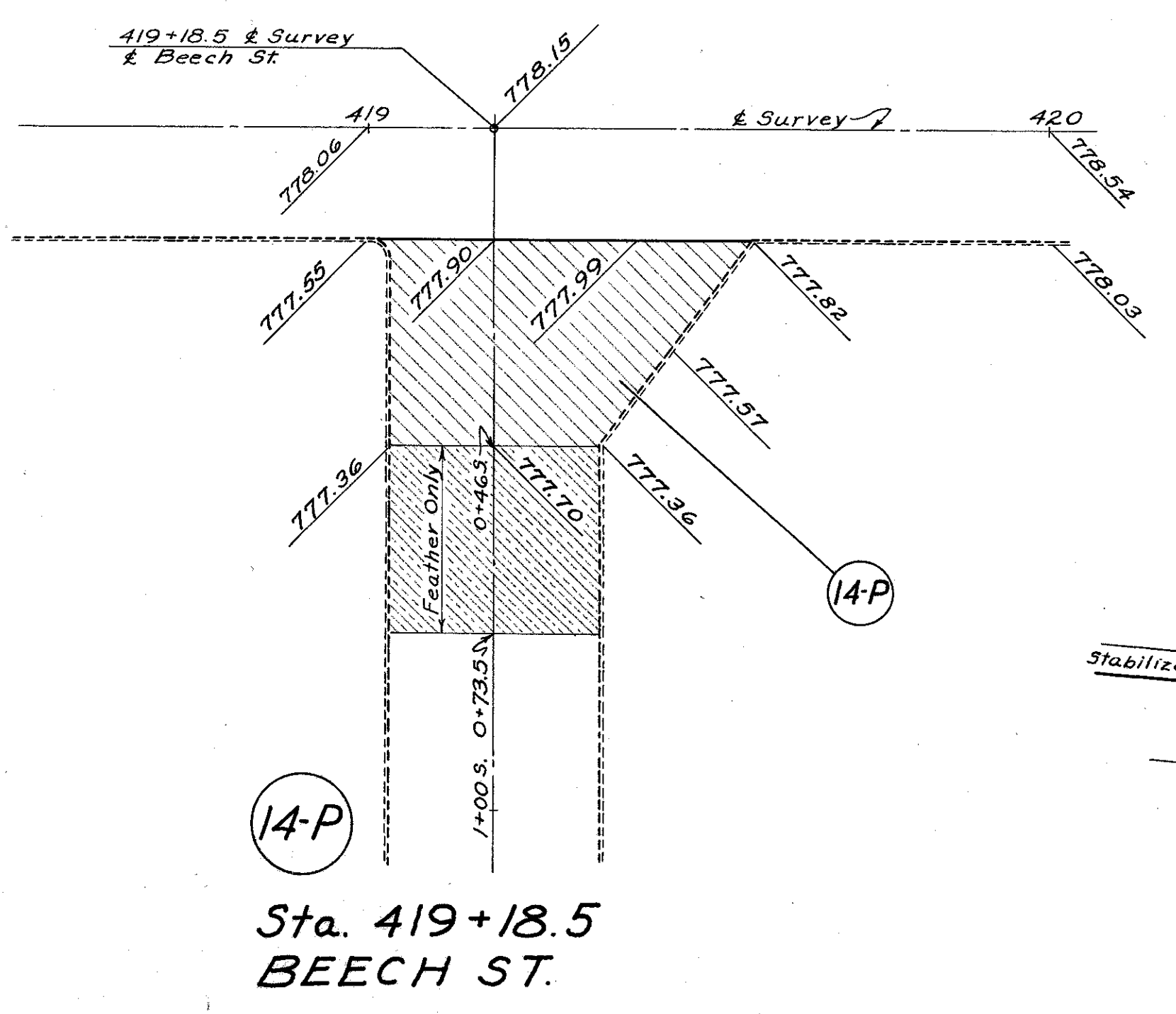
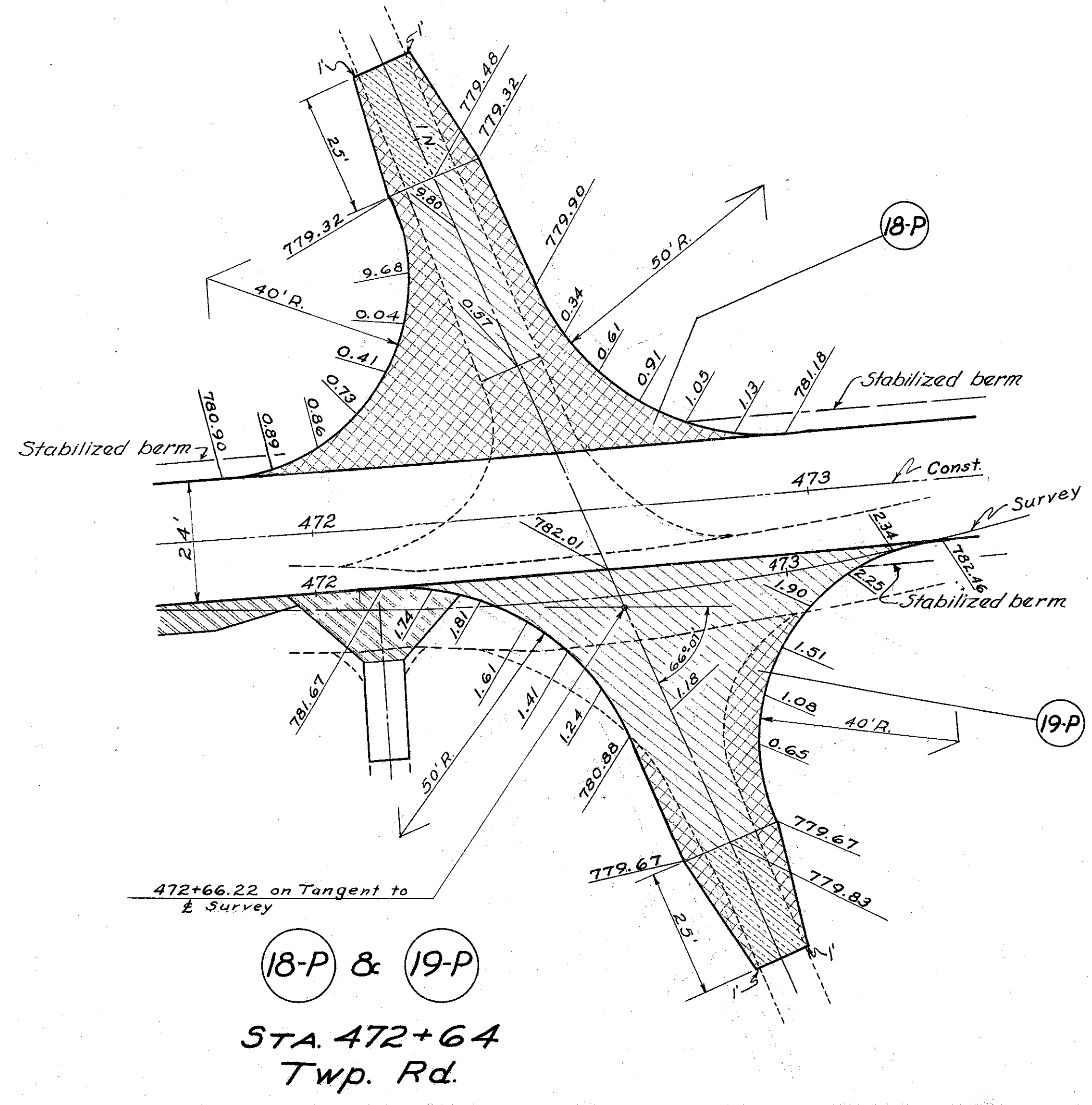
- Full Depth Construction
- Salvage Construction
- Rural Drives & Mailbox Approaches, See Detail, Sheet 136
- Feathering

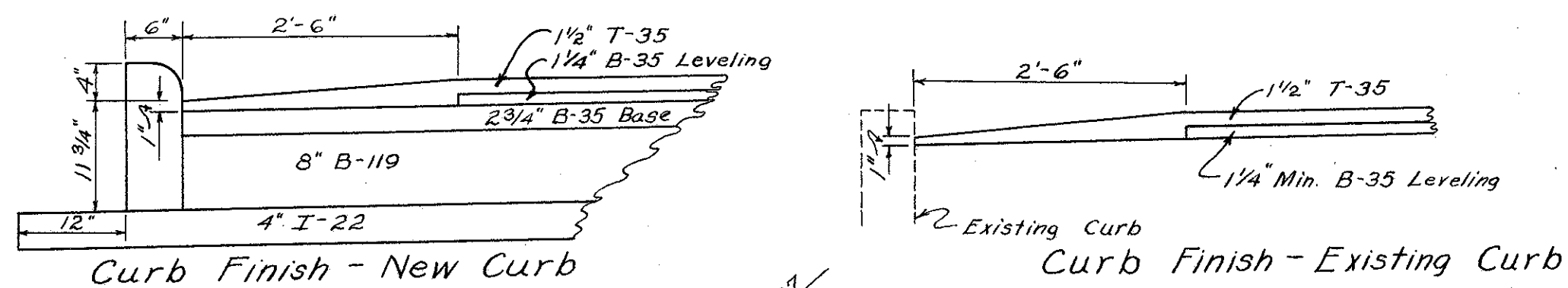
As per Typical Sections

Note: Feathering of Surface Course ~ T-35
Surface course on county and township roads shall be feathered to a minimum of 1/2" thickness.



- Legend**
- Full Depth Construction } As per Typical Sections
 - Salvage Construction } As per Typical Sections
 - Rural Drives & Mailbox Approaches, See Detail Sheet 136
 - Feathering
- Note: Feathering of Surface Course - T-35 Surface course on county and township roads shall be feathered to a minimum of 1/2" thickness.

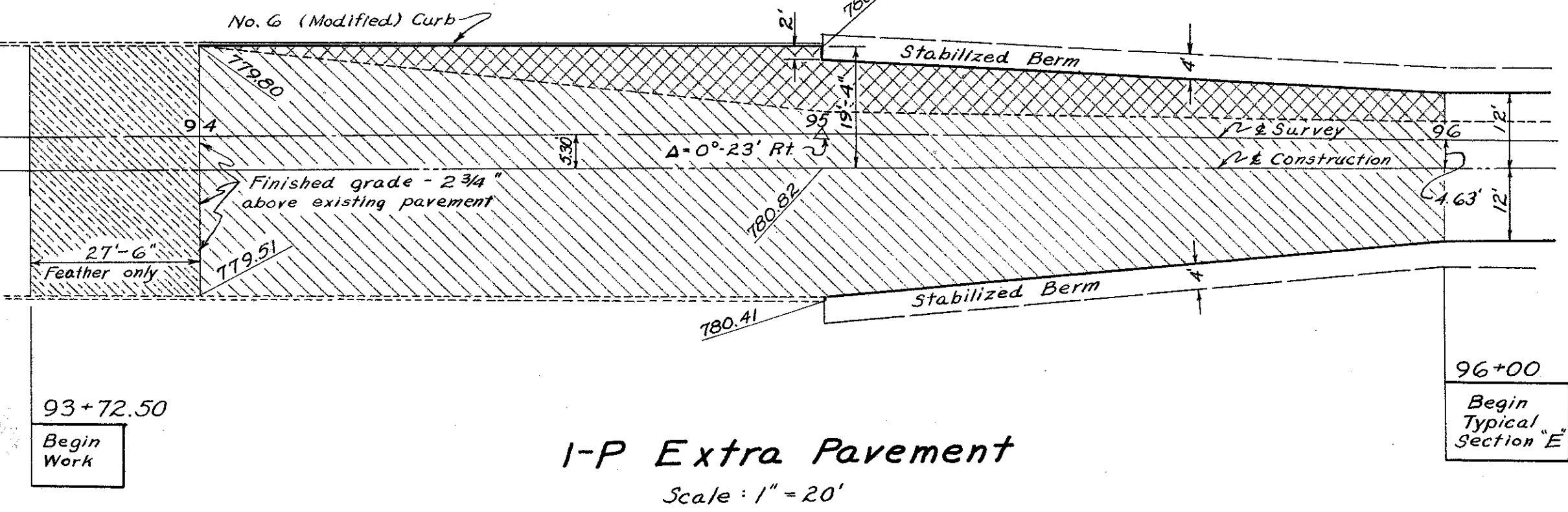




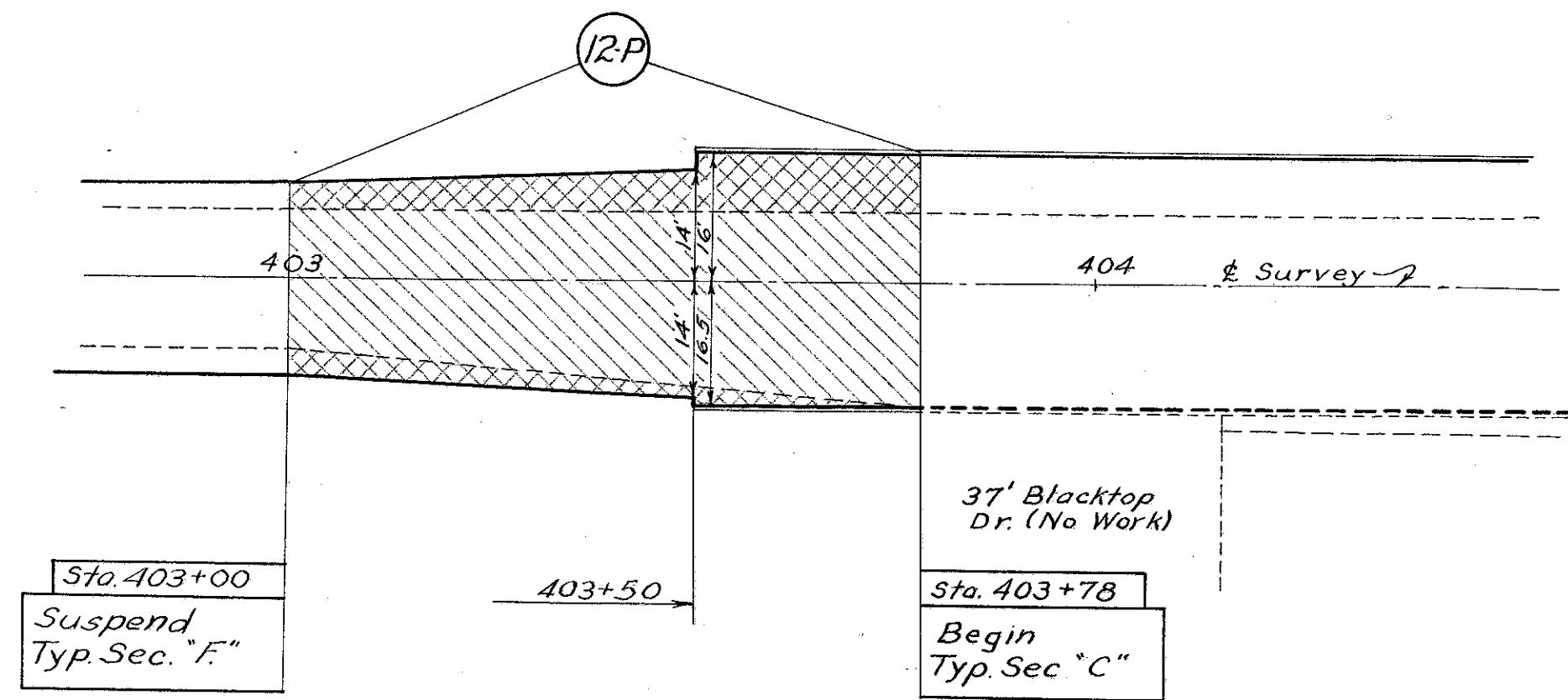
Legend

- Full Depth Construction } As per Typical Sections
- Salvage Construction } As per Typical Sections
- Rural Drives & Mailbox Approaches, See Detail, This Sheet
- Feathering

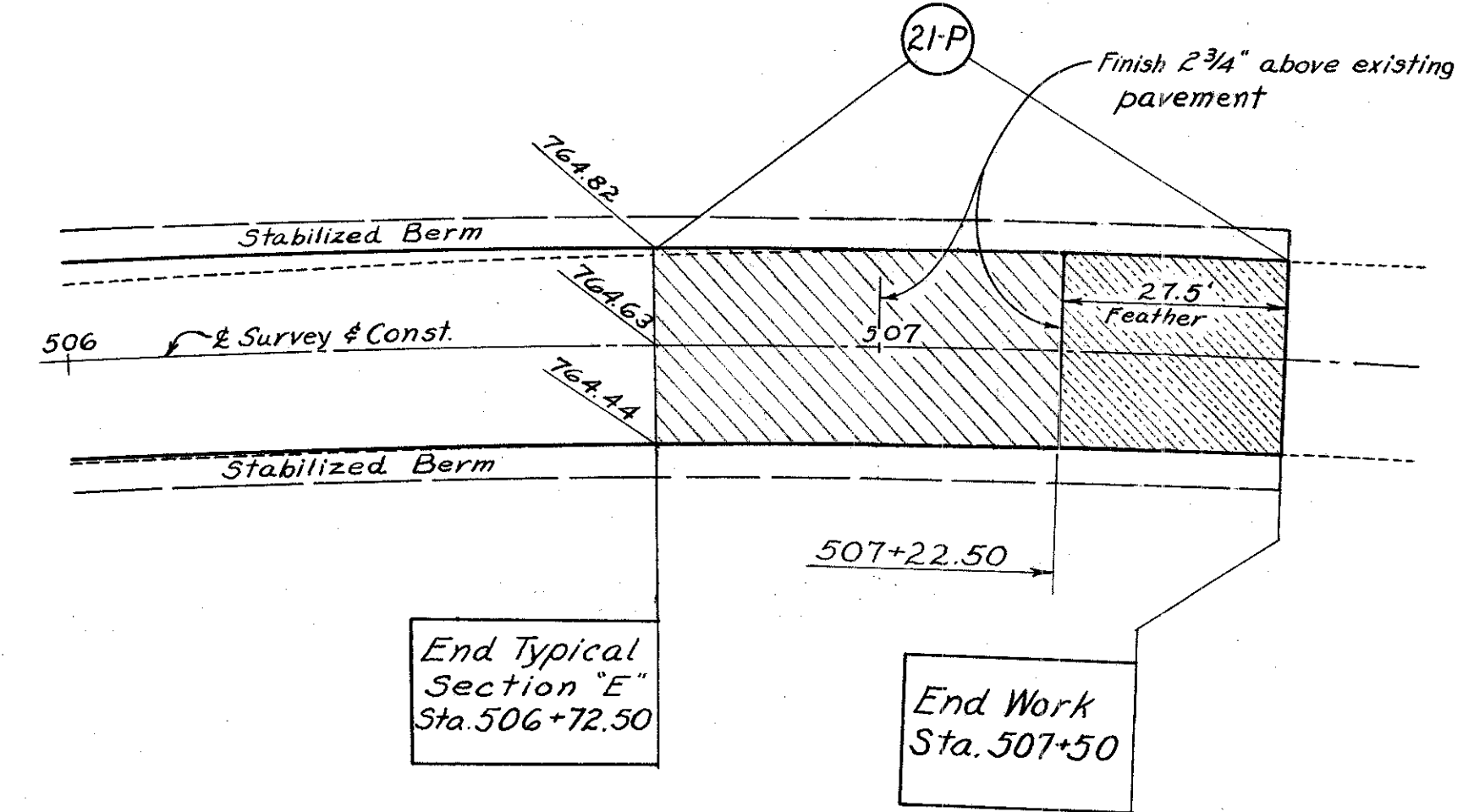
Note: Feathering of Surface Course - T-35
Surface course on county and township roads shall be feathered to a minimum of 1/2" thick.



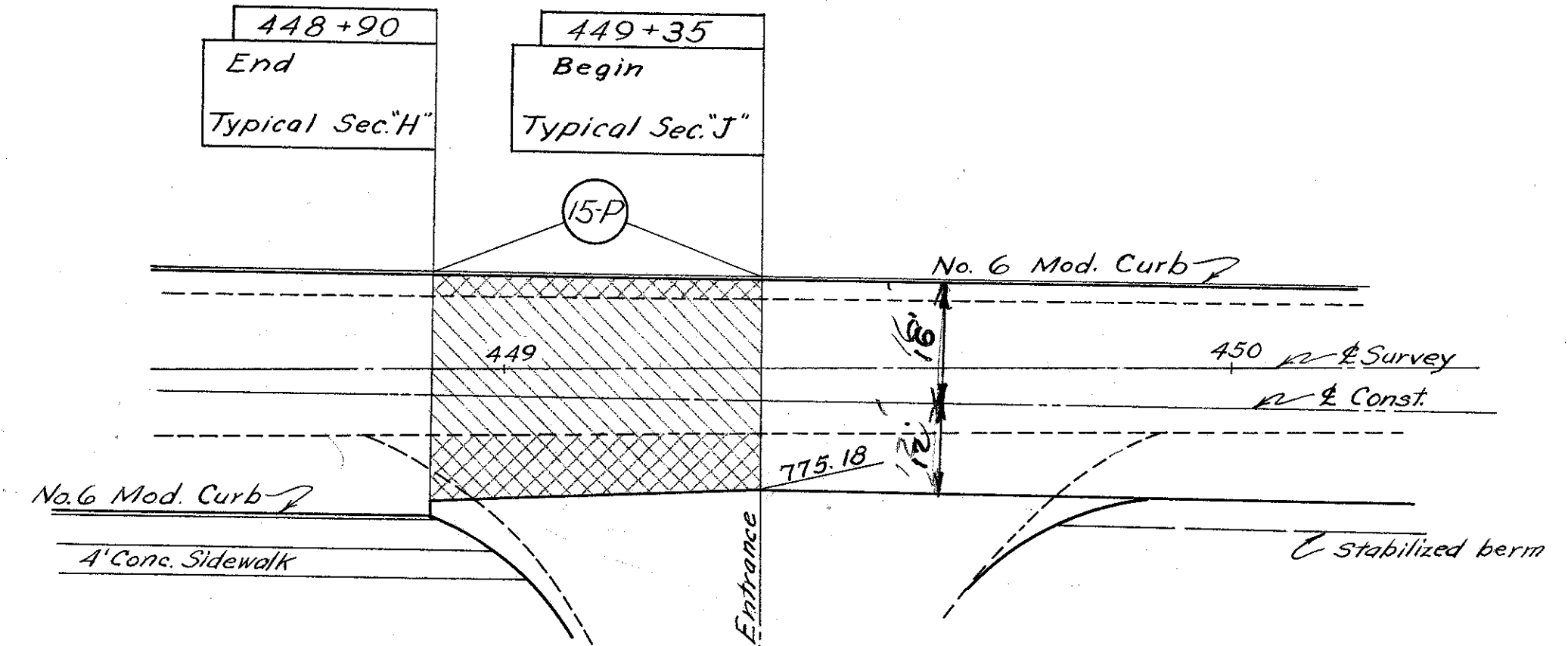
1-P Extra Pavement
Scale: 1" = 20'



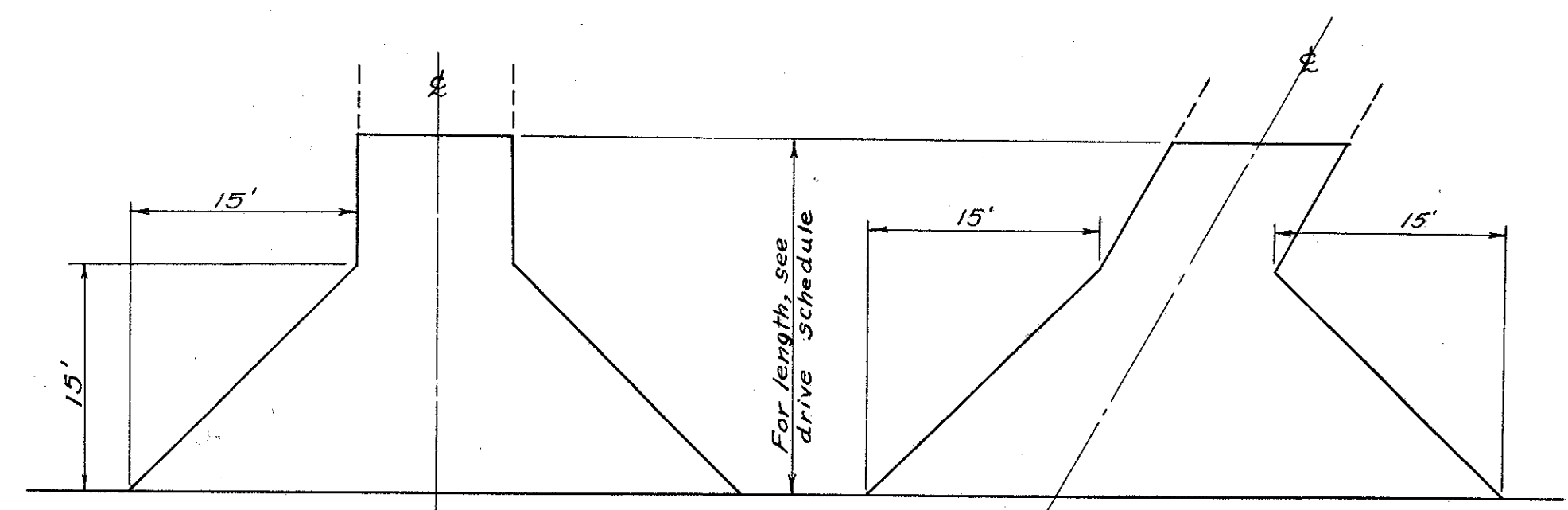
12-P Extra Pavement
Scale: 1" = 20'



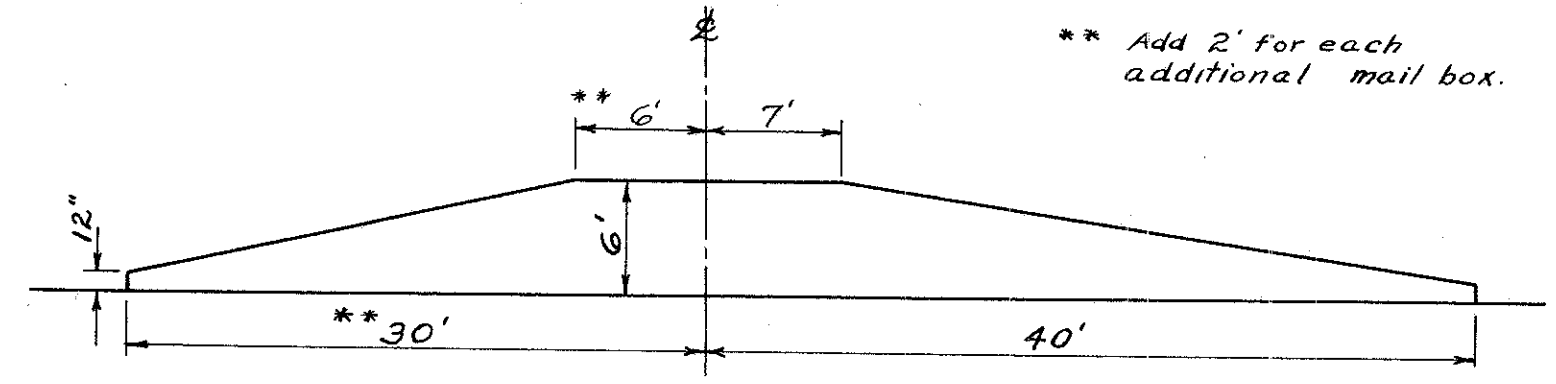
21-P Extra Pavement
Scale: 1" = 20'



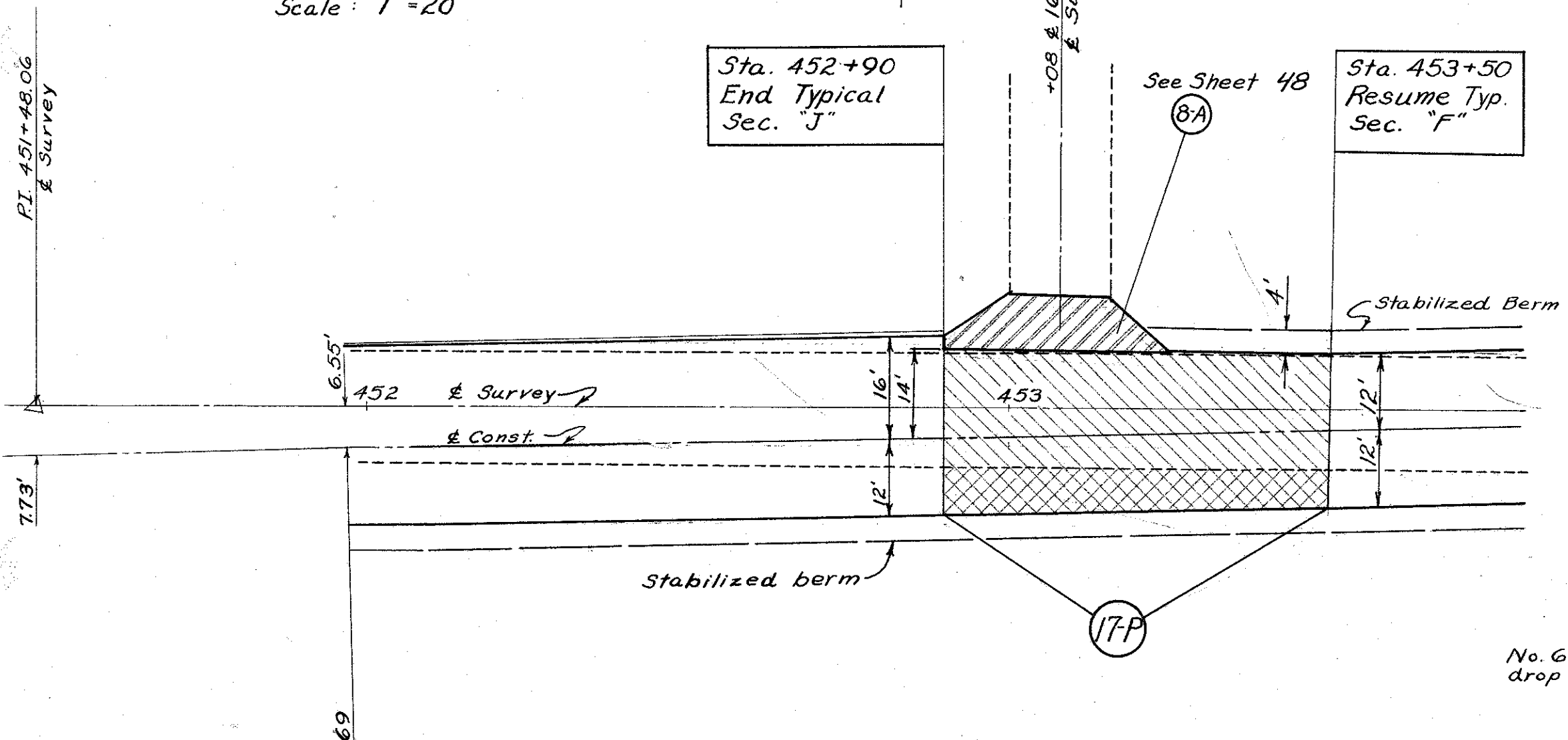
15-P Extra Pavement
Scale: 1" = 20'



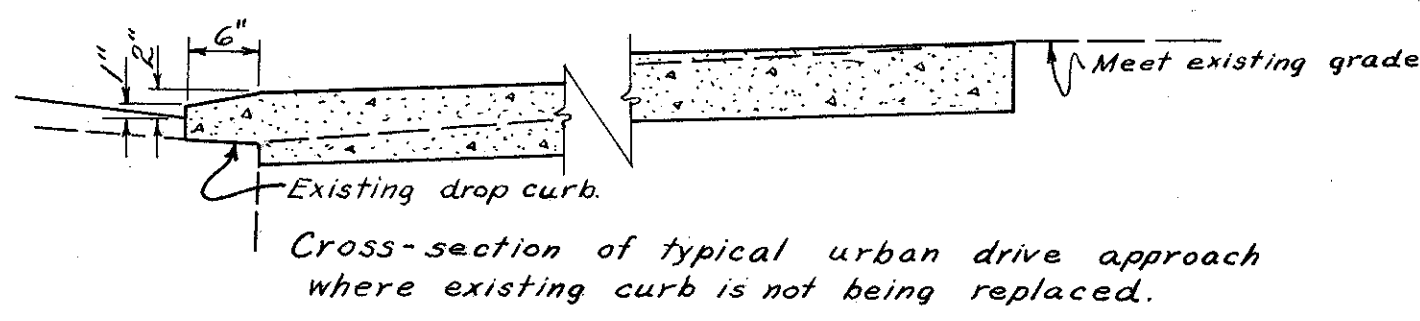
Typical Rural Drive Approaches
5" B-119, T-30 & 2" T-35
Scale: 1" = 10'



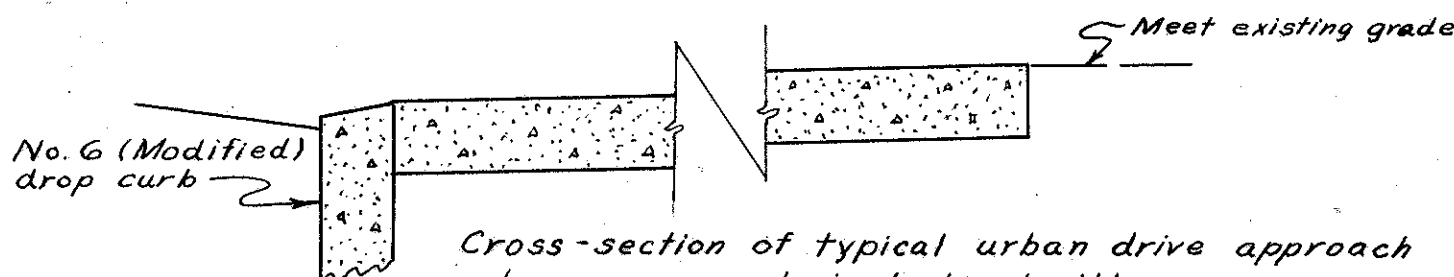
Standard Mail Box Approach
5" B-119, T-30 & 2" T-35
Scale: 1" = 10'



17-P Extra Pavement
Scale: 1" = 20'

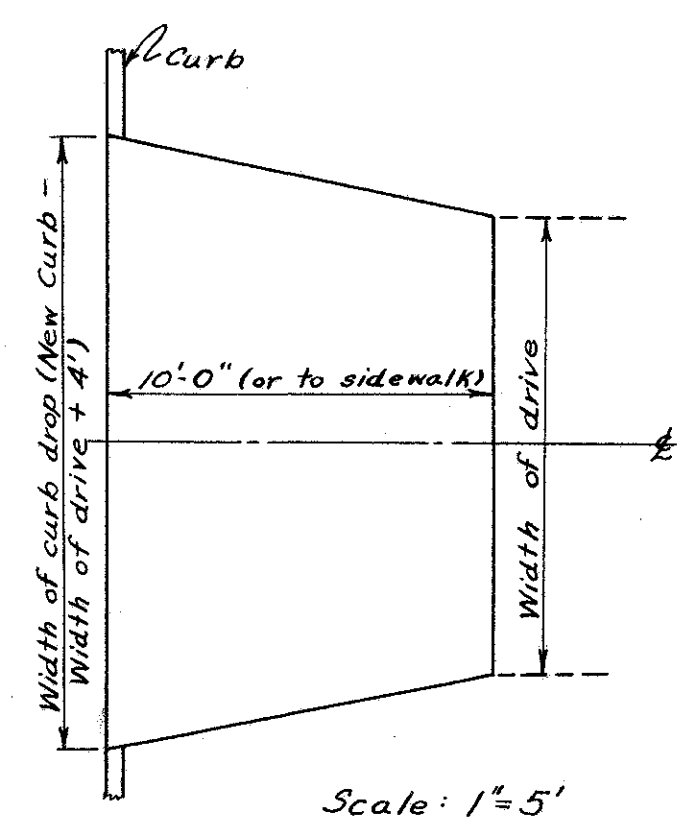


Cross-section of typical urban drive approach where existing curb is not being replaced.

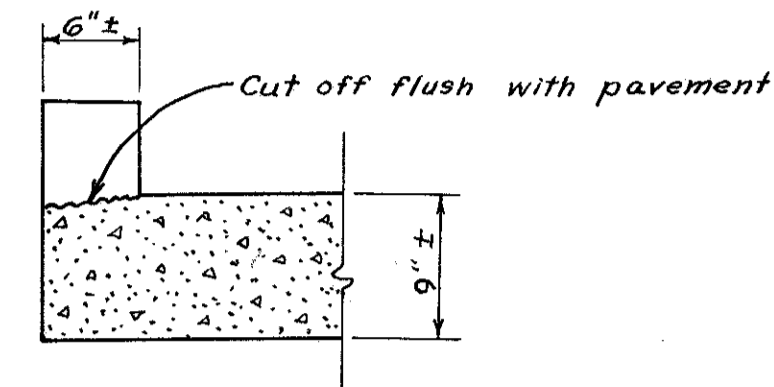


Cross-section of typical urban drive approach where new curb is to be built.

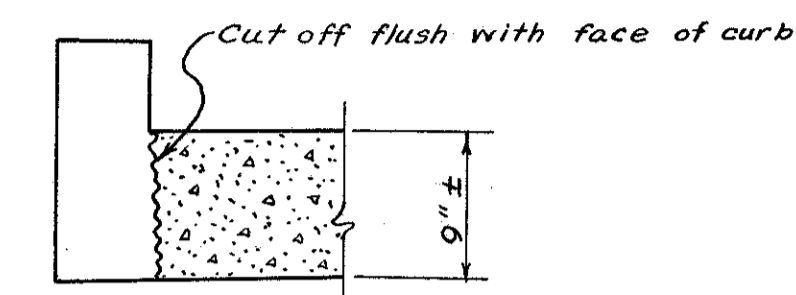
Typical Urban Drive Approach for Curbed Pavement (7"-T-70)
Scale: 3/4" = 1'-0"



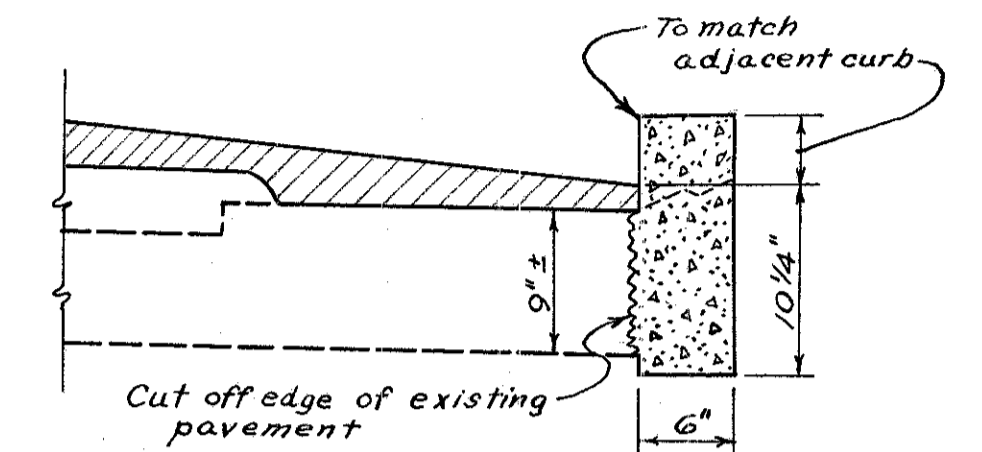
Typical Urban Drive Approach for Uncurbed Pavement (5" B-119, T-30 & 2" T-35)
Scale: 1" = 10'



Curb Removal ~ Type I.

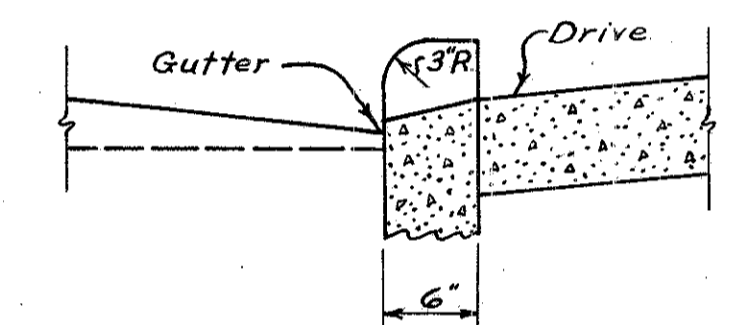
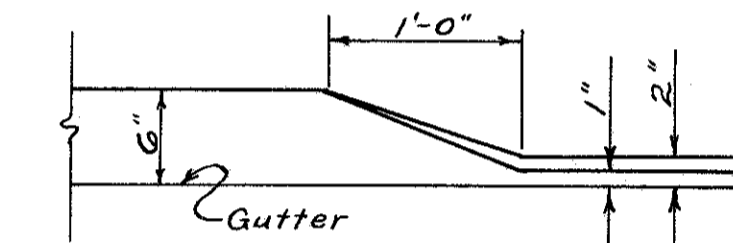


Curb Removal ~ Type II

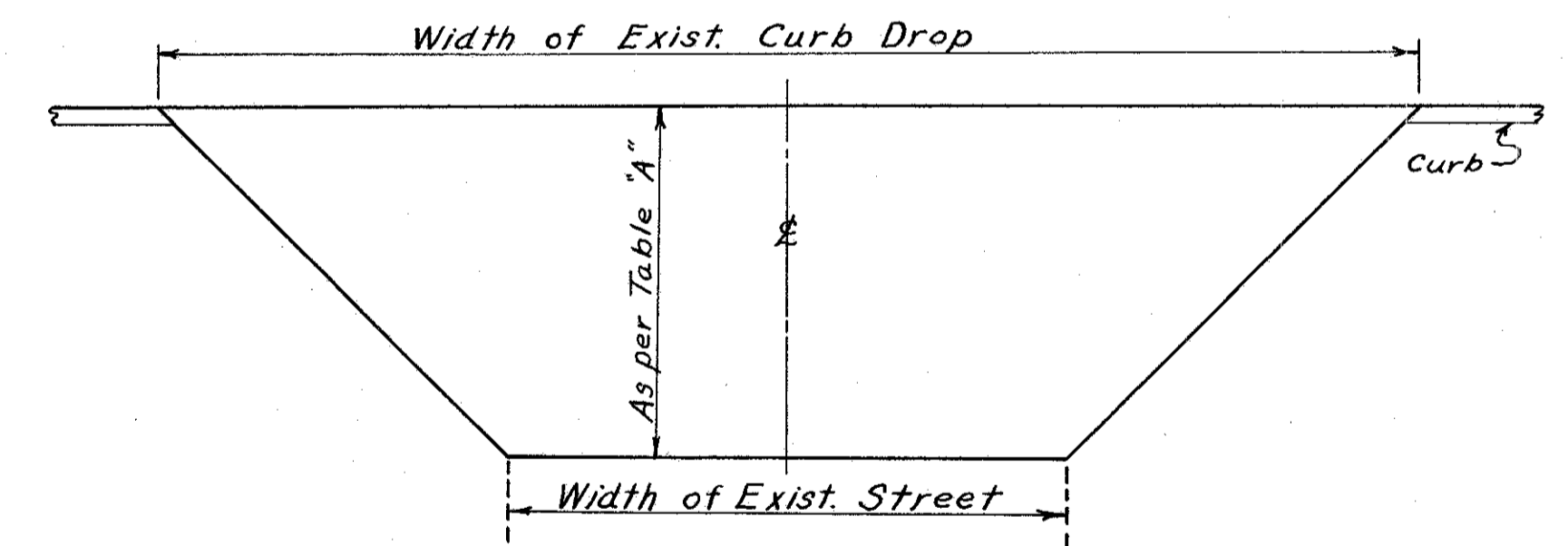


Detail ~ Typical Curb Replacement
Scale: 1" = 1'-0"

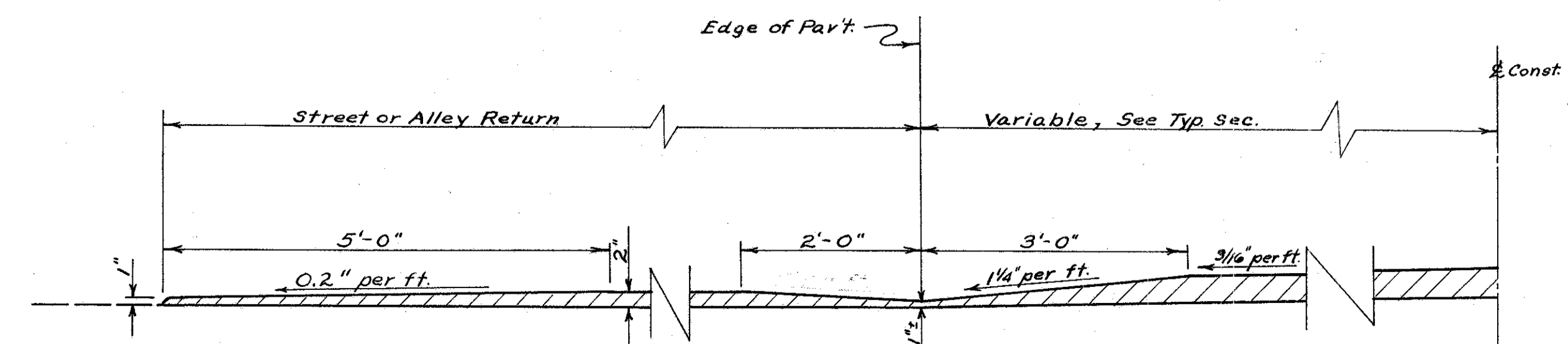
Methods of Removing Integral Curb in Bascom, Ohio
Scale: 1" = 1'-0"



Typical Curb Drop for Drives ~ New Curb
Scale: 1" = 1'-0"



Plan
Scale: 1" = 5'-0"



Profile
Scale: 3/4" = 1'-0"

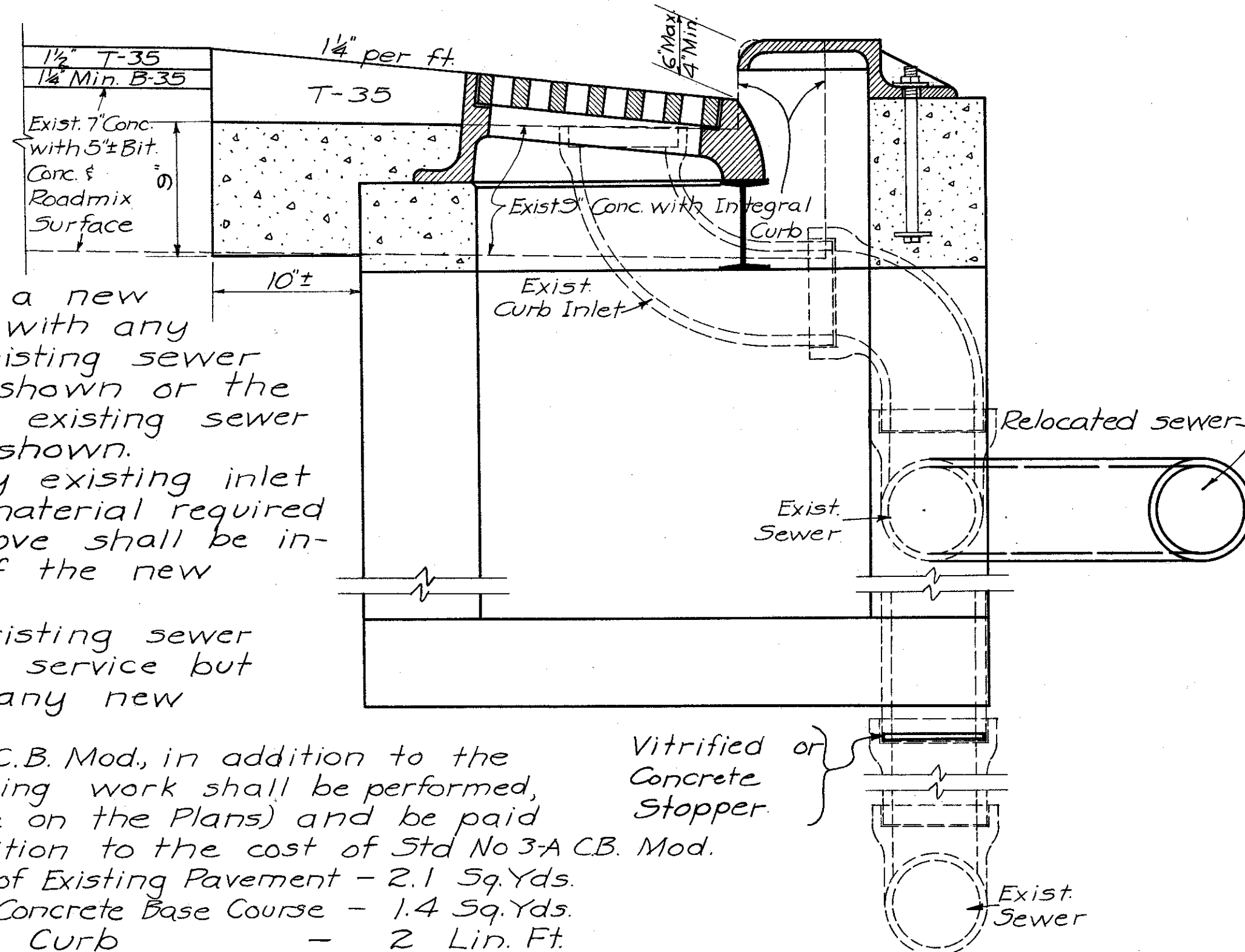
Typical Street & Alley Return ~ Curbed Pavement

CURB & STREET RETURN DETAILS

DETAIL Standard No. 3-A Catch Basin Modified

Note: Build as per Standard Drawing I-8, No. 3-A C.B. except as shown.

Scale: 1/2" = 1'-0"



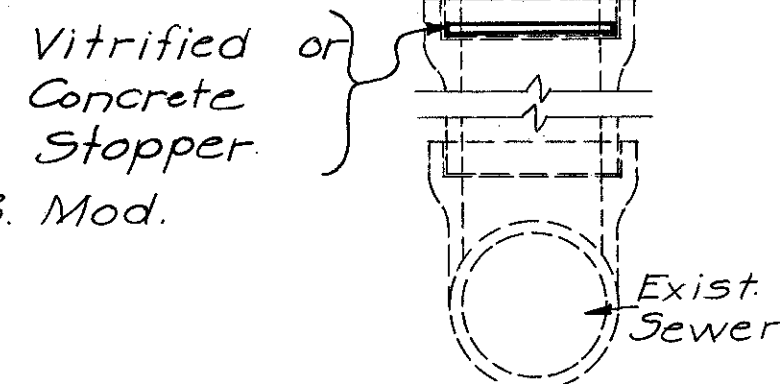
Note: When construction of a new Catch Basin interferes with any existing sewer, the existing sewer shall be relocated as shown or the vertical drop to the existing sewer shall be plugged as shown.

The removal of any existing inlet and any work and material required to accomplish the above shall be included in the cost of the new Catch Basin.

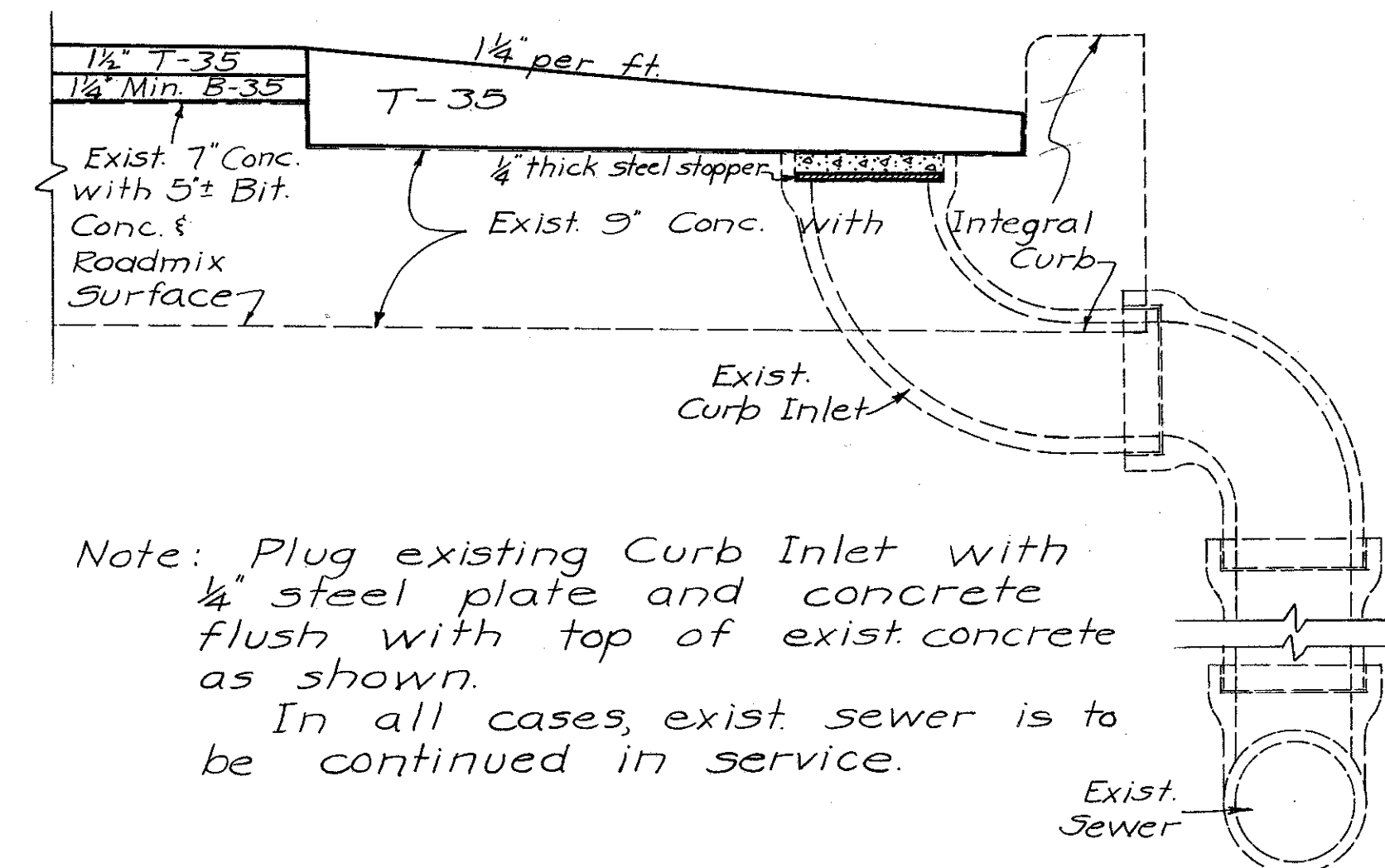
In all cases, the existing sewer shall be continued in service but not connected into any new drainage facility.

For each Std. No. 3-A C.B. Mod., in addition to the above work, the following work shall be performed, (unless shown otherwise on the Plans) and be paid for as indicated, in addition to the cost of Std. No. 3-A C.B. Mod.

- E-8, Removal and Disposal of Existing Pavement - 2.1 Sq. Yds.
- B-70, 9" Portland Cement Concrete Base Course - 1.4 Sq. Yds.
- I-12, Type G Concrete Curb - 2 Lin. Ft.

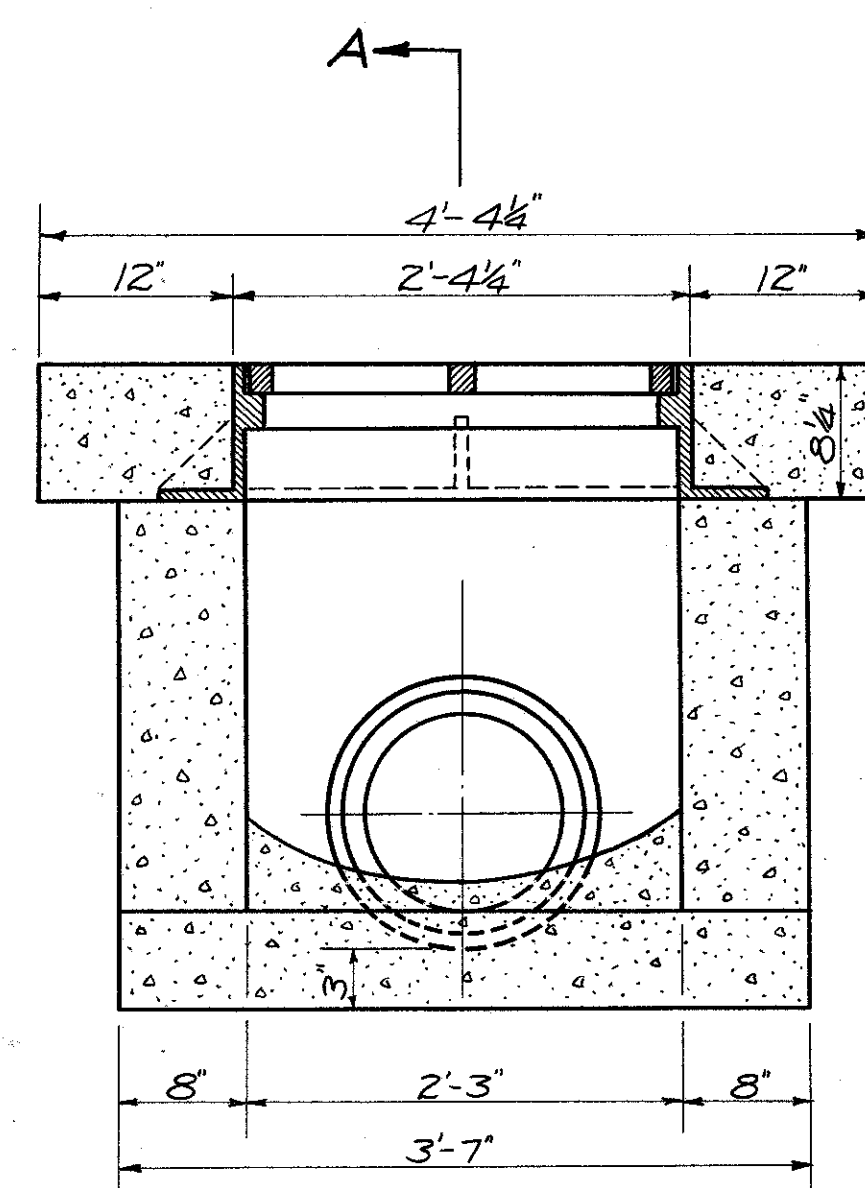


DETAIL I-16, Inlet Abandoned, as per plan.



Note: Plug existing Curb Inlet with 1/4" steel plate and concrete flush with top of exist. concrete as shown.

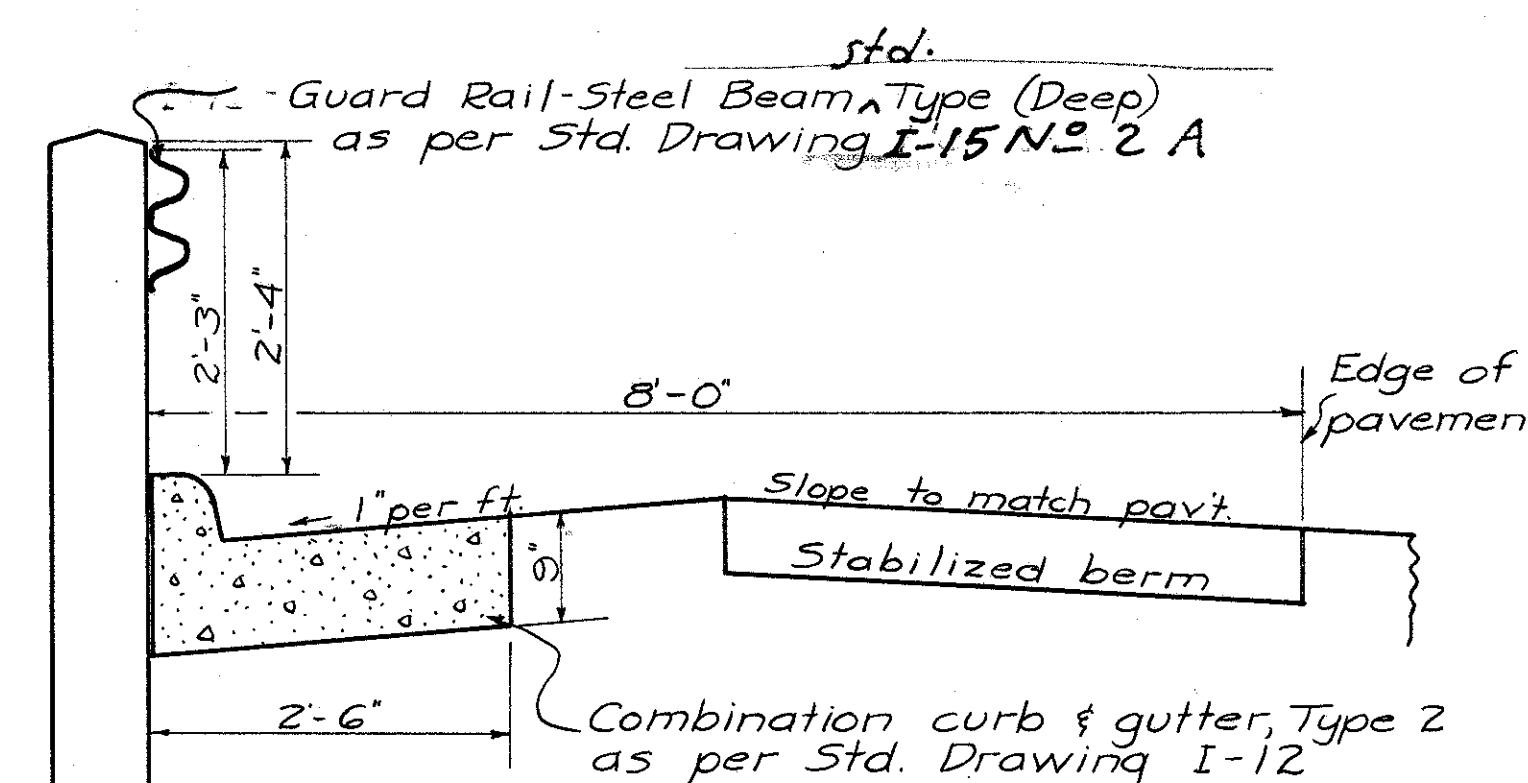
In all cases, exist. sewer is to be continued in service.



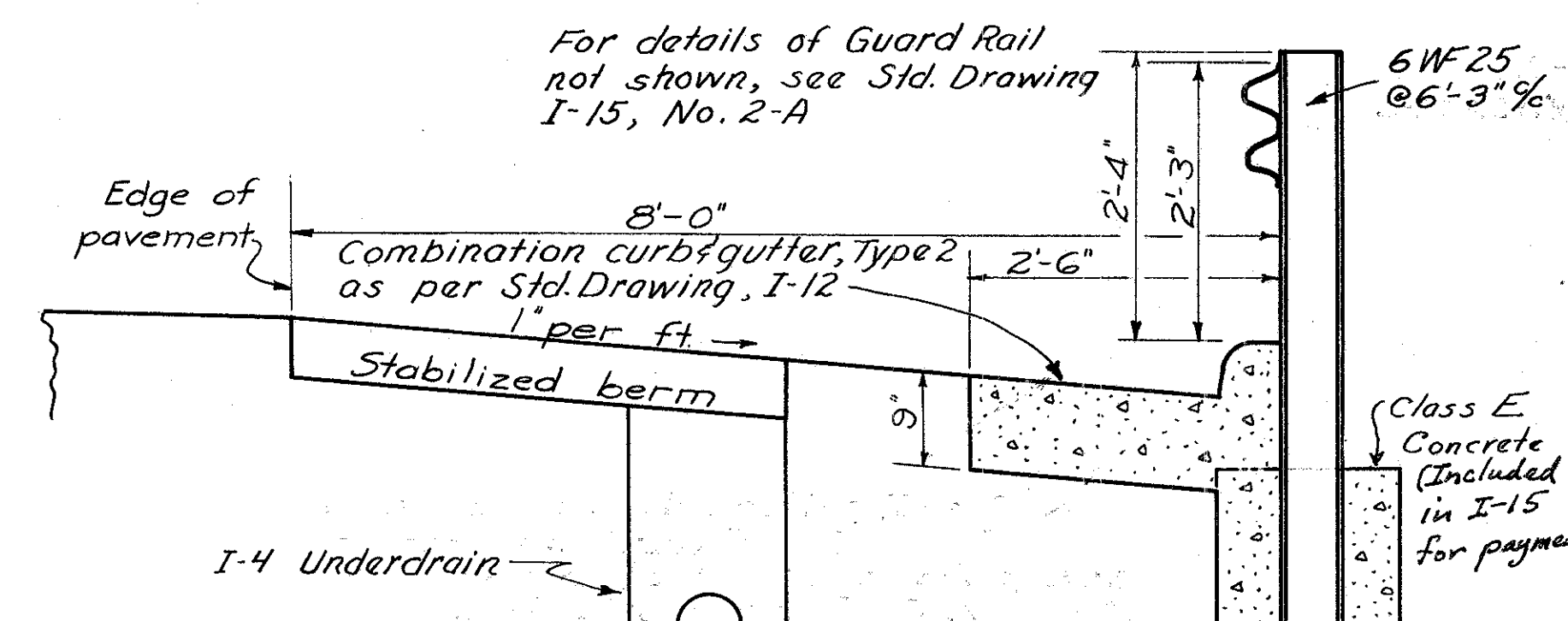
Sec. B-B
DETAIL
Standard No. 6 Catch Basin
Modified
Sec. A-A

Note: Grate, Gutter Frame and all other construction specifications shall be the same as for Standard No. 6 Catch Basin except as shown and noted. The Class 'C' concrete that surrounds the Gutter Frame shall be included in the Unit Price bid for I-8, Standard No. 6 Catch Basin-Modified.

Scale: 1" = 1'-0"

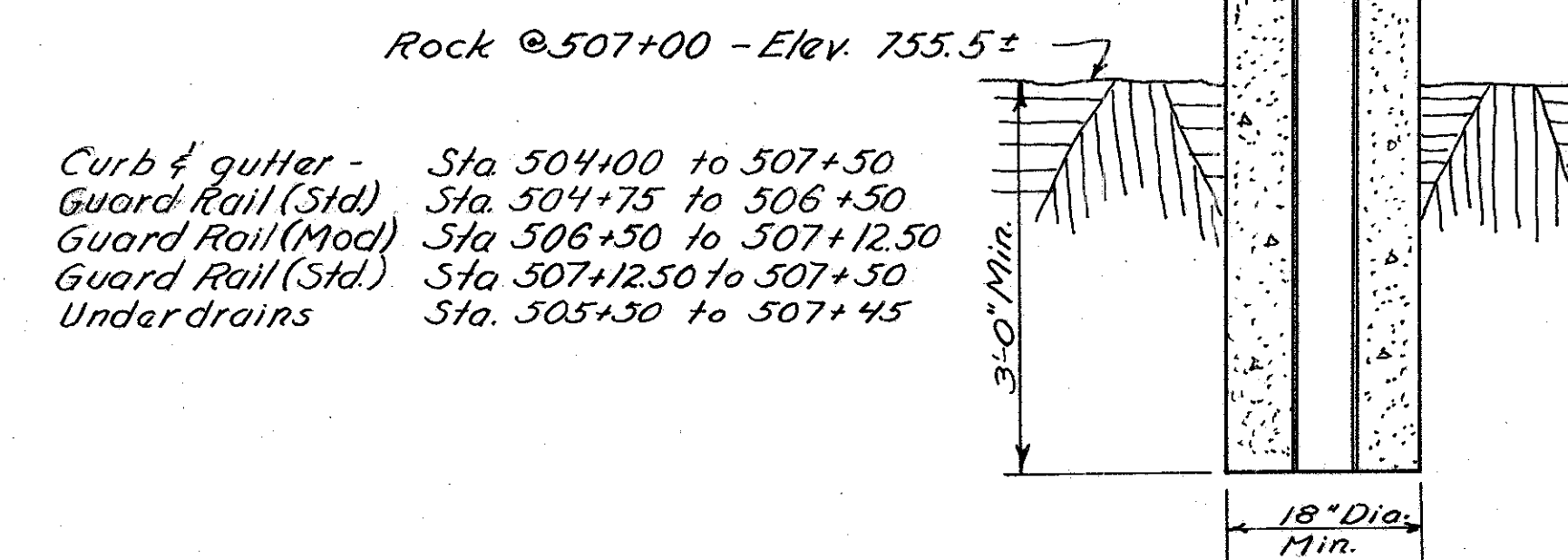


DETAIL OF GUARD RAIL & COMBINATION CURB AND GUTTER.
Guard rail applies from Sta. 503+00 to 506+00-Left.
Curb & gutter applies from Sta. 501+00 to 507+00-Left.



DETAIL OF GUARD RAIL AS PER PLAN AND COMBINATION CURB & GUTTER

Note: Item I-15 Guard Rail-Steel Beam Type (Deep) as per plan, shall consist of furnishing and installing guard rail as shown in detail. Steel posts, 6WF25 @ 6'-3" % shall extend a minimum of 3'-0" into solid rock, and shall be encased in concrete as shown. Holes for posts shall be bored into the rock. Blasting will not be permitted under any circumstances. Rock elevation as shown is approximate and was determined by borings taken at station 507+00, 18' right of center of construction.



- Curb & gutter - Sta. 504+00 to 507+50
- Guard Rail (Std.) - Sta. 504+75 to 506+50
- Guard Rail (Mod.) - Sta. 506+50 to 507+12.50
- Guard Rail (Std.) - Sta. 507+12.50 to 507+50
- Underdrains - Sta. 505+30 to 507+45

Rock @ 507+00 - Elev. 755.5±

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-657(3)	

139
163

Sen-18-(179-8.60)

Remove S-24
EXISTING STRUCTURE DATA

Sta. 211+93.8 & Survey
Br. No. Sen-18-0401
Span: 13'-0"
Roadway: 20'
Skew: None
Type: Conc. slab and stone masonry abuts.
Waterway: 78 Sq.Ft.
Condition: Fair

Suspend Typical Sec. "A" Begin Typical Sec. "B"
Sta. 214+00

PLAN
Scale: 1" = 20'

91+79 County ditch stationing
= 1+87 N. State new channel back
= 1+62 N. State exist. channel ahead

Fill exist. channel to elev. 769.0 ± to drain to new channel and seed.

0+00 & = P.I. & Survey Sta. 212+13.77

See Table "AR" for Guard Rail Quantities

NEW STRUCTURE DATA

Sta. 212+65 & Const.
Br. No. Sen-18-0401
Type: 2-84" Dia. x 90' Length
Reinf. conc. culvert pipe M-G.6 (b) with conc. end walls.
Skew: 16°-30' R.F.
Roadway: 40'
Drainage Area: 660 Ac.

Fill exist. channel to elev. 769.0 ± to drain to new channel and seed.

88+40 County ditch stationing
= 1+77 S. State existing channel back
= 1+13 S. State new channel ahead

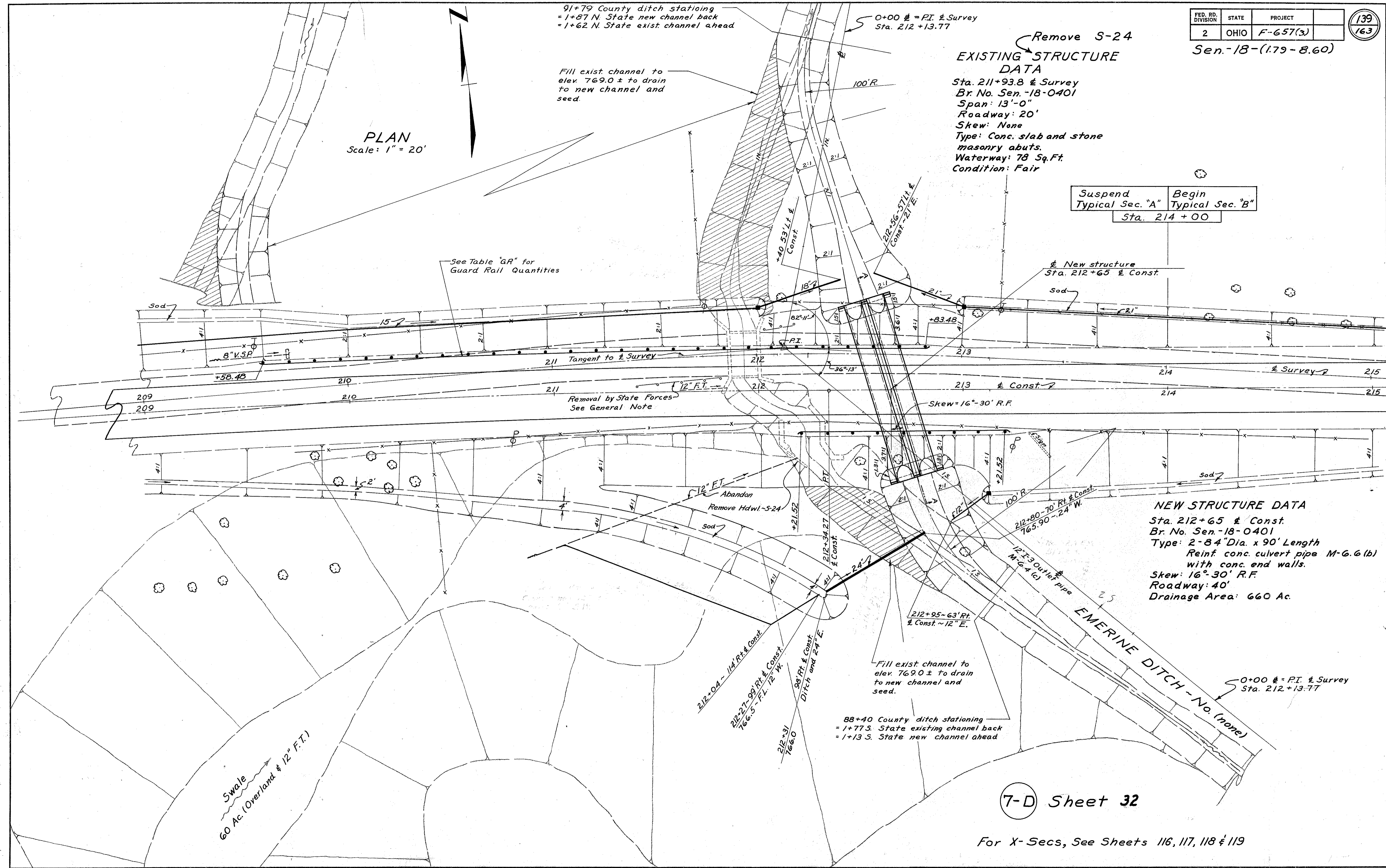
0+00 & = P.I. & Survey Sta. 212+13.77

Swale
60 Ac. (Overland & 12" F.T.)

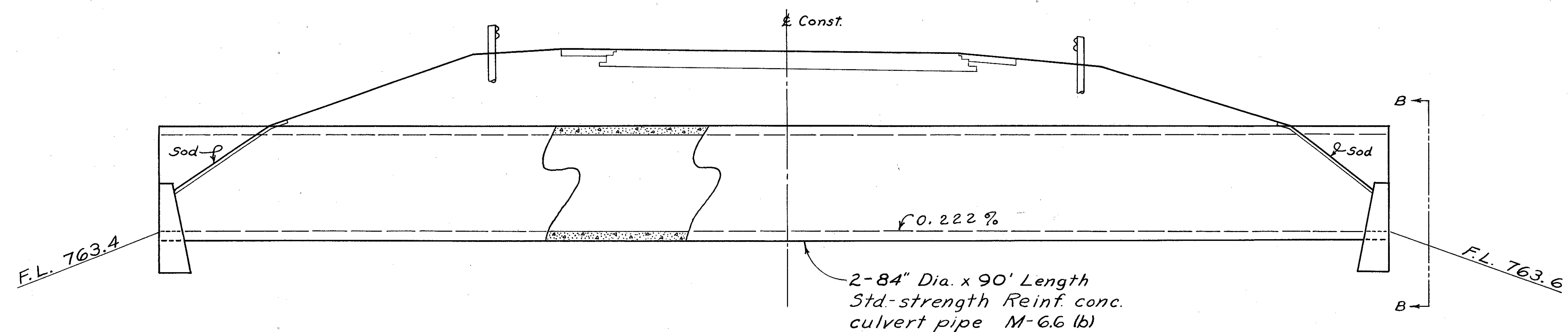
7-D Sheet 32

For X-Secs, See Sheets 116, 117, 118 & 119

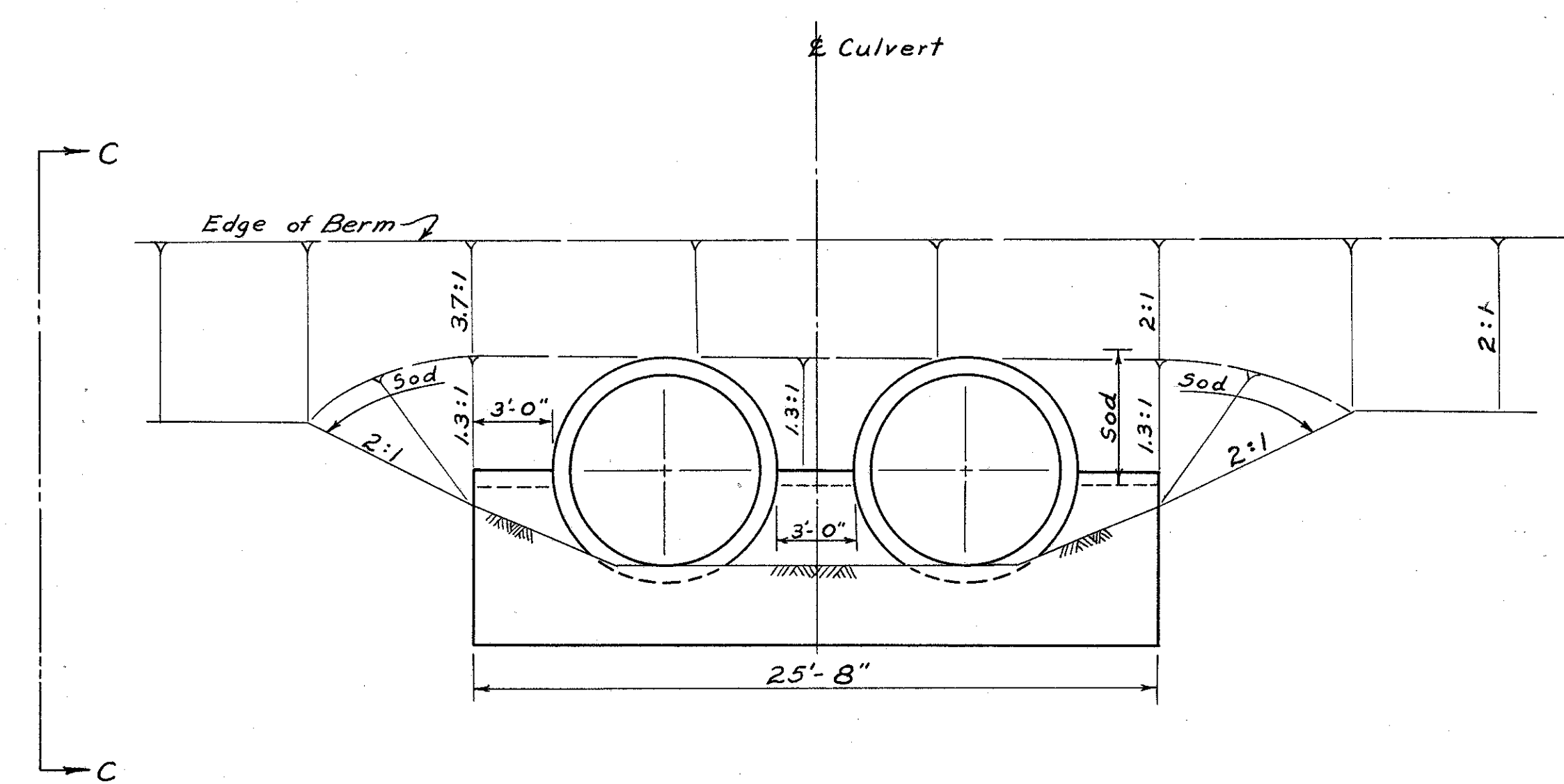
Br. No. Sen-18-0401 Sta. 212+65 & Const.



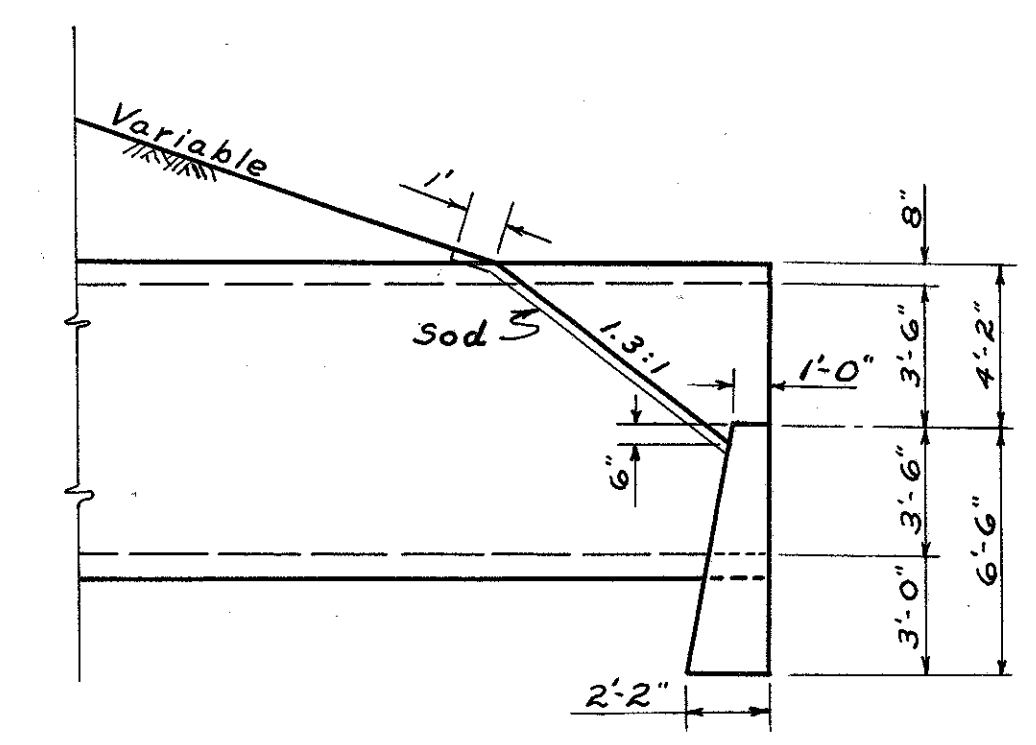
Sen-18-(179-860)



SEC. A-A
Scale: 1" = 5'



SEC. B-B
Scale: 1" = 5'



SEC. C-C
Scale: 1" = 5'

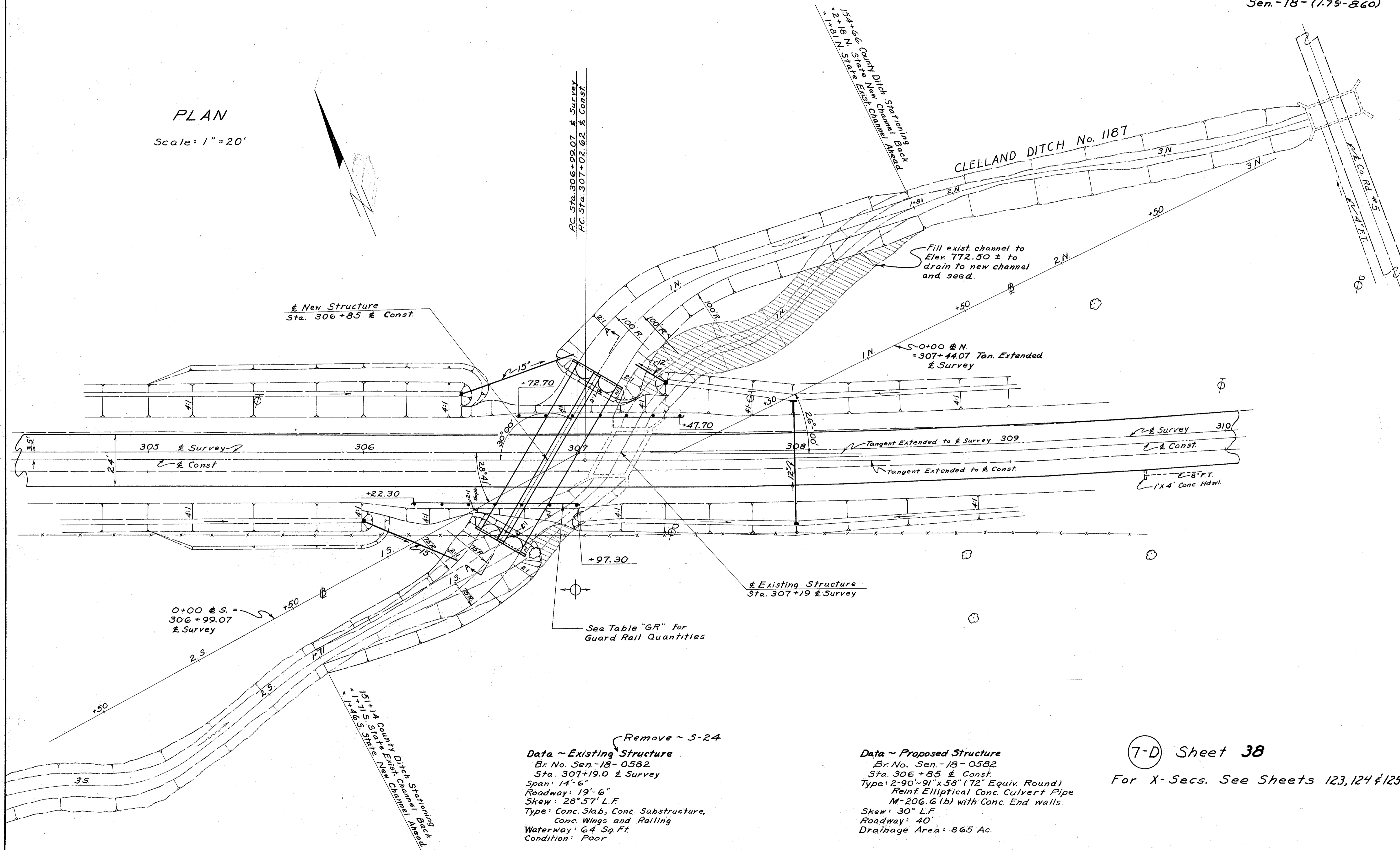
BR. No. SEN-18-0401 ~ CODE 6201

Estimated Quantities			
Item	Quantity	Unit	Description
E-2	695	Cu. Yd.	Excavation for Structures
E-2	Lump	Lump	Cofferdams, Cribbs and Sheeting
E-3	566	Cu. Yd.	Channel Excavation
E-8	43	Sq. Yd.	Removal of Existing Pavement (Rigid Base)
L-9	792	Sq. Yd.	Seeding and Protecting, As per Plan
L-10	60	Sq. Yd.	Sodding
S-1	9.50	Cu. Yd.	Concrete for Structures, Class "E"
S-2A	Lump	Lump	Removal of Existing Structures
S-27	180	Lin. Ft.	8 1/2" Pipe for Roadway Culverts, Std. Strength Reinf. Conc. Culvert Pipe, M-6.6 (b)
	761	Cu. Yd.	Embankment
Removal of Existing Guard Rail by State Forces, See General Notes			
For New Guard Rail See Table "GR"			
For New Pavement See "Computations"			

Quantities Carried to Drainage Summary "D"

PLAN

Scale: 1" = 20'



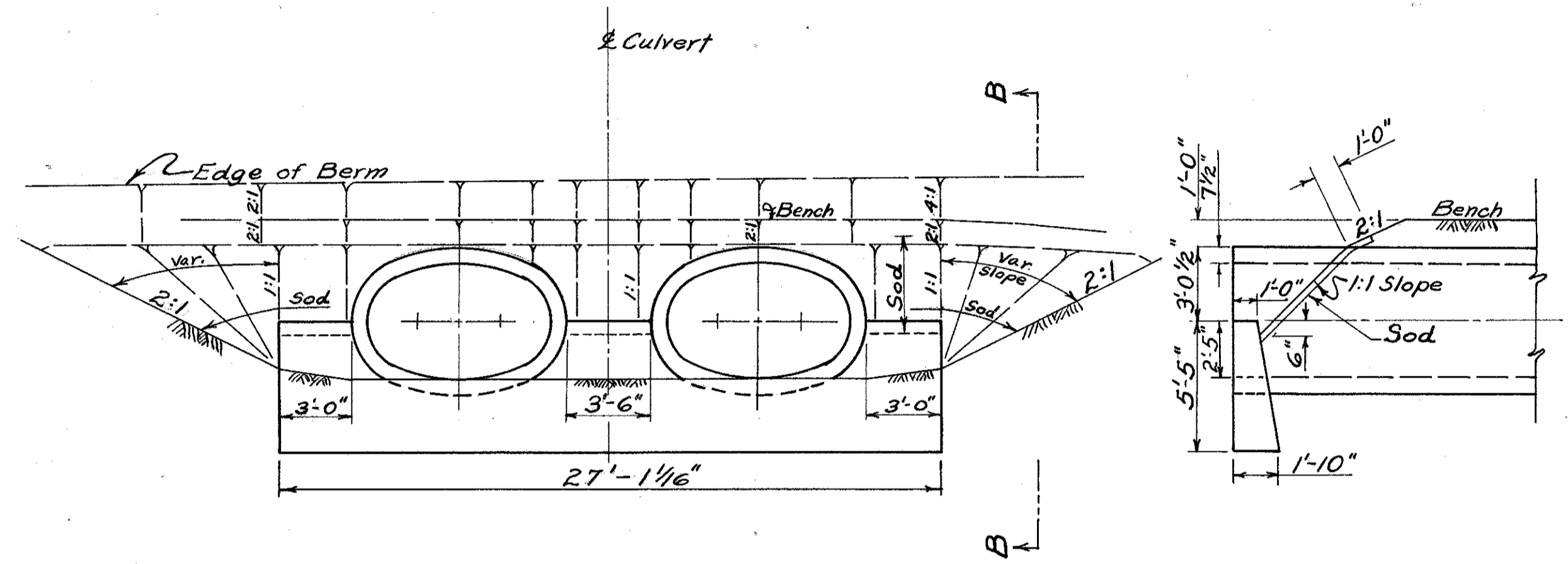
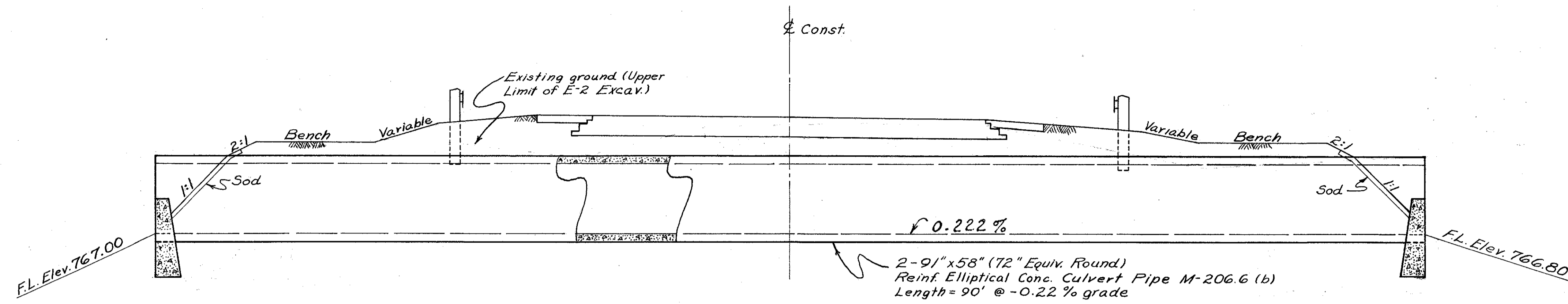
Remove ~ S-24

Data ~ Existing Structure
 Br. No. Sen.-18-0582
 Sta. 307+19.0 ± Survey
 Span: 14'-6"
 Roadway: 19'-6"
 Skew: 28° 57' L.F.
 Type: Conc. Slab, Conc. Substructure,
 Conc. Wings and Railing
 Waterway: 64 Sq. Ft.
 Condition: Poor

Data ~ Proposed Structure
 Br. No. Sen.-18-0582
 Sta. 306+85 ± Const.
 Type: 2-90'-91" x 58" (72" Equiv. Round)
 Reinf. Elliptical Conc. Culvert Pipe
 M-206.6 (b) with Conc. End walls.
 Skew: 30° L.F.
 Roadway: 40'
 Drainage Area: 865 Ac.

7-D Sheet 38

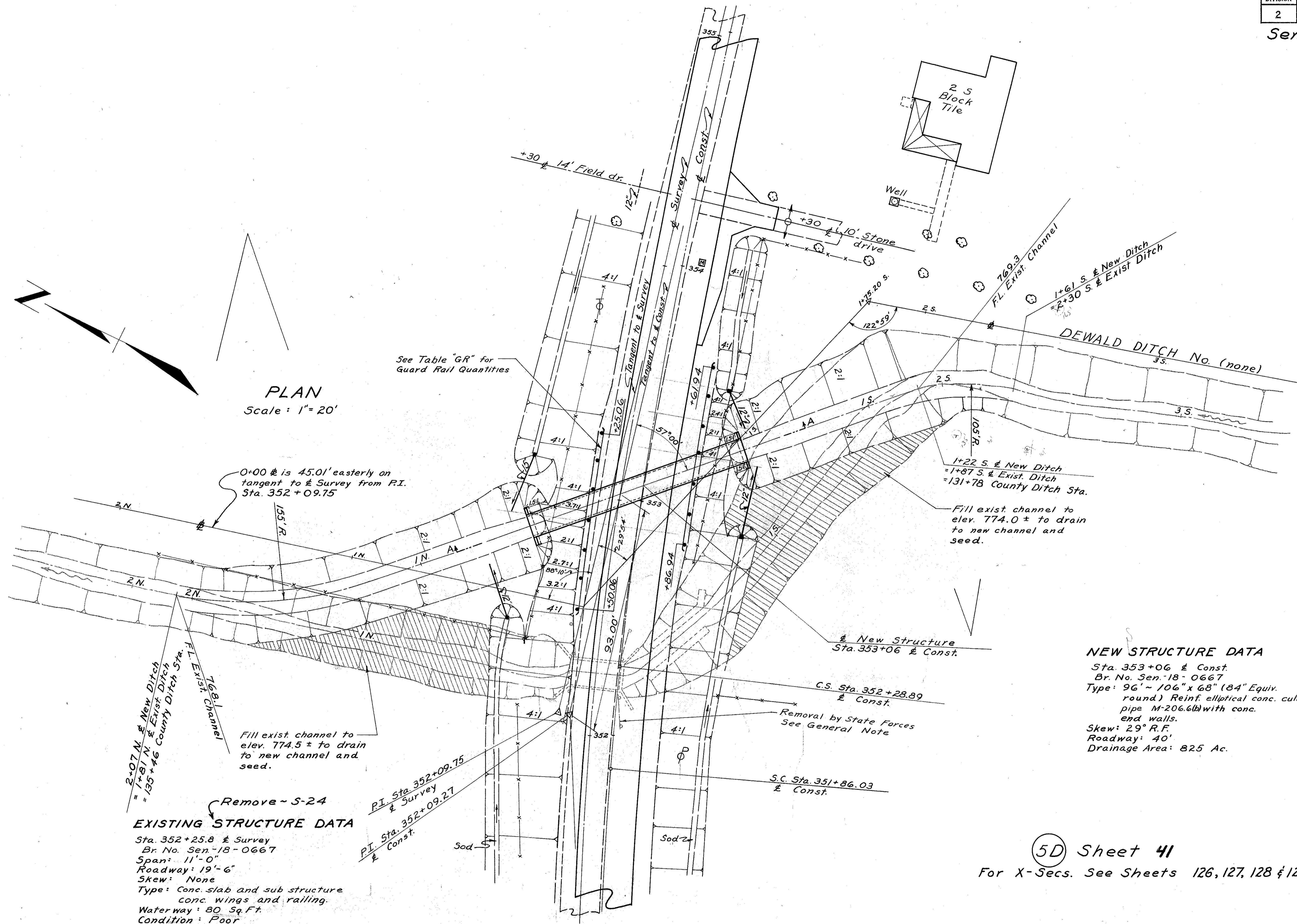
For X-Secs. See Sheets 123, 124 & 125



BR. No. SEN.-18-0582 ~ CODE 6706

Estimated Quantities			
Item	Quantity	Unit	Description
E-2	576	Cu.Yd.	Excavation for Structures
E-2	Lump	Lump	Cofferdams, Crib and Sheeting
E-3	574	Cu.Yd.	Channel Excavation
E-8	49	Sq.Yd.	Removal of Existing Pavement (Rigid Base)
L-9	749	Sq.Yd.	Seeding and Protecting, As per Plan
L-10	53	Sq.Yd.	Sodding
S-1	12.56	Cu.Yd.	Concrete for Structures, Class "E"
S-24	Lump	Lump	Removal of Existing Structures
S-27	180	Lin.Ft.	91" Span by 58" Rise Reinf. Elliptical Conc. Culvert Pipe, M-206.6(b) for Roadway Culverts.
B-70	89	Sq.Yd.	Portland Cement Conc. Base Course, 9" Thick
	539	Cu.Yd.	Embankment
For New Guard Rail, See Table "GR"			
For New Pavement, See "Computations"			

Quantities Carried to Drainage Summary "D"



PLAN
Scale: 1" = 20'

See Table "GR" for Guard Rail Quantities

0+00 is 45.01' easterly on tangent to Survey from P.I. Sta. 352+09.75

1+22 S & New Ditch = 1+87 S & Exist. Ditch = 131+78 County Ditch Sta.

Fill exist. channel to elev. 774.0 ± to drain to new channel and seed.

2+07 N & New Ditch = 1+81 N & Exist. Ditch = 135+46 County Ditch Sta.

Fill exist. channel to elev. 774.5 ± to drain to new channel and seed.

EXISTING STRUCTURE DATA

Sta. 352+25.8 & Survey
Br. No. Sen.-18-0667
Span: 11'-0"
Roadway: 19'-6"
Skew: None
Type: Conc. slab and sub structure conc. wings and railing.
Waterway: 80 Sq.Ft.
Condition: Poor

P.I. Sta. 352+09.75 & Survey
P.I. Sta. 352+09.27 & Const.

New Structure Sta. 353+06 & Const.

C.S. Sta. 352+28.89 & Const.

Removal by State Forces See General Note

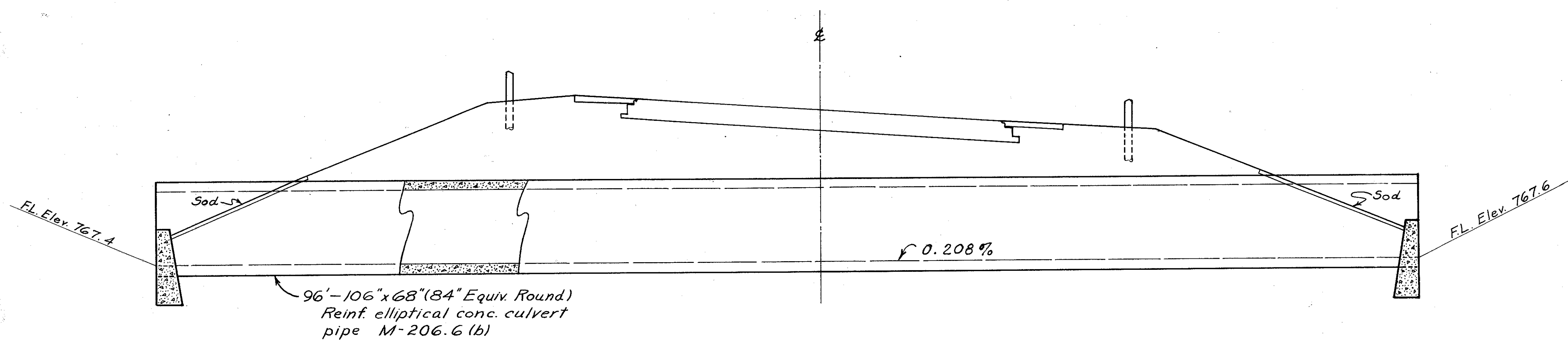
S.C. Sta. 351+86.03 & Const.

NEW STRUCTURE DATA

Sta. 353+06 & Const.
Br. No. Sen.-18-0667
Type: 96" ~ 106" x 68" (84" Equiv. round) Reinf. elliptical conc. culvert pipe M-206.6(b) with conc. end walls.
Skew: 29° R.F.
Roadway: 40'
Drainage Area: 825 Ac.

5D Sheet 41

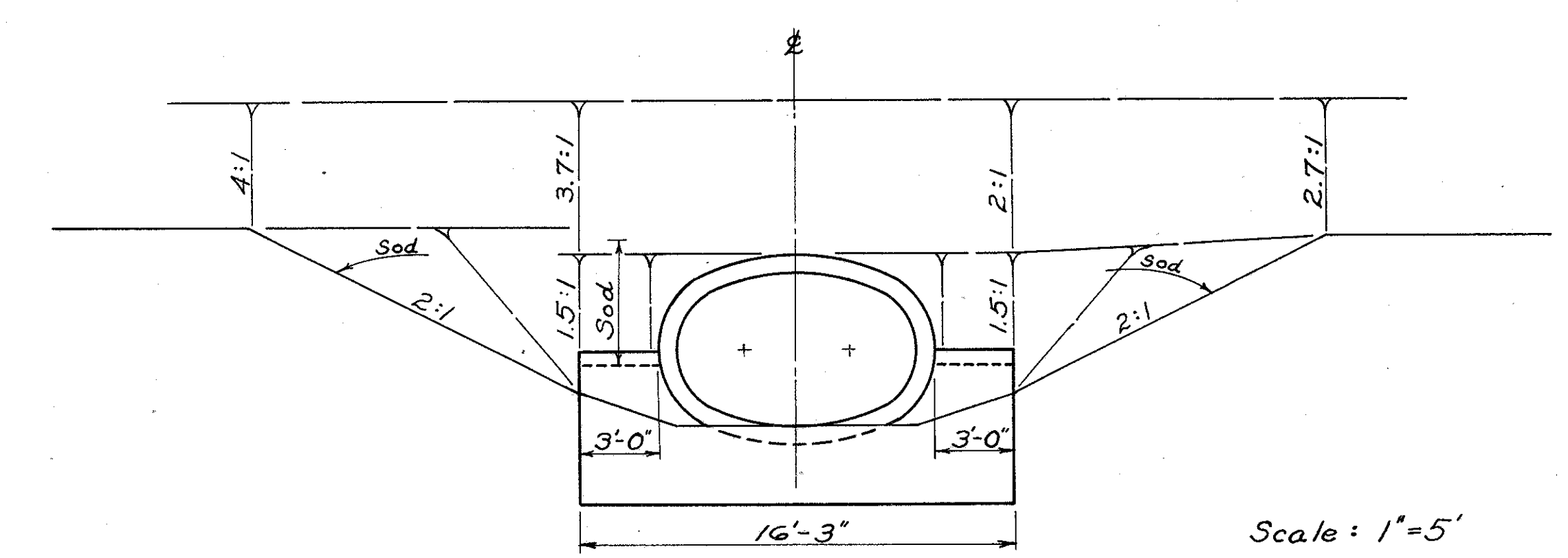
For X-Secs. See Sheets 126, 127, 128 & 129



96'-106" x 68" (84" Equiv. Round)
Reinf. elliptical conc. culvert
pipe M-206.6 (b)

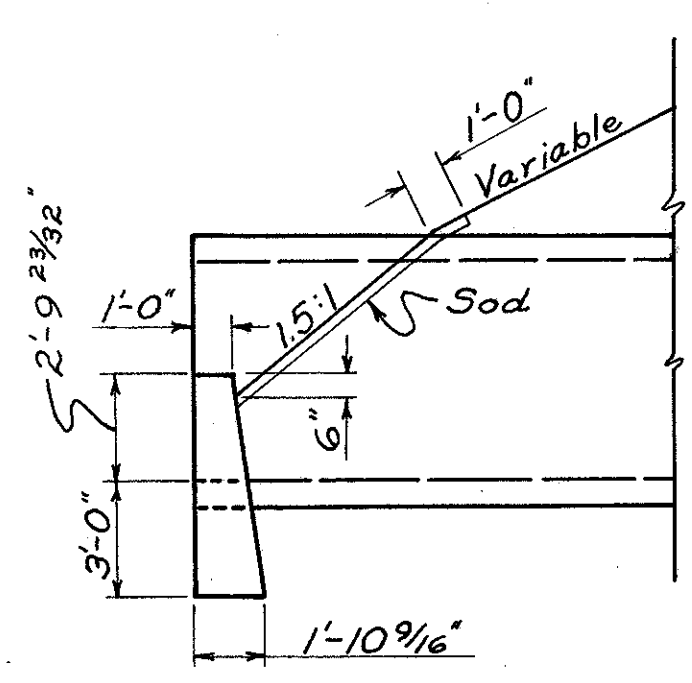
0.208%

Sec. A-A
Scale: 1"=5'



Scale: 1"=5'

End View
(N.W. End)



Side View

BR. No. SEN-18-0667-CODE 6201

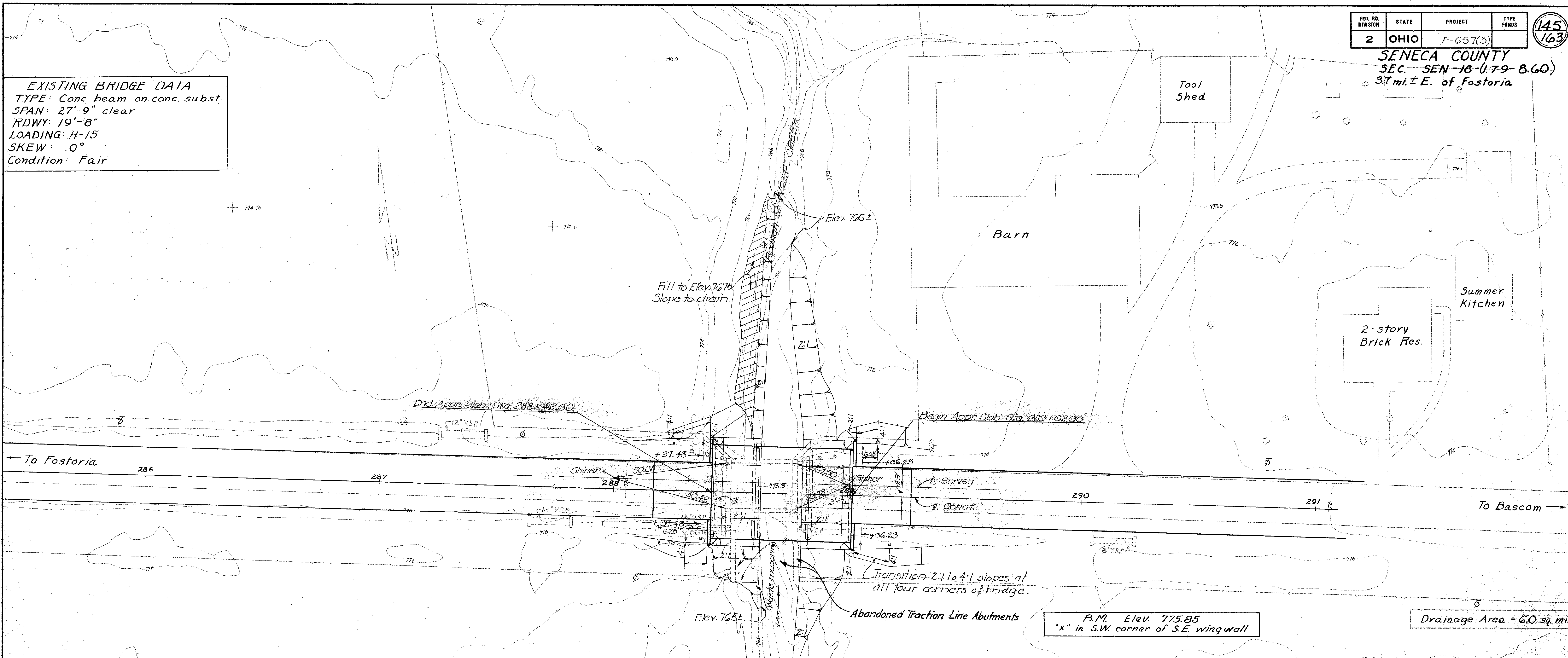
Estimated Quantities			
Item	Quantity	Unit	Description
E-2	395	Cu.Yd.	Excavation for Structures
E-2	Lump	Lump	Cofferdams, Cribs and Sheeting
E-3	92.6	Cu.Yd.	Channel Excavation
E-8	2.5	Sq.Yd.	Removal of Existing Pavement (Rigid Base)
L-9	134.7	Sq.Yd.	Seeding and Protecting, As per Plan
L-10	74	Sq.Yd.	Sodding
S-1	8.20	Cu.Yd.	Concrete for Structures, Class "E"
S-24	Lump	Lump	Removal of Existing Structures
S-27	96	Lin.Ft.	106" Span by 68" Rise Reinf. Elliptical Conc. Culvert Pipe, M-206.6 (b) for Roadway Culverts
	851	Cu.Yd.	Embankment
Removal of Existing Guard Rail by State Forces, See General Notes			
For New Guard Rail, See Table "GR"			
For New Pavement, See "Computations"			

Quantities Carried to Drainage Summary "D"

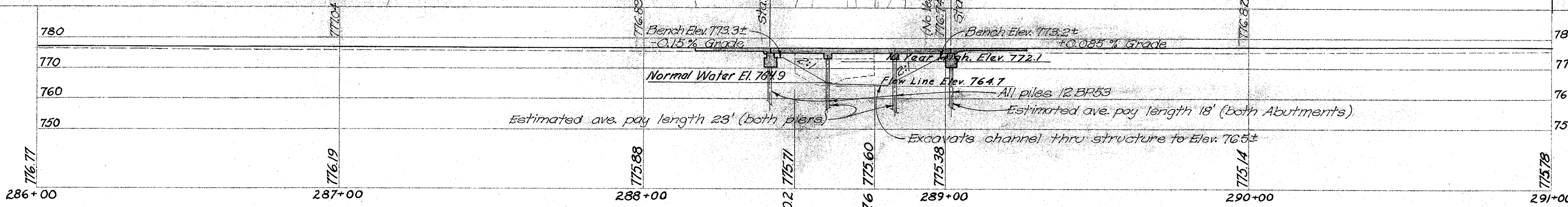
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-657(3)	145/163

SENECA COUNTY
 SEC. SEN-18-(1.79-8.60)
 3.7 mi. ± E. of Fostoria

EXISTING BRIDGE DATA
 TYPE: Conc. beam on conc. subst.
 SPAN: 27'-9" clear
 RDWY: 19'-8"
 LOADING: H-15
 SKEW: 0°
 Condition: Fair



FOUNDATION SOUNDINGS: foundation design and foundation quantities are based on a study of rod soundings and soil-sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division office, but the State does not guarantee the accuracy thereof.

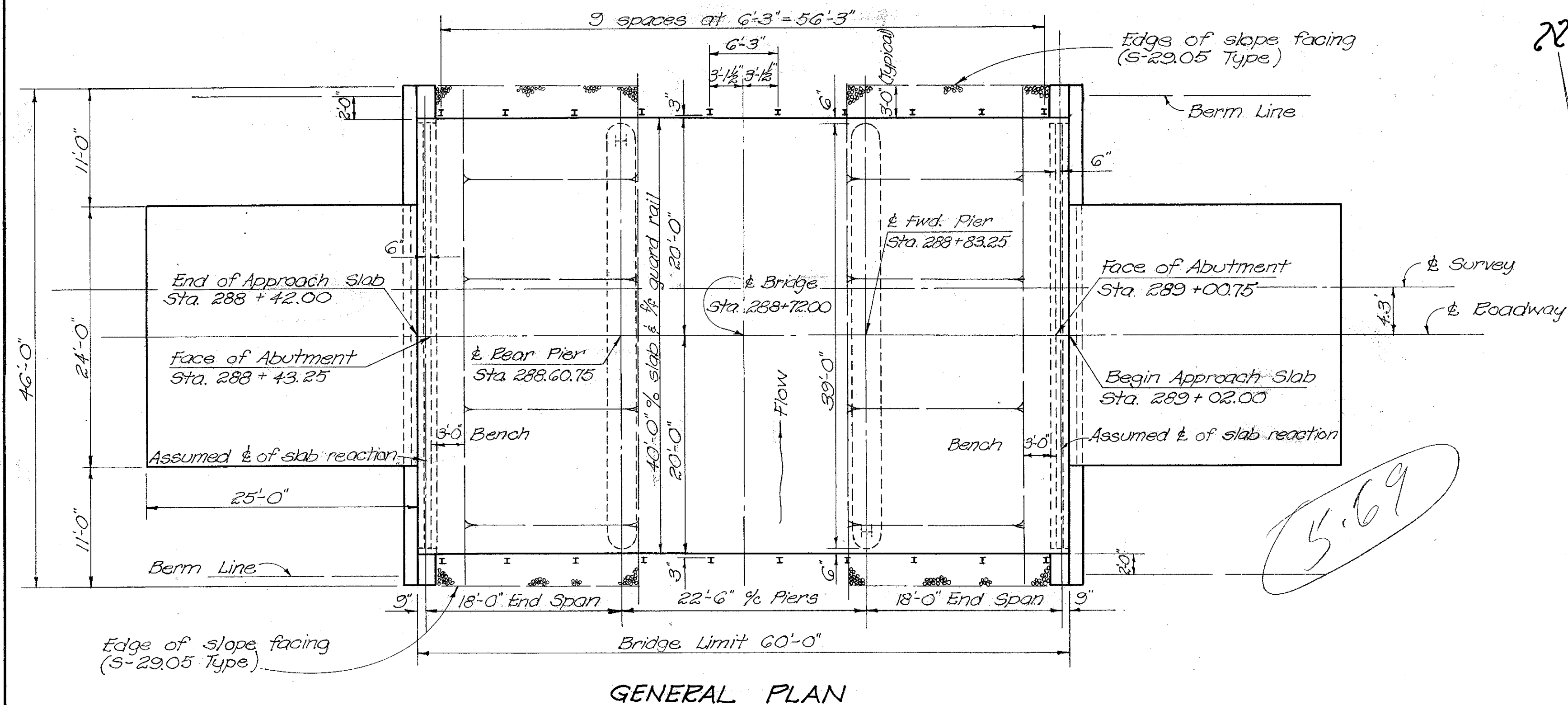


PROPOSED STRUCTURE
 Type: Continuous reinf. concrete slab with capped pile substructure.
 Spans: 18'-22.5'-18' brygs.
 Roadway: 40 ft. face to face of guard rails.
 Load Frequency: CF=400(57).
 Skew: None.
 Wearing Surf.: 1" Monolithic concrete.
 Approach Slabs: A5+54 (25' long).
 Alignment: Tangent.

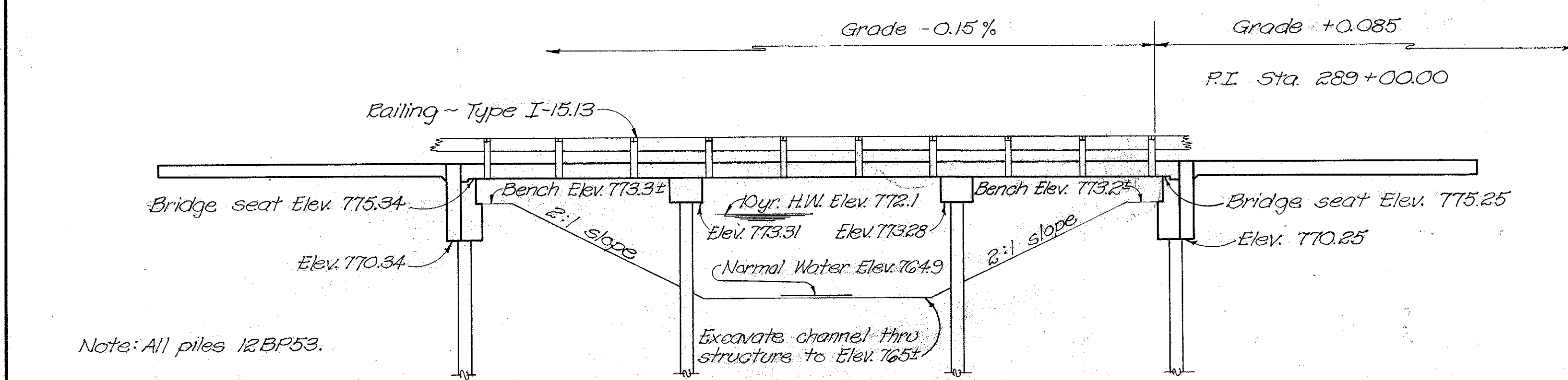
STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES

SITE PLAN
 BRIDGE NO. SEN-18-0546
OVER BRANCH OF WOLF CREEK
 SENECA CO.
 SEC. SEN-18-(1.79-8.60) STA. 288+42.00
 SCALE 1" = 20' 289+02.00

PRESENT TOPOGRAPHY			PROPOSED WORK		
SURVEYED	DRAWN	TRACED	DESIGN	DRAWN	CHECKED/REVIEW'D
(initials)	(initials)	(initials)	(initials)	(initials)	(initials)



GENERAL PLAN



ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CS-1-54 revised 7-16-56, A-1-54 and P-1-54 both revised 12-1-54.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure, including the adjoining abutments of the abandoned traction line, shall be removed. Suitable waste masonry shall be placed where shown on site Plan or as directed by the Engineer.

EXCAVATION QUANTITY for both abutments, in addition to that outlined in Sec. E-2.09, includes the removal of material bounded by the proposed bench, by the front vertical plane described in Sec. E-2.09 and by the finished slope of the cut.

PILES shall be driven to a minimum bearing capacity of 22 tons per pile for the abutments and 26 tons per pile for the piers.

PIER PILE ENCASEMENT as shown on Std. Dwg. P-1-54 is not required. The painting of the piles shall extend to low water elevation or, if the proposed surface of the ground is above low water, it shall extend to at least one foot below the proposed surface of the ground.

POROUS DRAIN SLOPE PROTECTION shall be provided under the structure at both abutments. The porous drain material shall be 12" thick and shall extend from the face of the abutment down to Elev. 765 and transversely to 3 ft. outside the edge of the superstructure.

SLAB THICKNESS is 12 1/2" which includes 1" for monolithic wearing surface.

REINFORCING STEEL LIST					REINFORCING STEEL LIST				
Mark	No.	Length	Weight	Shp.	Bending Diagrams				
Superstructure					Piers				
AS41	102	21'-7"	5,878	S	P401	8	39'-6"	1,359	S
BS41	32	17'-1"	1,460	B	P901	8	36'-6"	993	S
CS41	34	15'-0"	1,362	B	P501	4	36'-6"	152	S
DS41	16	17'-4"	741	S	P502	60	9'-0"	563	B
ES41	17	12'-4"	560	S	P503	8	6'-4"	53	B
FS41	78	16'-2"	3,367	S	P401	56	5'-5"	203	B
GS41	38	8'-6"	863	S	Replacement Bars				
HS41	38	7'-6"	761	S	EE1000	1	7'-2"	-	S
JG01	40	11'-10"	709	S	EE900	1	6'-10"	-	S
KG01	20	11'-4"	340	S	EE800	1	6'-6"	-	S
MG01	67	39'-6"	3,975	S	EE600	1	5'-11"	-	S
NG01	44	39'-6"	2,611	S	EE500	1	5'-7"	-	S
Abutments					EE400	1	5'-5"	-	B
P001	16	20'-11"	1,440	S	REPLACEMENT BARS: IF reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. S-4.02 need not be furnished and replacement bars will not be required.				
P801	16	24'-1"	1,029	S					
P501	16	23'-7"	393	S					
P502	136	6'-7"	934	B					
P503	8	20'-1"	167	S					
P504	24	5'-4"	133	S					
P505	34	7'-11"	281	B					
P506	8	10'-8"	89	S					
P507	16	4'-11"	82	S					
P508	24	6'-8"	167	B					
P509	24	8'-5"	211	B					
P401	56	5'-5"	203	B					

ESTIMATED QUANTITIES						
Item	Total	Unit	Description	Superstr.	Abuts.	Piers
E-2	112	Cu.Yd.	Unclassified excavation		112	
E-3	447	Cu.Yd.	Channel excavation			447
S-1	111	Cu.Yd.	Class "C" concrete, superstructure and pier caps	97		14
S-1	48	Cu.Yd.	Class "E" concrete, abutments		48	
S-4	31,079	Lbs.	Reinforcing steel	22,627	5,129	3,323
S-14	120	Lin.Ft.	Bailing (Type I-1513 with galvanized steel posts and bolts)	120		
S-16	Lump	Sum	First test pile			Lump
S-18	570	Lin.Ft.	Steel piles 12BP53		250	320
S-24	Lump	Sum	Removal of existing structure			Lump
S-29	18	Cu.Yd.	Porous backfill		18	
S-29	72	Cu.Yd.	Slope Facing (S-29.05 Type)			72

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

**GENERAL PLAN, ELEVATION, NOTES
ESTIMATED QUANTITIES, &
REINFORCING STEEL LIST**
BRIDGE No. SEN-18-0546
OVER BR. OF WOLF CREEK
SENECA COUNTY Sta. 288+42.00
Sta. 289+02.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
				BFG	2-24-58	

TOTAL NUMBER OF OWNERS

SUMMARY OF ADDITIONAL R/W REQUIRED

Parcel No.	Owner	Area	Exist. Bldgs.	Sheet No.	Remarks	Parcel No.	Owner	Area	Exist. Bldgs.	Sheet No.	Remarks
1	Don O. Mickey	0.733	No	149 & 150		43	Vincent W. Faber	0.014	No	154	
1WA	"			149	For drive left sta-113+99	44	Fred G. Ruble	0.293	No	154	
2	Hazel Schwab					44A	Robert C. & Eileen M. Walter	0.014	No	154	
3	George F. & Leora M. Miller					44B	Fred G. Ruble	0.034	No	154	
4	Alfred B. & Stella M. Wagner					45	Harold S. & Bess L. Stultz	0.437	No	154	
5	Harold R. & Elnora S. Rayle					46	William H. & Minnie M. Brendle	0.118	No	154-155	
6	Mary E. Dreitzler & Mae L. Basehore					46.5L	"	0.046	No	154	
7	Einar J. & Beverly J. Enwall					47	"	0.286	No	154-155	
8	Mary B. Robins					48	John K. & Julia Barringer	0.122	No	155	
8WA	"			149	For drive left sta-105+67	49	"	0.131	No	155	
9	Arthur E. Kaubisch					49.5A	"	0.026	No	155	
10	Charles W. & Kathryn C. Yost					50	Adelia Dillon	0.667	No	155-156	
10WA	"			149	For drive left sta-111+93	50X	"	0.254	No	155	
11	James W. Hunter & Minnie I. Mathers	0.524	No	149 & 150		51	"	0.272	No	155	
12	Harry S. & Phyllis Dawson	0.068	No	150		51A	"	0.617	No	155-156	
13	William P. & Ruth M. Stephens					51AX	"	0.200	No	155	
14	Harold & Lulu M. Zuern					52	Iva O. Wade	0.396	No	156	
15	Clarence L. & Wilfred H. Kuhn	0.173	Yes	150	1-store building	52X	"	0.145	No	156	
16	George B. & Bernice B. Baker					53	"	0.642	No	156	
17	Ralph C. & Ruth L. Snyder					53X	"	0.356	No	156	
17.5L	"	0.011	No	150		54	"	0.205	No	156	
18	Trustees Loudon Township Cemetery					55	"	0.351	No	156	
19	Richard J. & Norma J. Gabel					55.5	"			156	For sewer left sta-318+69.60
20	Earl P. Peter	0.010	No	151		56	Delmar M. & Geneva I. Searfoss	0.054	No	156 & 157	
20.5L	"	0.020	No	151		57	William & Elizabeth I. House	0.139	No	156 & 157	
21	"	0.037	No	150		58	Arba Kisabeth	0.145	No	157	
22	Herman J. & Franziska M. Cramer	0.040	No	150		59	Paul Smith	0.426	No	157	
23	Earl P. Peter (Fee Owner) Barbara Anne Waltersmyer L.C.	0.031	No	150		60	Arba Kisabeth, L.E.	0.235	No	157	
23A	J. J. Wangler- William L. & Mary K. Stevenson	0.032	No	150		61	Solome Cabbage	0.435	No	157	
24	Earl P. Peter	0.081	No	150 & 151		61X	Solome Cabbage	0.086	No	157	
25	Dale & Evelyn Barringer	0.027	No	151		62	John W. & Isabel Kinn	0.346	No	157-158	
26	Arthur T. & Rita J. Brinkley	0.011	No	151		62WA	"	0.333	No	157	For drive right sta-354+30
26.5L	"	0.023	No	151		62X	"	0.496	No	157-158	
27	Earl P. Peter	0.026	No	151		63	"	0.110	No	157	
28	"	0.023	No	151		63X	"	0.067	No	158	
28.5L	"	0.046	No	151		64	Richard R. Steve & Barbara A. Goshe	0.441	No	158	
29	Glenn William Stahl	0.837	No	151		65	Joseph H. & Julia Hammer	0.284	No	158	
30	"	0.721	No	151		66	Wilford G. & Mary E. Esbert - L.E.	0.284	No	158	
30.5	"			151	For sewer right sta-150+02.22	67	Wilfred G. & Mary E. Bangert - L.E.	0.544	No	158	For drive left sta-381+88
31	Ray M. & Sue Kinsey	0.266	No	151 & 152		68	"	2.504	Yes	158-159	1-Barn, 1-Garage, 1-Shop
32	"	0.106	No	151 & 152		68X	"	0.631	No	158-159	
33	Richard W. Cover	0.435	No	152		69	James R. & Caroline C. Miller	0.060	No	159	
33WA1	"			152	For drive left sta-183+56	70	George C. & Loretta Kuzma	0.253	No	159	
33WA2	"			152	For drive left sta-184+27	71	Maurice & Sylvia Creeger	0.041	No	159	
34	"	0.304	No	152		72	Joseph M. Reinhart	0.040	No	159	
35	Garland Hyde Wolfe	0.153	No	152		73	Catherine G. Frankart	0.033	No	159	
36	Anna B. Morcher	0.369	No	152		73A	Catherine G. Frankart	0.011	No	159	
37	"	0.532	No	152		74	Eugenia A. Brickner	0.007	No	159	
38	Norma I. Rainey et al.	0.841	No	152 & 153		75	Robert & Pauline Hohman				
38X	"	0.080	No	153		76	William & Gertrude Dewald				
38.5L	"	0.036	No	152		77	Delbert & Marjorie Johnson				
39	Raymond D. & Ruth M. Souder	0.628	No	152 & 153		78	George S. Rehring - Bishop				
39X	"	0.258	No	153		79	Arthur J. Thallman				
40	Charles A. Cover & Mary E. Wright	0.697	No	153		80	Arthur & Louise Hoover				
41	June Lael Grossman Livoti	1.293	No	153		81	Arthur J. Hoover				
42	Emma Hartsock	0.948	No	153-154		82	Mary A. Walter				
						83	Dorothy V. Close et al				
						84	James R. Miller				
						85	Charles R. & Caroline A. Fruth				

SUMMARY OF ADDITIONAL R/W REQUIRED

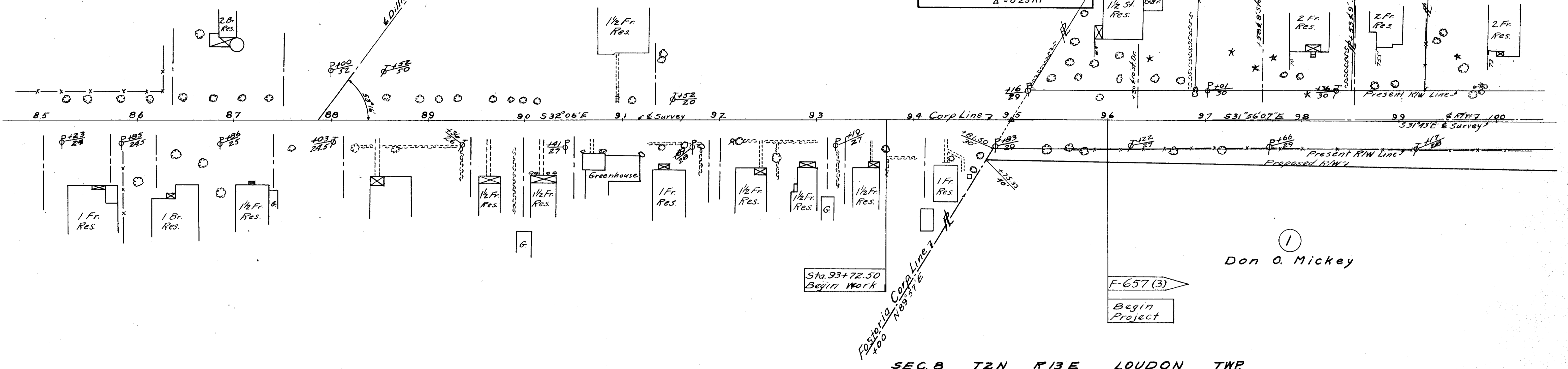
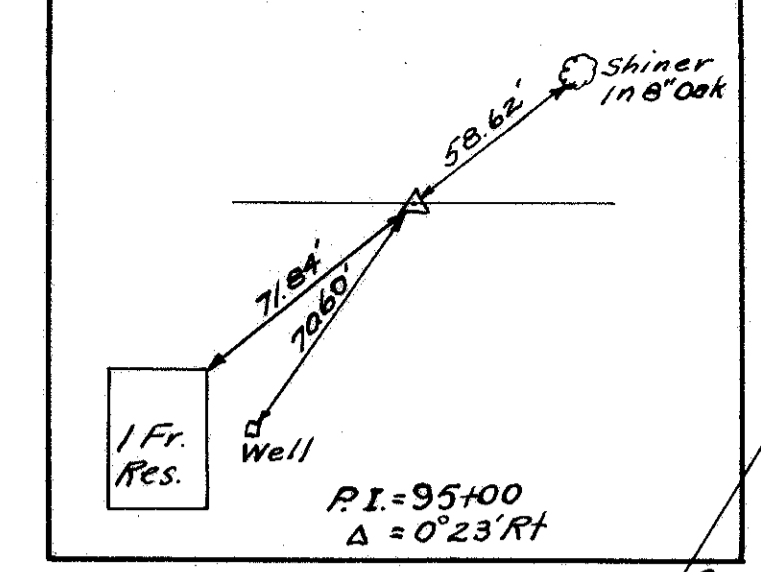
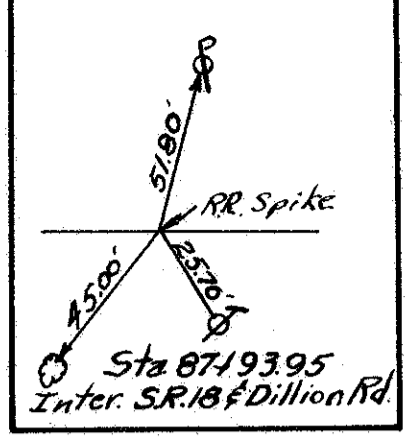
Parcel No.	Owner	Area	Exist Bldgs	Sheet No.	Remarks	Parcel No.	Owner	Area	Exist Bldgs	Sheet No.	Remarks
86	Lulu Wertz					140	Fannie Fern Reinbolt				
87	Thelma K. Brickner					141	Trustees Evangelical United Brethern Church				
88	Elwood L & Lulu D. Wingart					142	Cecil D. & Marguerite A. King				
89	Dora M. Brickner					143	Caroline C. Miller				
90	Ellis D. & Helen O. Sperow					144	Gem Manufacturing Corporation				
91	Emma E. Feindel, et al					145	Ethel V. Hale				
92	Lulu Wertz					146	Herschel L. Puffenberger				
93	Mary B. Brickner					147	Gem Manufacturing Corporation				
94	Emma E. Feindel, et al					148	Wesley B. Jr. & Maybelle G. Shumway				
95	Clarence A. & Ruth M. Shumaker					149	Janet K. Funk Dutt				
96	Howard N. Kime					150	Cleophus O. & Rita M. Brickner				
97	Lulu Glick					151	Wayne D. Funk				
98	Clarence E. Park					152	The Gem Manufacturing Corporation				
99	Otto L. & Ruth Omlor					153	The Gem Manufacturing Corporation				
100	Trustees, Sandridge Cemetery Association					154	Virgil V. & Myrtle Haugh				
101	Arthur D. Grear					155	" " "	0.106	No	161	
102	Jacob J. & Evelyn A. Schultz					155NA	" " "			161	For drive right Sta-449+35
103	Ida I. Warns					156	C. C. & Norma A. McKay				
104	Catherine C. Dewald					157	Kenneth O. & Bernice M. Sperow				
105	Lauretta E. Kimmert					158	Mary B. Meyers	0.031	No	161	
106	Helen Louise McCormick					159	" " "	0.204	No	161	
107	Fannie Fern Reinbolt					159S	" " "			161	For sewer right Sta-457+10.05
108	Ida I. Warns					159A	" " "				
109	Charles H. Hubach et al.					160	Cecil Glick	0.082	No	161	
110	Lester B. Summer					161	Joseph H. & Julia Hammer	0.535	No	161	
111	Allon N. Funk					162	" " "	0.579	No	161	
112	The Bascom Farmers Mutual Telephone Co.					162S	" " "			163	For sewer 206.09 Rt. Sta-459+11.80
113	Bascom Community Fire Department Ass'n					162AS	Edson E. & Bertha Meisner			163	For sewer 464.36 Rt. Sta-460+28.52
114	Trustees Union Church					163	Howard J. Miller & Augusta C. Snyder	0.623	No	161 & 162	
115	Mary Clouse et al					164	" " "	0.479	No	161 & 162	
116	" " "					165	Louis A. Werling et al	0.841	No	162	
117	Laura Thrash					166	The France Co.				
118	Linus W. Reinhart					166X	" " "	0.300	No	162	
119	Walter J. & Mary L. Kelbey					166S	" " "			163	For sewer 45 Rt. Sta-507+45
120	Linus W. Reinhart										
121	George A. & Alta M. Rainey										
122	Gertrude A. Fruth										
123	Paul A & Josephine C. Hoover										
124	Clara E. Ley et al.										
125	Cletus A. & Dorothy M. Creeger										
126	Alvin & Norma Lang										
127	Robert & Rose M. Frankart										
128	Wayne D. Funk										
129	Robert S. Frankart										
130	Hildred Adams										
131	Mary B. Meyers										
132	Hazel F. Miller										
133	James T. & Catherine C. Thom										
134	Harlin L. Walter										
135	Ethel Green Feasel et al										
136	James Russel Miller										
137	James R. & Dora V. Miller										
138	Paul J. Fox										
139	Charles M. & Martha B. Comer										

SEC. 8 T2N R13E

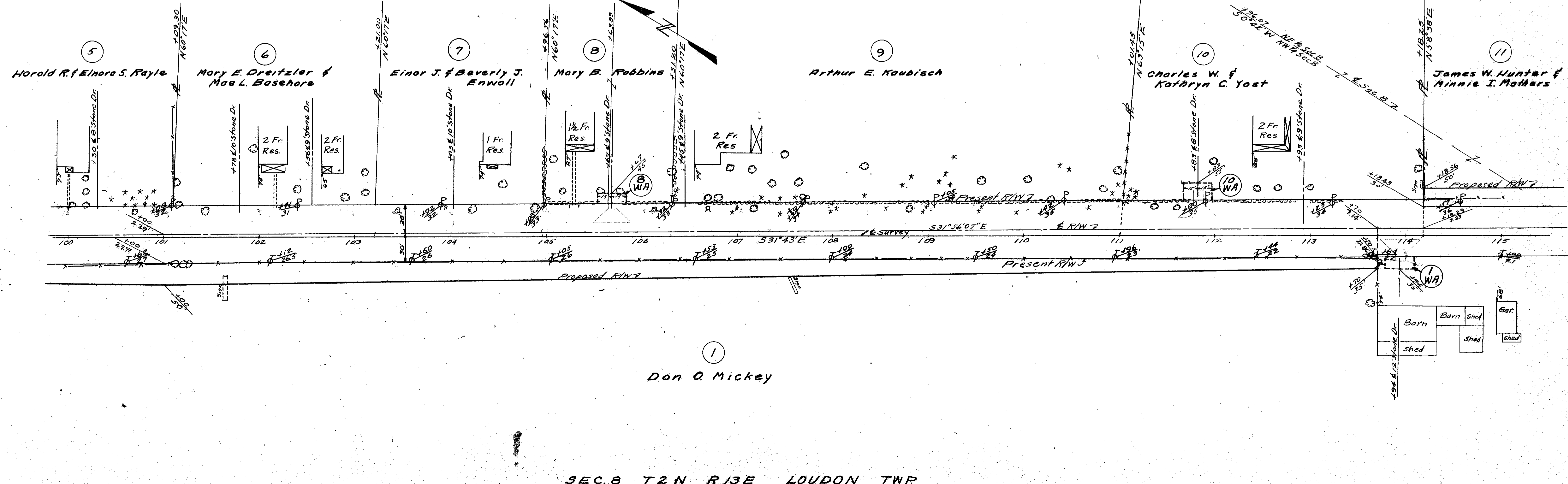
LOUDON TWP

FED. RD. DIVISION	STATE	PROJECT	149 163
2	OHIO	F-657(3)	

SEN 18-(1.79-8.60)



SEC. 8 T2N R13E LOUDON TWP



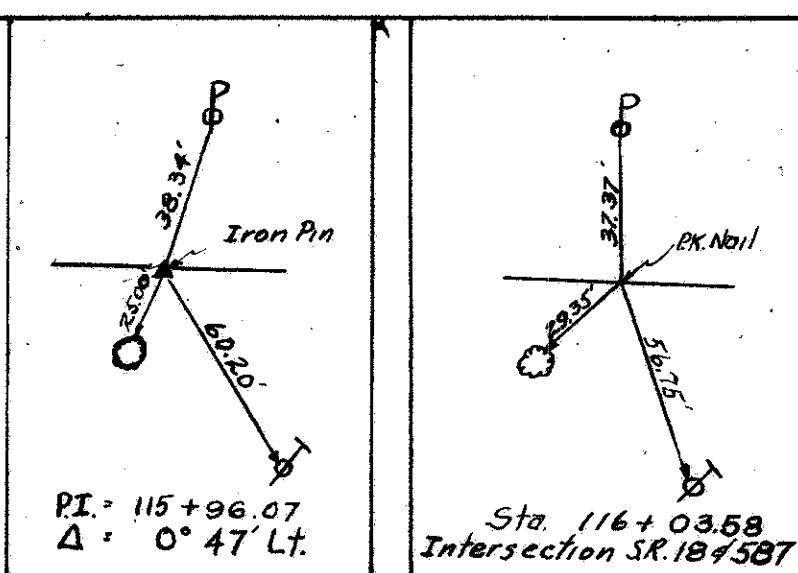
SEC. 8 T2N R13E LOUDON TWP

SEC. 8 T2N R13E LOUDON TWP

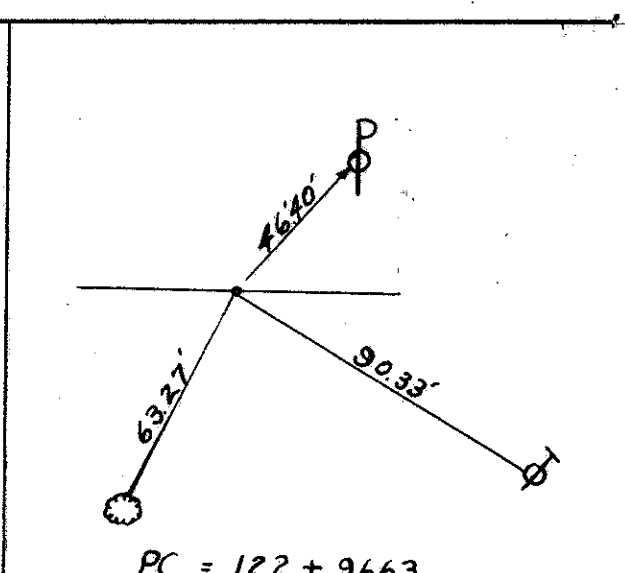
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-657(3)	

SEN. 18-(1.79-8.60)

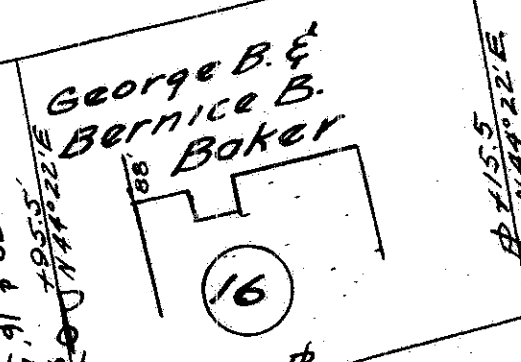
150
163



James W. Hunter & Minnie I. Mathers



15
Clarence L. & Wilford H. Kuhn



George B. & Bernice B. Baker

Harold & Lulu M. Zuern

William P. & Ruth M. Stephens

Harry S. & Phyllis Dowson

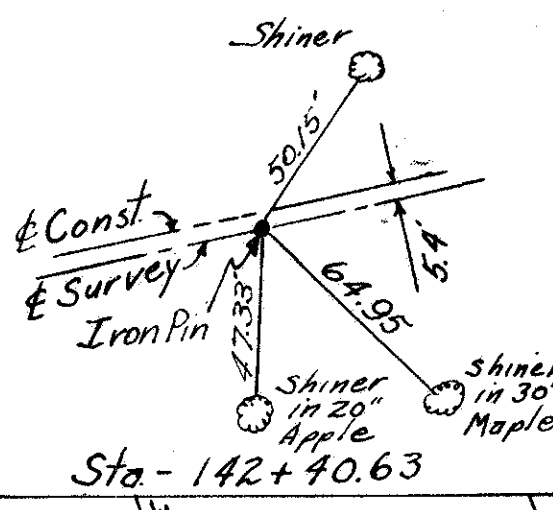
Don O. Mickey

SEC. 8 T2N R13E LOUDON TWP

SEC. 17 T2N R13E LOUDON TWP

& Survey Curve Data
 P.I. = 133+31.43
 Δ = 48° 36'
 D = 2° 30'
 L = 1944.00'
 T = 1034.80'
 R = 2291.83'
 PC = 122+96.63
 PT = 142+40.63
 E = 222.78'

Clarence L. & Wilford H. Kuhn



Earl P. Peter

Herman J. & Franziska M. Cramer

William L. & Mary K. Stevenson

Earl P. Peter

Earl P. Peter

Ralph C. & Ruth L. Snyder

Richard J. & Norma J. Gobel

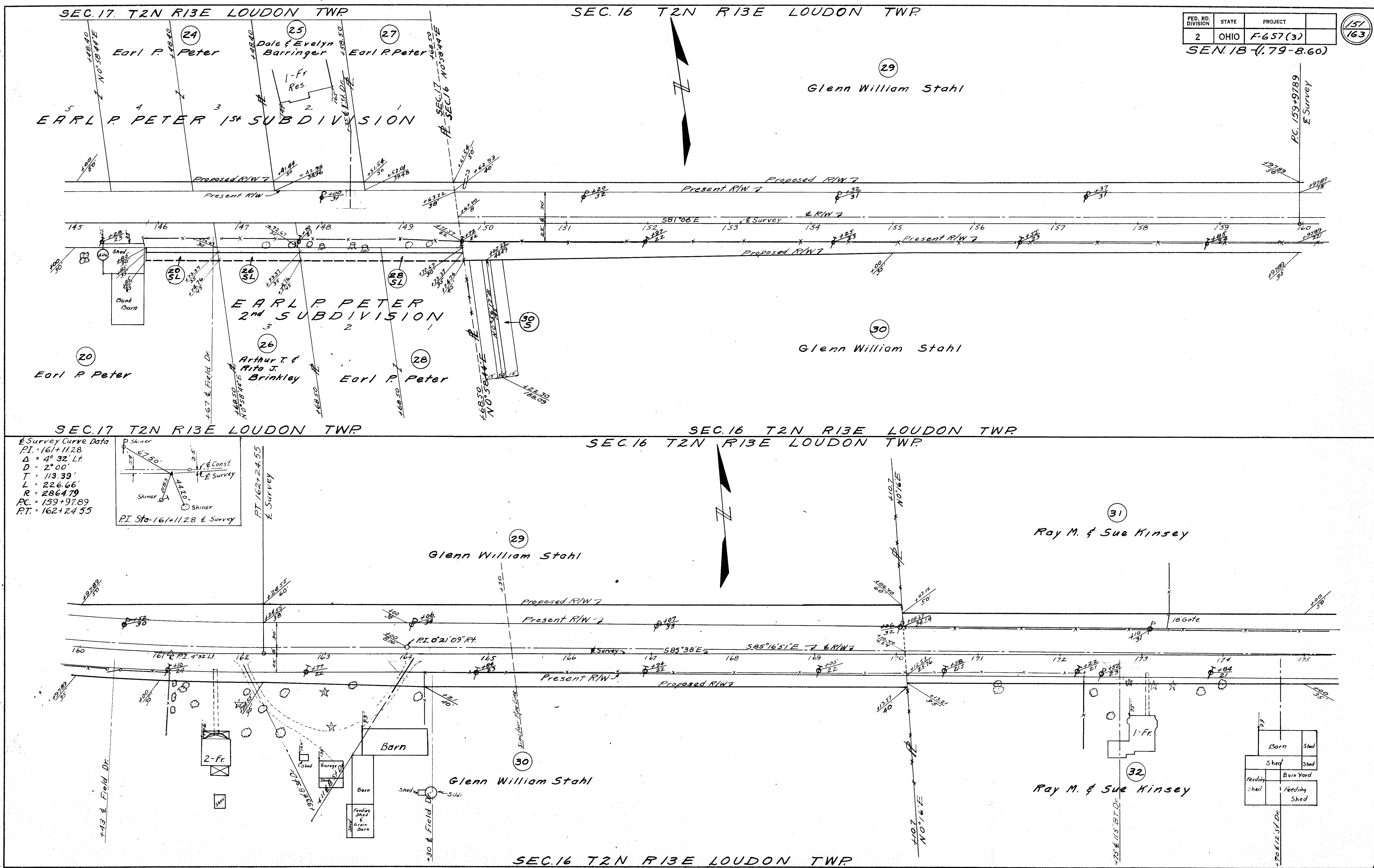
Harold & Lulu M. Zuern

Earl P. Peter

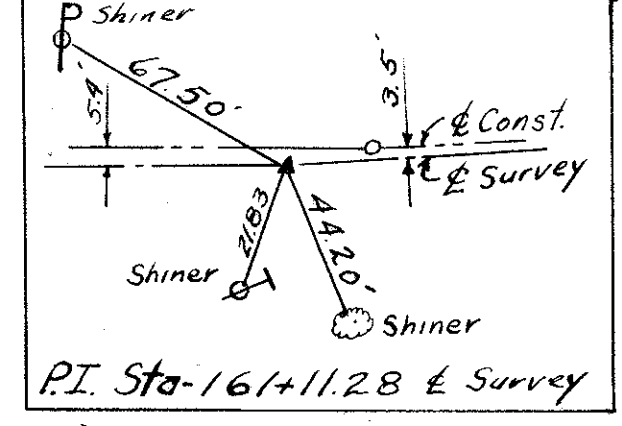
Trustees - Loudon Twp. Cemetery

SEC. 17 T2N R13E LOUDON TWP

R/W 4

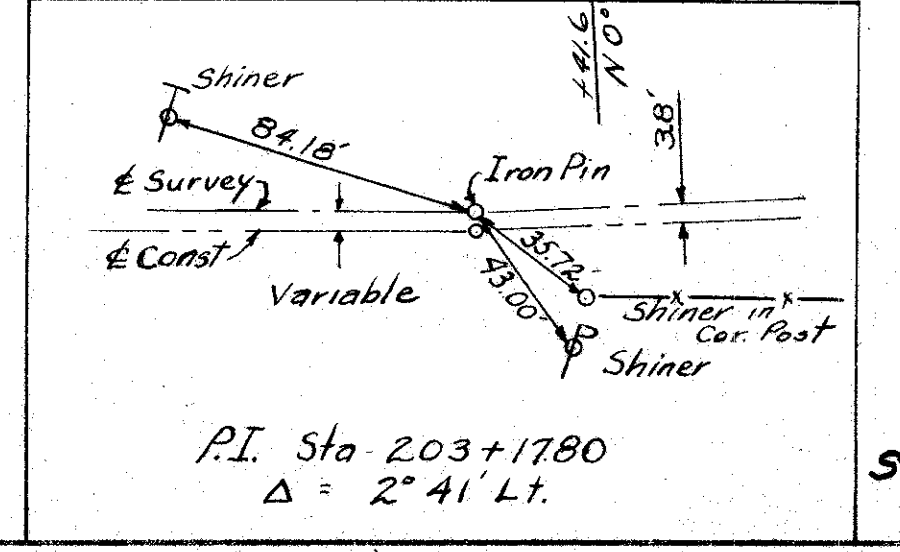
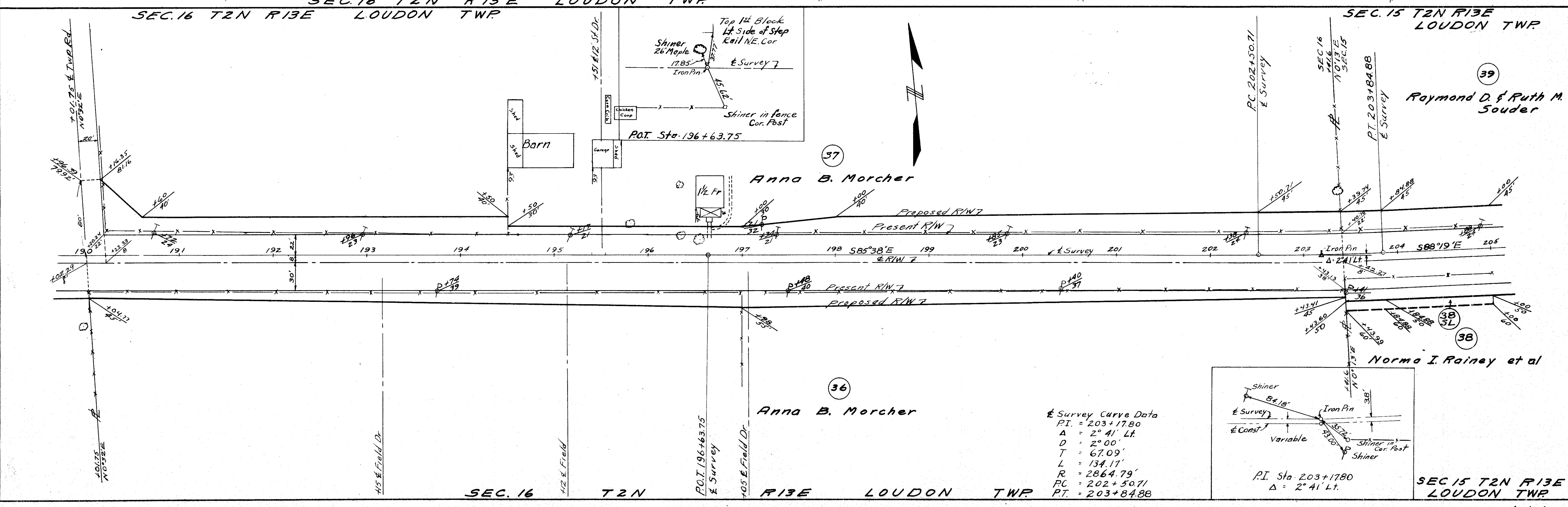
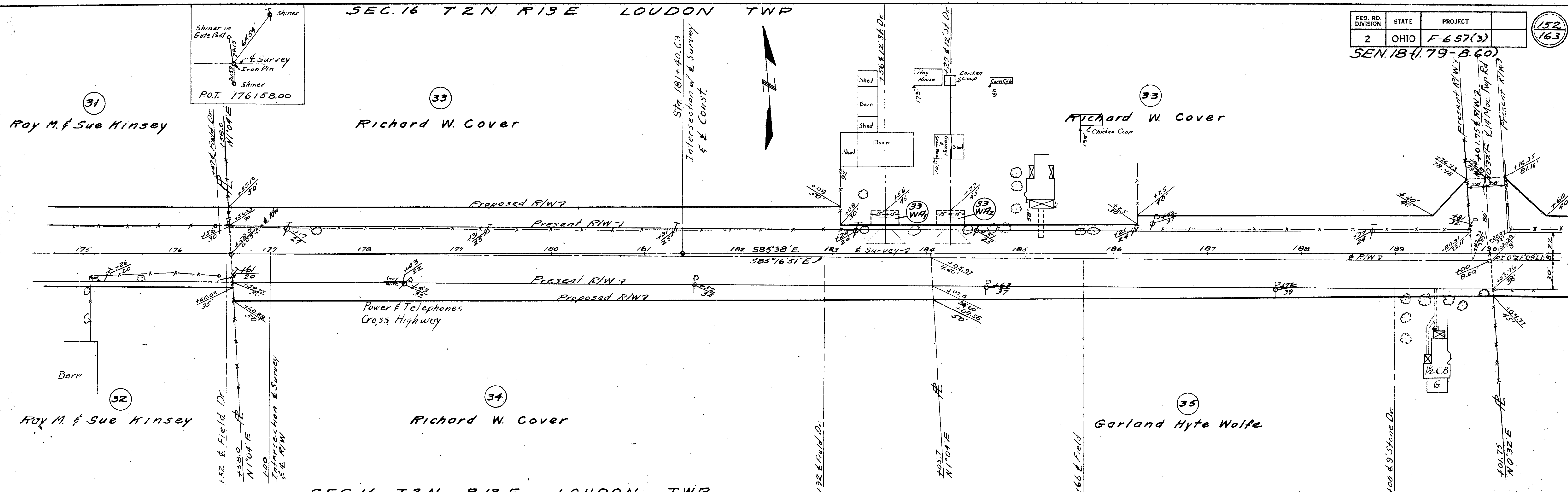


Survey Curve Data
P.I. = 161+11.28
Δ = 4° 32' Lt
D = 2° 00'
T = 113.39'
L = 226.66'
R = 2864.79'
PC = 159+97.89
PT = 162+24.55



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-657(3)	152 163

SEN. 18(1.79-8.60)



Survey Curve Data
 P.I. = 203+17.80
 Δ = 2° 41' Lt.
 D = 2° 00'
 T = 67.09'
 L = 134.17'
 R = 2864.79'
 PC = 202+50.71
 PT = 203+84.88

R/W 6

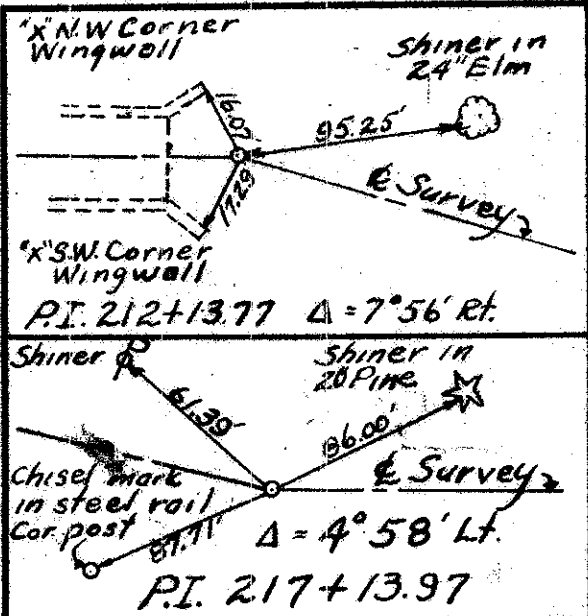
SEC. 15 T2N R13E LOUDON TWP

& Survey Curve Data
 P.I. = 212 + 13.77
 Δ = 7° 56' Rt.
 D = 4° 00'
 T = 99.32'
 L = 198.33'
 R = 1432.40
 P.C. = 211 + 14.45
 P.T. = 213 + 12.78

& Survey Curve Data
 P.I. = 217 + 13.97
 Δ = 4° 58' Lt.
 D = 2° 00'
 T = 124.24'
 L = 248.33'
 R = 2864.79
 P.C. = 215 + 89.73
 P.T. = 218 + 38.06

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	F-657(3)

SEN. 18 (1.79) - 8.60



Raymond D. & Ruth M. Souder

June Loel Grossman Livoti

Norma I. Rainey et al

Charles A. Cover & Mary E. Wright

SEC. 15 T2N R13E LOUDON TWP

SEC. 15 T2N R13E LOUDON TWP

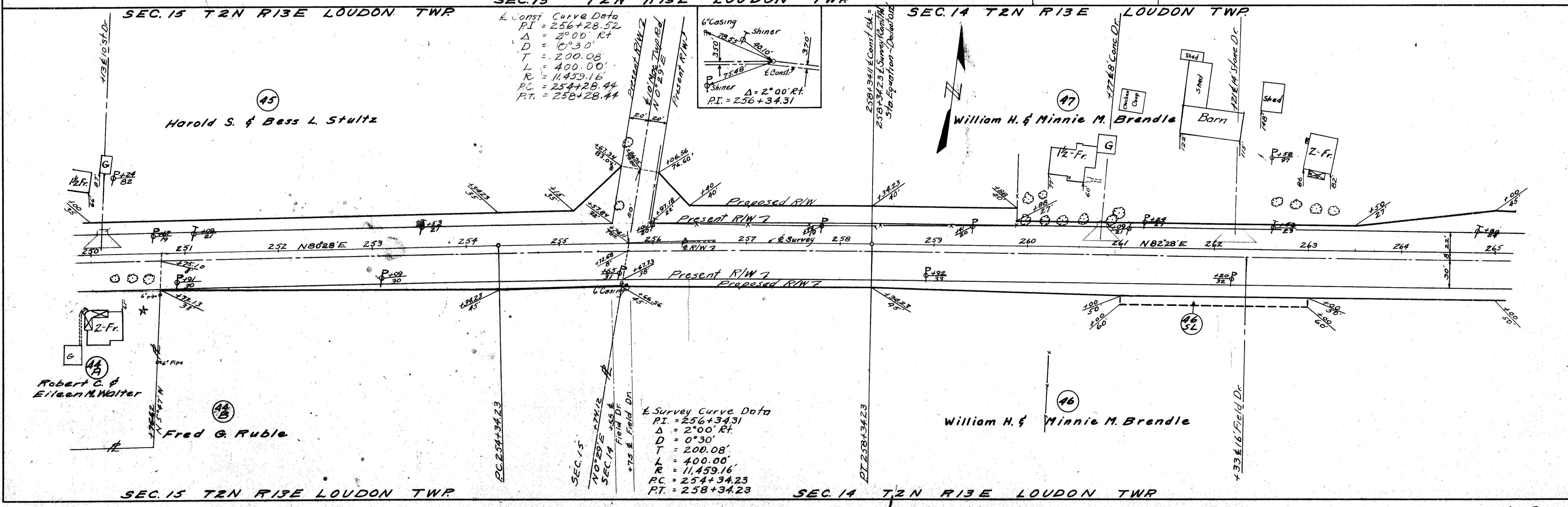
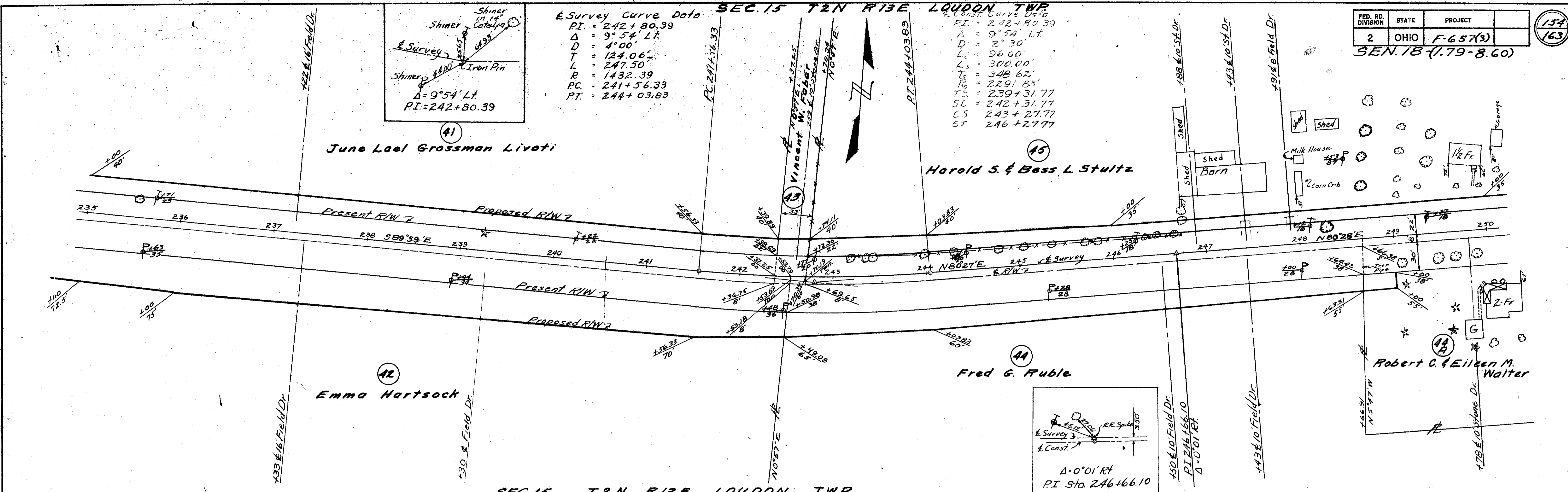
& Survey Curve Data
 P.I. = 226 + 77.92
 Δ = 4° 18' Lt.
 D = 2° 00'
 T = 107.55'
 L = 215.00'
 R = 2864.79
 P.C. = 225 + 70.37
 P.T. = 227 + 85.37

& Const Curve Data
 P.I. = 225 + 10.18
 Δ = 6° 00' Lt.
 D = 1° 00'
 T = 300.28'
 L = 600.00'
 R = 222 + 09.30
 P.T. = 228 + 09.90

Δ = 4° 18' Lt.
 P.I. = 226 + 77.92

SEC. 15 T2N R13E LOUDON TWP

Emma Hartsock



SEC. 14 T2N R13E LOUDON TWP

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-657(3)	

SEN. 18 (1.79-8.60)

153
163

William H. & Minnie M. Brendle

John K. & Julia Borringer

Adelia Dillon

William H. & Minnie M. Brendle

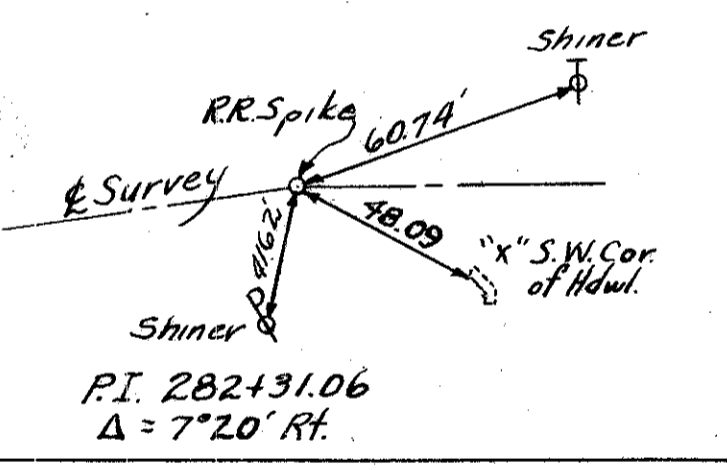
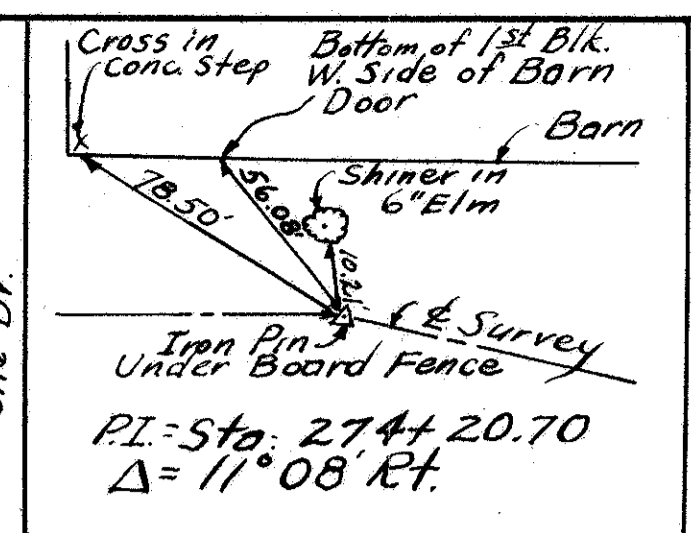
John K. & Julia Borringer

Adelia Dillon

SEC. 14 T2N R13E LOUDON TWP

SEC. 14 T2N R13E LOUDON TWP

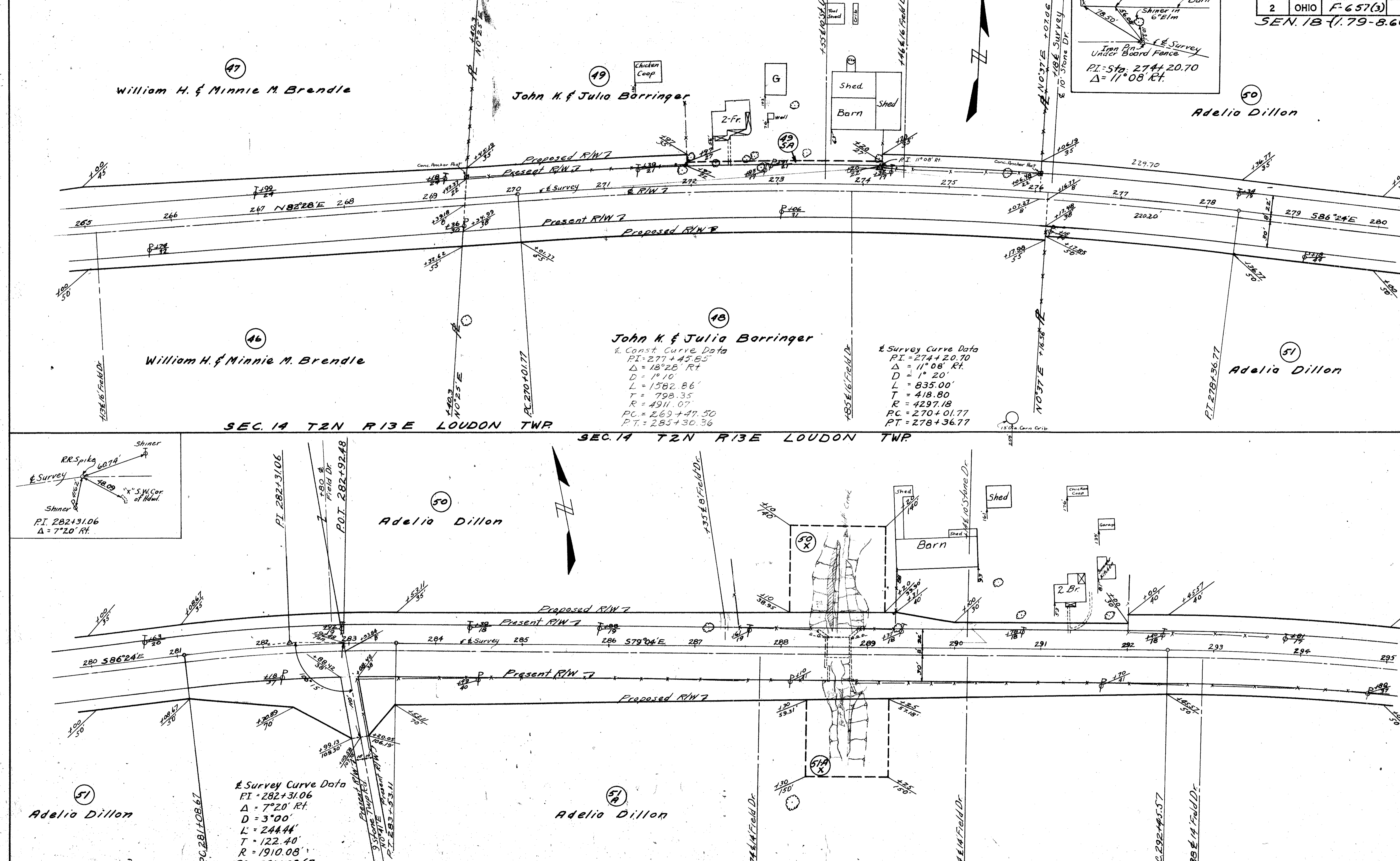
SEC. 14 T2N R13E LOUDON TWP



Survey Curve Data
 PI = 277+45.65
 Δ = 18°28' Rt.
 D = 1°10'
 L = 1582.86'
 T = 798.35
 R = 4911.07
 PC = 269+47.50
 PT = 285+30.36

Survey Curve Data
 PI = 274+20.70
 Δ = 11°08' Rt.
 D = 1°20'
 L = 835.00'
 T = 418.80
 R = 4297.18
 PC = 270+01.77
 PT = 278+36.77

Survey Curve Data
 PI = 282+31.06
 Δ = 7°20' Rt.
 D = 3°00'
 L = 244.44'
 T = 122.40'
 R = 1910.08'
 PC = 281+08.67
 PT = 283+53.11

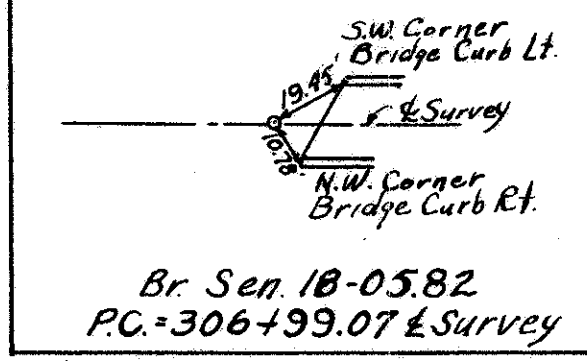


SEC. 14 T2N R13E LOUDON TWP.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-657(3)	

SEN. 18 (1.79-8.60)

156
163

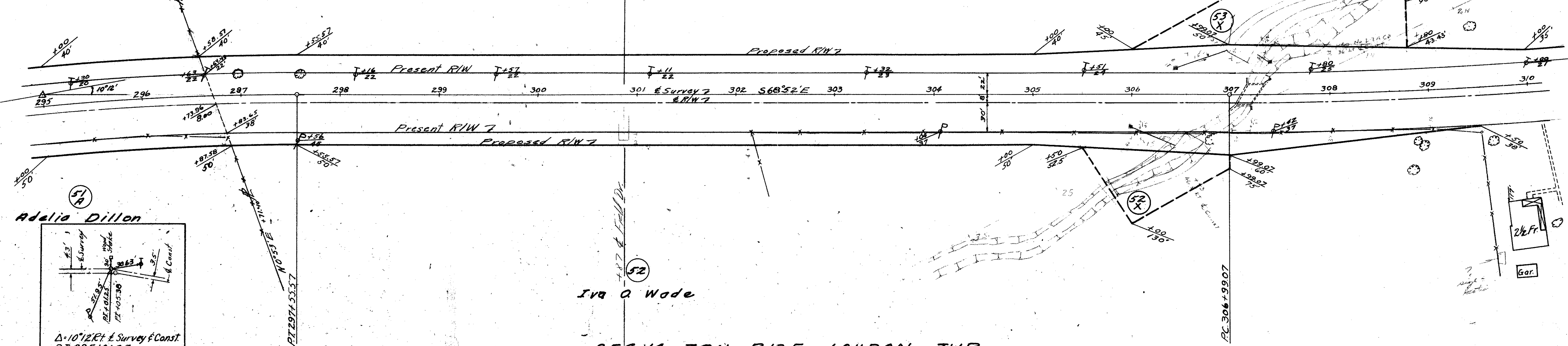


Survey Curve Data
 P.I. = 295+01.25
 $\Delta = 10^\circ 12' \text{ Rt.}$
 $D = 2^\circ 00'$
 $R = 2864.93'$
 $L = 510.00'$
 $T = 255.68'$
 $PC = 292+45.57'$
 $PT = 297+55.57'$

Const. Curve Data
 $PI = 295+05.38'$
 $\Delta = 10^\circ 12' \text{ Rt.}$
 $D = 2^\circ 00'$
 $L_s = 310.00'$
 $L_c = 200.00'$
 $T_s = 355.72'$
 $T_c = 11.96'$
 $R_c = 2864.79'$

Adelio Dillon

Ivo O. Wade



Adelio Dillon

Ivo O. Wade

SEC. 14 T2N R13E LOUDON TWP.

SEC. 14 SEC. 13 T2N R13E LOUDON TWP.

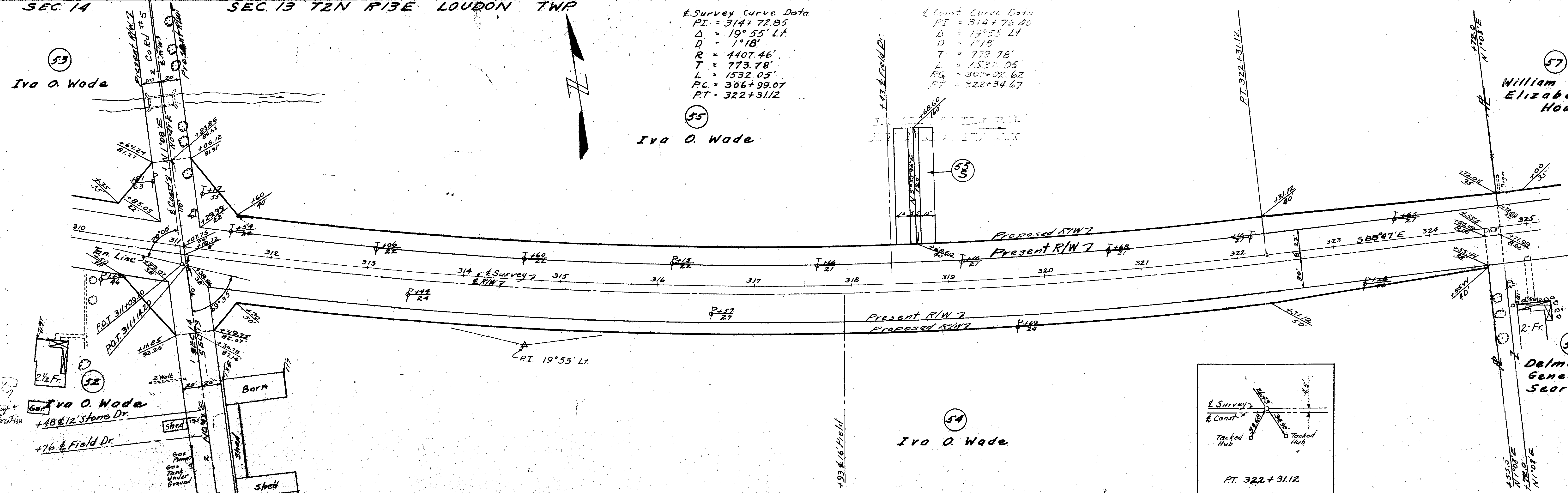
Survey Curve Data
 $PI = 314+72.85'$
 $\Delta = 19^\circ 55' \text{ Lt.}$
 $D = 1^\circ 18'$
 $R = 4407.46'$
 $T = 773.78'$
 $L = 1532.05'$
 $PC = 306+99.07'$
 $PT = 322+31.12'$

Const. Curve Data
 $PI = 314+76.40'$
 $\Delta = 19^\circ 55' \text{ Lt.}$
 $D = 1^\circ 18'$
 $T = 773.78'$
 $L = 1532.05'$
 $PC = 306+99.07'$
 $PT = 322+34.67'$

Ivo O. Wade

William & Elizabeth I. House

Ivo O. Wade



Ivo O. Wade

Delmor M. & Geneva I. Scarfoss

SEC. 14

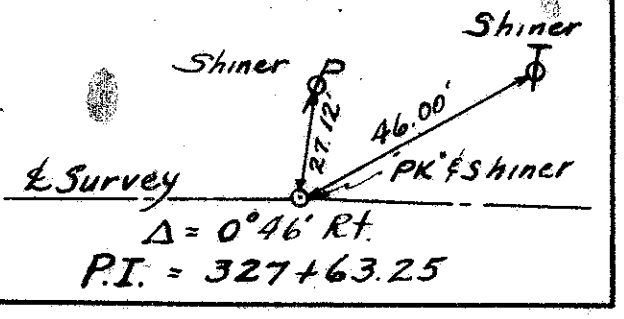
SEC. 13 T2N R13E LOUDON TWP.

SEC. 13 T2N R13E LOUDON TWP

ED. DIVISION	STATE	PROJECT
2	OHIO	F-657(3)

SEN. 18 (1.79-8.60)

157
163



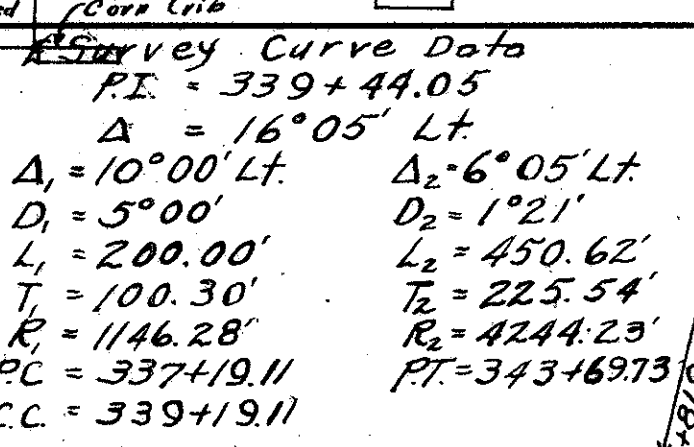
William & Elizabeth I. House

Paul Smith

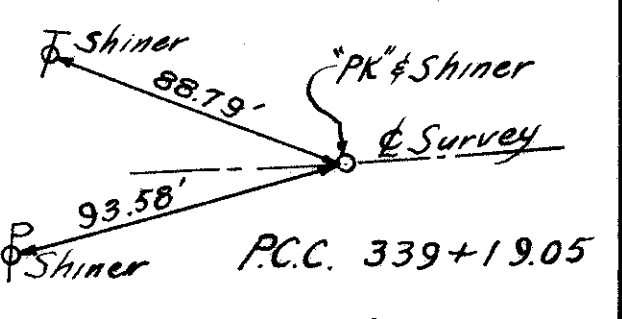
Delmar M. & Geneva I. Searfoss

Arba Kisabeth

Arba Kisabeth L.E.

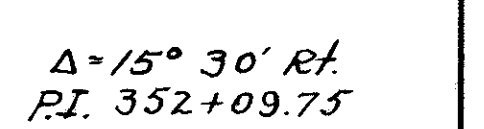


SEC. 13 T2N R13E LOUDON TWP



John & Isabel Kinn

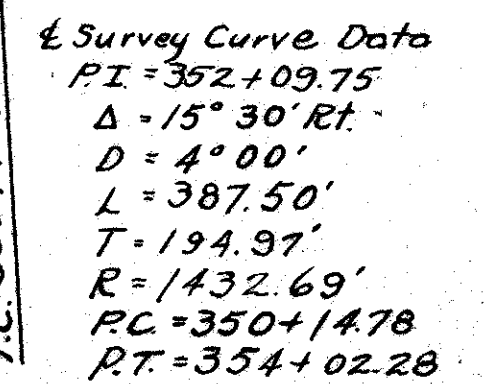
Salome Cabbage



Arba Kisabeth L.E.

John W. & Isabel Kinn

SEC. 13 T2N R13E LOUDON TWP



R/W 11

SEC. 13 T2N R13E LOUDON TWP.

SEC. 18 HOPEWELL TWP

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F. 657(3)	

SEN. 18 (1.79-8.60)

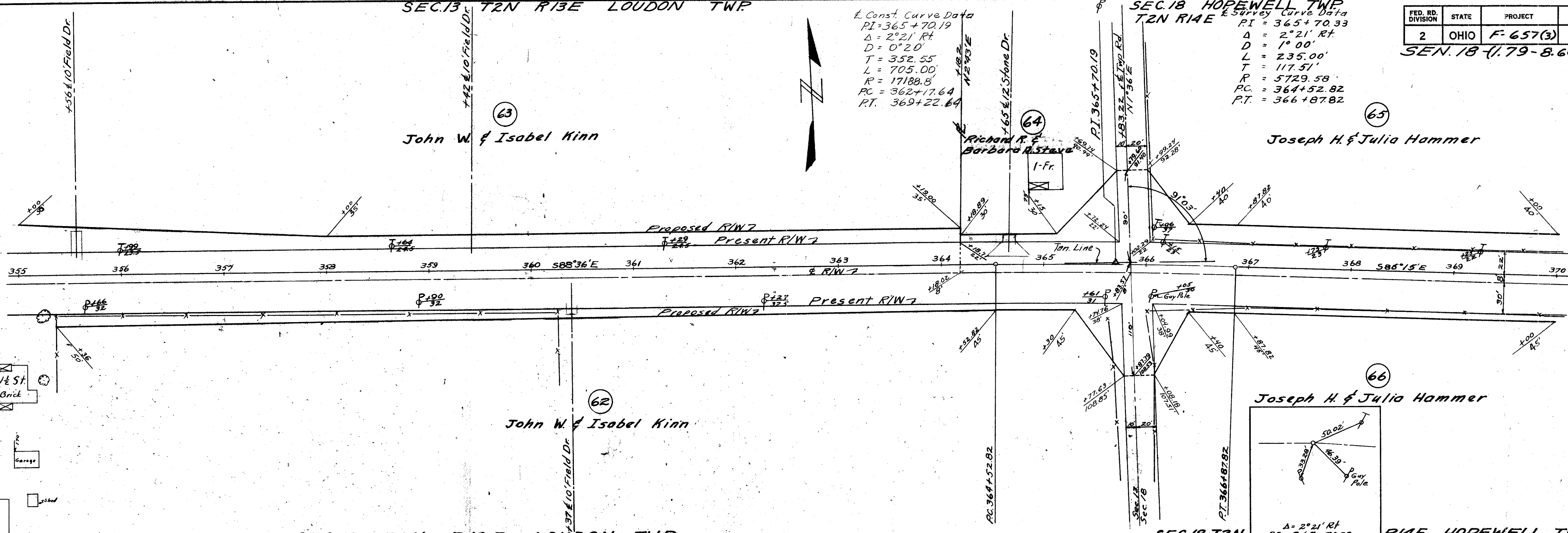
Const. Curve Data
 PI = 365+70.19
 $\Delta = 2^{\circ}21' R$
 $D = 0^{\circ}20'$
 $T = 352.55$
 $L = 705.00'$
 $R = 17188.8'$
 $PC = 362+17.64$
 $PT = 369+22.64$

Survey Curve Data
 PI = 365+70.33
 $\Delta = 2^{\circ}21' R$
 $D = 1^{\circ}00'$
 $L = 235.00'$
 $T = 117.51'$
 $R = 5729.58'$
 $PC = 364+52.82$
 $PT = 366+87.82$

John W. & Isabel Kinn

Richard R. & Barbara A. Stava

Joseph H. & Julia Hammer



SEC. 13 T2N R13E LOUDON TWP

SEC. 18 T2N R14E HOPEWELL TWP

SEC. 18 T2N

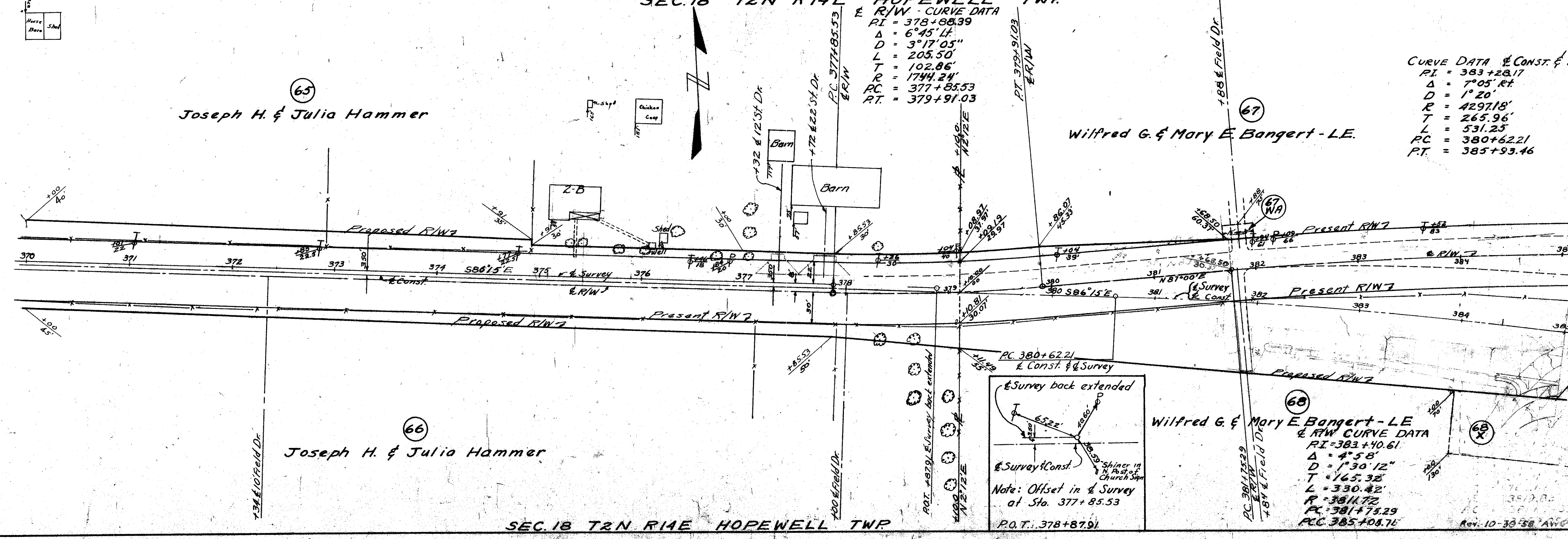
R14E HOPEWELL TWP

R/W - CURVE DATA
 PI = 378+88.39
 $\Delta = 6^{\circ}45' L$
 $D = 3^{\circ}17'05''$
 $L = 205.50'$
 $T = 102.86'$
 $R = 1744.24'$
 $PC = 377+85.53$
 $PT = 379+91.03$

CURVE DATA & CONST. & SURVEY
 PI = 383+28.17
 $\Delta = 7^{\circ}05' R$
 $D = 1^{\circ}20'$
 $R = 4297.18'$
 $T = 265.96'$
 $L = 531.25'$
 $PC = 380+62.21$
 $PT = 385+93.46$

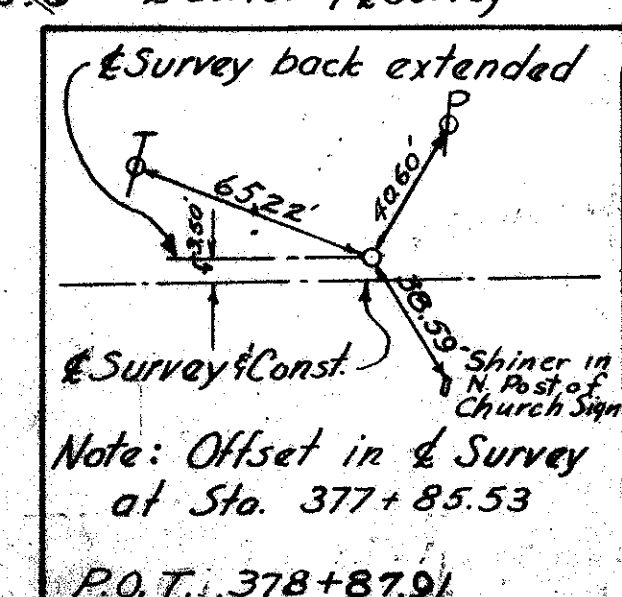
Joseph H. & Julia Hammer

Wilfred G. & Mary E. Bangert - L.E.



Joseph H. & Julia Hammer

R/W CURVE DATA
 PI = 383+40.61
 $\Delta = 4^{\circ}58'$
 $D = 1^{\circ}30'12''$
 $T = 165.38'$
 $L = 330.42'$
 $R = 3811.72'$
 $PC = 381+75.29$
 $PT = 385+108.75$

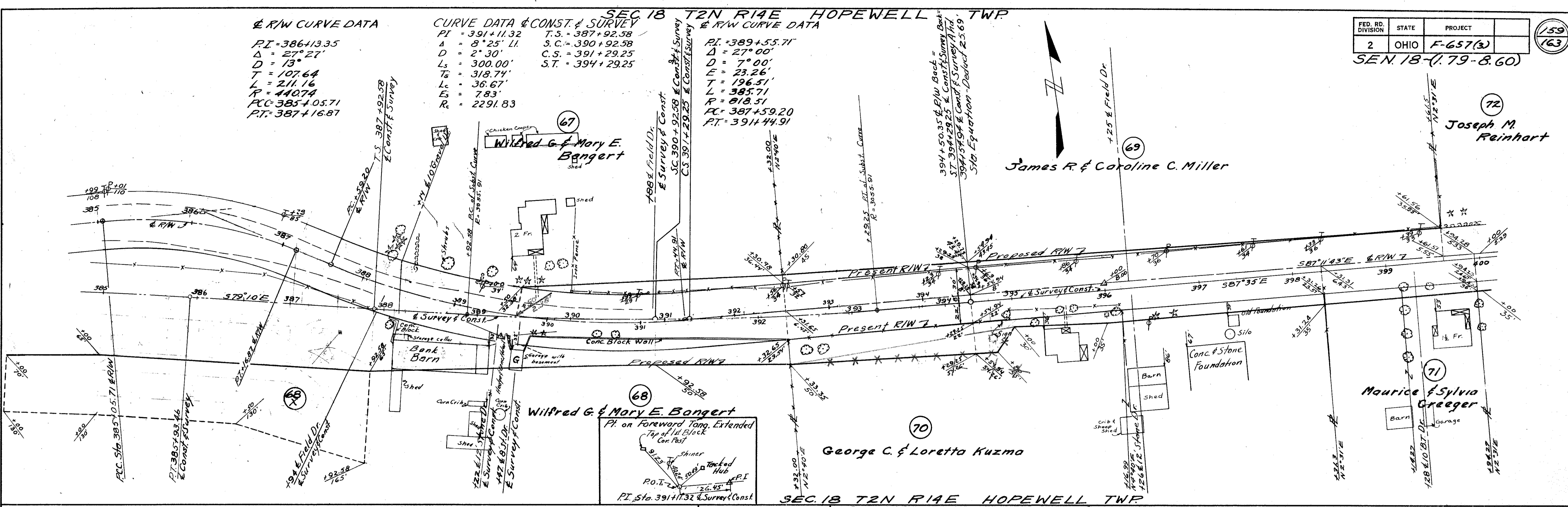


SEC. 18 T2N R14E HOPEWELL TWP

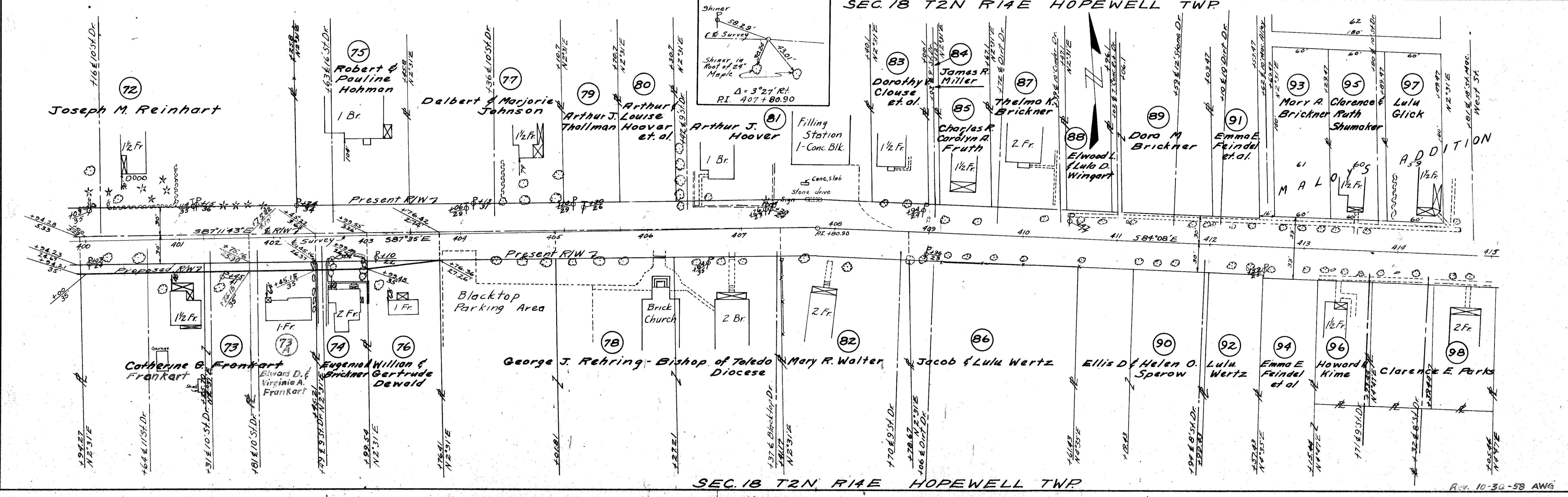
R/W CURVE DATA
 P.I. = 386+13.35
 $\Delta = 27^\circ 27'$
 $D = 13''$
 $T = 107.64$
 $L = 211.16$
 $R = 440.74$
 $P.C. = 385+05.71$
 $P.T. = 387+16.87$

CURVE DATA & CONST. & SURVEY
 P.I. = 391+11.32 T.S. = 387+92.58
 $\Delta = 8^\circ 25' 11''$ S.C. = 390+92.58
 $D = 2^\circ 30'$ C.S. = 391+29.25
 $L_s = 300.00'$ S.T. = 394+29.25
 $T_a = 318.74'$
 $L = 38.67'$
 $E_s = 7.83'$
 $R_c = 2291.83$

R/W CURVE DATA
 P.I. = 389+55.71
 $\Delta = 27^\circ 00'$
 $D = 7^\circ 00'$
 $E = 23.26'$
 $T = 196.51'$
 $L = 385.71'$
 $R = 818.51'$
 $P.C. = 387+59.20$
 $P.T. = 391+44.91$



SEC. 18 T2N R14E HOPEWELL TWP
 SEC. 18 T2N R14E HOPEWELL TWP



SEC. 18 T2N R14E HOPEWELL TWP

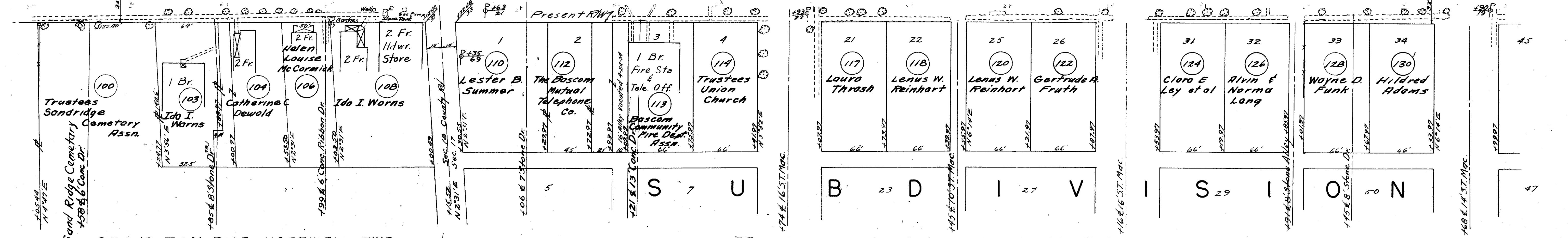
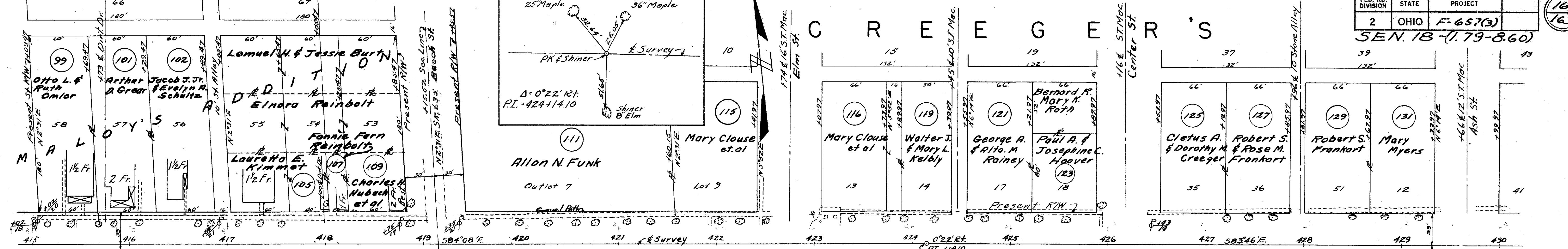
SEC. 18 T2N R14E HOPEWELL TWP.

SEC. 17 T2N R14E HOPEWELL TWP.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	F-657(3)

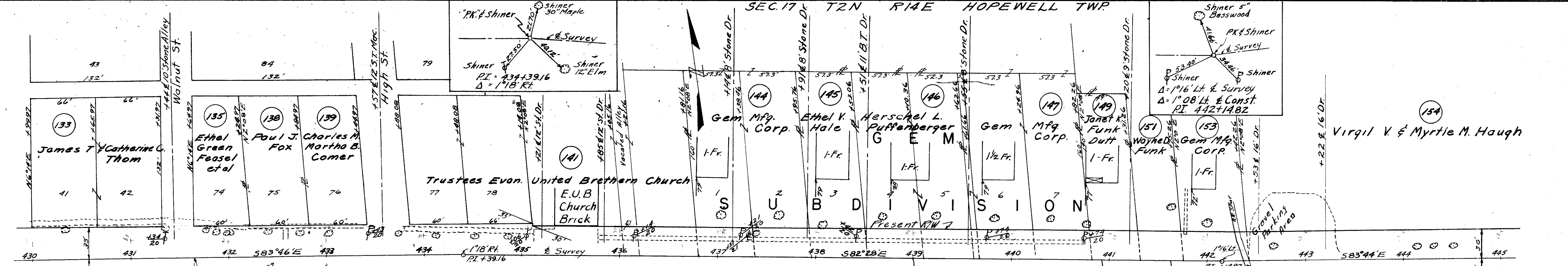
SEN. 18-179-8.60

160
163



SEC. 18 T2N R14E HOPEWELL TWP.

SEC. 17 T2N R14E HOPEWELL TWP.



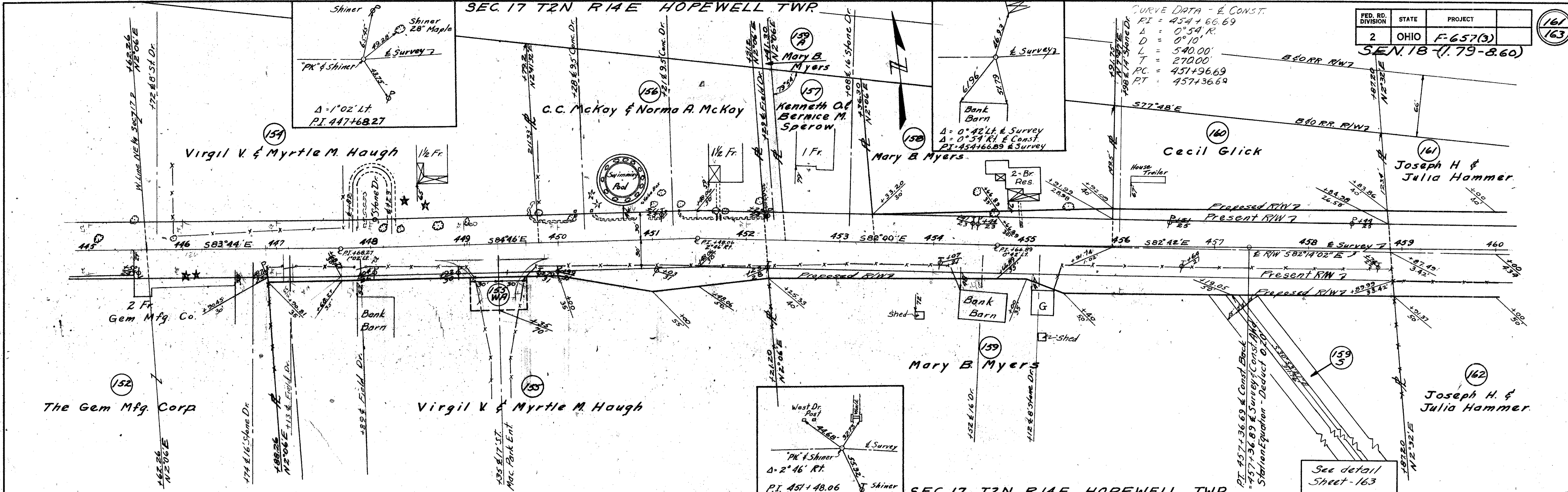
SEC. 17 T2N R14E HOPEWELL TWP.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-657(3)	

161
163

SEN. 18 (1.79-8.60)

SEC. 17 T2N R14E HOPEWELL TWP

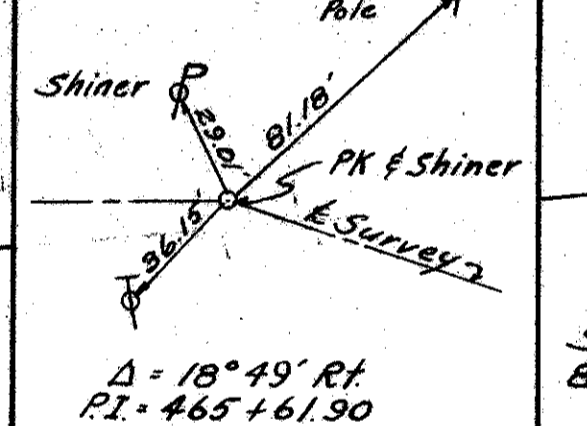


SEC. 17 T2N R14E HOPEWELL TWP

CURVE DATA - & CONST.
 PI = 464+50.21
 $\Delta = 149^\circ 58' R$
 $D = 3^\circ 30'$
 $L_s = 400.00'$
 $L_c = 26.67'$
 $T_c = 414.98'$
 $E_s = 18.07'$
 $T_s = 468+35.23$
 $S.C. = 464+35.23$
 $C.S. = 464+61.90$
 $S.T. = 468+61.90$

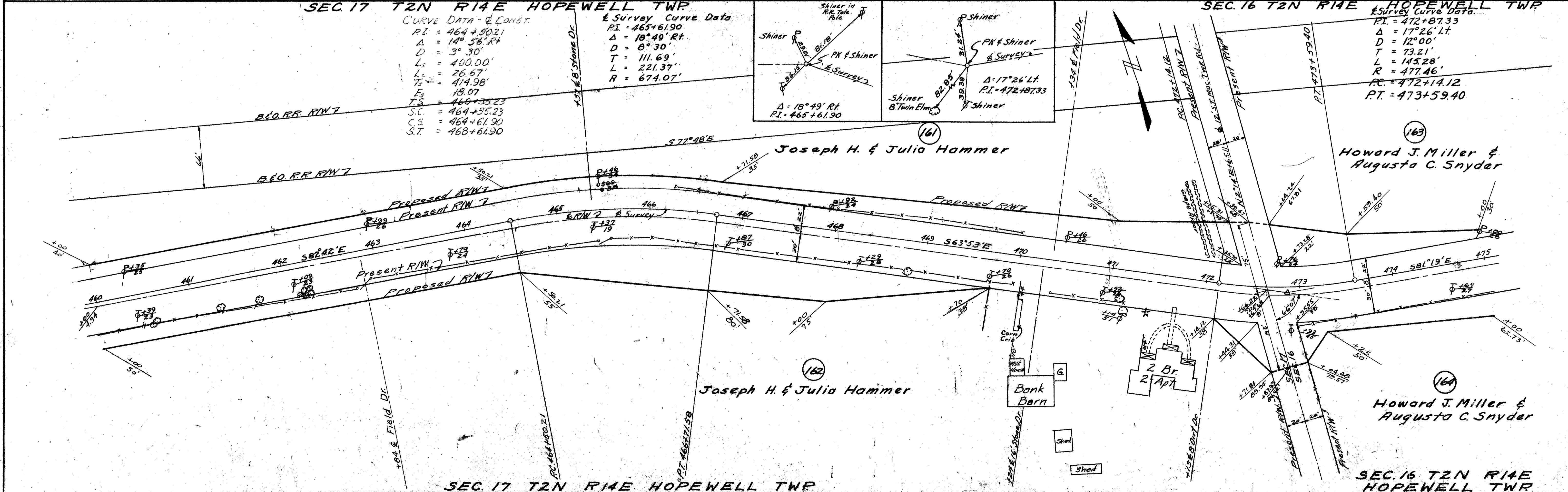
& Survey Curve Data
 PI = 465+61.90
 $\Delta = 18^\circ 49' R$
 $D = 8^\circ 30'$
 $T = 111.69'$
 $L = 221.37'$
 $R = 674.07'$

SEC. 17 T2N R14E HOPEWELL TWP



SEC. 16 T2N R14E HOPEWELL TWP

& Survey Curve Data
 PI = 472+87.33
 $\Delta = 17^\circ 26' Lt$
 $D = 12^\circ 00'$
 $T = 73.21'$
 $L = 145.28'$
 $R = 477.46'$
 $P.C. = 472+14.12$
 $P.T. = 473+59.40$



SEC. 17 T2N R14E HOPEWELL TWP

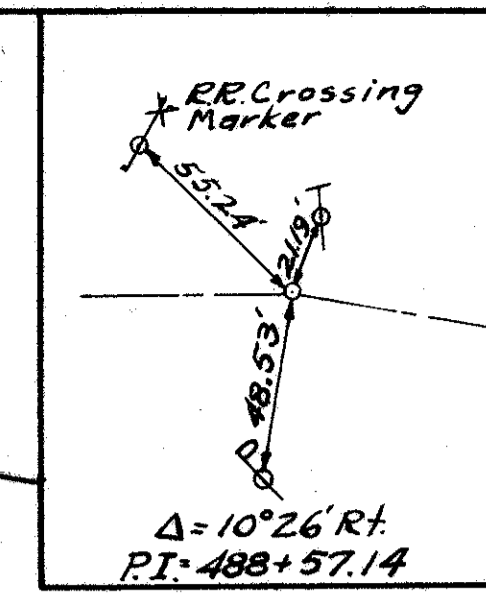
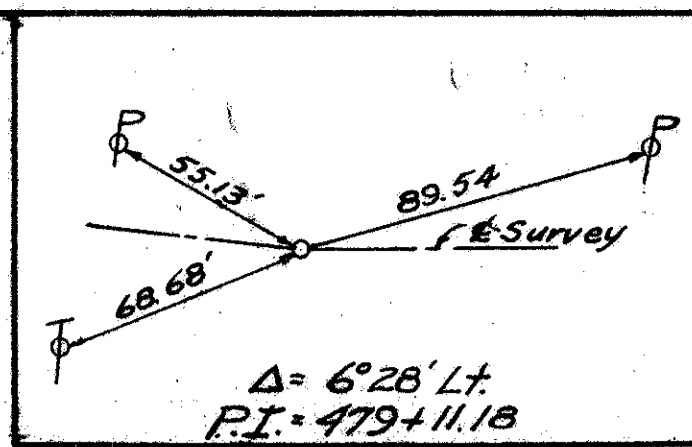
SEC. 16 T2N R14E HOPEWELL TWP

CURVE DATA - CONST.
 P.I. = 475+11.30
 Δ = 20° 01' Lt
 D = 4° 00'
 Ls = 400.00'
 Lc = 100.42'
 Ts = 153.46'
 Es = 26.86'
 T.S. = 470+89.04
 S.C. = 474+89.04
 C.S. = 475+89.46
 S.T. = 479+89.46

SEC. 16 T2N R14E

SURVEY CURVE DATA
 P.I. = 479+11.18
 Δ = 6° 28' Lt
 D = 3° 30'
 T = 92.48'
 L = 184.76'
 R = 1637.02'
 P.C. = 478+18.70
 P.T. = 480+03.46

HOPEWELL TWP

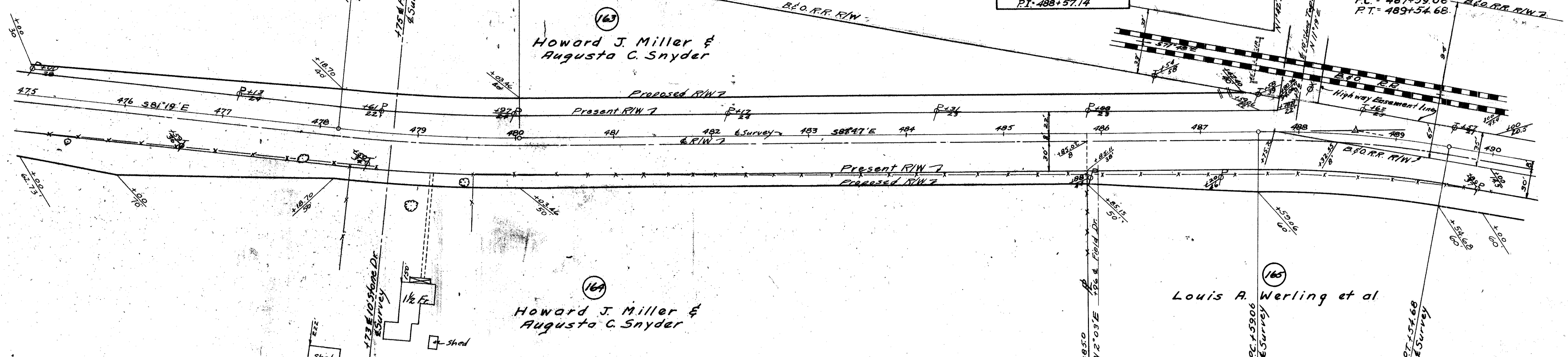


CURVE DATA - CONST.
 P.I. = 488+57.14
 Δ = 10° 26' Rt
 D = 2° 30'
 Ls = 400.00'
 Lc = 17.33'
 Ts = 409.46'
 Es = 484+47.68
 T.S. = 488+47.68
 C.S. = 488+65.01
 S.T. = 492+65.01

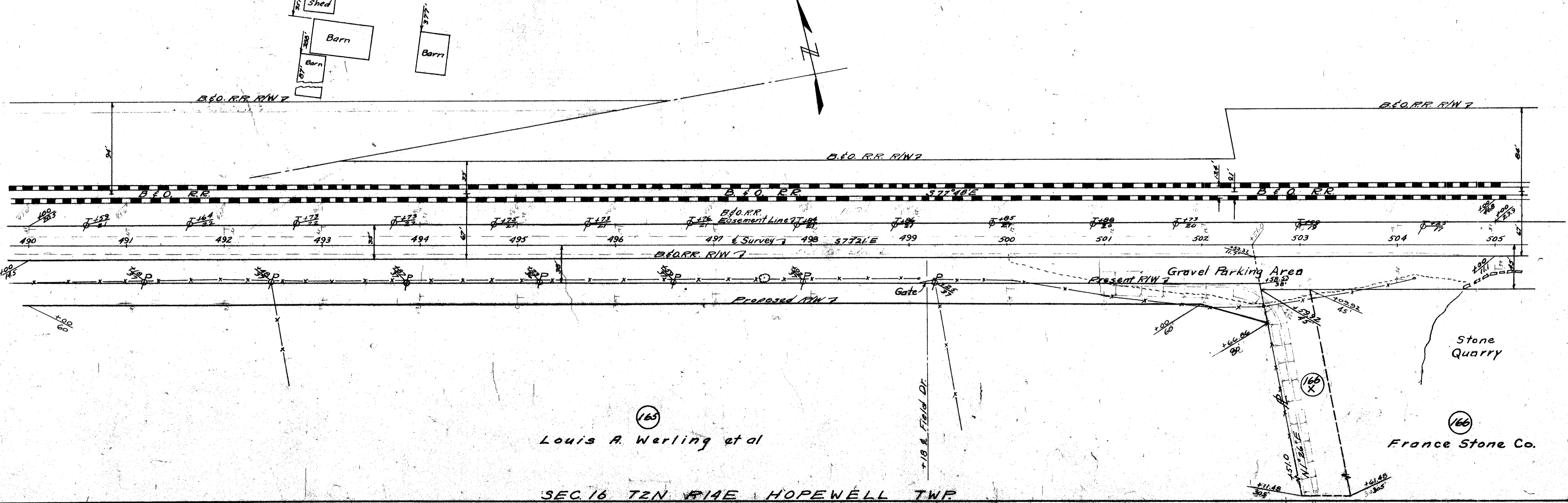
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-657(2)	

SEN. 18-(1.79-8.60)

SURVEY CURVE DATA
 P.I. = 488+57.14
 Δ = 10° 26' Rt
 D = 5° 20'
 T = 98.08'
 L = 195.62'
 R = 1074.80'
 P.C. = 487+59.06
 P.T. = 489+54.68



SEC. 16 T2N R14E HOPEWELL TWP



Louis A. Werling et al

SEC. 16 T2N R14E HOPEWELL TWP

France Stone Co.

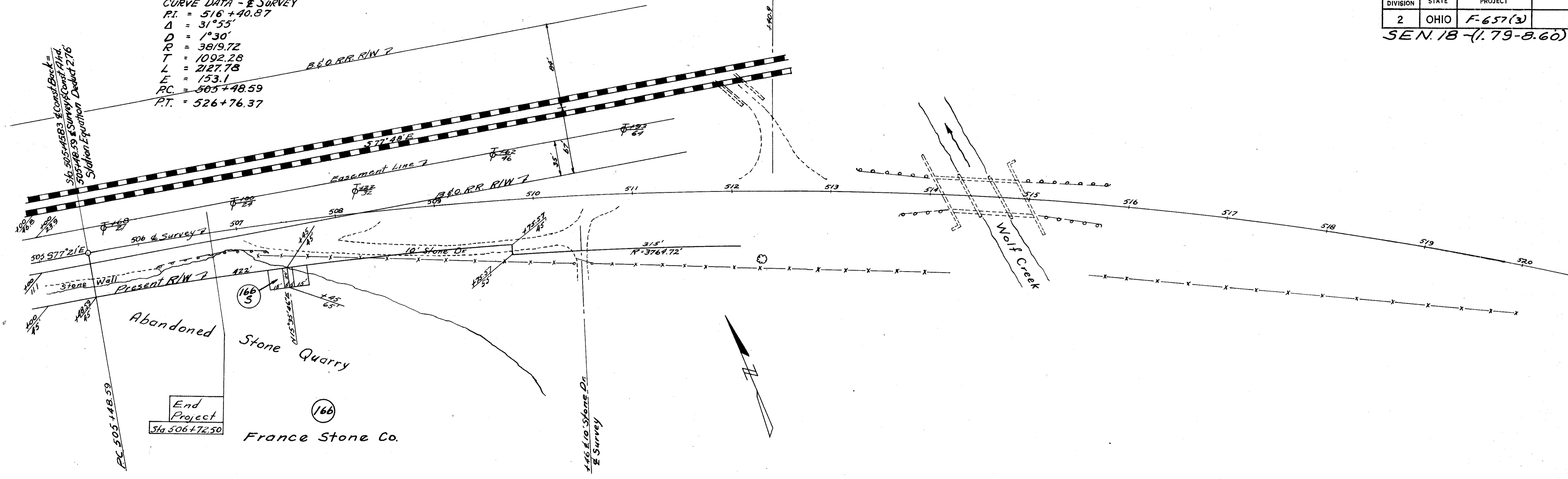
SEC. 16 T2N R14E HOPEWELL TWP

CURVE DATA - SURVEY
 P.I. = 516+40.87
 $\Delta = 31^{\circ}55'$
 D = 1°30'
 R = 3819.72
 T = 1092.28
 L = 2127.78
 E = 153.1
 P.C. = 505+48.59
 P.T. = 526+76.37

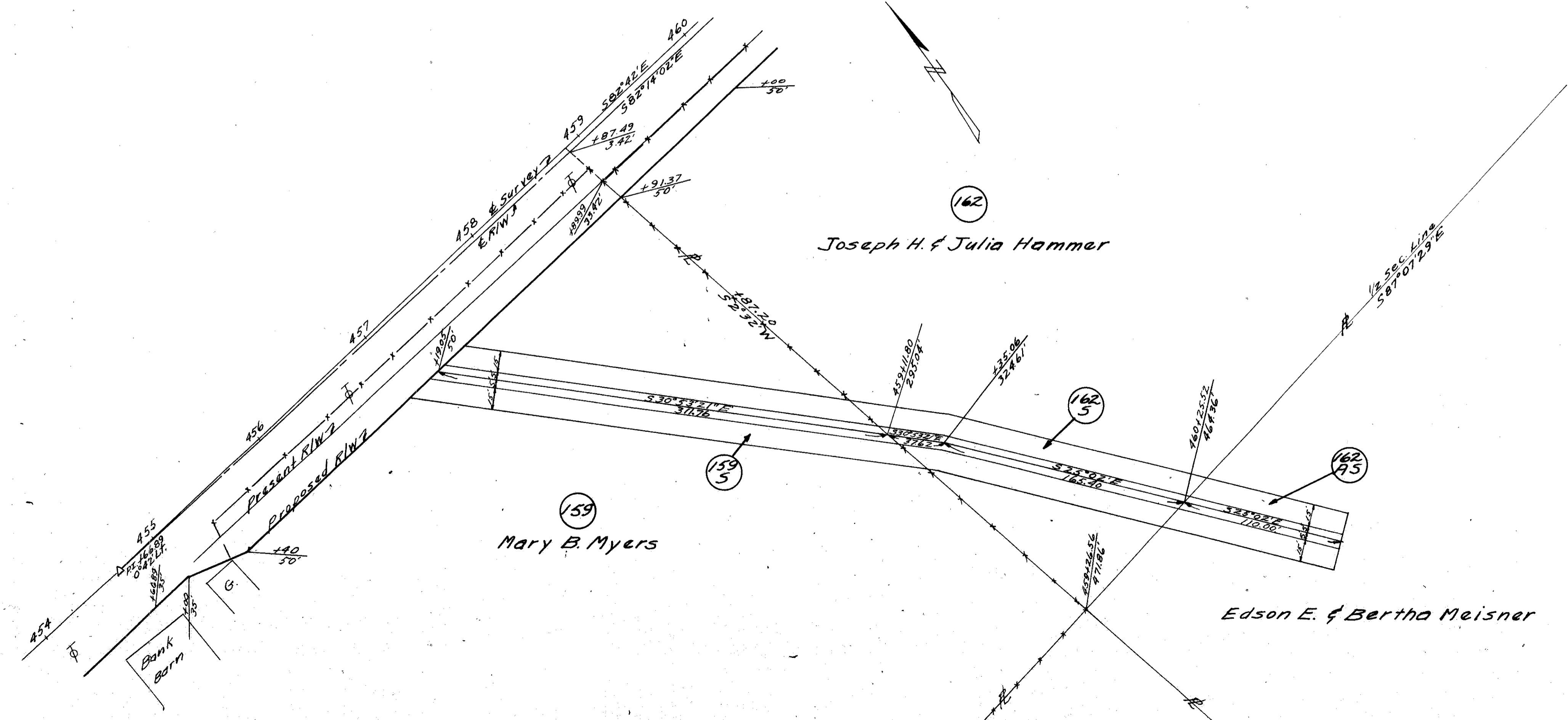
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-657(3)	

SEN. 18-(1.79-8.60)

163
163

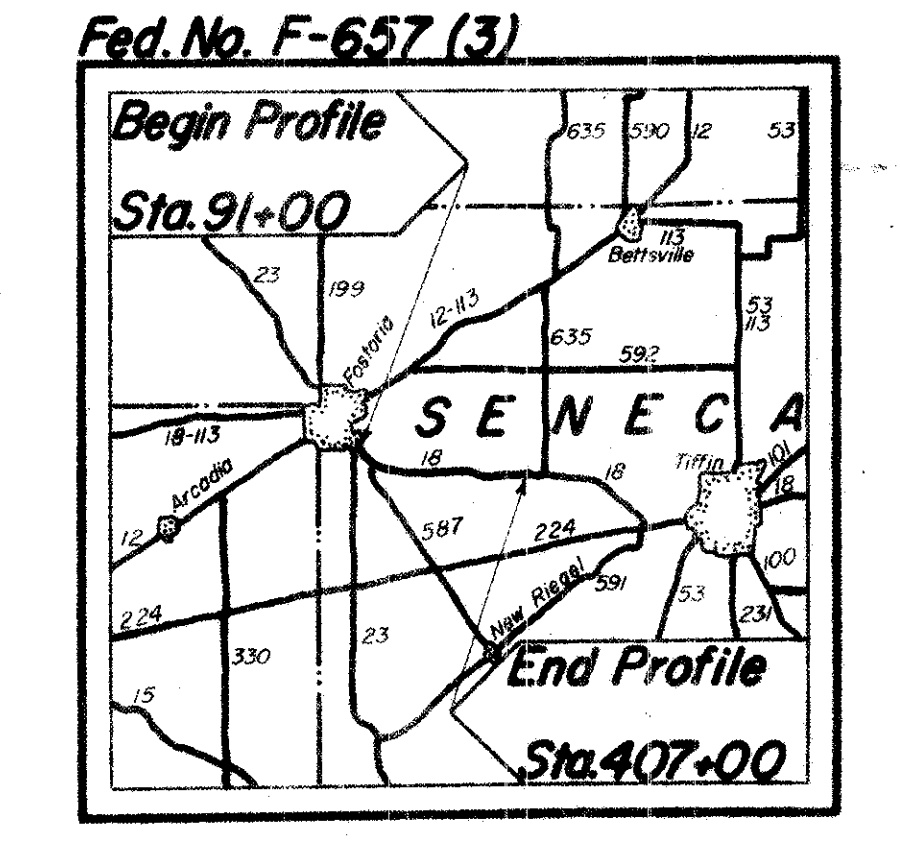


SEC. 16 T2N R14E HOPEWELL TWP
 SEC. 17 T2N R14E HOPEWELL TWP



SEC. 17 T2N R14E HOPEWELL TWP

NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE USE OF THE STATE OF OHIO AND IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.







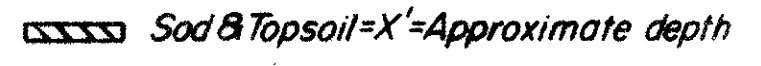


LOCATION MAP
 Recon - C.J.K. - 9-16-57
 Drilling - D.J.H., C.A.S. - 9-20-57
 Drafting - L.N.L. - 10-10-57

For Location Map beyond Sta. 407+00, see sheet 7 of soil profile sheets.

LEGEND FOR PROJECT - AVERAGE RESULTS OF TESTS - 140 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel	A-1-a	A-1-a	64	16	10	7	3	NP	NP	10	2
Gravel with sand	A-1-b	A-1-b	32	34	18	12	4	NP	NP	11	8
Coarse and fine sand	—	A-3a	8	13	53	19	7	NP	NP	19	11
Gravel with sand and silt	A-2-4	A-2-4	34	21	18	18	9	18	3	10	1
Gravel or stone fragments with sand, silt, and clay	A-2-7	A-2-7	35	21	12	14	18	41	19	21	7
Sandy silt	A-4	A-4a	9	11	30	31	19	23	5	17	36
Silt	A-4	A-4b	1	1	9	62	27	15	3	20	10
Silt and clay	A-6	A-6a	7	7	15	32	39	30	12	19	45
Silty clay	A-6	A-6b	9	7	13	25	46	37	17	21	14
Clay	A-7-6	A-7-6	9	7	8	26	50	44	20	25	6

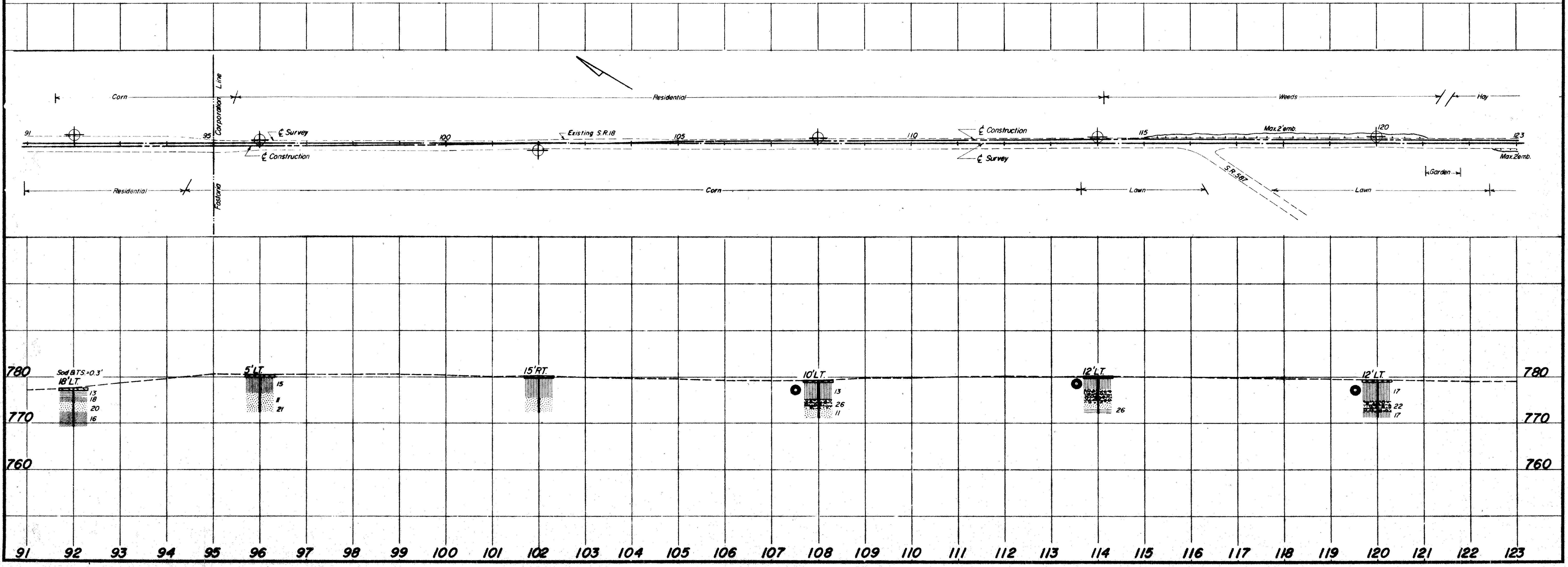
 Auger boring - plan view.
 Auger boring plotted to vertical scale only.
 Water content nearly equal to or greater than liquid limit.
 This A-4a soil will be rubbery and unstable at water contents which exceed the optimum.

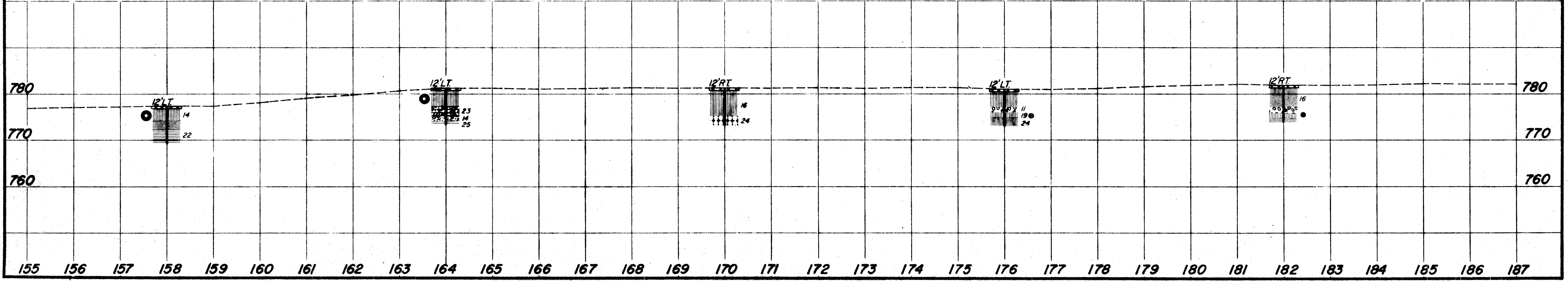
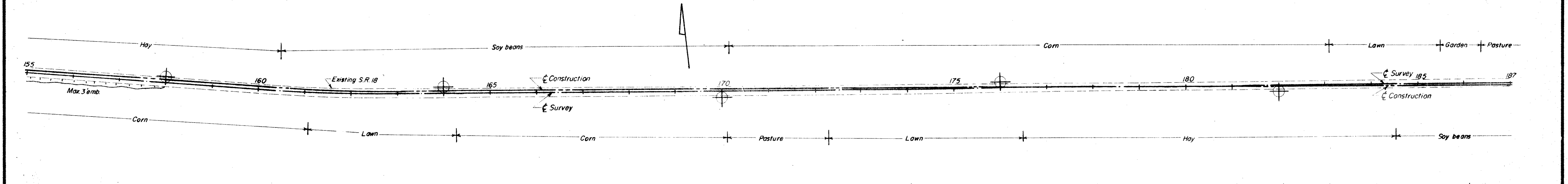
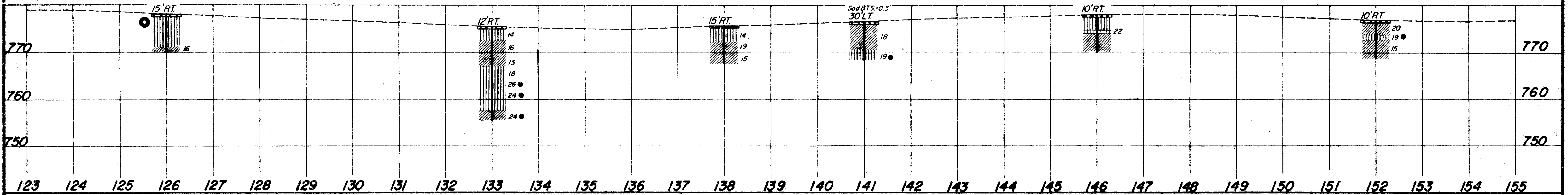
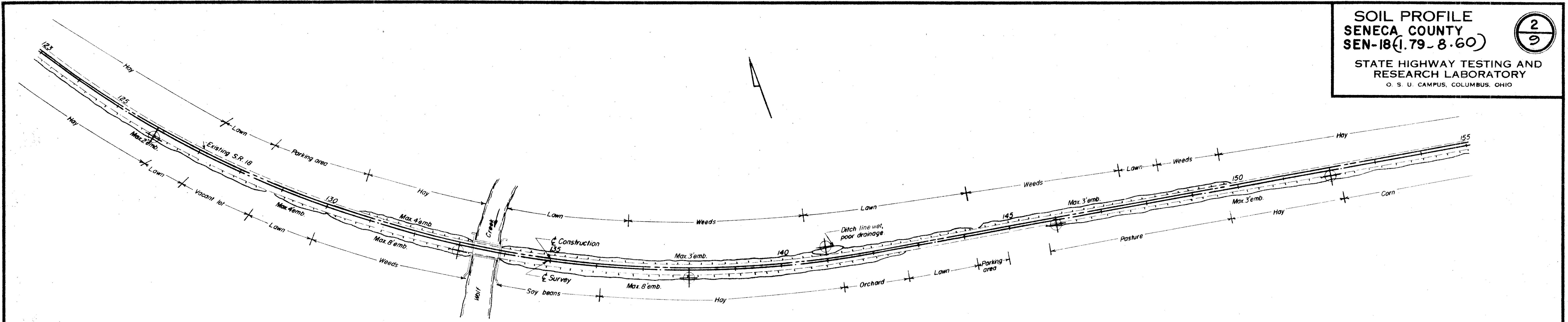
 Sod & Topsoil = 'X' = Approximate depth
 Berm material
 W Free water

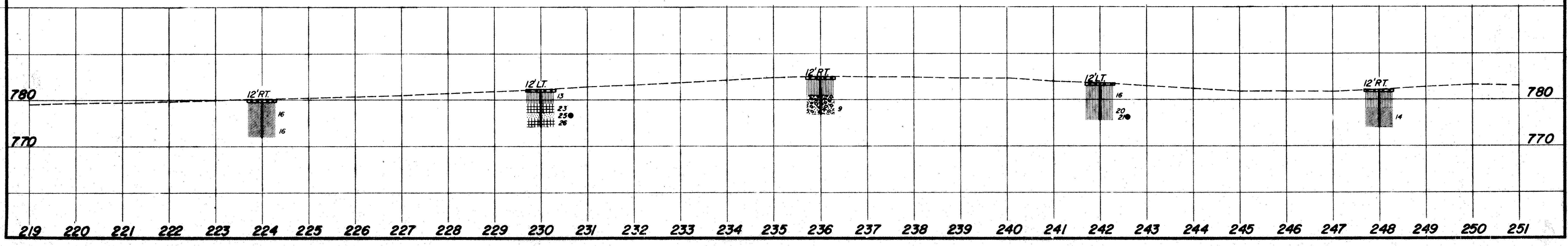
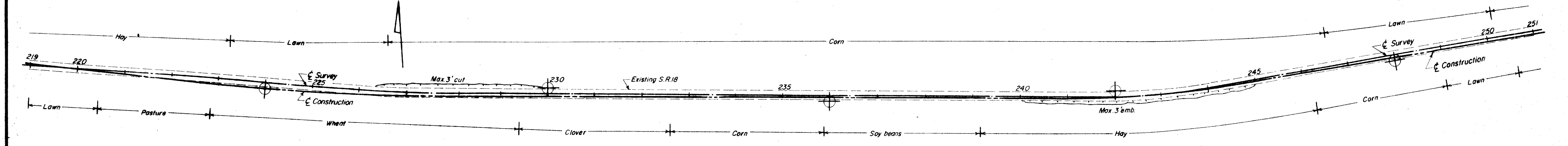
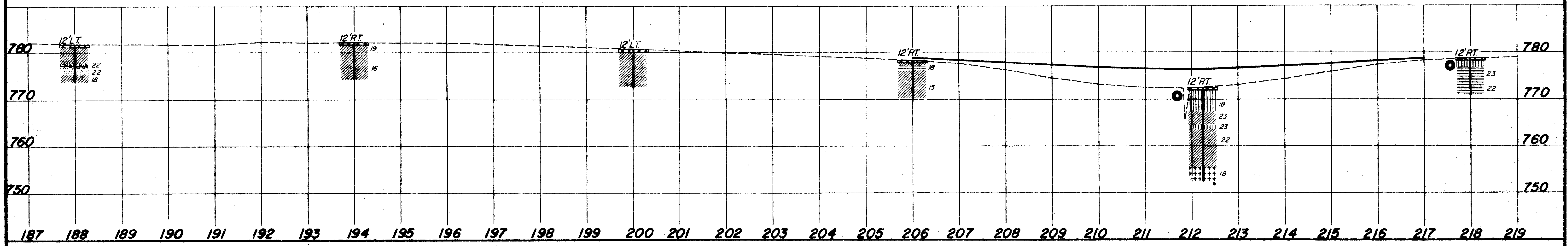
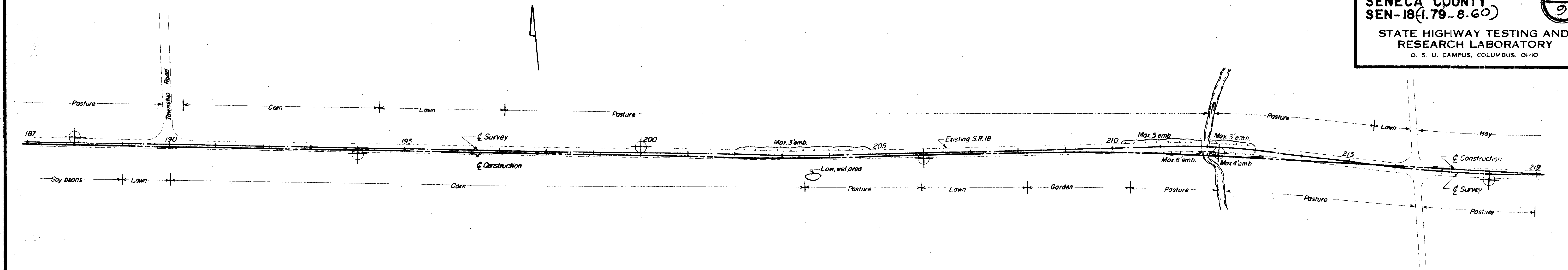
Samples Tested
 Lab. Nos. So.
 73904-73996 Incl.
 7400-74011 Incl.
 74013-74057 Incl.

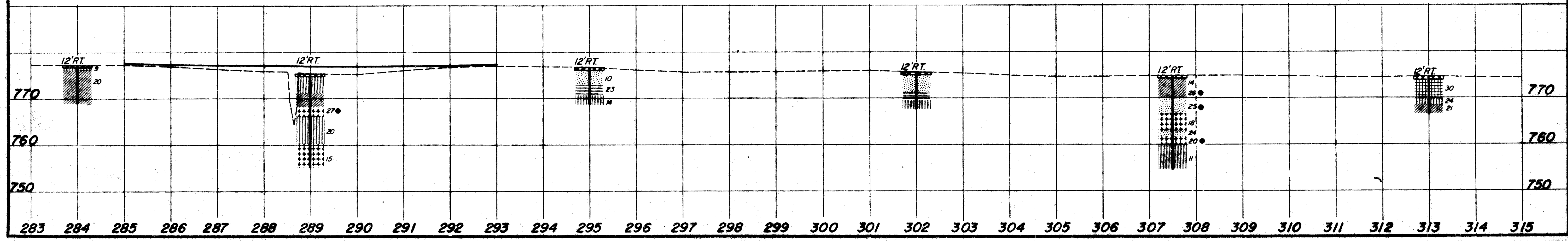
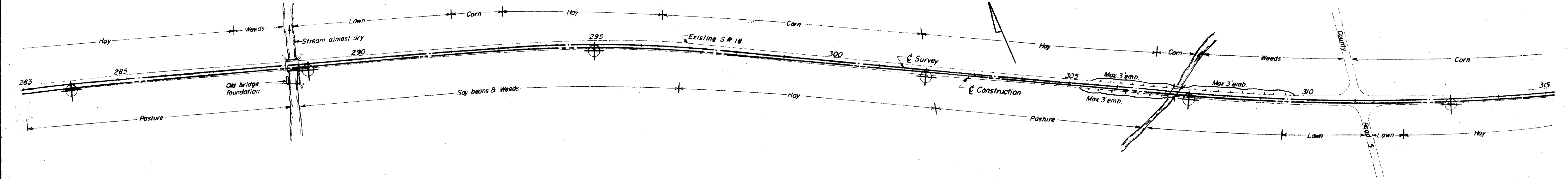
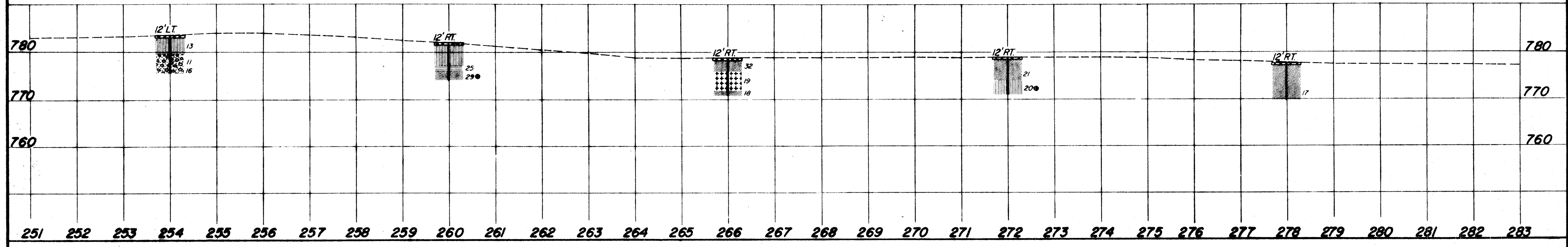
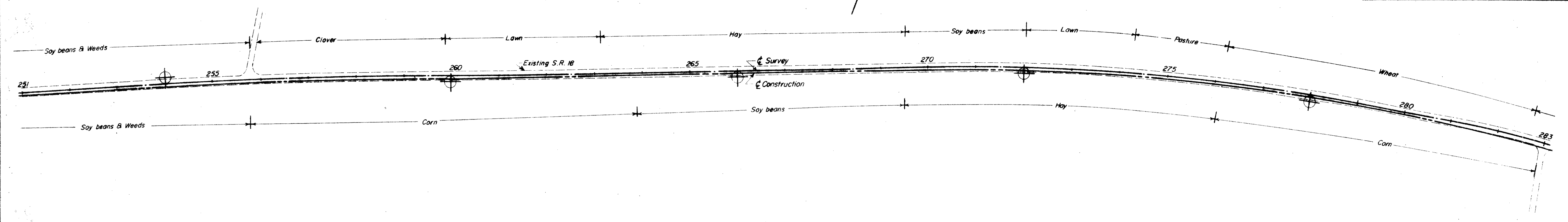
NOTE: Figures beside borings indicate water content in percent.

GENERAL NOTE
 Pavement is concrete with a surface course, which is in fair condition. It is wavy, somewhat rutted, ravelled, patched and cracked in places.





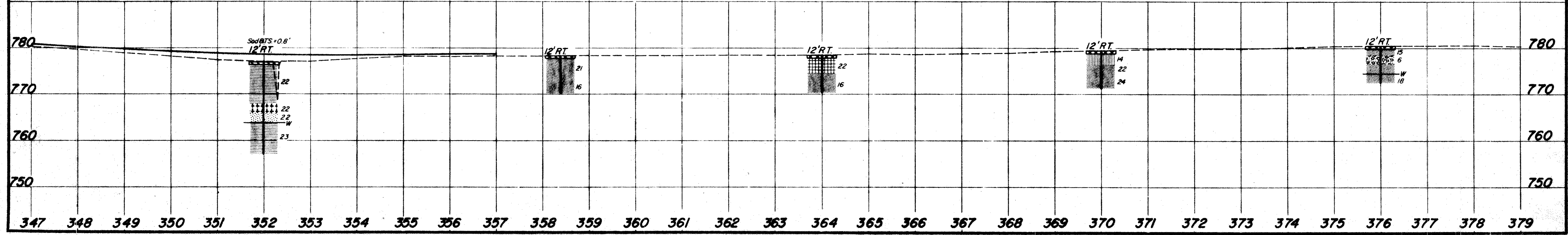
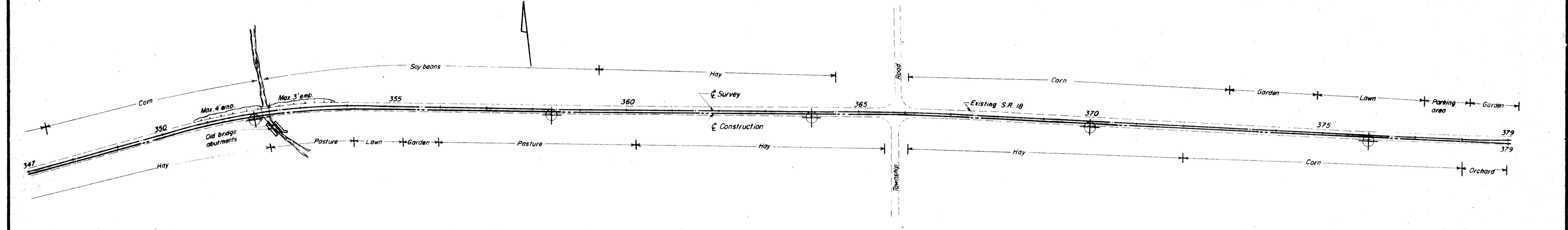
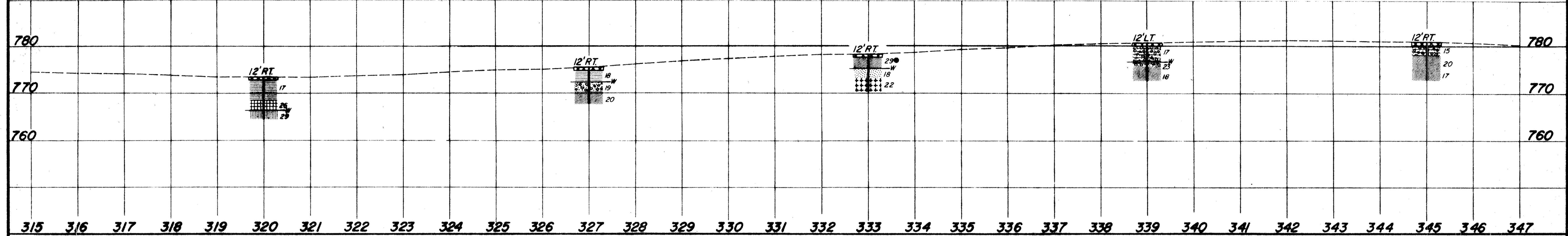
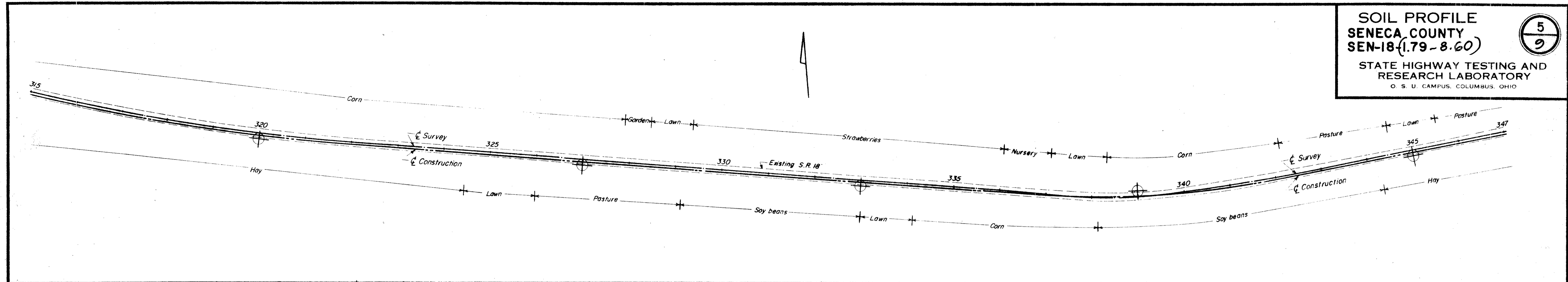




SOIL PROFILE
 SENECA COUNTY
 SEN-18 (1.79-8.60)

STATE HIGHWAY TESTING AND
 RESEARCH LABORATORY
 O. S. U. CAMPUS, COLUMBUS, OHIO

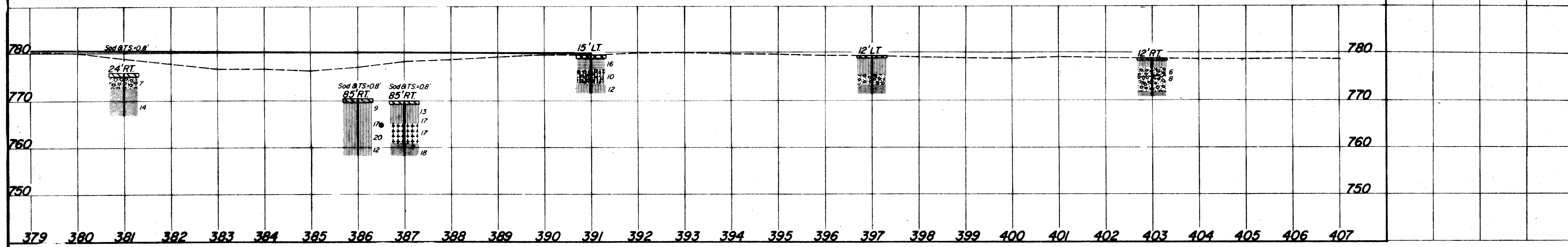
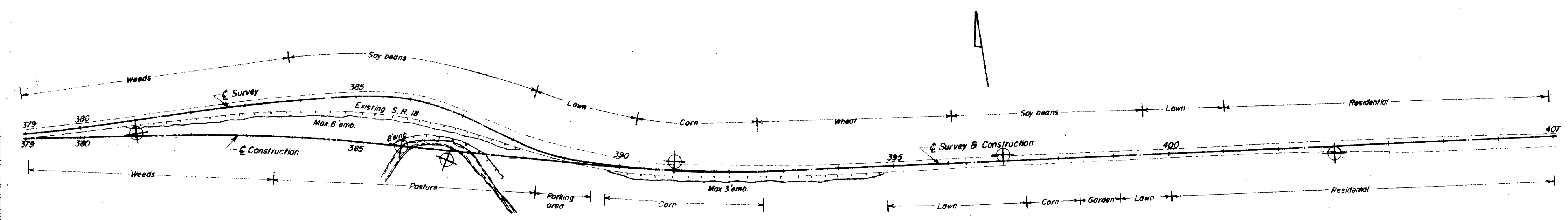
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11-21-57

SOIL PROFILE
SENECA COUNTY
SEN-18(1.79~8.60)
 STATE HIGHWAY TESTING AND
 RESEARCH LABORATORY
 O. S. U. CAMPUS, COLUMBUS, OHIO

6
9



SUMMARY OF SOIL TEST DATA

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	LL	P.I.	% W.C.	SHTL Class.	
92+00	13'Lt.	0.3-2.0'	26	24	14	16	20	38	17	13	A-6b
92+00	13'Lt.	2.0-3.0'	4	10	42	15	29	30	15	18	A-6a
92+00	13'Lt.	3.0-5.0'	12	16	42	24	6	NP	20	20	A-3a
92+00	13'Lt.	5.0-8.0'	15	7	12	32	34	24	11	16	A-6a

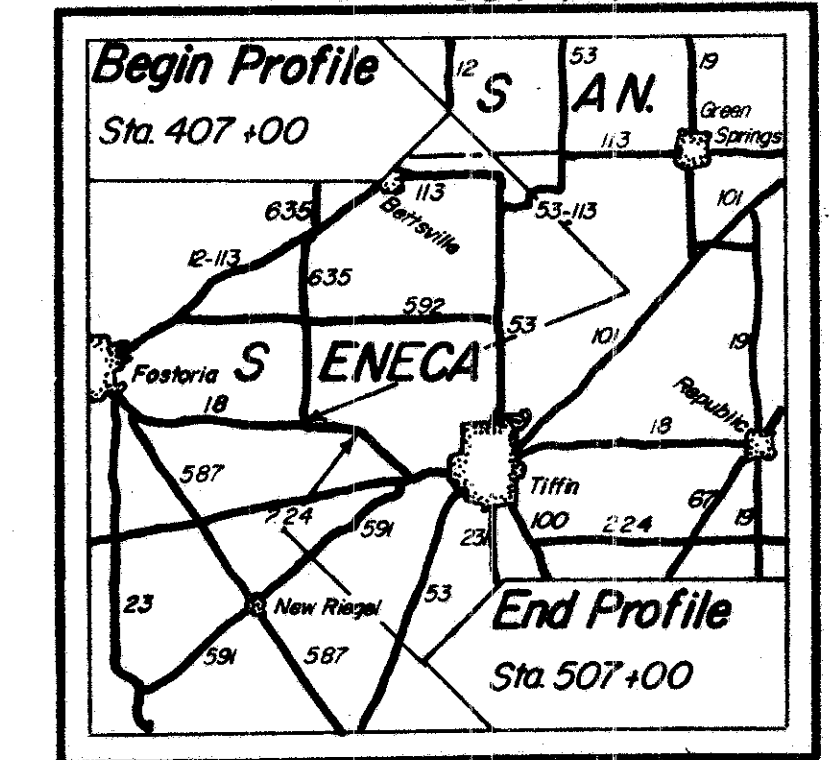
NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.

SOIL PROFILE
SENECA COUNTY
SEN-18 (1.79-8.60)
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
 O. S. U. CAMPUS, COLUMBUS, OHIO

7
2

NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE USE OF THE STATE OF OHIO AND IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.

Fed. No. F-657 (3)



LOCATION MAP
 Recon - C.J.K. - Sept. 18, 1957
 Drilling - C.A.S., D.J.H. - Sept. 20, 1957
 Drafting - J.M.W. - Oct. 21, 1957

LEGEND FOR PROJECT - AVERAGE RESULTS OF TESTS - 44 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel with sand	A-1-b(1)	A-1-b	38	23	22	13	4	NP	NP	11	4
Coarse and fine sand	-	A-3a	9	19	54	13	5	NP	NP	12	4
Gravel with sand and silt	A-2-4(1)	A-2-4	39	10	35	13	3	NP	NP	9	1
Gravel with sand, silt, and clay	A-2-6(1)	A-2-6	27	25	17	13	18	36	17	18	2
Sandy silt	A-4(2)	A-4a	15	13	25	29	18	23	6	13	12
Silt and clay	A-6(9)	A-6a	5	5	13	37	40	30	13	19	13
Silty clay	A-6(10)	A-6b	7	9	17	29	38	36	18	19	6
Clay	A-7-6(11)	A-7-6	10	13	16	29	32	44	23	23	2

- ▨▨▨▨▨ Sod & top soil = X' = Approx. depth
- ▨▨▨▨▨ Berm material
- W — Free water
- ⊕ Auger boring - Plan view

- ⊙ This A-4a soil will be rubbery and unstable at water contents which exceed the optimum.
- Water content nearly equal to or greater than liquid limit.
- | Auger boring plotted to vertical scale only

Samples Tested
 Lab. Nos. So. 73997-74009 incl.
 74058-74088 incl.

General Note
 Pavement is concrete with two bituminous surface courses. It is in fair condition and is wavy, somewhat rutted, ravelled, patched and cracked in places.

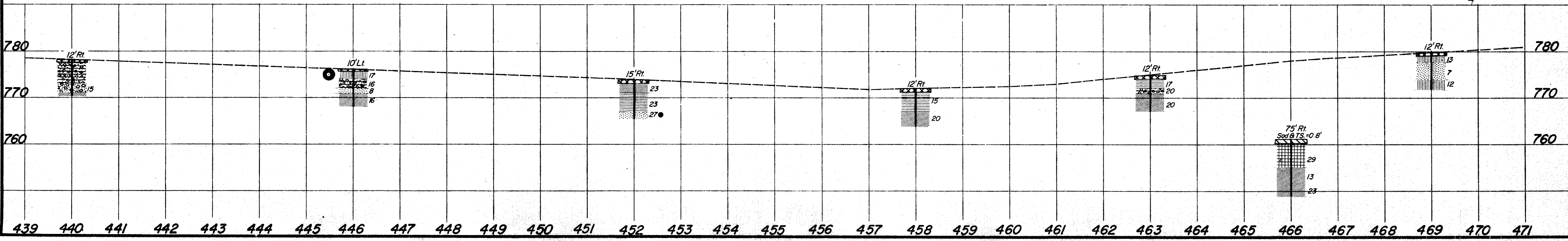
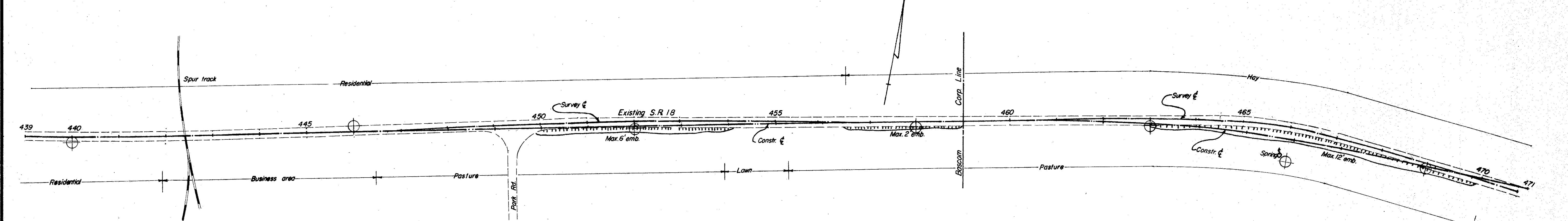
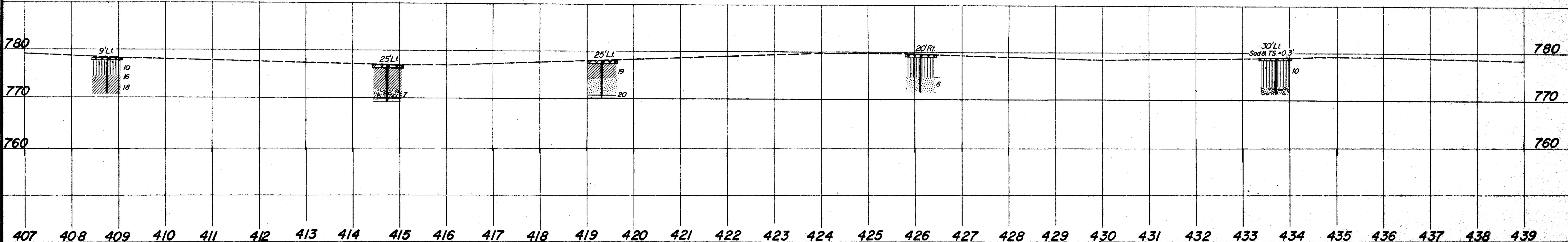
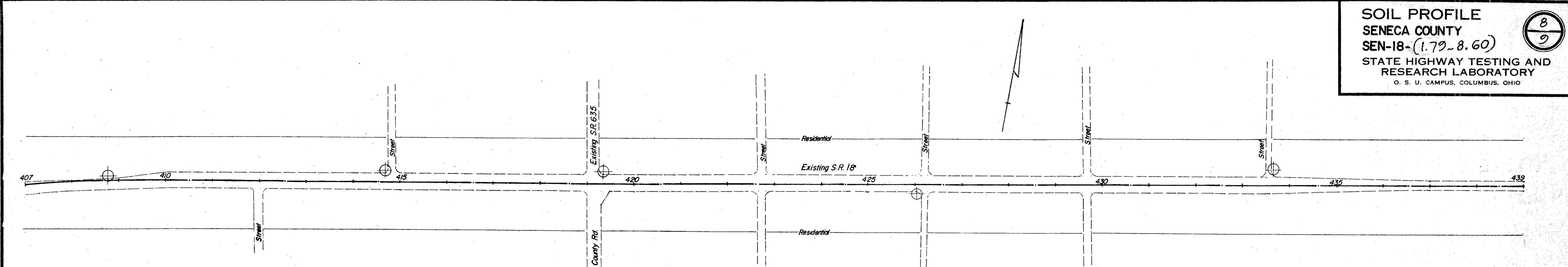
Note: Figures beside borings indicate water content in per cent.

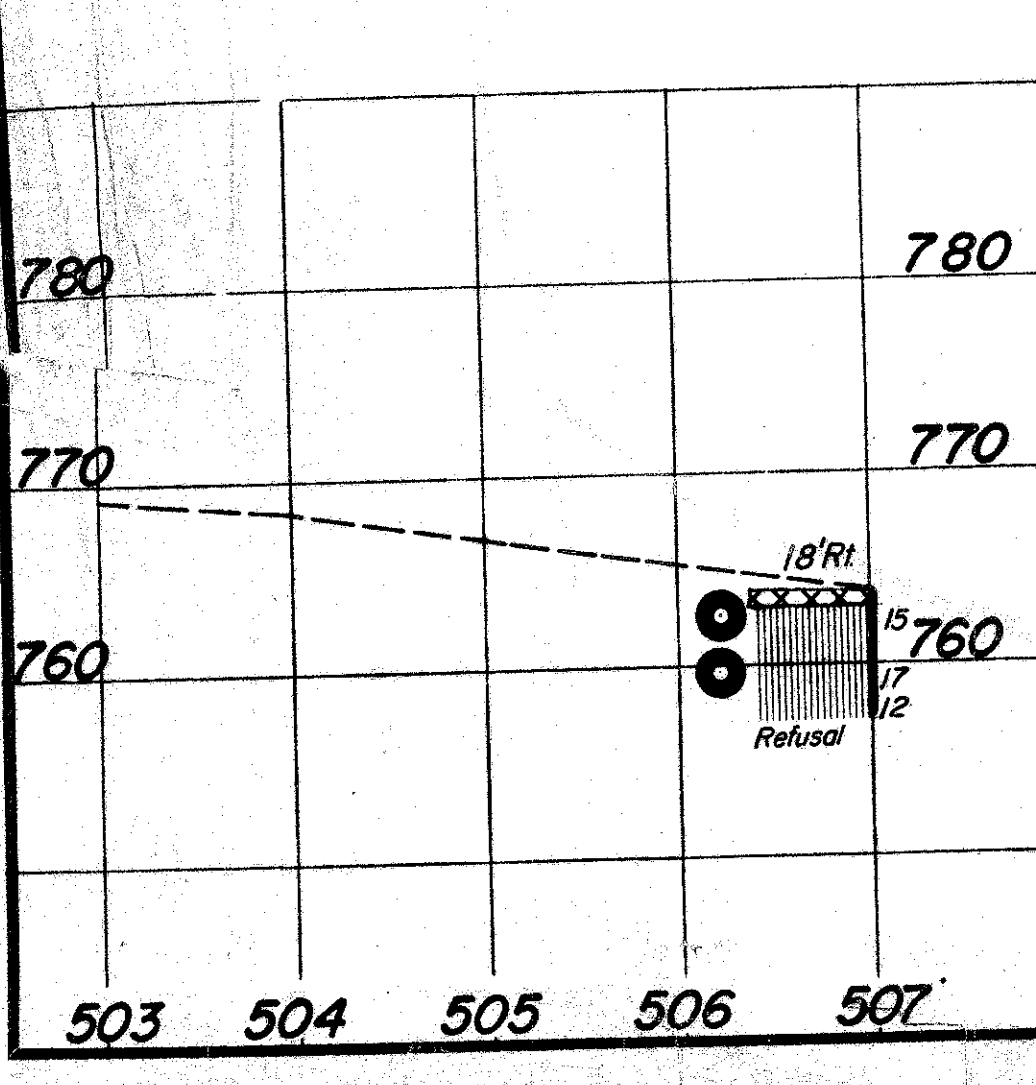
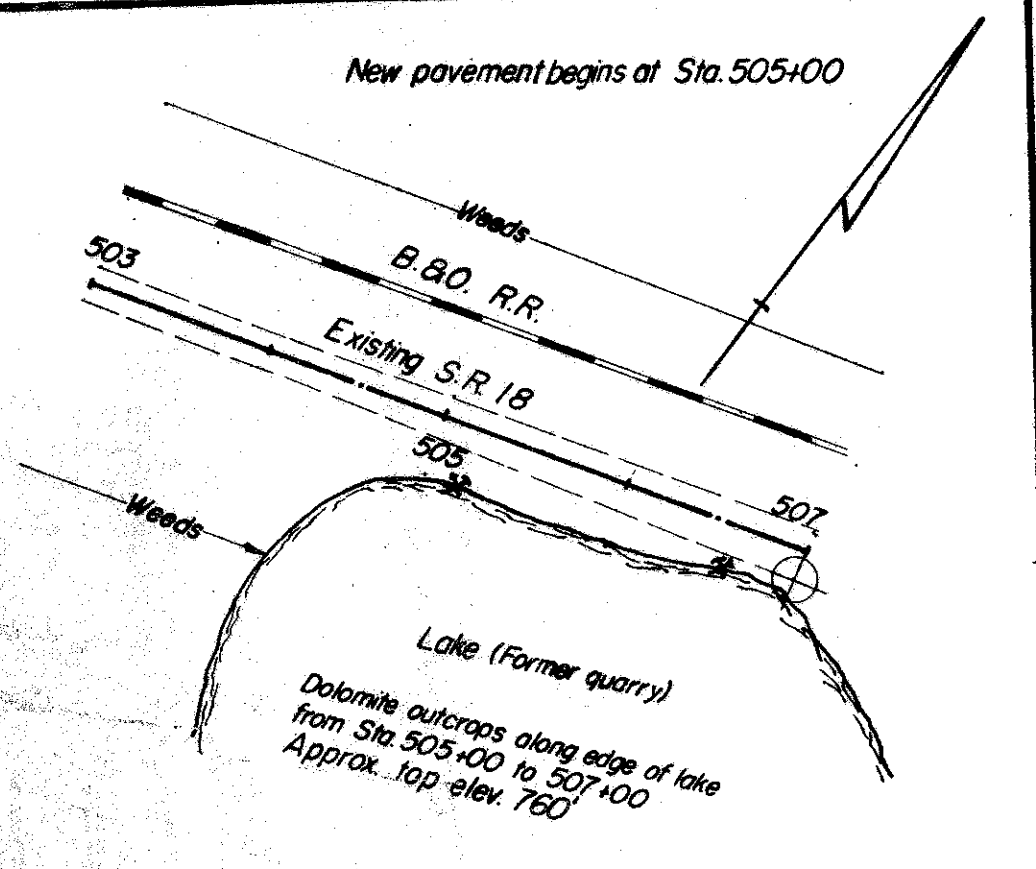
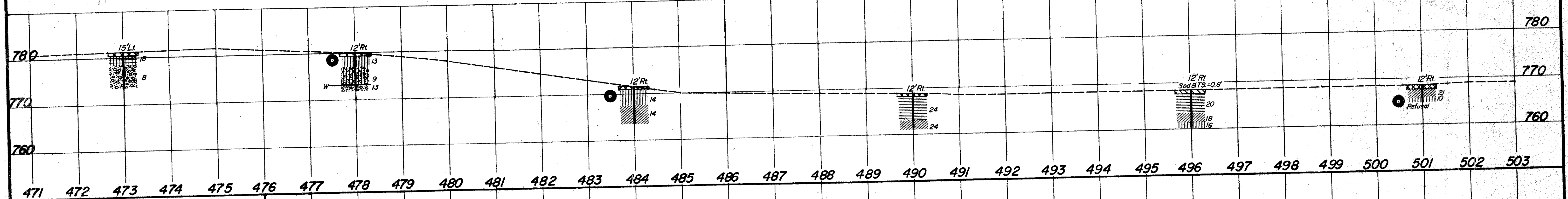
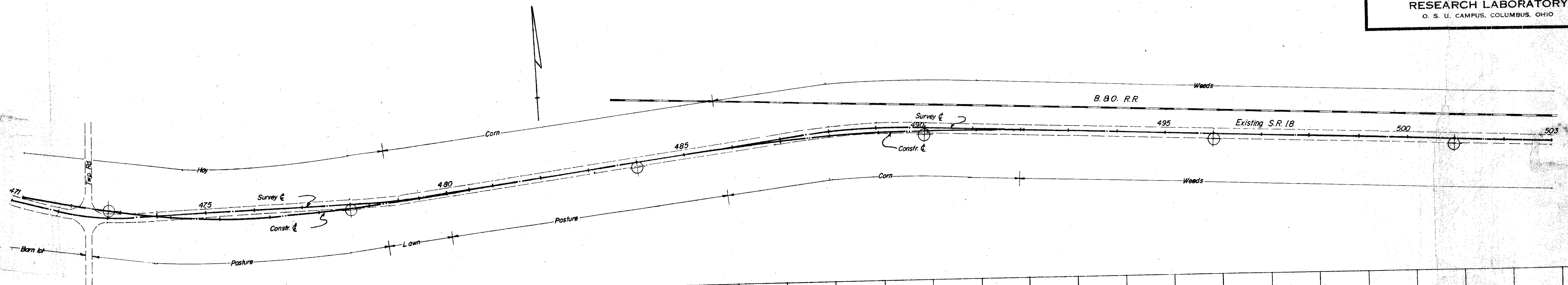
Summary of Soil Test Data

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
408+00 9' Lt.	0.3-4.0	12	17	54	21	16	13	6	10	A-4a
	4.0-5.0	4	5	22	29	40	25	11	16	A-6a
	5.0-8.0	17	4	11	31	41	29	12	13	A-6a
414+75 25' Lt.	5.5-7.0	36	33	15	12	4	NP	NP	7	A-1-b
419+30 25' Lt.	0.3-4.0	21	8	23	22	26	30	13	19	A-6a
	7.0-8.0	11	12	11	21	45	33	16	20	A-6b
426+10 20' Rt.	5.0-8.0	26	20	42	9	3	NP	NP	6	A-3a
433+50 30' Lt.	0.3-6.0	13	20	29	20	18	22	7	10	A-4a
	5.0-8.0	33	22	24	14	7	NP	NP	15	A-1-b
446+00 10' Lt.	0.3-2.0	8	15	23	39	15	27	5	17	A-4a
	2.0-4.0	35	18	14	15	18	17	17	16	A-2-6
	4.0-5.0	4	11	53	14	8	NP	NP	8	A-3a
	5.0-8.0	4	6	12	36	42	28	12	16	A-6a

Note: NP shown in liquid limit and plasticity index columns indicates that the material is non-plastic.

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
452+00 15' Rt.	0.3-3.0	7	11	14	35	33	32	11	23	A-6a
	3.0-7.0	2	3	9	34	52	39	19	23	A-6b
	7.0-8.0	3	0	79	18	3	NP	NP	27	A-3a
458+00 12' Rt.	0.8-5.0	16	13	19	27	35	35	18	15	A-6b
	5.8-8.0	3	3	10	52	32	23	12	20	A-6a
463+00 12' Rt.	0.8-3.0	10	18	26	24	28	36	20	17	A-6b
	3.0-4.0	19	31	19	12	19	34	16	20	A-2-6
	4.0-8.0	4	10	14	27	45	31	14	20	A-6a
466+00 75' Rt.	0.8-6.0	0	1	20	39	40	41	21	29	A-7-6
	6.0-10.0	6	6	16	38	34	26	11	13	A-6a
	10.0-12.0	0	0	1	23	71	37	15	23	A-6a
469+00 12' Rt.	0.6-2.0	29	21	12	19	19	30	8	13	A-4a
	2.0-6.0	5	45	31	12	7	NP	NP	7	A-3a
	6.0-8.0	27	21	13	20	19	24	8	12	A-4a
473+00 15' Lt.	0.8-3.0	19	26	11	19	25	47	25	18	A-7-6
	3.0-8.0	32	24	28	13	3	NP	NP	8	A-1-b
478+00 12' Rt.	0.7-3.0	3	12	32	32	21	19	3	13	A-4a
	3.0-7.0	39	10	15	13	3	NP	NP	9	A-2-b
	7.0-8.0	50	12	21	14	3	NP	NP	13	A-1-b
484+00 12' Rt.	0.6-4.0	5	2	35	25	28	25	10	14	A-4a
	4.0-8.0	2	2	12	53	31	30	15	14	A-6a
490+00 12' Rt.	0.8-6.0	0	1	32	34	33	34	16	24	A-6b
	6.0-8.0	0	0	1	43	56	35	15	24	A-6a
496+00 12' Rt.	0.8-5.0	0	4	13	36	47	40	17	20	A-6b
	5.0-7.0	0	1	10	47	42	29	11	18	A-6a
	7.0-8.0	12	7	18	40	23	22	6	16	A-4a
501+00 12' Rt.	0.9-3.0	5	4	19	38	34	33	14	21	A-6a
	3.0-3.5	11	6	25	47	11	NP	NP	10	A-4a
507+00 12' Rt.	0.8-3.0	10	11	23	37	19	25	8	15	A-4a
	3.0-6.0	7	11	37	26	19	22	7	17	A-4a
	6.0-6.5	37	4	20	23	16	20	1	12	A-4a





85A-15