

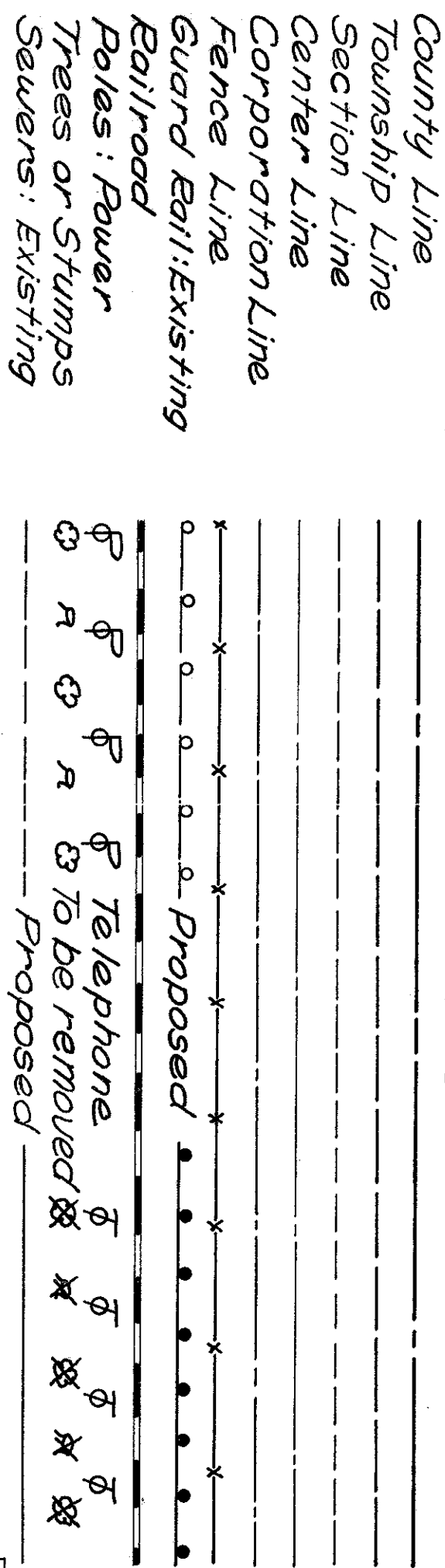
# STATE OF OHIO DEPARTMENT OF HIGHWAYS

## SEN-19-(3.56-4.41)

### BLOOM TOWNSHIP AND

### VILLAGE OF BLOOMVILLE

#### CONVENTIONAL SIGNS



#### INDEX OF SHEETS

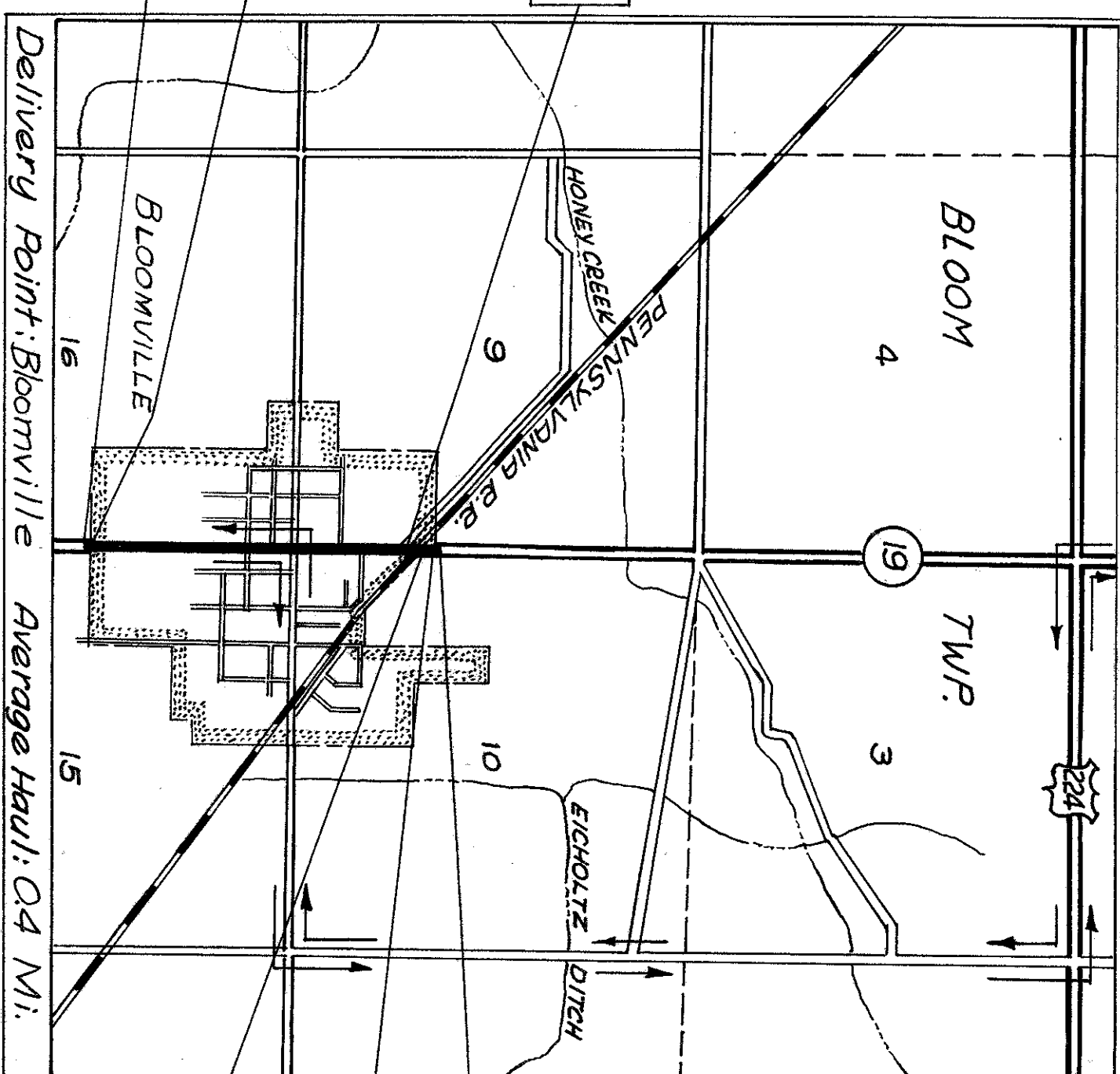
Title Sheet	1	Suspend Project and Work Sta. 231+42.5
Typical Sections	2-3	
General Notes	4	
General Summary	4	
Calculations	5	
Sub Summaries	6	
Plan and Profile Sheets	7-10	Begin Project
Cross Sections	11-20	Sta. 187+96.8
Intersection Details	21	Sta. 187+96.8
Details of Drainage Structures	22	Begin Work Sta. 187+75
<b>LINE DATA</b>		
<b>WORK - RURAL</b>		
Begin - Sta. 187+75	Length - Ft.	Miles
End - Sta. 187+96.8	218	
Begin - Sta. 234+23.65	26.35	
End - Sta. 234+50	48.15	0.009
Net Length		

#### WORK AND PROJECT - MUNICIPAL

Begin - Sta. 187+96.8	4426.52
End - Sta. 232+23.32	11.5
Deduct for Railroad	4415.02
Net Length	0.836

#### WORK - PROJECT - HALF RURAL - HALF MUNICIPAL

Total Length Project = 4415.02 + 200.33 = 4615.35 Lin. Ft.	0.874 Mi.
Total Length Work = 48.15 + 4415.02 + 200.33 = 4663.50 Lin. Ft.	0.883 Mi.
	0.0371



LOCATION MAP  
Delivery Point: Bloomville Average Haul: 04 Mi.

SCALE OF MILES	
Portion to be improved	
State roads	
Other roads or streets	
Detour	
<b>SCALE</b>	
Plan:	1" = 50'
Profile: Horizontal:	1" = 50'
Vertical:	1" = 5'
Cross Sections:	1" = 5'

#### STANDARD DRAWINGS

GTOT	6-1-56	I-12	7-1-54
D/E-1	1-3-55	L-3	4-1-50
I-1	1-15-60	L-3-A	4-1-50
I&GB No. 24	3-2-59	RT-1	7-15-58
I&GB No. 34	1-26-59	T-35	1-2-56
I&GB No. 6	1-26-59		
I&GB No. 7	3-11-60		
I&MH No. 1	1-26-59		

#### SUPPLEMENTAL SPECIFICATIONS


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 not require the closing to traffic of the highway except as noted on sheet 4 and that provisions for maintenance and safety of traffic will be as set forth on these plans and estimates.

Approved Robert C. Fieck  
Date 8-21-61 Acting Mayor, Village of Bloomville

Approved E. J. Peltier  
Date 8-29-61 Division Deputy Director

Approved \_\_\_\_\_  
Date \_\_\_\_\_ Engineer of Bridges

Approved W. J. Lammiman  
Date 12-7-61 Engineer of Location and Design

Approved William R. Boyer  
Date 12-1-61 Deputy Director of Design and Construction

Approved \_\_\_\_\_  
Date \_\_\_\_\_ Deputy Director of Right of Way

Approved Henry E. Hooper  
Date 12-8-61 Deputy Director of Planning and Programming

Approved W. J. Remy  
Date 12-8-61 First Assistant Director

Approved E. S. Peaton  
Date 12-8-61 Director of Highways

File No. SENECA COUNTY SEN-19-(3.56-4.41)  
Date of Letting \_\_\_\_\_  
Contract No. \_\_\_\_\_

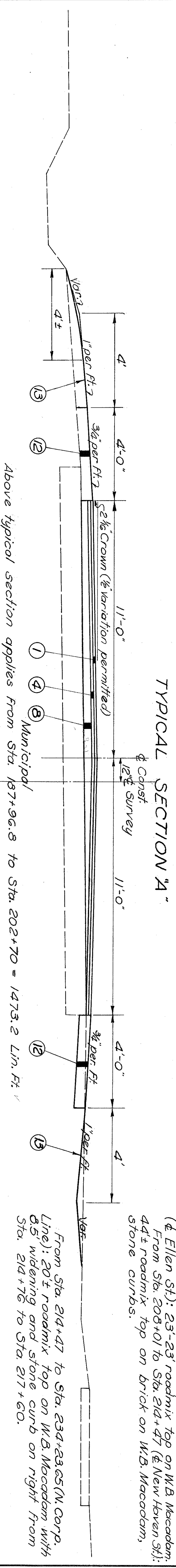
# TYPICAL SECTIONS (1 of 2)

## TYPICAL TYPE T-35

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

SEN-19-(3.56-4.41)

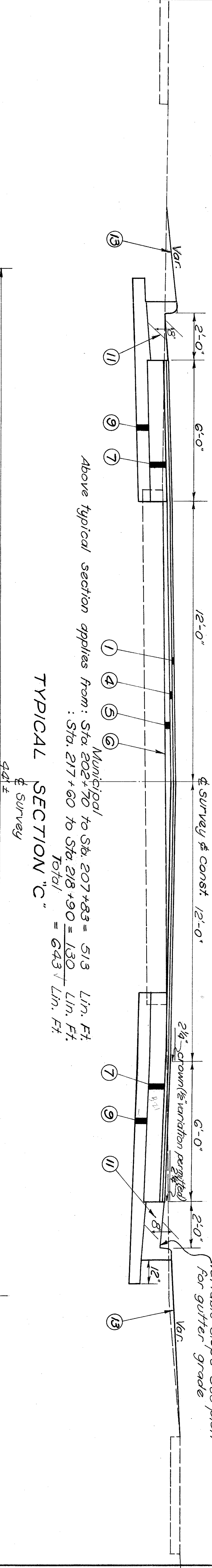
**DATA ON EXISTING PAVEMENT:**  
 From Sta. 187+96.8(S) Corp. Line) to Sta. 208+01  
 (& Ellen St.): 23'-23" roadmix top on W.B. Macadam.  
 From Sta. 208+01 to Sta. 214+47 (& New Haven St.):  
 44± roadmix top on brick on W.B. Macadam,  
 stone curbs.



Above typical section applies from Sta. 187+96.8 to Sta. 202+70 = 1473.2 Lin. Ft.

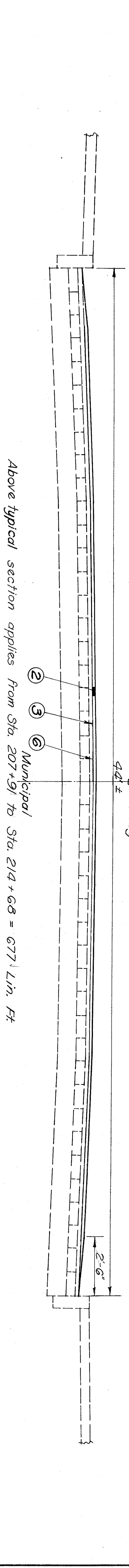
From Sta. 214+47 to Sta. 234+23.65(N. Corp. Line): 20± roadmix top on W.B. Macadam with 65' widening and stone curb on right from Sta. 214+76 to Sta. 217+60.

TYPICAL SECTION "B"



Above typical section applies from: Sta. 202+70 to Sta. 207+83 = 513 Lin. Ft.  
 : Sta. 217+60 to Sta. 218+90 = 130 Lin. Ft.  
 Total = 643 Lin. Ft.

TYPICAL SECTION "C"



Above typical section applies from Sta. 207+91 to Sta. 214+68 = 677 Lin. Ft.

- ① Item T-35,\*1" Asphaltic Concrete Surface Course, Type C (70-85)
- ② Item T-35,\*1/4" Asphaltic Concrete Surface Course, Type C (70-85)
- ③ Item B-35, 0" Minimum Asphaltic Concrete leveling Course using T-35 type C composition material as per Section T-35.08 (70-85)
- ④ Item B-35,\*1/4" Asphaltic Concrete Leveling Course (70-85)
- ⑤ Item B-35, 0" Minimum Asphaltic Concrete Pre-leveling course.
- ⑥ Item T-30, Bituminous Tack Coat: Sec. M-5.5, M5-2 or RS-1; or Sec. M-5.2, RC-1 or RC-2, as per Sec. T-30.02 applied of the rate of 0.10 gal. per sq. yd.
- ⑦ Item B-21,\*8" Waterproofed Aggregate Base Course.
- ⑧ Item B-21, Variable Waterproofed Aggregate Base Course.
- ⑨ Item I-22, 6" Subbase, Grading "C" or "D"
- ⑩ Item I-22, Variable Subbase, Grading "C" or "D"
- ⑪ Item I-12, Type 2 Combination Curb and Gutter.
- ⑫ Item I-18, Stabilized Crushed Aggregate Shoulders and Approaches.
- ⑬ Item L-9, Seeding and Protecting, as per plan

\* Thicknesses shown are designed thicknesses as described in Sec. T-35.01, Sec. B-35.01, and Sec. B-21.01

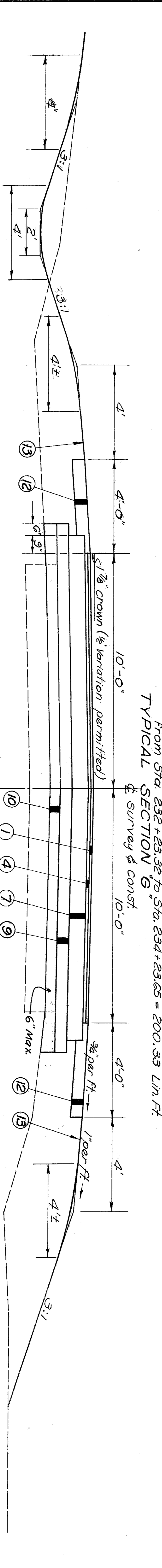
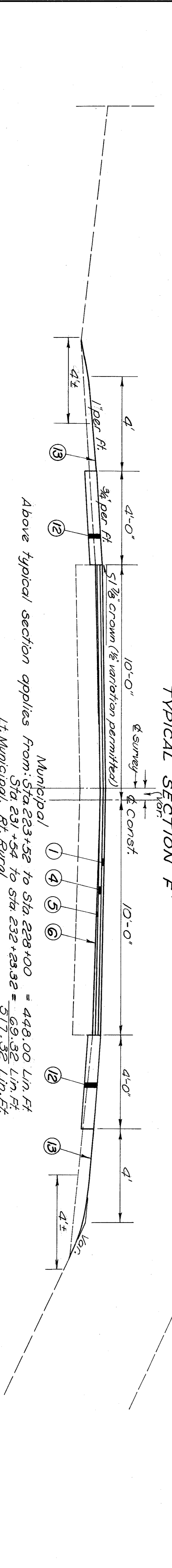
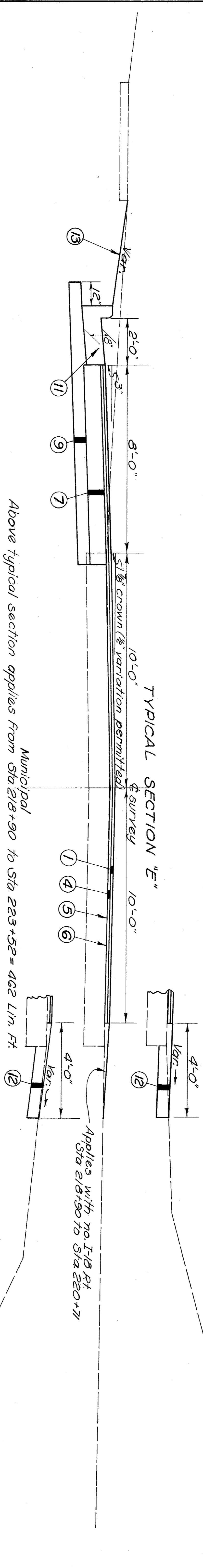
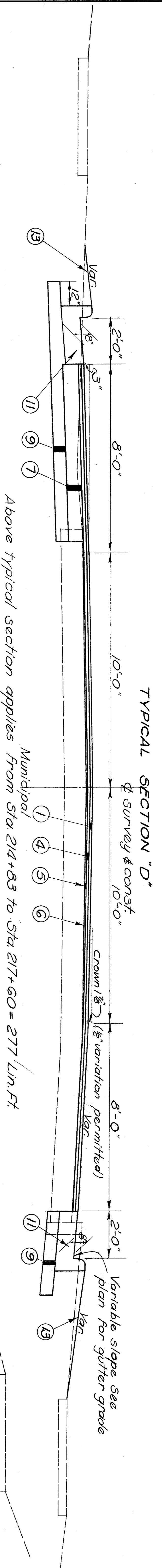


# TYPICAL SECTIONS (2 of 2)

## TYPE T-35

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

SEN-19-(3.5G-4.1)



Above typical section applies from Sta. 228+80 to Sta. 231+42.5 = 262.5 Lin. Ft.

Above typical section applies from: Sta. 223+52 to Sta. 228+00 = 448.00 Lin. Ft.  
 Lt. Municipal, Rt. Rural  
 Sta. 231+54 to Sta. 232+23.32 = 69.32 Lin. Ft.  
 From Sta. 232+23.32 to Sta. 234+23.65 = 200.33 Lin. Ft.



# GENERAL

# NOTES

# GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

SEN-19-(356,41)



**CONTROL POINTS:** Before construction operations begin, the Engineer will reference existing monuments, railroad spikes, iron bolts, etc. in the survey line. Upon completion of the surfacing, the Engineer will reestablish all these control points in the new pavement.

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

**UTILITY OWNERSHIP:**  
Electric: Ohio Power Co., Canton, Ohio.  
Telephone: General Telephone Co., Marion, Ohio.  
Water: Bloomville Water Co., Bloomville, Ohio.  
Gas: Ohio Fuel Gas Co., Columbus, Ohio.

**FIELD OFFICE:** The contractor shall provide a suitable field office in accordance with Sec. 5-001(b) having a minimum of 150 sq. ft. of floor space. The contractor shall have a telephone installed and maintained during the construction of the project.

**B-35, 0' MINIMUM:** B-35, 0' Minimum Leveling Material is to be placed only in the amounts and at the locations designated by the Engineer.

**ITEM I-1:** When the type of Class A, Class B or Class C pipe is not specifically itemized in the Proposal, the provisions of Sec. I-102 are modified to the extent that Reinforced Concrete Pipe, Sec. M-6(c)(d) will be accepted as an alternate to the types of pipe listed under the headings Class A, Class B or Class C.

**L-9, COMMERCIAL FERTILIZER:** All areas to be seeded shall have commercial fertilizer (12-12-12) applied at the rate of twenty (20) pounds per 1000 square feet.

**SEEDING QUANTITIES:** Quantities for seeding are calculated for the soil areas within the work limits as indicated on the cross sections and payment for seeding beyond these limits will not be allowed.

**SEEDING MIXTURE:** The following seed mixture shall apply:  
Kentucky Blue 40%  
Creeping Red 15%  
Red Top 5%  
White Dutch Clover 5%  
Total 100%

**PLACEMENT OF ASPHALTIC CONCRETE:** Two-way traffic shall be maintained at all times except that one-way traffic will be permitted for minimum periods of time consistent with the requirements of the specifications for protection of completed asphaltic concrete courses.

**TRENCH FOR WIDENING:** Trench excavation for base widening shall be performed only on one side of the pavement at a time. The open trench shall be adequately maintained and protected with temporary guide markers or barricades at all times. Placement of proposed subbase and base material up to a level not more than 3 inches below the existing pavement edge shall follow as closely as possible behind the excavation operations. The length of the widening trench which is open at any one time shall be held to a minimum and shall at all times be subject to approval of the Engineer.

**ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS:** The rounded corners shown on Standard Drawing R1-1, as modified by the typical sections apply to all cross sections, even though otherwise shown on these plans.

**ITEM T-30 TACK COAT:** Although this item has been estimated for use on the entire existing bituminous pavement area to be salvaged, it shall be used only on dry or checked pavement areas where specifically directed by the Engineer.

**MODIFICATIONS OF CATCH BASINS:**

Standard No. 6 Catch Basin modified as shown on Sheet No. 22  
Standard No. 7 Catch Basin with modified grate as shown on Sheet No. 22  
Special Inlet to be constructed as shown on Sheet No. 22

**T-10 & M-10:** Estimated quantities of 50 Cu. Yd. of T-10 Traffic Compacted Surface Course and one ton of M-10, Calcium Chloride are carried in the General Summary to be used as directed by the Engineer for maintenance of local traffic.

**I-18:** Compaction of subgrade required by Sec. I-1803 is hereby waived on this project except for new shoulder construction between Station 228+80 to Station 231+42.5.

**CONNECTIONS TO EXISTING PIPE:** Where the plans provide for proposed drainage items to be connected to existing pipes, it shall be the responsibility of the contractor to locate the existing pipe, both as to line and grade before he starts to construct the proposed drainage. The cost of this operation shall be included in the unit price bid for the pertinent drainage item.

**SALVAGE CASTINGS:** Existing catch basin castings which are to be removed or replaced shall be removed in such a manner that they will not be damaged. After removal, the castings shall be placed at the locations designated in the plans or at locations designated by the Engineer, for disposal by the Village forces.

**NON RIGID PAVEMENT REMOVAL:** Removal and disposal of existing non-rigid pavement, unless otherwise indicated on the plans, shall be paid for as E-1, Roadway Excavation.

**DETOUR LIMITATION:** Two way traffic shall be maintained except as noted elsewhere, and except that for a period of not to exceed 30 consecutive calendar days, through traffic may be detoured as shown on sheet 1 for the sole purpose of making grade change south of Pennsylvania Railroad, Sta. 228+00 to Sta. 232+00.

**RAILROAD CROSSING:** The new surface course shall be feathered to meet the railroad grades if necessary.

**PLUGGING PIPE:** The upstream ends of all pipe or tile lines intercepted by earthwork operations and, where indicated on the plans, the ends of pipe lines to be abandoned in place, shall be effectively blocked and covered. Broken pieces which shall be blocked with concrete, flat stone or brick laid in mortar, or a precast clay or concrete stopper. Payment for the above work shall be included in the unit price bid for Item E-1, Roadway Excavation.

Item	Municipal	Rural	Total	Unit	Description
E-1	1780	9	1789	Cu. Yd.	Roadway Excavation, Method "A", as per plan
E-1	649	2	651	Cu. Yd.	Embankment, Method "A"
E-1	3086		3086	Sq. Yd.	Compacted Subgrade
E-8	5		5	Sq. Yd.	Removal and Disposal of Existing Concrete Pavement
E-8	15		15	Lin. Ft.	Removal and Disposal of Existing Concrete Curb
E-8	606		606	Sq. Ft.	Removal and Disposal of Existing Bituminous Wearing Course.
E-8	156		156	Sq. Yd.	
E-11	14	1	15	M-Gal.	Water
L-9	5693		5693	Sq. Yd.	Seeding and Protecting, as per plan.
L-9	.46		.46	Ton	Commercial Fertilizer (12-12-12)
T-10	50		50	Cu. Yd.	Traffic Compacted Surface Course for maintaining traffic.
M-10	1		1	Ton	Calcium Chloride, furnished and applied for maintaining traffic.
I-18	382	15	397	Cu. Yd.	Stabilized Crushed Aggregate Shoulders and Approaches
I-18	743		743	Sq. Ft.	4" Sidewalk, Concrete
E-1	40		40	Lin. Ft.	10" Pipe, Class A-1, Sec. M-6(c)(a) or M-6(c)(b)
E-1	752		752	Lin. Ft.	12" Pipe, Class A-1, Sec. M-6(c)(a) or M-6(c)(b)
E-1	40		40	Lin. Ft.	12" Pipe, Class B-1
E-1	52		52	Lin. Ft.	12" Pipe, Class G-1, Sec. M-6(d)(c)
E-1	6		6	Lin. Ft.	8" Pipe, Class E-1
E-1	6		6	Lin. Ft.	10" Pipe, Class E-1
E-1	93		93	Lin. Ft.	12" Pipe, Class E-1
E-5	1		1	Each	12" Tee Pipe Special, Class A-1, Sec. M-6(c)(a) or M-6(c)(b)
E-5	1		1	Each	10" Tee Pipe Special, Class A-1, Sec. M-6(c)(a) or M-6(c)(b)
E-8	3		3	Each	Standard 22-B Catch basin, using salvaged castings
E-8	11		11	Each	Standard No. 3-A Catch basin
E-8	1		1	Each	Standard No. 6 Catch basin, modified as per plan
E-8	4		4	Each	Standard No. 7 side Ditch Catch basin, modified as per plan
E-8	3		3	Each	Special Inlet, as per plan
E-8	7		7	Each	Catch basins, adjust to grade, as per plan
E-8	2		2	Each	Catch basins, adjust to grade, including furnishing and placing new Standard No. 1 Heavy Duty Manhole Frame and Cover
E-8	1		1	Each	Manhole, adjust to grade
E-8	2		2	Each	Catch basins, adjust to grade, using salvaged type 2-2-B castings, as per plan
E-16	11		11	Each	Catch basins, Abandoned
B-21	839	1	840	Cu. Yd.	Waterproofed Aggregate Base Course.
B-35	23		23	Cu. Yd.	Asphaltic Concrete Leveling Course, using Type "C" Surface Course Composition Material (70-85)
B-35	593	13	606	Cu. Yd.	Asphaltic Concrete Leveling Course (70-85)
B-70	52		52	Sq. Yd.	Portland Cement Concrete Base Course.
T-30	1220	33	1253	Gals.	Bituminous Tack Coat, Sec. M-5.5, M-5.2, or R-5.1; or Sec. M-5.3, R-5.1 or R-5.2, as per Sec. T-30.02.
T-30	315		315	Gals.	Bituminous Prime Coat, Sec. M-5.7, R-5.2 or R-5.3.
T-35	498	10	508	Cu. Yds.	Asphaltic Concrete Surface Course, Type "C" (70-85).
I-12	2208		2208	Lin. Ft.	Standard Type 2 Combination Curb and Gutter
I-12	187		187	Lin. Ft.	Standard Type 6 Concrete Curb.
I-22	644	2	646	Cu. Yds.	Subbase, Grading "C" or "D"

# GENERAL NOTES & SUMMARY



**MUNICIPAL**

**CALCULATIONS**

**MUNICIPAL (cont'd)**

**MUNICIPAL (cont'd)**

ED. RD. DIVISION	STATE	PROJECT
2	OHIO	



SEN-19-(3.56-4.41)

**T-35 ASPHALTIC CONCRETE SURFACE COURSE:**

1<sup>1</sup>": From: Typical Section A, Length = 1473.2', width = 22'  
 Area = 1473.2 x 22 ÷ 9 = 3601.2 Sq Yd  
 Typical Section B, Length = 643', width = 36'  
 Area = 643 x 36 ÷ 9 = 2572.0 Sq Yd  
 Typical Section D, Length = 277', width = 36'  
 Area = 277 x 36 ÷ 9 = 1108.0 Sq Yd  
 Typical Section E, Length = 462', width = 28'  
 Area = 462 x 28 ÷ 9 = 1437.3 Sq Yd  
 Typical Section F, Length = 5173.2', width = 20'  
 Length = 20033, width = 10' Avg.  
 Area = (5173.2 x 20) + (20033 x 10) ÷ 9 = 1372.2 Sq Yd.  
 Typical Section G, Length = 262.5', width = 20'  
 Area = 262.5 x 20 ÷ 9 = 583.3 Sq Yd.  
 Extra Pavement Table = 887.1 Sq Yd.  
 Total Area 1" = 11561.1 Sq Yd.  
 Volume = 11561.1 x 1 ÷ 36 = 321.14 Cu Yd.

**1<sup>1</sup>": From: Typical Section C, Length = 677', width = 44' Avg.**

Area = 677 x 44 ÷ 9 = 3309.8 Sq Yd  
 Extra Pavement Table = 311.7 Sq Yd  
 Total Area 1<sup>1</sup> = 3621.5 Sq Yd.  
 Volume = 3621.5 x 1<sup>1</sup> ÷ 36 = 125.75 Cu Yd.

**2": From: Approach Table = 907.6 x 2 ÷ 36**

Volume = 907.6 Sq Yd = 50.42 Cu Yd  
 Total Volume T-35 Municipal = 497.31 Cu Yd.  
**USE 498 CU. YD.**

**B-35 ASPHALTIC CONCRETE LEVELING COURSE USING TYPE C SURFACE COMPOSITION MATERIAL:**

From: Typical Section C, to correct surface irregularities (from Engineer's estimate) = 230 Cu Yd  
**USE 23 CU. YD.**

**B-35 ASPHALTIC CONCRETE LEVELING COURSE:**

1<sup>1</sup>": From: Typical Sections A, B, D, E, F, & G, same area as 1" T-35 = 10674.0 Sq Yd.  
 Extra Pavement Table = 8670.5 Sq Yd  
 Total Area = 11541.0 Sq Yd  
 Volume = 11541.0 x 1<sup>1</sup> ÷ 36 = 400.73 Cu Yd

**0" Min. From Engineer's estimate for surface irregularities and crown Municipal**

USE 593 CU. YD. = 192.2 Cu Yd.  
 Total Volume B-35 Municipal = 592.93 Cu Yd.

**T-30, BITUMINOUS TACK COAT:**

From: Typical Section A, same as T-35 = 3601.2 Sq Yd.  
 Typical Section B, Length = 643', width = 21' Avg.  
 Area = 643 x 21 ÷ 9 = 1500.3 Sq Yd.  
 Typical Section C, same as T-35 = 3309.8 Sq Yd.  
 Typical Section D, Length = 277', width = 28.5' Avg.  
 Area = 277 x 28.5 ÷ 9 = 877.2 Sq Yd.  
 Typical Section E, Length = 462', width = 19.5' Avg.  
 Area = 462 x 19.5 ÷ 9 = 1001.0 Sq Yd.  
 Typical Section F, same as T-35 = 1372.2 Sq Yd.  
 Extra Pavement Table = 535.1 Sq Yd  
 Total Area = 12196.8 Sq Yd.  
 Volume T-30 Tack Municipal = 12196.8 x 0.10 = 1219.68 Gal.  
**USE 1220 GAL.**

**T-30, BITUMINOUS PRIME COAT:**

From Approach Table = 785.8 x 0.40 = 785.8 Sq Yd  
 Volume = 785.8 x 3.15 = 314.32 Gal.  
**USE 315 GAL.**

**B-21 WATERPROOFED AGGREGATE BASE COURSE:**

8": From: Typical Section B, Length = 643', width = 14' Avg.  
 Area = 643 x 14 ÷ 9 = 1000.2 Sq Yd.  
 Typical Section D, Length = 277', width = 7.5' Avg.  
 Area = 277 x 7.5 ÷ 9 = 230.8 Sq Yd.  
 Typical Section E, Length = 462', width = 9' Avg.  
 Area = 462 x 9 ÷ 9 = 462.0 Sq Yd.  
 Typical Section G, Length = 262.5', width = 21.5'  
 Area = 262.5 x 21.5 ÷ 9 = 627.1 Sq Yd.  
 Extra Pavement Table = 535.7 Sq Yd  
 Total Area = 2817.1 x 8 ÷ 36 = 2817.1 Sq Yd.  
 Volume = 2817.1 x 8 ÷ 36 = 626.02 Cu Yd.

**Variable: From: Extra Pavement Table on Engineer's estimate for crown correction**

Total Volume B-21 Municipal = 2007 Cu Yd.  
**USE 839 CU. YD.**

**I-22, SUBBASE:**

6": From: Typical Section B, Length = 643', width = 21' Avg.  
 Area = 643 x 21 ÷ 9 = 1500.3 Sq Yd.  
 Typical Section D, Length = 277', width = 14.5' Avg.  
 Area = 277 x 14.5 ÷ 9 = 446.3 Sq Yd.  
 Typical Section E, Length = 462', width = 12.5' Avg.  
 Area = 462 x 12.5 ÷ 9 = 641.7 Sq Yd.  
 Typical Section G, Length = 262.5', width = 22.5'  
 Area = 262.5 x 22.5 ÷ 9 = 656.3 Sq Yd  
 Extra Pavement Table = 590.4 Sq Yd.  
 Total Area = 3768.5 x 6 ÷ 36 = 3768.5 Sq Yd.  
 Volume = 3768.5 x 6 ÷ 36 = 628.08 Cu Yd.

**Variable: From: Typical Section G, for change in grade = 8.33 Cu Yd.**

Extra Pavement Table = 741 Cu Yd.  
 Total Volume I-22, Municipal = 643.82 Cu Yd.  
**USE 644 CU. YD.**

**I-12, TYPE 2 COMBINATION CURB AND GUTTER:**

From: Typical Section B, Length = 643 x 2 = 1286 Lin. Ft  
 Typical Section D, Length = 277 x 2 = 554 Lin. Ft  
 Typical Section E, Length = 462 x 1 = 462 Lin. Ft  
 Typical Section G, Length = 262.5 x 4 x 2 ÷ 9 = 890 Sq Yd  
 Deduct: College St, Rt Sta. 204 + 78.71 = -50 Lin. Ft  
 Kohler St, Lt Sta. 220 + 31.55 = -44 Lin. Ft  
 Total Length I-12, Type 2, Municipal = 2208 Lin. Ft  
**USE 2208 LIN. FT.**

**I-18, STABILIZED CRUSHED AGGREGATE SHOULDERS AND APPROACHES:**

6": From: Typical Section A, Length = 1473.2 x 4 x 2 ÷ 9 = 1309.5 Sq Yd.  
 Typical Section E, Length = 281 x 4 ÷ 9 = 124.9 Sq Yd.  
 Typical Section F, Length = 5173.2 x 4 x 2 ÷ 9 = 4598 Sq Yd.  
 Typical Section G, Length = 200.33 x 4 ÷ 9 = 89.0 Sq Yd.  
 Extra Pavement Table = 233.3 Sq Yd.  
 Approach Table = 71.1 Sq Yd  
 Total Area G' = 2212.3 x 6 ÷ 36 = 252 Sq Yd.  
 Volume = 2212.3 x 6 ÷ 36 = 368.72 Cu Yd.

**5": From: Approach Table**

Volume = 93.7 x 5 ÷ 36 = 13.01 Cu Yd.  
 Total Volume I-18, Municipal = 381.73 Cu Yd.  
**USE 382 CU. YD.**

**E-11, WATER:**

From: Compacted Subgrade = 3086 Sq Yd x 12' ÷ 36 = 1029 Cu Yd.  
 I-22 Subbase = 644 Cu Yd  
 I-18 Stabilized Crushed Aggregate = 382 Cu Yd.  
 E-1, Embankment + 20% = 778 Cu Yd  
 Total = 2833 Cu Yd.  
 Volume = 2833 x 5 ÷ 1000 = 141.6 M. Gal. **USE 14 M. GAL.**

**E-1, COMPACTED SUBGRADE:**

From: Typical Section B, Length = 643', width = 19' Avg.  
 Area = 643 x 19 ÷ 9 = 1357.4 Sq Yd.  
 Typical Section D, Length = 277', width = 10' Avg.  
 Area = 277 x 10 ÷ 9 = 307.8 Sq Yd.  
 Typical Section E, Length = 462', width = 11.5' Avg.  
 Area = 462 x 11.5 ÷ 9 = 590.3 Sq Yd  
 Typical Section G, Length = 262.5 x 4.5 ÷ 21.75', width = 20'  
 Area = 217.5 x 20 ÷ 9 = 483.3 Sq Yd.  
 Extra Pavement Table = 390.7 Sq Yd  
 Total Area E-1, Municipal = 3085.5 Sq Yd.  
**USE 3086 SQ. YD.**

**T-35 ASPHALTIC CONCRETE SURFACE COURSE:**

1<sup>1</sup>": From: Typical Section F, Length = 200.33', width = 10' Avg.  
 Area = 200.33 x 10 ÷ 9 = 222.6 Sq Yd  
 Extra Pavement Table = 104.6 Sq Yd  
 Total Area = 327.2 Sq Yd  
 Volume T-35 Rural = 327.2 x 1 ÷ 36 = 9.09 Cu Yd.  
**USE 10 CU. YD.**

**B-35 ASPHALTIC CONCRETE LEVELING COURSE:**

1<sup>1</sup>": From: Typical Section F, same as T-35 = 222.6 Sq Yd.  
 Extra Pavement Table = 36.3 Sq Yd.  
 Total Area = 258.9 x 1<sup>1</sup> ÷ 36 = 258.9 Sq Yd.  
 Volume = 258.9 x 1<sup>1</sup> ÷ 36 = 8.99 Cu Yd.

**0" Min. From: Engineer's estimate for surface irregularities**

Volume = 258.9 x 0.1 = 25.89 Cu Yd.  
 Total Volume B-35 Rural = 12.39 Cu Yd.  
**USE 13 CU. YD.**

**T-30, BITUMINOUS TACK COAT:**

From: Typical Section F, same as T-35 = 222.6 Sq Yd  
 Extra Pavement Table = 103.2 Sq Yd  
 Total Area = 325.8 Sq Yd  
 Volume T-30 Tack, Rural = 325.8 x 0.1 = 32.58 Gal.  
**USE 33 GAL.**

**B-21 WATERPROOFED AGGREGATE BASE COURSE:**

8": From: Typical Section B, Length = 643' x 8 ÷ 36 = 48 Sq Yd.  
 Extra Pavement Table = 1.07 Cu Yd.  
**USE 1 CU. YD.**

**I-18, STABILIZED CRUSHED AGGREGATE SHOULDERS AND APPROACHES:**

6": From: Typical Section F, Length = 200.33 x 4 ÷ 9 = 89.04 Sq Yd.  
 Volume = 89.04 x 6 ÷ 36 = 14.84 Cu Yd.  
**USE 15 CU. YD.**

**I-22, SUBBASE:**

Extra Pavement Table = 7.3 Sq Yd  
 Volume = 7.3 x 6 ÷ 36 = 1.22 Cu Yd.  
**USE 2 CU. YD.**

**E-11, WATER:**

From: I-22, Subbase = 2 Cu Yd  
 I-18 Stabilized Crushed Aggregate = 15 Cu Yd.  
 E-1, Embankment + 20% = 2 Cu Yd  
 Total = 19 Cu Yd.  
 Volume = 19 x 5 ÷ 1000 = 0.1 M. Gal.  
**USE 1 M. GAL.**

**CALCULATIONS**



# TABLE "D" DRAINAGE SUMMARY

LINE No.	Sheet No.	REFERENCE No.	STATION		LOCATION	B70 Portland Cement Conc. Base Course 8" Thickness	I-1					I-5 PIPE SPECIAL 12" on 12" Tee class A 10" on 10" Tee class A No. 2-2-B as per plan No. 3A	I-8 CATCH BASINS No. 7 with Mod. Grate No. 6 Modified adjust to grade using 2-2B casting adjust to grade using heavy manhole casting special Inlet as per plan	I-6 Manholes adjust to grade	I-6 abandon Catch- basin											
			From	To			10"	12"	12"	12"	8"					10"	12"									
1	7	1-D 189+00	Rt																							
2	7	2-D 191+18	Rt																							
3	7	3-D 192+63	Rt																							
4	7	4-D 193+48	Rt																							
5	7	5-D 194+10	Rt																							
6	7	6-D 194+39	Rt																							
7	7	7-D 195+42	Rt																							
8	8	1-D 201+43	Rt																							
9	8	2-D 201+77	Lt																							
10	11	3-D 202+75	Rt																							
11	11	4-D 202+75	Rt																							
12	13	5-D 204+50	Rt																							
13	14	6-D 204+50	Rt																							
14	15	7-D 207+80	Rt																							
15	16	8-D 211+00	Rt																							
16	17	1-D 214+25	Rt																							
17	19	2-D 217+63	Rt																							
18	20	3-D 218+80	Rt																							
19	21	4-D 220+04	Rt																							
20	22	5-D 223+45	Lt																							
21	22	6-D 224+25	Lt																							
22	24	7-D 226+03	Rt																							
23	25	1-D 228+98	Lt																							
24	27	2-D 229+65	Rt																							
25	28																									
26	29																									
27	30																									
28																										
29																										
30																										
		To General Summary				52	40	75	2	40	52	6	6	93	1	1	3	11	4	1	2	2	3	7	1	11

## EARTHWORK & SEEDING TABLE

Sheet No.	Excavation Embankment	E-1 Cu. Yd.	L-9 Seeding Fertilizer Sq. Yd. Ton
11	54	8	150
12	127	48	961
13	230	44	1400
14	176	11	202
15	289	48	612
16	192	19	316
17	513	10	652
18	51	9	304
19	113	368	946
20	35	84	150
Total	1780*	649*	778
			5693*
			.46*
11	9	2	0
Total	9*	2*	2

\*Total carried to General Summary

## SIDEWALK TABLE

Ref No.	Sheet No.	Station	Side Width	E-8 Removal Sq. Ft.	I-3 New Sq. Ft.	Remarks
1-5	8	202+79	Rt 3'	29	22.5	
2-5		204+47	Lt 5'	15	28	
3-5		205+37	Lt 3'	20	22.5	
4-5		205+45	Rt 4'	54	38	
5-5		206+36	Rt 3'	30	28.5	
6-5		206+84	Rt 4.5'	41	43	
7-5		207+58	Rt 4.5'	41	38	
8-5						
1-5	9	220+20	Lt 6'	30	27	
2-5		221+47	Lt 5'	18	22.5	
3-5		222+25	Lt 4'	24	18	
4-5	9	223+05	Lt 4'	24	14	
		From Extra Pavement Table		270	426	
		Total to General Summary		606	743	

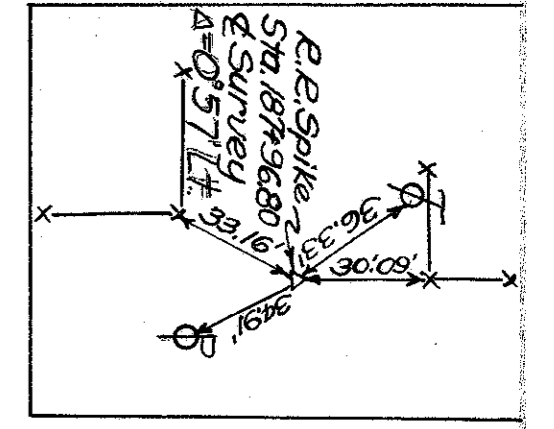
## EXTRA PAVEMENT TABLE

Ref No.	Station	Subgrade	E-1 Comp. Subgrade	I-22 8" Base	B-21 8" Base	T-30 Topch	T-35 7-35	I-12 I-13	E-8	I-18 I-22 B-21
1-P 721	187+75	187+96.8	Ch	73	48	436	25.6	44.0		
14-P 10	234+23.5	234+50	Ch			58	36.3	58.6		
TOTAL RURAL										
MUNICIPAL										
1-P 721	187+96.8	188+82	Rt	284	189	600	32.2	60.0		
2-P 821	198+80.6	202+70	Lt	51.1	108.4	95.3	95.3		20	40
3-P 821	201+00	202+70	Lt	12.2	66.8	64.2	64.2		18	40
4-P 821	202+49.0		Rt	61.2	71.6	66.8	64.2		40	40
5-P 821	204+78.71	208+20	Rt	17.3	35.5	38.3	28.9	32	25.0	53.9
6-P 821	207+8.3		Rt	27.8	33.2	29.8	58.7	20.0	89.1	25
7-P 8	21+16.63		Lt			32.1	32.1		32.1	
8-P 921	214+47.61		Rt	3.2	3.5	3.0	18.5	32.7	19.5	42
9-P 921	220+31.55		Lt	30.1	46.2	17.1	41.2	41.2	41.2	15
10-P 921	223+73.19		Lt	22.2	21.6	20.0	51.2	71.2	71.2	13
11-P 921	224+43.48		Rt				120.6	75.6	75.6	35.6
12-P 10	228+00	228+80	Ch	177.8			172.8	177.8		74.1
13-P 1021	230+55		Lt				202.9	202.9		13.3
TOTAL MUNICIPAL										
TOTAL GENERAL SUMMARY										
TO CALCULATIONS										

## SIDE APPROACH TABLE

Ref No.	Station	Side Width	Depth	5" Prime	6" Drive	Remarks				
1-4	7	188+80	Lt	70	13	5.2	30.8	30.8		M.B.
2-4		190+05	Lt	32	12	2.0	31.1	31.1		M.B.
3-4		204+40	Lt	70	13	5.2	30.8	30.8		M.B.
4-4		191+02	Rt	30	10	1.3	22.2	22.2		M.B.
5-4		191+91	Lt	70	13	5.2	30.8	30.8		M.B.
6-4		192+85	Rt	30	10	1.6	20	28.9	28.9	M.B.
7-4		193+27	Lt	70	13	5.2	30.8	30.8		M.B.
8-4		193+66	Rt	33	13	1.7	0.7	35.7	35.7	M.B.
9-4		194+27	Rt	31	11	1.3	51.9	31.9		M.B.
10-4		195+27	Rt	33	13	1.7	0.2	35.7	35.7	M.B.
11-4		195+27	Lt	70	13	5.2	30.8	30.8		M.B.
12-4		196+24	Rt	30	10	1.7	1.3	30.2	30.0	M.B.
13-4		196+70	Lt	70	13	5.2	30.8	30.8		M.B.
14-4	7	196+70	Lt	70	13	5.2	30.8	30.8		M.B.
1-4	8	198+03	Lt	72	15	6	5.7	32.2	32.2	M.B.
2-4		200+47	Lt	70	12	10	5.3	47.7	47.7	M.B.
3-4		204+40	Lt	26	12	13	23.6	23.6	6.5	M.B.
4-4		205+64	Lt	24	10	8	7.1	14.0	14.0	M.B.
5-4		206+48.5	Lt	30	16	12	28.7	28.7	5.1	M.B.
6-4		207+38	Rt	26	12	10	4.0	21.1	21.1	M.B.
7-4		210+11.5	Lt	26	11.5	6	9.3	9.3		M.B.
8-4	8	210+89	Rt	25	10	6	11.7	11.7		M.B.
1-4	9	215+37	Lt	28	10	5	15	15		M.B.
2-4		216+03	Lt	76	70	6	48.7	48.5	8.5	M.B.
3-4		217+48	Rt	30	16	12	27.6	27.6	5.1	M.B.
4-4		217+49	Lt	24	10	5	3.2	9.4	9.4	M.B.
5-4		218+69	Lt	24	10	5	4.3	9.4	9.4	M.B.
6-4		218+90	Rt	83	79	4	81.6			M.B.
7-4		221+94	Lt	24	10	5	4.9	9.4	9.4	M.B.
8-4		222+38	Rt	36	16	15	37.8	37.8		M.B.
9-4	9	226+03	Rt	30	10	10	22.2	22.2		M.B.
1-4	10	228+30	Lt	30	10	10	3.3	22.2	22.2	M.B.
Total to Calculations										
Total to General Summary										





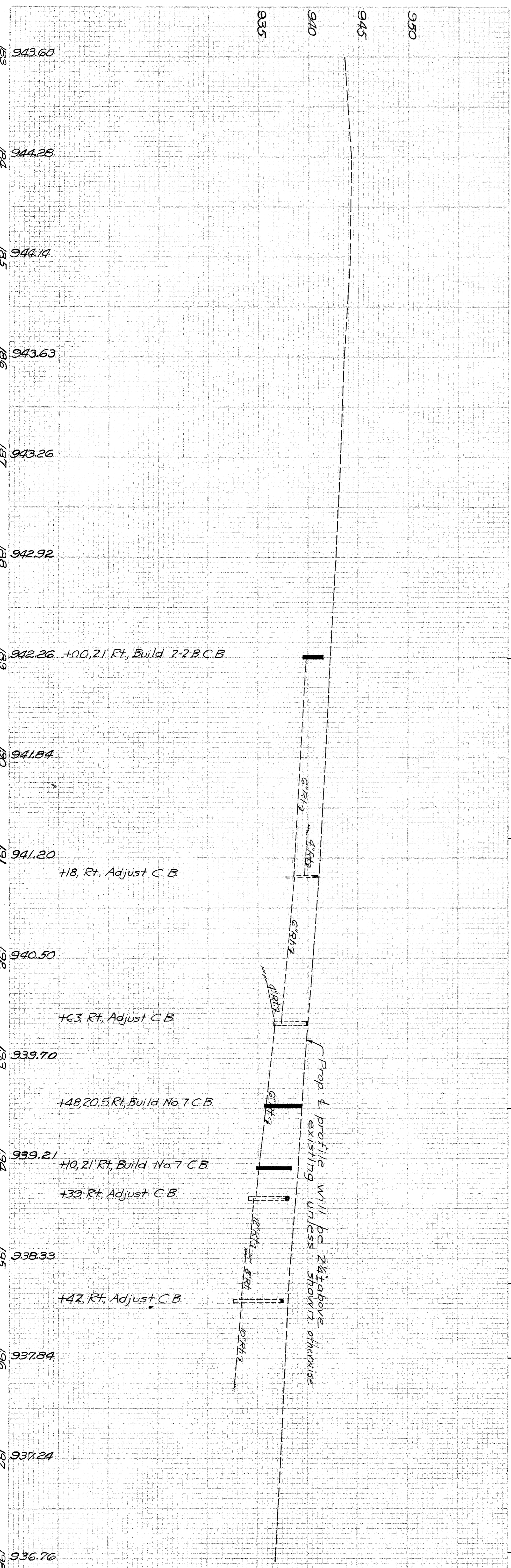
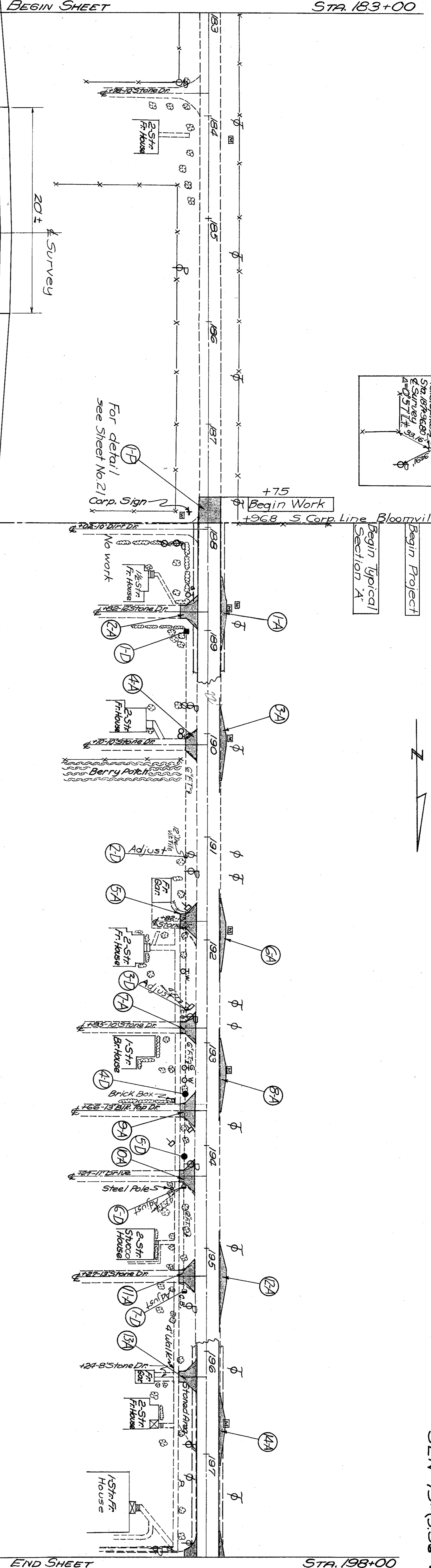
SLM - 356  
 Begin Project  
 Begin Typical Section A'



BEGIN SHEET STA. 183+00

END SHEET STA. 198+00

TYPICAL SECTION  
 ADJOINING PAVEMENT  
 2<sup>nd</sup> Roadmix on 7<sup>th</sup> W.B. Macadam



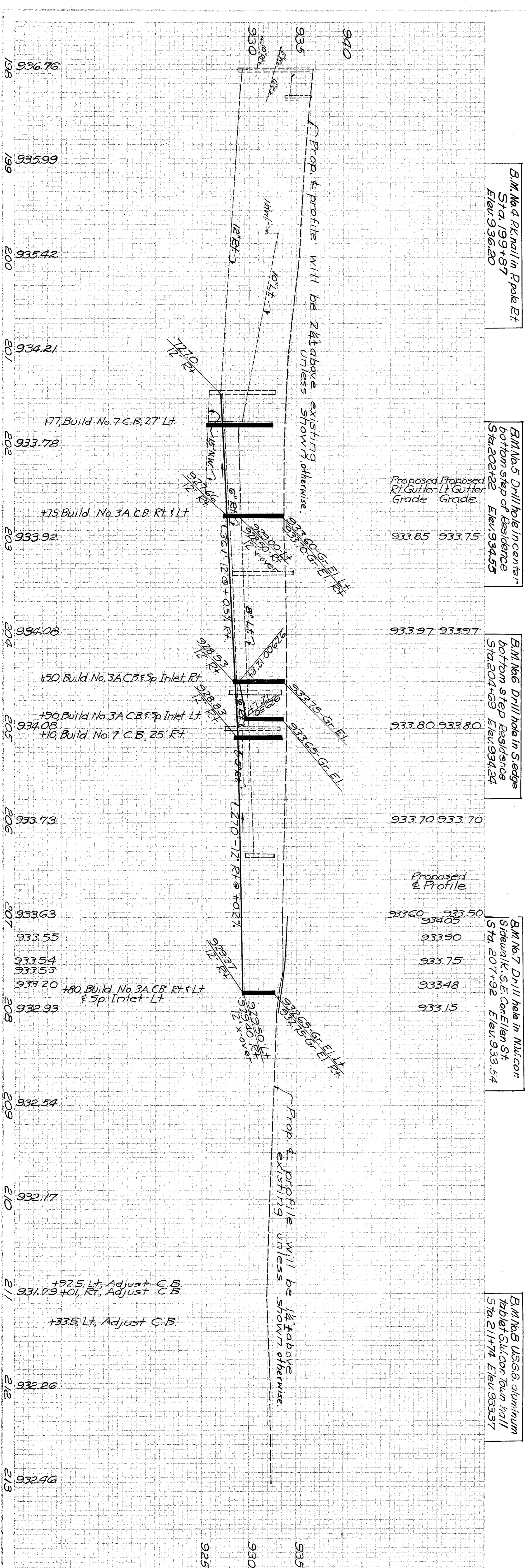
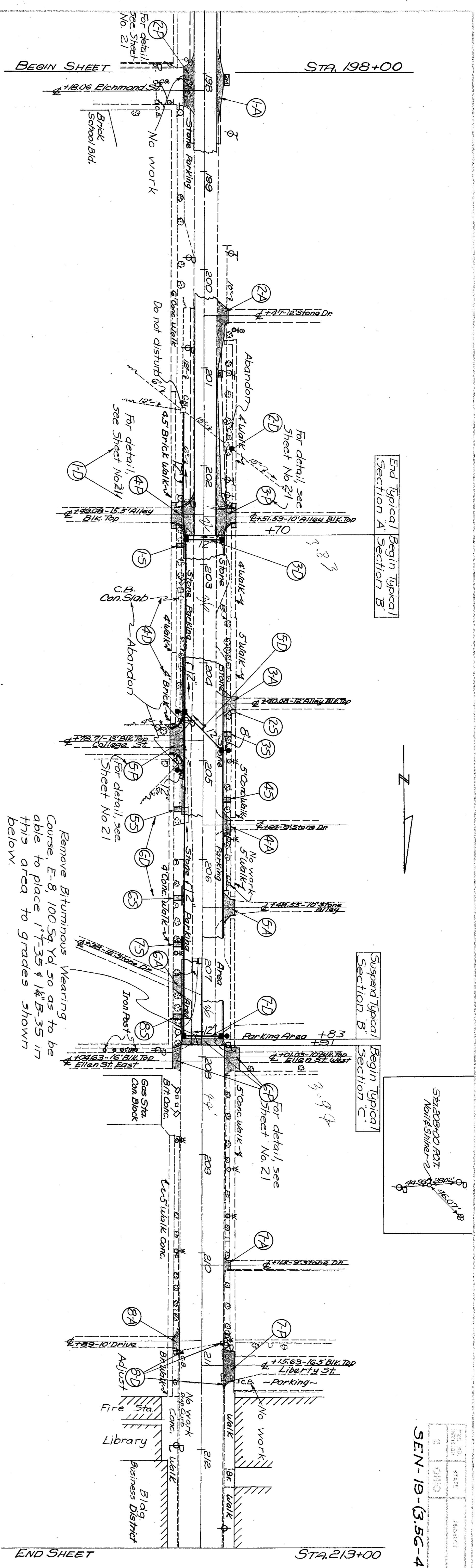
B.M. No. 1 Rk. nail in brace Pole Et.  
 Sta. 189+72  
 Elev. = 942.81

B.M. No. 2 Rk. nail in L Pole Et.  
 Sta. 194+18  
 Elev. 940.02

B.M. No. 3 Dr-111 hole in corner bottom  
 Step Residence Et.  
 Sta. 196+73 Elev. 939.26

STA. 183+00 TO STA. 198+00





B.M. No. 4 Pk. nail in Pole Et.  
Sta. 199+87  
Elev. 936.80

B.M. No. 5 Drill hole in center  
bottom step of Residence  
Sta. 202+22 Elev. 934.55

B.M. No. 6 Drill hole in S. edge  
bottom step Residence  
Sta. 204+09 Elev. 934.24

B.M. No. 7 Drill hole in N.W. cor  
Sidewalk S.E. Con. Ellen St.  
Sta. 207+92 Elev. 933.54

B.M. No. 8 USGS. aluminum  
tablet S.W. cor. town hall  
Sta. 211+74 Elev. 933.37

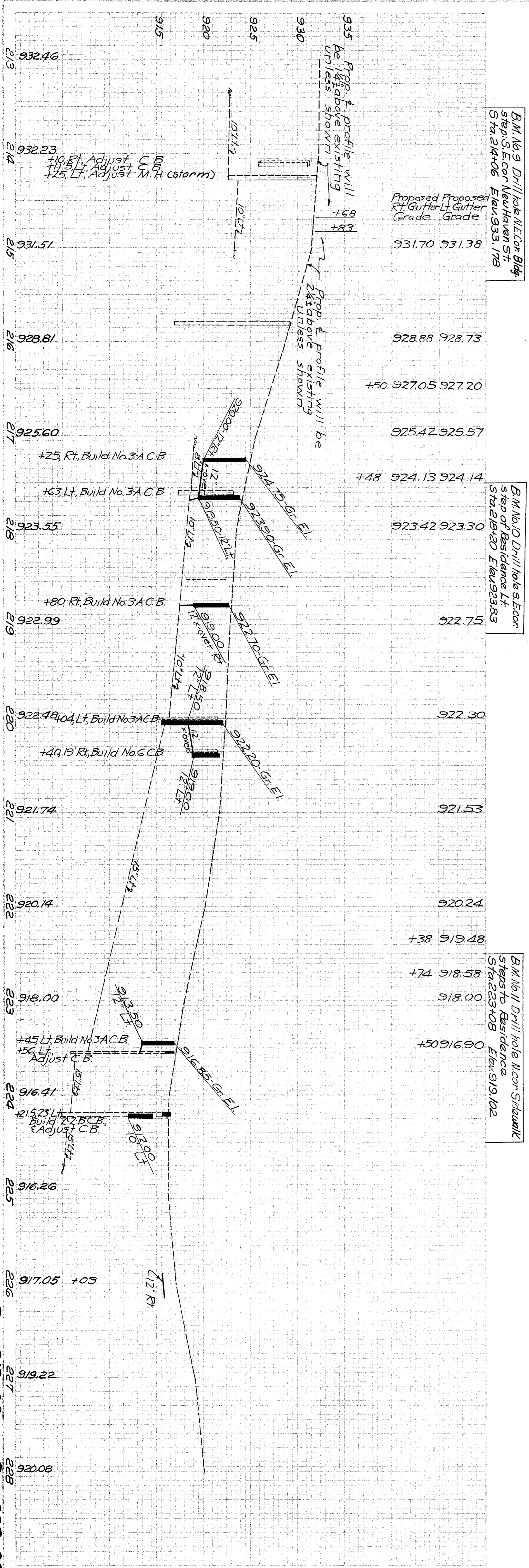
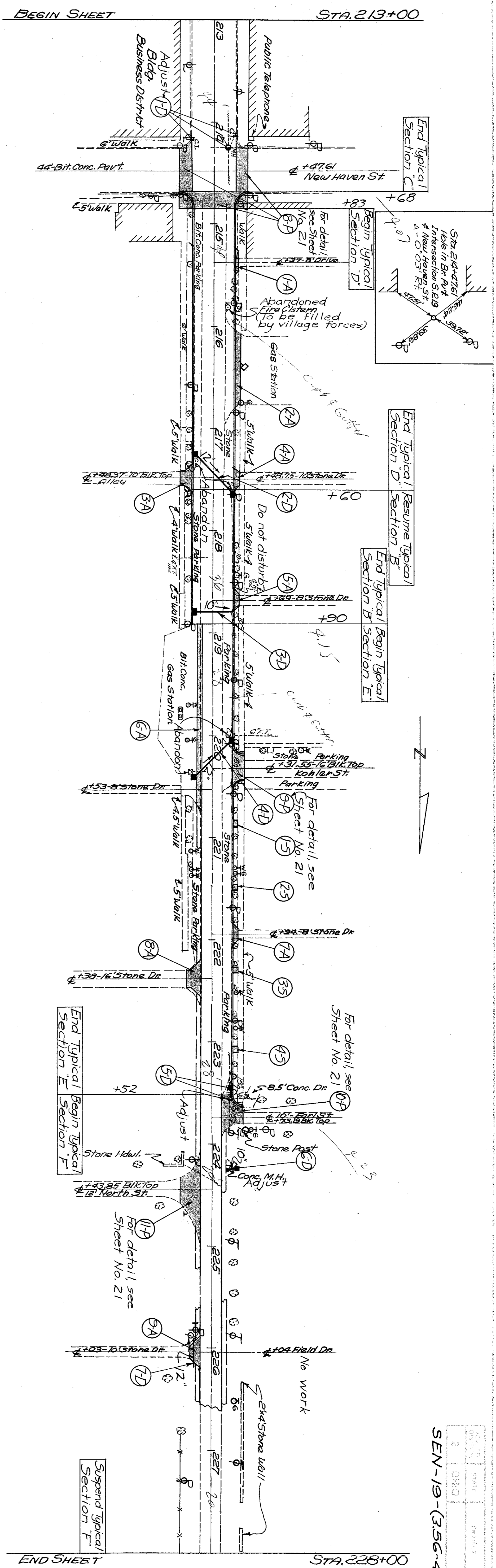
End Typical  
Section A  
Begin Typical  
Section B

Suspend Typical  
Section B  
Begin Typical  
Section C

SHA 209+00 R.O.T.  
Nail & Shimmer

22



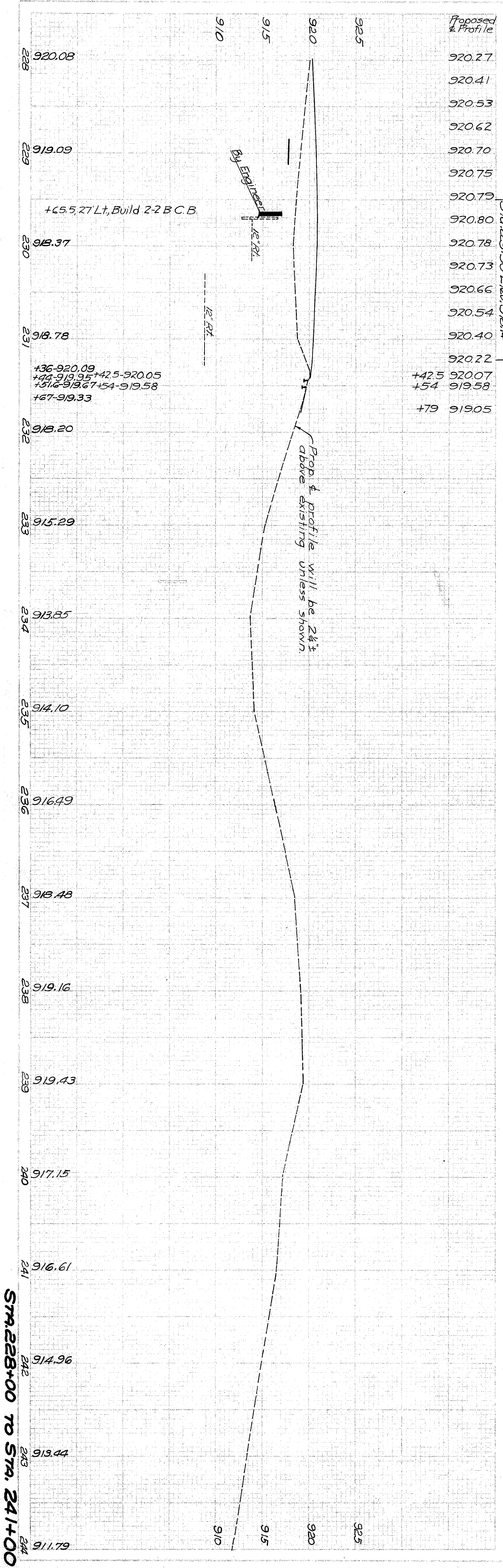


B.M. No. 9 Drill hole N.E. Cor. Bldg. Step S.E. Cor. New Haven St. Sta. 214+06 Elev. 933.178

B.M. No. 10 Drill hole S.E. Cor. Step of Residence Lt. Sta. 218+20 Elev. 923.83

B.M. No. 11 Drill hole N.E. Cor. Sidewalk Steps to Residence Sta. 223+08 Elev. 919.102



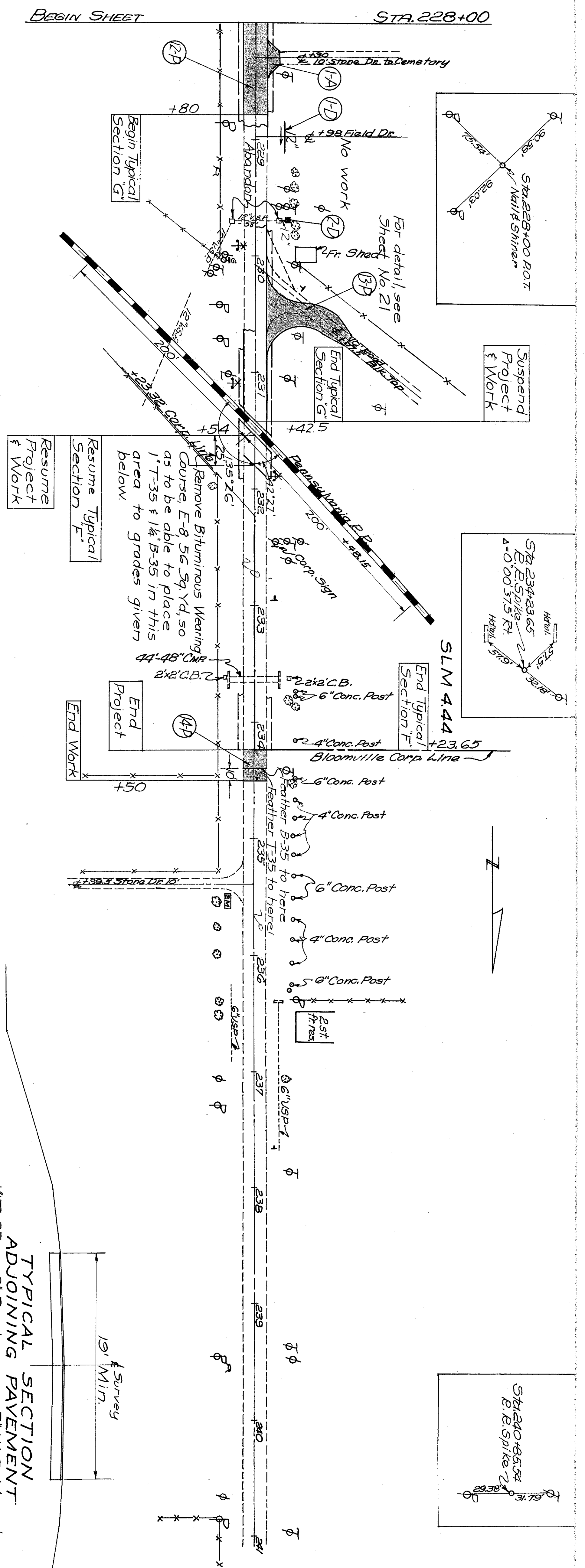


B.M. No. 42 Drillhole E. cor  
Signal Light base 100'S. R.E.  
Sta. 229+90 Elev. 918.14

+42.5 920.07  
+54 919.58  
+79 919.05

Prop. & profile will be 2 1/2\"/>

BEGIN SHEET STA. 228+00

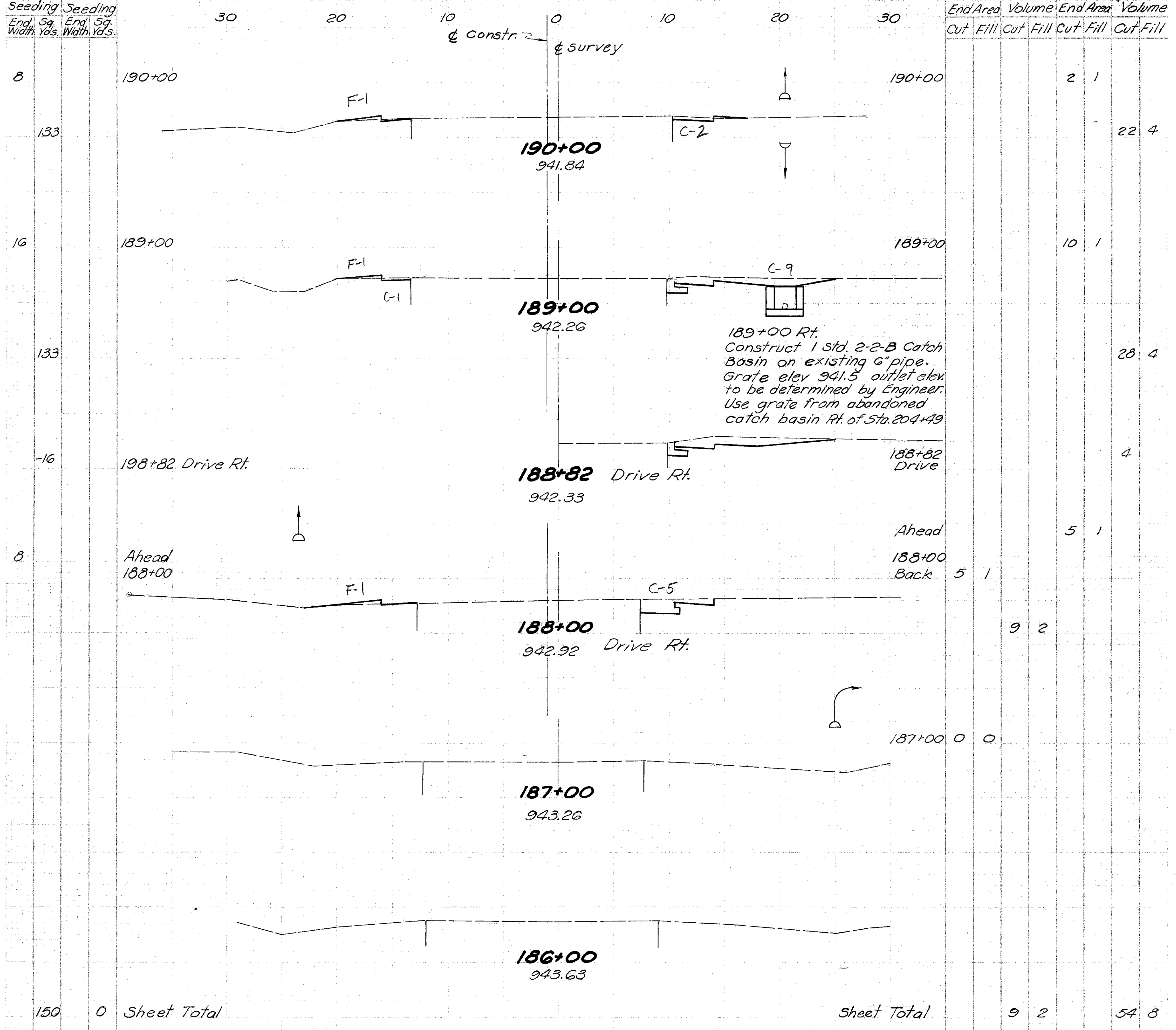


TYPICAL SECTION  
ADJOINING PAVEMENT  
1 1/2\"/>

SEN-19 (3.56-4.41)



Municipal Rural  
Seeding Seeding  
Eng. Sq. Eng. Sq.  
Width Yds. Width Yds.



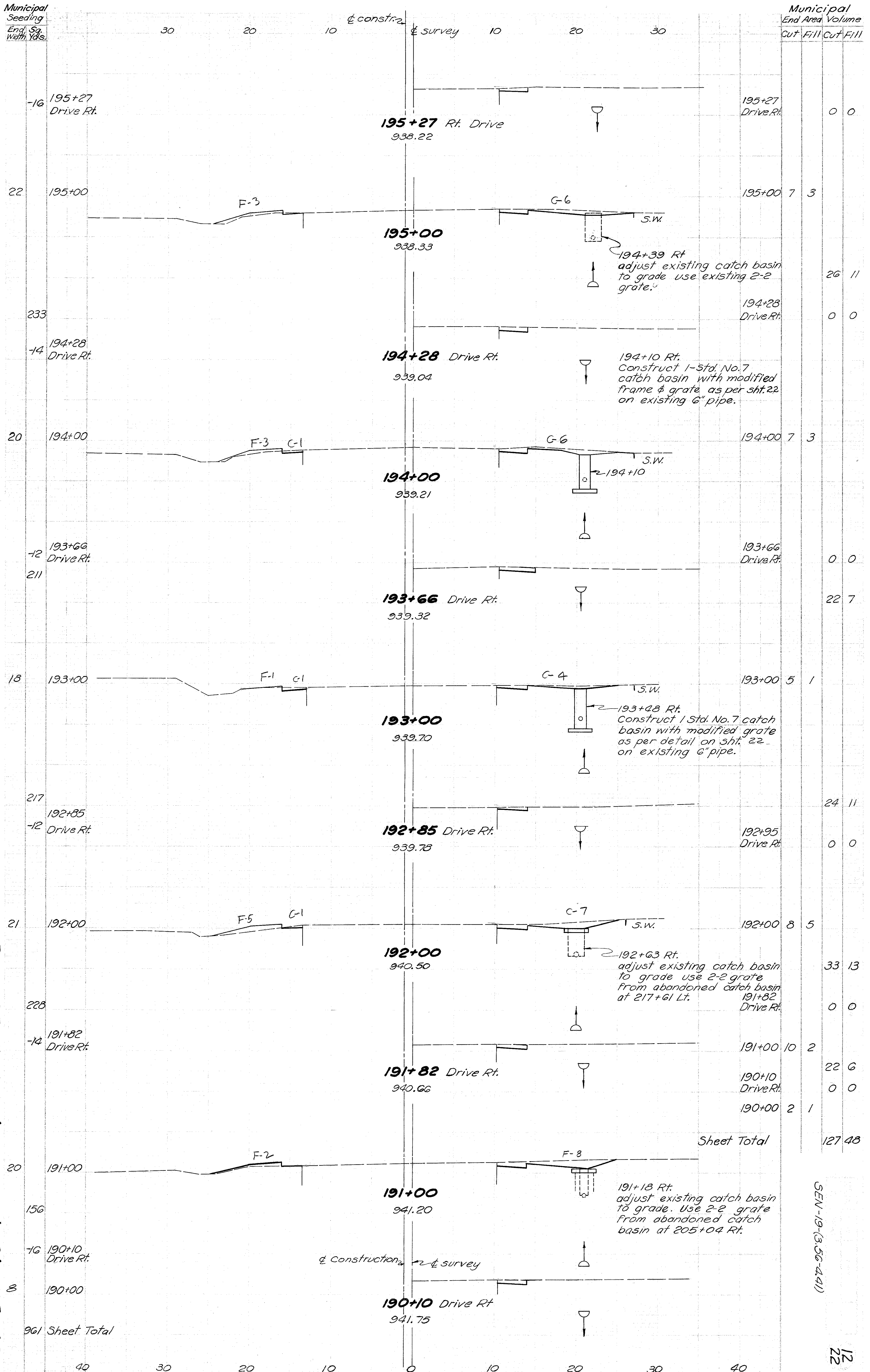
Rural Municipal  
End Area Volume End Area Volume  
Cut Fill Cut Fill Cut Fill Cut Fill

Rural		Municipal	
End Area	Volume	End Area	Volume
Cut	Fill	Cut	Fill
		2	1
			22
		10	1
			28
			4
		5	1
5	1		
9	2		
0	0		
9	2	54	8

CROSS SECTIONS Sta. 186+00 to Sta. 190+00

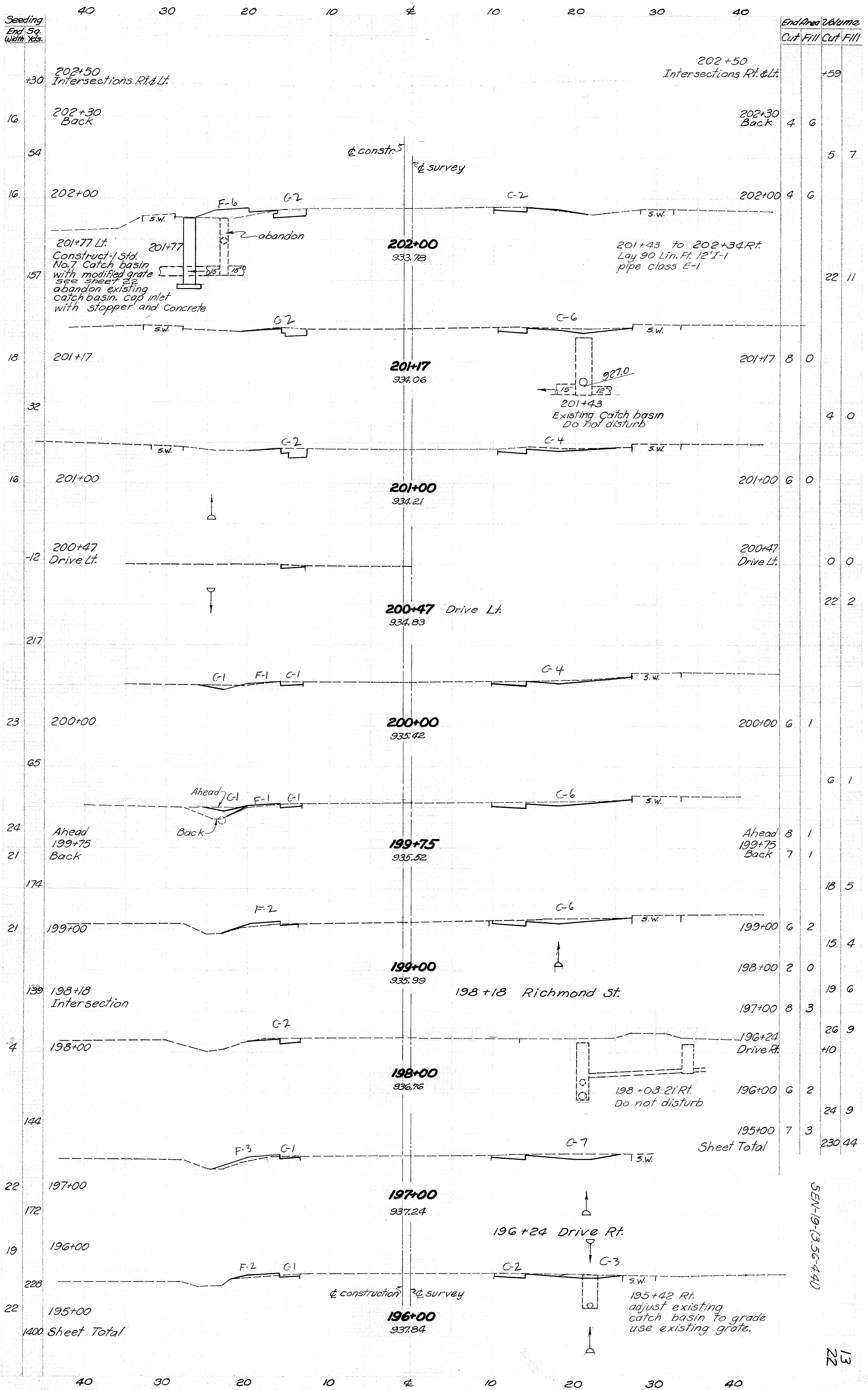
SEN-19-(356-441)





CROSS SECTIONS Sta. 190+00 to Sta. 195+27



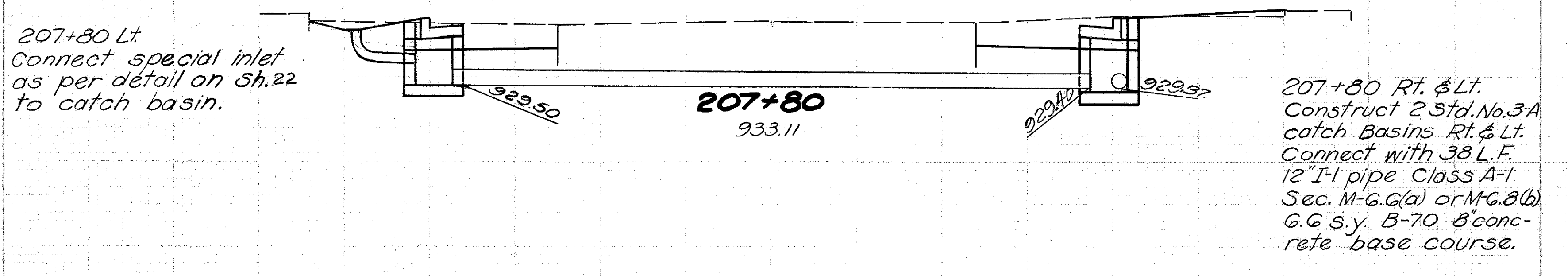
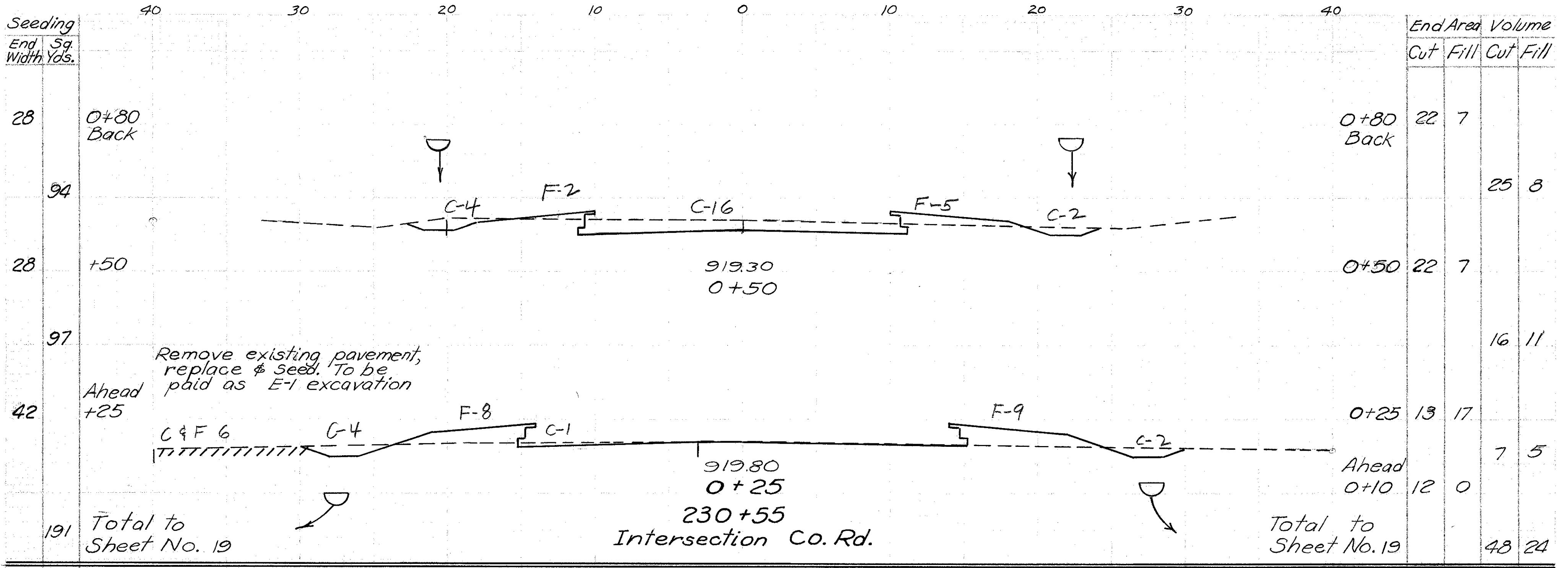


Station	End Area		Volume	
	Cut	Fill	Cut	Fill
202+50 Intersections Rt. & Lt.			+59	
202+30 Back	4	6		
202+00	4	6		
201+77 Lt. Construct 1 Std. No. 7 Catch basin with modified grate see sheet 22 abandon existing catch basin. cap inlet with stopper and concrete			22	11
201+17	8	0		
201+43 Existing Catch basin Do not disturb			4	0
201+00	6	0		
200+47 Drive Lt.			0	0
200+47 Drive Lt.			22	2
200+00	6	1		
199+75 Ahead Back	8	1		
199+75 Back	7	1		
199+00	6	2		
198+00	2	0		
198+18 Richmond St. Intersection	8	3		
197+00			19	6
196+24 Drive Rt.			26	9
196+00	6	2		
195+00	7	3		
Sheet Total			230	44

CROSS SECTIONS Sta. 196+00 to Sta. 202+00

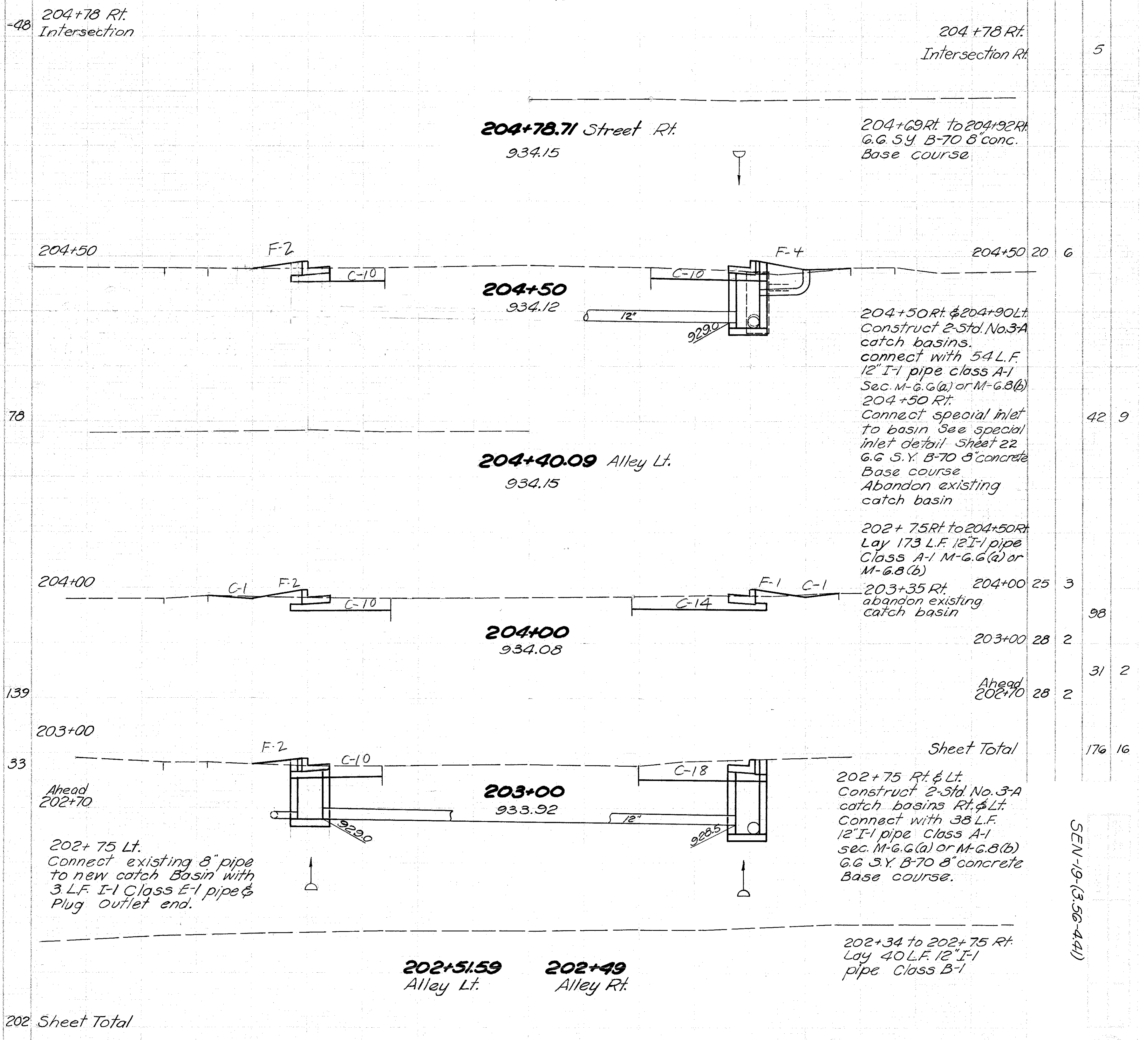
SEN-19-(3-56-44)





For X-Sections  
205+00 To 207+38  
See Sheet No. 15

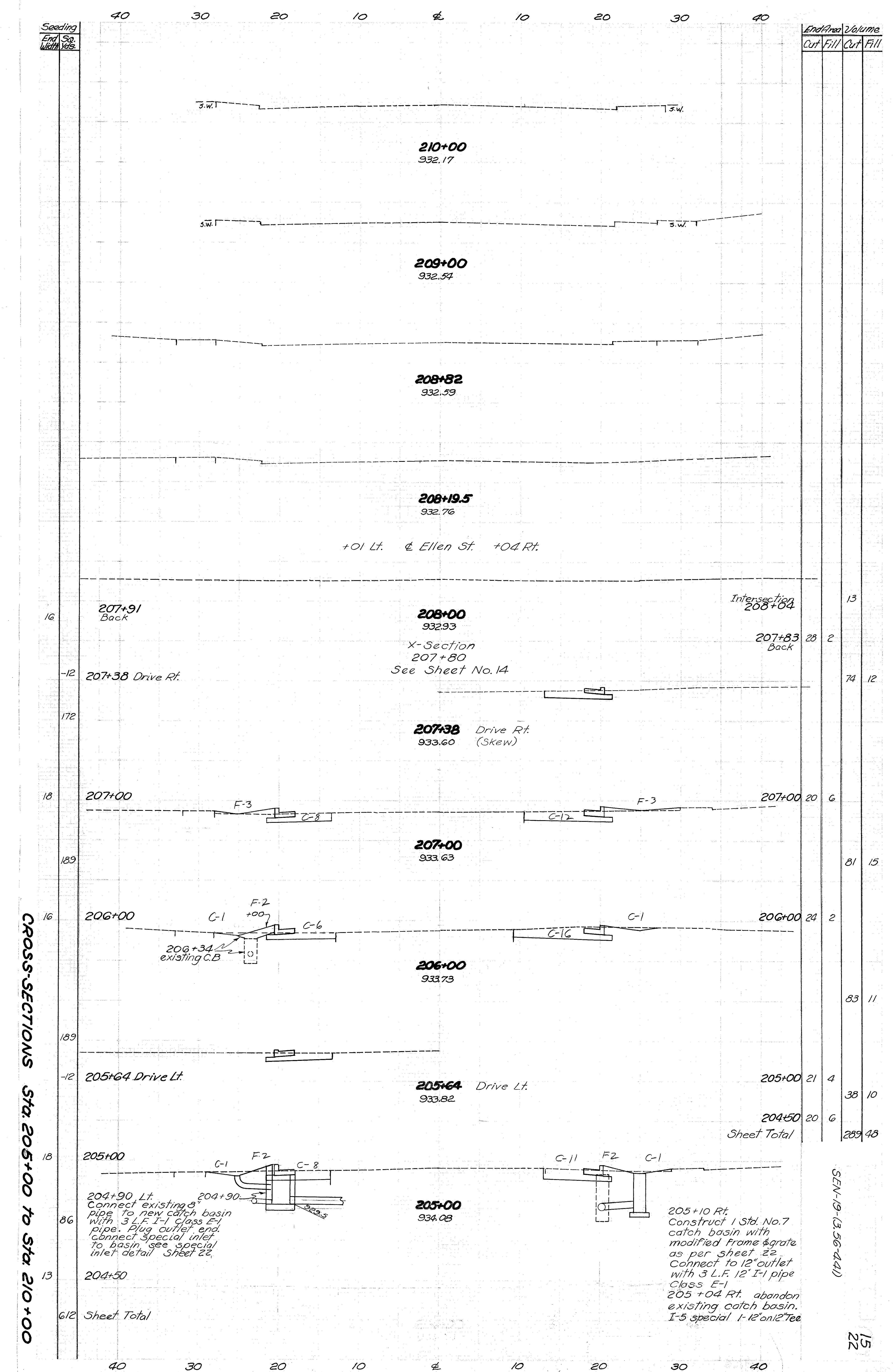
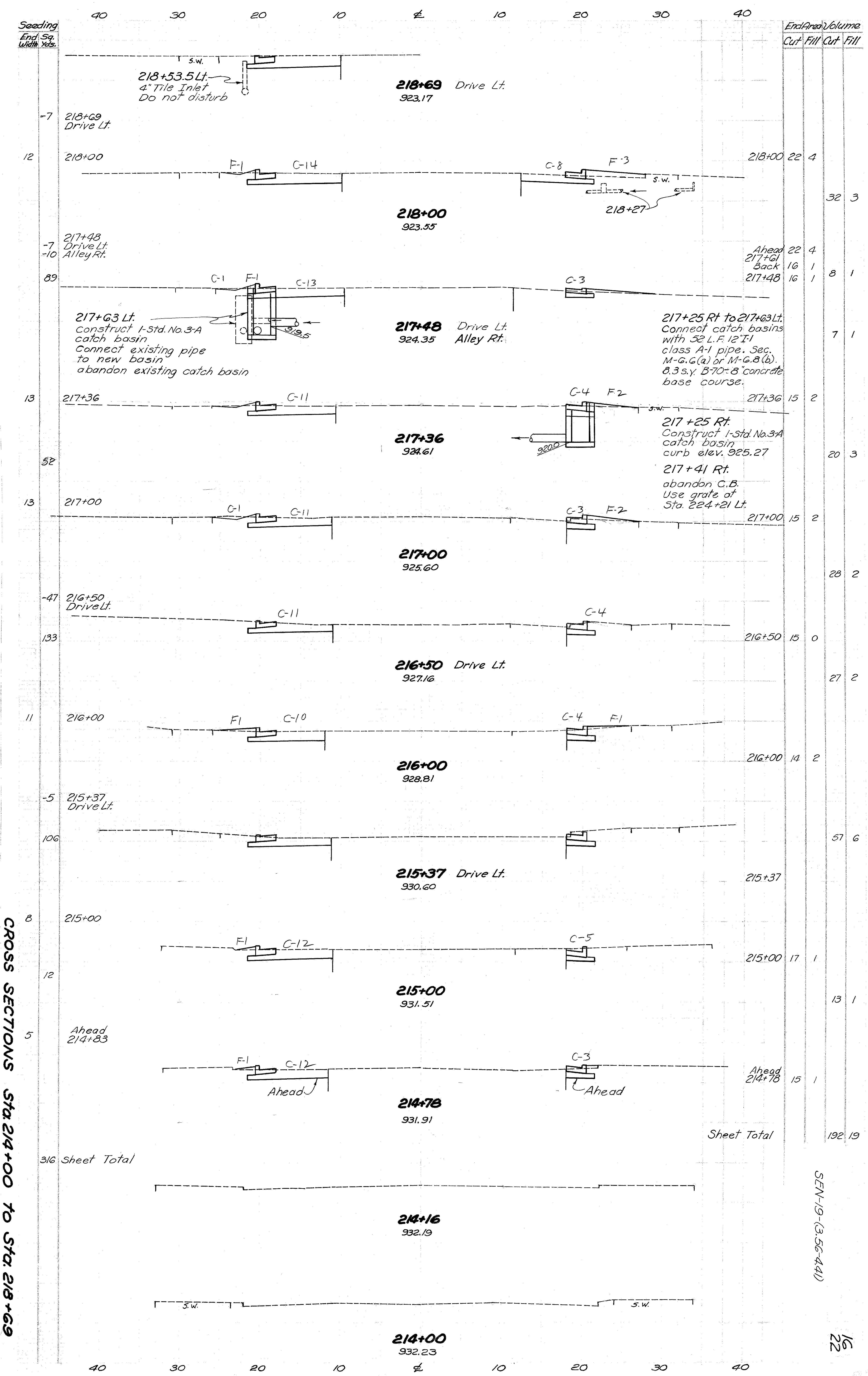
204+50 to 207+80 Rt.  
Lay 328 L.F. 12" I-1 pipe Class A-1 Sec. M-G.G(a) or M-G.8(b).



CROSS SECTIONS Sta. 202+49 TO Sta. 204+78.71

SEN-19-(356-441)





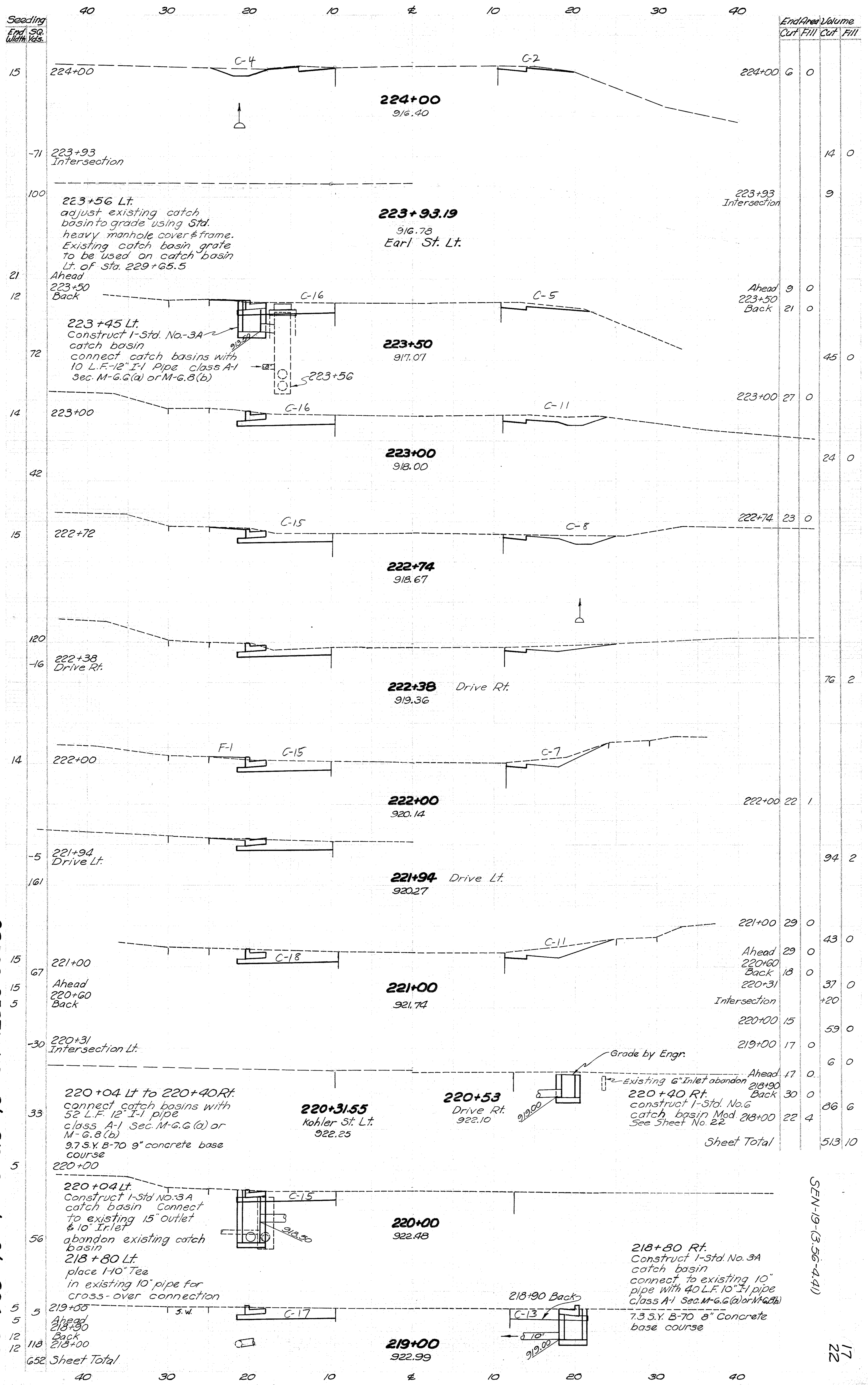
CROSS SECTIONS Sta 214+00 TO Sta 218+69

CROSS-SECTIONS Sta 205+00 TO Sta 210+00

SEN-19-(3.56-441)

SEN-19-(3.56-441)

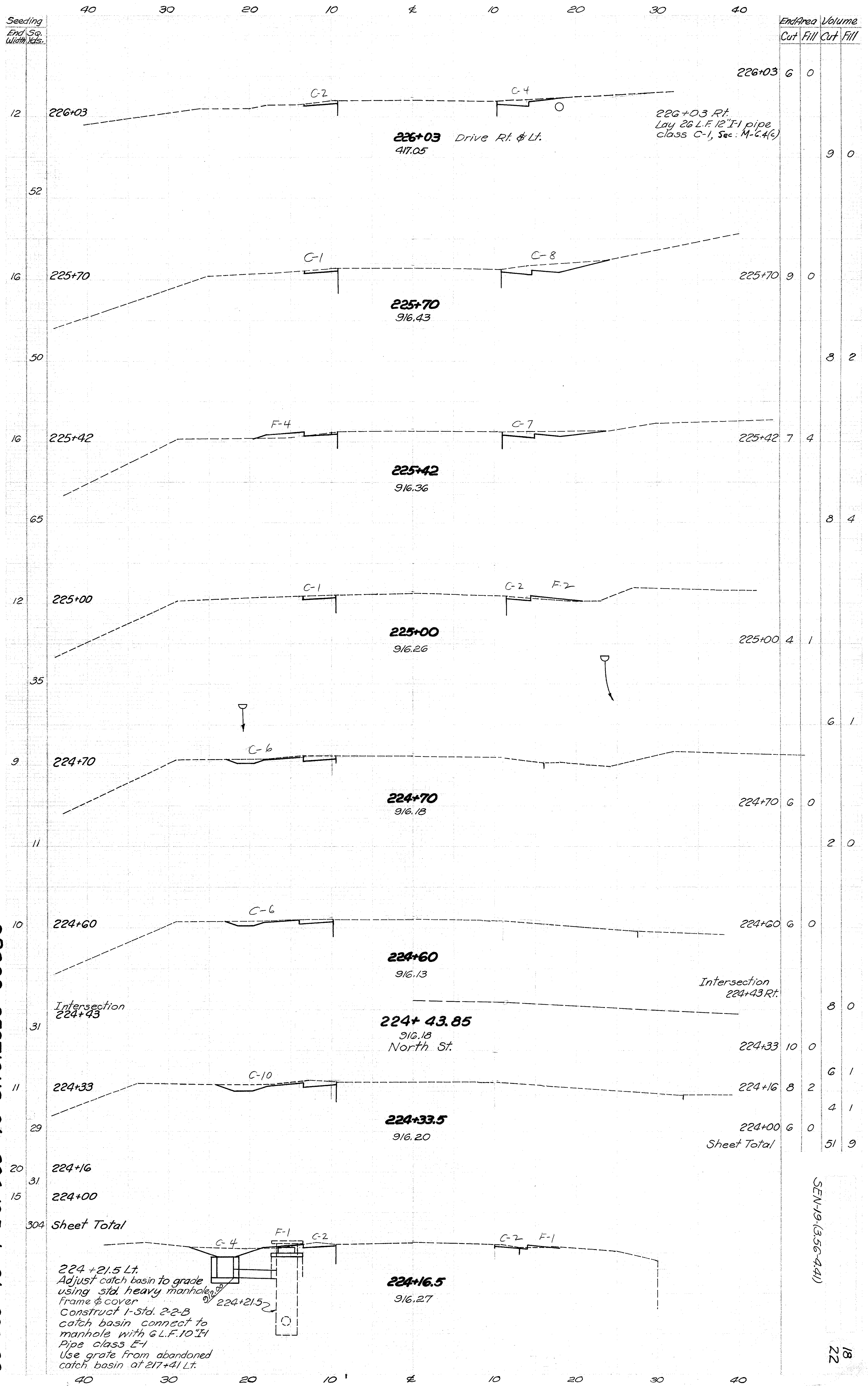




SEN-19-(3-56-441)



CROSS SECTIONS STA. 224+16.5 TO STA. 226+03

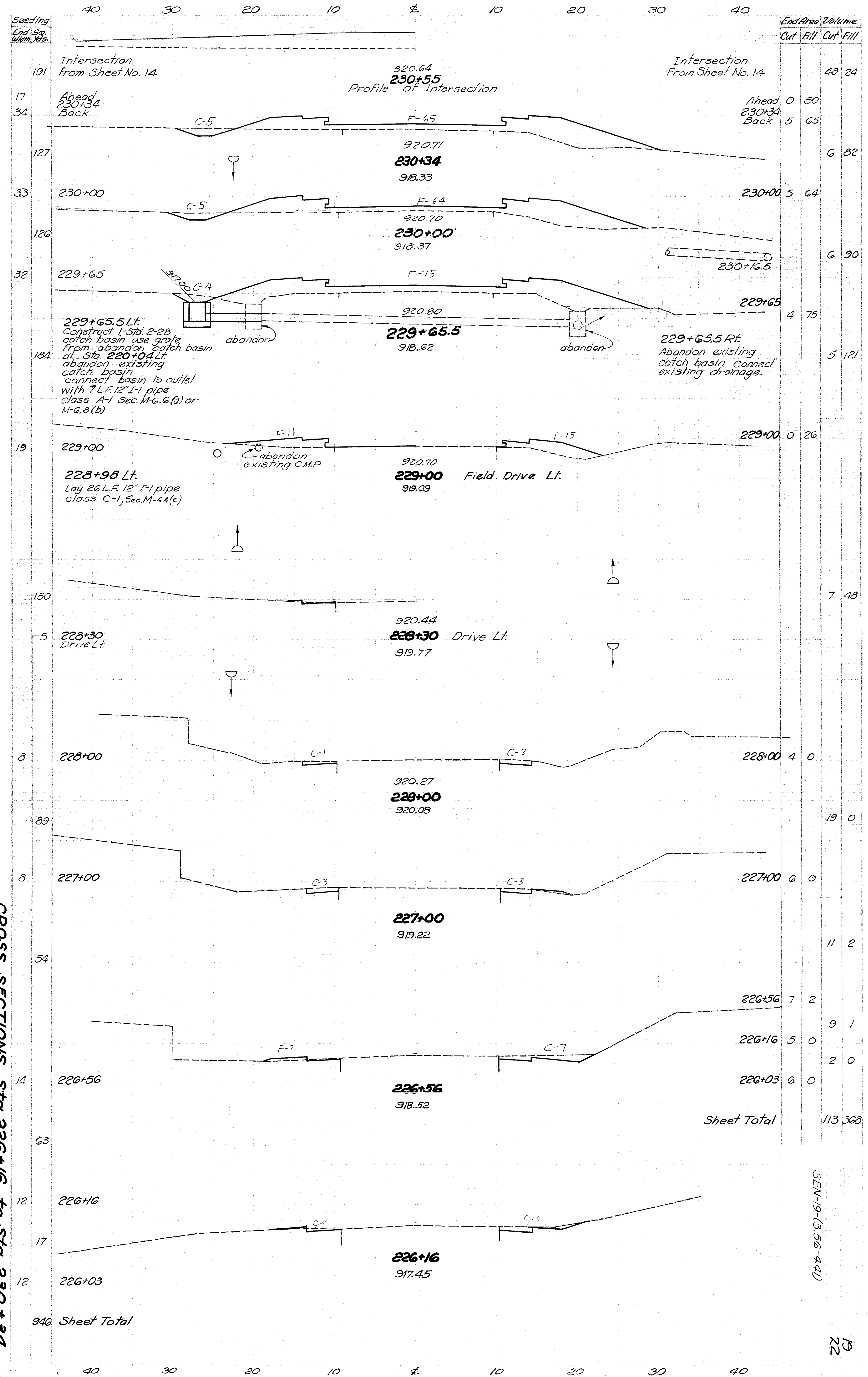


Station	End Area		Volume	
	Cut	Fill	Cut	Fill
226+03	6	0		
225+70	9	0	9	0
225+42	7	4	8	2
225+00	4	1	8	4
224+70	6	0	6	1
224+60	6	0	2	0
224+33	10	0	6	1
224+16	8	2	4	1
Sheet Total	6	0	51	9

224+21.5 Lt.  
 Adjust catch basin to grade  
 using std. heavy manhole  
 frame & cover  
 Construct 1-std. 2-2-B  
 catch basin connect to  
 manhole with 6 L.F. 10" E1  
 Pipe class E-1  
 Use grate from abandoned  
 catch basin at 217+41 Lt.

SEN-19-(3.56-4.41)





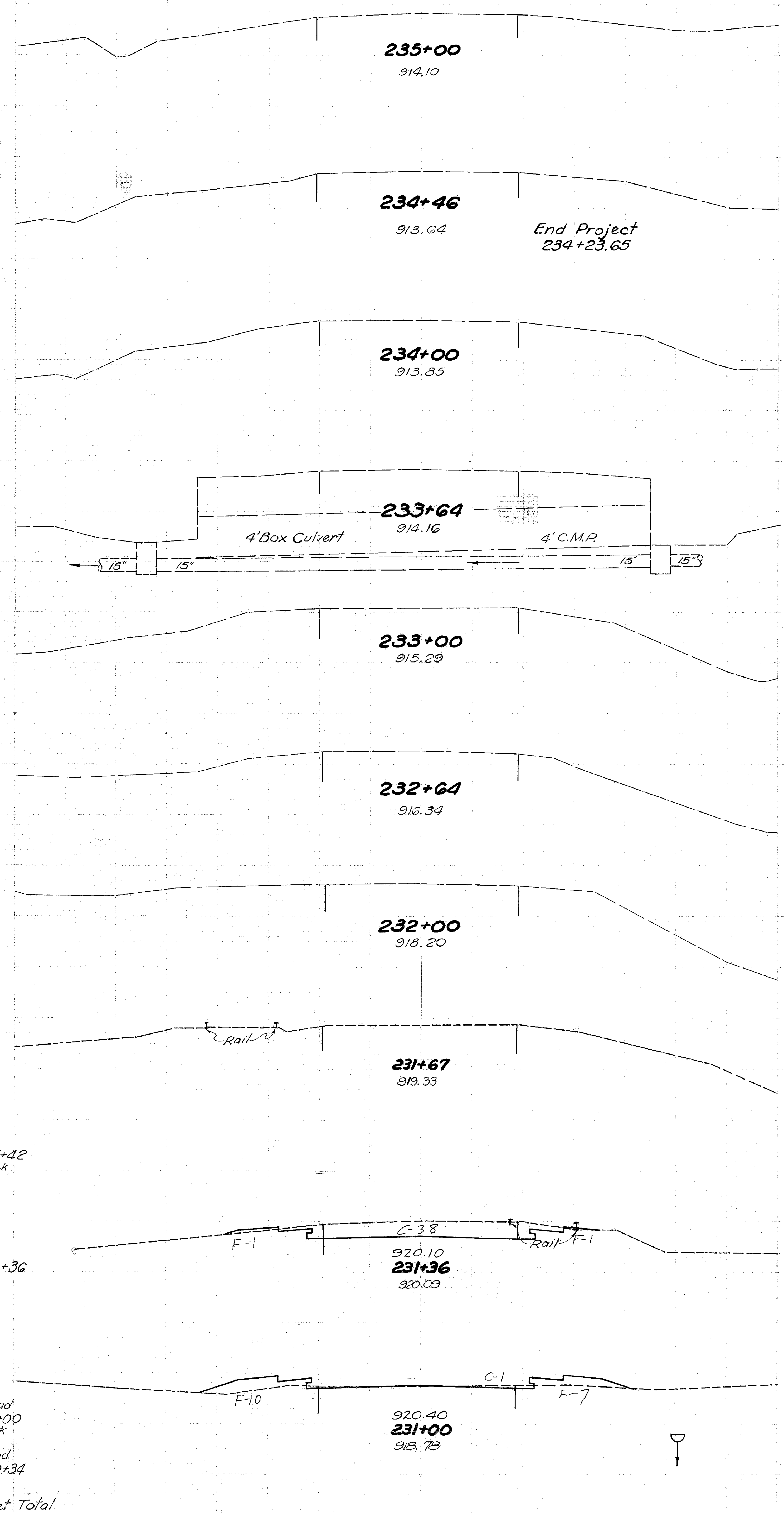
CROSS SECTIONS STA. 226+16 TO STA. 230+34

SEN-19-(3.56-44)



Municipal  
Seeding  
End Sq.  
Width Yds.

Municipal  
End Area Volume  
Cut Fill Cut Fill



CROSS SECTIONS STA. 231+00 TO STA. 235+00

231+42 Back	38	2		
			8	1
231+36	38	2	26	13
Ahead 231+00	1	17		
Back 231+00	1	7		
			1	70
Ahead 230+34	0	50		
Sheet Total			35	84

12 231+42 Back

8

12 231+36

54

15 Ahead 231+00 Back

7 Ahead 230+34

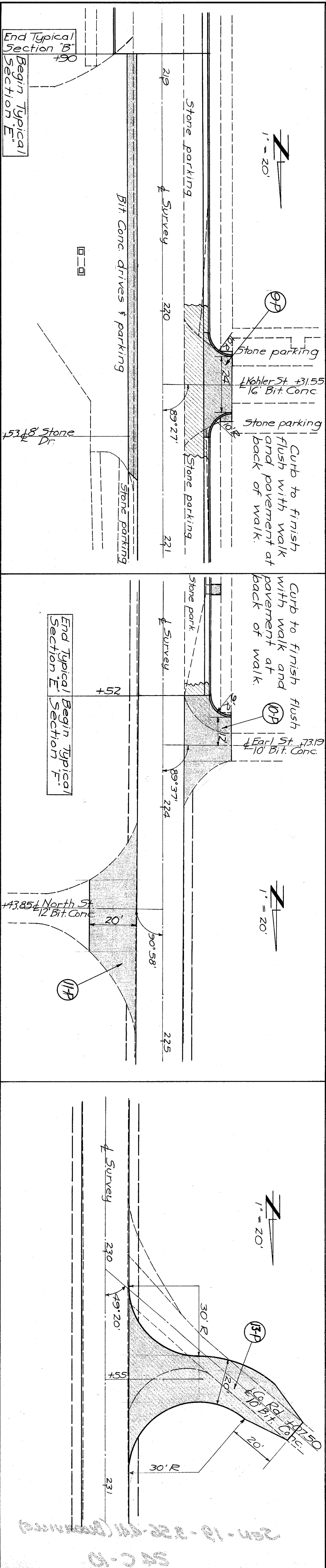
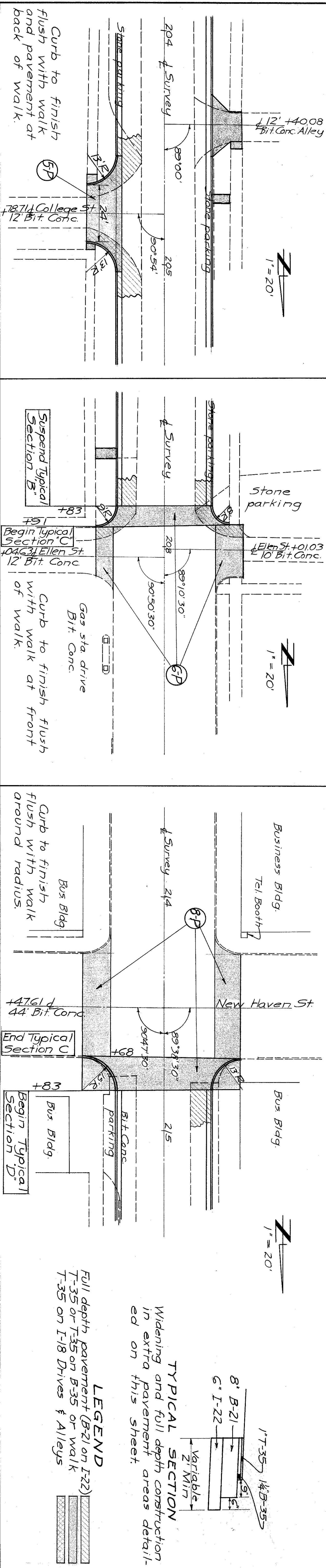
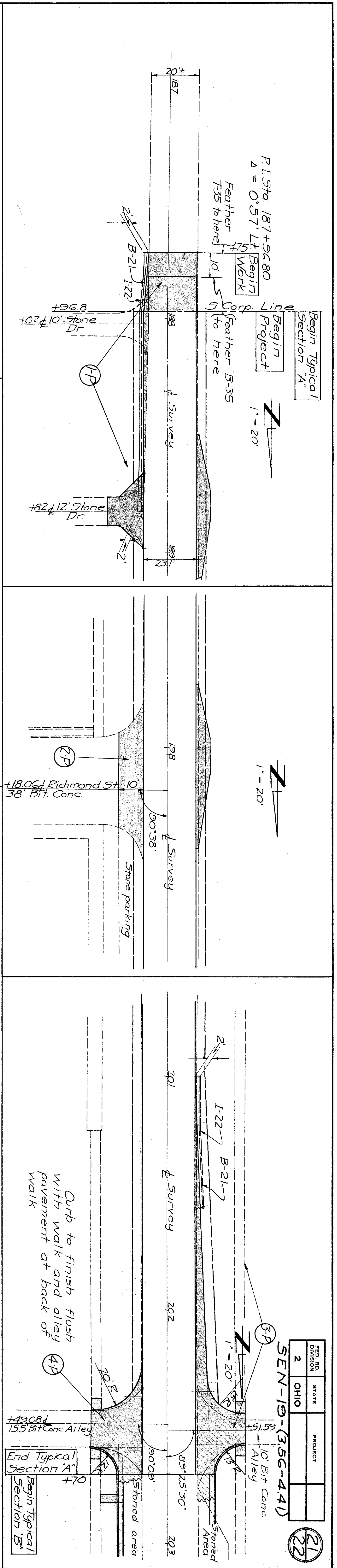
88

17

150 Sheet Total

SEN-19-(3.56-4.41)





**LEGEND**

Full depth pavement (B-21 on I-22)  
 T-35 or T-35 on B-35 or walk  
 T-35 on I-18 Drives & Alleys

**TYPICAL SECTION**

Widening and full depth construction in extra pavement areas detailed on this sheet.

8' B-21  
 6' I-22  
 17'-35' 14'B-35  
 Variable 2' Min

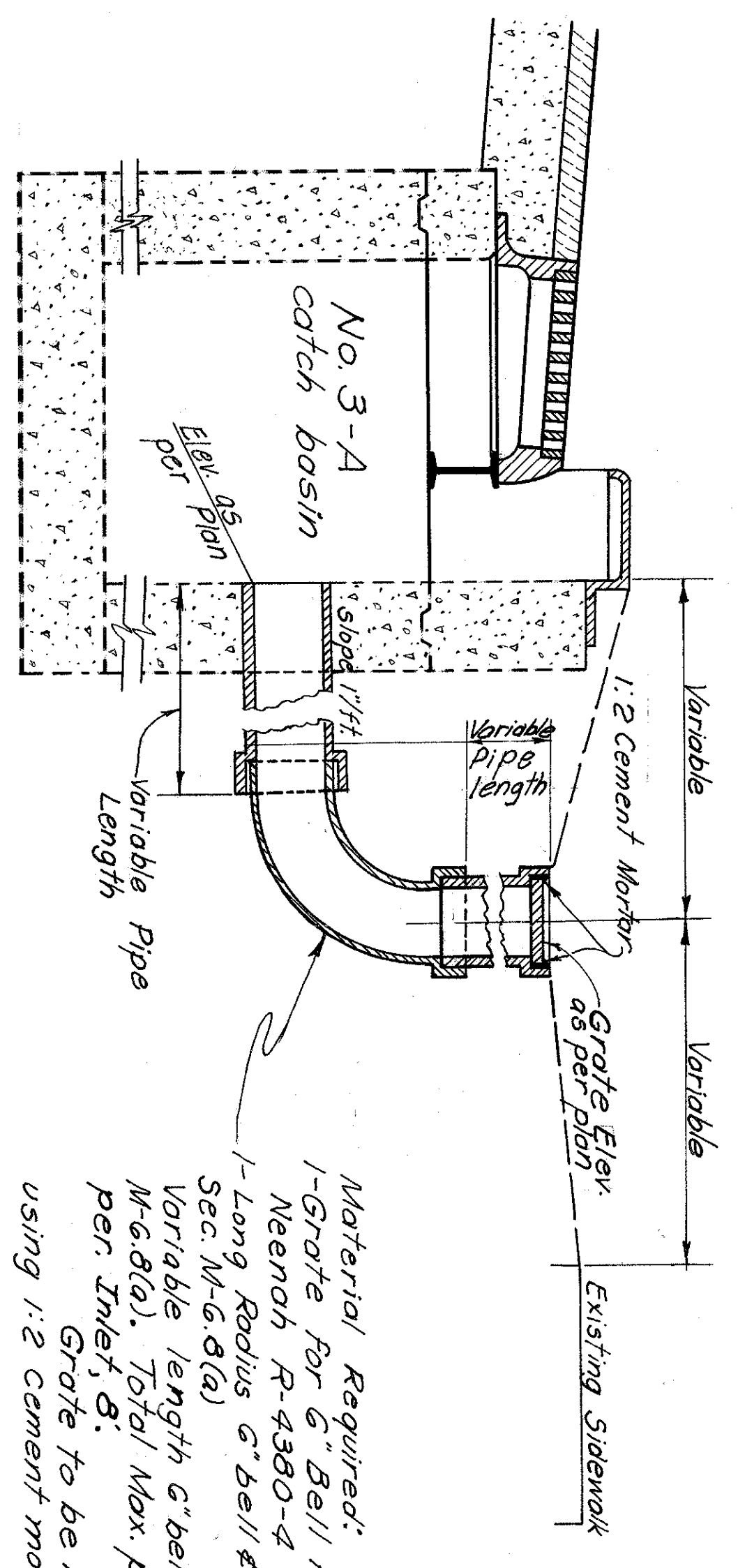
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	SEN-19-(3.5G-441)



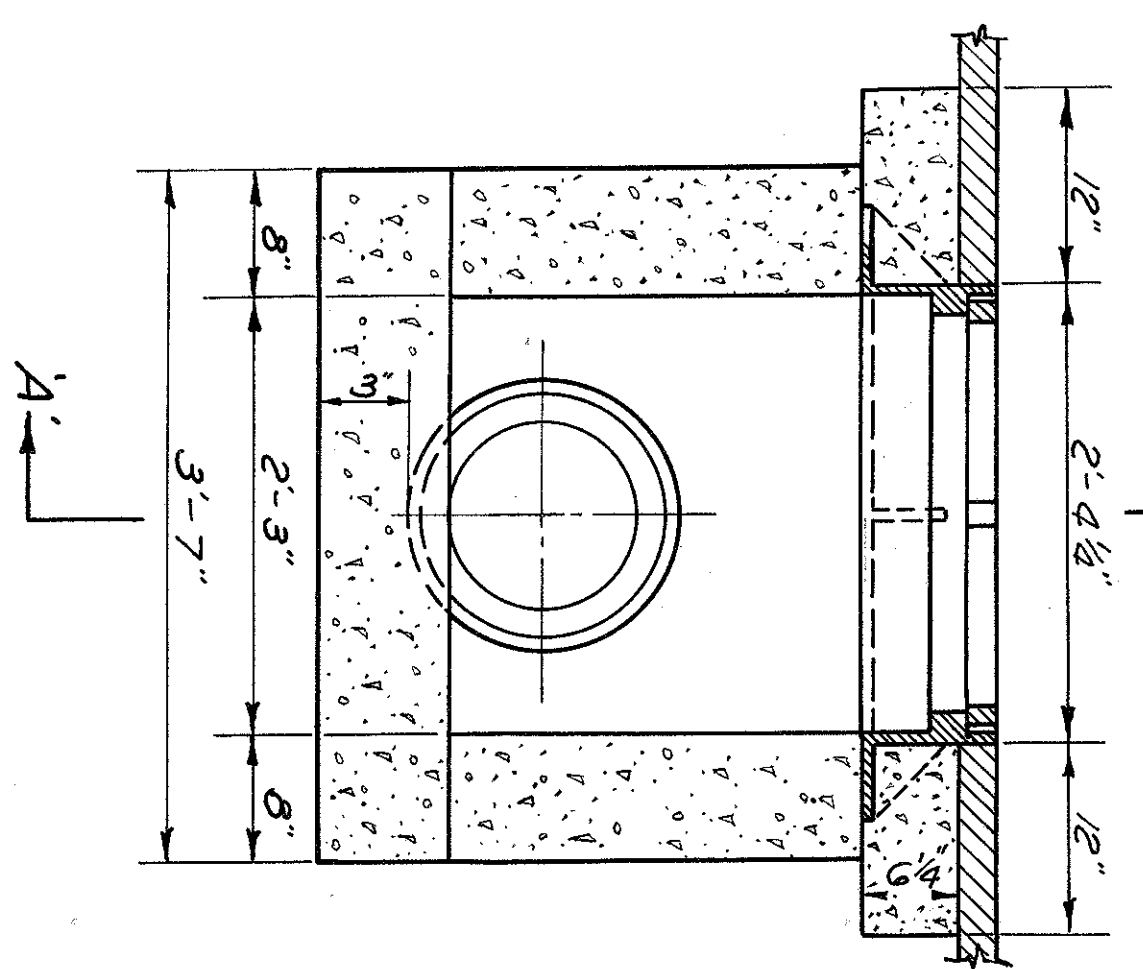
FED. NO.	STATE	PROJECT
2	OHIO	

SEN-19 (3.56-4.41)

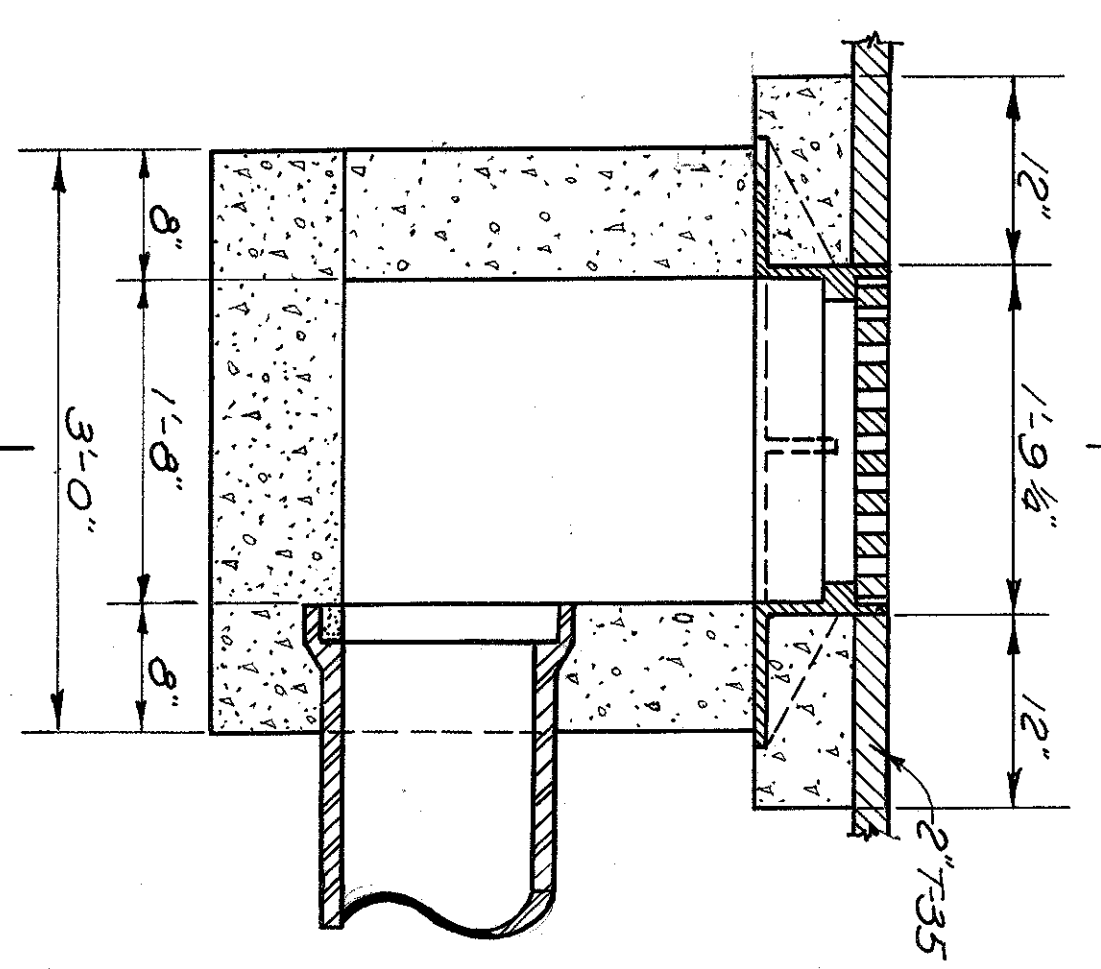
**I-8, SPECIAL INLET, AS PER PLAN**  
To drain area between curb & sidewalk



Material Required:  
1-Grate for 6" Bell Pipe  
Neenoh R-4380-4 or equal  
1-Long Radius 6" bell & spigot elbow  
Sec. M-6 d(a)  
Variable length 6" bell & spigot pipe  
M-6 d(a), Total Max. pipe reqd.  
per Inlet, 8'.  
Grate to be mortared  
using 1:2 cement mortar.  
Construction to be as I-1,  
Class E-1 except as shown.



SEC. 'B-B'

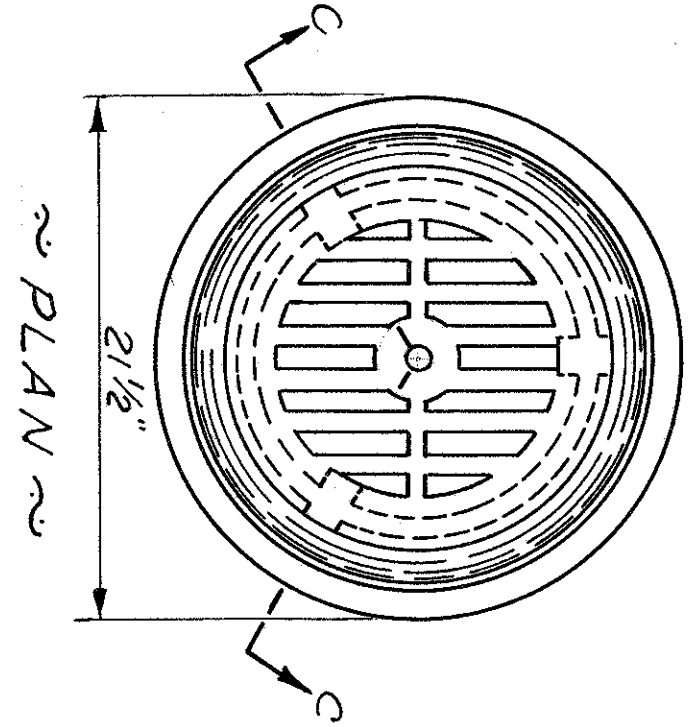
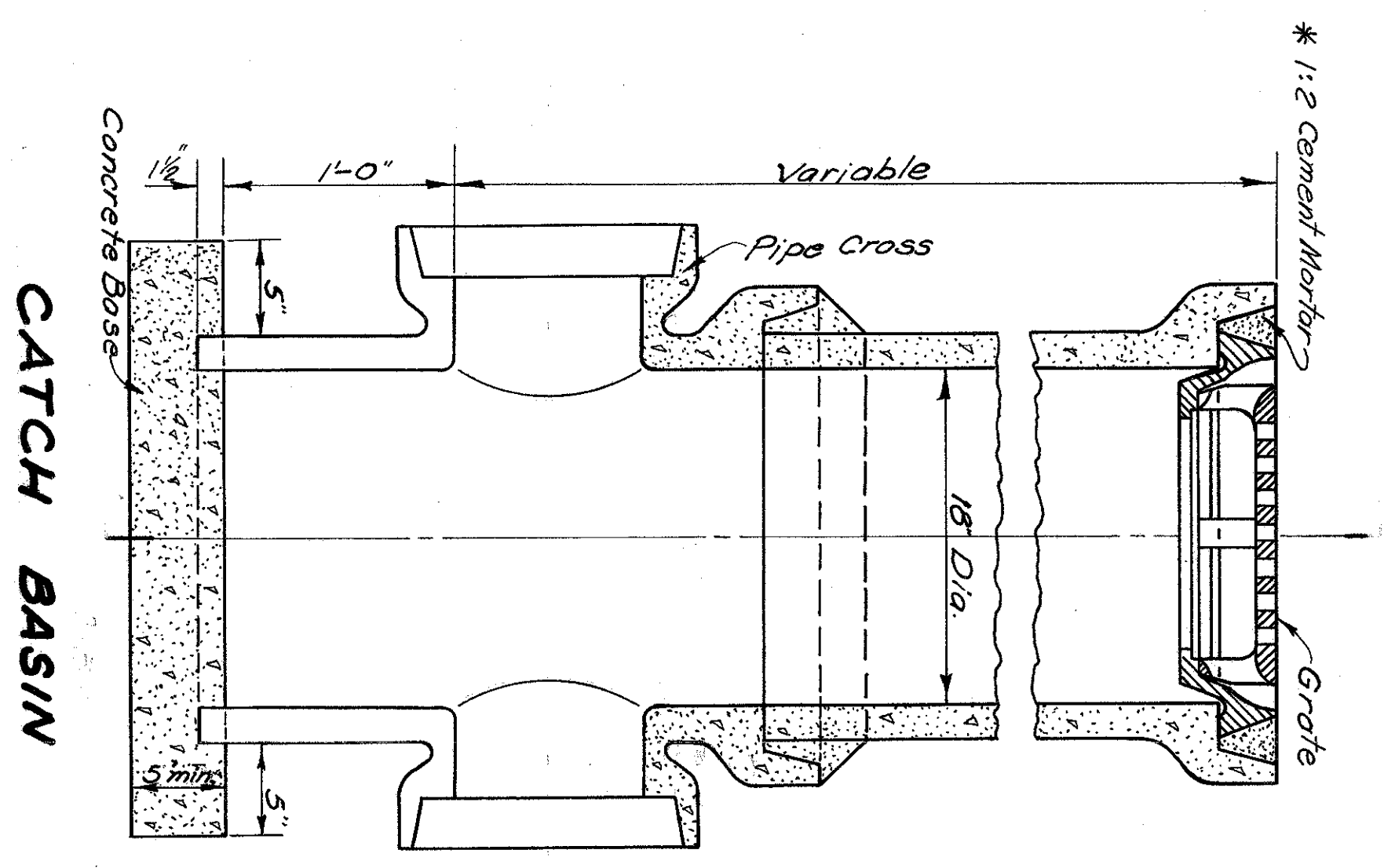


SEC. 'A-A'

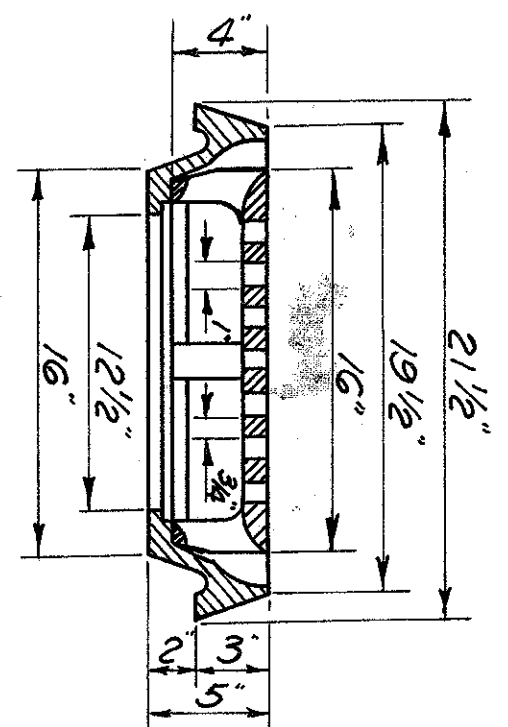
**STANDARD NO. 6 CATCH BASIN MODIFICATION**

Grate, Gutter Frame and all other construction specifications shall be the same as shown for Standard No. 6 Catch Basin except as shown. The Class 'C' concrete for the gutter frame shall be included in the unit price bid for them in Standard No. 6 Catch Basin.

**STANDARD NO. 7 SIDE DITCH CATCH BASIN**  
- MODIFICATION NO. 1 -



Standard No. 7 Side Ditch Catch Basin - Modification No. 1, shall be the same as shown on O.S.D.4, Standard Construction Drawing No. I-8 C.B. No. 7 dated 3/2/59, EXCEPT AS SHOWN THUS \*



**\* GRATE & FRAME**

The Grate & Frame shall be Neenoh Foundry Co., Catalog 'R' Third Edition, No. R-2545 Special Drain-Medium Duty Total Weight 135 pounds, or Equal.