STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BEL-149-(0.70-2.83)
BELMONT COUNTY
GOSHEN & UNION TOWNSHIPS

- CONVENTIONAL SIGNS -

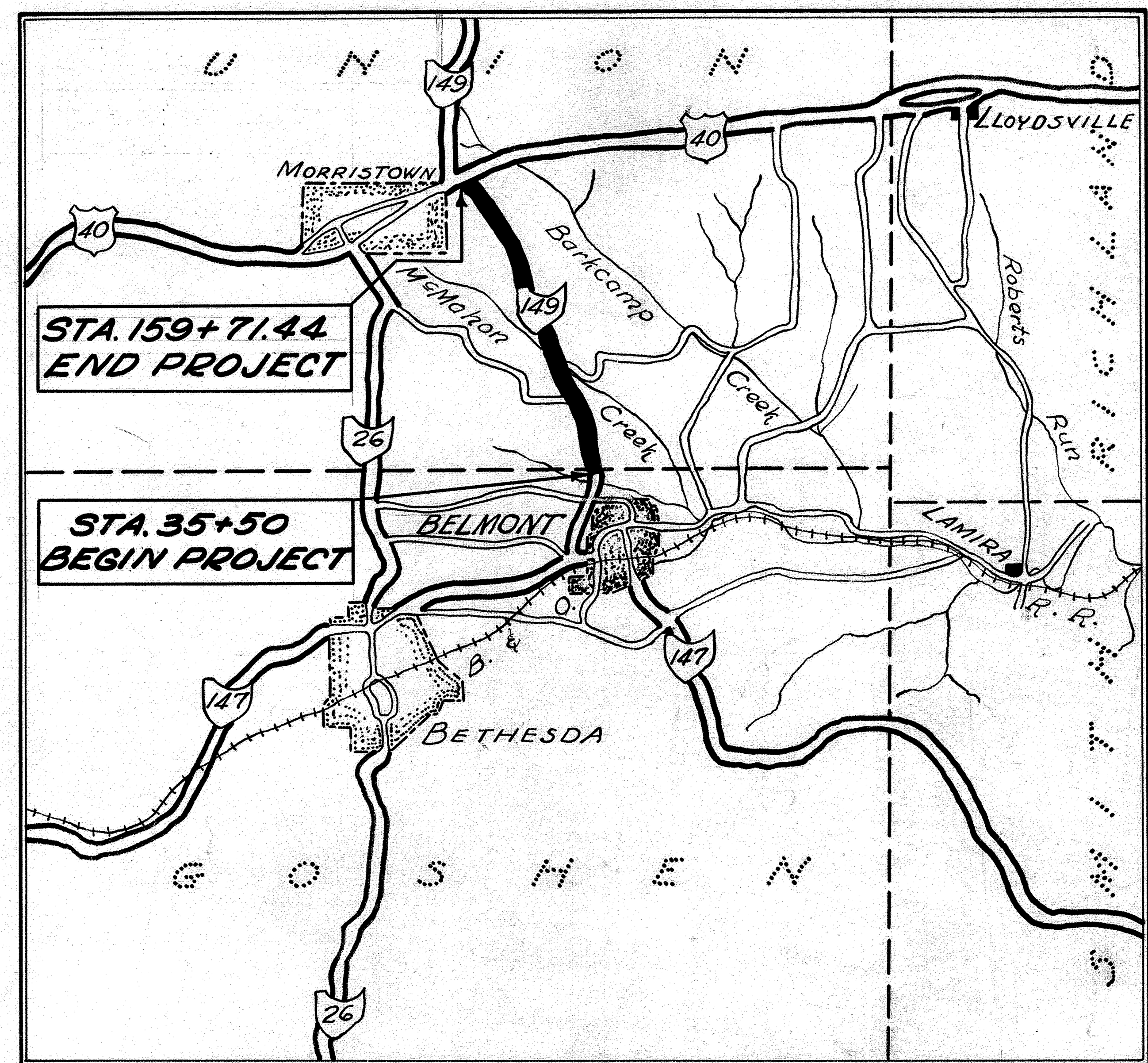
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
PROPERTY LINE
CENTER LINE
FENCE LINE
POLE LINE — Telephone ℄ Electric ℄
RAILROAD
GUARD RAIL — Old / New
DRAIN PIPE — Old / New

INDEX OF SHEETS

LINE DATA

BEGIN PROJECT STA. 35+50
END PROJECT STA. 159+71.44
NO ADDITIONS OR DEDUCTIONS
NET LENGTH OF PROJECT = 12,421.44 Lin.Ft. or 2.352 Miles

BEGIN WORK STA. 32+40
END WORK STA. 159+71.44
NO ADDITIONS OR DEDUCTIONS
NET LENGTH OF WORK = 12,731.44 Lin.Ft. or 2.411 Miles



DELIVERY POINT: BELMONT
AVERAGE HAUL: 2 MILES

LOCATION PLAN

Scale: 1" = 1 Mile

Portion To Be Improved
Federal Highways
State Highways
Other Roads

SCALES

PLAN .... 1" = 50'
PROFILE, Horizontal .... 1" = 50'
PROFILE, Vertical .... 1" = 10'
CROSS SECTIONS .... 1" = 10'

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

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

The right of way for this improvement will be provided by the State of Ohio.

Approved .... Wm P. McKenna
Date 11-30-59 .. Division Deputy Director

No. BB HBV? 12-17-59
Approved .... Guy E. Neeper
Date 12-18-59 .. Deputy Director of Planning and Programming

OK BFG 12/15/59
Approved .... D.H. Overman
Date 12-16-59 .. Engineer of Bridges

Approved .... [illegible]
Date 12-16-59 .. Engineer of Location and Design

Approved .... C.W. McCaughey
Date 12-17-59 .. Deputy Director of Design and Construction

Approved .... G.A. Berry
Date 12-18-59 .. First Assistant Director

Approved .... E.S. Preston
Date 12-18-59 .. Director of Highways

File No.	BEL-149-(0.70-2.83)
	Date of Letting .... 196_
	Contract No.

STANDARD DRAWINGS

G-7.07	6-1-56	S-27 P.C.4	1-4-54	I-8CB1-3&1-4	1-26-59		
T-35	1-2-56	I-1,2,3,4 & 5	4-24-58				
DR-1	1-3-55	I-8 C.B. 2-2A & B	3-2-59				
RI-1	7-15-58	I-8 C.B. 2-3 & 2-4	1-26-59				
L-1	4-1-50	I-14G	1-22-52				
L-3	4-1-50	I-15 No.1	5-21-59				
L-3-A	4-1-50	I-15 No.2	6-1-57				
S-27, P.C.3	2-20-45	SP-53	11-25-58				

SUPPLEMENTAL SPECIFICATIONS	
None	

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

DIVISION ENGINEER .... DATE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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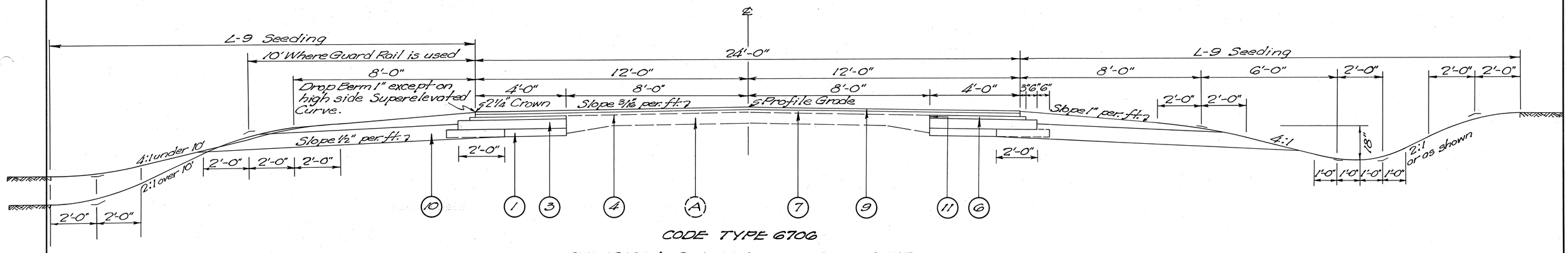
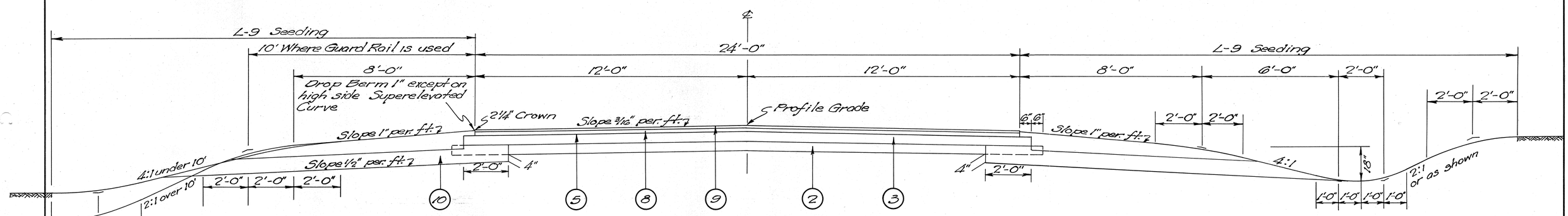
BE-L-149-(0.70-2.83)

TYPICAL SECTIONS
TYPE-T-35
SCALE 1" = 2'-0"



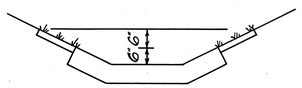
CODE TYPE 6706

STA. 35+50 to STA. 39+00 = 350 LIN. F.T.
STA. 93+00 to STA. 98+00 = 500 LIN. F.T.
Total = 850 LIN. F.T.

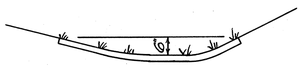


CODE TYPE 6201

STA. 39+00 to STA. 93+00 = 5400 LIN. F.T.
STA. 98+00 to STA. 103+50 = 550 LIN. F.T.
STA. 112+00 to STA. 135+50 = 2350 LIN. F.T.
STA. 143+00 to STA. 155+00 = 1200 LIN. F.T.
Total = 9500 LIN. F.T.



DETAIL OF PAVED GUTTER AND SOD
(To be used where shown on plans)



DETAIL OF SOD DITCH
(To be used where shown on plans)

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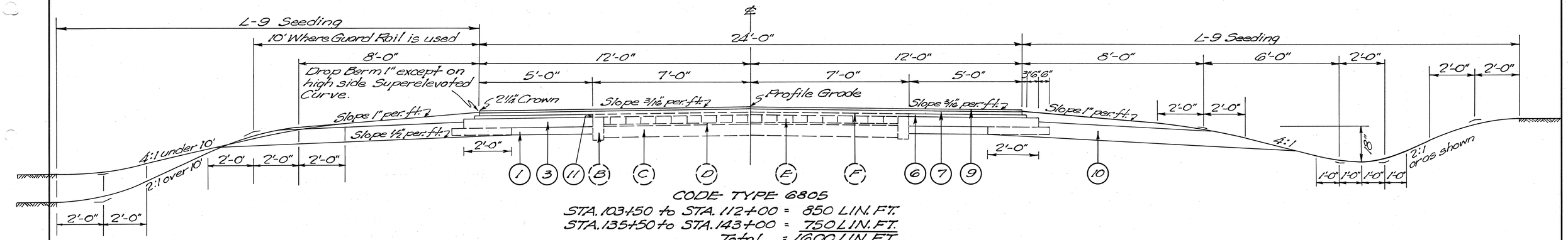
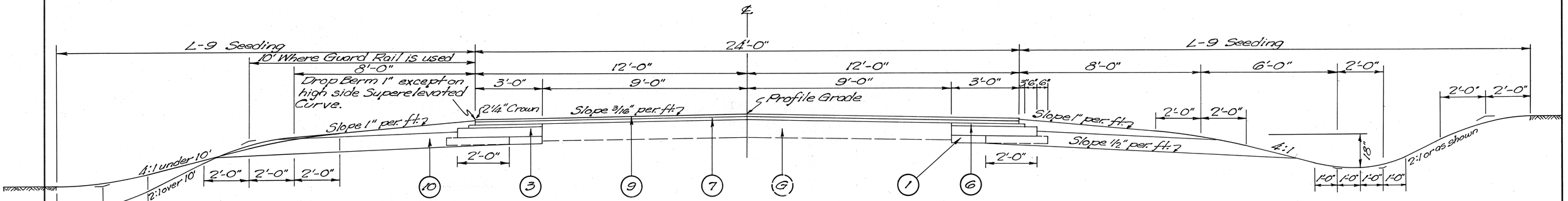
TYPICAL SECTIONS
TYPE-T-35
SCALE 1" = 2'-0"



CODE TYPE 6805

STA. 103+50 to STA. 112+00 = 850 LIN. FT.
STA. 135+50 to STA. 143+00 = 750 LIN. FT.
Total = 1600 LIN. FT.



CODE TYPE 6201

STA. 155+00 to STA. 159+71.44 = 471.44 LIN. FT.

~KEY~

- (A) Existing 9"X7"X7"X9" Concrete Pavement
- (B) Existing 6"X12" Stone Curb
- (C) Existing 6" Sandstone Base
- (D) Existing Sand Cushion
- (E) Existing 4" Brick Pavement
- (F) Existing 1½" Bituminous Surface Course
- (G) Existing 9" Bituminous Macadam Pavement
- (1) Item I-22 4" Subbase
- (2) Item I-22 5" Subbase
- (3) Item B-19 5" [illegible] Aggregate Base Course
- (4) Item T-30 Bituminous Tack Coat, using 0.1 gal. per Sq. Yd. Sec. M-5.5, MS-2 or RS-1 or Sec. M-5.2, RC-1, RC-2 or RC-3, as per Sec. T-30.02
- (5) Item T-30 Bituminous Prime Coat, using 0.4 gal. per Sq. Yd. Sec. M-5.7, RT-2 or RT-3
- (6) Item B-35 1½" Asphaltic Concrete Leveling Course (85-100)
- (7) Item B-35 1½" Minimum Asphaltic Concrete Leveling Course (85-100)
- (8) Item B-35 1¾" Asphaltic Concrete Leveling Course (85-100)
- (9) Item T-36 1¼" Asphaltic Concrete Surface Course, Type C (85-100)
- (10) Item 19 Stone Underdrains, No. 2
- (11) Item B-35 Sealing Vertical Face of Existing Pavement

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GENERAL NOTES

DESIGN SPEED: The geometrics for this project have been planned for a design speed of 50 miles per hour.

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

ROUNDING OF CORNERS: 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.

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

FIELD OFFICE: The Contractor shall, in accordance with Sec. S-0.01(b), provide for the exclusive use of the State's employees, a suitable field office having a minimum of 300 sq. ft. of floor space. The Contractor shall have a telephone installed and maintained in this field office during the construction of this project. This office shall be provided within ten days after beginning of work.

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.

PROFILE: The profile of the proposed surface course shall be approximately 2 3/4 inches above that of the existing pavement on the areas to be salvaged. See Typical Sections.

CONSTRUCTION LAYOUT STAKES: See note in proposal describing the work included in this lump sum pay item.

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

12"-18" = 65	24"-30" = 16	36"-42" = 1	Over 48" = 2
18"-24" = 35	30"-36" = 5	42"-48" = 1	

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

SUBGRADE COMPACTION: The subgrade for drives and mailbox turnouts paved with B-19 material shall be compacted for a depth of 6 inches to the density requirements shown in Table III, Item E-1. Payment for subgrade compaction, as specified above, shall be included in the unit price bid for Item E-1, Roadway Excavation.

SPECIFICATION BENCHING: Except in areas of special benching, as shown on the plans, specification benching as required in Sec. E-1.04 shall be performed.

SEEDING: Quantities for seeding are calculated for the soil areas between the work limits, as shown on the cross sections. Seeding shall not be used on areas where rock or hard shale is encountered in cut slopes or where fill slopes are composed of rock.

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-1, Roadway Excavation.

GUARD RAIL REMOVAL: Existing guard rail on this project shall be removed where called for on the plans. The steel rail element will be removed by and become the property of the State Highway Department. The rails will be removed immediately after the Contractor notifies the Engineer that they will interfere with his operations. The remainder of the guard rail shall be removed by and become the property of the Contractor and shall be disposed of by him.

GUARD RAIL ADJUSTMENT: The stationing of individual runs of guard rail shall be adjusted, if necessary, by the Engineer to accomodate the standard panel length furnished.

PAVEMENT REMOVAL: Where the existing pavement is removed outside of the proposed construction limits the old roadway shall be plowed, harrowed, and dragged to a smooth grade, the old ditches filled, and the entire area sloped to drain and left in a neat condition ready for seeding. Payment for this work shall be included in the unit price bid for pavement removal, Item E-8. Seeding shall be measured and paid for in accordance with Item L-9.

EXISTING PAVEMENT: From Sta. 47+19 to Sta. 53+33, Sta. 64+81 to Sta. 67+90 and Sta. 125+93 to Sta. 132+74 the existing pavement shall be broken up into portions whose area does not exceed two square feet just prior to placing embankment thereon. Cost of this work shall be included in the unit price bid for Roadway Excavation.

T-10 MODIFIED: This item shall consist of furnishing No. 3 or No. 34 aggregate, when directed by the Engineer, in lieu of the grading specified under Item T-10. All other provisions of Item T-10 shall apply. The weights to be used in calculating the yardage to be paid for under this item shall be the same as those indicated in the Construction and Material Specifications for crusher run or bank run materials.

PLUGGING PIPE: The upstream ends of all pipe or tile lines intercepted by earthwork operations, and where indicated, the ends of the pipe lines to be abandoned in place, shall be effectively blocked and covered. Broken pieces and portions of pipe or tile shall be removed until a whole length is encountered 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.

FILLING BASEMENTS: In addition to the general requirements of Sec. E-1.03(c) all basements or portions thereof within the right of way on this project, but beyond the normal slope lines, shall be filled to surrounding ground elevation as directed by the Engineer. Prior to filling within this area, the basement floors and walls shall be broken up or removed as provided under Sec. E-1.03(c), and all house drains not removed shall be plugged as provided elsewhere in these notes. Where basements extend beyond the right of way line they shall be filled to the elevation of the surrounding ground as directed by the Engineer, but the requirements of Sec. E-1.03(c) for removals below the proposed finished surface shall be waived for the portions extending beyond the right of way line. Payment for all the above shall be included in the unit price bid for item E-1, Roadway Excavation.

GRADING TOLERANCES: For areas in front of residences and similar areas specifically indicated below, the seed bed shall be prepared to provide a smooth surface. All stones larger than one inch in diameter shall be removed from the surface of the seed bed. Hand raking will be required in areas inaccessible to machines and hand raking may be required, if directed by the Engineer, in all the aforementioned areas if machines used do not provide results equivalent to results obtained by hand raking. Cost of this additional work shall be included in the unit price bid for Item E-1, Roadway Excavation. The above note shall shall be considered to be particularly applicable in the following areas:

Sta. 35+50 to Sta. 36+50 Left	Sta. 100+00 to Sta. 103+75 Left
Sta. 43+00 to Sta. 45+00 Left	Sta. 99+00 to Sta. 101+75 Right
Sta. 52+50 to Sta. 53+50 Left	Sta. 107+50 to Sta. 109+00 Left
Sta. 64+80 to Sta. 65+65 Right	Sta. 139+50 to Sta. 148+00 Right
Sta. 91+50 to Sta. 92+50 Right	

STONE UNDERDRAINS: No. 2 stone underdrains shall be constructed at intervals not to exceed 100 feet on each side of the pavement on tangents and at 50 foot intervals on the low side of the pavement on curves. Additional underdrains may be required and shall be constructed at locations determined by the Engineer. An estimated quantity of 3500 lin. feet has been included in the General Summary. In the final finishing of slopes and ditches care should be exercised to assure that the exposed edges of the underdrains will be left free of earth cover that would impede free drainage.

SMALL DRAINS: Where drains from downspouts, field drains, etc, are encountered and not shown on the plans, they shall be given an unobstructed outlet as directed by the Engineer. No drain carrying domestic waste shall be connected to any proposed drainage facility.

SOD DITCHES: All sod placed in ditches shall be laid with the long edges of the strips perpendicular to the flow line of the ditch. Successive strips shall be neatly matched and joints staggered or broken. The sod shall be staked securely with stakes on maximum 2 foot centers in rows not more than 2 feet apart. Stakes in adjacent rows shall be staggered. The stakes shall be wood from 1/2"x 3/4"x12" to 1"x1"x24", as required to hold the sod, and shall be driven flush with the top of the sod.

RIPRAP CUTOFF WALLS: Payment for cutoff walls detailed on these plans for use in conjunction with Item T-10, Riprap, shall be included in the unit price bid for the riprap.

CHANNEL EXCAVATION: Where channel excavation is carried through a proposed pipe structure site, additional excavation required to obtain a stable foundation for the structure shall be measured and paid for as Item E-3, Channel Excavation.

PAVED GUTTERS: Paved gutters shall be constructed of stone or broken concrete to a minimum thickness of 12 inches, or Class "E" concrete to a minimum thickness of 6 inches. Solid precast concrete blocks may be used in lieu of stone with a minimum thickness of 12 inches. Thickness of paved gutter shall be measured perpendicular to the surface of the ditch. All concrete gutters shall have an impressed joint at intervals of 10 feet. When constucted of materials other than concrete the material shall be grouted in place.

EROSION CONTROL: Items T-10, T-14 and L-10 are provided in these plans for erosion control. Rock of a stable nature will not be removed in order to place any of these items. The Engineer shall check and non-perform quantities or adjust locations and quantities for these items where indicated by field conditions during constuction.

ROCK SUBGRADE: The Contractor shall be paid for the thickness of I-22 material shown on the typical sections in rock excavation areas. Any pockets in the rock below the plan subgrade elevation shall drain either longitudinally or laterally and all irregularities in the rock below this elevation shall be filled with I-22 material at no additional cost to the State.

PART WIDTH CONSTRUCTION: Because of the necessity of building this project under traffic and constructing the pavement part at a time, extreme care shall be taken to prevent the constructing of a butt joint on centerline in the B-19 and I-22 courses. This shall be accomplished by building the B-19 and I-22 courses, placed with the first portion of the pavement built, at least 18 inches beyond the centerline and by resurfacing no closer than 18 inches to this edge of the above courses. When the second portion of the pavement is built, at least 12 inches of these projecting courses shall be broken down and thoroughly keyed in with the newly placed corresponding courses in the second portion of the pavement built. Payment for this operation shall be included in the unit prices bid for the pertinent items.

PROTECTION OF PAVEMENTS: Self-propelled, crawler-driven machinery, equipped with cleats, shall not be operated on the existing pavement unless pads are fastened to tracks between cleats such that cleats will be prevented from making contact with the pavement. Crawler equipment shall be operated in a manner that damage to existing or new surface will not occur.

MAINTAINING TRAFFIC: The Contractor shall maintain traffic at all times in accordance with the requirements of Sec. G-1.07. The length of one way traffic zones shall be kept to a minimum consistent with the requirements of the work. The Contractor shall maintain the existing pavement and roadway, while traffic is being maintained thereon, by making the necessary repairs, including patching the pavement with bituminous material when requested by the Engineer. A quantity of asphaltic concrete has been included in the General Summary for this purpose. Maximum use shall be made of the existing pavement for traffic maintenance, holding the length and duration of use of temporary traffic lanes to a minimum.

Temporary traffic lanes shall be surfaced with T-10 material, treated with calcium chloride and the surface maintained daily in a manner satisfactory to the Engineer. Two way traffic lanes shall be surfaced with aggregate at least 20 feet wide and one way traffic lanes shall have the surfacing aggregate not less than 12 feet wide.

Payment for constructing, maintaining, and removing temporary traffic lanes and for all other items required for the maintenance of traffic, except furnishing and placing T-10, T-35 for maintaining traffic, and M-10 items, shall be included in the lump sum bid for Maintaining Traffic.

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SUMMARY OF QUANTITIES

PAVEMENT CALCULATIONS

CODE TYPE 6706

Net Length of Pavement = 850 Lin.Ft.
Area of Pavement = 850 x 24 ÷ 9 = 2267 Sq.Yds.

Item I-22 , Subbase
850 x 5.25 x 0.3333 x 2 ÷ 27 = .110 Cu.Yds.

Item B-19 , Base
850 x 4.75 x 0.4167 x 2 ÷ 27 = .125 Cu.Yds.

Item B-35 , Leveling
850 x 4.25 x 0.125 x 2 ÷ 27 = 33.4 Cu.Yds.
For Superelevation Build up
Sta. 37+50 to Sta. 39+00 = 150 Lin.Ft.
150 x 16 x 0.07 AVE. ÷ 27 = 6.2 Cu.Yds.
Sta. 93+00 to Sta. 98+00 = 500 Lin.Ft.
500 x 16 x 0.21 AVE. ÷ 27 = 62.2 Cu.Yds.
Estimated Extra Leveling = 21.7 Cu.Yds.
2267 x 1½" ÷ 36 = 94.5 Cu.Yds.
= .218 Cu.Yds.

Item B-35 , Sealing
850 x 2 = 1700 Lin.Ft.

Item T-30 , Tack Coat
850 x 16 ÷ 9 = 1511 x 0.1 = .151 Gals.

Item T-35 , Surface
2267 x 1¼" ÷ 36 = .79 Cu.Yds.

CODE TYPE 6201

Net Length of Pavement = 9500 + 471.44 = 9971.44 Lin.Ft.
Area of Pavement = 9971.44 x 24 ÷ 9 = 26591 Sq.Yds.
Add for Replacement at Culvert (Sheet 51) = 20 Sq.Yds.
= 26611 Sq.Yds.

Item E-1 , Subgrade Compaction
9500 - 1400 (Rock Cut) = 8100 x 24 ÷ 9 = 21600 Sq.Yds.

Item I-22 , Subbase
9500 x 26 x 0.4167 ÷ 27 = 3812 Cu.Yds.
471.44 x 4.25 x 0.3333 x 2 ÷ 27 = 49 Cu.Yds.
Add for Replacement = 20 x 5 ÷ 36 = 3 Cu.Yds.
= 3864 Cu.Yds.

Item B-19 , Base.
9500 x 25 x 0.4167 ÷ 27 = 3665 Cu.Yds.
471.44 x 3.75 x 0.4167 x 2 ÷ 27 = 55 Cu.Yds.
20 x 5 ÷ 36 = 3 Cu.Yds.
= 3723 Cu.Yds.

Item B-35 , Leveling
471.44 x 3.25 x 0.125 x 2 ÷ 27 = 14 Cu.Yds.
9500 x 24 ÷ 9 = 25333 + 20 = 25353 x 1¾" ÷ 36 = 1232 Cu.Yds.
471.44 x 24 ÷ 9 = 1257 x 1½" ÷ 36 = 52 Cu.Yds.
Estimated Extra Leveling = 13 Cu.Yds.
= 1311 Cu.Yds.

Item T-30 , Prime Coat
9500 x 25 ÷ 9 = 26389 + 20 = 26409 x 0.4 = 10,564 Gals.

Item T-35 , Surface
26611 x 1¼" ÷ 36 = 924 Cu.Yds.

Item T-10 , For Maintaining Traffic
9500 - 1100 (Sta. 77+00 to Sta. 88+00) = 8400 Lin.Ft.
8400 x 75 ÷ 100 = 6300 Cu.Yds.
Estimated for Road Approaches = 200 Cu.Yds.
= 6500 Cu.Yds.

CODE TYPE 6201 (Contd.)

Item M-10 , For Maintaining Traffic
6500 ÷ 50 = 130 Tons

CODE TYPE 6805

Net Length of Pavement = 1600 Lin.Ft.
Area of Pavement = 1600 x 24 ÷ 9 = 4267 + 25 Replacement = 4292 Sq.Yds.

Item I-22 , Subbase
1600 x 6.25 x 0.3333 x 2 ÷ 27 = 247 + (25 x 5 ÷ 36 = 3) = 250 Cu.Yds.

Item B-19 , Base
1600 x 5.75 x 0.4167 x 2 ÷ 27 = 284 + (25 x 5 ÷ 36 = 3) = 287 Cu.Yds.

Item B-35 , Leveling
1600 x 5.25 x 0.125 x 2 ÷ 27 = 78 Cu.Yds.
(4267 x 1½" ÷ 36) + (25 x 1½" ÷ 36) = 179 Cu.Yds.
Estimated Extra Leveling = 35 Cu.Yds.
= 292 Cu.Yds.

Item B-35 , Sealing
1600 x 2 = 3200 Lin.Ft.

Item T-35 , Surface
4292 x 1¼" ÷ 36 = 149 Cu.Yds.

Item T-30 , Prime Coat for Pavement Replacement
25 x 0.4 = 10 Gals.

EARTHWORK AND SEEDING

Station From	Station To	Excav. Cu.Yds.	Channel Cu.Yds.	Emb. Cu.Yds.	Emb.+15% Cu.Yds.		Seeding Sq.Yds.	Fertilizer Lbs.	Lime Lbs.
CODE TYPE 6706									
32+50	39+00	1848		207	238		3006	541	2705
93+00	98+00	1196		379	436		3238	583	2914
(For Sodding)								71	356
Totals		3044		586	674		6244	1195	5975
CODE TYPE 6201									
39+00	93+00	27596		80289	92332		52004	9361	46804
98+00	103+50	2147		28	32		3043	548	2739
112+00	135+50	17588	246	22990	26439		22018	3963	19816
143+00	155+00	3550		2681	3083		7733	1392	6960
155+00	159+11.44	1492		115	132		2806	505	2525
(For Sodding)								518	2590
Totals		52373	246	106,103	122,018		87604	16287	81434
CODE TYPE 6805									
103+50	112+00	3103		1099	1264		5472	985	4925
135+50	143+00	2730		991	1140		5612	1010	5051
(For Sodding)								118	590
Totals		5833		2090	2404		11084	2113	10566
GRAND TOTALS		61,250	246	108,779	125,096		104,932	19,595	97,975

Item E-11 , Water
For Code Type 6706
Emb. + B-19 + I-22 = (586 + 197 + 110) x 5 ÷ 1000 = .5 M Gals.
For Code Type 6201
Emb. + B-19 + I-22 = (106,103 + 4672 + 4164) x 5 ÷ 1000 = .575 M Gals.
For Code Type 6805
Emb. + B-19 + I-22 = (2090 + 555 + 250) x 5 ÷ 1000 = .15 M Gals.

Item E-4 , Borrow
For Code Type 6201
122,018 - (52,373 + [2370 + 3429 Excess Excav. from other Code Types]) = 63,846 Cu.Yds.

GENERAL SUMMARY

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★ Extra Quantities to be placed where directed by the Engineer.

Carried from Sheet No.

CODE TYPE 6706						CODE TYPE 6201													CODE TYPE 6805								QUANTITY					DESCRIPTION
4	5	8	13	14	★	4	5	9	10	11	12	13	14	15	16	17	18	19	43	51	★	4	5	14	15	17	18	51	★	ITEM	6706	6201	6805	GRAND TOTALS	UNIT	ROADWAY
	3044						52373																5833							E-1	3044	52373	5833	61250	Cu.Yds.	Roadway Excavation, Method B, as per Plan.
							21600												1955											E-1		23555		23555	Sq.Yds.	Compacted Subgrade.
							63846																							E-4		63846		63846	Cu.Yds.	Borrow.
								1456	1364	1495	2089	1614	863	778	1389	429	766			20								25		E-8		12263	25	12288	Sq.Yds.	Removal and Disposal of Existing Pavement, as per Plan.
								102		222					211		171													E-8		706		706	Sq.Ft.	Removal and Disposal of Existing Sidewalk.
Lump						Lump																Lump								E-9	Lump	Lump	Lump	Lump	Lump	Removal of Trees and Stumps.
	5						575																15							E-11	5	575	15	595	M-Gals.	Water.
			53					20	248	19		17			27			111	110	168								25		E-12	53	720	25	798	Lin.Ft.	Pipe Removed, 15" and Under.
		43																		354								60		E-12	43	354	60	457	Lin.Ft.	Pipe Removed, over 15".
											108						108	175												I-15		391		391	Lin.Ft.	Guard Rail Removed and Disposed of, as per Plan.
								272	478	325	1854.43	1081.07		737	555.98	550.52	475							75	219		175			I-15		6331	469	6800	Lin.Ft.	Guard Rail, Standard Strength Flexible Steel Plate Tension Type or Steel Beam Type (Shallow).
	6244						87604																11084							L-9	6244	87604	11084	104,932	Sq.Yds.	Seeding and Protecting.
	0.60						8.14																1.06							L-9	0.60	8.14	1.06	9.80	Tons	Commercial Fertilizer (12-12-12).
	2.99						40.72																5.28							L-9	2.99	40.72	5.28	48.99	Tons	Agricultural Liming Materials.
		11	62	323				312	745	132	423	244	138	180	134	246	324							157	154	175	170			L-10	396	2878	656	3930	Sq.Yds.	Sodding, as per plan.
							130																							M-10		130		130	Tons	Furnishing and Applying Calcium Chloride for Maintaining Traffic.
							1625																							T-10		1625		1625	Cu.Yds.	Traffic Compacted Surface Course for Maintaining Traffic.
							4875																							T-10		4875		4875	Cu.Yds.	Traffic Compacted Surface Course for Maintaining Traffic, Modified as per Plan.
				10																	80							10		T-35	10	80	10	100	Cu.Yds.	Asphaltic Concrete Surface Course or an Approved Bituminous Premixed Surface Course for Maintaining Traffic.
																				826							66		E-2		826	66	892	Cu.Yds.	**DRAINAGE** Excavation for Structures.
							246													607							21		E-3		853	21	874	Cu.Yds.	Channel Excavation.
		42						52							48			86											I-1	42	186		228	Lin.Ft.	12" Pipe for Driveways, Sec. M-6.4 (a).
			40					50				40		44	38	32	30	62											I-1	40	296		336	Lin.Ft.	15" Pipe for Driveways, Sec. M-6.4 (a).
		60							42		86																		I-1	60	128		188	Lin.Ft.	18" Pipe for Driveways, Sec. M-6.4 (a).
									216																				I-1		216		216	Lin.Ft.	24" Pipe for Driveways, Sec. M-6.4 (a).
				60																	740							100		I-4	60	740	100	900	Lin.Ft.	6" Underdrains.
				10														30			40							20		I-4	10	70	20	100	Lin.Ft.	6" Pipe outlets for Underdrains, Sec. M-6.4 (h) without perforations.
																				1									I-8		1		1	Each	Standard No. 2-2A Catch Basin.
		1																		4							1		I-8	1	4	1	6	Each	Standard No. 2-2A Catch Basins, modified as per plan
									1											1							1		I-8		2	1	3	Each	Standard No. 2-3 Catch Basins, modified as per plan
									1																				I-8		1		1	Each	Standard No. 1-3 Catch Basin.
300						2700																500								I-9	300	2700	500	3500	Lin.Ft.	Stone Underdrains, No. 2, as per Plan.
		19						3	10		3	4			3	3		3		143							28			I-10	19	172	28	219	Sq.Yds.	Riprap, Grout Filled, as per Plan.
		4										6			7					144							14			I-10	4	157	14	175	Cu.Yds.	Dumped Rock Channel Protection.
		877						197	800		514	380		225	175	230	170			40				149	87		125	30			I-14	877	2731	391	3999	Lin.Ft.	Standard Type 1 Paved Gutter, as per plan.

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BEL-149-(0.70-2.83)

GENERAL SUMMARY

★ Extra Quantities to be placed where directed by the Engineer.

Carried from Sheet No.

CODE TYPE 6706						CODE TYPE 6201													CODE TYPE 6805								QUANTITY				DESCRIPTION
4	5	8	13	14	★	4	5	9	10	11	12	13	14	15	16	17	18	19	43	51	★	4	5	14	15	17	18	51	★	ITEM	6706	6201	6805	GRAND TOTALS	UNIT	DRAINAGE (Continued)
																				2										I-16		2		2	Each	Catch Basins Abandoned.
																				28.5								1.8		S-1		28.5	1.8	30.3	Cu. Yds.	Concrete for Structures, Class. E.
																				10										S-4		10		10	Lbs.	Reinforcing Steel.
								2.0		7.6					0.8		2		1.0	76.6							6	6.0		S-22		90	12	102	Cu. Yds.	Removal of Portions of Existing Structures.
																				3										S-23		3		3	Lin. Ft.	Dowel Holes.
																				102										S-27		102		102	Lin. Ft.	15" Pipe for Roadway Culverts, Sec. M-6.8(b).
																				118										S-27		118		118	Lin. Ft.	15" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b).
																				330								126		S-27		330	126	456	Lin. Ft.	18" Pipe for Roadway Culverts.
																				64										S-27		64		64	Lin. Ft.	24" Pipe for Roadway Culverts.
																				88										S-27		88		88	Lin. Ft.	24" Pipe for Roadway Culverts, Sec. M-6.4 (d).
																				80										S-27		80		80	Lin. Ft.	24" Pipe for Roadway Culverts, Sec. M-6.8(b).
																				142								90		S-27		142	90	232	Lin. Ft.	36" Pipe for Roadway Culverts, Sec. M-6.4 (d)
																				232										S-27		232		232	Lin. Ft.	36" Pipe for Roadway Culverts, Sec. M-6.4 (d) or Sec. M-6.6(c).
																				98										S-27		98		98	Lin. Ft.	60" Pipe for Roadway Culverts.
																				164										S-28		164		164	Lin. Ft.	108" Sectional Corrugated Metal Structure, Sec. M-6.4(g), Gage 8-7.
																																				PAVEMENT
	110						3864												300			250							I-22	110	4164	250	4524	Cu. Yds.	Subbase.
	125	55	17				3723	106	72	51	33	27	52	64	93	18	28	112	293			287	95	15	44	114				B-19	197	4672	555	5424	Cu. Yds.	Aggregate Base Course.
	151																													T-30	151			151	Gals.	Bituminous Tack Coat, Sec. M-5.5, MS-2 or RS-1 or Sec. M-5.2, RC-1, RC-2 or RC-3, as per Sec. T-30.02
							10564												805			10							T-30		11369	10	11379	Gals.	Bituminous Prime Coat, Sec. M-5.7, RT-2 or RT-3.
	1700																					3200							B-35	1700		3200	4900	Lin. Ft.	Sealing Vertical Face of Existing Pavement.
	218						1311												103.0			292							B-35	218	1414	292	1924	Cu. Yds.	Asphaltic Concrete Leveling Course (85-100)
	79	17.3	6.8				924	39.8	12.7	12.9		5.0	20.6	9.7	36.6		6.0	28.8	71.5			149	27.0	6.0	5.7	34.6				T-35	103.1	1167.6	222.3	1493	Cu. Yds.	Asphaltic Concrete Surface Course, Type C, (85-100).
Lump						Lump																Lump									Lump	Lump	Lump	Lump	Lump	Construction Layout Stakes.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
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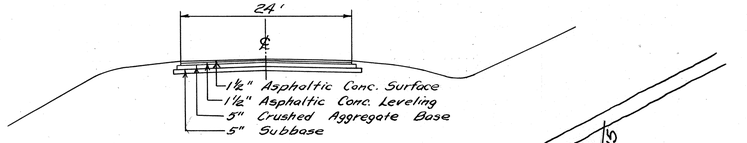
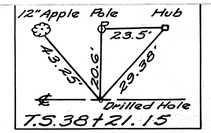
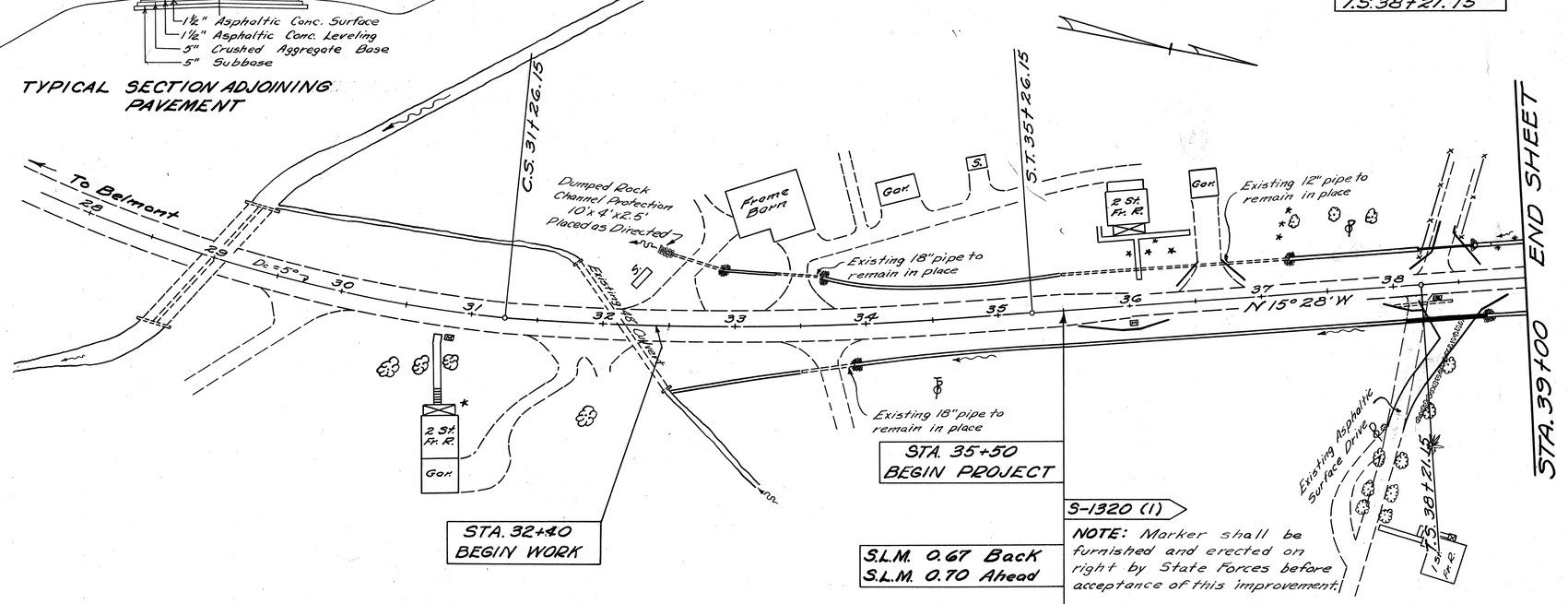
BEL-149-(0.70-2.83)



TYPICAL SECTION ADJOINING PAVEMENT



T.S. 38+21.15

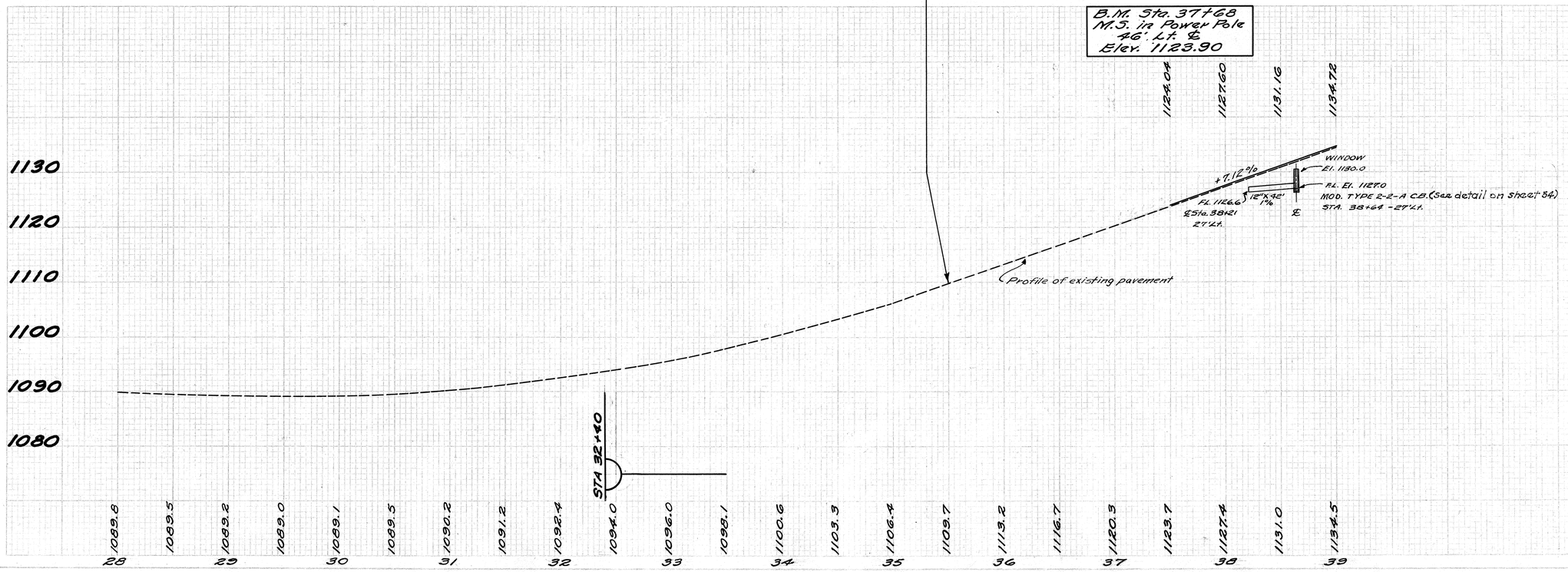


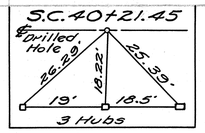
APPROACHES

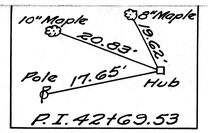
Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds.	Pipe Lin. Ft. 12"	Pipe Lin. Ft. 18"	Pipe Remvl. Over 15" Lin. Ft.	Mod. 2-2A Catch Basin Each	Rip-rap S.Y.
36+00	Rt.	22	4	1.7					
36+62	Lt.	23		2					
38+19.5	Rt.	23	2	0.9					
38+75	Rt.	41	32	12.7		60	43		
38+28.35	Lt.	23	17		42			1	4
TOTALS			55	17.3	42	60	43	1	4

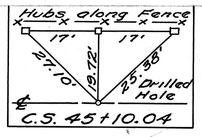
DRAINAGE

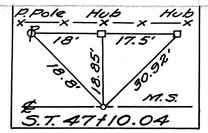
Station From	Station To	Side ℄	See Sheet	Paved Gutter Lin. Ft.	Sod Sq. Yds.	Dumped Rock Channel Protect. Cu. Yds.	Riprap Sq. Yds.
32+40	32+50	Lt.	8			4	
32+53.5	33+50	Rt.	8	98			
32+91	33+32	Lt.	8	40			3
33+69	35+51	Lt.	8	182			3
33+90	38+09	Rt.	8	420			3
37+25	38+21	Lt.	8	96			3
38+69	39+00	Rt.	8	31			3
38+66	38+76	Lt.	8	10			
38+76	39+00	Lt.	8		11		
TOTALS				877	11	4	15











FED. AID DIVISION	STATE	PROJECT	FISCAL YEAR
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APPROACHES

Station	Side ℄	See Sheet	B19 Aggr. Cu.Yds.	T35 Surf. Cu.Yds.	Pipe Lin.Ft. 12"	Pipe Lin.Ft. 15"	Pipe Removal 15" ϕ Under Lin.Ft.	Rem. Partial Exist. Stru. Cu.Yds.
41+25	Lt.	23	26	7.4	52			
42+31	Lt.	24	11	4.3				
43+40.5	Rt.	42	43	17.2		50	20	0.5
43+75	Rt.	24	4	1.8				
43+94	Lt.	24	9	3.7				
44+18	Lt.	24	9	3.7				
42+00	Rt.	24	4	1.7				
TOTALS			106	39.8	52	50	20	0.5

DRAINAGE

Station From	Station To	Side ℄	See Sheet	Paved Gutter Lin.Ft.	Sod Sq.Yds.	Riprap Sq.Yds.
39+00	41+00	Rt.	9	197		
39+00	41+00	Lt.	9		117	
41+00	42+80	Rt.	9		103	
41+52	42+00	Lt.	9		28	
43+30	44+00	Rt.	9		40	3
49+50	50+00	Rt.	9		24	
TOTALS				197	312	3

PAVEMENT REMOVAL

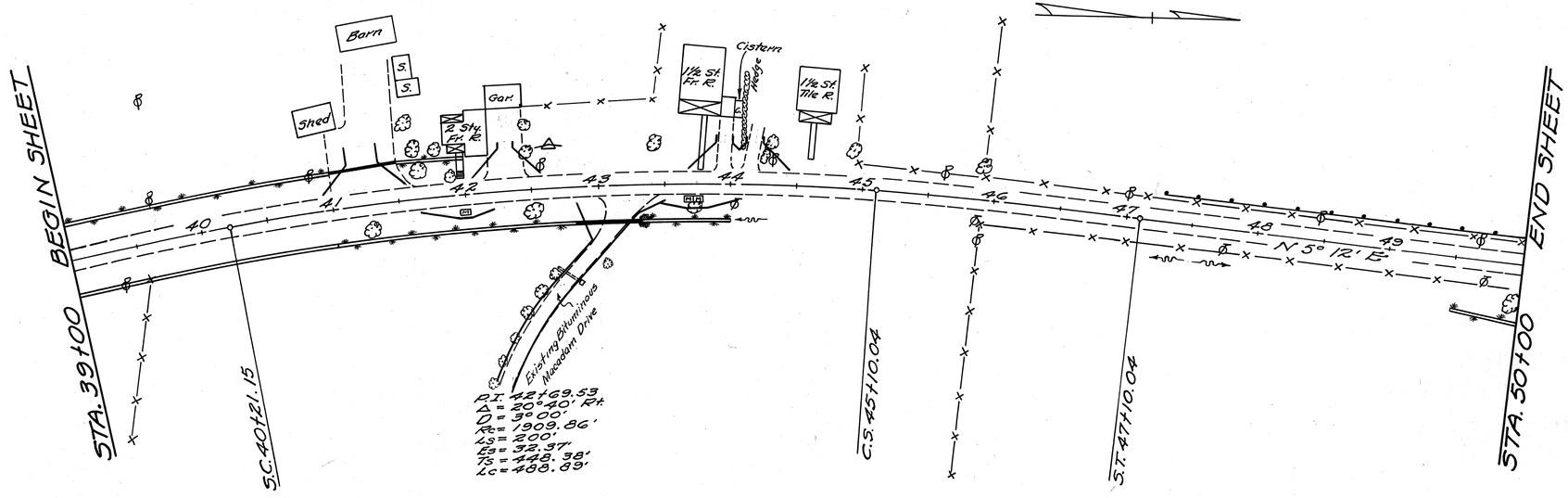
Station From	Station To	Side ℄	Square Yards
39+00	47+19	Rt & Lt	1456
TOTAL			1456

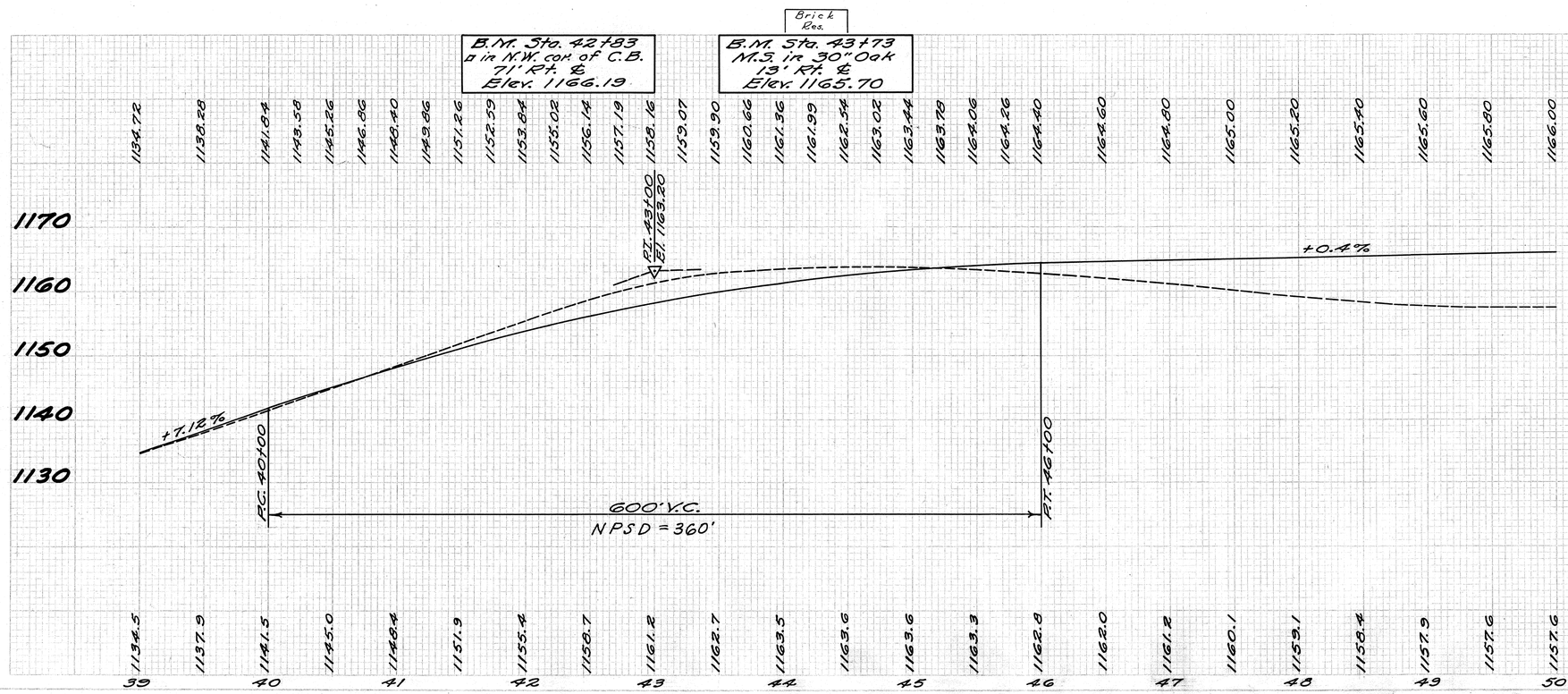
GUARD RAIL

Station From	Station To	Side ℄	New Lin.Ft.
47+28	50+00	Lt.	272
TOTAL			272

REMOVALS

Station From	Station To	Side ℄	Sidewalk Sq.Ft.	S-RE Steps Cu.Yds
41+97		Lt.	46	1.5
43+78		Lt.	56	
TOTALS			102	1.5





FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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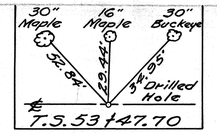
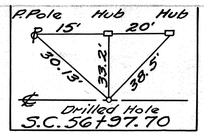
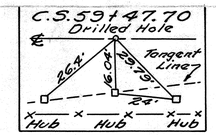
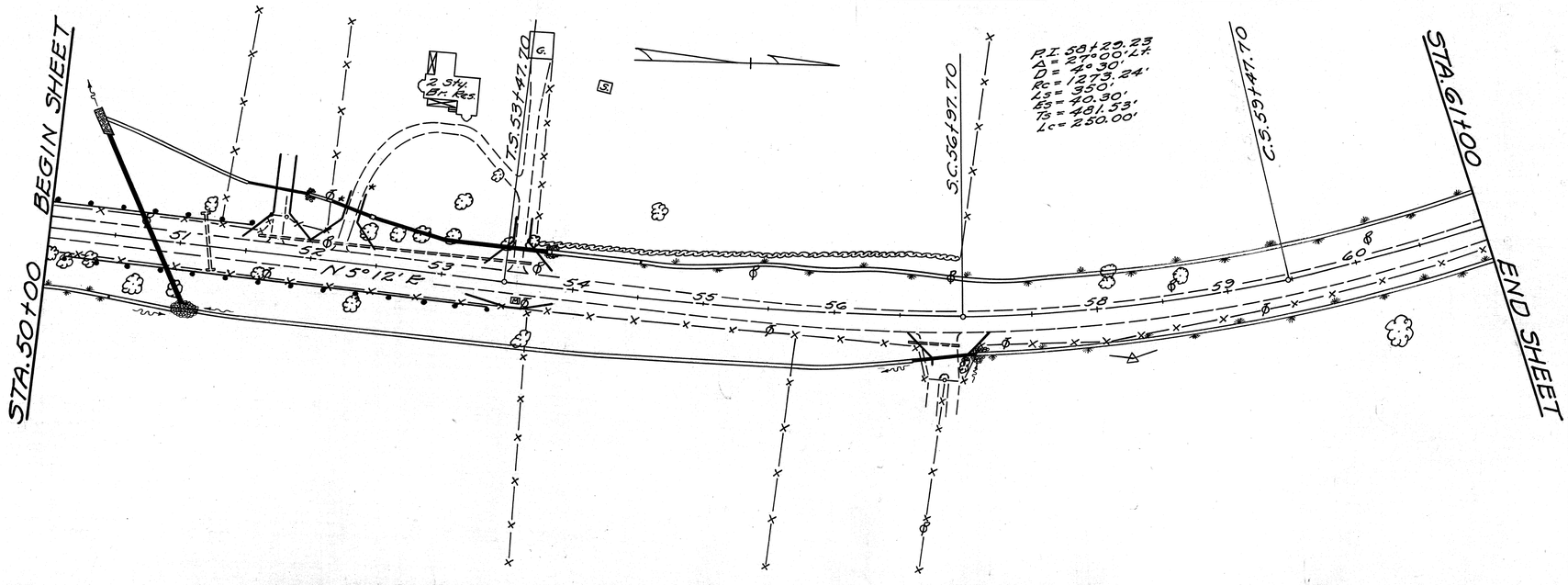
BEL-149-(0.70-2.83)









APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds.	Pipe Lin. Ft. 18"	Pipe Lin. Ft. 24"	Pipe Remvl. 15" & Under Lin. Ft.	1-3 C.B. Each	Mod. 2-3 C.B. Each
51+94	Lt.	25	22			46	40		
52+20	Lt.	25	14	5.7		36	85	1	
53+58	Lt.	25	13	5.3		134	85		1
53+58	Rt.	25	4	1.7					
56+87.5	Rt.	26	19		42		38		
TOTALS			72	12.7	42	216	248	1	1

DRAINAGE

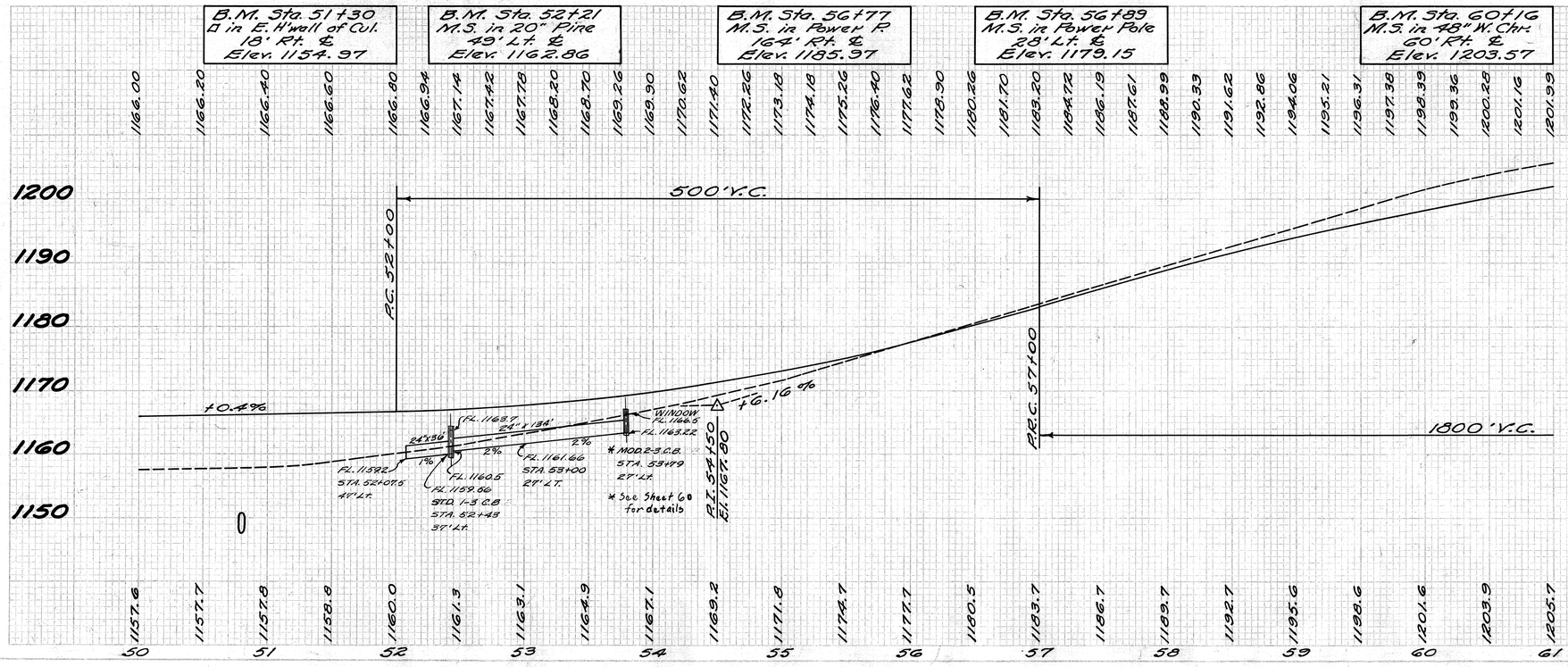
Station From	Station To	Side ℄	See Sheet	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Paved Gutter Lin. Ft.	Sod Sq. Yds.	Riprap Sq. Yds.
50+00	50+50	Rt.	10								24	
50+32.5	51+48	Lt.	10							122		
50+50	50+97	Rt.	10							47		
50+80			52	Pipe	36"	142'	Pipe	24"	45'			
51+91	52+095	Lt.	10							17		3
54+50	61+00	Lt.	10								360	
57+07	61+00	Rt.	10								240	4
51+17	56+60	Rt.	10							545	121	
53+81	54+50	Lt.	10							69		3
TOTALS										800	745	10

PAVEMENT REMOVAL

Station From	Station To	Side ℄	Square Yards
53+33	61+00	Rt. & Lt.	1364
TOTAL			1364

GUARD RAIL

Station From	Station To	Side ℄	New Lin. Ft.
50+00	51+53	Lt.	153
50+12.5	53+37.5	Rt.	325
TOTALS			478



FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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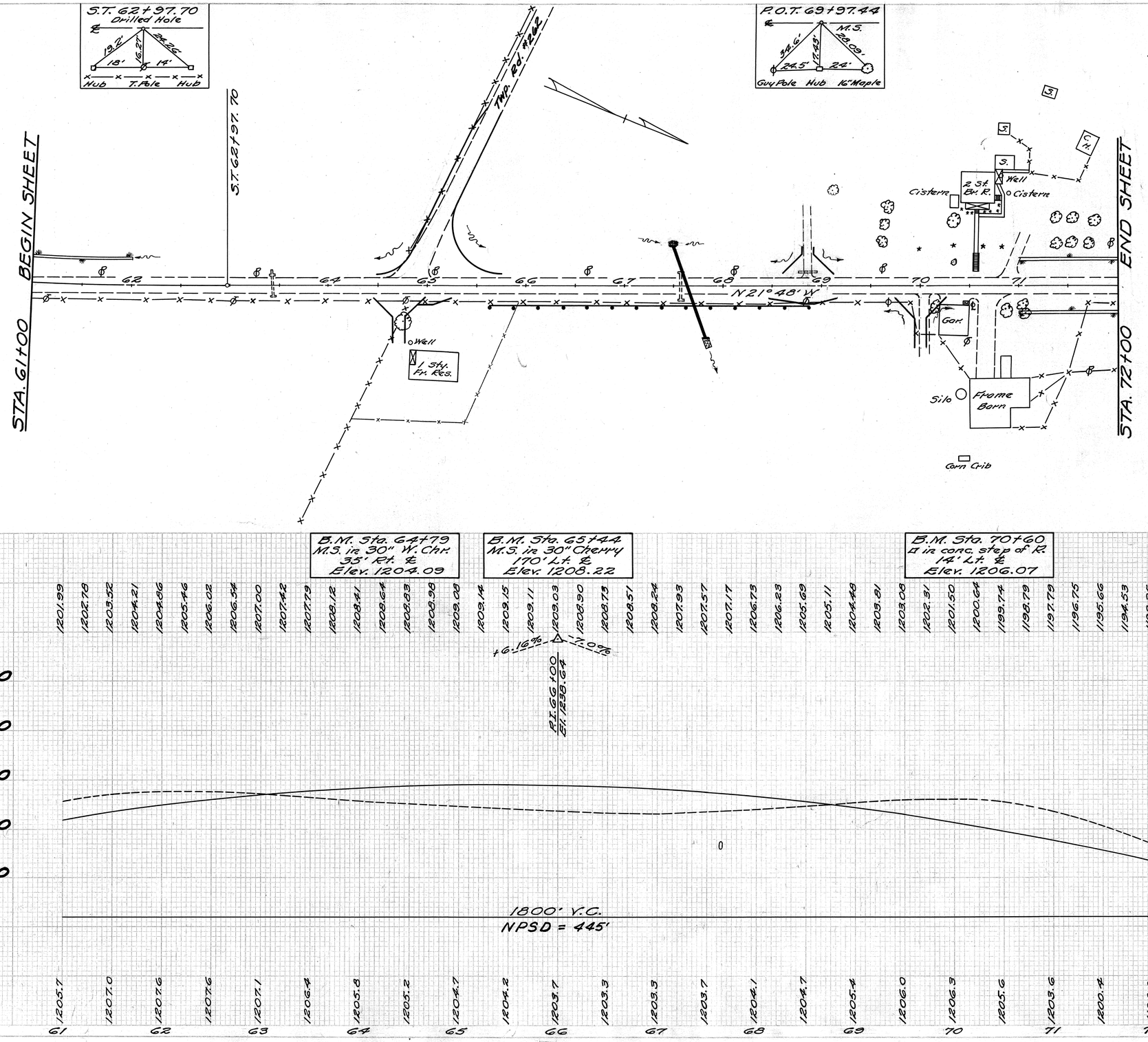
BEL-149-(0.70-2.83)



APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds.			Pipe Remvl. 15" & Under Lin. Ft.		
64+71	Rt.	27	17	6.8					
64+79	Lt.	43							
68+86	Lt.	27	11	4.4			19		
68+86	Rt.	27	4	1.7					
70+00	Rt.	27	19						
TOTALS			51	12.9			19		

DRAINAGE

Station From	Station To	Side ℄	See Sheet	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Sod Sq. Yds.	Hdwll Remvl Cu. Yds.
61+00	62+00	Lt.	11							44	
63+83.8			51				Pipe	12"	27'		1.6
67+64			53	Pipe	18"	100'	Pipe	18"	29'		
71+00	72+00	Lt.	11							44	
71+00	72+00	Rt.	11							44	
TOTALS										132	1.6

PAVEMENT REMOVAL

Station From	Station To	Side ℄	Square Yards
61+00	64+81	Rt. & Lt.	677
69+40	72+00	Rt. & Lt.	818
TOTAL			1495

GUARD RAIL

Station From	Station To	Side ℄	New Lin. Ft.
65+62.5	68+87.5	Rt.	325
TOTAL			325

REMOVALS

Station From	Station To	Side ℄	Sidewalk Sq. Ft.	S-RE Steps Cu. Yds.
70+56		Lt.	182	6
70+59	70+86	Lt.	40	
TOTALS			222	6

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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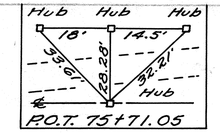
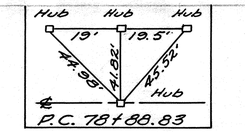
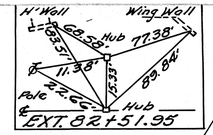
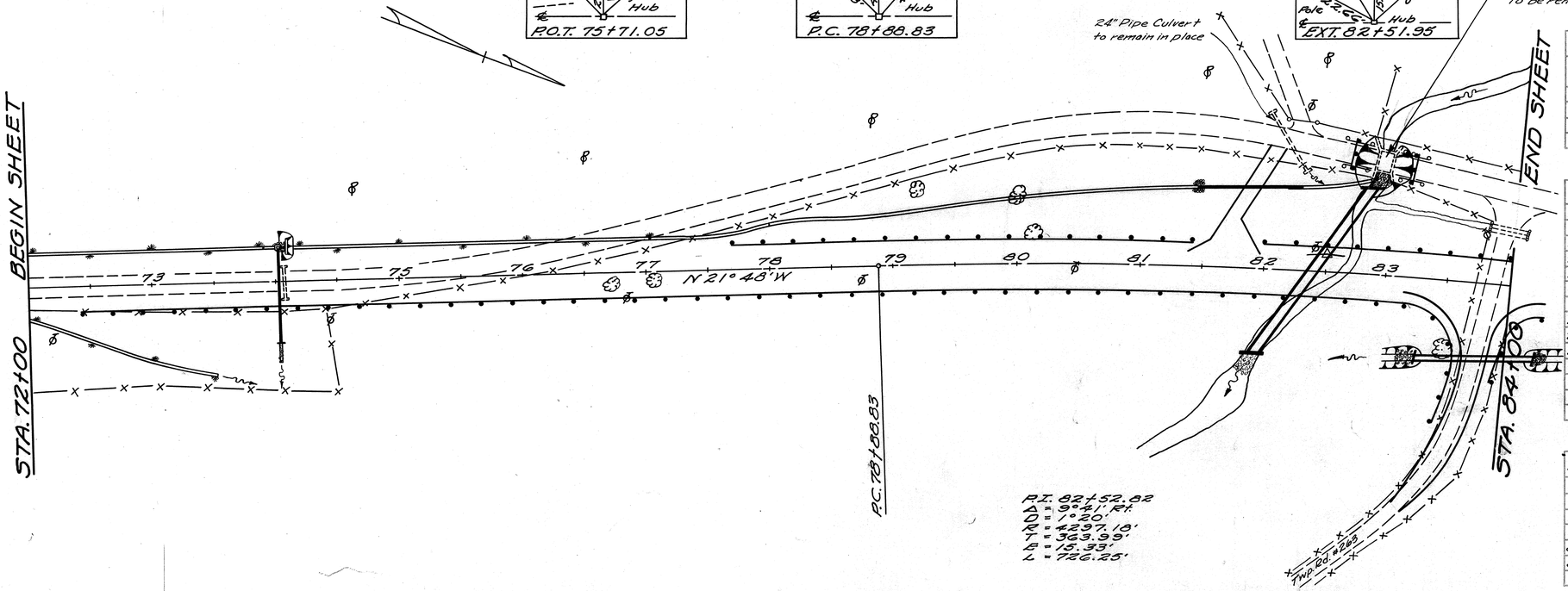
BEL-149-(0.70-2.83)







BEL-149-0160
Type: Conc. Slab
Span: 11'4"
Rdway: 16'
To be removed (See Sheet No.55)



APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds	Pipe Lin. Ft. 18"	
81+50	Lt.	44	33		86	
83+87	Rt.	45				
TOTAL			33		86	

DRAINAGE

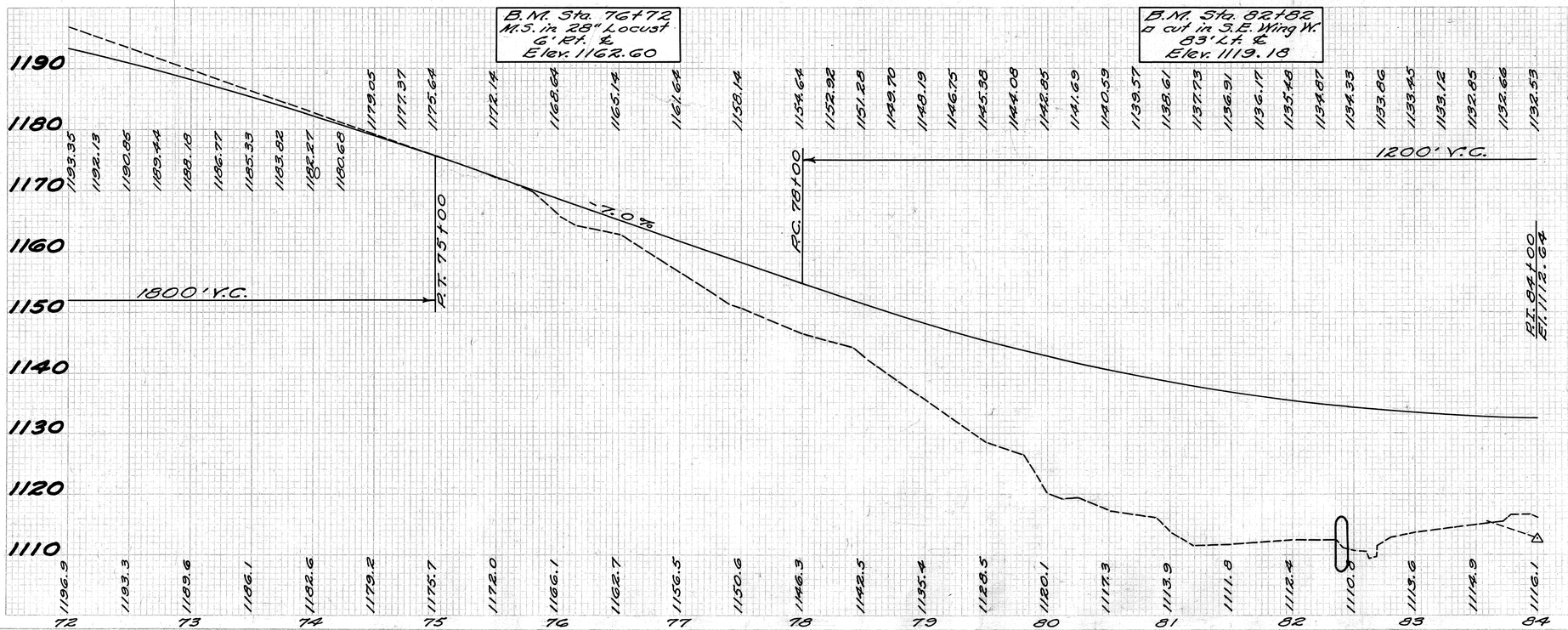
Station From	Station To	Side ℄	See Sht.	Riprap Sq. Yds.	New Work Type	Size	Length	Removals Type	Size	Length	Paved Gutter Lin. Ft.	Sod Sq. Yds.
72+00	73+50	Rt.	12									71
72+00	73+91	Lt.	12									110
73+91	74+01	Lt.	12								10	
74+03			54		Pipe	18"	76'	Pipe	18"	28"		
74+12	77+00	Lt.	12									140
77+00	81+47	Lt.	12	3							452	102
82+31.5	82+82	Lt.	12								52	
82+89			55		Pipe	108"	164'	Conc. Bridge	11'Span	16'Rdway		
1+63			56		Pipe	60"	98'	Pipe	Twin 36"	31'		
TOTAL				3							514	423

PAVEMENT REMOVAL

Station From	Station To	Side ℄	Square Yards
72+00	75+50	Lt. & Rt.	622
75+50	82+00	Lt.	1191
82+40	82+89	Lt.	89
83+00	84+00	Lt.	187
TOTAL			2089

GUARD RAIL

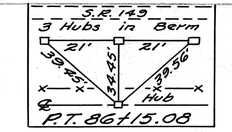
Station From	Station To	Side ℄	New Lin. Ft.	Removed Lin. Ft.
72+49	2+21	Rt.	1187.5	
77+68	81+42	Lt.	375	
82+00	84+00	Lt.	200.93	
82+60	83+29	Lt.		108
82+68		Lt.	25	
83+17		Lt.	25	
1+77	84+00	Rt.	43	
TOTAL			1856.43	108

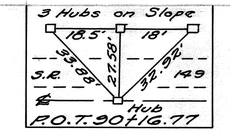


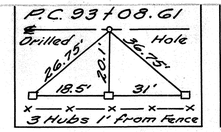
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
12	OHIO		

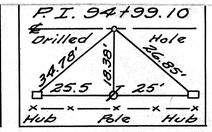
13
77

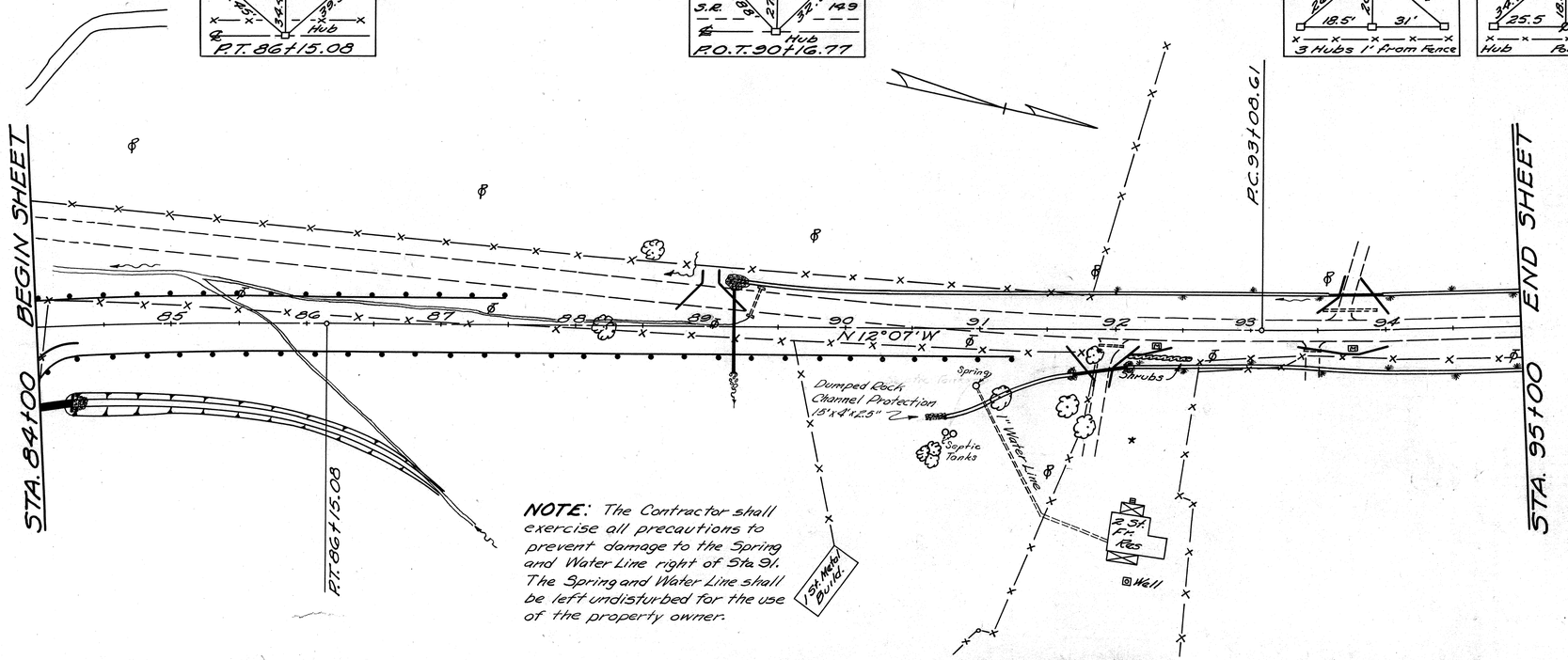
BEL-149-(0.70-2.83)











APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds.	Pipe - Lin. Ft.	15"	Pipe Removal 15" & Under	
89+00	Lt.	31	14					
91+98	Rt.	31	11	4.3		40	17	
92+13	Rt.	31	2	0.7				
93+45	Rt.	13					13	
93+68	Lt.	32	13	5.1		40	40	
93+75	Rt.	32	4	1.7				
TOTALS			44	11.8		80	70	

DRAINAGE

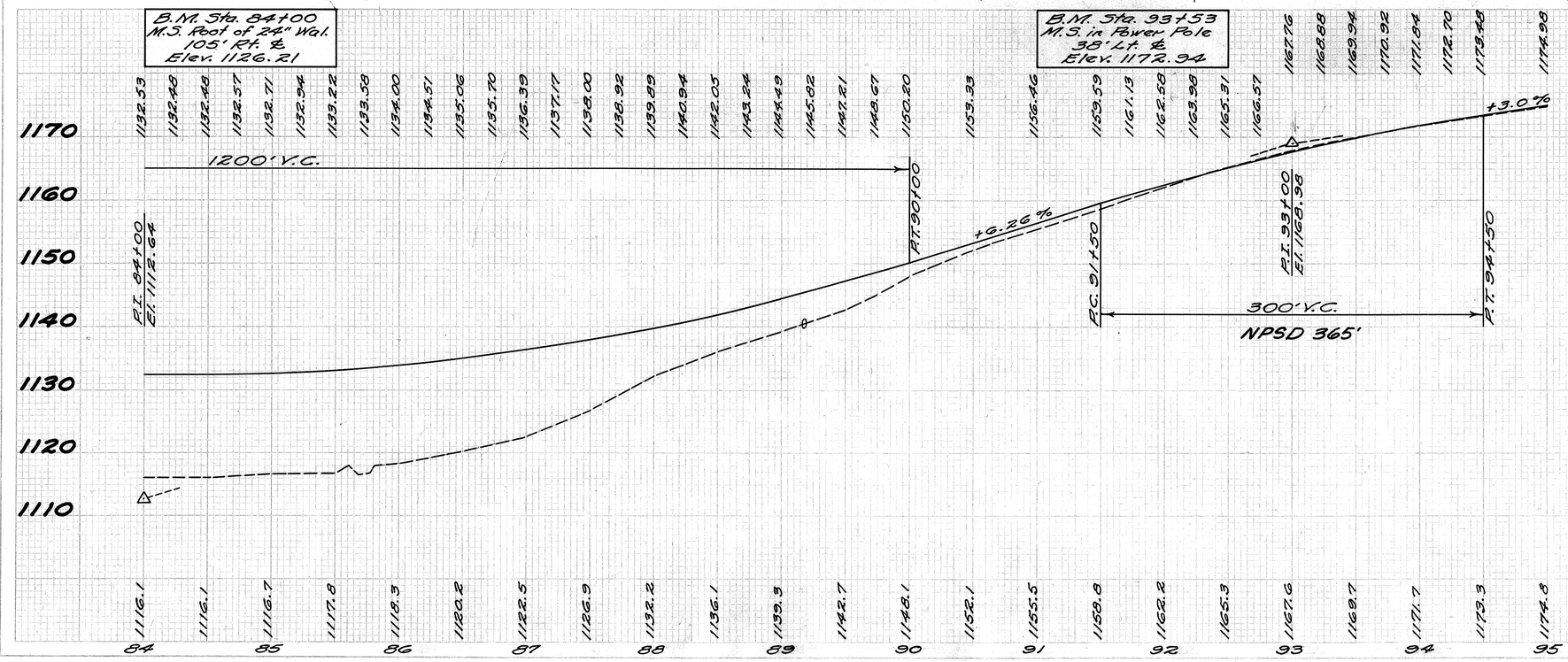
Station From	Station To	Side ℄	See Sheet	Riprap Sq. Yds.	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Paved Gutter Lin. Ft.	Sod Sq. Yds.	Dumped Rock Channel Protect. Cu. Yds.
89+18			57		Pipe	18"	64'	Pipe	15"	24'			
89+22	92+00	Lt.	13								279		
90+75	91+69	Rt.	13	2							101		
92+00	93+58	Lt.	13									90	
92+08	95+00	Rt.	13	2								150	
93+99	95+00	Lt.	13									62	
90+60	90+75	Rt.	13									4	6
TOTALS				4							380	306	6

PAVEMENT REMOVAL

Station From	Station To	Side ℄	Square Yards
84+00	90+75	Lt.	1214
90+75	93+00	Lt & Rt.	400
TOTALS			1614

GUARD RAIL

Station From	Station To	Side ℄	New Lin. Ft.
84+00	87+48	Lt.	34907
84+00	91+21	Rt.	732
TOTALS			1081.07



FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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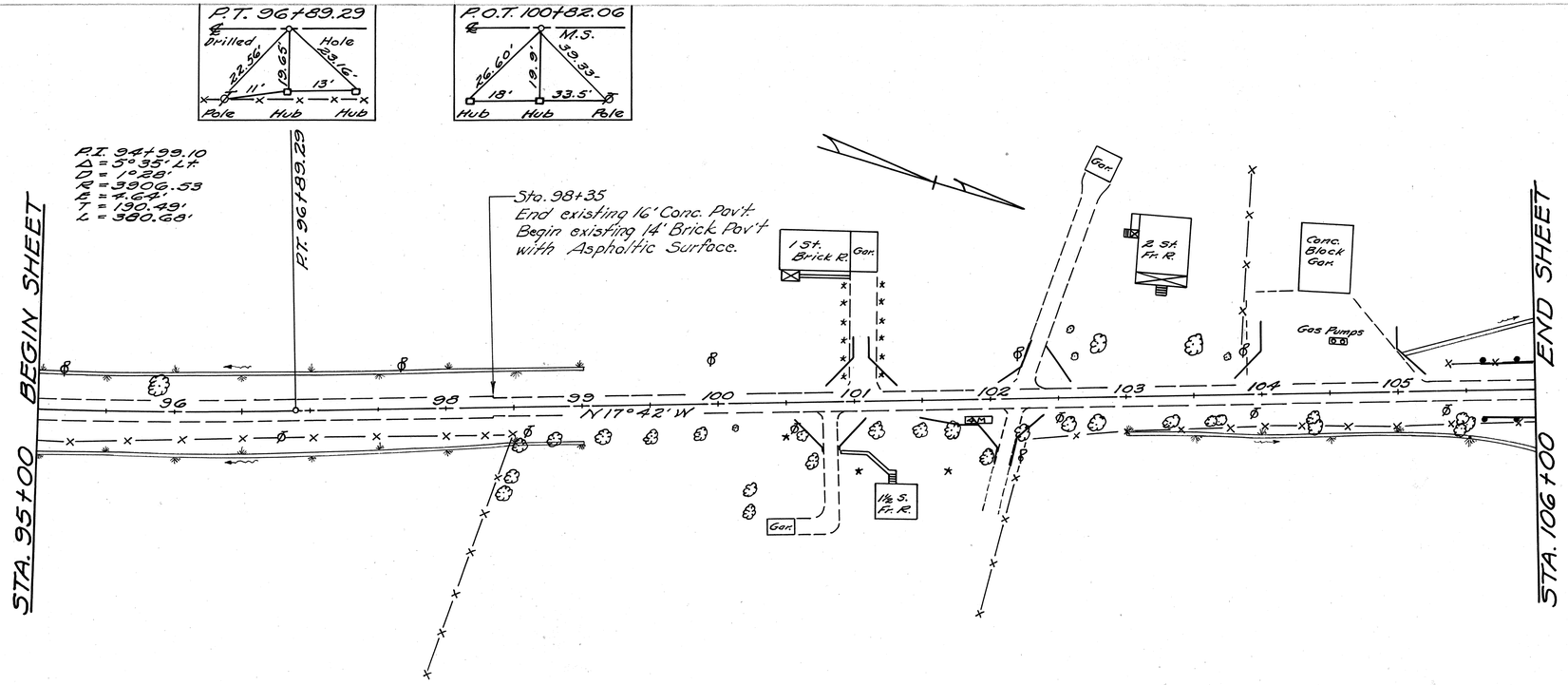
BEL-149-(0.70-2.83)



APPROACHES

Station	Side &	See Sheet	B-19 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds.
100+82.1	Rt.	32	10	4.1
101+04.5	Lt.	33	13	5.1
101+89.5	Rt.	33	3	1.1
102+20	Rt.	33	13	5.3
102+25	Lt.	33	13	5.0
104+50	Lt.	33	95	27.0
TOTALS			147	47.6

DRAINAGE

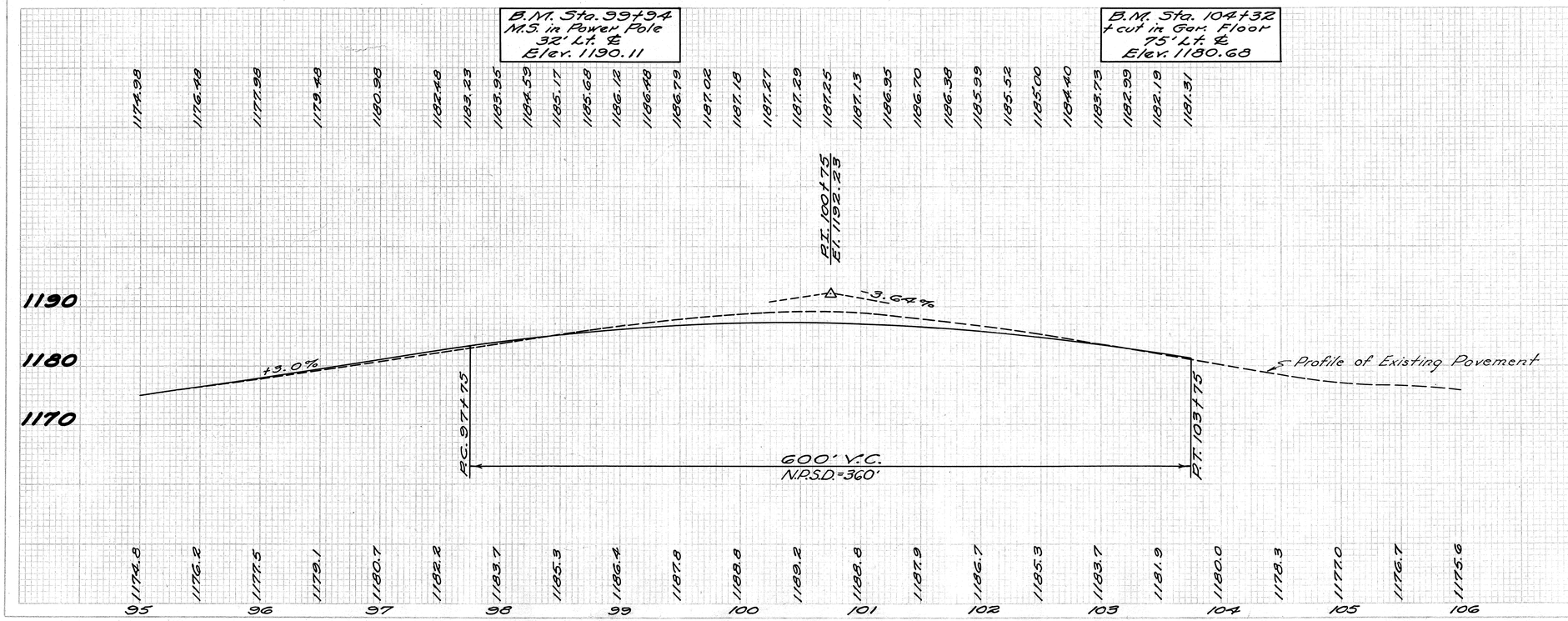
Station From	Station To	Side &	See Sheet	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Paved Gutter Lin. Ft.	Sod Sq. Yds.
95+00	99+00	Lt.	14								237
95+00	99+00	Rt.	14								193
103+00	105+50	Rt.	14								155
105+05	106+00	Lt.	14							98	22
105+50	106+00	Rt.	14							51	11
TOTALS										149	618

PAVEMENT REMOVAL

Station From	Station To	Side &	Square Yards
98+00	98+35	Lt. & Rt.	62
98+35	103+50	Lt. & Rt.	801
TOTALS			863

GUARD RAIL

Station From	Station To	Side &	New Lin. Ft.
105+62.5	106+00	Lt.	37.5
105+62.5	106+00	Rt.	37.5
TOTALS			75



FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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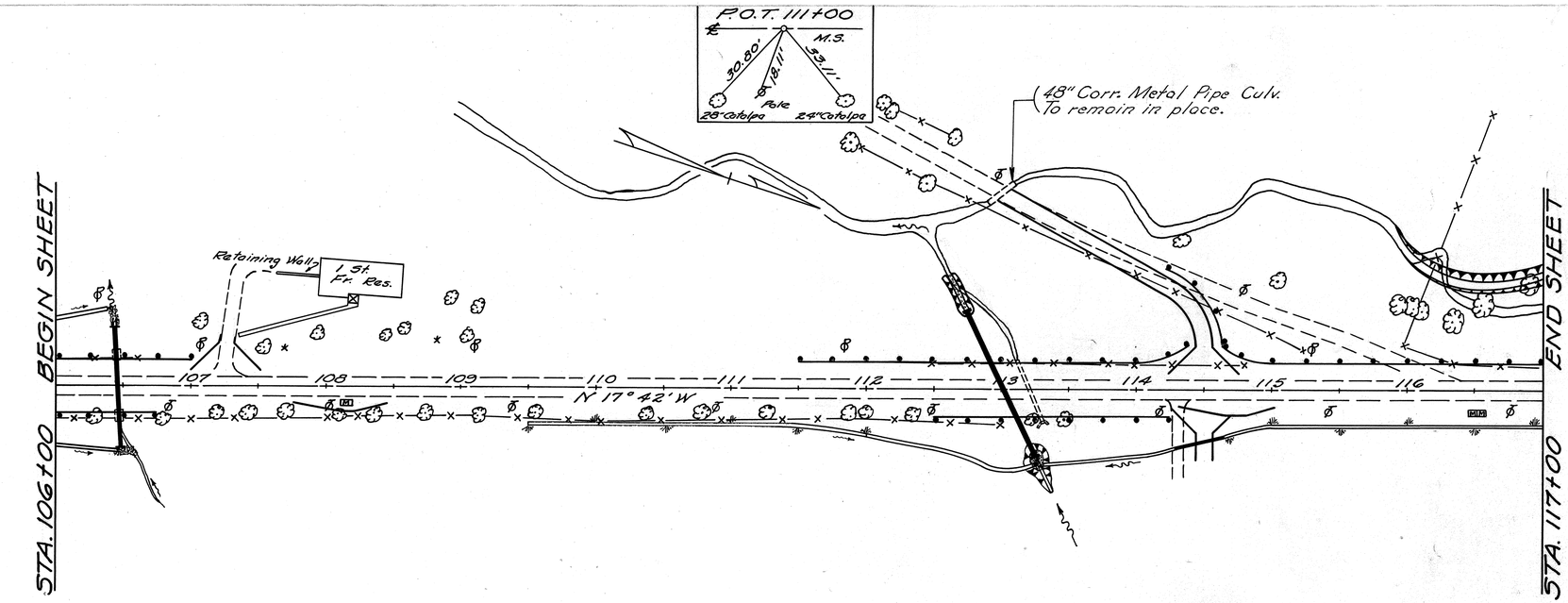
BEL-149-(0.70-2.83)



APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds.	Pipe – Lin. Ft.	15"
107+25	Lt.	33	11	4.3		
108+15	Rt.	33	4	1.7		
114+50	Lt.	46	46	7.9		
114+50	Rt.	34	14			44
114+71.5	Rt.	34	4	1.8		
TOTALS			79	15.7		44

DRAINAGE

Station From	Station To	Side ℄	See Sheet	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Paved Gutter Lin. Ft.	Sod Sq. Yds.
106+00	106+44	Lt.	15							45	10
106+00	106+41	Rt.	15							42	9
106+46			58	Pipe	36"	90'					
109+50	112+00	Rt.	15								135
112+00	113+24	Rt.	15							128	28
113+02			59	Pipe	36"	120'	Conc. Box	2.5'x 2'	50'		
113+30	114+25	Rt.	15							97	22
114+68	117+00	Rt.	15								130
TOTALS										312	334

PAVEMENT REMOVAL

Station From	Station To	Side ℄	Square Yards
112+00	117+00	Lt. & Rt.	778
TOTAL			778

GUARD RAIL

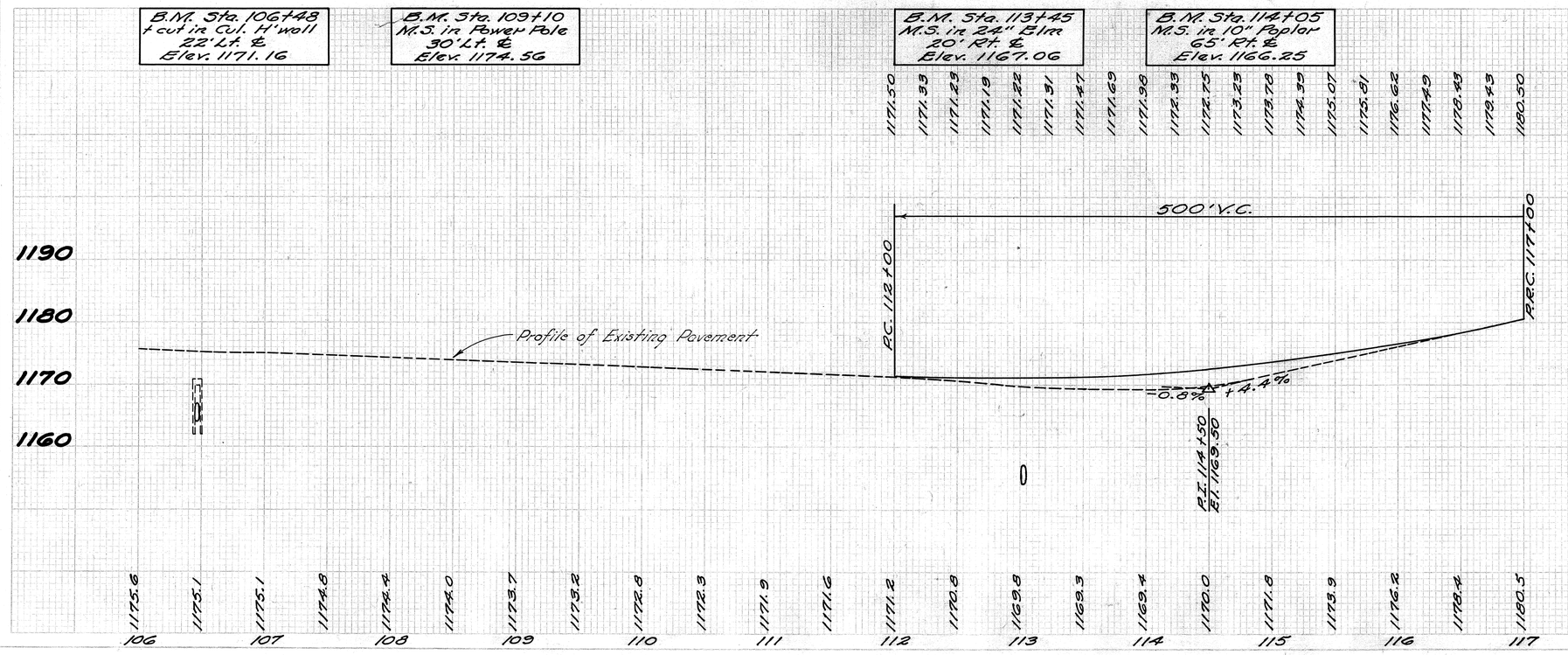
Station From	Station To	Side ℄	New Lin. Ft.
106+00	107+00	Lt.	100
106+00	106+75	Rt.	75
111+56	114+40	Lt.	287.5
112+50	114+25	Rt.	175
114+60	117+00	Lt.	243.5
2+00	2+65	Lt.	75
TOTALS			956

B.M. Sta. 106+48
t cut in Cul. H'wall
22' Lt. ℄
Elev. 1171.16

B.M. Sta. 109+10
M.S. in Power Pole
30' Lt. ℄
Elev. 1174.56

B.M. Sta. 113+45
M.S. in 24" Elm
20' Rt. ℄
Elev. 1167.06

B.M. Sta. 114+05
M.S. in 10" Poplar
65' Rt. ℄
Elev. 1166.25



FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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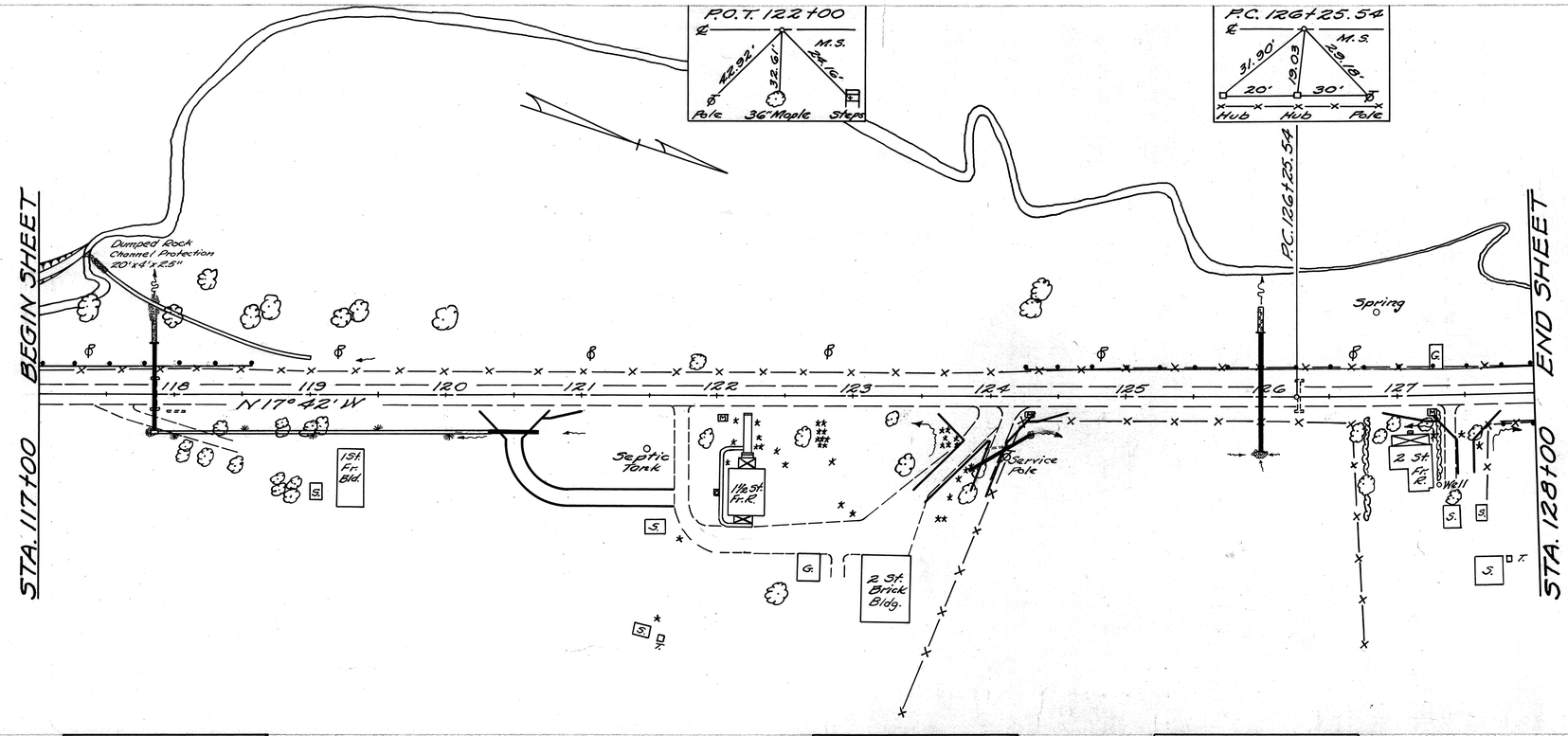
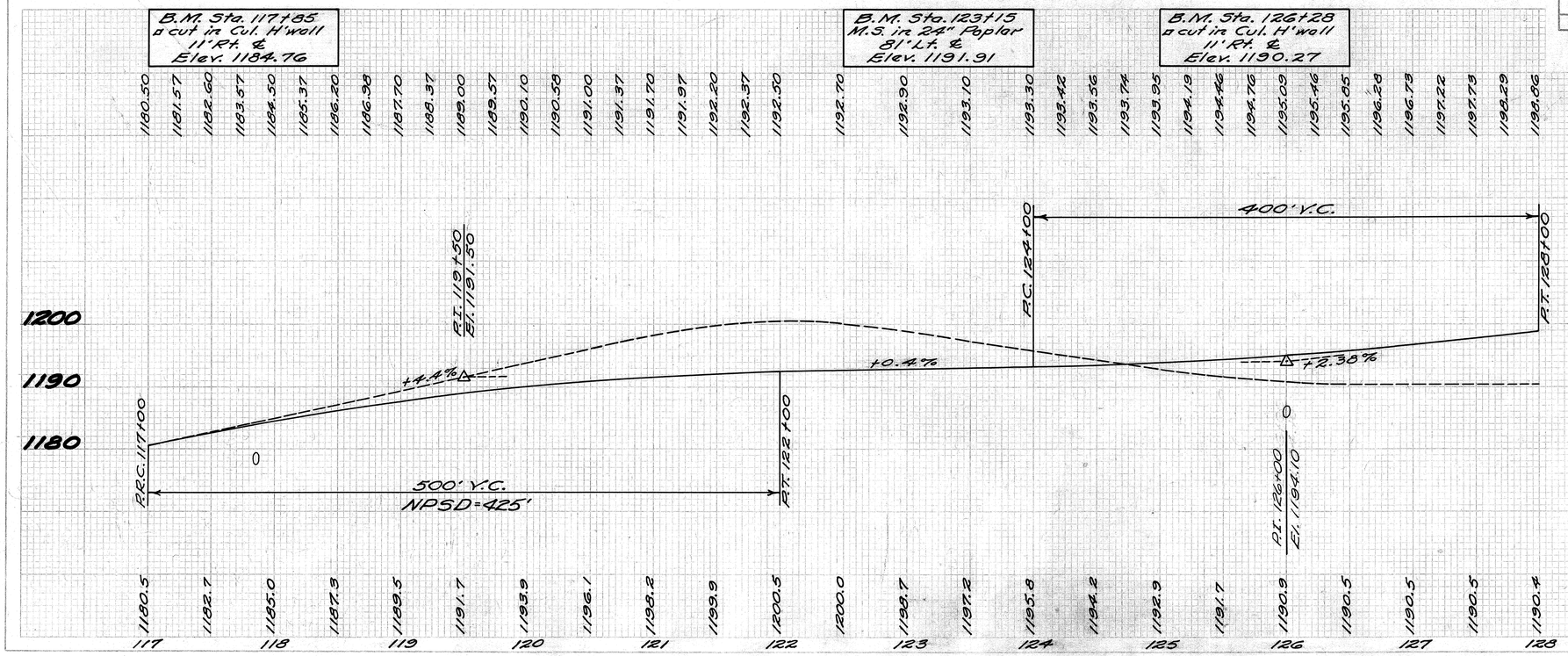
BEL-149-(0.70-2.83)





APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-365 Surf. Cu. Yds.	Pipe Lin. Ft. 12"	Pipe Lin. Ft. 15"	Pipe Remvl. 15" & Under Lin. Ft.	Riprap Sq. Yds.	
118+00	Rt.	16					13		
120+50	Rt.	35 & 47	37	14.7		38			
120+71	Rt.	35	2	0.7					
123+95	Rt.	36 & 47	35	13.8	48		14	3	
124+27	Rt.	36	2	0.7					
127+36	Rt.	36	2	0.9					
127+50	Rt.	36	15	5.8					
TOTALS			93	36.6	48	38	27	3	

DRAINAGE

Station From	Station To	Side ℄	See Sheet	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Sod Sq. Yds.	Paved Gutter Lin. Ft.	Dumped Rock Channel Past. Cu. Yds.
117+85			60	Pipe	24"	64'	Pipe	10"	23'			
117+50	119+00	Lt.	16								165	
117+97	120+31	Rt.	16							130		
126+00			61	Pipe	24"	88'	Pipe	18"	23'			
117+87	117+97	Rt.	16								10	
117+35	117+50	Lt.	16							4		7
TOTALS										134	175	7

PAVEMENT REMOVAL

Station From	Station To	Side ℄	Square Yards
117+00	125+93	Lt & Rt.	1389
TOTALS			1389

GUARD RAIL

Station From	Station To	Side ℄	New Lin. Ft.
118+00	118+56.5	Lt.	156.5
124+25	128+00	Lt.	374.39
127+75	128+00	Rt.	25.09
TOTALS			555.98

REMOVALS

Station From	Station To	Side ℄	Sidewalks Sq. Ft.	S-22 Steps Cu. Yds.
122+03	122+21	Rt.	56	
122+24		Rt.	155	0.5
127+09		Rt.		0.3
TOTALS			211	0.8

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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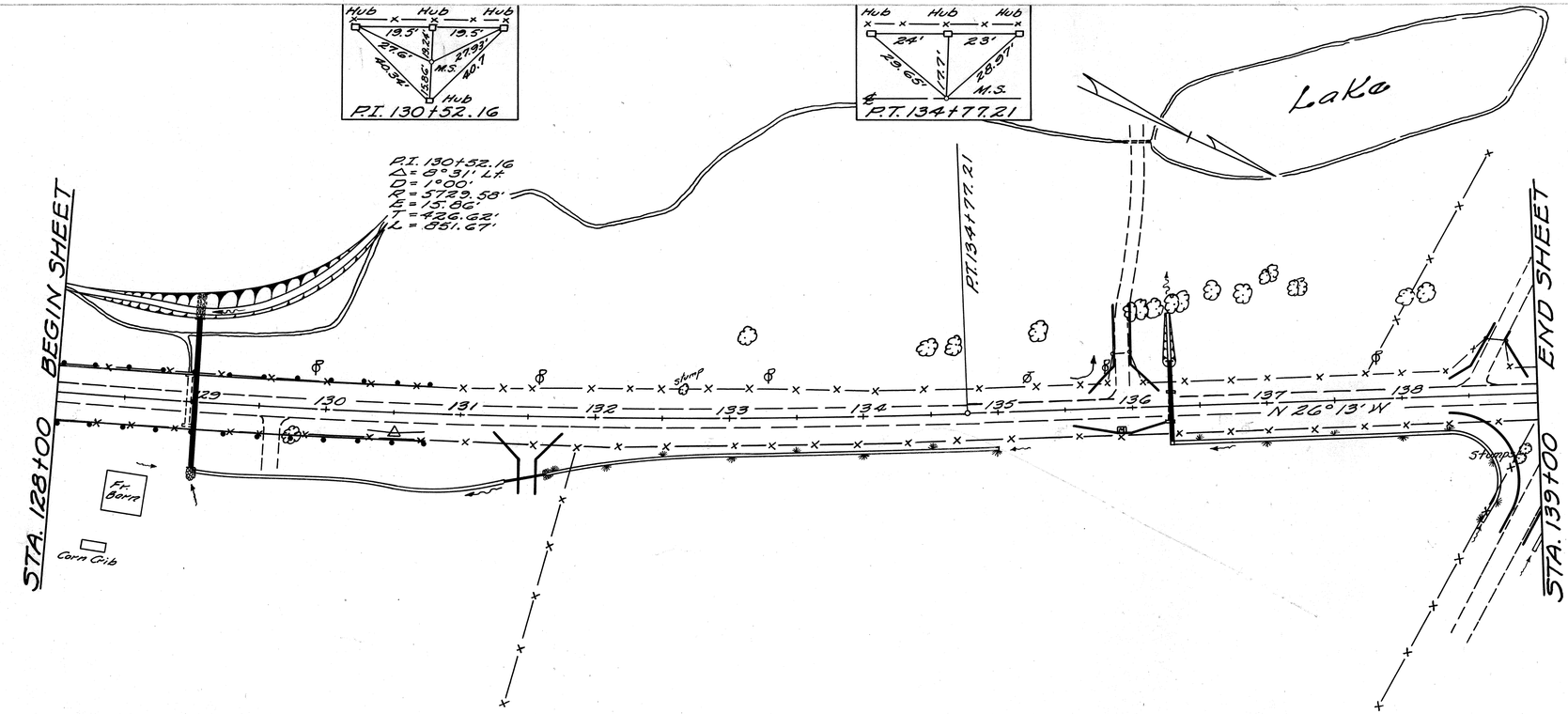
77

BEL-149-(0.70-2.83)



APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-35 Surf. Cu. Yds.	Pipe Lin. Ft.	15"	Remarks
131+50	Rt.	37	18			32	
135+94	Lt.	37	20	4.0			T-35 On Flare Only
135+94	Rt.	37	4	1.7			
138+47	Lt.	38	20				
TOTALS			62	5.7		32	

DRAINAGE

Station From	Station To	Side ℄	See Sheet	Riprap Sq. Yds.	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Paved Gutter Lin. Ft.	Sod Sq. Yds.
129+02			62		Pipe	36"	112'	Pipe	24"	37'		
129+05	131+32	Rt.	17								230	51
131+65	135+00	Rt.	17	3								195
136+28			63		Pipe	18"	60'	Pipe	10"	25'		
136+40	1+25	Rt.	17									175
TOTALS				3							230	421

PAVEMENT REMOVAL

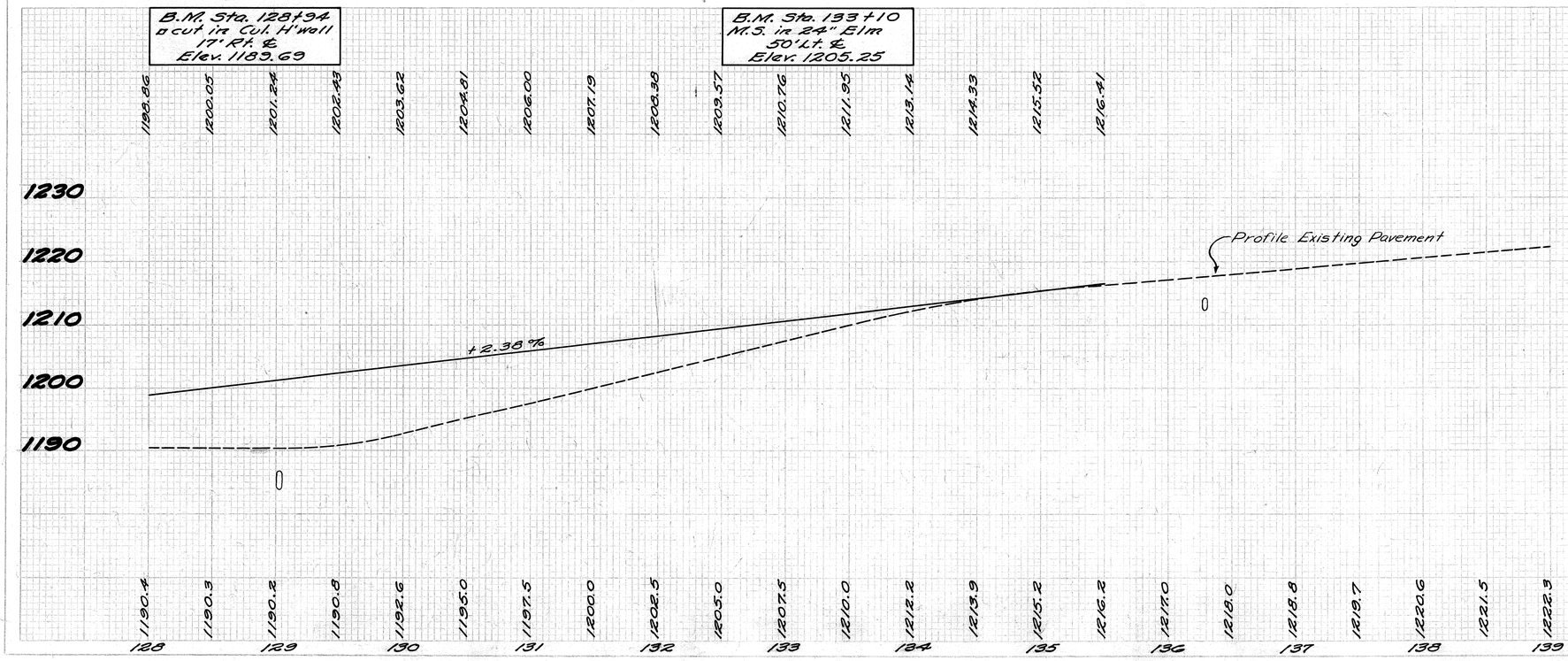
Station From	Station To	Side ℄	Square Yards
132+74	135+50	Lt&Rt.	429
TOTALS			429

GUARD RAIL

Station From	Station To	Side ℄	New Lin. Ft.
128+00	130+76.58	Lt.	275.61
128+00	130+13.95	Rt.	274.91
TOTALS			550.52

B.M. Sta. 128+94
□ cut in Cul. H'wall
17' Rt. ℄
Elev. 1189.69

B.M. Sta. 133+10
M.S. in 24" Elm
50' Lt. ℄
Elev. 1205.25



FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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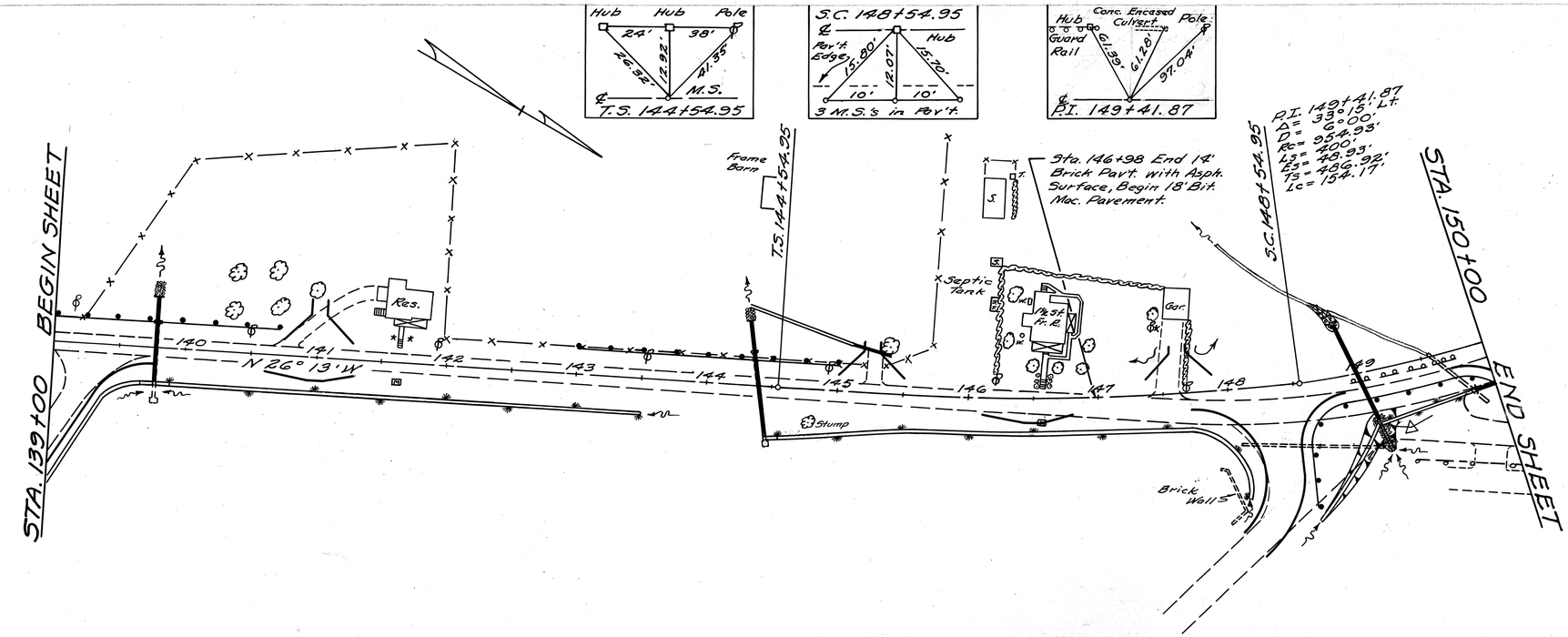
BEL-149-(0.70-2.83)



APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yds.	T-355 surf. Cu. Yds.		Pipe-Lin. Ft.		
							15"	
139+40	Rt.	48	98	28				
141+00	Lt.	38	12	4.9				
141+00	Rt.	38	4	1.7				
145+25	Lt.	39	13				30	
146+50	Rt.	39	4	1.7				
147+62	Lt.	39	11	4.3				
148+36.6	Rt.	49+50						
TOTALS			142	40.6			30	

DRAINAGE

Station From	Station To	Side ℄	See Sheet	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Paved Gutter Lin. Ft.	Sod Sq. Yds.
1+25	139+66.5	Rt.	18							125	
139+78			64	Pipe	18"	66'	Pipe	18"	60'		
139+89.5	143+50	Rt.	18								200
144+32	145+11	Lt.	18							85	19
144+40			65	Pipe	18"	90'	Pipe	18"	70'		
144+58.5	0+90	Rt.	18								225
0+94	149+06.5	Rt.	18							85	
149+00			66	Pipe	24"	80'					
149+16	149+84.5	Rt.	18								50
TOTALS										295	494

PAVEMENT REMOVAL

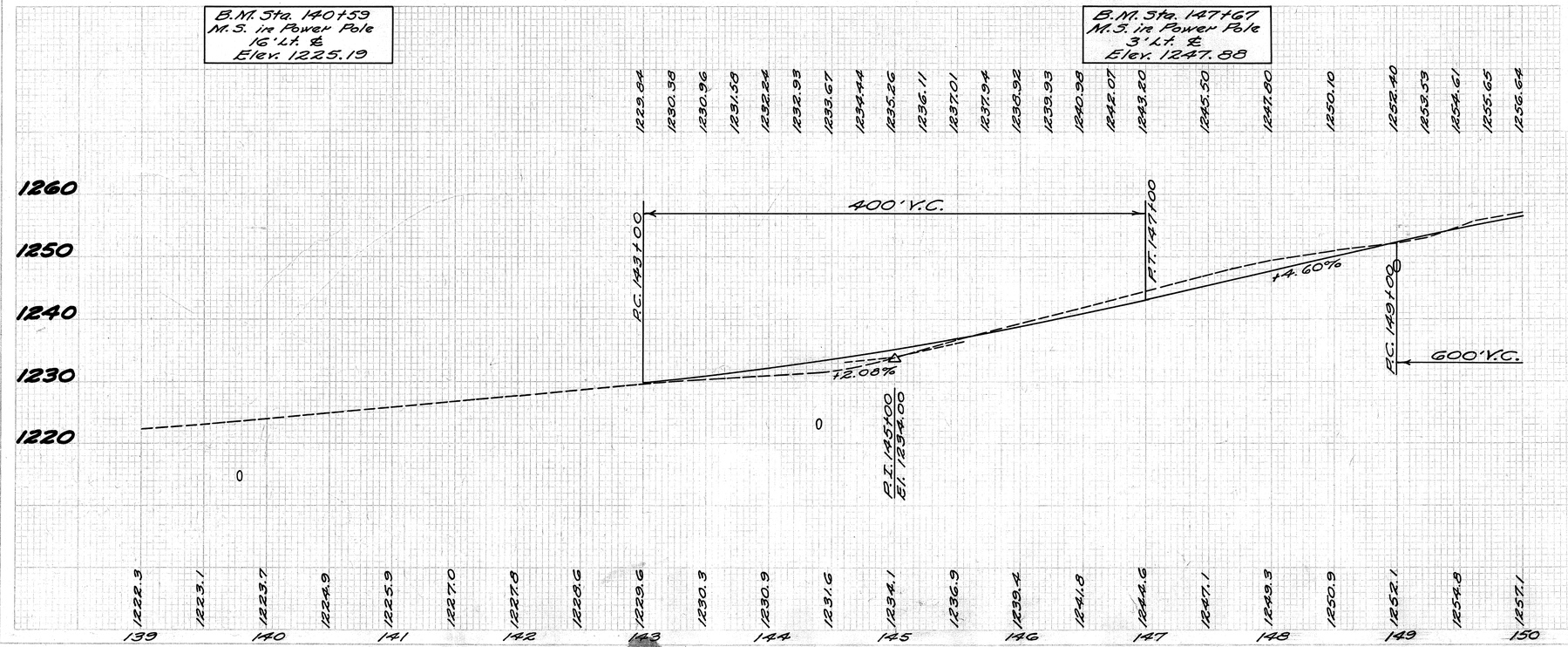
Station From	Station To	Side ℄	Square Yards
143+00	146+98	Lt. & Rt.	620
149+82	150+63	Rt.	146
TOTALS			766

GUARD RAIL

Station From	Station To	Side ℄	New Lin. Ft.	Removed Lin. Ft.
138+96	140+71	Lt.	175	
143+00	145+00	Lt.	200	
0+85.5	0+82.5	Rt.	275	
148+95	149+75	Rt.		80
148+96	149+21	Rt.		28
TOTALS			650	108

REMOVALS

Station From	Station To	Side ℄	Sidewalk Sq. Ft.	S-22 steps Cu. Yds.
141+82	141+51	Lt.		4
141+65		Lt.	31	2
146+55	146+80	Lt	140	2
TOTALS			171	8



PSD. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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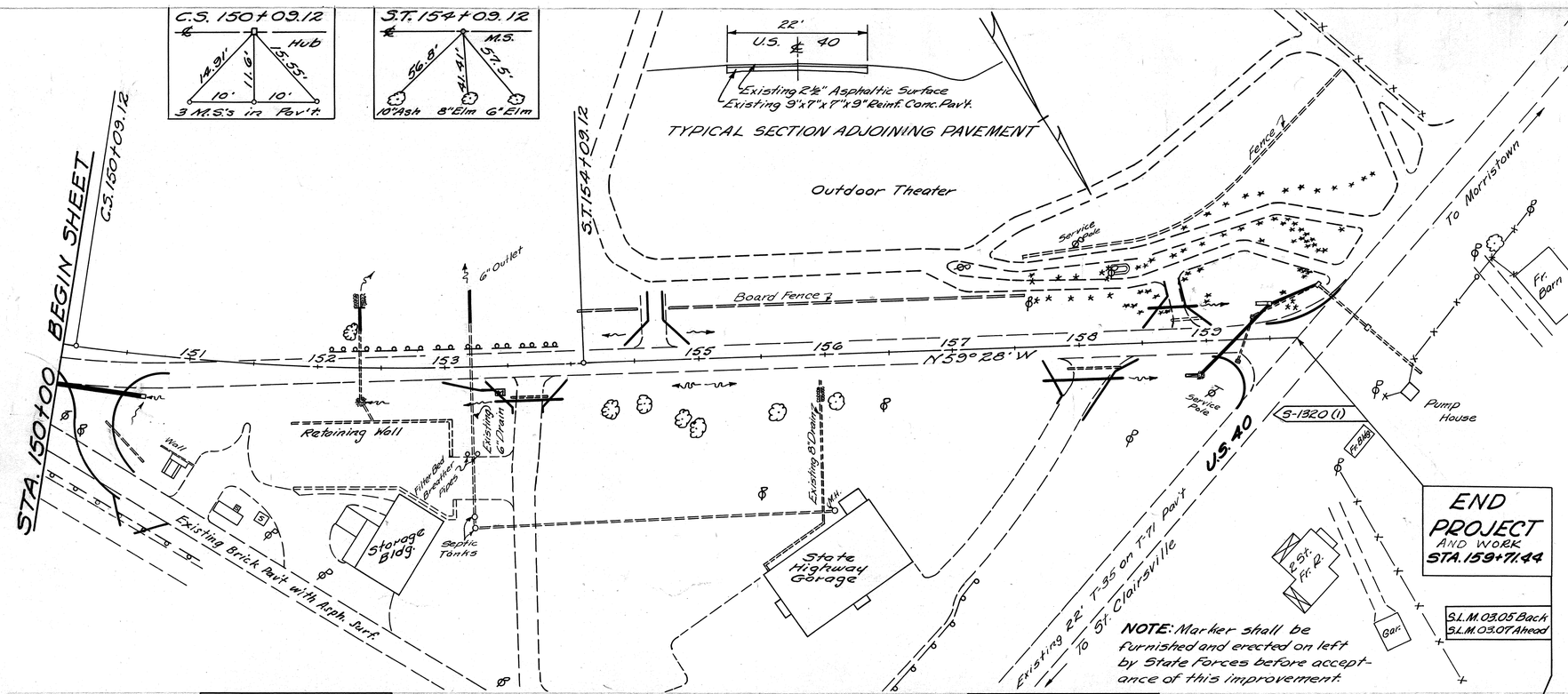
BEL-149-(0.70-2.83)



APPROACHES

Station	Side ℄	See Sheet	B-19 Aggr. Cu. Yd.	T-35 Surf. Cu. Yd.	Pipe-Lin. Ft. 12"	Pipe-Lin. Ft. 15"	Drive Width	Riprap Sq. Yds.	Pipe Remov. 15" & Under Lin. Ft.
150+318	Rt.	49&50							
153+197	Rt.	40	2	0.9					
153+664	Rt.	40	22	6.2	48"		24'		28
154+68	Lt.	40	20	5.7					
158+29	Rt.	40	37	10.5		62'	24'		40
158+85	Lt	40	19	5.5	38				25
1+36	Rt.	49&50	12						
155+96	Rt.	40						3	18
159+03-159+71	Lt&Rt.	44							
TOTALS			112	28.8	86	62		3	111

DRAINAGE

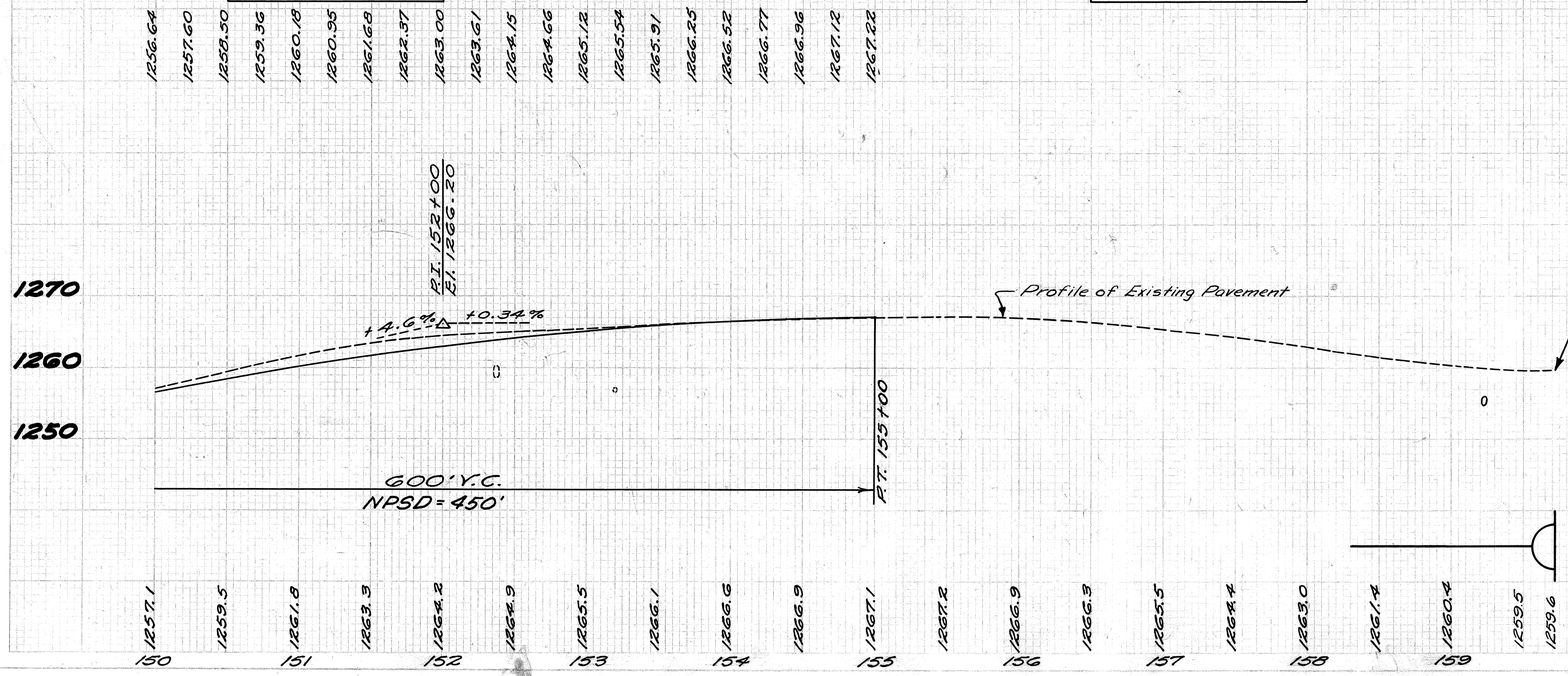
Station From	Station To	Side ℄	See Sheet	6" Outlet Lin. Ft.	New Work Type	New Work Size	New Work Length	Removals Type	Removals Size	Removals Length	Sod Sq. Yds.	Paved Gutter-Lin. Ft.
0+31.75		Rt.	67		Pipe	15"	84'	Pipe	15"	44'		
								Pipe	18"	60'		
152+36		Lt.	68		Pipe Est.	15"	18'					
153+20		Lt.	19	30								
159+22			69		Pipe	15"	118'	Pipe	15"	50'		
TOTALS				30								

GUARD RAIL

Station From	Station To	Side ℄		Removed Lin. Ft.
152+10	153+87.5	Lt.		175
TOTALS				175

B.M. Sta. 151+50
M.S. in 14" Locust
165' Rt. ℄
Elev. 1268.31

B.M. Sta. 158+75
M.S. in Power Pole
75' Rt. ℄
Elev. 1263.75



CURVE TABLES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

20/77

BEL-149-(0.70-2.83)

T.S. = 38+21.15			D = 3°00' Rt.		S.T. = 47+10.04		
LEFT			Table Nº 1		RIGHT		
Edge Pvt. Grade	Add Super	Width	Station	Profile Grade	Width	Deduct Crown	Edge Pvt. Grade
1122.07	0.19	12.00'	37+25	1122.26	12.00'	0.19	1122.07
1123.86			+50	1124.04			1123.85
1125.69			+75	1125.82			1125.63
1127.52			38+00	1127.60			1127.41
1129.11			T.S.+21.15	1129.11			1128.92
1129.40			+25	1129.38			1129.19
1131.29			+50	1131.16			1130.97
1133.19			+75	1132.94			1132.75
1135.04			39+00	1134.72			1134.53
1136.95			+25	1136.50			1136.31
1138.86			+50	1138.28			1138.09
1140.79			+75	1140.06			1139.87
1142.70			40+00	1141.84			1141.65
1144.19			S.C.+21.15	1143.32			1143.13
1144.55			+25	1143.58			1143.39
1146.25	1.18		+50	1145.26			1145.07
1147.85			+75	1146.86			1146.67
1149.39			41+00	1148.40			1148.21
1150.85			+25	1149.86			1149.67
1152.25			+50	1151.26			1151.07
1153.58			+75	1152.59			1152.40
1154.83			42+00	1153.84			1153.65
1156.01			+25	1155.02			1154.83
1157.13			+50	1156.14			1155.95
1158.18			+75	1157.19			1157.00
1159.15			43+00	1158.16			1157.97
1160.06			+25	1159.07			1158.88
1160.89			+50	1159.90			1159.71
1161.65			+75	1160.66			1160.47
1162.35			44+00	1161.36			1161.17
1162.98			+25	1161.99			1161.80
1163.53			+50	1162.54			1162.35
1164.01	1.18		+75	1163.02			1162.83
1164.40			45+00	1163.44			1163.25
1164.53			C.S.+10.04	1163.59			1163.40
1164.66			+25	1163.78			1163.59
1164.80			+50	1164.06			1163.87
1164.89			+75	1164.26			1164.07
1164.90			46+00	1164.40			1164.21
1164.83			+25	1164.50			1164.31
1164.86			+50	1164.60			1164.41
1164.83			+75	1164.70			1164.51
1164.83			47+00	1164.80			1164.61
1164.84			S.T.+10.04	1164.84			1164.65
1164.84			+25	1164.90			1164.71
1164.89			+50	1165.00			1164.81
1164.92			+75	1165.10			1164.91
1165.01	0.19	12.00'	48+00	1165.20	12.00'	0.19	1165.01

Obtained Graphically

T.S. = 53+47.70			D = 4°30' Lt.		S.T. = 62+97.70		
LEFT			Table Nº 2		RIGHT		
Edge Pvt. Grade	Deduct Crown	Width	Station	Profile Grade	Width	Add Super	Edge Pvt. Grade
1167.23	0.19	12.00'	52+75	1167.42	12.00'	0.19	1167.23
1167.59			53+00	1167.78			1167.65
1168.01			+25	1168.20			1168.12
1168.34			T.S.+47.00	1168.63			1168.71
1168.51			+50	1168.70			1168.72
1169.07			+75	1169.26			1168.39
1169.71			54+00	1169.90			1170.12
1170.43			+25	1170.62			1170.95
1171.21			+50	1171.40			1171.85
1172.07			+75	1172.26			1172.82
1172.99			55+00	1173.18			1173.84
1173.99			+25	1174.18			1174.96
1175.07			+50	1175.26			1176.12
1176.21			+75	1176.40			1177.42
1177.43			56+00	1177.62			1178.74
1178.71			+25	1178.90			1180.16
1180.07			+50	1180.26			1181.62
1181.51			+75	1181.70			1183.18
1182.83			S.C.+97.00	1183.02			1184.70
1183.01			57+00	1183.20			1184.78
1184.53			+25	1184.72			1186.24
1186.00			+50	1186.19		1.78	1187.78
1187.42			+75	1187.61			1189.20
1188.80			58+00	1188.99			1190.58
1190.14			+25	1190.33			1191.92
1191.43			+50	1191.62			1193.21
1192.67			+75	1192.86			1194.45
1193.87			59+00	1194.06			1195.65
1195.02			+25	1195.21		1.78	1196.83
1196.00			C.S.+47.00	1196.19			1197.75
1196.12			+50	1196.31			1197.88
1197.19			+75	1197.38			1198.83
1198.20			60+00	1198.39			1199.73
1199.17			+25	1199.36			1200.59
1200.09			+50	1200.28			1201.41
1200.97			+75	1201.16			1202.18
1201.80			61+00	1201.99			1202.89
1202.59			+25	1202.78			1203.58
1203.33			+50	1203.52			1204.19
1204.02			+75	1204.21			1204.79
1204.67			62+00	1204.86			1205.32
1205.27			+25	1205.46			1205.80
1205.83			+50	1206.02			1206.25
1206.35			+75	1206.54			1206.66
1206.76			S.T.+97.00	1206.95			1206.99
1206.81			63+00	1207.00			1207.00
1207.23	0.19	12.00'	+25	1207.42	12.00'	0.19	1207.23

Obtained Graphically

P.C. 78+88.83			D = 1°20' Rt.		P.T. 86+15.08		
LEFT			Table Nº 3		RIGHT		
Edge Pvt. Grade	Add Super	Width	Station	Profile Grade	Width	Deduct Crown	Edge Pvt. Grade
1154.45	0.19	12.00'	78+00	1154.64	12.00'	0.19	1154.45
1152.77			+25	1152.92			1152.73
1151.21			+50	1151.28			1151.09
1149.73			+75	1149.70			1149.51
1148.96			P.C.+88.83	1148.86			1148.67
1148.32			79+00	1148.19			1148.00
1146.98			+25	1146.75			1146.56
1145.68			+50	1145.38			1145.19
1144.42			+75	1144.08			1143.89
1143.19	0.53		80+00	1142.85			1142.66
1142.03			+25	1141.69			1141.50
1140.93			+50	1140.59			1140.40
1139.91			+75	1139.57			1139.38
1138.95			81+00	1138.61			1138.42
1138.07			+25	1137.73			1137.54
1137.25			+50	1136.91			1136.72
1136.51			+75	1136.17			1135.98
1135.82			82+00	1135.48			1135.29
1135.21			+25	1134.87			1134.68
1134.67			+50	1134.33			1134.14
1134.20			+75	1133.86			1133.67
1133.79			83+00	1133.45			1133.26
1133.46			+25	1133.12			1132.93
1133.19			+50	1132.85			1132.66
1133.00			+75	1132.66			1132.47
1132.87			84+00	1132.53			1132.34
1132.82			+25	1132.48			1132.29
1132.82			+50	1132.48			1132.29
1132.90			+75	1132.57			1132.38
1133.07			85+00	1132.71			1132.52
1133.28	0.53		+25	1132.94			1132.75
1133.52			+50	1133.22			1133.03
1133.81			+75	1133.58			1133.39
1134.12			86+00	1134.00			1133.81
1134.40			P.T.+15.08	1134.29			1134.10
1134.55			+25	1134.51			1134.32
1135.00			+50	1135.06			1134.87
1135.50			+75	1135.70			1135.51
1136.20	0.19	12.00'	87+00	1136.39	12.00'	0.19	1136.20

Obtained Graphically

NOTE: The design speed is 50 m.p.h.

CURVE TABLES

FED. RD. DIVISION	STATE	PROJECT	
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BEL-149-(0.70-283)

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P.C. 93+08.61			D = 1°28' Lt.		P.T. 96+89.29		
LEFT			Table N° 4		RIGHT		
Edge Prf. Grade	Deduct Crown	Width	Station	Profile Grade	Width	Add Super	Edge Prf. Grade
1163.79	0.19	12.00'	92+25	1163.98	12.00'	0.19	1163.79
1165.12			+50	1165.31			1165.15
1166.38			+75	1166.57			1166.48
1167.57			93+00	1167.76			1167.78
1167.91			P.C.+08.61	1168.16			1168.19
1168.69			+25	1168.88			1169.04
1169.75			+50	1169.94			1170.20
1170.73			+75	1170.92			1171.29
1171.65			94+00	1171.84		0.58	1172.23
1172.51			+25	1172.70			1173.09
1173.29			+50	1173.48			1173.87
1174.04			+75	1174.23			1174.62
1174.79			95+00	1174.98			1175.37
1175.54			+25	1175.73			1176.12
1176.29			+50	1176.48			1176.87
1177.04			+75	1177.23			1177.62
1177.79			96+00	1177.98		0.58	1178.37
1178.54			+25	1178.73			1179.07
1179.29			+50	1179.48			1179.73
1180.04			+75	1180.23			1180.40
1180.47			P.T.+89.29	1180.66			1180.79
1180.79			97+00	1180.98			1181.08
1181.54			+25	1181.73			1181.76
1182.29			+50	1182.48			1182.42
1183.04			+75	1183.23			1183.10
1183.76	0.19	12.00'	98+00	1183.95	12.00'	0.19	1183.76

Obtained Graphically

P.C. 126+25.54			D = 1°00' Lt.		P.T. 134+77.21		
LEFT			Table N° 5		RIGHT		
Edge Prf. Grade	Deduct Crown	Width	Station	Profile Grade	Width	Add Super	Edge Prf. Grade
1194.57	0.19	12.00'	125+75	1194.76	12.00'	0.19	1194.57
1194.90			126+00	1195.09			1195.00
1195.27			+25	1195.46			1195.48
1195.29			P.C.+25.54	1195.46			1195.48
1195.66			+50	1195.85			1195.96
1196.09			+75	1196.28		0.41	1196.48
1196.54			127+00	1196.73			1196.95
1197.03			+25	1197.22			1197.44
1197.54			+50	1197.73			1197.95
1198.10			+75	1198.29			1198.51
1198.67			128+00	1198.86			1199.08
1199.29			+25	1199.46			1199.68
1199.86			+50	1200.05			1200.27
1200.46			+75	1200.65			1200.87
1201.05			129+00	1201.24			1201.46
1201.65			+25	1201.84			1202.06
1202.24			+50	1202.43			1202.65
1202.84			+75	1203.03			1203.25
1203.43			130+00	1203.62			1203.84
1204.03			+25	1204.22			1204.44
1204.62			+50	1204.81			1205.03
1205.22			+75	1205.41			1205.63
1205.81			131+00	1206.00			1206.22
1206.41			+25	1206.60			1206.82
1207.00			+50	1207.19			1207.41
1207.60			+75	1207.79			1208.01
1208.19			132+00	1208.38			1208.60
1208.79			+25	1208.98			1209.20
1209.38			+50	1209.57			1209.79
1209.98			+75	1210.17			1210.39
1210.57			133+00	1210.76			1210.98
1211.17			+25	1211.36			1211.58
1211.76			+50	1211.95			1212.17
1212.36			+75	1212.55			1212.77
1212.95			134+00	1213.14		0.41	1213.36
1213.55			+25	1213.74			1213.94
1214.14			+50	1214.33			1214.46
1214.74			+75	1214.93			1214.94
1214.79			P.T.+77.21	1214.98			1214.98
1215.33			135+00	1215.52			1215.40
1215.82			+25	1216.01			1216.01
1216.22	0.19	12.00'	+50	1216.41	12.00'	0.19	1216.22

Obtained Graphically

T.S. 144+54.95			D=6°00' Lt		S.T. 154+09.12		
LEFT			Table N°6		RIGHT		
Edge Prf. Grade	Deduct Crown	Width	Station	Profile Grade	Width	Add Super	Edge Prf. Grade
1231.39	0.19	12.00'	143+75	1231.58	12.00'	0.19	1231.39
1232.05			144+00	1232.24			1232.10
1232.74			+25	1232.93			1232.85
1233.48			+50	1233.67			1233.66
1233.68			T.S.+54.95	1233.82			1233.84
1234.25			+75	1234.44			1234.53
1235.01			145+00	1235.26			1235.47
1235.92			+25	1236.11			1236.43
1236.82			+50	1237.01			1237.43
1237.76			+75	1237.94			1238.49
1238.73			146+00	1238.92			1239.60
1239.74			+25	1239.93			1240.71
1240.79			+50	1240.98			1241.86
1241.88			+75	1242.07			1243.05
1243.01			147+00	1243.20			1244.30
1244.16			+25	1244.35			1245.55
1245.31			+50	1245.50			1246.86
1246.46			+75	1246.65			1248.14
1247.61			148+00	1247.80			1249.40
1248.76			+25	1248.95			1250.64
1249.91			+50	1250.10			1251.88
1250.14			S.C.+54.95	1250.33		2.00	1252.14
1251.06			+75	1251.25			1253.06
1252.21			149+00	1252.40			1254.21
1253.34			+25	1253.53			1255.34
1254.92			+50	1254.61			1256.42
1255.46			+75	1255.65			1257.46
1256.45			150+00	1256.64			1258.45
1256.80			C.S.+09.12	1256.99			1258.80
1257.41			+25	1257.60		2.00	1259.41
1258.31			+50	1258.50			1260.12
1259.17			+75	1259.36			1260.87
1259.99			151+00	1260.18			1261.57
1260.76			+25	1260.95			1262.23
1261.49			+50	1261.68			1262.85
1262.18			+75	1262.37			1263.42
1262.81			152+00	1263.00			1263.95
1263.42			+25	1263.61			1264.44
1263.96			+50	1264.15			1264.87
1264.47			+75	1264.66			1265.27
1264.93			153+00	1265.12			1265.62
1265.35			+25	1265.54			1265.92
1265.72			+50	1265.91			1266.19
1266.06			+75	1266.25			1266.41
1266.33			154+00	1266.52			1266.59
1266.43			S.T.+09.12	1266.62			1266.64
1266.58			+25	1266.77			1266.73
1266.77			+50	1266.96			1266.84
1266.93	0.19	12.00'	+75	1267.12	12.00'	0.19	1266.93

Obtained Graphically

NOTE: The design speed is 50 m.p.h.

Seeding	End Area	Cu. Yds.
Width S.Y.	Cut Fill	Exc. Emb.
3/7	6	206 6
58	101 2	
328	132 2	
60	42 0	45 0
214	7 0	
17	9 6	
106	3 6	
21	4 6	
86	1 0	
10	1 0	
28	0 0	
0	1 0	
14	1 0	
5	1 2	
36	0 2	
8		

Seeding	End Area	Cu. Yds.
Width S.Y.	Cut Fill	Exc. Emb.

FED. RD. DIVISION 2 | STATE OHIO | PROJECT

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BEL-149-(0.70-2.83)

Sta. 36+00 Mail Box. Approach Rt.
1.7 Cu. Yd. T-85 Surface (2" Thick)
4 Cu. Yd. B-1a Aggregate (3" Thick)

Begin Project

BEGIN WORK

Existing 12" pipe

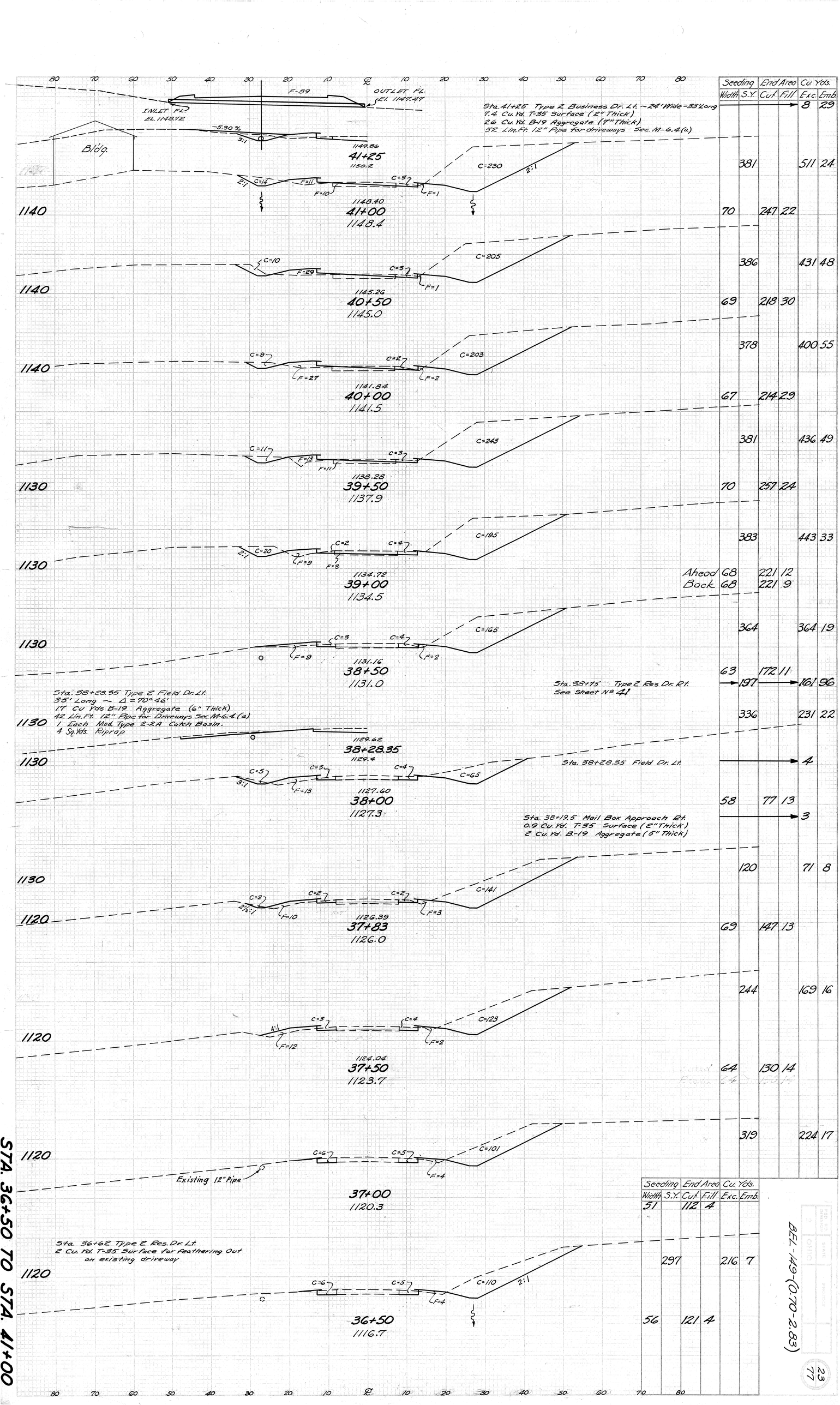
EXISTING 18" PIPE

EXISTING 18" PIPE

House

Barn

STA. 32+00 TO STA. 36+00



	Seeding Width	S.Y.	End Area Cut	Fill	Cu Yds. Exc.	Emb.
Sta. 41+25 Type 2 Business Dr. Lt. ~ 24' Wide ~ 83' Long 7.4 Cu. Yd. T-35 Surface (2" Thick) 26 Cu. Yd. B-19 Aggregate (7" Thick) 52 Lin. Ft. 12" Pipe for driveways Sec. M-6.4 (a)					8	29
		381			511	24
	70		247	22		
		386			431	48
	69		218	30		
		378			400	55
	67		214	29		
		381			436	49
	70		257	24		
		383			443	33
Ahead	68		221	12		
Back	68		221	9		
		364			364	19
	63		172	11		
Sta. 38+75 Type 2 Res. Dr. Rt. See Sheet No. 41	197				161	96
		336			231	22
Sta. 38+28.35 Field Dr. Lt.					4	
	58		77	13		
	3					
		120			71	8
	69		147	13		
		244			169	16
	64		130	14		
		319			224	17
	51		112	4		
		297			216	7
	56		121	4		

BSL-149-(070-2.83)

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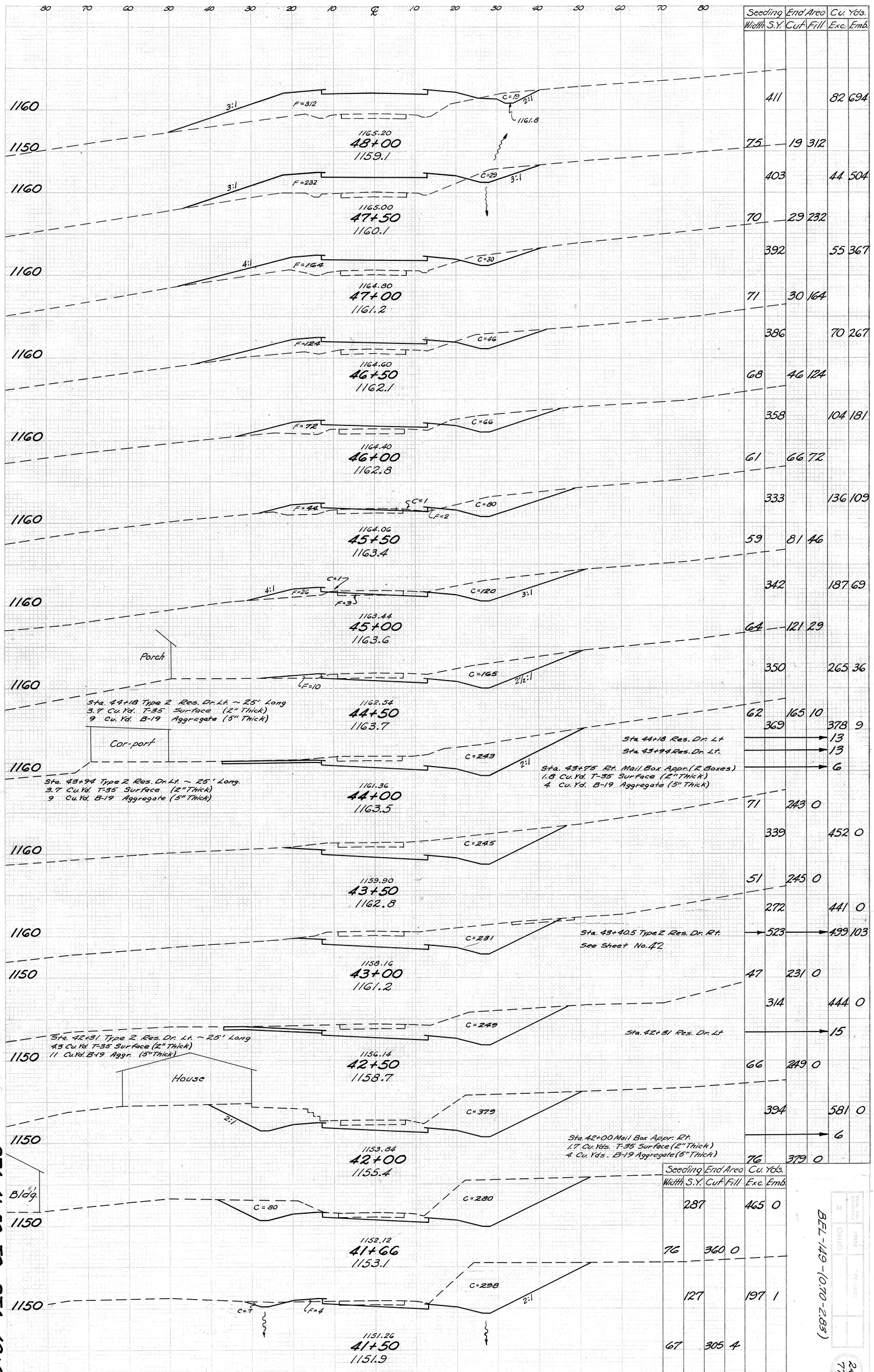
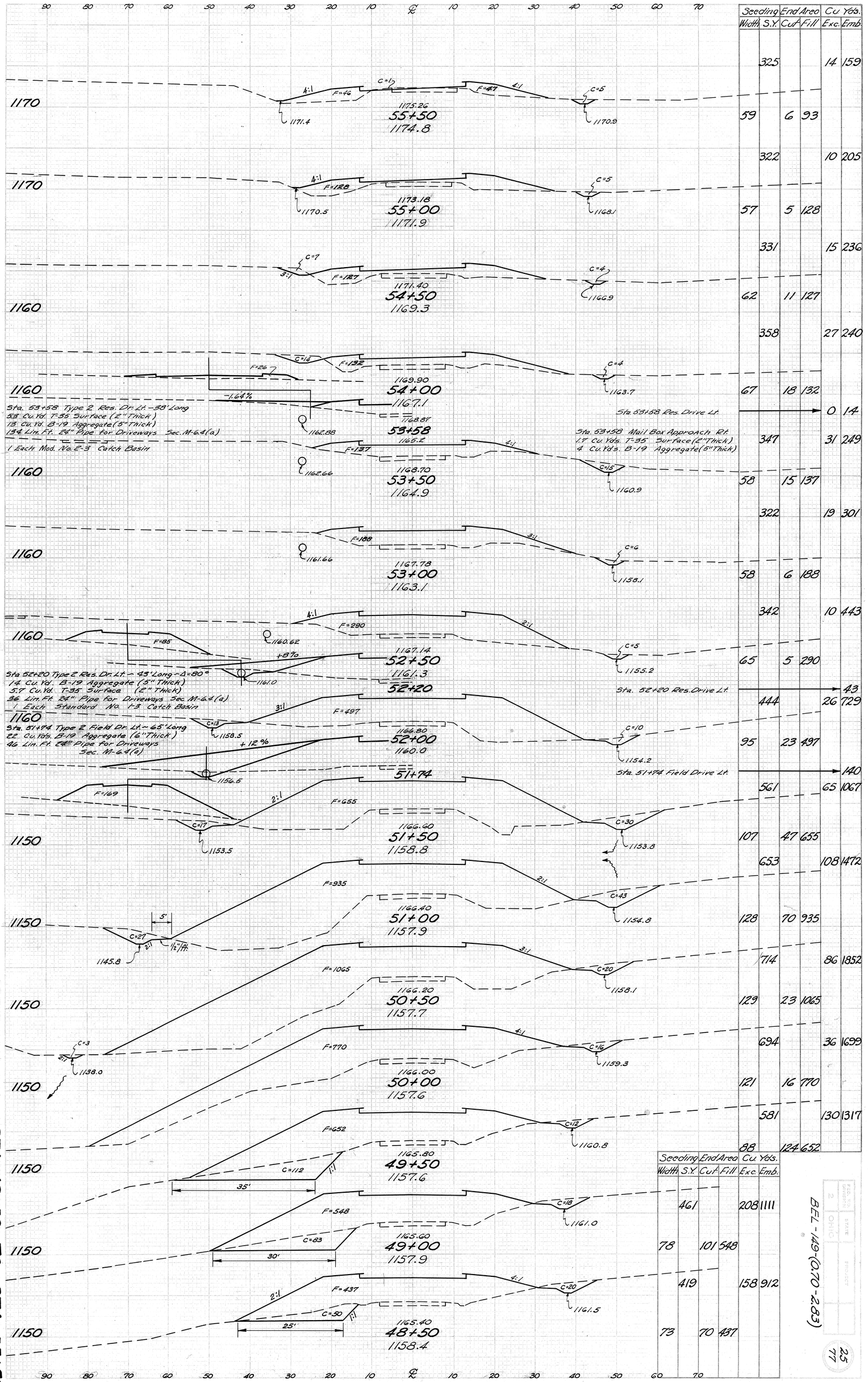


Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	411			82	694
75		19	312		
	403			44	504
70		29	232		
	392			55	367
71		30	164		
	386			70	267
68		46	124		
	358			104	181
61		66	72		
	333			136	109
59		81	46		
	342			187	69
64		121	29		
	350			265	36
62		165	10		
	369			378	9
				→ 13	
				→ 13	
				→ 6	
71		243	0		
	339			452	0
51		245	0		
	272			441	0
	523			→ 499	103
47		231	0		
	314			444	0
				→ 15	
66		249	0		
	394			581	0
				→ 6	
76		379	0		

Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	287			465	0
76		360	0		
	127			197	1
67		305	4		

BTL-149-(010-283)



Seeding Width	S.Y.	End Area Cut	Fill	Cu Yds. Exc.	Emb.
	325			14	159
59		6	93		
	322			10	205
57		5	128		
	331			15	236
62		11	127		
	358			27	240
67		18	132		
				0	14
	347			31	249
58		15	137		
	322			19	301
58		6	188		
	342			10	443
65		5	290		
				43	
	444			26	729
95		23	497		
				140	
	561			65	1067
107		47	655		
	653			108	1472
128		70	935		
	714			86	1852
129		23	1065		
	694			36	1699
121		16	770		
	581			130	1317
88		124	652		

Seeding Width	S.Y.	End Area Cut	Fill	Cu Yds. Exc.	Emb.
	461			208	1111
78		101	548		
	419			158	912
73		70	437		

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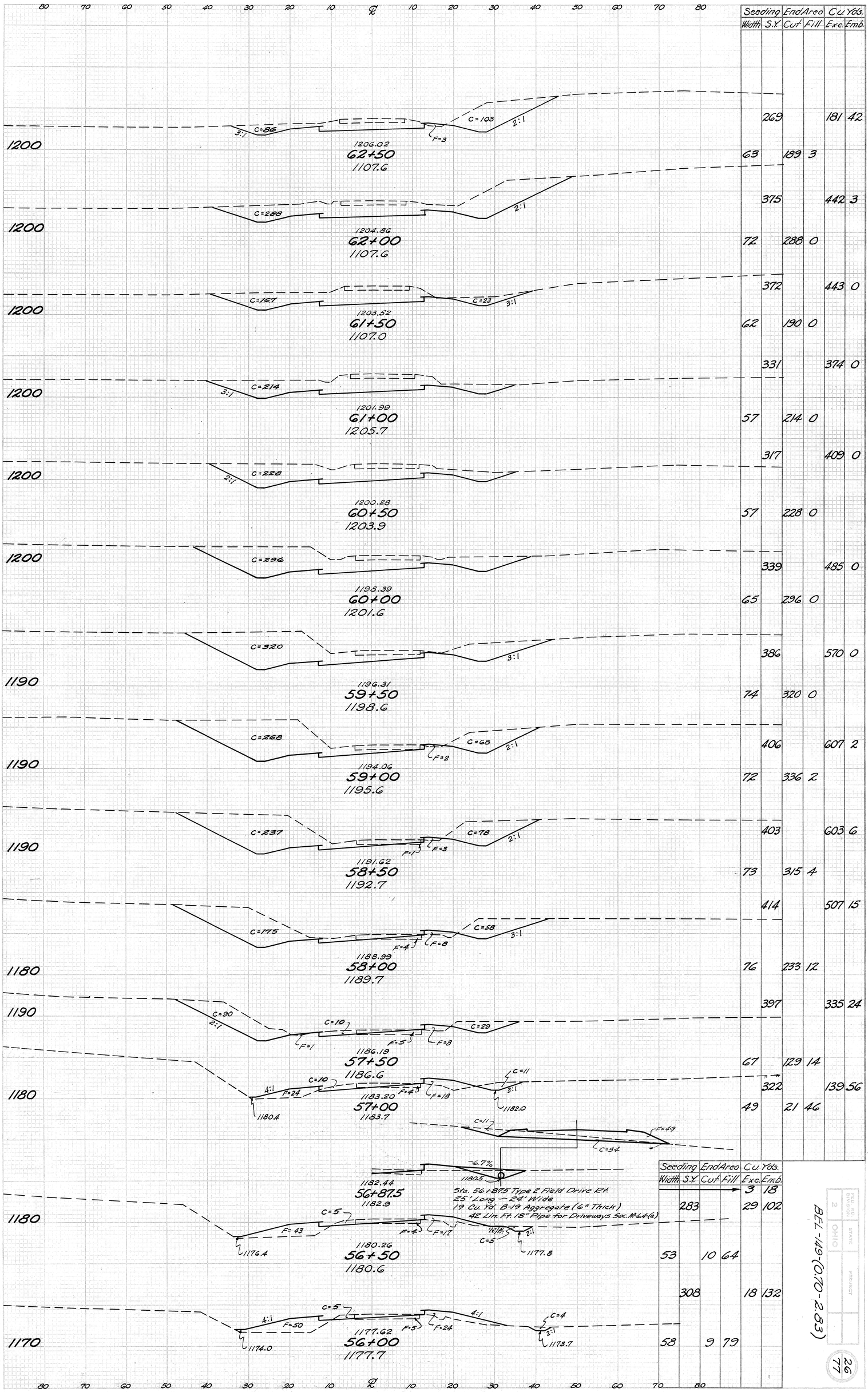

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu Yds. Exc.	Cu Yds. Emb.
	269			181	42
63		189	3		
	375			442	3
72		288	0		
	372			443	0
62		190	0		
	331			374	0
57		214	0		
	317			409	0
57		228	0		
	339			485	0
65		296	0		
	386			570	0
74		320	0		
	406			607	2
72		336	2		
	403			603	6
73		315	4		
	414			507	15
76		233	12		
	397			335	24
67		129	14		
	322			139	56
49		21	46		
	283			29	102
53		10	64		
	308			18	132
58		9	79		

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu Yds. Exc.	Cu Yds. Emb.
				3	18

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FED. ROAD DIVISION 2 | STATE OHIO | PROJECT

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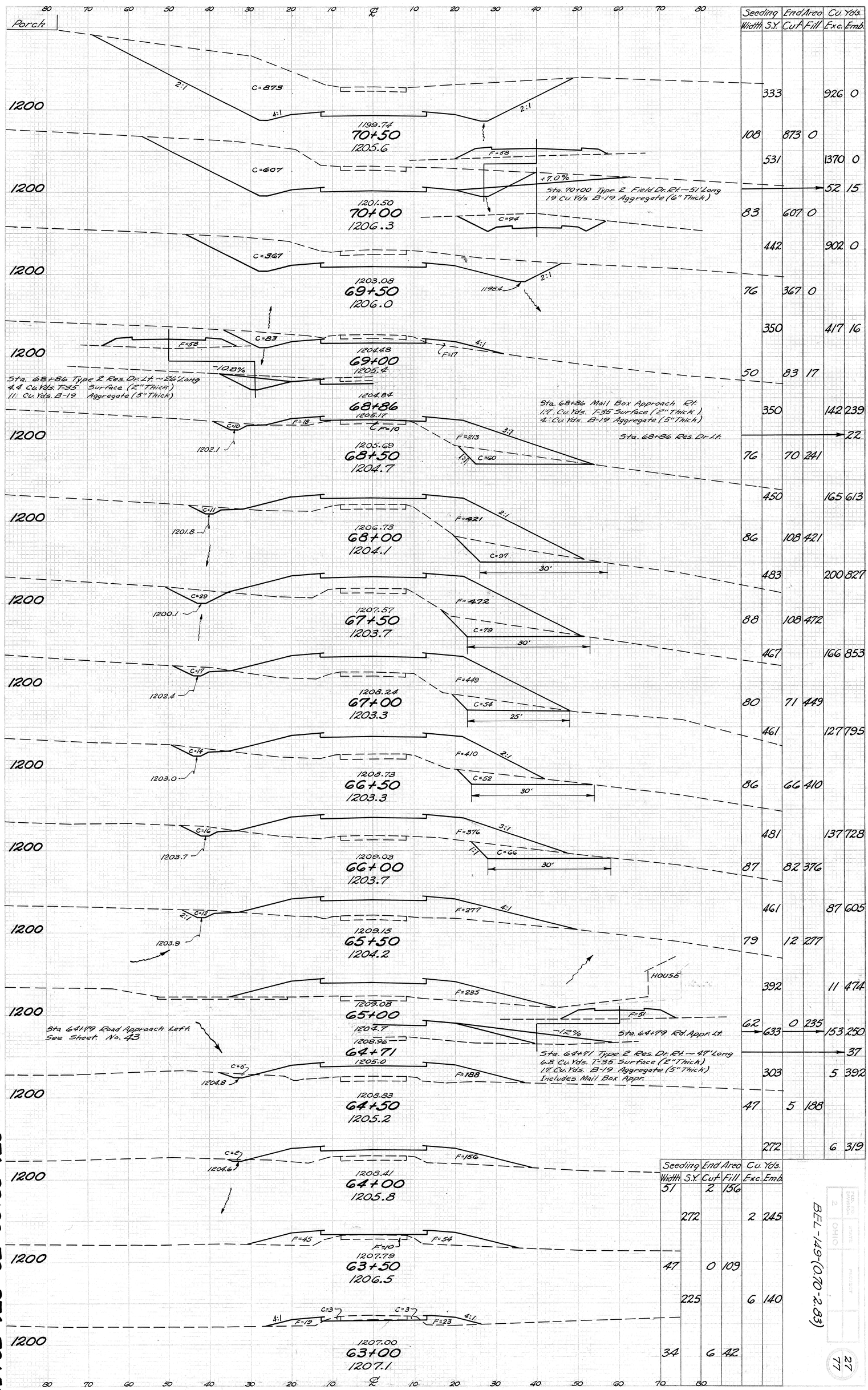

Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	333			926	0
108		873	0		
	531			1370	0
				52	15
83		607	0		
	442			902	0
76		367	0		
	350			417	16
50		83	17		
	350			142	239
				22	
76		70	241		
	450			165	613
86		108	421		
	483			200	827
88		108	472		
	467			166	853
80		71	449		
	461			127	795
86		66	410		
	481			137	728
87		82	376		
	461			87	605
79		12	277		
	392			11	474
62		0	235	153	250
	633				37
	303			5	392
47		5	188		
	272			6	319

Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
51		2	156		
	272			2	245
47		0	109		
	225			6	140
34		6	42		

BSL-149(070-2.83)

Seeding Width	S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
60	361	0	386	45	916
53	314	13	147	12	494
63	322	16	32	27	166
87	417	34	42	102	69
88	486	161	46	236	81
72	444	244	45	375	84
81	425	234	98	443	132
84	458	198	210	344	285
70	428	124	150	243	333
96	461	160	87	263	219
86	506	312	23	437	102
86	478	528	0	778	21
97	508	738	0	1172	0
553				1391	0

Seeding Width	S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
102		764	0		742
	276			979	0
114					

FED. RD. DIVISION: 2 | STATE: OHIO | PROJECT

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BEL-149-(0.70-2.83)

STA. 70+77 TO STA. 77+50

Seeding Width	S.Y	End Areas Cut	Fill	Cu. Yds. Exc.	Emb.
	842			48	3645
		14	2041		
157					
	797			17	3820
		4	2079		
130				5	710
119					
	733			6	3879
		3	2110		
134				5	3826
	733				
		2	2022		
130				2	3752
1050					
	717				
		0	2030		
128				225	3501
	700				
		243	1751		
124				396	2782
	628				
		185	1254		
102					

Seeding Width	S.Y	End Areas Cut	Fill	Cu. Yds. Exc.	Emb.
	500			2681	912
		1048	11		
78				1423	1309
	411				
		49	603		
70					

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BEL-149-(0.70-2.83)

STA. 78+00 TO STA. 82+00

	Seeding	End Area		Cu. Yds.	
	Width	S.Y.	Cut	Fill	Exc.	Emb.
86+50	122	13	996	12	1724
86+00	121	9	1038	20	1902
85+50	117	12	1105	19	2003
85+00	111	15	1155	25	2093
84+50	117	29	1234	41	2212
84+00	104	17	1168	43	2224
83+50	116	12	1400	27	2378
83+00	116	12	1400	39	2817
82+50	131	30	1642	63	3270
				38	890

FED. RD. DIVISION 2 | STATE OHIO | PROJECT

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BEL-149-(0.70-2.83)

Sta. 85+00 to Sta. 88+00 Lt.
Seeding for Old Roadway Area

Sta. 83+97 Road Approach Rt.
See Sheet No. 25

Sta. 82+40 to Sta. 82+89 Lt.
Seeding for Old Roadway Area

Bridge

STA. 82+50 TO STA. 86+50

Seeding Width	S.Y.	Cut	Fill	End Area	Cu. Yds. Exc.	Cu. Yds. Emb.
319					161	15
57		106	7		254	12
342		168	6		332	9
378		191	4		4	16
70	406				370	30
76	481	209	28		360	56
97	406	180	32		224	49
49	286	62	21		92	56
54	242	37	39		34	147
33	222	0	120		0	271
47	269	0	173		0	349
50	311	0	204		0	542
62	358	0	381		0	863

Seeding Width	S.Y.	Cut	Fill	End Area	Cu. Yds. Exc.	Cu. Yds. Emb.
67		0	55		0	1312
419						
84		0	86			

NO. DIVISION	STATE	PROJECT	
2	OHIO		

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BEL-149-(0.70-2.83)

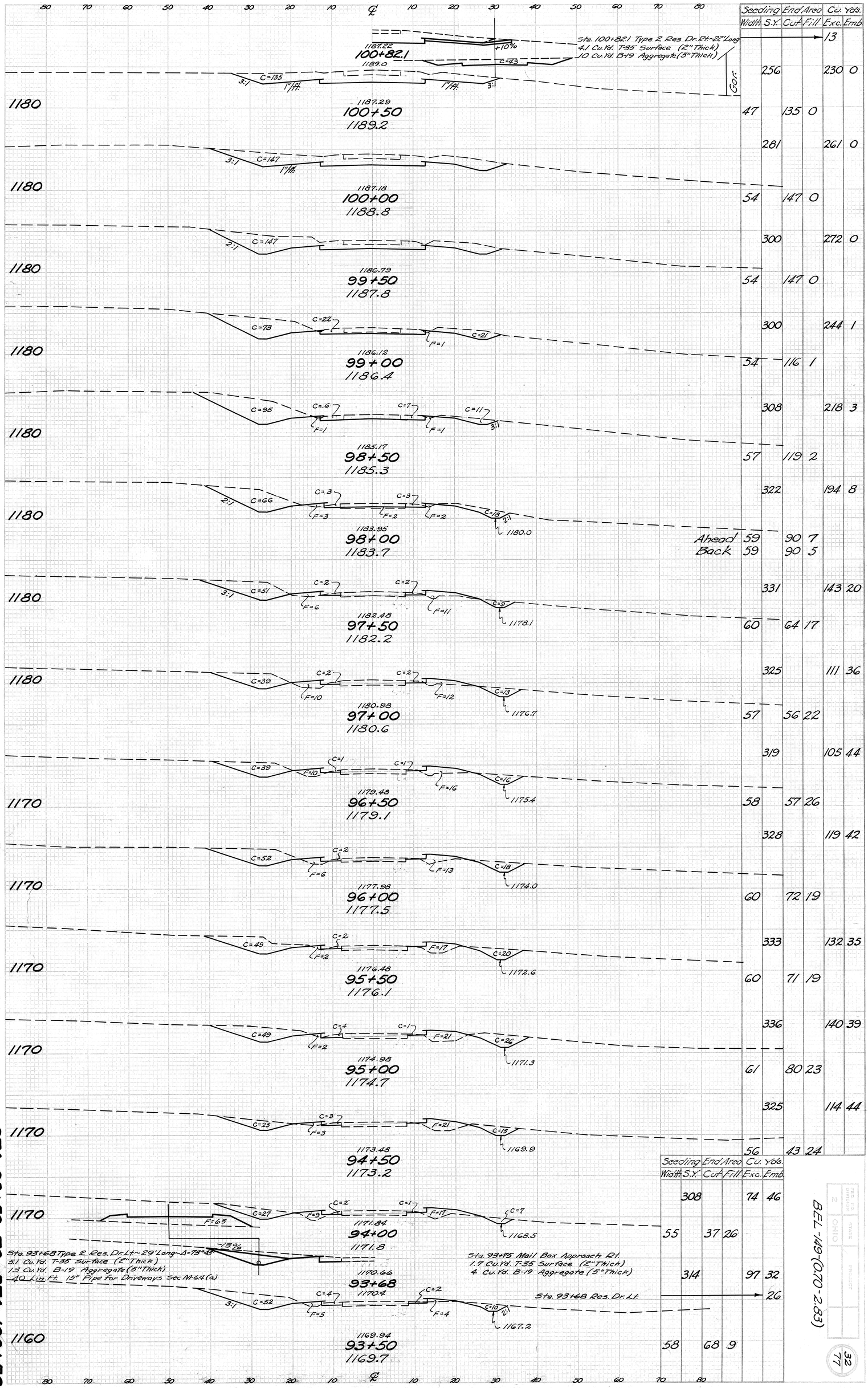
Sta. 94+98 Type 2 Res Dr Ent.
25 Cu.Yds. 2" Plant Mix
11 Cu.Yds. T.35 Surf. (2"Thk.)
40 Lin.Ft. 15" Pipe Rt. Driveways Sec. M-4.4 (2)

Sta. 89+00 Type 2 Field Dr. Lt. ~ 30' Long.
14 Cu.Yds. 8-19 Aggregate (6" Thick)

Sta. 89+00 Field Drive Left

Sta. 87+00
1119.0
12.5' Rt. of ℄ Sta. 87+00.

STA. 87+00 TO STA. 93+00



Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
				13	
	256			230	0
47		135	0		
	281			261	0
54		147	0		
	300			272	0
54		147	0		
	300			244	1
54		116	1		
	308			218	3
57		119	2		
	322			194	8
Ahead 59		90	7		
Back 59		90	5		
	331			143	20
60		64	17		
	325			111	36
57		56	22		
	319			105	44
58		57	26		
	328			119	42
60		72	19		
	333			132	35
60		71	19		
	336			140	39
61		80	23		
	325			114	44
56		43	24		
	308			74	46
55		37	26		
	314			97	32
				26	
58		68	9		

STA. 93+50 TO STA. 100+50

BSL-49-(070-2.83)

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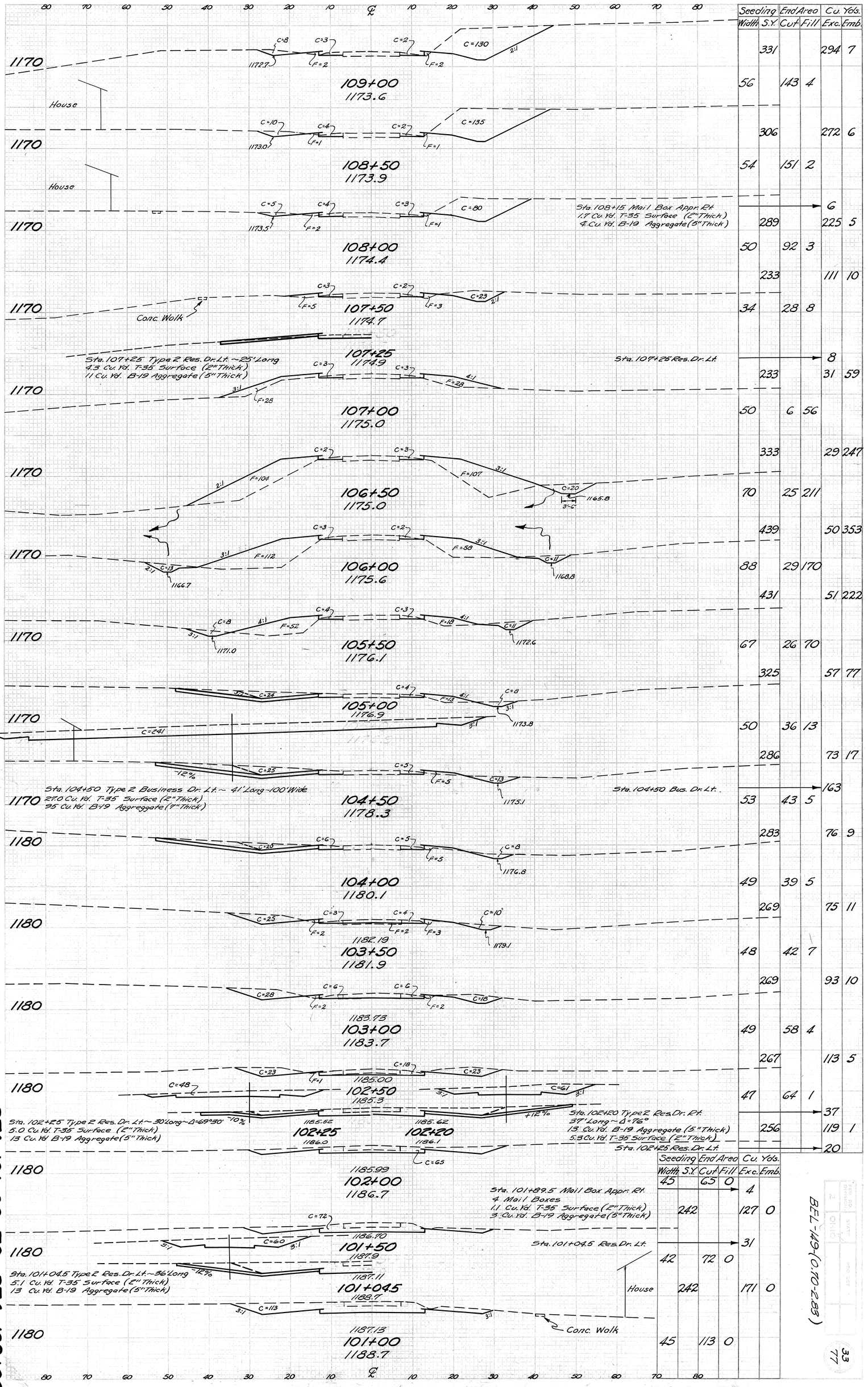
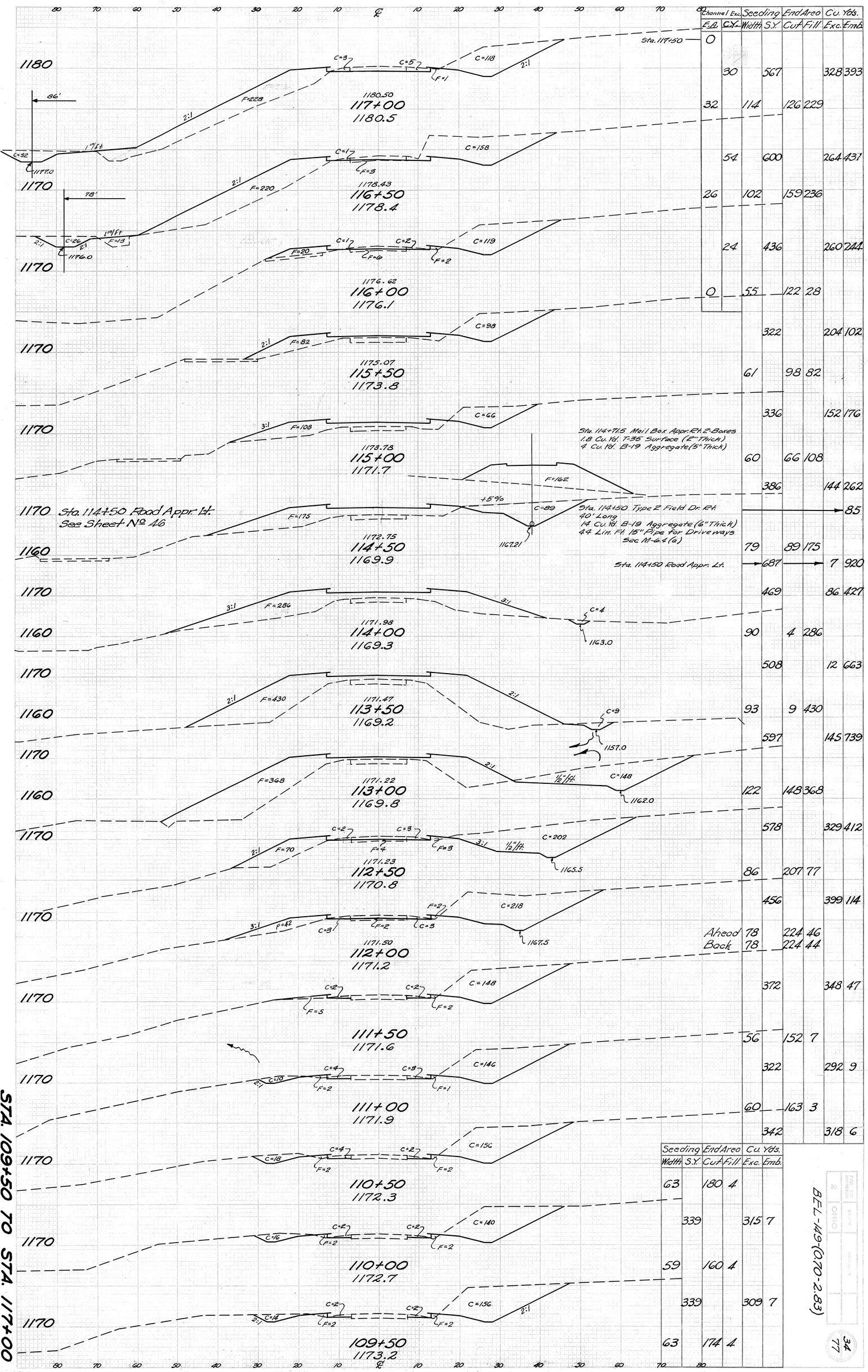


Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	331			294	7
56		143	4		
	306			272	6
54		151	2		
				6	
	289			225	5
50		92	3		
	233			111	10
34		28	8		
				8	
	233			31	59
50		6	56		
	333			29	247
70		25	211		
	439			50	353
88		29	170		
	431			51	222
67		26	70		
	325			57	77
50		36	13		
	286			73	17
				163	
53		43	5		
	283			76	9
49		39	5		
	269			75	11
48		42	7		
	269			93	10
49		58	4		
	267			113	5
47		64	1		
				37	
	256			119	1
				20	
45		65	0		
				4	
	242			127	0
				31	
42		72	0		
	242			171	0
45		113	0		

STA. 101+00 TO STA. 109+00

BSL-149(010-288)



Channel Exc.		Seeding		End Area		Cu. Yds.	
F.A.	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb.
0							
	30		567			328	393
32		114		126	229		
	54		600			264	431
26		102		159	236		
	24		436			260	244
0		55		122	28		
			322			204	102
		61		98	82		
			336			152	176
		60		66	108		
			386			144	262
							85
		79		89	175		
			687			7	920
			469			86	427
		90		4	286		
			508			12	663
		93		9	430		
			597			145	739
		122		148	368		
			578			329	412
		86		207	77		
			456			399	114
Ahead		78		224	46		
Back		78		224	44		
			372			348	47
		56		152	7		
			322			292	9
		60		163	3		
			342			318	6

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
63		180	4		
	339			315	7
59		160	4		
	339			309	7
63		174	4		

BFL-149-(070-2.83)

Seeding Width	S.Y.	End Area Cut	End Area Fill	Cu Yds. Exc.	Cu Yds. Emb.
				914	0
75	392	557	0		
				1149	0
83	439	684	0		
				1344	0
86	469	768	0		
				1397	0
108	539	741	0		
				1535	0
117	625	917	0		
				1195	0
98	597	1022	0		
				1429	0
74	418	521	0		
				884	0
70	400	380	0		
				658	0
67	381	331	0		
				536	0
74	392	248	0		
				452	90
97	475	240	97		
		519		433	270
90					
		228	195		

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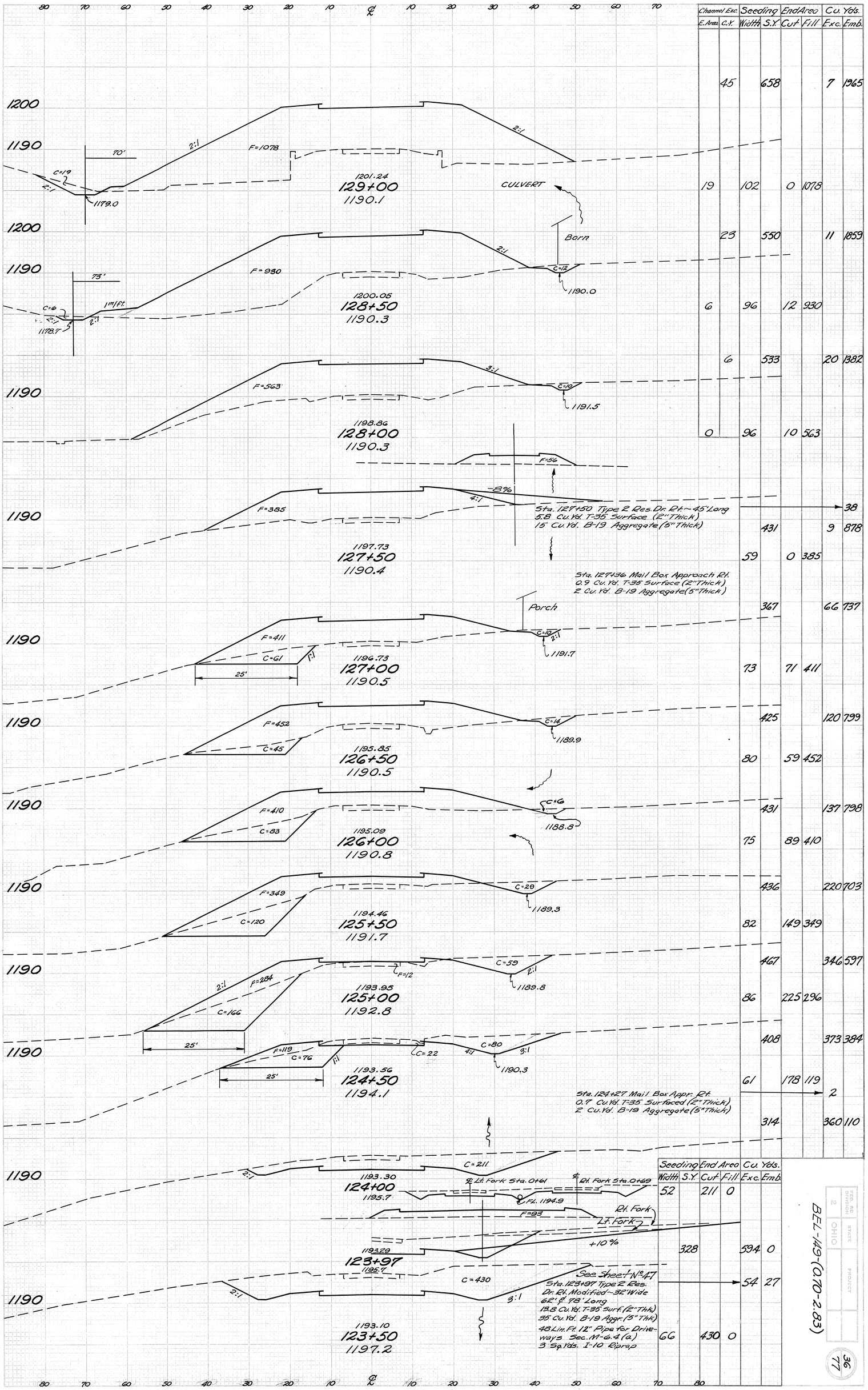
BEL-149-(0.70-2.83)

STA. 117+50 TO STA. 123+00



Channel Exc. E. Area	Channel Exc. C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	45		658			7	1965
19		102		0	1078		
	23		550			11	1859
6		96		12	930		
	6		533			20	1382
0		96		10	563		
							38
			431			9	878
		59		0	385		
			367			66	737
		73		71	411		
			425			120	799
		80		59	452		
			431			137	798
		75		89	410		
			436			220	703
		82		149	349		
			467			346	597
		86		225	296		
			408			373	384
		61		178	119		
							2
			314			360	110

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
52		211	0		
	328			594	0
				54	27
66		430	0		

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Seeding Width	S.Y.	End Areas Cut	Fill	Cu. Yds. Exc.	Emb.
	264			75	49
47		36	23		
	261			107	32
					26
				3	
47		80	12		
47		80	16		
	238			136	30
46		67	16		
	247			102	39
43		43	26		
	256			69	77
49		31	57		
	303			38	157
60		10	113		
	331			16	292
59		7	202		
	344			16	428
65		10	260		
	361			16	567
65		7	352		
	389			12	719
					31
75		6	424		
	475			13	875
96		8	521		
	550			13	1079
102		6	644		
	708			13	1355

Channel Exc. E.Area C.Y.		Seeding Width	S.Y.	End Areas Cut	Fill	Cu. Yds. Exc.	Emb.
0			153	8	819		
	16						
			800			15	1125
22							
	48						
			135	8	1044		
30							

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

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STA. 129+50 TO STA. 136+00

Seeding Width	S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
61	364	0	267		6 358
70	308	6	120	25	118
41	269	21	7	98	9
56	347	85	3	200	6
69	381	131	3	256	7
68	353	145	5	17	181 7
59	297	51	3	61	38
48	292	15	38	34	132
57	300	22	105	31	179
51	256	11	88	267	2
56	336	85	45	89	123
70	403	155	11	222	52
75	481	190	59	319	65
98	358	192	48	354	99

Seeding Width	S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
71	483	105	44	275	85
48	331	45	30	139	69

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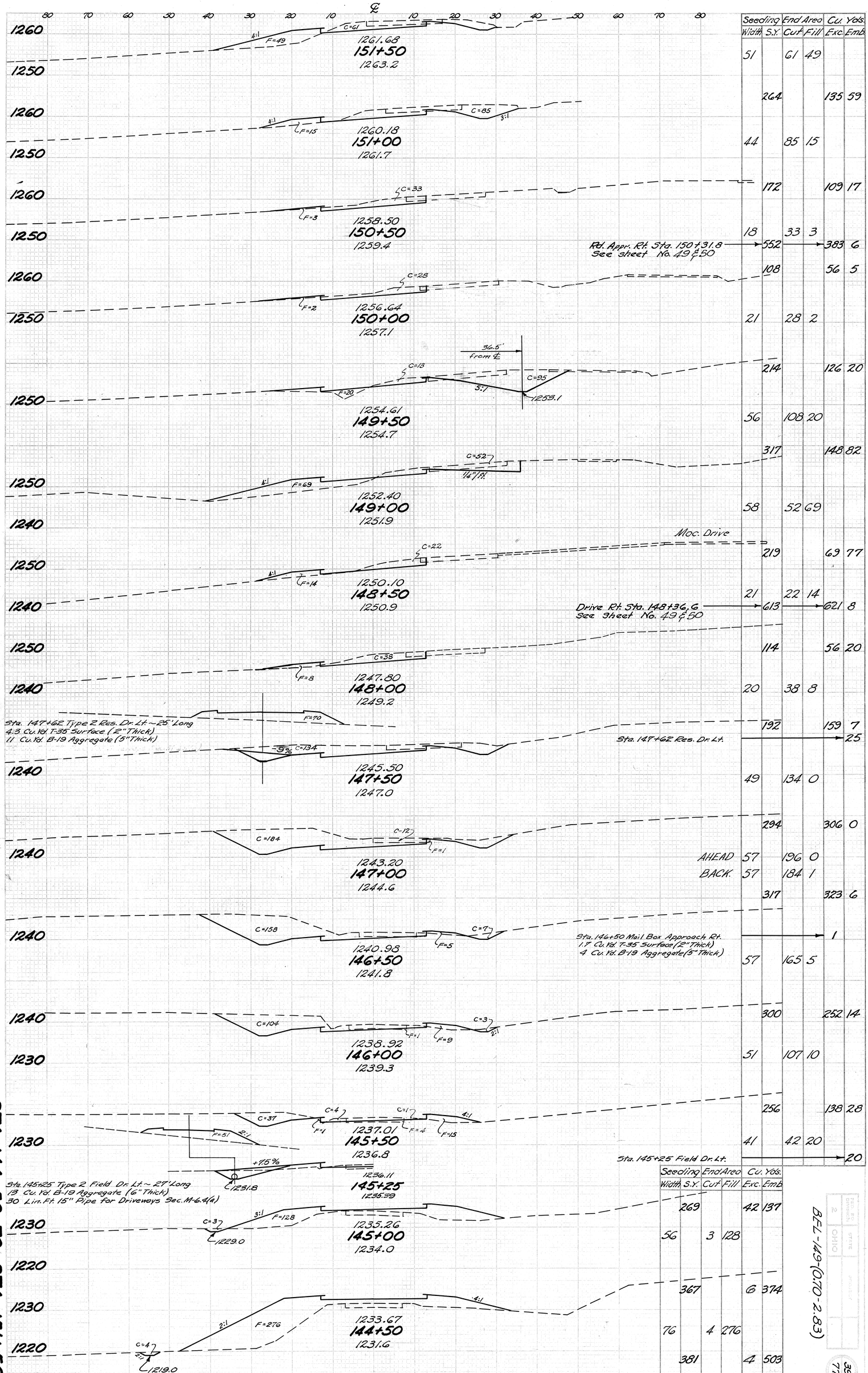
BEL-149-(0.70-2.83)

STA. 136+50 TO STA. 144+00



	Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	51		61	49		
		264			135	59
	44		85	15		
		172			109	17
	18		33	3		
Rdl. Appr. Rt. Sta. 150+31.8 See sheet No. 49 & 50		552			383	6
		108			56	5
	21		28	2		
		214			126	20
	56		108	20		
		317			148	82
	58		52	69		
		219			69	77
	21		22	14		
Drive Rt. Sta. 148+36.6 See sheet No. 49 & 50		613			621	8
		114			56	20
	20		38	8		
		192			159	7
Sta. 147+62 Res. Dr. Lt.						25
	49		134	0		
		294			306	0
AHEAD	57		196	0		
BACK	57		184	1		
		317			323	6
Sta. 146+50 Mail Box Approach Rt. 1.7 Cu. Yd. T-35 Surface (2" Thick) 4 Cu. Yd. B-19 Aggregate (5" Thick)						1
	57		165	5		
		300			252	14
	51		107	10		
		256			138	28
	41		42	20		
Sta. 145+25 Field Dr. Lt.						20

Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	269			42	137
56		3	128		
	367			6	374
76		4	276		
	381			4	503

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STA. 152+00 TO STA. 159+71.44

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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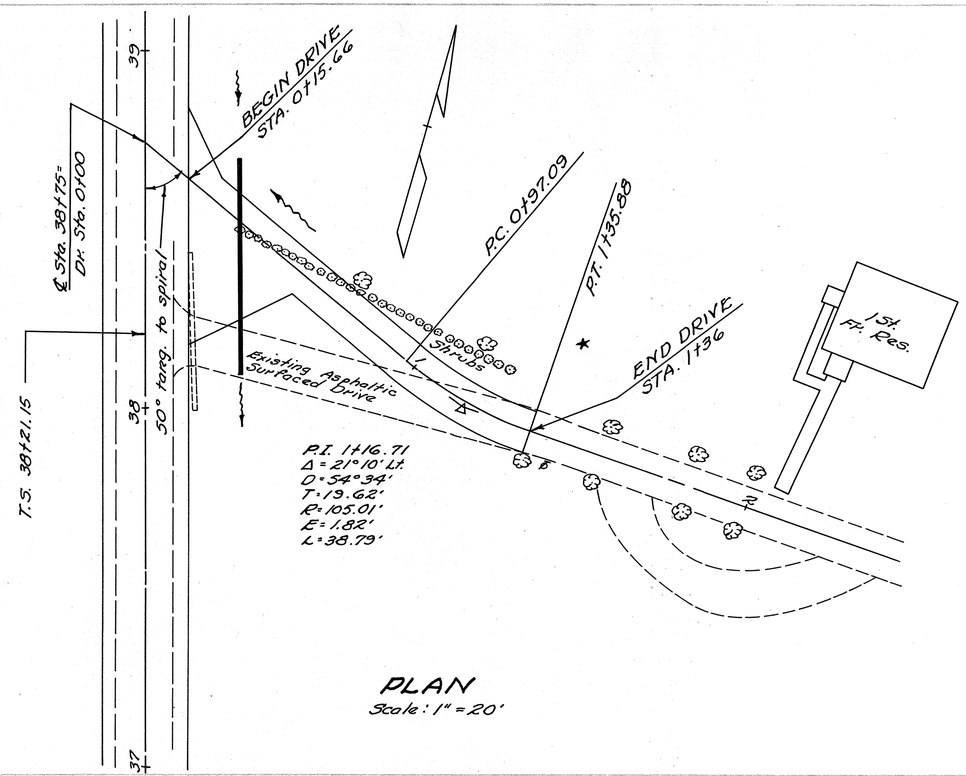
BEL-149-(0.70-2.83)

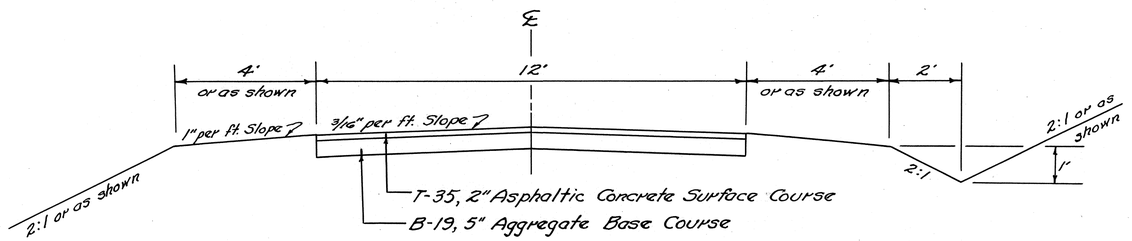


PLAN
Scale: 1" = 20'

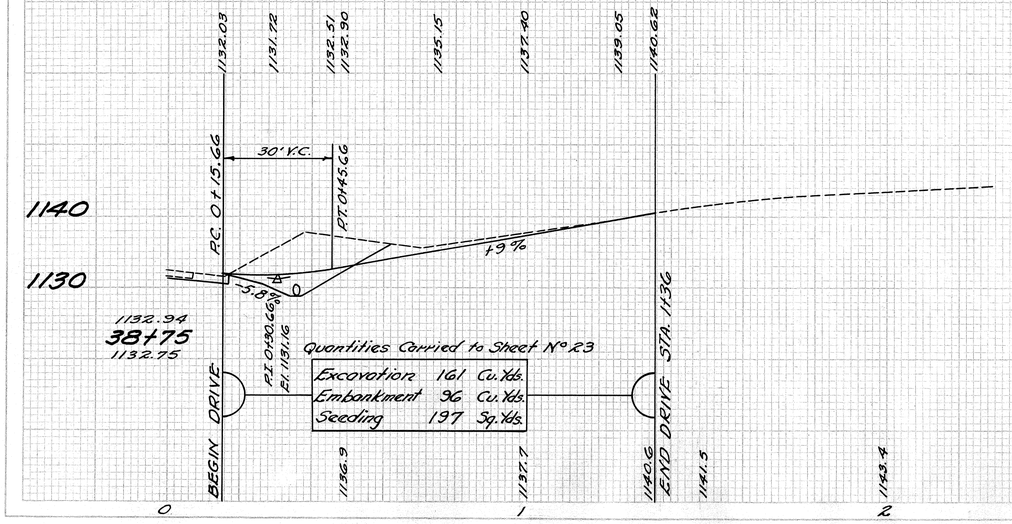
ESTIMATED QUANTITIES

T-35, 2" Surface Course	12.7 Cu. Yds.
B-19, 5" Aggregate	32 Cu. Yds.
I-1, 18" Pipe for Driveways; Sec. M-6.4 (a)	60 Lin. Ft.
E-12, 18" Pipe Removed	43 Lin. Ft.

Quantities Carried to Sheet Nº 8

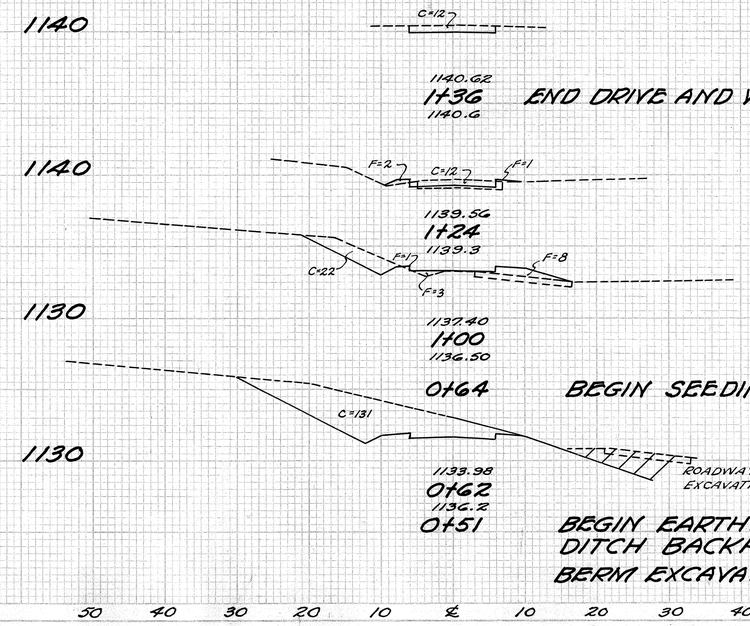


TYPICAL SECTION
Scale: 1" = 2'



Quantities Carried to Sheet Nº 23

Excavation	161	Cu. Yds.
Embankment	96	Cu. Yds.
Seeding	197	Sq. Yds.



		Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
1140.62 1+36 1140.6	END DRIVE AND WORK	0		12	0		
			8			5	1
1139.56 1+24 1139.3		12		12	3		
			59			15	7
1137.40 1+00 1136.50		32		22	12		
			130				
0+64	BEGIN SEEDING	33				108	8
1133.98 0+62 1136.2				131	0		
0+51	BEGIN EARTHWORK			0	0	27	0
	DITCH BACKFILL					0	80
	BERM EXCAVATION					6	

RES. DR. RT. - STA. 38+75

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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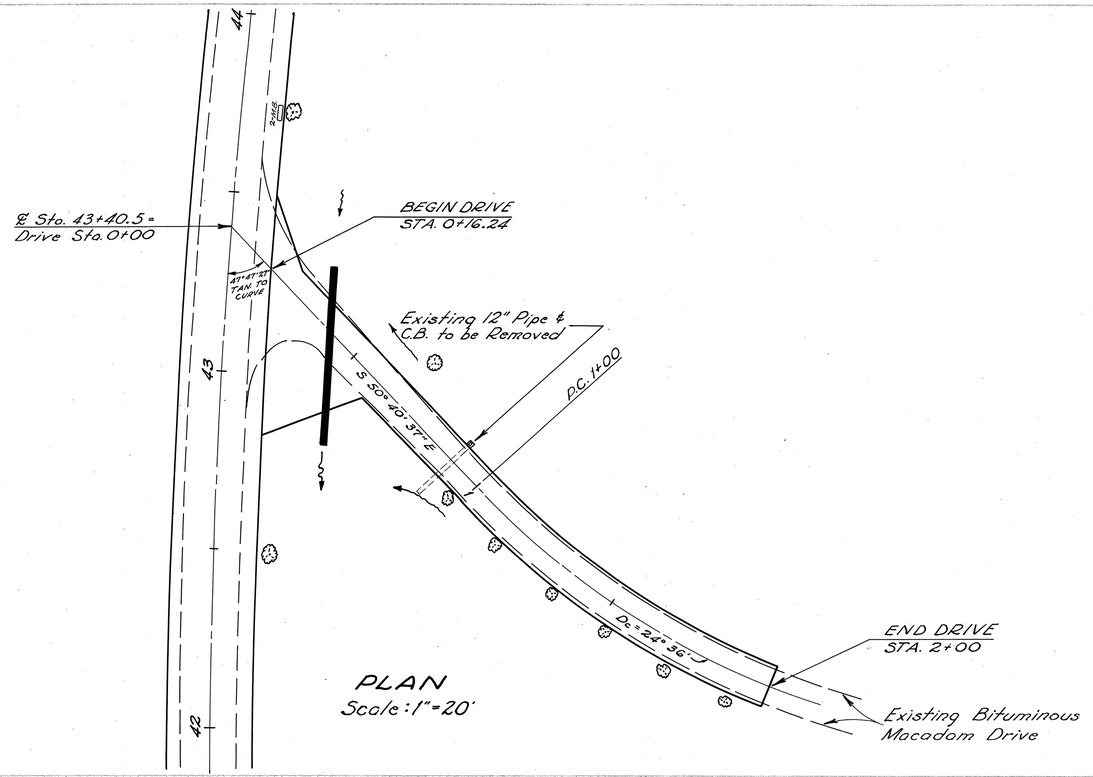


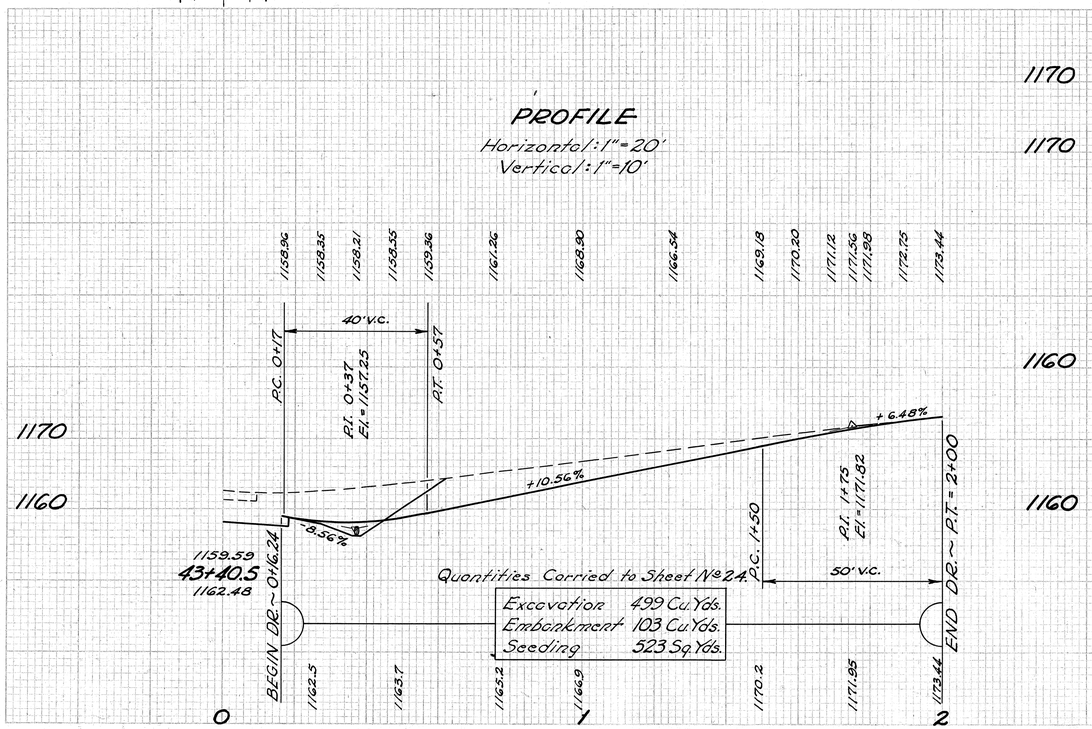
PLAN
Scale: 1" = 20'

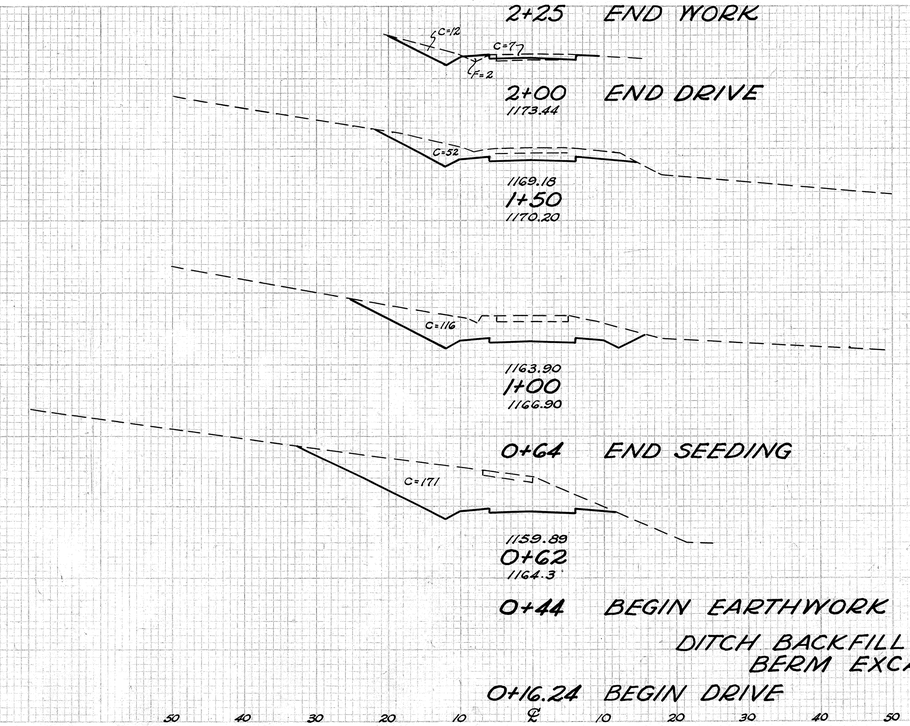
ESTIMATED QUANTITIES

T-35, 2" Surface Course	17.2 Cu. Yds.
B-19, 5" Aggregate	43 Cu. Yds.
I-1, 15" Pipe for Driveways ~ Sec. M-6.4(a)	50 Lin. Ft.
E-12, 12" Pipe Removed	20 Lin. Ft.
S-22, Removal of Portions of Exist. Structures	0.5 Cu. Yds.

Quantities Carried to Sheet No 9

NOTE: For Typical Section See Sheet No 41





	Seeding		End Area		Cu. Yds.	
	Width	S.Y.	Cut	Fill	Exc.	Emb.
	0		0	0		
		33			6	1
AHEAD	24		12	2		
BACK	24		19	2		
		150			66	2
	30		52	0		
		186			156	0
	37		116	0		
		154				
	40					
					202	0
			171	0		
					57	0
			0	0		
					0	100
					12	0

RES. DR. PT. ~ STA. 43+40.5

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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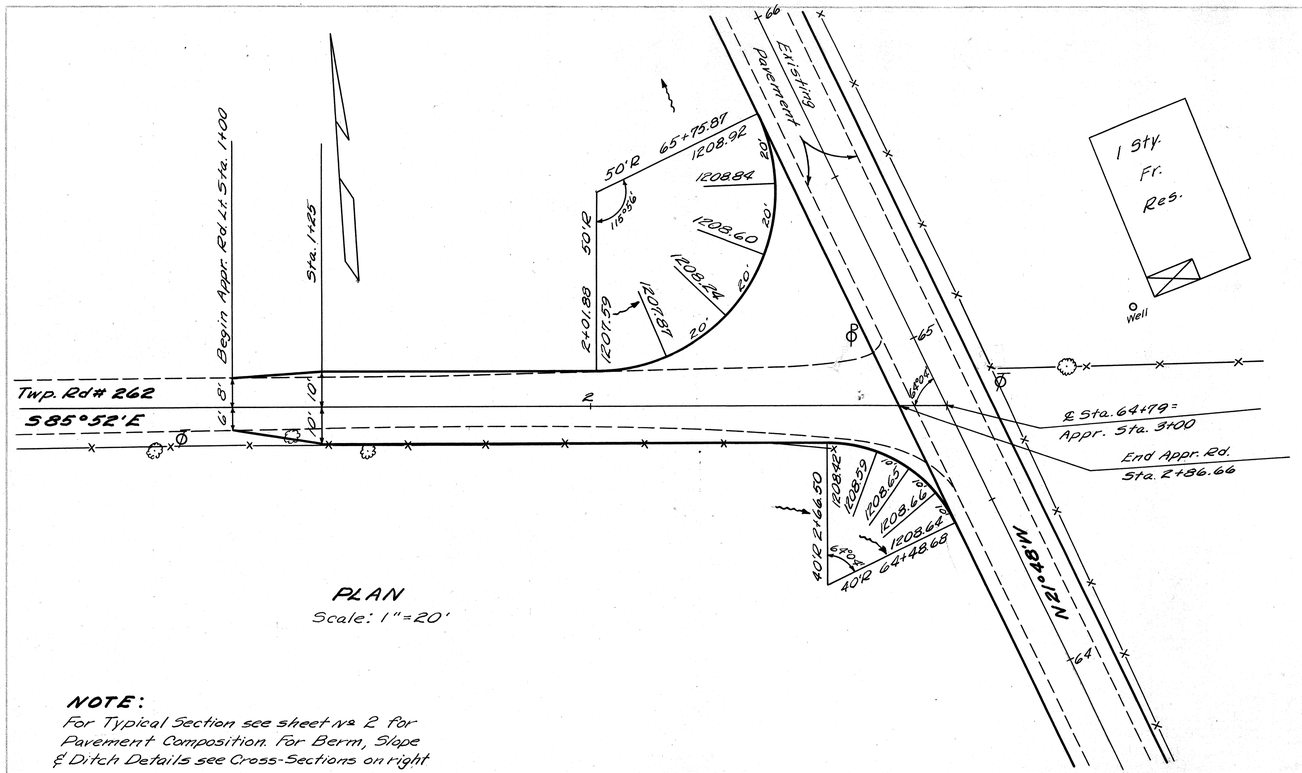
BEL -149-(0.70-2.83)



PLAN
Scale: 1"=20'

NOTE:
For Typical Section see sheet No 2 for Pavement Composition. For Berm, Slope & Ditch Details see Cross-Sections on right

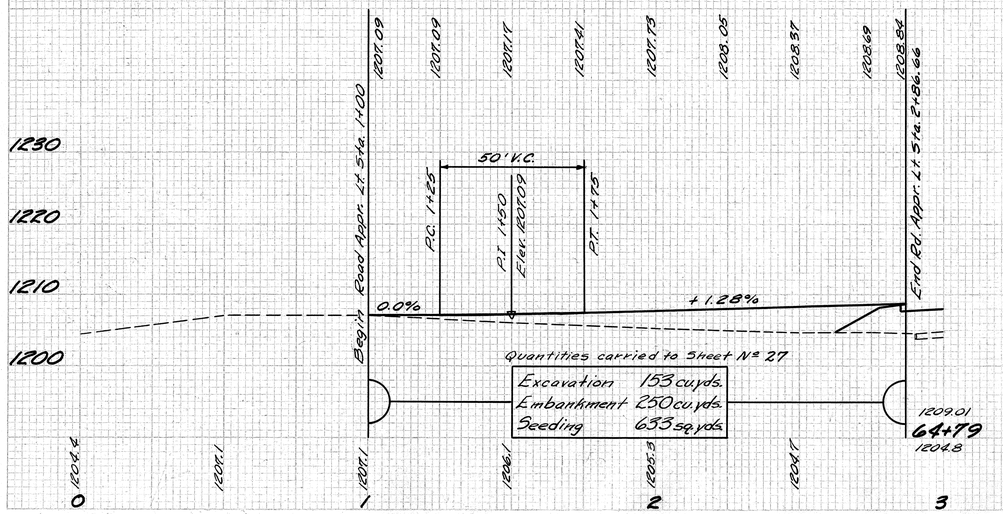
ESTIMATED QUANTITIES

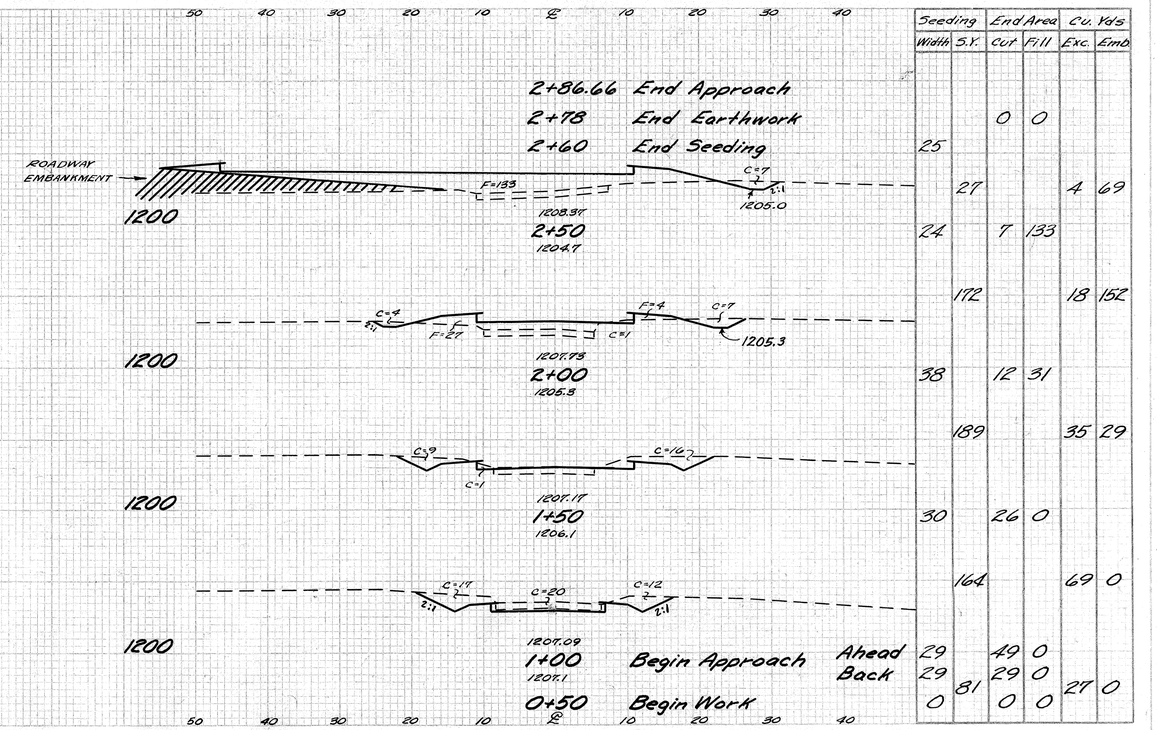
T-35 1¼" Asphaltic Concrete Surface Course Type "C"	20.2 cu. yd.
B-35 1¾" Asphaltic Concrete Leveling Course	28.2 cu. yd.
T-30 Bituminous Prime Coat	239 Gal
B-19 5" Aggregate Base Course	83 cu. yd.
I-22 5" Subbase	85 cu. yd.
E-1 Compacted Subgrade	581 sq. yd.

Quantities Carried to Sheet No 43.

Carried from Sheet No.						SUB-SUMMARY FOR MAJOR APPROACHES		
43	44	45	49			Total	Unit	Description
581		511	863			1955	Sq. Yds.	Compacted Subgrade.
85	12	78	125			300	Cu. Yds.	Subbase.
83	14	74	122			293	Cu. Yds.	Aggregate Base Course.
239		214	352			805	Gals.	Bituminous Prime Coat.
28.2	8.1	24.8	41.9			103.0	Cu. Yds.	Asphaltic Concrete Leveling Course.
20.2	3.3	17.7	30.0			71.2	Cu. Yds.	Asphaltic Concrete Surface Course.
			110			110	Lin. Ft.	Pipe Removed, 15" and Under.
			1.0			1.0	Cu. Yds.	Removal of Portions of Existing Structures.

PROFILE
SCALE
Horz: 1" = 25'
Vert: 1" = 10'





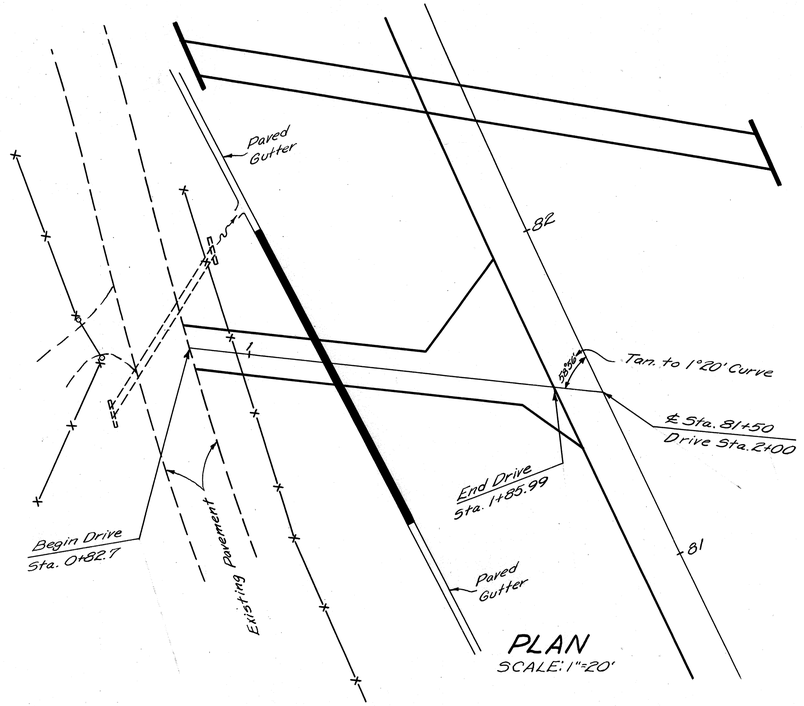
Seeding		End Area		Cu. Yds	
Width	S.Y.	Cut	Fill	Exc.	Emb.
		0	0		
25					
	27			4	69
24		7	133		
	172			18	152
38		12	31		
	189			35	29
30		26	0		
	164			69	0
29		49	0		
29		29	0		
0	81	0	0	27	0

ROAD APPROACH LT. STA. 64+79

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

44
77

BEL.-149-(0.70-2.83)

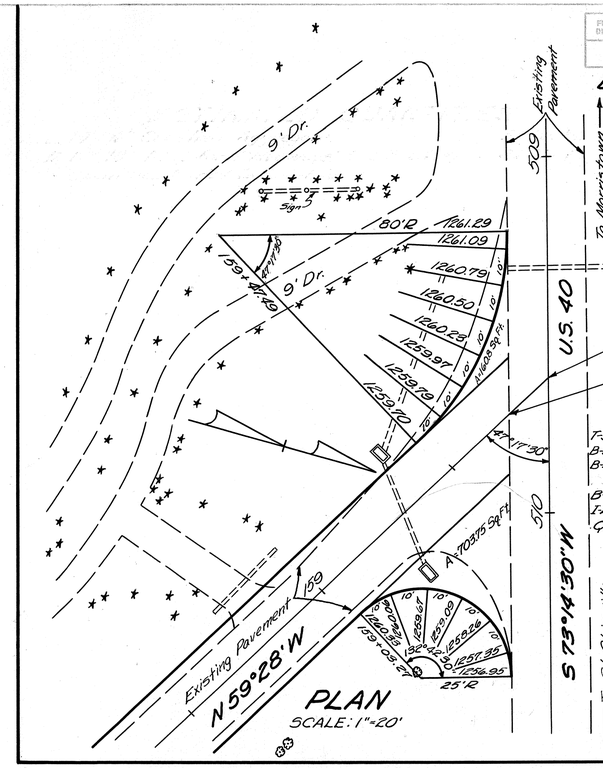


PLAN
SCALE: 1"=20'

ESTIMATED QUANTITIES

B-19 6" Crushed Aggregate 33 Cu. Yd.
I-1 18" Pipe for Driveways Sec. M-6.4(a) 86 Lin. Ft.
Quantities Carried to Sheet No. 12.

NOTE: For Typical Section See Sheet No. 41. Pavement Composition shall be as shown on this sheet.



ESTIMATED QUANTITIES

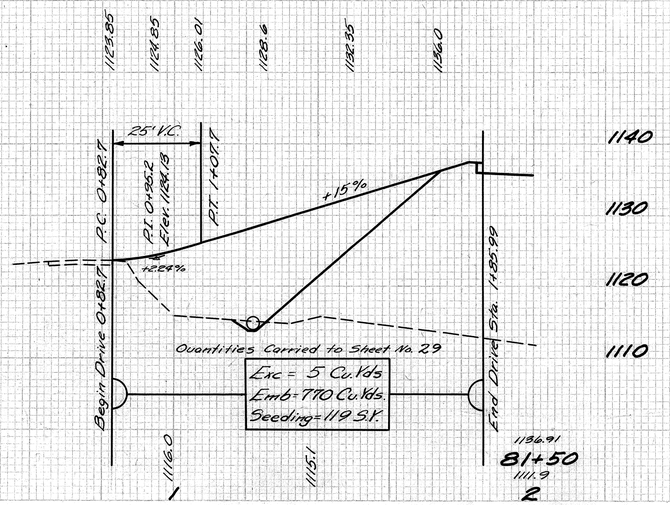
I-35 1¼" Asphaltic Conc. Surf. Course	3.3 Cu. Yds.
B-35 1½" Asphaltic Conc. Leveling Course	4.0 Cu. Yds.
B-35 1½" Asphaltic Conc. Leveling Course	4.1 Cu. Yds.
B-19 5" Crushed Aggregate	14 Cu. Yds.
I-22 4" Subbase	12 Cu. Yds.

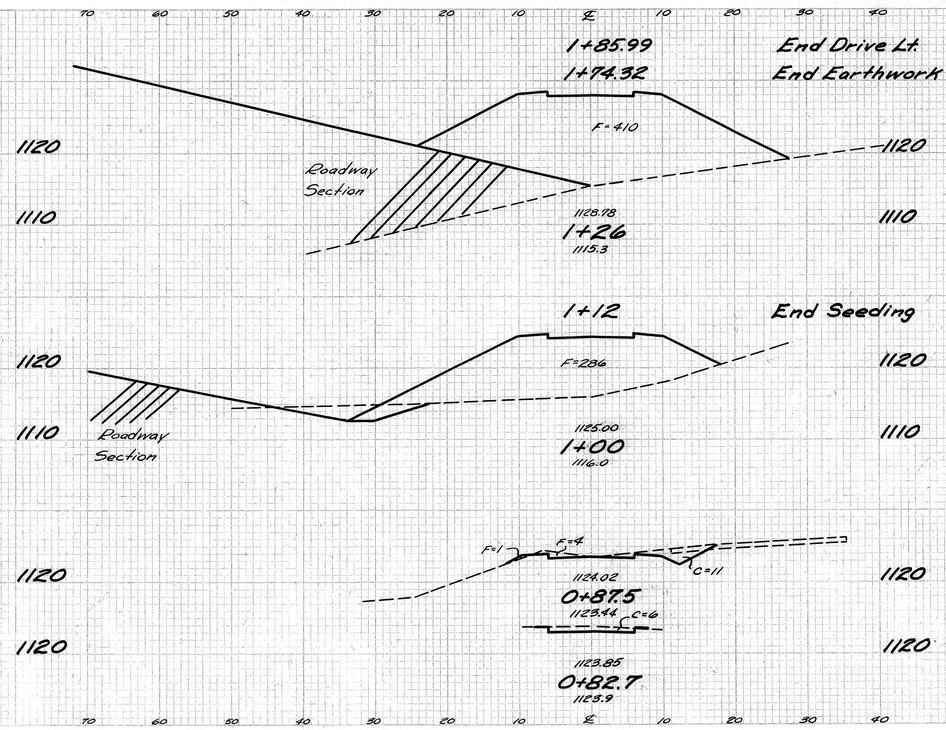
Quantities Carried To Sheet No. 43

NOTE: For Typical Section See Sheet No. 2 For Pavement Composition, Berm, Slopes, and Ditches.

PROFILE SCALE

Horizontal: 1"=20'
Vertical: 1"=10'





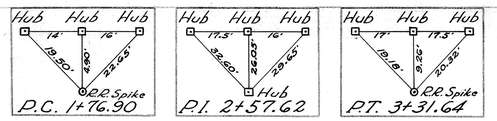
Seeding		End Area		Cu. Yds	
Width	S.Y.	Cut	Fill	Exc.	Emb.
		0	0		
				0	367
		0	410		
48				0	335
	63				
47		0	286		
	49			3	67
24		11	5		
	7			2	1
4		6	0		

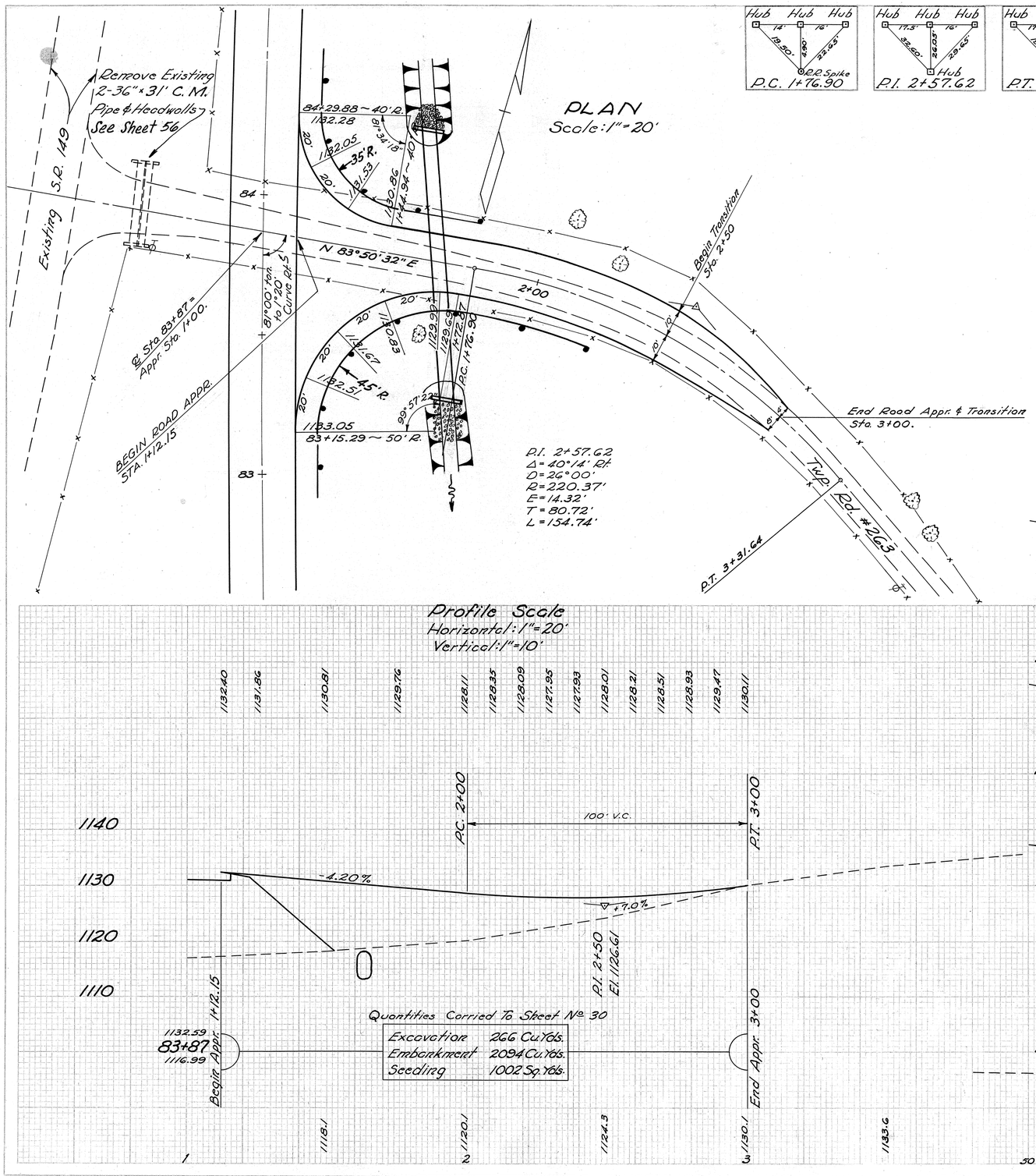
FIELD DR. LT. STA. 81+50 & INTERSECTION U.S. 40 & SR. 149

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

45
77

BEL-149-(0.70-2.83)



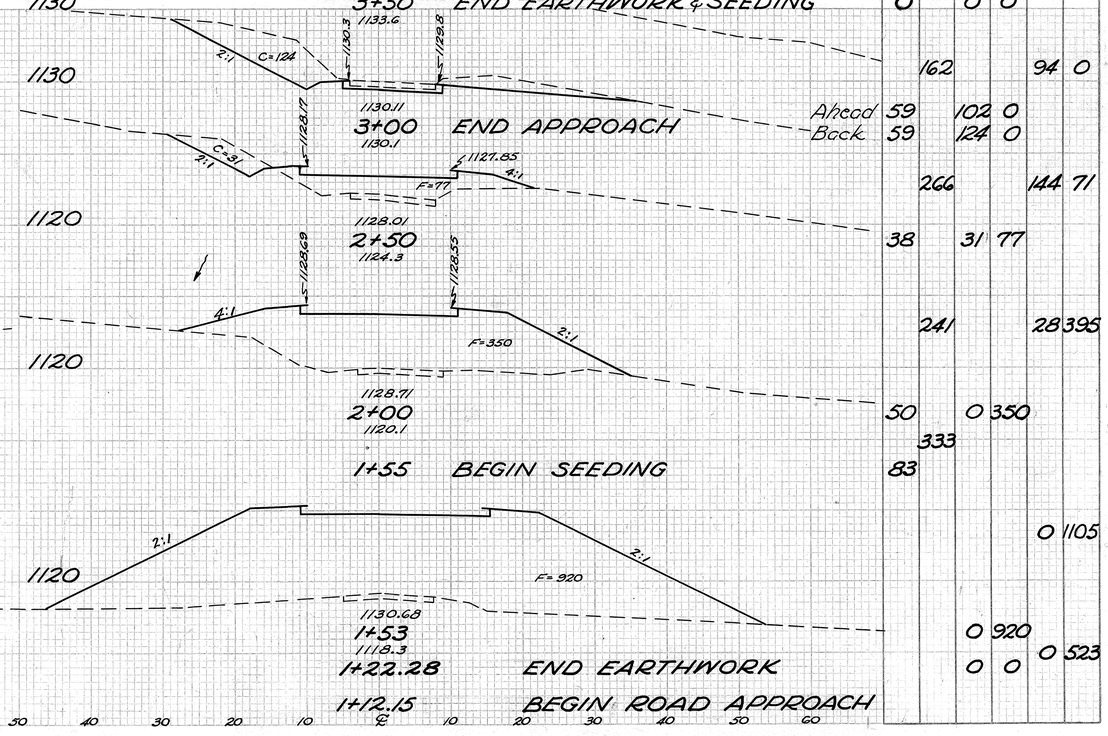


ESTIMATED QUANTITIES

I-22 5" Subbase	78 Cu. Yds.
B-19 5" Crushed Aggr. Base Course	74 Cu. Yds.
T-30 Bituminous Prime Coat	214 Gal.
B-35 1¾" Aspholtic Concrete Leveling Course	24.8 Cu. Yds.
T-35 1¼" Aspholtic Concrete Surface Course	17.7 Cu. Yds.
E-1 Compacted Subgrade	511 Sq. Yds.

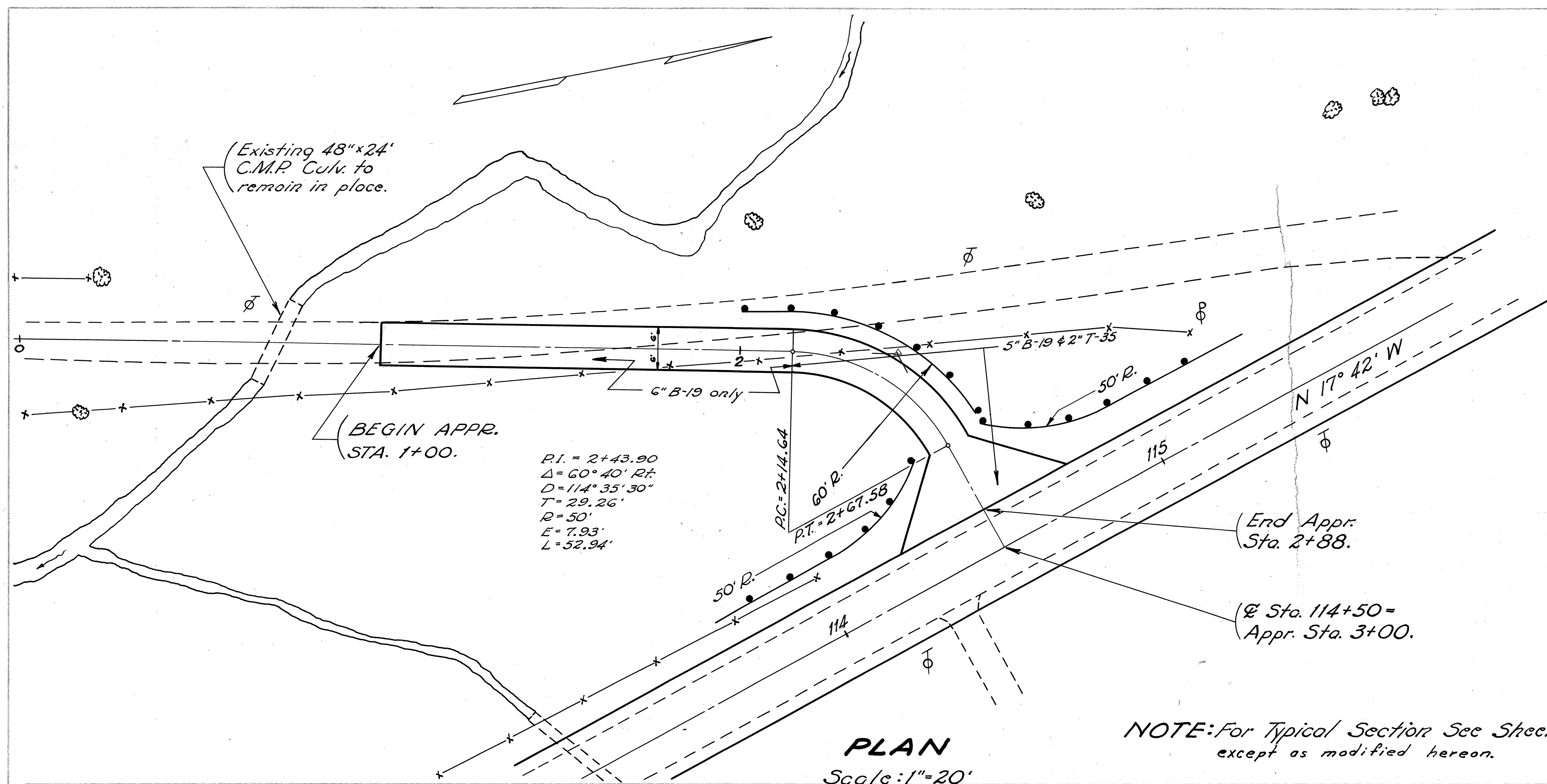
Quantities Carried to Sheet № 43.

NOTE: For Typical Section See Sheet № 2 for Pavement Composition. For Berm, Slope and Ditch Details, see Cross-Sections Below.



	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
			0	0	0	
		162			94	0
Ahead	59		102	0		
Back	59		124	0		
		266			144	71
	38		31	77		
		241			28	395
	50		0	350		
		333				
	83					
					0	1105
			0	920		
			0	0	0	523

ROAD APPROACH PT-STA 83+87



PLAN
Scale: 1"=20'

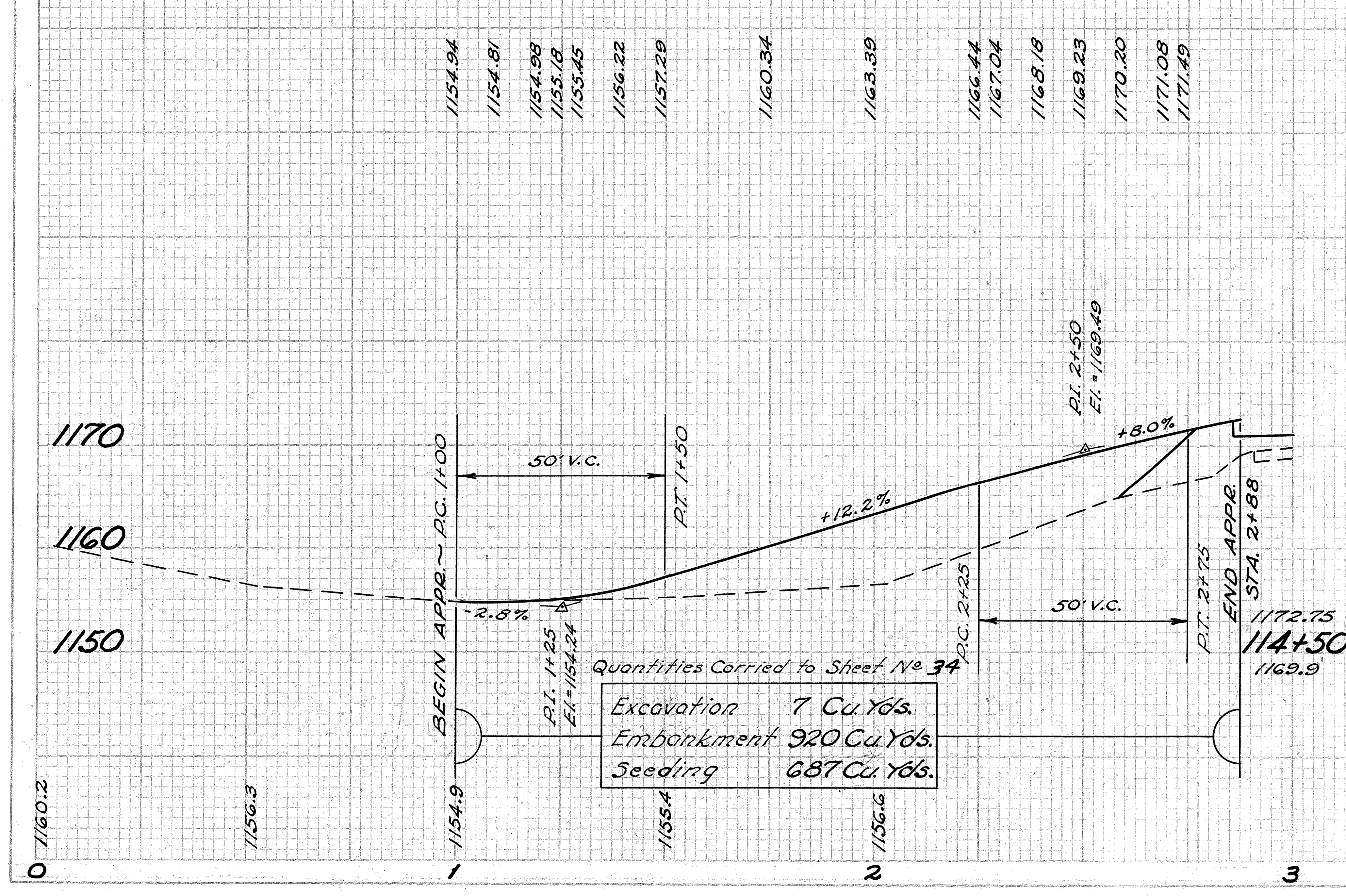
NOTE: For Typical Section See Sheet Nº 41. except as modified hereon.

ESTIMATED QUANTITIES

B-19, 6" Crushed Aggregate 26 Cu. Yds.
B-19, 5" Crushed Aggregate 20 Cu. Yds.
T-35, 2" Surface Course 7.9 Cu. Yds.
Quantities Carried To Sheet No. 15.

CURVE TABLE							
LEFT			℄	℄	RIGHT		
EDGE ELEV.	ADD SUPER	WIDTH	STA.	ELEV.	WIDTH	DEDUCT CROWN	EDGE ELEV.
1165.09	.09	6'	2+14.64	1165.18	6'	.09	1165.09
1166.42	Obtained Graphically		+25	1166.44			1166.35
1167.06			+30	1167.04			1166.95
1168.27			+40	1168.18			1168.09
1169.32			+50	1169.23			1169.14
1170.06			+58	1170.01			1169.92
1170.23			+60	1170.20			1170.11
1170.79	.09	6'	2+67.58	1170.88	6'	.09	1170.79

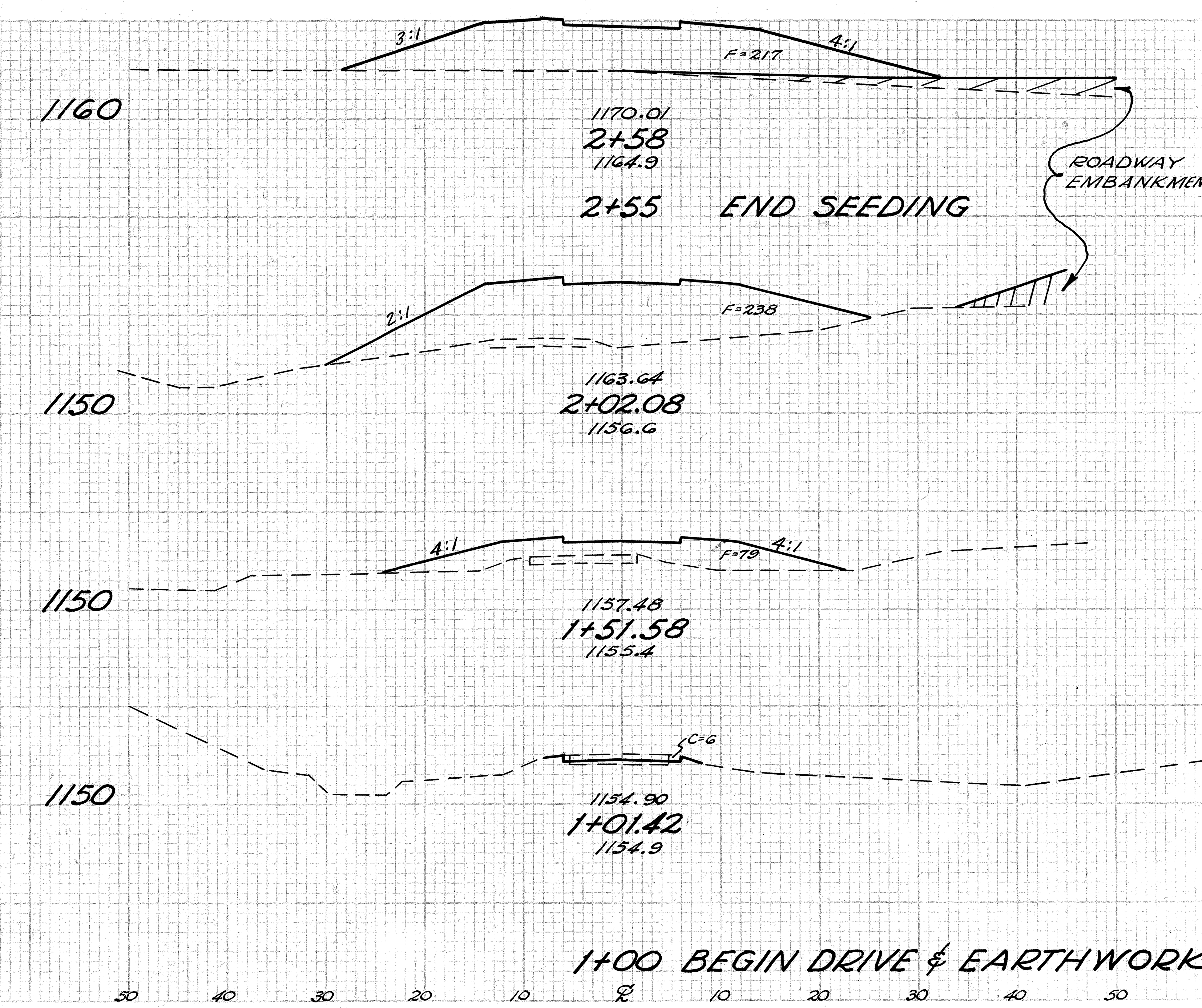
PROFILE
Horizontal: 1"=25'
Vertical: 1"=10'



Quantities Carried to Sheet Nº 34

Excavation	7 Cu. Yds.
Embankment	920 Cu. Yds.
Seeding	687 Cu. Yds.

2+88 END DRIVE
2+78 END EARTHWORK



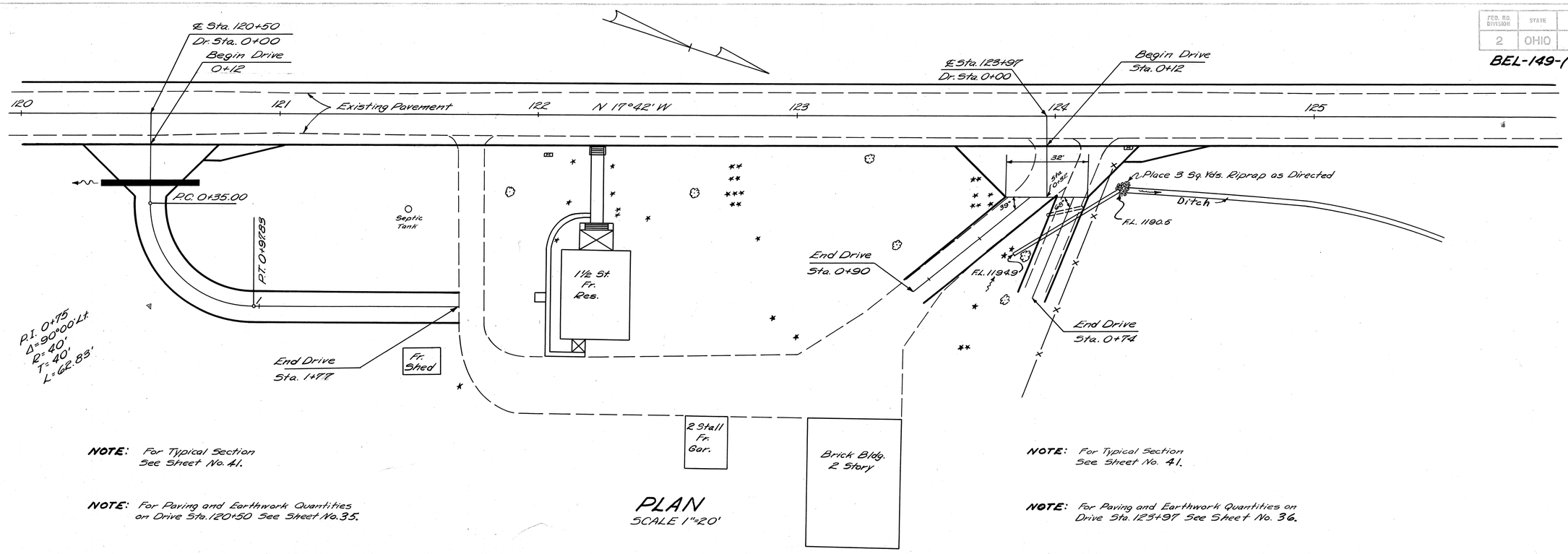
Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
		0	0		
				0	80
		0	217		
54					
	306			0	471
50		0	238		
	255			0	296
41		0	79		
	125			6	73
4		6	0		
	1			1	0
0		6	0		

ROAD APPR. LT. STA. 114+50

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

47
77

BEL-149-(0.70-2.83)



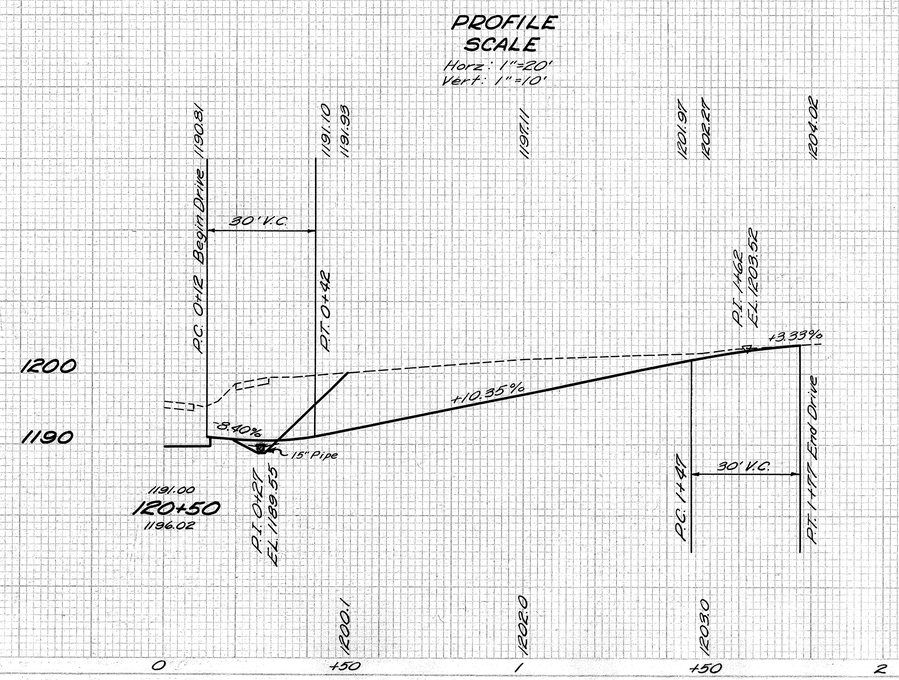
NOTE: For Typical Section See Sheet No. 41.

NOTE: For Paving and Earthwork Quantities on Drive Sta. 120+50 See Sheet No. 35.

PLAN
SCALE 1"=20'

NOTE: For Typical Section See Sheet No. 41.

NOTE: For Paving and Earthwork Quantities on Drive Sta. 123+97 See Sheet No. 36.



DR. RT. STA. 123+97

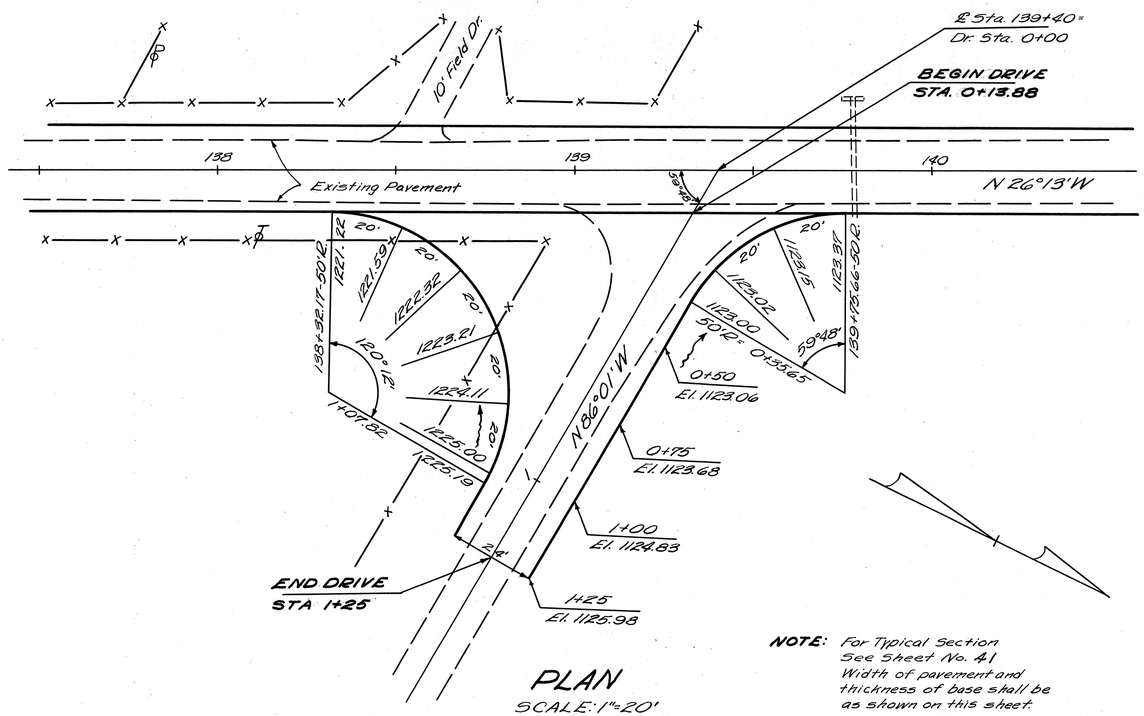
SEE SHEET NO. 36 FOR PROFILE

DETAIL OF RES. DRIVES STA. 120+50 RT. AND STA. 123+97 RT.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

48
77

BEL-149-(0.70-2.83)



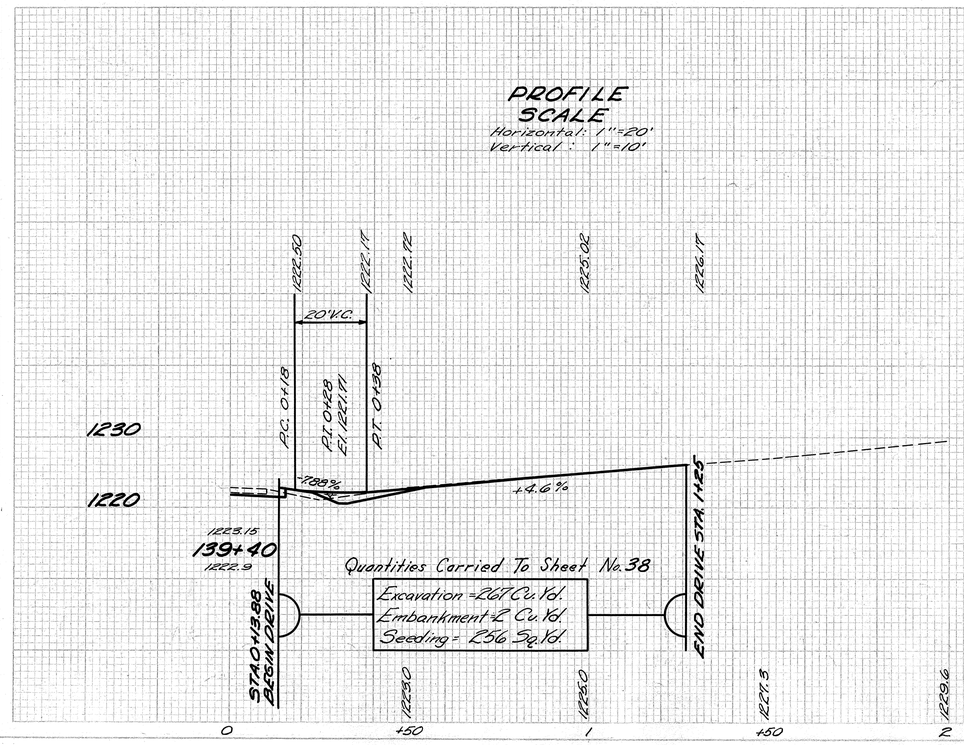
PLAN
SCALE: 1"=20'

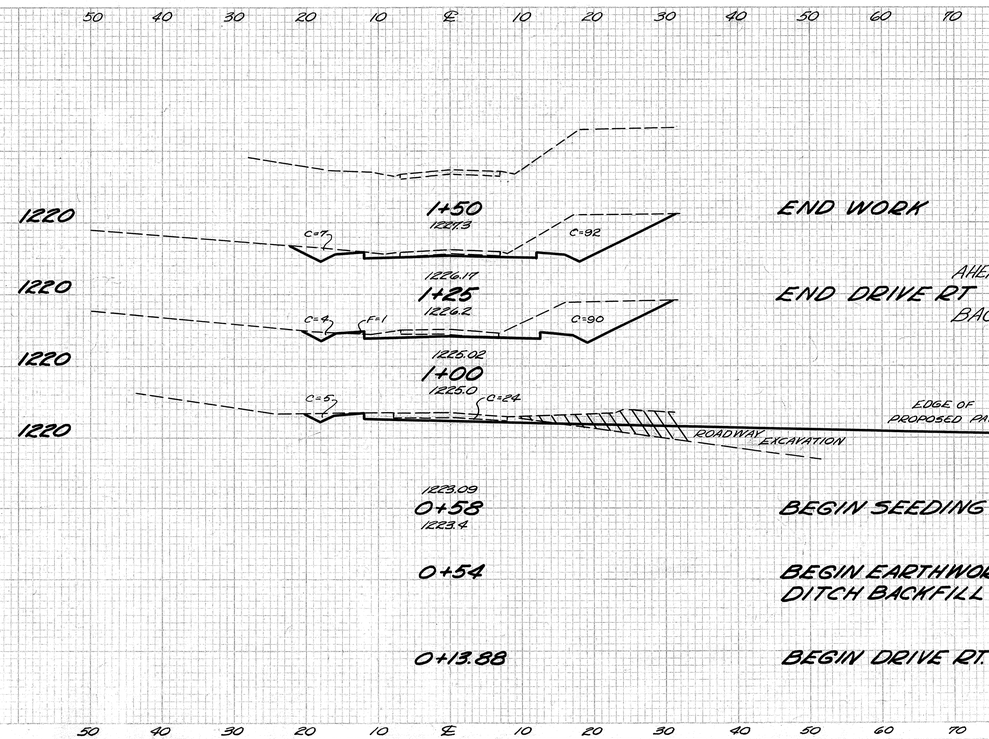
NOTE: For Typical Section See Sheet No. 41 Width of pavement and thickness of base shall be as shown on this sheet.

ESTIMATED QUANTITIES

T-35	2" Asphaltic Surface Course	28 Cu.Yd.
B-19	7" Aggregate Base Course	98 Cu.Yd.

Quantities carried to Sheet No. 18.





		Seeding Width	Seeding SY.	End Area Cut	End Area Fill	Cu. Yd. Exc.	Cu. Yd. Emb.
END WORK		0		0	0		
			50			38	0
END DRIVE RT.	AHEAD	36		81	0		
	BACK	36		99	0		
			99			89	1
		35		94	1		
			107			96	
BEGIN SEEDING		11		29	0		
						2	0
BEGIN EARTHWORK DITCH BACKFILL				0	0		
						42	0
BEGIN DRIVE RT.							

DRIVE RT STA 139+40

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

49
77

BEL-149(0.70-2.83)

ESTIMATED QUANTITIES
DRIVE RT. ~ STA. 148+36.6

T-35, 1¼" Asphaltic Concrete Surface Course	16.2 Cu. Yds.
B-35, 1¾" Asphaltic Concrete Leveling Course	22.6 Cu. Yds.
T-30, Bituminous Prime Coat	190 Gals.
B-19, 5" Crushed Aggr. Base Course	66 Cu. Yds.
I-22, 5" Subbase	67 Cu. Yds.
E-1, Compacted Subgrade	465 Sq. Yds.
E-12, Removal of Pipe 15" and under	110 Lin. Ft.
S-22, Removal of Portions of Existing Structures	1 Cu. Yd.

Quantities Carried to Sheet № 43.

NOTE: For Cross-Sections See Sheet № 50.

NOTE: For Typical-Section See Sheet № 2 for Pav'mt Composition.

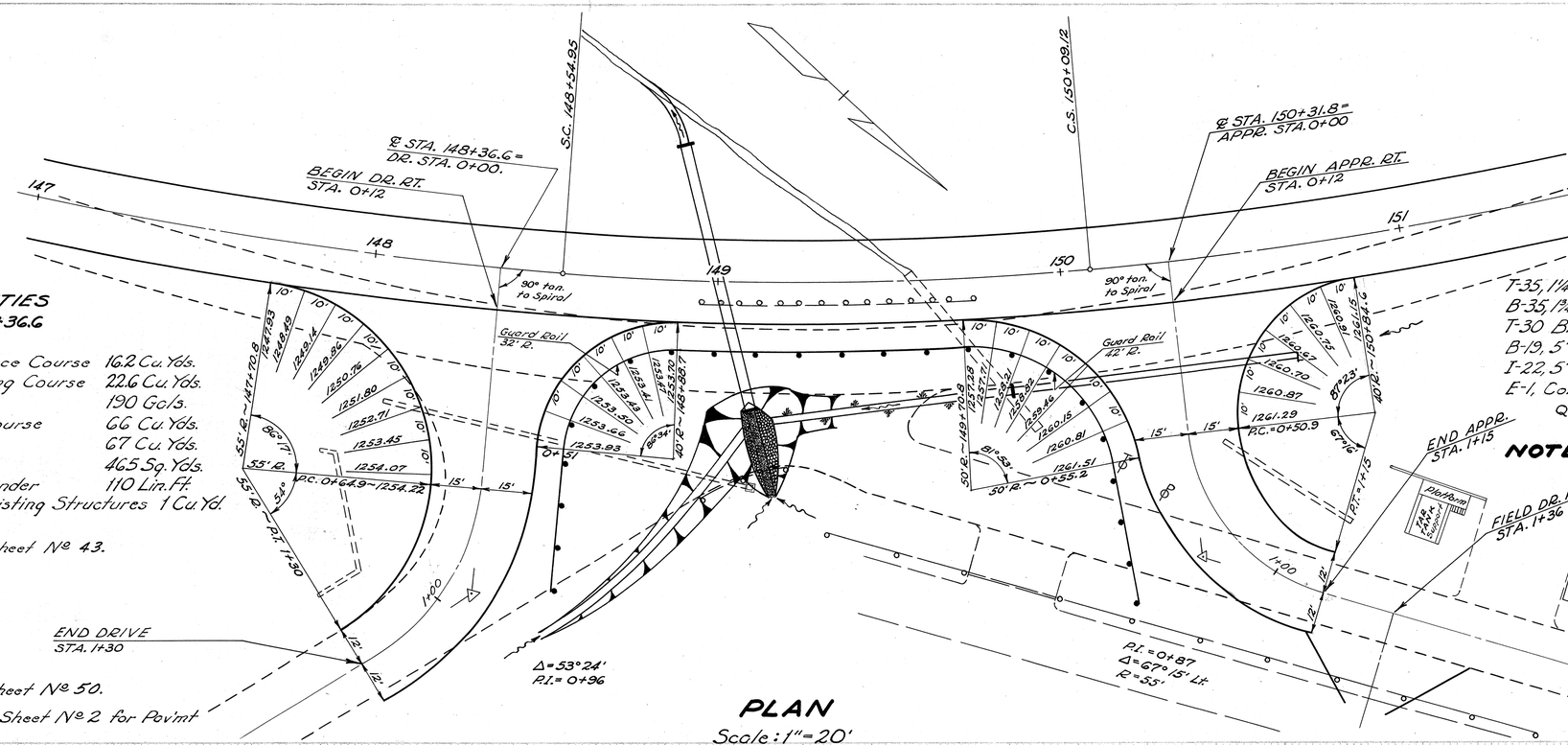
ESTIMATED QUANTITIES
APPROACH ROAD RT.
STA. 150+31.8

T-35, 1¼" Asphaltic Concrete Surface Course	13.8 Cu. Yds.
B-35, 1¾" Asphaltic Concrete Leveling Course	19.3 Cu. Yds.
T-30 Bituminous Prime Coat	162 Gals.
B-19, 5" Crushed Aggr. Base Course	56 Cu. Yds.
I-22, 5" Subbase	58 Cu. Yds.
E-1, Compacted Subgrade	398 Sq. Yds.

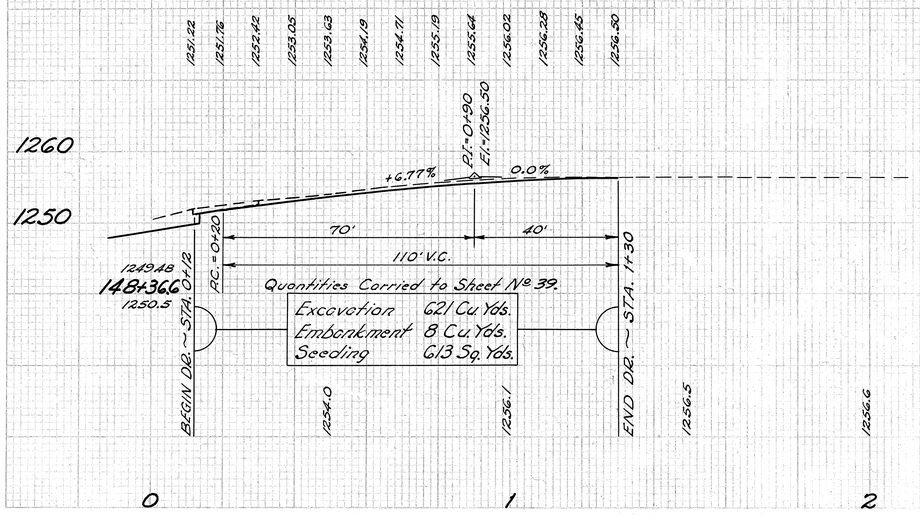
Quantities Carried to Sheet № 43.

NOTE: For Cross-Sections see Sheet № 50.

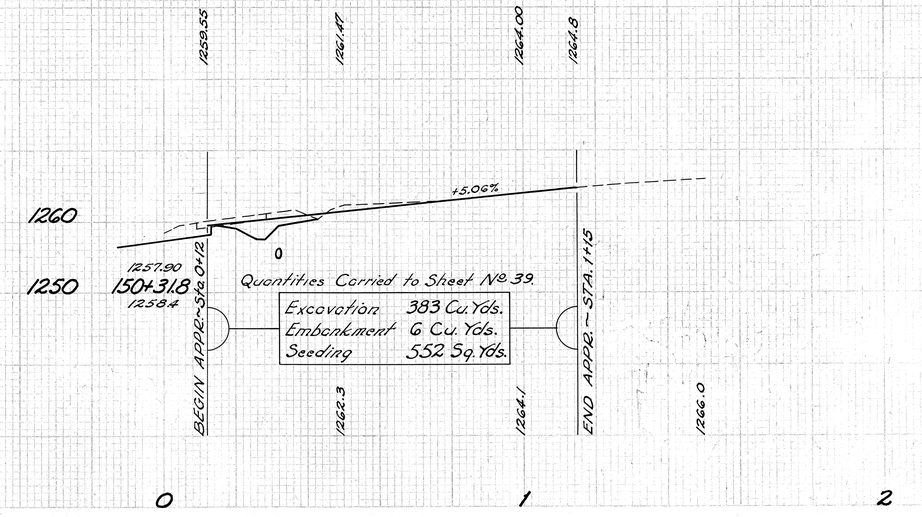
NOTE: For Typical-Section see Sheet № 2 for Pav'mt Composition.



PROFILE
Horizontal: 1"=20'
Vertical: 1"=10'



PROFILE
Horizontal: 1"=20'
Vertical: 1"=10'



DR. RT. STA. 148+36.6 & APPR. RT. STA. 150+31.8

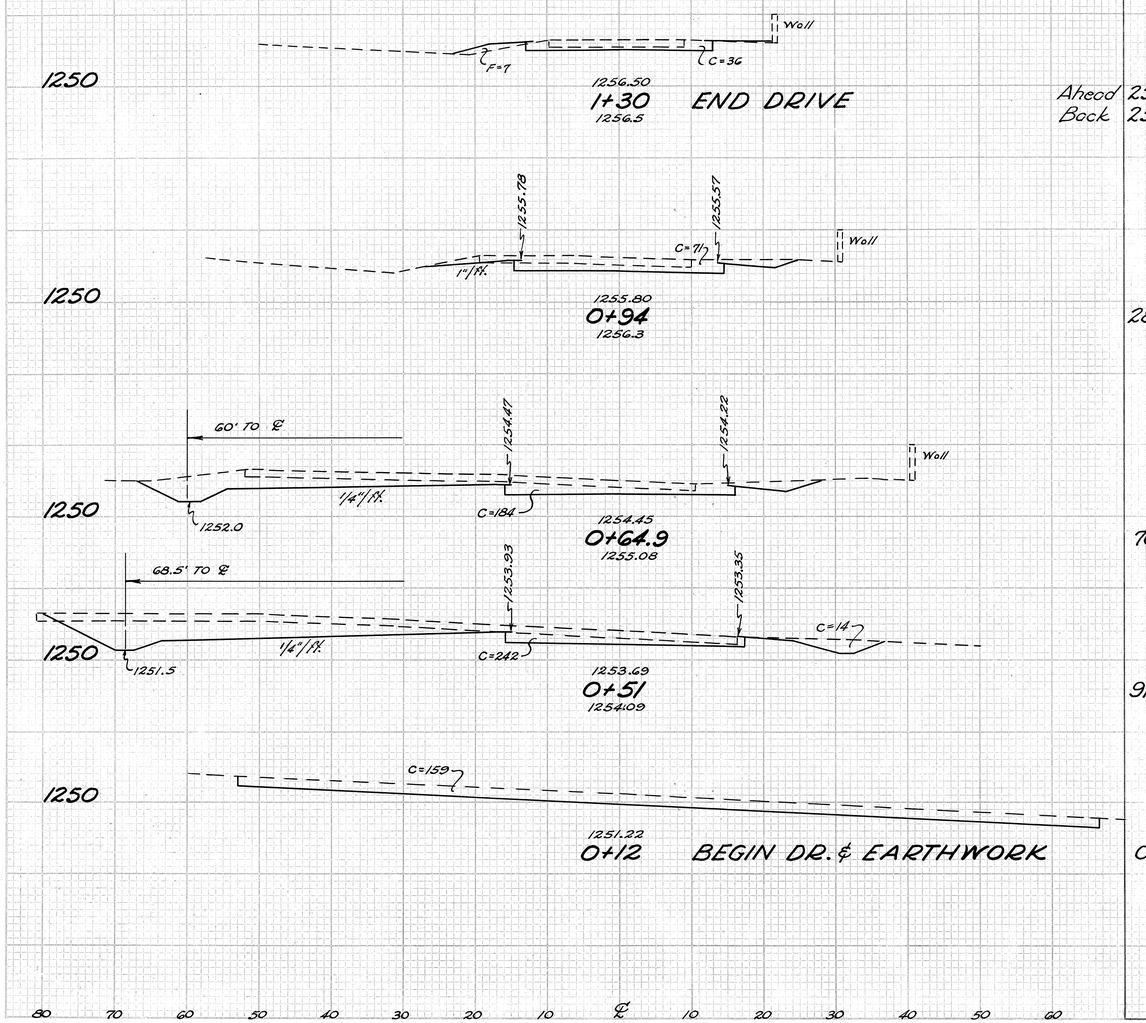
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

50
77

BEL-149-(0.70-2.83)

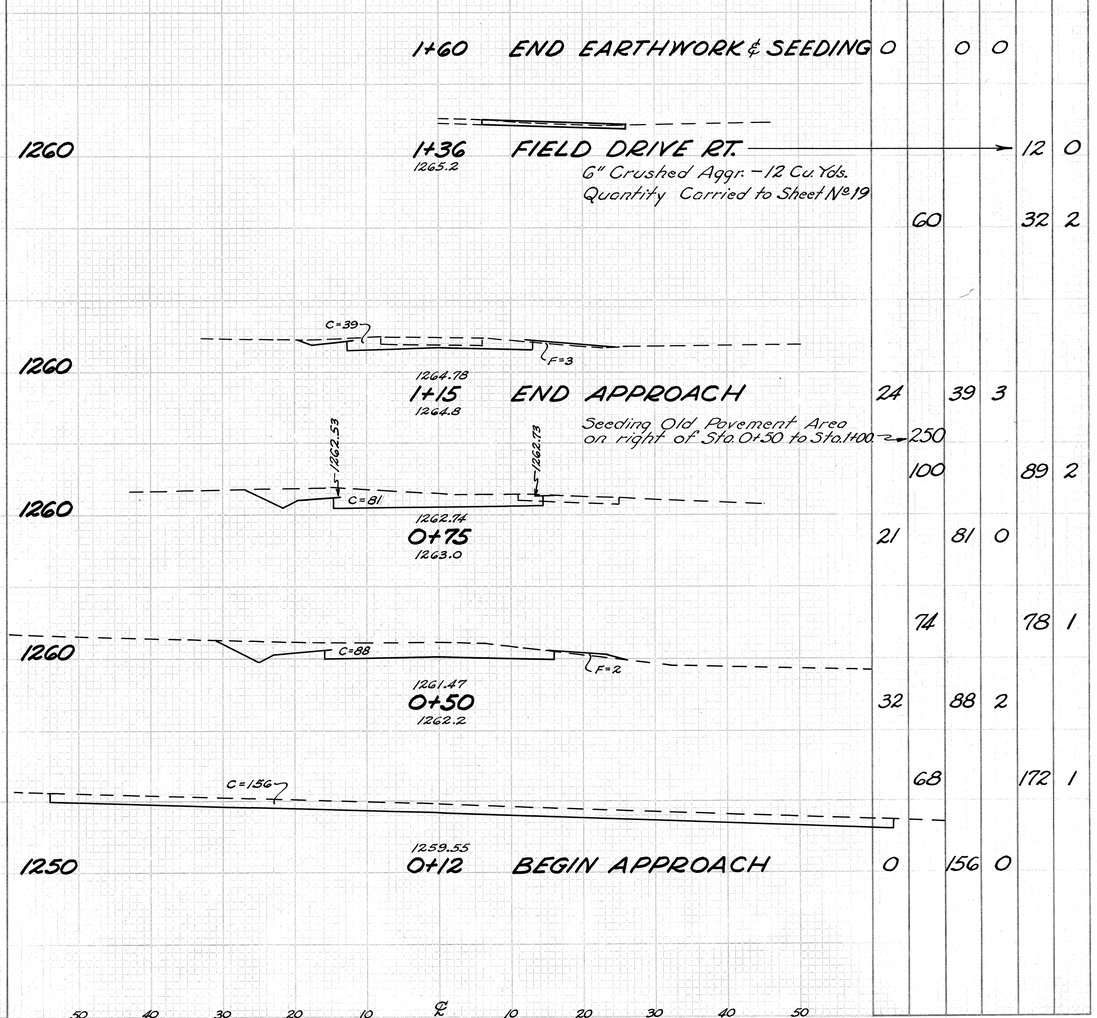
CROSS-SECTIONS FOR SCHOOL DRIVE RT.~STA. 148+36.6

		Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	1+50 END EARTHWORK & SEEDING	0		0	0		
			28			0	3
1250	1256.50						
	1+30 END DRIVE	Ahead 25		0	7		
	1256.5	Back 25		36	7		
			106			71	5
1250	1255.80						
	0+94	28		71	0		
	1256.3						
			158			137	0
1250	1254.45						
	0+64.9	70		184	0		
	1255.08						
			124			113	0
1250	1253.69						
	0+51	91		256	0		
	1254.09						
			197			300	0
1250	1251.22						
	0+12 BEGIN DR. & EARTHWORK	0		159	0		



CROSS-SECTIONS FOR ROAD APPROACH RT.~STA. 150+31.8

		Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	1+60 END EARTHWORK & SEEDING	0		0	0		
1260	1+36 FIELD DRIVE RT. →					12	0
	1265.2						
	6" Crushed Aggr. - 12 Cu. Yds.						
	Quantity Carried to Sheet No. 19						
			60			32	2
1260	1264.78						
	1+15 END APPROACH	24		39	3		
	1264.8						
	Seeding Old Pavement Area on right of Sta. 0+50 to Sta. 1+00 →	250					
			100			89	2
1260	1262.74						
	0+75	21		81	0		
	1263.0						
			74			78	1
1260	1261.47						
	0+50	32		88	2		
	1262.2						
			68			172	1
1250	1259.55						
	0+12 BEGIN APPROACH	0		156	0		



CROSS-SECTIONS FOR DR. RT.~STA. 148+36.6 & ROAD APPR. RT.~STA. 150+31.8

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BEL-149-(0.70-2.83)

51/77

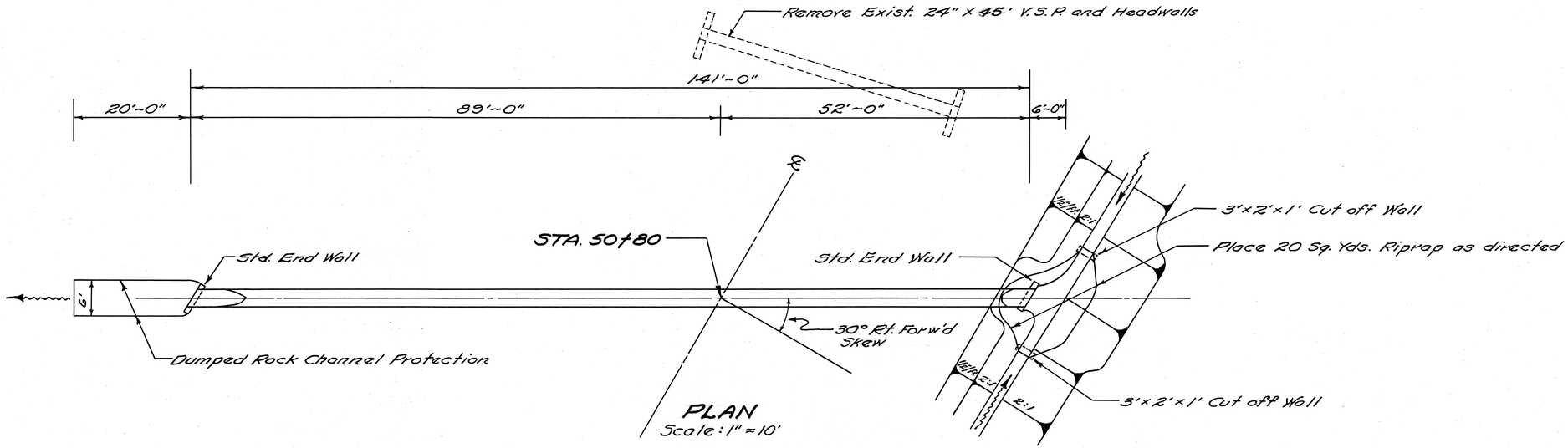
SUB-SUMMARY FOR CULVERTS

Station	Sheet No	Excavation Cu. Yds. Struc.	Excavation Cu. Yds. Channel	Pipe Removed Lin. Ft. 15" & Under	Pipe Removed Lin. Ft. Over 15"			Catch Basins Each 2-2.A Std.	Catch Basins Each 2-2.A Mod.	Catch Basins Each 2-3 Mod.		Riprap Sq. Yds.	Dumped Rock Chan. Protec. Cu. Yds.	Paved Gutter Type I Lin. Ft.		Conc. Class "E" Cu. Yds.	Reinf. Steel Lbs.	Catch Basins Abandon. Each		Removal of Portions of Exist. Struc. Cu. Yds.	Dowel Holes Lin. Ft.	Pipe for Roadway Culverts - Lin. Ft. 18"	24"		60"	Sec. M-6.4(d) 24"	Sec. M-6.4(d) 36" Gage 12	Sec. M-6.8(b) 15"			Sec. M-6.8(b) 24"	15" Sec. M-6.8(b) or M-6.6(b)	36" Sec. M-6.6(c) or M-6.4(d) Gage 12	S-28 108" Sec. M-6.4(g) Gage 8-7			Print. Replaced	Print. Removed
CODE TYPE 6201																																					
50+80	52	110			45							20	11			1.2				3.0							142										
63+43.8	11			27																1.6																	
67+64	53	52			29							4	5			0.6				1.6		100															
74+03	54	52			28				1			4	6			0.3				3.0		76															
82+39	55	39	325									27	34			15.4				36.0																164	
1+63	56	16	259		62							9	15			5.0				1.0				98												
89+18	57	23		24								6	6			0.6				2.0		64															
113+02	59	188	19									8	16			1.2				14.7															120		
117+85	60	40		23						1		14	6			0.4				2.0			64													
126+00	61	56			23							13	7			0.8				2.0						88										
129+02	62	63			37							5	10			1.2				5.0															112		
144+40	65	27			70				1				5	10		0.3				5.0		90															
149+00	66	58	4									26	18			0.8																	80				
0+31.75	67	40		44	60			1								0.3														84							
152+36	68	4										3	5			0.4	10				3									18							
159+22	69	58		50					2			4		30				2																118			20	20
Totals - Code Type 6201		826	607	168	354			1	4	1		143	144	40		28.5	10	2		76.9	3	330	64		98	88	142			102			80		118	232	164			20	20
CODE TYPE 6805																																					
106+46	58	11										24	9			1.2											90										
136+28	63	30	21	25						1		4		10		0.3				2		60														11	11
139+78	64	25			60				1				5	20		0.3				4		66														14	14
Totals - Code Type 6805		66	21	25	60				1	1		28	14	30		1.8				6		126					90									25	25

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

52
77

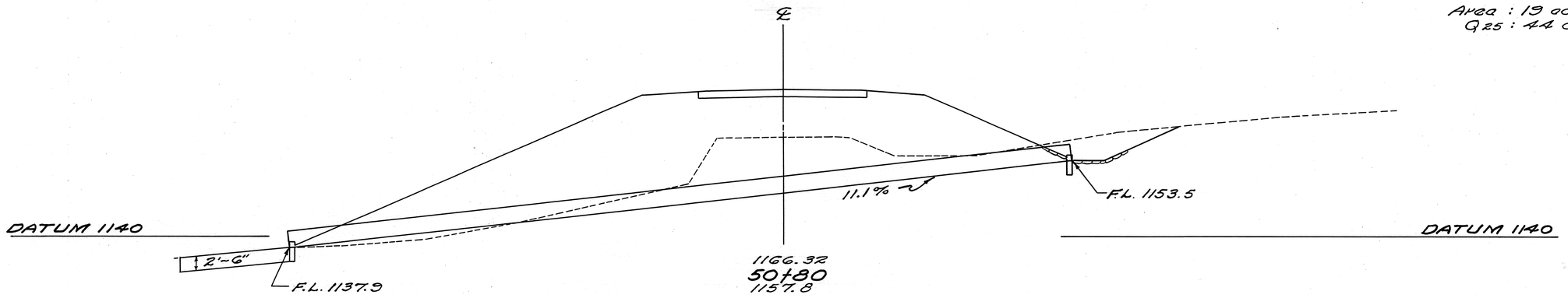
BEL-149-(0.70-2.83)



ESTIMATED QUANTITIES

36" Pipe for Roadway Culverts Sec. M-6.4(d) Gage 12	142 L.F.
Excavation for Structures	110 C.Y.
Concrete for Structures "Class E"	1.2 C.Y.
Dumped Rock Channel Protection	11 C.Y.
Riprap	20 S.Y.
24" Pipe Removed V.S.P.	45 L.F.
Removal of Portions of Existing Structures	3 C.Y.

Area : 19 acres
Q25 : 44 cfs.



CROSS SECTION
Scale : 1" = 10'

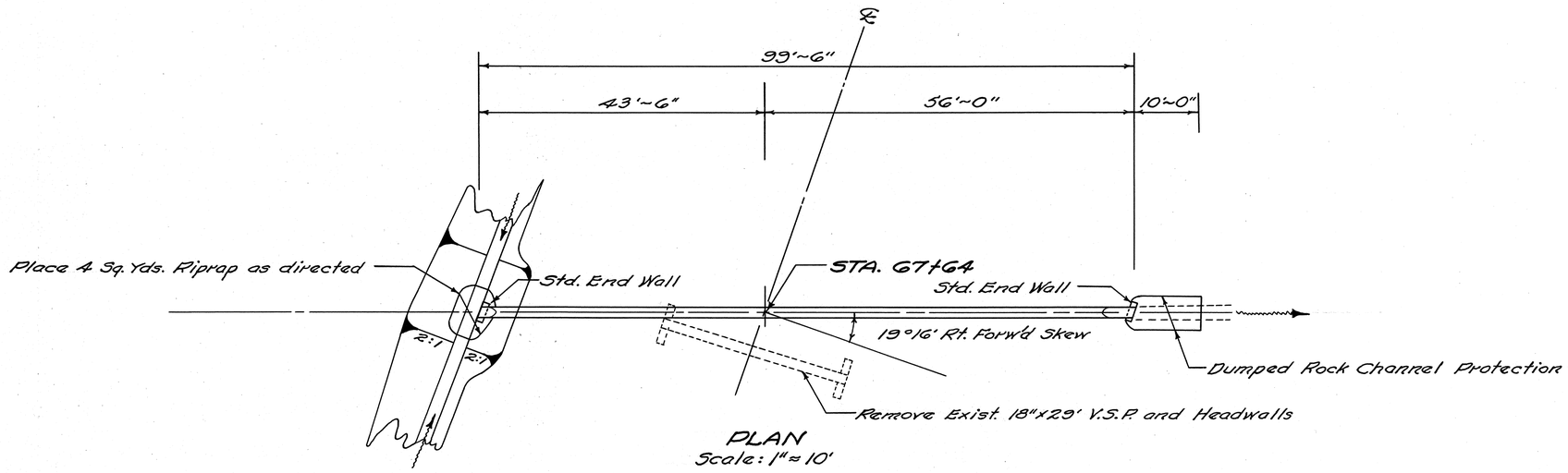
BEL-149-0099

STA. 50+80
36"x142' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

53
77

BEL-149-(0.70-2.83)

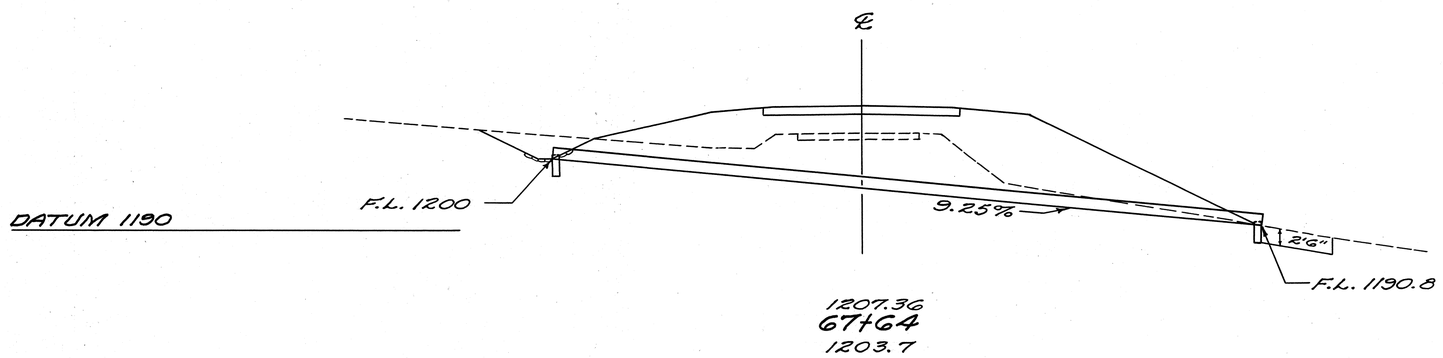


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

18" Pipe for Roadway Culverts	100 L.F.
Excavation for Structures	52 C.Y.
Concrete for Structures "Class E"	0.6 C.Y.
Riprap	4 S.Y.
Dumped Rock Channel Protection	5 C.Y.
18" Pipe Removed V.S.P.	29 L.F.
Removal of Portions of Existing Structures	1.6 C.Y.

Area : 2 acres
Q25 : 9 cfs.



CROSS SECTION
Scale: 1"=10'

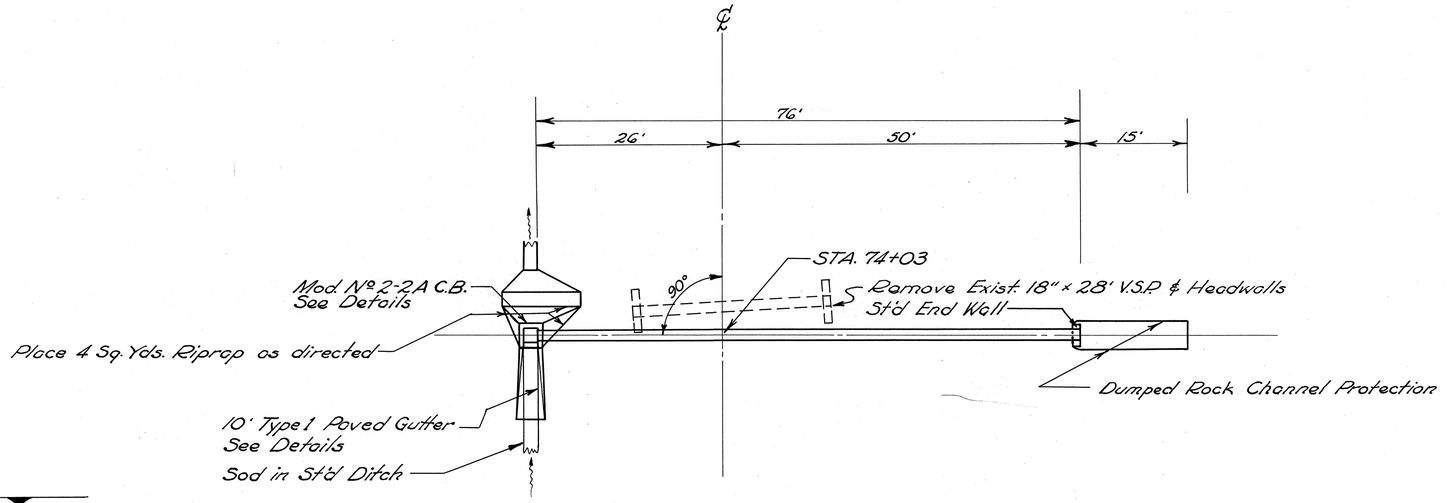
BEL-149-0131

STA. 67+64
18"x100' PIPE CULVERT

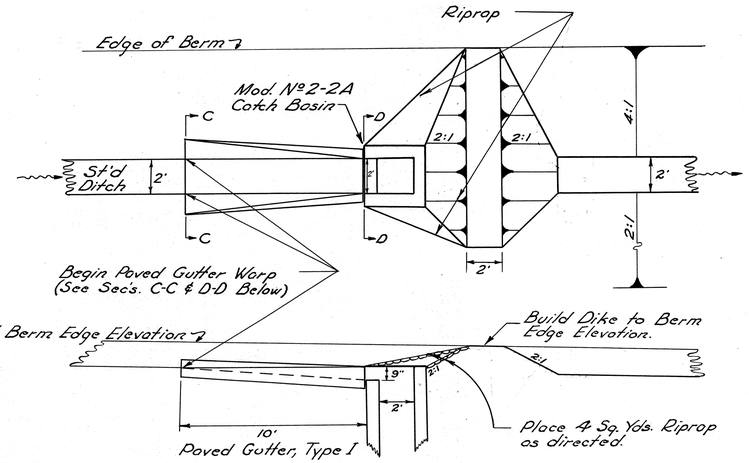
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

54
77

BEL-149-(0.70-2.83)

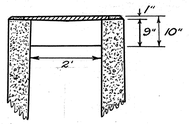


PLAN
Scale: 1"=10'



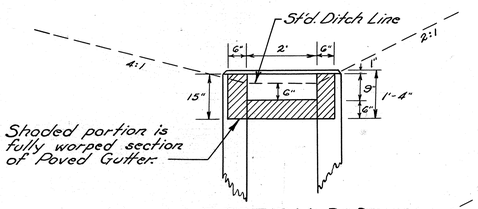
MOD. Nº 2-2A C.B. with DIKE
Scale: 1/4"=1'

Note: Std'd Concrete Cutoff Wall shall be constructed at the beginning of each run of Paved Gutter.

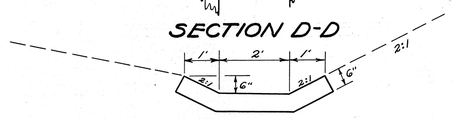


MOD. Nº 2-2A CATCH BASIN
Scale: 1/2"=1'

Note: Three elevations will be shown on all catch basins.
1. Pipe inlet, F.L.
2. Window, F.L.(s)
3. Top of Grate Inlet - This will always be 0.83' above window F.L.



SECTION D-D

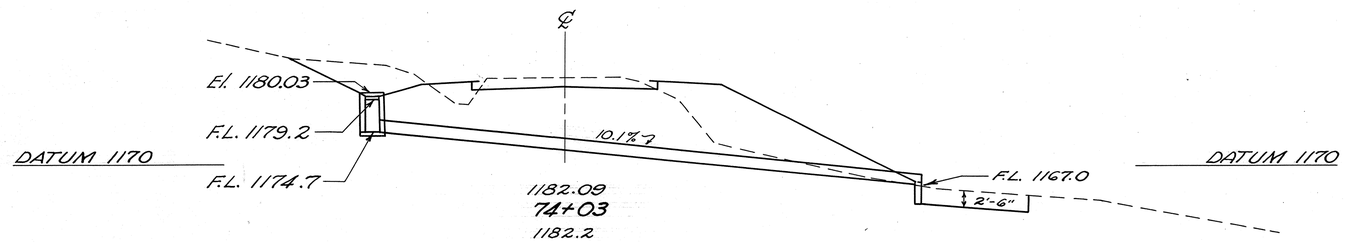


SECTION C-C
Scale: 1/2"=1'

ESTIMATED QUANTITIES

18" Pipe for Roadway Culverts	76 Lin. Ft.
Excavation for Structures	52 Cu. Yds.
Concrete for Structures (Class "F")	0.3 Cu. Yds.
18" Pipe Removed - V.S.P.	28 Lin. Ft.
Removal of Portion of Existing Structures	3 Cu. Yds.
Dumped Rock Channel Protection	6 Cu. Yds.
Mod. Nº 2-2A Catch Basin	1 Each
Riprap	4 Sq. Yds.

Area: 4 acres
Q25: 15 cfs.



CROSS SECTION
Scale: 1"=10'

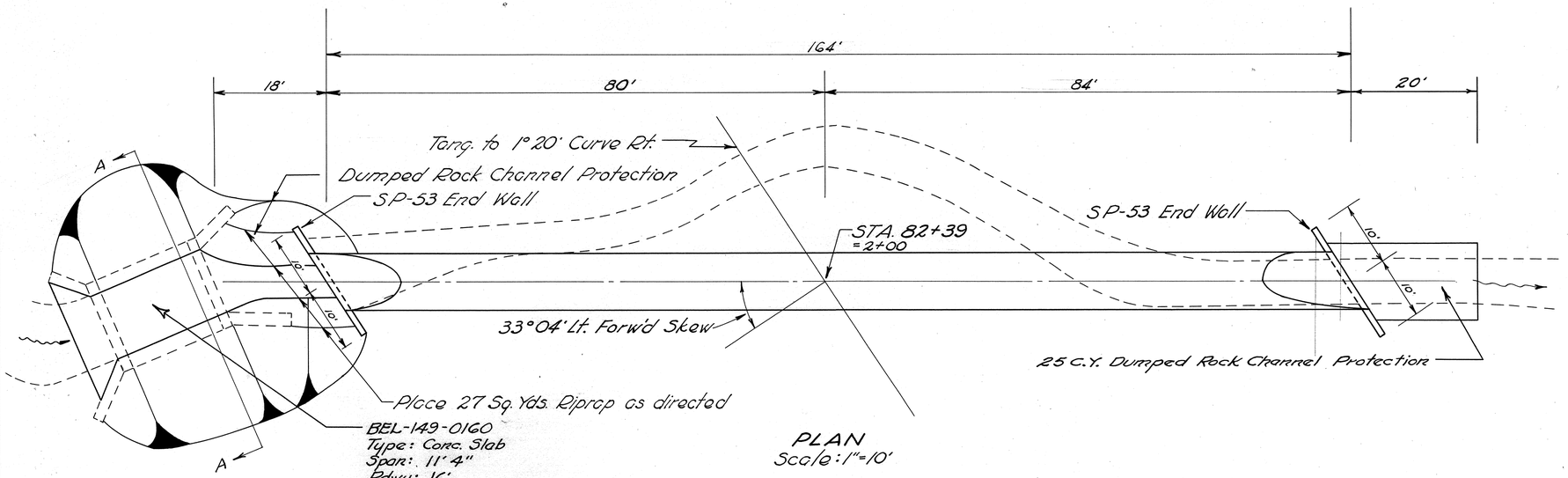
BEL-149-0143

STA. 74+03 - 18" x 76' PIPE CULVERT

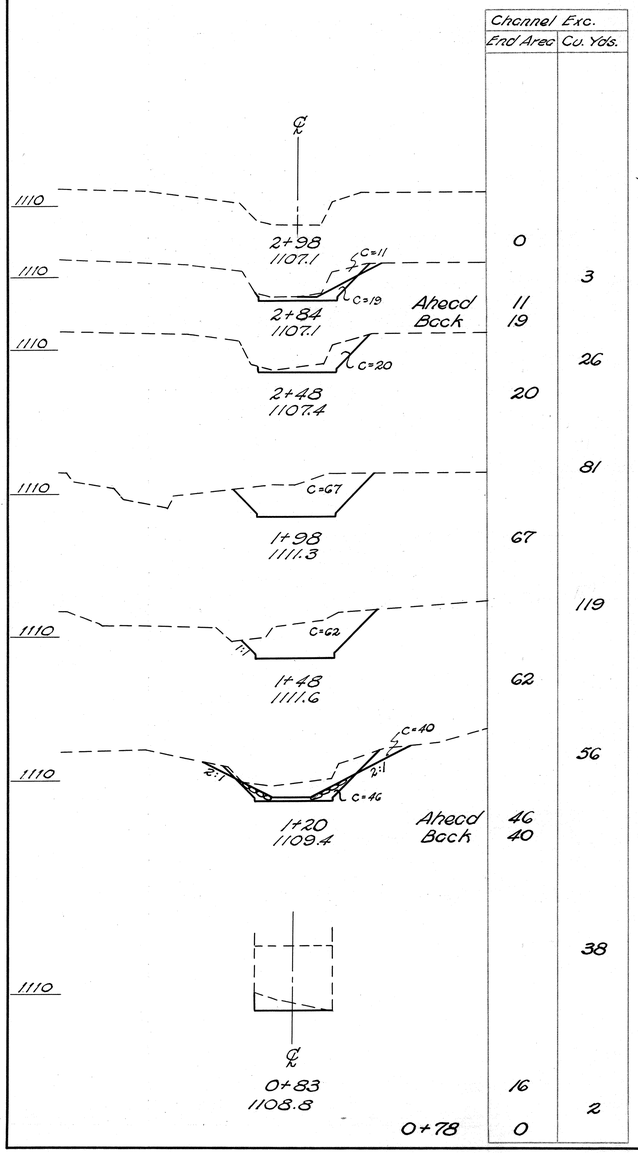
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

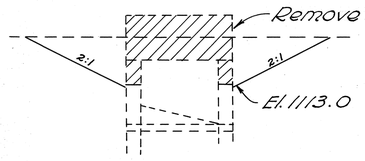
55/77

BEL-149-(0.70-2.83)



PLAN
Scale: 1"=10'

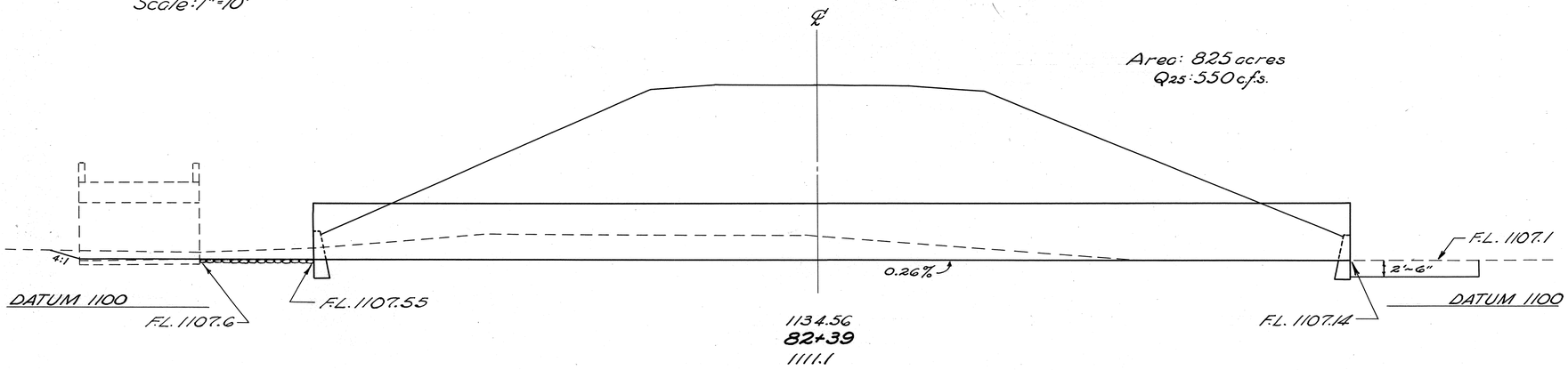




SECTION A-A
Scale: 1"=10'

ESTIMATED QUANTITIES

108" Sectional Corrugated Metal Struc., Sec. M-6.4(g) Gage 8-7	164 L.F.
Excavation for Structures	39 Cu. Yds.
Channel Excavation	325 Cu. Yds.
Concrete for Structures, Class "E"	15.4 Cu. Yds.
Removal of Portions of Existing Structures	36 Cu. Yds.
Riprap	27 Sq. Yds.
Dumped Rock Channel Protection	34 Cu. Yds.



CROSS SECTION
Scale: 1"=10'

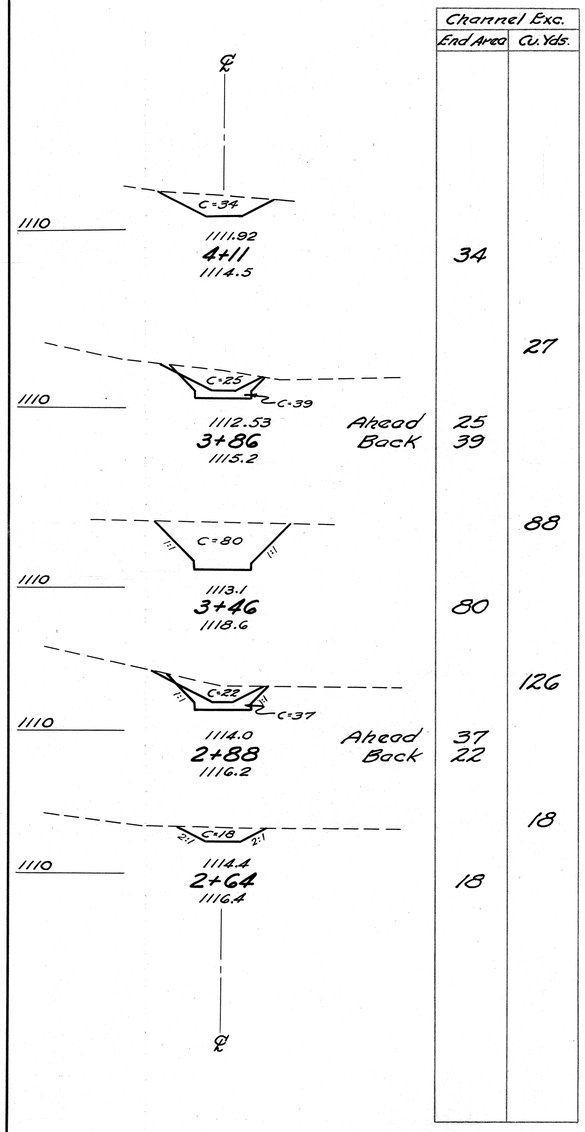
BEL-149-0159

STA. 82+39
108" x 164' Sec. Corr. Met. Struc.

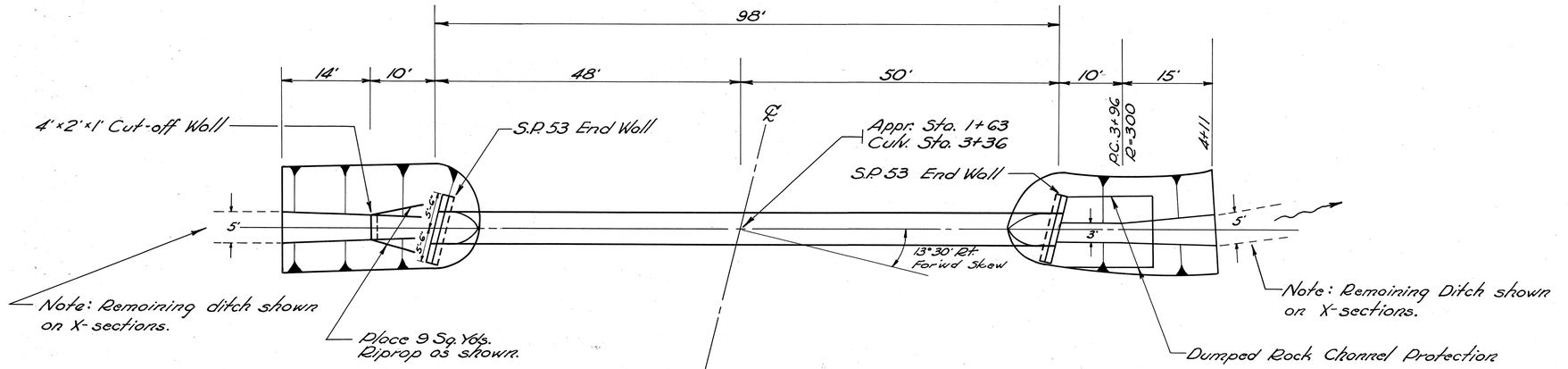
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

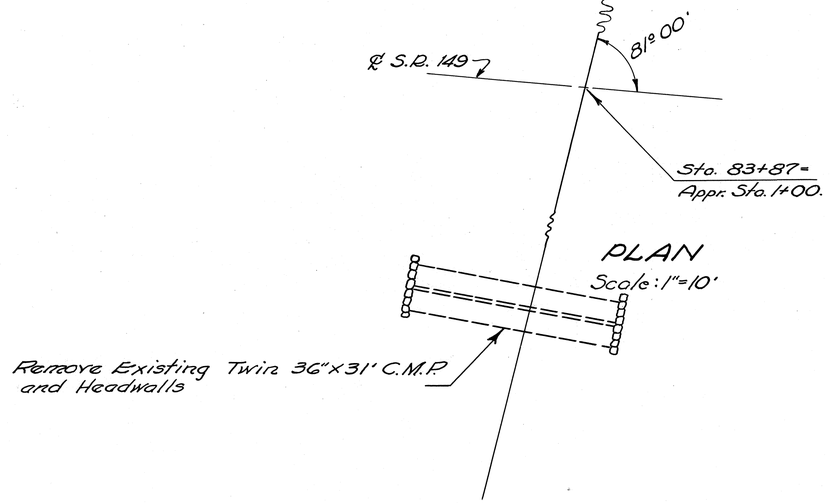
56
77

BEL-149-(0.70-2.83)



Channel Exc.	
End Area	Cu. Yds.
34	
	27
25	
39	
	88
80	
	126
37	
22	
	18
18	



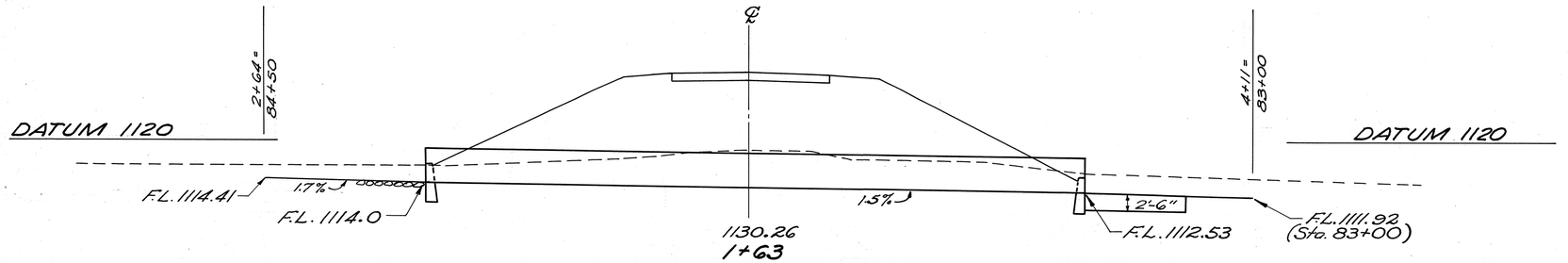


ESTIMATED QUANTITIES

60" Pipe for Roadway Culverts	98 L.F.
Excavation for Structures	16 Cu. Yds.
Channel Excavation	259 Cu. Yds.
Concrete for Structures "Class E"	5.0 Cu. Yds.
Riprap	9 Sq. Yds.
Dumped Rock Channel Protection	15 Cu. Yds.
36" Pipe Removal, C.M.P.	62 Lin. Ft.
Removal of Portions of Existing Structures	1 Cu. Yd.

Area: 84 acres
Q_{25}: 120 c.f.s.

NOTE:
If the Contractor elects to furnish a Sectional Corrugated Metal Structure for this item, the material furnished shall be 10-10 gage or heavier.



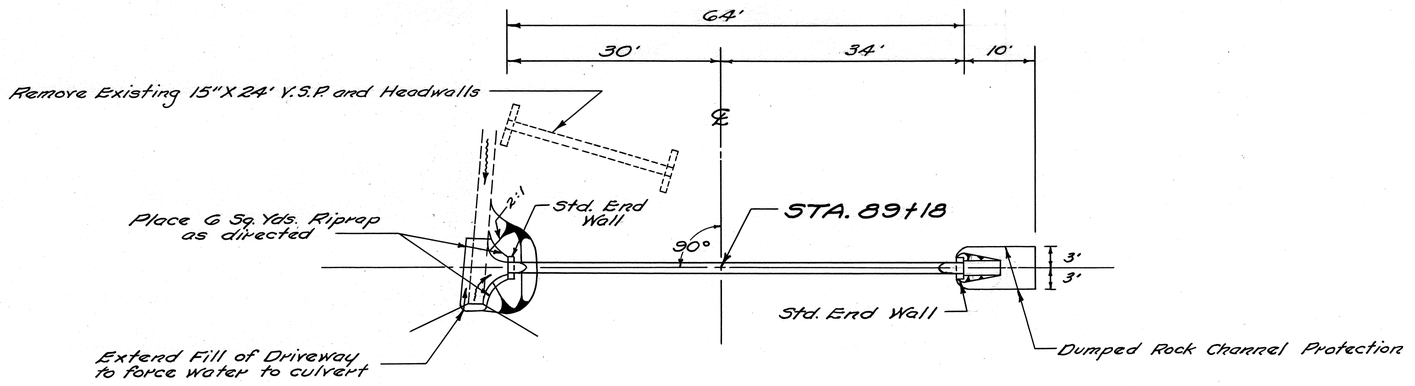
CROSS SECTION
Scale: 1"=10'

STA. 1+63 (APPR. 83+87 RT.) 60"x98' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

57
77

BEL-149-(0.70-2.83)

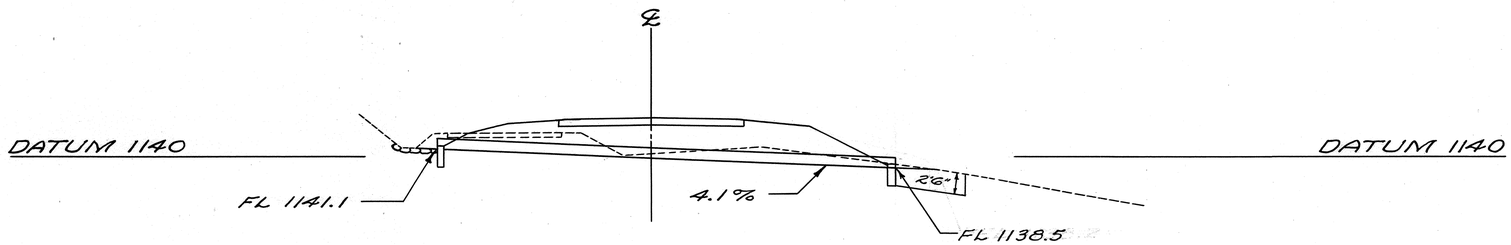


PLAN
Scale: 1" = 10'

ESTIMATED QUANTITIES

18" Pipe for Roadway Culverts	64 L.F.
Excavation for Structures	23 C.Y.
Concrete for Structures "Class E"	0.6 C.Y.
Riprap	6 S.Y.
Removal of Portions of Existing Structures	2 C.Y.
15" Pipe Removed V.S.P.	24 L.F.
Dumped Rock Channel Protection	6 C.Y.

Area : 2 acres
Q25 : 8 cfs.



1145.44
89+18
1140.4

CROSS SECTION
Scale: 1" = 10'

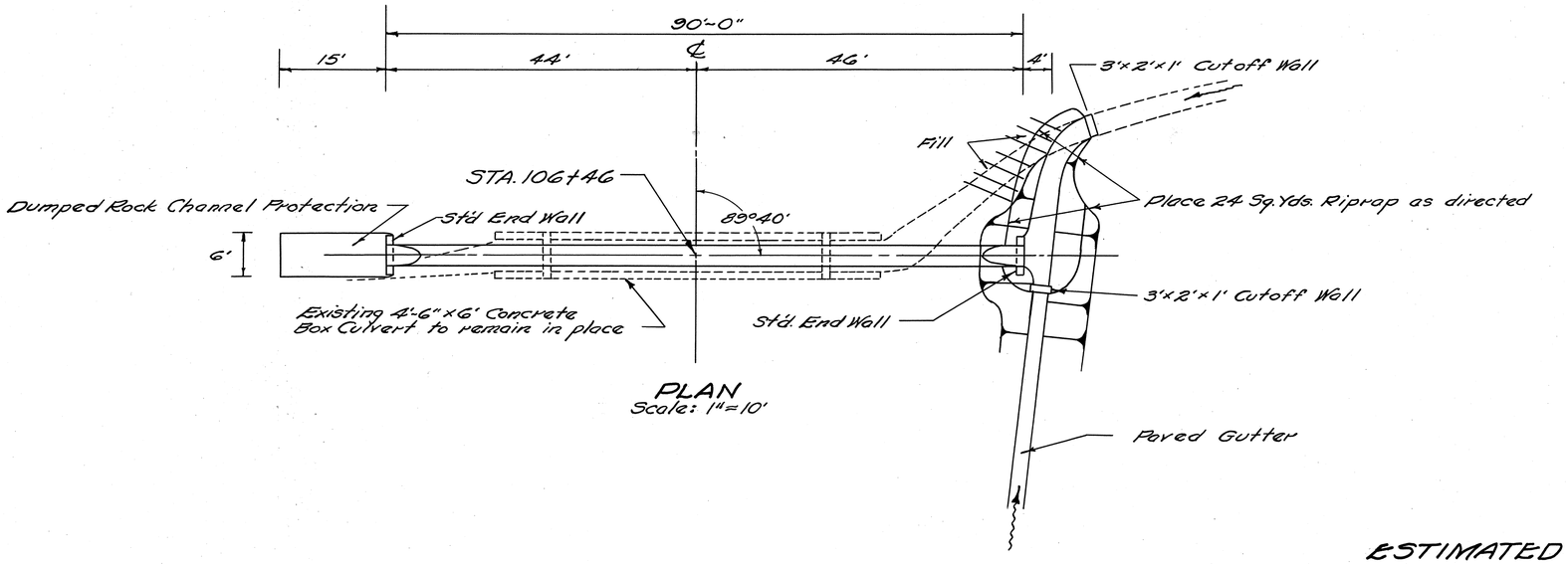
BEL-149-0172

STA. 89+18
18"x64' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

58
77

BEL-149-(0.70-2.83)

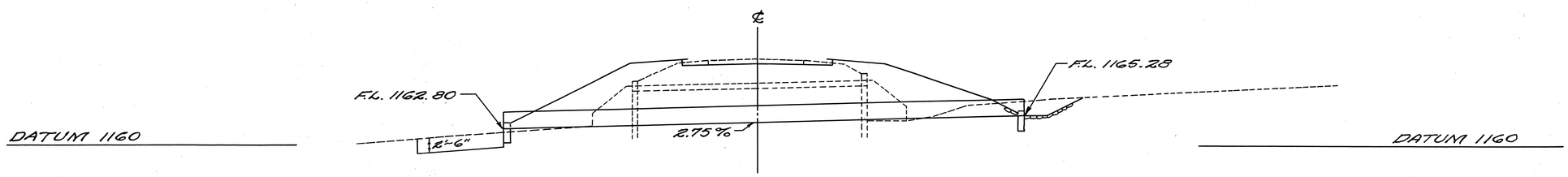


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

36" Pipe for Roadway Culverts Sec. M-6.4(d) Gage 12		90 L.F.
Excavation for Structures		11 C.Y.
Concrete for Structures Class "E"		1.2 C.Y.
Riprap		24 S.Y.
Dumped Rock Channel Protection		9 C.Y.

Area: 15 acres
Q25: 37 cfs



1175.29
106+46
1175.04

CROSS SECTION
Scale: 1"=10'

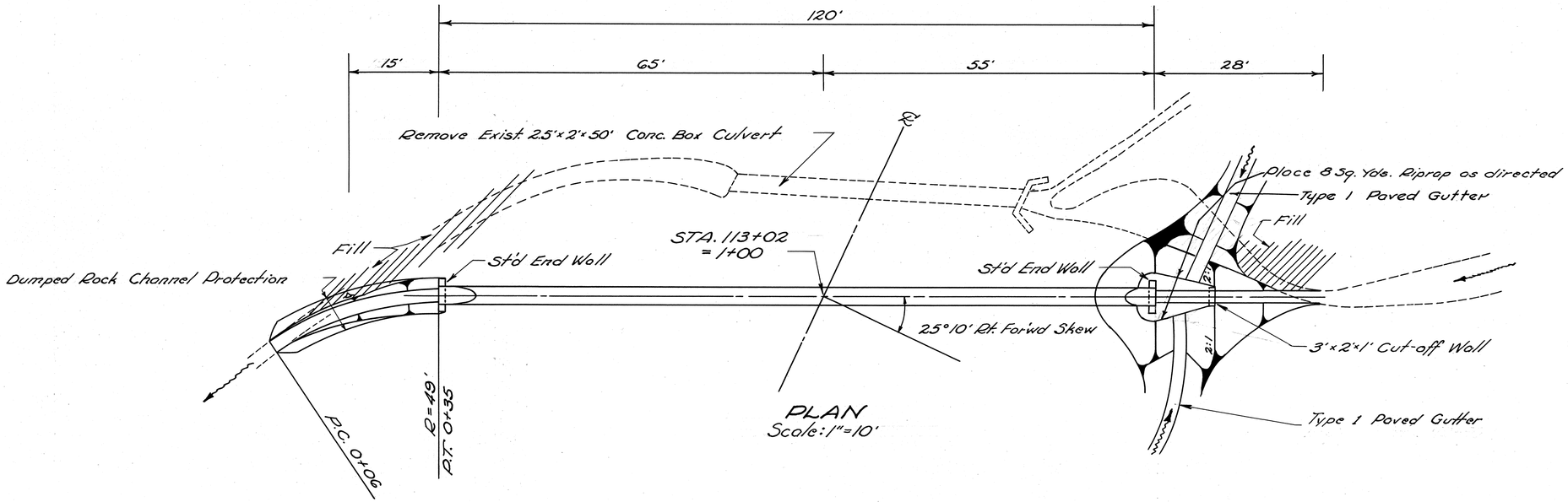
BEL-149-0204

STA. 106+46
36"x90' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

59
77

BEL-149-(0.70-2.83)

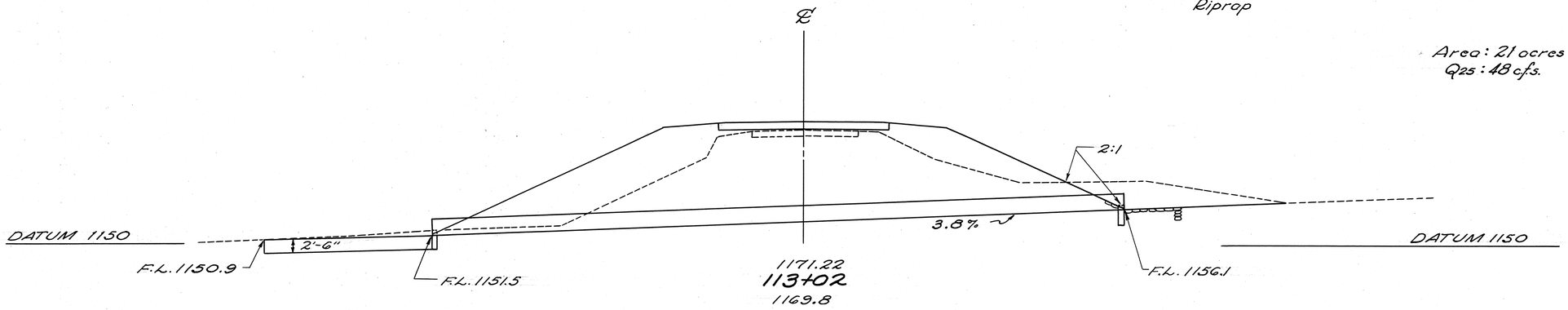


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

36" Pipe for Roadway Culverts, Sec. M6.6(c) or Sec. M6.4(d) Gage 12	120 L.F.
Excavation for Structures	188 Cu. Yds.
Channel Excavation	19 Cu. Yds.
Concrete for Structures "Class E"	1.2 Cu. Yds.
Dumped Rock Channel Protection	16 Cu. Yds.
Removal of Portions of Existing Structures	14.7 Cu. Yds.
Riprap	8 Sq. Yds.

Area: 21 acres
Q25: 48 c.f.s.



CROSS SECTION
Scale: 1"=10'

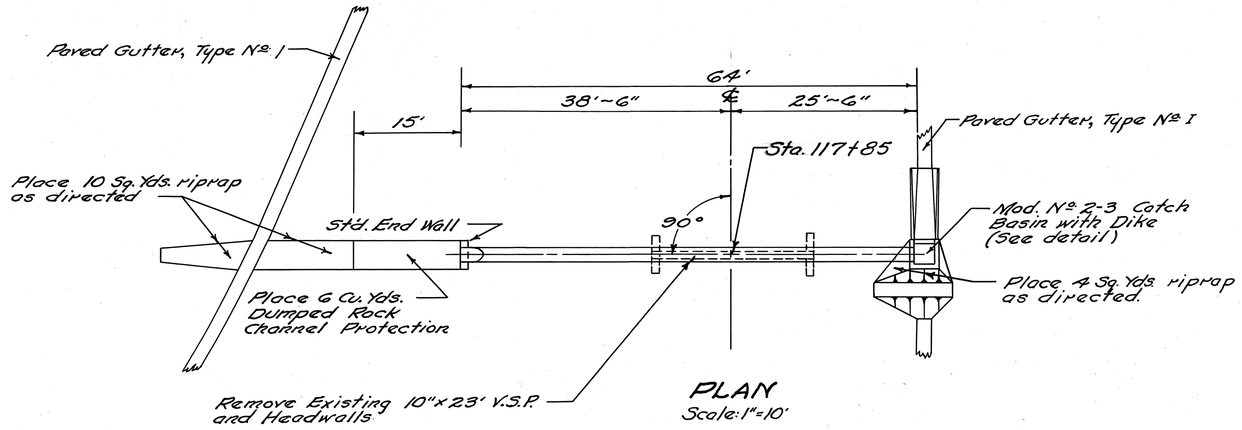
BEL-149-0217

STA. 113+02
36" x 120' PIPE CULVERT

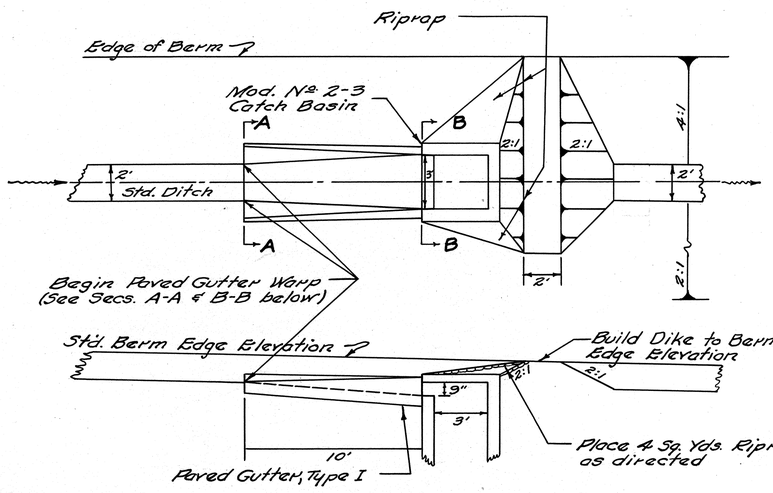
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

60
77

BE-L-149-(0.70-2.83)

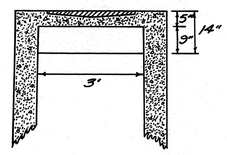


PLAN
Scale: 1"=10'



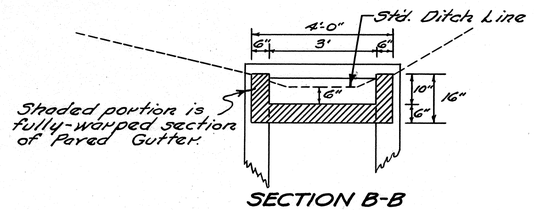
MOD. No. 2-3 C.B. with DIKE
Scale: 1/4"=1'

NOTE: Std. Concrete Cutoff Wall shall be constructed at the beginning of each run of Paved Gutter.

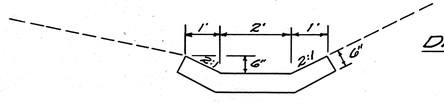


MOD. No. 2-3 CATCH BASIN
Scale: 1/2"=1'

NOTE: Three Elevations will be shown on all Catch Basins:
1. Pipe inlet F.L.
2. Window F.L.
3. Top of Grate Inlet - This will always be 1.17' above window F.L.



SECTION B-B

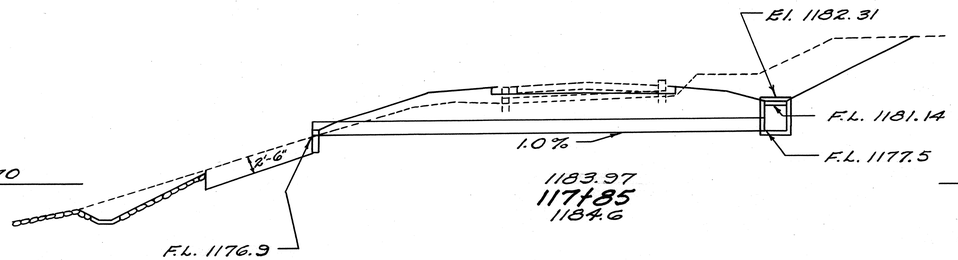


SECTION A-A
Scale: 1/2"=1'

ESTIMATED QUANTITIES

24" Pipe for Roadway Culverts	64 L.F.
Mod. No. 2-3 Catch Basin	1 Each
Excavation for Structure	40 C.Y.
Concrete for Structures Class "E"	0.4 C.Y.
Dumped Rock Channel Protection	6 C.Y.
Riprap	14 S.Y.
10" Pipe Removed V.S.P.	23 L.F.
Removal of Portions of Existing Structures	2 C.Y.

Area: 5 acres
Q 25: 16 cfs



CROSS SECTION
Scale: 1"=10'

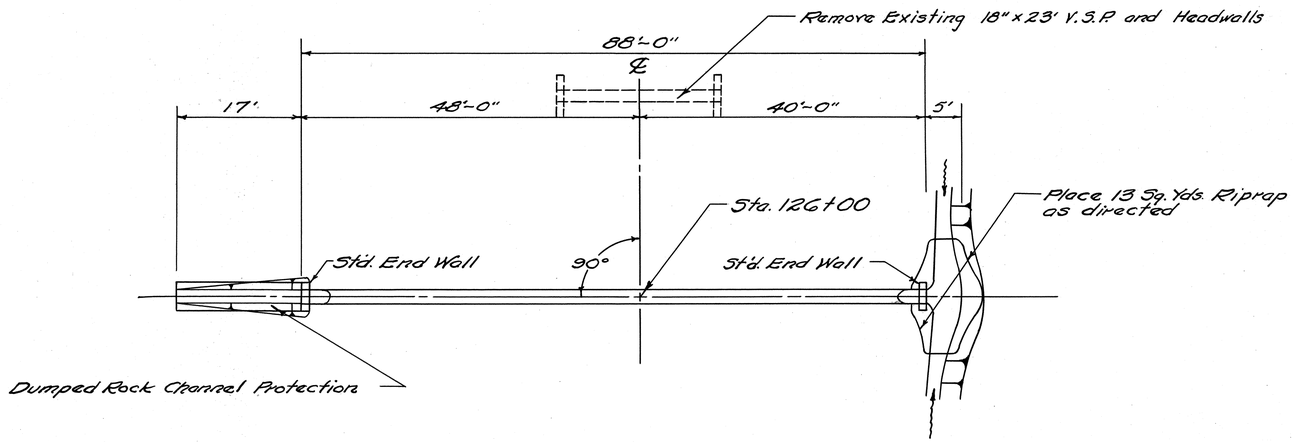
BEL-149-0226

STA. 117+85
24"x 64' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

61/77

BEL-149-(0.70-2.83)

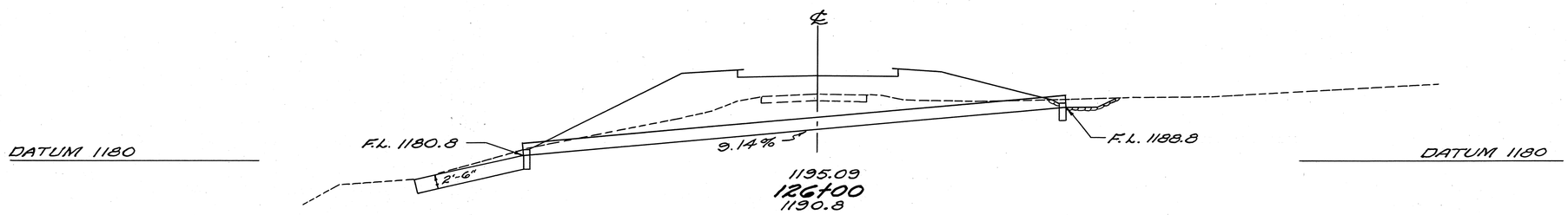


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

24" Pipe for Roadway Culverts, Sec. M-6.4 (d)	88 L.F.
Excavation for Structure	56 C.Y.
Concrete for Structure Class "E"	0.8 C.Y.
Dumped Rock Channel Protection	7 C.Y.
Riprap	13 S.Y.
18" Pipe Removed V.S.P.	23 L.F.
Removal of Portions of Existing Structures	2 C.Y.

Area: 5 acres
Q25: 18 cfs



CROSS SECTION
Scale: 1"=10'

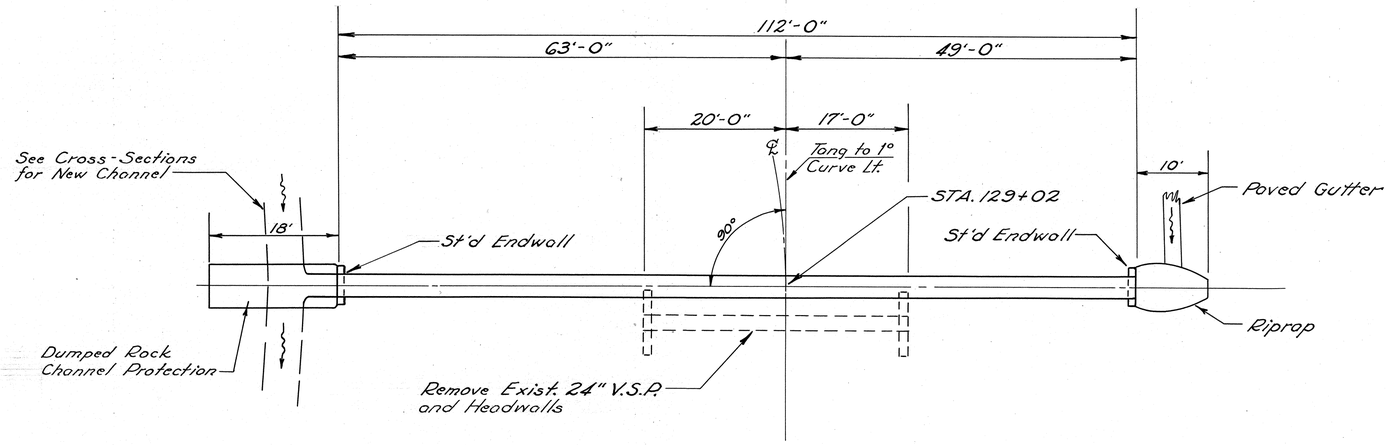
BEL-149-0241

STA. 126+00
24" x 88' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

62
77

BEL-149-(0.70-2.83)

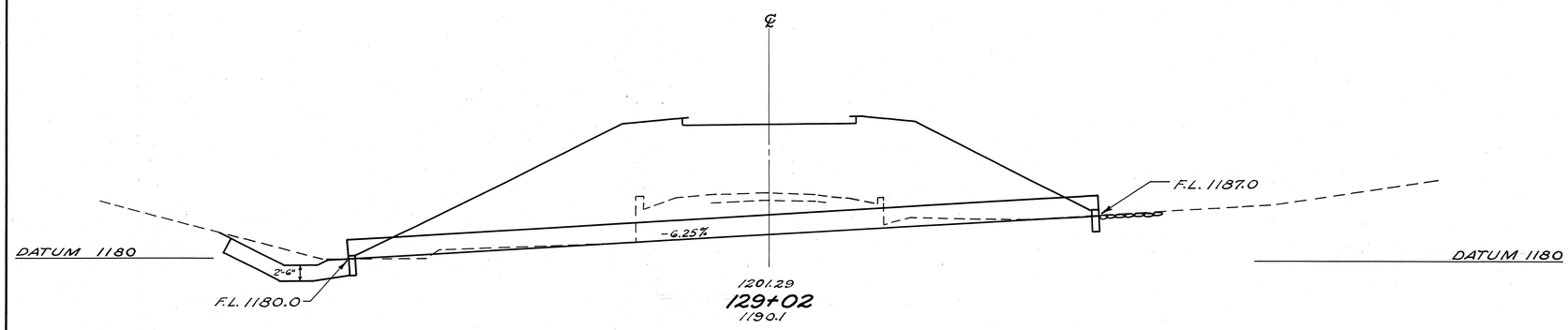


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

36" Pipe for Roadway Culvert ~ Sec. M6.6(c) or Sec. M6.4(d), Gage 12	112 Lin. Ft.
Concrete for Structures (Class "E")	1.2 Cu. Yds.
Excavation for Structure	63 Cu. Yds.
Removal of Existing 24" V.S.P.	37 Lin. Ft.
Removal of Portions of Existing Structures	5 Cu. Yds.
Dumped Rock Channel Protection	10 Cu. Yds.
Riprap	5 Sq. Yds.

Area: 13 acres
Q25: 34 c.f.s.



CROSS SECTION
Scale: 1"=10'

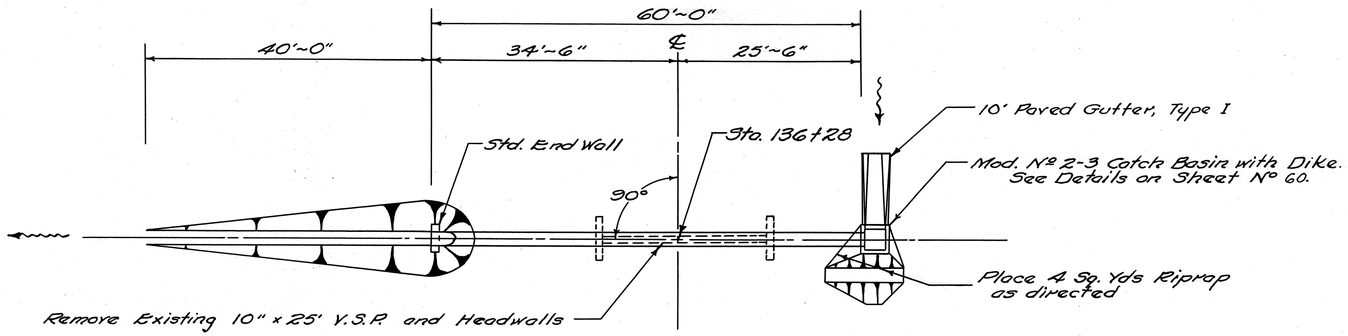
BEL-149-0247

STA. 129+02 ~ 36"×112' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

G3
77

BEL-149-(0.70-2.83)

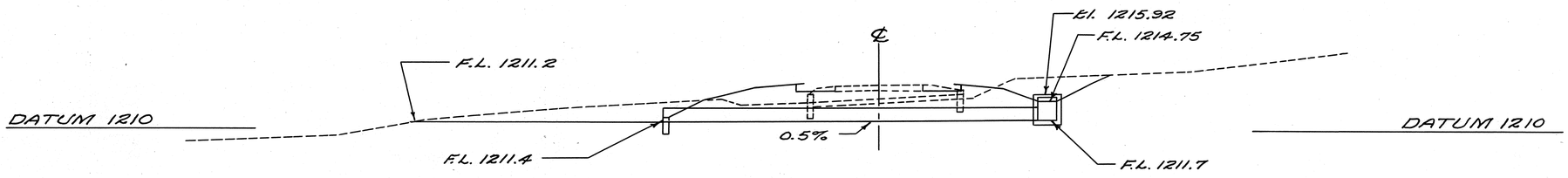


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

18" Pipe for Roadway Culverts	60 L.F.
Mod. Nº 2-3 Catch Basin	1 Each
Concrete for Structures Class "E"	0.3 C.Y.
Excavation for Structure	30 C.Y.
Channel Excavation	21 C.Y.
Riprap	4 S.Y.
Paved Gutter	10 L.F.
10" Pipe Removed V.S.P.	25 L.F.
Pavement Removal	11 S.Y.
Pavement Replacement	11 S.Y.
Removal of Portions of Existing Structures	2 C.Y.

Area: 3 acres
Q25: 12 cfs



136+28
1217.4

CROSS SECTION
Scale: 1"=10'

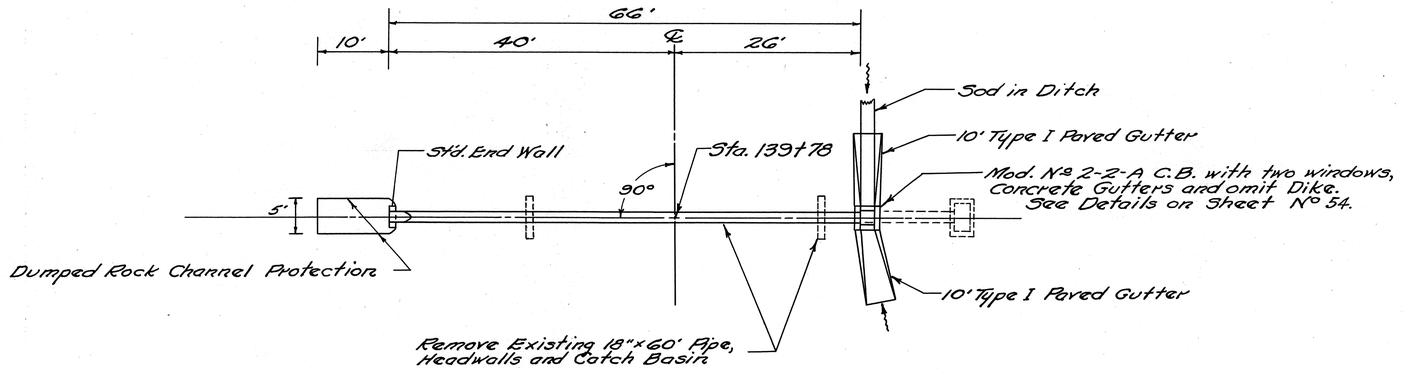
BEL-149-0261

STA. 136+28
18"x60' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

64
77

BEL-149-(0.70-2.83)

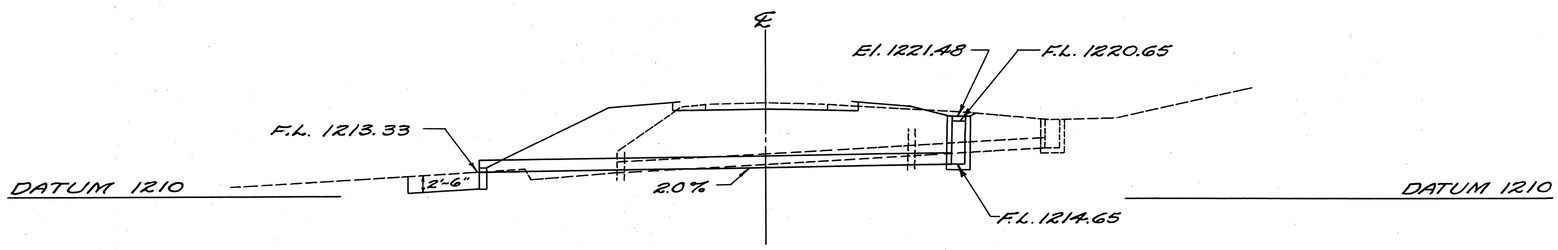


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

18" Pipe for Roadway Culverts	66 L.F.
Excavation for Structures	25 C.Y.
Concrete for Structures Class "E"	0.3 C.Y.
Mod. Nº 2-2-A Catch Basin	1 Each
Dumped Rock Channel Protection	5 C.Y.
18" Pipe Removed	60 L.F.
Removal of Portions of Existing Structures	4 C.Y.
Paved Gutter	20 L.F.
Pavement Removal	14 S.Y.
Pavement Replacement	14 S.Y.

Area: 6 acres
Q25: 20 cfs



1223.59
139+78
1223.2

CROSS SECTION
Scale: 1"=10'

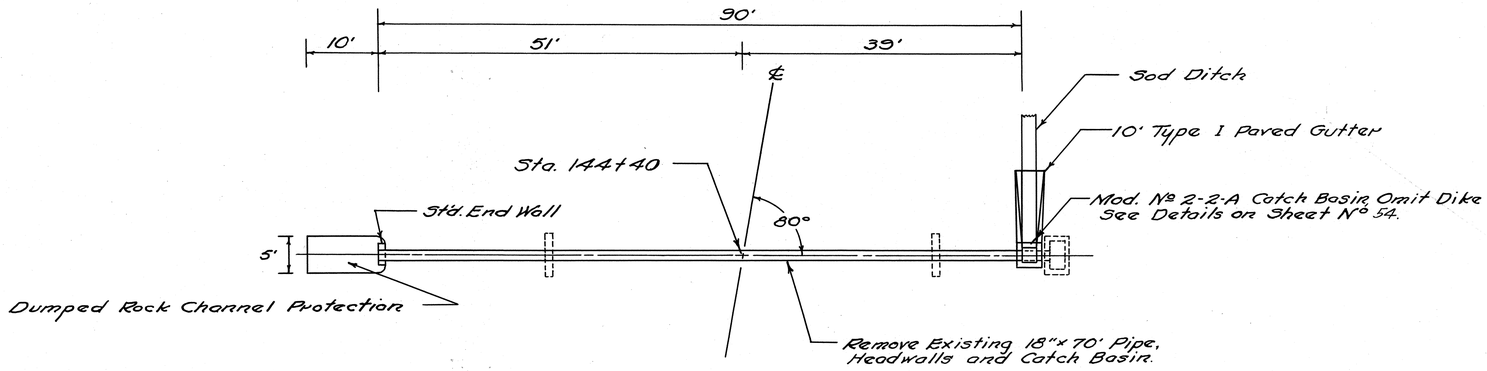
BEL-149-0268

STA. 139+78
18"x66' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

G5
77

BEL-149 ~ (0.70-2.83)

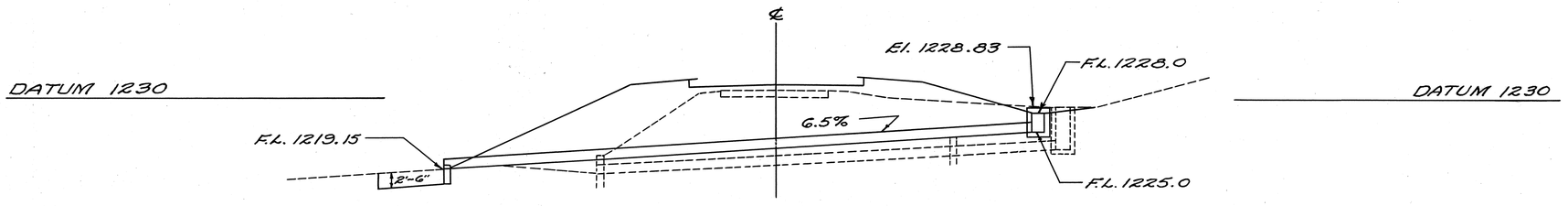


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

18" Pipe for Roadway Culverts	90 L.F.
Excavation for Structures	27 C.Y.
Concrete for Structures Class "E"	0.3 C.Y.
Mod. № 2-2-A Catch Basin	1 Each
Dumped Rock Channel Protection	5 C.Y.
18" Pipe Removed	70 L.F.
Removal of Portions of Existing Structures	5 C.Y.
Paved Gutter, Type I	10 L.F.

Area: 30 acres
Q25: 11 cfs



1233.37
144+40
1231.3

CROSS SECTION
Scale: 1"=10'

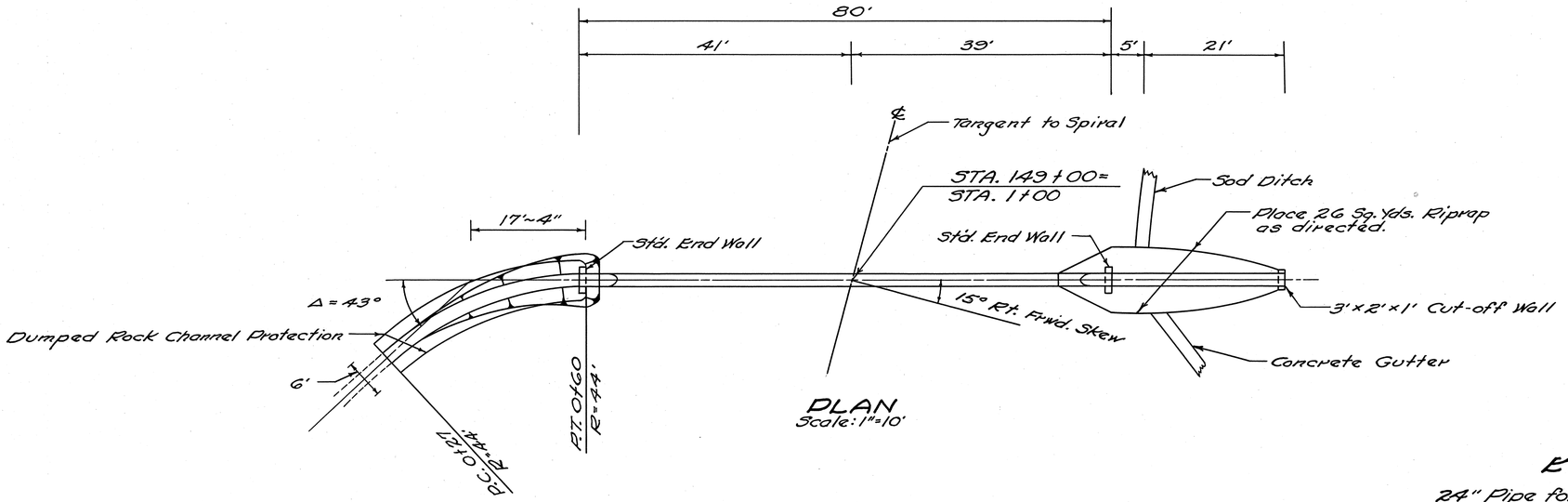
BEL-149-0276

STA. 144+40
18" x 90' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

66
77

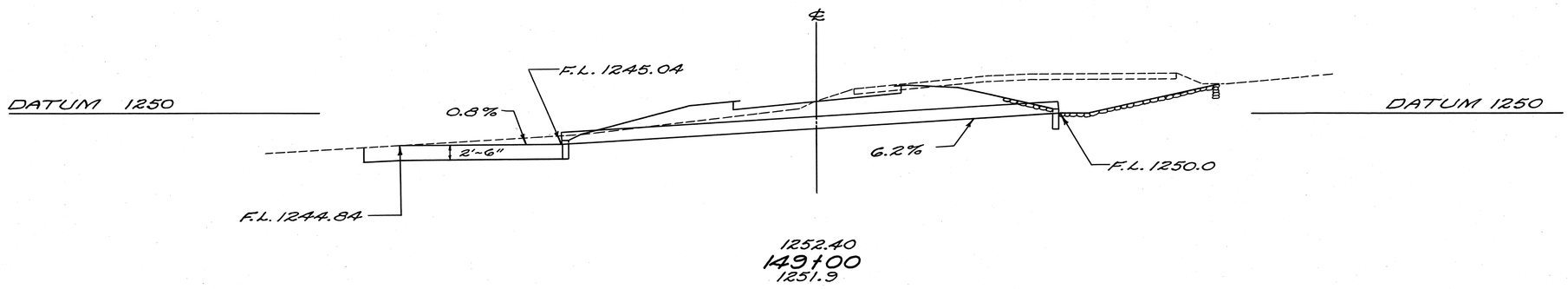
BEL-149-(0.70-2.83)



ESTIMATED QUANTITIES

24" Pipe for Roadway Culverts, Sec. M-6.8(b)	80 L.F.
Excavation for Structures	58 C.Y.
Concrete for Structures Class "E"	0.8 C.Y.
Dumped Rock Channel Protection	18 C.Y.
Channel Excavation	4 C.Y.
Riprap	26 S.Y.

Area : 6 acres
Q_{25} : 20 cfs



CROSS SECTION
Scale: 1" = 10'

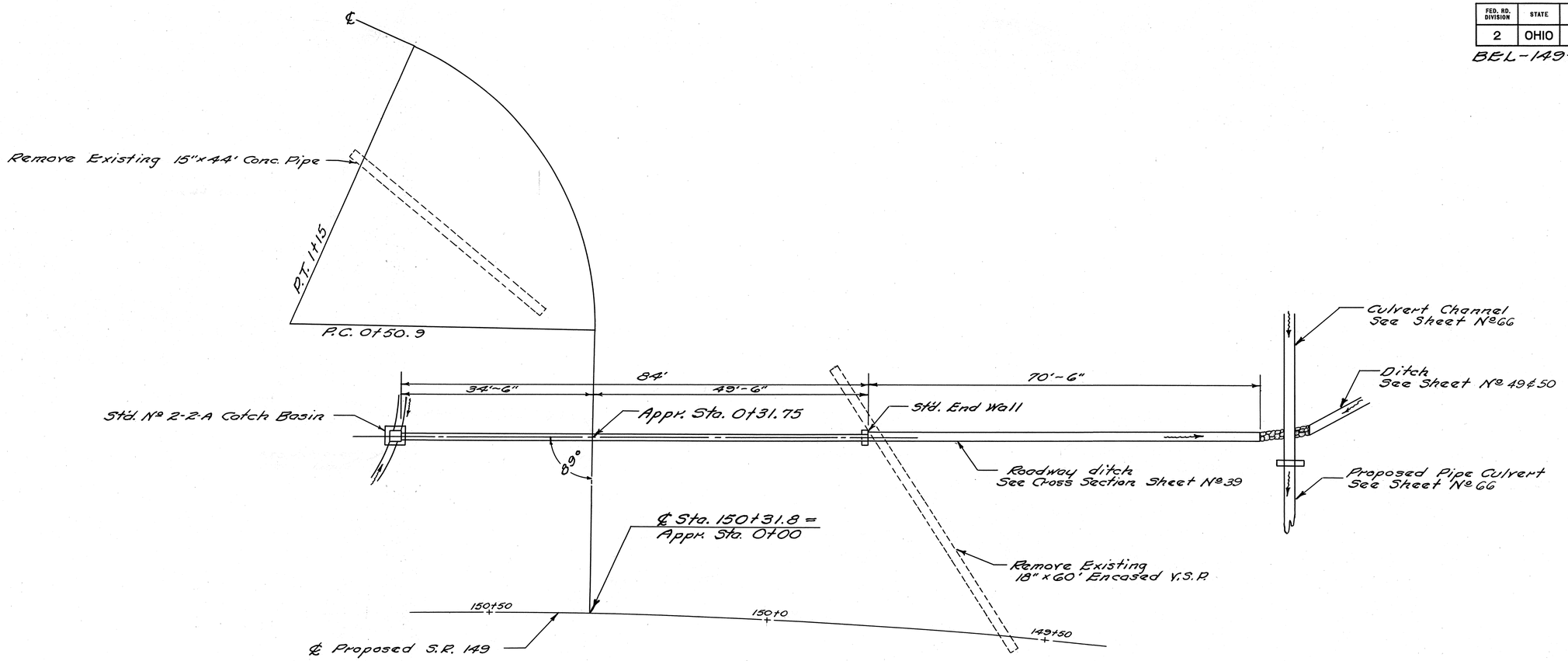
BEL-149-0285

STA. 149+00
24"x80' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

67
77

BEL-149-(0.70-2.83)

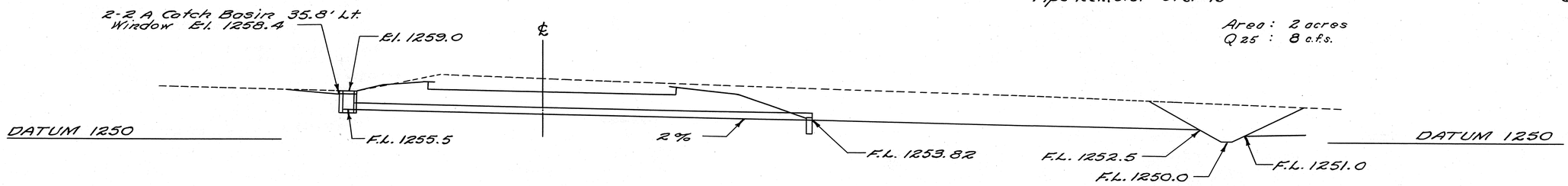


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

15" Pipe for Roadway Culverts, Sec. M-6.8(b)	84 L.F.
Std. N° 2-2-A Catch Basin	1 Each
Concrete for Structures Class "E"	0.3 C.Y.
Excavation for Structure	40 C.Y.
Pipe Removal 15" and under	44 L.F.
Pipe Removal over 15"	60 L.F.

Area: 2 acres
Q25: 8 c.f.s.



1260.54
0+31.75
1261.3

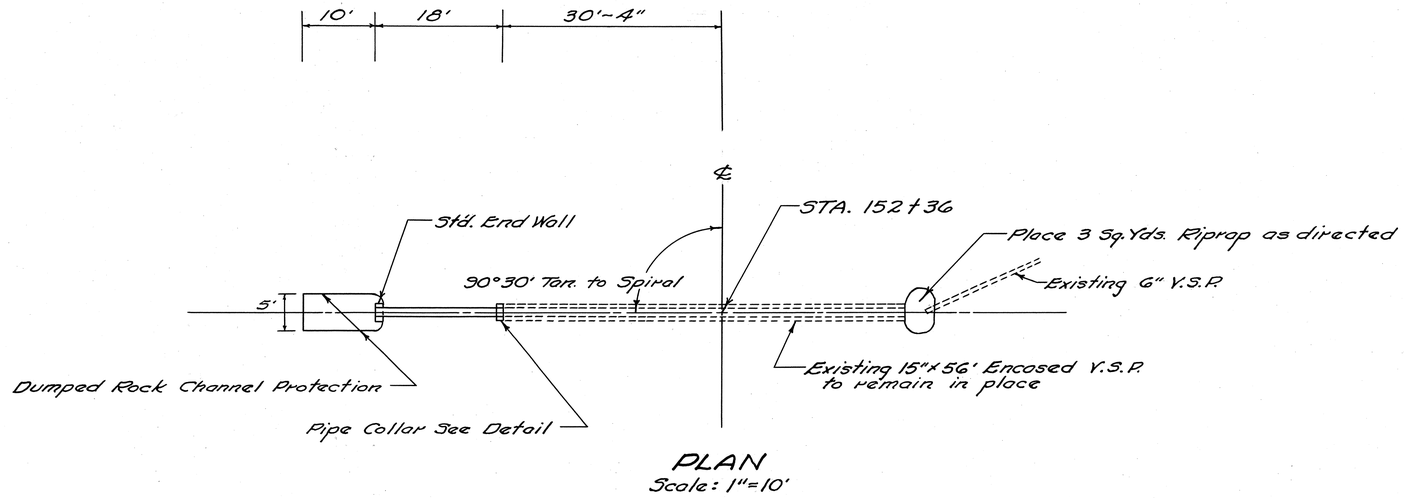
CROSS SECTION
Scale: 1"=10'

APPR. STA. 0+31.75 (℄ STA. 150+31.8 RT.) 15"x84' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

68
77

BEL-149-(0.70-2.83)

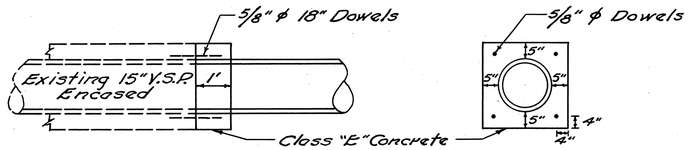


PLAN
Scale: 1"=10'

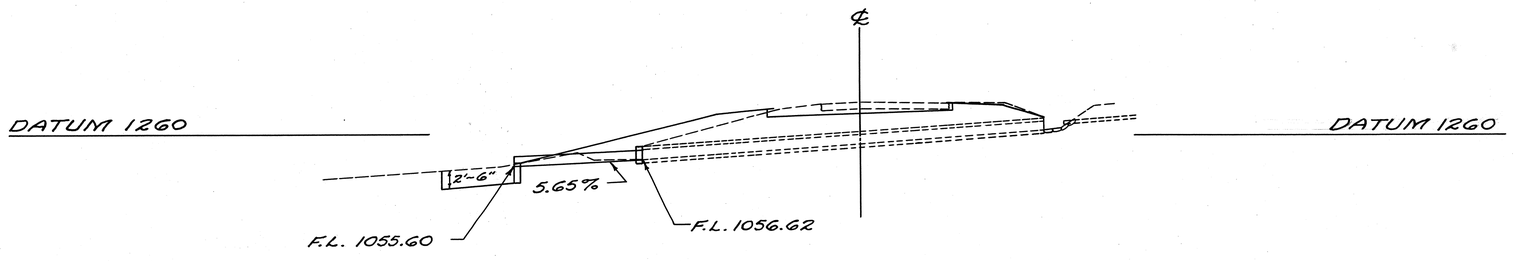
ESTIMATED QUANTITIES

15" Pipe for Roadway Culverts, Sec. M-6.8(b)	18 L.F.
Excavation for Structures	4 C.Y.
Concrete for Structures Class "E"	0.4 C.Y.
Dumped Rock Channel Protection	5 C.Y.
Dowel Holes	3 L.F.
Reinforcing Steel	10 Lbs.*
Riprap	3 S.Y.

* Includes 4 Lbs. for test Samples



DETAIL OF CONNECTING COLLAR
Scale: 1/2"=1'



1263.85
152+36
1264.6

CROSS SECTION
Scale: 1"=10'

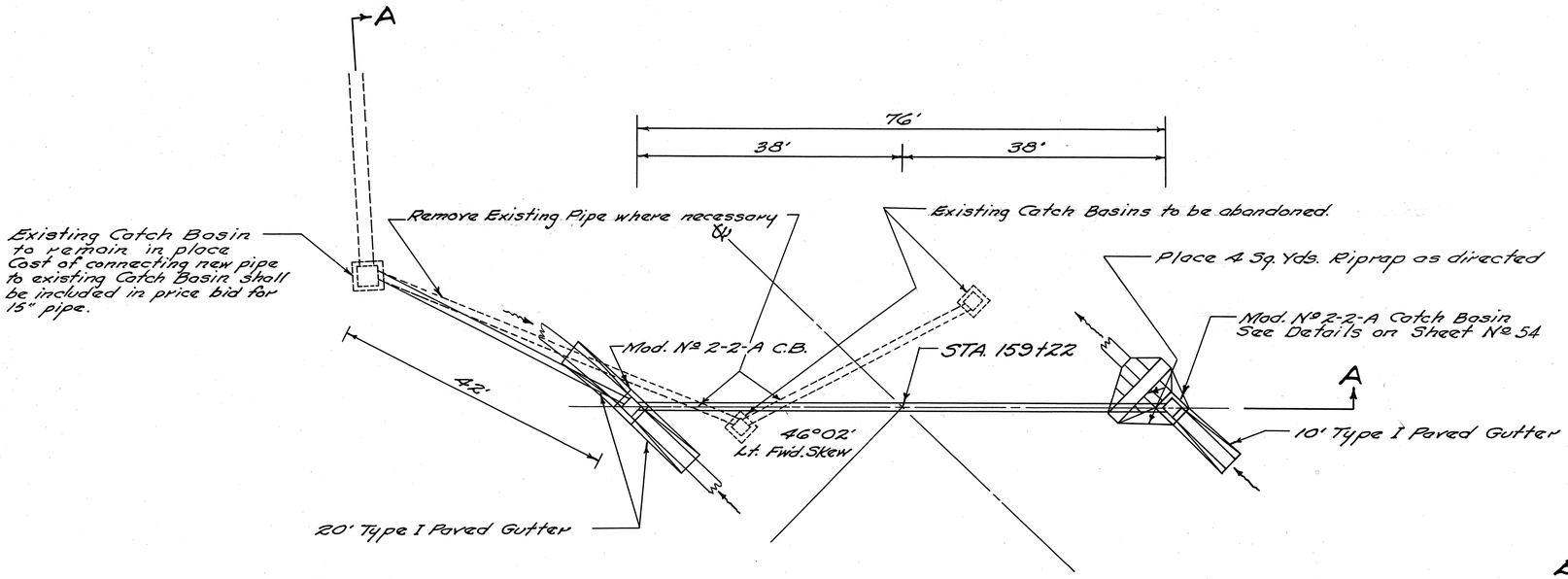
BEL-149-0291

STA. 152+36
15"x18' PIPE CULVERT EXTENSION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BEL-149-(0.70-2.83)

69
77

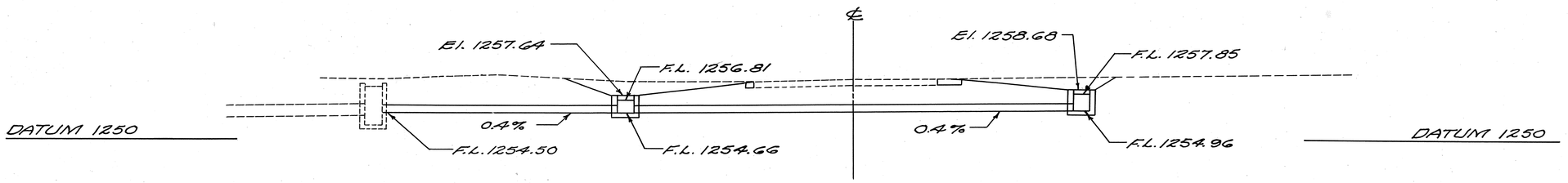


PLAN
Scale: 1"=10'

ESTIMATED QUANTITIES

15" Pipe for Roadway Culverts Sec. M-6.8(b) or Sec. M-6.6(b)	118 L.F.
Excavation for Structures	58 C.Y.
Mod. Nº 2-2-A, Catch Basin	2 Each
Riprap	4 S.Y.
Paved Gutter	30 L.F.
15" Pipe Removed	50 L.F.
Catch Basins, Abandoned	2 Each
Pavement Removal	20 S.Y.
Pavement Replacement	20 S.Y.

Area : 1 acre
Q25 : 4 cfs



SECTION A-A
Scale: 1"=10'

BEL-149-0304

STA. 159+22
15"×118' PIPE CULVERT

SUMMARY OF ADDITIONAL R/W REQUIRED

Parcel Nº	OWNER	Area Acres	Exist Bldg.	Sheet Nº	Remarks
1	Joseph Skinner	0.25	-	1	
2	William A. & Edna M. Palmer	0.53	-	1	
3	Jeffrey Groves	0.18	Yes	1	
4	Charles W. Chare & William E. Hathaway	1.23	-	1-2-3	
5	Frank Y. & Bertha M. Shry Groves	1.72	-	1-2-3	
6	John L. & Sophia Sullivan	0.05	-	3	
7	Maude M. Jobes	4.45	Yes	3-4	
8	Joseph W. & Florence Stenger	0.27	-	4	
9	Alfred R. & Ruth P. Dunlap	1.84	-	4-5	
10	Glenn N & Ann W. Burns	0.17	-	4	
11	C.A. Ramsey	0.27	-	4-5	
12	John E. & Esther L. Rogerson	0.10	-	5	
13	James & Faye Dimitro	0.09	-	5	
14	John T. & Ruth V. Shipely	0.05	-	5	
15	Joseph E & Elsie H. Shipe	1.12	-	5-6	
16	C.A. Ramsey	0.90	-	5-6	
17	John Wonski	1.53	Yes	6-7	
17-X	"	0.13	-	6	
17-Y	"	0.27	-	6-7	
17-Z	"	0.02	-	7	
18	Dewey L. Bond	0.45	Yes	6	
18-X	"	0.05	-	6	
19	Albert A. & Orpha P. Kratz	1.10	Yes	6-7	
20	Dewey L. Bond	0.09	-	7	
21	The Board of Education of Union Local School District	0.28	-	7-8	
22	Robert G. & Patricia A. Brukin	0.21	Yes	7	
23	Jacob L. & Ledria L. Durigg	0.65	Yes	7-8	
24	Hector Leone	0.51	-	8	
25	State of Ohio			8	

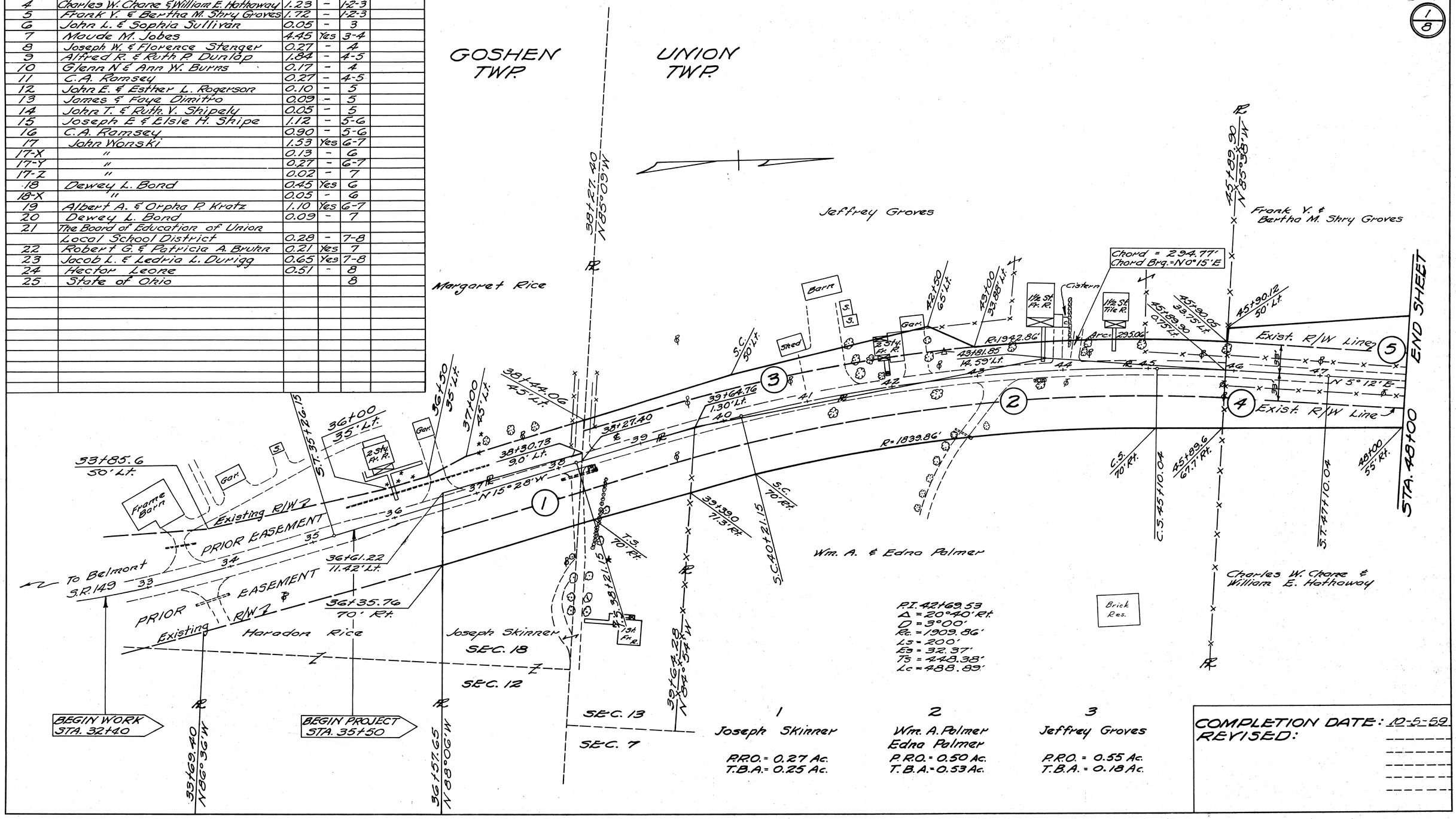
GOSHEN TWP.-SEC. 18-T.7-R.5 - UNION TWP.-SEC. 13-T.8-R.5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

70/77

R/W PLANS
BEL-149-(0.70-2.83)
LENGTH OF PROJECT-2.352 Mi.

1/8



1	2	3
Joseph Skinner	Wm. A. Palmer Edna Palmer	Jeffrey Groves
R.R.O. = 0.27 Ac. T.B.A. = 0.25 Ac.	R.R.O. = 0.50 Ac. T.B.A. = 0.53 Ac.	R.R.O. = 0.55 Ac. T.B.A. = 0.18 Ac.

COMPLETION DATE: 10-5-59
REVISED:

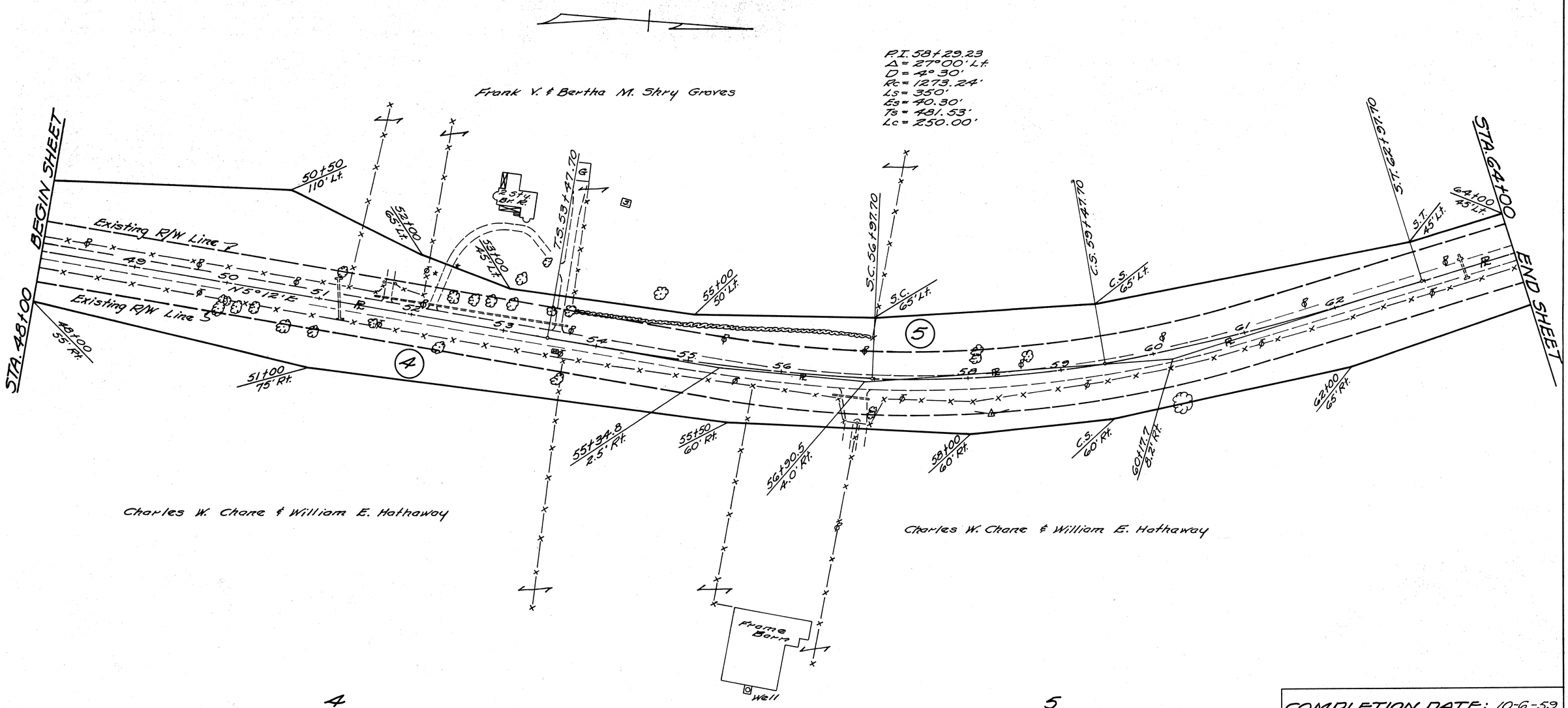
UNION TWP. ~ SEC. 13 ~ T. 8 ~ R. 5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

71/77

BEL-149-(0.70-2.83)

2/8



4
Charles W. Chane
William E. Hathaway
P.R.O = 1.48 Ac.
T.B.A = 1.23 Ac.

5
Frank V. Groves
Bertha M. Shry Groves
P.R.O = 1.40 Ac.
T.B.A. = 1.72 Ac.

COMPLETION DATE: 10-6-59
REVISED: _____
_____
_____
_____
_____

UNION TWP. ~ SEC. 13 ~ T. 8 ~ R. 5


Frank Y. & Bertha M. Shry Groves
Maude Jobes
Maude Jobes
John L. Sullivan
BEGIN SHEET
STA. 64+00
END SHEET
STA. 80+00
Twp. Road #262
64+89.80 N85°51'W
65+89.80 N85°51'W
N21°48'W
Existing R/W Line
Existing R/W Line
Existing R/W
65+75 260' Lt.
66+08.24 243.38' Lt.
66+25 235' Lt.
64+75 90' Lt.
64+00 45' Lt.
65+80 115' Lt.
66+00 65' Lt.
67+50 65' Lt.
69+00 55' Lt.
70+75 95' Lt.
73+50 60' Lt.
75+00 80' Lt.
77+00 69.2' Lt.
79+45.0 127.6' Lt.
66+00 70' Rt.
68+50 75' Rt.
69+00 50' Rt.
70+50 65' Rt.
71+50 65' Rt.
74+00 80' Rt.
75+00 50' Rt.
76+50 50' Rt.
79+50 100' Rt.
P.C. 78+88.83
65+58.72 63.87' Rt.
64+65.47 50' Rt.
64+63.03 55' Rt.
2 St. Br. Res.
1 Sty. Fr. Res.
Cistern
Cistern
Well
Well
Frame Barn
Silo
Corn Crib
Gar.

6	7
John L. Sullivan	Maude Jobes
P.R.O. = .08 Ac.	P.R.O. = 2.60 Ac.
T.B.A. = .05 Ac.	T.B.A. = 4.45 Ac.

COMPLETION DATE: 10-14-59
REVISED:

UNION TWP. ~ SEC. 13 & SEC. 14 ~ T. 8 ~ R. 5


Maude Jobes
Joseph W. & Florence L. Stenger
Glenn N. & Ann W. Burns
Alfred R. & Ruth P. Dunlap
Maude Jobes
BEGIN SHEET
STA. 80+00
END SHEET
STA. 96+00
Existing R/W
Existing R/W
N 9°02' W
N 12°07' W
N 55°20' W
N 34°43' E 83+13.33
N 85°48' W 92+06.69
N 85°33' W 96+04.88
R=605.96'
82+03.0 141.5' Lt.
R=605.96'
82+32.0 136.7' Lt.
83+10.56 3.42' Lt.
84+00.62 57.16' Lt.
83+84.85 5.24' Rt.
90+41.44 9.02' Lt.
89+80 50.7' Lt.
91+00 70' Lt.
92+10.18 11.92' Lt.
92+25.72 65' Lt.
P.C. 93+08.61
94+00 55' Lt.
95+08.61 11.94' Lt.
95+24.59 55' Lt.
82+50 110' Rt.
82+50 210' Rt.
82+63.05 225.94' Rt.
82+83 250' Rt.
83+50 225' Rt.
83+42.39 164.50' Rt.
84+50 85' Rt.
P.T. 100' Rt.
P.T. 86+15.08
87+00 135' Rt.
87+50 55' Rt.
90+00 45' Rt.
90+50 70' Rt.
91+00 70' Rt.
91+50 50' Rt.
95+00 55' Rt.
S 89°11' W
TWP. Road #163
P.I. 82+52.82
Δ = 9°41' Rt.
R = 4297.18'
D = 1°20'
T = 363.99'
E = 15.33'
L = 726.25'
P.I. 94+99.10
Δ = 5°35' Lt.
D = 1°28'
R = 3906.53'
E = 4.64'
T = 190.49'
L = 380.68'
Res.
Spring
Septic Tanks
Shrubs
2 St. Fr. Res.
Well
1 St. Metal Build.
Frame Barn
Gar.
Milk House
Pig Sty
Corn Crib
SECTION 13
SECTION 14
7
8
8
9
10
11

8	9	10
Joseph W. Stenger	Alfred R. Dunlap	Glenn N. Burns
Florence L. Stenger	Ruth P. Dunlap	Ann W. Burns
P.R.O. = 1.00 Ac.	P.R.O. = 1.16 Ac.	P.R.O. = 0.13 Ac.
T.B.A. = 0.27 Ac.	T.B.A. = 1.84 Ac.	T.B.A. = 0.17 Ac.

COMPLETION DATE: 10-19-59
REVISED:

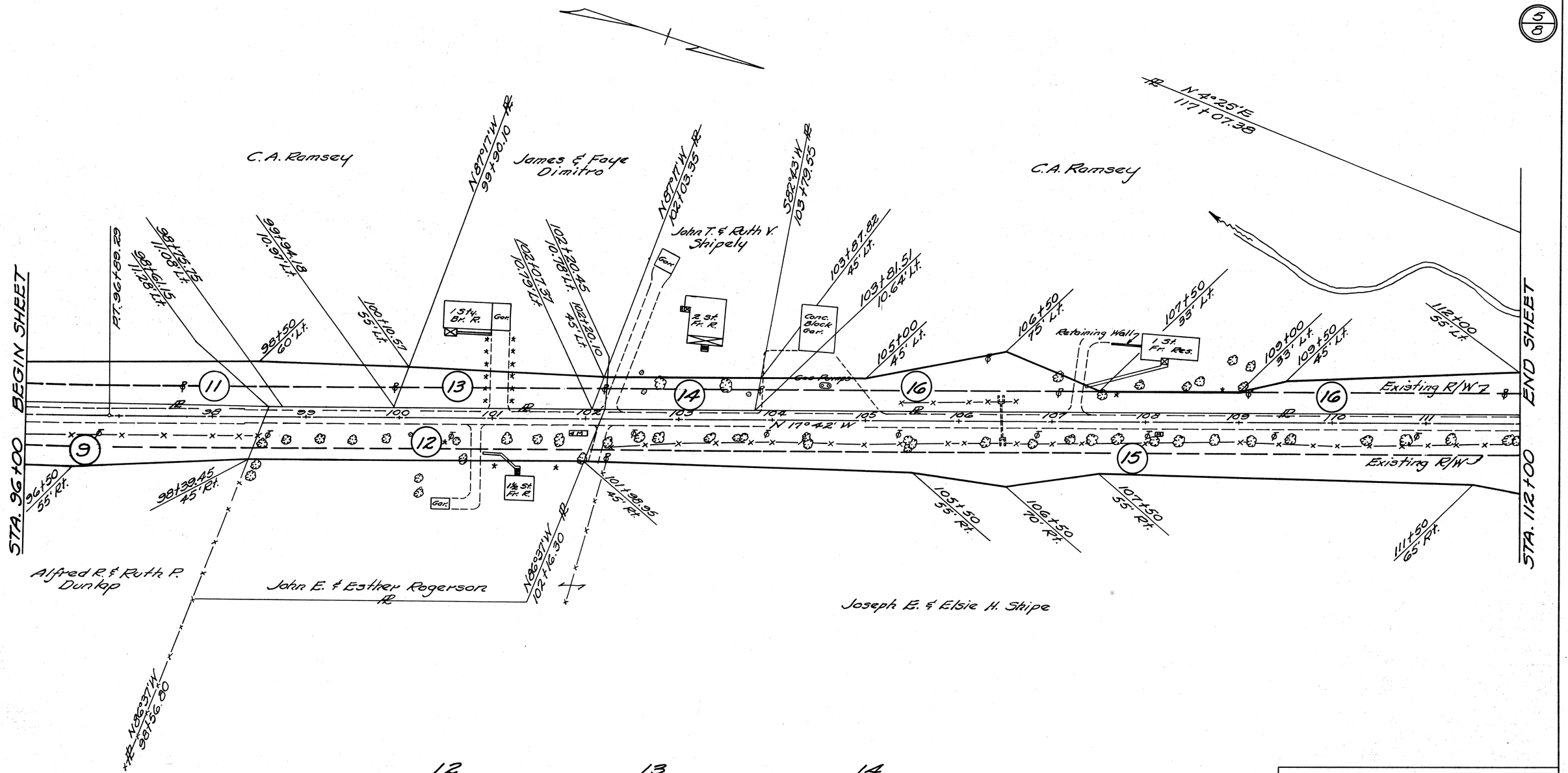
UNION TWP. - SEC. 14 - T.8 - R.5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BEL-149-(0.70-2.83)

14/77

5/8



11 - 16
C.A. Romsey
- 11 P.R.O = 0.22 Ac.
- 11 T.B.A = 0.27 Ac.
- 16 P.R.O = 0.65 Ac.
- 16 T.B.A = 0.90 Ac.

12
John E. Rogerson
Esther Rogerson
- P.R.O = 0.38 Ac.
- T.B.A = 0.10 Ac.

13
James Dimitro
Faye Dimitro
- P.R.O. = 0.11 Ac.
- T.B.A. = 0.09 Ac.

14
John T. Shipely
Ruth V. Shipely
- P.R.O. = 0.09 Ac.
- T.B.A. = 0.05 Ac.

COMPLETION DATE: 10-21-52
REVISED:

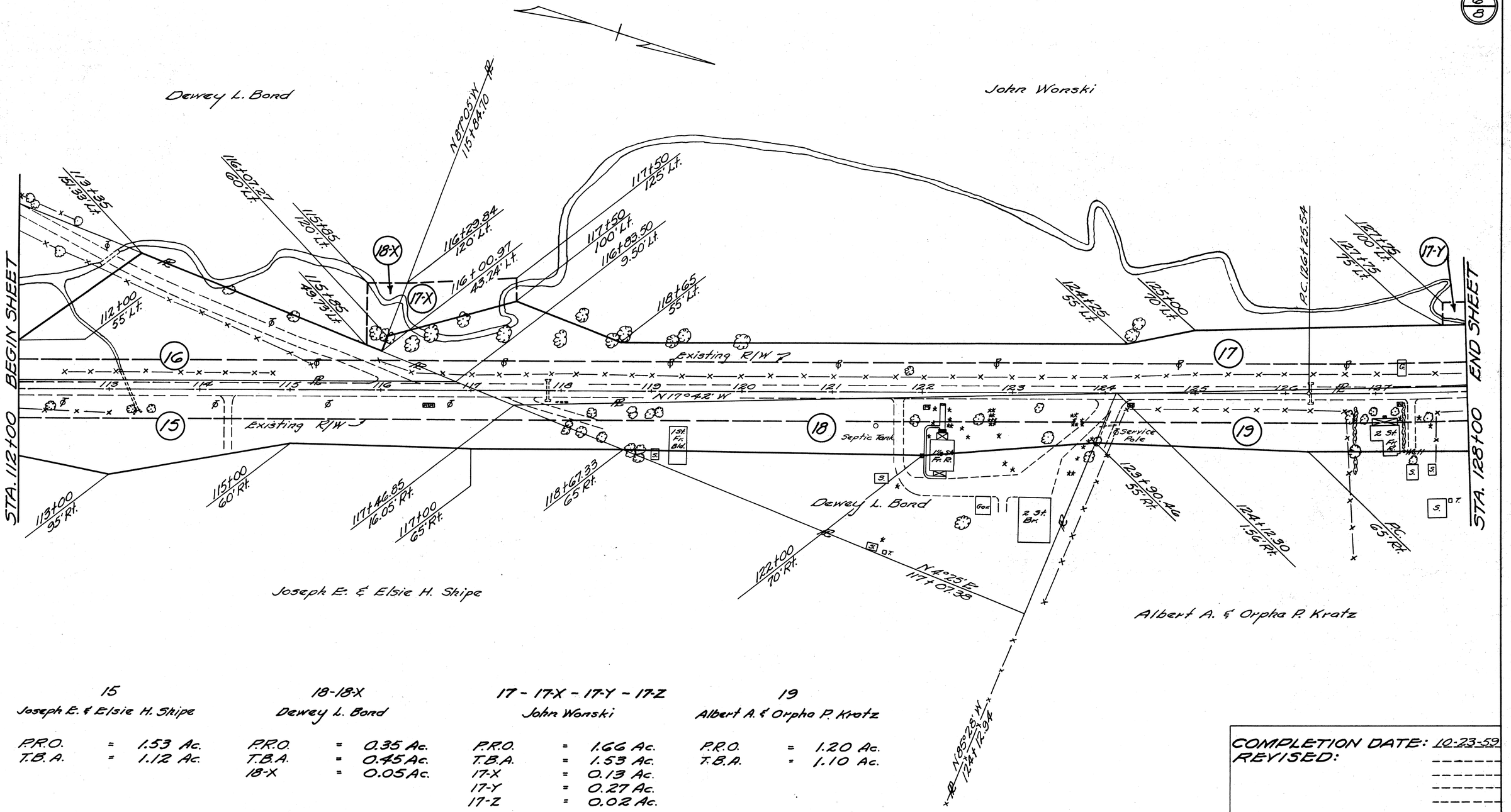
UNION TWP. - SEC. 14 - T.8 - R.5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

75
77

BEL-149-(0.70-2.83)

6
8



15	18-18-X	17 - 17-X - 17-Y - 17-Z	19
Joseph E. & Elsie H. Skipe	Dewey L. Bord	John Wonski	Albert A. & Orpho P. Kratz
P.R.O. = 1.53 Ac.	P.R.O. = 0.35 Ac.	P.R.O. = 1.66 Ac.	P.R.O. = 1.20 Ac.
T.B.A. = 1.12 Ac.	T.B.A. = 0.45 Ac.	T.B.A. = 1.53 Ac.	T.B.A. = 1.10 Ac.
	18-X = 0.05 Ac.	17-X = 0.13 Ac.	
		17-Y = 0.27 Ac.	
		17-Z = 0.02 Ac.	

COMPLETION DATE: 10-23-59
REVISED:

UNION TWP. - SEC. 14 - T. 8 - R. 5

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BEL-149-(0.70-2.83)

76
77

7
8

P.I. 130+52.16
Δ = 8°31' Lt.
D = 1°00'
R = 5729.58'
E = 15.86'
T = 426.62'
L = 851.67'

John Wonski

Lake

N85°30'W
137+63

Dewey L. Bond

Hector Leone

Jacob L. & Ledwig Durigg

Robert G. & Patricia A. Bruhn

S63°42'W
141+96

BEGIN SHEET
STA. 128+00

END SHEET
STA. 144+00

129+00
100' Lt.

130+50
165' Lt.

130+50
75' Lt.

133+50
60' Lt.

P.T. 134+77.71

R.T.
40' Lt.

136+20
80' Lt.

136+20
46.79' Lt.

136+40
80' Lt.

136+40
41.67' Lt.

137+95.68
55' Lt.

139+49.85
65' Lt.

141+95.90
70' Lt.

141+95.96
30' Lt.

17-Y

17-Z

17

19

20

22

23

21

Existing R/W

Stump

Res.

N26°13'W

Stumps

Barn

Corn Crib

130+38.73
0.96' Rt.

131+00
75' Rt.

132+50
50' Rt.

136+50
60' Rt.

137+60.67
3.93' Rt.

137+50
95' Rt.

139+06.53
7.92' Rt.

138+54.79
95' Rt.

140+00
45' Rt.

N85°30'W
139+11.23

Albert A. & Orpha P. Kratz

The Board of Education of Union Local School District

20	22	21
Dewey L. Bond	Robert G. & Patricia A. Bruhn	The Board of Education of Union Local School District
P.R.O. = 0.13 Ac.	P.R.O. = 0.21 Ac.	P.R.O. = 0.81 Ac.
T.B.A. = 0.09 Ac.	T.B.A. = 0.21 Ac.	T.B.A. = 0.28 Ac.

COMPLETION DATE: 10-23-59
REVISED:

UNION TWP. - SEC. 14 - T. 8 - R. 5

8/8

STA. 144+00 BEGIN SHEET
T.S. 144+54.95
T.S. 70' Lt.
T.S. 45' Rt.
Jacob L. & Ledria Durigg
Hector Leone
State of Ohio
P.I. 149+41.87
Δ = 33°15' Lt
D = 6°00'
Rc = 954.93'
Ls = 400'
Es = 48.93'
Ts = 486.92'
Lc = 154.17'
145+50 50' Lt.
145+98.8 28.7' Lt.
145+98.5 18.7' Lt.
N 3°05' E 149+45.03
S.C. 148+54.95
147+73.8 16.2' Lt.
148+22.8 11' Lt.
C.S. 150+09.12
148+82.75 60' Lt.
149+18.17 16.04' Lt.
149+29.61 15.97' Lt.
150+88.8 26.2' Lt.
153+50 70' Lt.
S.T. 154+09.12
S.T. 40' Lt.
158+33.14 60' Rt.
T.S. 40' Rt.
T.S. 60' Rt.
146+99.8 23.8' Lt.
146+99.1 13.8' Lt.
146+94.6 45.8' Rt.
147+65.4 53.2' Rt.
149+74.31 63.40' Rt.
R-542.96'
R-532.96'
R-612.96'
Septic Tank
Gar.
Stump
145
146
147
148
149
151
152
153
155
156
157
158
159
N 59°28' W
23
24
25
21
PRIOR EASEMENT
Existing R/W
Storage Bldg.
State Highway Garage
Service P.
Pump House
Frame Building
Res.
END PROJECT END WORK STA 159+71.44
To St. Clairsville
Existing U.S. 40
SECTION 14-T.8-R.5 ℄ N85°30'30"W 159+12.59
SECTION 15-T.8-R.5
The Board of Education of Union Local School District

23	24	25
Jacob L. & Ledria Durigg	Hector Leone	STATE OF OHIO
PRIOR EASEMENT T.B.A. = 0.65 Ac.	PRIOR EASEMENT T.B.A. = 0.51 Ac.	

COMPLETION DATE: 10-26-59

REVISED:

TE-54-A
200-1-58

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 116 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Stone fragments with sand	A-1-b(0)	A-1-b	47	9	27	9	8	NP	NP	20	1
Stone fragments with sand and silt	A-2-4 (0)	A-2-4	46	8	19	13	14	26	4	14	6
Sandy silt	A-4 (3)	A-4a	16	8	23	28	25	22	6	18	18
Silt	A-4 (8)	A-4b	0	3	6	59	32	30	6	26	16
Silt and clay	A-6 (7)	A-6a	11	7	13	36	33	34	12	20	29
Silty clay	A-6 (8)	A-6b	25	5	8	28	34	37	17	20	3
Elastic clay	A-7-5 (16)	A-7-5	16	1	3	51	29	55	23	45	1
Clay	A-7-6 (13)	A-7-6	6	3	4	33	54	45	20	26	12
Overburden	VISUAL CLASSIFICATION										
Under clay	VISUAL CLASSIFICATION										4
Indurated clay	VISUAL CLASSIFICATION										1
Weathered indurated clay	VISUAL CLASSIFICATION										3
Clay bedrock	VISUAL CLASSIFICATION										
Coal	VISUAL CLASSIFICATION										4
Weathered shale	VISUAL CLASSIFICATION										12
Weathered sandstone	VISUAL CLASSIFICATION										11
Shale	VISUAL CLASSIFICATION										
Sandstone	VISUAL CLASSIFICATION										5

Auger boring-plan view

Drive sample-core boring-plan view.

Auger boring plotted to vertical scale only.

Water Content nearly equal to or greater than liquid limit.

Number of blows for "Standard Penetration" test.
Number of blows for the first 6 inches.
Number of blows for the second 6 inches.

NOTE: Figures beside borings indicate water content in percent, e.g. 15

Sod or Topsoil "A" Approximate depth.

Bern material

W Free water

Indicates a non-plastic material with high water content.

Samples Tested
Lab. Nos. Sa.
31690, 32769
32174-32282 incl.
32770, 32771
33359-33361 incl.

DRIVE SAMPLE SOIL TEST DATA

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
41+50 30'Rt.	5.0-6.0	15	1	24	25	35	29	6	14	A-4a
59+50 25'Lt.	5.0-6.0	Gray extremely weathered shale.							10	Visual
71+50 40'Lt.	5.0-6.0	29	3	2	24	42	39	12	22	A-6a
	10.0-11.0	39	1	2	24	34	38	13	15	A-6a
92+00 40'Lt.	5.0-6.0	Gray and brown ext. weathered shale							12	Visual
110+00 30'Rt.	5.0-6.0	36	2	18	21	23	27	11	19	A-6a
121+50 20'Rt.	5.0-6.0	0	4	24	38	34	32	11	16	A-6a

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
36+00 12'Lt.	0.5-3.0	2	1	1	45	51	38	11	20	A-6a*
41+00 12'Rt.	0.5-1.0	Brown soft sandstone							9	Visual*
43+50 11'Rt.	0.5-3.0	17	2	3	39	39	41	14	27	A-7-6*
	3.0-4.0	Soft sandstone							9	Visual*
46+00 12'Rt.	0.5-4.0	Brown soft sandstone							9	Visual*
	4.0-7.0	Brown soft sandstone							9	visual
51+00 1'Rt.	0.5-5.0	3	7	28	28	34	31	12	22	A-6a
	5.0-10.0	51	6	14	15	14	27	5	17	A-2-4
	10.0-12.0	Brown soft sandstone							7	Visual
51+00 30'Lt.	0.5-5.0	36	12	19	16	17	25	9	14	A-2-4
56+00 10'Lt.	0.5-5.0	2	12	14	38	34	31	7	21	A-4a*
	5.0-10.0	0	1	1	41	57	42	13	20	A-7-6
59+50 12'Rt.	0.5-5.0	Brown soft weathered shale							7	Visual*
59+00 25'Lt.	0.5-3.0	0	7	6	53	34	33	12	16	A-6a
	3.0-5.0	Brown weathered shale							18	Visual
63+00 10'Rt.	0.5-4.0	0	5	7	37	51	36	17	24	A-6a*
	4.0-8.0	0	2	14	27	57	44	23	24	A-7-6
	8.0-10.0	Brown weathered shale							12	Visual
68+00 10'Rt.	0.5-4.0	7	7	9	42	35	35	12	25	A-6a
	4.0-9.0	0	6	10	48	36	30	11	25	A-6a
	9.0-11.0	Brown soft weathered shale							15	Visual
68+00 25'Rt.	0.5-2.0	0	9	13	46	32	33	11	17	A-6a
	2.0-5.0	20	12	20	31	17	27	2	12	A-4a
	5.0-7.0	0	4	2	19	75	55	30	12	A-7-6
	7.0-10.0	Coal							11	Visual
	10.0-13.0	Brown and gray under clay							24	Visual
	13.0-14.0	Gray soft weathered shale							11	Visual
71+25 10'Rt.	0.5-2.0	Gray soft weathered indurated clay							13	Visual
	2.0-6.0	Gray soft weathered indurated clay							8	Visual*
	6.0-7.0	Brown soft weathered shale							8	Visual
73+30 40'Rt.	0.5-5.0	14	13	11	30	32	32	13	18	A-6a
	5.0-9.0	28	10	9	26	27	33	11	21	A-6a
	9.0-13.0	Brown soft weathered sandstone							8	Visual

SUMMARY OF SOIL TEST DATA

NOTE: NP shown in Liquid Limit and Plasticity Index indicates that the material is non-plastic.
*Denotes sample taken at or near grade.

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
75+00 40'Rt.	0.5-4.0	0	5	4	51	40	34	12	17	A-6a
	4.0-9.0	Brown soft weathered sandstone							9	Visual
	9.0-15.0	Brown soft weathered sandstone							10	Visual
75+50 8'Rt.	0.5-5.0	Brown soft weathered sandstone							13	Visual
	5.0-9.0	Brown soft weathered sandstone							8	Visual
78+50 CL.	0.5-3.0	60	3	13	12	12	26	8	11	A-2-4
	3.0-6.0	Brown soft weathered shale							17	Visual
	6.0-8.0	Coal								Visual
	8.0-12.0	Brown soft under clay							22	Visual
80+00 CL.	0.5-2.0	25	7	15	32	21	28	6	14	A-4a
	2.0-4.0	Sandstone fragments with soil							18	A-2-4
	4.0-7.0	Brown and gray clay							16	A-7-6
	7.0-11.0	0	7	7	37	49	43	19	45	A-7-6
80+00 75'Rt.	0.5-5.0	8	10	35	20	27	29	11	24	A-6a
	5.0-7.0	0	2	11	54	33	25	7	19	A-4b
	7.0-10.0	13	17	28	22	20	22	3	20	A-4a
82+25 CL.	0.5-3.0	0	3	36	32	29	31	11	27	A-6a
	3.0-6.0	47	9	27	9	8	NP	NP	20	A-1-b
	6.0-11.0	0	3	26	43	28	NP	NP	21	A-4a
85+00 CL.	0.5-5.0	18	5	27	24	26	NP	NP	21	A-4a
	5.0-10.0	20	18	23	14	25	25	4	18	A-4a
89+00 10'Lt.	0.5-4.0	0	12	32	24	32	24	8	20	A-4a*
	4.0-6.5	0	2	6	31	61	52	26	30	A-7-6

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
93+00 10'Rt.	0.5-2.0	Brown soft weathered sandstone							7	Visual*
97+00 10'Rt.	0.5-2.0	52	4	8	16	20	39	17	23	A-6b*
	2.0-4.0	13	5	25	25	32	32	12	14	A-6a*
101+00 10'Rt.	0.5-4.0	10	13	36	23	18	NP	NP	15	A-4a*
	4.0-8.5	Brown soft weathered sandstone							10	Visual*
105+25 10'Lt.	0.5-5.0	9	6	24	31	30	33	11	21	A-6a*
	5.0-9.0	0	5	10	51	34	32	7	25	A-4b
109+00 10'Lt.	0.5-4.0	40	5	16	20	19	30	8	17	A-4a*
113+00 10'Rt.	0.5-5.0	16	8	21	24	31	32	13	12	A-6a*
	5.0-10.0	0	8	24	36	32	29	11	17	A-6a
113+20 45'Lt.	0.5-5.0	47	7	17	14	15	NP	NP	15	A-2-4
	5.0-6.0	Coal								Visual
	6.0-8.5	Gray soft under clay							11	Visual
117+00 10'Rt.	0.5-3.0	34	10	33	10	13	NP	NP	11	A-2-4*
	3.0-5.0	Brown soft weathered sandstone							9	Visual*
120+00 10'Rt.	0.5-5.0	15	7	17	27	34	33	14	14	A-6a*
122+00 10'Lt.	0.5-5.0	9	8	27	28	28	29	9	16	A-4a
	5.0-11.0	Brown soft weathered sandstone							10	Visual*
125+00 10'Lt.	0.5-5.0	33	5	14	32	16	23	3	21	A-4a*
	5.0-7.0	Brown soft weathered sandstone							10	Visual

STATION & OFFSET	DEPTH FROM-TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	% W.C.	SHTL CLASS.
125+00 50'Lt.	0.5-3.0	22	15	16	34	23	23	3	11	A-4a
	3.0-5.0	Brown and gray soft weathered sandstone							9	Visual
129+00 45'Lt.	0.5-2.0	0	2	23	43	32	24	7	25	A-4a
	2.0-5.0	Gray soft weathered shale							18	visual
	5.0-9.0	Gray soft weathered shale							10	Visual
129+25 10'Rt.	0.5-4.0	0	5	5	56	34	32	5	31	A-4b
	4.0-6.0	0	2	6	56	36	28	6	25	A-4b
	6.0-9.0	32	4	25	22	17	21	4	20	A-4a
133+00 10'Lt.	0.5-5.0	4	2	3	50	41	34	13	19	A-6a
	5.0-9.5	14	9	19	28	30	31	9	16	A-4a
137+00 10'Rt.	0.5-4.0	20	5	13	31	31	33	12	26	A-6a*
	4.0-8.0	0	12	10	34	46	42	15	33	A-7-6
	8.0-12.0	11	13	19	29	28	33	7	18	A-4a
141+00 12'Rt.	0.5-2.0	Bone coal							1	Visual*
	2.0-5.0	Gray soft under clay							25	Visual*
	5.0-10.0	Gray soft indurated clay							14	Visual
144+00 12'Rt.	0.5-4.0	23	7	8	32	30	35	16	13	A-6b*
	4.0-8.0	21	6	6	36	32	29	11	29	A-6a
	8.0-10.0	13	4	3	28	50	45	19	24	A-7-6
144+00 32'Lt.	0.5-2.0	0	1	3	73	23	33	5	33	A-4b
	2.0-4.0	16	1	3	51	29	55	23	45	A-7-5
	4.0-9.0	0	6	9	45	40	35	12	36	A-6a
	9.0-12.0	1	11	4	44	50	38	12	20	A-6a
	12.0-15.0	Gray soft weathered indurated clay							6	Visual
148+00 10'Lt.	0.5-4.0	54	2	3	22	19	36	13	22	A-6a*
	4.0-8.5	0	10	10	39	41	38	15	16	A-6a
152+00 15'Rt.	0.5-5.0	12	8	11	40	29	35	11	19	A-6a*
	5.0-10.0	0	4	5	44	47	44	18	19	A-7-6
155+50 10'Lt.	0.5-3.0	11	1	1	33	54	41	16	26	A-7-6*
	3.0-7.0	Br. silty clay with sandstone fragments							14	A-6a
	7.0-10.0	0	1	8	35	56	51	26	18	A-7-6
159+00 12'Lt.	0.15-4.0	0	3	4	63	30	32	8	21	A-4b*
	4.0-6.0	Brown soft weathered shale							12	Visual

BELMONT COUNTY
BEL-149-(0.70-2.83)
OHIO STATE HIGHWAY
TESTING LABORATORY
O.S.U. CAMPUS, COLUMBUS, OHIO

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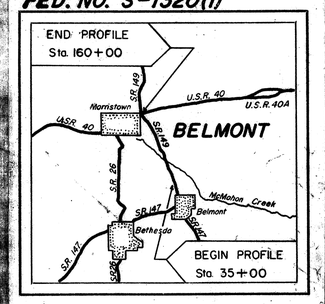
THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE IS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.

FED. NO. S-1320(1)



LOCATION MAP

Recon.-C.J.K.-8/13/59
Drilling -Auger-B.E.B.-8/31/59-9/2/59
Core - A.V.-9/14/59-9/16/59

TE-54.B
900-5-59

SOIL PROFILE
BELMONT COUNTY
BEL-149-(0.70-2.83)
OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

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Lawn — Weeds — Parking area — Lawn — Pasture — Lawn — Pasture — Hay Field — Pasture — Hay Field — Lawn — Pasture — Hay Field — Trail Rd. — Hay Field

35 — 40 — 45 — 55 — 60 — 65 — 67

Max. Cut 4'
Max. Cut 6'
Sandstone outcrop
Sandstone outcrop.
Existing S.R. 149
Max. Cut 5'
Max. Fill 3'
Max. Fill 15'
Max. Fill 5'
Sandstone outcrop elev. 1163.0'
Max. Cut 6'
Max. Cut 5'
Sandstone outcrop
Max. Cut 8'

Weeds — Garden — Lawn — Hay Field — Lawn

Note: Concrete pavement from sta. 35+50 to sta. 98+35 is in poor condition; broken and patched.

Note: For the cross section of Sta. 41+50 see profile, this sheet.

Note: For the cross section of Sta. 59+50 see profile, this sheet.

Cross Section Sta. 41+50

Sandstone, brown, thin-bedded, medium-grained, micaceous, jointed

Drive Sample
Core Boring

Proposed Section

For description of core boring see profile, this sheet

1160 / 1150 / 1140 / 1130 / 1120

50 40 30 20 10 ℄ 10 20 30 40 50

Drive Sample–Core Boring
30'Rt.
13/18
Refusal

11'Rt.
27
9
Refusal

12'Rt.
9
9
Refusal

12'Rt.
9
Refusal

Sandstone boulders and clay.
Top of Rock
Sandstone, light-brown, medium-fine-grained grading through medium-grained to coarse-grained at bottom, micaceous, friable, with high compressive strength, few clay seams, slightly weathered. No core loss.

Sandstone, light-brown, fine-grained, micaceous, firm, badly broken and fractured, with cross-beds dipping up to 60°. No core loss.
Note: Possible zone of slumping between elevations 1142.3' and 1134.7'.

Shale, light-gray, siliceous, micaceous, carbonaceous in part, firm, poorly fissile, badly broken. Core loss 33%.
Indurated Clay, gray, grading into a dark-gray, micaceous, carbonaceous, shale in bottom 0.2', firm, badly broken. Core loss 26%.
Coal, with 0.1' of dark-gray shale underneath. Core loss 20%.
Indurated Clay, gray, calcareous, with calcareous nodules throughout, firm in top 1.3', hard in remainder, broken. No core loss.

Rock Section 21 Rt.
Sandstone, brown, thin-bedded, medium-grained, micaceous.

12'Lt.
20
Refusal

10'Rt.
22
17
7
Refusal

LOG OF OFFSET BORING
30'Lt.
Std+0.5'
M
Refusal

10'Lt.
21
20

LOG OF OFFSET BORING
25'Lt.
TS+0.5'
16
18
Refusal

Drive Sample–Core Boring
25'Lt.
Top of Extremely Weathered Rock
10
Shale, gray, extremely weathered.

10'Rt.
24
24
12

Rock Section 28 Rt. to 48 Rt.
Sandstone, brown, thin-bedded, medium-grained, micaceous.

12'Rt.
7
Refusal

Shale, brown, somewhat micaceous and siliceous, frequently grading into argillaceous sandstone and soft clay seams, extremely weathered, soft, badly broken throughout. Core loss 60%.

Shale, dark-gray, argillaceous, somewhat carbonaceous, weathered, medium-firm to soft, badly broken. Core loss 25%.
Top of Firm Rock
Coal, firm, blocky. Core loss 11%.

Indurated Clay, dark-gray, calcareous, slickensided, firm, with scattered limestone nodules, with soft clay seams in lower 2.0'. Core loss 34%.

Cross Section Sta. 59+50

Drive Sample–Core Boring
(Sta 59+00)
10
7
Refusal
Proposed Section
For description of core boring see profile, this sheet

1200 / 1190 / 1180 / 1170

30 20 10 ℄ 10 20 30

1200 / 1190 / 1180 / 1170 / 1160 / 1150 / 1140 / 1130 / 1120 / 1110

36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67

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SOIL PROFILE
BELMONT COUNTY
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OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

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Note: For the cross section of Sta. 71+50 see profile, this sheet.

Hay Field — Lawn — Weeds — Hay Field — Weeds — Top of bank

Max. Cut 10' — Max. Fill 6' — Old road bed — Sandstone outcrop — Sandstone exposed in old road bed at elev. 1146.0

Existing S.R. 149 — Max. Fill 6' — Proposed ℄ S.R. 149 — Max. Fill 6' — Top of bank — Top of bank

Weeds — Lawn — Hay Field

Note: For the cross section of Sta. 92+00 see profile, this sheet.

Note: Surface treated brick pavement from sta. 98+35 to sta. 148+00 is in poor condition, wavy, cracked, patched and ravelled.

Pasture — Barn Lot — Pasture — Pasture — Max. Cut 5' — Sandstone exposed in ditch and on surface at approx. elev. 1158.0. — Max. Cut 5' — Lawn — Pasture

67 70 75 80 85 90 95 99

1200 1190 1180 1170 1160 1150 1140 1130 1120 1110 1100 1090

Drive Sample–Core Boring 40' Lt.

A- Top of Rock
B- Sandstone, brown, medium-grained, calcareous, micaceous, firm, friable, weathered, broken, with a 1.' badly broken zone at bottom. Core loss 8%.
C- Sandstone, brown to gray, medium-grained, micaceous, calcareous, broken. Core loss 11%.

LOG OF OFFSET BORING
25' Rt. Sod=0.5'
17 / 20 / 12 / 24 / 11
Refusal

10' Rt. — 25 / 25 / 15
10' Rt. 22 — 13 / 8 / 8 — Refusal

40' Rt. TS=0.5' — 18 / 21 / 8 — Refusal

40' Rt. Sod=0.5' — 17 / 9 / 10 — Refusal

8' Rt. Sod=0.5' — 13 / 8 — Refusal

Rock ℄ Section
Sandstone, brown, thin-bedded, medium-grained, micaceous

LOG OF OFFSET BORING
75' Rt. Sod=0.5'
24 / 19 / 20 W
Refusal

℄ Sod=0.5' — 11 / 17 / 22 — Refusal

℄ Sod=0.5' — 14 / 18 / 16 / 45 — Refusal

℄ Sod=0.5' — 27 / 20 / 21 — W — Refusal

℄ Sod=0.5' — 21 / 18 — W — Refusal

10' Lt. TS=0.5' — 20 / 30 — Refusal

10' Rt. — 23 / 14 — Refusal

Drive Sample–Core Boring 40' Lt.
12 / 25 / 12 — 10' Rt. — 7 — Refusal

Top of Extremely Weathered Rock
Shale, brown, medium-soft, extremely weathered. Core loss 8%.
Top of Firm Rock
Sandstone, light-brown, fine to medium-grained, micaceous, firm, broken, with clay seams less than 0.2' thick at elev. 1159.8 and 1157.1'. No core loss.
Sandstone, dark-brown, medium to coarse-grained, micaceous, firm, broken in part, grading to gray sandstone in bottom 0.5'. No core loss.
Clay Shale, gray, carbonaceous, firm, with 0.5' coal seam at elev. 1150.7'. Core loss 18%.
Shale, gray to dark-gray, firm, badly broken, becoming carbonaceous in bottom 0.2'. No core loss.
Coal, broken. No core loss.
Indurated Clay, gray to dark-gray, highly calcareous, firm, broken. Core loss 2%.

Cross Section Sta. 71+50
Drive Sample-Core Boring — 22 / 15 — Proposed section — (Sta. 71+25) — 5 — Refusal
For descriptions of core boring see profile, this sheet
50 40 30 20 10 ℄ 10 20 30 40 50

Cross Section Sta. 92+00
Drive Sample-Core Boring — 12 / 25 / 12 — Proposed section — (Sta. 93+00) — 7 — Refusal
For descriptions of core boring see profile, this sheet
50 40 30 20 10 ℄ 10 20 30 40 50

67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99

TE-54.B
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SOIL PROFILE
BELMONT COUNTY
BEL-149-(0.70-2.83)
OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

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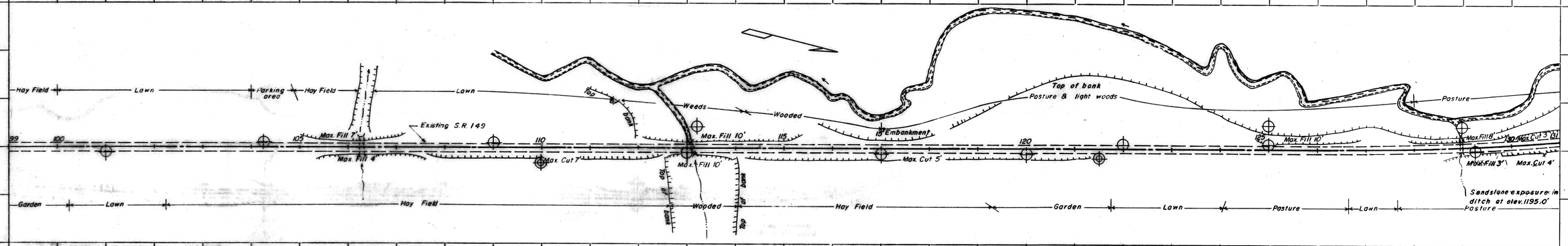

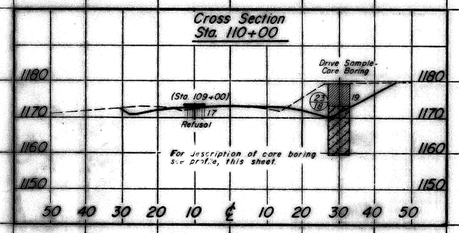

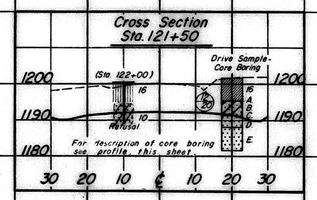

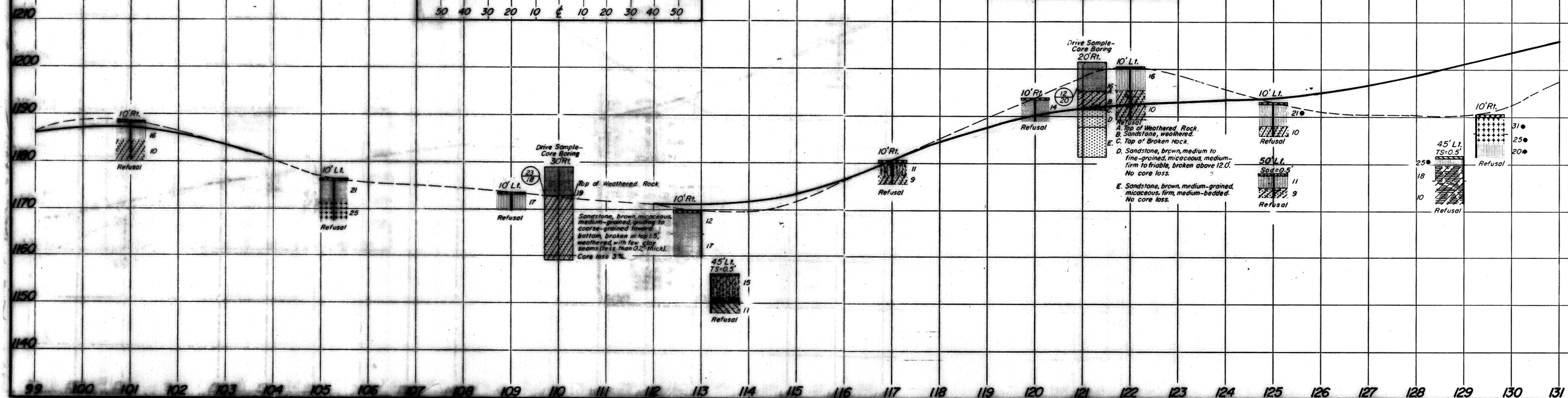

TE.54 B
900.5-59

SOIL PROFILE

BELMONT COUNTY

BEL-149-(0.70-2.83)

OHIO STATE HIGHWAY
TESTING LABORATORY
O. S. U. CAMPUS. COLUMBUS. OHIO

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