STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BEL-7-(17.71-20.14)
BELMONT COUNTY
PULTNEY & PEASE TOWNSHIPS
CITY OF BELLAIRE
VILLAGE OF BRIDGEPORT
GRADE CROSSING ELIMINATION WITH PENNA. RAILROAD

F-534(8)
LIMITED ACCESS
Can # 297

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-534(8)	

1/164

BEL-7-(17.71-20.14)

NOTE: ALL REFERENCE TO FED. PROJ. Nº FG-534(8) APPEARING IN THIS PLAN SHALL BE CONSIDERED TO BE F-534(8)

519

~CONVENTIONAL SIGNS~

COUNTY LINE
TOWNSHIP LINE
SECTION
CORPORATION LINE
PROPERTY LINE
FENCE LINE
CENTER LINE
POLE LINE
RAILROAD
GUARD RAIL
DRAIN PIPE (NEW)
DRAIN PIPE (OLD)
HEDGE

Ø Telephone Ø Electric
old new

~INDEX OF SHEETS~

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RAILROAD FORCE ACCOUNT WORK	112-A, 112-B, & 112-C
STRUCTURES 20' SPAN AND UNDER	113-147 and 123-A
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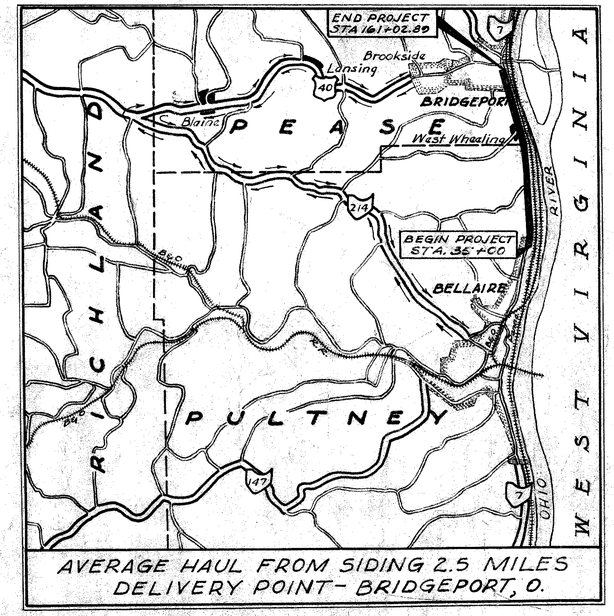
~LINE DATA~

BEGIN F-534(8) BELLAIRE MUNICIPAL & PROJECT	STA 35+00
END F-534(8) BELLAIRE MUNICIPAL	STA 42+82.58
NET LENGTH F-534(8) BELLAIRE MUNICIPAL =	782.58 LIN. FT. OR 0.148 MI.
BEGIN F-534(8) RURAL	STA 42+82.58
END F-534(8) RURAL	STA 142+05.50
NET LENGTH F-534(8) RURAL =	9,922.92 LIN. FT. OR 1.879 MI.
BEGIN F-534(8) BRIDGEPORT MUNICIPAL	STA 142+05.50
END F-534(8) BRIDGEPORT MUNICIPAL & PROJECT	STA 161+02.89
NET LENGTH F-534(8) BRIDGEPORT MUNICIPAL =	1897.39 LIN. FT. OR 0.359 MI.
TOTAL LENGTH OF PROJECT F-534(8) =	12,602.89 LIN. FT. OR 2.386 MI.

LENGTH OF WORK ON S.R. 7	12,893.22 LIN. FT.
APPROACH RIGHT, STA. 42+67.50	3,468.70 LIN. FT.
APPROACH LEFT, STA 42+67.50	1,150.30 LIN. FT.
APPROACH LT. STA. 62 TO STA 64	525.00 LIN. FT.
APPROACH LEFT, STA 83+50	836.31 LIN. FT.
APPROACH LEFT, STA 115+50	511.00 LIN. FT.
TOTAL LENGTH OF WORK	19,384.53 LIN. FT. OR 3.671 MILES

FILE Nº	BEL-7-(17.71-20.14)
	DATE OF LETTING
	CONTRACT Nº



AVERAGE HAUL FROM SIDING 2.5 MILES
DELIVERY POINT- BRIDGEPORT, O.

LOCATION PLAN
Scale 1" = 1 Mile

PORTION TO BE IMPROVED
FEDERAL HIGHWAYS
STATE HIGHWAYS
OTHER ROADS
DETOUR

SCALES

PLAN	1" = 50'
PROFILE (Horizontal)	1" = 50
PROFILE (Vertical)	1" = 5'
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 require the part time closing to traffic of the highway, as noted on Sheet 6, and that detours will be provided as indicated on the plans. Additional provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

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

Approved _____
Date 1-28-54 Division Deputy Director

Approved _____
Date 7-20-54 Deputy Director of Planning and Programming

Approved _____
Date _____ Engineer of Bridges

Approved _____
Date _____ Engineer of Location & Design

Approved _____
Date _____ Deputy Director of Design and Construction

Approved _____
Date 7-20-54 First Assistant Director

Approved _____
Date 7/21/54 Director of Highways

Approved _____
Date _____ Chief Engineer, Pennsylvania Railroad Co.

Approved _____
Date _____ Chief Engineer, Baltimore & Ohio Railroad Co.

CONSTRUCTION BUREAU MAR 6 1954 GROUND PHOTOS

Reviewed and Approved _____
Date 5-11-54 Engineer of Traffic and Safety

* Accepted; ** Submitted to B.P.R. for Approval

STANDARD DRAWINGS

* G.-7.07	1-2-53	LBC-45 SHEET 1	9-18-47	**-8CB Nº3-A	5-1-52	L-3	4-1-50
* RI-1	6-1-53	LBC-45 SHEET 2	9-18-47	* I-8CB Nº7	5-1-52	L-3A	4-1-50
* B-T-50-70-71 EM.	10-1-47	* S-27 P.C. 1	5-1-52	**-8 M.H. Nº1	5-1-52	** S-27 P.C. 4	1-4-54
* B-T-71R	3-2-53	S-27 P.C. 2	3-15-48	** I-12	7-1-54	** I-8 MH No. 1-A	6-1-54
* L.J. Nº1	3-2-53	S-27 P.C. 3	2-20-45	* I-14G	1-22-52		
* T.J. Nº1	3-2-53	I-1, 2, 3, 4 & 5	2-20-45	* I-15 Nº1	2-2-53		
* T.J. Nº2	3-2-53	I-8CB 1-2-A&B	5-1-52	* I-15 Nº2	2-2-53		
* T.J. Nº3	3-2-53	**-8CB 2-2-A&B	5-1-52	I-15 Nº3	2-1-47		
		**-8CB 1-3&1-4	5-1-52	* I-21	1-2-51		
R.W.-45	9-18-47	**-8CB 2-3&2-4	5-1-52	L-1	4-1-50		

SUPPLEMENTAL SPECIFICATIONS

30	5-28-48
10 Rev.	3-19-54
CE-107	5-21-53
T-171.19 Rev.	3-19-53
M-101.7	1-24-53

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED: _____

DISTRICT ENGINEER DATE

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

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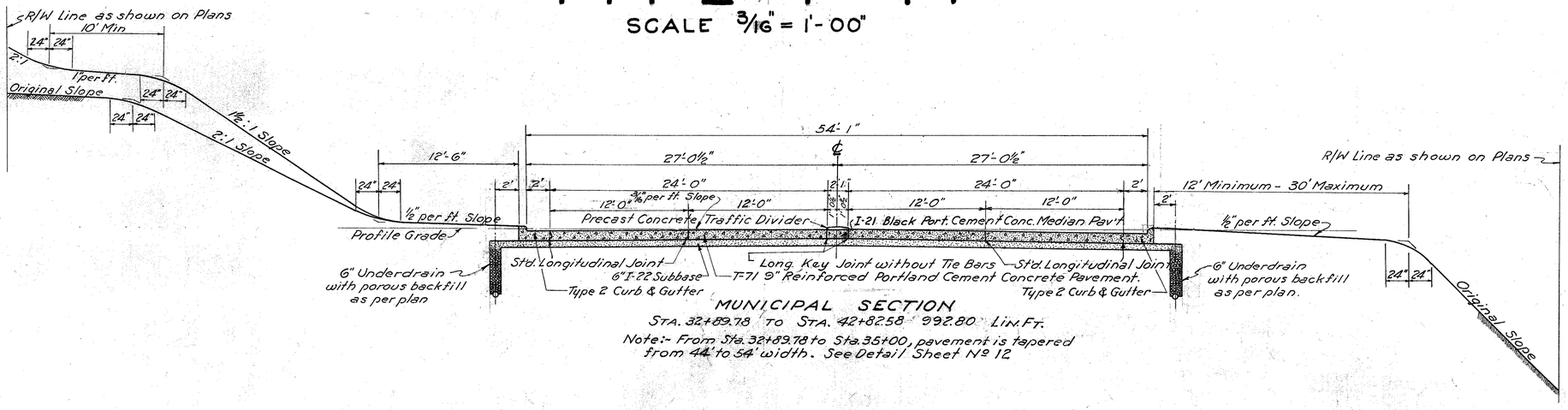
BEL-7-(17.71 - 20.14)

TYPICAL SECTIONS
TYPE-T-71

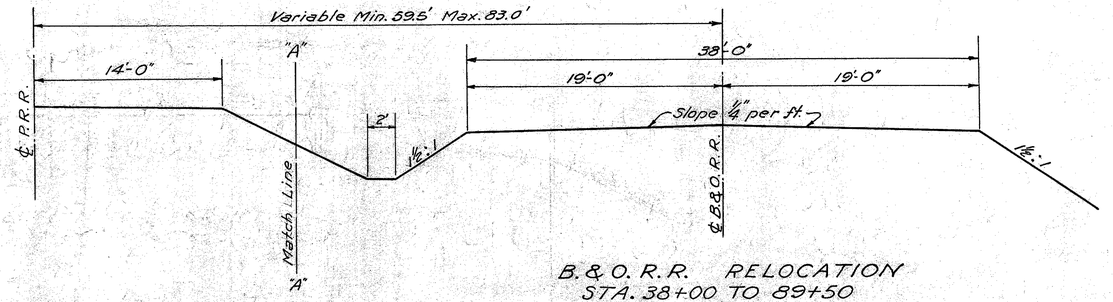
SCALE 3/16" = 1'-00"



MUNICIPAL SECTION

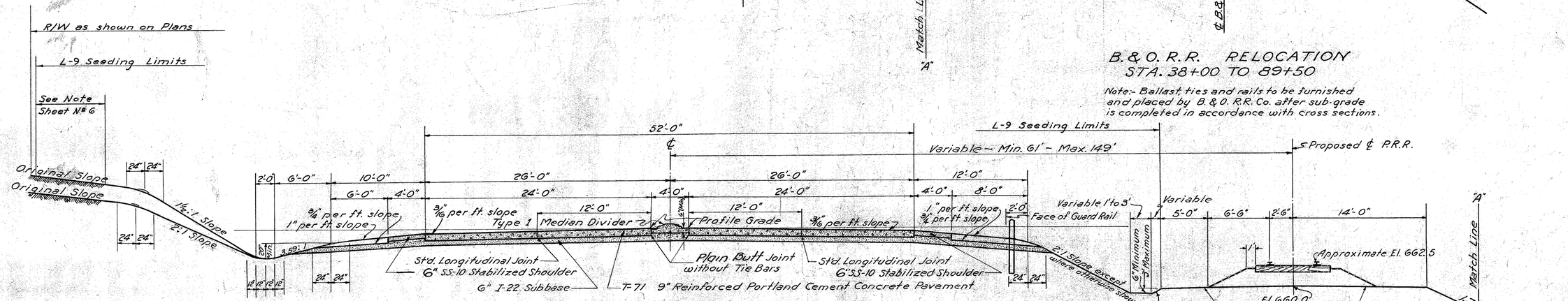
STA. 32+89.78 TO STA. 42+82.58 992.80 LIN. FT.

Note:- From Sta. 32+89.78 to Sta. 35+00, pavement is tapered from 44' to 54' width. See Detail Sheet Nº 12



B. & O. R. R. RELOCATION
STA. 38+00 TO 89+50

Note:- Ballast, ties and rails to be furnished and placed by B. & O. R.R. Co. after sub-grade is completed in accordance with cross sections.



RURAL SECTION

STA. 42+82.58 TO STA. 55+56.19 = 1273.61 LIN. FT.
STA. 80+77.02 TO STA. 94+07.77 = 1330.75 LIN. FT.
STA. 116+13.60 TO STA. 128+50.00 = 1236.40 LIN. FT.
STA. 139+19.64 TO STA. 147+00.00 = 780.36 LIN. FT.

Note:- Ballast, ties and rails to be furnished and placed by Penna. R.R. Co. after subgrade is completed in accordance with cross sections.

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

BEL-7-(17.71 - 20.14)

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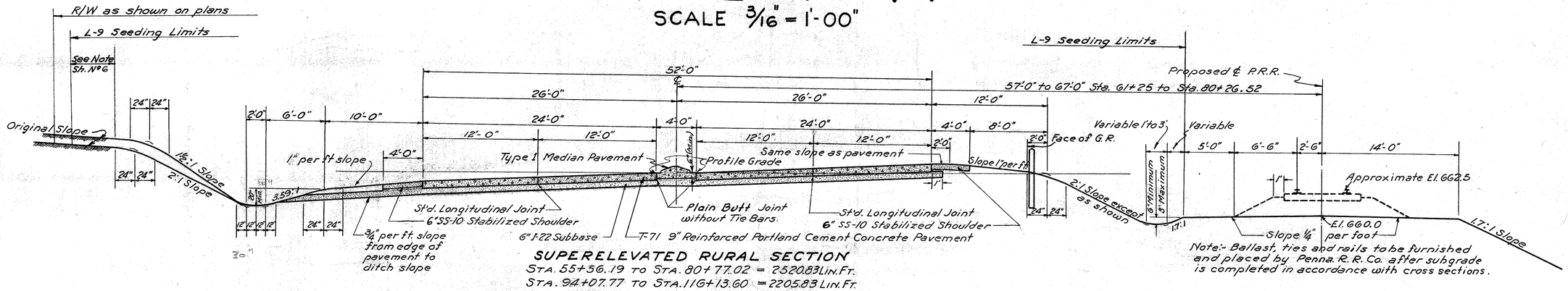
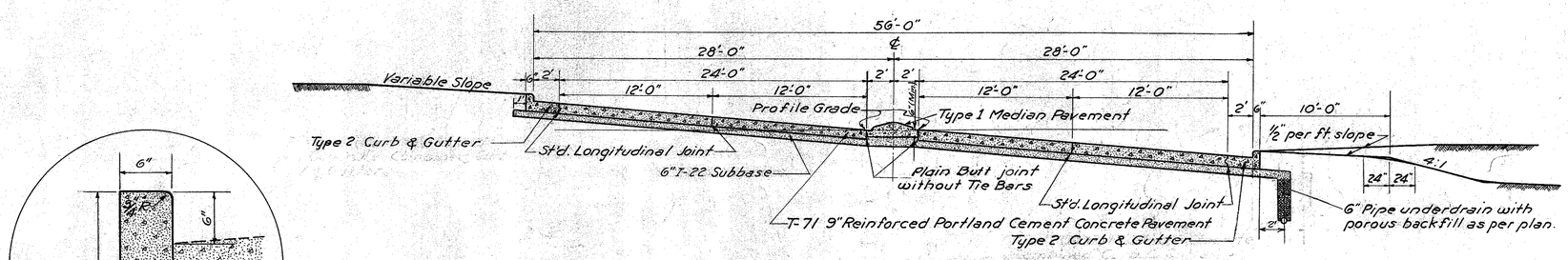
TYPICAL SECTIONS
TYPE-T-71

SCALE 3/16" = 1'-00"



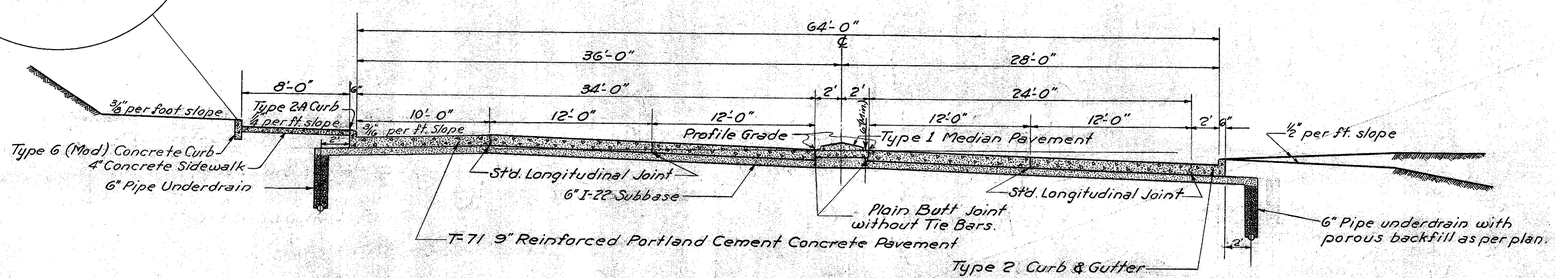
SUPERELEVATED RURAL SECTION

STA. 55+56.19 to STA. 80+77.02 = 2520.83 LIN. FT.
STA. 94+07.77 to STA. 116+13.60 = 2205.83 LIN. FT.
STA. 128+50.00 to STA. 139+19.64 = 1069.64 LIN. FT.
STA. 147+00.00 to STA. 154+87.00 = 787.00 LIN. FT.



SUPERELEVATED MUNICIPAL SECTION

STA. 154+87.00 TO STA. 157+45.00
258 LIN. FT.



SUPERELEVATED MUNICIPAL SECTION

STA. 157+45.00 TO STA. 161+02.89
357.89 LIN. FT.

FED. RD. DIVISION	STATE	F.A. PROJECT	FISCAL YEAR
2	OHIO		

BEL-7-(17.71-20.14)

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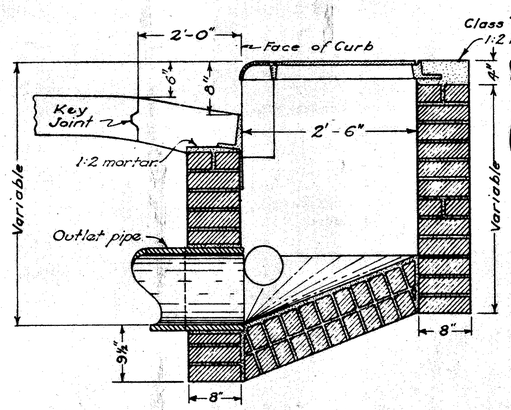
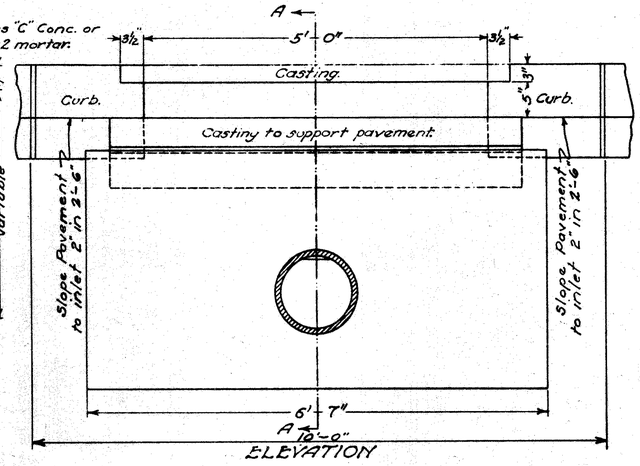
Nº 1 RAISED CURB INLET

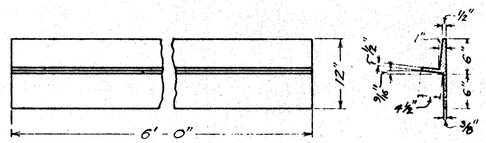


SECTION A-A

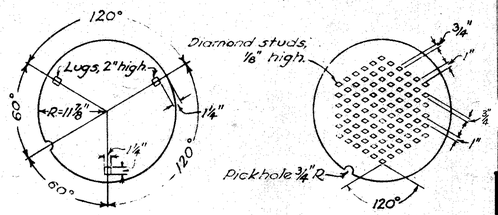


ELEVATION

Note:- When necessary, the bottom of the inlet shall be altered to conform to inlet and outlet pipes, as directed by the Engineer. Cost to be included in price bid for inlets.

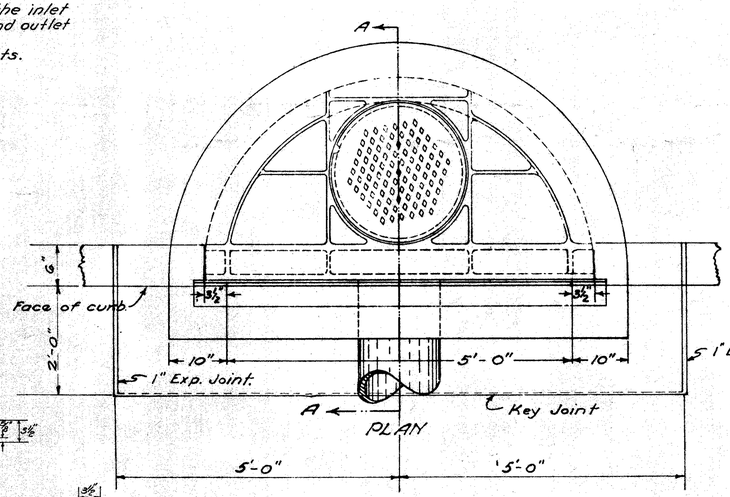


DETAIL OF PAVEMENT SUPPORT
Approximate weight 160#



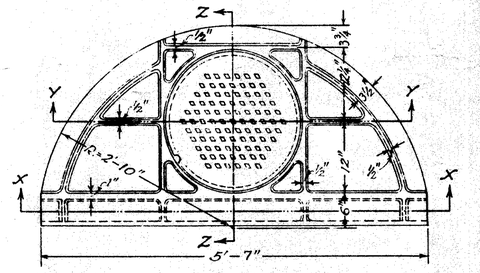
BOTTOM TOP

DETAIL OF COVER

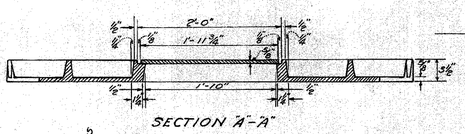


PLAN

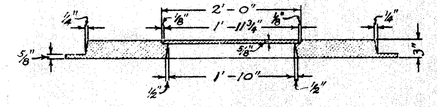
Block out pavement as shown above



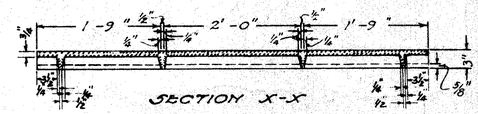
PLAN OF CASTING
Approximate weight = 315#



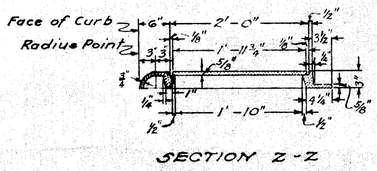
SECTION A"-A"



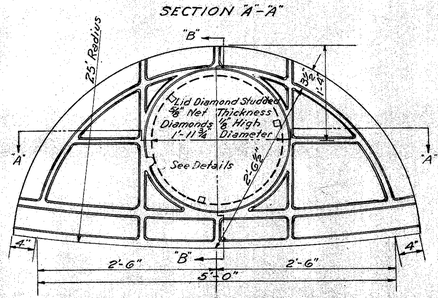
SECTION Y-Y



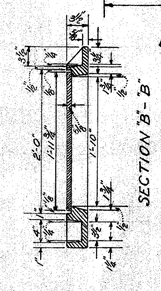
SECTION X-X



SECTION Z-Z



PLAN



SECTION "B"-"B"

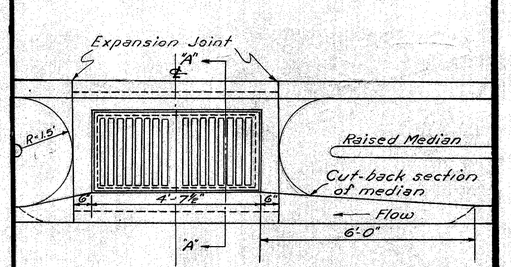
TOP CASTING FOR CURB CURVED TO 25 FT. RADIUS

NOTES

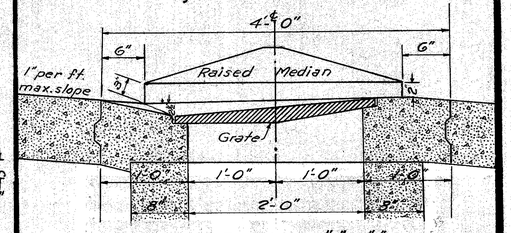
CASTINGS shall be of cast iron in accordance with Material Details. The design shall be essentially the same and equally as strong as those shown hereon, and shall be given one coat of asphaltum paint as per specifications. Weight approximately 675 pounds.

After casting has been set, the space between the webs shall be filled with Class C Concrete.

Nº 2-7 CATCH BASIN DETAIL



PLAN
Using 2 Standard 2'-3½" Square Grates
(See Std. Drawing I-8 CB 2-2 A & B)



SECTION "A"-"A"

TYPICAL DETALS

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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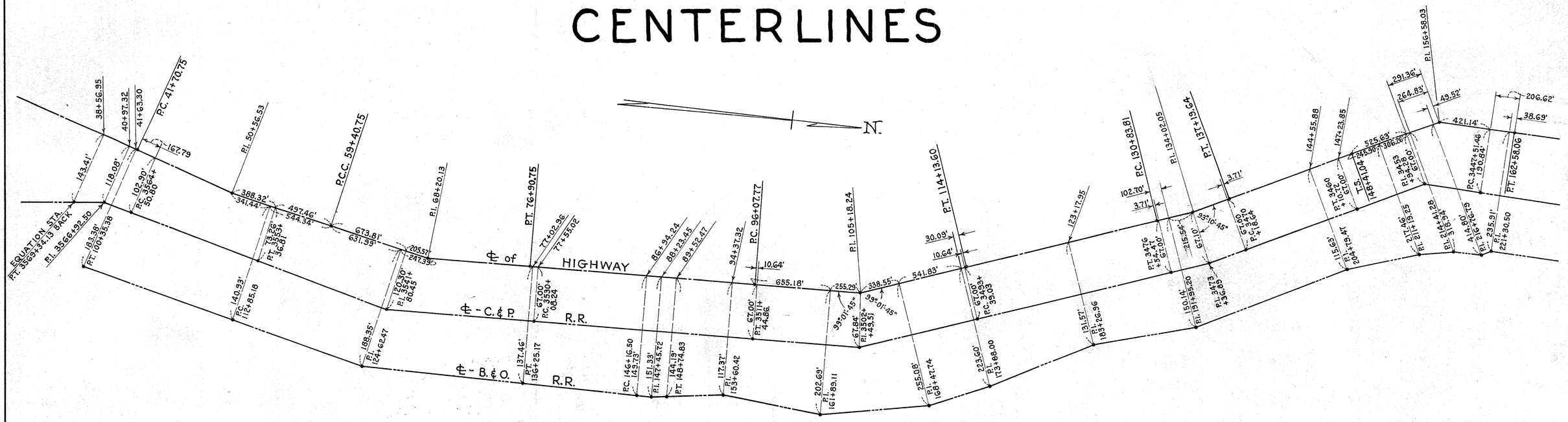
BEL-7-(17.71-20.14)

DIAGRAM OF REFERENCES BETWEEN HIGHWAY AND RAILROAD CENTERLINES



NOTE :-

All "Tie Lines" with reference to the Highway Center Line are at right angles to said line, unless otherwise shown.

GENERAL NOTES (CONTINUED)

SUBGRADE COMPACTION:- In addition to the requirements of Section E-1.09, the subgrade under the standard type 2 combination curb and gutter shall be compacted for the full width of the curb and gutter to the density requirements of Section E-1.09.

The subgrade under the modified type 2 combination curb and gutter shall be compacted for a depth of six (6) inches to the density requirements in Table III, Item E-1. Payment for subgrade compaction under the modified curb and gutter as specified above shall be included in the unit price bid for Item I-12, Type 2 Combination Curb and Gutter, modified as per plan.

BORROW PITS:- Borrow pits shall not be located less than five hundred (500) feet from any highway unless written permission is obtained from the Director. The request for permission to locate a borrow pit nearer than 500 feet to any highway shall be accompanied by a sketch showing the location, depth of proposed cut, approximate lines of proposed excavation, and provision for drainage.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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BEL-7-(17.71-20.14)

GENERAL NOTES

BERMS AND SLOPES :- Berms and slopes shall be finished in accordance with the typical sections except where otherwise shown on the cross sections. While the cross sections, as drawn, show straight lines and angles, in construction all corners shall be rounded as shown in the typical sections.

TREES :- Payment for the removal of stumps and trees shall be included in the bid item E-1 Roadway Excavation. Approximately 300 trees and stumps, 12" inches in diameter or more are to be removed.

SEEDED AREAS :- The area of L-9 Seeding on the left side of centerline is estimated to extend ten (10) feet beyond the work limits or to the right-of-way line if it is less than ten (10) feet beyond the limits of work. L-9 Seeding on the right side of centerline is estimated to extend only to the top of the common ditch between the highway and the RRR. No seeding is to be performed on either railroad embankment or on the area lying between the railroads. Areas unnecessarily disturbed by the contractor, in the opinion of the Engineer, beyond these limits shall be restored and seeded in accordance with the provisions of Item L-9, at the Contractor's expense.

Where rock or hard shale is encountered on cut slopes and where fill slopes are composed of rock, the seeding in these areas shall be non-performed.

SEED MIXTURE :- The seed mixture for this project shall be as follows, sown at the rate of 3 pounds per 1000 square feet :

10% Kentucky Blue Grass
35% Creeping Red Fescue
15% Perennial Rye Grass
20% Alsike Clover
15% Hairy Vetch
5% Birdsfoot Trefoil

On slopes 2 to 1 or steeper or over 6 Ft. in height Yellow Blossom Sweet Clover shall be used instead of Alsike Clover. On areas adjoining lawns Hairy Vetch and Birdsfoot Trefoil shall be omitted and Creeping Red Fescue increased 20%.

EXISTING PAVEMENT REMOVAL :- Where the existing pavement specified for removal, lies outside the limits of proposed new construction, the pavement shall be removed and disposed of and the old roadway shall be plowed, harrowed and dragged. The ditches shall be filled and the entire area left in a neat condition. Cost of this work shall be included in the price bid for Item E-8, Pavement Removal.

FIELD HOUSE :- The Contractor shall provide a suitable "Field Office" in accordance with Sec. S-0.01 (b) having a minimum of 200 sq. ft. of floor space. The Contractor shall have a telephone installed and maintained during construction of this project.

UTILITY ADJUSTMENT :- Any and all work required for Public and Private Utilities shall be done by the respective owners, and the contractor shall co-operate with the Utility Companies by arranging his work in such a manner that needless conflictions will be avoided.

DESIGN SPEED :- The design speed for this project is 70 miles per hour in rural area and 50 miles per hour in Bridgeport and Bellaire.

REMOVAL OF BUILDING FOUNDATIONS :- All building foundations within the limits of the proposed highway and railroad right-of-way shall be removed by the contractor and incorporated in the embankment in accordance with Sec. E-1.08, without separate compensation. All basement areas in the above limits shall be properly backfilled to the level of the surrounding ground. All such areas on left side of centerline lying outside of limits of construction shall be seeded at the unit price bid for L-9 Seeding.

CO-OPERATION WITH RAILROADS :- The Contractor shall co-operate with local officials of the Pennsylvania Railroad Co. and Baltimore and Ohio Railroad Co. in all work in connection with or adjacent to each company's railroad tracks, in order to avoid delay to, or interference with railroad traffic. In case blasting operations are necessary, the contractor shall notify both railroad companies 48 hours in advance of blasting operations, so that watchmen can be provided to protect railroad traffic.

The Contractor shall execute a bond in favor of the railroad companies, as well as in favor of the State, as required by Sec. 5525.16 of the Revised Code of Ohio and shall carry insurance of the kinds and amounts prescribed in the Special Clauses in the Proposal covering work affecting railroad property and operation.

The Contractor shall pay to the Pennsylvania Railroad and the Baltimore and Ohio Railroad all cost for watchmen and for flagmen, temporary track supports or any other work deemed necessary by the railroad companies or occasioned by the operations or negligence of the Contractor or any Subcontractor in carrying forward work on railroad property, or on work affecting safety or railroad operations. The Contractor shall first secure State and Railroad approval of any methods of operation on railroad property or affecting the safety of railroad traffic, before starting such operations. Each railroad will perform its engineering review of methods of operation and supervision of construction without cost to the Contractor. Billing against the Contractor by each Railroad Company will include customary percentage for vacation pay, wage taxes, and insurance, and 15% for overhead expense.

All pipe structures, storm sewers, water lines and box culverts, which are constructed under the Pennsylvania Railroad and Baltimore and Ohio Railroad tracks, shall be placed by methods approved by the respective railroad companies.

The Contractor shall give precedence to grading operations and related items of construction necessary for the relocation of the Pennsylvania Railroad and Baltimore and Ohio Railroad tracks, so that both railroad companies can place ballast, ties and rails on their new road beds, thereby permitting the construction of highway items with the least interference to railroad traffic.

SUBBASE COURSE :- In the final finishing of slopes and ditches, care shall be exercised to assure that the exposed edge of the subbase course will be left free of earth cover that would impede free drainage.

BENCH MARKS :- The U.S.C.G.S. bench mark stamped U-115 1943, on east headwall of Baltimore and Ohio Railroad culvert, 186 feet right of Sta 42+05 and the U.S.C.G.S. bench mark stamped T-115 1943, on east end of south abutment of the Baltimore and Ohio Railroad bridge, 150 feet right of Sta. 82+25 will be destroyed by the construction of new structures at these locations. The Project Engineer shall reference each of these B.Ms. to two satisfactory reference marks that are protected from disturbance and leveled to twice before the old B.M. is removed. The Division Office will furnish new bronze tablets which are to be set at a convenient location in the new structures during construction. The elevation of the new B.Ms. shall be established and reported to the Division Location and Design Office for submission to Washington, D.C.

MISCELLANEOUS REMOVALS :- All walls, steps, and other miscellaneous structures not listed for removal as a paid item, shall be removed when directed by the Engineer. The cost of such removals shall be included in the unit price bid for Item E-1 Roadway Excavation.

SPECIAL DRAINAGE :- Due to the presence of several abandoned mines in the hillside along this project, water is seeping out in many places. No attempt has been made to intercept this water, since the location of the source is not known. During construction these drainage situations can be remedied as they develop. The following items have been added to the plan quantities for this purpose, to be used where directed by the Engineer.

I-2 12" Storm Sewer 500 Lin. Ft.
I-4 6" Pipe Underdrain 1000 Lin. Ft.
I-8 Std Nº 2-2A Catch Basin 5 Each
I-14 Type 2 Paved Gutter 300 Lin. Ft.

NOTE : These quantities carried to summary boxes on Sheet 9.

LIMITATION OF ACCESS :- This improvement has been declared a limited access highway or freeway by action of the Director of Highways, in accordance with provisions of Sec. 5511.02, of the Revised Code of Ohio.

All private drives and public approaches on the project have been determined and negotiations entered into with the property owners on the basis of locations shown on these plans. No change in location of these drives or approaches shall be made during construction or thereafter, nor shall any additional drives or approaches to the proposed project be permitted during construction or thereafter.

TRAFFIC NOTE :- This project may be closed to all traffic, except light local traffic, for a period not to exceed 250 calendar days, while heavy grading operations are being performed. The 250 calendar day period need not be continuous. Detours will be provided as shown on the plans. The Contractor shall notify the Engineer at least 72 hours in advance of the date he proposes to open or close the road to traffic.

The temporary road between Sta. 90 ± and Sta 125 ± as shown on the plans, shall be non-performed, unless it becomes necessary to open the road to traffic before the Contractor has completed his grading operations between the foregoing stations, and it is impracticable to maintain traffic in any other manner. The Engineer shall be responsible for the decision to construct or non-perform the temporary road and its appurtenances.

When ever the road is open to traffic during construction, two-way traffic shall be maintained thruout project, except as hereinafter specified. The Contractor shall submit a plan for his traffic maintenance procedure in writing for approval by the State before opening the road to traffic. Operations must be arranged so that traffic inconvenience will be held 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 at least twenty (20) feet width of aggregate. If one-way traffic is permitted by the Engineer for a limited time, the surfacing aggregate shall not be less than twelve (12) feet in width. Maintenance of traffic shall be in accordance with provisions of Sec. G-7.07 of the Specifications.

Wherever surfacing aggregate is placed on areas which will later be seeded or sodded, the aggregate shall be removed to an elevation at least four (4) inches below the proposed finished ground line, as indicated by the cross sections. Payment for constructing, maintaining, and removing temporary traffic lanes, except furnishing and placing of Items M-10 and T-10, shall be included in the lump sum bid for "Maintaining Traffic".

ITEM I-17 :- All references in these plans to Item I-17 shall be considered to read Item 55-10, Stabilized Crushed Aggregate Shoulders and Approaches.

[redacted]

GENERAL NOTES CONTINUED ON SHEET 5

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

BEL-7-(17.71-20.14)

SUMMARY OF QUANTITIES

STRUCTURES - 20' SPAN & UNDER

FG-534(8)	Ref. Nº	Station	Detailed on Sheet Nº	Removals: Disposal of Pipe 15" and Under (Lin. Ft.)	Removals: Disposal of Pipe Over 15" (Lin. Ft.)	Removals: Pipe Stored 15" and Under (Lin. Ft.)	Removals: Pipe Stored over 15" (Lin. Ft.)	Removals: Disposal of Portions Existing Structures (Cu. Yds.)	Excavation: Structure (Cu. Yds.)	Excavation: Channel (Cu. Yds.)	Concrete: Class "C" (Cu. Yds.)	Concrete: Class "E" (Cu. Yds.)	Reinforcing Steel (Lbs.)	Type "A" Riprap Grout Filled (Sq. Yds.)	Vitrified Clay Liner Plates (Sq. Ft.)	Removal of Existing Structures (Lump)	3" Cast Iron Mech. Jt. Pipe (Lin. Ft.)	1"x12" Premolded Expansion Joint Filler (Lin. Ft.)	Porous Backfill Material (Cu. Yds.)
Bellaire Municipal	1-S	41+95	113-116		70			177	1262	1942	329.3		40,188		2799	1			
Total to Recap																			
Total to Summary					70			177	1262	1942	329.3		40,188		2799	Lump(1)			
	2-S	47+88	14	71															
	3-S	48+84	117				36		65	75		5.6	78	23		1			
	4-S	50+51	14	28															
	5-S	53+30	118			58		8	91			2.2	78	9					
	6-S	55+48	15		28														
	7-S	56+55	119	33	36	31			117			2.3	78	25					
	8-S	58+24.9	120				101	6	244	13	5.6	5.4	250	47					
	9-S	61+74	121	22	28		73		183	14		6.0	91	52					
	10-S	65+07	122		42		68	27	250	8		5.4	89	28					
	11-S	67+25	16		40	31													
	12-S	70+30	16				33												
	13-S	72+25	16	92		12													
	14-S	72+83	123						145	38		4.5	78	54					
	15-S	76+20	16			24													
	16-S	77+86	16			18													
	18-S	79+35	17			16													
	19-S	79+80	17			12													
	20-S	80+65	17		52														
	21-S	82+45.67	124-127						2737	34	1584.5		271,317	206		2			
	22-S	88+50	17	18															
	23-S	90+53	17	20															
	24-S	3+00 Appr.	128						3	1		0.7		2					
Rural	25-S	92+76.9	129	22	29		24		77										
	26-S	96+79.8	130	20	18	25			37			0.9							
	27-S	100+00	131		49	24			38	14		3.9	78	42					
	28-S	102+45	18	28															
	29-S	104+00	19	20															
	30-S	105+50	132						34								334		
	31-S	105+97.42	133	12		25			75	23		5.7	156	35					
	32-S	109+27.12	134	56	83	22			17			1.3		9					
	33-S	111+20	19			18													
	34-S	112+00	132						38								332		
	35-S	114+00	135						10			0.7		2					
	36-S	114+80	19	53															
	37-S	5+34 Appr.	136			15													
	38-S	5+10 Appr.	136	42					37										
	39-S	2+30 Appr.	136									0.2		7					
	40-S	118+79	137-140						2312	191	649.1	32.7	112976	311		2		13	12
	41-S	121+10.78	141-143					155.6	334	24		27.0	3079	96					
	42-S	123+08	20			19													
	43-S	125+79	20	20															
	44-S	126+90	20	15															
	45-S	129+36.5	144				83	0.4	192			2.7	89	9					
	46-S	129+70	21			18													
	47-S	130+51	21			13													
	48-S	132+09	21			33													
	49-S	133+42	21	19															
	50-S	134+08	21			17													
	51-S	135+57	21	18															
	52-S	135+99	145				13	6	100										
	53-S	136+80	21	35															
	54-S	137+50	21	43															
	55-S	137+70	21	21															
	56-S	140+40	22			48													
Total to Recap				708		479		203.0	7136		2239.2	107.2	388437	957				13	12
Total to Summary					405		431			435						Lump(5)	666		
	57-S	143+12.44	146	127			49	1.5	146			2.3	78	7					
	58-S	147+28	22	36															
Bridgeport	59-S	149+32	22			30													
Municipal	60-S	152+00	147	61				3.0	255	40		10.7	267	49					
Total to Recap				224				4.5						56					
Total to Summary						30	49		401	40		13.0	345						

Ref. Nº	Pipe 12"	Pipe 15"	Pipe 18"	Pipe 21"	Pipe 24"	Pipe 30"	Pipe 36"	Pipe 72" Straight	Pipe 72" Curved	Railroad Strength 18"	Railroad Strength 21"	Railroad Strength 24"	Railroad Strength 30"	Railroad Strength 36"	Railroad Strength 72" Straight	Railroad Strength 72" Curved	Storm Sewer Outlet 12"	Storm Sewer Outlet 30"	Catch Basins Nº 1-3	Catch Basins Nº 2-7	Catch Basins Nº 3-A	Catch Basins Nº 4-B R.R.	Catch Basins Nº 2-2A	Catch Basins Nº 1-2A	Pipe Specials 12"x16° Bend	Pipe Specials 15"x10°30' Bend	Pipe Specials 30"x23° Bend	Pipe Specials 30"x14° Bend	Pipe Specials 30"x12" T	Pipe Specials 3" C.I. El.	Pipe Specials 3" C.I. Cap	Pipe Specials 15"x12°30' Bend	Type "A" Riprap Using Brick (Sq. Yds)	120" Pipe Rem. & Stored	120" Pipe Rem. for Reuse	120" Pipe Relayed
1-S																																	570			
Total to Summary (Bellaire Municipal)																																	570			
3-S				100			60					129					167		2		1	1			*1											
5-S			100							113									2			1														
7-S					103							110							2			1														
8-S						156							112				6	82	2			1					*1	*1	*1							
9-S					90		61					63		55					2			1														
10-S						138							106						2			1														
14-S				88	68						60	46							2			1														
24-S		53																					1													
25-S				88							62	3							2			1														
26-S			87							49		15							2	1		1														
27-S					126							78							1			1														
30-S																														1	2					
31-S				108	65						54	48							1			1														
32-S			118							57									1			1														
34-S																														1	2					
35-S		108																	1							1										
37-S		89																	1																	
38-S		73																	1				1									1				
39-S		62																						1												
40-S																																		80	30	30
41-S								116	20						110	32																				
45-S						87							124						2			1														
52-S					87							62							2	1		1														
Total to Recap (Rural)																	173		28	2	1		2	1												
Total to Summary (Rural)		385	305	384	539	381	121	116	20	219	176	554	342	55	110	32		82				14			*1	1	*1	*1	*1	2	4	1		80	30	30
57-S					89							105							2			1														
60-S						107							183						1	1																
Total to Recap (Bridgeport Municipal)																			3	1																
Total to Summary (Bridgeport Municipal)					89	107						105	183									1														

* Pipe Specials for Storm Sewer Outlets

SUMMARY OF QUANTITIES

EARTHWORK & SEEDING

F.A. FG-534(8)	Station From	Station To	Roadway Excavation Cu. Yds.	Embankment Cu. Yds.	Embankment+10% Cu. Yds.	I-22 Sub-base Cu. Yds.	Seeding Sq. Yds.	Fertilizer Lbs.	Lime Lbs.
Bellaire Municipal	32+89.78	42+82.58	30,994	2055	2261	1124	13,102	2,358	11,792
Total to Summary			30,994	2055	2261	1124	13,102	2,358	11,792
Rural	42+82.58	103+74.51	245,188	249,020	273,922	7859	121,164	21,810	109,048
	103+74.51	135+43.10	176,753	159,776	175,753	4361	55,911	10064	50,320
	135+43.10	142+05.50	18,314	20,176	22,194	892	10,441	1879	9397
	Extra I-22 under I-21 & SS-10					750			
Total to Summary			439,255	428,972	471,869	13,862	187,516	33,753	168,765
Bridgeport Municipal	142+05.50	161+83	8,751	44,627	49,090	2,485	16,173	2,911	14,556
	Extra I-22 under I-21 & SS-10					112			
Total to Summary			8,751	44,627	49,090	2,597	16,173	2,911	14,556

BORROW - Rural

BORROW - Bridgeport Mun. 49090 - 8751 = 40339 Cu. Yds.

WATER CALCULATIONS

Bellaire Municipal 2055 × 5 ÷ 1000 = 10 M Gals.
Rural 428,972 × 5 ÷ 1000 = 2145 M Gals.
Bridgeport Municipal 44,627 × 5 ÷ 1000 = 223 M Gals.

(Bellaire) 30,994 - 2261 = 28,733 excess
RURAL: 471,869 - (439,255 + 28,733) = 3881 Cu Yds.

REMOVALS - R

F.A. FG-534(8)	Total of Sheet No.	Pavement Sq. Yds.	Pavement Including Curb Sq. Yds.	Curb Lin. Ft.	Sidewalk Sq. Ft.	Catch Basins Abandoned Each
Bellaire Municipal	13		5125			
Total to Recap						
Total to Summary			5125			
Rural	13		100			
	14	2667				
	15	2667				
	16	2700				
	17	2667				
	18	2765				
	19	2678				
	20	2667				
	21	2667				
	22	678				
Total to Recap						
Total to Summary		22,156	100			
Bridgeport Municipal	22	1989				
	23	4771		658	2660	3
Total to Recap		6760		658	2660	3
Total to Summary						

NOTE :-
Quantities marked ✳ carried direct to 'General Summary.'

Quantities marked ✳✳ carried to 'Approach & Street Return Summary Box' on Sheet No. 9.

PAVEMENT CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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BEL-7-(17.71-20.14)

FG-534 (8) -- BELLAIRE-MUNICIPAL.

T-71 -- 9" REINFORCED CONCRETE PAVEMENT.

Sta. 32+89.78 to Sta. 34+00.00 - (AVER. WIDTH = 42'-7-5/8") = 110.22 LIN. FT. -- 110.22 × 42.64 ÷ 9 = 522.2 SQ.YD.
Sta. 34+00 to Sta. 35+00 - (" " = 45'-7-1/4") = 100.0 LIN. FT. -- 100 × 45.60 ÷ 9 = 506.7 SQ.YD.
Sta. 35+00 to Sta. 40+75.47 - (48' WIDTH) = 575.47 LIN. FT. - - - 575.47 × 48 ÷ 9 = 3069.2 SQ.YD.
Sta. 40+75.47 to Sta. 42+22.33 - (48'-11½" WIDTH) = 146.86 LIN. FT. - - - 146.86 × 48.96 ÷ 9 = 798.9 SQ.YD.
Sta. 42+22.33 to Sta. 42+82.58 - (52' WIDTH) = 60.25 LIN. FT. - - - 60.25 × 52 ÷ 9 = 348.1 SQ.YD.

TOTAL - T-71 BELLAIRE MUNICIPAL = 5245.1 SQ.YD. ✳✳

I-21 -- BLACK PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT.

Sta. 34+00 to Sta. 42+22.33 = 822.33 LIN. FT. 822.23 × 2.0833 ÷ 9 = 190.4 SQ.YD.

TOTAL - I-21 BELLAIRE MUNICIPAL = 190.4 SQ.YD. ✳

FG-534 (8) -- RURAL.

T-71 -- 9" REINFORCED CONCRETE PAVEMENT.

Sta. 42+82.58 to Sta. 43+12.33 - (52' WIDTH) = 29.75 LIN. FT. 29.75 × 52 ÷ 9 = 171.9 SQ.YD.
Sta. 43+12.33 to Sta. 43+72.33 - (49' WIDTH) = 60.0 LIN. FT. 60 × 49 ÷ 9 = 326.7 SQ.YD.
Sta. 43+72.33 to Sta. 83+10.0 - (48' WIDTH) = 3937.67 LIN. FT. 3937.67 × 48 ÷ 9 = 21,000.9 SQ.YD.
Sta. 83+10 to Sta. 83+90 - - (52' WIDTH) = 80.0 LIN. FT. 80 × 52 ÷ 9 = 462.2 SQ.YD.
Sta. 83+90 to Sta. 102+52 - - (48' WIDTH) = 1862.0 LIN. FT. 1862 × 48 ÷ 9 = 9,930.7 SQ.YD.
Sta. 102+52 to Sta. 103+48 - - (52' WIDTH) = 96.0 LIN. FT. 96 × 52 ÷ 9 = 554.7 SQ.YD.
Sta. 103+48 to Sta. 109+57 - - (48' WIDTH) = 609.0 LIN. FT. 609 × 48 ÷ 9 = 3,248.0 SQ.YD.
Sta. 109+57 to Sta. 110+43 - - (52' WIDTH) = 86.0 LIN. FT. 86 × 52 ÷ 9 = 496.9 SQ.YD.
Sta. 110+43 to Sta. 115+02 - - (48' WIDTH) = 459.0 LIN. FT. 459 × 48 ÷ 9 = 2,448.0 SQ.YD.
Sta. 115+02 to Sta. 115+98 - - (52' WIDTH) = 96.0 LIN. FT. 96 × 52 ÷ 9 = 554.7 SQ.YD.
Sta. 115+98 to Sta. 142+05.5 - - (48' WIDTH) = 2607.5 LIN. FT. 2607.5 × 48 ÷ 9 = 13,906.7 SQ.YD.

TOTAL -- T-71 RURAL = 53,101.4 SQ.YD. ✳✳

I-21 -- TYPE 1 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT.

Sta. 43+12.33 to Sta. 43+72.33 - (AVER. WIDTH = 3') = 60 LIN. FT. 60 × 3 ÷ 9 = 20.0 SQ.YD.
Sta. 43+72.33 to Sta. 83+10 - (4' WIDTH) = 3937.67 LIN. FT.
Sta. 83+90 to Sta. 102+52 (do) 1862.00 LIN. FT.
Sta. 103+48 to Sta. 109+57 (do) 609.00 LIN. FT.
Sta. 110+43 to Sta. 115+02 (do) 459.00 LIN. FT.
Sta. 115+98 to Sta. 142+05.5 (do) 2607.50 LIN. FT.
9475.17 LIN. FT. 9475.17 × 4 ÷ 9 = 4211.2 SQ.YD.
DEDUCT FOR 24 No 2-7 C.B's @ 8' = -192.0 SQ.YD.

TOTAL -- I-21 RURAL = 4039.2 SQ.YD ✳

SS-10 STABILIZED SHOULDER.

RIGHT SIDE -
Sta. 43+12.33 to Sta. 64+09.54 = 2097.21 L.F.
Sta. 66+08.82 to Sta. 82+56.0 = 1647.18 L.F.
Sta. 84+56.0 to Sta. 101+55.08 = 1699.08 L.F.
Sta. 103+54.17 to Sta. 114+00.0 = 1045.83 L.F.
Sta. 116+00.0 to Sta. 142+05.5 = 2605.50 L.F.

LEFT SIDE -
Sta. 44+51.17 to Sta. 64+92.68 = 2041.51 L.F.
Sta. 66+91.96 to Sta. 83+05.0 = 1613.04 L.F.
Sta. 85+42.04 to Sta. 102+64.67 = 1722.63 L.F.
Sta. 104+79.06 to Sta. 109+54.5 = 475.44 L.F.
Sta. 110+45.5 to Sta. 115+05.0 = 459.50 L.F.
Sta. 117+42.44 to Sta. 142+05.5 = 2463.06 L.F.

TOTAL LENGTH = 17,869.38 LIN. FT. (17,869.38 × 4 × 0.50) ÷ 27 = 1323.7 CU.YD.
ADD FROM TABLE A, APPROACHES AND STREET RETURNS = 2036.0 CU.YD.
TOTAL -- SS-10 RURAL = 3359.7 CU.YD ✳

FG-534 (8) -- BRIDGEPORT - MUNICIPAL.

T-71 -- 9" REINFORCED CONCRETE PAVEMENT.

Sta. 142+05.5 to Sta. 154+82 - (48' WIDTH) = 1276.5 LIN. FT. 1276.5 × 48 ÷ 9 = 6808.0 SQ.YD.
Sta. 154+82 to Sta. 155+66 - (52' WIDTH) = 84.0 LIN. FT. 84 × 52 ÷ 9 = 485.3 SQ.YD.
Sta. 155+66 to Sta. 157+52 - (48' WIDTH) = 186.0 LIN. FT. 186 × 48 ÷ 9 = 992.0 SQ.YD.
Sta. 157+52 to Sta. 158+38 - (52' WIDTH) = 86.0 LIN. FT. 86 × 52 ÷ 9 = 496.9 SQ.YD.
Sta. 158+38 to Sta. 160+20 - (48' WIDTH) = 182.0 LIN. FT. 182 × 48 ÷ 9 = 970.7 SQ.YD.
Sta. 160+20 to Sta. 161+02.89 - (52' WIDTH) = 82.89 LIN. FT. 82.89 × 52 ÷ 9 = 478.9 SQ.YD.
Sta. 158+34.09 to Sta. 160+31.01 - (10.5' WIDTH) = 196.92 LIN. FT. - (LESS 19' × 0.5' FOR ALLEY) - [(196.92 × 10.5 - 19 × 0.5)] ÷ 9 = 228.7 SQ.YD.

TOTAL - T-71 BRIDGEPORT MUNICIPAL = 10,460.5 SQ.YD. ✳✳

I-21 -- TYPE 1 PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT.

Sta. 142+05.5 to Sta. 154+82 - (4' WIDTH) = 1276.5 LIN. FT.
Sta. 155+66 to Sta. 157+52 - (do) = 186.0 LIN. FT.
Sta. 158+38 to Sta. 159+60 - (do) = 122.0 LIN. FT.
1584.5 LIN. FT. 1584.5 × 4 ÷ 9 = 704.2 SQ.YD.
Sta. 159+60 to Sta. 160+20 - - (AVER. WIDTH = 3') = 60 LIN. FT. 60 × 3 ÷ 9 = 20.0 SQ.YD.
DEDUCT FOR 2 No 2-7 C.B.S. @ 8' = -16.0 SQ.YD.

TOTAL - I-21 BRIDGEPORT MUNICIPAL = 708.2 SQ.YD. ✳

SS-10 STABILIZED SHOULDER.

RIGHT & LEFT SIDE -- Sta. 142+05.5 to Sta. 154+85.31 = 1279.81' -- (4' WIDTH EA. SIDE) --- 1279.81 × 8 × 0.50 ÷ 27 = 189.6 CU.YD.

TOTAL - SS-10 BRIDGEPORT-MUNICIPAL = 189.6 CU.YD. ✳

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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SUMMARY OF QUANTITIES

BEL-7-(17.71-20.14)

STORM SEWERS – SS

Pipe — Lin. Ft.

F. A. FG-534(8)	Total of Sheet Nº	Pipe 12"	Pipe 15"	Pipe 18"	Pipe 21"	Pipe 24"	Pipe 8"	Under Pavement 12"	Under Pavement 15"	Under Pavement 18"	Under Pavement 36"	R.R. Strength 12"		Outlet 12"	Outlet 24"	Outlet 18"
Bellaire Municipal	13	557	302		81			199	40							
Total to Recap																
Tot. to Summary		557	302		81			199	40							
Rural	13							65								
	14	347	327	232				208		24						
	15	789						300						103	178	
	16	217	517	64			184	123								
	17	260					34			30		69				126
	18	268						149								
	19	353	88	170				345								
	20			204		50		66								
	21		891					123								
	22	78														
	6	500														
Total to Recap														103		
Tot. to Summary		2812	1823	670		50	218	1379		54		69			178	126
Bridgeport Municipal	22	181	197	185												
	23	55	407	284		75		417	35		98					
Total to Recap																
Tot. to Summary		236	604	469		75		417	35		98					

Catch Basins – Each; Pipe Specials – Each

F. A. FG-534(8)	Total of Sheet Nº	Abandoned	Nº 7	Nº 1-3	Nº 2-7	Nº 3-A	2-2A Mod	2-3 Mod.	Nº 2-2A	Nº 1-2A	12"x12" T	15"x12" T	12"x15" Inc.	15"x18" Inc.	12"x6" T	18"x12" T	18"x22°30' Bend	18"x7°30' Bend	Curb Inlet Each Nº 1	Type "A" Riprap Grout Filled Sq. Yds	Pipe Removed & Disposed 15" & Under Lin. Ft.	Removal Portions of Existing Structures Cu. Yds.	Conc. Class "C" Cu. Yds	Reinforcing Steel Lbs.	Nº 1 Manholes Each	Type 2 Paved Gutter Lin. Ft.
Bellaire Municipal	13			6							1	3	1						9						1	
Total to Recap																										
Tot. to Summary				6							1	3	1						9						1	
Rural	13			2															1							
	14			4	5	2	1					2				1			1							
	15			5	6	3	1	1			2 1-UP								1	8	398	6	2.9	86		
	16			4	3															4						
	17			2						1					1		*1			3						
	18			2	3						1															
	19			5	4							1							3	10						
	20			1														1	2							
	21			4	3							1														
	22			1																						
	6								5																	300
Total to Recap				30	24	5			5	1										25	398	6	2.9	86		
Tot. to Summary							2	1			3 1-UP	4			1	1	*1	1	8							300
Bridgeport Municipal	22			3																						
	23	4	1		3							1	[illegible]	1		2			17	3	50	4			6	
Total to Recap		4		3	3															3	50	4				
Tot. to Summary			1									1		1		2			17						6	

* Pipe Special for Storm Sewer Outlet.

GUARD RAIL

F. A. FG-534(8)	Total of Sheet Nº	Roadway Lin. Ft.	Approach Lin. Ft.
Bellaire Municipal			
Total to Summary			
Rural	14	800.68	512.0
	15	1139.46	480.0
	16	1204.98	
	17	1134.88	352.0
	18	1157.50	
	19	1475.00	
	20	1586.00	480.0
	21	1204.00	
	22	285.00	
Total to Summary		9987.50	1824
Bridgeport Municipal	22	915.00	
	23	222.50	
Total to Summary		1137.50	

APPROACHES & STREET RETURNS – A

F. A. FG-534(8)	Total of Sheet Nº	Pipe for Drives 12"	Pipe for Drives 15"		Pavement SS-10 Aggr. Cu. Yds.	Pavement 9" T-71 Sq. Yds.	Pavement 6" T-70 Sq. Yds.		Type 2-A Conc. Curb Lin. Ft.	Mod. Type 2 Conc. Curb & Gutter Lin. Ft.	Type 6 (Mod.) Conc. Curb Lin. Ft.	Remove & Dispose Existing Sidewalk Sq. Ft.	Remove & Dispose Pipe 15" & Under Lin. Ft.	Remove & Dispose Exist. Curb Lin. Ft.	Remove & Dispose Portions Existing Structure Cu. Yds	Remove & Dispose Exist. Pavemt Sq. Yds.	Paved Gutter Type 3 Lin. Ft.	Pipe Remove & Store 15" & Under Lin. Ft.	4" Concrete Sidewalk Sq. Ft.
Bellaire Municipal	13				92	393	103		286										75
	8					5245.1													
Total to Recap																			
Tot. to Summary					92	5638.1	103		286										75
Rural	13				59	207			228										75
	14				1302					397							264		600
	15				146	330	14		404	252		372	20		3				975
	17	47			300	489			461				34					23	150
	19				75	548			523				20						150
	20				154	740			609										150
	8					53101.4													
Total to Recap													74		3			23	2100
Tot. to Summary		47			*2036	55415.4	14		2225	649		372					264		
Bridgeport Municipal	23					895			432		47	2212		493		930			1023
	8					10460.5													
Total to Recap									432		47	2212		493		930			1023
Total to Summary						11355.5													

* Total to Calculations

RECAP TABLE

F. A. FG-534(8)	From Table	Pipe Remove & Store 15" & Under Lin. Ft.	Remove & Dispose Portions of Exist. Struct's Cu. Yds.	Remove & Dispose Pipe 15" & Under Lin. Ft.	Structure Excavation C.Y.	Concrete Class "C" C.Y.	Concrete Class "E" C.Y.	Reinforcing Steel Lbs.	Catch Basins – Each 1-3	2-7	3-A	2-2A	1-2A	Aband.	6" Pipe Underdrain Lin. Ft.	1/2" Premolded Exp. Jnt. Filler S.F.	Remove and Dispose Existing Curb L.F.	Remove and Dispose Exis. Sidewalk S.F.	Porous Backfill C.Y.	4" Concrete Sidewalk Sq. Ft.	Riprap Grout Filled Sq. Yds.	Type 2-A Concrete Curb Lin. Ft.	Storm Sewer Outlet Pipe 12" Lin. Ft.	Remove & Dispose Exis. Pvt. S.Y.	Type 6 Modified Concrete Curb Lin. Ft.
Bellaire Municipal																									
Total to Summary																									
Rural	CS																			285					
	S	479	203	708	7136	2239.2	107.2	388,437	28	2	1	2	1			13			12		957		173		
	SS		6	398		2.9		86	30	24	5	5	1								25		103		
	A	23	3	74																2100					
	U														1516										
	W				466		273	8,311							248	15			71						
Total to Summary		502	212	1180	7602	2242.1	380.2	396,834	58	26	6	7	2		1764	28			83	2385	982		276		
Bridgeport Municipal	S		4.5	224					3	1											56				
	SS		4.0	50					3	3				4							3				
	A																493	2212		1023		432		930	47
	R													3			658	2660						6760	
	CC																			1670		181			208
Total to Summary			8.5	274					6	4				7			1151	4872		2693	59	613		7690	255

RETAINING WALLS – W

F. A. FG-534(8)	Ref Nº	Station From	Station To	Detailed on Sheet Nº	Structure Excavation C.Y.	Concrete Class "E" C.Y.	Reinforcing Steel Lbs.	6" Pipe Underdrain Pipe L.F.	6" Pipe Underdrain Outlet L.F.	6" Pipe Underdrain Pipe Spec's Elbow Each	Porous Backfill C.Y.	Steel Rail 4"x4"x3/8" Ls L.F.	12"x1/2" Premld Sealing Strip S.F.	1" Premolded Exp. Joint S.F.	
Rural	1-W	65+09.18	66+08.82	103-104	50	34	1101	62	8	1	10	74.5	12		
	2-W	132+53.3	134+91.5	105	290	137	3907				31		36	15	Stationing on B.&O. R.R.
	3-W	83+56	84+19	102-103	42	34	1101	62	7	1	10	74.5	12		
	4-W	102+54.79	103+17.62	103-104	42	34	1101	62	56	1	10	74.5	12		
	5-W	115+00	115+63	102-103	42	34	1101	62	7	1	10	74.5	12		
Total to Recap					466	273	8311	248			71			15	
Total to Summary									78	4		298	*84		

* NOTE: All references in Drawing RW-45 to Supplemental Specification S-303 shall be considered to read Item S-3.

CONCRETE STEPS – CS

F. A. FG-534(8)	Total Sheet Nº	4" Conc. Sidewalk Sq. Ft.		1½" Pipe Railing Lin. Ft.	Steps Lin. Ft.
Rural	15	285		139	265
Total to Recap		285			
Total to Summary				139	265

UNDERDRAINS – U

F. A. FG-534(8)	Total of Sheet Nº	6" Pipe Lin. Ft.
Bellaire Municipal	13	1895
Total to Recap		
Total to Summary		1895
Rural	13	35
	14	481
	6	1000
Total to Recap		1516
Total to Summary		
Bridgeport Municipal	23	858
Total to Recap		
Total to Summary		858

CONCRETE CURB & SIDEWALK – CC

F. A. FG-534(8)	Total of Sheet Nº	Type 2 Combined Curb & Gutter Lin. Ft.		Precast Concrete Traffic Dividers Each	Type 2-A Concrete Curb Lin. Ft.	Type 6 (Mod) Concrete Curb Lin. Ft.	4" Concrete Sidewalk Sq. Ft.
Bellaire Municipal	13	1719		75			
Total to Summary		1719		75			
Rural							
Total to Summary							
Bridgeport Municipal	23	878			181	208	1670
Total to Recap					181	208	1670
Total to Summary		878					

SUMMARY OF QUANTITIES

GENERAL SUMMARY

ITEM Nº	CODE TYPE - 7221 QUANTITY SEPARATIONS F-534(8) Municipal Bellaire	Rural	Municipal Bridgeport	GRAND TOTAL	UNIT	DESCRIPTION
						~ROADWAY~
E-1	30,994	439,255	8,751	479,000	CU.YDS.	ROADWAY EXCAVATION, AS PER PLAN
E-4		3,881	40,339	44,220	CU.YDS.	BORROW
E-1	6216	51,029	11,600	68,845	SQ.YDS.	COMPACTED SUBGRADE
E-8			1151	1151	LIN.FT.	REMOVAL AND DISPOSAL OF EXISTING CURB
E-8		22156	7690	29846	SQ.YDS.	REMOVAL AND DISPOSAL OF EXISTING PAVEMENT, AS PER PLAN
E-8	5125	100		5225	SQ.YDS.	REMOVAL AND DISPOSAL OF EXISTING PAVEMENT INCLUDING CURB, AS PER PLAN
E-8		372	4872	5244	SQ. FT.	REMOVAL AND DISPOSAL OF EXISTING SIDEWALK
E-11	10	2145	223	2378	M-GALS	WATER
E-12		1180	274	1454	LIN.FT.	PIPE REMOVED (15" AND UNDER)
E-12	70	405		475	LIN.FT.	PIPE REMOVED (OVER 15")
E-12		502	30	532	LIN.FT.	PIPE REMOVED FOR STORAGE (15" AND UNDER)
E-12		431	49	480	LIN.FT.	PIPE REMOVED FOR STORAGE (OVER 15" TO 36")
E-12		80		80	LIN.FT.	120" PIPE REMOVED FOR STORAGE
E-12		30		30	LIN.FT.	120" PIPE REMOVED FOR RE-USE
I-13		265		265	LIN. FT.	CONCRETE STEPS, AS PER PLAN
I-13	75	2385	2693	5153	SQ. FT.	4" CONCRETE SIDEWALKS
I-14		300		300	LIN.FT.	TYPE 2 PAVED GUTTER, AS PER PLAN
I-14		264		264	LIN.FT.	TYPE 3 PAVED GUTTER, AS PER PLAN
I-15		9987.5	1137.5	11,125	LIN.FT.	GUARD RAIL, STEEL BEAM TYPE (DEEP)
I-15		1824		1824	LIN.FT.	GUARD RAIL: WOVEN WIRE TYPE, 3 TAPES, STANDARD STRENGTH; OR WIRE CABLE TYPE, 3 CABLES
SS-10	92	3360	190	3642	CU.YDS.	STABILIZED CRUSHED AGGREGATE SHOULDERS AND APPROACHES
L-9	13102	187516	16173	216,791	SQ.YDS.	SEEDING AND PROTECTING, TYPE "A", AS PER PLAN
L-9	1.18	16.88	1.46	19.52	TONS	COMMERCIAL FERTILIZER (10-6-4)
L-9	5.90	84.39	7.28	97.57	TONS	AGRICULTURAL GROUND LIMESTONE
M-10	15	147	29	191	TONS	CALCIUM CHLORIDE OR CALCIUM MAGNESIUM CHLORIDE FURNISHED AND APPLIED FOR MAINTAINING TRAFFIC
T-10	735	7350	1465	9550	CU.YDS.	TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC
						~DRAINAGE~
E-2	1262	7602	401	9265	CU.YDS.	EXCAVATION FOR STRUCTURES
E-3	1942	435	40	2417	CU.YDS.	CHANNEL EXCAVATION
SS-30	2799			2799	SQ.FT.	VITRIFIED CLAY LINER PLATES
I-1		47		47	LIN.FT.	12" PIPE FOR DRIVEWAYS
I-2		218		218	LIN.FT.	8" PIPE FOR STORM SEWERS
I-2	557	2812	236	3605	LIN.FT.	12" PIPE FOR STORM SEWERS
I-2	302	1823	604	2729	LIN.FT.	15" PIPE FOR STORM SEWERS
I-2		670	469	1139	LIN.FT.	18" PIPE FOR STORM SEWERS
I-2	81			81	LIN.FT.	21" PIPE FOR STORM SEWERS
I-2		50	75	125	LIN.FT.	24" PIPE FOR STORM SEWERS
I-2	199	1379	417	1995	LIN.FT.	12" PIPE FOR STORM SEWERS UNDER PAVEMENT
I-2	40		35	75	LIN.FT.	15" PIPE FOR STORM SEWERS UNDER PAVEMENT
I-2		54		54	LIN.FT.	18" PIPE FOR STORM SEWERS UNDER PAVEMENT
I-2			98	98	LIN.FT.	36" PIPE FOR STORM SEWERS UNDER PAVEMENT
I-2		69		69	LIN.FT.	12" PIPE, SEC. M-6.6(c), FOR STORM SEWERS UNDER RAILROAD, AS PER PLAN
I-2		276		276	LIN.FT.	12" STORM SEWER OUTLETS
I-2		126		126	LIN.FT.	18" STORM SEWER OUTLETS
I-2		178		178	LIN.FT.	24" STORM SEWER OUTLETS
I-2		82		82	LIN.FT.	30" STORM SEWER OUTLETS
I-4	1895	1764	858	4517	LIN.FT.	6" PIPE FOR UNDERDRAINS
I-4		78		78	LIN.FT.	6" PIPE OUTLETS FOR UNDERDRAINS
I-5	1	4		5	EACH	12" PIPE SPECIALS FOR STORM SEWERS
I-5	4	4	1	9	EACH	15" PIPE SPECIALS FOR STORM SEWERS
I-5		2	3	5	EACH	18" PIPE SPECIALS FOR STORM SEWERS
I-5		1		1	EACH	12" PIPE SPECIAL FOR STORM SEWERS UNDER PAVEMENT
I-5		1		1	EACH	12" PIPE SPECIAL FOR STORM SEWER OUTLETS
I-5		2		2	EACH	15" PIPE SPECIALS FOR ROADWAY CULVERTS
I-5		3		3	EACH	30" PIPE SPECIALS FOR STORM SEWER OUTLETS
I-5		1		1	EACH	18" PIPE SPECIAL FOR STORM SEWER OUTLETS
I-5		4		4	EACH	6" PIPE SPECIALS FOR UNDERDRAINS
I-6		30		30	LIN.FT.	RELAYING 120" PIPE FOR ROADWAY CULVERTS
I-5		2		2	EACH	3" MECHANICAL JOINT CAST IRON NINETY DEGREE BENDS, CLOW-NATIONAL F-925, OR APPROVED EQUAL
I-5		4		4	EACH	3" MECHANICAL JOINT CAST IRON PLUGS, CLOW-NATIONAL F-1035, OR APPROVED EQUAL
I-8	1		6	7	EACH	STANDARD Nº 1 MANHOLES
I-8		2		2	EACH	STANDARD Nº 1-2-A CATCH BASINS
I-8	6	58	6	70	EACH	STANDARD Nº 1-3 CATCH BASINS
I-8		7		7	EACH	STANDARD Nº 2-2-A CATCH BASINS
I-8		2		2	EACH	STANDARD Nº 2-2-A CATCH BASINS, MODIFIED AS PER PLAN
I-8		1		1	EACH	STANDARD Nº 2-3 CATCH BASIN, MODIFIED AS PER PLAN
I-8		6		6	EACH	STANDARD Nº 3-A CATCH BASINS
I-8			1	1	EACH	STANDARD Nº 7 SIDE DITCH CATCH BASIN
I-8		26	4	30	EACH	Special Nº 2-7 CATCH BASINS, AS PER PLAN
I-8		14	1	15	EACH	Special Nº 4-8 CATCH BASINS, AS PER PLAN
I-14		300		300	LIN.FT.	TYPE 2 PAVED GUTTER, AS PER PLAN
I-8	9	8	17	34	EACH	No. 1 RAISED CURB INLETS, AS PER PLAN
I-14		264		264	LIN.FT.	TYPE 3 PAVED GUTTER, AS PER PLAN
I-16			7	7	EACH	CATCH BASINS ABANDONED
I-10	570			570	SQ.YDS.	RIPRAP, TYPE "A", USING BRICK, AS PER PLAN
I-10		982	59	1041	SQ.YDS.	RIPRAP, TYPE "A", GROUT FILLED
S-1		380.2	13	393.2	CU.YDS.	CONCRETE FOR STRUCTURES, CLASS "E"
S-1	329.3	2242.1		2571.4	CU.YDS.	CONCRETE FOR STRUCTURES, CLASS "C"
S-4	40,188	396,834	345	437,367	Lbs.	REINFORCING STEEL
S-9		28		28	SQ. FT.	1"x12" PREMOLDED EXPANSION JOINT FILLER
S-14		139		139	LIN.FT.	1½" WELDED WROUGHT IRON PIPE RAILING, SEC. M-6.10, AS PER PLAN
S-14		298		298	LIN.FT.	STEEL RAILING WITH CONCRETE END POSTS, AS PER PLAN
S-22	177	212	8.5	397.5	CU.YDS.	REMOVAL OF PORTIONS OF EXISTING STRUCTURES
S-24	LUMP	LUMP		LUMP	LUMP	REMOVAL OF EXISTING STRUCTURES
S-3		84		84	SQ. FT.	WATERPROOFING-PREMOLDED SEALING STRIP

BEL-7-(171-20.14)

TYPE FENCE	PROJECT	STATE	SHEETS
		OHIO	2

10
164

SUMMARY OF QUANTITIES

GENERAL SUMMARY

ITEM No.	CODE TYPE - 7221 QUANTITY SEPARATIONS F-534(8) Municipal Bellaire	Rural	Municipal Bridgeport	GRAND TOTAL	UNIT	DESCRIPTION
						— DRAINAGE CONT. —
S-27		385		385	LIN. FT.	15" PIPE FOR ROADWAY CULVERTS
S-27		305		305	LIN. FT.	18" PIPE FOR ROADWAY CULVERTS
S-27		384		384	LIN. FT.	21" PIPE FOR ROADWAY CULVERTS
S-27		539	89	628	LIN. FT.	24" PIPE FOR ROADWAY CULVERTS
S-27		381	107	488	LIN. FT.	30" PIPE FOR ROADWAY CULVERTS
S-27		121		121	LIN. FT.	36" PIPE FOR ROADWAY CULVERTS
S-27		116		116	LIN. FT.	72" PIPE FOR ROADWAY CULVERTS, SEC. M-6.6(c)
S-27		20		20	LIN. FT.	72" SPECIAL PIPE FOR ROADWAY CULVERTS (RADIUS PIPE), SEC. M-6.6(c), AS PER PLAN
S-27		219		219	LIN. FT.	18" PIPE FOR ROADWAY CULVERTS UNDER RAILROAD, SEC. M-6.6(c)
S-27		176		176	LIN. FT.	21" PIPE FOR ROADWAY CULVERTS UNDER RAILROAD, SEC. M-6.6(c)
S-27		554	105	659	LIN. FT.	24" PIPE FOR ROADWAY CULVERTS UNDER RAILROAD, SEC. M-6.6(c)
S-27		342	183	525	LIN. FT.	30" PIPE FOR ROADWAY CULVERTS UNDER RAILROAD, SEC. M-6.6(c)
S-27		55		55	LIN. FT.	36" PIPE FOR ROADWAY CULVERTS UNDER RAILROAD, SEC. M-6.6(c)
S-27		110		110	LIN. FT.	72" PIPE FOR ROADWAY CULVERTS UNDER RAILROAD, SEC. M-6.6(c)
S-27		32		32	LIN. FT.	72" SPECIAL PIPE FOR ROADWAY CULVERTS UNDER RAILROAD (RADIUS PIPE), SEC. M-6.6(c), AS PER PLAN
SPECIAL		666		666	LIN. FT.	3" MECHANICAL JOINT CAST IRON PIPE, CLASS 22, CLOW-NATIONAL F-120, OR APPROVED EQUAL
S-29		83		83	CU. YDS.	DRAINAGE OF STRUCTURES - POROUS BACKFILL, NO. 6a AGGREGATE
						— PAVEMENT —
T-70	103	14		117	SQ. YDS.	6" PORTLAND CEMENT CONCRETE PAVEMENT
T-71	5638	55415	11356	72409	SQ. YDS.	9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
I-12	286	2225	613	3124	LIN. FT.	CONCRETE CURB, STANDARD TYPE 2-A
I-12			255	255	LIN. FT.	CONCRETE CURB, TYPE 6, MODIFIED AS PER PLAN
I-12	1719		878	2597	LIN. FT.	COMBINATION CURB AND GUTTER, STANDARD TYPE 2
I-12		649		649	LIN. FT.	COMBINATION CURB AND GUTTER, TYPE 2, MODIFIED AS PER PLAN
I-21		4039	708	4747	SQ. YDS.	PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT, TYPE 1, AS PER PLAN
I-21	190			190	SQ. YDS.	BLACK PORTLAND CEMENT CONCRETE MEDIAN PAVEMENT, AS PER PLAN
I-22	1124	13862	2597	17,583	CU. YDS.	SUBBASE, GRADING "A" OR "B"
SPECIAL	75			75	EACH	PRECAST CONCRETE TRAFFIC DIVIDERS
	LUMP	LUMP	LUMP	LUMP	L.S.	CONSTRUCTION LAYOUT STAKES

DIST. NO. 2 | STATE OHIO | PROJECT | TOTAL SHEETS

BEL-7-(17.71-20.14)

		F.A.		12
				2

BE L-7-(17.71-20.14)

S.R. 7

N17°40'E

JEFFERSON STREET

49TH STREET

END SHEET STA. 31+00

GUERNSEY ST.

P.R.R. (C.&P. DIV.)

B.&O. R.R.

Curb 2 T.P. 16.5' 12.0' Nail & Flasher in P.P.

28.55' 22.61' 25.56'

Mine Spike

P.O.T. 26+89.50

Filling Station

Garage

Brick Res.

Res.

Gar.

Wall

Res. & Garage

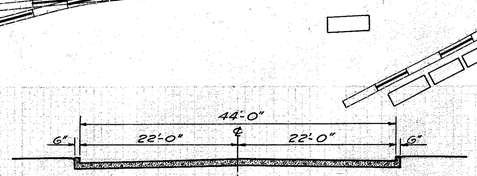
Brick Res.

20 21 22 23 24 25 26 27 28 29 30

690

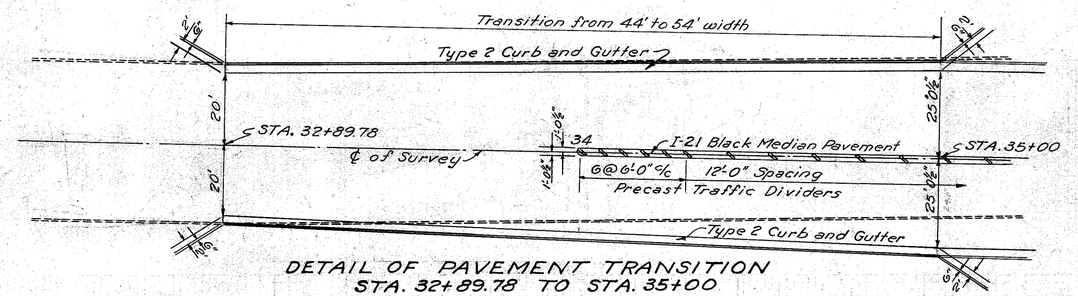
685

680



STA. 32+89.78
8" T-70 Concrete with Monolithic Curb

TYPICAL SECTION
ADJOINING PAVEMENT



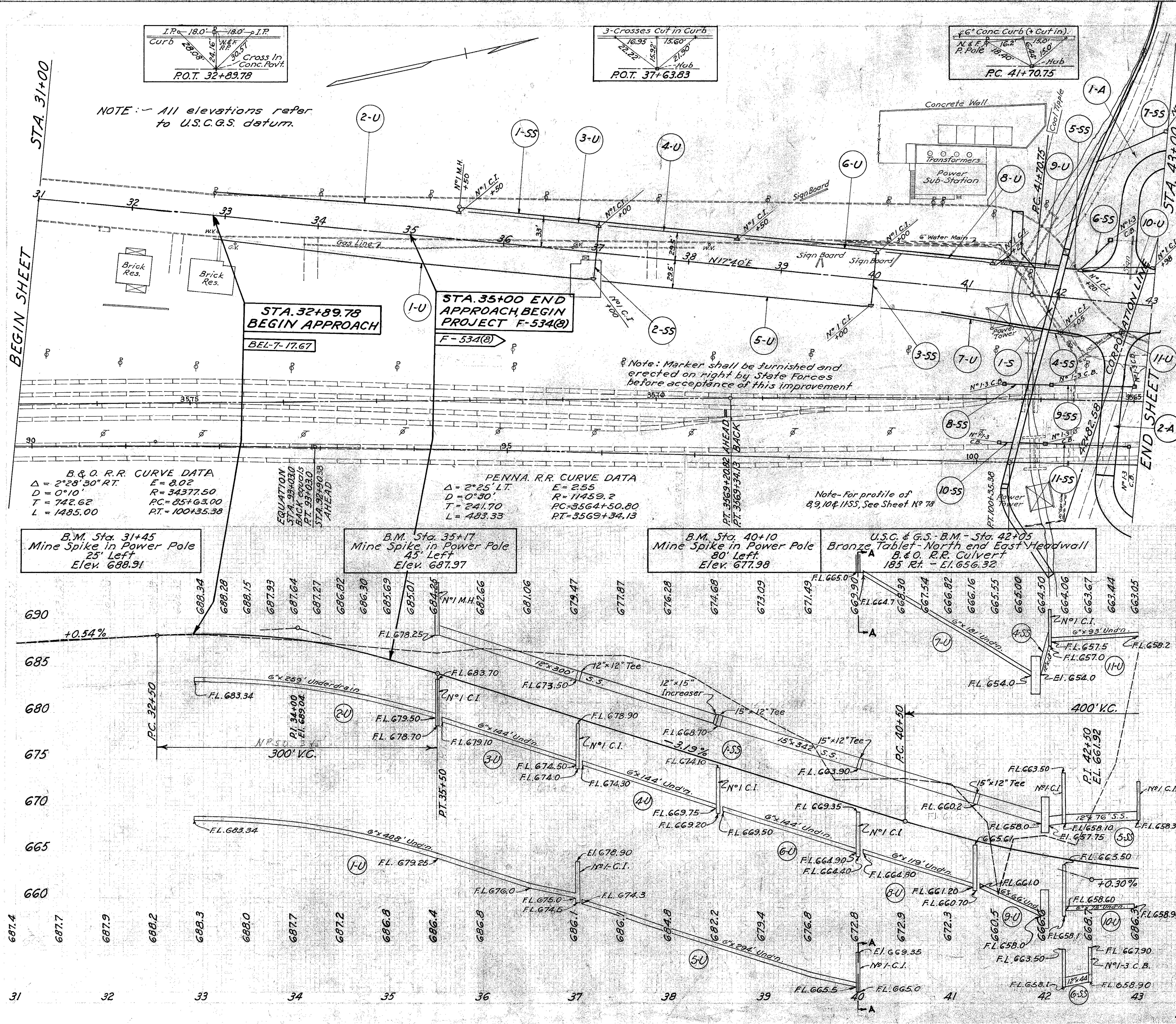
DETAIL OF PAVEMENT TRANSITION
STA. 32+89.78 TO STA. 35+00
Scale 1"= 20'

682.9 683.1 683.4 683.7 684.0 684.1 684.3 684.9 685.2 685.4 685.7 685.9 686.2 686.5 686.7 687.0 687.3

23 24 25 26 27 28 29 30 31

PLAN & PROFILE STA. 20+00 TO STA. 31+00

BEL.-7-(17.71-20.14)



STRUCTURES - 20' SPAN & UNDER

Ref. No	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
1-S	41+95	113-116	R.C.P.	48	70	Conc. Box	8'x4'	254

APPROACHES

	Ref. No	Station From	Station To	Side	See Sheet	I-17 Aggr. Cu.Yds.	9" T-71 Pav't. Sq.Yds.	Type 2A Con.Curb Lin.Ft.	4" Conc. Sidewalk Sq.Ft.	6" T-70 Pav't. Sq.Yds.
Municipal	1-A	42+67.5		Lt.	76-78	89	146	83		103
Municipal	2-A	42+67.5		Rt.	76-78	3	247	203	75	
	Sheet Totals					92	393	286	75	103
Rural	1-A	42+67.5		Lt.	76-78	30	136	162	75	
Rural	2-A	42+67.5		Rt.	76-78	29	71	66		
	Sheet Totals					59	207	228	75	

STORM SEWER

	Ref. No	Station From	Station To	Side	See Sheet	Pipe Lin. Ft. 12"	Pipe Lin. Ft. 15"	Pipe Lin. Ft. 21"	Und'r Pvt. 12"	Und'r Pvt. 15"	Catch Basins Each 1-C.I.	Catch Basins Each 1-3	Pipe Spec'ls Each 15"x12" T	Pipe Spec'ls Each 12"x15" Inc.	Pipe Spec'ls Each 12"x12" T	Man Holes Each
Municipal	1-SS	35+50	41+98	Lt.	13	306	302			40	5		3	1	1	1
Municipal	2-SS	37+00		℄	13				54		1					
Municipal	3-SS	40+00		℄	13				54		1					
Municipal	4-SS	41+93	42+05	Rt.	13	13					1					
Municipal	5-SS	42+05	42+98	Lt.	13	16			76		1					
Municipal	6-SS	42+20	42+48	Lt.	13	44						1				
Municipal	7-SS	42+23	43+00	Lt.	79			81				1				
Municipal	8-SS	41+50	41+74	Rt.	78	24						1				
Municipal	9-SS	41+83	42+90	Rt.	78	65			15			1				
Municipal	10-SS	41+50	41+64	Rt.	78	14						1				
Municipal	11-SS	41+71	42+90	Rt.	78	75						1				
	Sheet Totals					557	302	81	199	40	9	6	3	1	1	1
Rural	5-SS	42+05	42+98	Lt.	13						1					
Rural	9-SS	41+83	42+90	Rt.	78				25			1				
Rural	11-SS	41+71	42+90	Rt.	78				40			1				
	Sheet Totals								65		1	2				

UNDERDRAINS

Municipal

Ref. No	Station From	Station To	Side	See Sheet	Pipe Lin. Ft. 6"
1-U	32+90	37+00	Rt.	13	408
2-U	32+90	35+50	Lt.	13	259
3-U	35+55	37+00	Lt.	13	144
4-U	37+05	38+50	Lt.	13	144
5-U	37+05	40+00	Rt.	13	294
6-U	38+55	40+00	Lt.	13	144
7-U	40+05	41+85	Rt.	13	181
8-U	40+05	41+25	Lt.	13	119
9-U	41+30	41+95	Lt.	13	66
10-U	42+20	43+00	Lt.	13	68
11-U	42+05	43+00	Rt.	13	68
Sheet Totals					1895

Rural

Ref. No	Station From	Station To	Side	See Sheet	Pipe Lin. Ft. 6"
10-U	42+20	43+00	Lt.	13	10
11-U	42+05	43+00	Rt.	13	25
Sheet Totals					35

CONCRETE CURB & GUTTER

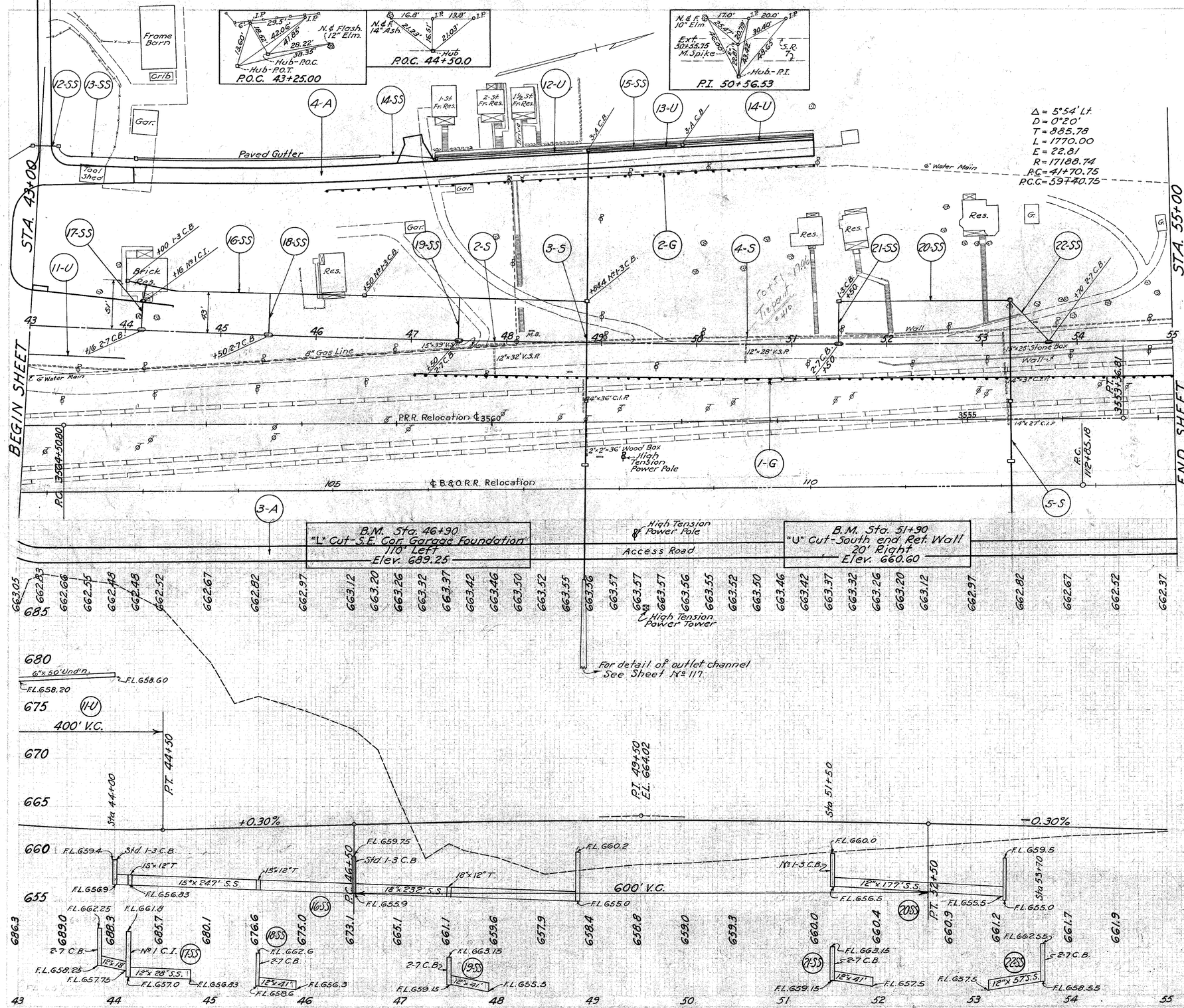
	Station From	Station To	Side	Curb & Gutter Type 2 Lin. Ft	Precast Dividers Each
Municipal	32+89.78	42+22.3	Lt.	933	
Municipal	32+89.78	40+75.47	Rt.	786	
Municipal	34+00	42+22	℄		75
	Sheet Totals			1719	75

REMOVALS

	Station From	Station To	Pavement Inc. Curb Sq.Yds.
Municipal	32+89.78	42+82.58	5125
	Sheet Totals		5125
Rural	42+82.58	43+00	100
	Sheet Totals		100

PLAN & PROFILE - STA. 31+00 TO STA. 43+00

BEL.-7-(17.71-20.14)



STRUCTURES – 20' SPAN & UNDER

Ref. №	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
2-S	47+88	114	V.S.P.	12" & 15"	32 & 39			
3-S	48+84.4	117	C.I.P.	24"	36	Pipe	21" & 24"	100 & 123
3-S	48+84.4	117				Pipe	36"	60
4-S	50+51	14	V.S.P.	12"	28			
5-S	53+30	118	C.I.P.	14"	58	Pipe	18"	213

APPROACHES

Ref. №	Station From	Station To	Side	See Sheet	I-17 Aggr. Cu.Yds.	Type 2 Mod Curb & Gutter Lin.Ft.	Type 3 Paved Gutter Lin. Ft.	4" Conc. Sidewalk Sq.Ft.	
3-A	1+89.23	3+94.7	Rt.	81-84	1078				Access Road
4-A	2+71.9	9+86.3	Lt.	79-80	224	397	264	600	Access Road
Sheet Totals					1302	397	264	600	

STORM SEWER

Ref. №	Station From	Station To	Side	See Sheet	Pipe Lin. Ft. 12"	15"	18"	Under Pvt. 12"	Under Pvt. 18"	Catch Basins Each (Std.) C.I.	(Std.) 1-3	(Std.) 3-A	(Std.) 2-7	(Mod.) 22A	Pipe Specials Each 15"x12" T	18"x12" T
12-SS	1+70	Appr.		79				24		1						
13-SS	1+97	2+73.5	Ap. Lt.	79		80							1			
14-SS	5+33	5+91	" Lt.	79	58							1				
15-SS	7+52.2	8+50	" Lt.	79	94							1				
16-SS	44+00	48+84	Lt.	14			247	232			2			2	2	1
17-SS	44+16			14	18				28	1			1			
18-SS	45+50			14					41				1			
19-SS	47+50			14					41				1			
20-SS	51+50	53+30	Lt.	14	177						1					
21-SS	51+50			14					41				1			
22-SS	53+30	53+70	Lt.	14					57				1			
Sheet Totals					347	327	232	208	24	1	4	2	5	1	2	1

UNDERDRAINS

Ref. №	Station From	Station To	Side	See Sheet	Pipe Lin. Ft. 6"
12-U	5+91 Ap.	7+47	Lt.	79	156
13-U	7+52 "	8+45	Lt.	79	90
14-U	8+50 "	9+86	Lt.	79	135
11-U	43+00	44+00	Rt.	14	100
Sheet Totals					481

GUARD RAIL

Ref. №	Station From	Station To	Side	Lin. Ft. Roadway	Lin. Ft. Approach
1-G	47+01	55+00	Rt.	800.68	
2-G	4+74.6	9+86.3	Rt.		512
Sheet Totals				800.68	512

REMOVALS

Station From	Station To	Pavement Sq.Yds.
43+00	55+00	2667
Sheet Totals		2667

PLAN & PROFILE – STA. 43+00 TO STA. 55+00.

SHEET NO.	STATE				SHEETS
2	OHIO				15 / 164

BEL.-7-(17.71-20.14)

P.O.C. 56+50.00 — S.R. 7 — Hub — C&P R.R. — 39.15 — 22.78 — N.¢ Flash. Tele. Poles.

P.C.C. 59+40.75 — S.R. 7 — Hub — C&P R.R. — 53.48' — 38.70 — 37.12 — N.¢ F. Tele. P.s. — 30.5° ±o I.P.

P.O.C. 64+00.00 — S.R. 7 — Hub — C&P R.R. — 20.80' — 42.15 — 61.90 — I. Pin — N.¢ Flash.-Tele. P.

Δ = 14°00' Lt.
D = 0°48'
T = 879.38
L = 1750.00
E = 53.79
R = 7161.98
P.C.C. = 59+40.75
P.T. = 76+90.75

BEGIN SHEET – STA. 55+00

STA. 67+00 END SHEET

PENNA. R.R. CURVE DATA
Δ = 16°18 Rt.
D = 0°42'
T = 1172.21
L = 2328.57
E = 83.51
R = 8185.16
P.C. = 3530+08.24
P.T. = 3553+36.81

B. & O. R.R. CURVE DATA
Δ = 15°36' Lt.
D = 0°40'
T = 1177.29
L = 2339.99
E = 80.26
R = 8594.42
P.C. = 112+85.18
P.T. = 136+25.17

¢ P.R.R. Relocation

¢ B. & O. R.R. Relocation

Access Road

B.M. – Sta. 57+90
Mine Spike in Root Ginkgo Tree
40' Right
Elev. 657.12

B.M. – Sta. 63+15
Mine Spike in Tele. Pole
50' Right
Elev. 660.41'

B.M. – Sta. 66+75
Mine Spike in Tele. Pole
45' Right
Elev. 661.69

662.37 662.22 662.07 661.92 661.77 661.62 661.47 661.32 661.17 661.02 660.87 660.72 660.57 660.42 660.35 660.29 660.24 660.20 660.17 660.14 660.13 660.12 660.13 660.14 660.17 660.20 660.24 660.29 660.35 660.42 660.57 660.72 660.87

400' V.C.

PC. 61+50 — PT. 65+50 — −0.30% — +0.30%

STRUCTURES – 20' SPAN & UNDER

Ref. Nº	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
6-S	55+48	15	V.S.P.	18"	28'			
7-S	56+55	119	V.S.P. / C.I.P.	12" / 15"	33' / 31'	Pipe	24"	213'
7-S	56+55	15	V.S.P.	18"	36'			
8-S	58+24.9	120	C.I.P.	24"	101'	Pipe	30"	268'
9-S	61+74	121	V.S.P.	12" / 15"	28' / 58'	Pipe	24" / 36"	153' / 176'
9-S	61+74	121	C.I.P.	24" / 36"	32' / 32'			
10-S	65+07	122	V.S.P. / C.I.P.	18"	42' / 36'	Pipe	30"	244
10-S	65+07	122	R.C.P.	24"	32'			

APPROACHES

Ref. Nº	Station From	Station To	Side	See Sheet	I-17 Aggl. Cu.Yds.	9"-7"-11" Conc. Pvt. Sq.Yds.	6"-7"-10" Conc. Pvt. Sq.Yds.	Type 2-A C. Curb Lin.Ft.	Type 2 Curb & Gut. (Conc.) Lin.Ft.	4" Conc. Sidewalk Sq.Ft.	Remove & Dispose: Exist. Sidewalk Sq.Ft.	Remove & Dispose: Pipe Lin.Ft. 12"	Remove & Dispose: Portions Exist. Structs Cu.Yds.
5-A	62+00	66+00	Lt.	85-87	146		14		252	825	372	20	3
6-A	65+50		R&L.	101		330		404		150			
Sheet Totals					146	330	14	404	252	975	372	20	3

STORM SEWERS

Ref. Nº	Station From	Station To	Side	See Sheet	Pipe Lin.Ft. 12"	18"	24"	Catch Basins Each 12"	24"	22A	2-3	1-C.I.	1-3	2-7	3-A	Pipe Spec. Each 12x12 T	Riprap Type A Sq.Yds.
23-SS	55+30			15		41								1			
24-SS	55+90	56+25	Lt.	15	62								1				
25-SS	57+50	58+20	Lt.	15	67								1				
26-SS	58+10			15		41								1			
27-SS	60+30			15		41								1			
28-SS	60+30	61+74	Lt.	15	141								1				
29-SS	61+74	62+50	Lt.	15	73								1				
30-SS	62+50			15		41								1			
31-SS	63+50			15		41								1			
32-SS	63+50	65+07	Lt.	15	154								1				
33-SS	65+07	66+40	Lt.	15	126										2		3
34-SS	66+10			15		41								1			
* 35-SS	61+46.58	Appr.		84				103	178	1	1				1		
* 36-SS	41+25 Ap	61+50 Ap	Lt.	85	166	54									2	1	5
Sheet Totals					789	300		103	178	1	1	1	5	6	3	3	8

STORM SEWERS Cont.

Ref. Nº	Pipe Remove & Dispose Lin. Ft. 8"	10"	12"	15"	Removal Portions of Exist. Struct. Cu. Yds.	Concrete Class "C" Cu. Yds.	Reinforcing Steel Lbs.
* 35-SS	192	51	86	69	6	2.9	86
Totals	192	51	86	69	6	2.9	86

WALLS

Ref. Nº	Station From	Station To	Side	See Sheet
1-W	65+09.18	66+08.82	Rt.	103-104

GUARD RAIL

Ref. Nº	Station From	Station To	Side	Lin. Ft. Rdwy.	Lin. Ft. Appr.	See Sheet
3-G	55+00	65+08	Rt.	1011.82		15
4-G	65+73	67+00	Rt.	127.64		15
5-G	1+82.22	5+35	Rt.		368	85
6-G	5+43	6+55	Rt.		112	85
Sheet Totals				1139.46	480	

CONCRETE STEPS & SIDEWALK

Station	Side	Sidewalk Sq.Ft. 4" Conc.	4" Pipe Railing Lin.Ft.	Steps Lin.Ft.
65+50	Lt.	285	139	265
		See Sheet Nº 112		
Sheet Totals		285	139	265

REMOVALS

Station From	Station To	Pavement Sq.Yds.
55+00	67+00	2667
Sheet Totals		2667

PLAN & PROFILE – STA. 55+00 TO STA. 67+00.

SCALE BY DRAWING	MAP	PROJECT	DATE
2	GRID		

16
164

BEL.-7-(17.71-20.14)

EXT. 68+15.75
S.R. 7 — N.S.
98.53' — 15.70' — 66.40'
I.P. — 29.6° — I.P. — 29.0° — I.P.
374.20' — 129.85' — 45.30'
C & P R.R.
Hub
P.I. 68+20.13

Cross Cut in Conc. Steps.
14.0' — I.P. — 11.8' — I.P.
22.20' — 16.13° — 16.03'
Hub
P.O.C. 71+25.00

48.0' — I.P. — 43.0' — I.P.
514.75' — 33.56° — 31.55'
Hub
P.O.C. 72+50.00

12" Locust — Nail & Flash — 18" Maple
28.36' — 23.83'
Hub
P.O.C. 75+00.00

+ Conc. Step — 8.5' — 3 rd Step — I.P.
I.P. — 11.0' — 7.90' — 7.09' — 12.90'
Hub
P.T. 76+90.75

N. & F. — 10" Locust
I.P. — 85.30'
N. & F. Tele. P. — 6.39° — 10" Locust N. & F.
P.O.T. 78+77.02

BEGIN SHEET - STA. 67+00

STA. 79+00

END SHEET

Union Chapel

School House

Shed

Gar.

Res.

6" Water Line

6" Water Main

8" Gas Line

Wall

C.B.

1-3 C.B. +30

2-7 C.B. +90

2-7 C.B. +10

2-7 C.B. +50

1-3 C.B. +90

1-3 C.B. +40

P.T. 76+90.75

37-SS — 38-SS — 39-SS — 40-SS — 41-SS — 15-S — 16-S

11-S — 12-S — 13-S — 3-A — 14-S — 7-G — 80-SS — 2-W

9" V.S.P.

75" 43' C.I.P.

18"-35' C.I.P.

14"x12" C.I.P.

12"x21" V.S.P.

12"-24' C.I.P.

P.C. 3330+08.24

12"x18" R.C.P.

3540 — 3535 — 3530

℄ P.R.R. Relocation

℄ B.&O.R.R. Relocation

P.O.C. 122+94.28

Spur Retaining Wall

Access Road

Channel

Elreco Corporation Building

B.M. – Sta. 70+50
□ Cut – North end Ret. Wall 8' Left.
Elev. 662.78

B.M. – Sta. 73+15
□ Cut – Conc. Landing at entrance of Church – 200' Left
Elev. 710.06

B.M. – Sta. 77+00
Mine Spike in Tele. Pole 95' Right
Elev. 633.31

660.87 — 661.02 — 661.17 — 661.32 — 661.47 — 661.62 — 661.77 — 661.92 — 662.07 — 662.22 — 662.37 — 662.52 — 662.67 — 662.82 — 662.97 — 663 1/2 — 663.27 — 663.42 — 663.57 — 663.72 — 663.87 — 664.02 — 664.17 — 664.32 — 664.47

670
665
660
655

Sta. 68+90 — Sta. 71+10 — Sta. 72+85 — Sta. 73+50

+0.30%

E.L. 658.32 — Std. 1-3 C.B. — F.L. 655.57
12"x 219' SS
F.L. 658.50 — Std. 1-3 C.B. — F.L. 654.70 — 38-SS
15"x 170' SS
F.L. 659.0 — Std. 1-3 C.B. — F.L. 654.0 — 40-SS
18"x 64' SS
F.L. 659.20 — Std. 1-3 C.B. — F.L. 655.5
15"x 347' SS
F.L. 660.25 — No. 1-3 C.B. — F.L. 657.25

F.L. 661.25 — 37-SS — 2-7 C.B. — F.L. 657.25 — 12"x 41' SS — F.L. 656.0
F.L. 661.90 — 39-SS — 2-7 C.B. — F.L. 657.95 — 12"x 41' SS — F.L. 656.0
F.L. 662.60 — 41-SS — 2-7 C.B. — F.L. 658.65 — 12"x 41' SS — F.L. 656.5

67 — 68 — 69 — 70 — 71 — 72 — 73 — 74 — 75 — 76 — 77 — 78 — 79

STRUCTURES - 20' SPAN & UNDER

Ref. Nº	Station	See Sheet	Removals Type	Size	Length	New Work Type	Size	Length
11-S	67+25	16	C.I.P.	15"	31			
			V.S.P.	18"	20 ✓			
12-S	70+30	16	C.I.P.	18"	33 ✓			
13-S	72+25	16	C.I.P.	14"	12 ✓			
			V.S.P.	12"	52 ✓			
14-S	72+83	123				Pipe	21	148
							24	112
15-S	76+20	16	C.I.P.	14"	24 ✓			
16-S	77+86	16	R.C.P.	15"	18 ✓			

GUARD RAIL

Ref Nº	Station From	Station To	Side	Roadway Lin. Ft.	See Sheet
7-G	67+00	79+00	Rt.	1204.98	16
Sheet Totals				1204.98	

WALLS

Ref. Nº	B.&O. R.R. Station From	Station To	Side	See Sheet
2-W	132+53.3	134+91.5	Rt.	105

STORM SEWERS

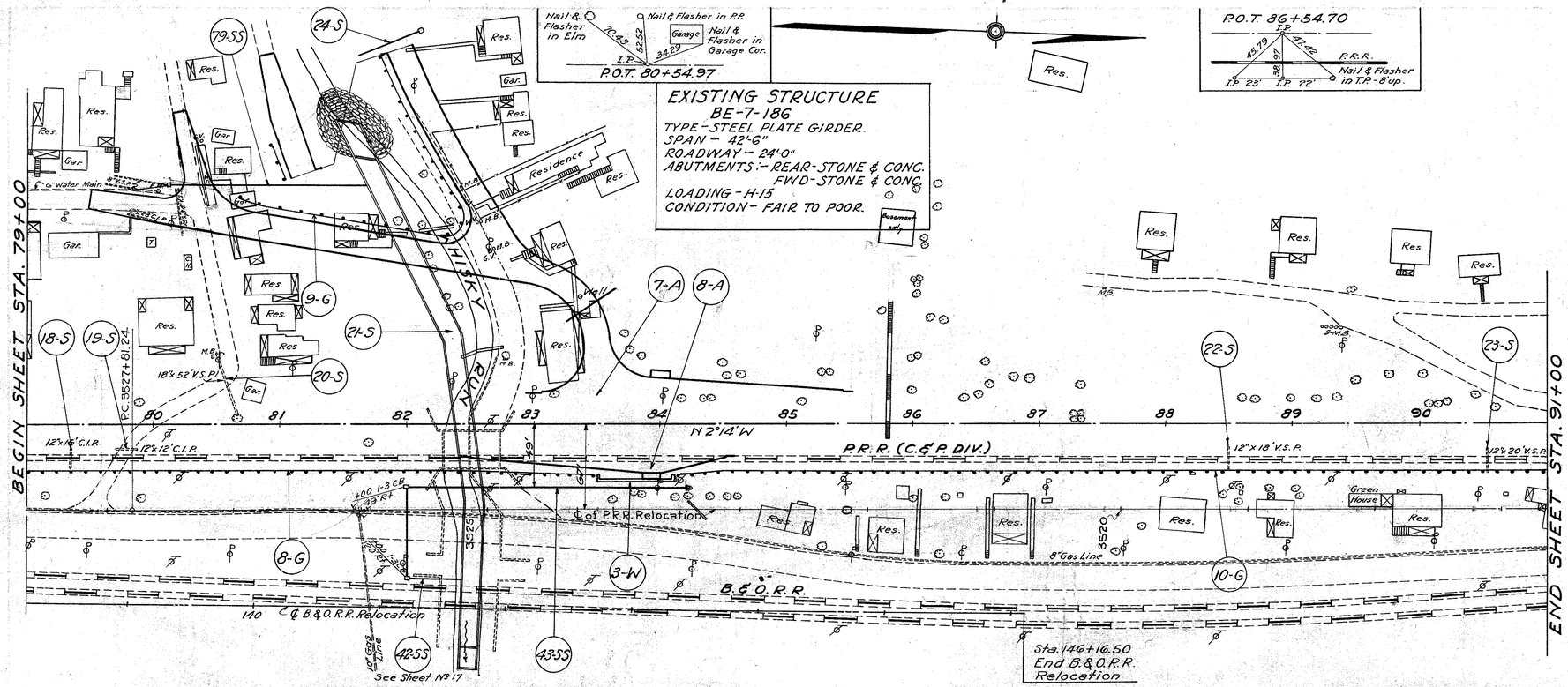
Ref Nº	Station From	Station To	Side	See Sheet	Pipe Lin. Ft. 12"	15"	18"	Under Rd. 12"	Catch Basins Each 1-3	2-7	Pipe 8" Lin. Ft.	Sq. Yd.	Rip-rap
37-SS	68+90			16				41		1			
38-SS	68+90	72+83	Lt.	16	217	170			2				
39-SS	71+10			16				41		1			
40-SS	72+83	73+50	Lt.	16			347	64	2				
41-SS	73+50			16				41		1			
80-SS	73+00		Rt.	123A							184	4	
Sheet Totals.					217	317	64	123	4	3	184	4	

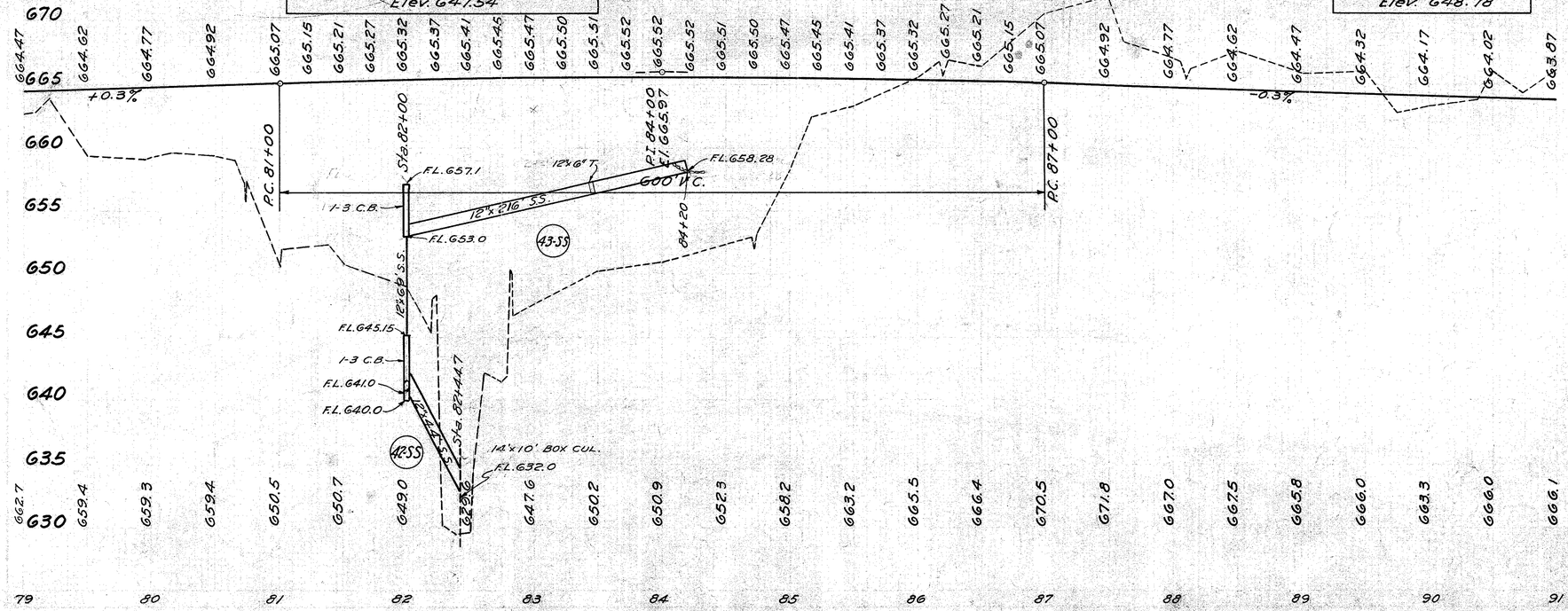
REMOVALS

Station From	Station To	Pavement Sq. Yds.
67+00	79+00	2700
Sheet Totals		2700

PLAN & PROFILE - STA. 67+00 TO STA. 79+00

F.A. 17
2 164
BEL-7-(17.71 - 20.14)





STRUCTURES - 20' SPAN & UNDER

Ref. Nº	Station	See Sheet	Removals Type	Size	Length	New Work Type	Size	Length
18-S	79+35	111	C.I.P.	12"	16'			
19-S	79+80	111	C.I.P.	12"	12'			
20-S	80+65	111	V.S.P.	18"	52'			
21-S	82+45.67	124-127				Conc. Box	14'x10	453
22-S	88+50	111	V.S.P.	12"	18'			
23-S	90+53	111	V.S.P.	12"	20'			
24-S	3+00 Apr.	128				Pipe	15"	53

APPROACHES

Ref. Nº	Station From	To	Side	See Sheet	I-17 Aggr. Cu.Yds.	9"T-71 Conc. Sq.Yds.	Type 2-A C.Curb Lin.Ft.	4" Conc. Sidewalk Sq.Ft.	Pipe Removed Lin. Ft. Store	Dispose	Drive Pipe Lin. Ft. 12"
7-A	83+50		Lt.	88-92	300	324	259	75	23	34	47
8-A	83+50		Rt.	102		165	202	75			
Sheet Totals					300	489	461	150	23	34	47

STORM SEWERS

Ref. Nº	Station From	To	Side	See Sheet	Pipe - Lin. Ft. 12"	8"	18"	12"	Corr. Iat.	RR. Strength	18"	Catch Basins Each 1-3	1-2A	Rip-rap Sq.Yds.	Pipe Spec. Each 18"x13" Equiv.	12"
42-SS	82+00	82+44.7	Rt.	117	44			69					1			
43-SS	82+00	84+20	Rt.	117	216								1	3	1	1
79-SS	0+73	Appr.		89		34	126				30			1		1
Sheet Totals					260	34	126	69			30	2	1	3	1	1

GUARD RAIL

Ref. Nº	Station From	To	Side	See Sheet	Lin. Ft. Rdwy	Appr.
8-G	79+00	83+55	Rt.	117	455.88	
9-G	1+16 Ap.A	2+78 Ap.B	Lt. & Rt.	88		352
10-G	84+20	91+00	Rt.	117	680.0	
Sheet Totals					1134.88	352

WALLS

Ref. Nº	Station From	To	Side	See Sheet
3-W	83+56	84+19	Rt.	102-103

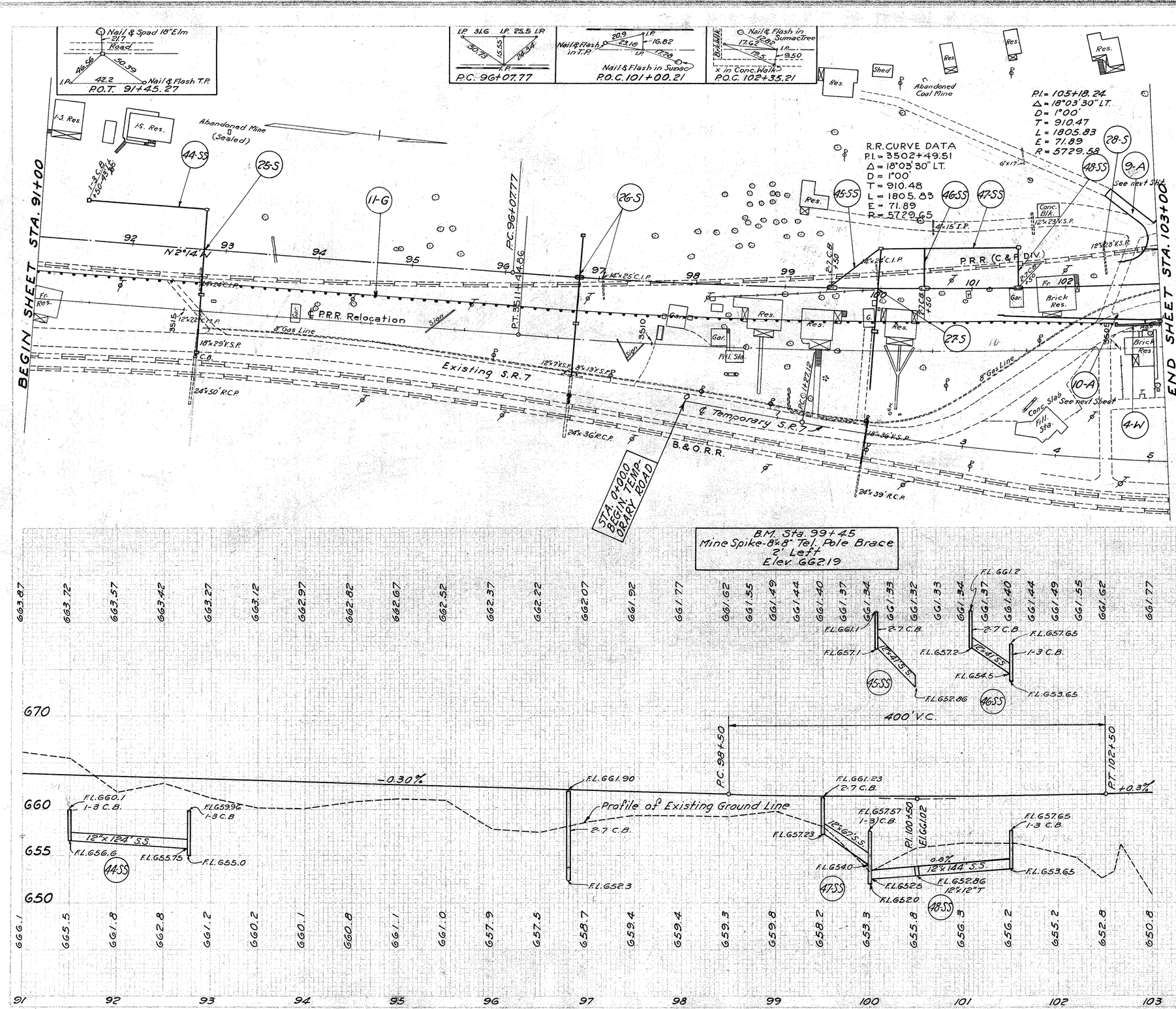
REMOVALS

Station From	To	Pavement Sq.Yds.
79+00	91+00	2667
Sheet Totals		2667

PLAN & PROFILE STA. 79+00 TO STA. 91+00

FED. ROAD SYSTEM	STATE	F.A. PROJECT			18
2	OHIO				164

B.E.L-7-(17.71 - 20.14)



STRUCTURES - 20' SPAN & UNDER

Ref. Nº	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
25-S	92+76.9	129	C.I.P.	24"	24'	Pipe	21"	150'
25-S	92+76.9	129	C.I.P. V.S.P.	12" 18"	22' 29'	Pipe	24"	3'
26-S	96+79.8	130	C.I.P.	14"	25'	Pipe	18"	136'
26-S	96+79.8	130	V.S.P.	18" 12"	13'	Pipe	24"	15'
27-S	100+00	131	C.I.P. V.S.P.	14" 18"	24' 29'	Pipe	24"	204'
28-S	102+45	18	V.S.P.	12"	28'			

STORM SEWERS

Ref. Nº	Station From	Station To	Side	See Sheet	Pipe Lin. Ft. Pipe 12"	Pipe Lin. Ft. Under Pvt. 12"	Catch Basins Each 1-3	Catch Basins Each 2-7	Pipe Spec. Each 12"x12" T
44-SS	91+50	92+76	Lt.	18	124		1		
45-SS	99+50	100+03	Lt.	18		67		1	
46-SS	100+50			18		41		1	
47-SS	100+03	101+50	Lt.	18	144		1		1
48-SS	101+50			18		41		1	
Sheet Totals				268		149	2	3	1

GUARD RAIL

Ref. Nº	Station From	Station To	Side	See Sheet	Roadway Lin. Ft.
11-G	91+00	102+54.1	Rt	18	1157.50
Sheet Totals					1157.50

WALLS

Ref Nº	Station From	Station To	Side	See Sheet
4-W	102+54.79	103+17.62	Rt.	103-104

REMOVALS

Station From	Station To	Pavement Sq Yds.
91+00	103+00	2765
Sheet Totals		2765

PLAN & PROFILE STA. 91+00 TO STA. 103+00

FED. AID DIVISION	STATE	F.A. PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO			19 / 164

BEL-7 (17.71 - 20.14)

R.R. CURVE DATA
P.I. = 3502+49.51
Δ = 16°03'30" LT.
D = 1°00'
T = 910.48
L = 1605.83
E = 71.69
R = 5729.65

EXT. 105+10.69

P.O.C. 110+00.21

P.T. 114+13.6

BEGIN SHEET STA. 103+00

END SHEET STA. 115+00

P.R.R. (C.&P. DIV.)

℄ P.R.R. Relocation

℄ Temporary S.R. 7

S.R. 7

10' ALLEY

STREET

B. & O.R.R.

TEMPORARY RD. CURVE DATA
Δ = 29°39' LT.
D = 2°12'
T = 689.31
L = 1347.73
E = 89.68
R = 2604.35
P.C. = 11+27.12
P.T. = 14+74.85

B.M. Sta. 103+10
L cut on Sidewalk
40' Right
Elev. 649.18

B.M. Sta. 107+15
Mine Spike in Power Pole
85' Left
Elev. 667.93

B.M. Sta. 108+75
L cut in top step N.W. Entrance
to School House 80' Rt.
Elev. 655.78

B.M. Sta. 112+10
Mine Spike in Power Pole
19' Right
Elev. 651.12

B.M. Sta. 115+39
Mine Spike in Power Pole
115' Left
Elev. 665.37

Profile of ℄ Existing Ground Line

+0.30%

N20°17'30"W

600 V.C.

P.C. 114+00

STRUCTURES - 20' SPAN & UNDER

Ref. Nº	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
29-S	104+00	19	V.S.P.	12"	20'			
30-S	105+50	132				C.I.P.	3"	334'
31-S	105+97.42	133	V.S.P.	12"	12'	Pipe	24"	168
			C.I.P.	14"	25'		24"	11.3
32-S	109+27.12	134	V.S.P.	18"	93'			
			C.I.P.	14"	72'			
32-S	109+27.12	134	V.S.P.	8"	35'			
				10"	21'	Pipe	18"	174
33-S	111+20	19	C.I.P.	14"	18'			
34-S	112+00	132				C.I.P.	3"	332
35-S	114+00	19				Pipe	12"	108
36-S	114+80	19	V.S.P.	12"	53'			

APPROACHES

Ref Nº	Station	Side	See Sheet	I-17 Aggr. Cu.Yds.	9"T-71 C. Pavt. Sq.Yds.	Type 2A C. Curb Lin.Ft.	4" Conc. Sidewalk Sq.Ft.	Drive Pipe L.F. 12"		Pipe Remove & Dispose Lin.Ft.(18)
9-A	103+00	Lt.	93	30	232	213	75			
10-A	103+00	Rt.	93		165	202	75			
11-A	110+00	Lt.	94	45	151	108				20
Sheet Totals				75	548	523	150			20

STORM SEWERS

Ref Nº	Station From	Station To	Side	See Sheet	Pipe - Lin. Ft. Pipe 12"	Pipe 15"	Pipe 18"	Und. Pvt. 12"	Catch Basins Each 1-3	2-7	I-C.I.	Pipe Spec. Each 15"&12"	Rip-rap Sq.Yds.
49-SS	102+86.35	103+23.25	Lt.	19				51			2		
50-SS	103+00	103+31	Lt.	19				42					5
51-SS	103+50		Lt.	19				16			1		
52-SS	104+25			19				52		1			
53-SS	103+31	107+00	Lt.	19	100	88	170		3			1	
54-SS	107+00			19				57		1			
55-SS	110+50			19				58		1			5
56-SS	112+50			19				69		1			
57-SS	112+50	115+09	Lt.	19	253				2				
Sheet Totals					353	88	170	945	5	4	3	1	10

GUARD RAIL

Ref Nº	Station From	Station To	Side	See Sheet	Roadway Lin.Ft.
12-G	103+18.2	114+99	Rt.	19	1187.50
13-G	112+74.12	5+30 Appr	Lt.	19	287.50
Sheet Totals					1475.00

REMOVALS

Station From	Station To	Pavement Sq.Yds.
103+00	115+00	2678
Sheet Total		2678

PLAN & PROFILE STA. 103+00 TO STA. 115+00

FED. AID PROJECT	STATE	F.A. PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO			20	164

BEL-7-(17.71 - 20.14)

EXISTING STRUCTURES

BE-7-193
TYPE - CONCRETE BEAM.
SPAN - 18'-0"
ROADWAY - 28'-0"
LOADING - H-15
CONDITION - FAIR
TO BE REMOVED.

BE-7-193 A
TYPE - SLAB TOP CULVERT.
SPAN - 10'-0"
ROADWAY - 24'-0"
CONDITION - GOOD
TO BE REMOVED.

P.O.T. 122+95.95 P.O.T. 123+00.24

STRUCTURES - 20' SPAN & UNDER

Ref Nº	Station	See Sheet	Removals Type	Size	Length	New Work Type	Size	Length
37-S	5+34 Appr.	136	C.I.P.	14"	15'	Pipe	15"	89'
38-S	5+10 Appr.	136	V.S.P.	12"	42'	Pipe	15"	73'
39-S	2+30 Appr.	136				Pipe	15"	62'
40-S	118+79	137-140	R.C.P.	120"	80'	Conc. Box	12'x9'	236'
41-S	121+10.78	141-143	Conc. Box R.R. Bridge	14'x8' 18' Span	38	Pipe	72"	278'
42-S	123+08	20	R.C.P.	15"	19'			
43-S	125+79	20	V.S.P.	15"	20'			
44-S	126+90	20	V.S.P.	12"	15'			

APPROACHES

Ref Nº	Station	Side	See Sheet	1-17 Aggr. Cu.Yds.	9"T-71 Pavt. Sq.Yds.	Type 2-A C. Curb Lin. Ft.	4" Conc. Sidewalk Sq. Ft.
12-A	115+50	Rt.	102		165	202	75
13-A	115+50	Lt.	95-96	154	575	407	75
Sheet Totals				154	740	609	150

STORM SEWER

Ref Nº	Station From	Station To	Side	See Sheet	Pipe - Lin. Ft. Pipe 12"	Pipe 18"	Pipe 24"	Under Pert. 12"	Catch Basins Each Nº1 Cl.	Nº1-3	Pipe Spec. 18" Each 7°30' Bend
58-SS	5+52 Apr.	116+00 Rdwy	R&L	20				66	2	1	
59-SS	116+00	118+48.1	Lt.	20		204	50				1
Sheet Totals						204	50	66	2	1	1

GUARD RAIL

Ref Nº	Station From	Station To	Side	See Sheet	Lin. Ft. Roadway	Approach
14-G	0+72.76	5+27.09	Lt.	95		480
15-G	5+27.09 Ap.	119+05	Lt.	20	350	
16-G	115+64	127+00	Rt.	20	1136	
17-G	120+85	121+85	Lt.	20	100	
Sheet Totals					1586	480

WALLS

Ref Nº	Station From	Station To	Side	See Sheet
5-W	115+00	115+63	Rt.	102-103

REMOVALS

Station From	Station To	Pavement Sq.Yds.
115+00	127+00	2667
Sheet Totals		2667

U.S.C. & G.S. B.M. 119+45
Bronze Tablet N.E. Cor. Abut.
B. & O. R.R. Bridge-200 Rt.
Elev. 646.40

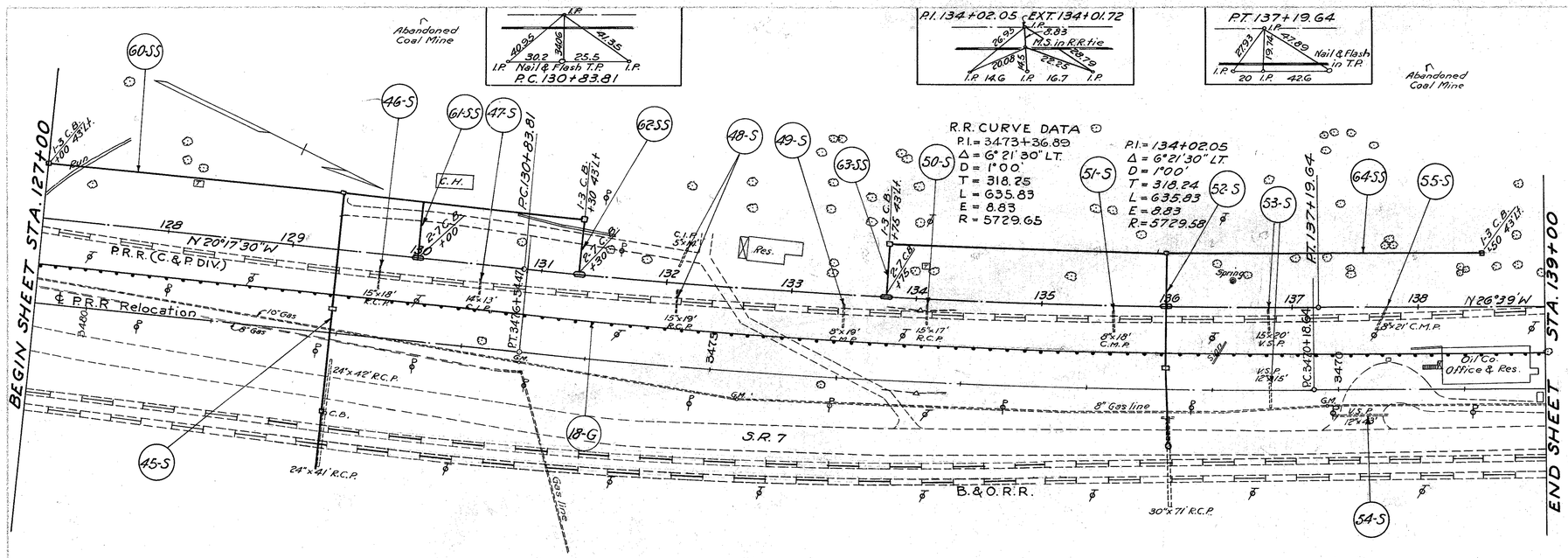
B.M. Sta. 118+47
Bolt Head N. Conc. Abut.
N.W. Cor. 53' Left
Elev. 659.59

B.M. Sta. 121+28
Bolt Head N.W. Cor. North
Abutment P.R.R. Bridge
35' Lt. Elev. 660.51

PLAN & PROFILE STA. 115+00 TO STA. 127+00

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE JOB	SHEET
2	OHIO		PLAN & PROFILE	21 / 164

BEL-7-(17.71 -20.14)



STRUCTURES - 20' SPAN & UNDER

Ref. Nº	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
45-S	129+36.5	144	R.C.P.	24"	83'	Pipe	30"	211'
46-S	129+70	21	R.C.P.	15"	18'			
47-S	130+51	21	C.I.P.	14"	13'			
48-S	132+09	21	C.I.P. R.C.P.	15" 15"	14' 19'			
49-S	133+42	21	C.M.P.	8"	19'			
50-S	134+08	21	R.C.P.	15"	17'			
51-S	135+57	21	C.M.P.	8"	18'			
52-S	135+99	145	R.C.P.	30"	71'	Pipe	24"	151'
53-S	136+80	21	V.S.P. V.S.P.	12" 15"	15' 20'			
54-S	137+50	21	V.S.P.	12"	43'			
55-S	137+70	21	C.M.P.	8"	21'			

STORM SEWERS

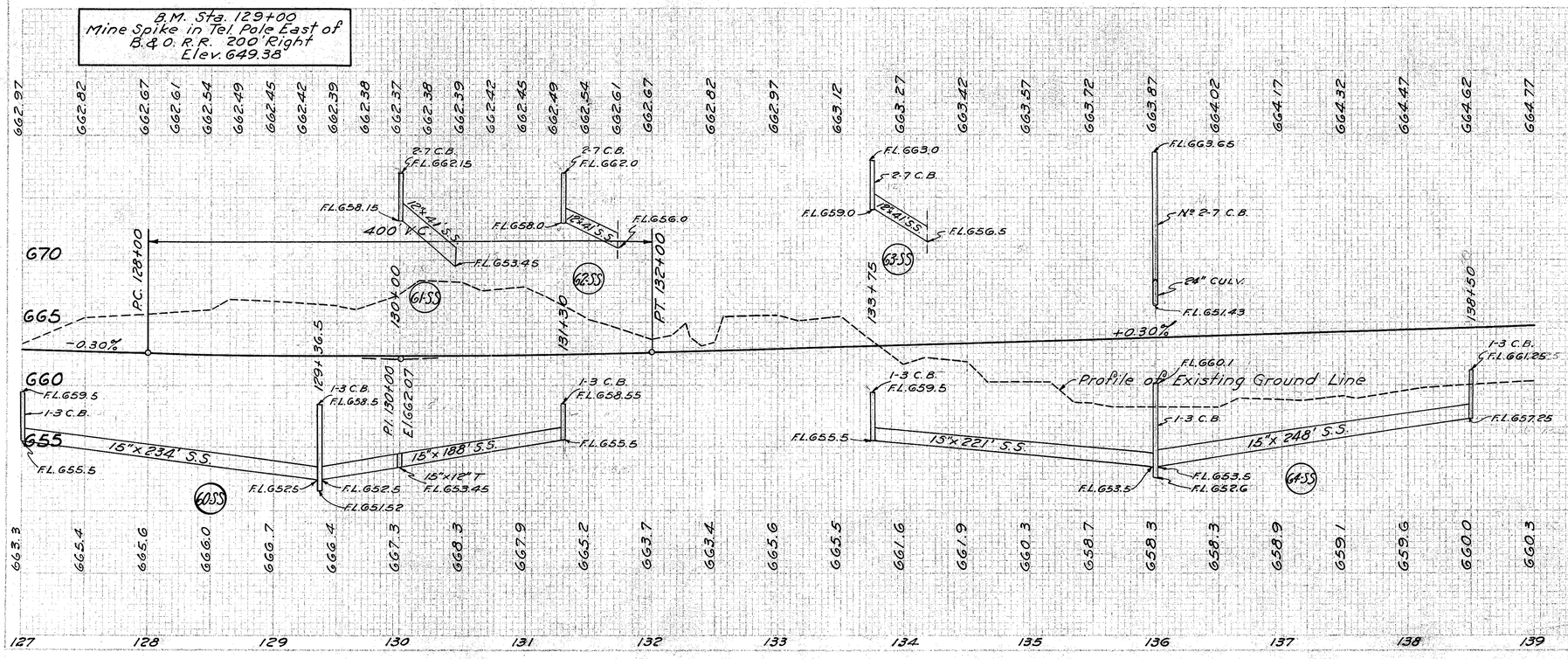
Ref Nº	Station From	Station To	Side	See Sheet	Pipe – Lin. Ft. Pipe 12"	Pipe 15"	Und. Prt. 12"	Catch Basins Each 1-3	Catch Basins Each 2-7	Pipe Spec. Each 15"x18" T
60-SS	127+00	131+30	Lt.	21		422		2		1
61-SS	130+00			21			41		1	
62-SS	131+30			21			41		1	
63-SS	133+75			21			41		1	
64-SS	133+75	138+50	Lt.			469		2		
Sheet Totals						891		123	4	3	1

GUARD RAIL

Ref Nº	Station From	Station To	Side	See Sheet	Roadway Lin. Ft.
18-G	127+00	139+00	Rt	21	1204
Sheet Totals					1204

REMOVALS

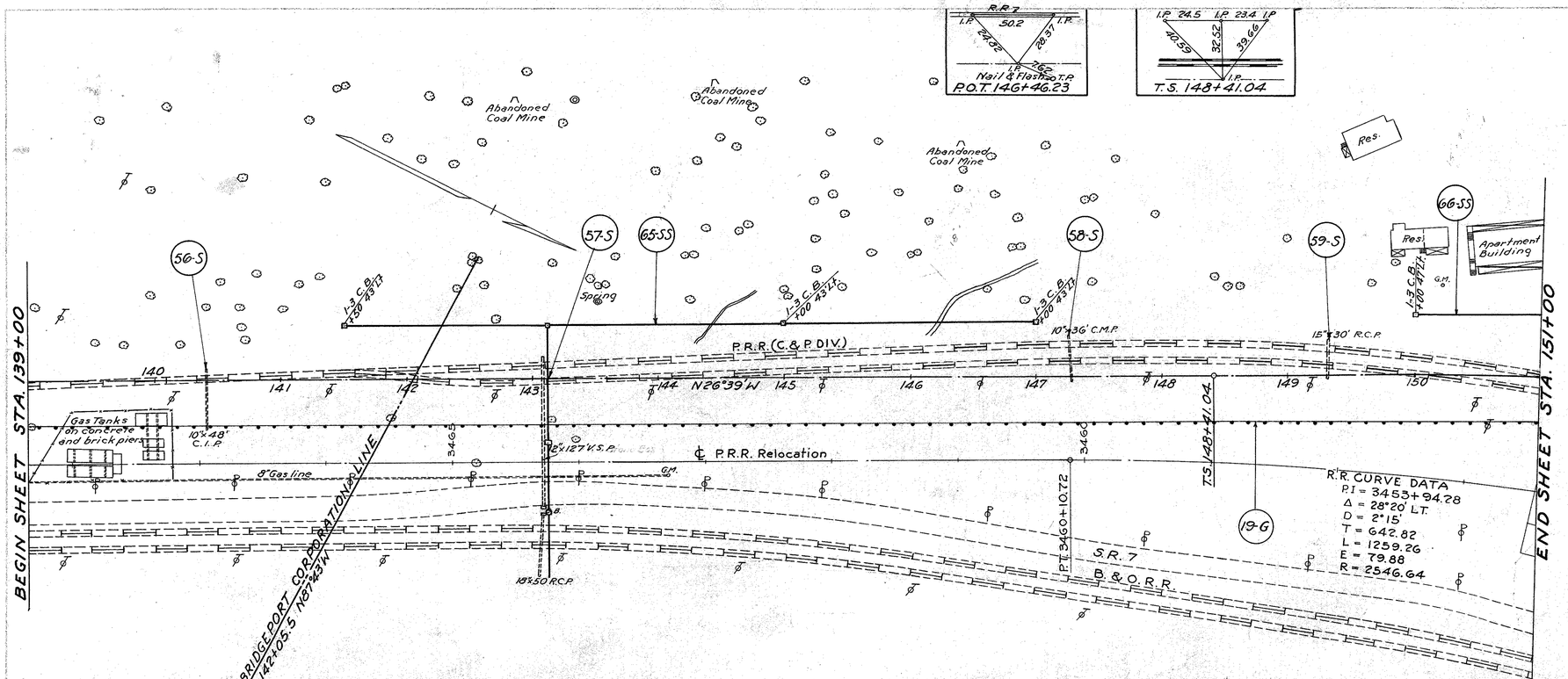
Station From	Station To	Pavement Sq. Yds.
127+00	139+00	2667
Sheet Totals		2667



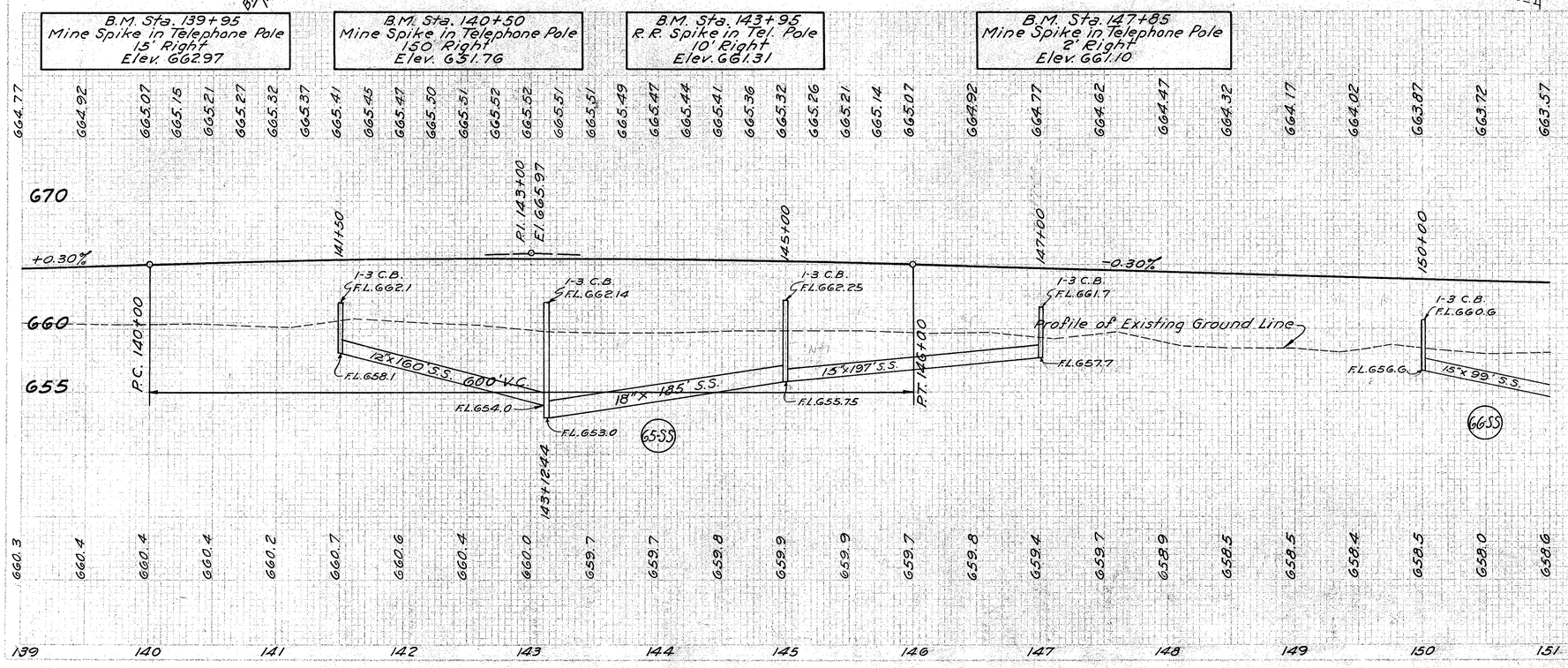
PLAN & PROFILE STA. 127+00 TO STA. 139+00

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE STEEL	SHEET NO.	TOTAL SHEETS
2	OHIO			22	164

BEL-7-(17.71-20.14)



B.M. Sta. 139+95	B.M. Sta. 140+50	B.M. Sta. 143+95	B.M. Sta. 147+85
Mine Spike in Telephone Pole 15' Right Elev. 662.97	Mine Spike in Telephone Pole 150' Right Elev. 631.76	R.R. Spike in Tel. Pole 10' Right Elev. 661.31	Mine Spike in Telephone Pole 2' Right Elev. 661.10



STRUCTURES ~ 20' SPAN & UNDER

	Ref Nº	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
Rural	56-S	140+40	22	C.I.P.	10"	48'			
	57-S	143+12.44	146	V.S.P.	12"	127'	Pipe	24"	194'
				R.C.P.	18"	49'			
	58-S	147+28	22	C.M.P.	10"	36'			
	59-S	149+32	22	R.C.P.	15"	30'			
Municipal									

STORM SEWERS

	Ref Nº	Station From	Station To	Side	See Sheet	Pipe Lin. Ft. 12"	15"	18"	Catch Basins Each 1-3
Rural	65-SS	141+50	142+28	Lt.	22	78			1
	Sheet Totals					78			1
Municipal	65-SS	142+28	147+00	Lt	22	82	197	185	2
	66-SS	150+00	151+00	Lt	22	99			1
	Sheet Totals					181	197	185	3

GUARD RAIL

RURAL Ref Nº	Station From	Station To	Side	See Sheet	Roadway Lin. Ft.	MUNICIPAL Ref Nº	Station From	Station To	Side	See Sheet	Roadway Lin. Ft.
19-G	139+00	141+85	Rt	22	285	19-G	141+85	151+00	Rt	22	915
Sheet Totals					285	Sheet Totals					915

REMOVALS Rural

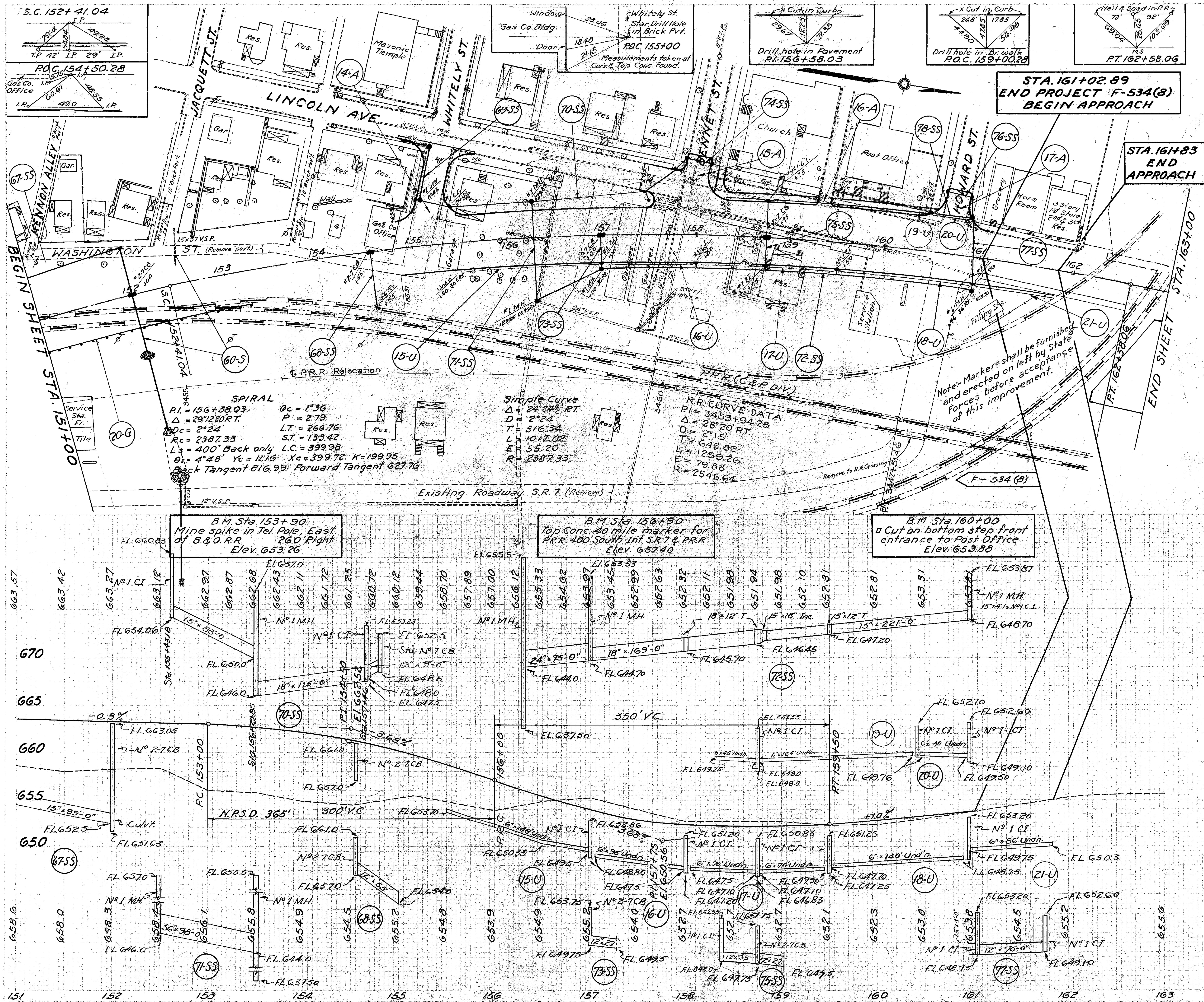
Station From	Station To	Pavement Sq. Yds.
139+00	142+05.5	678
Sheet Totals		678

REMOVALS Municipal

Station From	Station To	Pavement Sq. Yds.
142+05.5	151+00	1989
Sheet Totals		1989

PLAN & PROFILE STA. 139+00 TO STA. 151+00

BEL-7-(17.71-20.14)



STRUCTURES – 20' SPAN & UNDER

Ref. №	Station	See Sheet	Removals Type	Removals Size	Removals Length	New Work Type	New Work Size	New Work Length
60-S	152+00	147	V.S.P.	8"	24	Pipe	30"	290
60-S	152+00	147	V.S.P.	15"	37			

STORM SEWER

Ref №	Station From	Station To	Side	See Sheet	Pipe – Lin. Ft. Pipe 12"	15"	18"	24"	Under Pvt. 12"	15"	36"	12" Pipe Rem. & Disp. Lin. Ft.	Rem. Port. of Ex. Struct. Cu. Yd.	Catch Basins Each № 7	1-C.I.	2-7	Aban.	Pipe Specials Each 18"x12" T	15"x12" T	15"x18" Inc.	№ 1 M.H. Ea.	Riprap S.Y.
67-SS	151+00	152+00	Lt.	23		99																
68-SS	154+55			23					55							1						3
69-SS	155+06.25	Appr.	Lt.	97					115						2		1				2	
70-SS	155+43.18	157+46	Lt.	23	9	83	115							1	2						1	
71-SS	156+29.85			23							98						1				1	
72-SS	156+29.85	160+96	Rt.	23	11	225	169	75							5			2	1	1	2	
73-SS	157+00			23					27							1						
74-SS	157+85.03	Appr.	Lt.	98	17				24	35			1		3		2					
75-SS	158+75			23					62						1	1						
76-SS	160+61.86	Appr.	Lt.	99	18				24						3							
77-SS	160+96			23					70			50	3									
78-SS	160+61.86	Appr.	Lt.	99					40						1							
Sheet Totals					55	407	284	75	417	35	98	50	4	1	17	3	4	2	1	1	6	3

GUARD RAIL

Ref №	Station From	Station To	Side	See Sheet	Roadway Lin. Ft.
20-G	151+00	153+23	Rt.	23	222.5
Sheet Totals					222.5

UNDERDRAINS

Ref №	Station From	Station To	Side	See Sheet	6" Pipe Lin. Ft.
15-U	155+50	157+00	Rt.	23	148
16-U	157+05	158+00	Rt.	23	95
17-U	158+05	159+45	Rt.	23	140
18-U	159+50	160+90	Rt.	23	140
19-U	158+30	160+38	Lt.	23	209
20-U	160+46	160+80	Lt.	23	40
21-U	160+96	161+83	Rt.	23	86
Sheet Totals					858

APPROACHES

Ref №	Station	Side	See Sheet	9" T-71 Pav't Sq. Yds.	Type 2-A Conc. Curb Lin. Ft.	Remove & Dispose Exist. Pav't Sq. Yds.	Remove & Dispose Exist. Curb Lin. Ft.	Remove & Dispose Exist. Sidewalk Sq. Ft.	4" Conc. Sidewalk Sq. Ft.	Type 6 (Mod.) C. Curb Lin. Ft.
14-A	155+06.25	Lt.	97-100	320	202	404	179	1423	218	
15-A	157+85.03	Lt.	98-100	393	128	423	189	210	435	28
16-A	159+24.5	Lt.	100	12	24					14
17-A	160+61.86	Lt.	99-100	170	78	103	125	579	370	5
Sheet Totals				895	432	930	493	2212	1023	47

REMOVALS

Station From	Station To	Side	See Sheet	10' Pav't Sq. Yds.	20' Pav't Sq. Yds.	Pav't Sq. Yds.	Curb Lin. Ft.	Sidewalk Sq. Ft.	C. Basins Abandoned Each
151+00	154+85	Lt.	23	606					
151+00	160+50	Rt.	23		1990				
158+34.09	161+83	L.&R.	23			2175	658	2660	3
Sheet Totals				606	1990	2175	658	2660	3

CONCRETE CURB & SIDEWALK / CONC. CURB & GUTTER

Station From	Station To	Side	See Sheet	Type 2-A Lin. Ft.	Type 6 (Mod) Lin. Ft.	4" Concrete Sidewalk Sq. Ft.	Type 2 Combined Curb & Gutter Lin. Ft.
154+85.31	161+83	Rt.	23				690
155+61.44	157+47.29	Lt.	23				188
158+34.09	160+31.01	Lt.	23	181	208	1670	
Sheet Totals				181	208	1670	878

NOTE: The existing grade crossing of State Route 7 within the right-of-way limits of the Pennsylvania Railroad on Howard Street will be vacated as a public highway by the State when the new highway is opened to traffic.

PLAN & PROFILE STA. 151+00 TO STA. 163+00

FED. AID DIVISION	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO			

24
164

BEL-7-(17.71-20.14)

BEGIN SHEET STA. 163+00

S.R. 7

N 2°33'30" E

P.I.= 165+64.02
Δ = 17°00' Lt.
D = 25°
T = 34.25
L = 68.00
R = 229.18

P.C. 165+29.77

P.T. 165+97.77

WHEELING CREEK

N 14°26'30" W

P.C. 166+98.87

P.I.= 167+40.92
Δ = 22°00' Rt.
D = 25°
T = 44.55
L = 88.00
R = 229.18

P.T. 167+84.37

Extruded Metal Products Co.

PENNA. R.R.

MAIN STREET

U.S. 40

ALLEN ST.

N 7°33'30" E

171+07.70
Δ = 0°24' Lt.

Meadow Dairy

Meadow Dairy

U.S. 250

Scott Lumber Co.

Scott Lumber Co.

Gas Station

174+57.78
75°00'

LINCOLN AVE S.R. 7 & U.S. 250

N 7°33'06" E

P.I.= 176+18.45
Δ = 55°24' Rt.
D = 137°00
T = 21.96
L = 40.44
R = 41.83

P.T. 176+36.93

P.C. 175+96.49

P.C. 176+64.12

N 82°27'06" E

P.I.= 177+27.12
Δ = 57°36' Lt.
D = 50°00'
T = 63.00
L = 115.20
R = 114.59

P.T. 177+79.32

Eagles

P.C. 179+31.94

N 5°21'06" E

168+90.40
72°30'

U.S. 40 & U.S. 250

BRIDGE ST.

A. & P. CO.

Conc. Platform

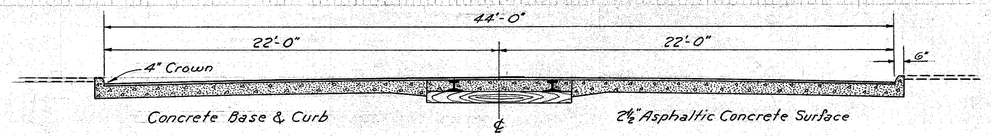
Stone Wall

B. & O. R.R.

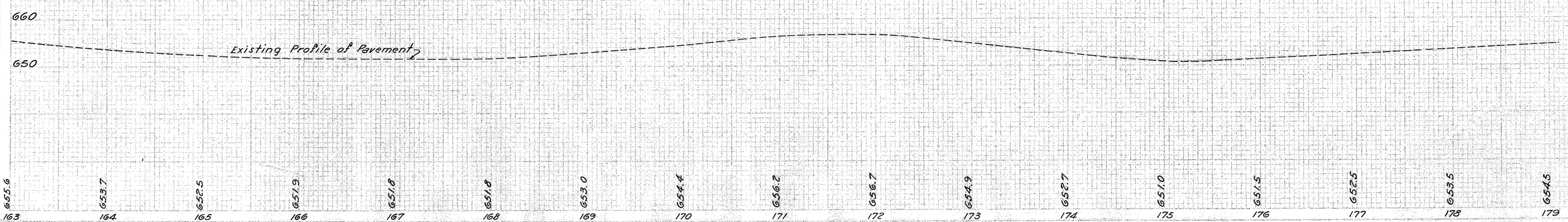
O H I O

R I V E R

OHIO RIVER BRIDGE TO WHEELING



TYPICAL SECTION OF ADJOINING PAVEMENT
STA. 161+02.89



PLAN & PROFILE STA. 163+00 TO STA. 179+00

CURVE TABLES

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

25/164

BEL.-7-(17.71-20.14)

BEGIN TRANSITION STA. 43+00 | **COMPOUND CURVE D = 0°-20' LT. D = 0°-48' LT.** | **P.C.C. 59+40.75 P.T. 76+90.75**

Left Edge Left Pair Lanes	℄ Left Pair Lanes	STATION	Profile Grade	℄ Right Pair Lanes	Right Edge Right Pair Lanes
662.67	662.86	43+00	663.05	662.86	662.67
662.45	662.64	+25	662.83	662.69	662.54
662.29	662.48	+48	662.67	662.60	662.52
662.28	662.47	+50	662.66	662.59	662.53
662.17	662.36	+75	662.55	662.58	662.60
662.12	662.31	+94	662.50	662.57	662.66
662.10	662.29	44+00	662.48	662.59	662.69
662.10	662.29	+25	662.48	662.64	662.80
662.11	662.30	+34.33	662.49	662.66	662.83
662.14	662.33	+50	662.52	662.71	662.90
662.24	662.43	+84.33	662.62	662.81	663.00
662.29	662.48	45+00	662.67	662.86	663.05
662.39	662.58	+34.42	662.77	662.96	663.15
662.44	662.63	+50	662.82	663.01	663.20
662.52	662.71	+75	662.90	663.09	663.28
662.59	662.78	46+00	662.97	663.16	663.35
662.74	662.93	+50	663.12	663.31	663.50
662.82	663.01	+75	663.20	663.39	663.58
662.88	663.07	47+00	663.26	663.45	663.64
662.94	663.13	+25	663.32	663.51	663.70
662.99	663.18	+50	663.37	663.56	663.75
663.02	663.21	+65	663.40	663.59	663.78
663.04	663.23	+75	663.42	663.61	663.80
663.08	663.27	48+00	663.46	663.65	663.84
663.12	663.31	+25	663.50	663.69	663.88
663.14	663.33	+50	663.52	663.71	663.90
663.17	663.36	+75	663.55	663.74	663.93
663.18	663.37	49+00	663.56	663.75	663.94
663.19	663.38	+25	663.57	663.76	663.95
663.19	663.38	+50	663.57	663.76	663.95
663.19	663.38	+75	663.57	663.76	663.95
663.18	663.37	50+00	663.56	663.75	663.94
663.17	663.36	+25	663.55	663.74	663.93
663.14	663.33	+50	663.52	663.71	663.90
663.12	663.31	+75	663.50	663.69	663.88
663.08	663.27	51+00	663.46	663.65	663.84
663.04	663.23	+25	663.42	663.61	663.80
663.02	663.21	+35	663.40	663.59	663.78
662.99	663.18	+50	663.37	663.56	663.75
662.94	663.13	+75	663.32	663.51	663.70
662.88	663.07	52+00	663.26	663.45	663.64
662.82	663.01	+25	663.20	663.39	663.58
662.74	662.93	+50	663.12	663.31	663.50
662.67	662.86	+75	663.05	663.24	663.43
662.59	662.78	53+00	662.97	663.16	663.35
662.52	662.71	+25	662.90	663.09	663.28
662.44	662.63	+50	662.82	663.01	663.20
662.29	662.48	54+00	662.67	662.86	663.05
662.14	662.33	+50	662.52	662.71	662.90
661.99	662.18	55+00	662.37	662.56	662.75
661.92	662.11	+25	662.30	662.49	662.68
661.84	662.03	+50	662.22	662.41	662.60
661.69	661.88	56+00	662.07	662.26	662.45
661.62	661.81	+25	662.00	662.19	662.38
661.54	661.73	+50	661.92	662.11	662.30
661.47	661.66	+75	661.85	662.04	662.23
661.39	661.58	57+00	661.77	661.96	662.15
661.32	661.51	+25	661.70	661.89	662.08
661.24	661.43	+50	661.62	661.81	662.00
661.17	661.36	+75	661.55	661.74	661.93
661.16	661.35	+77	661.54	661.73	661.92
661.09	661.28	58+00	661.47	661.66	661.85
661.02	661.21	+25	661.40	661.59	661.78
660.92	661.12	+50	661.32	661.51	661.70
660.84	661.04	+75	661.25	661.46	661.66
660.78	660.95	59+00	661.17	661.41	661.65
660.60	660.85	+25	661.10	661.37	661.64
660.47	660.74	+50	661.02	661.31	661.61
660.34	660.64	+75	660.95	661.22	661.48
660.25	660.56	60+00	660.87	661.18	661.49

COMPOUND CURVE CONT'D

Left Edge Left Pair Lanes	℄ Left Pair Lanes	STATION	Profile Grade	℄ Right Pair Lanes	Right Edge Right Pair Lanes
660.10	660.41	60+50	660.72	661.03	661.34
659.95	660.26	61+00	660.57	660.88	661.19
659.80	660.11	+50	660.42	660.73	661.04
659.73	660.04	+75	660.35	660.66	660.97
659.67	659.98	62+00	660.29	660.60	660.91
659.62	659.93	+25	660.24	660.55	660.86
659.58	659.89	+50	660.20	660.51	660.82
659.55	659.86	+75	660.17	660.48	660.79
659.52	659.83	63+00	660.14	660.45	660.76
659.51	659.82	+25	660.13	660.44	660.75
659.50	659.81	+50	660.12	660.43	660.74
659.51	659.82	+75	660.13	660.44	660.75
659.52	659.83	64+00	660.14	660.45	660.76
659.55	659.86	+25	660.17	660.48	660.79
659.58	659.89	+50	660.20	660.51	660.82
659.62	659.93	+75	660.24	660.55	660.86
659.66	659.97	+92	660.28	660.59	660.90
659.67	659.98	65+00	660.29	660.60	660.91
659.73	660.04	+25	660.35	660.66	660.97
659.80	660.11	+50	660.42	660.73	661.04
659.95	660.26	66+00	660.57	660.88	661.19
660.04	660.35	+30	660.66	660.97	661.28
660.10	660.41	+50	660.72	661.03	661.34
660.25	660.56	67+00	660.87	661.18	661.49
660.39	660.70	+45	661.01	661.32	661.63
660.40	660.71	+50	661.02	661.33	661.64
660.43	660.74	+58	661.05	661.36	661.67
660.55	660.86	68+00	661.17	661.48	661.79
660.56	660.87	+04	661.18	661.49	661.80
660.70	661.01	+50	661.32	661.63	661.94
660.85	661.16	69+00	661.47	661.78	662.09
661.00	661.31	+50	661.62	661.93	662.24
661.15	661.46	70+00	661.77	662.08	662.39
661.30	661.61	+50	661.92	662.23	662.54
661.45	661.76	71+00	662.07	662.38	662.69
661.60	661.91	+50	662.22	662.53	662.84
661.62	661.93	+55	662.24	662.55	662.86
661.75	662.06	72+00	662.37	662.68	662.99
661.90	662.21	+50	662.52	662.83	663.14
662.05	662.36	73+00	662.67	662.98	663.29
662.20	662.51	+50	662.82	663.13	663.44
662.35	662.66	74+00	662.97	663.28	663.59
662.50	662.81	+50	663.12	663.43	663.74
662.65	662.96	75+00	663.27	663.58	663.89
662.80	663.11	+50	663.42	663.73	664.04
662.95	663.26	76+00	663.57	663.88	664.19
663.05	663.35	+25	663.65	663.96	664.27
663.13	663.43	+50	663.72	663.98	664.25
663.26	663.53	+75	663.80	663.97	664.15
663.40	663.64	77+00	663.87	663.94	664.00
663.51	663.73	+25	663.95	663.90	663.85
663.61	663.81	+50	664.02	663.88	663.73
663.72	663.91	+75	664.10	663.91	663.72

P.C. 96+07.77 | D-1°00' LT. | P.T. 114+13.60

Left Edge Left Pair Lanes	℄ Left Pair Lanes	STATION	Profile Grade	℄ Right Pair Lanes	Right Edge Right Pair Lanes
662.89	663.08	93+00	663.27	663.08	662.89
662.82	663.01	+25	663.20	663.01	662.82
662.74	662.93	+50	663.12	662.93	662.74
662.66	662.86	+75	663.05	662.84	662.68
662.59	662.78	94+00	662.97	662.80	662.63
662.51	662.70	+25	662.90	662.75	662.60
662.43	662.62	+50	662.82	662.71	662.60
662.36	662.55	+75	662.75	662.68	662.61
662.29	662.48	95+00	662.67	662.66	662.65
662.20	662.40	+25	662.60	662.65	662.70
662.10	662.32	+50	662.52	662.64	662.76
661.99	662.22	+75	662.45	662.63	662.80
661.86	662.11	96+00	662.37	662.61	662.85
661.81	662.08	P.C. +07.77	662.35	662.61	662.87
661.70	662.00	+25	662.30	662.60	662.90
661.53	661.87	+50	662.22	662.57	662.91
661.40	661.78	+75	662.15	662.54	662.90
661.31	661.69	97+00	662.07	662.46	662.84
661.23	661.61	+25	662.00	662.39	662.77
661.15	661.53	+50	661.92	662.31	662.69
661.10	661.48	+75	661.85	662.24	662.62
661.00	661.38	98+00	661.77	662.16	662.54
660.93	661.31	+25	661.70	662.09	662.47
660.85	661.23	+50	661.62	662.01	662.39
660.78	661.16	+75	661.55	661.94	662.32
660.72	661.10	99+00	661.49	661.88	662.26
660.67	661.05	+25	661.44	661.83	662.21
660.63	661.01	+50	661.40	661.79	662.17
660.60	660.98	+75	661.37	661.76	662.14
660.57	660.95	100+00	661.34	661.73	662.11
660.56	660.94	+25	661.33	661.72	662.10
660.55	660.93	+50	661.32	661.71	662.09
660.56	660.94	+75	661.33	661.72	662.10
660.57	660.95	101+00	661.34	661.73	662.11
660.60	660.98	+25	661.37	661.76	662.14
660.63	661.01	+50	661.40	661.79	662.17
660.67	661.05	+75	661.44	661.83	662.21
660.72	661.10	102+00	661.49	661.88	662.26
660.78	661.16	+25	661.55	661.94	662.32
660.85	661.23	+50	661.62	662.01	662.39
660.93	661.31	+75	661.70	662.09	662.47
661.00	661.38	103+00	661.77	662.16	662.54
661.08	661.46	+25	661.85	662.24	662.62
661.15	661.53	+50	661.92	662.31	662.69
661.23	661.61	+75	662.00	662.39	662.77
661.30	661.68	104+00	662.07	662.46	662.84
661.38	661.76	+25	662.15	662.54	662.92
661.45	661.83	+50	662.22	662.61	662.99
661.53	661.91	+75	662.30	662.69	663.07
661.60	661.98	105+00	662.37	662.76	663.14
661.68	662.06	+25	662.45	662.84	663.22
661.75	662.13	+50	662.52	662.91	663.29
661.83	662.21	+75	662.60	662.99	663.37
661.90	662.28	106+00	662.67	663.06	663.44
661.98	662.36	+25	662.75	663.14	663.52
662.05	662.43	+50	662.82	663.21	663.59
662.13	662.51	+75	662.90	663.29	663.67
662.20	662.58	107+00	662.97	663.36	663.74
662.28	662.66	+25	663.05	663.44	663.82
662.35	662.73	+50	663.12	663.51	663.89
662.43	662.81	+75	663.20	663.59	663.97
662.50	662.88	108+00	663.27	663.66	664.04

CURVE TABLES

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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BEL-7-(17.71-20.14)

P.C. 96+07.77		D = 1° 00' LT.		P.T. 114+13.60	
Left Edge Left Pair Lanes	℄ Left Pair Lanes	STATION	Profile Grade	℄ Right Pair Lanes	Right Edge Right Pair Lanes
662.58	662.96	108+25	663.35	663.73	664.12
662.65	663.03	+50	663.42	663.80	664.19
662.73	663.11	+75	663.50	663.88	664.27
662.80	663.18	109+00	663.57	663.95	664.34
662.88	663.26	+25	663.65	664.03	664.42
662.95	663.33	+50	663.72	664.10	664.49
663.03	663.41	+75	663.80	664.18	664.57
663.10	663.48	110+00	663.87	664.25	664.64
663.18	663.56	+25	663.95	664.33	664.72
663.25	663.63	+50	664.02	664.40	664.79
663.33	663.71	+75	664.10	664.48	664.87
663.40	663.78	111+00	664.17	664.55	664.94
663.48	663.86	+25	664.25	664.63	665.02
663.55	663.93	+50	664.32	664.70	665.09
663.63	664.01	+75	664.40	664.78	665.17
663.70	664.08	112+00	664.47	664.85	665.24
663.77	664.15	+25	664.54	664.92	665.32
663.85	664.23	+50	664.62	665.00	665.39
663.93	664.31	+75	664.70	665.08	665.47
664.00	664.38	113+00	664.77	665.15	665.54
664.08	664.46	+25	664.85	665.23	665.62
664.19	664.55	+50	664.92	665.30	665.69
664.33	664.67	+75	665.00	665.34	665.68
664.50	664.78	114+00	665.07	665.35	665.63
664.60	664.86	P.T. +13.60	665.11	665.36	665.60
664.68	664.92	+25	665.15	665.37	665.59
664.80	665.01	+50	665.21	665.37	665.52
664.89	665.08	+75	665.27	665.37	665.46
664.94	665.13	115+00	665.32	665.36	665.40
664.99	665.18	+25	665.37	665.35	665.33
665.03	665.22	+50	665.41	665.35	665.28
665.07	665.26	+75	665.45	665.33	665.21
665.09	665.28	116+00	665.47	665.32	665.17
665.12	665.31	+25	665.50	665.32	665.14
665.13	665.32	+50	665.51	665.32	665.13
665.14	665.36	+75	665.52	665.33	665.14
665.14	665.36	117+00	665.52	665.33	665.14

P.C. 130+83.81		D = 1° 00' LT.		P.T. 137+19.64	
Left Edge Left Pair Lanes	℄ Left Pair Lanes	STATION	Profile Grade	℄ Right Pair Lanes	Right Edge Right Pair Lanes
662.29	662.48	128+00	662.67	662.48	662.29
662.23	662.42	+25	662.61	662.42	662.23
662.16	662.35	+50	662.54	662.35	662.16
662.10	662.29	+75	662.49	662.31	662.13
662.07	662.26	129+00	662.45	662.30	662.15
662.04	662.23	+25	662.42	662.32	662.20
662.01	662.20	+50	662.39	662.34	662.29
661.96	662.17	+75	662.38	662.38	662.38
661.91	662.15	130+00	662.37	662.43	662.49
661.89	662.13	+25	662.38	662.50	662.61
661.85	662.12	+50	662.39	662.58	662.77
661.80	662.11	+75	662.42	662.67	662.91
661.80	662.12	P.C. +83.81	662.43	662.70	662.96
661.79	662.12	131+00	662.45	662.75	663.05
661.77	662.13	+25	662.49	662.84	663.19
661.79	662.17	+50	662.54	662.92	663.30
661.84	662.23	+75	662.61	662.99	663.38
661.90	662.29	132+00	662.67	663.05	663.44
661.98	662.37	+25	662.75	663.13	663.52
662.05	662.44	+50	662.82	663.20	663.59
662.13	662.52	+75	662.90	663.28	663.67
662.20	662.59	133+00	662.97	663.35	663.74
662.28	662.67	+25	663.05	663.43	663.82
662.35	662.74	+50	663.12	663.50	663.89
662.43	662.82	+75	663.20	663.58	663.97
662.50	662.89	134+00	663.27	663.65	664.04
662.58	662.97	+25	663.35	663.73	664.12
662.65	663.04	+50	663.42	663.80	664.19
662.73	663.12	+75	663.50	663.88	664.27
662.80	663.19	135+00	663.57	663.95	664.34
662.88	663.27	+25	663.65	664.03	664.42
662.95	663.34	+50	663.72	664.10	664.49
663.03	663.42	+75	663.80	664.18	664.57
663.10	663.49	136+00	663.87	664.25	664.64
663.18	663.57	+25	663.95	664.33	664.72
663.28	663.65	+50	664.02	664.40	664.77
663 40	663.75	+75	664.10	664.45	664.80
663.57	663.87	137+00	664.17	664.47	664.78
663.71	663.97	P.T. +19.64	664.23	664.48	664.74
663.75	664.00	+25	664.25	664.49	664.73
663.90	664.11	+50	664.32	664.50	664.68
664.00	664.20	+75	664.40	664.51	664.62
664.09	664.28	138+00	664.47	664.53	664.59
664.16	664.35	+25	664.55	664.55	664.55
664.23	664.42	+50	664.62	664.56	664.50
664.31	664.50	+75	664.70	664.59	664.49
664.40	664.59	139+00	664.77	664.63	664.48
664.47	664.66	+25	664.85	664.68	664.51
664.54	664.73	+50	664.92	664.73	664.54
664.62	664.81	+75	665.00	664.81	664.62
664.69	664.88	140+00	665.07	664.88	664.69

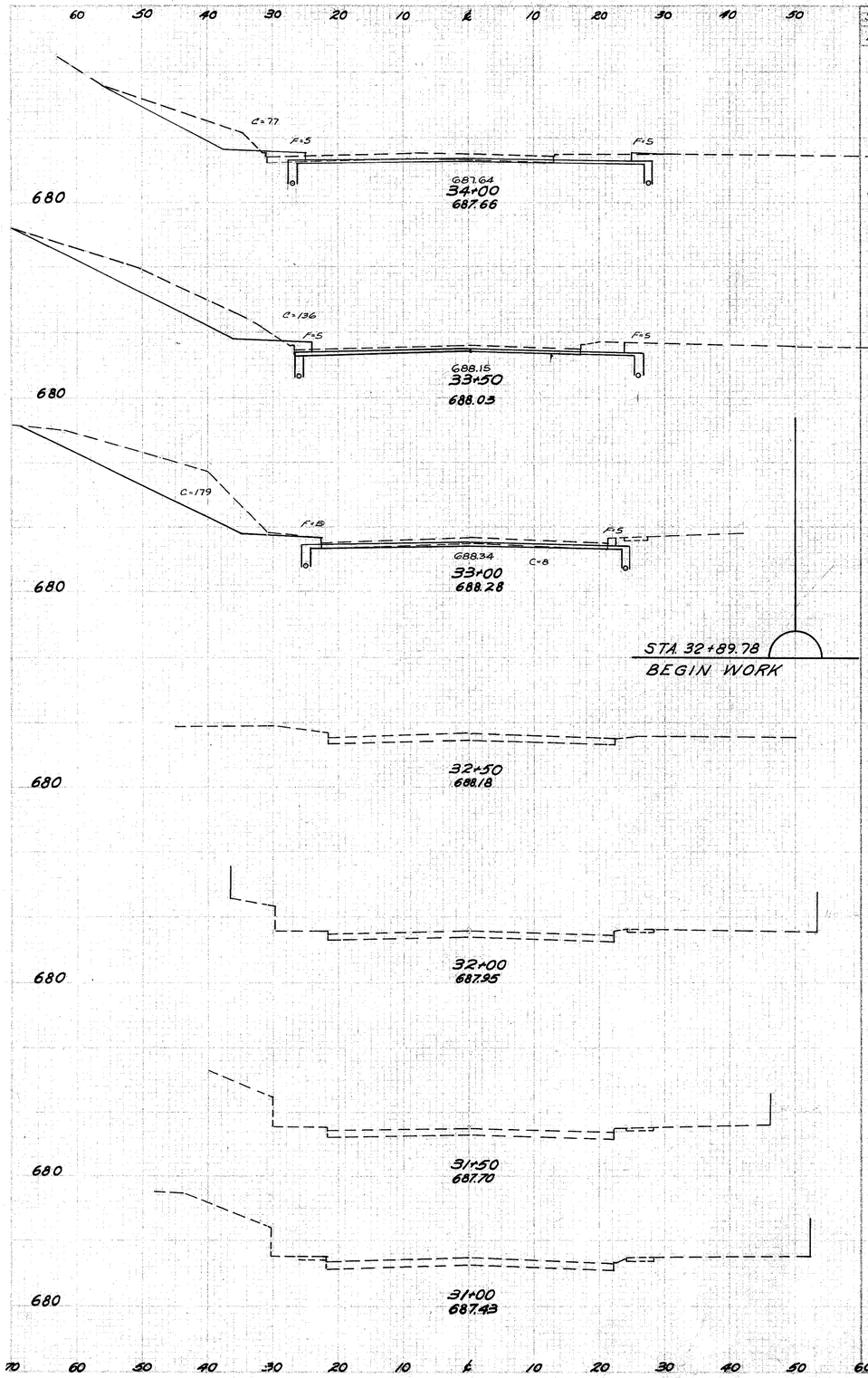
T.S. 148+41.04 S.C. 152+41.04		D = 2° 24' Rt.		P.T. 162+58.06	
Left Edge Left Pair Lanes	℄ Left Pair Lanes	STATION	Profile Grade	℄ Right Pair Lanes	Right Edge Right Pair Lanes
664.40	664.58	147+00	664.77	664.58	664.40
664.35	664.52	+25	664.70	664.50	664.31
664.31	664.46	+50	664.62	664.42	664.23
664.32	664.43	+75	664.55	664.36	664.17
664.33	664.40	148+00	664.47	664.28	664.09
664.34	664.36	+25	664.39	664.20	664.01
664.33	664.34	T.S. +41.04	664.35	664.16	663.97
664.32	664.32	+50	664.32	664.12	663.93
664.31	664.31	+75	664.24	664.05	663.86
664.30	664.23	149+00	664.17	663.98	663.79
664.28	664.18	+25	664.09	663.89	663.70
664.26	664.14	+50	664.02	662.82	663.62
664.24	664.09	+75	663.94	662.74	663.55
664.22	664.04	150+00	663.87	663.67	663.47
664.20	664.00	+25	663.80	663.58	663.37
664.19	663.95	+50	663.72	663.48	663.25
664.18	663.91	+75	663.65	663.68	663.11
664.16	663.86	151+00	663.57	663.27	662.98
664.14	663.82	+25	663.50	663.16	662.83
664.12	663.77	+50	663.42	663.03	662.69
664.10	663.72	+75	663.35	662.95	662.55
664.09	663.68	152+00	663.27	662.83	662.40
664.06	663.63	+25	663.20	662.74	662.28
664.02	663.57	+50	663.12	662.64	662.17
663.98	663.51	+75	663.05	662.58	662.11
663.91	663.44	153+00	662.97	662.50	662.03
663.81	663.34	+25	662.87	662.40	661.93
663.62	663.15	+50	662.68	662.21	661.74
663.37	662.90	+75	662.43	661.96	661.49
663.05	662.58	154+00	662.11	661.64	661.17
662.66	662.19	+25	661.72	661.25	660.78
662.19	661.72	+50	661.25	660.78	660.31
661.66	661.19	+75	660.72	660.25	659.78
661.06	660.59	155+00	660.12	659.65	659.18
660.38	659.91	+25	659.44	658.97	658.50
659.64	659.17	+50	658.70	658.23	657.76
658.83	658.36	+75	657.89	657.42	656.95
657.94	657.47	156+00	657.00	656.53	656.06
657.06	656.59	+75	656.12	655.65	655.18
656.27	655.80	+50	655.33	654.86	654.39
655.56	655.09	+75	654.62	654.12	653.68
654.91	654.44	157+00	653.97	653.50	653.03
654.39	653.92	+25	653.45	652.98	652.51
653.93	653.46	+50	652.99	652.52	652.05
653.57	653.10	+75	652.63	652.16	651.69
653.26	652.79	158+00	652.32	651.85	651.38
653.05	652.58	+25	652.11	651.64	651.17
652.92	652.45	+50	651.98	651.51	651.04
652.88	652.41	+75	651.94	651.47	651.00
652.92	652.45	159+00	651.98	651.51	651.04
653.04	652.57	+25	652.10	651.64	651.18
653.15	652.73	+50	652.31	651.86	651.41
653.29	652.92	+75	652.56	652.18	651.80
653.36	653.08	160+00	652.81	652.51	652.21
653.32	653.19	+25	653.06	652.83	652.60
653.21	653.26	+50	653.31	653.10	652.89
653.20	653.38	+75	653.56	653.34	653.13
653.40	653.60	161+00	653.81	653.60	653.40

FED. ROAD	STATE	PROJECT	SHEET
2	OHIO		27

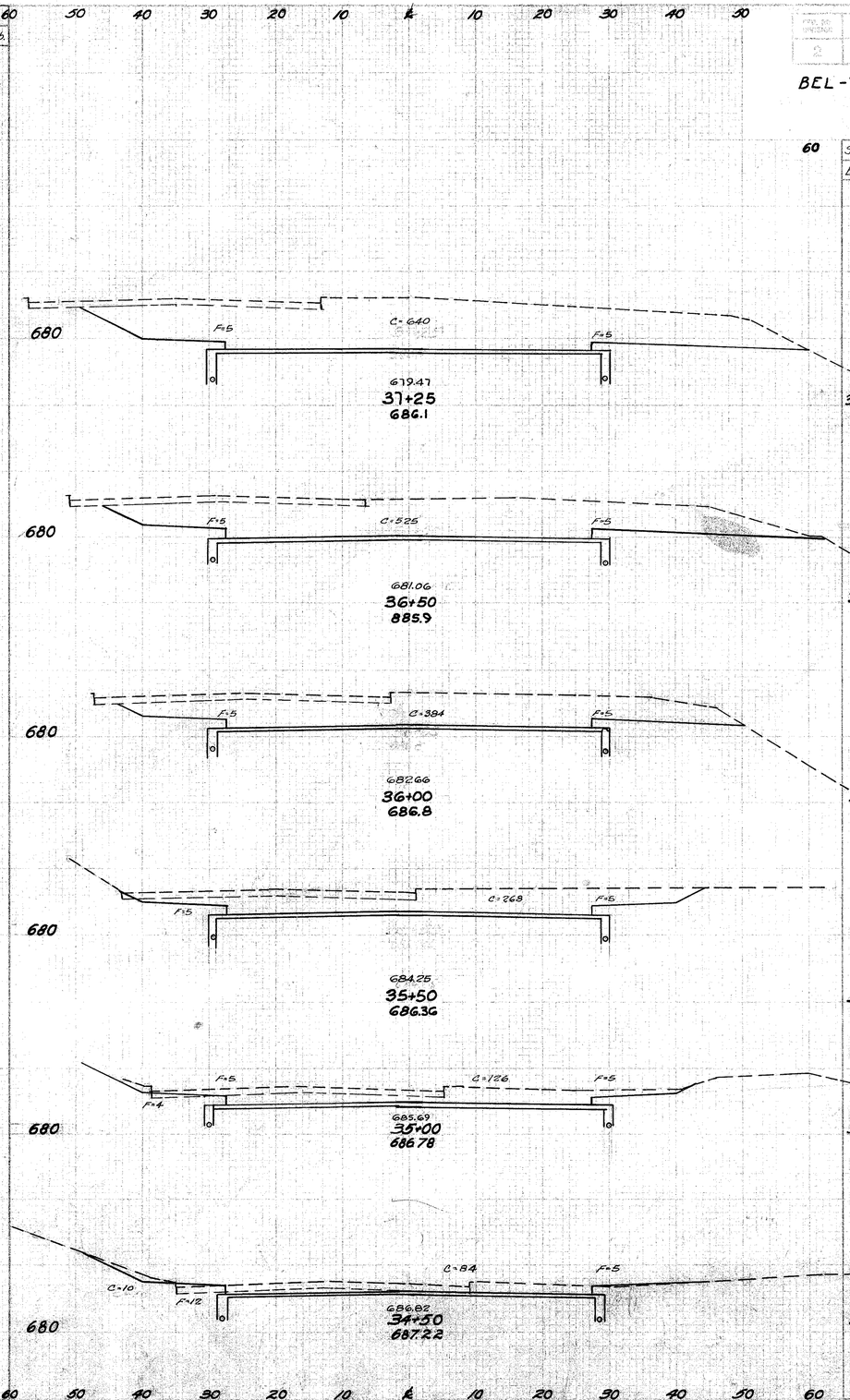
164

BEL-7-(17.71 - 20.14)

Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	53		322			158	25
27		59		77	10		
	50		358			197	19
27		70		136	10		
	50		392			299	19
27		71		187	10		
	10		40			37	4
27		0		8	10		



Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	85		717			2333	28
30		75		640	10		
	83		625			1618	28
30		75		525	10		
	56		375			842	19
30		60		384	10		
	56		319			604	19
30		55		268	10		
	56		317			365	22
30		59		126	14		
	56		322			204	29
30		57		94	17		

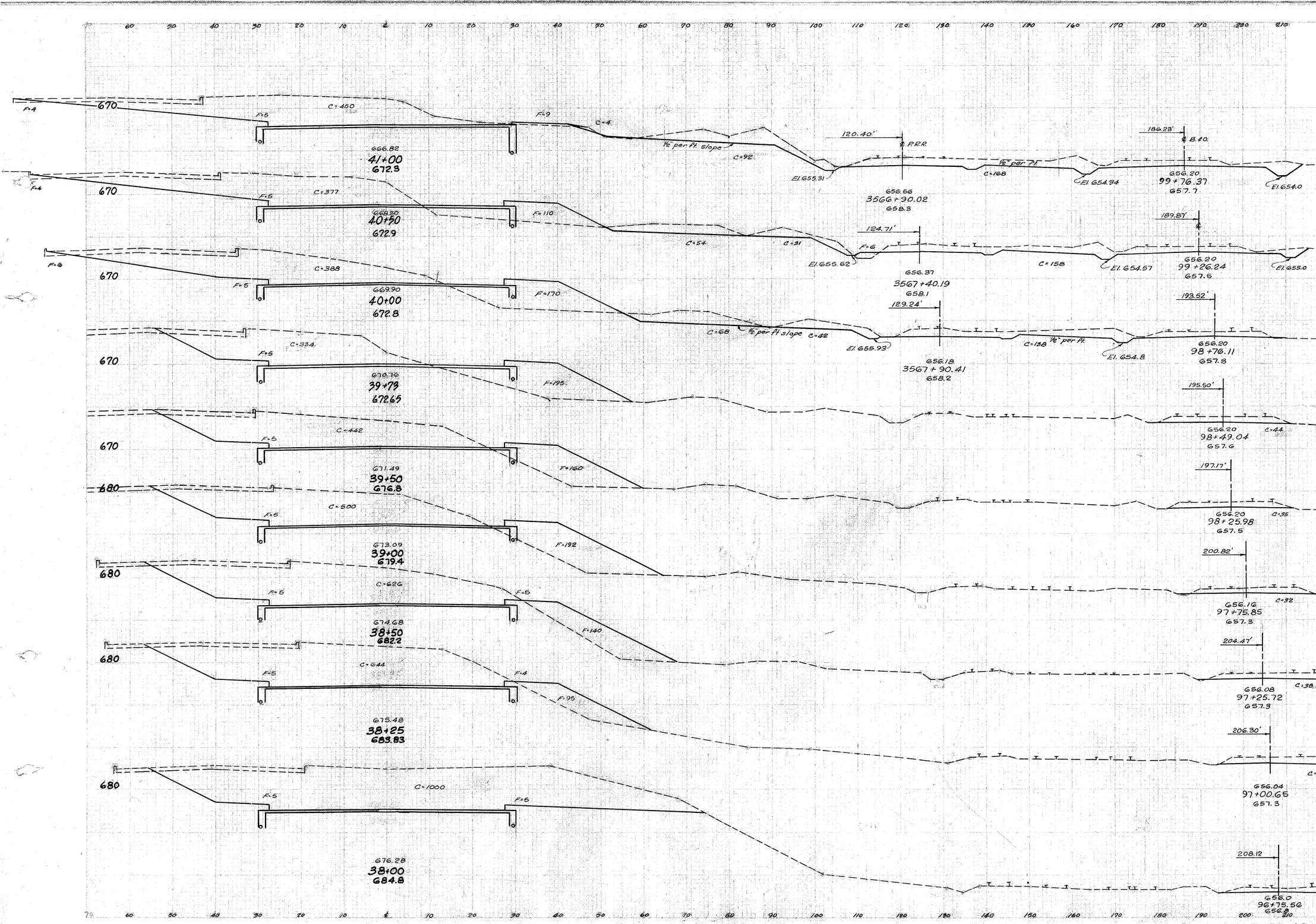


CROSS SECTIONS STA. 31+00 TO STA. 37+25

SHEET NO.	FED.	PROJECT	STATE
2	DNO		

28
164

BEL-7-(17.71 - 20.14)



Station	Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
41+00		45		464			932	30
	31		141		714	22		
		57		778			1235	136
	31		139		620	125		
		57		786			1163	283
	31		144		636	181		
		31		335			507	191
	31		79		378	200		
		26		208			364	155
	31		84		477	165		
		57		483			934	335
	31		90		532	197		
		57		514			1107	321
	31		95		664	130		
		29		254			627	118
	31		88		690	104		
		29		257			801	58
	31		97		1040	10		

CROSS SECTIONS STA. 38+00 TO STA. 41+00

TOTAL SHEETS	SHEET	PROJECT	STATE
2	CHIO		

29
164

BEL-7-(17.71-20.14)

Subbase		Seeding		End Area		Cu. Yds.	
E.A.	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb.
42		154		3890	49		
	35		415			3152	28
33		145		2918	11		
Access Rd Lt Sta 42+67.5 See Sheet No 79			3998			6160	2542
Access Rd Rt Sta 42+67.5 See Sheet No 82			21612			191	34538
App. Rt Sta. 42+67.5 See Sheet No 78			485			112	90
	20		264			1243	G
	29		372			1928	8
	9		108			685	2.
STA. 42+82.58 BELLAIRE CORP LINE							
Sta. 42+90 Ditch Excavation (Included with Roadway Exc.)							7
	30		123		1247	G	
	29		331			906	G
App Lt Sta 42+67.5 See Sheet No 77			3806			13019	0
	33	115		711	G		
Ditch Excavation (Included with Roadway Excavation)							G
	64		486			1092	15
	36	60		468	10		
	43		254			518	71
	34	78		375	106		
Ditch Excavation Included With Roadway Excavation							7
	21		146			223	85
	34	78		341	167		
	15		105			211	42
	33	79		610	21		

Excavation	30994 Cu. Yds.
Embankment	2055 Cu. Yds.
Seeding	13102 Sq. Yds.
Subbase	1124 Cu. Yds.

CROSS SECTIONS STA. 41+38 TO STA. 43+25

BEL-7-(17.71 -20.14)

100 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

180

Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
32		152		2279	359		
	89		1329			7114	863
32		167		2843	262		
	64		911			5751	409
37		161		3368	180		
	70		897			6559	272
39		162		3716	114		
	75		906			7259	164
42		164		4124	63		
	39		442			3710	52

670

C=2235

662.90
45+75
675.8

F=4

El. 660.03

F=103

½" per Ft. slope

F=10

C=10

El. 656.45

92.65'

℄ P.R.R.

F=40

658.38
3562+11.77
657.7

½" per Ft.

C=34

El. 653.72

162.09'

℄ B.40.

F=202

655.89
104+51.66
651.3

680

C=2797

662.67
45+00
680.1

F=3

El. 659.8

F=69

C=4

F=7

C=8

El. 656.80

95.79'

658.09
3562+87.25
657.8

F=21

F=6

C=34

El. 654.13

165.23'

655.97
103+75.88
653.2

F=153

680

C=3300

662.62
44+50
685.7

F=19

El. 659.6

F=24

C=10

F=6

C=14

El. 656.44

98.06'

657.90
3563+37.58
657.2

F=5

C=1

F=6

C=6

F=2

C=37

El. 654.41

167.51'

656.02
103+25.35
654.2

F=118

680

C=3623

662.48
44+00
688.3

F=18

El. 659.4

F=2

½" per Ft. slope

F=14

C=9

El. 656.08

100.47'

657.71
3563+88.31
657.5

F=12

C=18

C=8

C=14

C=44

El. 654.68

169.92'

656.07
102+74.80
656.0

F=72

680

C=3913

662.66
43+50
688.0

F=21

El. 659.8

F=2

1" per Ft.

F=12

El. 655.72

103.03

℄ P.R.R.

657.52
3564+38.29
657.7

½" per Ft.

C=155

El. 654.48

C=56

172.49

℄ B.40.

656.12
102+24.24
656.3

F=92

110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200

CROSS SECTIONS STA. 43+50 TO STA. 45+75

FED. ROAD DESIGNATION	STATE	PROJECT	YEAR
2	OHIO		

BEL-7-(17.71 - 20.14)

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

160	Subbase		Seeding	End Area		Cu. Yds.	
	E.A.	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb.
		59		894			2506	1398
		32		160			1388	783
		59		908			2409	1352
		32		167			1214	677
		41		616			1327	862
		32		150			834	653
		47		640			1264	950
		32		138			872	629
		89		1142			2289	1557
		32		136			776	492
		89		1200			4248	1182

660

C=1871

F=3

El. 660.65

F=291

663.52
48+50
657.9

3:1

C=14

El. 656.16

84.00' ℄ P.R.R.

F=106

659.43
3559+35.23
654.8

½" per Ft.

C=3

El. 652.21

153.44' ℄ B.10

F=397

655.62
107+29.32
647.6

660

C=1193

F=3

El. 660.59

F=250

663.46
48+00
659.6

3.2:1

C=17

El. 656.40

85.24'

F=90

659.24
3559+85.49
656.0

C=4

El. 652.48

154.69'

F=334

655.67
106+78.91
648.0

660

C=815

F=3

El. 660.53

F=227

663.40
47+65
660.3

3.4:1

C=15

El. 655.56

86.20'

F=89

659.10
3560+20.68
656.6

F=6

C=4

F=5

El. 652.67

155.62'

F=323

655.70
106+43.54
647.9

650

C=847

F=3

El. 660.45

F=228

663.32
47+25
659.5

3.8:1

C=19

El. 655.75

87.38'

F=72

658.95
3560+60.90
656.6

F=10

C=6

El. 652.89

156.80'

F=316

655.74
106+03.15
648.0

Sta. 47+01 Begin
Guard Rail on Rt.

670

C=713

F=3

El. 660.25

F=162

663.12
46+50
673.1

4.7:1

C=17

El. 656.10

89.86' ℄ P.R.R.

F=58

658.66
3561+36.32
656.6

½" per Ft.

C=46

El. 653.31

159.28' ℄ B.10

F=274

655.82
105+32.04
648.4

CROSS SECTIONS STA. 46+50 TO STA. 48+50

BEL-7-(17.71 - 20.14)

Subbase		Seeding		End Area		Cu. Yds.	
E.A.	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb.
	77		1206			5204	1818
32		168		2730	724		
	101		1601			6501	2432
32		171		1400	821		
	59		944			2480	571
32		169		1285	876		
	59		914			2380	525
32		160		1285	771		
	59		894			2410	387
32		162		1318	727		

660

C=2730 F=3 El. 660.53 F=218 3:1 663.40 51+35 659.96 79.70' ℄ P.R.R. El. 656.28 660.0 3556+48.84 656.3 1½" per ft. 149.18' ℄ B.&O. El. 653.00 F=508 655.38 110+16.86 650.0

660

C=1388 F=3 El. 660.65 F=248 2.7:1 663.52 50+50 659.31 C=12 El. 655.85 80.48' 660.0 3557+34.24 656.2 149.92' El. 652.66 F=570 655.41 109+31.11 647.5

660

C=1278 F=3 El. 660.75 F=276 2.7:1 663.56 50+00 659.04 C=12 El. 655.60 81.14' F=182 660.0 3557+84.48 656.2 150.59' El. 652.46 F=475 655.46 108+80.67 647.2

660

C=1266 F=3 El. 660.90 F=278 2.9:1 663.57 49+50 658.8 C=14 El. 655.95 81.95' F=76 C=5 659.81 3558+34.72 656.1 151.41' El. 652.26 F=414 655.52 108+30.22 647.8

660

C=1298 F=3 El. 660.69 F=257 2.7:1 663.56 49+00 658.4 C=12 El. 655.10 82.90' ℄ P.R.R. F=107 C=8 659.62 3558+84.97 655.0 152.34' ℄ B.&O. El. 652.06 F=360 655.57 107+79.77 648.8

CROSS SECTIONS STA. 49+00 TO STA. 51+35

BEL -7- (17.71 - 20.14)

Subbase		Seeding		End Area		Cu. Yds.	
E.A	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb.
	30		371			743	896
32		132		828	986		
	89		1113			2493	2708
32		135		967	964		
	59		772			1944	1791
32		143		1133	970		
	89		1279			3849	2614
32		164		1638	912		
	59		917			3107	1686
32		166		1718	909		
	89		1383			4599	2354
32		166		1593	786		

660

C = 823
F = 3
El. 659.43
C = 5
662.30
55+25
662.33
6.6:1
81.12' ℄ P.R.R.
El. 658.12
58.12
660.0
3552 + 57.01
654.8
1/2" per Ft.
F = 983
El. 652.63
150.13' ℄ B.&O.
655.0
114+10.26
647.3

660

C = 965
F = 3
El. 659.65
F = 7
C = 2
662.52
54+50
661.88
6.5:1
81.47'
El. 658.42
660.0
3553 + 32.37
654.7
F = 954
El. 652.23
149.85'
655.01
113+94.59
647.0

660

C = 1133
F = 3
El. 659.80
662.67
54+00
661.66
5:1
79.95'
El. 657.95
660.0
3553 + 82.61
656.0
F = 967
El. 652.03
149.47'
655.06
112+84.16
646.8

660

C = 1638
F = 3
El. 660.03
662.90
53+25
661.17
5.8:1
79.46'
El. 657.23
660.0
3554 + 57.96
656.2
F = 909
El. 651.78
148.97'
655.14
112+08.51
646.9

660

C = 1718
F = 3
El. 660.18
663.05
52+75
660.88
5.6:1
79.32'
El. 656.98
660.0
3555 + 08.19
656.3
F = 906
El. 652.11
148.81'
655.19
111+58.07
647.2

660

C = 1593
F = 3
El. 660.39
663.26
52+00
660.39
5.2:1
79.38' ℄ P.R.R.
El. 656.60
660.0
3555 + 83.54
656.4
1/2" per Ft.
F = 783
El. 652.53
148.86' ℄ B.&O.
655.26
110+82.42
649.5

130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

CROSS SECTIONS STA. 52+00 TO STA. 55+25

FED. ROAD NUMBER	STATE	PROJECT	SHEET NO.
2	OHIO		34 / 164

BEL-7-(17.71-20.14)

Sta.	Offset	Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
660	C=313 F=3		59		536			706	790
	GG1.47								
	58+00								
	669.7								
	El. 658.80								
	F=97 4:1								
	El. 656.24								
	80.39' ℄ P.R.R.								
	GG0.00								
	3549+80.69								
	656.8								
	148.31' ℄ B.&O.								
	½" per Ft.								
	El. 654.0								
	F=4.07								
	655.0								
	116+87.64								
	651.1								
660	C=403 F=3	32		88	313	507			
	GG1.54								
	57+77								
	669.3								
	El. 658.67								
	F=122 4.6:1								
	El. 656.45								
	80.65'								
	GG0.0								
	3550+03.79								
	656.0								
	148.63'								
	El. 653.74								
	F=4.23								
	655.0								
	116+64.47								
	651.1								
660	C=440 F=3	27		230			305	449	
	GG1.62								
	57+50								
	664.1								
	El. 658.75								
	F=640 6.3:1								
	El. 656.71								
	80.89'								
	GG0.00								
	3550+30.93								
	656.0								
	148.97'								
	El. 653.43								
	655.0								
	116+31.22								
	650.9								
660	C=453 F=3	32		92	403	548			
	GG1.70								
	57+25								
	663.5								
	El. 658.83								
	F=663 5:1								
	El. 656.94								
	81.08'								
	GG0.0								
	3550+56.05								
	655.0								
	149.25'								
	El. 653.15								
	655.0								
	116+12.01								
	650.5								
660	C=781 F=3	32		284			422	596	
	GG1.92								
	56+50								
	663.3								
	El. 659.05								
	F=831 6:1								
	El. 657.62								
	81.39'								
	GG0.0								
	3551+31.41								
	654.0								
	149.86'								
	El. 652.89								
	655.0								
	115+36.35								
	649.1								
660	C=1023 F=3	32		97	440	613			
	GG2.07								
	56+00								
	662.74								
	El. 659.20								
	F=922 5.8:1								
	El. 657.82								
	81.40'								
	GG0.0								
	3551+81.65								
	654.8								
	150.08'								
	El. 652.89								
	655.0								
	114+85.93								
	648.0								
660	C=776 F=3	30		282			413	606	
	GG2.22								
	55+50								
	662.44								
	El. 659.35								
	F=946 6.3:1								
	El. 658.02								
	81.25' ℄ P.R.R.								
	GG0.0								
	3552+31.89								
	654.8								
	½" per Ft.								
	El. 652.53								
	150.15' ℄ B.&O.								
	655.0								
	114+35.47								
	647.5								
		89		1033			1714	2083	
		32		142		781	834		
		59		797			1670	1629	
		32		145		1023	925		
		59		778			1666	1735	
		32		135		776	949		

CROSS SECTIONS STA. 55+50 TO STA. 58+00

100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180

	Subbase		Seeding		End Area		Cu. Yds.	
	E.A.	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb.
Approach Lt. Sta. 62+00 – 66+00 See Sheet No. 85				2559			1271	2095
		59		750			969	1319
	32		138		522	747		
		59		733			773	1375
	32		126		313	738		
		59		689			704	1434
	32		122		447	811		
		59		689			793	1535
	32		126		409	847		
		59		653			619	1588
	32		109		260	868		
		59		642			584	1496
	32		122		371	748		
		59		656			677	1055
	32		114		360	331		
		59		608			750	682
	32		105		450	346		

660

C=5.07 F=3 El. 657.28 G60.29 62+00 659.5 F=63 2.8:1 C=15 El. 654.45 79.22' ℄ P.R.R. G60.0 3545+77.21 G65.4 ½" per Ft. 140.22' ℄ B.&O. El. 651.36 G55.0 120+94.10 G47.1 141.15' F=681

660

C=3.10 F=3 El. 657.30 G60.42 61+50 660.1 F=63 2.8:1 C=3 El. 654.70 74.08' G60.0 3546+27.73 G56.5 El. 651.22 G55.0 120+43.10 G47.6 142.13' F=672

660

C=5.41 F=3 El. 657.45 G60.51 61+00 660.3 F=75 2.8:1 C=6 El. 654.90 74.99' G60.0 3546+78.25 G56.0 El. 651.69 G55.0 119+92.10 G46.9 143.16' F=733

660

C=4.03 F=3 El. 657.60 G60.72 60+50 660.8 F=85 2.8:1 C=6 El. 655.10 75.98' G60.0 3547+28.81 G65.3 El. 652.15 G55.0 119+41.10 G56.6 144.25' F=759

660

C=2.53 F=3 El. 657.75 G60.87 60+00 660.5 F=98 2.7:1 C=7 El. 655.30 76.91' G60.0 3547+79.37 G55.5 El. 652.61 G55.0 118+90.10 G47.0 145.39' F=772

660

C=3.66 F=3 El. 657.97 59+50 661.4 F=89 3.1:1 C=5 El. 655.50 77.93' G60.0 3548+29.93 G55.7 El. 653.07 G55.0 118+39.06 G48.2 146.52' F=650

660

C=3.45 F=3 El. 658.23 G61.17 59+00 662.2 F=57 3.5:1 F=22 C=4 El. 656.70 78.92' G60.0 3548+80.21 G56.5 C=11 F=100 El. 653.60 G55.0 117+88.55 G52.0 147.49' ℄ B.&O. F=209

660

C=4.27 F=3 El. 658.42 G61.32 58+50 660.7 F=55 3.7:1 F=26 C=8 El. 655.90 79.74 ℄ P.R.R. G60.0 3549+30.45 G57.0 C=17 F=110 ½" per Ft. El. 654.00 G55.0 117+38.10 G51.8 F=153

100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

CROSS SECTIONS STA. 58+50 TO STA. 62+00

BEL-7-(17.71-20.14)

Subbase		Seeding		End Area		Cu. Yds.	
E.A.	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb.
	53		433			890	622
32		89		599	385		
	83		642			1618	953
32		76		649	350		
	95		649			2184	910
32		70		825	264		
	69		499			1639	543
32		85		701	242		
	50		371			1010	436
32		74		598	319		
	71		507			1179	832
32		78		463	430		
	47		431			856	686
32		116		692	496		
	65		743			1366	1146
32		127		649	629		
	53		648			977	1088
32		132		524	677		

660

C=583 F=3 El. 657.75

F=43 3:1 C=7 El. 657.77

66.98' ℄ P.R.R.

F=107 C=9 ½" per Ft. El. 652.76

133.90' ℄ B.&O. F=282

660.87
67+00
664.04

660.0
3540+72.27
655.3

654.25
126+03.69
649.1

660

C=628 F=27 El. 657.32

F=38 3:1 C=14 El. 657.49

67.61'

F=92 C=7 El. 663.17

134.48' F=193

660.66
66+30
663.04

660.0
3541+42.95
655.1

654.59
125+32.35
651.1

Sta. 65+73 Begin Guard Rail on Rt.

660

F=16 C=790 El. 655.46

C=18 El. 657.17

68.43'

F=82 C=17 El. 653.63

135.26' F=188

660.42
65+50
665.96

660.0
3542+23.70
656.0

654.98
124+50.85
653.0

Sta. 65+08 End Guard Rail on Rt.

660

C=663 F=3 El. 657.19

F=51 3.8:1 C=30 El. 658.30

69.10'

F=98 C=6 C=2 El. 653.61

135.89' F=85

660.28
64+92
663.9

660.0
3542+82.27
656.5

655.0
123+91.77
653.9

660

C=582 F=3 El. 657.44

F=40 4:1 C=18 El. 657.75

69.58'

F=100 C=2 El. 653.68

136.41' F=168

64+50
663.47

660.0
3543+24.65
656.4

655.0
123+48.93
652.6

660

C=440 F=3 El. 657.80

F=29 3.6:1 C=16 El. 656.96

70.36'

F=112 C=7 El. 653.92

137.20' F=286

660.14
63+90
664.2

660.0
3543+85.25
656.3

655.0
122+87.81
650.6

660

C=681 F=3 El. 657.68

F=24 3:1 C=11 El. 656.43

70.91'

F=124 C=7 El. 653.38

137.77' F=469

660.12
63+50
662.8

660.0
3544+25.65
656.6

655.0
122+47.01
649.8

660

C=641 F=3 El. 657.51

F=36 2.6:1 C=8 El. 655.70

71.72'

F=124 C=8 El. 652.64

138.61' F=590

660.14
62+98
662.4

660.0
3544+81.21
656.5

655.0
121+90.97
648.1

660

C=518 F=3 El. 657.38

F=53 2.3:1 C=6 El. 655.11

72.41' ℄ P.R.R.

1/8" per Ft. El. 652.03

139.36' ℄ B.&O. F=621

660.20
62+50
660.5

660.0
3545+26.69
656.5

655.0
121+45.10
647.8

CROSS SECTIONS STA. 62+50 TO STA. 67+00

BEL - 7 - (17.71 - 20.14)

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

130

Station	Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
661.47 69+00 661.3		59		894			2334	825
661.32 68+50 662.1		59		872			1822	792
661.18 68+04 662.8		55		718			1672	744
661.05 67+58 663.6		55		611			1705	674
661.01 67+45 663.72		15		142			340	174
660.0 3538+70.40 655.7	32		160		1061	413		
660.0 3539+20.88 656.9	32		154		907	442		
660.0 3539+67.31 657.0	32		127		1056	431		
660.0 3540+13.74 656.2	32		112		945	360		
660.0 3540+26.83 656.8	32		84		469	362		
653.28 128+07.39 649.0								
653.52 127+56.48 648.0								
653.75 127+09.60 648.6								
653.97 126+62.77 649.3								
654.03 126+49.52 649.5								

660

C=1041 1.5:1 F=3 El. 658.95 F=62 3.3:1 65.62 ℄ P.R.R. F=148 El. 658.57 ½ per ft. C=20 132.89 B.L.O. ℄ F=205 El. 651.61

C=893 2:1 F=3 El. 658.20 F=194 3.4:1 65.91' El. 658.37 C=14 133.07' El. 651.90 F=245

C=1039 F=3 El. 658.06 F=53 3.2:1 C=8 El. 658.19 66.20' F=109 C=14 133.29' El. 652.16 F=286

C=923 F=3 El. 657.98 F=45 3.3:1 C=10 El. 658.0 66.58' F=89 C=12 133.53' El. 652.43 F=223

C=443 F=3 El. 657.89 F=43 3:1 C=12 El. 657.95 66.62' ℄ P.R.R. F=93 C=14 ½ per ft. 133.62' B.L.O. ℄ El. 652.60 F=223

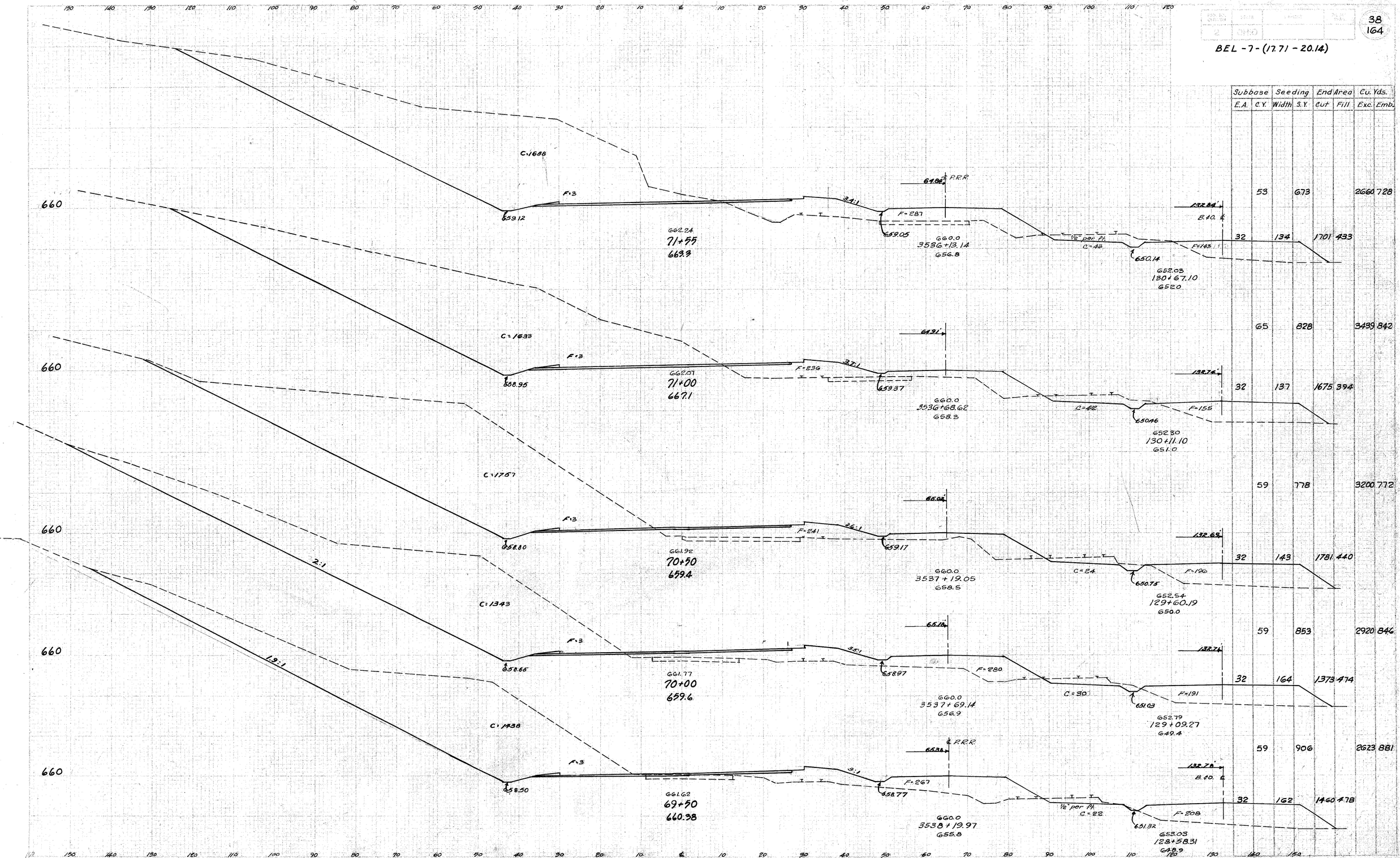
66.0

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

CROSS SECTIONS STA. 67+45 TO STA. 69+00

BEL -7- (17.71 - 20.14)

Subbase		Seeding		End Area		Cu. Yds.	
E.A.	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb.
	53		673			2660	728
	32		134		1701	433	
	65		828			3439	842
	32		137		1675	394	
	59		778			3200	772
	32		143		1781	440	
	59		853			2920	846
	32		164		1373	474	
	59		906			2623	881
	32		162		1460	478	



CROSS SECTIONS STA. 69+50 TO STA. 71+55

PROJ. NO.	STATE	HIGHWAY	SHEET
2	OHIO		

39
164

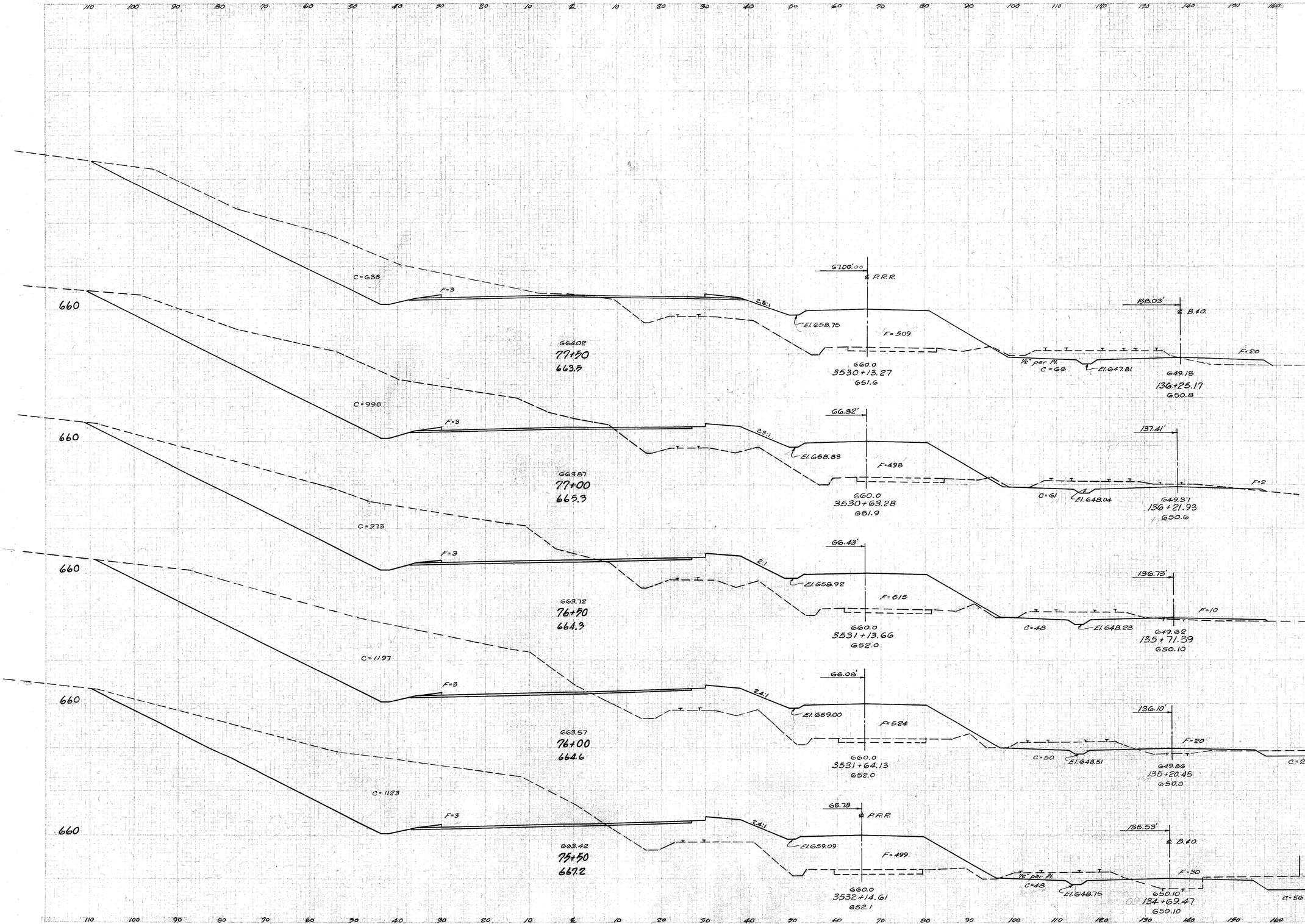
BEL-7-(17.71-20.14)

NOTE: Cut for proposed spur track on right of B. & O. & shall be excavated to a depth of approximately two (2) feet below the top of rail elevation shown for existing spur. Adjustment in earthwork quantities will be made at the time of construction.

Station	Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
75+00		59		678			2307	978
		32		121		1265	524	
74+50		59		661			2500	956
		32		117		1435	508	
74+00		59		681			2715	909
		32		128		1497	474	
73+00		119		1478			5815	1667
		32		138		1649	426	
72+50		59		769			2928	778
		32		139		1519	414	
72+00		59		761			2787	792
		32		135		1491	441	

CROSS SECTIONS STA. 72+00 TO STA. 75+00

BEL-7-(17.71 - 20.14)

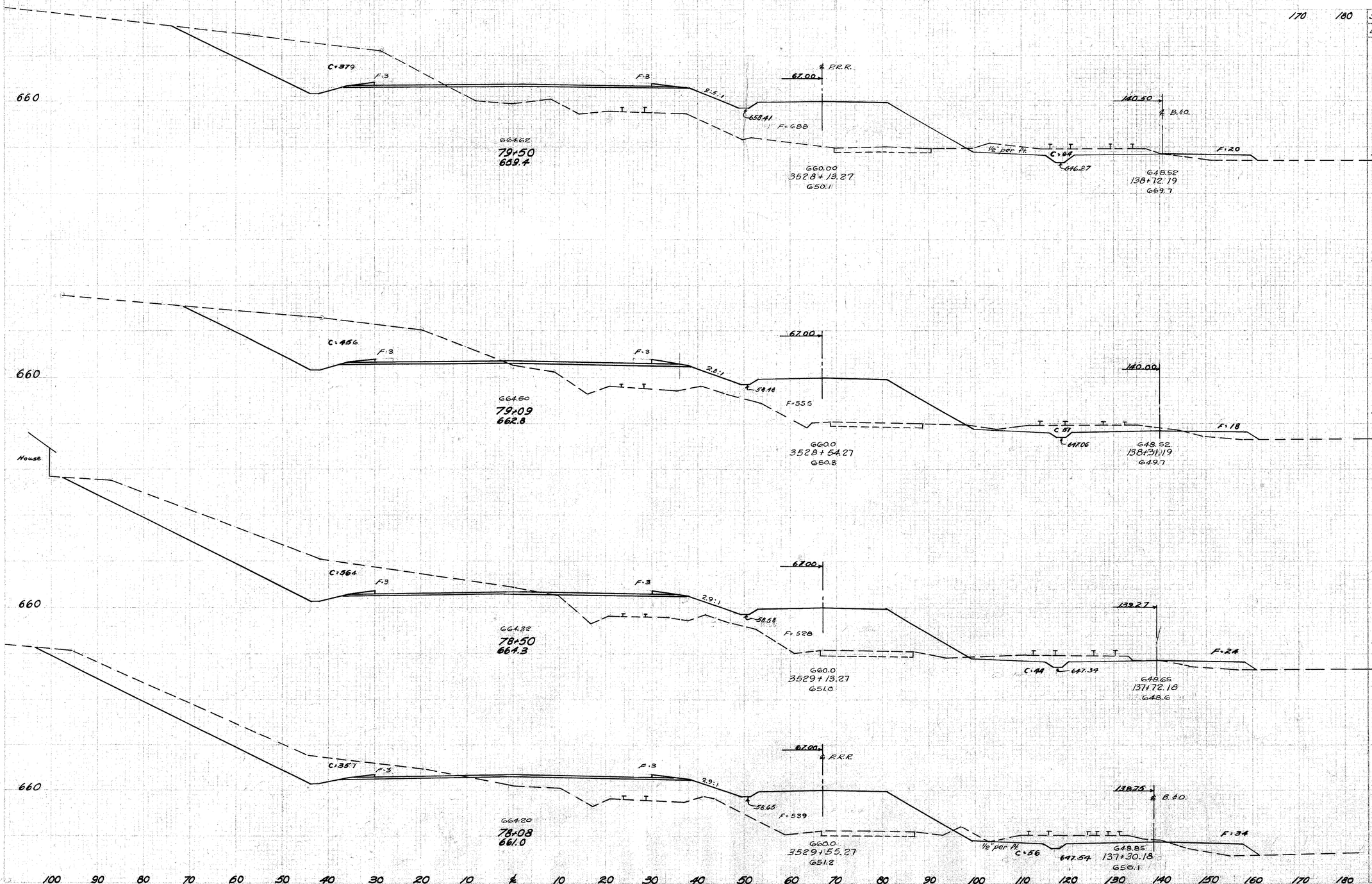


Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	81		445			1201	1193
38		123		704	532		
	65		683			1632	968
32		123		1059	503		
	59		683			1926	955
32		123		1021	528		
	59		678			2120	995
32		121		1269	547		
	59		678			2311	999
32		123		1227	532		

CROSS SECTIONS STA. 75+50 TO STA. 77+50

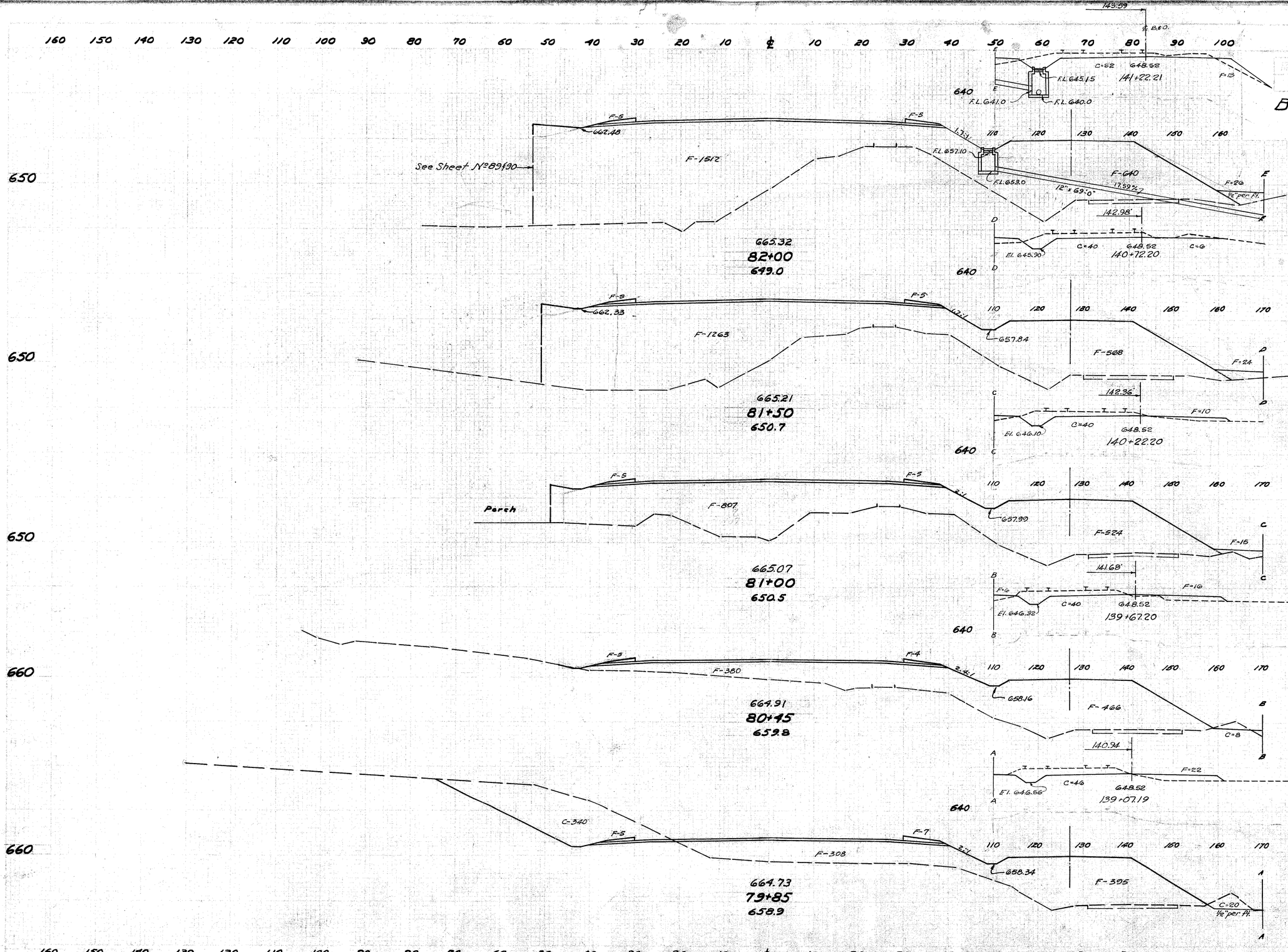
BEL -7 - (17.71 - 20.14)

100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180



Subbase		Seeding		End Area		Cu. Yds.	
E.A.	C.Y.	Width	S.Y.	Cut	Fill	Exc.	Emb
	49		321			548	944
37		82		443	714		
	56		367			721	982
37		79		507	579		
	81		580			1218	1242
37		98		608	558		
	58		497			795	884
37		115		414	579		

CROSS SECTIONS STA. 78+08 TO STA. 79+50



F.A. 42
2 OHIO JAN 164

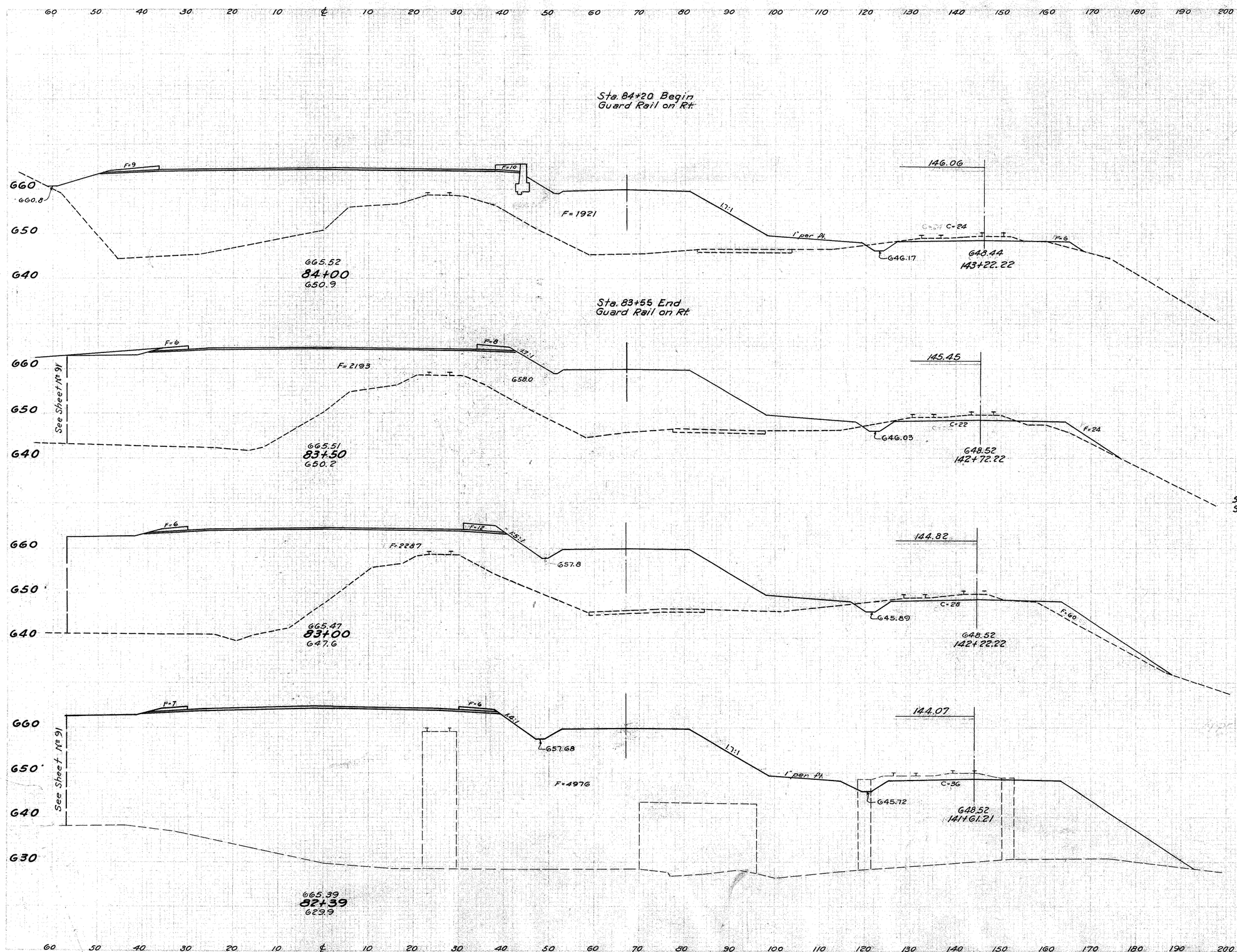
BEL-7-(17.71-20.14)

Sub-base E.A.	Sub-base C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	57		223			64	5193
39		49		52	2201		
	72		267			91	3765
39		47		46	1865		
	72		256			80	2992
39		45		40	1366		
	79		296			90	2285
39		52		48	877		
	87		450			504	1798
39		83		406	737		

STA. 79+85 TO STA. 82+00

SHEET NO.	STATE	PROJECT	TOTAL SHEETS
2	OHIO		43 / 164

BEL-7-(17.71 - 20.14)



Sub-base E.A.	Sub-base C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	81		422			356	3124
45		45		24	1946		
	79		256			43	3868
40		47		22	2231		
Approach Lt. Sta. 83+50 See Sheet Nº 89 →	34	→ 8719		→ 478		37888	
	74		275			46	4256
40		52		28	2965		
	90		359			72	8307
40		54		36	4989		

CROSS SECTION STA. 82+39 TO STA. 84+00

F.A. 44
2 OHIO 164

BEL-7-(17.71-20.14)

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90

690 690 690 680 660

C-2052 Q-1807 C-1281 C-662 C-332

F-5 F-8 F-194 F-6 F-5 F-200 F-5 F-5 F-280 F-16 F-429 F-12 F-10 F-730

665.21 86+50 666.4

665.32 86+00 665.5

665.41 85+50 663.2

665.47 85+00 658.2

665.51 84+50 652.3

650 650 650 650

149.15' ℄ B.&O. ½" per Ft. ℄ P.R.R. El. 646.84 C=36 647.54 145+72.24 659.2 F-230 C-20

148.58' C=44 647.72 145+22.24 El. 646.78 659.0 F-229 C-24 F-16

147.91' C=40 647.90 144+72.23 El. 646.59 658.8 F-267 C-20 F-8

147.30' C=40 648.05 144+22.23 El. 646.45 658.6 F-484 F-36

146.68' ℄ B.&O. ½" per Ft. C=28 648.26 143+72.23 El. 646.31 ℄ P.R.R. 658.4 F-614 F-60

F-2 F-16 F-30

Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	73		899			4458	817
	40		145		2128	437	
	74		856			3706	817
	40		163		1875	445	
	74		881			2978	945
	40		154		1341	576	
	76		778			1892	1459
	42		126		702	1000	
	78		647			983	2248
	42		107		960	1428	

STA. 84+50 TO STA. 86+50

FED. RD. DIST. NO.	STATE	F.A. PROJ. NO.	SHEET NO.	TOTAL SHEETS
2	OHIO			45 164

BEL-7-(17.71 -20.14)

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90

690

House

2:1

C-2328

F-3

F-6

F-158

2.5:1

661.82
87+85
668.0

658.80

F-384

690

C-2773

F-5

F-184

2.5:1

669.92
87+50
671.8

658.90

F-367

670

C-2591

2:1

F-5

F-190

2.5:1

665.07
87+00
670.5

659.05

F-245

650

℄ P.R.R.

149.76'

℄ B.&O.

C=60

E1. 646.98

647.36

C=80

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120

Sub base E.A.	Sub base C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	95		1040			5057	1387
	39		124		2328	571	
					F-18		
					El. 646.68		
	51		566			3306	745
	39		167		2773	579	
					F-18		
					El. 646.78		
	72		900			5050	948
					146+22.24		
	39		157		2681	445	
					C=80		

STA. 87+00 TO STA. 87+85

F.A. 46
2 OHIO 164

BEL-7-(17.71-20.14)

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90

690

690

690

670

C-1648

C-1677

C-1743

C-1873

Porch

2:1

F-5 F-120 F-6 2:1 658.09 F-378

664.11
90+20
663.7

F-5 F-130 F-6 2:1 658.30 F-316

664.32
89+50
666.0

F-5 F-128 F-7 2:1 658.45 F-345

664.47
89+00
665.8

F-5 F-189 F-6 2:1 658.60 F-364

664.62
88+50
667.5

Sub base E.A.	Sub base C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	92		1123			4006	1210
40		161		1648	542		
	104		1244			4910	1983
40		159		1677	486		
	74		894			3167	916
40		163		1745	503		
	74		908			3348	1004
40		164		1879	581		

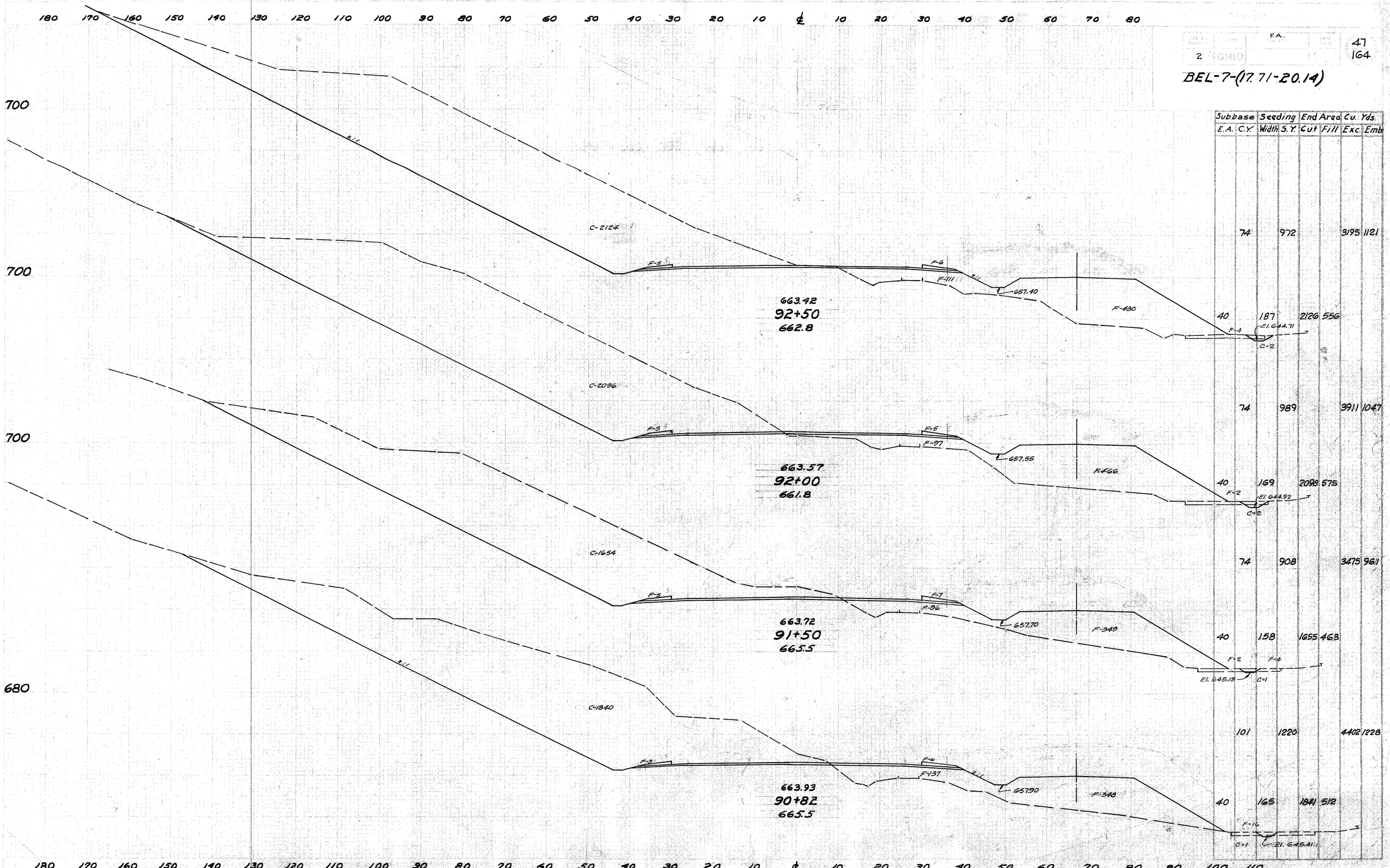
F-8A EL. 645.66
F-20 EL. 645.95
F-18 EL. 646.16
F-17 EL. 646.36

STA. 88+50 TO STA. 90+20

F.A. 47
2 OHIO 164

BEL-7-(17.71-20.14)

Subbase E.A.	Subbase C.Y.	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	74		972			3195	1121
40		187		2126	556		
	74		989			3911	1047
40		169		2098	575		
	74		908			3475	961
40		158		1655	463		
	101		1220			4402	1228
40		165		1841	512		



STA. 90+82 TO STA. 92+50

FED. ROAD SECTION	STATE	F.A. PROJECT	TYPE SURFACE
2	OHIO		

48
164

BEL-7-(17.71-20.14)

180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

C-825

660

662.67
95+00
661.1

F-5 F-5 3:1 F-270 658.15 F-550 El. 645.7 F-3

C-868

670

662.82
94+50
660.8

F-5 F-5 3:1 F-205 658.00 F-387 El. 645.45 F-3

C-818

670

662.97
94+00
660.1

F-5 F-5 3:1 F-214 657.85 F-524 F-1 El. 645.21

C-868

670

660.60
663.17
93+50
660.2

F-5 F-5 3:1 F-164 657.70 F-382 F-2 El. 644.96 C-2

C-1324

660

660.40
663.27
93+00
661.2

F-5 F-5 3:1 F-146 657.55 F-498 F-1 El. 644.71 C-1

180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

STA 93+00 TO STA 95+00

Sub base E.A	Sub base Cu.Yd.	Seeding Width	Seeding Sq.Yd.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	68		817			1267	1536
40		165		825	815		
	74		869			1568	1454
40		148		868	755		
	74		800			1561	1393
40		140		818	749		
	74		781			1563	1395
40		141		870	758		
	74		844			2032	1308
40		163		1325	655		

FED. RD. DIVISION	STATE	F.A.	TOTAL SHEETS
2	OHIO		49

164

BEL-7-(17.71-20.14)

Sub base		Seeding		End Areas		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Cut	Fill
	61		383			376	2012
33		67		184	1080		
	61		608			531	1998
33		152		390	1078		
	61		764			627	1929
33		123		287	1005		
	61		700			769	1712
33		129		543	844		

STA 95+50 TO STA 97+00

SHEET NO.	STATE	F.A. PROJECT	TOTAL SHEETS
2	OHIO		

50
164

BEL-7-(17.71-20.14)

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

660

C-437 C-E F-4

661.40
99+50
658.2

F-407 650.90 F-507

C-9 El. 643.35

660

C-409 C-D F-3

F-335 657.40 F-535

661.49
99+00
659.8

C-8 F=20 El. 643.70

660

C-618 C-E F-2

F-270 657.90 F-479

661.62
98+50
659.3

C-8 F=20 El. 644.05

660

C-397 C-3 F-1

F-519 658.40 F-508

661.77
98+00
657.4

C-4 F=22 El. 644.40

660

C-220 C-B F-0

659.02 F-538 658.90 F-536

661.92
97+50
659.4

F=14 C-2 El. 644.00

140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120

STA 97+50 TO STA 99+50

Sub base E.A.	Cu Yd	Seeding Width	Sq. Yd.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	G1		528			524	2042
33		108		446	1033		
	G1		575			799	1788
33		99		417	893		
	G1		683			964	1544
33		147		624	774		
	G1		781			949	1776
33		134		401	1144		
	G1		569			577	2071
33		71		222	1093		

BEL-7-(17.71 - 20.14)

Excavation	245188 Cu. Yds.
Embankment	249020 Cu. Yds.
Seeding	121164 Sq. Yds.
Subbase	7859 Cu. Yds.

Subbase E.A.	Subbase Cu.Yd.	Seeding Width	Seeding Sq.Yd.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	107		409			53	3437
33		54		16	1144		
	78		444			83	2585
33		71		54	1037		
	68		442			178	2314
33		71		118	1194		
	61		406			222	2259
33		75		122	1246		
	61		436			224	2239
33		82		120	1172		

120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140

660

C-8 C-12 F-5 F-604 2:1 658.38 F-633

661.54
102 + 20
654.7

660

C-64 F-5 F-458 2:1 657.80 F-565

661.40
101 + 56
656.2

660

C-118 F-5 F-560 2:1 657.30 F-606 F-23

661.34
101 + 00
656.3

660

C-117 F-5 F-3 C-8 F-595 2:1 656.85 F-620 F-23

661.32
100 + 50
655.8

660

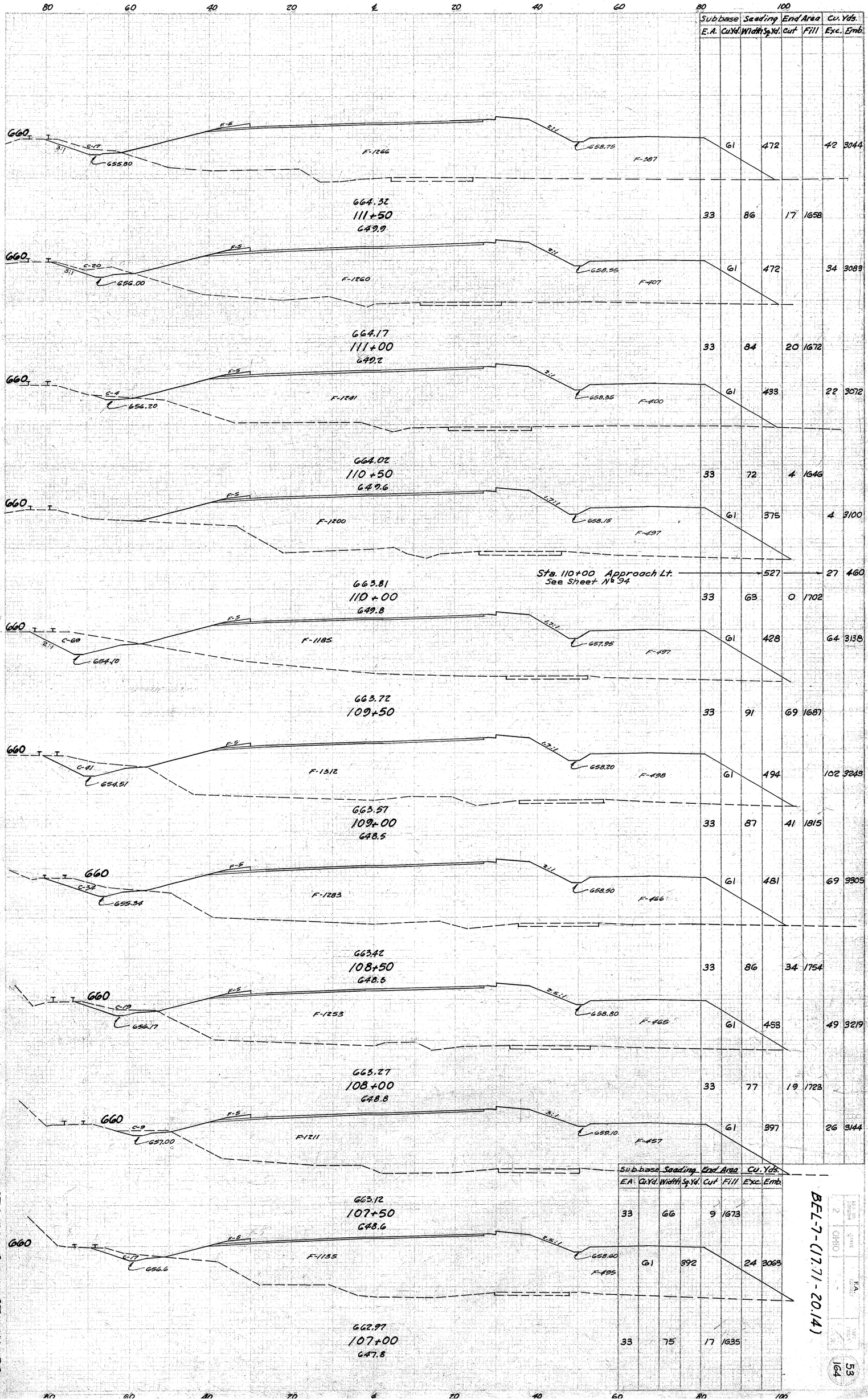
C-102 F-5 F-19 C-7 F-532 1½:1 656.40 F-596 C-11 F-20 El. 643.00

661.34
100 + 00
653.3

120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140 160

STA 100+00 TO STA 102+20

BEL-7-(17.71-20.14)

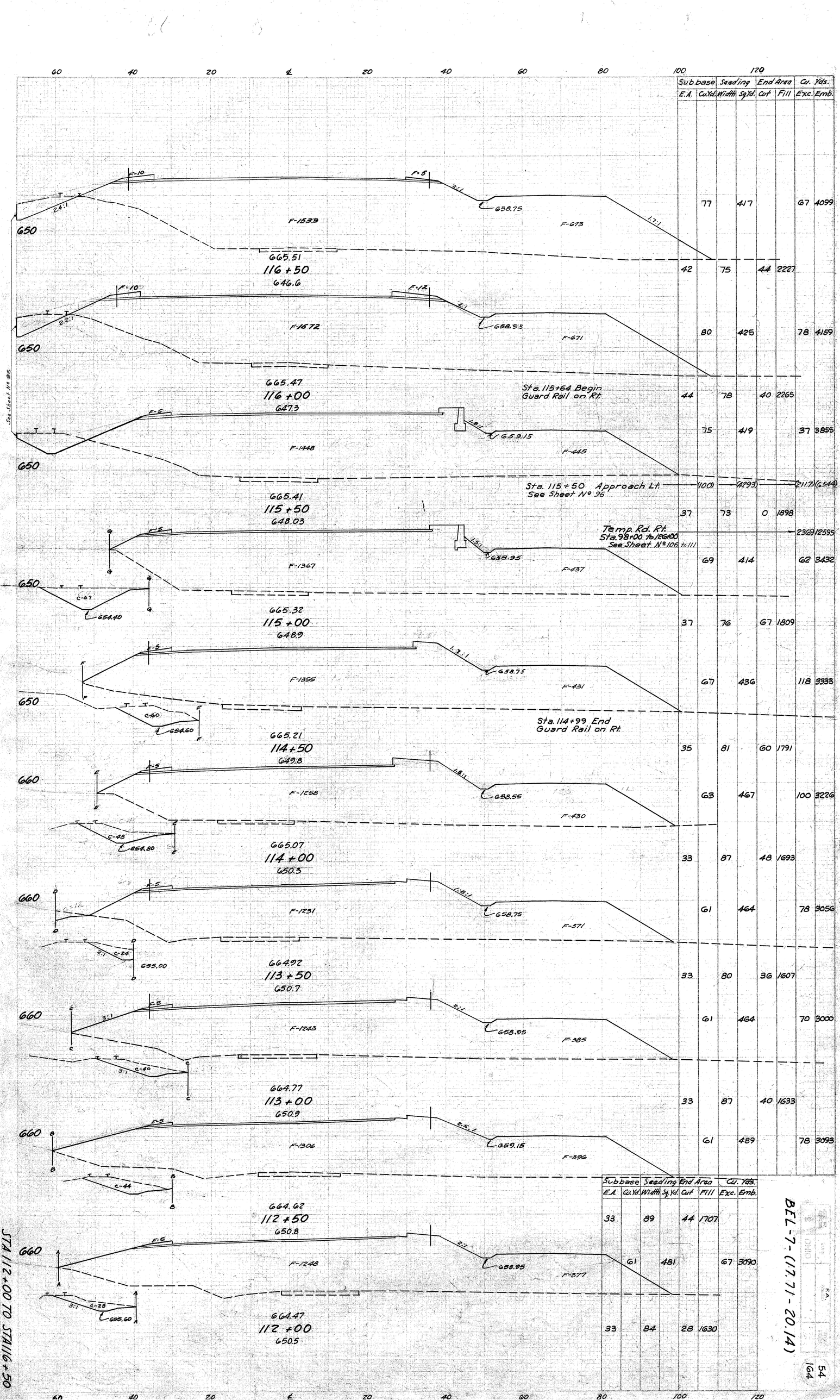


Subbase E.A.	Cu.Yd.	Seading Width	Sq.Yd.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	G1		472			42	3044
33		86		17	1658		
	G1		472			34	3083
33		84		20	1672		
	G1		493			22	3072
33		72		4	1646		
	G1		375			4	3100
			527	→		27	460
33		63		0	1702		
	G1		428			64	3138
33		91		69	1687		
	G1		494			102	3248
33		87		41	1815		
	G1		481			69	3305
33		86		34	1754		
	G1		453			49	3219
33		77		19	1723		
	G1		397			26	3144
33		66		9	1673		
	G1		392			24	3063
33		75		17	1635		

STA 107+00 TO STA 111+50

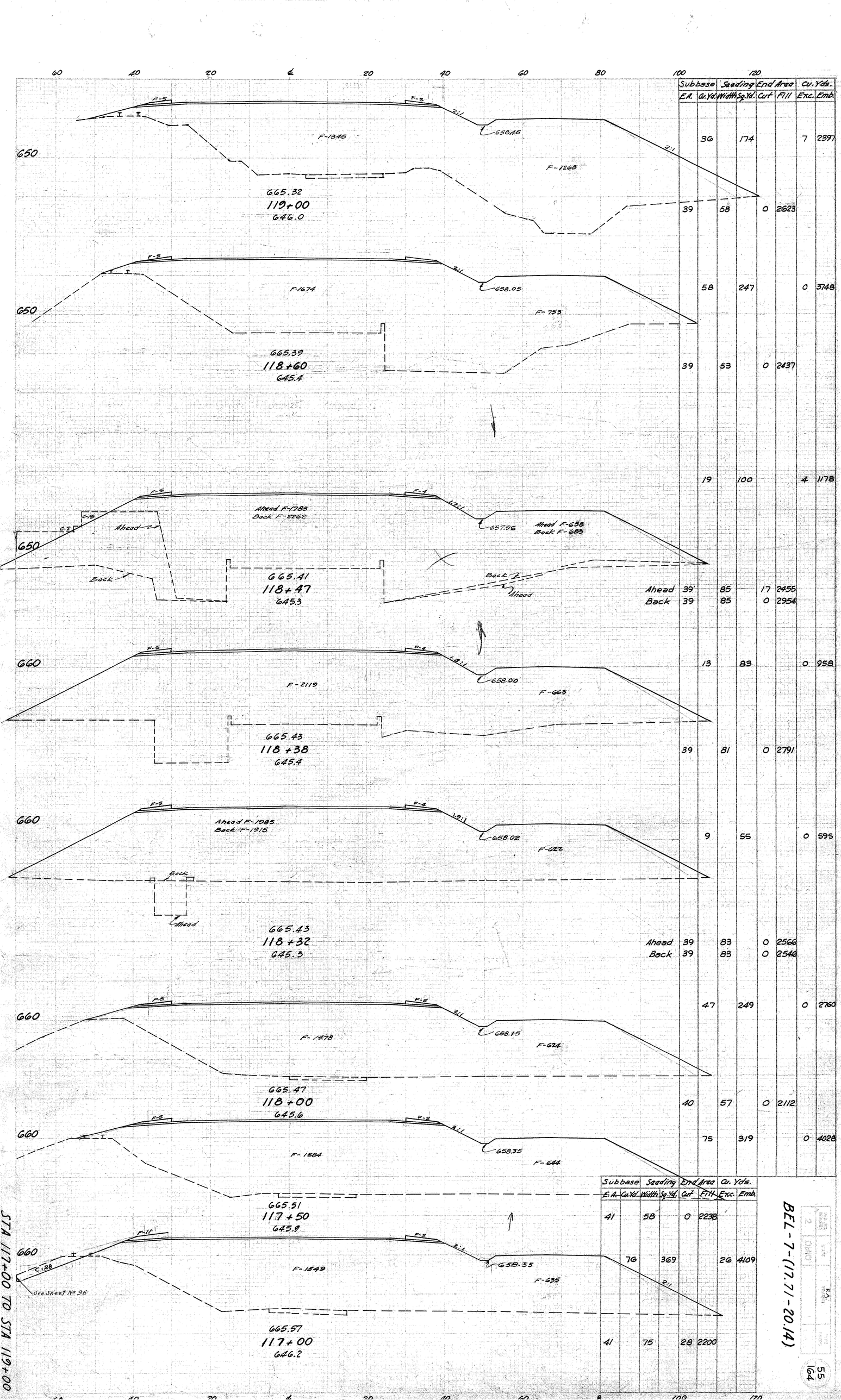
BEL-7-(17.71-20.14)

53
164



Subbase		Seeding		End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	77		417			67	4099
42		75		44	2227		
	80		425			78	4159
44		78		40	2265		
	75		419			37	3855
	(100)		(4293)			2117	(6544)
37		73		0	1898		
						2369	12595
	69		414			62	3432
37		76		67	1809		
	67		436			118	3333
35		81		60	1791		
	63		467			100	3226
33		87		48	1693		
	61		464			78	3056
33		80		36	1607		
	61		464			70	3000
33		87		40	1633		
	61		489			78	3093
33		89		44	1707		
	61		481			67	3090
33		84		28	1630		

BEL-7-(117.71-20.14)



	Subbase		Seeding		End Area		Cu. Yds.	
	E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
		36		174			7	2397
	39		58		0	2623		
		58		247			0	3748
	39		53		0	2437		
		19		100			4	1178
Ahead	39		85		17	2455		
Back	39		85		0	2954		
		13		88			0	958
	39		81		0	2791		
		9		55			0	595
Ahead	39		83		0	2566		
Back	39		83		0	2542		
		47		249			0	2760
	40		57		0	2112		
		75		319			0	4028
	41		58		0	2238		
		76		369			26	4109
	41		75		28	2200		

BEL-7-(17.71-20.14)

55
164

	Sub base	Seading	End Area	Cu. Yds.
	E.A.	Width Sq. Yd.	Cut / Fill	Exc. / Emb.
650	16	87	43 / 39	1623 / 1390
Ahead	39	GG		15 / 674
Back	39	GG		
650	20	100	29 / 39	1064
	39	GB		19 / 636
650	29	128	50 / 39	1324
	39	52		29 / 884
650	36	139	5 / 48	1594
	39	48		25 / 1351
650	72	269	0 / 54	2472
	39	54		5 / 3348
650	49	194	0 / 51	2009
	39	51		0 / 2613
650	22	88	0 / 22	1245
	39	22		0 / 1245
650	36	168	16 / 39	2555
	39	67		7 / 2327

STATE OF OHIO — F.A. PROJECT — SHEET NO. 56 — TOTAL SHEETS 164

BEL.-7-(17.71- 20.14)

STA 119+25 TO STA 121+09

	Sub base	Seeding			End Areas		Cu. Yds.	
	EA	Cu Yd	Width	Sq Yd	Cut	Fill	Exc.	Emb.
Ahead	38	74	35	200	32	1089		
Back	38	74	35	200	35	1343		
	38				35	1632		

FED. NO. PROJECT	STATE	F.A. PROJECT	TOTAL SHEETS
2	OHIO		57

57
164

BEL-7-(17.71 - 20.14)

STA 121+20 TO STA 123+00

FED. AID DIVISION	STATE	F.A. PROJECT	SHEETS	58
2	OHIO		NO.	164

BEL-7-(17.71 - 20.14)

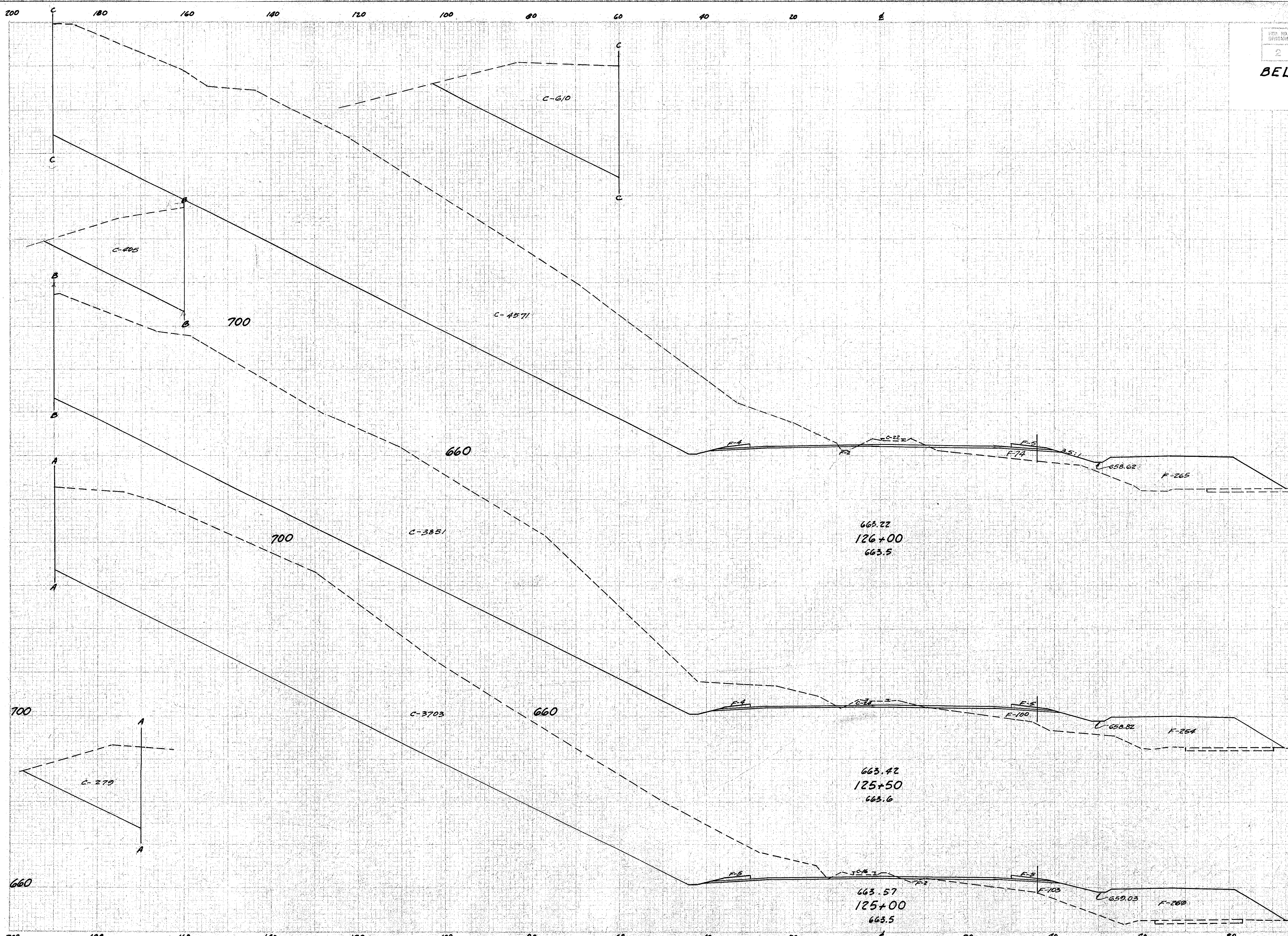
Subbase		Seeding		End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
				74	1333	6776	759
				40	238	3314	436
				74	1286	5319	853
				40	225	2430	485
				74	1225	3877	985
				40	216	1757	579

180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

STA 123+50 STA 124+50

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS	SHEET
2	OHIO			59 / 164

BEL-7-(17.71-20.14)

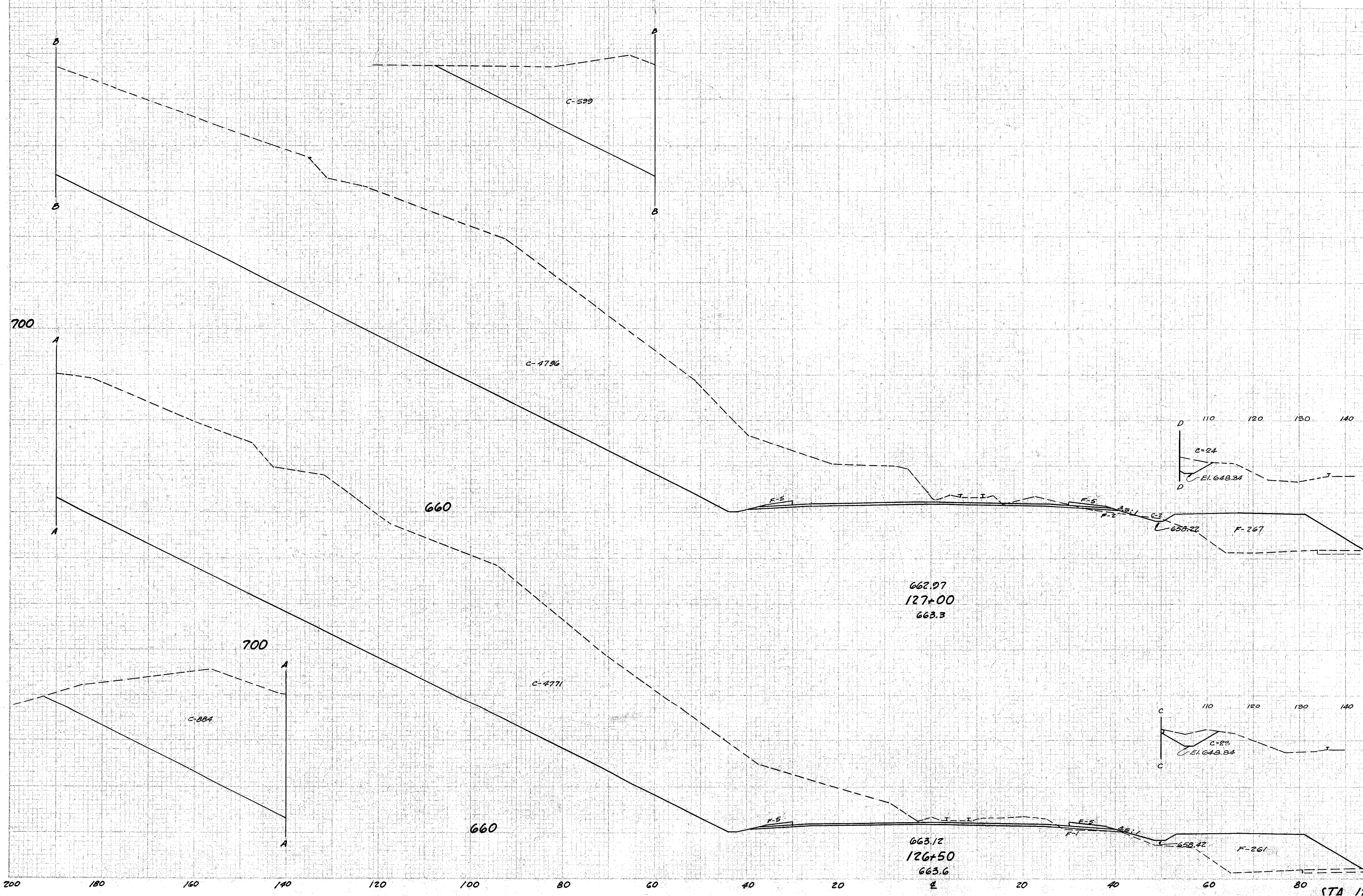


Subbase		Seeding		End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	74		1481			10103	576
40		261		5233	350		
	74		1417			8820	660
40		249		4293	363		
	74		1964			7682	692
40		242		4004	384		

STA 125+00 TO STA 126+00

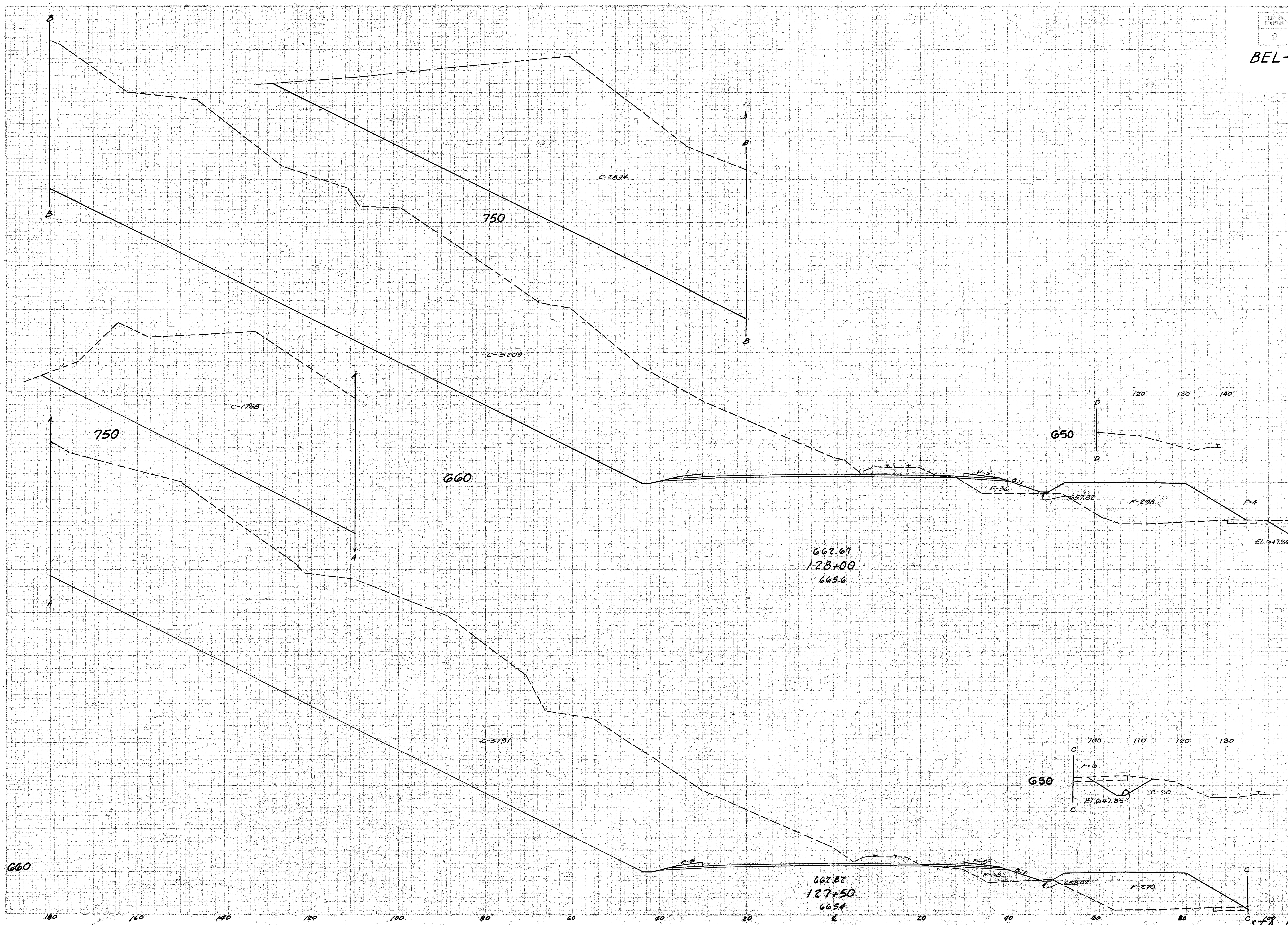
FED. RD. DIVISION	STATE	F.A. PROJECT		
2	OHIO			60 / 164

BEL-7-(17.71- 20.14)



Subbase		Seeding		End Area		Cu. Yds.	
E.A.	Cu. Yd.	Width	Sq. Yd.	Cut	Fill	Exc.	Emb.
	74		1522			11491	558
40		267		5421	279		
	74		1497			10277	510
40		272		5678	272		

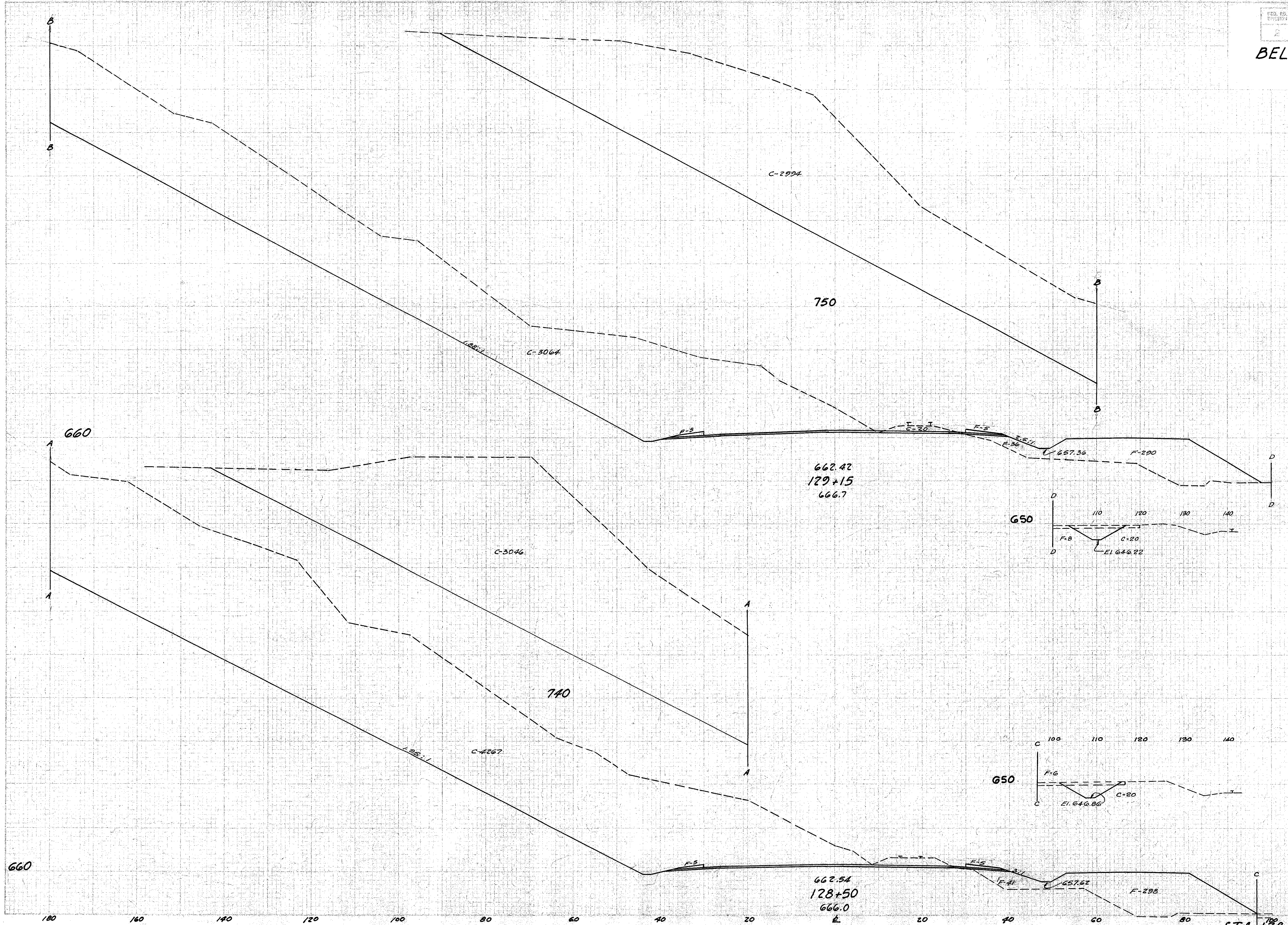
STA 126+50 TO STA 127+00



Subbase		Seeding		End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	74		1842			14261	649
40		323		8069	346		
	74		1678			13943	620
40		281		6989	324		

FED. RD. DIVISION	STATE	F.A. PROJECT	SHEET NO.
2	OHIO		

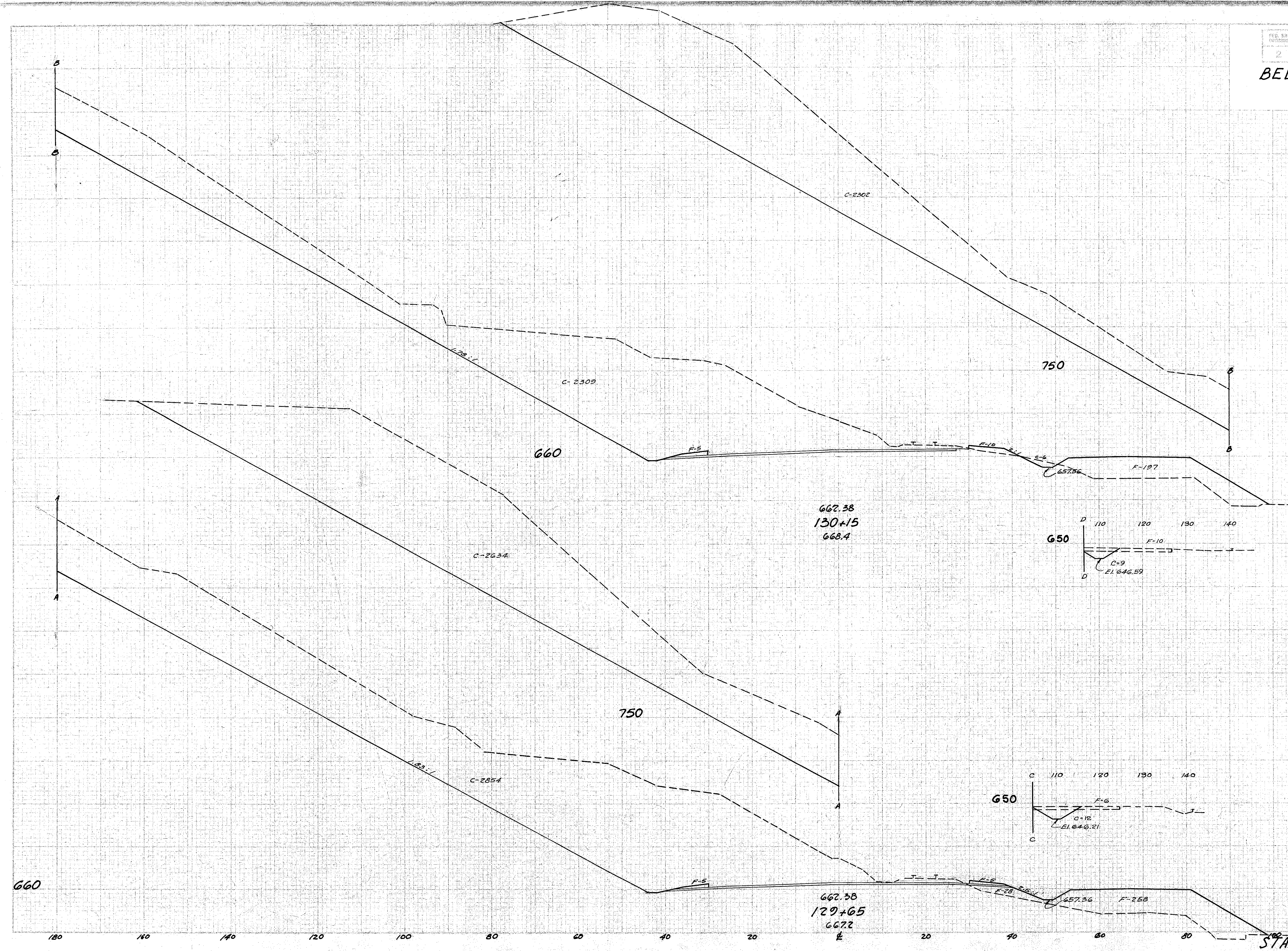
BEL-7-(17.71 - 20.14)



Subbase E.A.	Subbase Cu.Yd.	Seeding Width	Seeding Sq.Yd.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	74		2150			10739	598
40		385		6098	344		
	96		2618			16167	841
40		340		7333	355		

STA 128+50 TO STA 129+15

BEL-7-(17.71 - 20.14)



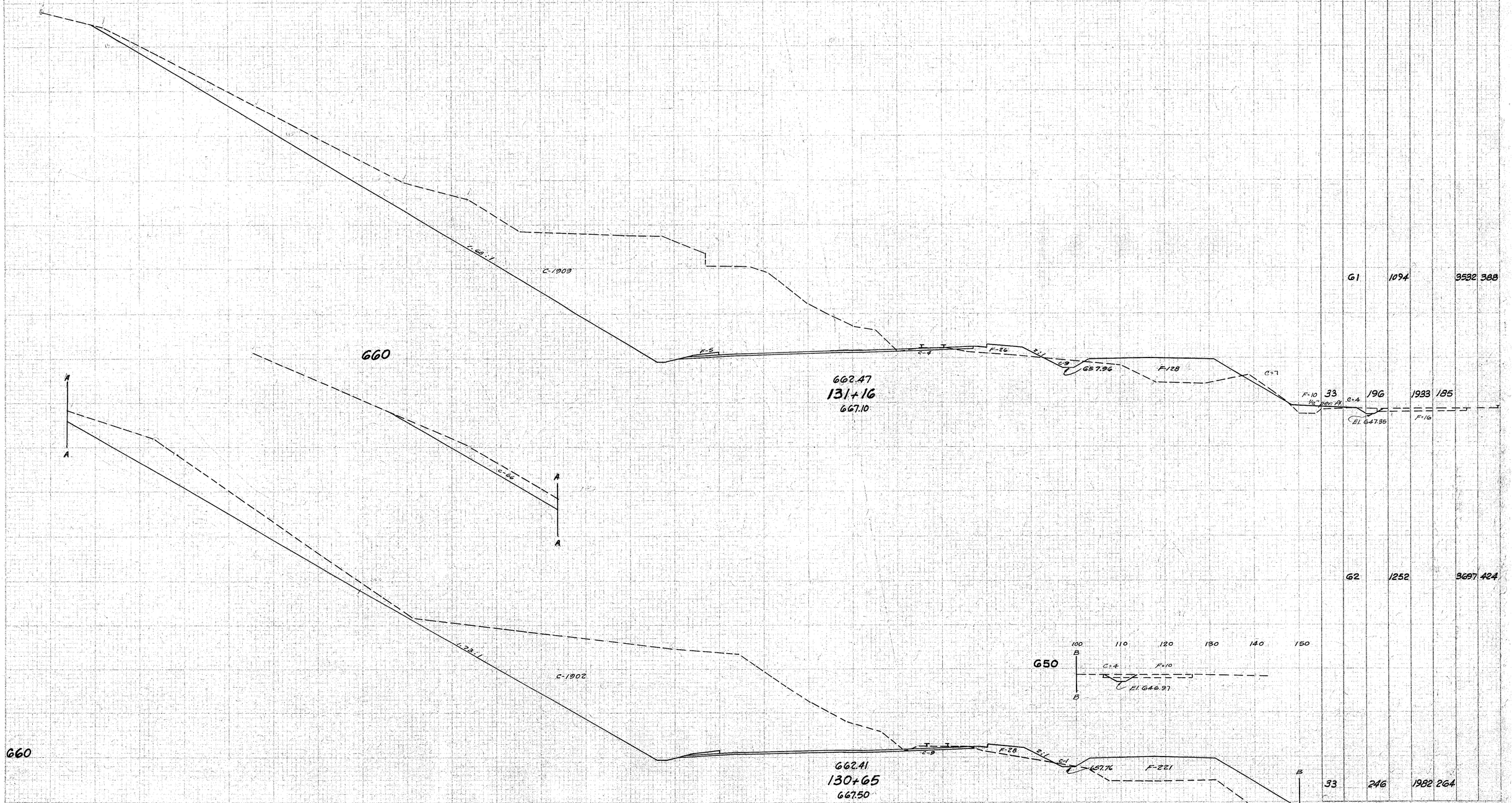
Subbase E.A.	Subbase Cu.Yd.	Seeding Width	Seeding Sq.Yd.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	61		1789			6119	450
33		398		4626	222		
	68		2186			9376	485
40		389		5500	302		

STA 129+65 TO STA 130+15

FED. ROAD DIVISION	STATE	F.A. PROJECT	SHEET NO.
5	OHIO		64 / 164

BEL-7-(17.71 - 20.14)

Sub base		Seeding	End Area		Cu. Yds.	
E.A	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	G1		1094			3532	388
	G2		1252			3687	424
		33	246			1982	264



STA 130+65 TO STA 131+16

FED. NO. PROJECT	STATE	F.A. PROJECT	TYPE WORK	65
2	OHIO		WORK	164

BEL-7-(17.71 - 20.14)

180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80 100

C-1818 1.5:1 660 F-3 2.5:1 F-163 658.76 F-281 663.02 133+16 665.2 El. 647.76 F=16

C-1608 1.5:1 660 F-3 2.5:1 F-49 658.46 F-200 662.79 132+41 663.2 F=10 ½" per ft. El. 648.3 F=16

C-1834 1.5:1 660 F-3 2.5:1 F-48 658.36 F-130 662.72 132+16 664.0 C=2 F=12 El. 647.65 F=16

C-1870 1.5:1 660 F-3 C-5 2.5:1 F-48 658.16 F-152 662.58 131+66 664.8 C=3 F=10 ½" per ft. C=4 El. 647.73 F=16

Subbase		Seeding		End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	61		897			2929	950
	33		138		1518	465	
	92		1463			4342	1043
	33		213		1608	286	
	31		599			1595	230
	33		218		1838	211	
	61		1156			3444	412
	33		198		1882	234	

180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80

STA 131+66 TO STA 133+16

PROJECT NO.	STATE	F.A.	TYPE	SHEET NO.
2	OHIO			66 164

BEL-7-(17.71 - 20.14)

160 140 120 100 80 60 40 20 ℄ 20 40 60 80

660

C-1586

18:1

F-5

F-200

E-11

658.52

F-462

663.62
135+16
660.3

STA. 135+43.10
BALANCE POINT

F-11

EL. 646.57

660

C-1429

660

C-1753

F-5

F-173

E-11

658.77

F-386

663.47
134+66
660.3

F-15

EL. 646.79

660

C-1645

1.5:1

F-5

F-159

E-11

659.02

F-396

663.32
134+16
662.2

F-17

EL. 647.11

660

F-5

F-152

2.5:1

658.90

F-386

663.17
133+66
664.2

A

F-18

EL. 647.43

A

110 120 130

180 160 140 120 100 80 60 40 20 ℄ 20 40 60 80

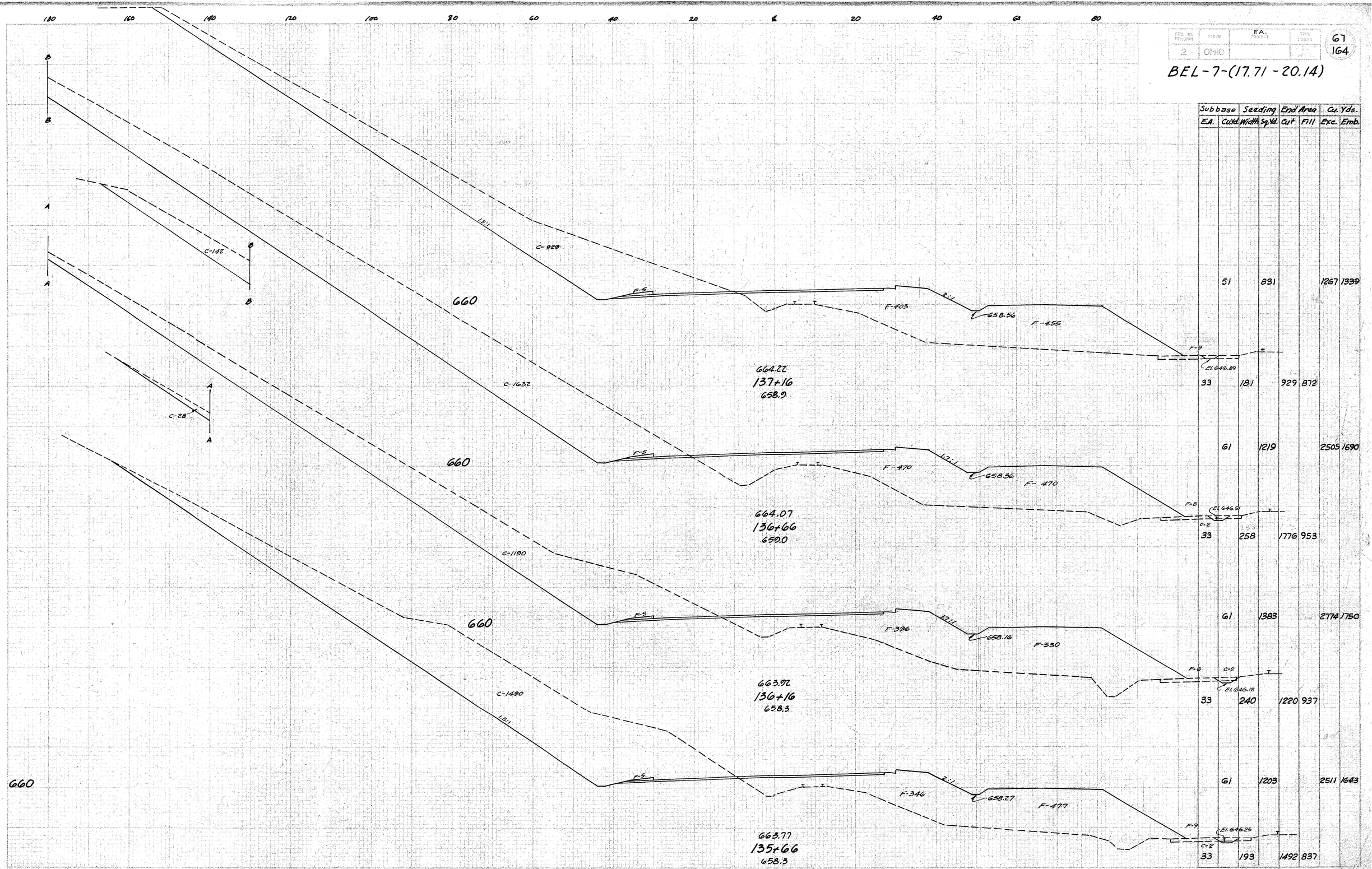
Subbase		Seeding		End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	28		482			1306	643
	61		1053			2850	1403
	33		571			1544	760
	33		186			1586	678
	61		886			2792	1164
	33		133			1429	579
	61		947			2946	1070
	33		208			1753	577
	61		1092			3146	1054
	33		185			1645	561

Excavation	175753	Cu. Yds.
Embankment	159776	Cu. Yds.
Seeding	55911	Sq. Yds.
Subbase	4361	Cu. Yds.

STA 133+66 TO STA 135+16

FED. HWY. DIVISION	STATE	F.A. PROJECT	TYPE WORK	67
2	OHIO			164

BEL-7-(17.71 - 20.14)



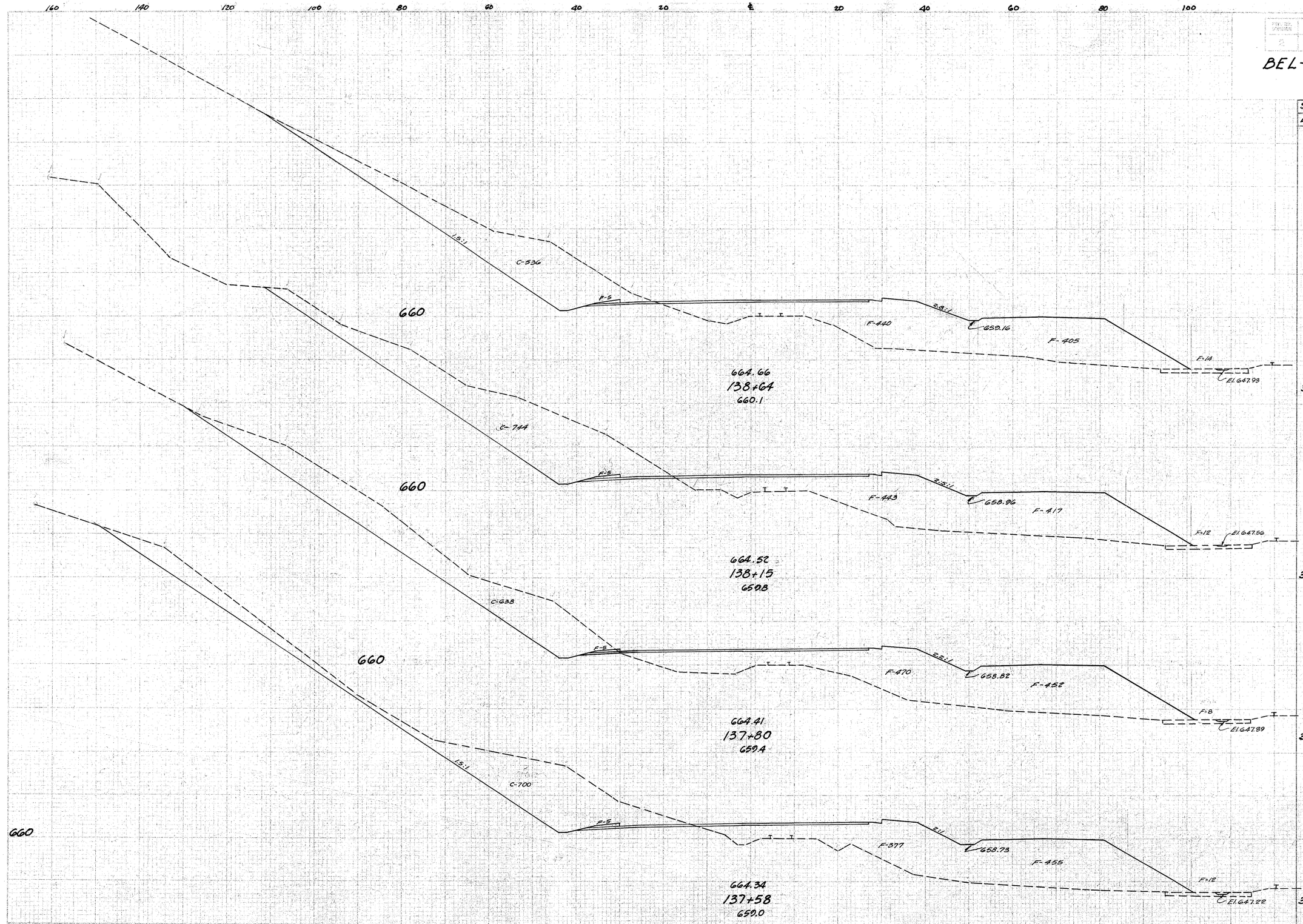
Subbase		Seeding		End Area		Cu. Yds.	
EA.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	51		831			1267	1339
	33		181		929	872	
	61		1219			2505	1690
	33		258		1776	953	
	61		1383			2774	1750
	33		240		1220	937	
	61		1203			2511	1643
	33		193		1492	837	

STA 135+66 TO STA 137+16

DIST.	STATE	F.A. PROJECT	SHEET NO.	TOTAL SHEETS
12	OHIO			

68
164

BEL-7-(17.71 - 20.14)

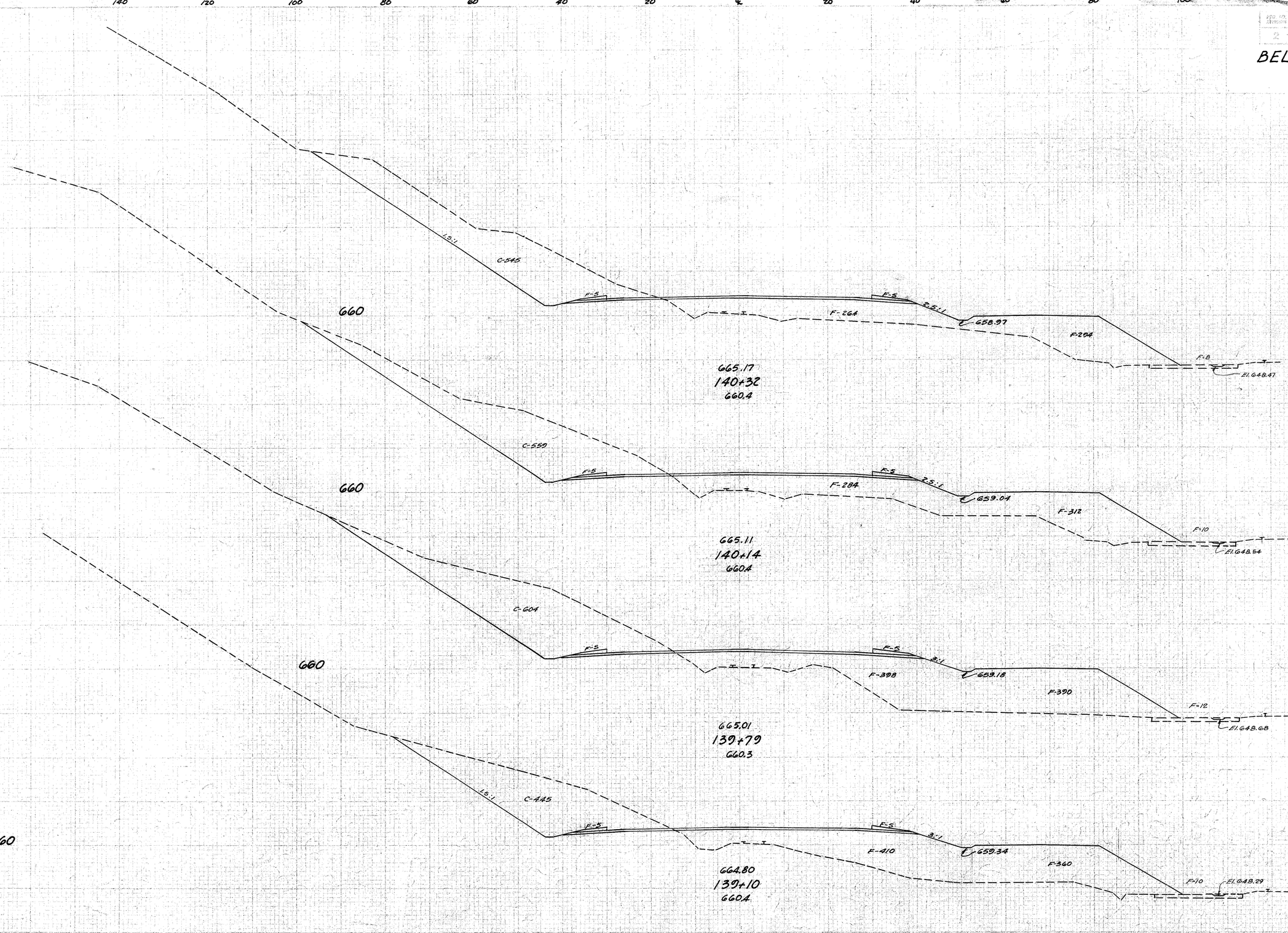


Subbase		Seeding		End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	62		560			836	1409
33		130		536		864	
	60		708			1161	1580
33		130		744		877	
	43		546			896	1174
33		151		638		935	
	27		398			545	727
33		175		700		849	

STA 137+58 TO STA 138+64

		F.A.			G9
2	OHIO				164

BEL-7-(17.71- 20.14)

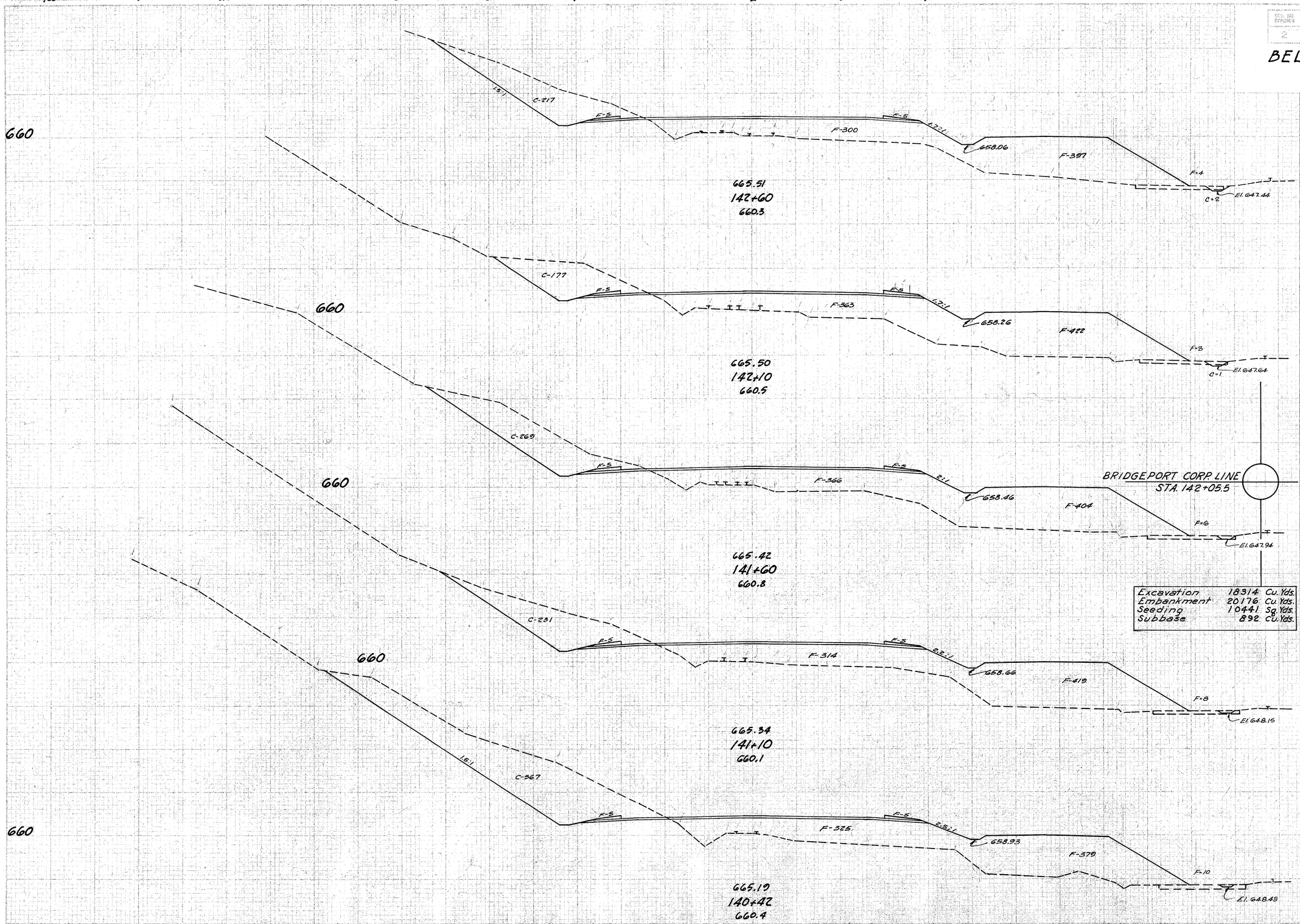


Subbase		Seeding		End Area		Cu. Yds.	
E.A	C.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb
	15		124			206	241
40		112		545	576		
	27		226			368	397
40		114		559	616		
	52		432			754	924
40		108		604	810		
	102		755			1340	2044
40		89		445	790		

STA 139+10 TO STA 140+32

FED. ROAD DIVISION	STATE	F.A. PROJECT		TYPE FUNDS	SHEET NO.	TOTAL SHEETS
2	OHIO				70	164

BEL-7-(17.71 - 20.14)



Subbase		Seeding	End Area		Cu. Yds.	
E.A.	Cu. Yd.	Width	Sq. Yd.	Cut	Fill	Exc.	Emb.
	72		458			335	1331
39		85		219	711		
	74		422			368	1897
40		67		178	798		
	7		38			37	132
	74		422			414	1467
	67		384			377	1335
40		85		269	786		
	74		461			468	1428
40		81		231	751		
	101		729			1005	1857
40		112		567	724		

Excavation	18314 Cu. Yds.
Embankment	20176 Cu. Yds.
Seeding	10441 Sq. Yds.
Subbase	892 Cu. Yds.

STA 140+42 TO STA 142+60

Subbase		Seeding	End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	54		271			41	1115
	40			32	781		
	74		339			80	1419
	40			54	751		
	74		353			106	1376
	40			60	735		
	74		422			148	1413
	40			100	791		
	74		492			260	1553
	40			181	886		
	74		486			286	1744
	40			128	954		
	73		517			260	1769
	39			153	956		
	72		481			254	1667
	39			121	844		
	72		456			301	1592
	39			204	875		

F.A.

STATE OHIO

71
164

BEL-7-(17.71-20.14)

Subbase		Seeding	End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
	72		422			207	1559
	39			20	809		
	72		394			151	1421
	39			143	726		

STA 143+10 TO STA 148+10

Subbase	Seeding	End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
33	61	118	600	310	829		498	1508
33	61	119	658	295	1040		560	1751
33	61	115	650	350	1152		597	2030
33	61	106	622	291	1265		594	2298
33	61	106	597	290	1208		482	2290
33	37	110	360	196	1217		237	1347
33	24	104	238	208	808		150	750
33	20	104	185	194	641		119	429
33	42	104	383	194	641		187	821

Subbase	Seeding	End Area		Cu. Yds.	
E.A.	Cu.Yd.	Width	Sq.Yd.	Cut	Fill	Exc.	Emb.
33	99	103	663				
33	61	118	1284				
33	61	458					
33	62	24	724				

F.A.

72
164

BEL-7-(17.71-20.14)

STA 148+50 TO STA 152+00

TRAFFIC DIVISION	STATE	F.A. PROJECT	SHEET NO.	TOTAL SHEETS
2	OHIO			

73
164

BEL-7-(17.71-20.14)

80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

660

G58.70
155+50
655.0

F-179 — Gravel — 1/2" per ft. — 2:1 — C-3 — 2:1 — G55.0

139.83'
3452+04.71
G54.18
F-396

660

G59.72
155+15
655.5

F-255 — 1/2" per ft. — 2:1 — C-5 — 2:1 — 2:1 — G54.80

136.39'
3452+37.87
G54.38
F-225

660

G61.25
154+50
654.5

F-474 — F-2 — 4:1 — C-9 — G53.80

129.82
3452+99.59
G54.81
G53.00
F-288

660

G62.11
154+00
654.89

F-418 — G61.08 — F-5 — C-24 — G53.20

124.64'
3453+47.20
G55.18
652.60
F-343

660

G62.68
153+50
655.8

F-388 — C=2 — 3:1 — 660.88 — F-5 — 4:1 — C-23 — G52.50

118.35'
3453+94.94
G55.56
652.20
F-416

Sta. 153+23 End Guard Rail on Rt.

660

G62.97
153+00
656.1

F-360 — 2:1 — C=20 — 660.68 — F-5 — 3.2:1 — C-12 — G51.80

113.93'
3454+42.80
G55.94
F-477

660

G63.12
152+50
658.4

F-282 — 1.5:1 — C=228 — 660.48 — F-5 — 3.2:1 — G51.40

108.39'
3454+90.78
G56.33
F-513

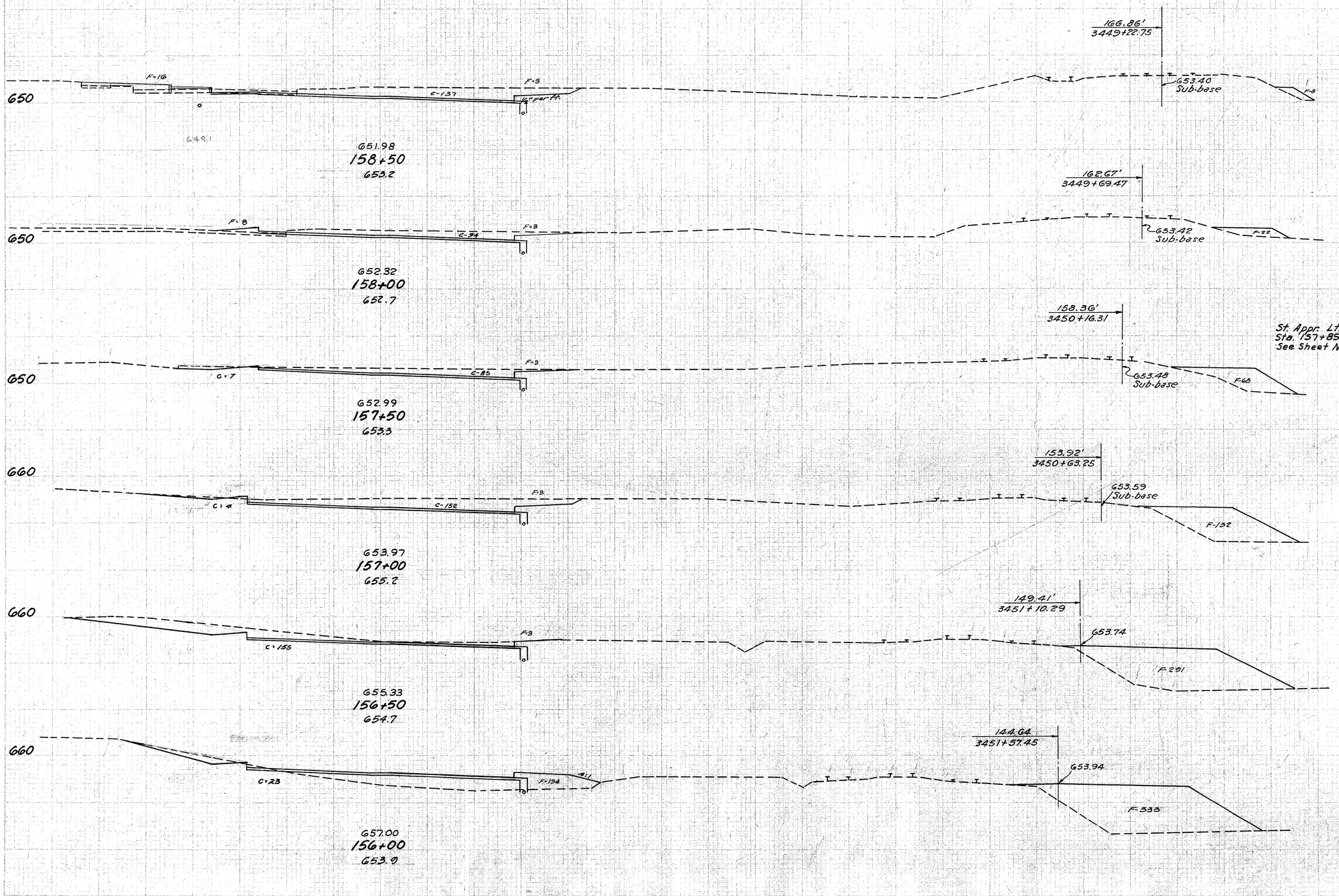
St. Appr. Lt.
Sta. 155+06.25
See Sheet N°97

Subbase E.A.	Subbase Cu.Yd.	Seeding Width	Seeding Sq.Yd.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
36		52		0	566		
	47		206			8	672
36		54		5	471		
	83		426			17	1490
			159			35	43
33		64		9	767		
	61		367			31	1417
33		68		24	763		
	61		392			45	1456
33		78		25	809		
	61		431			58	1519
33		82		32	832		
	61		500			241	1511
33		98		228	800		

STA 152+50 TO STA 155+50

SHEET NO.	STATE	F.A. PROJECT	TOTAL SHEETS
2	OHIO		74 / 164

BEL-7-(17.71 - 20.14)



Subbase E.A.	Subbase Cu.Yd.	Seeding Width	Seeding Sq.Yd.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	61		303			241	44
33		46		137	27		
	56		239			214	49
27		40		94	33		
					25	11	104
	50		247			172	96
27		49		92	71		
	53		308			230	191
30		62		156	135		
	56		364			288	397
30		69		155	294		
	56		378			166	705
30		67		23	467		
	61		331			21	956

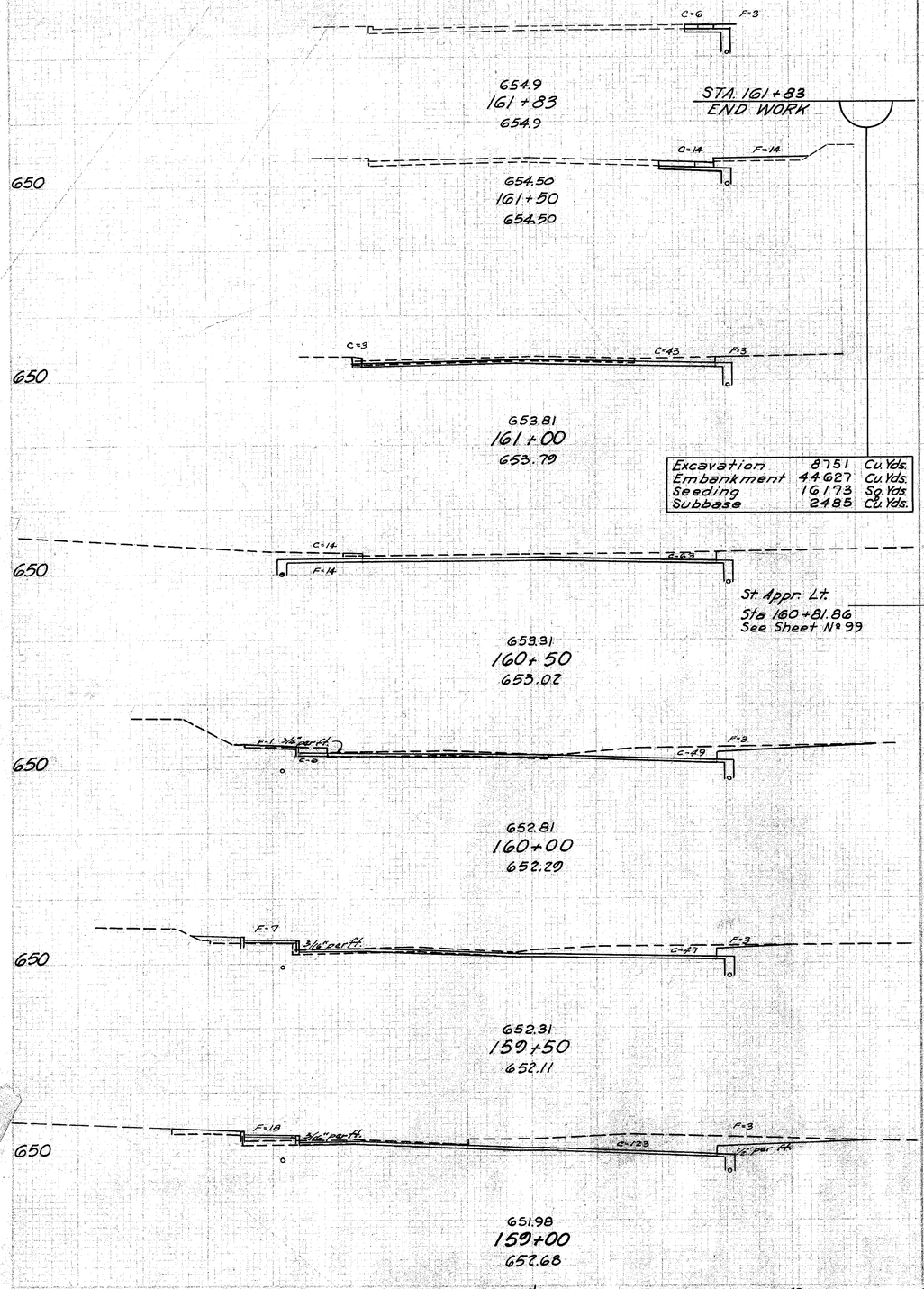
St. Appr. Lt.
Sta. 157+85.03
See Sheet No 98

STA 156+00 TO STA 158+50

80 60 40 20 ℄ 20 40 60 80 100 120 140 160 180 200

STATE		F.A. PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO			75	164

BEL-7-(17.71 - 20.14)



Subbase E.A.	Subbase Cu.Yd.	Seeding Width	Seeding Sq.Yd.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
3		0		6	3		
	20		44			12	10
5		24		14	14		
	31		128			56	16
29		22		46	3		
	57		161			118	16
			25			45	0
33		36		77	14		
	61		253			126	17
33		55		55	4		
	61		283			94	13
33		47		47	10		
	61		306			157	29
33		63		123	21		

Excavation	8751	Cu.Yds.
Embankment	44627	Cu.Yds.
Seeding	16173	Sq.Yds.
Subbase	2485	Cu.Yds.

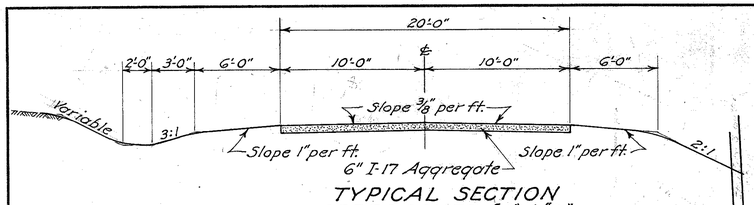
STA. 159+00 TO STA. 161+83

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

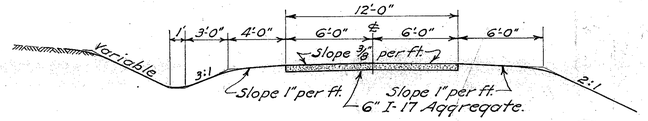
76
164

BEL.-7-(17.71-20.14)

TYPICAL SECTION APPROACHES "A" & "C"



TYPICAL SECTION APPROACH "B"



NOTE:- For continuation of this Access Road see Approach Sheets No. 79+80

STA. 2+71.89 END APPROACH 'A'

STA. 0+00.0 BEGIN APPROACH 'B'.

STA. 1+90.0 END APPROACH 'B'

BELLAIRE CORPORATION LINE S.60°-02'E.

1+83.51 ('A') = 2+00.0 ('B').

P.T. 1+83.51 35° R.

P.C. 1+14.87

STA. 0+26.0 BEGIN APPROACH 'A'

STA. 0+26.0 BEGIN APPROACH 'C'

STA. 42+67.50

0+00.0 (A) 0+00.0 (B)

Δ = 87°23'-21"
R = 45.0'
T = 43.0'
L = 68.64'
E = 17.24'

Δ = 93°-16' LT.
R = 50.0'
T = 52.94
L = 81.40
E = 22.87'

P.I. = 21+42.17

P.C. 1+89.23

STA. 1+89.23 END APPROACH 'C' BEGIN ACCESS ROAD

Note:- For continuation of this Access Road, See Approach Sheets Nº 81, 82, 83+84

NOTE:- Transverse joints in Bus Turnouts shall co-incide with pavement joints except where otherwise shown.

NOTE:- Taper curb from 6" to 1" height in distance indicated on plan.

Brick House

Tool Shed

Sidewalk

4" Concrete Median

S.R. 7

℄ Valuation Survey Sta. 336+21.41 - C.&P. R.R. Sta. 340+78 (Appx.)

Existing Track

C.&P. R.R.

Proposed Track

Proposed Tracks

℄ Proposed B.&O.R.R.

354G+50.80 P.C.

P.T. 2+70.63

Log Cribbing

Sign Board

Illuminated Sign

Power Tower

Depress Curb

Precast Concrete Traffic Divider Spacing 12'-0" ℄'s

18" Wall

Electric Sub-Station

Existing Tracks

℄ Track on Transition

B.&O. ℄ Sta. 101+40.79 Appx. ℄ Sta. 1+77.06

JOINT SYMBOLS

H - Longitudinal Key Joint without Tie Bars.
L - Longitudinal Key Joint with Tie Bars @ 5'-0" ℄'s.
W - Expansion Joint without Dowels.
E - Expansion Joint with Dowels (Standard).
Note:- Approach Pavement may be hand finished in accordance with Sec. T-71.211

ESTIMATED QUANTITIES

		Municipal	Rural
1-A	6" I-17 Aggregate.	89 Cu.Yds.	30 Cu.Yds.
	9" T-71 Pavement.	146 Sq.Yds.	136 Sq.Yds.
	Type 2-A Concrete Curb	83 Lin.Ft.	157 Lin.Ft.
	4" Concrete Sidewalk		75 Sq.Ft.
	6" T-70 Pavement for Drive	103 Sq.Yds.	
2-A	6" I-17 Aggregate	3 Cu.Yds.	29 Cu.Yds.
	9" T-71 Pavement	247 Sq.Yds.	71 Sq.Yds.
	Type 2-A Concrete Curb	198 Lin.Ft.	66 Lin.Ft.
	4" Concrete Sidewalk	75 Sq.Ft.	

HIGHWAY & CURVE DATA

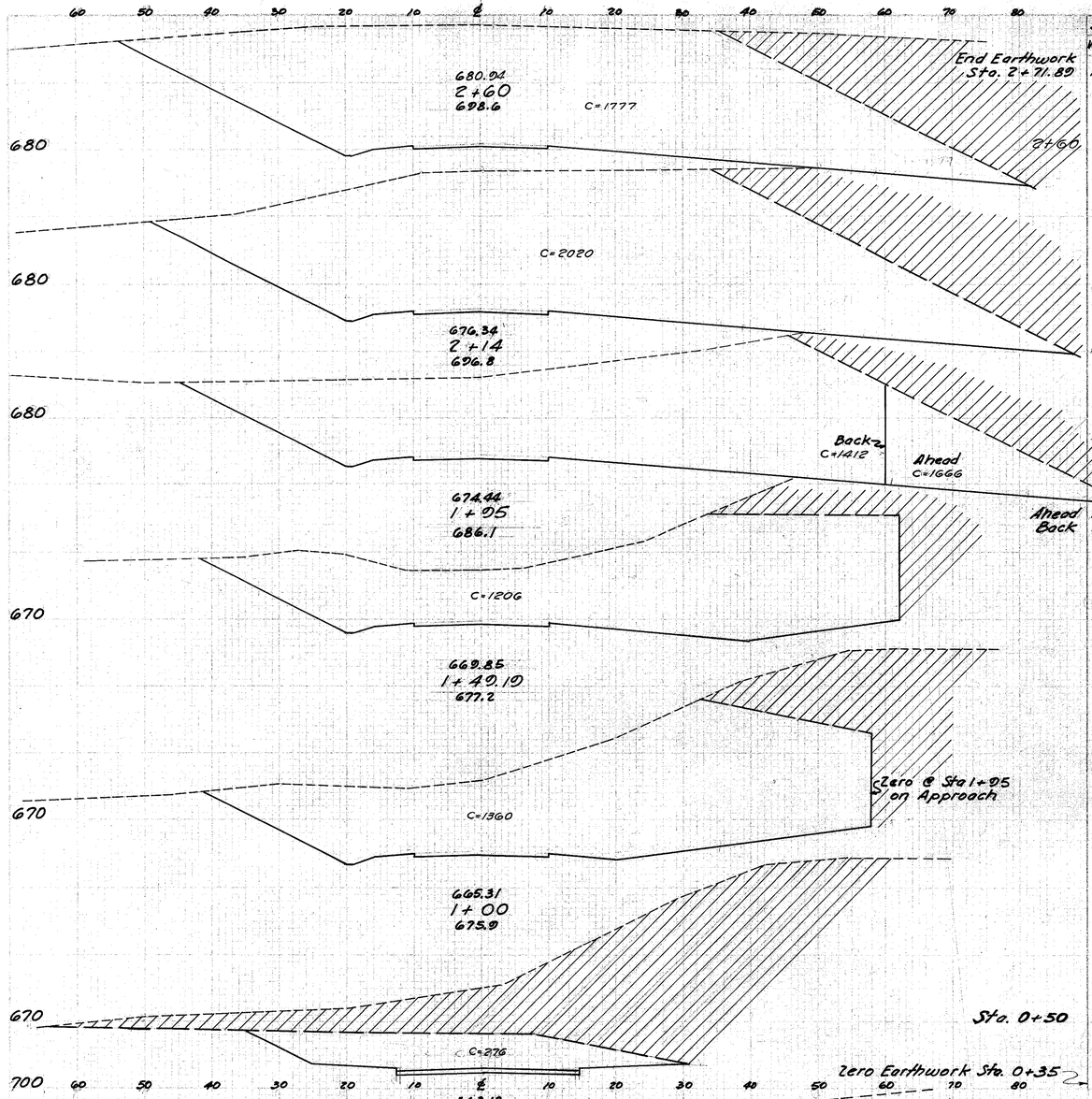
Δ = 5°-54' LT.
D = 0°-20'
T = 885.78'
R = 17,188.74'
L = 1770.00'
E = 22.81'
P.C. = 41+70.75
P.C.C. = 59+40.75

1-A
2-A

SHEET 1 OF 3

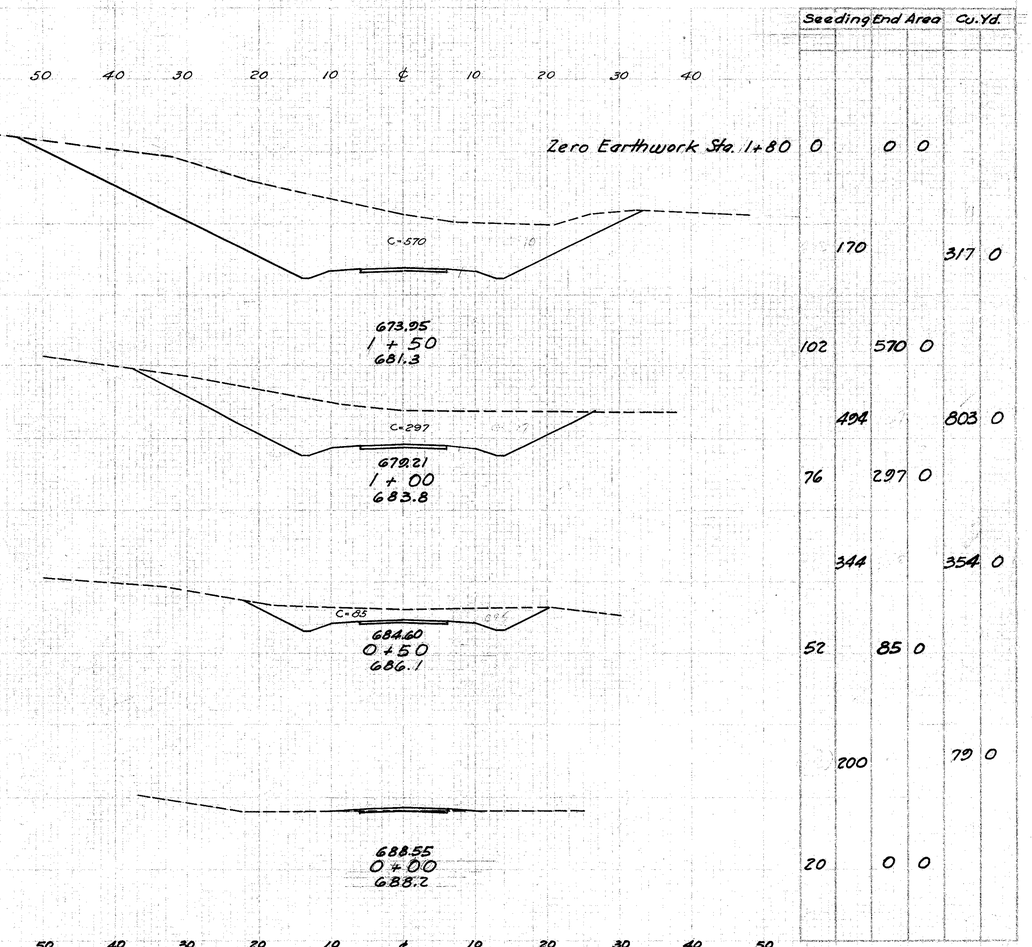
STA. 42+67.50 - APPROACHES LEFT & RIGHT.

BEL-7-(17.71 - 20.14)

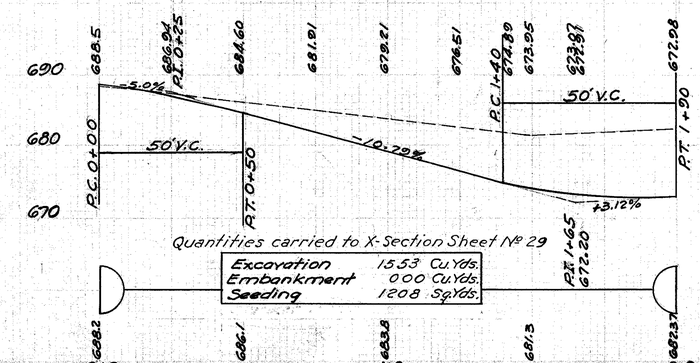


Excavation	11466 Cu.Yds.	Quantities carried to
Embankment	000 Cu.Yds.	
Seeding	2598 Sq.Yds.	X-Section Sheet № 29

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yd. Exc.	Cu.Yd. Emb.
128		1777	0		
	169			783	0
128		1777	0		
	652			3234	0
127		2020	0		
	271			1297	0
Ahead 130		1666	0		
Back 99		1412	0		
	501			2221	0
98		1206	0		
	519			2339	0
92		1360	0		
	433			1515	0
64		276	0		
	53			77	0
0		0	0		



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yd. Exc.	Cu.Yd. Emb.
Zero Earthwork Sta. 1+80		0	0	0	
	170				317 0
102		570	0		
	494				803 0
76		297	0		
	344				354 0
52		85	0		
	200				79 0
20		0	0		



Quantities carried to X-Section Sheet № 29

Excavation	1553 Cu.Yds.
Embankment	000 Cu.Yds.
Seeding	1208 Sq.Yds.

APPROACH "A" & "B" LT. STA. 42+67.50

BEL-7-(17.71-20.14)

Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yd Exc.	Emb.
20		0	10		
	40			1	6
40		3	19		
20	125	0	21	2	28
20		0	21		
	49			1	11
42		3	21		
	49			17	4
56		98	0		
	191			59	23
55		5	40		
	31				
0				32	18
		66	0		

70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60

End Approach Sta. 1+89.23

R.R.- No work required

End Earthwork Sta. 1+65.0

658.2
1+62.0
657.3

658.45
1+50
657.8

Sta. 1+12.35

R.R.- No work required

Sta. 1+04.35

659.04
0+90
658.7

660.29
0+81
661.1

662.8
0+50
661.76

Zero Seeding
Sta. 0+40

663.03
0+26
663.03

8'x 4' Box Culvert

№1-3 C.B. F.L.653.6 — 12"x 14' — F.L.650.6
F.L.650.25
12"x 27' — №1-3 C.B. F.L.655.0 — F.L.650.34
0.4% — 12"x 88' — №1-3 C.B. F.L.654.0 — F.L.650.7

10-SS — Sta. 41+50 — 11-SS — Sta. 42+00 — Sta. 42+90

№1-3 C.B. F.L.654.5 — 12"x 24' — F.L.650.5
F.L.650.4
12"x 17' — №1-3 C.B. F.L.655.25 — F.L.650.5
0.56% — 12"x 88' — №1-3 C.B. F.L.655.0 — F.L.651.0

8-SS — 9-SS

PROFILE APPROACH "C" RIGHT

663.44
42+67.5
672.0

663.03 — 662.42 — 661.21 — 660.08 — 659.70 — 659.70 — 659.51 — 658.95 — 658.39 — 658.20 — 658.20

P.I. 0+46, 662.72 — 1.56% — P.C. 0+26 — 40' V.C. — P.R.C. 0+66 — -2.55%
P.I. 0+86, 659.70 — 104.35 — No work Required — 104.35 — P.T. 1+06 — 0.0% — ℄ P.R.R. — 103.35 — P.C. 1+13
P.I. 1+26, 659.70 — -5.77% — 26' V.C. — P.R.C. 1+39 — P.I. 1+52, 658.20
P.T. 1+65 — No work Required — 0.0% — 189.23
℄ B & O Track 177.06

Excavation 112 Cu.Yds.
Embankment 90 Cu.Yds.
Seeding 485 Sq.Yds.

Quantities carried to X-Section Sheet № 29

672.0 — 669.8 — 661.8 — 661.76 — 661.1 — 658.7 — 658.7 — 657.8 — 657.0

0 — +50 — 1+0 — +50 — 2

STA 42+67 APPROACH "C" SHEET 3 OF 3

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	-	-

79
164

BEL-7-(17.71 - 20.14)

3-Hubs along Fce.
18.2' 18.8'
29.96' 11.53' 19.65'
Hub
P.I. 1+57.87

Gar.
15.75'
46.85' 58.70'
29.90' 62.35'
31.88' 12.4' 18.1' 65.63'
Hub
P.O.T. 2+60
P.C. 3+52.09
3-+ Cut in Stonewalk

4' Walk
20.1' 15.0'
6" Curb
3-+ Cut in.
31.22' 16.05' 15.74'
Hub
P.O.T. 6+63.87

N.&S. Group of Elms
N 45-12' Elm
6" Maple
N 43-38' Elm
24.70' 35.95'
27.35'
Hub
P.O.T. 9+50.0

P.I. = 4+59.90
Δ = 3°14' Lt.
D = 1°30'
T = 107.81
L = 215.56
E = 1.52
R = 3819.72

P.C. 41+70.75
P.C. 1+14.87
P.T. 1+83.51
P.C. 3+52.09
P.T. 5+67.65
STA. 2+71.89 BEGIN APPROACH
STA. 9+86.3 END APPROACH
Fr. Barn
Crib
Drive
Garage
Tool Shed
Brick Res.
Res.
1 Fr. Res.
2 Fr. Res.
1½ Fr. Res.
Paved Gutter Type 3
Gar.
Hyd.
Conc. Walk
Existing Sidewalk
Exist. Conc. Curb
New Conc. Sidewalk
12-SS
13-SS
7-SS
4-A
14-SS
12-U
15-SS
13-U
14-U
2-G
3-S
1.3 C.B.
1+70
1.70 13 C.B.
1.35 2.2 C.B.
2.82 3+4 C.B.
4.50 3+4 C.B.
29.56
3.40
42 43 44 45 46 47 48 49 50 51 52

Std. Paved Gutter Type 3
Slope 1" per ft.
12"
24"
TYPICAL HALF SECTION
STA. 2+71.89 TO STA. 5+89.2
2'-9" 6'-0" 16'-0" 8'-0" 8'-0" 6'-0"
Slope ⅜" per ft
I-17 Aggregate (6")
TYPICAL HALF SECTION
STA. 2+71.89 TO STA. 9+86.3
24" 24" 2:1

Variable 4' to 4'-6"
13'-8"
5'-8" 8'-0"
5" 4'-0"
Slope 1" per ft.
Slope ⅜" per ft.
I-17 Aggregate (6")
3'-0"
3'-0"
TYPICAL HALF SECTION
STA. 5+89.2 TO STA. 9+86.3
Type 2 Combined Curb and Gutter (Mod)

B.M. – Sta. 40+10
Mine Spike in Power Pole
80' Left
Elev. 677.98

B.M.
□ Cut in S.E. Cor. of Jones Garage
Elev. 689.26

720 715 710 705 700 695 690 685 680

674.94 679.94 684.94 689.94 694.94 699.94 704.94 709.94 710.66 712.12 713.64 713.89 714.72 716.86 717.56 718.72 720.72 721.92 722.91

FL. 681.72
Paved Gutter
FL. 680.55
No. 2-2 ACB (window on the South Side omitted. Construct 9"x2'-0" window on North Side)
FL. 676.55
Sta. 1+70 Appr. 8"
Sta. 1+70 Appr. 8"
Sta. 1+97 Appr. 14"
FL. 670.9
15"x80' S.S.
13-SS
21"x81' S.S.
18"x24"
FL. 666.67
FL. 667.0
12-SS
FL. 667.2
7-SS
+10.0% Paved Gutter 264'
686.1
698.6
Sta. 2+73.5
700.2
701.3
700.6
699.0
698.6
701.6
709.9
713.7
715.7
715.8
716.7
719.0
720.4
721.5
FL. 680.55

P.I. 5+82.2
El. 713.16
FL. 712.0
FL. 708.0
FL. 707.0
FL. 706.5
12"x38' S.S.
6"x135' Und-n.
FL. 711.9
FL. 710.9
12"x90' S.S.
FL. 716.68
FL. 715.65
FL. 712.6
6"x135' Und-n.
FL. 715.75
FL. 714.0
FL. 720.0
FL. 718.6
13-U
14-U
15-SS
14-SS
P.C. 5+57.2
50' V.C.
P.T. 6+07.2

Note:- Profile Grade from Sta. 6+07.2 to Sta. 9+86.3 shall parallel top of existing curb as indicated by grade elevations.

Note:- Quantities carried to X-Sec. Sheet No. 29

Excavation	6160 Cu. Yds.
Embankment	2543 Cu. Yds.
Seeding	3993 Sq. Yds.

0 1 2 3 4 5 6 7 8 9 10

ESTIMATED QUANTITIES

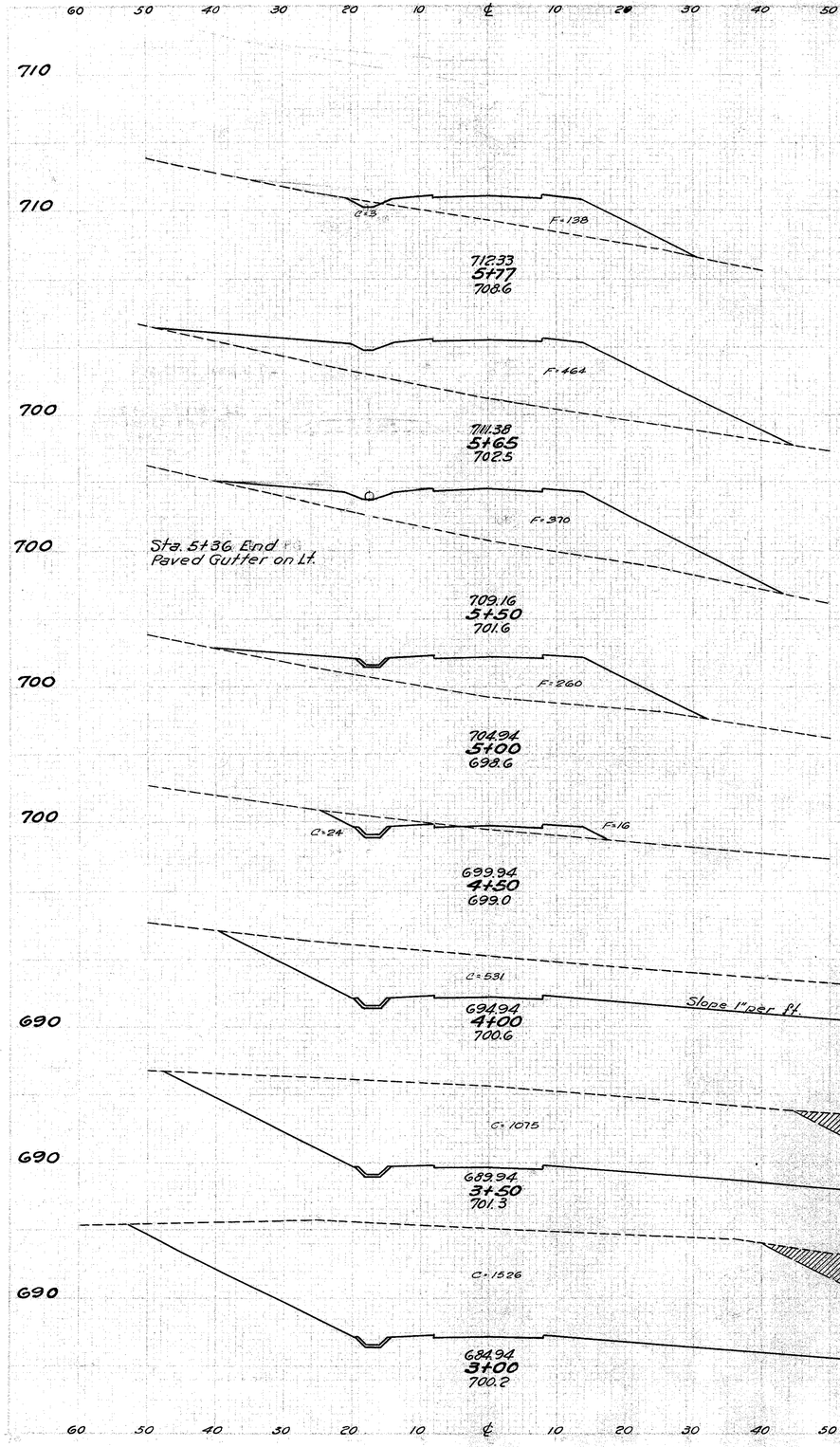
I-17 Aggregate	224 Cu. Yds.
I-12 Concrete Curb & Gutter (Type 2 (Mod))	397 Lin. Ft.
I-14 Paved Gutter (Type 3)	264 Lin. Ft.
I-13 4" Concrete Sidewalk	600 Sq. Ft.

4-A

SHEET 1 OF 2

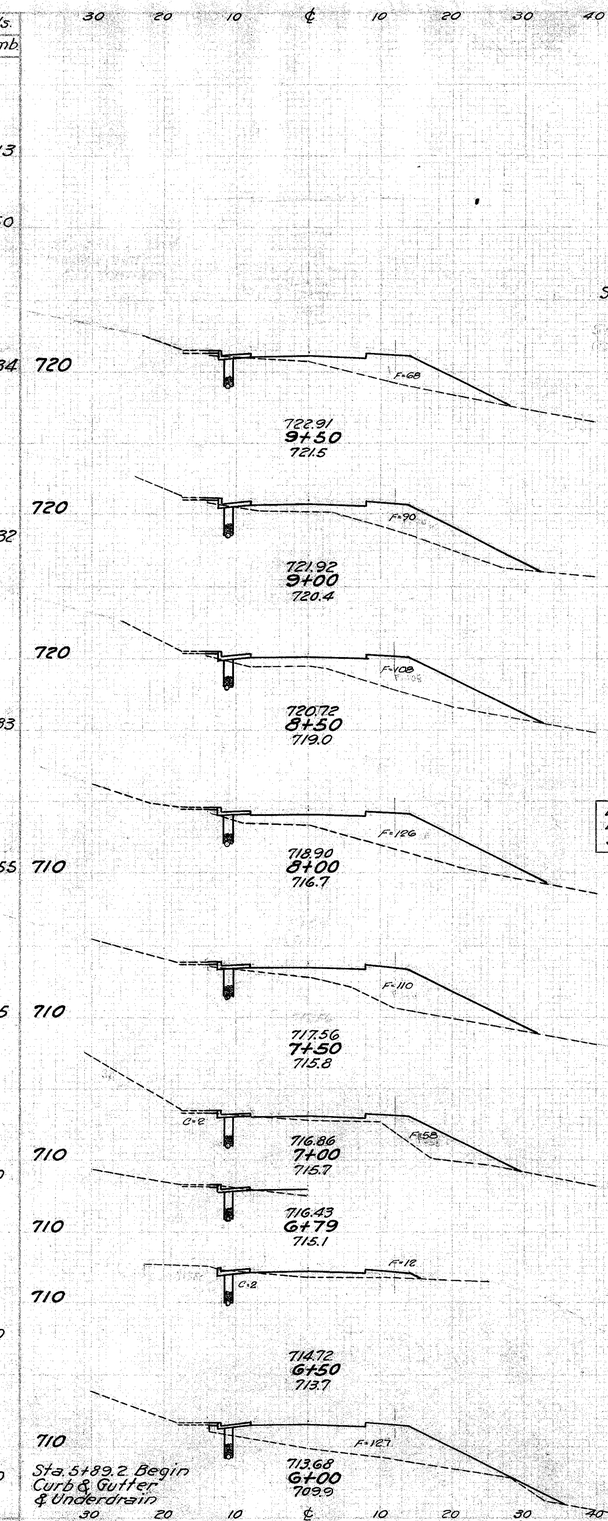
ACCESS RD. LT. STA. 44+05 TO STA. 51+20

BEL-7-(17.71 - 20.14)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	128			1	113
Sta. 5+72 Dr. Lt. →					50
59		3	138		
	107			1	134
102		0	464		
	162			0	232
92		0	370		
	464			0	583
75		0	260		
	325			22	255
42		24	16		
	286			514	15
61		531	0		
	367			1487	0
71		1075	0		
	436			2408	0
86		1526	0		
	334			1719	0
128		1777	0		

I-17 Aggr. 12 Cu.Yds. included in Appr.



Sta. 5+89.2 Begin Curb & Gutter & Underdrain

Sta. 9+86.3 End Work

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
0		0	0		
	65			0	46
32		0	68		
	192			0	146
37		0	90		
	206			0	183
37		0	108		
	208			0	217
38		0	126		
	208			0	219
37		0	110		
	197			2	156
34		2	58		
	144			4	65
18		2	12		
	164			2	129
41		0	127		

Excavation	6160 Cu.Yds.
Embankment	2543 Cu.Yds.
Seeding	3993 Sq.Yds.

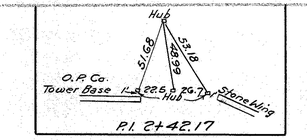
SHEET 2 OF 2

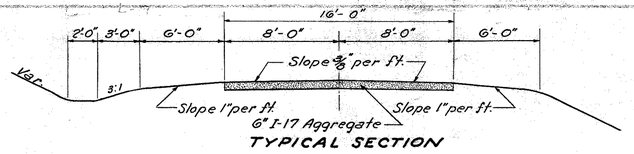
ACCESS RD. LT. STA. 44+05 TO 51+20

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

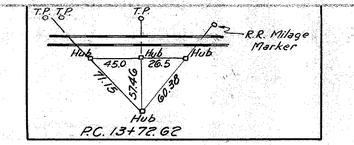
81
164

BEL-7-(17.71 - 20.14)





TYPICAL SECTION



P.C. 41+70.75

℄ STA. 42+67.50 = APPROACH STA. 0+00

90° to Tangent

N 72° 39' 21" W

STA. 1+89.23 BEGIN ACCESS ROAD

1+89.23

2+70.63

2+28.63

22.1

16

42 45 50 ℄ Survey – 0°20' Curve 55 58

P.C. 13+72.62

END SHEET STA. 18+00

Δ = 12°39'30" Lt.
D = 0°40'
R = 8594.37
T = 953.26
L = 1898.75
E = 52.70
P.I. = 23+25.28
P.C. = 13+72.62
P.R.C. = 32+71.37

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Δ = 93°16' Lt.
R = 50.00
T = 52.94
L = 81.40
E = 22.87
P.I. = 2+42.17

℄ 9+25 N 62°59' W 52.46

℄ 14+93 N 84°24' W 39.14

ESTIMATED QUANTITIES

I-17 Aggregate for Access Road	989 Cu. Yds.
I-17 Aggregate for Drives	89 Cu. Yds.
Total	1078 Cu. Yds.

Scale 1" = 50'

B.M. Sta. 42+05 – 185' Rt.
Bronze Tablet, N.E. Cor. of East Headwall - B. & O. R.R. Culvert.
Elev. 656.32

658.20 658.18 658.13 658.05 657.94 657.68 657.42 657.16 656.90 656.64 656.38 656.12 655.86 655.60 655.34 655.08 654.82 654.56 654.30 654.04 653.92 653.84 653.78 653.75 653.75 653.78 653.83 653.92 654.12 654.32 654.52 654.72 654.92 655.12 655.32 655.52 655.72 655.92

P.I. 3+00
El. 658.20

660
650
640

0.0%

-0.52%

+0.4%

P.C. 2+50

100' V.C.

P.T. 3+50

P.C. 11+00

200' V.C.

P.T. 13+00

P.I. 12+00
El. 653.52

1+89.23

654.8 652.0 651.0 650.0 649.3 648.7 648.1 647.9 647.7 647.5 647.4 647.4 647.1 647.2 646.9 646.8 646.4 646.4 646.7 646.4 646.2 646.3 646.1 646.2 646.5 646.4 646.5 646.6 646.7 646.9 647.2 648.0

+29.9 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

3-A

SHEET 1 OF 4

ACCESS ROAD RT. STA. 1+89.23 TO STA. 18+00

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

82
164

BEL-7-(17.71 – 20.14)

Hub
Hub
37.93
30.02
Back Tan. Produced
87°32'
I.P.
1244
Hub
P.I. 33+19.26

Hub
13.58
20.25
16.55
N&F in 12" Locust
N&F in 12" Locust
N&F in 8" Locust
P.I. 34+42.07

BEGIN SHEET STA. 18+00

P.C.C. 39+40.75

60 65 70

℄ Survey 0°48' Curve

520.68

73+32.10

8.98

358.70 Along Tang. to P.T. Sta. 76+90.75

80°40'

189.98

N88°-57'W

N11°46'E

N2°14'W

533.07 P.I. to P.I.

Central P.I.
63+11.10

N17°40'E

20.74

90°

N2°14'W

124.29

19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

30.03

P.R.C. 32+71.37

P.T. 33+47.76

P.C. 33+84.09

P.T. 34+70.01

STA. 34+94.7
END ACCESS ROAD

△ = 12°39'30" Lt.
D = 0°40'
R = 8594.37
T = 953.26
L = 1898.75
E = 52.70
P.I. = 23+25.28
P.C. = 13+72.62
P.R.C. = 32+71.37

N14°04½'E

N1°25'E P.I.

179.13

12°39'30"

180.91

Hub

Hub

P.I. = 33+19.26
△ = 87°32' Rt.
R = 50.00
T = 47.89
L = 76.39
E = 19.24
P.R.C. = 32+71.37
P.T. = 33+47.76

P.I. = 34+42.07
△ = 98°27' Lt.
R = 50.00
T = 57.98
L = 85.92
E = 26.56
P.C. = 33+84.09
P.T. = 34+70.01

B.M. Sta. 70+57 – 2' Lt.
□ Cut in North End of Retaining Wall
Elev. 662.73

655.92 656.12 656.32 656.52 656.72 656.92 657.00 657.06 657.08 657.07 657.03 656.96 656.85 656.72 656.42 656.12 655.82 655.52 655.22 654.92 654.62 654.32 654.02 653.72 653.42 653.12 652.82 652.52 652.22 651.92 651.62 651.32 651.02 650.72 650.57 650.42 650.27 650.12 649.97 649.82 649.67 649.52

P.I. 21+50
El. 657.32

660

650

640

+0.4%

-0.6%

P.C. 204.50

P.T. 224.50

200' V.C.

649.52

649.25

34+50

+94.70

648.0 647.7 647.0 646.8 646.7 646.4 646.5 646.9 646.4 646.6 646.9 647.4 648.2 650.8 649.3 648.6 648.2 648.8 647.6 647.5 647.2 646.9 646.9 647.1 646.6 647.0 646.5 646.7 646.7 647.4 34+94.7

Quantities carried to X-Section Sheet No. 29

Excavation	191 Cu. Yds.
Embankment	3455.33 Cu. Yds.
Seeding	21612 Sq. Yds.

18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34

SHEET 2 OF 4

ACCESS ROAD RT. STA. 18+00 TO STA. 34+94.7

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	352			0	597
63		0	326		
	248			0	423
63		0	318		
	284			0	509
63			360		
	536			0	994
64		0	346		
	545			0	965
65		0	340		
	557			0	912
67		0	308		
	377			0	561
67		0	290		
	357			0	504
60		0	248		
	324			0	409
55		0	188		
318		0	397		
25		0	112		
110		8	84		
20		10	0		

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	353			0	619
62		0	323		
	511			0	853
59		0	283		
	338			0	537
61		0	289		
	511			0	787
60		0	270		
	439			0	673
60			282		
	578		5	935	
61			3	905	
	343		7	587	
61			4	320	
	341		8	592	
60			4	311	
	341		4	588	
61		0	316		
	346		0	587	
62		0	310		

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
		378		12	578
67		0	334		
	168			0	278
66		0	326		
	201			0	330
65		0	318		
	184			0	314
65		0	344		
	550			0	991
64		0	353		
	361			0	648
63		0	331		
	361			0	638
64		0	342		
	179			0	320
63		0	333		
	533			0	943
62		0	330		

Excavation 191 Cu.Yds.
Embankment 34533 Cu.Yds.
Seeding 21612 Sq.Yds.

STATE	STATE PROJECT	PAPER
2	OHIO	

83
164

BEL-7-(17.71 - 20.14)

SHEET 3 OF 4
ACCESS RD. RT. STA. 42+67.50

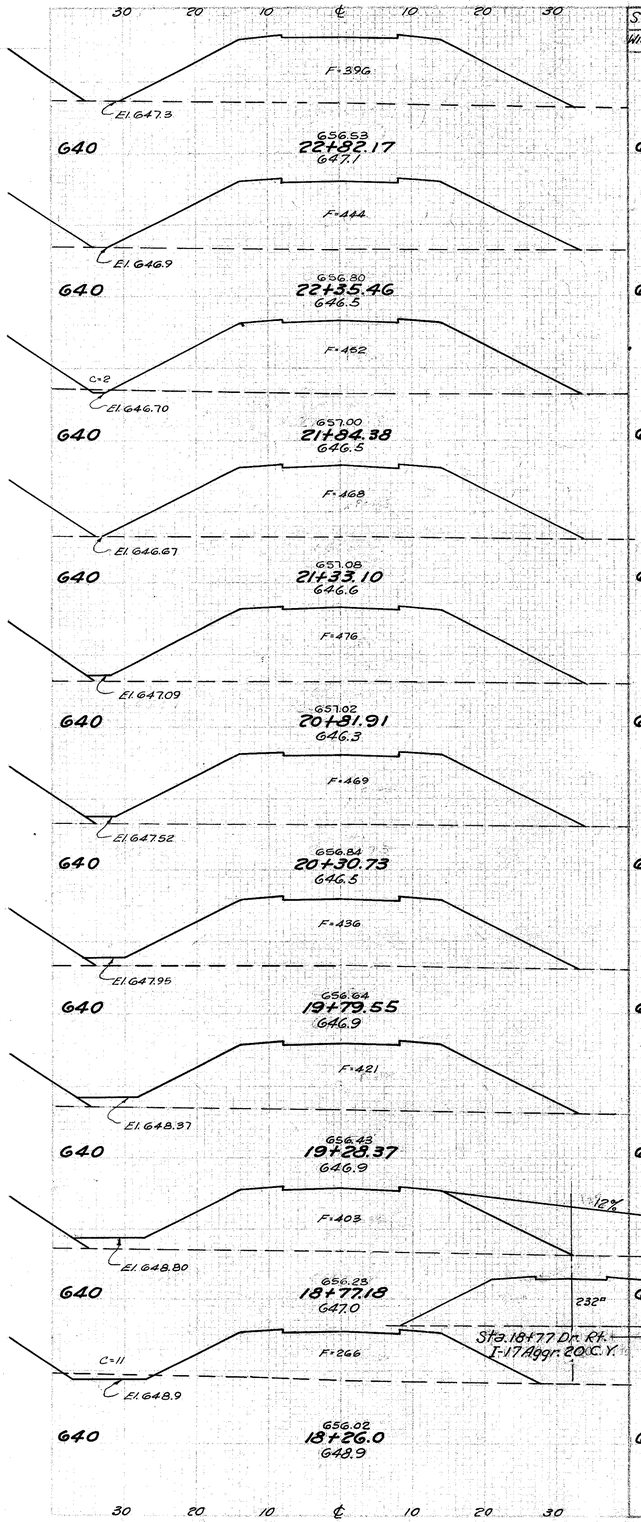
FED. ROAD DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		84 164

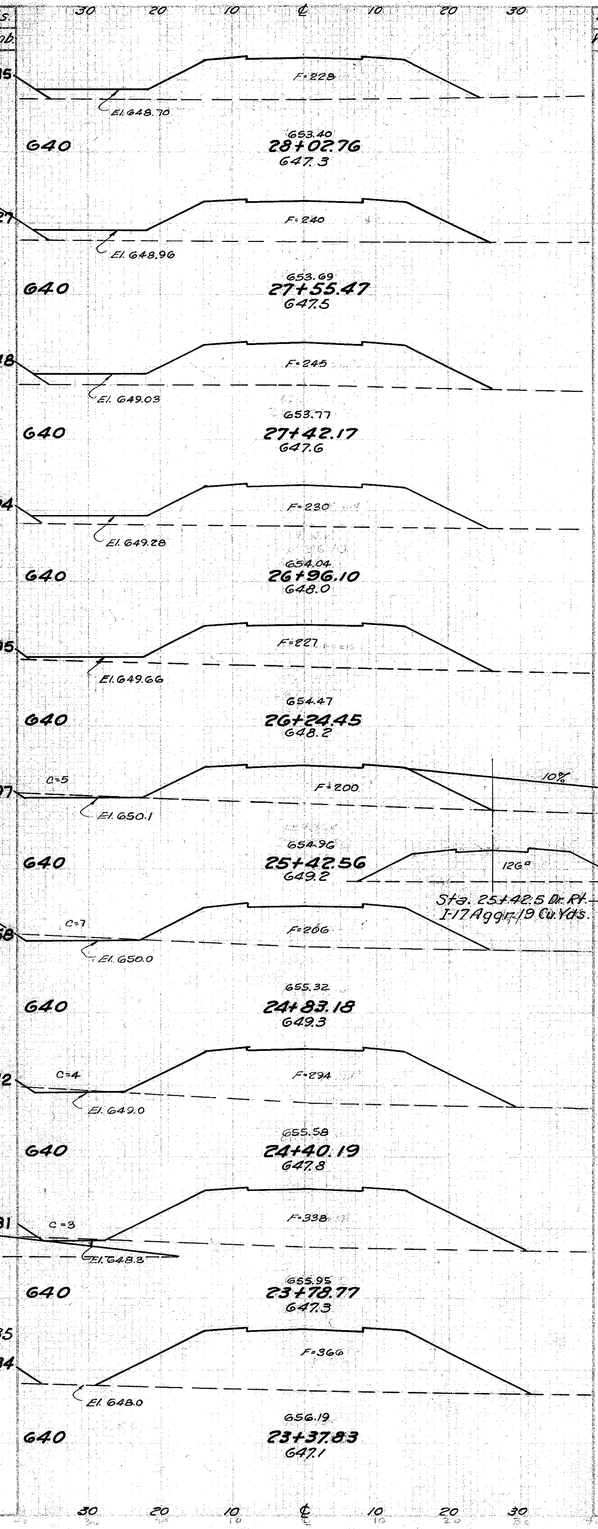
BEL-7-(17.71 - 20.14)

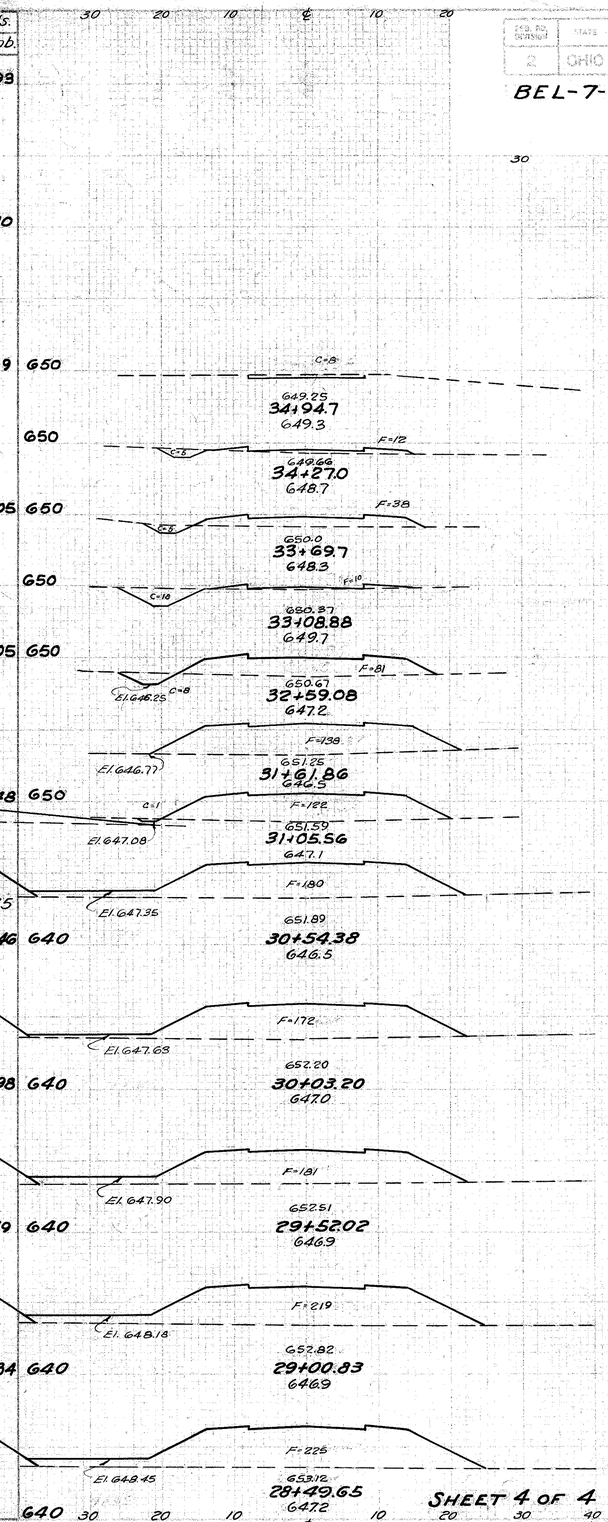
Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	407			0	785
G7		0	396		
	350			0	727
G8		0	444		
	383			2	848
G7		2	452		
	382			2	874
G7		0	468		
	384			0	895
G8			476		
	387			0	897
G8			469		
	384			0	858
G7			436		
	384			0	812
G8		0	421		
	384			0	781
G7		0	403		
	272			10	634
G4		11	266		

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.	
	310			0	393	
59		0	228			
	313			0	410	
60		0	240			
	89			0	119	G50
G1		0	245			G50
	310			0	405	G50
G0		0	230			G50
	481			0	605	G50
G1		0	227			
	564			8	648	G50
G3		5	200			
	409			13	446	G40
G1		7	206			
	301			9	398	G40
G5		4	294			
	444			8	719	G40
G5		3	338			
	296			2	534	G40
G5		0	366			

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
20		8	0		
	222			16	16
39		5	12		
	264			11	53
44		5	38		
	301			26	54
45		18	10		
	227			24	84
37		8	81		
	464			14	394
49		0	138		
275				1	271
39		1	122		
270				1	286
56		0	180		
212				0	334
57		0	172		
324				0	335
57		0	181		
335				0	379
G1		0	219		
344				0	422
G0		0	225		







SHEET 4 OF 4

ACCESS RD. RT. STA. 42+67.50

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.	FINISH
2	OHIO			

85
164

BEL-7-(17.71-20.14)

Fr. Res. | Barn | Garage | Barn | Greenhouse (Roof fallen in)

BEGIN APPROACH STA 1+25

2-St. Fr. Res. | 2-St. Fr. Res. | Mod" 2-2A C.B. (No Windows) | 0+33.8 Wa. Box | 35-SS | Mod" 2-3 C.B. | 36-SS | 2-St. Fr. Res. | 2-St. Fr. Res. | 2-St. Fr. Res. | 2-St. Fr. Res. | 2-St. Fr. Res. | 2-St. Fr. Res.

5-A | 5-G | 6-G | 35-SS | 36-SS

5 Sq. Yds. R/prep.

Std "3-A.C.B." | 18"x20" CMP | Std "3-A.C.B." | Std "3-A.C.B."

N5°32'E | 91°42' | 90° | 90°

5+25=1+00 ℄ Steps (See Sheet No 112 for details.)

END APPROACH STA 6+50

See Plan Sheet No 86 for details

Garage | Garage | Garage

159.36' | 174.72' | 90° to tang. | 90° to tang. | G2 | 65+07

PLAN
Scale 1" = 20'

TYPICAL SECTION
Sta 1+25 - Sta 4+20

1' | 3'-0" | 4'-0" | 12'-0" | 6'-0" ℄ | 6'-0" | 6'-0" | 2:1 | 3:1 | 2:1

Slope 5/8" per ft. | Slope 1" per ft. | Slope 1" per ft. | 6" I-17 Aggregate

TYPICAL SECTION
Sta 4+50 - 6+50

or as shown on plans | 16'-0" ℄ | 8'-0" | 8'-0" | 6'-0" | 4'-0" | 1'-0" | 6" | 6" | 2:1

Slope 3/8" per ft. | 4" Conc. sidewalk Slope 1/4" per ft. | Slope 1" per ft. | Slope 1" per ft. | 2:1

Type 2 Combined curb and gutter | 6" I-17 Aggregate

Transition Sta 4+20 - 4+50

P.C. 1+22.5 | 714.81 | 711.63 | 709.74 | P.C. 1+77.5 | 50' V.C. | -14.5% | P.I. 1+52.5 El. 710.74

708.60 | 708.48 | 706.35 | 704.10 | 701.85 | 701.40 | 699.60 | 698.59 | 697.84 | 697.34 | 697.06 | 697.03 | 697.25 | 697.71 | 698.47 | 699.37 | 700.57

715 | 710 | 705 | 700 | 695 | 690 | 685

P.C. 4+00 | -4.5% | 250' V.C. | P.T. 6+50

F.L. 699.70 | F.L. 696.35 | F.L. 696.53 | F.L. 696.80 | F.L. 696.0 | 18"x78" Storm Sewer -6.0% | +5.28% | 36-SS | 12"x94'-0" Storm Sewer +5.0% | F.L. 692.56 | 18"x54" Storm Sewer | F.L. 692.60 | F.L. 691.25 | F.L. 689.28 | F.L. 687.60

+25 | +95 | +85 | +41.5 | +51.8

Elev. 693.97

Note: Quantities carried to X-Sec. Sheet No 35

Excavation	1271	Cu.Yds.
Embankment	2095	Cu.Yds.
Seeding	2559	Sq.Yds.

1 | +50 | 2 | 700.3 | +50 | 701.0 | 704.2 | +50 | 703.4 +60 | 4 | 701.4 | +50 | 700.4 | 694.8 | 690.4 +10 | +50 | 690.0 | 695.6 +94 | 6 | 696.2 | +50 | 700.5 | 7 | +50

ESTIMATED QUANTITIES

E-8	Removal & Disposal of Existing Sidewalk	372 Sq.Ft.
E-12	12" Pipe Removed & Disposed of	20 Lin.Ft.
T-70	6" Concrete Pavement for Drive	14 Sq.Yds.
I-12	Type 2 Combined Curb & Gutter (Mod.)	252 Lin.Ft.
I-17	Aggregate	146 Cu.Yds.
I-13	4" Conc. Sidewalk	825 Sq.Ft.
S-22	Removal of Portions of Exist. Struct.	3 Cu.Yds.

5-A

SHEET 1 OF 3

APPROACH LT. STA 62+00-66+00

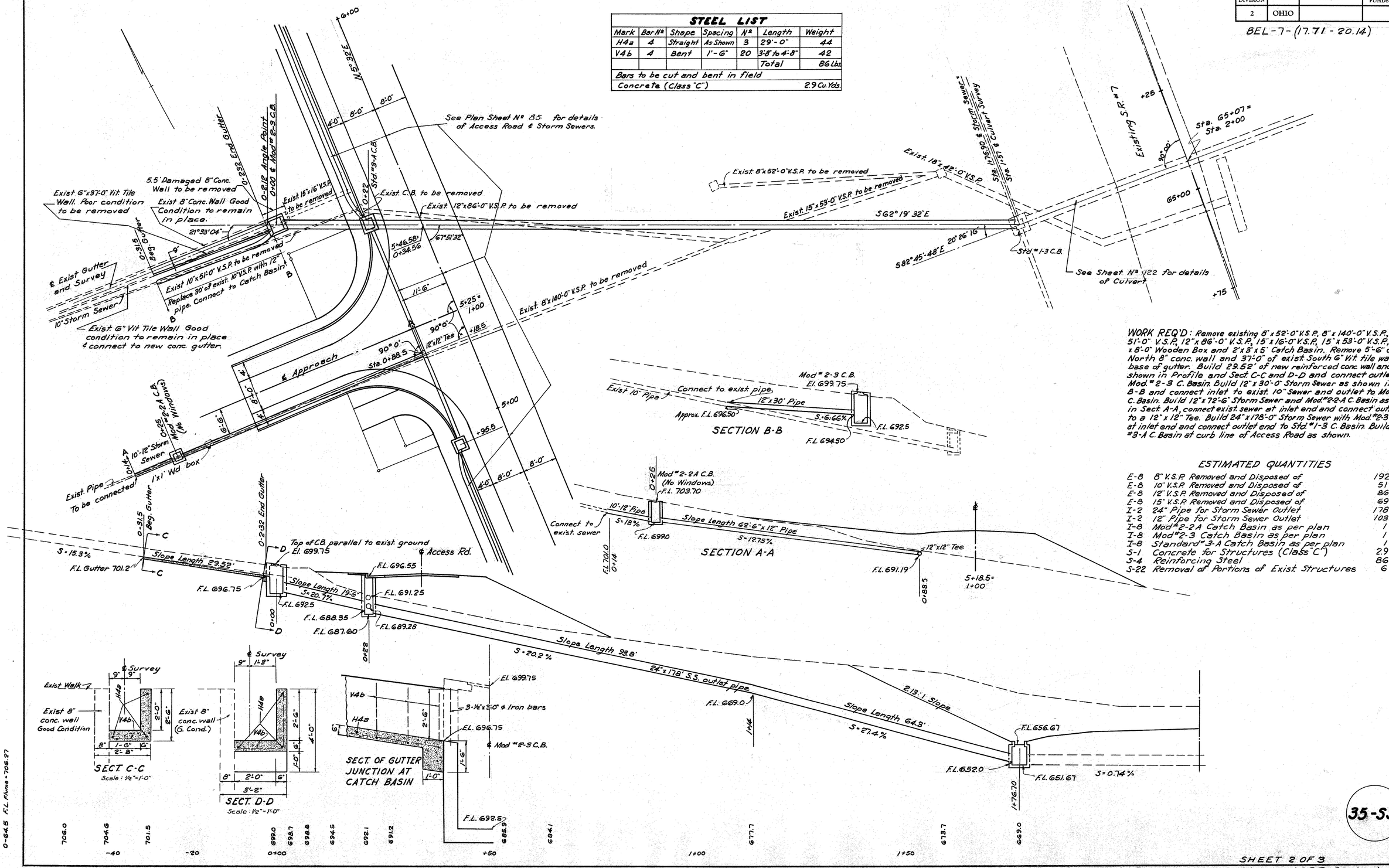
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

86/164

BEL-7-(17.71 - 20.14)

STEEL LIST

Mark	Bar N°	Shape	Spacing	N°	Length	Weight
H4a	4	Straight	As Shown	3	29'-0"	44
V4b	4	Bent	1'-6"	20	3'-8" to 4'-8"	42
					Total	86 Lbs
Bars to be cut and bent in field						
Concrete (Class 'C')						2.9 Cu. Yds.



WORK REQ'D: Remove existing 8" x 52'-0" V.S.P., 8" x 140'-0" V.S.P., 10" x 51'-0" V.S.P., 12" x 86'-0" V.S.P., 15" x 16'-0" V.S.P., 15" x 53'-0" V.S.P., 1'x1' x 8'-0" Wooden Box and 2'x3'x5' Catch Basin. Remove 5'-6" of exist. North 8" conc. wall and 37'-0" of exist. South 6" Vit. tile wall and base of gutter. Build 29.52' of new reinforced conc. wall and base as shown in Profile and Sect. C-C and D-D and connect outlet to Mod.# 2-3 C. Basin. Build 12" x 90'-0" Storm Sewer as shown in Section B-B and connect inlet to exist. 10" Sewer and outlet to Mod.#2-3 C. Basin. Build 12" x 72'-6" Storm Sewer and Mod.#2-2-A C. Basin as shown in Sect. A-A, connect exist. sewer at inlet end and connect outlet end to a 12" x 12" Tee. Build 24" x 178'-0" Storm Sewer with Mod.#2-3 C. Basin at inlet end and connect outlet end to Std.#1-3 C. Basin. Build Std. #3-A C. Basin at curb line of Access Road as shown.

ESTIMATED QUANTITIES

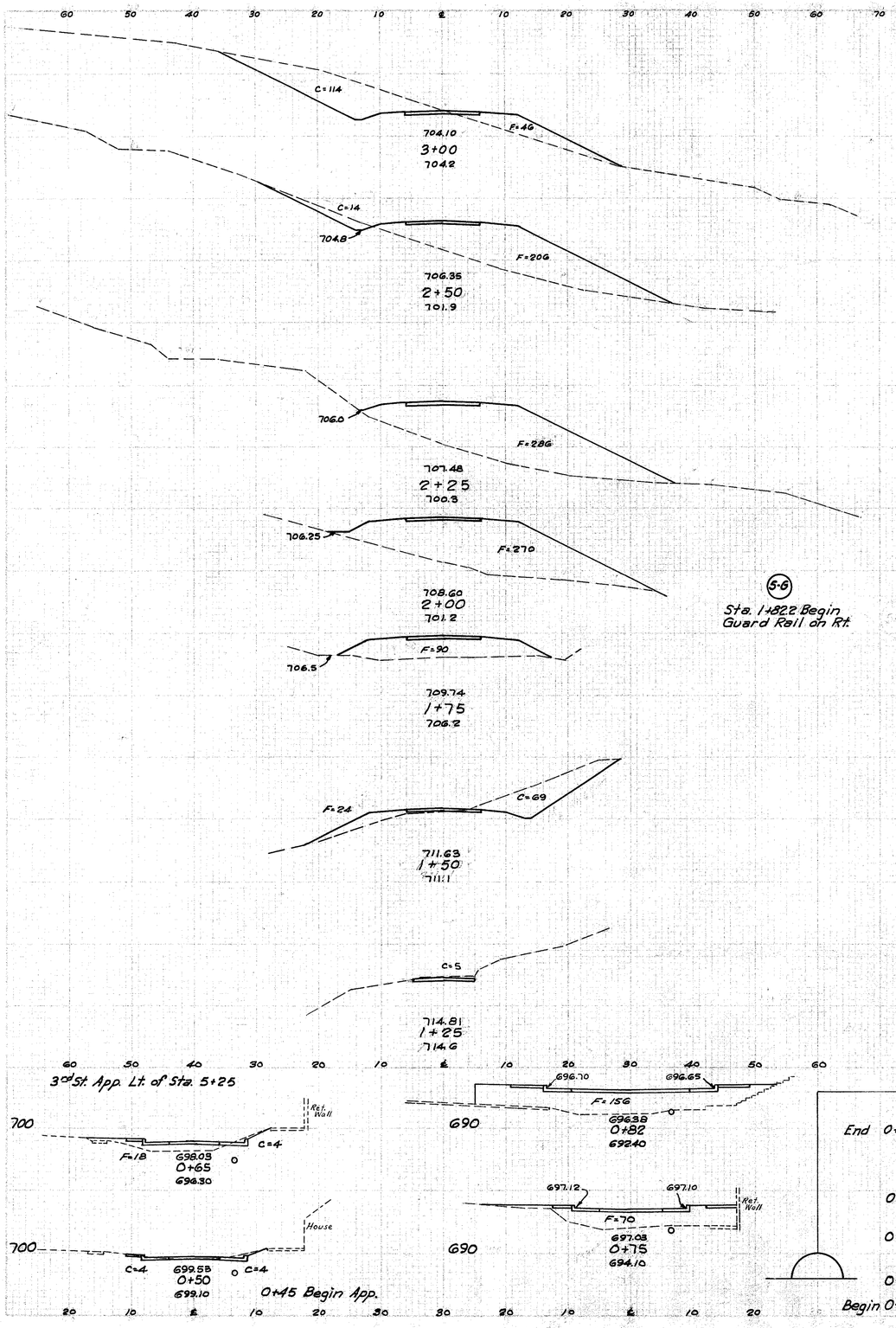
E-8	8" V.S.P. Removed and Disposed of	192 Lin. Ft.
E-8	10" V.S.P. Removed and Disposed of	51 Lin. Ft.
E-8	12" V.S.P. Removed and Disposed of	86 Lin. Ft.
E-8	15" V.S.P. Removed and Disposed of	69 Lin. Ft.
I-2	24" Pipe for Storm Sewer Outlet	178 Lin. Ft.
I-2	12" Pipe for Storm Sewer Outlet	103 Lin. Ft.
I-8	Mod# 2-2A Catch Basin as per plan	1 Each
I-8	Mod# 2-3 Catch Basin as per plan	1 Each
I-8	Standard# 3-A Catch Basin as per plan	1 Each
S-1	Concrete for Structures (Class 'C')	2.9 Cu. Yds.
S-4	Reinforcing Steel	86 Lbs.
S-22	Removal of Portions of Exist. Structures	6 Cu. Yds.

35-55

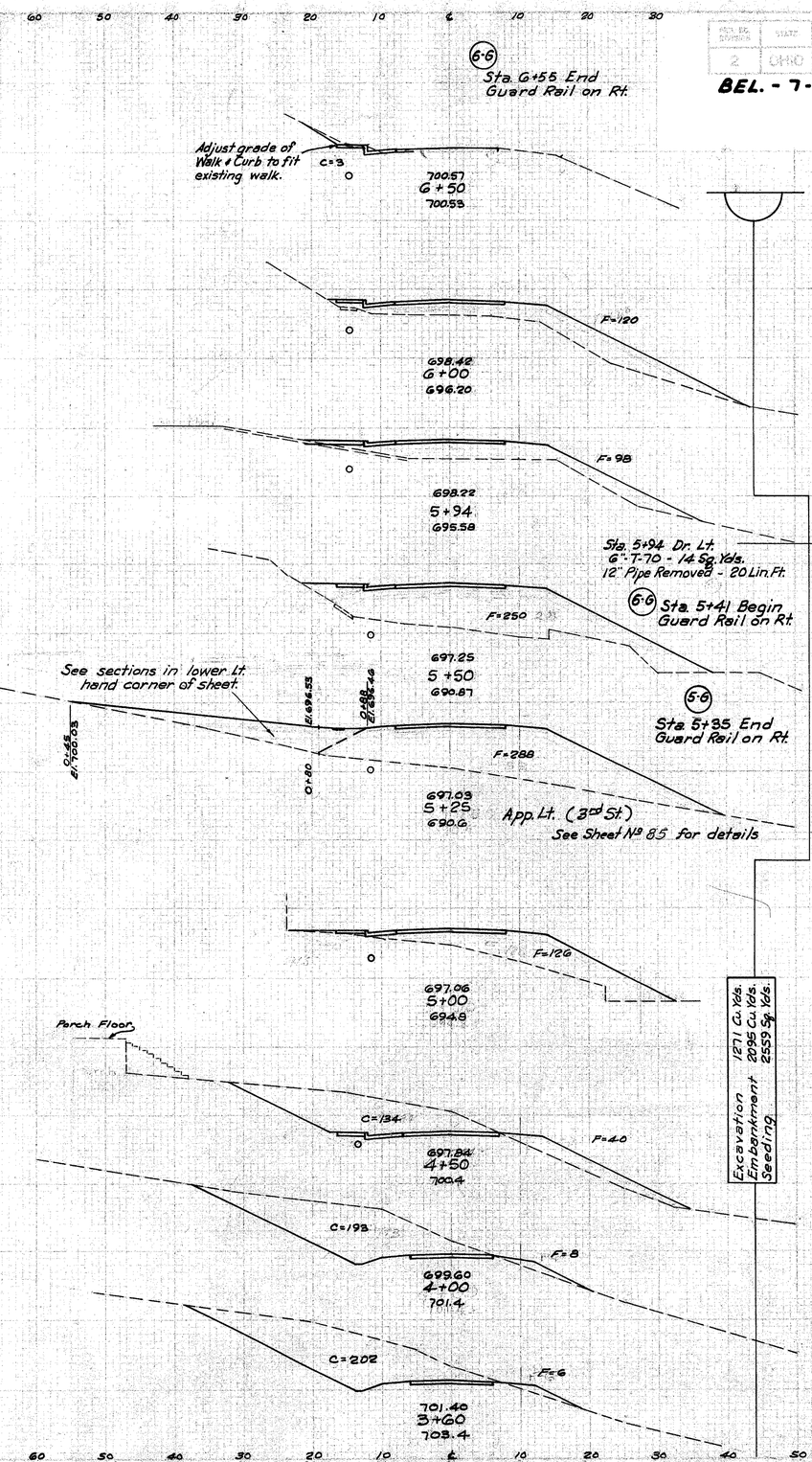
SHEET 2 OF 3

STORM SEWER DETAILS - APPR. 62+00 to 66+00

STA. 5+46.58 ON APPROACH



		Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
			367			351	58
		58		114	46		
			333			119	233
		62		14	206		
			147			6	228
		44		0	286		
			125			0	257
		46		0	270		
			97			0	167
		24		0	90		
			94			32	53
		44		69	24		
			68			34	11
		5		5	0		
			4			0	17
End	0+82	12		0	156		
			9			0	29
	0+75	12		0	70		
			13			1	16
	0+65	11		4	18		
			15			3	5
	0+50	7		8	0		
Begin	0+45	7	4	8	0	1	0



	Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	14		3	0		
		150			3	111
	40		0	120		
		24			0	24
	32		0	98		
					2	0
		171			0	284
	38		0	250		
		103			0	249
	36		0	288		
		97			0	145
	34		0	126		
		233			124	154
	50		134	40		
		278			303	44
	50		193	8		
		227			292	10
	52		202	6		

Excavation 1271 Cu. Yds.
Embankment 2295 Cu. Yds.
Seeding 2559 Sq. Yds.

X-SECTIONS APPROACH LT. STA. 62+00 - 66+00

SHEET 3 OF 3

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

88
164

BEL - 7 - (17.71 - 20.14)

STA. 2+00 BEGIN APPROACH "B"

P.C. 1+89.81

WHISKEY RUN

STA. 0+14 BEGIN APPROACH "C"

STA. 0+0 BEGIN APPROACH "A"

STA. 0+89.34 END APPROACH "C"

STA. 4+86.97 END APPROACH "B"

STA. 4+74 END APPROACH "A"

STA. 5+00 = STA. 83+50

P.I. 4+02.77 = 115' LT.

P.I. = 3+03.29
Δ = 16°00'30" LT.
D = 8°00'
T = 113.48
L = 225.06
E = 8.94
R = 716.20

Sta. 1+77.92

Foot Bridge

Wood Cribbing

6" I-17

9" T-71 Pavement

South Bound Lanes-Proposed Roadway

℄ of Survey

N 2°14' W

N 63°37'30" E

80+37.5

163.7'

1-S. Fr. Res.

2-S. Fr. Res.

1½-S. Fr. Res.

Fr. Garage

Fr. Gar.

50'R. 1-S. Fr. Res.

2-S. Fr. Res.

Building Gar. Grandstand

Tile & Frame Stall Floor

24-S

79-SS

9-G

7-A

PLAN
Scale 1" = 20'

TYPICAL SECTION
Scale 1½" = 1'-0"

℄
20'-0"
2'-0" 3'-0" 6'-0" 10'-0" 10'-0" 8'-0"
Slope ⅜" per ft.
2:1
4:1
Slope 1" per ft.
6" I-17 Aggregate
Slope 1" per ft.
2:1 Slope unless otherwise shown

ESTIMATED QUANTITIES

Aggregate (I-17)	300 Cu. Yds.
"9" Concrete Pavement (T-71)	324 Sq. Yds.
Concrete Curb Type 2-A	289 Lin. Ft.
Concrete Sidewalk (4")	75 Sq. Ft.
12" Pipe for Drives	47 Lin. Ft.
12" Pipe Removed and Store	23 Lin. Ft.
15" Pipe Removed and Dispose	34 Lin. Ft.

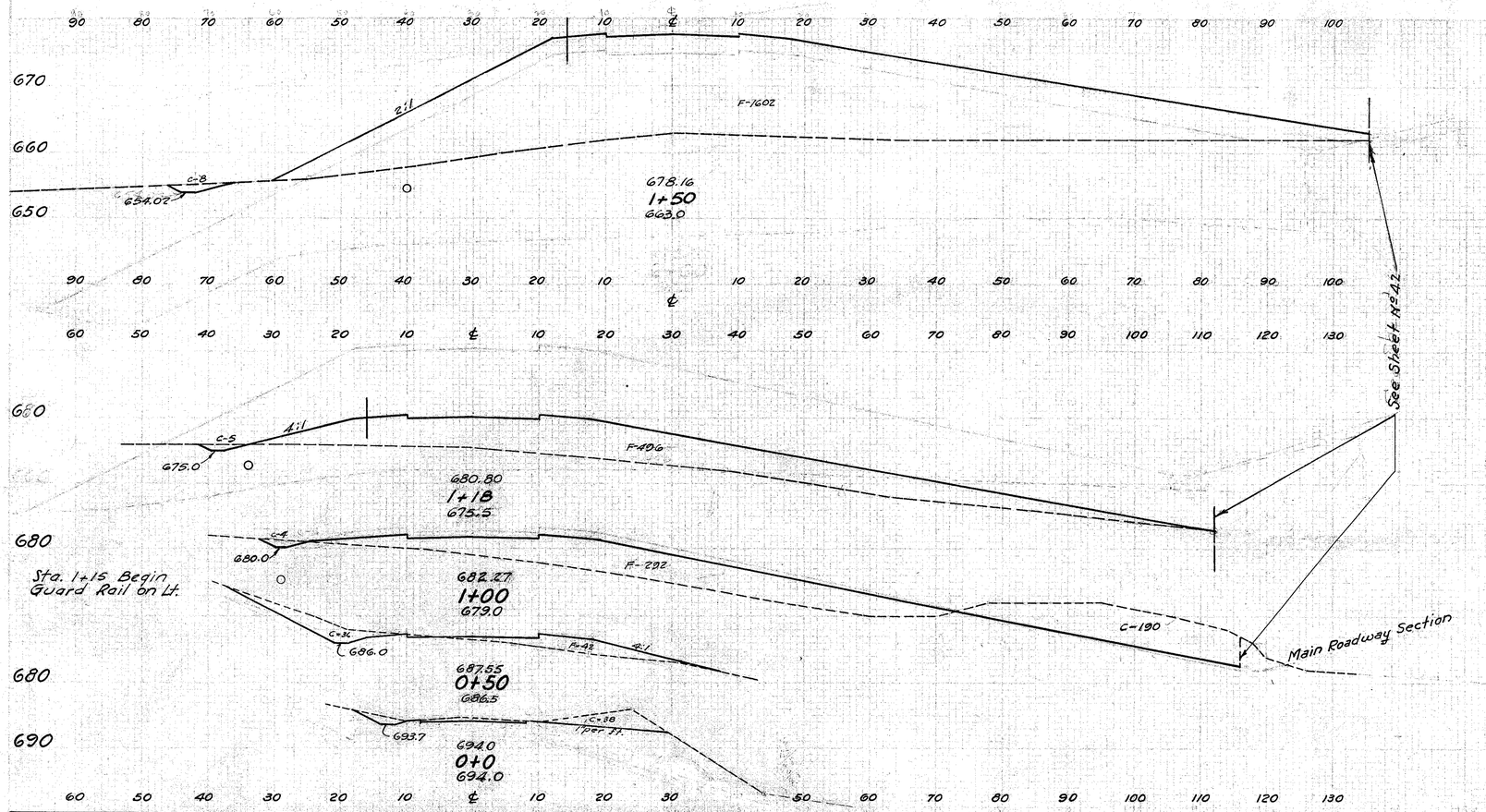
Note:- Taper curb from 6" to 1" height in distance indicated on plan.

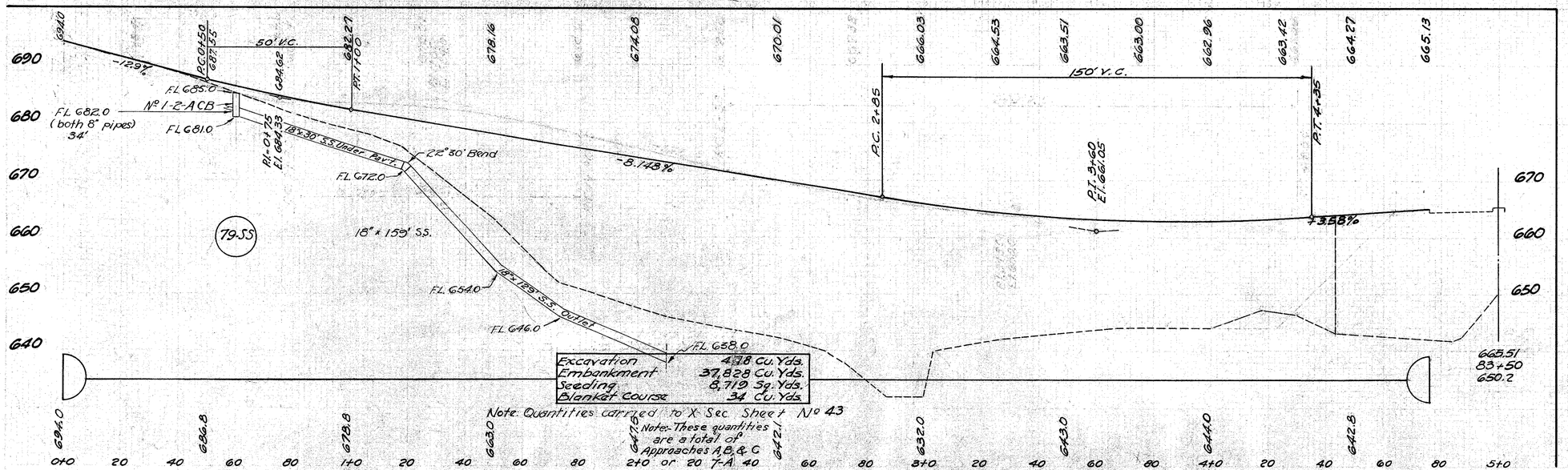
JOINT SYMBOLS

H - Longitudinal Key Joint without tie bars
L - Longitudinal Key Joint with tie bars @ 5'-0" c/c
W - Expansion Joint without dowels
E - Expansion Joint with dowels (Standard)
Note:- Approach Pavement may be hand finished in accordance with Sec. T-71.211

7-A

STA. 83+50 APPROACH - "A", "B" & "C" SHEET 1 OF 5





Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb
178		8	1602		
	574			8	1243
145		5	496		
	282			66	263
137		194	292		
	560			213	334
Sta. 0+86.5 — Appr. Lt → See Sheet No 92	(211)			(88)	(12)
68		36	42		
	372			69	39
66		38	0		

Seeding W. S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
800	0	3087	130	5025
44	0	3185	132	348
209	0	3388	137	1704
316	0	3595	147	2586
268	0	3663	155	2145
953	0	3315	188	6452
538	0	2797	171	3056
111	0	2797	3	1874
			446	

Excavation	478 Cu. Yds.
Embankment	31,828 Cu. Yds.
Seeding	8,719 Sq. Yds.

TOTAL NO. OF SHEETS	STATE	F.A. PROJECT	SHEET NO.
2	OHIO		90 164

BEL-7-(17.71 - 20.14)

See Sheet No. 42

F-3087

665.85
3+03
640.0

See Sheet No. 42

F-3185

666.03
3+00
632.0

See Sheet No. 42

F-3388

667.08
2+86
632.0

See Sheet No. 42

F-3595

668.71
2+66
639.7

See Sheet No. 42

F-3663

670.01
2+50
642.1

See Sheet No. 42

F-3315

674.08
2+00
647.5

See Sheet No. 42

F-2797

676.20
1+73
652.0

1:2

4:1

660

7-A

STA. 83+50

SHEET No. 3 OF 5

Seeding	End Area	Cu. Yds.
SY.	Cut / Fill	Exc. / Emb.

Seeding	End Area	Cu. Yds.
SY.	Cut / Fill	Exc. / Emb.
725	0	3862
180	2686	0
(200)	0	(3) (643)

FED. ROAD DIVISION NO.	STATE	F.A. PROJECT	TYPE WORK
2	OHIO		

BEL-7-(17.71-20.14)

91
164

Sta. 83+50 - End Earthwork

664.02
4+43 - End
643.0

663.56
4+30
646.3

662.96
4+00
644.0

663.51
3+50
643.0

Sta. 3+40 - Appr. Lt.
See Sheet No. 88

662.2
F-1772
See Sheet No. 43

662.0
F-1468
See Sheet No. 43

660.0
F-1485
See Sheet No. 43
12" x 47' Drive Pipe

662.0
F-2026
See Sheet No. 43

660.0

660.5

650.0

660

660

660

660

F-60
110
120
130

7-A

STA. 83+50 SHEET No. 4 OF 5

F.A. 92
2 OHIO 164
BEL-7-(17.71-20.14)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
		44	0		
				12	0
		26	0		
		0	0		
				0	1607
		0	1377		
115				0	785
	64				
115		0	1449		
689				0	2331
133		0	1069		
689				0	1360
115		0	400		
403				8	373
30		9	3		
161				11	5
28		3	2		

660 650 640

663.91 4+86.97 663.7

663.95 4+78 663.5

Sections Pll. to Approach "A"

Sta. 4+78=Zero cut & fill

½" per ft.

658.5 F=1377

660.94 4+15 642.7

Note:- Quantities carried to Sheet Nº 91

Excavation	31 Cu. Yds.
Embankment	6461 Cu. Yds.
Seeding	2006 Sq. Yds.

657.3 F=1449

Sta. 4+05 - End Seeding

659.60 4+00 642.7

653.5 F=1069

655.14 3+50 643.3

½" per ft. 2-2A C.B.

648.25 F=1400

F.L. 645.5 C 650.68 3+00 645.0 F.L. 642.42

C=9 646.95 2+50 646.2 F=3

C=3 647.60 2+00 647.6 F=2

APPROACH "B"

680 690

683.33 0+89.3 683.3

Sections Pll. to Approach "A"

F=16 C=1

683.39 0+80 682.8

Sta. 0+60 End Seeding

C=55 2:1

Excavation	88 Cu. Yds.
Embankment	12 Cu. Yds.
Seeding	211 Sq. Yds.

685.5

686.43 0+50 686.4

Note:- Quantities carried to Sheet Nº 89

692.00 0+14 692.0

30'V.C. -15.49%

P.C. 0+55 P.T. 0+25 P.I. 0+70 El. 683.33 -0.9%

683.59 0+86.5 680.5

APPROACH "C"

647.60 646.91 646.95 648.45 650.68 655.14

50'V.C. P.C. 2+25 P.T. 2+75 P.I. 2+50 El. 646.22 -2.76% +8.92%

647.6 645.0 643.3

APPROACH "B" PROFILE

659.60 661.83 663.47 663.96 663.97 686.97

P.I. 4+50 El. 664.05 -0.38%

P.C. 4+25 50'V.C. P.T. 4+75

663.86 3+40 642.7

642.7 642.7

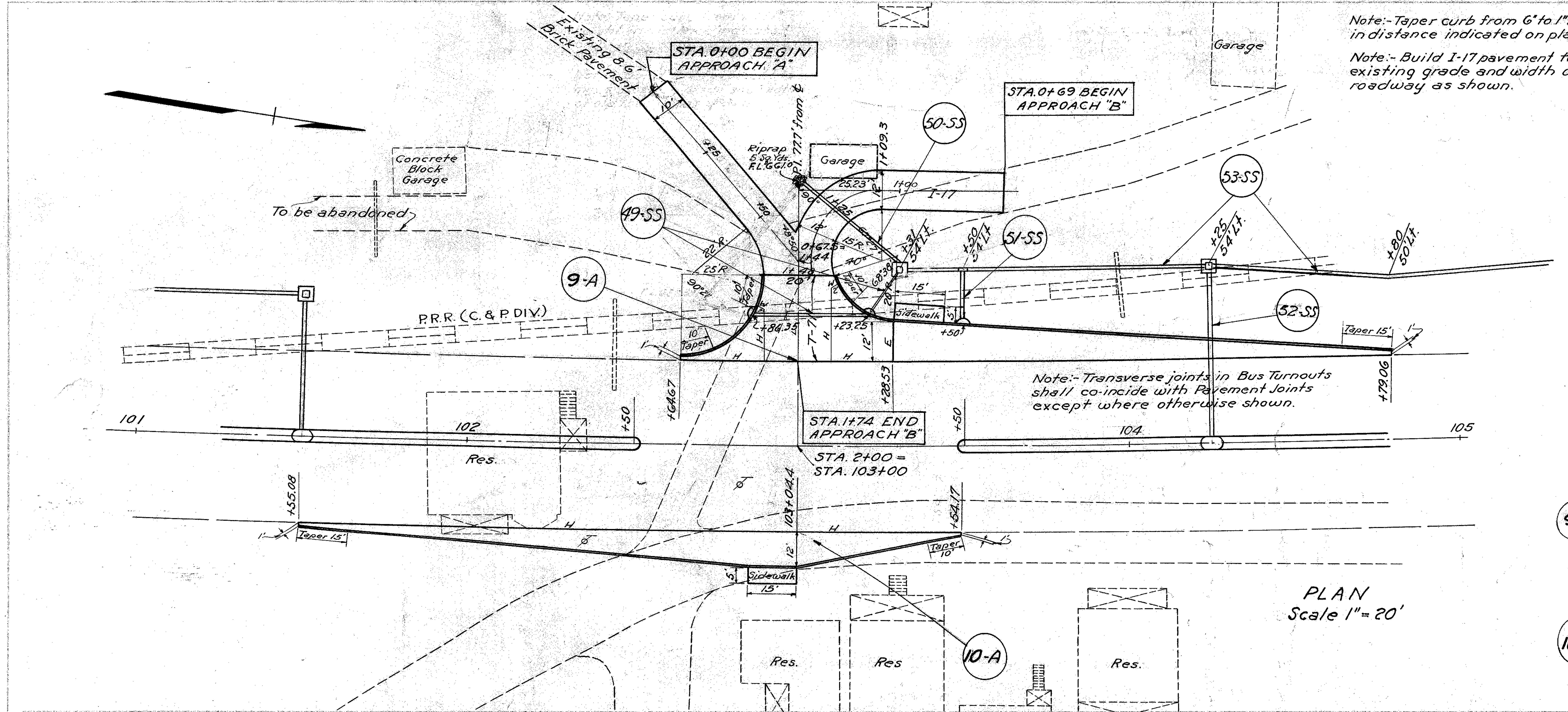
2+0 10 20 30 40 50 60 70 80 90 3+0 10 20 30 40 50 60 70 80 90 4+0 10 20 30 40 50 60 70 80 90 5+0

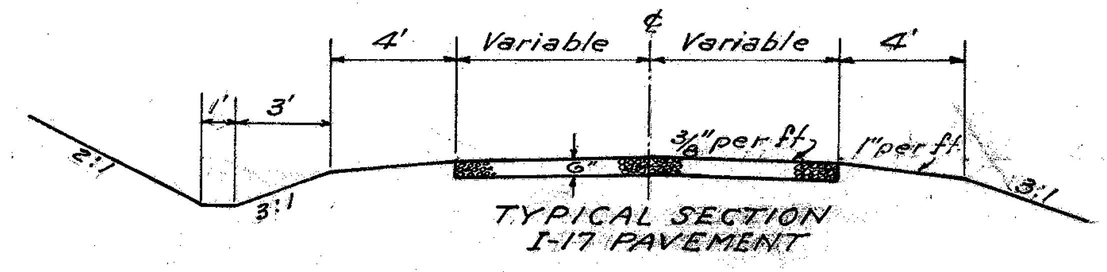
7-A

STA. 83+50 APPROACH "B" & "C" SHEET Nº 5 OF 5

Note:- Taper curb from 6" to 1" height in distance indicated on plan.

Note:- Build I-17 pavement to meet existing grade and width of old roadway as shown.





JOINT SYMBOLS

H - Longitudinal Key Joint without Tie Bars
L - Longitudinal Key Joint with Tie Bars @ 5'-0" c/c
W - Expansion Joint without Dowels
E - Standard Expansion Joint
Note:- Approach Pavement may be hand finished in accordance with Sec. T-71.211

ESTIMATED QUANTITIES

APPROACH

(9-A)

Item	Description	Quantity
T-71	9" Concrete Pavement	232 Sq. Yds.
I-12	Concrete Curb - Type 2-A	213 Lin. Ft.
I-13	4" Concrete Sidewalk	75 Sq. Ft.
I-17	6" Aggregate Pavement	30 Cu. Yds.

BUS TURNOUT - RT.

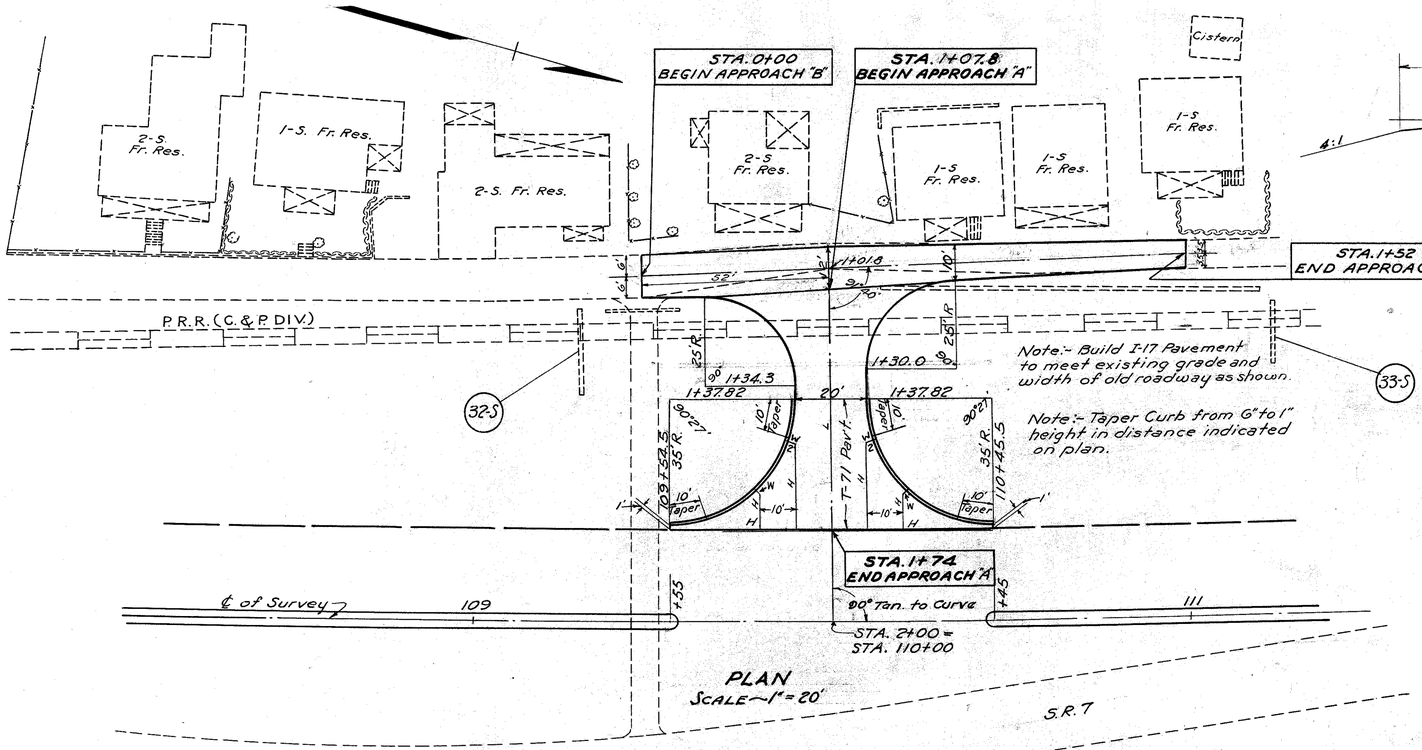
(10-A)

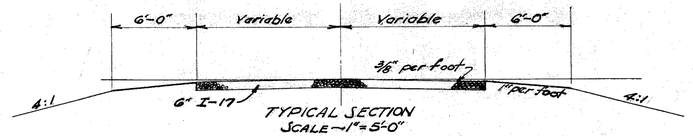
Item	Description	Quantity
T-71	9" Concrete Pavement	165 Sq. Yds.
I-12	Concrete Curb - Type 2-A	202 Lin. Ft.
I-13	4" Concrete Sidewalk	75 Sq. Ft.

PRO. RD. DIVISION	STATE	F.A. PROJECT(S)	TYPE NO.
2	OHIO		

94
164

BEL-7-(17.71-20.14)





JOINT SYMBOLS

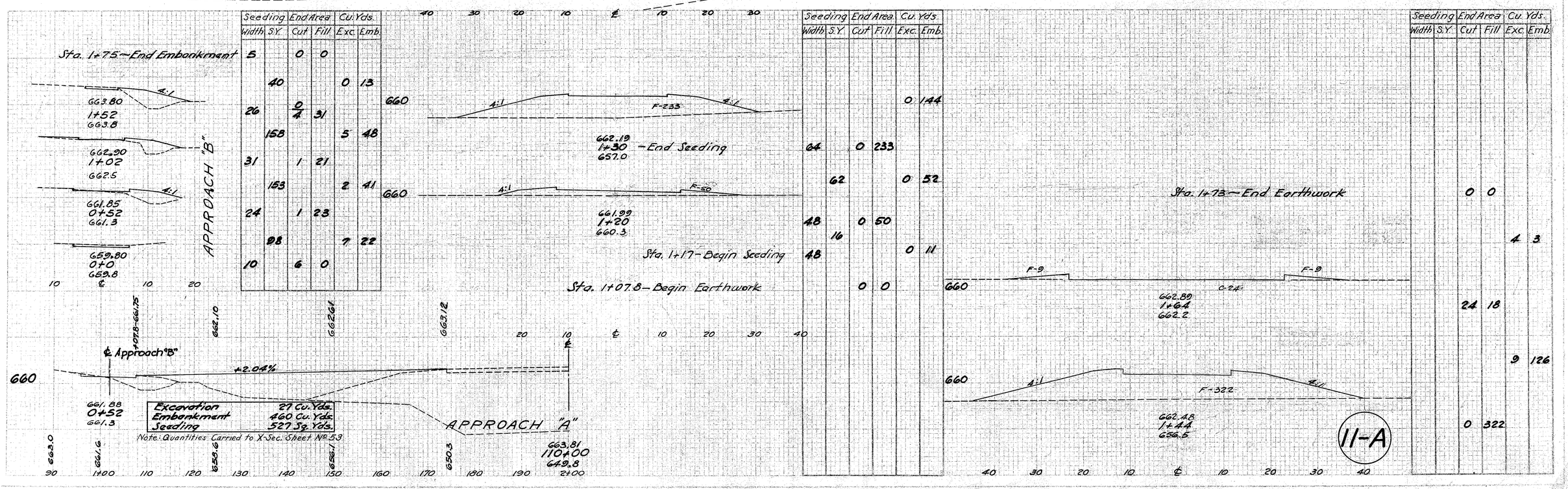
H - Longitudinal Key Joint without Tie Bars.
L - Longitudinal Key Joint with Tie Bars @ 5'-0" c/c
W - Expansion Joint without Dowels.

Note:- Approach Pavement may be hand finished in accordance with Sec. T-71.211

ESTIMATED QUANTITIES

T-71 9" Concrete Pavement	151 Sq. Yds.
I-12 Concrete Curb - Type 2-A	108 Lin. Ft.
I-17 Aggregate Pavement (6")	45 Cu. Yds.
E-12 12" Pipe Removed & Disposed of	20 Lin. Ft.

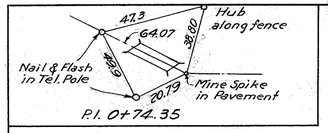
11-A

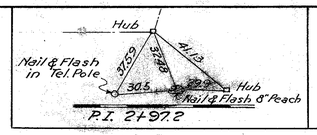


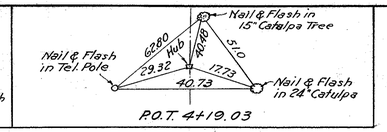
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

95/164

BEL-7-(17.71 - 20.14)







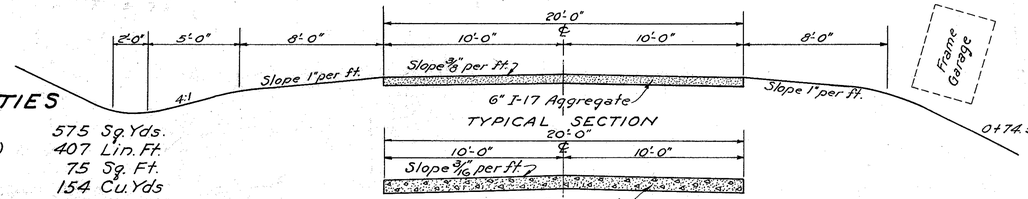
ESTIMATED QUANTITIES

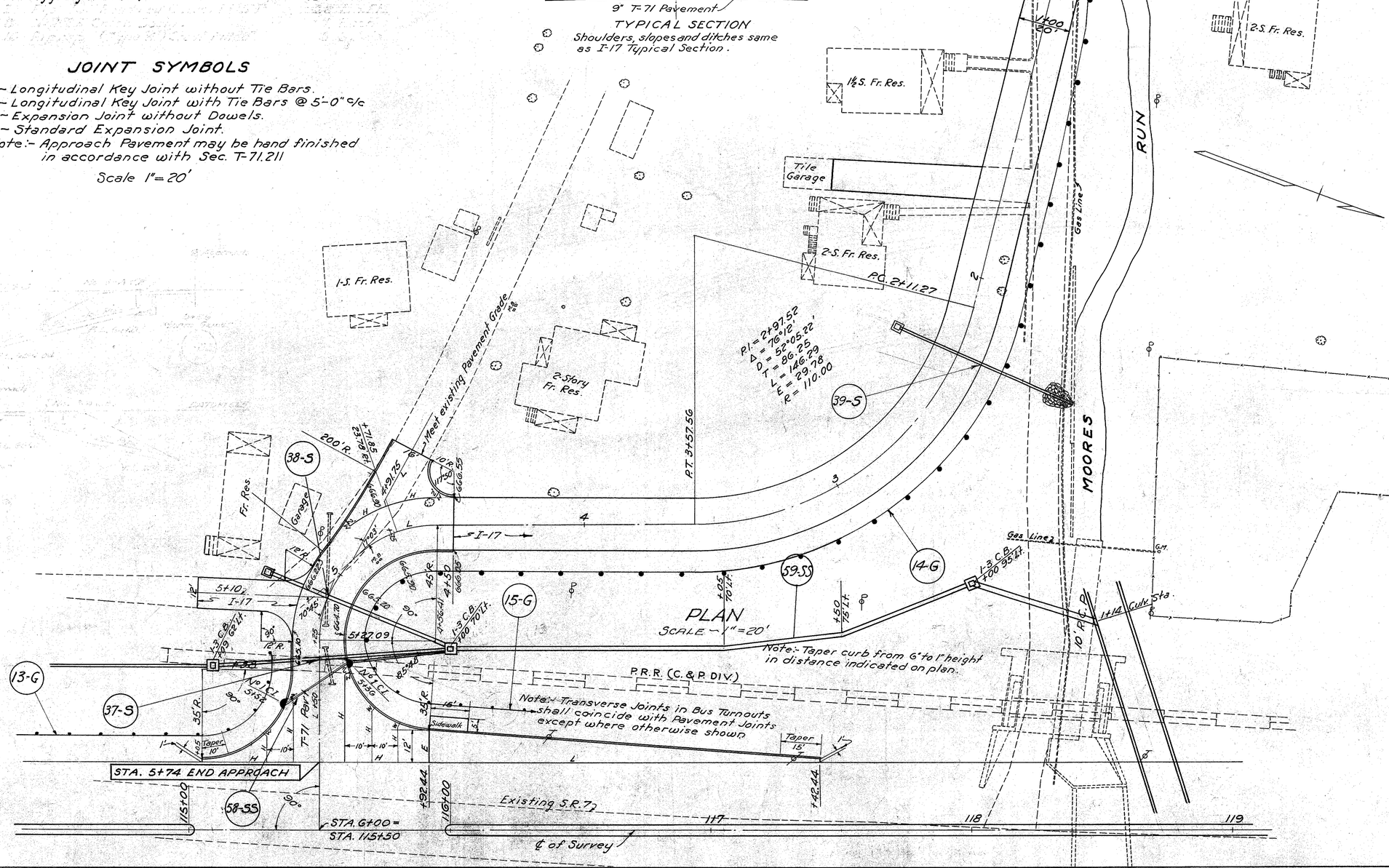
T-71 Concrete Pavement (9")	575 Sq. Yds.
I-12 Concrete Curb – Type 2-A (Mod)	407 Lin. Ft.
I-13 Concrete Sidewalk (4")	75 Sq. Ft.
I-17 Aggregate (6")	154 Cu. Yds

JOINT SYMBOLS

H – Longitudinal Key Joint without Tie Bars.
L – Longitudinal Key Joint with Tie Bars @ 5'-0" c/c
W – Expansion Joint without Dowels.
E – Standard Expansion Joint.
Note:- Approach Pavement may be hand finished in accordance with Sec. T-71.211

Scale 1" = 20'

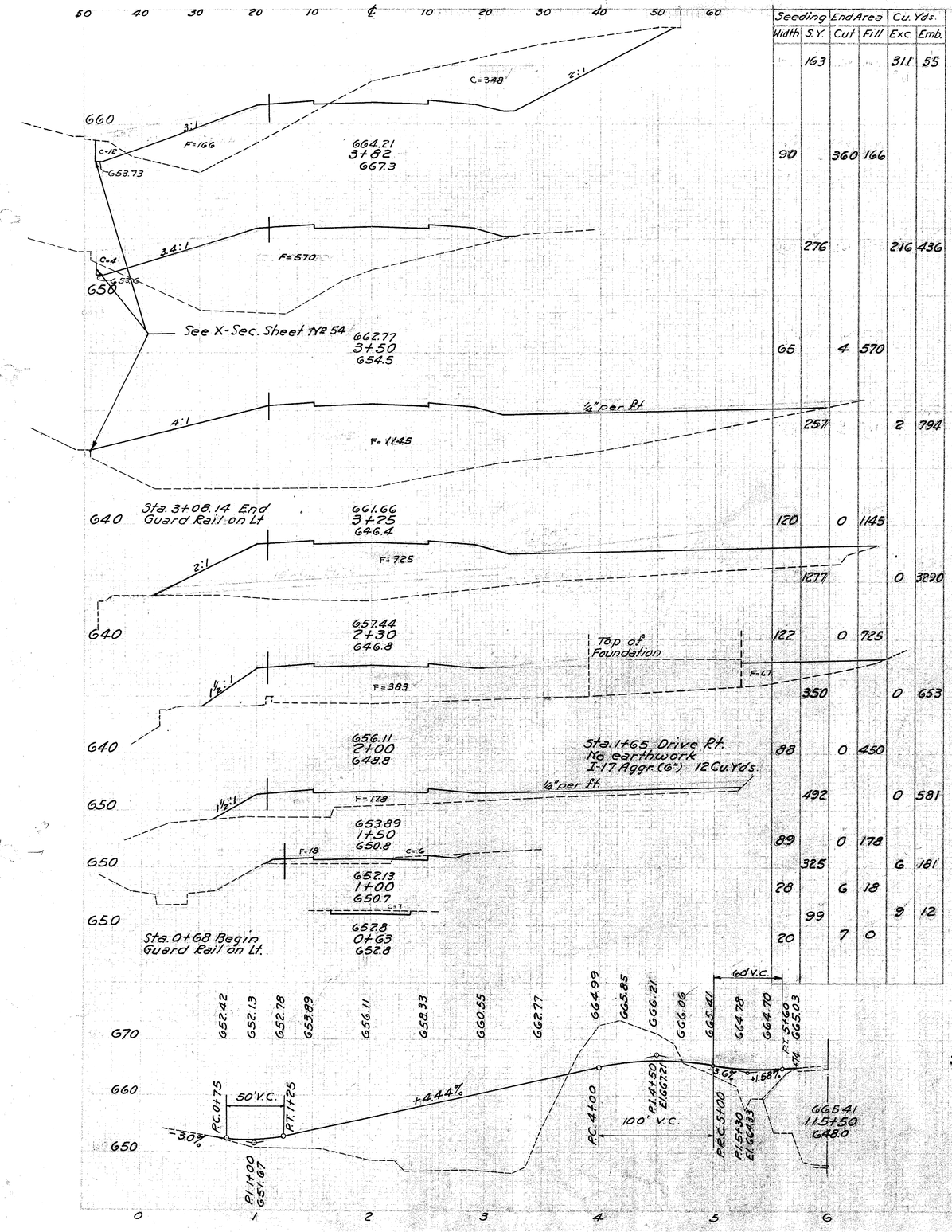




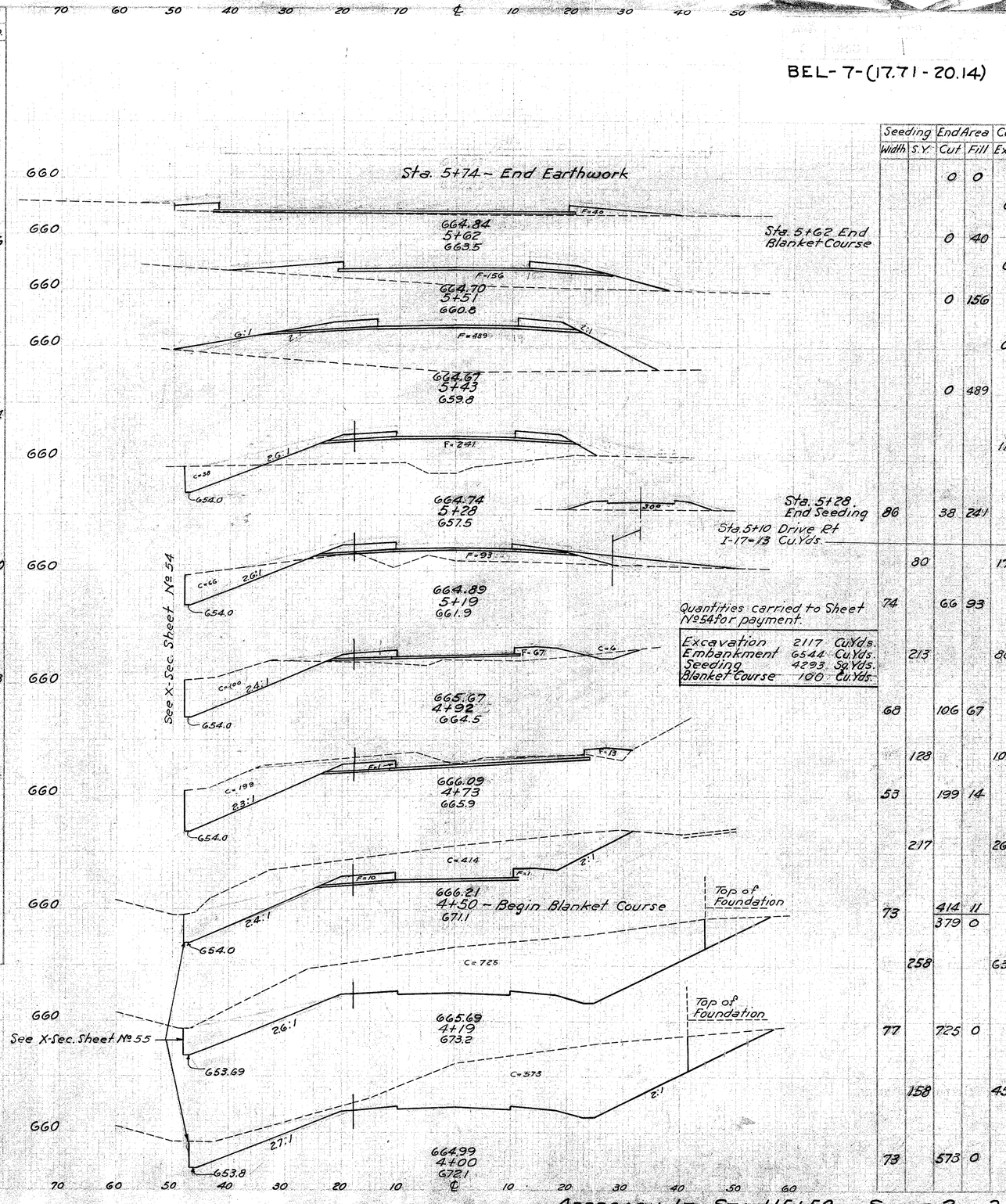
13-A

APPROACH LEFT STA. 115+50 SHEET 1 OF 2

BEL-7-(17.71 - 20.14)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	163			311	55
90		360	166		
	276			216	436
65		4	570		
	257			2	794
120		0	1145		
	1277			0	3290
122		0	725		
	350			0	653
88		0	450		
	492			0	581
89		0	178		
	325			6	181
28		6	18		
	99			9	12
20		7	0		



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
		0	0		
				0	9
		0	40		
				0	40
		0	156		
				0	96
		0	489		
				11	203
86		38	241		
					(18)
	80			17	56
74		66	93		
	213			86	80
68		106	67		
	128			107	29
53		199	14		
	217			261	11
73		414	11		
		379	0		
	258			634	0
77		725	0		
	158			457	0
73		573	0		

Excavation	2117	Cu.Yds.
Embankment	6544	Cu.Yds.
Seeding	4293	Sq.Yds.
Blanket Course	100	Cu.Yds.

APPROACH LT. STA. 115+50 SHEET 2 of 2

FED. AID DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

97
164

BEL-7-(17.71-20.14)

69-55

1-2 12" Pipe for Storm Sewer under pavement	115 Lin.Ft.
1-8 Standard №1-M.H.	2 Each
1-8 №1-Curb Inlets	2 Each
1-16 Catch Basin Abandoned	1 Each

Note: These Quantities carried to Storm Sewer Table on Sheet №23

ESTIMATED QUANTITIES

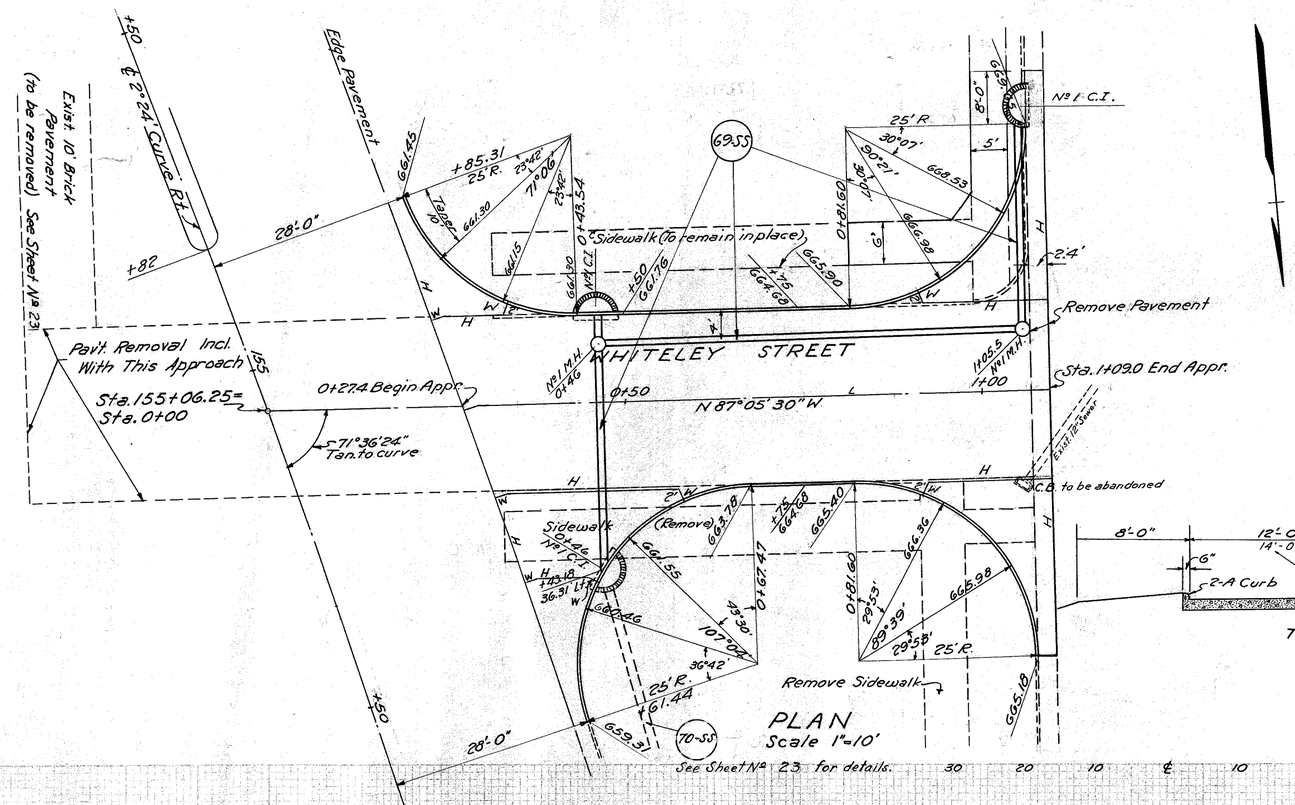
Type 2-A Concrete Curb	202 Lin.Ft.
T-71 Pavement	320 Sq.Yds.
Removal and Disposal of Existing Pavement	404 Sq.Yds
Removal and Disposal of Existing Curb	179 Lin.Ft.
Removal and Disposal of Existing Sidewalk	1423 Sq.Ft
4" Concrete Sidewalk	218 Sq.Ft.

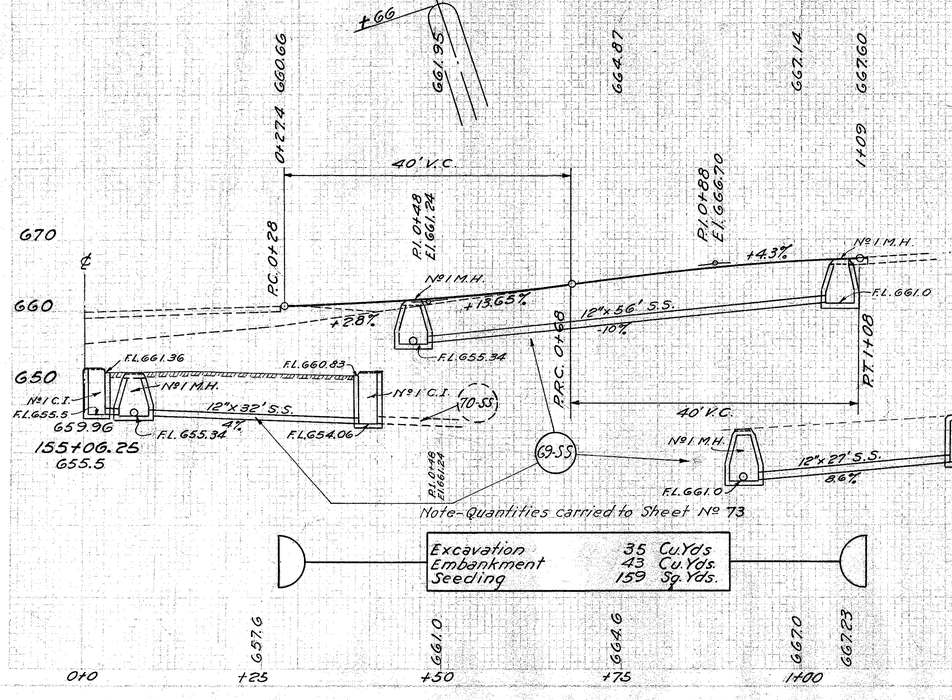
JOINT SYMBOLS

H- Longitudinal key joint without tie bars
L- Longitudinal key joint with tie bars @ 5'-0"c
W- Expansion joint without dowels

Note- Taper curb from 6" to 1" height in distance indicated on plan.

Note- Approach pavement may be hand finished in accordance with Sec. T-71.211





Seeding Width	S.X.	End Area Cut	Fill	Cu.Yds. Exc.	Emb.
	53			6	5
665.65 0+82 665.5					
23		1	14		
	37			1	8
663.97 0+68 663.6					
25		3	16		
	50				
Sta. 0+50 Begin Seeding 25					
				7	22
667.60 1+09 667.6					
				0	0
Sta. 1+07 End Seeding 20					
661.33 0+42 660.0					
		12	30		
				18	8
		19		3	0
667.14 1+00 667.0					
				30	18 1
Sta. 0+27.4 Begin Earthwork		57	0		

14-A

STA. 155+06.25 STREET APPROACH

FED. AID DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		

98
164

BEL-7-(17.71-20.14)

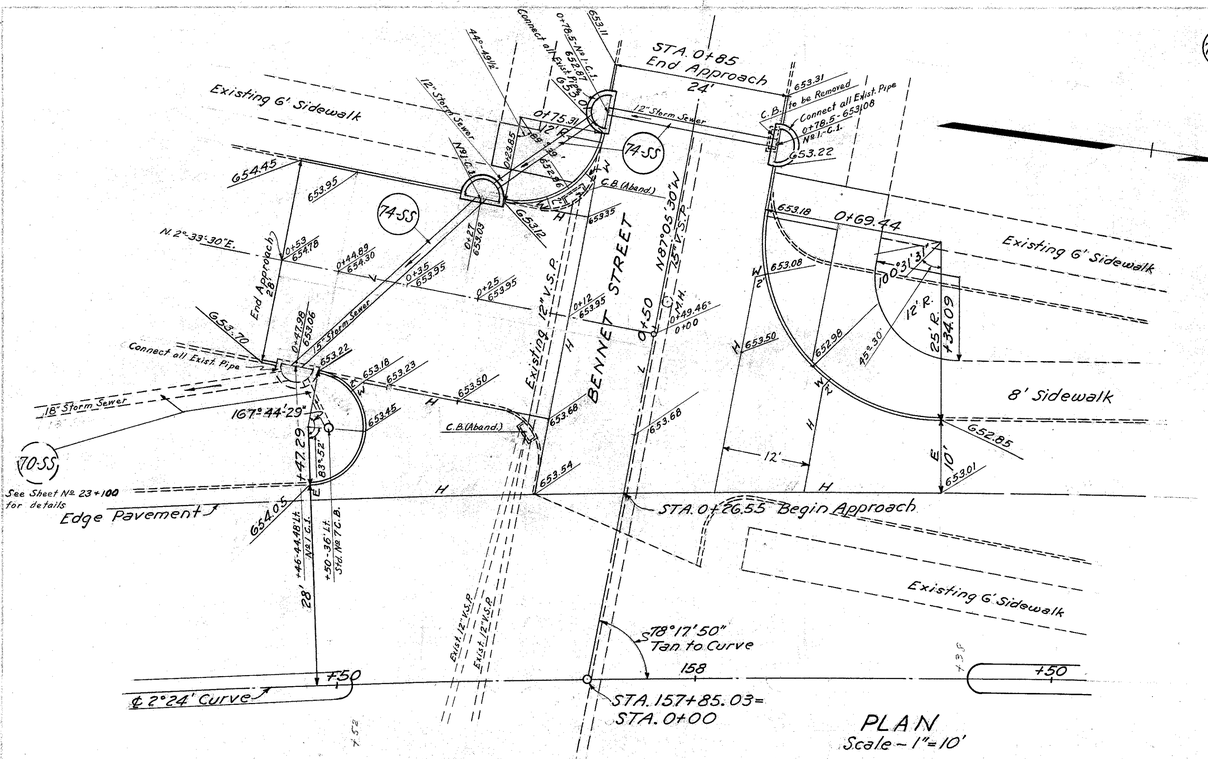
74-55

I-2	12" Pipe for Storm Sewer	17	Lin. Ft.
I-2	12" Pipe for Storm Sewer under Pavement	24	Lin. Ft.
I-2	15" Pipe for Storm Sewer under Pavement	35	Lin. Ft.
I-5	Nº-1-Curb Inlets	3	Each
I-16	Catch Basins Abandoned	2	Each
S-22	Removal of Portions of Existing Structure	1	Cu. Yd.

NOTE: These quantities carried to Storm Sewer Table on Sheet Nº 23

ESTIMATED QUANTITIES

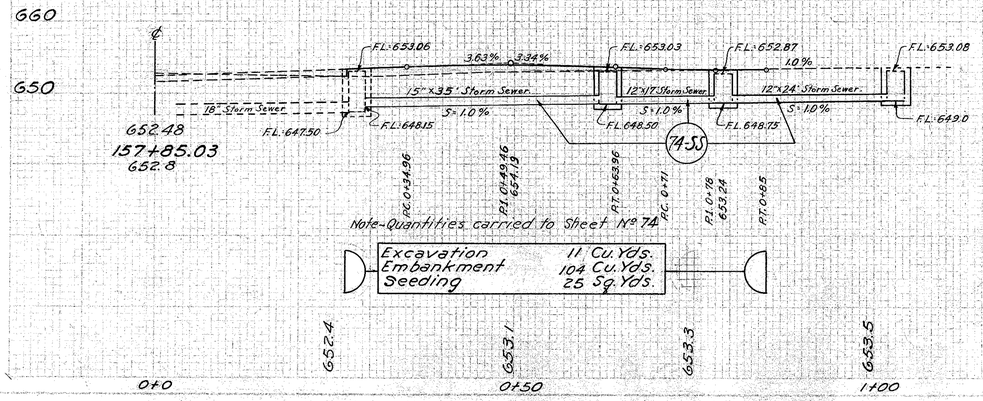
Type 2-A Concrete Curb	128	Lin. Ft.
T-71 Pavement	393	Sq. Yds.
4" Concrete Sidewalk	435	Sq. Ft.
Removal and Disposal of Existing Pavement	423	Sq. Yds.
Removal and Disposal of Existing Curb	189	Lin. Ft.
Removal and Disposal of Existing Sidewalk	210	Sq. Ft.

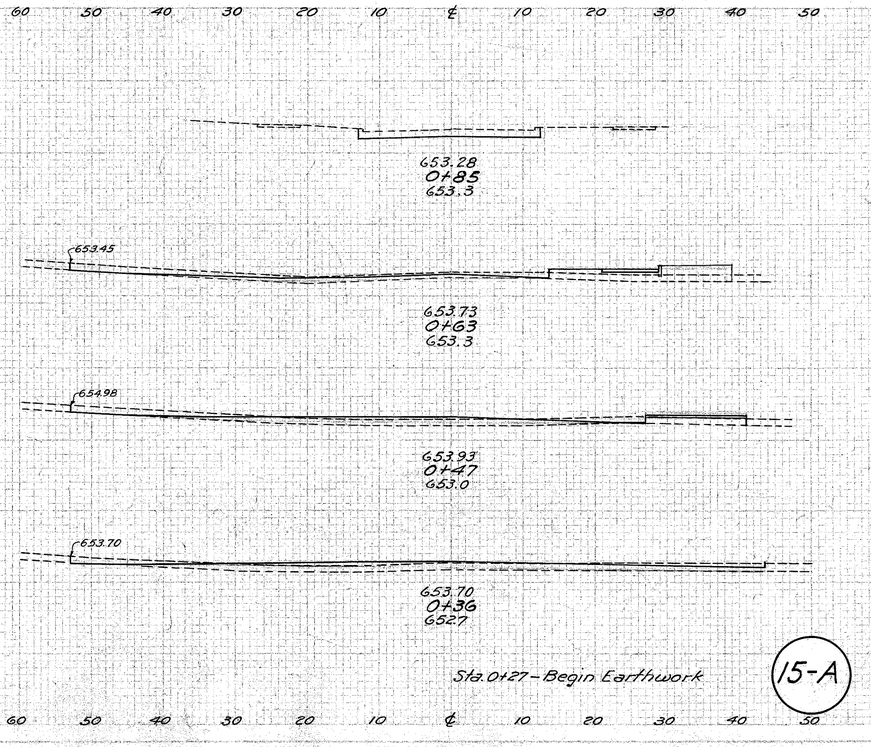


JOINT SYMBOLS

H - Longitudinal Key Joint without tie bars.
L - Longitudinal Key Joint with tie bars @ 5'-0" ℄
W - Expansion Joint without dowels.
E - Standard Expansion Joint
Note - Approach Pavement may be hand finished in accordance with Sec. T-71.211.

For Typical Section (See Sheet Nº 97)





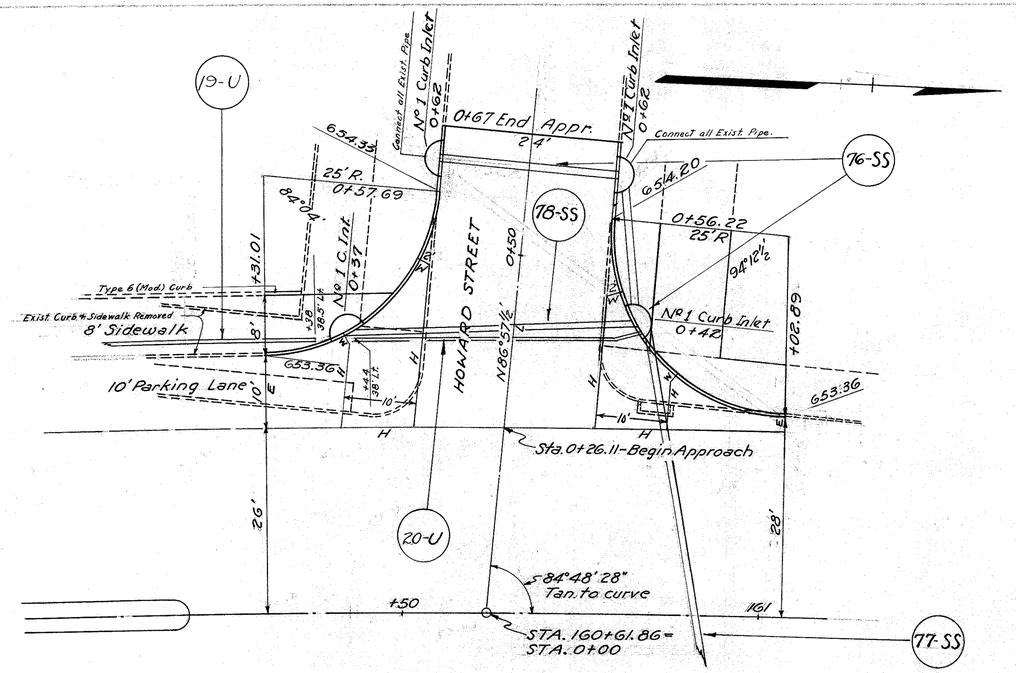
End Area Cu. Yds.			
Cut	Fill	Exc.	Emb.
0	0		
		0	27
0	67		
		0	35
0	50		
		0	28
0	85		
		11	14
65	0		

STA. 157+85.03 - STREET APPROACH

FED. AID DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		

99
164

BEL-7-(17.71-20.14)



PLAN
Scale-1"=10'

76-SS	I-8	No 1 Curb Inlet	3 Each
	I-2	12" Pipe for Storm Sewer (Under Pavemt)	24 Lin. Ft.
	I-2	12" Pipe for Storm Sewer	18 Lin. Ft.
78-SS	I-8	No 1 Curb Inlet	1 Each
	I-2	12" Pipe for Storm Sewer (Under Pavemt)	40 Lin. Ft.

Note: These Quantities carried to Storm Sewer Table on Sheet No 23

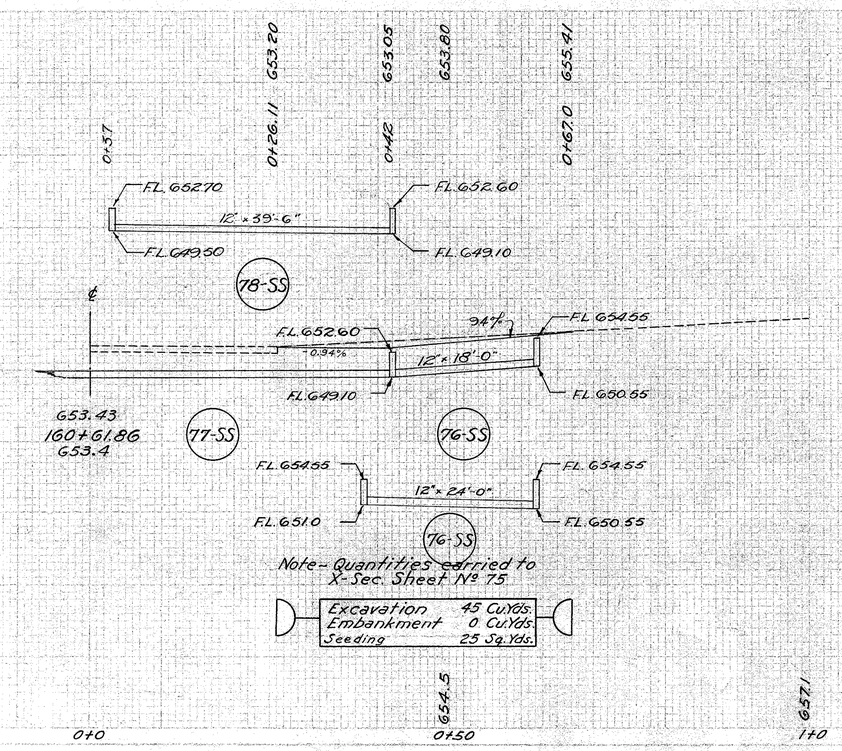
ESTIMATED QUANTITIES

Type 2-A Concrete Curb	78 Lin. Ft.
T-71 Pavement	170 Sq. Yds.
4" Concrete Sidewalk	370 Sq. Ft.
Removal and Disposal of Existing Pavement	103 Sq. Yds.
Removal and Disposal of Existing Curb	125 Lin. Ft.
Removal and Disposal of Existing Sidewalk	579 Sq. Ft.
Type 6 (Mod) Concrete Curb	5 Lin. Ft.

JOINT SYBOLS

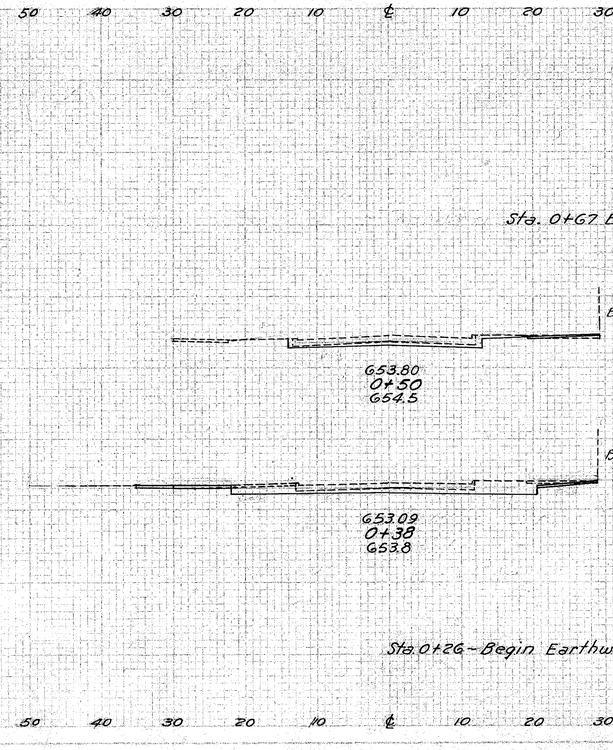
H- Longitudinal Key Joint without tie bars
L- Longitudinal Key Joint with tie bars @ 5'-0" %
W- Expansion Joint without dowels
E- Standard Expansion Joint

Note- Approach pavement may be hand finished in accordance with Sec. T-71.211 For Typical Section (See Sheet No 97)



Note- Quantities carried to X-Sec. Sheet No 75

Excavation	45 Cu Yds.
Embankment	0 Cu Yds.
Seeding	25 Sq. Yds.



	End Areas Cut	End Areas Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
			9	0
	28	0		
			15	0
	40	0		
			21	0
	54	0		

STA. 160+61.86 ~ STREET APPROACH

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

100
164

BEL-7-(17.71-20.14)

16-A

ESTIMATED QUANTITIES

9" T-71 Concrete Pavement	12 Sq. Yds
Type 2-A Concrete Curb	24 Lin. Ft.
Type 6 (Mod.) Concrete Curb	14 Lin. Ft.

LINCOLN AVENUE

WHITELEY ST.

BENNET ST.

HOWARD ST.

9' Paved Alley

First Presbyterian Church

U.S. POST OFFICE

Grocery

Gas Co. Office

Sunoco Gas Station

Sterling Gas Sta.

8' Sidewalk

10' Parking Lane

Depress Curb

Remove Curb

Remove Sidewalk

Type 6(Mod.) Curb

Flag Pole

Connect exist. pipe if disturbed

Sidewalk removal incl. in 14-A

This part removal incl. in App. 14-A

Paved Area to be removed

Remove Pavement to this line

Remove existing curb

Exist. 10 Brick Pav't.

Res.

Garage

Gas Undr.

Seal Pipe Top Elevations

15" V.S.P.

24" V.S.P.

42" V.S.P.

8" V.S.P.

12" V.S.P.

10" V.S.P.

20" V.S.P.

C.B. (Abandd)

C.B. (Reconst'd)

No 1 M.H. 104.56 Rt.

No 1 M.H. 100.56 Rt.

No 1 M.H. 12.85

No 1 M.H. 0.46 Rt.

No 1 M.H. 0.53 Rt.

No 1 C.I.

No 2 C.I.

No 1 C.B.

No 2 C.B.

69-SS

70-SS

71-SS

72-SS

73-SS

74-SS

75-SS

76-SS

77-SS

78-SS

14-A

15-A

16-A

17-A

15-U

16-U

17-U

18-U

19-U

20-U

P.I. 156+58.03
Δ = 24°24'30"
D = 2°24' RT.
T = 516.34
L = 1017.01
E = 55.20
R = 2387.33

STA. 161+02.89
END PROJECT FG-334(8)
BEGIN APPROACH

STA. 161+83
END APPROACH

℄ of Survey

T-71 Pavement

Type 2 Curb & Gutter

C.& P.R.R.

PT 162+58.06

GENERAL PLAN OF BRIDGEPORT STREET INTERSECTIONS

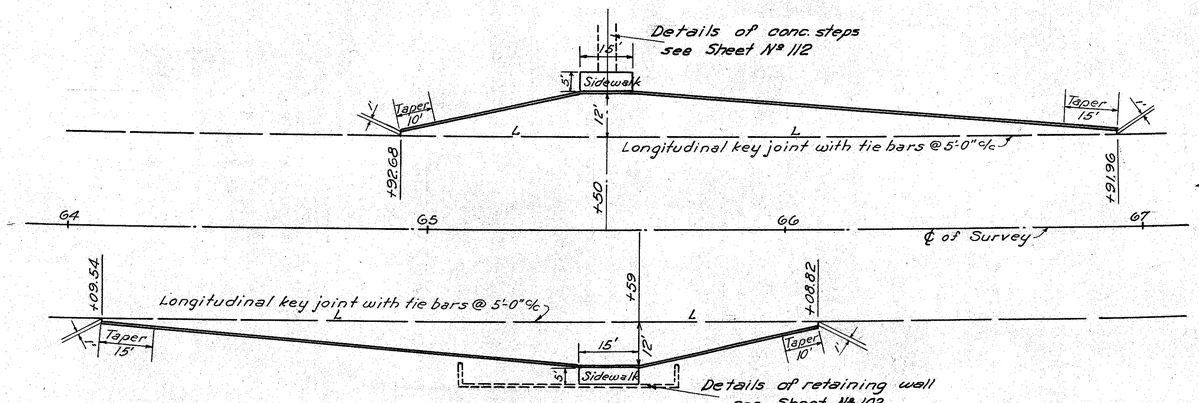
Scale 1" = 20'

(See Approach Sheets)

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

101
164

BEL-7-(17.71-20.14)



PLAN

BUS TURNOUT LT. AND RT.

Scale 1"=20'

6-A

ESTIMATED QUANTITIES

T-71 Concrete Pavement	330 Sq. Yds.
I-12 Concrete Curb Type 2-A	404 Lin. Ft.
I-13 4" Concrete Sidewalk	150 Sq. Ft.

Note:- Transverse Joints in Bus Turnouts shall co-incide with pavement joints except where otherwise shown.

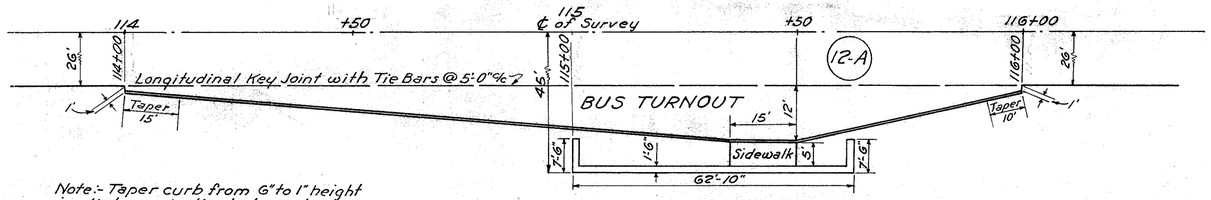
Note:- Bus Turnouts may be hand finished in accordance with Sec. T-71.211

STA. 65+50 & STA. 65+59 BUS TURNOUT LT. & RT.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

102
164

BEL-7-(17.71 - 20.14)



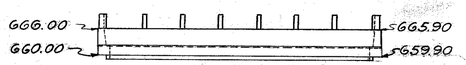
Note:- Taper curb from 6" to 1" height in distance indicated on plan.

Note:- Transverse joints in Bus Turnouts shall co-incide with pavement joints except where otherwise shown.

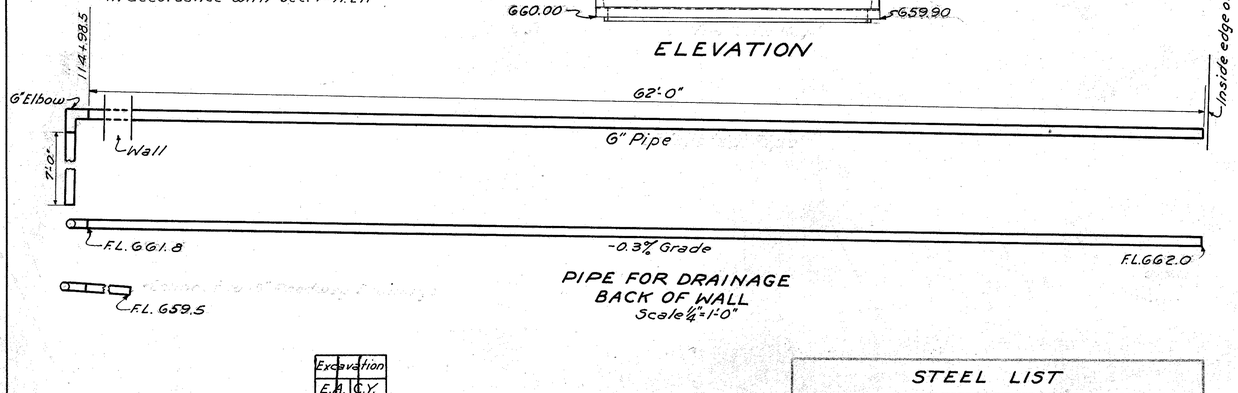
Note:- Bus Turnouts may be hand finished in accordance with Sec. T-71.211

PLAN SHOWING RELATION OF RETAINING WALL TO ℄ OF SURVEY

Scale 1/16" = 1'-0"

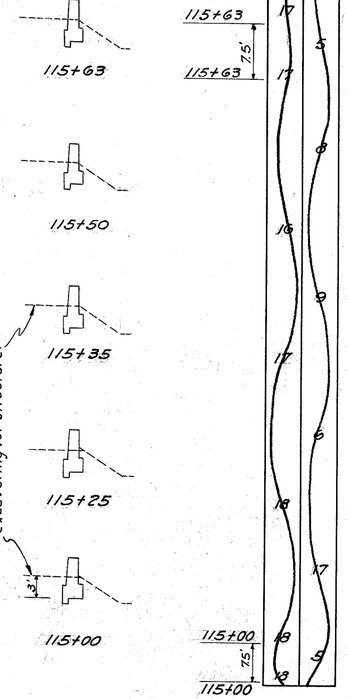


ELEVATION



PIPE FOR DRAINAGE BACK OF WALL

Scale 1/4" = 1'-0"



Note:- Fill to this line before excavating for structure.

5-W

12-A

STEEL LIST

Mark	Bar No	Shape	Spacing	No.	Length	Weight-Lbs.
W5a	5	Straight	3'-0" c/c	27	3'-9"	106
W5b	5	"	2'-0" c/c	8	18'-6"	154
W5c	5	"	"	4	24'-4"	102
W5d	5	Bent	"	4	10'-2"	42
W5e	5	"	"	4	9'-0"	38
F5a	5	Bent	3'-0" c/c	27	6'-5"	181
F5b	5	"	1'-0" c/c	73	2'-5"	190
F5c	5	Straight	As shown	10	10'-0"	104
F5d	5	"	" "	3	22'-4"	70
F5e	5	"	" "	3	21'-9"	68
F5f	5	Bent	2'-0" c/c	4	8'-3"	35
RE5	5	Straight		2	5'-3"	11
* T5a	5	Bent	As shown	44	4'-10"	214
					Total	1315
* Included in price bid per lin. ft. of Railing.						214
					Total for Wall	1101

ESTIMATED QUANTITIES

WALL

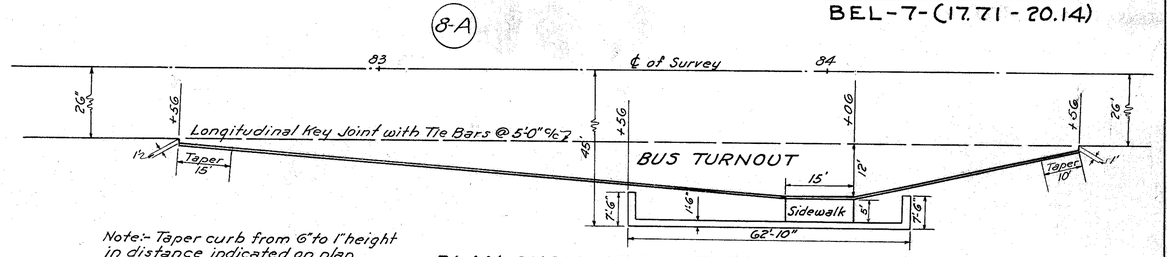
Structure Excavation	42	Cu. Yds.
Concrete for Structure (Class "E")	34.	Cu. Yds.
Reinforcing Steel	1101	Lbs.
6" Pipe Underdrain	62.	Lin. Ft.
6" Outlet Pipe for Underdrain	7	Lin. Ft.
Pipe Special 6" Elbow for Underdrain	1	Each
Porous Backfill	10.	Cu. Yds.
Railing - Steel with Concrete Posts	74.5	Lin. Ft.
12" x 1/2" Premolded Sealing Strip	12	Lin. Ft.

BUS TURNOUT

12-A

T-71 Concrete Pavement (9")	165	Sq. Yds.
I-12 Concrete Curb Type 2-A	202	Lin. Ft.
I-13 Concrete Sidewalk (4")	75	Sq. Ft.

See Sheet No 103 for Wall Details



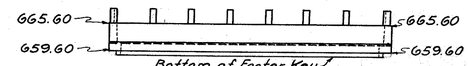
Note:- Taper curb from 6" to 1" height in distance indicated on plan.

Note:- Transverse joints in Bus Turnouts shall co-incide with pavement joints except where otherwise shown.

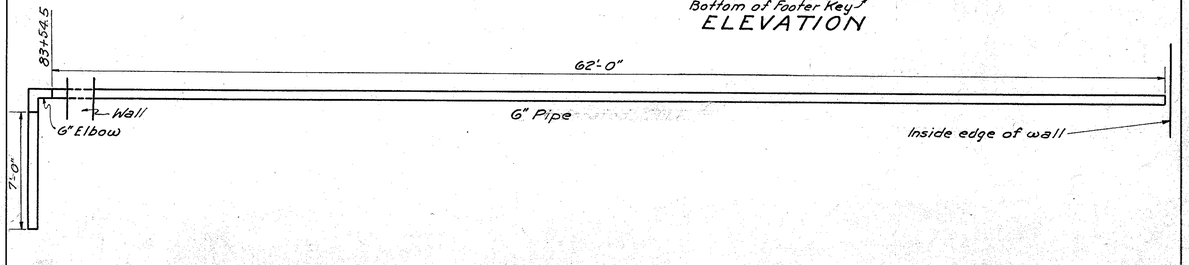
Note:- Bus Turnouts may be hand finished in accordance with Sec. T-71.211

PLAN SHOWING RELATION OF RETAINING WALL TO ℄ OF SURVEY

Scale 1/16" = 1'-0"

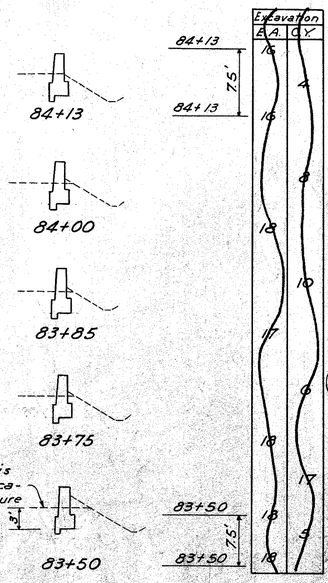


ELEVATION



PIPE FOR DRAINAGE BACK OF WALL

Scale 1/4" = 1'-0"



Note:- Fill to this line before excavating for structure

3-W

8-A

STEEL LIST

Mark	Bar No	Shape	Spacing	No.	Length	Weight-Lbs.
W5a	5	Straight	3'-0" c/c	27	3'-9"	106
W5b	5	"	2'-0" c/c	8	18'-6"	154
W5c	5	"	"	4	24'-4"	102
W5d	5	Bent	"	4	10'-2"	42
W5e	5	"	"	4	9'-0"	38
F5a	5	Bent	3'-0" c/c	27	6'-5"	181
F5b	5	"	1'-0" c/c	73	2'-5"	190
F5c	5	Straight	As shown	10	10'-0"	104
F5d	5	"	" "	3	22'-4"	70
F5e	5	"	" "	3	21'-9"	68
F5f	5	Bent	2'-0" c/c	4	8'-3"	35
RE5	5	Straight		2	5'-3"	11
* T5a	5	Bent	As shown	44	4'-10"	214
					Total	1315
* Included in price bid per lin. ft. of Railing						214
					Total for Wall	1101

ESTIMATED QUANTITIES

8-A BUS TURNOUT WALL

Structure Excavation	42	Cu. Yds.
Concrete for Structure (Class "E")	34.	Cu. Yds.
Reinforcing Steel	1101	Lbs.
6" Pipe Underdrain	62	Lin. Ft.
6" Outlet Pipe for Underdrain	7	Lin. Ft.
Pipe Special 6" Elbow for Underdrain	1	Each
Porous Backfill	10.	Cu. Yds.
Railing - Steel with Concrete Posts	74.5	Lin. Ft.
12" x 1/2" Premolded Sealing Strip	12	Lin. Ft.
T-71 Concrete Pavement (9")	165	Sq. Yds.
I-12 Concrete Curb (Type 2-A)	202	Lin. Ft.
I-13 Concrete Sidewalk (4")	75	Sq. Ft.

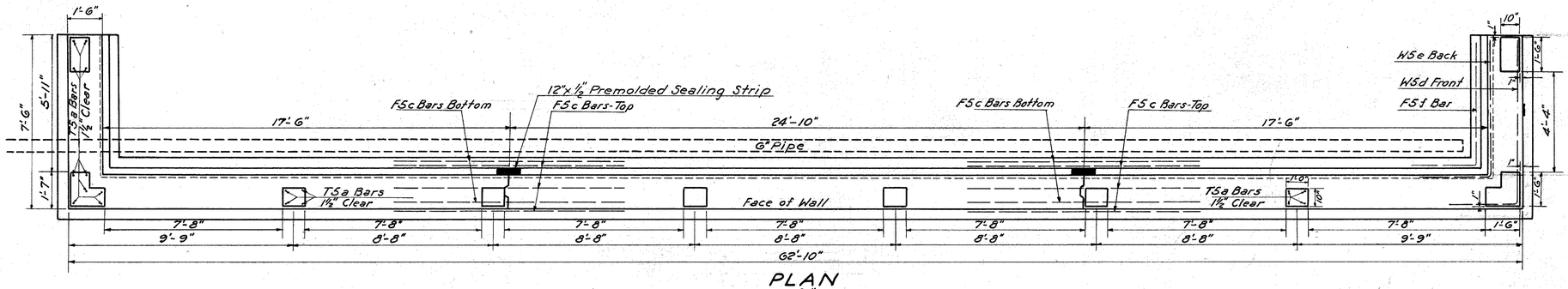
See Sheet No 103 for Wall Details

BUS TURNOUTS AND RETAINING WALL STA'S. 83+50 & 115+00 SHEET 1 OF

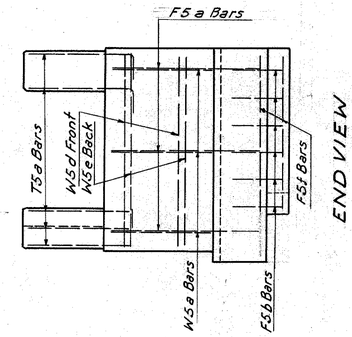
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

103
164

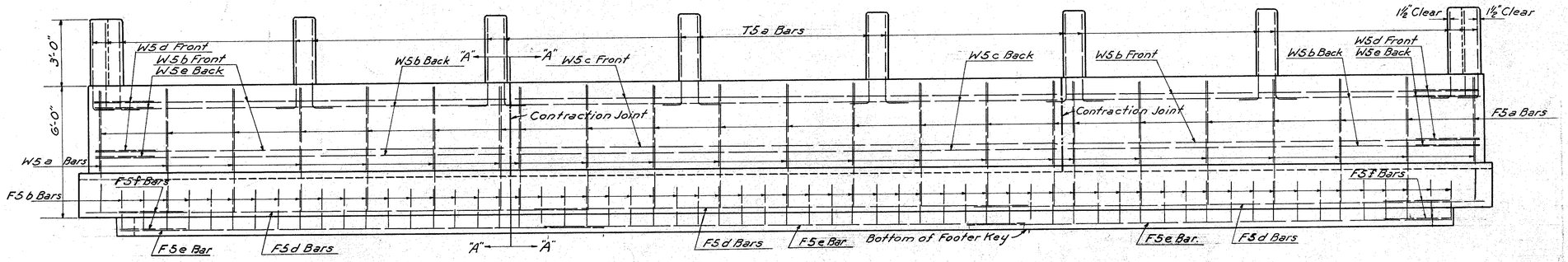
BEL-7-(17.71 - 20.14)



PLAN
Scale 3/8"=1'-0"

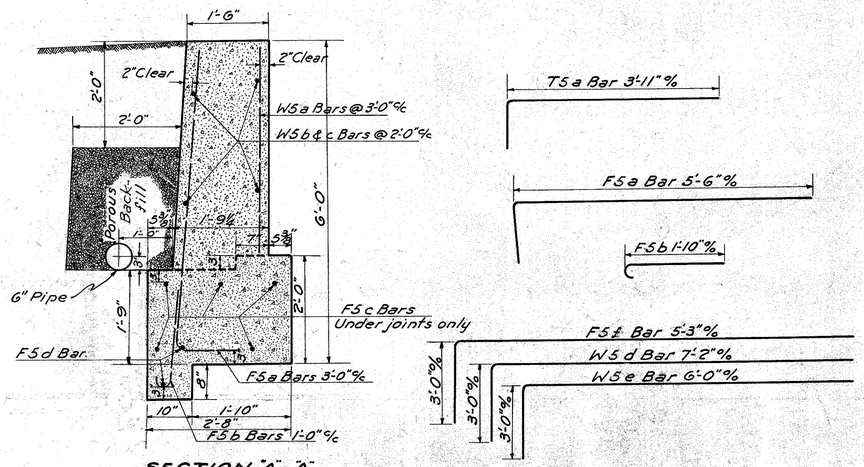


END VIEW

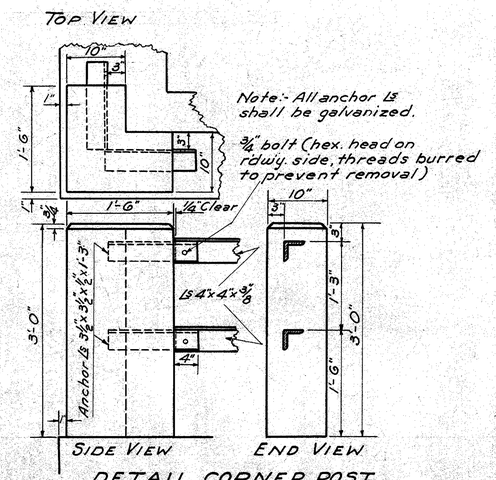


ELEVATION

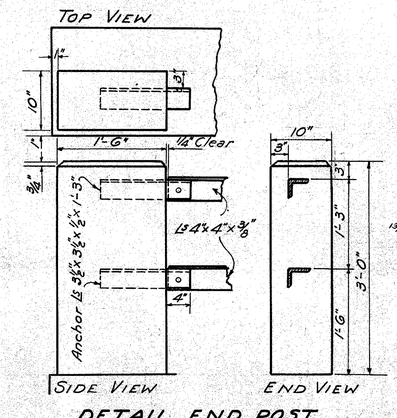
NOTE:- Steel Railing Angles shall be painted with a final field coat of white paint, Sec. M-9.6, to match Highway Guard Rail.



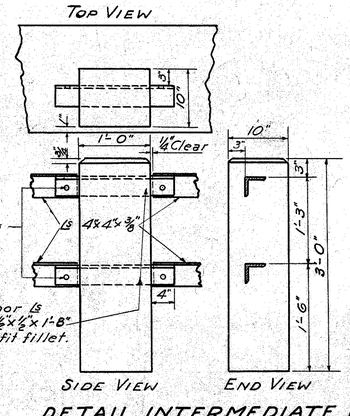
SECTION "A"-"A"
Scale 3/4"=1'-0"



DETAIL CORNER POST
Scale 1"=1'-0"



DETAIL END POST
Scale 1"=1'-0"



DETAIL INTERMEDIATE POST
Scale 1"=1'-0"

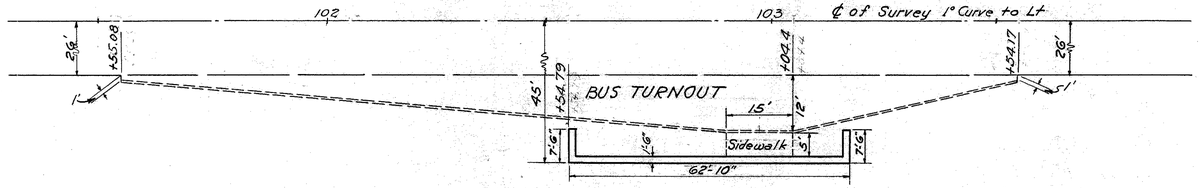
STA'S. 65+50, 103+00,

RETAINING WALL DETAILS STA'S. 83+50 & 115+00 SHEET 2 OF 2

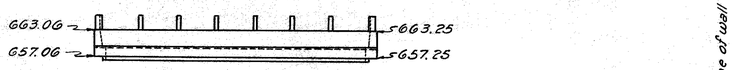
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

104
164

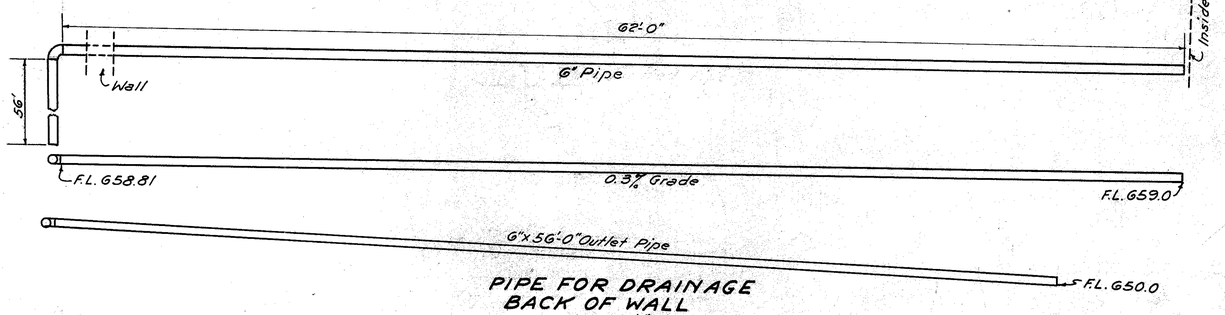
BEL-7-(17.71 - 20.14)



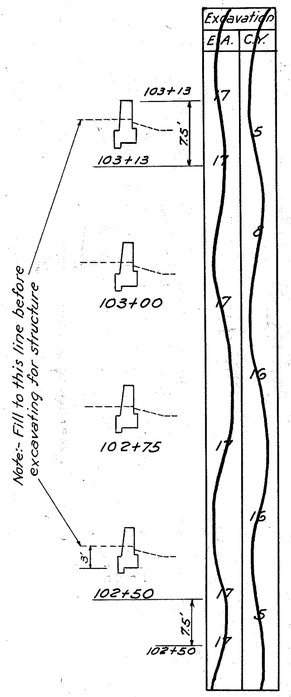
PLAN SHOWING RELATION OF RETAINING WALL TO ℄ OF SURVEY
Scale 1/16" = 1'



ELEVATION



PIPE FOR DRAINAGE BACK OF WALL
Scale 1/4" = 1'



STEEL LIST

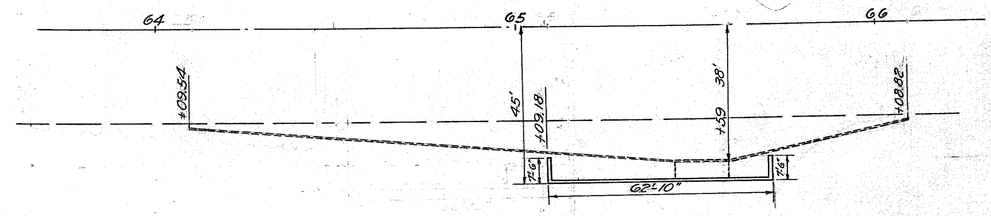
Mark	Bar No	Shape	Spacing	No.	Length	Weight-Lbs.
W5a	5	Straight	3'-0" c/c	27	3'-9"	106
W5b	5	"	2'-0" c/c	8	18'-6"	154
W5c	5	"	"	4	24'-4"	102
W5d	5	Bent	"	4	10'-2"	42
W5e	5	"	"	4	9'-0"	38
F5a	5	Bent	3'-0" c/c	27	6'-5"	181
F5b	5	"	1'-0" c/c	73	2'-5"	190
F5c	5	Straight	As shown	10	10'-0"	104
F5d	5	"	" "	3	22'-4"	70
F5e	5	"	" "	3	21'-9"	68
F5f	5	Bent	2'-0" c/c	4	8'-3"	35
RE5	5	Straight		2	5'-3"	11
* T5a	5	Bent	As shown	44	4'-10"	214
					Total	1315
* Included in price bid per lin. ft. of Railing						214
					Total for Wall	1101

ESTIMATED QUANTITIES

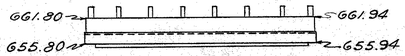
Structure Excavation	42 Cu. Yds.
Concrete for Structure (Class "E")	34 Cu. Yds.
Reinforcing Steel	1101 Lbs.
6" Pipe Underdrain	62 Lin. Ft.
6" Outlet Pipe for Underdrain	56 Lin. Ft.
Pipe Special - 6" Elbow for Underdrain	1 Each
12"x 1/2" Premolded Sealing Strip	12 Lin. Ft.
Porous Backfill	10 Cu. Yds.
Railing - Steel with Concrete Posts	74.5 Lin. Ft.

4-W

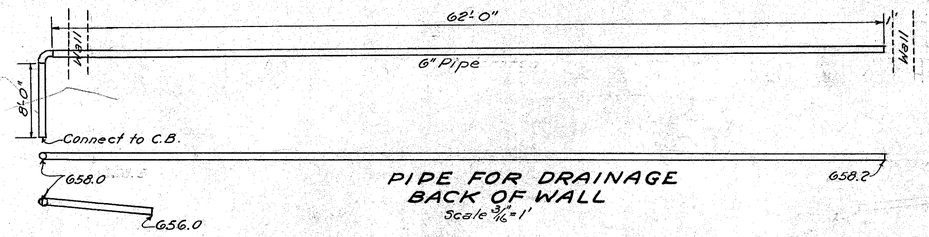
Note:- See Sheet No. 103 for details



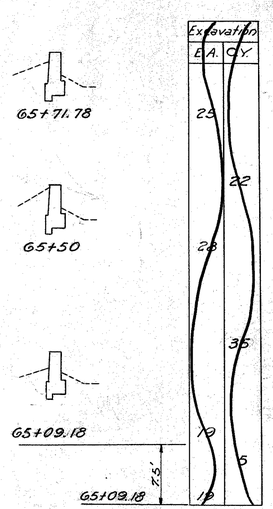
PLAN SHOWING RELATION OF RETAINING WALL TO ℄ OF SURVEY
Scale 1" = 20'



ELEVATION



PIPE FOR DRAINAGE BACK OF WALL
Scale 3/16" = 1'



STEEL LIST

Mark	Bar No	Shape	Spacing	No	Length	Weight
W5a	5	Straight	3'-0" c/c	27	3'-9"	106
W5b	5	"	2'-0" c/c	8	18'-6"	154
W5c	5	"	2'-0" c/c	4	24'-4"	102
W5d	5	Bent	2'-0" c/c	4	10'-2"	42
W5e	5	"	2'-0" c/c	4	9'-0"	38
F5a	5	Bent	3'-0" c/c	27	6'-5"	181
F5b	5	"	1'-0" c/c	73	2'-5"	190
F5c	5	Straight	As shown	10	10'-0"	104
F5d	5	"	" "	3	22'-4"	70
F5e	5	"	" "	3	21'-9"	68
F5f	5	Bent	2'-0" c/c	4	8'-3"	35
RE5	5	Straight		2	5'-3"	11
* T5a	5	Bent	As shown	44	4'-10"	214
					Total	1315
* Included in price bid per lin. ft. of Railing						214
					Total for Wall	1101

ESTIMATED QUANTITIES

Structure Excavation	50 Cu. Yds.
Concrete for Structures (Class "E")	34 Cu. Yds.
Reinforcing Steel	1101 Lbs.
6" Pipe Underdrain	62 Lin. Ft.
6" Outlet Pipe for Underdrain	8 Lin. Ft.
Pipe Special 6" Elbow for Underdrain	1 Each
Porous Backfill	10 Cu. Yds.
Railing - Steel with Concrete Posts	74.5 Lin. Ft.
12"x 1/2" Premolded Sealing Strip	12 Lin. Ft.

1-W

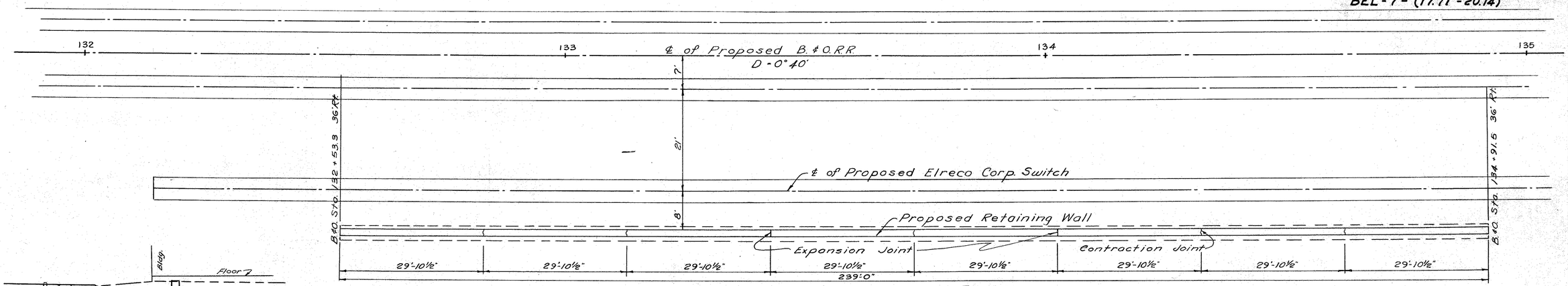
Note - See Sheet No. 103 for Details

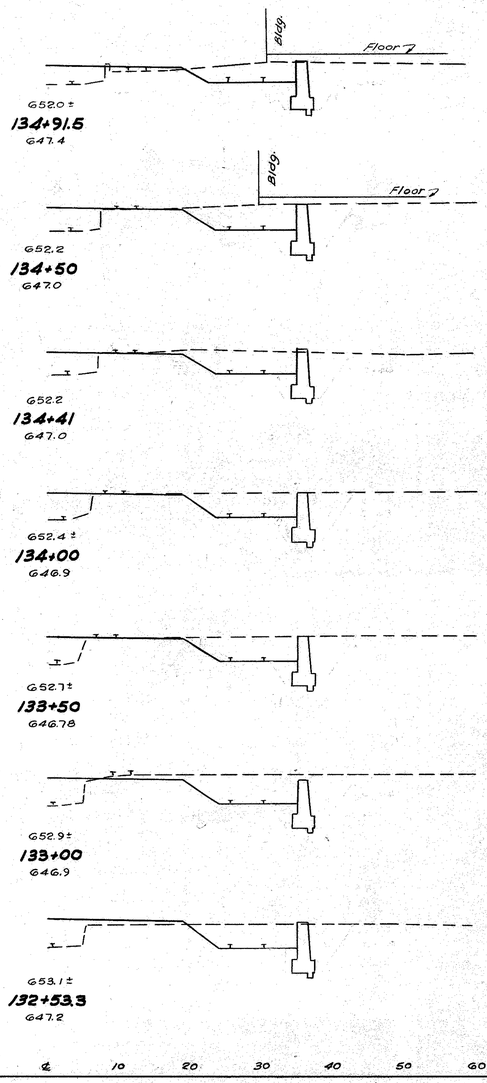
RETAINING WALL RT. STA. 103+00 & 65+50

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

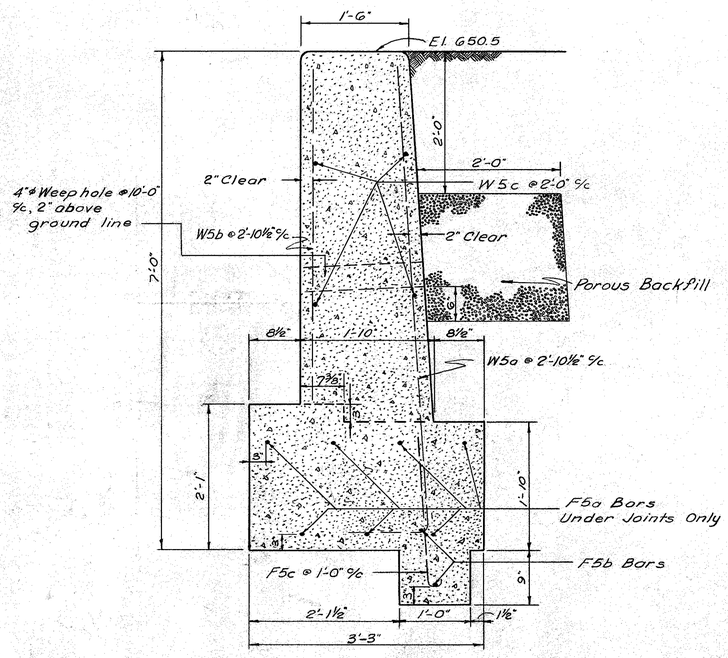
105/164

BEL-7-(17.71-20.14)

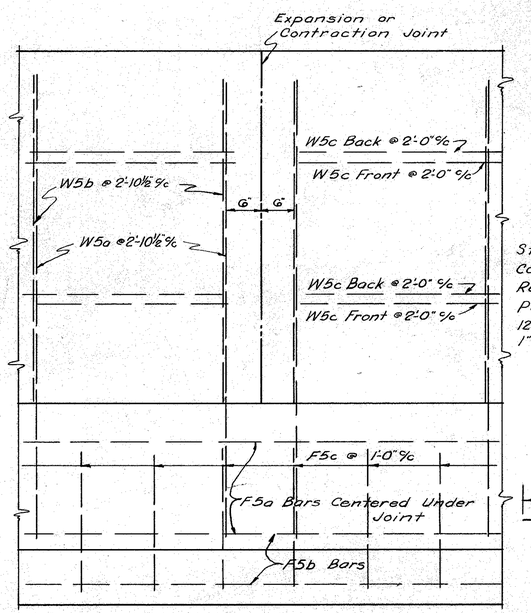




Excavation	
E.A.	C.Y.
50	0
	81
56	
	17
46	
	71
48	
	92
51	
	97
54	
	88
48	



SECTION
Scale 1" = 1'-0"



FRONT ELEVATION
Scale 1" = 1'-0"

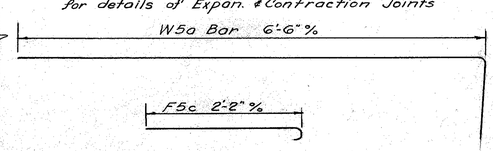
STEEL LIST

Mark	Bar N°	Shape	Spacing	No.	Length	Weight-Lbs.
W5a	5	Bent	3'-0" ℄	96	7'-6"	751
W5b	5	Straight	"	96	4'-8"	467
W5c	5	"	2'-0" ℄	32	29'-6"	985
F5a	5	Straight	As Shown	49	10'-0"	511
F5b	5	"	"	16	29'-6"	492
F5c	5	Bent	1'-0" ℄	240	2'-9"	688
RE5	5	Straight		2	5'-7"	12
					Total	3907

ESTIMATED QUANTITIES

Structure Excavation	290 Cu. Yds.
Concrete for Structures "Class E"	137 Cu. Yds.
Reinforcing Steel	3907 Lbs.
Porous Backfill	31 Cu. Yds.
12"x½" Premolded Sealing Strip	36 Lin. Ft.
1" Premolded Expansion Joint	15 Sq. Ft.

NOTE :- See Standard Drwg. RW 45 for details of Expan. & Contraction Joints



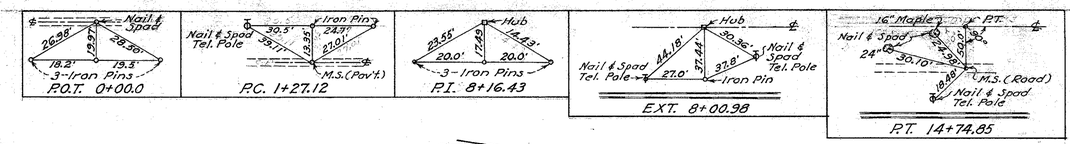
2-W

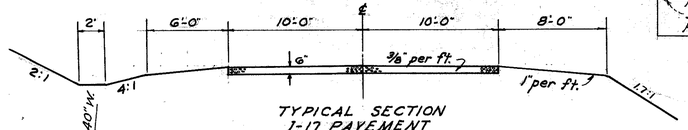
RETAINING WALL AT ELRECO CORP. PLANT

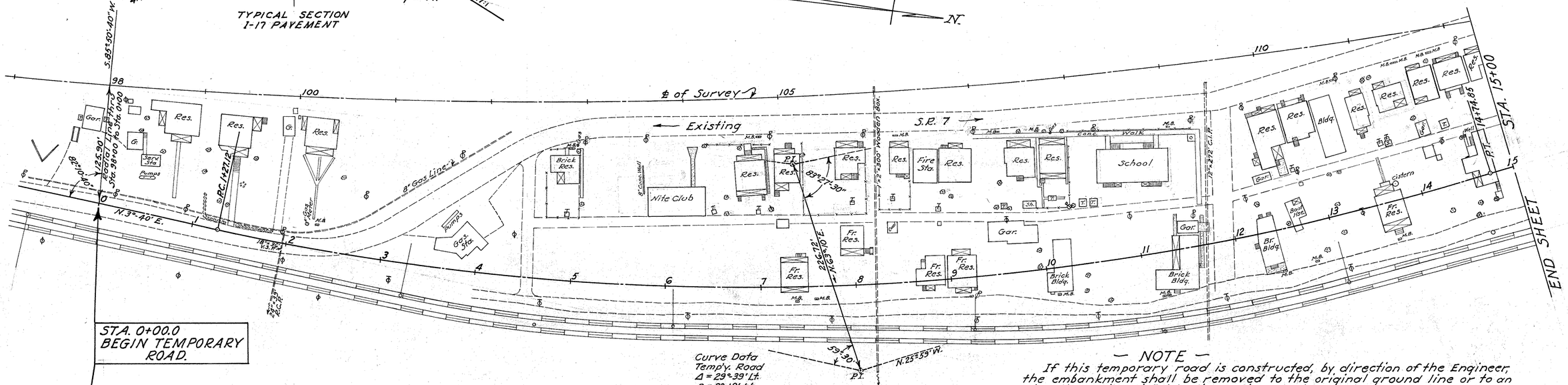
FED. ROAD DIVISION	STATE	PROJECT	TYPE PHASE
2	OHIO		

106
164

BEL-7-(17.71-20.14)



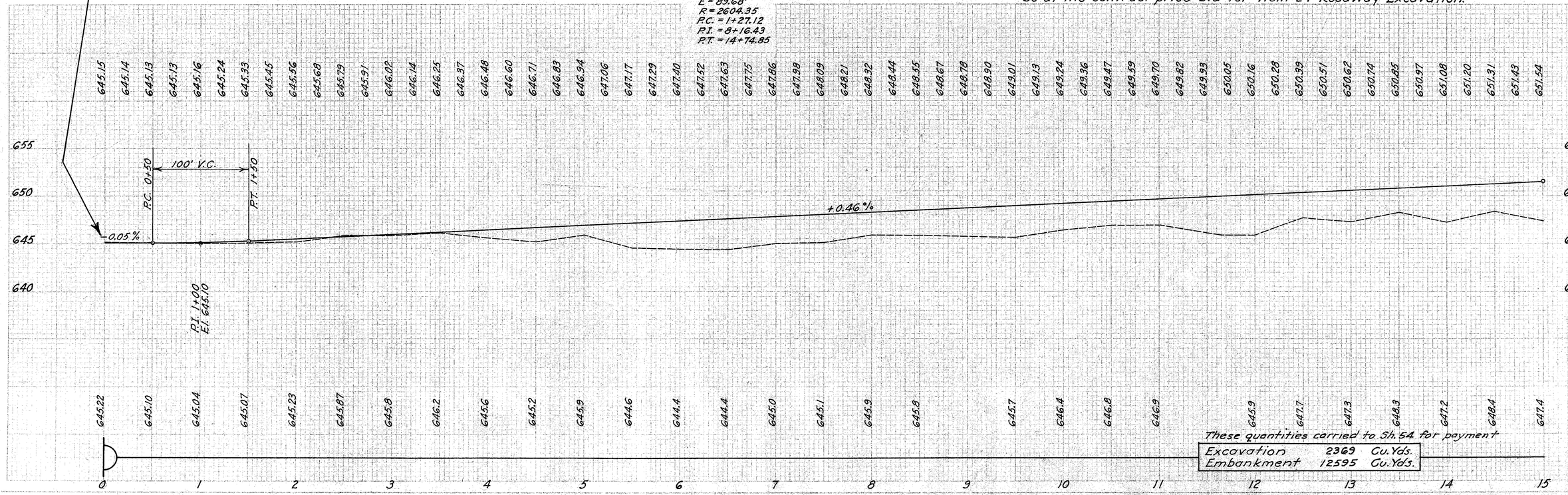




Curve Data
Temp'y. Road
Δ = 29°-39' Lt.
D = 2°-12' Lt.
T = 689.31'
L = 1347.73'
E = 89.68'
R = 2604.35
P.C. = 1+27.12
P.I. = 8+16.43
P.T. = 14+74.85

— NOTE —

If this temporary road is constructed, by direction of the Engineer, the embankment shall be removed to the original ground line or to an elevation determined by the Engineer when no longer needed, and used as embankment for the main project. Payment for such removal shall be at the contract price bid for Item E-1 Roadway Excavation.



These quantities carried to Sh. 54 for payment

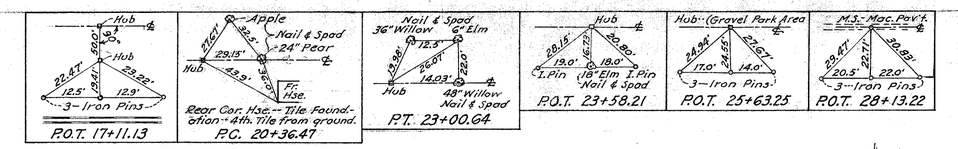
Excavation	2369	Cu. Yds.
Embankment	12595	Cu. Yds.

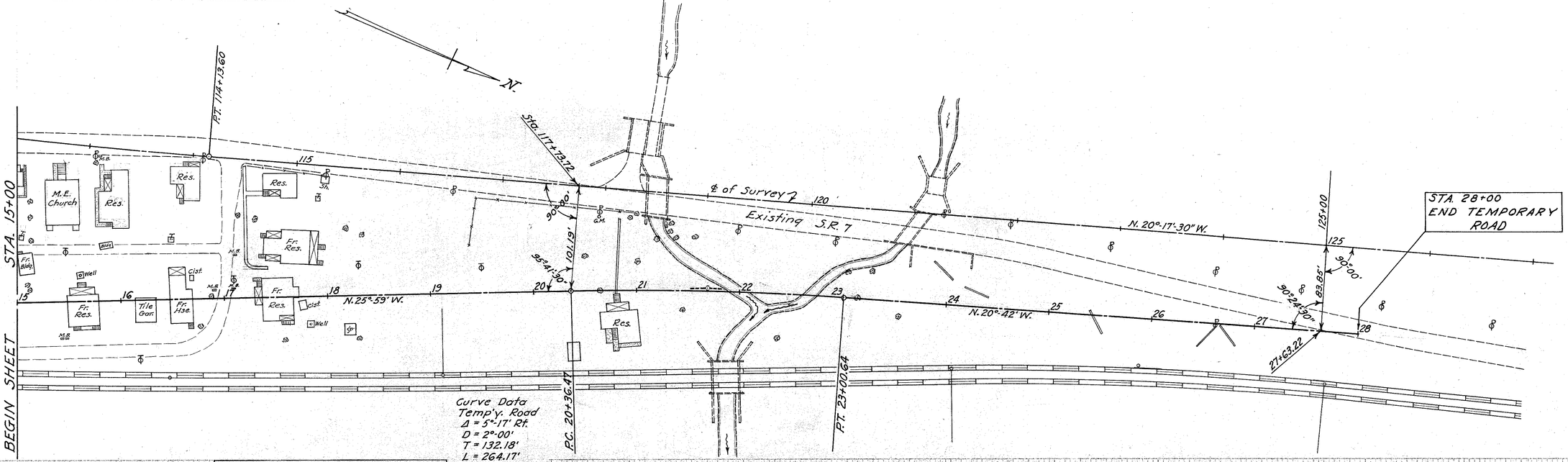
TEMPORARY ROAD -- STA. 0+00 to STA. 15+00

FED. AID DIVISION	STATE	PROJECT	SHEET NUMBER
2	OHIO		

107
164

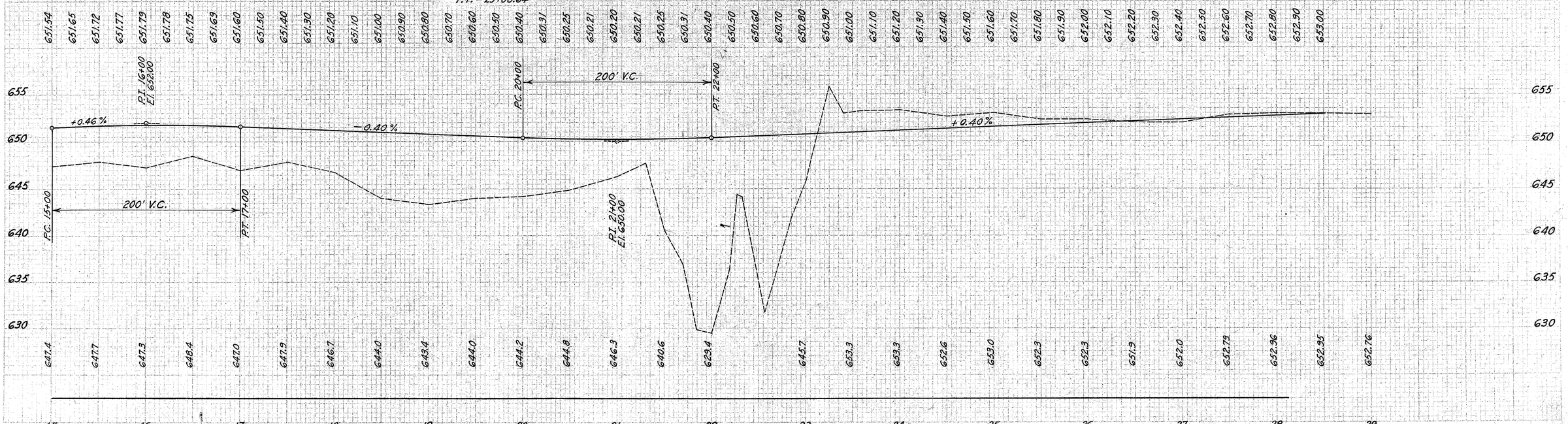
BEL-7-(17.71-20.14)





Curve Data
Temp'y. Road
Δ = 5°-17' Rt.
D = 2°-00'
T = 132.18'
L = 264.17'
E = 3.05'
R = 2864.93'
P.C. = 20+36.47
P.I. = 21+68.65
P.T. = 23+00.64

B.M. --- Sta. 21+85 --- 85' Rt.
Bronze Tablet in B.&O. R.R. Bridge
Abut. over Moore's Run.
ELEV. 646.40

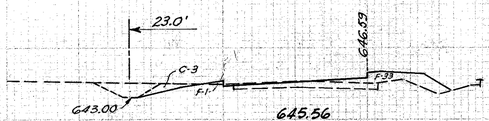


TEMPORARY ROAD -- STA. 15+00 TO STA. 28+00

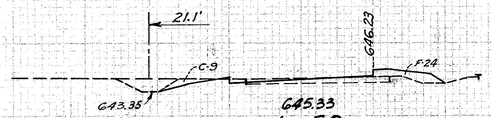
STATE	PROJECT	SHEET NO.
OHIO		108 / 164

BEL-7-(17.71 - 20.14)

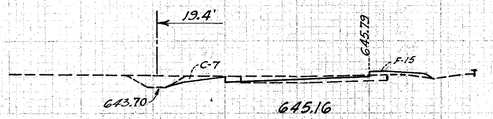
End Area		Cu. Yds.	
Cut	Fill	Exc.	Emb.
		18	42
6	34		
		14	54
9	24		
		15	36
7	15		
		14	24
8	11		
		9	13
2	3		



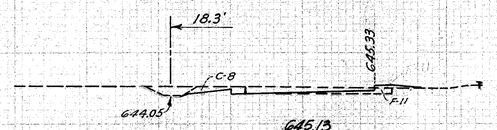
645.56
2+00
645.23



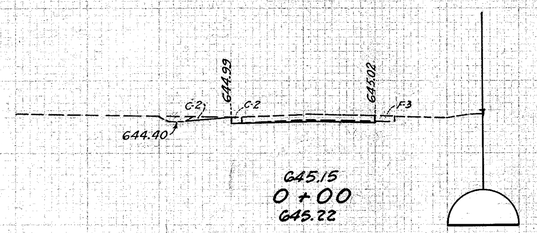
645.33
1+50
645.07



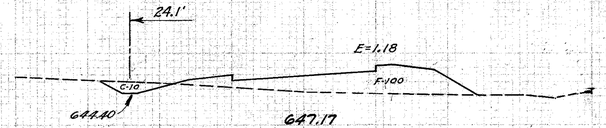
645.16
1+00
645.04



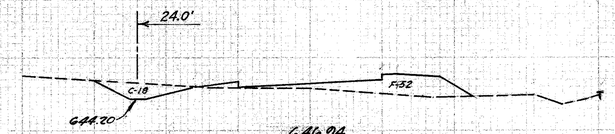
645.13
0+50
645.10



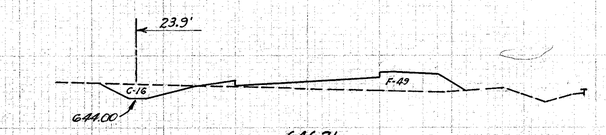
645.15
0+00
645.22



647.17
5+50
644.55

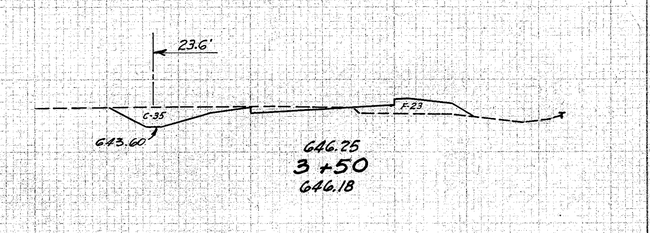


646.94
5+00
645.89

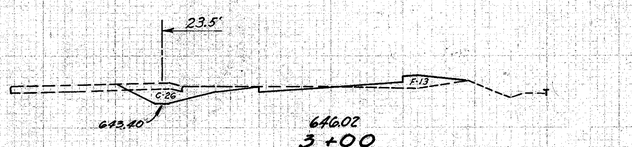


646.71
4+50
645.23

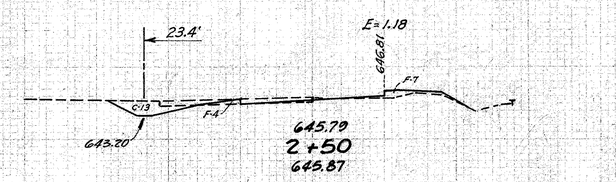
646.48
4+00
645.6



646.25
3+50
646.18

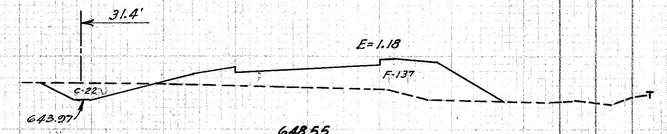


646.02
3+00
645.78

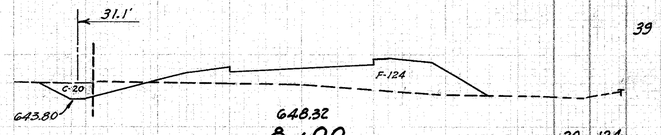


645.79
2+50
645.87

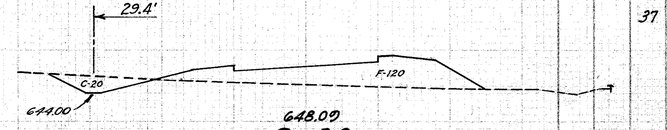
End Area		Cu. Yds.	
Cut	Fill	Exc.	Emb.
		17	193
10	100		
		26	141
18	52		
		31	94
16	49		
		30	76
16	33		
		47	52
35	23		
		56	33
26	13		
		36	22
13	11		



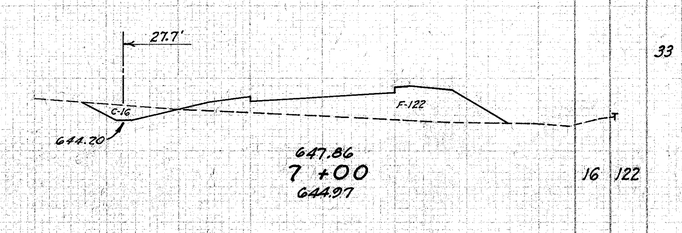
648.55
8+50
645.78



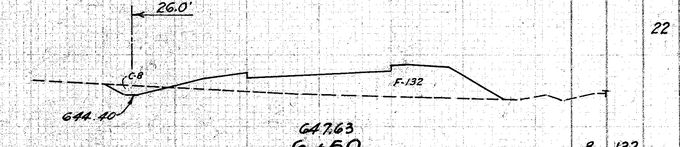
648.32
8+00
645.86



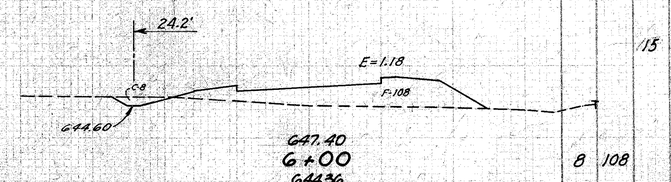
648.09
7+50
645.08



647.86
7+00
644.97



647.63
6+50
644.36



647.40
6+00
644.36

End Area		Cu. Yds.	
Cut	Fill	Exc.	Emb.
		63	517
		22	137
		39	242
		20	124
		37	226
		20	120
		33	224
		16	122
		22	235
		8	132
		15	222
		8	108

TEMPORARY ℄ --- STA. 0+00 TO 8+50

SHEET NO.	STATE	PROJECT	FILE NUMBER
2	OHIO		

109
164

BEL-7-(17.71-20.14)

	End Area		Cu. Yds.	
	Cut	Fill	Exc.	Emb.
650.39 12+50 647.67			39	246
650.16 12+00 645.87	15	129		
650.00 11+65 645.86			25	295
649.70 11+00 646.93	12	190		
649.47 10+50 646.8			13	242
649.24 10+00 646.4	8	183		
649.01 9+50 645.7			30	353
651.79 16+00 647.32	17	110		
651.72 15+49 647.78			20	209
651.54 15+00 647.41	5	116		
651.31 14+50 648.43			8	237
651.08 14+00 647.21	4	140		
650.85 13+50 648.3			15	261
650.62 13+00 647.33	12	142		
650.80 19+00 643.36			0	287
651.00 18+50 644.01			0	261
651.20 18+00 646.72			0	167
651.40 17+50 647.85			6	135
651.60 17+00 646.99			2	168
651.75 16+48 648.47			19	116

	End Area		Cu. Yds.	
	Cut	Fill	Exc.	Emb.
651.79 16+00 647.32			29	252
651.72 15+49 647.78	14	168		
651.54 15+00 647.41			31	304
651.31 14+50 648.43	19	154		
651.08 14+00 647.21			36	300
650.85 13+50 648.3	21	177		
650.62 13+00 647.33			52	282
650.80 19+00 643.36			0	494
651.00 18+50 644.01			0	287
651.20 18+00 646.72			0	507
651.40 17+50 647.85			0	261
651.60 17+00 646.99			0	396
651.75 16+48 648.47			0	167
	35	128		
	56	255	6	280
	26	147	6	135
	68	239	7	281
	47	111	2	168
	69	230	20	273
	27	137	19	116

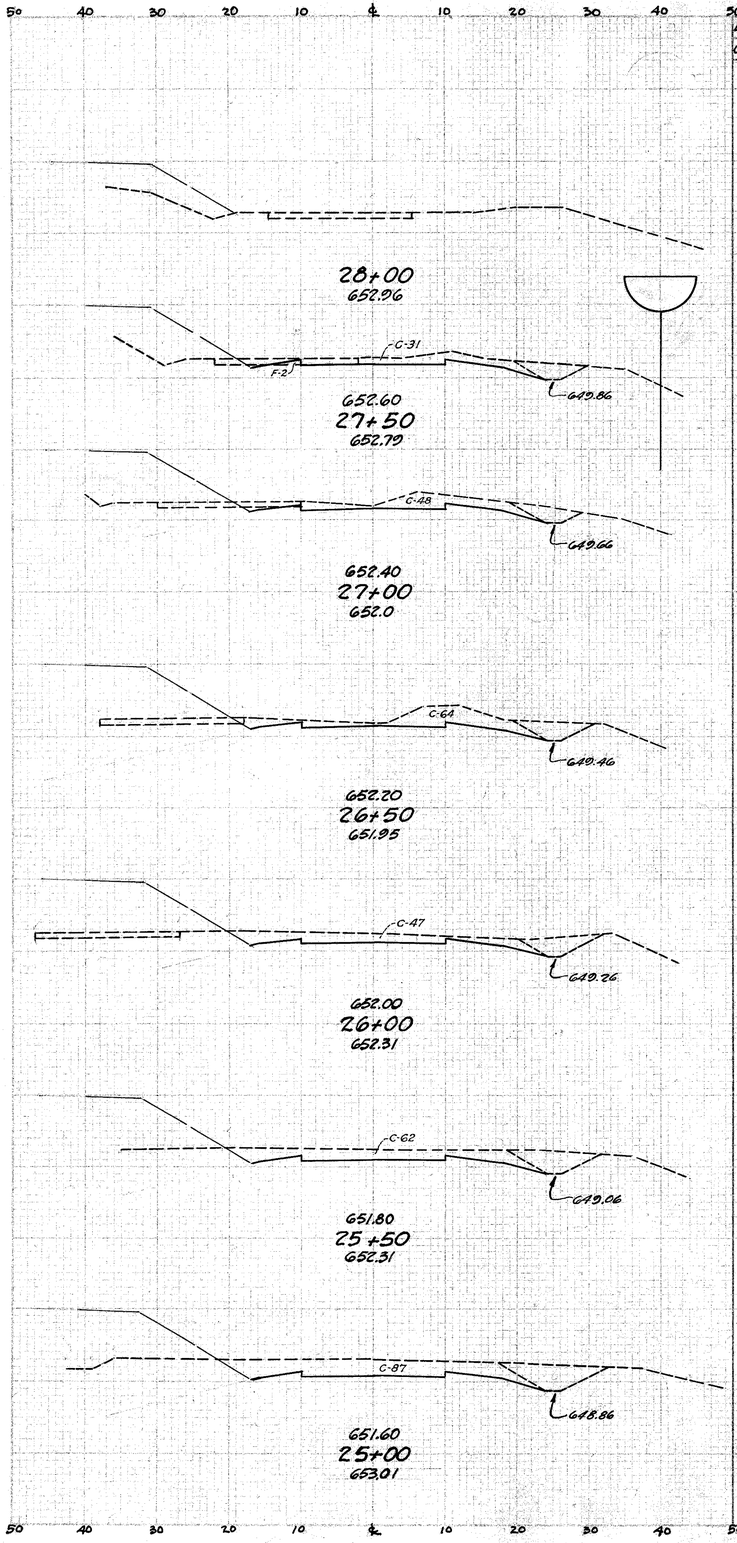
TEMPORARY ROAD -- STA. 9+50 TO 19+00

BEL-7-(17.71-20.14)

	End Area		Cu. Yds.	
	Cut	Fill	Exc.	Emb.
650.25 21+50 640.61	0	591		
	0	385		
650.22 21+30 647.69	0	193		
	0	134		
650.20 21+00 646.29	0	153		
	0	141		
650.25 20+50 644.79	0	328		
	0	213		
650.40 20+00 644.17	0	407		
	0	227		
650.60 19+50 644.02	0	439		
	0	247		
650.62 22+56 631.7	0	477		
	0	438		
650.53 22+32 644.20	0	396		
	0	452		
650.48 22+19 636.54	0	297		
	0	781		
650.40 22+00 629.4	0	505		
	0	654		
650.34 21+84 629.8	0	358		
	0	553		
651.40 24+50 652.63			156	0
			82	0
651.20 24+00 653.3			200	0
			134	0
651.03 23+58 653.19			198	0
			120	0
651.00 23+50 653.31			34	0
			111	0
650.90 23+25 655.87			119	0
			146	0
650.80 23+00 645.74			68	69
			0	148

Excavation	2369 Cu. Yds.
Embankment	12,595 Cu. Yds.

TEMPORARY ROAD -- STA. 19+50 TO 24+50



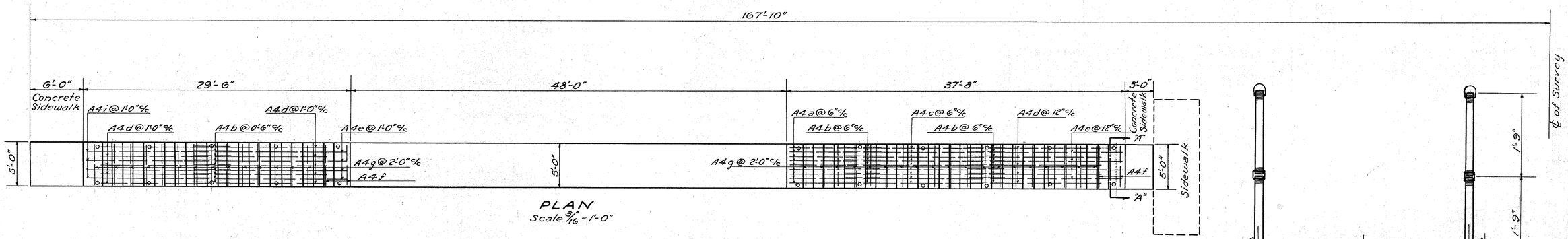
End Area		Cu. Yds.	
Cut	Fill	Exc.	Emb.
0	0		
		29	0
31	2		
		73	0
48	0		
		104	0
64	0		
		103	0
47	0		
		101	0
62	0		
		138	0
87	0		

TEMPORARY ROAD -- STA. 25+00 TO STA. 28+00

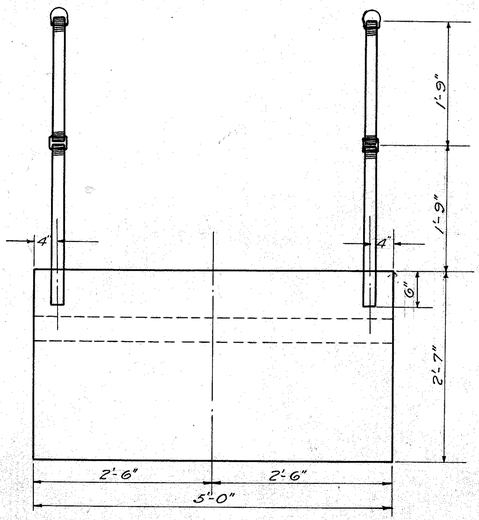
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

112
164

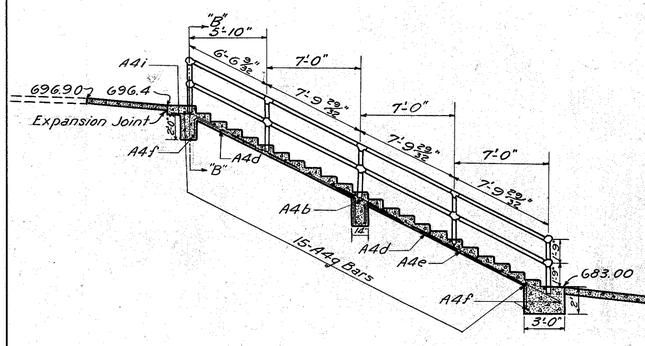
BEL-7-(17.71-20.14)



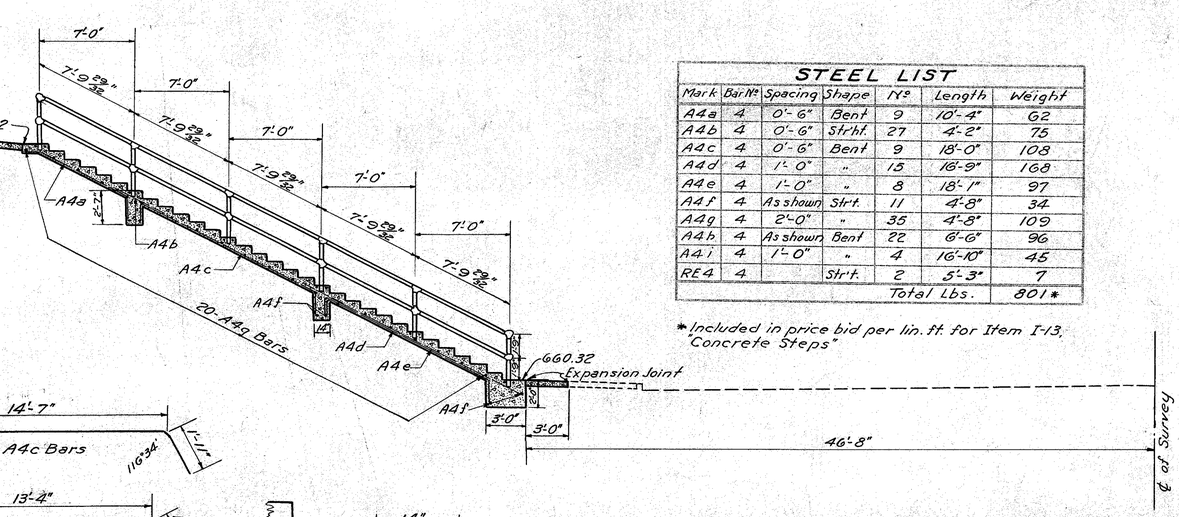
PLAN
Scale 3/16" = 1'-0"



SECTION "A"-"A"



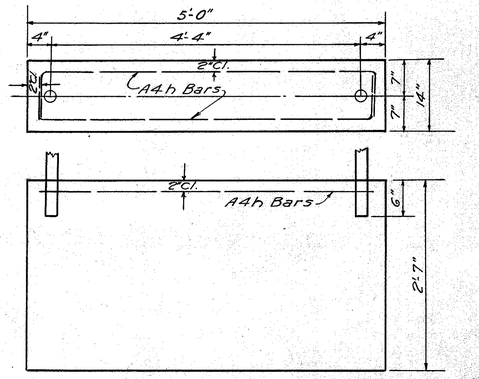
ELEVATION



STEEL LIST

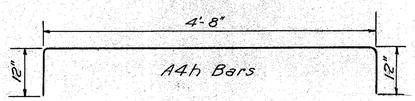
Mark	Bar No.	Spacing	Shape	No.	Length	Weight
A4a	4	0'-6"	Bent	9	10'-4"	62
A4b	4	0'-6"	Str.ht.	27	4'-2"	75
A4c	4	0'-6"	Bent	9	18'-0"	108
A4d	4	1'-0"	"	15	16'-9"	168
A4e	4	1'-0"	"	8	18'-1"	97
A4f	4	As shown	Str.t.	11	4'-8"	34
A4g	4	2'-0"	"	35	4'-8"	109
A4h	4	As shown	Bent	22	6'-6"	96
A4i	4	1'-0"	"	4	16'-10"	45
RE4	4		Str.t.	2	5'-3"	7
				Total Lbs.		801*

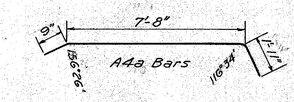
*Included in price bid per lin. ft. for Item I-13, "Concrete Steps"

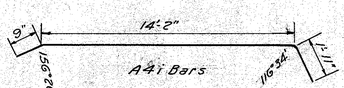


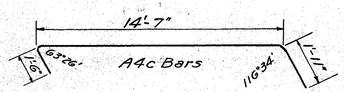
SECTION "B"-"B"

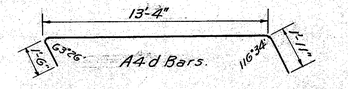
Note:- Reinforcing Steel arrangement in step, applies to all steps where Railing Standards are set.

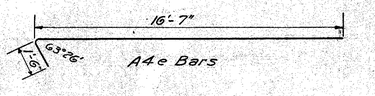


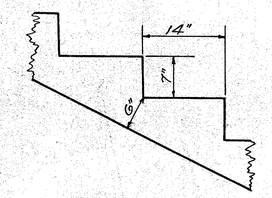












STEP DETAIL

ESTIMATED QUANTITIES

I-13 4" Concrete Sidewalk	28.5 Sq. Ft.
I-13 7"x14"x5'-0" Concrete Steps	26.5 Lin. Ft.
S-14 1½" Welded Wrought Iron Pipe Railing.	13.9 Lin. Ft.

CONCRETE STEPS LT. STA. 65+50

CITY OF BELLAIRE, BELMONT CO., OHIO VAL.SECT. 1-OH-122.1(ST-1a) & 1-OH-122.2 (2 & 3)

FED. RD. DIVISION	STATE			
2	OHIO			

112-A
164

BELMONT COUNTY
BEL-7-(17.71-20.14)

PLAN

Scale: 1 in = 200 ft.

Temporary N&B Xover to be installed and removed

PERTH LANE

℄ S.R. 7 RELOCATION

Existing pipe drains to be replaced with an 8'x4' conc. box culvert to be built by others, R.R. forces to place & remove necessary temporary sheeting

Existing grade crossing to be removed and relocated

Temporary grade crossing constructed as needed

East to Bellaire

BEG. OF RELOCATION Sta 1+00 EQUALS 92+83.3 AHEAD

Proposed Curve D = 0° 10' ±

LOCUST ST.

HILL ST.

ELM ST.

ROAD CROSSING TO BE REMOVED

TODD'S RUN

PROP 24" R.C.P.

PROP 18" R.C.P.

℄ C.&P. R.R. RELOCATION

EXISTING S.R. 7

ROAD CROSSING TO BE REMOVED

Existing East Bound Main ℓ

To be relocated as shown

Existing West Bound Main ℓ To be relocated as shown

West Bound Track B&O R.R.

East Bound Track B&O R.R.

PROP 24" R.C.P.

PROP 30" R.C.P.

PROP 36" R.C.P.

PROPOSED ACCESS ROAD

Proposed Curve D = 0° 40' ±

HIGH ST.

THIRD ST.

SECOND ST.

FIRST ST.

ROAD CROSSING TO BE REMOVED

ROAD CROSSING TO BE REMOVED

137+79 P.S. #10 for existing siding

T-2403 D. Siding and Turnout to be replaced as shown.

℄ Pro Relocated West Bound

℄ Pro Relocated East Bound

U.S. GOVERNMENT HARBOR LINE

OHIO

RIVER

PROP 24" R.C.P.

THE ELKCO CORP.

Proposed treated timber crib Wall

Relocated siding T-2403 D

Temporary Track to be built & removed

Temporary track to be relocated for 556' T-2403 D

138+05 P.S. #10 Relocated for 556' T-2403 D

WHISKEY RUN

Temporary #8 Turnouts to be installed & removed

R.E. forces to remove north concrete parapet from bridge deck and waterproof exposed concrete.

Construct & Remove temporary grade crossing

BRIDGE No. 109
1 Span Conc-Metal

℄ S.R. 7 RELOCATION

℄ 146+16.56 ±

Proposed Curve D = 1° 30

148+74.82 END OF RELOCATION

Temporary N&B Xover to be installed, reversed and removed

TC 150+ ±

520

℄ 155+ ±

D = 1° 30

West to Holloway

INSERT

TRACKWORK VIC. B&ORR STA. 220

Scale: 1 in = 100 ft.

N

Existing interchange track to be relocated by R.R. Forces. Major portion of work to be done by P.R.R. Forces

ST.

ST.

LINCOLN AVE

155 156 157 158 159 160 161 162

Existing Interchange track

BENNETT

HOWARD

Val.Sect.1-OH-122.1 (ST.1a)

West to Holloway

225

B&O Wheeling Lonain Line

C&P RR 7

Existing C&P RR

Proposed C&P RR

B&O River Branch 7

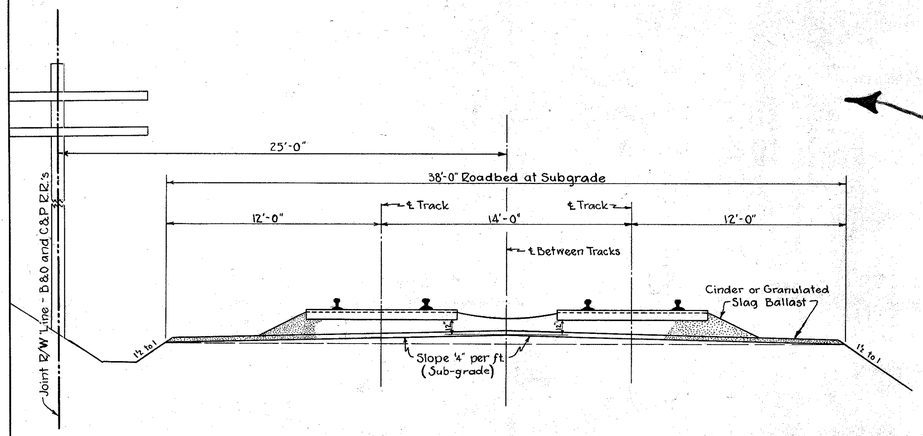
West to Martins Ferry

Val. Sect. 1-OH-122.2 (5)

220

East to Bellaire

OHIO RIVER



TYPICAL ROADBED AND BALLAST SECTION
Looking West toward Holloway
Scale: 1 in = 4 ft.

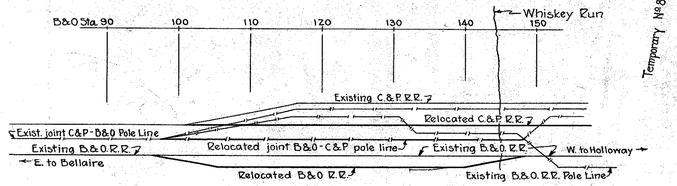


DIAGRAM OF SIGNAL AND COMMUNICATION CHANGES

NOTE: The major portion of this work will be done by the Pennsylvania R.R. Co.

THE BALTIMORE AND OHIO SYSTEM
THE BALTIMORE AND OHIO RAILROAD CO.
WHEELING DIV. BELLAIRE, O.

RAILROAD FORCE ACCOUNT PLAN
ACCT.- RELOCATION OF STATE ROUTE 7

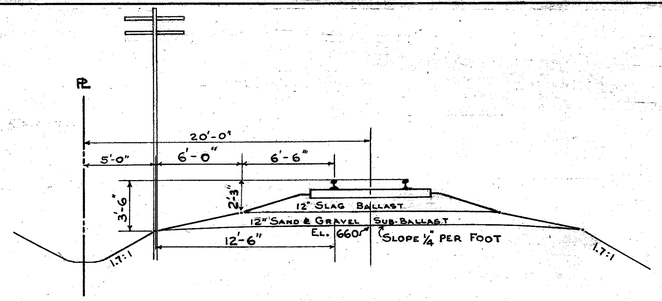
Scale: As shown May 14, 1954
Office of Regional Engineer
Pittsburgh, Pa.
16241

File 4040

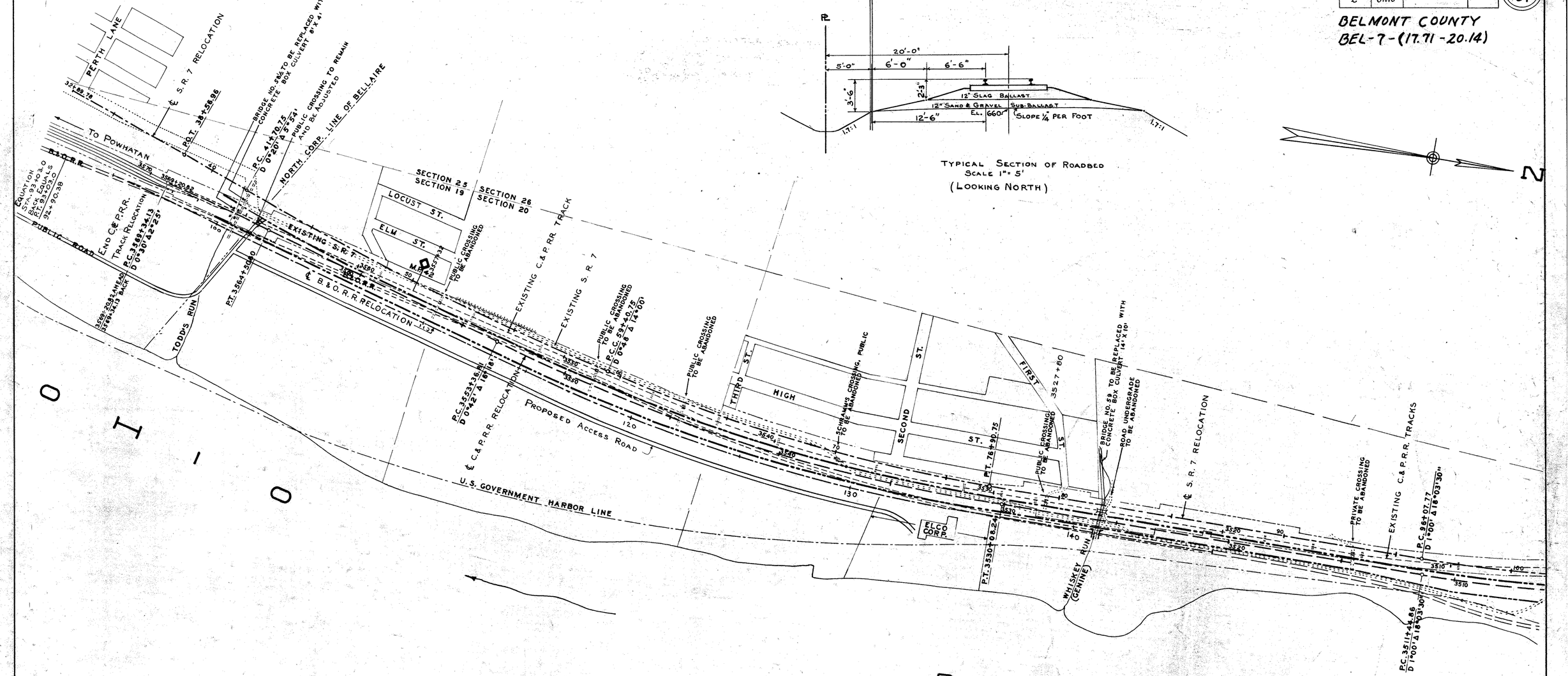
FED. RD. DIVISION	STATE		
2	OHIO		

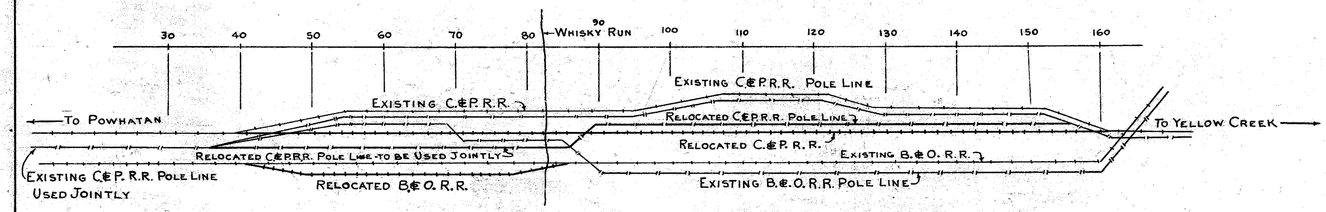
112-B / 164

BELMONT COUNTY
BEL-7-(17.71-20.14)



TYPICAL SECTION OF ROADBED
SCALE 1" = 5'
(LOOKING NORTH)





POLE DIAGRAM

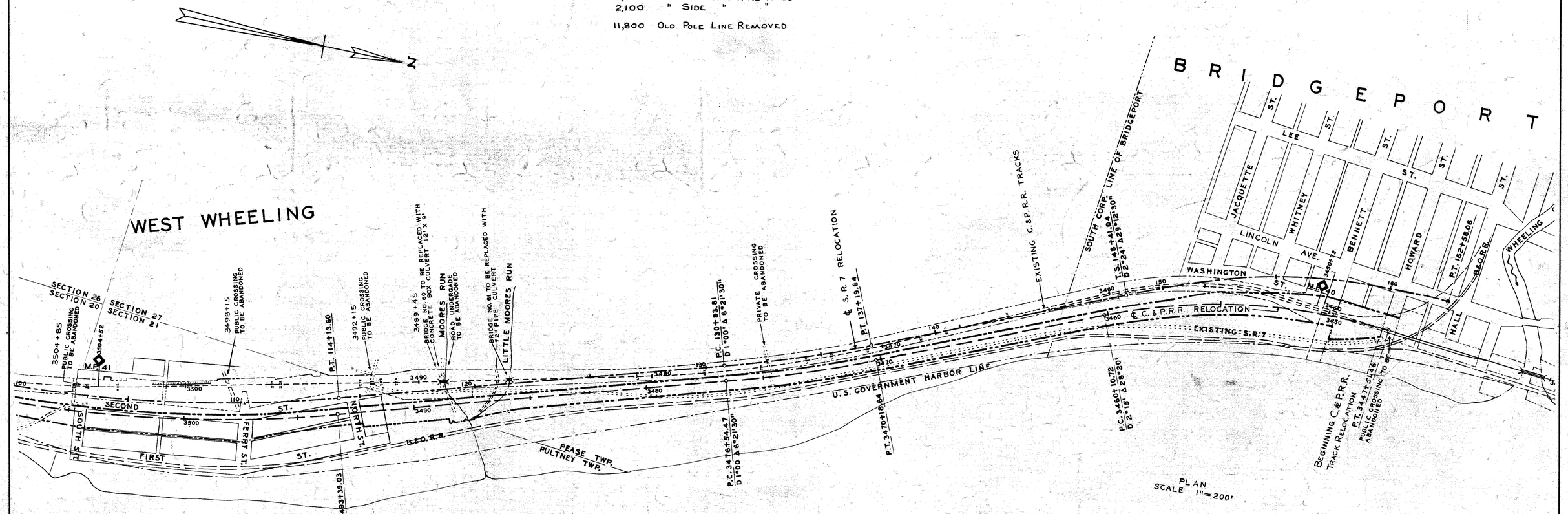
THE PENNSYLVANIA RAILROAD
CENTRAL REGION PANHANDLE DIVISION
BRIDGEPORT TO BELLAIRE, OHIO
CHANGES IN TRACK AND WIRE LINES TO FACILITATE RECONSTRUCTION OF STATE ROUTE NO. 7
SCALE 1" = 200' MARCH 26, 1954
OFFICE OF THE CHIEF ENGINEER CENTRAL REGION
PITTSBURGH, PA.
PLAN NO. 25563 SHEET 1 OF 2

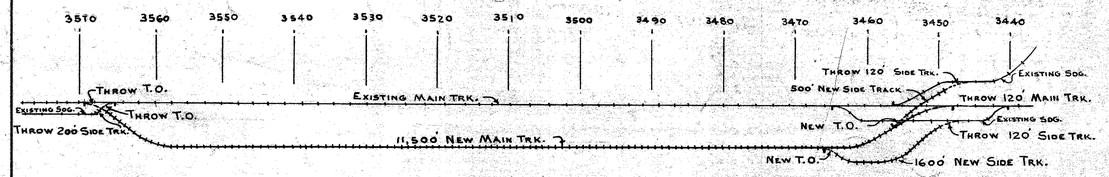
FED. RD. DIVISION	STATE			112-C 164
2	OHIO			

BELMONT COUNTY
BEL-7 - (17.71-20.14)

ESTIMATED QUANTITIES

11,500'	NEW MAIN TRACK CONSTRUCTED INCLUDING 2 TURNOUTS
2,100	" SIDE "
560	MAIN TRACK THROWN
440	SIDE " " INCLUDING 1 TURNOUT
1	PAVED HIGHWAY CROSSING
11,800	NEW POLE LINE
11,500	OLD MAIN TRACK REMOVED
2,100	" SIDE " "
11,800	OLD POLE LINE REMOVED





TRACK DIAGRAM

THE PENNSYLVANIA RAILROAD
CENTRAL REGION PANHANDLE DIVISION
BRIDGEPORT TO BELLAIRE, OHIO
CHANGES IN TRACK AND WIRE LINES TO FACILITATE RECONSTRUCTION OF STATE ROUTE NO. 7
SCALE 1"= 200' MARCH 26, 1954
OFFICE OF THE CHIEF ENGINEER CENTRAL REGION
PITTSBURGH, PA.

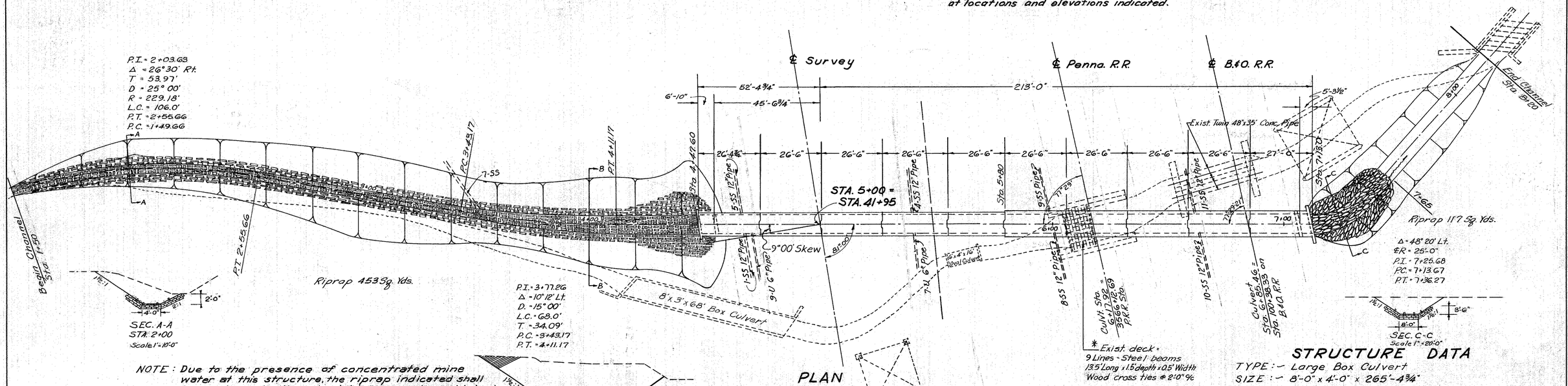
PLAN NO. 25563 SHEET 2 OF 2

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

113
164

BEL.-7-(17.71 - 20.14)

Note : Provide openings in side of box culvert for drainage pipes at locations and elevations indicated.



NOTE : Due to the presence of concentrated mine water at this structure, the riprap indicated shall be constructed with paving brick 3 course deep obtained from the existing pavement. In the top course a brick shall be placed on end, to protrude above the surface every foot at random position in each direction to retard the velocity. All joints shall be filled with Portland Cement Mortar.

* Exist. deck :
9 Lines - Steel I beams
135' Long x 1.5' depth x 0.5' Width
Wood cross ties @ 2'-0" c/c

STRUCTURE DATA

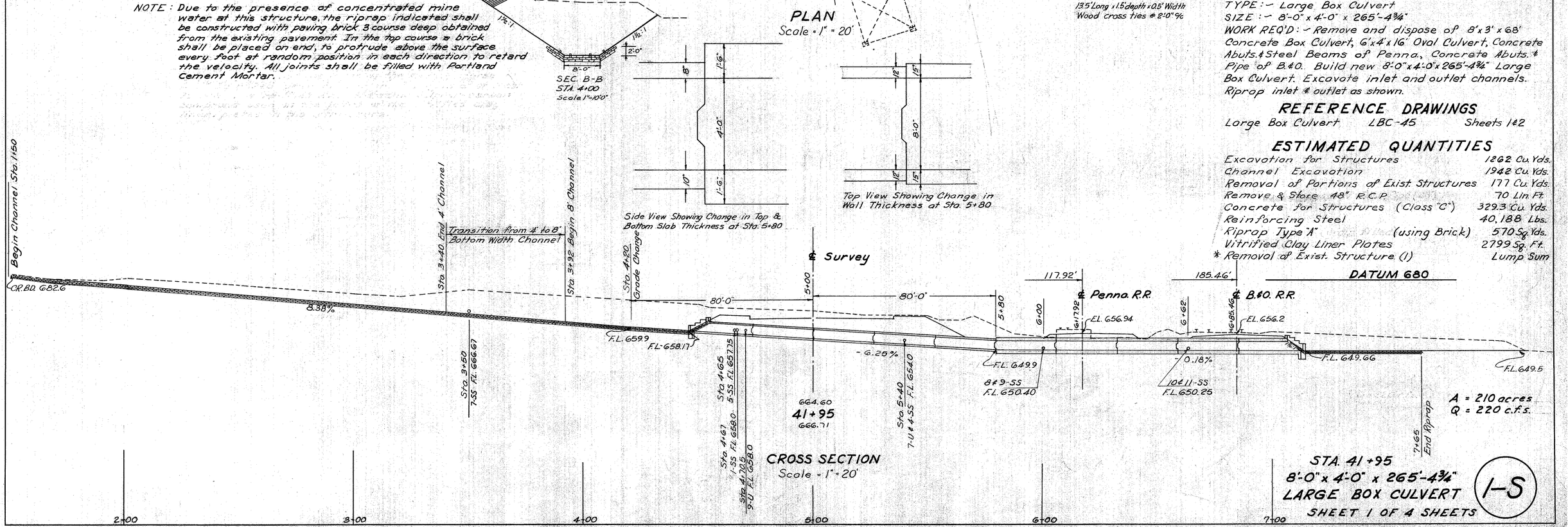
TYPE :- Large Box Culvert
SIZE :- 8'-0" x 4'-0" x 265'-4¾"
WORK REQ'D :- Remove and dispose of 8'x3'x68' Concrete Box Culvert, 6'x4'x16' Oval Culvert, Concrete Abuts.& Steel Beams of Penna., Concrete Abuts.& Pipe of B.&O. Build new 8'-0"x4'-0"x265'-4¾" Large Box Culvert. Excavate inlet and outlet channels. Riprap inlet & outlet as shown.

REFERENCE DRAWINGS

Large Box Culvert LBC-45 Sheets 1&2

ESTIMATED QUANTITIES

Excavation for Structures	1262 Cu. Yds.
Channel Excavation	1942 Cu. Yds.
Removal of Portions of Exist. Structures	177 Cu. Yds.
Remove & Store 48" R.C.P.	70 Lin. Ft.
Concrete for Structures (Class "C")	329.3 Cu. Yds.
Reinforcing Steel	40,188 Lbs.
Riprap Type "A" (using Brick)	570 Sq. Yds.
Vitrified Clay Liner Plates	2799 Sq. Ft.
* Removal of Exist. Structure (1)	Lump Sum



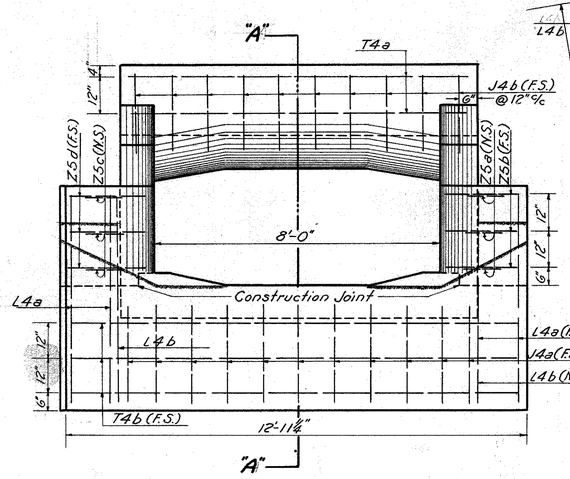
STA. 41+95
8'-0" x 4'-0" x 265'-4¾"
LARGE BOX CULVERT
SHEET 1 OF 4 SHEETS

1-S

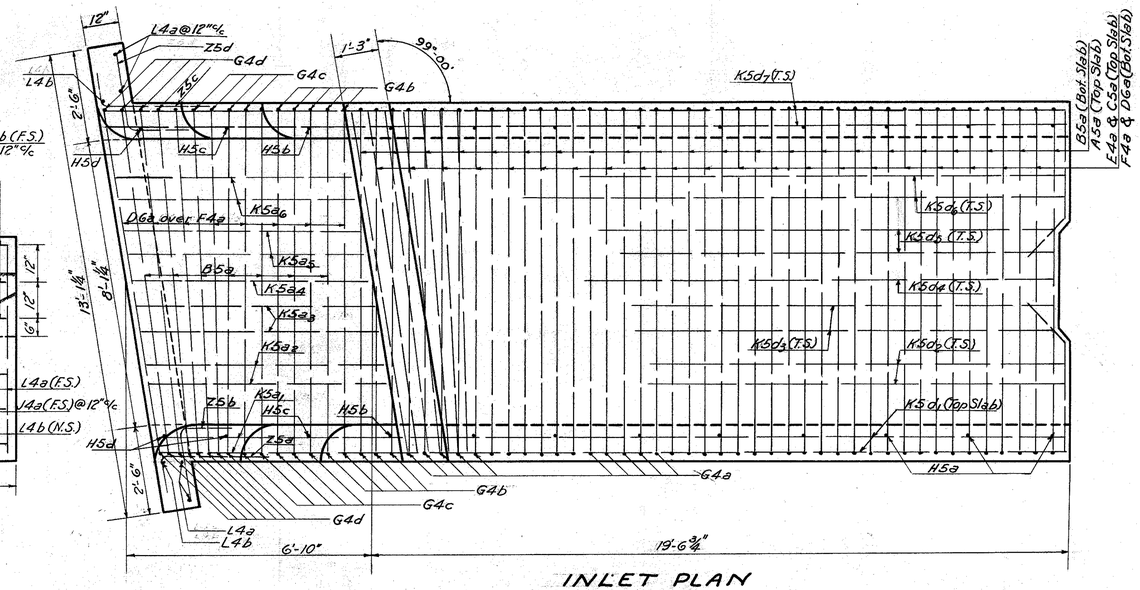
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

114/164

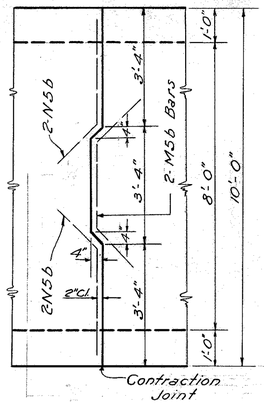
BEL-7-(17.71-20.14)

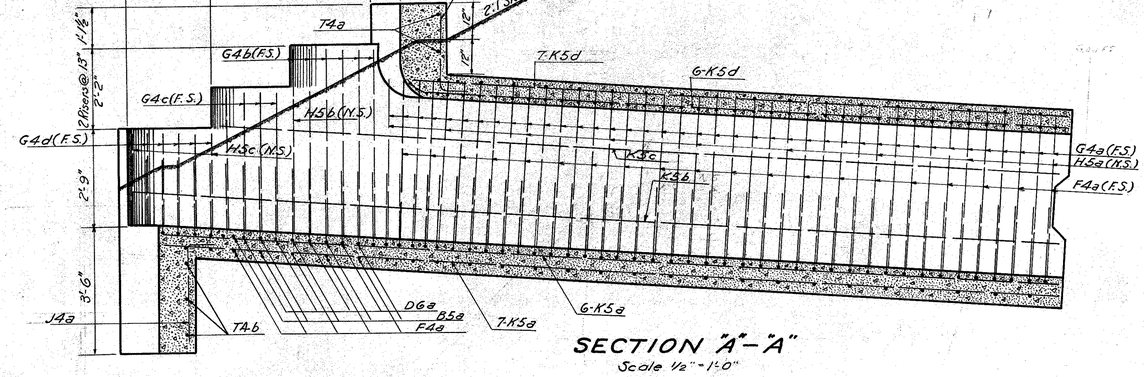


INLET END VIEW

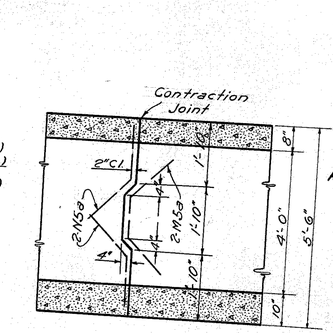


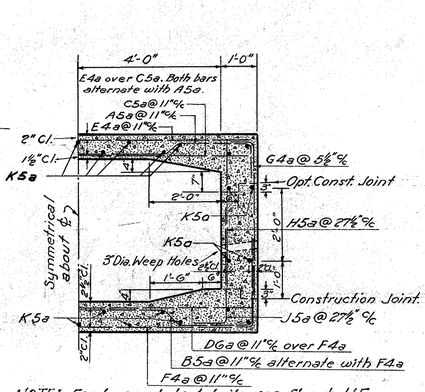
INLET PLAN
Scale ½" = 1'-0"





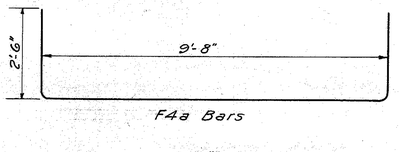
SECTION "A"-"A"
Scale ½" = 1'-0"



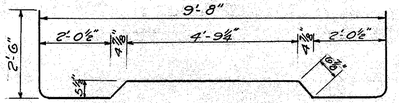


NOTE: For liner plate details see Sheet 115.

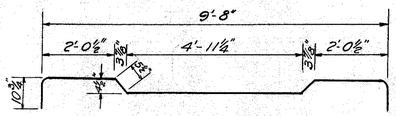
HALF SECTION THRU BARREL
Scale ½" = 1'-0"



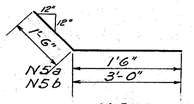
F4a Bars



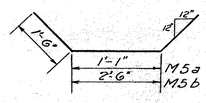
B5a Bars



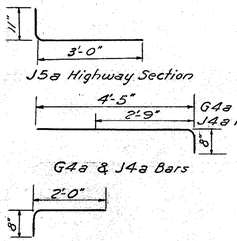
A5a Bars

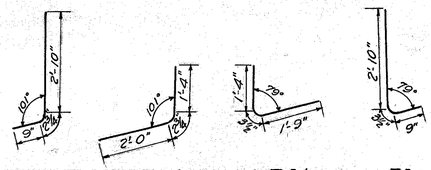


N Bars



M Bars





Z5c Z5d Z5b Z6a

STA. 41+95
8'x4' BOX CULVERT

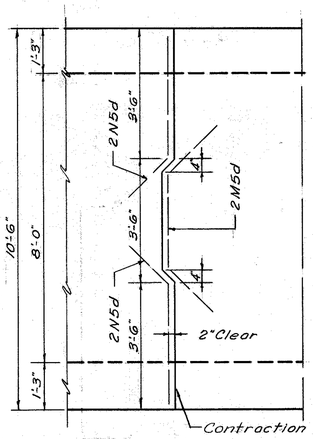
SHEET 2 OF 4 SHEETS

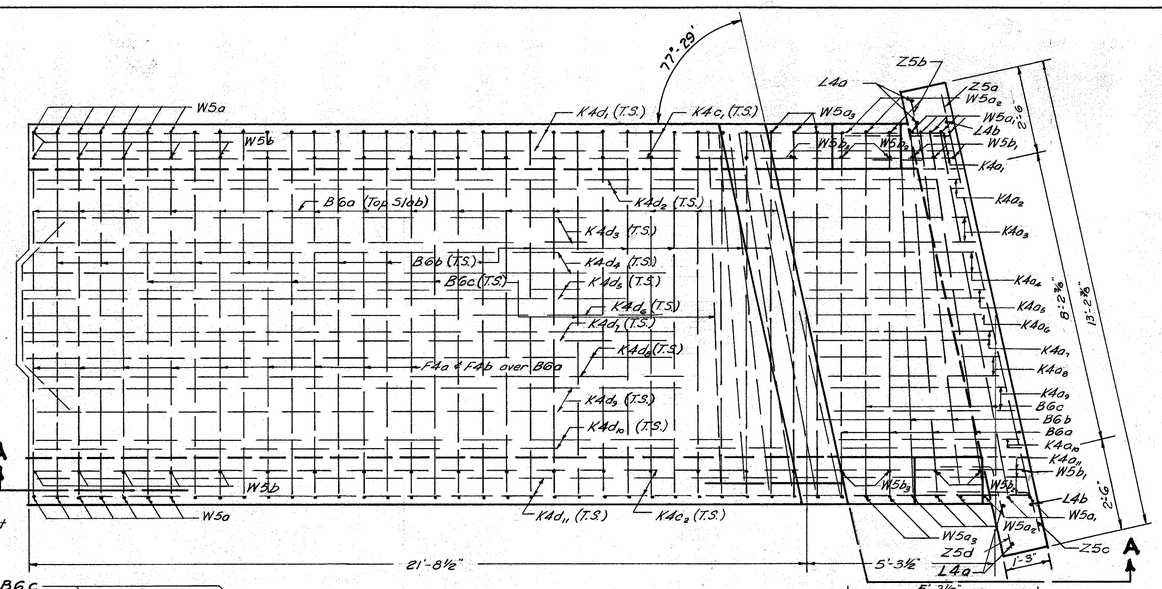
HIGHWAY SECTION DETAILS

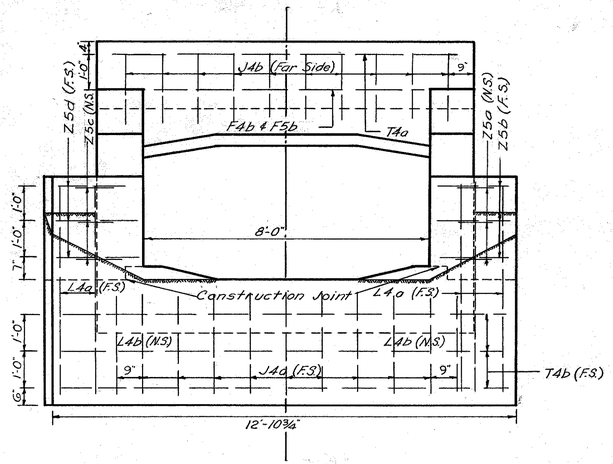
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

115
164

BEL.-7-(17.71-20.14)

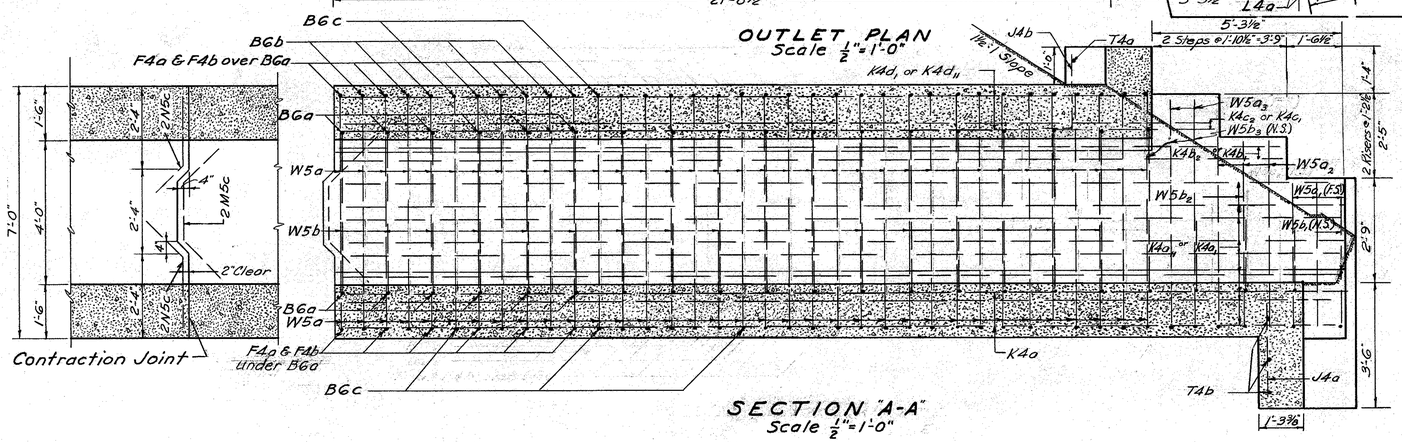




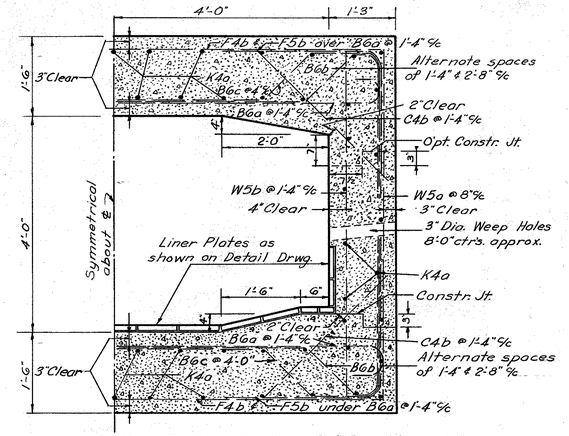


OUTLET END VIEW

OUTLET PLAN
Scale ½"=1'-0"



SECTION "A-A"
Scale ½"=1'-0"

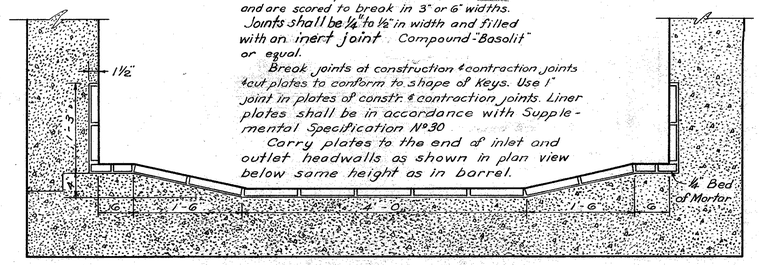


HALF SECTION THRU BARREL
Scale ¾"=1'-0"

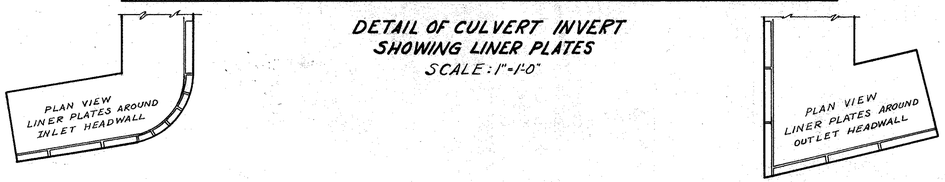
NOTE: Liner plate dimensions are 9"x18"x1⅛" and are scored to break in 3" or 6" widths. Joints shall be ¼" to ½" in width and filled with an inert joint Compound "Basolit" or equal.

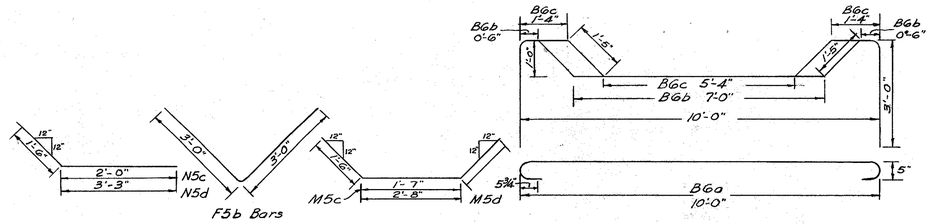
Break joints at construction & contraction joints & cut plates to conform to shape of Keys. Use 1" joint in plates of constr. & contraction joints. Liner plates shall be in accordance with Supplemental Specification N°.30

Carry plates to the end of inlet and outlet headwalls as shown in plan view below same height as in barrel.



DETAIL OF CULVERT INVERT SHOWING LINER PLATES
SCALE: 1"=1'-0"





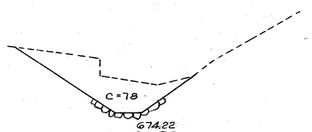
STA. 41+95
8'x4' BOX CULVERT
SHEET 3 OF 4 SHEETS

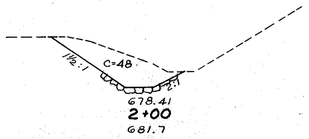
RAILROAD SECTION DETAILS

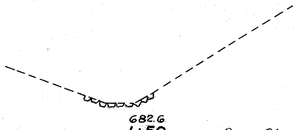
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

116
164

BEL.-7- (17.71 - 20.14)

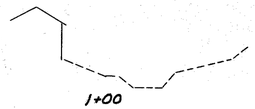


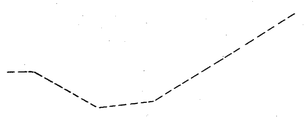


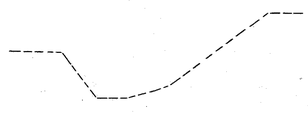


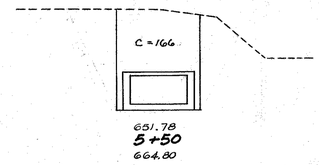
Beg. Channel
Beg. Riprap

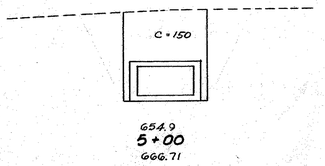
Excavation E.A.	Excavation C.Y.
78	117
48	44
0	

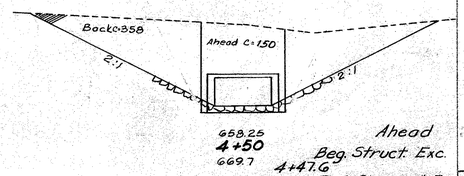




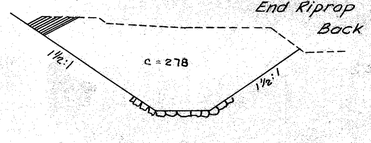


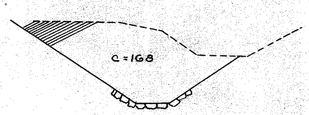


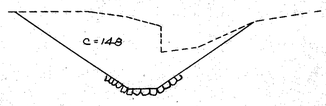


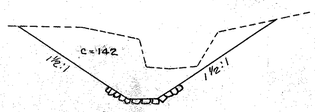


Ahead
Beg. Struct. Exc.
4+47.6
End Channel Exc.
End Riprap
Back



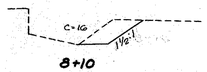


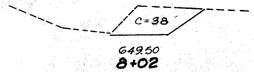




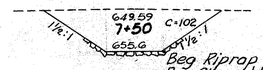
Excavation E.A.	Excavation C.Y.
166	293
150	291
150	
358	561
278	
413	
168	
181	
148	
102	
142	
204	

End Channel Exc.
Sta. 8+20

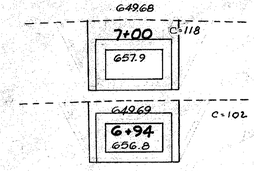


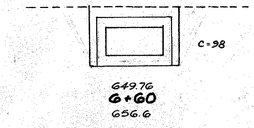


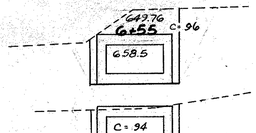
End Riprap
Sta. 7+65

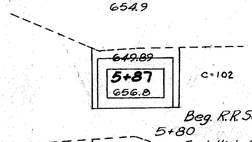


Beg. Riprap
Beg. Channel Exc.
7+13
End Struct. Exc.

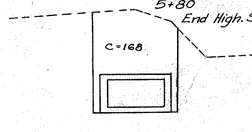








Beg. R.R Sect.
5+80
End High. Sect.



Excavation E.A.	Excavation C.Y.
0	3
16	
8	
38	
135	
102	174
152	Ahead
112	Back
55	
118	
25	
102	
126	
98	18
96	
60	
94	
185	
102	
85	
168	
124	

Total Channel Exc. 1942 Cu. Yds.
Total Struct. Exc. 1262 Cu. Yds.

STEEL LIST HIGHWAY SECTION

Mark	Bar Nº	Shape	Spacing	Nº	Length	Weight
A5a	5	Bent	11"%	138	11'-5"	1643
B5a	5	Bent	11"%	145	14'-9"	2231
C5a	5	Straight	11"%	133	9'-6"	1818
D6a	6	Straight	11"%	141	9'-6"	2012
E4a	4	Straight	11"%	133	9'-6"	844
F4a	4	Bent	11"%	141	14'-5"	1358
G4a	4	Bent	5⅛"%	547	5'-0"	1827
G4b	4	Straight	"	10	5'-0"	34
G4c	4	"	"	10	8'-9"	25
G4d	4	"	"	13	2'-6"	22
H5a	5	Straight	27⅛"%	113	4'-1"	481
H5b	5	"	"	2	4'-9"	10
H5c	5	"	"	2	3'-6"	7
H5d	5	"	"	3	2'-3"	7
J5a	5	Bent	27⅛"%	120	3'-9"	469
J4a	4	Bent	As Shown	22	3'-4"	49
J4b	4	"	"	20	2'-7"	34
K5a	5	Straight	As Shown	136	26'-2"	3712
K5a1	5	"	"	2	25'-0"	52
K5a2	5	"	"	2	25'-4"	53
K5a3	5	"	"	2	25'-3"	52
K5a4	5	"	"	1	25'-4"	27
K5a5	5	"	"	2	25'-7"	54
K5a6	5	"	"	2	26'-2"	55
K5a7	5	"	"	2	26'-6"	55
K5b1	5	Straight	As Shown	2	24'-10"	52
K5b2	5	"	"	2	26'-7"	56
K5c1	5	Straight	As Shown	2	22'-9"	48
K5c2	5	"	"	2	24'-4"	51
K5d1	5	Straight	As Shown	2	18'-4"	38
K5d2	5	"	"	2	18'-9"	39
K5d3	5	"	"	2	18'-8"	39
K5d4	5	"	"	1	19'-9"	20
K5d5	5	"	"	2	19'-0"	40
K5d6	5	"	"	2	19'-7"	41
K5d7	5	"	"	2	19'-11"	42
L Bars are found in turnback wingwalls						
L4a	4	Straight	As Shown	4	5'-9"	15
L4b	4	"	"	2	5'-9"	8
M&N Bars are found in Contraction Joints						
M5a	5	Bent	As Shown	20	4'-1"	85
M5b	5	"	"	20	5'-6"	115
N5a	5	"	"	40	3'-0"	125
N5b	5	"	"	40	4'-6"	188
T Bars are found in cut-off & headwalls						
T4a	4	Straight	As Shown	2	9'-9"	13
T4b	4	"	"	3	12'-6"	25
Z Bars are found in turnback wingwalls						
Z5a	5	Bent	As Shown	3	3'-11"	12
Z5b	5	"	"	3	3'-5"	11
Z5c	5	"	"	3	3'-10"	12
Z5d	5	"	"	3	3'-7"	11
RE - Replacement bars						
RE4	4	Straight		1	6'-6"	4
RE5	5	"		1	7'-2"	7
RE6	6	"		1	7'-8"	12
			Sub-Total			17540

STEEL LIST RAILROAD SECTION

Mark	Bar Nº	Shape	Spacing	Nº	Length	Weight
B6a	6	Bent	1'-4"%	200	11'-4"	3403
B6b	6	"	1-4"&2'-8"%	138	16'-6	3420
B6c	6	"	4'-0"	60	16'-6"	1487
C4b	4	Straight	1'-4"%	400	3'-3"	868
F4b	4	Straight	1'-4"%	200	10'-0"	1336
F5b	5	Bent	1'-4"%	200	6'-0"	1252
W5a	5	Straight	8"%	386	6'-6"	2617
W5a1	5	"	"	8	3'-9"	31
W5a2	5	"	"	6	5'-0"	31
W5a3	5	"	"	6	6'-3"	33
W5b	5	Straight	1'-4"%	193	6'-6"	1308
W5b1	5	"	"	4	3'-9"	16
W5b2	5	"	"	4	5'-0"	21
W5b3	5	"	"	3	6'-3"	20
K4a	4	Straight	As Shown	288	26'-2"	5034
K4a1	4	"	"	10	25'-7"	171
K4a2	4	"	"	2	26'-10"	35
K4a3	4	"	"	3	26'-2"	52
K4a4	4	"	"	2	26'-4"	35
K4a5	4	"	"	2	26'-10"	36
K4a6	4	"	"	1	27'-0"	18
K4a7	4	"	"	2	27'-2"	36
K4a8	4	"	"	2	27'-0"	36
K4a9	4	"	"	3	27'-2"	54
K4a10	4	"	"	2	27'-6"	37
K4a11	4	"	"	10	27'-10"	186
K4b1	4	Straight	As Shown	3	24'-0"	48
K4b2	4	"	"	3	26'-5"	53
K4c1	4	Straight	As Shown	2	22'-1"	30
K4c2	4	"	"	2	24'-4"	33
K4d1	4	Straight	As Shown	2	20'-4"	27
K4d2	4	"	"	2	20'-8"	28
K4d3	4	"	"	3	20'-10"	42
K4d4	4	"	"	2	21'-2"	28
K4d5	4	"	"	2	21'-7"	29
K4d6	4	"	"	1	21'-9"	15
K4d7	4	"	"	2	21'-10"	29
K4d8	4	"	"	2	21'-11"	29
K4d9	4	"	"	3	22'-0"	44
K4d10	4	"	"	2	22'-8"	30
K4d11	4	"	"	2	22'-6"	30
L Bars are found in turnback wingwalls						
L4a	4	Straight	As Shown	4	5'-9"	15
L4b	4	"	"	2	5'-9"	8
M&N Bars are found in Contraction Joints						
M5c	5	Bent	As Shown	16	4'-7"	77
M5d	5	"	"	16	5'-8"	95
N5c	5	"	"	32	3'-6"	117
N5d	5	"	"	32	4'-9"	159
T Bars are found in cut-off & headwalls						
T4a	4	Straight	As Shown	2	9'-9"	13
T4b	4	"	"	3	12'-6"	25
Z Bars are found in turnback wingwalls						
Z5a	5	Bent	As Shown	3	3'-11"	12
Z5b	5	"	"	3	3'-5"	11
Z5c	5	"	"	3	3'-10"	12
Z5d	5	"	"	3	3'-7"	11
RE - Replacement bars						
RE4	4	Straight		1	6'-6"	5
RE5	5	"		1	7'-2"	8
RE6	6	"		1	7'-8"	12
			Sub-Total			22648
			Grand Total			40188

STA 41+95
8'x4' BOX CULVERT
SHEET 4 OF 4 SHEETS

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

BEL-7-(17.71 - 20.14)

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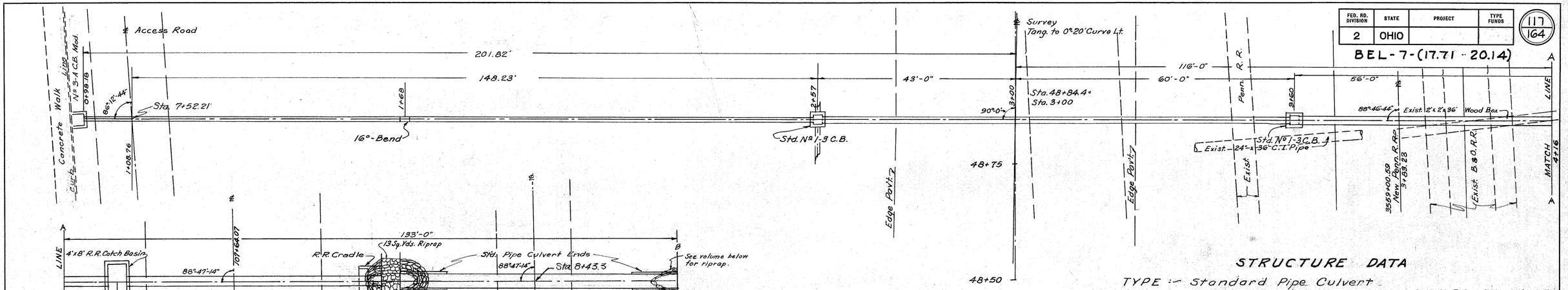

STRUCTURE DATA

TYPE :- Standard Pipe Culvert
SIZE :- 21" x 100' & 36" x 60' Std'd pipe culvert; 24" x 129' R.R. strength culv.
WORK REQ'D :- Remove and store 24" x 36' C.I. Pipe. Remove 2' x 2' x 36' Wd. Box Culv. Build Std'd No 3-A C.B. left of access road with 12" x 169'-6" storm sewer outlet pipe connecting to No 1-3 C.B. in left highway ditch. Construct 21" x 100' Std'd pipe culv. under highway, connect to Std'd No 1-3 C.B. in rt. highway ditch. Build 24" x 64' R.R. strength pipe culv. under P.R.R. and connect to R.R.C.B. in common R.R. ditch. Build 24" x 55' R.R. strength pipe culv. under B & O.R.R. with R.R. pipe culv. end as shown at outlet. Build 36" x 60' Std'd pipe culv. under access road right with std'd pipe culv. ends. Riprap inlet and outlet ends as shown and construct outlet channel as indicated.

REFERENCE DRAWING

Pipe Culverts	S-27 P.C. 2 & 3
Catch Basins	I-8 C.B. 1-3 & 3-A

ESTIMATED QUANTITIES

E-2 Structure Excavation	65 Cu. Yds.
E-3 Channel Excavation	75 Cu. Yds.
S-27 21" Pipe for Roadway Culverts	100 Lin. Ft.
S-27 36" Pipe for Roadway Culverts	60 Lin. Ft.
S-27 24" Pipe for Culverts (R.R. Strength)	129 Lin. Ft.
I-2 12" Storm Sewer Outlet Pipe	167 Lin. Ft.
I-5 Pipe Specials 12" x 16° Bend	1 Each
I-8 No 3-A Catch Basin	1 Each
I-8 Std'd No 1-3 Catch Basin	2 Each
⊗ I-8 No 4-B R.R. Catch Basin (as per plan)	1 Each
I-10 Riprap Type "A" Grout Filled	23 Sq. Yds.
⊗ S-1 Conc. for Structures (Class "E")	5.6 Cu. Yds.
⊗ S-4 Reinforcing Steel	78 Lbs.
⊗ E-12 24" C.I. Pipe Remove and Store	36 Lin. Ft.
S-24 Removal of Existing 2' x 2' Wd. Box Culvert	Lump Sum

⊗ NOTE: Existing pipe under R.R. to be removed and stored on R.R. R/W for disposal by R.R. See Plan Sheet No 118 for details of No 4-B Railroad Catch Basin. See Plan Sheet No 118 for details of R.R. Cradle

STA. 48+84.4
21" x 100'-0" PIPE CULVERT
36" x 60'-0" PIPE CULVERT
24" x 129'-0" PIPE CULVERT (R.R.)

3-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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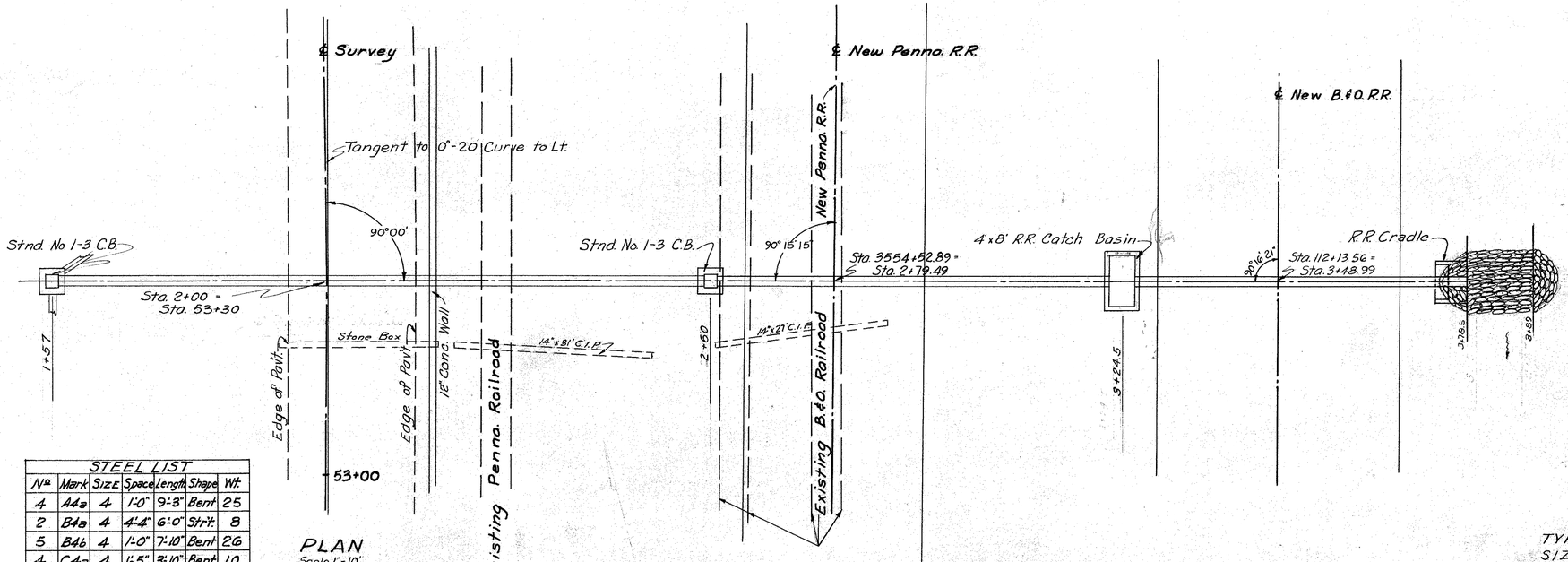
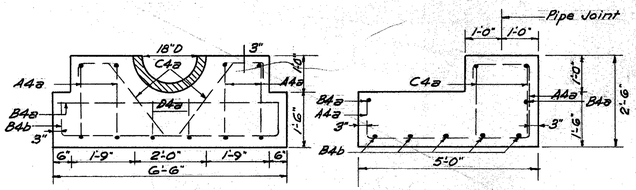
BEL-7-(17.71-20.14)

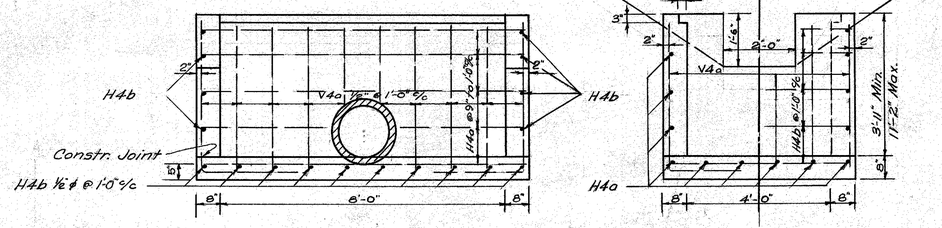


PLAN
Scale 1"=10'

STEEL LIST						
No	Mark	Size	Space	Length	Shape	Wt.
4	A4a	4	1'-0"	9'-3"	Bent	25
2	B4a	4	4'-4"	6'-0"	Strt.	8
5	B4b	4	1'-0"	7'-10"	Bent	26
4	C4a	4	1'-5"	3'-10"	Bent	10
2	D4a	4	1'-0"	6'-4"	Bent	9
Total Weight 78#						
Vol. of Class "E" Conc. 2.2 Yds.						

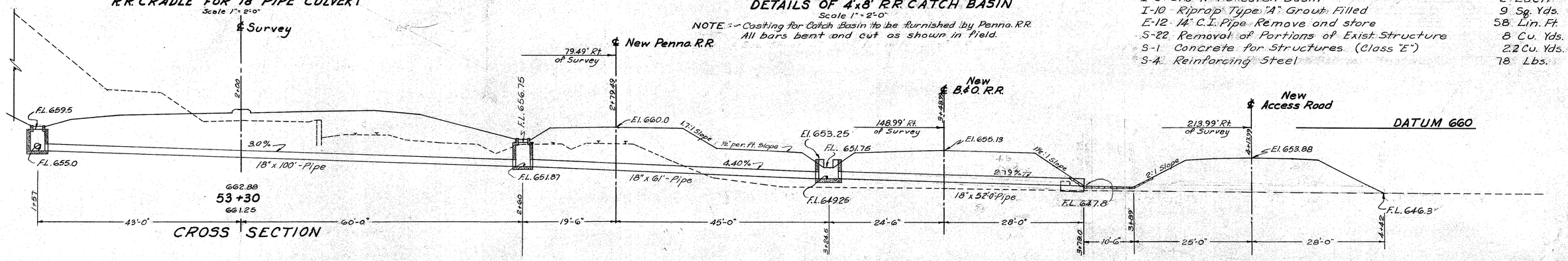


R.R. CRADLE FOR 18" PIPE CULVERT
Scale 1"=2'-0"



DETAILS OF 4'x8' R.R. CATCH BASIN
Scale 1"=2'-0"

NOTE :- Casting for Catch Basin to be furnished by Penna. R.R.
All bars bent and cut as shown in field.



CROSS SECTION

STRUCTURE DATA

TYPE :- Standard Pipe Culvert
SIZE :- 18"x100'-0" Standard, 18"x113'-0" R.R. Strength
WORK REQ'D :- Remove 1'x1'x25' Stone box. Remove and store 14"x58' C.I. Pipe. Build 18"x100' Std pipe culvert under highway. Build 18"x61' R.R. strength pipe culvert under Penna. R.R. and 18"x113'-0" R.R. strength pipe culvert under B.&O. R.R. with R.R. pipe culvert end as shown at outlet. Construct catch basins and riprap as shown.

REFERENCE DRAWINGS

Pipe Culverts	S-27, P.C. 2 & 3
Catch Basins	I-8, C.B. No 1-3

ESTIMATED QUANTITIES

E-2 Structure Excavation	91 Cu. Yds.
S-27, 18" Pipe for Roadway Culverts	100 Lin. Ft.
S-27, 18" Pipe for Culverts (R.R. Strength)	113 Lin. Ft.
I-8 No 4-8 R.R. Catch Basin (as per plan)	1 Each
I-8 Std No 1-3 Catch Basin	2 Each
I-10 Riprap Type "A" Grout Filled	9 Sq. Yds.
E-12 14" C.I. Pipe Remove and store	58 Lin. Ft.
S-22 Removal of Portions of Exist. Structure	8 Cu. Yds.
S-1 Concrete for Structures (Class "E")	2.2 Cu. Yds.
S-4 Reinforcing Steel	78 Lbs.

STA. 53+30
18"x100'-0" PIPE CULVERT
18"x113'-0" PIPE CULVERT (R.R. STRENGTH)

5-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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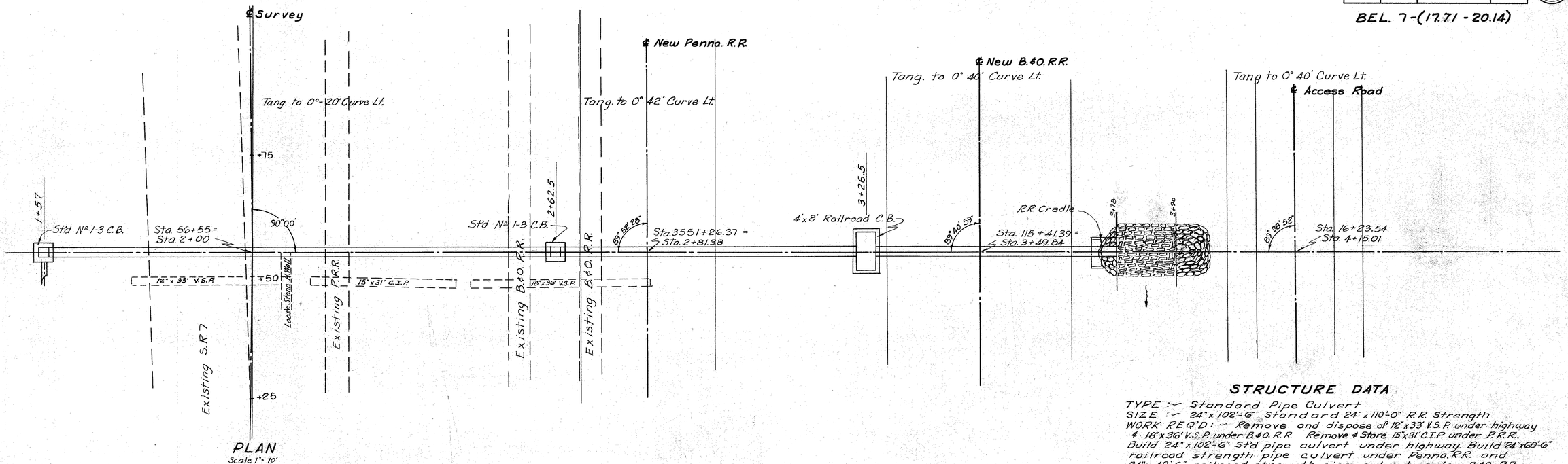
BEL. 7-(17.71 - 20.14)



PLAN
Scale 1"= 10'

STRUCTURE DATA

TYPE :- Standard Pipe Culvert
SIZE :- 24"x102'-6" Standard 24"x110'-0" R.R. Strength
WORK REQ'D :- Remove and dispose of 12"x33' V.S.P. under highway & 18"x36' V.S.P. under B&O.R.R. Remove & Store 15"x31' C.I.P. under P.R.R. Build 24"x102'-6" Std pipe culvert under highway. Build 24"x60'-6" railroad strength pipe culvert under Penna.R.R. and 24"x49'-6" railroad strength pipe culvert under B&O. R.R. with R.R. culvert end at outlet. Construct catch basins and riprap as shown.

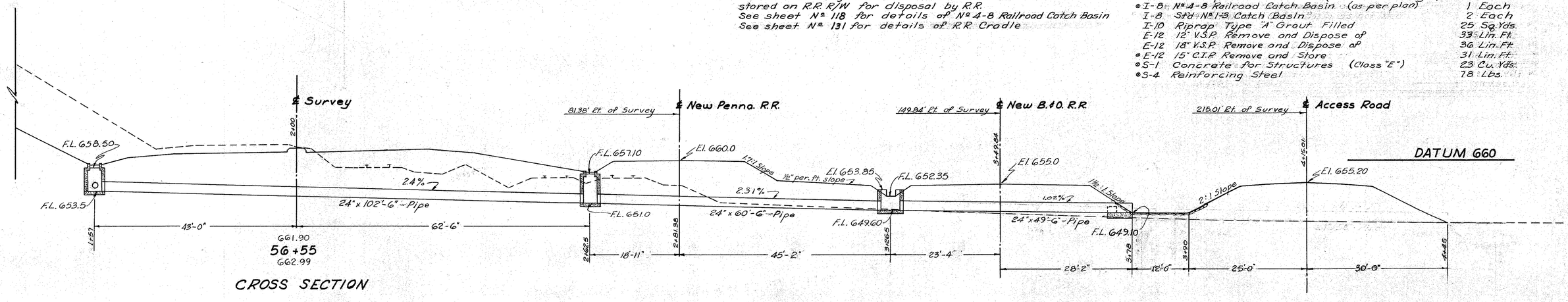
REFERENCE DRAWINGS

Pipe Culverts	S-27, PC. 2&3
Catch Basins	I-8, C.B. No 1-3

ESTIMATED QUANTITIES

E-2	Structure Excavation	117 Cu. Yds.
S-27.	24" Pipe for Roadway Culverts	103 Lin. Ft.
S-27	24" Pipe for Culverts (Railroad Strength)	110 Lin. Ft.
*I-8.	No 4-8 Railroad Catch Basin (as per plan)	1 Each
I-8	Std No 1-3 Catch Basin	2 Each
I-10	Riprap Type "A" Grout Filled	25 Sq. Yds.
E-12	12" V.S.P. Remove and Dispose of	33 Lin. Ft.
E-12	18" V.S.P. Remove and Dispose of	36 Lin. Ft.
*E-12	15" C.I.P. Remove and Store	31 Lin. Ft.
*S-1	Concrete for Structures (Class "E")	23 Cu. Yds.
*S-4	Reinforcing Steel	78 Lbs.

* NOTE :- Existing C.I.P. under R.R. to be removed and stored on R.R. R/W for disposal by R.R.
See sheet No 118 for details of No 4-8 Railroad Catch Basin
See sheet No 131 for details of R.R. Cradle



CROSS SECTION

STA. 56+55
24"x103'0" PIPE CULVERT

24"x110'-0" PIPE CULVERT (R.R. STRENGTH)

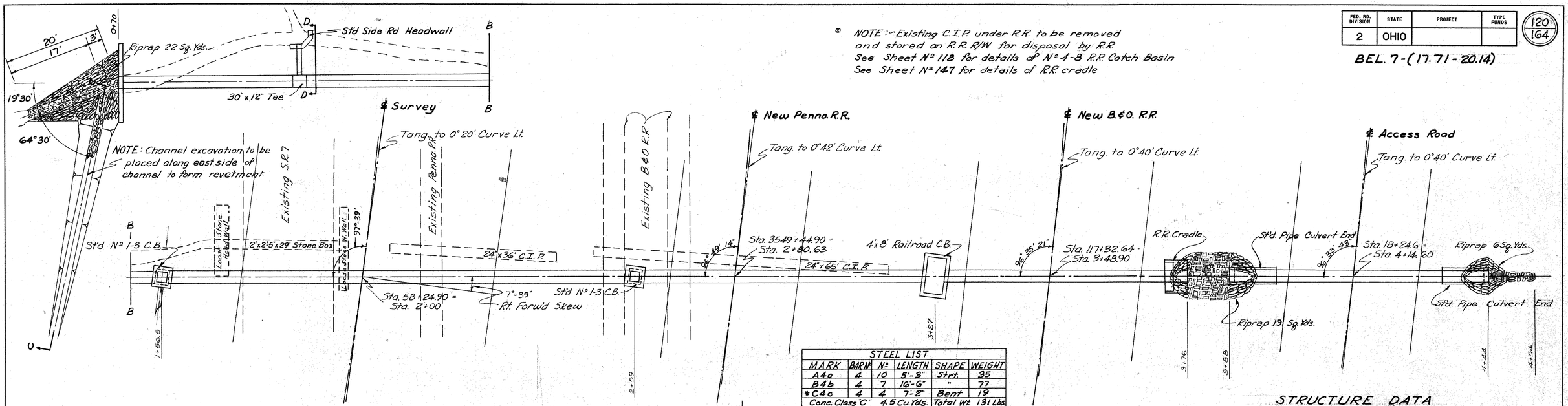
7-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

120
164

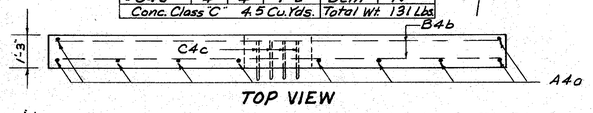
BEL. 7-(17.71-20.14)

⊗ NOTE :- Existing C.I.P. under R.R. to be removed and stored on R.R. R/W for disposal by R.R.
See Sheet Nº 118 for details of Nº 4-8 R.R. Catch Basin
See Sheet Nº 147 for details of R.R. cradle

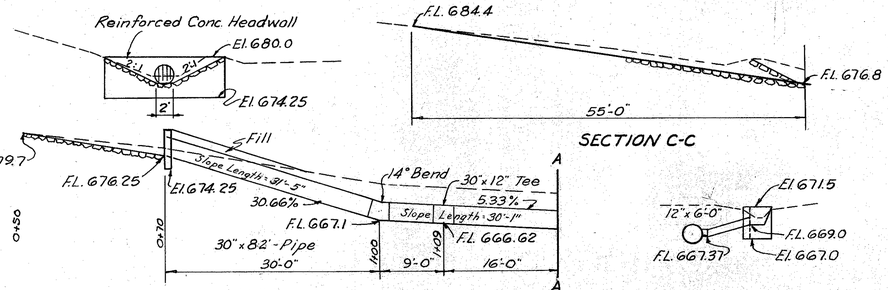


PLAN
Scale 1"=10'

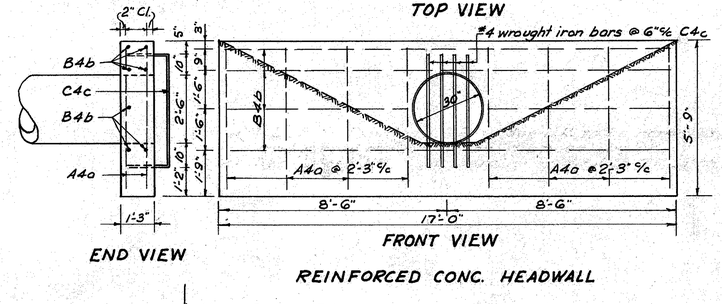
STEEL LIST					
MARK	BARS	Nº	LENGTH	SHAPE	WEIGHT
A4o	4	10	5'-3"	Strt.	35
B4b	4	7	16'-6"	"	77
*C4c	4	4	7'-2"	Bent	19
Conc. Class 'C' 4.5 Cu. Yds. Total Wt. 131 Lbs.					



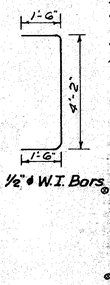
TOP VIEW



SECTION D-D



REINFORCED CONC. HEADWALL



*C4c ½"ø W.I. Bars

STRUCTURE DATA

TYPE :- Standard Pipe Culvert
SIZE :- 30"x155'-6" Standard 30"x111'-6" R.R. Strength
WORK REQ'D :- Remove 2'x2'-5'x29' Stone Box & Stone Head Walls, 24"x36' C.I.P., 24"x65' C.I.P. Build 30"x155'-6" Standard Pipe Culvert under highway and access road. Build 30"x114'-6" R.R. Strength Pipe Culvert under Penna. R.R. and B.&O.R.R. Construct catch basins and riprap as shown. Construct 30"x86'-0" Storm Sewer outlet pipe left, connect to "1-3 C.B. Build headwalls as shown and construct inlet channel.

REFERENCE DRAWING

Pipe Culvert	S-27, P.C. 1,213
Catch Basin	I-8, C.B. Nº 1-3

ESTIMATED QUANTITIES

E-2	Structure Excavation	244 Cu. Yds.
E-2	Channel Excavation	13 Cu. Yds.
E-12	24" C.I.P. Remove and store	101. Lin. Ft.
I-2	12" Storm Sewer Outlet Pipe	6 Lin. Ft.
I-2	30" Storm Sewer Outlet Pipe	82 Lin. Ft.
I-5	30"x 28° Bend for Storm Sewer Outlet Pipe	1 Each
I-5	30"x 14° " " " " " "	1 Each
I-5	30"x 12" Tee for Storm Sewer Outlet Pipe	1 Each
⊗I-8	Nº 4-8 Railroad Catch Basin (as per plan)	1 Each
I-8	Std Nº 1-3 Catch Basin	2 Each
I-10	Riprap Type "A" Grout Filled	47 Sq. Yds.
S-1	Concrete for Headwalls & Side Rd. Culvert ("Class C")	5.6 Cu. Yds.
⊗S-4	Reinforcing Steel	250 Lbs.
S-22	Removal of Portions of Exist. Structure	6 Cu. Yds.
S-27	30" Pipe for Roadway Culverts	156 Lin. Ft.
S-27	30" Pipe for Culverts (R.R. strength)	112 Lin. Ft.
⊗S-1	Concrete for Structures ("Class "E")	5.4 Cu. Yds.

661.40
58 + 24.90
659.5

CROSS SECTION

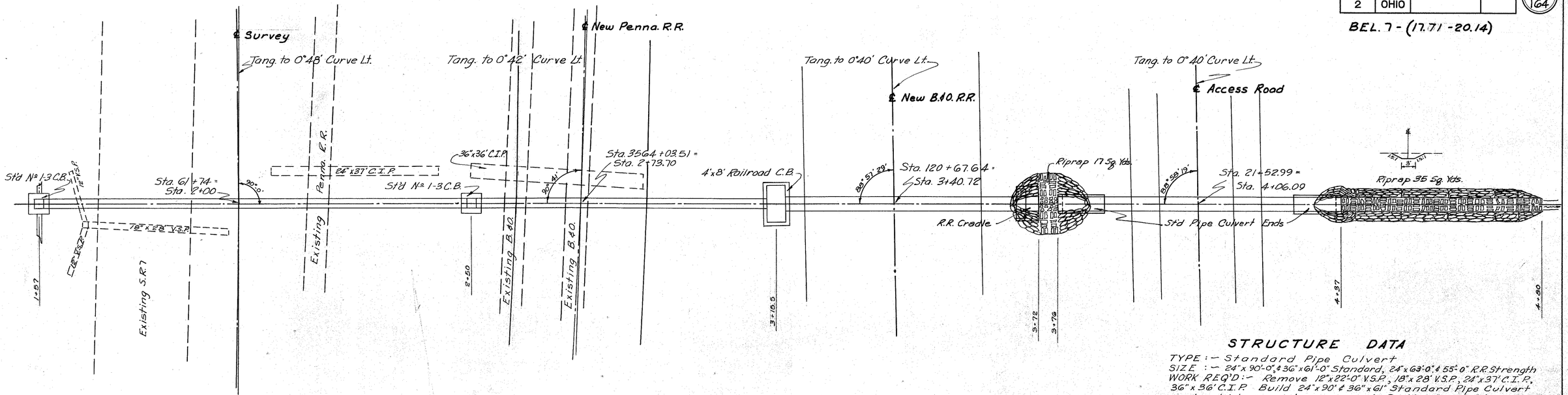
STA. 58+24.90
30"x156'-0" PIPE CULVERT
30"x112'-0" PIPE CULVERT (R.R. STRENGTH)

8-S

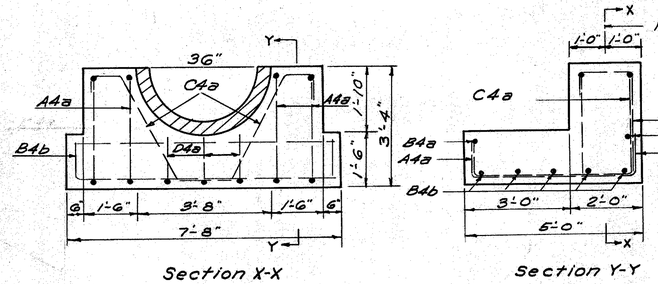
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

121/164

BEL. 7 - (17.71 - 20.14)



PLAN
Scale 1"= 10'



R.R. CRADLE FOR 36" PIPE CULVERT
Scale: 1"=2'

STEEL LIST

Mark	Bar Nº	Spacing	Shape	Nº	Length	Wt. Lbs.
A4a	4	1'-0" c/c	Bent	4	9'-8"	26
B4a	4	4'-4" c/c	Str't.	2	7'-2"	10
B4b	4	1'-0" c/c	Bent	5	9'-0"	30
C4a	4	1'-5" c/c	Bent	4	4'-6"	12
D4a	4	1'-0" c/c	Bent	3	6'-4"	13
					Total	91
Concrete (Class "E")						2.7 Cu.Yds.

STRUCTURE DATA

TYPE :- Standard Pipe Culvert
SIZE :- 24"x 90'-0" & 36"x 61'-0" Standard, 24"x 63'-0" & 55'-0" R.R. Strength
WORK REQ'D :- Remove 12"x 22'-0" V.S.P., 18"x 28' V.S.P., 24"x 37' C.I.P., 36"x 36' C.I.P. Build 24"x 90' & 36"x 61' Standard Pipe Culvert under highway and access road. Build 24"x 63'-0" & 36"x 55'-0" R.R. Strength Pipe Culvert under Penna. R.R. and B&O.R.R. Construct all catch basins and riprap as shown, R.R. Cradle and Std. Pipe Culvert Ends.

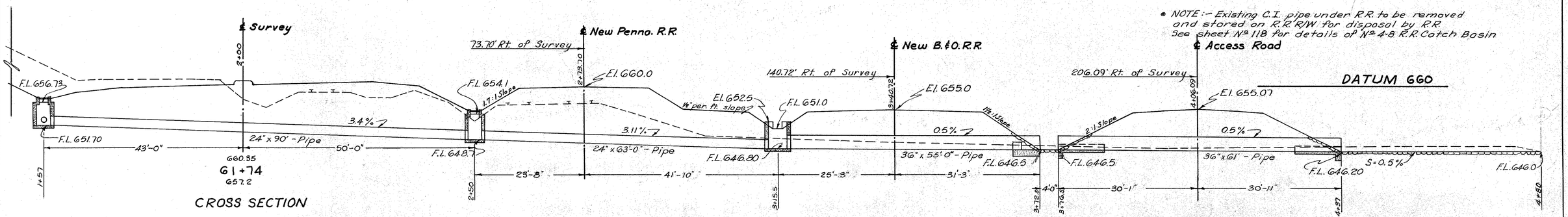
REFERENCE DRAWINGS

Pipe Culverts	S-27, P.C. 2 & 3
Catch Basins	I-8, C.B. Nº 1-3

ESTIMATED QUANTITIES

E-2,	Structure Excavation	183 Cu.Yds.
E-3,	Channel Excavation	14 Cu.Yds.
S-27,	24" Pipe for Roadway Culverts	90 Lin.Ft.
S-27,	36" Pipe for Roadway Culverts	61 Lin.Ft.
S-27,	24" Pipe for Culverts (R.R. Strength)	63 Lin.Ft.
S-27,	36" Pipe for Culverts (R.R. Strength)	55 Lin.Ft.
* I-8,	Nº 4-B Railroad Catch Basin (as per plan)	1 Each
I-8,	Std Nº 1-3 C.B.	2 Each
I-10,	Riprap Type "A" Grout Filled	52 Sq. Yds.
E-12,	18" V.S.P. Remove and dispose of	22 Sq. Yds.
E-12,	18" V.S.P. Remove and dispose of	28 Lin.Ft.
* E-12,	24" C.I.P. Remove and store	37 Lin.Ft.
* E-12,	36" C.I.P. Remove and store	36 Lin.Ft.
S-1,	Concrete for Structures (Class "E")	6.0 Cu.Yds.
S-4,	Reinforcing Steel	91 Lbs.

* NOTE :- Existing C.I. pipe under R.R. to be removed and stored on R.R. R/W for disposal by R.R. See sheet Nº 118 for details of Nº 4-B R.R. Catch Basin



CROSS SECTION

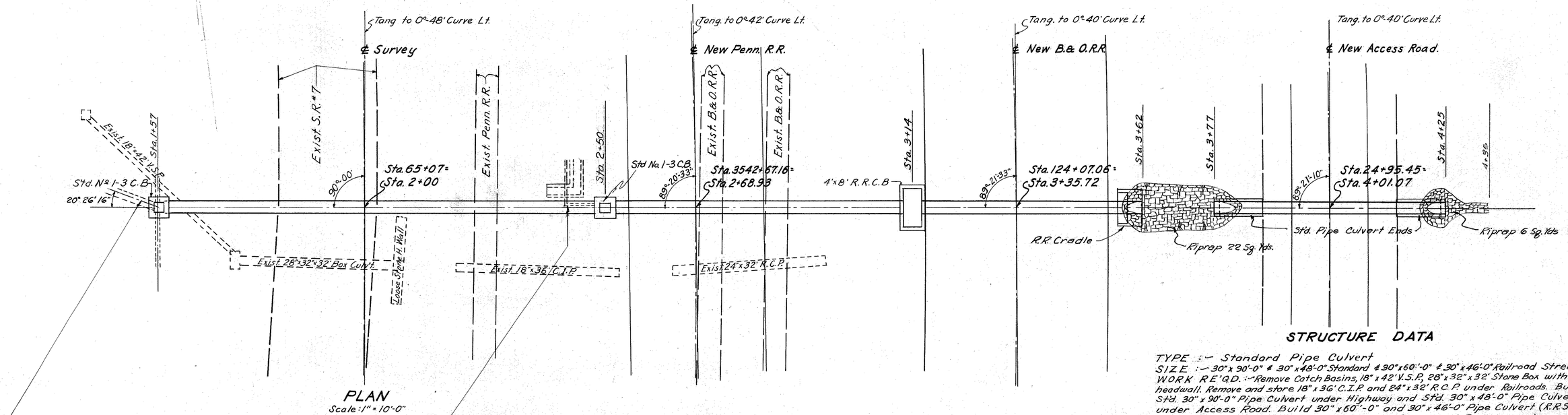
STA. 61+74
24"x 90'-0" PIPE CULVERT
36"x 61'-0" PIPE CULVERT
24"x 63'-0" PIPE CULVERT (R.R. STRENGTH)
36"x 55'-0" PIPE CULVERT (R.R. STRENGTH)

9-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

122/164

BEL.-7-(17.71 - 20.14)



PLAN
Scale: 1" = 10'-0"

Note: For details of adjoining Storm Sewer see Plan Sheet No 86

Note: For details of Retaining Wall and related drainage see Plan Sheet No 104

*NOTE: Existing cast iron or reinforced concrete pipe under R.R. to be removed and stored on R.R. R/W for disposal by R.R.
See Sheet No 118 for details of No 4-B Railroad Catch Basin.
See Sheet No 147 for details of R.R. cradle

STRUCTURE DATA

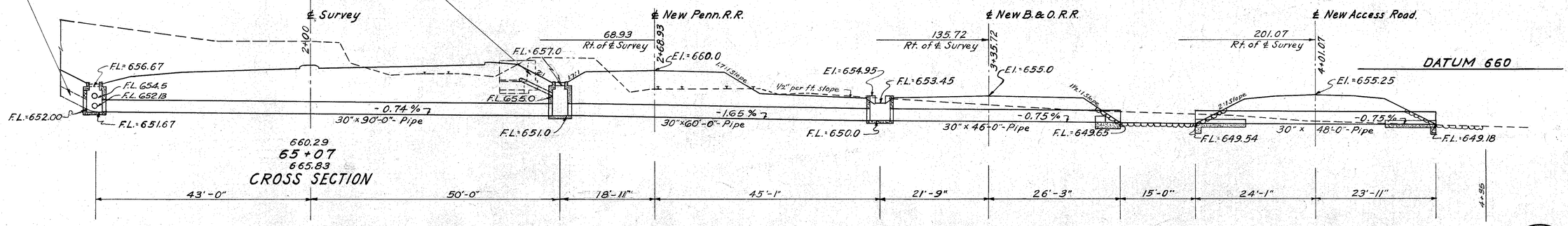
TYPE :- Standard Pipe Culvert
SIZE :- 30"x 90'-0" & 30"x48'-0" Standard & 30"x60'-0" & 30"x46'-0" Railroad Strength
WORK REQD. :- Remove Catch Basins, 18"x42' V.S.P., 28"x32"x32' Stone Box with stone headwall. Remove and store 18"x36' C.I.P. and 24"x32' R.C.P. under Railroads. Build Std. 30"x90'-0" Pipe Culvert under Highway and Std. 30"x48'-0" Pipe Culvert under Access Road. Build 30"x60'-0" and 30"x46'-0" Pipe Culvert (R.R. Strength) under Penna. & B.& O.R.R. Construct Catch Basins and Riprap as shown and R.R. Cradle and Std. Pipe Culvert Ends.

REFERENCE DRAWINGS

Pipe Culverts	S-27, P.C. 2 & 3
Catch Basins	I-8, C.B. 1-3

ESTIMATED QUANTITIES

E-2	Structure Excavation	250 Cu.Yds.
E-3	Channel Excavation	8 Cu.Yds.
E-12	18" V.S.P. Removed and Disposed of	42 Lin.Ft.
* E-12	18" C.I.P. Remove and Store	36 Lin.Ft.
* E-12	24" R.C.P. Remove and Store	32 Lin.Ft.
S-22	Removal of Portions of Existing Structures	27 Cu.Yds.
S-27	30" Pipe for Roadway Culverts	138 Lin.Ft.
S-27	30" Pipe Culvert (R.R. Strength)	106 Lin.Ft.
I-8	Std. No 1-3 Catch Basins	2 Each
* I-8	No 4-B R.R. Catch Basin (as per plan)	1 Each
I-10	Riprap Type "A" Grout Filled	28 Sq.Yds.
* S-1	Concrete for Structures (Class "E")	5.4 Cu.Yds.
* S-4	Reinforcing Steel	89 Lbs.



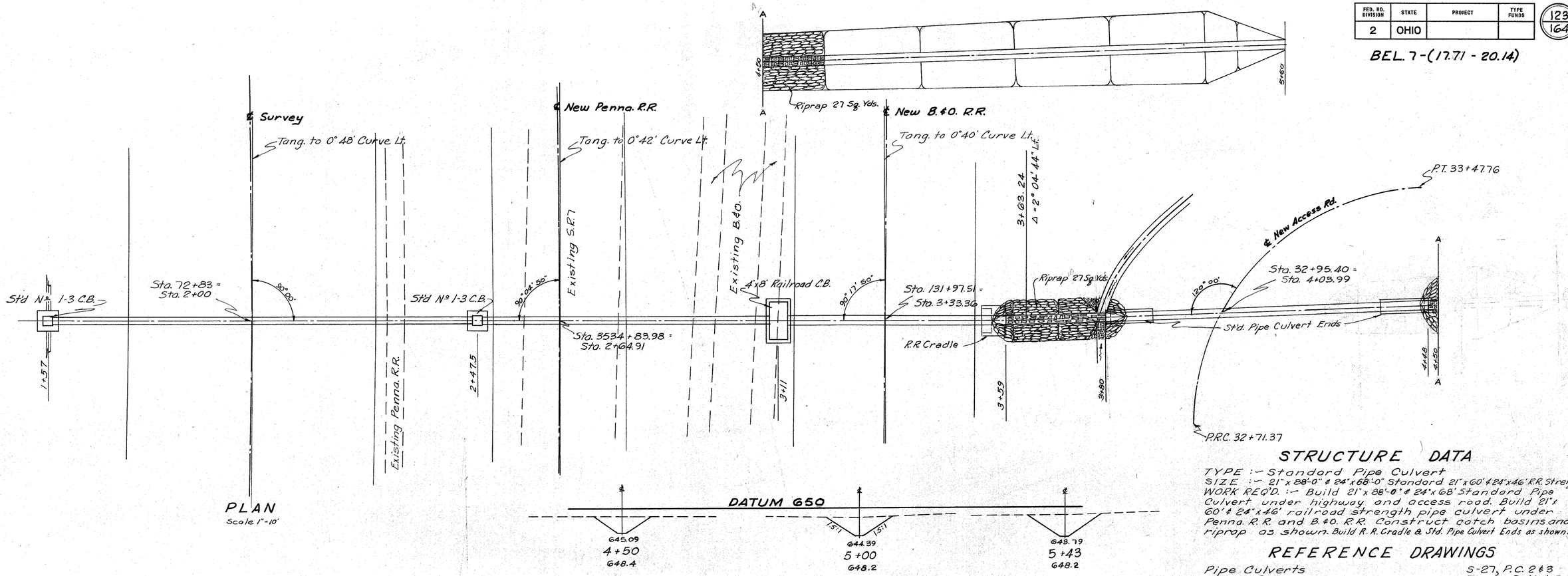
STA. 65+07
30"x138'-0" PIPE CULVERT
30"x106'-0" PIPE CULVERT (R.R. STRENGTH)

10-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

123/164

BEL. 7-(17.71 - 20.14)



STRUCTURE DATA

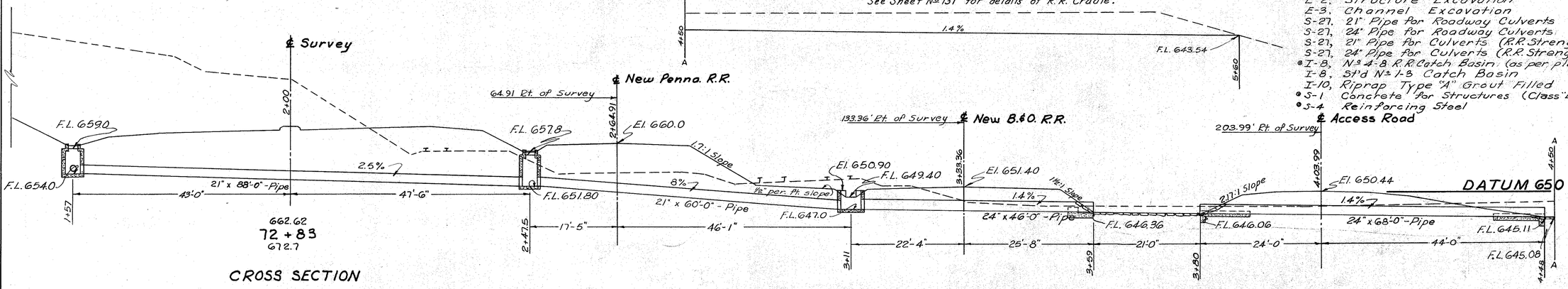
TYPE :- Standard Pipe Culvert
SIZE :- 21"x 88'-0" & 24"x 68'-0" Standard 21"x 60' & 24"x 46' R.R. Strength
WORK REQ'D. :- Build 21"x 88'-0" & 24"x 68' Standard Pipe Culvert under highway and access road. Build 21"x 60' & 24"x 46' railroad strength pipe culvert under Penna. R.R. and B.&O. R.R. Construct catch basins and riprap as shown. Build R.R. Cradle & Std. Pipe Culvert Ends as shown.

REFERENCE DRAWINGS

Pipe Culverts	S-27, P.C. 2 & 3
Catch Basins	I-8, C.B. N°1-3

ESTIMATED QUANTITIES

E-2, Structure Excavation	145 Cu. Yds.
E-3, Channel Excavation	38 Cu. Yds.
S-27, 21" Pipe for Roadway Culverts	88 Lin. Ft.
S-27, 24" Pipe for Roadway Culverts	68 Lin. Ft.
S-27, 21" Pipe for Culverts (R.R. Strength)	60 Lin. Ft.
S-27, 24" Pipe for Culverts (R.R. Strength)	46 Lin. Ft.
*I-8, N° 4-B R.R. Catch Basin (as per plan)	1 Each
I-8, Std N° 1-3 Catch Basin	2 Each
I-10, Riprap Type "A" Grout Filled	54 Sq. Yds.
*S-1 Concrete for Structures (Class "E")	4.5 Cu. Yds.
*S-4 Reinforcing Steel	78 Lbs.



CROSS SECTION

STA. 72+83

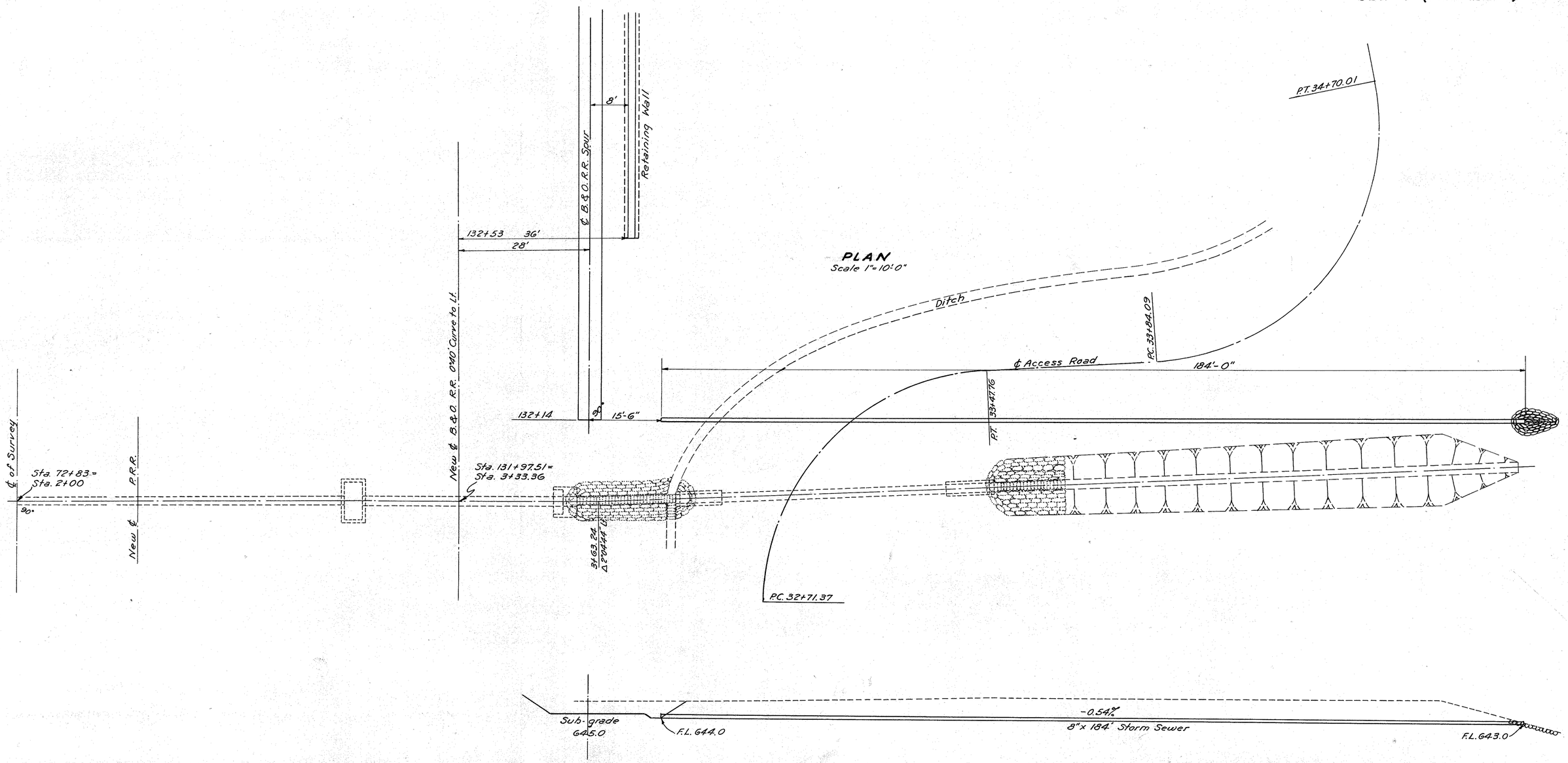
21"x88'-0" PIPE CULVERT
24"x68'-0" PIPE CULVERT
21"x60'-0" PIPE CULVERT (R.R. STRENGTH)
24"x46'-0" PIPE CULVERT (R.R. STRENGTH)

14-S

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

123-A
164

BEL-7-(17.71-20.14)



CROSS SECTION

ESTIMATED QUANTITIES

8" Pipe for Storm Sewer	184 Lin. Ft.
Riprap Type "A"	4 Sq. Yds.

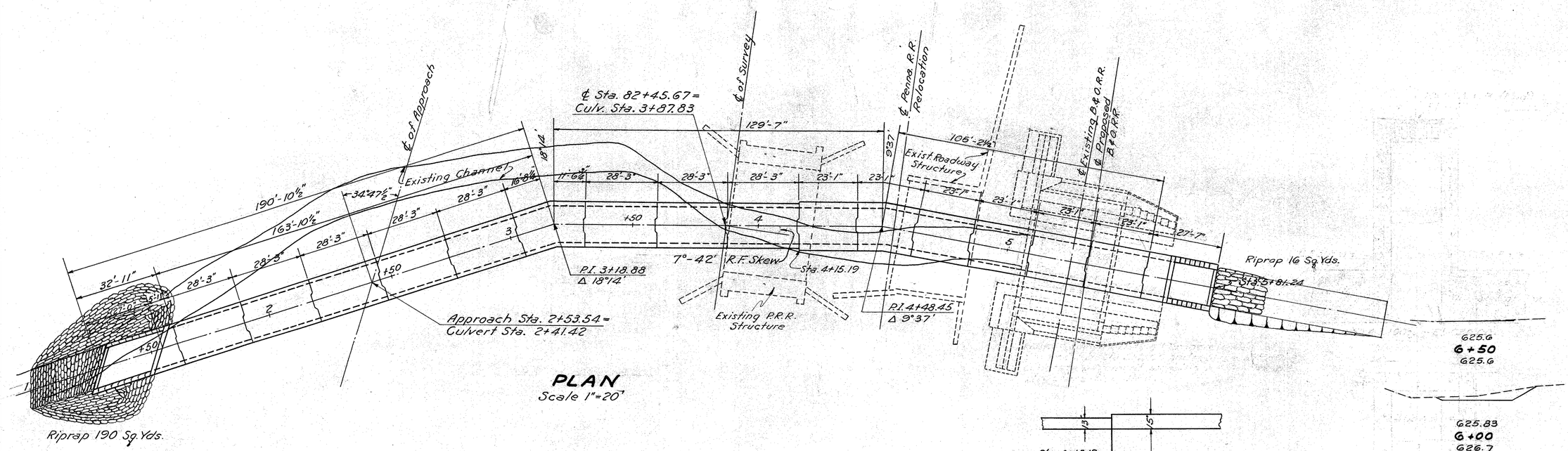
80-55

B. & O. R.R. STA. 132+14
8"x 184'-0" STORM SEWER

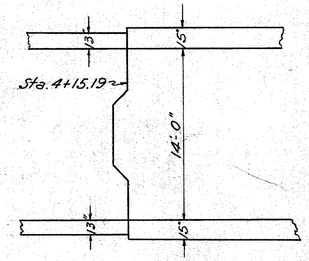
FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

124
164

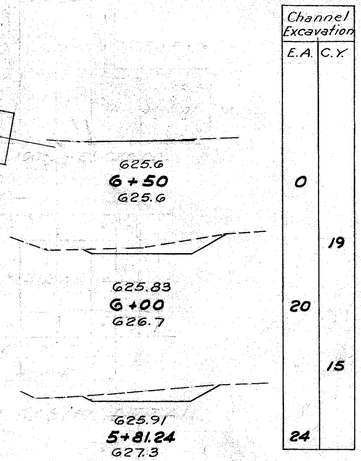
BEL-7-(17.71 - 20.14)

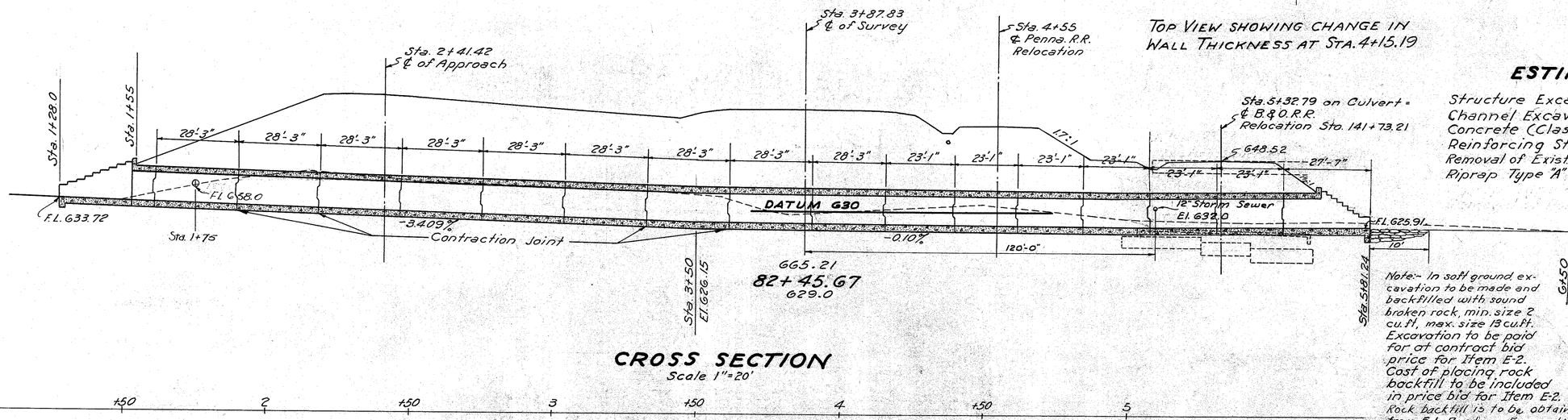


PLAN
Scale 1"=20'



TOP VIEW SHOWING CHANGE IN WALL THICKNESS AT STA. 4+15.19





CROSS SECTION
Scale 1"=20'

ESTIMATED QUANTITIES

Structure Excavation	2737 Cu. Yds.
Channel Excavation	34 Cu. Yds.
Concrete (Class "C")	1584.5 Cu. Yds.
Reinforcing Steel	271317 Lbs.
Removal of Exist. structures (2)	Lump Sum
Riprap Type "A" Grout Filled	206 Sq. Yds.

Note:- In soft ground excavation to be made and backfilled with sound broken rock, min. size 2 cu. ft., max. size 13 cu. ft. Excavation to be paid for at contract bid price for Item E-2. Cost of placing rock backfill to be included in price bid for Item E-2. Rock backfill is to be obtained from E-1 Roadway Excavation.

Note:- The two existing structures to be removed consist of the P.R.R. Bridge and the State Highway Bridge. The item for removal of super-structures shall include removal of sufficient abutments and wingwalls to permit placing storm sewer. Backfill around and over the proposed box culvert and under the existing B.&O. RR Bridge to remain in place shall be carefully placed to obtain adequate compaction and prevent damage to the existing bridge.

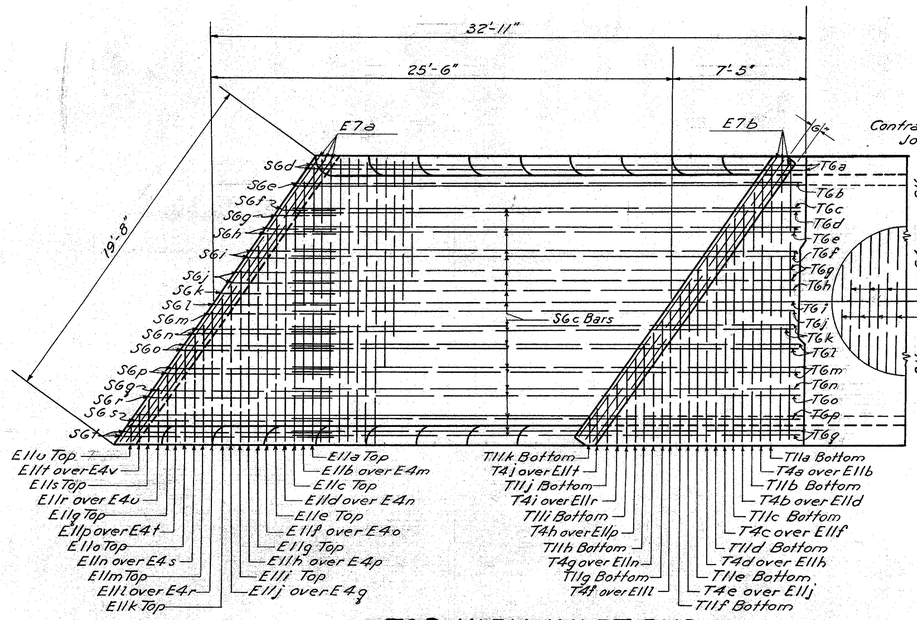
21S

14'x10' Box Culvert Sta. 82+45.67 Sheet 1 of 4

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

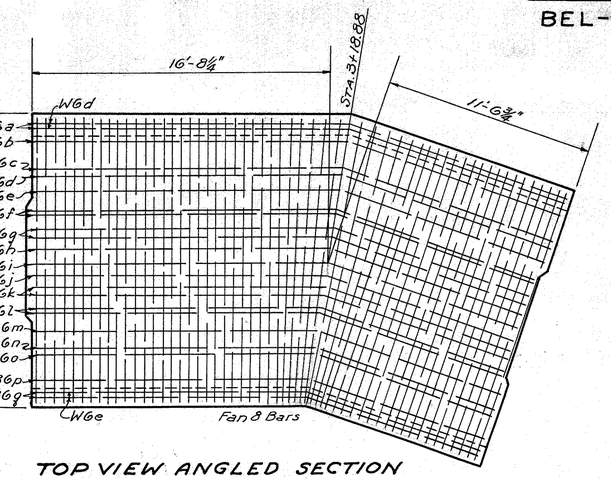
125/164

BEL-7-(17.71-20.14)

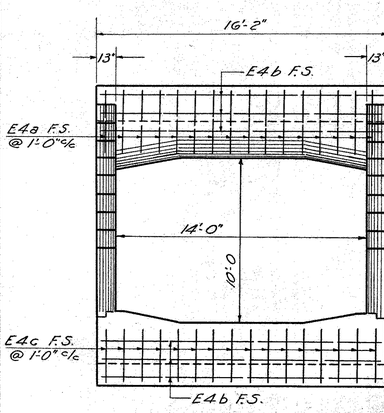


TOP VIEW INLET END

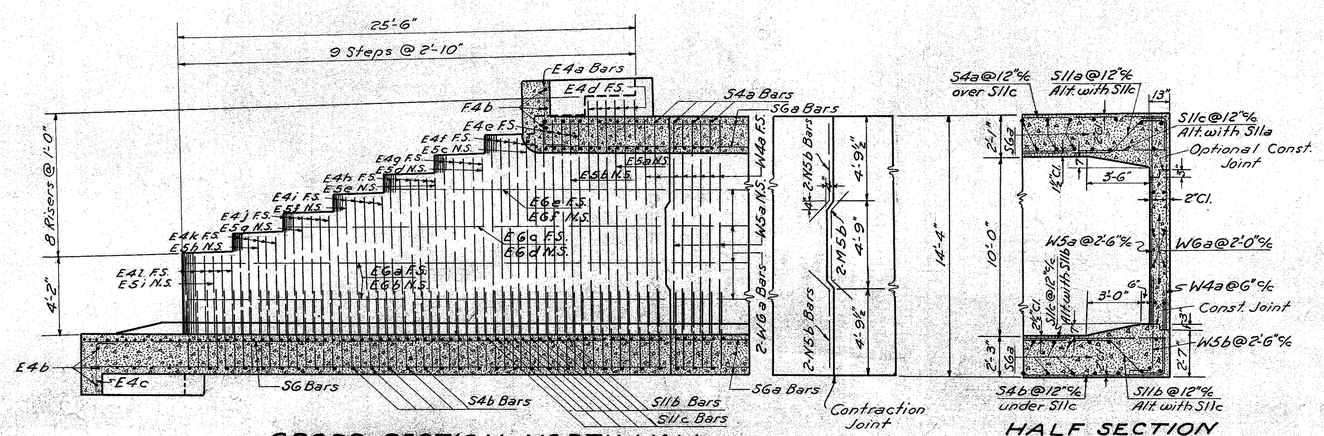
Scale 1/4"=1'-0"



TOP VIEW ANGLED SECTION



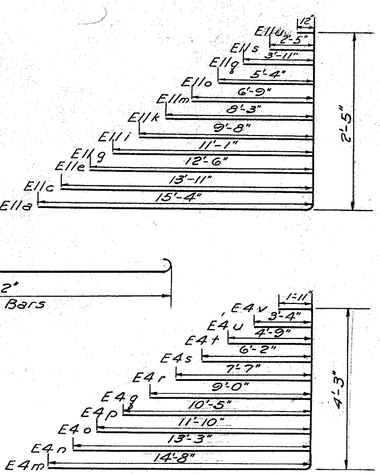
END VIEW INLET

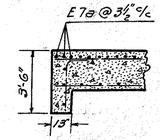


CROSS SECTION NORTH WALL

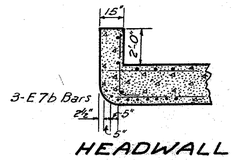
HALF SECTION THRU BARREL

STA. 1+28 TO STA 4+15.9

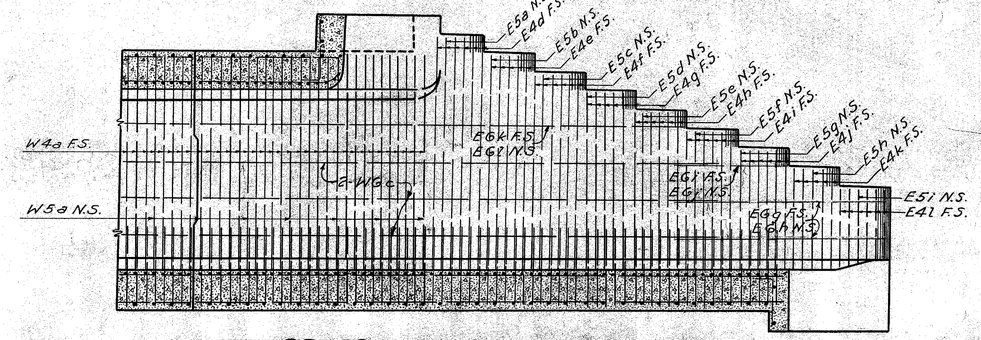




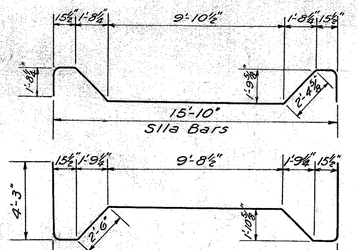
CUT-OFF WALL

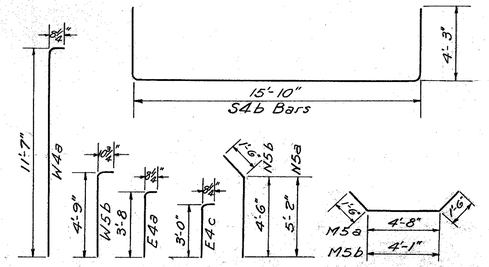


HEADWALL



CROSS SECTION SOUTH WALL





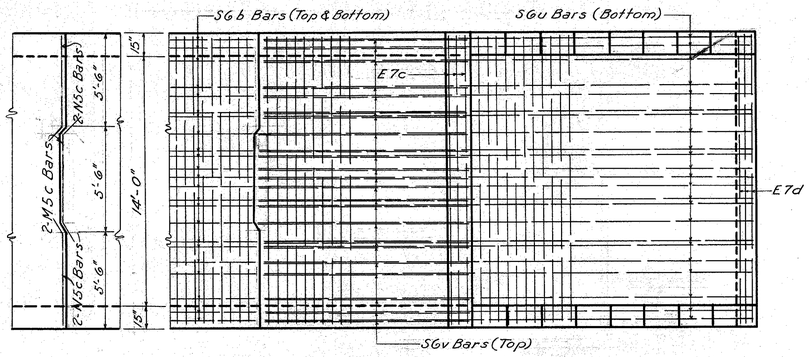
INLET DETAILS

14'×10' BOX CULVERT STA. 82+45.67 SHEET 2 OF 4

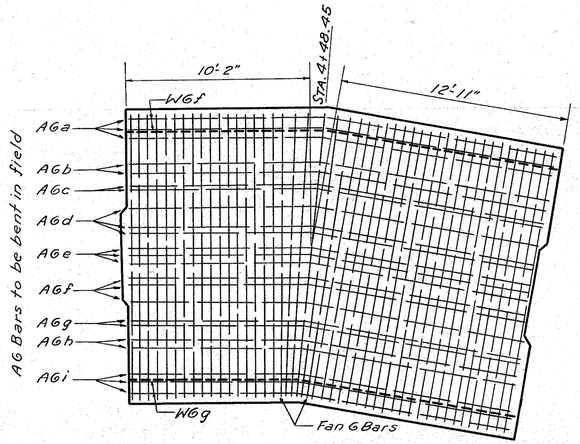
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

126
164

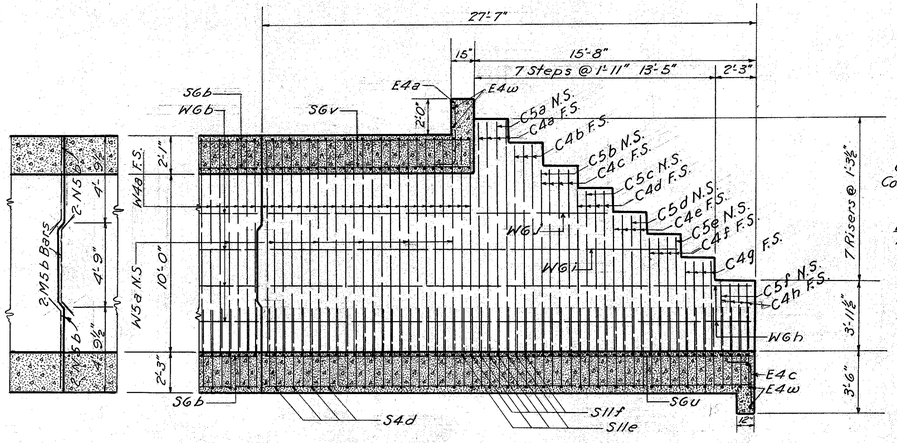
BEL-7-(17.71 - 20.14)



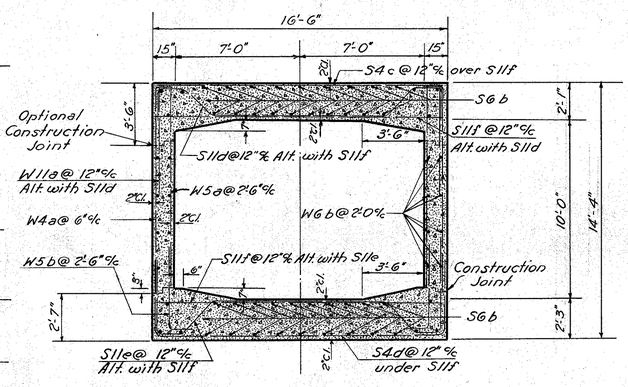
TOP VIEW OUTLET END



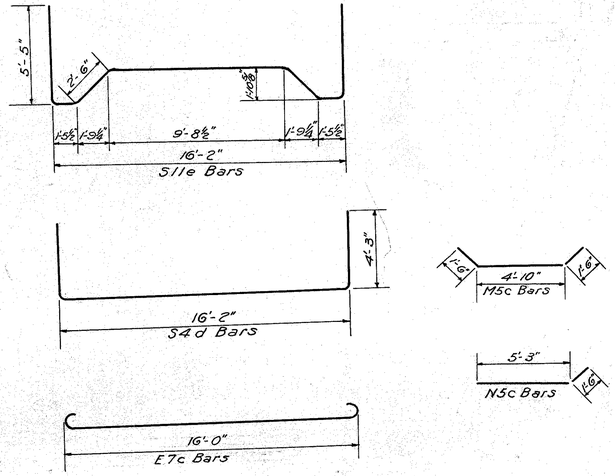
TOP VIEW ANGLED SECTION



SECTION OF OUTLET END



SECTION THRU BARREL
STA. 4+15.19 TO STA. 5+81.24



Scale ¼" = 1'-0"

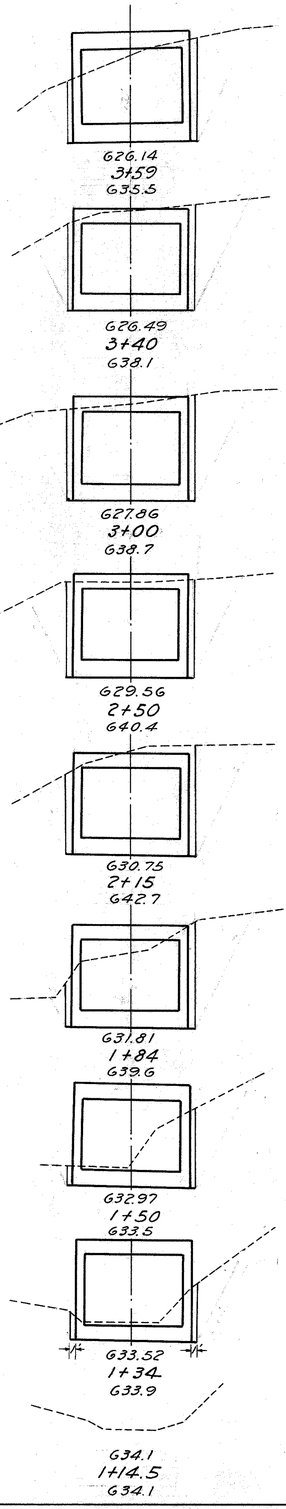
OUTLET DETAILS

14'x10' BOX CULVERT STA. 82+45.67 SHEET 3 OF 4

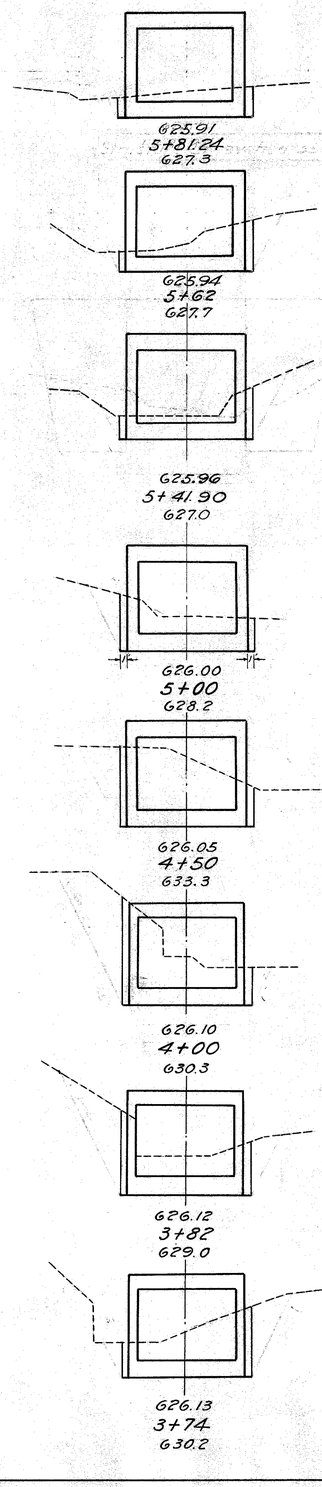
FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

127
164

BEL-7-(17.71 - 20.14)



Excavation	
E.A.	C.Y.
	91.
204	
	158
246	
	357
236	
	436
235	
	309
242	
	245
184	
	177
98	
	49
66	
24	
0	



Excavation	
E.A.	C.Y.
63	
	52
82	
	57
72	
	126
90	
	235
164	
	295
154	
90	
117	
	36
123	

STEEL LIST

Mark	Bar Nº	Shape	Spacing	Nº	Length	Weight
S4a	4	Stright	1'-0"c/c	265	15'-9"	2788
S4b	4	Bent	"	290	24'-1"	4665
S4c	4	Stright	"	153	16'-2"	1652
S4d	4	Bent	"	165	24'-5"	2691
S6a	6	Stright	As shown	400	27'-10"	16722
S6b	6	"	"	250	22'-7"	8480
S6c	6	"	"	22	29'-0"	958
S6d	6	"	"	2	27'-3"	82
S6e	6	"	"	1	27'-10"	42
S6f	6	"	"	1	3'-2"	5
S6g	6	"	"	1	3'-6"	5
S6h	6	"	"	2	4'-2"	13
S6i	6	"	"	2	4'-7"	14
S6j	6	"	"	2	5'-7"	17
S6k	6	"	"	1	6'-3"	9
S6l	6	"	"	1	6'-9"	10
S6m	6	"	"	1	7'-3"	11
S6n	6	"	"	2	8'-0"	24
S6o	6	"	"	2	8'-7"	26
S6p	6	"	"	2	9'-5"	28
S6q	6	"	"	1	10'-3"	15
S6r	6	"	"	1	10'-6"	16
S6s	6	"	"	1	11'-3"	17
S6t	6	"	"	2	12'-2"	37
S6u	6	"	"	25	27'-1"	1017
S6v	6	"	"	25	11'-4"	426
S11a	11	Bent	1'-0"c/c	265	20'-1"	28276
S11b	11	"	"	282	25'-3"	37831
S11c	11	Stright	"	555	15'-9"	46442
S11d	11	Bent	"	153	20'-5"	16597
S11e	11	"	"	170	26'-9"	24161
S11f	11	Stright	"	323	16'-1"	27601
W4a	4	Bent	6"c/c	1636	12'-2"	13846
W5a	5	Stright	2'-6"c/c	322	11'-3"	3778
W5b	5	Bent	"	353	5'-6"	2025
W6a	6	Stright	2'0"c/c	128	27'10"	5351
W6b	6	"	"	80	22'-7"	2714
W6c	6	"	"	6	29'-0"	261
W6d	6	Bend	"	8	30'-4"	364
W6e	6	in field	"	8	25'-6"	306
W6f	6	"	"	8	23'-9"	285
W6g	6	"	"	8	21'-5"	257
W6h	6	Stright	"	4	27'-1"	163
W6i	6	"	"	2	22'-6"	68
W6j	6	"	"	2	19'-0"	57
W11a	11	Stright	1'-0"c/c	306	6'-0"	9755
E4a	4	Bent	1'-0"c/c	36	4'-3"	102
E4b	4	Stright	"	6	19'-4"	77
E4c	4	Bent	"	36	3'-7"	86
E4d	4	Stright	6"c/c	12	12'-4"	99
E4e	4	"	"	10	11'-3"	75
E4f	4	"	"	12	10'-2"	82
E4g	4	"	"	10	9'-1"	61
E4h	4	"	"	12	8'-0"	64
E4i	4	"	"	12	6'-11"	55
E4j	4	"	"	12	5'-10"	47
E4k	4	"	"	10	4'-9"	32
E4l	4	"	"	12	3'-8"	29
E4m	4	Bent	"	1	18'-10"	13
E4n	4	"	"	1	17'-5"	12
E4o	4	"	"	1	16'-0"	11
E4p	4	"	"	1	14'-7"	10
E4q	4	"	"	1	13'-2"	9
E4r	4	"	"	1	11'-9"	8
E4s	4	"	"	1	10'-4"	7
E4t	4	"	"	1	8'-11"	6
E4u	4	"	"	1	7'-6"	5
E4v	4	"	"	1	6'-1"	4
E4w	4	"	"	6	16'-0"	64
E5a	5	Stright	As shown	2	12'-1"	25
E5b	5	"	"	2	11'-0"	23
E5c	5	"	"	2	9'-11"	21
E5d	5	"	"	2	8'-10"	18
E5e	5	"	"	4	7'-9"	32
E5f	5	"	"	2	6'-8"	14
E5g	5	"	"	2	5'-7"	12
E5h	5	"	"	2	4'-6"	9
E5i	5	"	"	2	3'-5"	7

STEEL LIST CONTINUED

Mark	Bar Nº	Shape	Spacing	Nº	Length	Weight
E6a	6	Stright	2'-0"c/c	2	27'-2"	82
E6b	6	"	"	2	26'-2"	79
E6c	6	"	"	11	21'-6"	32
E6d	6	"	"	1	20'-6"	31
E6e	6	"	"	1	15'-9"	24
E6f	6	"	"	1	14'-9"	22
E6g	6	"	"	2	11'-1"	36
E6h	6	"	"	2	10'-11"	33
E6i	6	"	"	1	6'-3"	9
E6j	6	"	"	1	5'-3"	8
E6k	6	"	"	1	26'-10"	40
E6l	6	"	"	1	25'-10"	39
E7a	7	Stright	As shown	3	19'-2"	118
E7b	7	Bent	"	3	20'-10"	128
E7c	7	"	"	3	17'-8"	108
E7d	7	Stright	"	3	16'-0"	98
E11a	11	Bent	1'-0"c/c	1	17'-3"	93
E11b	11	Stright	"	2	14'-8"	156
E11c	11	Bent	"	1	16'-0"	85
E11d	11	Stright	"	2	13'-3"	141
E11e	11	Bent	"	1	14'-8"	78
E11f	11	Stright	"	2	11'-10"	126
E11g	11	Bent	"	1	13'-2"	70
E11h	11	Stright	"	2	10'-5"	111
E11i	11	Bent	"	1	11'-9"	62
E11j	11	Stright	"	2	9'-0"	96
E11k	11	Bent	"	1	10'-4"	55
E11l	11	Stright	"	2	7'-7"	81
E11m	11	Bent	"	1	8'-10"	47
E11n	11	Stright	"	2	6'-2"	66
E11o	11	Bent	"	1	7'-5"	39
E11p	11	Stright	"	2	4'-9"	50
E11q	11	Bent	"	1	6'-0"	32
E11r	11	Stright	"	2	3'-4"	35
E11s	11	Bent	"	1	4'-6"	24
E11t	11	Stright	"	2	1'-11"	20
E11u	11	Bent	"	1	3'-1"	16
T6a	6	Stright	As shown	2	1'-11"	6
T6b	6	"	"	1	2'-6"	4
T6c	6	"	"	1	3'-5"	5
T6d	6	"	"	1	3'-9"	6
T6e	6	"	"	2	4'-5"	13
T6f	6	"	"	2	5'-3"	16
T6g	6	"	"	2	5'-9"	17
T6h	6	"	"	1	6'-6"	10
T6i	6	"	"	1	6'-9"	10
T6j	6	"	"	1	7'-2"	11
T6k	6	"	"	2	7'-9"	23
T6l	6	"	"	2	9'-0"	27
T6m	6	"	"	2	9'-9"	29
T6n	6	"	"	1	10'-7"	16
T6o	6	"	"	1	10'-10"	16
T6p	6	"	"	1	11'-8"	18
T6q	6	"	"	2	12'-4"	37
T11a	11	Stright	1'-0"c/c	1	15'-4"	81
T11b	11	"	"	1	13'-11"	74
T11c	11	"	"	1	12'-7"	67
T11d	11	"	"	1	11'-1"	59
T11e	11	"	"	1	9'-8"	51
T11f	11	"	"	1	8'-3"	44
T11g	11	"	"	1	6'-9"	36
T11h	11	"	"	1	5'-4"	28
T11i	11	"	"	1	3'-11"	21
T11j	11	"	"	1	2'-5"	13
T11k	11	"	"	1	1'-0"	5
T4a	4	Stright	As shown	1	14'-8"	10
T4b	4	"	"	1	13'-3"	9
T4c	4	"	"	1	11'-10"	8
T4d	4	"	"	1	10'-5"	7
T4e	4	"	"	1	9'-0"	6
T4f	4	"	"	1	7'-7"	5
T4g	4	"	"	1	6'-2"	4
T4h	4	"	"	1	4'-9"	3
T4i	4	"	"	1	3'-4"	2
T4j	4	"	"	1	1'-11"	1

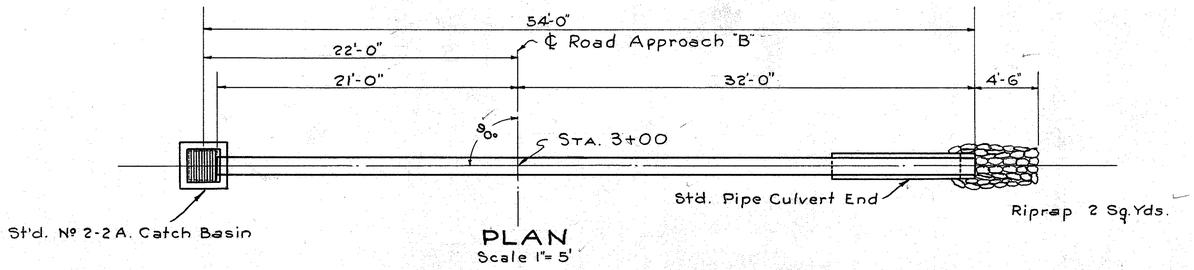
STEEL LIST CONTINUED

Mark	Bar Nº	Shape	Spacing	Nº	Length	Weight
B6a	6	Bend	As shown	4	30'-4"	182
B6b	6	in field	"	2	29'-11"	90
B6c	6	"	"	2	29'-8"	89
B6d	6	"	"	2	29'-6"	89
B6e	6	"	"	4	29'-2"	175
B6f	6	"	"	4	28'-9"	173
B6g	6	"	"	4	28'-5"	171
B6h	6	"	"	2	28'-1"	84
B6i	6	"	"	2	27'-11"	84
B6j	6	"	"	2	27'-8"	83
B6k	6	"	"	4	27'-5"	165
B6l	6	"	"	4	27'-0"	162
B6m	6	"	"	4	26'-8"	160
B6n	6	"	"	2	26'-4"	79
B6o	6	"	"	2	26'-2"	79
B6p	6	"	"	2	25'-11"	78
B6q	6	"	"	4	25'-6"	153
A6a	6	Bend	As shown	6	23'-9"	214
A6b	6	in field	As shown	4	23'-5"	141
A6c	6	"	"	6	23'-1"	208
A6d	6	"	"	6	22'-11"	207
A6e	6	"	"	6	22'-7"	203
A6f	6	"	"	6	22'-3"	201
A6g	6	"	"	6	22'-0"	198
A6h	6	"	"	4	21'-9"	131
A6i	6	"	"	6	21'-5"	193
M5a	5	Bent	As shown	36	7'-8"	288
M5b	5	"	"	36	7'-1"	266
M5c	5	"	"	28	7'-10"	229
N5a	5	Bent	As shown	72	6'-8"	501
N5b	5	"	"	72	6'-0"	451
N5c	5	"	"	56	6'-9"	338
C4a	4	Stright	0'-6"c/c	4	12'-9"	34
C4b	4	"	"	3	11'-5"	23
C4c	4	"	"	4	10'-8"	27
C4d	4	"	"	4	8'-10"	24
C4e	4	"	"	4	7'-6"	20
C4f	4	"	"	4	6'-4"	17
C4g	4	"	"	4	5'-1"	14
C4h	4	"	"	4	3'-9"	10
C5a	5	Stright	2'-6"c/c	1	12'-9"	13
C5b	5	"	"	1	10'-2"	11
C5c	5	"	"	1	8'-10"	9
C5d	5	"	"	1	7'-6"	8
C5e	5	"	"	1	6'-4"	7
C5f	5	"	"	1	3'-9"	4
RE4	4	Stright		4	5'-8"	15
RE5	5	"		2	6'-1"	13
RE6	6	"		6	6'-6"	59
RE7	7	"		2	6'-11"	28
RE11	11	"		20	8'-8"	921
					Total Lbs.	271817

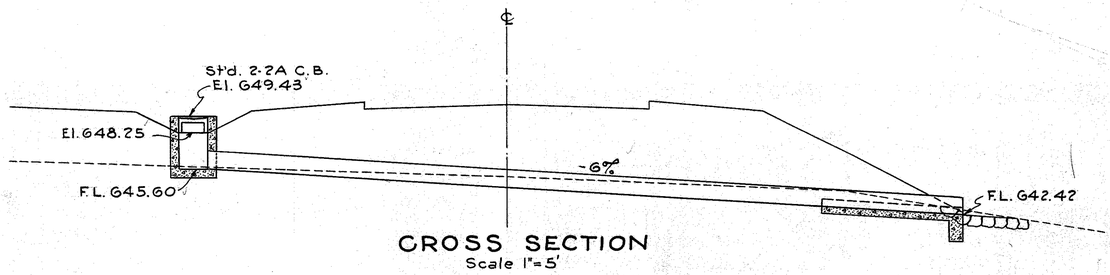
FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

128
164

BEL-7-(17.71 - 20.14)



PLAN
Scale 1"= 5'



CROSS SECTION
Scale 1"=5'

650.68
3+00
645.0

STRUCTURE DATA

TYPE- Pipe Culvert
SIZE - 15" x 53'-0"
WORK REQ'D. - Build 15"x53'-0" pipe culvert with St'd. 2-2A Catch Basin at inlet and St'd. Pipe Culvert End at outlet. Riprap outlet as shown.

REFERENCE DRAWINGS

Pipe Culvert Ends	S-27 P.C. 2
Pipe Culverts	S-27 P.C. 3
Catch Basins	I-8 C.B. 2-2A & B

ESTIMATED QUANTITIES

Excavation for Structures	3	Cu.Yds.
Channel Excavation	1	Cu.Yds.
15" Pipe for Roadway Culverts	53	Lin.Ft.
Concrete for Structures (Class "E")	0.7	Cu.Yds.
St'd. 2-2A Catch Basins	1	Each.
Riprap Type "A" Grout Filled	2	Sq.Yds.

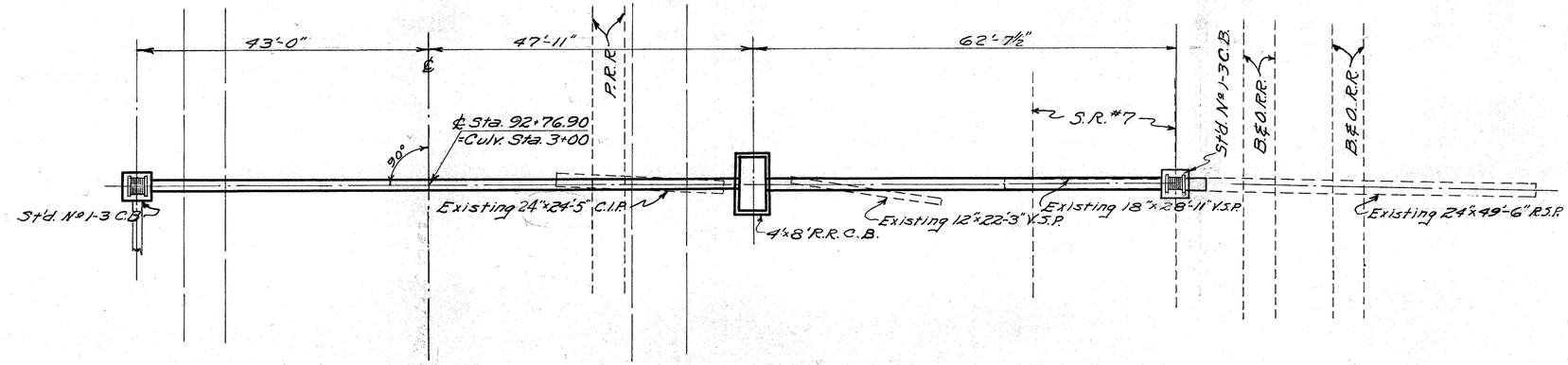
STA. 3+00 ON APPROACH LT. OF STA. 83+50 15" x 53'-0" PIPE CULVERT

24-S

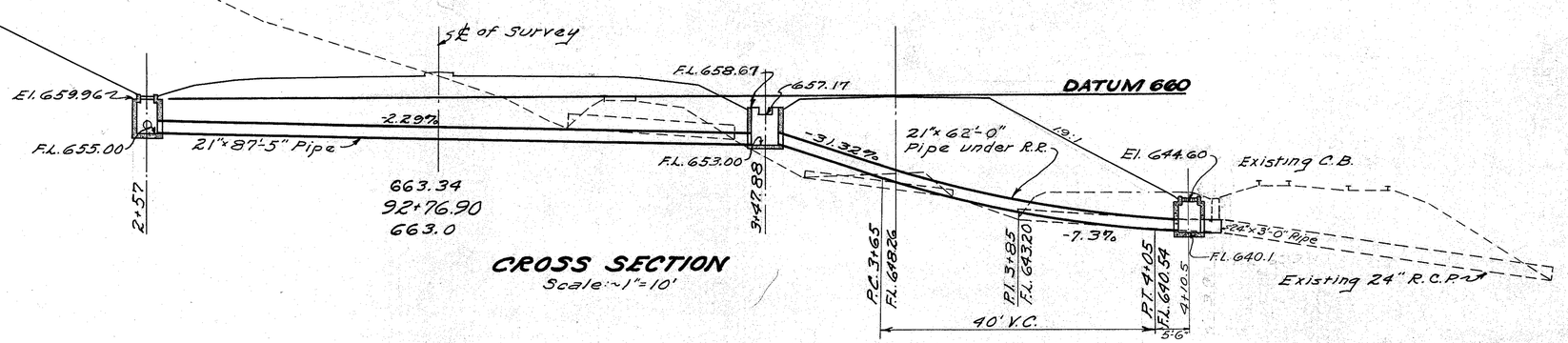
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

129/164

BEL-7-(17.71-20.14)



PLAN
Scale:-1"=10'



CROSS SECTION
Scale:-1"=10'

STRUCTURE DATA

TYPE:- Std. Pipe Culvert
SIZE:- 21"x149'-5" & 24"x 3'-0"
WORK REQ'D:- Remove existing 12"x 22' V.S.P., 24"x 24' C.I.P. and 18"x 29' V.S.P. Build 87'-5" Std. Pipe Culvert with Std. No 1-3 Catch Basin at inlet and 4'x8' R.R.C.B. at outlet. Build 21"x 62'-0" pipe culvert (R.R. strength) under P.R.R. with Std. No 1-3 Catch Basin at outlet and connecting inlet to 4'x 8' R.R.C.B. Connect existing 24" R.R. Culvert to No 1-3 C.B with 24"x 3'-0" pipe extension.

REFERENCE DRAWINGS

Pipe Culverts	S.27, P.C. 2 & 3
Catch Basins	I-8, C.B. No 1-3

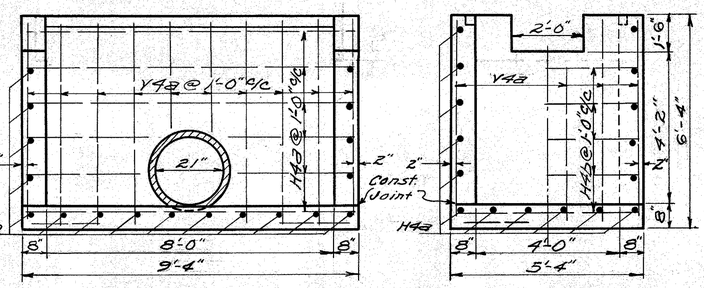
ESTIMATED QUANTITIES

E-2, Structure Excavation	77 Cu. Yd's.
S-27, 21" Pipe for Roadway Culverts	88 Lin. Ft.
S-27, 21" Pipe for Culverts (Railroad Strength)	62 Lin. Ft.
S-27, 24" Pipe for Culverts (Railroad Strength)	3 Lin. Ft.
I-8 No 4-8 R.R. Catch Basins as per plan.	1 Each
I-8 Std. No 1-3 Catch Basins	2 Each
E-12, 12" Pipe Removed and Disposed of	22 Lin. Ft.
E-12, 24" Pipe Removed and Stored	24 Lin Ft.
E-12, 18" Pipe Removed and Disposed of	20 Lin Ft.

STEEL LIST

Mark	Bar No	No	Length	Shape	Wt. Lbs.
V4a	4	28	7'-11"	Bent	149
H4a	4	16	9'-0"	Str't.	96
H4b	4	18	5'-0"	Str't.	60
				Total	305 ⊛
Bars bent and cut in field as shown					
Volume of Concrete (Class "C") 5.0 Cu Yds. ⊛					

⊛ Note: These quantities included in price bid per each No 4x8 R.R.C.B.



DETAIL OF 4'x8' RAILROAD CATCH BASIN
NOTE:- Casting for Catch Basin to be furnished by Penna R.R. Co.
Scale: 1"=2'

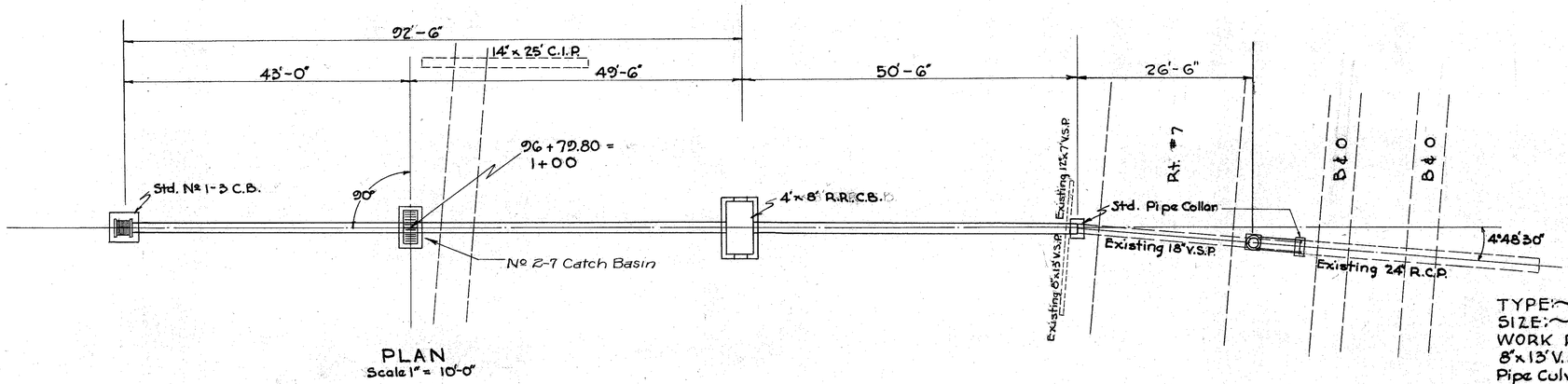
STA. 92+76.90
21"x 62'-0" PIPE CULVERT (RR.)
21"x 88'-0" PIPE CULVERT
24"x 3'-0" PIPE EXT.

25-S

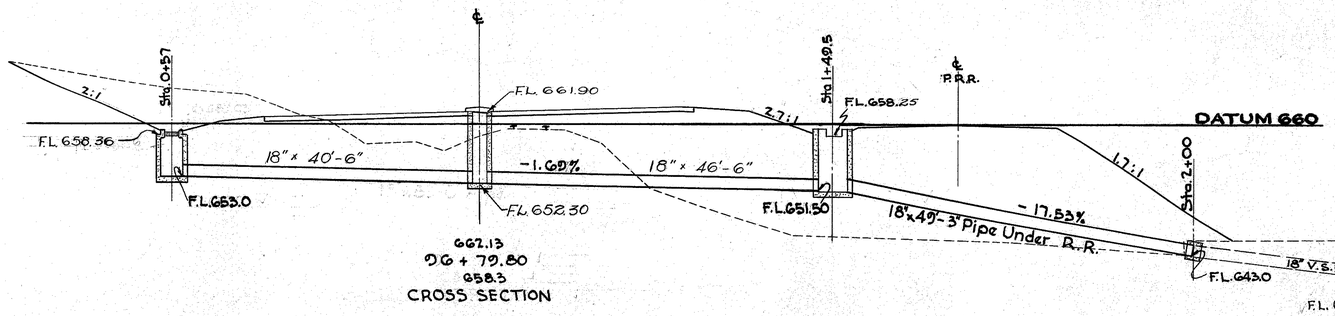
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

130/164

BEL-7-(17.71-20.14)



PLAN
Scale 1" = 10'-0"



662.13
96+79.80
658.3
CROSS SECTION

Note:- This catch basin shall not be placed until highway traffic is removed from existing S.R.7.

STRUCTURE DATA

TYPE:~ Standard Pipe Culvert.
SIZE:~ 18" x 136'-3" & 24" x 7'-0"
WORK REQ'D:~ Remove existing 14"x25' C.I.P., 8"x13' V.S.P. and 12"x7' V.S.P. Build Std. 18"x87'-0" Pipe Culvert with Std. No 1-3 C.B. at inlet and 4'x8' R.R.C.B. at outlet. Build 18"x49'-3" Pipe Culvert (R.R. Strength) under P.R.R. connect to 4'x8' C.B. at inlet and to existing 18" pipe with Std. Concrete Collar at outlet. Build Std. No 1-3 C.B., connect 18" pipe and 24"x15'-0" extension to C.B. Connect 24"x15'-0" pipe to existing 24" pipe with Std. pipe collar. Remove 18"x18'-0" V.S.P. Build No 2-7 Catch Basin as shown.

ESTIMATED QUANTITIES

E-2 Structure Excavation	37 Cu.Yds.
S-27 18" Pipe for Roadway Culverts	87 Lin.Ft.
S-27 18" Pipe Culvert (R.R. Strength)	49 Lin.Ft.
I-8 Std. No 1-3 Catch Basin	2 Each
S-1 Concrete for Structures (Class E)	0.9 Cu.Yds.
I-8 No 4-8 R.R. Catch Basin as per plan	1 Each
S-27 24" Pipe Culvert (R.R. Strength)	15 Lin.Ft.
E-12 8" V.S.P. Removed and Disposed of	13 Lin.Ft.
E-12 12" V.S.P. Removed and Disposed of	7 Lin.Ft.
E-12 14" C.I.P. Removed and Stored	25 Lin.Ft.
E-12-18" V.S.P. Removed and Disposed of*	18 Lin.Ft.
** I-8 No 2-7 CB (as per plan)	1 Each.

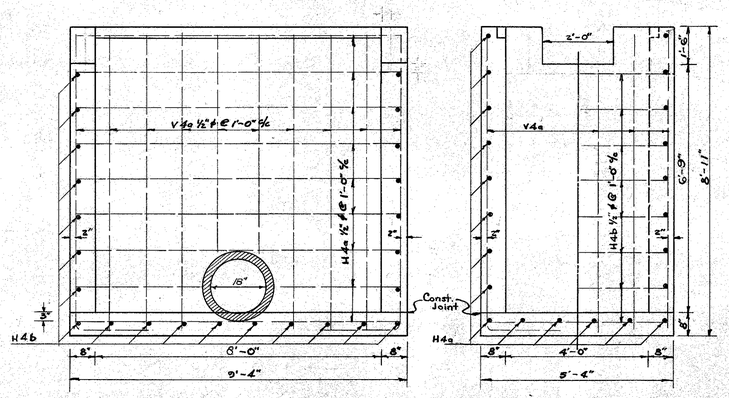
REFERENCE DRAWINGS

Pipe Culverts	S-27 RC. 2 & 3
Catch Basins	I-8 C.B. 1-3
Catch Basins	I-8 C.B. No 7

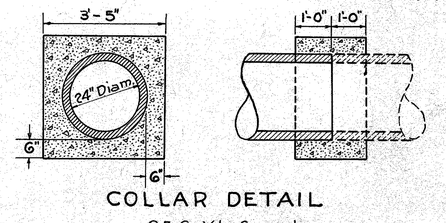
STEEL LIST					
Mark	Bar No	No	Length	Shape	Weight
V4a	4	28	10'-6"	Bent	196
H4a	4	22	9'-0"	Str't.	132
H4b	4	24	5'-0"	Str't.	80
			Total Lbs.		408 ⊗
Bars bent and cut in field as shown.					
Volume of Class "C" Concrete 0.5 Cu.Yds.					⊗

⊗ Note: These quantities included in price bid per each No 4x8 RRCB.

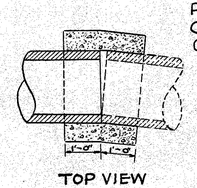
⊗⊗ Note: See Sheet No 4 for details of No 2-7 Catch Basin



Note:~ Casting for catch basin shall be furnished by Penna. R.R.
DETAIL OF 4'x8' RAILROAD CATCH BASIN
Scale: 1" = 2'

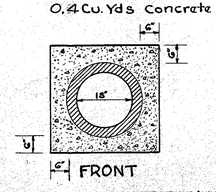


COLLAR DETAIL
0.5 Cu.Yds. Concrete

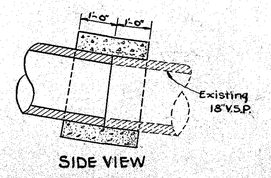


TOP VIEW

0.4 Cu. Yds Concrete



FRONT



SIDE VIEW

DETAIL OF COLLAR
Scale: 1" = 2'

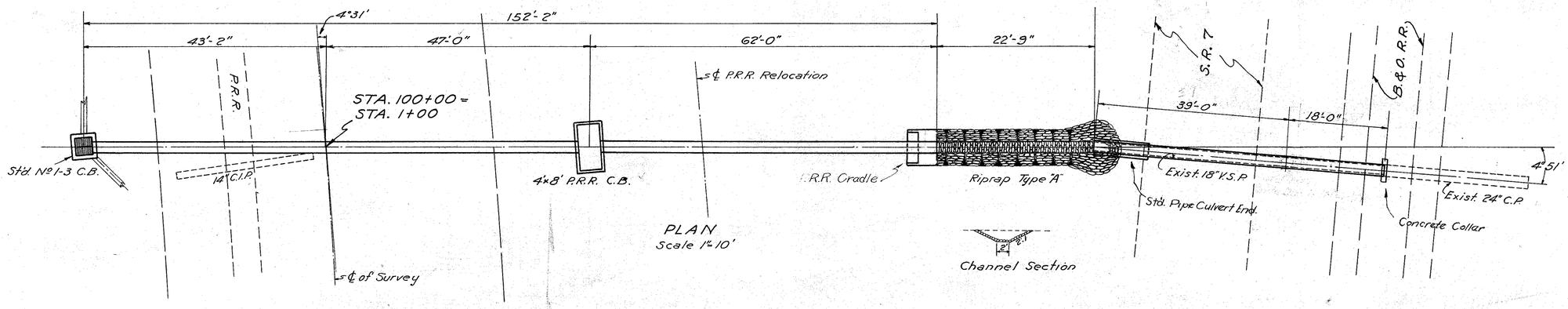
STA. 96+79.80
18" x 49'-3" CULV'T. PIPE (R.R.)
18" x 87'-0" CULVERT PIPE
24" x 15'-0" PIPE CULVERT EXT.

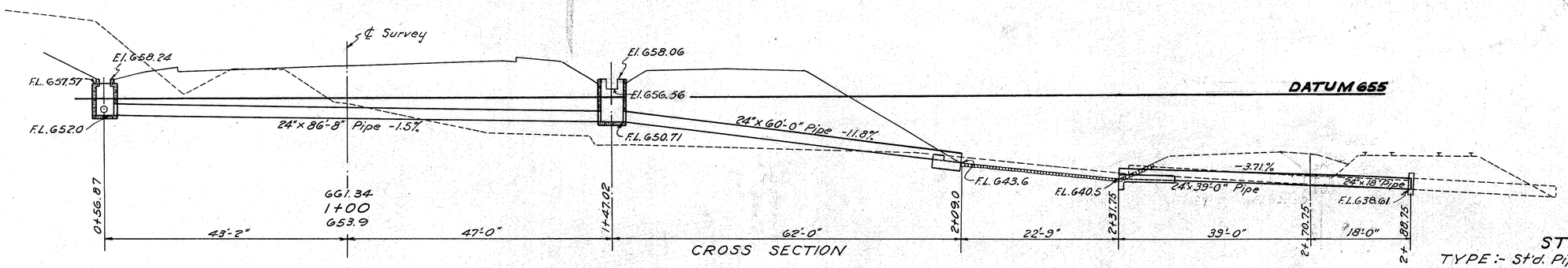
26-S

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

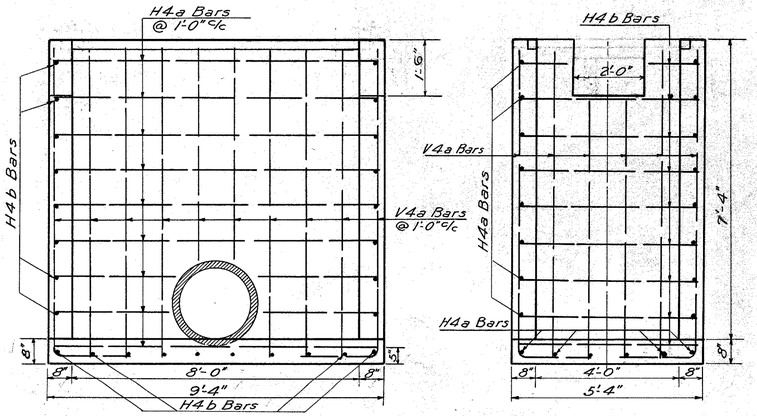
131
164

BEL-7-(17.71 - 20.14)





CROSS SECTION



DETAIL OF 4'x8' RAILROAD CATCH BASIN

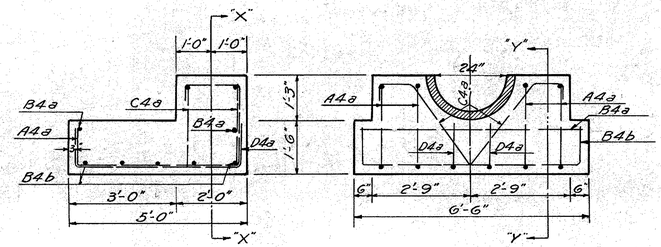
Scale: 1"=2'

Note:- Casting for Catch Basin shall be furnished by the P.R.R. Co.

STEEL LIST

Mark	Bar No	Spac.	Shape	No	L'gth.	Wt.
V4a	4	1'-0"	Bent	28	9'-7"	181
H4a	4	1'-0"	Str't	22	9'-0"	132
H4b	4	1'-0"	"	26	5'-0"	87
Total Lbs.						400 ⊛
Concrete (Class "C") 5.9 Cu.Yds. ⊛						
Bars bent and cut in field						

⊛ Note: These quantities included in price bid per each No 4x8 R.R.C.B.



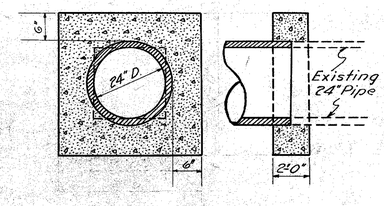
SECTION "Y"-"Y" SECTION "X"-"X"

R.R. CRADLE FOR PIPE CULVERT

Scale: 1"=2'

STEEL LIST

Mark	Bar No	Spac.	Shape	No	L'gth.	Wt.
A4a	4	1'-0"	Bent	4	9'-6"	25
B4a	4	4'-5"	Str't.	2	6'-0"	8
B4b	4	1'-0"	Bent	5	7'-10"	26
C4a	4	1'-5"	Bent	4	3'-10"	10
D4a	4	1'-0"	Bent	2	6'-4"	9
Total Lbs.						78
Concrete (Class "E") 2.3 Cu.Yds.						



CONCRETE COLLAR

Concrete (Class "E") 0.5 C.Y.

STRUCTURE DATA

TYPE:- Std. Pipe Culvert. SKEW:- 4°31' Lt. Fwd.
SIZE:- 24"x193'-8"
WORK REQ'D.:- Remove existing 14"x24' C.I.P. and 18"x49' V.S.P. Build standard 24"x86'-8" pipe culvert with std. No 1-3 C.B. at inlet and R.R. 4'x8' C.B. at outlet. Build 24"x60'-6" pipe culvert (R.R. Strength) under P.R.R., connect to 4'x8' C.B. at inlet with R.R. Culvert End at outlet. Excavate and riprap channel as per plan. Build Std. 24"x39'-0" Pipe Culvert with Std. Pipe Culvert End at inlet end and continue with new 24"x18'-0" Pipe Culvert (R.R. strength) under B.&O. R.R. and connect to existing R.R. Culvert with Std. Concrete Collar.

REFERENCE DRAWINGS

Pipe Culverts	S-27 P.C. 2&3
Catch Basins	I-8 C.B. 1-3

ESTIMATED QUANTITIES

E-2	Structure Excavation	38 Cu.Yds.
E-3	Channel Excavation	14 Cu.Yds.
S-27	24" Pipe for Roadway Culverts	126 Lin.Ft.
S-27	24" Pipe Culvert (R.R. Strength)	78 Lin.Ft.
I-8	Std. No 1-3 Catch Basins	1 Each
I-8	No 4-8 R.R. Catch Basin as per plan	1 Each
S-1	Concrete for Structures (Class "E")	3.9 Cu.Yds.
S-4	Reinforcing Steel	78 Lbs.
I-10	Riprap Type "A" Grout Filled.	42 Sq.Yds.
E-12	14" Pipe removed and Stored	24 Lin.Ft.
E-12	18" Pipe removed and disposed of	49 Lin.Ft.

STA. 100+00
24"x126'-0" PIPE CULVERT

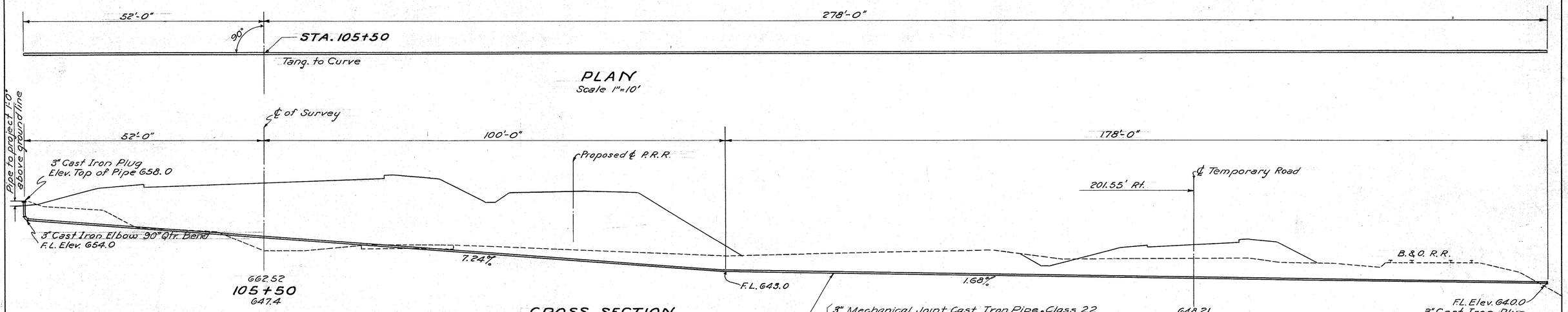
27-S

24"x78'-0" PIPE CULVERT (RR)

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

132/164

BEL-7-(17.71-20.14)



Note:- Cast Iron Pipe for these structures shall meet the requirements of "American Standard Specifications for Mechanical Joint Cast Iron Pressure Pipe and Fittings, A-21.11-1952.

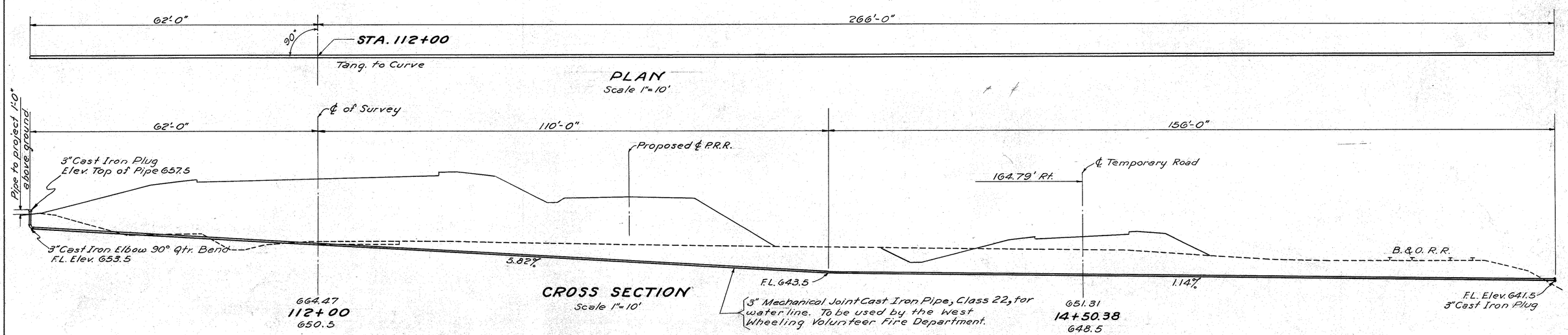
ESTIMATED QUANTITIES

Structure Excavation	34 Cu. Yds.
3" Mechanical Joint Cast Iron Pipe, Class 22	334 Lin. Ft.
3" Mechanical Joint Cast Iron 90° Quarter Bend	1 Each
3" Mechanical Joint Cast Iron Plugs.	2 Each

STA. 105+50

3"x 334'-0" MECHANICAL JOINT CAST IRON PIPE, CLASS 22.

30-S



Note:- Cast Iron Pipe to be laid in accordance with methods outlined in "Handbook of Cast Iron Pipe," by Cast Iron Pipe Research Ass'n., Chicago, 3, Illinois.

ESTIMATED QUANTITIES

Structure Excavation	38 Cu. Yds.
3" Mechanical Joint Cast Iron Pipe	332 Lin. Ft.
3" Mechanical Joint Cast Iron 90° Quarter Bend	1 Each
3" Mechanical Joint Cast Iron Plugs	2 Each

STA. 112+00

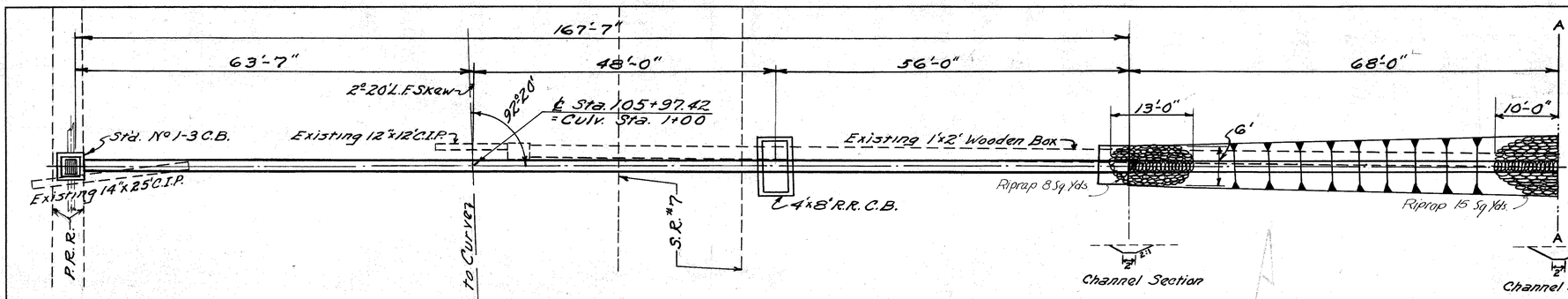
3"x 332'-0" MECHANICAL JOINT CAST IRON PIPE, CLASS 22.

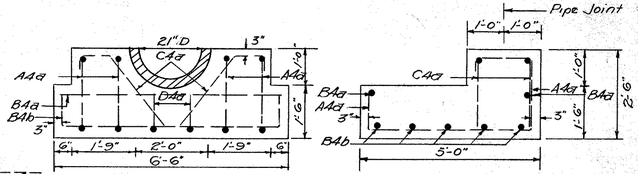
34-S

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

133
164

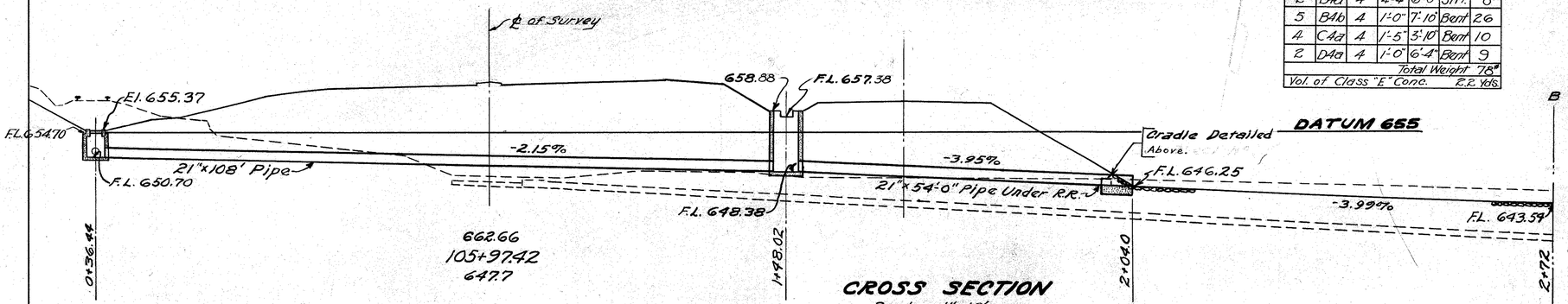
BEL 7-(17.71 -20.14)





R.R. CRADLE FOR 21" PIPE CULVERT
SCALE: 1" = 2'-0"

PLAN
Scale ~ 1"=10'



CROSS SECTION
Scale ~ 1"=10'

STEEL LIST						
Nº	Mark	Size	Space	Length	Shape	Wt
4	A4a	4	1'-0"	9'-3"	Bent	25
2	B4a	4	4'-4"	6'-0"	Str't.	8
5	B4b	4	1'-0"	7'-10"	Bent	26
4	C4a	4	1'-5"	3'-10"	Bent	10
2	D4a	4	1'-0"	6'-4"	Bent	9
Total Weight 78#						
Vol. of Class "E" Conc. 2.2 Yds.						

STRUCTURE DATA

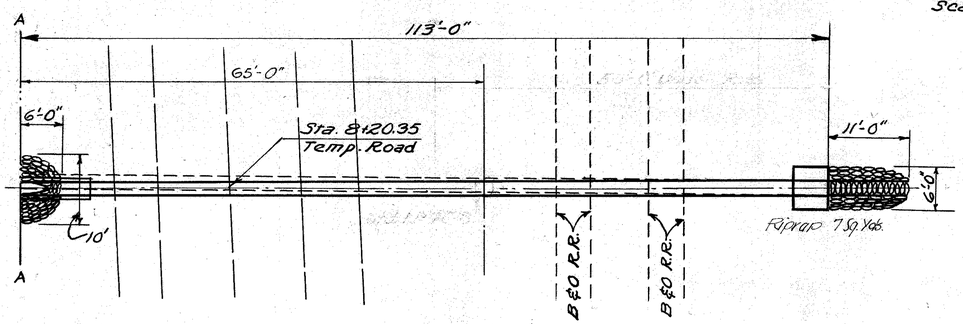
TYPE:~ Standard Pipe Culvert
SIZE:~ 21"x162'-0" and 24"x113'-0"
SKEW:~ 2° 20' Left Forward
WORK REQ'D:~ Remove 12"x12'-0" and 14"x25' C.I.P. Build Std. 21"x108'-0" Pipe Culvert with Std. Nº 1-3 Catch Basin at inlet and 4'x8' R.R.C.B. at outlet. Build 21"x54'-0" pipe culvert (R.R. strength) under P.R.R. with R.R. pipe end at outlet and connecting to 4'x8' C.B. Riprap outlet as per plan. Build Std. 24"x65'-0" pipe culvert with Std. Culvert Pipe End at inlet; continue with new 24"x48'-0" Pipe Culvert (R.R. strength) under B&O. R.R. and build R.R. Pipe Culvert End at outlet. Riprap inlet and outlet as per plan.

REFERENCE DRAWINGS

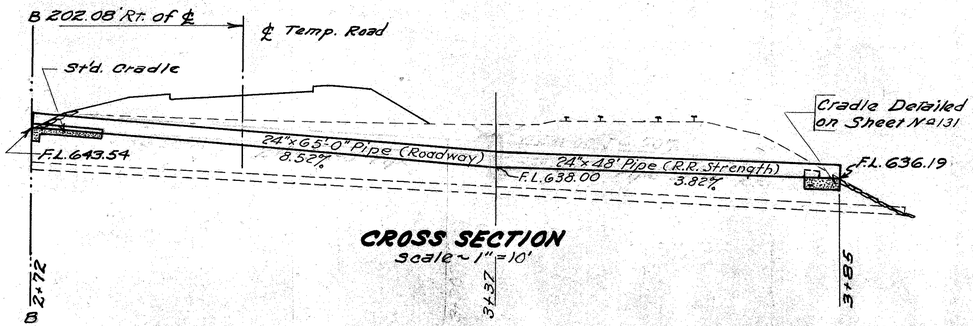
Pipe Culverts	S-27 P.C. 2&3
Catch Basins	I-8 Nº 1-3 C.B.

ESTIMATED QUANTITIES

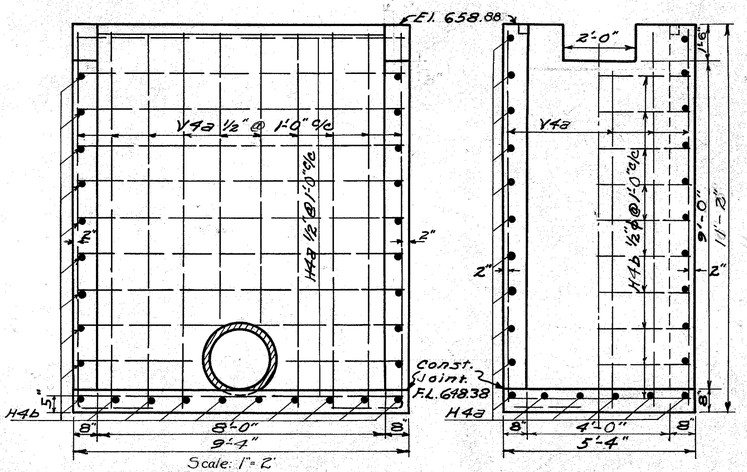
E-2 Structure Excavation	75 Cu. Yds.
E-3 Channel Excavation	23 Cu. Yds.
S-27 21" Pipe for Roadway Culvert	108 Lin. Ft.
S-27 21" Pipe for Culvert (R.R. Strength)	54 Lin. Ft.
S-27 24" Pipe for Roadway Culvert	65 Lin. Ft.
S-27 24" Pipe for Culvert (R.R. Strength)	48 Lin. Ft.
I-8 Std Nº 1-3 Catch Basin	1 Each
I-8 4-8 R.R. Catch Basin as per plan	1 Each
S-1 Concrete for Structures (Class "E")	5.7 Cu. Yds.
S-4 Reinforcing Steel	156 Lbs.
E-12 12" Pipe Removed and Disposed of	12 Lin. Ft.
E-12 14" Pipe Removed and Stored	25 Lin. Ft.
I-10 Riprap (Type "A") Grout Filled	35.5 Sq. Yds.



PLAN
Scale ~ 1"=10'



CROSS SECTION
Scale ~ 1"=10'



Scale: 1" = 2'

STEEL LIST					
Mark	Bar Nº	Nº	Length	Shape	Wt. Lbs.
Y4a	4	28	12'-9"	Bent	238
H4a	4	26	9'-0"	Str't.	156
H4b	4	28	5'-0"	Str't.	94
				Total	488 ®
Bars bent and cut in field as shown.					
Concrete (Class "C") 8.1 Cu. Yds. ®					

® NOTE: These quantities included in price bid per each Nº 4'x8' R.R.C.B.

NOTE-Casting for Catch Basin to be furnished by Pennsylvania R.R. Co.

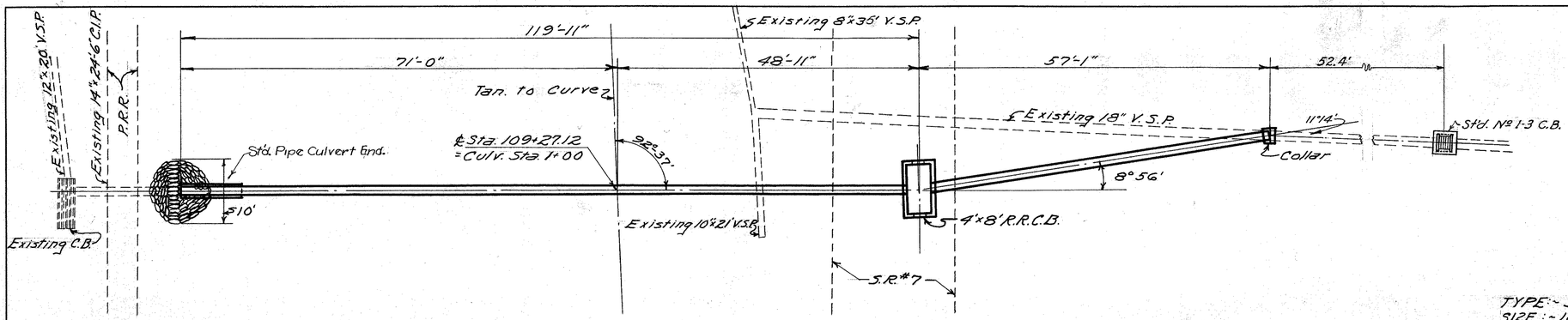
STA. 105+97.42
21"x108'-0" PIPE CULV.
21"x54'-0" PIPE CULV. (R.R.)
24"x65'-0" PIPE CULV.
24"x48'-0" PIPE CULV. (R.R.)

31-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

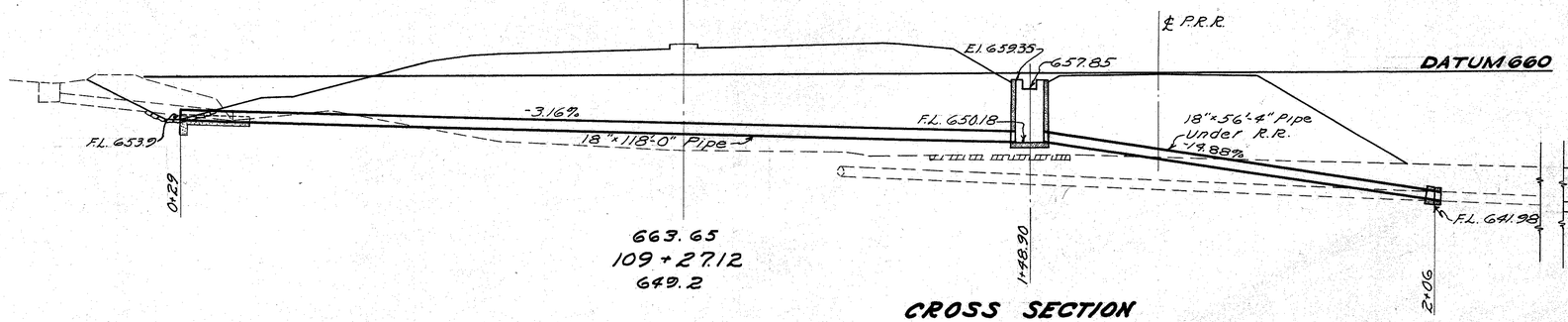
134
164

BEL-7-(17.71-20.14)



PLAN

Scale:~1"=10'



CROSS SECTION

Scale:~1"=10'

STRUCTURE DATA

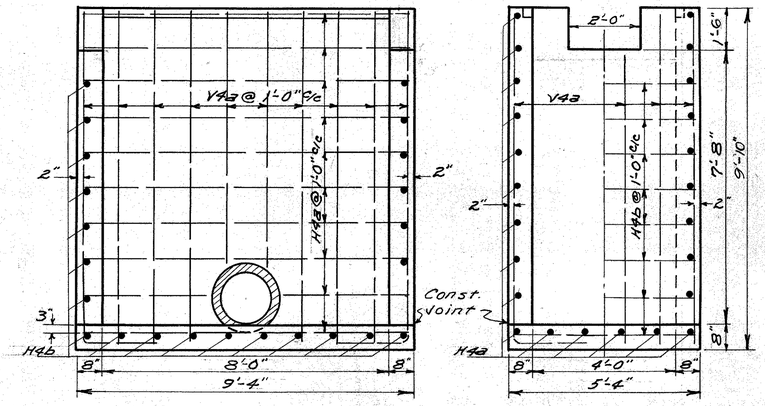
TYPE:~Std. Pipe Culvert
SIZE:~18"x174'-4"
Skew:~2°37' Left Forward
Work Reqd.:~Remove 8"x35' V.S.P., 10"x21' V.S.P., 12"x22' V.S.P., 14"x25' C.I.P. and 18"x83' V.S.P. Build Std. 18"x118'-0" Pipe Culvert with 4'x8' R.R.C.B. at outlet and Std. Pipe Culvert End at inlet. Riprap inlet as per plan. Build 18"x56'-4" Pipe Culvert (R.R. strength) under P.R.R., connect to 4'x8' R.R.C.B. at inlet and connect outlet to existing 18" V.S.P. with concrete collar as per plan. Build Std. Nº 1-3 C.B. as per plan.

REFERENCE DRAWINGS

Pipe Culverts	S-27, PC. 2 & 3
Catch Basins	I-8 Nº 1-3 C.B.

ESTIMATED QUANTITIES

E-2 Structure Excavation	17 Cu. Yds.
S-27 18" Pipe for Roadway Culverts	118 Lin. Ft.
S-27 18" Pipe for Culverts (R.R. strength)	57 Lin. Ft.
S-1 Concrete for Structures (Class "E")	1.3 Cu. Yds.
I-8 Std. Nº 1-3 Catch Basin as per plan	1 Each
* I-8 Nº 4-8 R.R. Catch Basin as per plan	1 Each
E-12 8" Pipe Removed and Disposed of	35 Lin. Ft.
E-12 14" C.I.P. Removed and Stored	22 Lin. Ft.
E-12 18" V.S.P. Removed and Disposed of	83 Lin. Ft.
I-10 Riprap Type "A" Grout Filled	9 Sq. Yds.
E-12 10" Pipe Removed and Disposed	21 Lin. Ft.



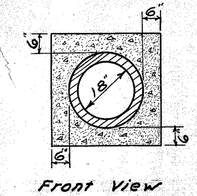
DETAIL OF 4'x8' RAILROAD CATCH BASIN

Scale: 1"=2'

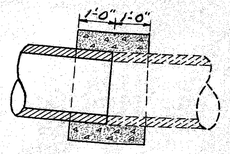
STEEL LIST					
Mark	Bar Nº	Nº	Length	Shape	Wt. Lbs.
V4a	4	28	11'-5"	Bent	213
H4a	4	24	9'-0"	Str't.	144
H4b	4	24	5'-0"	Str't.	80
				Total	437 ⊗
Bars bent and cut in field as shown.					
Volume of Concrete (Class "C") 7.3 Cu. Yds. ⊗					

NOTE:~Casting for C.B. to be furnished by Penna. R.R. Co.

⊗Note: These quantities included in price bid per each Nº 4x8 R.R.C.B.



Front View



Side View

DETAIL OF COLLAR

Scale: 1"=2'

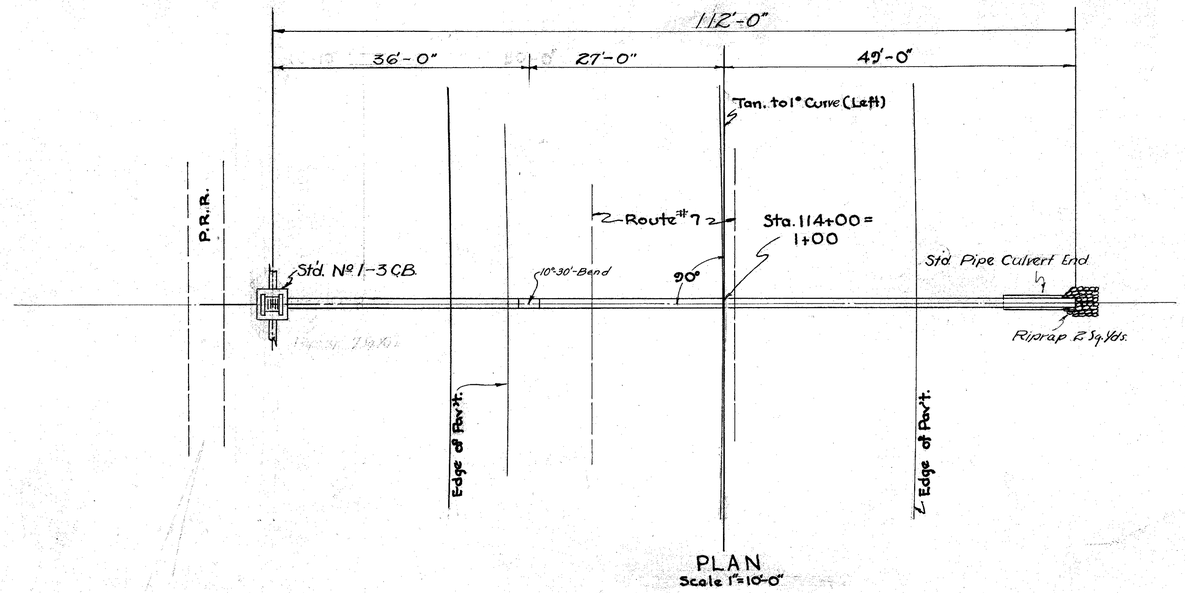
STA. 109+27.12
18"x118'-0" PIPE CULV.
18"x56'-4" PIPE CULV. (R.R.)

32-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

135
164

BEL-7 (17.71 – 20.14)



PLAN
Scale 1"=10'-0"

STRUCTURE DATA

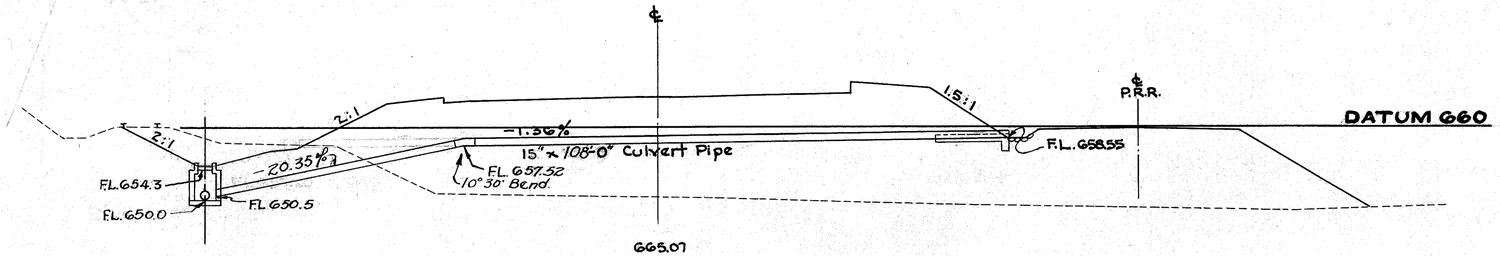
TYPE:~ Standard Pipe Culvert
SIZE:~ 15" x 108'-0"
WORK REQ'D:~ Build Std. 15" x 108'-0" Pipe Culvert with No. 1-3 catch basin at outlet and Std. Pipe Culvert End at Inlet.

REFERENCE DRAWINGS

Pipe Culverts	S-27 P.C. 2 & 3
Catch Basins	I-8 C.B. 1-3 & 1-4

ESTIMATED QUANTITIES

S-27 15" Pipe for Roadway Culverts	108 Lin. Ft.
I-10 Riprap (Type A) Grout Filled	2 Sq. Yds.
1-5 15" Pipe Special (10°-30' Bend)	1 Each
1-8 Std. No. 1-3 Catch Basin	1 Each
S-1 Concrete for Structures (Class E)	0.7 Cu. Yd.
E-2 Structure Excavation	10 Cu. Yds.



665.07
114 + 00
650.3
CROSS SECTION

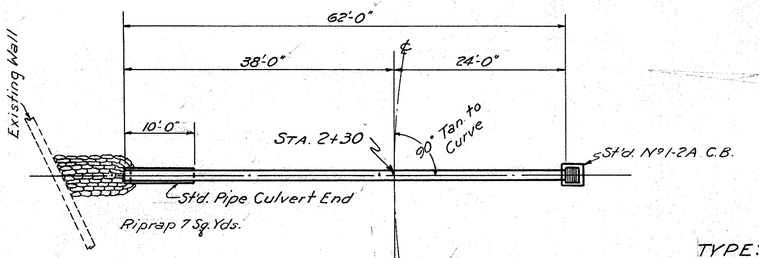
STA. 114 + 00
15" x 108'-0" CULVERT PIPE

35-S

FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

136
164

BEL-7-(17.71-20.14)



PLAN
Scale 1"=10'

STRUCTURE DATA

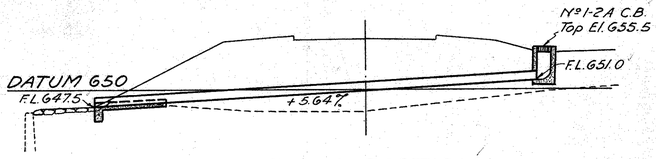
TYPE:- Pipe Culvert
SIZE:- 15"x 62'-0"
WORK REQ'D:- Build Std. 15"x 62'-0" Pipe Culvert with No 1-2A catch basin at inlet and Std. Pipe Culvert End at outlet. Riprap outlet as shown.

REFERENCE DRAWINGS

Pipe Culvert Ends	S-27 P.C. 2
Pipe Culverts	S-27 P.C. 3
Catch Basins	I-8 C.B. 1-2A & B

ESTIMATED QUANTITIES

15" Pipe for Roadway Culverts	62 Lin. Ft.
1-2A Catch Basins	1 Each
Concrete (Class "E")	0.2 Cu. Yds.
Riprap Type "A" Grout Filled	7 Sq. Yds.

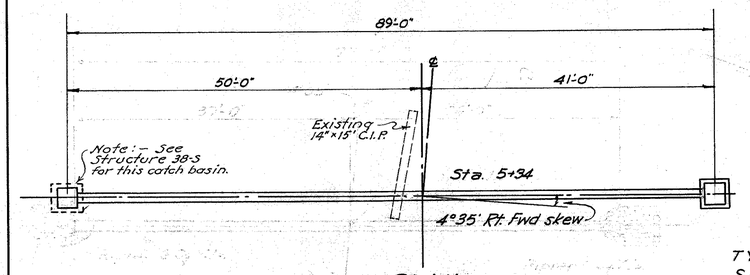


CROSS SECTION

657.44
2+30
646.8

STA. 2+30 APPROACH LT. STA. 115+50 - 15"x 62' PIPE CULVERT

39-S



PLAN
Scale 1"=10'

STRUCTURE DATA

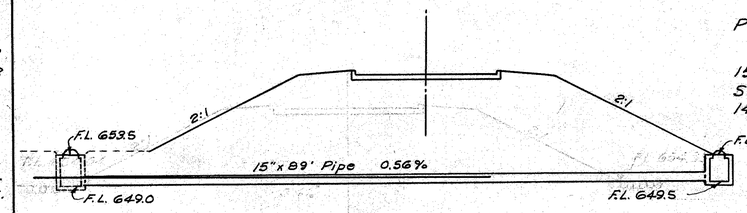
TYPE:- Pipe Culvert
SIZE:- 15"x 89'-0" Skew 4°35' Rt. Fwd.
WORK REQ'D:- Build Std 15"x 89'-0" pipe culvert Build Std. 1-3 C.B. on Rt. Remove existing 14" x 15' C.I.P.

REFERENCE DRAWINGS

Pipe Culverts	S-27 P.C.3

ESTIMATED QUANTITIES

15" Pipe for Roadway Culverts	89 Lin. Ft.
Std 1-3 Catch Basin	1 Each
14" Pipe Removed and Stored	15 Lin. Ft.

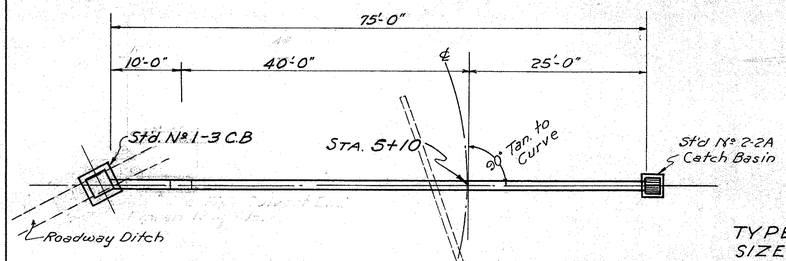


CROSS SECTION

664.68
5+34
654.2

STA. 5+34 APPROACH LT. STA. 115+50 - 15"x 89' PIPE CULVERT

37-S



PLAN
Scale 1"=10'

STRUCTURE DATA

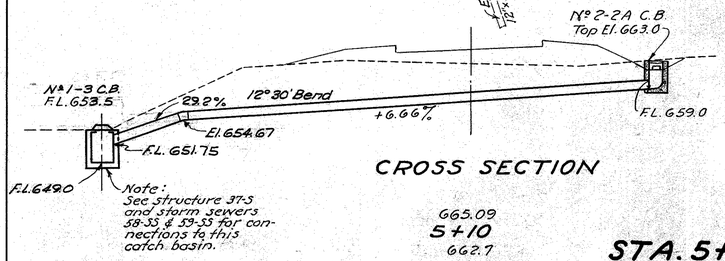
TYPE:- Std. Pipe Culvert
SIZE:- 15"x 73'-0"
WORK REQ'D:- Build Std. 15"x 73'-0" Pipe Culvert with No 2-2A catch basin at inlet and No 1-3 catch basin at outlet. Remove existing 12"x 42' V.S.P.

REFERENCE DRAWINGS

Pipe Culverts	S-27 P.C.3
Catch Basins	I-8 C.B. 2-2A & B

ESTIMATED QUANTITIES

Excavation for Structures	37 Cu. Yds.
15" Pipe for Roadway Culverts	73 Lin. Ft.
No 2-2A Catch Basins	1 Each
No 1-3 Catch Basin	1 Each
15" 12°-30' Bend Pipe Special	1 Each
12" Pipe removed and disposed of	42 Lin. Ft.



CROSS SECTION

665.09
5+10
662.7

STA. 5+10 APPROACH LT. STA. 115+50 - 15"x 73' PIPE CULVERT

38-S

CULVERTS ON APPROACH LT. STA. 115+50

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

137/164

BEL-7-(17.67-20.14)

PI = 0+80.44
Δ = 20°52'
T = 20.00
L = 39.56
R = 108.62

P.C. 0+60.44

P.T. 1+00.00

℄ of Survey

236'-3"

76'-4"

126'-5"

19'-4"

23'-6" | 23'-6" | 23'-6" | 23'-8" | 23'-8" | 23'-8" | 23'-8" | 23'-8" | 23'-8" | 23'-9"

12'

0+50

Existing Concrete Wall

Existing Conc. Crib Wall

0+81.39

186 Sq.Yds. Riprap

New Retaining Wall

1+07.66

24" Storm sewer (89-55)

Existing 10' R.C.P.

+50

STA. 118+79 = CULVERT STA. 2+10

17°

2+27.42

Existing Channel

Proposed ℄ P.R.R.

Proposed new 72" Pipe

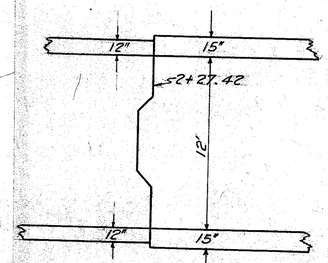
125 Sq.Yds. Riprap

℄ Temporary S.R. 7

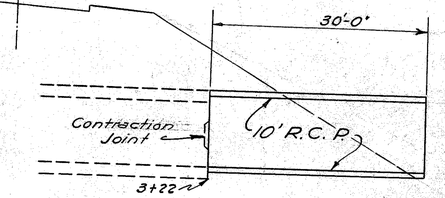
PLAN
Scale 1"=10'

℄ Existing P.R.R.

118



TOP VIEW SHOWING CHANGE IN WALL THICKNESS AT STA. 2+27.42



METHOD OF RETAINING TEMPORARY FILL AT OUTLET DURING CONSTRUCTION USING RECLAIMED 10' R.C.P. FROM INLET END OF STRUCTURE.

Note:- The last section of the Box Culvert shall be omitted temporarily and the 30' of 120" R.C.P. shall be placed as shown to retain the temporary S.R. 7 embankment. When the temporary road is no longer needed for traffic the embankment and 120" pipe shall be removed and the end section of the Box Culvert shall be constructed according to plan. Payment for this work shall be made under Items I-G and E-12. This work will be non-performed if the temporary road is not constructed.

℄ of Survey

Proposed ℄ P.R.R. Relocation

DATUM 650

23'-8" Slope length | 23'-8 Slope length | 23'-8 Slope length | 23'-8" | 23'-8" | 23'-8" | 23'-8" | 23'-8" | 23'-8" | 23'-8"

℄ Temporary S.R. 7

FL. 637.0

FL. 640.5 24" Storm Sew. (Opposite side)

-12.87%

FL. 628.48

℄ Contraction Joint

-0.282%

FL. 628.0

80 lin. ft of 120" R.C.P. to be removed and stored. 30 lin. ft. of this pipe shall be removed for reuse, relayed and then removed for storage when no longer needed.

4-3

0+50 | 1+00 | 1+50 | 1+75.69 | GG5.36 2+00 GG5.6 | 2+50 | 3+00 | 3+26.43 | 3+45.75 | 3+50

CROSS SECTION

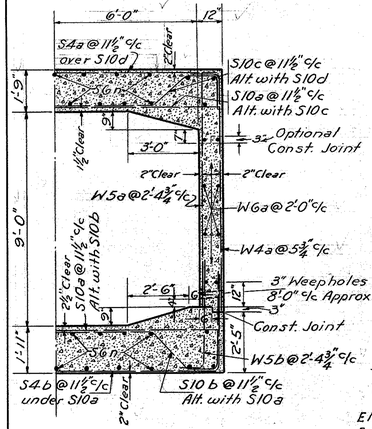
40-S

12'x9' BOX CULVERT STA. 118+79

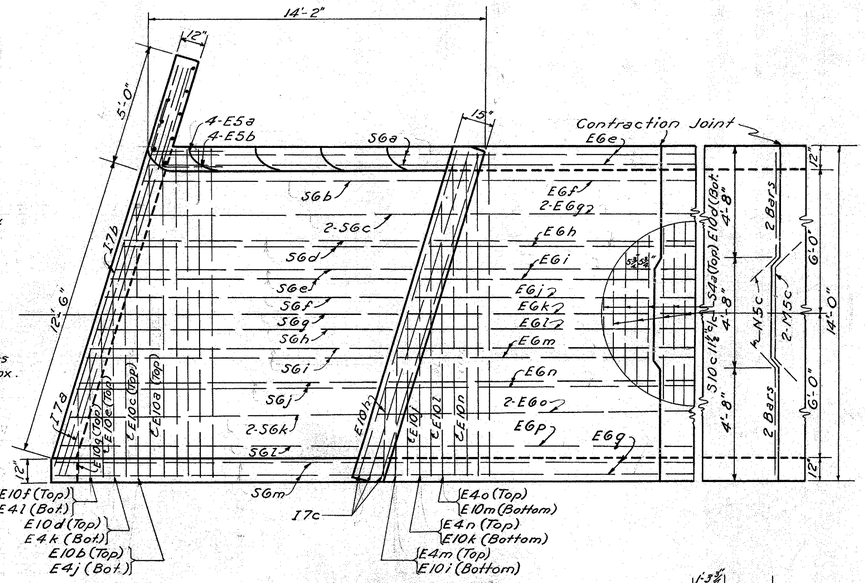
FED. RD. DIVISION	STATE	FA PROJECT	TYPE FUNDS
2	OHIO		

138/164

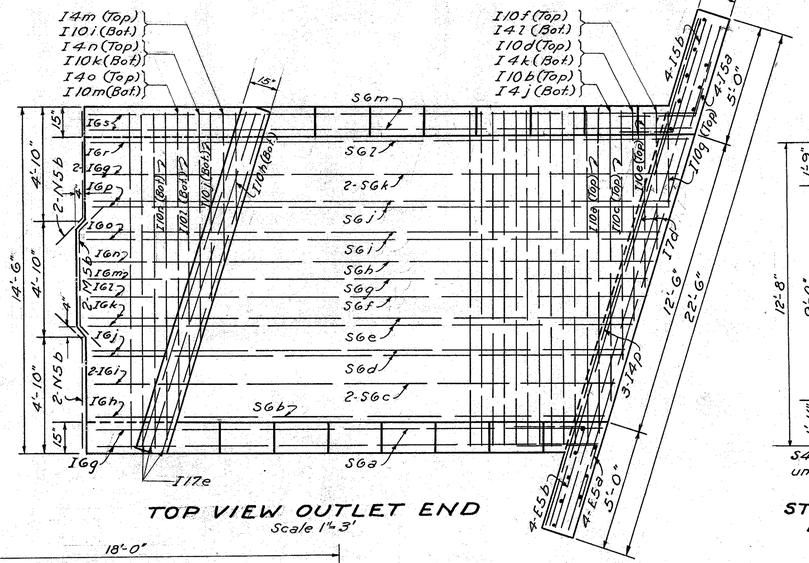
BEL-7-(17.71-20.14)



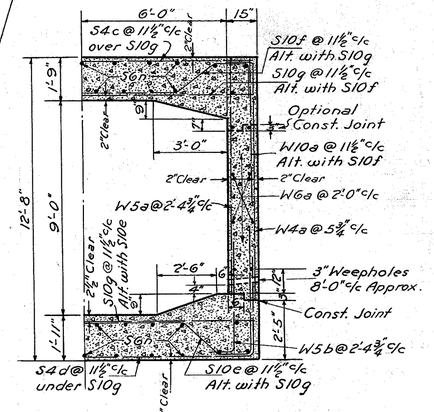
STA. 1+09.5 TO STA. 2+27.42
HALF SECTION THRU BARREL INLET END
Scale 1"=3'



TOP VIEW INLET END
Scale 1"=3'



TOP VIEW OUTLET END
Scale 1"=3'

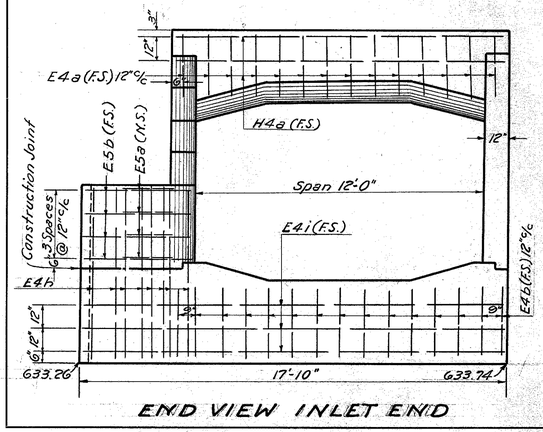


STA. 2+27.42 TO STA. 3+45.75
HALF SECTION THRU BARREL OUTLET END

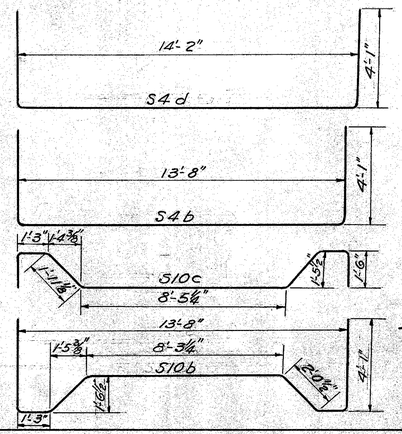
SECTION NORTH WALL INLET END
Scale 1"=3'

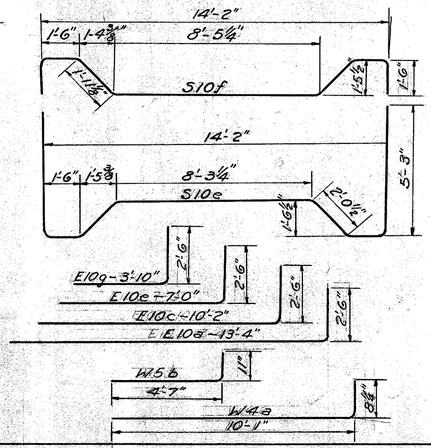
SECTION OUTLET END

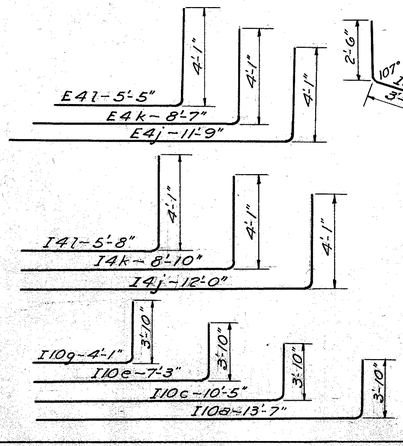
END VIEW OUTLET END
Scale 1"=3'

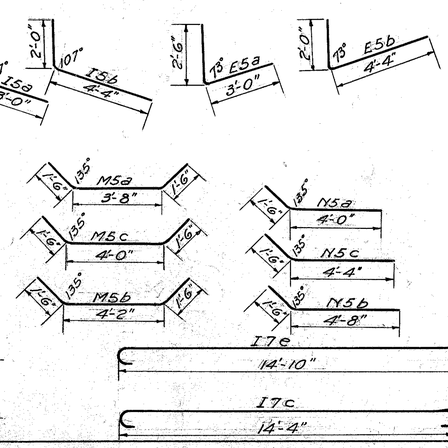


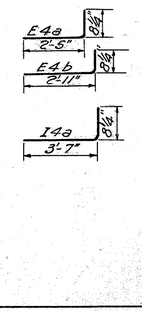
END VIEW INLET END







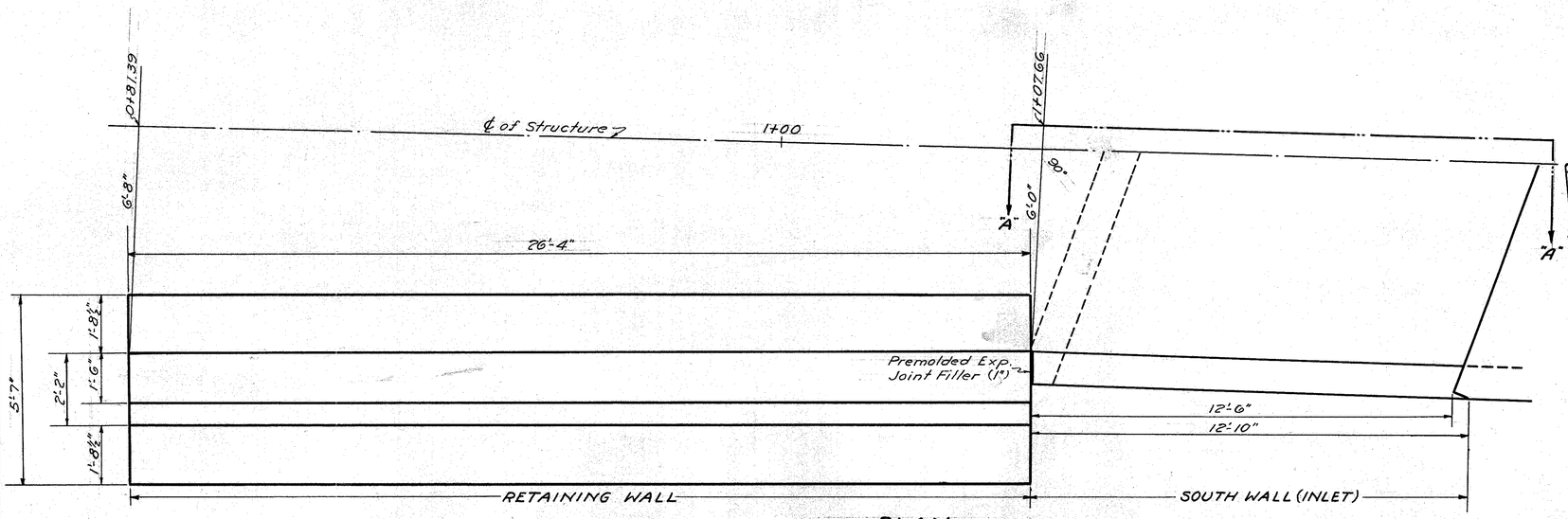




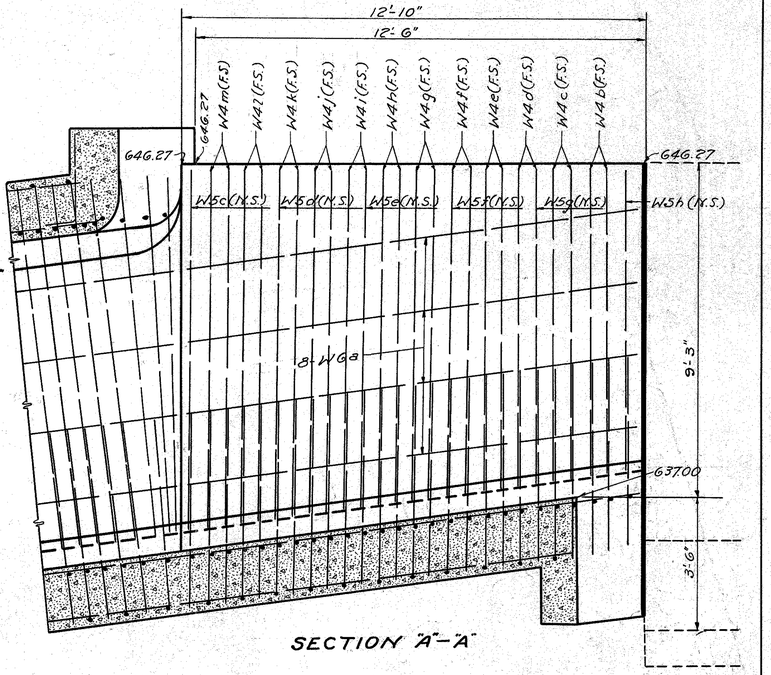
FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

139/164

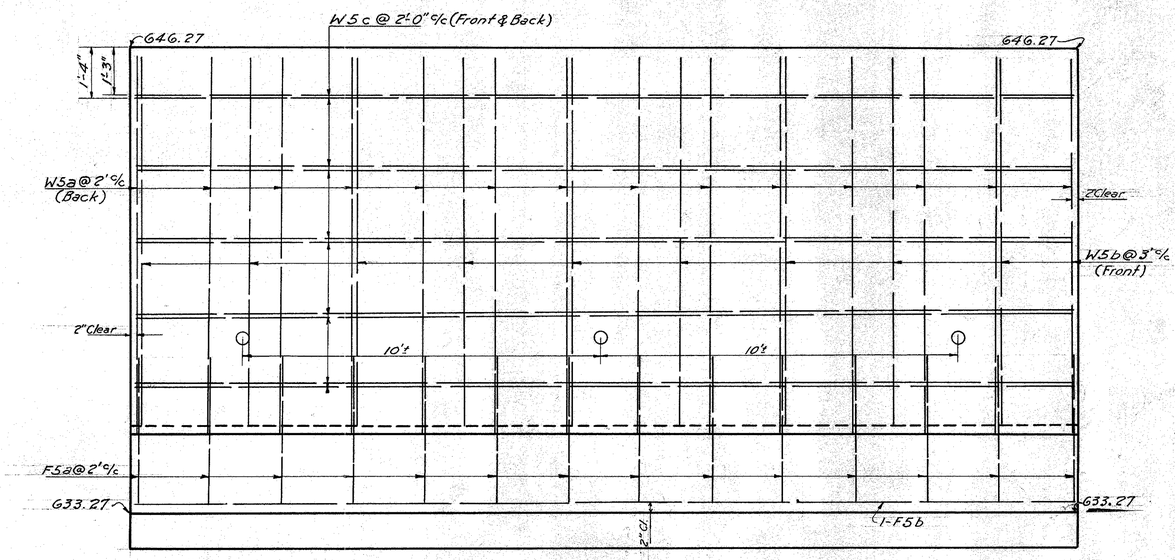
BEL-7-(17.71-20.14)

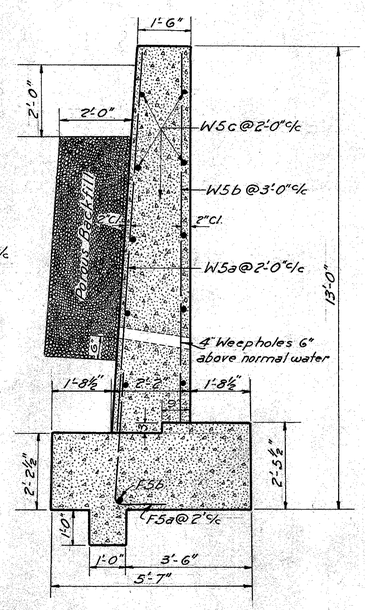


PLAN
Scale 1½"=1'



SECTION "A"-"A"



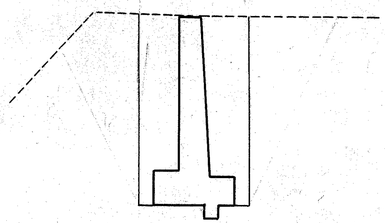


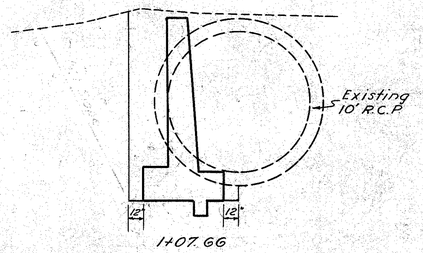
RETAINING WALL STEEL LIST						
Mark	Bar No	Shape	Spacing	No	Length	Weight
F5a	5	Bent	2'0"c/c	14	4'-11"	72
F5b	5	Straight	As shown	1	26'-1"	27
W5a	5	"	2'-0"c/c	14	10'-7"	155
W5b	5	"	3'-0"c/c	10	10'-4"	108
W5c	5	"	As shown	10	26'-1"	272
				Total Lbs.		634

ESTIMATED QUANTITIES

Structure Excavation	68 Cu. Yds.
Concrete (Class "E")	32.7 Cu. Yds
Reinforcing Steel	634 Lbs.
Porous Backfill	12 Cu. Yds.
Premolded Exp. Joint Filler	13 Lin. Ft.

Note:- Quantities carried to Sheet No 140





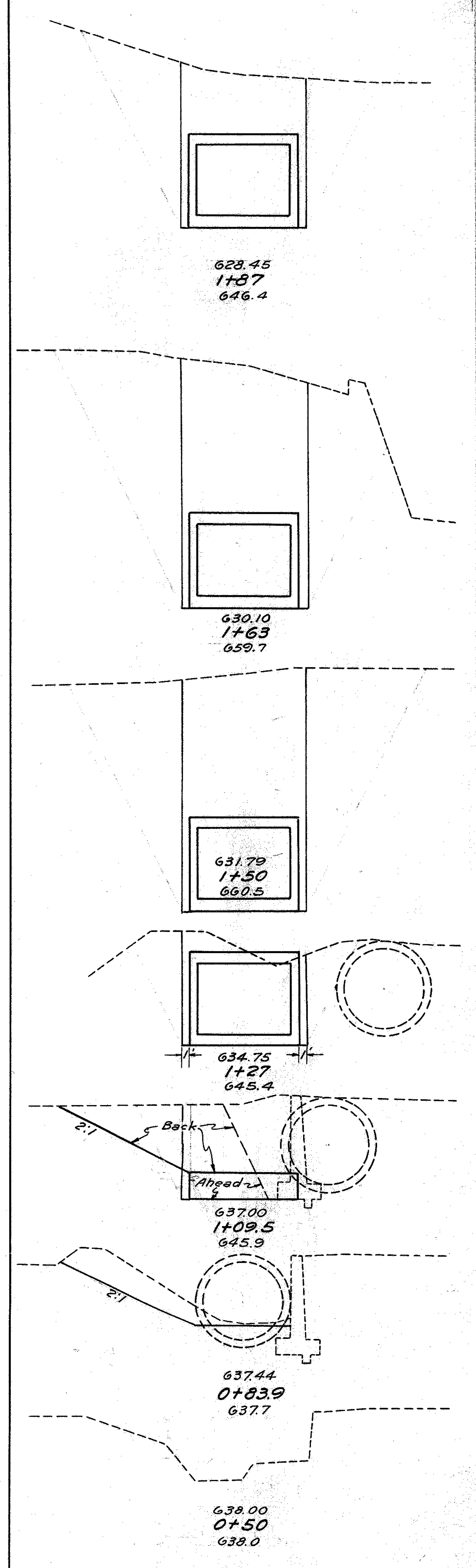
END AREA	CU. YDS.
94	
	68
45	

12'x9' BOX CULVERT STA. 118+79 SHEET 3 OF 4

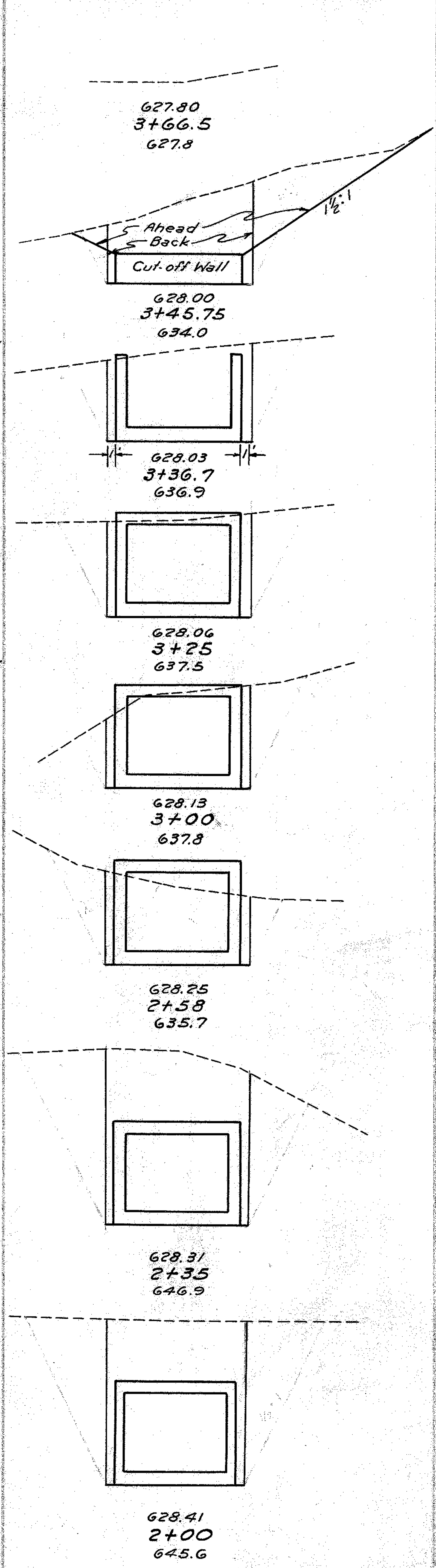
FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

BEL-7-(17.71-20.14)

Channel Excavation E.A.	Channel Excavation C.Y.	Structure Excavation E.A.	Structure Excavation C.Y.
			148
		314	
			355
		486	
			235
		488	
			291
		195	
			94
130		96	
	89		
57			
	36		
0			



Structure Excavation 2244 Cu.Yds.
Channel Excavation 191 Cu.Yds.



Channel Excavation E.A.	Channel Excavation C.Y.	Structure Excavation E.A.	Structure Excavation C.Y.
0			
	66		
173		147	
			52
		163	
			74
		180	
			159
		164	
			242
		147	
			196
		313	
			398
		301	

STEEL LIST

Mark	Bar №	Shape	Spacing	№	Length	Weight
S4a	4	Str'ght	11½"c/c	108	13'-6"	974
S4b	4	Bent	"	125	21'-7"	1802
S4c	4	Str'ght	"	103	14'-0"	963
S4d	4	Bent	"	125	22'-1"	1844
S6a	6	Str'ght	As shown	4	21'-4"	128
S6b	6	"	"	2	21'-8"	65
S6c	6	"	"	4	22'-1"	133
S6d	6	"	"	4	22'-5"	135
S6e	6	"	"	4	22'-10"	139
S6f	6	"	"	2	23'-3"	70
S6g	6	"	"	2	23'-4"	70
S6h	6	"	"	2	23'-6"	71
S6i	6	"	"	4	23'-9"	143
S6j	6	"	"	4	24'-3"	146
S6k	6	"	"	4	24'-8"	148
S6l	6	"	"	2	25'-1"	75
S6m	6	"	"	4	25'-3"	152
S6n	6	"	"	336	23'-4"	11776
S10a	10	Str'ght	11½"c/c	232	13'-6"	13477
S10b	10	Bent	"	123	22'-6"	11909
S10c	10	"	"	110	17'-4"	8204
S10e	10	"	"	123	25'-4"	13408
S10f	10	"	"	104	17'-10"	7981
S10g	10	Str'ght	"	226	14'-0"	13615
W4a	4	Bent	5¾"c/c	870	10'-8"	6199
W4b	4	Str'ght	"	2	8'-5"	11
W4c	4	"	"	2	8'-7"	11
W4d	4	"	"	2	8'-9"	12
W4e	4	"	"	2	8'-11"	12
W4f	4	"	"	2	9'-1"	12
W4g	4	"	"	2	9'-3"	12
W4h	4	"	"	2	9'-5"	13
W4i	4	"	"	2	9'-7"	13
W4j	4	"	"	2	9'-9"	13
W4k	4	"	"	2	9'-11"	13
W4l	4	"	"	2	10'-1"	14
W4m	4	"	"	2	10'-3"	14
W5a	5	Str'ght	2'-4¾"c/c	174	9'-9"	1769
W5b	5	Bent	"	174	5'-4"	968
W5c	5	Str'ght	"	1	10'-2"	11
W5d	5	"	"	1	9'-8"	10
W5e	5	"	"	1	9'-4"	10
W5f	5	"	"	1	8'-10"	9
W5g	5	"	"	1	8'-6"	9
W5h	5	"	"	1	8'-4"	9
W6a	6	Str'ght	2'-0"c/c	136	23'-4"	4766
W10a	10	Str'ght	11½"c/c	206	6'-0"	5319
E4a	4	Bent	1'-0"c/c	14	3'-0"	28
E4b	4	"	"	30	3'-6"	70
E4c	4	Str'ght	5¾"c/c	6	10'-1"	40
E4d	4	"	"	5	8'-2"	27
E4e	4	"	"	6	6'-8"	27
E4f	4	"	"	6	4'-11"	20
E4g	4	"	"	4	3'-4"	9
E4h	4	"	"	24	7'-2"	115
E4i	4	"	"	3	18'-2"	37
E4j	4	Bent	"	1	15'-9"	11
E4k	4	"	"	1	12'-7"	8
E4l	4	"	"	1	9'-5"	6
E4m	4	Str'ght	"	1	5'-5"	4
E4n	4	"	"	1	8'-7"	6
E4o	4	"	"	1	11'-9"	8
E5a	5	Bent	As shown	8	5'-4"	45
E5b	5	"	"	8	6'-3"	52
E5c	5	Str'ght	2'-4¾"c/c	1	9'-10"	10
E5d	5	"	"	1	7'-11"	8
E5e	5	"	"	1	6'-5"	7
E5f	5	"	"	1	4'-8"	5
E5g	5	"	"	1	3'-1"	3

STEEL LIST CONTINUED

Mark	Bar №	Shape	Spacing	№	Length	Weight
E6a	6	Str'ght	2'-0"c/c	2	20'-5"	61
E6b	6	"	"	2	21'-1"	63
E6c	6	"	"	2	17'-1"	51
E6d	6	"	"	2	15'-11"	48
E6e	6	"	As shown	2	8'-6"	26
E6f	6	"	"	1	8'-10"	13
E6g	6	"	"	2	9'-3"	28
E6h	6	"	"	2	9'-7"	29
E6i	6	"	"	2	9'-8"	29
E6j	6	"	"	1	10'-1"	15
E6k	6	"	"	1	10'-2"	15
E6l	6	"	"	1	10'-4"	15
E6m	6	"	"	2	10'-7"	32
E6n	6	"	"	2	11'-5"	34
E6o	6	"	"	2	11'-10"	36
E6p	6	"	"	1	12'-3"	18
E6q	6	"	"	2	12'-5"	37
E10a	10	Bent	5¾"c/c	1	15'-7"	67
E10b	10	Str'ght	"	1	11'-9"	51
E10c	10	Bent	"	1	12'-5"	53
E10d	10	Str'ght	"	1	8'-7"	37
E10e	10	Bent	"	1	9'-3"	40
E10f	10	Str'ght	"	1	5'-5"	23
E10g	10	Bent	"	1	6'-1"	26
E10h	10	Str'ght	"	1	3'-10"	16
E10i	10	"	"	1	5'-5"	23
E10j	10	"	"	1	7'-0"	30
E10k	10	"	"	1	8'-7"	37
E10l	10	"	"	1	10'-2"	44
E10m	10	"	"	1	11'-9"	51
E10n	10	"	"	1	13'-4"	57
I4a	4	Bent	1'-0"c/c	15	4'-2"	42
I4b	4	Str'ght	5¾"c/c	10	11'-0"	73
I4c	4	"	"	8	9'-11"	53
I4d	4	"	"	10	8'-10"	59
I4e	4	"	"	8	7'-9"	41
I4f	4	"	"	10	6'-8"	44
I4g	4	"	"	8	5'-7"	30
I4h	4	"	"	10	4'-6"	30
I4i	4	"	"	4	3'-5"	9
I4j	4	Bent	11½"c/c	1	17'-2"	11
I4k	4	"	"	1	14'-0"	9
I4l	4	"	"	1	10'-10"	7
I4m	4	Str'ght	"	1	5'-8"	4
I4n	4	"	"	1	8'-10"	6
I4o	4	"	"	1	12'-0"	8
I4p	4	"	As shown	3	22'-2"	44
I5a	5	Bent	As shown	4	5'-4"	22
I5b	5	"	"	4	6'-3"	26
I5c	5	Str'ght	5¾"c/c	2	10'-9"	22
I5d	5	"	"	2	9'-8"	20
I5e	5	"	"	2	8'-7"	18
I5f	5	"	"	2	7'-6"	16
I5g	5	"	"	2	6'-5"	13
I5h	5	"	"	2	5'-4"	11
I5i	5	"	"	2	4'-3"	9
I6a	6	Str'ght	2'-0"c/c	2	20'-9"	62
I6b	6	"	"	2	16'-3"	49
I6c	6	"	"	4	21'-6"	129
I6d	6	"	"	2	17'-0"	51
I6e	6	"	"	2	12'-6"	38
I6f	6	"	"	4	25'-3"	152
I6g	6	"	As shown	2	3'-4"	10
I6h	6	"	"	1	3'-8"	6
I6i	6	"	"	2	4'-1"	12
I6j	6	"	"	2	4'-5"	13
I6k	6	"	"	2	4'-10"	15
I6l	6	"	"	1	5'-3"	8
I6m	6	"	"	1	5'-4"	8
I6n	6	"	"	1	5'-6"	8
I6o	6	"	"	2	5'-9"	17
I6p	6	"	"	2	6'-3"	19
I6q	6	"	"	2	6'-8"	20
I6r	6	"	"	1	7'-1"	11
I6s	6	"	"	2	7'-3"	22

STEEL LIST CONTINUED

Mark	Bar №	Shape	Spacing	№	Length	Weight
I7a	7	Str'ght	As shown	2	16'-10"	69
I7b	7	"	"	1	16'-3"	33
I7c	7	Bent	"	3	16'-0"	98
I7d	7	Str'ght	"	3	18'-6"	113
I7e	7	Bent	"	3	16'-6"	101
I10a	10	Bent	5¾"c/c	1	17'-2"	74
I10b	10	Str'ght	"	1	12'-0"	52
I10c	10	Bent	"	1	14'-0"	60
I10d	10	Str'ght	"	1	8'-10"	38
I10e	10	Bent	"	1	10'-10"	46
I10f	10	Str'ght	"	1	5'-8"	25
I10g	10	Bent	"	1	7'-8"	33
I10h	10	Str'ght	As shown	1	4'-1"	18
I10i	10	"	"	1	5'-8"	25
I10j	10	"	"	1	7'-3"	31
I10k	10	"	"	1	8'-10"	38
I10l	10	"	"	1	10'-5"	45
I10m	10	"	"	1	12'-0"	52
I10n	10	"	"	1	13'-7"	59
H4a	4	Str'ght	As shown	2	14'-4	19
H4b	4	"	"	2	14'-10"	20
N5a	5	Bent	As shown	72	5'-6"	413
N5b	5	"	"	40	6'-2"	257
N5c	5	"	"	32	5'-9"	192
M5a	5	Bent	As shown	36	6'-6"	244
M5b	5	"	"	20	7'-0"	146
M5c	5	"	"	16	6'-10"	114
RE4	4	Str'ght		2	5'-8"	8
RE5	5	"		2	6'-1"	13
RE6	6	"		2	6'-6"	20
RE7	7	"		2	6'-11"	28
RE10	10	"		8	7'-9"	267
				Total Lbs.		112342

ESTIMATED QUANTITIES

Relaying 120" Pipe for Rdwy. Culverts	30 Lin. Ft.
Structure Excavation	2312 Cu.Yds.
Channel Excavation	191 Cu.Yds.
Concrete (Class "C")	649.1 Cu.Yds.
Concrete (Class "E")	32.7 Cu.Yds.
Reinforcing Steel	112,976 Lbs.
1"x12" Premolded Exp. Joint Filler	13 Lin. Ft.
Porous Backfill	12 Cu.Yds.
Riprap Type "A" Grout Filled	311 Sq.Yds.
120" R.C.P. Removed and Stored	80 Lin. Ft.
Removal of exist. structures (2)	Lump Sum
120" R.C.P. Removed for Re-use	30 Lin. Ft.

Note:- Retaining Wall quantities from Sheet №139 are included with above quantities.
The two exist. structures consist of the State Highway Bridge and the P.R.R. Bridge.
Item of removal of exist. Structures shall include the removal of portions of railroad wings and abutments necessary to construct the Box Culvert.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

141
164

BEL.-7-(17.71 - 20.14)

ESTIMATED QUANTITIES

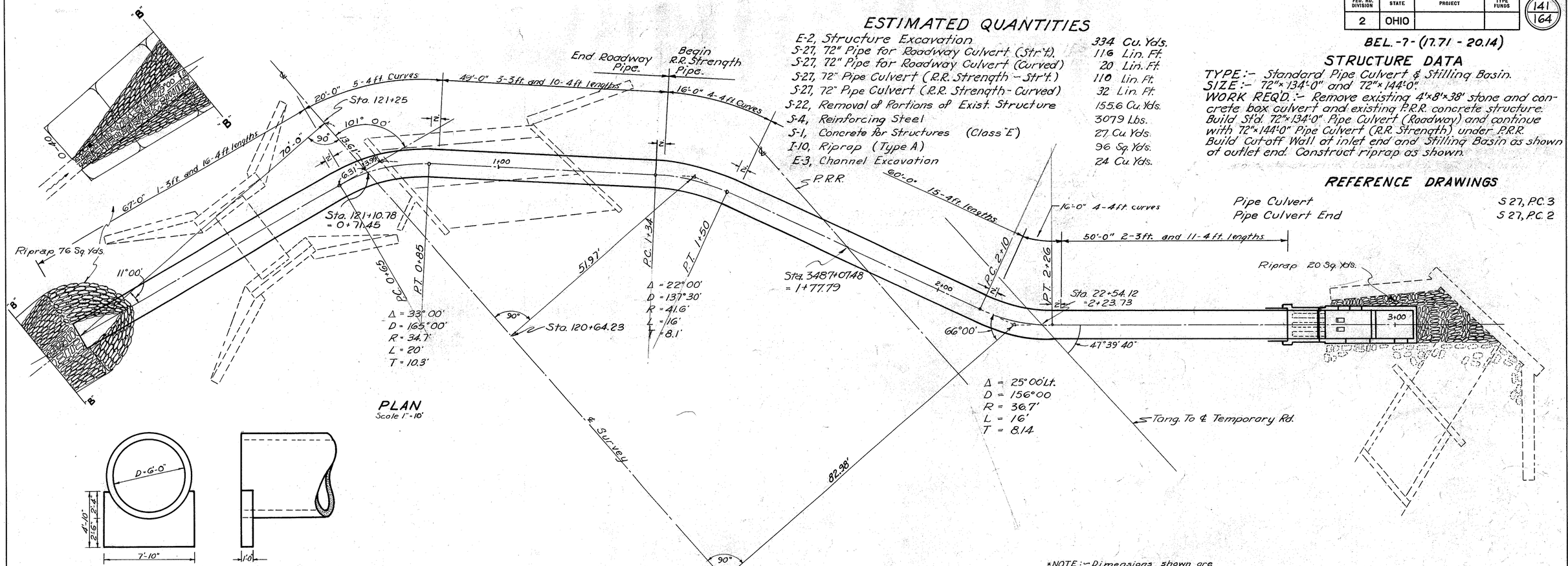
E-2, Structure Excavation	334 Cu. Yds.
S-27, 72" Pipe for Roadway Culvert (Str't.)	116 Lin. Ft.
S-27, 72" Pipe for Roadway Culvert (Curved)	20 Lin. Ft.
S-27, 72" Pipe Culvert (R.R. Strength - Str't.)	110 Lin. Ft.
S-27, 72" Pipe Culvert (R.R. Strength - Curved)	32 Lin. Ft.
S-22, Removal of Portions of Exist. Structure	155.6 Cu. Yds.
S-4, Reinforcing Steel	3079 Lbs.
S-1, Concrete for Structures (Class "E")	27 Cu. Yds.
I-10, Riprap (Type A)	96 Sq. Yds.
E-3, Channel Excavation	24 Cu. Yds.

STRUCTURE DATA

TYPE :- Standard Pipe Culvert & Stilling Basin.
SIZE :- 72"×134'-0" and 72"×144'-0"
WORK REQ'D :- Remove existing 4'×8'×38' stone and concrete box culvert and existing P.R.R. concrete structure. Build Std. 72"×134'-0" Pipe Culvert (Roadway) and continue with 72"×144'-0" Pipe Culvert (R.R. Strength) under P.R.R. Build Cut-off Wall at inlet end and Stilling Basin as shown at outlet end. Construct riprap as shown.

REFERENCE DRAWINGS

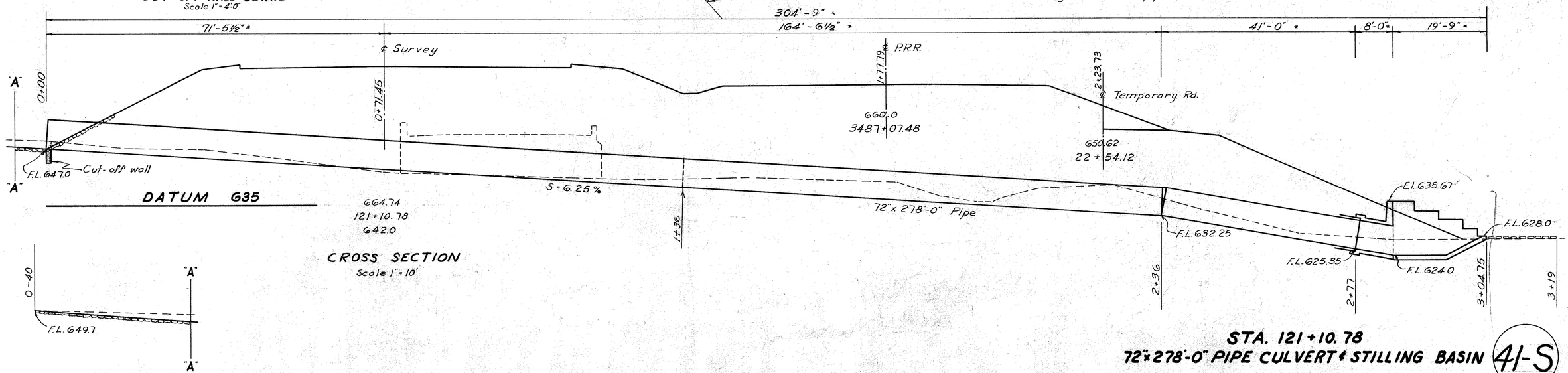
Pipe Culvert	S 27, P.C. 3
Pipe Culvert End	S 27, P.C. 2



PLAN
Scale 1"-10'

CUT-OFF WALL DETAIL
Scale 1"-4'-0"

*NOTE :- Dimensions shown are along centerline of pipe.



CROSS SECTION
Scale 1"-10'

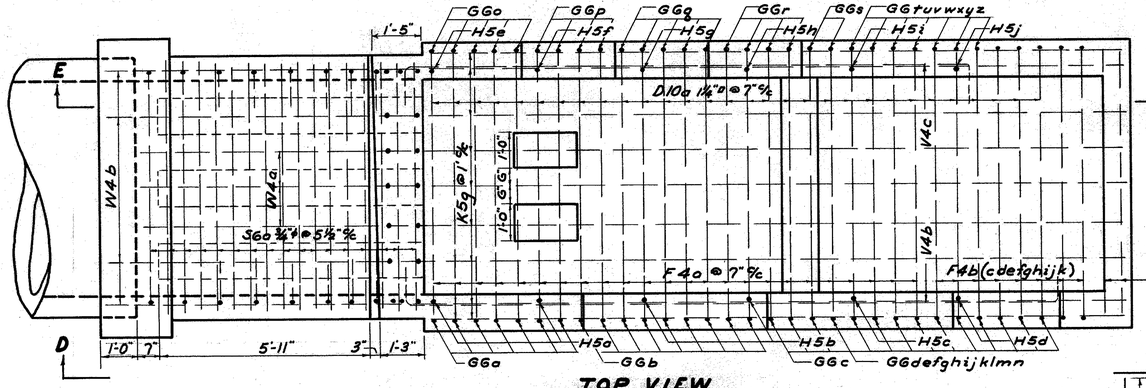
STA. 121+10.78
72"×278'-0" PIPE CULVERT & STILLING BASIN

41-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

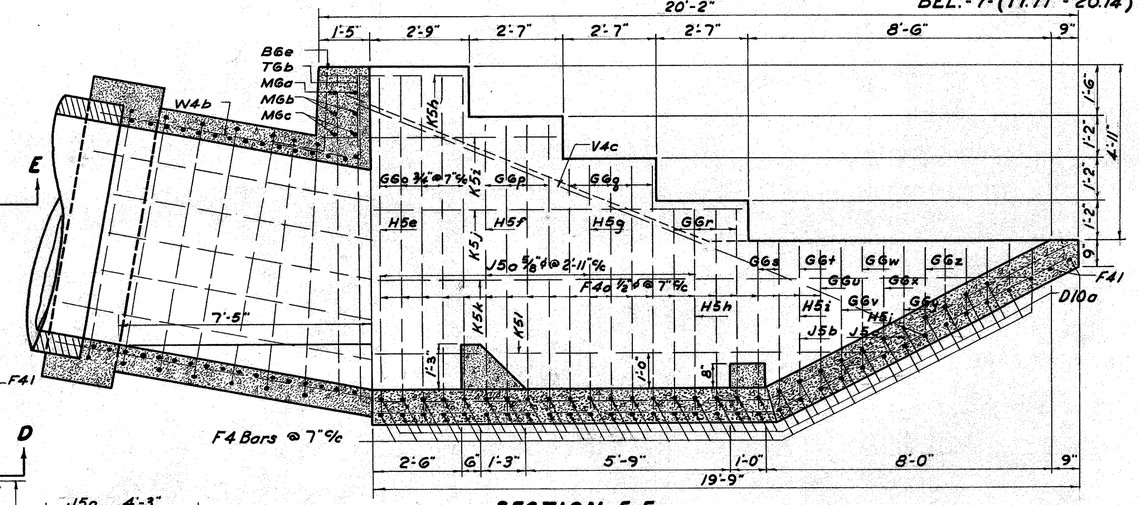
142
164

BEL.-7-(17.71 - 20.14)

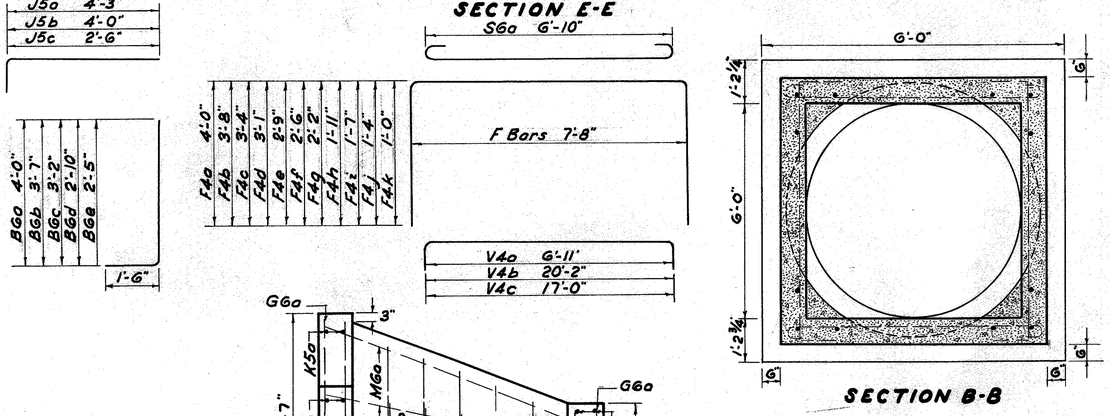


TOP VIEW

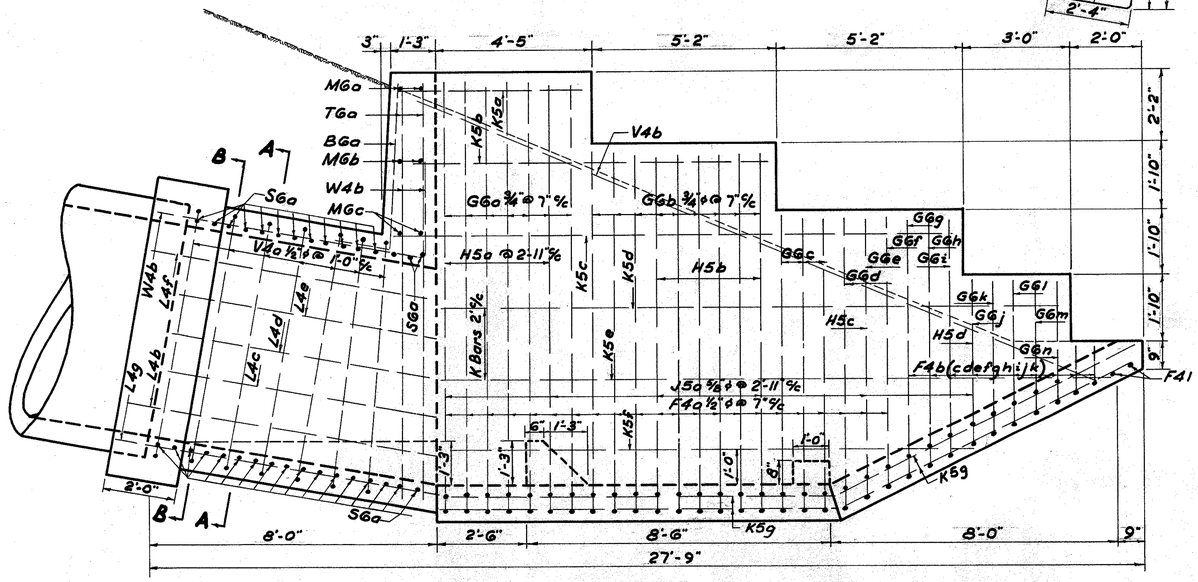
Scale: ½" = 1'-0"



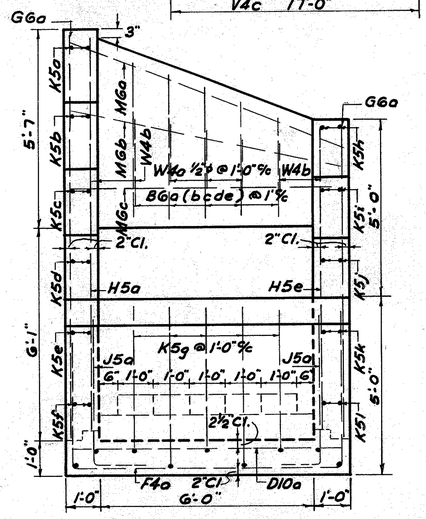
SECTION E-E



SECTION B-B

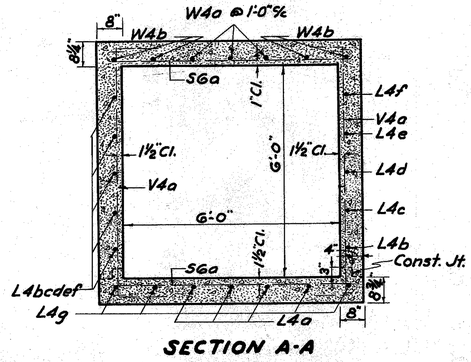


SECTION D-D



END VIEW

Scale: ½" = 1'-0"



SECTION A-A

STA. 121+10.78
DETAILS OF STILLING BASIN AT OUTLET END OF 72" PIPE

SHEET 2 OF 3 SHEETS

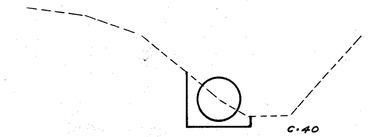
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

143
164

BEL.-7- (17.71 - 20.14)

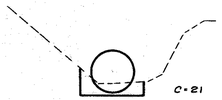
STEEL LIST

Mark	Bar Nº	Shape	Spacing	Nº	Length	Weight
BGo	6	Bent	1'-0"±	1	5'-4"	8
BGb	6	"	"	1	4'-11"	7
BGc	6	"	"	1	4'-6"	7
BGd	6	"	"	1	4'-2"	6
BGe	6	"	"	1	3'-9"	6
D10o	10	Str'ght	7"	30	7'-8"	990
F4o	4	Bent	7"	22	15'-6"	228
F4b	4	"	"	1	14'-10"	10
F4c	4	"	"	1	14'-2"	9
F4d	4	"	"	1	13'-8"	9
F4e	4	"	"	1	13'-0"	9
F4f	4	"	"	1	12'-6"	8
F4g	4	"	"	1	11'-10"	8
F4h	4	"	"	1	11'-4"	8
F4i	4	"	"	1	10'-8"	7
F4j	4	"	"	1	10'-2"	7
F4k	4	"	"	1	9'-6"	6
F4l	4	Str'ght	"	2	7'-8"	10
GGo	6	Str'ght	7"	7	11'-3"	118
GGb	6	"	"	9	9'-3"	125
GGc	6	"	"	3	7'-5"	33
GGd	6	"	"	1	7'-2"	11
GGe	6	"	"	1	6'-10"	10
GGf	6	"	"	1	6'-7"	10
GGg	6	"	"	1	6'-3"	9
GGh	6	"	"	1	6'-0"	9
GGi	6	"	"	1	5'-8"	9
GGj	6	"	"	1	3'-7"	5
GGk	6	"	"	1	3'-3"	5
GGl	6	"	"	1	3'-0"	5
GGm	6	"	"	1	2'-6"	4
GGn	6	"	"	1	2'-3"	3
GGo	6	"	"	5	8'-8"	65
GGp	6	"	"	4	7'-3"	44
GGq	6	"	"	5	6'-1"	46
GGr	6	"	"	4	4'-11"	30
GGs	6	"	"	2	3'-9"	11
GGt	6	"	"	1	3'-4"	5
GGu	6	"	"	1	3'-1"	5
GGv	6	"	"	1	2'-9"	4
GGw	6	"	"	1	2'-6"	4
GGx	6	"	"	1	2'-2"	3
GGy	6	"	"	1	1'-11"	3
GGz	6	"	"	1	1'-7"	2
H5o	5	Str'ght	2'-11½"±	2	11'-0"	23
H5b	5	"	"	2	9'-0"	19
H5c	5	"	"	1	6'-7"	7
H5d	5	"	"	1	3'-4"	3
H5e	5	"	"	1	8'-5"	9
H5f	5	"	"	1	7'-0"	7
H5g	5	"	"	1	5'-10"	6
H5h	5	"	"	1	4'-8"	5
H5i	5	"	"	1	3'-1"	3
H5j	5	"	"	1	1'-8"	2
J5o	5	Bent	2'-11½"±	10	5'-0"	52
J5b	5	"	"	1	4'-9"	5
J5c	5	"	"	1	3'-3"	3
K5o	5	Str'ght	2'-0"±	1	5'-2"	5
K5b	5	"	"	1	10'-6"	11
K5c	5	"	"	1	15'-9"	16
K5d	5	"	"	1	17'-4"	18
K5e	5	"	"	1	18'-8"	19
K5f	5	"	"	1	14'-10"	15
K5g	5	Bent	1'-0"±	9	20'-3"	190
K5h	5	Str'ght	2'-0"±	1	3'-10"	4
K5i	5	"	"	1	6'-5"	7
K5j	5	"	"	1	10'-6"	11
K5k	5	"	"	1	18'-5"	19
K5l	5	"	"	1	14'-7"	15
L4o	4	Str'ght	1'-0"±	3	7'-10"	16
L4b	4	"	"	2	8'-8"	12
L4c	4	"	"	2	7'-6"	10
L4d	4	"	"	2	7'-4"	10
L4e	4	"	"	2	7'-2"	10
L4f	4	"	"	2	8'-0"	11
L4g	4	"	"	4	8'-10"	24
MGo	6	Str'ght	2'-0"±	2	8'-2"	25
MGb	6	"	"	2	7'-11"	24
MGc	6	"	"	2	7'-8"	23
SGo	6	Bent	5½"±	32	8'-2"	393
TGo	6	Str'ght	7"±	2	11'-9"	35
TGb	6	"	"	2	9'-3"	28
V4o	4	Bent	1'-0"±	14	8'-1"	76
V4b	4	"	As Shown	1	22'-0"	14
V4c	4	"	"	1	18'-10"	13
W4o	4	Bent	1'-0"±	3	8'-8"	17
W4b	4	"	"	4	9'-8"	26
				Total		3162



G37.63
1+50
G40.8

Excavation E.A. 48 C.Y.



G39.06
1+27
G40.2

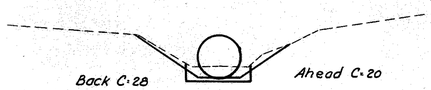
Excavation E.A. 40 C.Y. 26

G42.56
0+71
G42.0

Excavation E.A. 21 C.Y. 28

G44.94
0+33
G46.8

Excavation E.A. 6 C.Y. 25



G47.0
0+00
G48.7

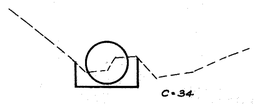
Excavation E.A. 30 C.Y. 31

Begin Struct. Exc.
End Channel Exc.

0-40
G49.7

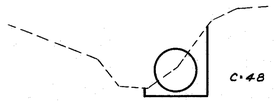
Excavation E.A. 9 C.Y. 27

Begin Channel



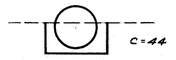
G26.93
2+65
G28.8

Excavation E.A. 40 C.Y. 34



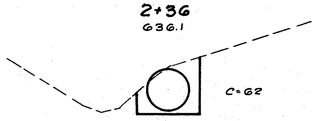
G30.60
2+45
G33.8

Excavation E.A. 48 C.Y. 30



G32.25
2+36
G36.1

Excavation E.A. 15 C.Y. 15

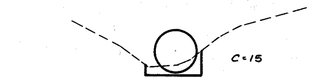


G32.88
2+26
G39.0

Excavation E.A. 44 C.Y. 20

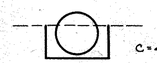
G33.88
2+10
G38.3

Excavation E.A. 62 C.Y. 34



G34.50
2+00
G35.5

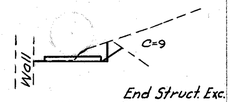
Excavation E.A. 54 C.Y. 13



G35.75
1+80
G39.8

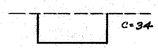
Excavation E.A. 15 C.Y. 23

Total Channel Exc. 27 Cu. Yds.
Total Struct. Exc. 345 Cu. Yds.



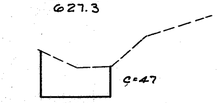
End Struct. Exc.
G28.0
3+04.75
G27.2

Excavation E.A. 47 C.Y. 9



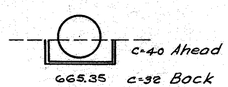
G24.0
2+96
G27.3

Excavation E.A. 7 C.Y.



G24.0
2+85
G27.20

Excavation E.A. 34 C.Y. 17



G65.35
2+77
G28.2

Excavation E.A. 47 C.Y. 13

STA. 121+10.78

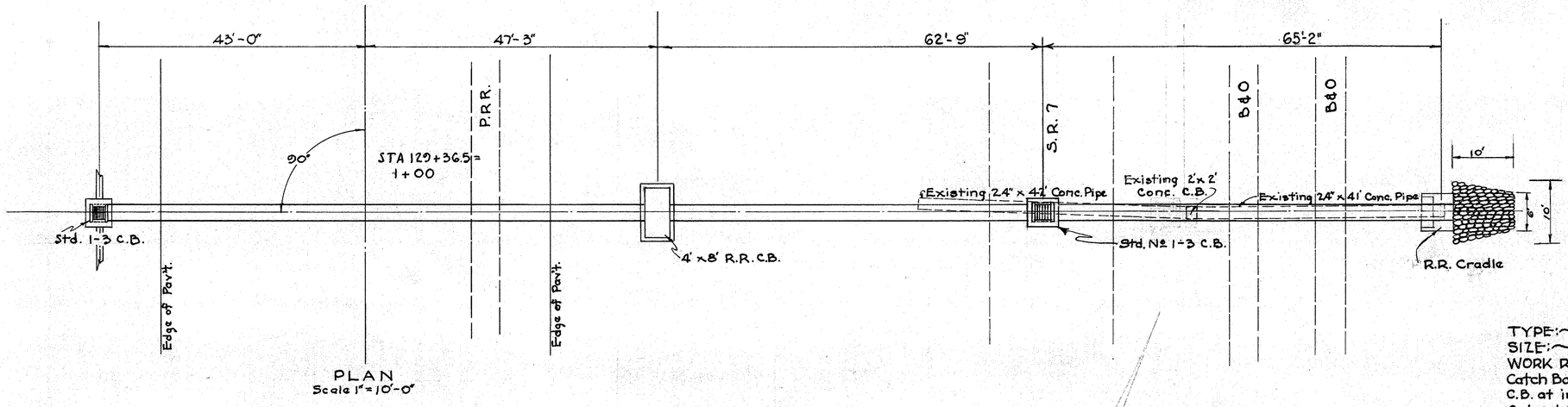
PIPE CULVERT & STILLING BASIN

SHEET 3 OF 3 SHEETS

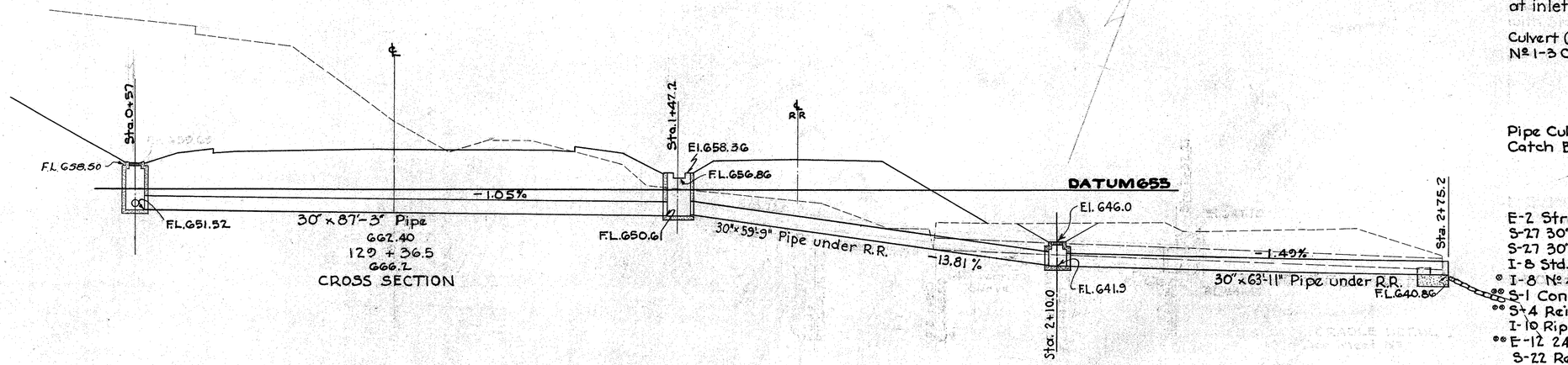
FED. RD. DIVISION	STATE	F.A. PROJECT	TYPE FUNDS
2	OHIO		

144/164

BEL-7-(17.71-20.14)



PLAN
Scale 1" = 10'-0"



CROSS SECTION

STRUCTURE DATA

TYPE:~ Std. Pipe Culvert
SIZE:~ 30" x 210'-3"
WORK REQ'D:~ Remove existing 24" x 83' C.P and 2' x 2' Catch Basin. Build Std. 30" x 87'-3" Pipe Culvert with Std. № 1-3 C.B. at inlet and 4' x 8' R.R. C.B. at outlet. Build 30" x 59'-9" Pipe Culvert (R.R. Strength) under P.R.R. connecting to 4' x 8' C.B. at inlet and to Std. 1-3 C.B. at outlet as shown.
Build 30" x 63'-11" Pipe Culvert (R.R. Strength) under B&O R.R.. Connect inlet to Std. № 1-3 C.B. with R.R. cradle at outlet. Riprap outlet as per plan.

REFERENCE DRAWINGS

Pipe Culverts	S-27 P.C. 2 & 3
Catch Basins	I-8 C.B. 1-3

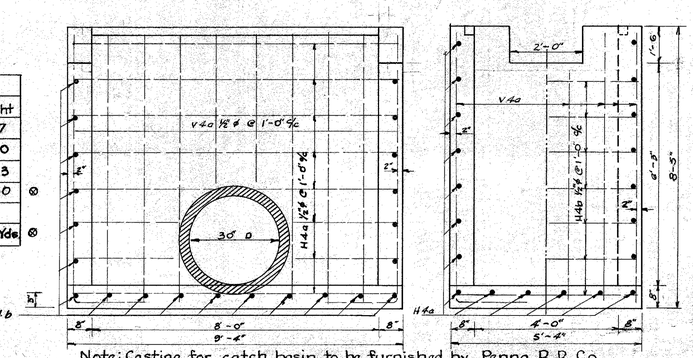
ESTIMATED QUANTITIES

E-2 Structure Excavation	192 Cu.Yds.
S-27 30" Pipe for Roadway Culverts	87 Lin.Ft.
S-27 30" Pipe Culvert (R.R. Strength)	124 Lin.Ft.
I-8 Std. № 1-3 Catch Basin	2 Each
⊗ I-8 № 4-8 R.R. Catch Basin as per plan	1 Each.
⊗⊗ S-1 Concrete for Structures (Class E)	2.7 Cu.Yds.
⊗⊗ S-4 Reinforcing Steel	89 Lbs.
I-10 Riprap Type A Grout Filled	9 Sq.Yds
⊗⊗ E-12 24" Pipe Removed & Stored	83 Lin.Ft.
S-22 Removal of portions of Existing Structure	0.4 Cu.Yds.

⊗⊗ Note: Existing cast iron or reinforced concrete pipe under R.R. or S.R. 7 to be removed & stored on R.R. or State R/W for disposal by R.R. or State Forces.
See Sheet № 147 for details of R.R. Cradle.

STEEL LIST					
Mark	Bar №	№	Length	Shape	Weight
V4a	4	28	10'-0"	Bent	187
H4a	4	20	9'-0"	Strt.	120
H4b	4	22	5'-0"	Strt.	73
			Total Lbs.		380 ⊗
Bars bent and cut in field as shown					
Volume of Class "C" Concrete 6.3 Cu.Yds. ⊗					

⊗ Note: These quantities included in price bid per each № 4x8 R.R.C.B.



Note: Casting for catch basin to be furnished by Penna. R.R. Co.

DETAIL OF 4' x 8' RAILROAD CATCH BASIN
Scale: 1" = 2'

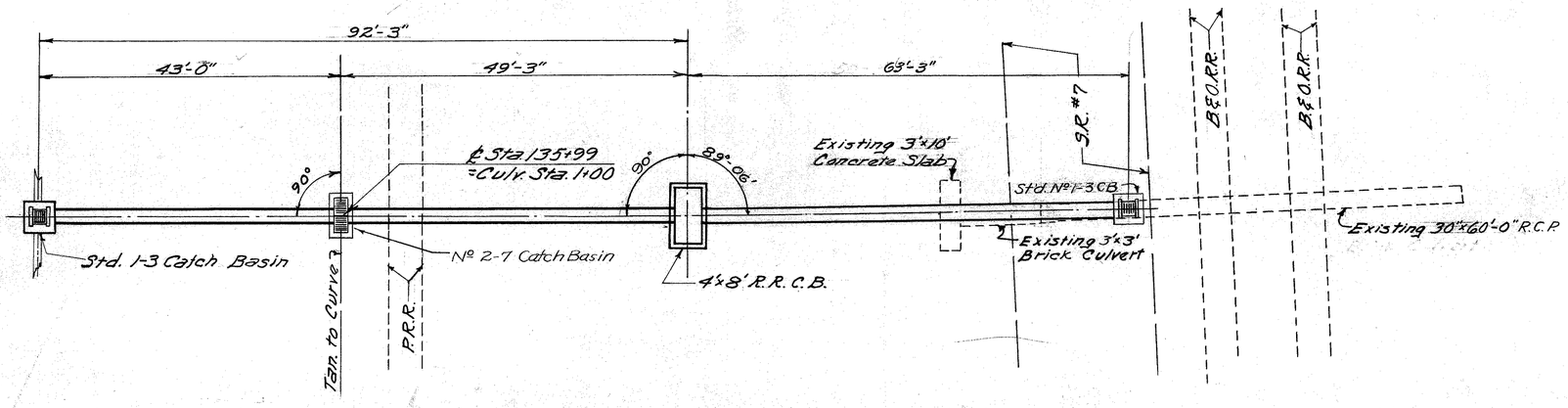
STA. 129+36.5
30" x 87'-0" ST'D. PIPE CULVERT
30" x 124'-0" PIPE CULVERT (R.R. STRENGTH)

45-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

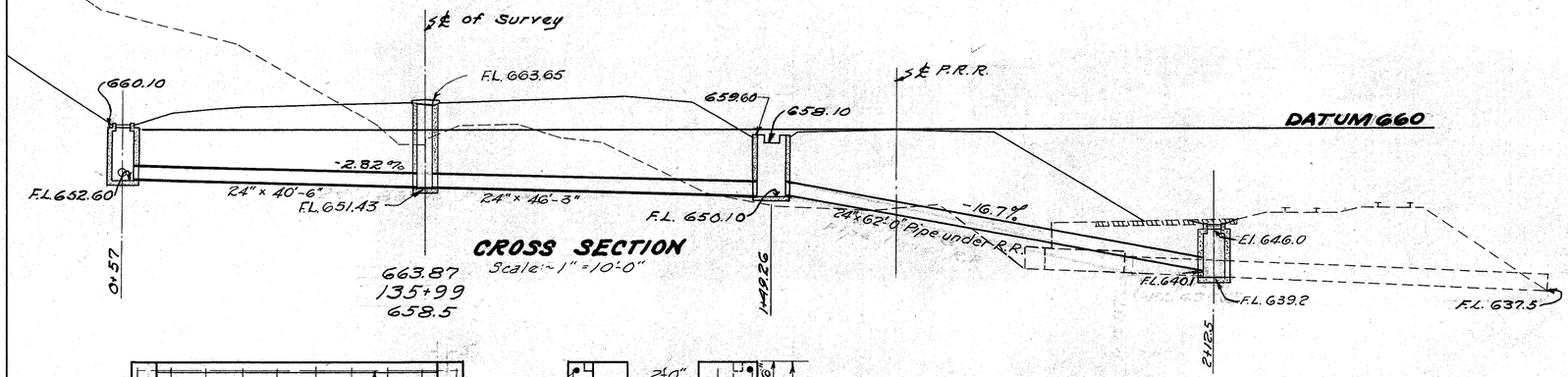
145/164

BEL 7-(17.71 - 20.14)



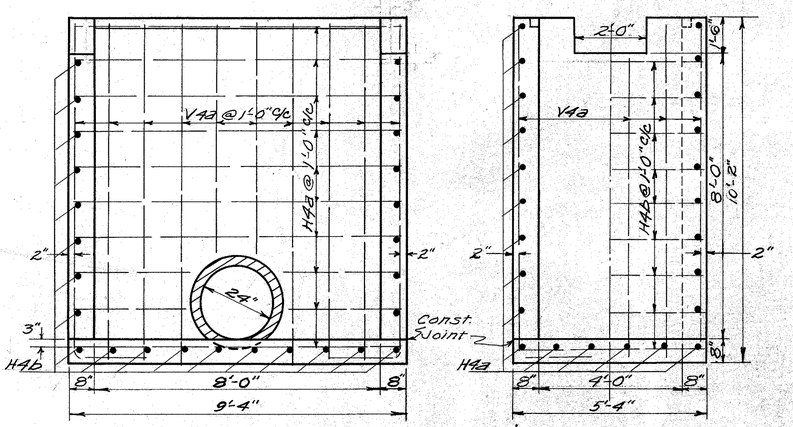
PLAN

Scale:~1"=10'-0"



CROSS SECTION

Scale:~1"=10'-0"



DETAIL OF 4'x8' RAILROAD CATCH BASIN

Scale: 1"=2'

STEEL LIST

Mark	Bar N°	N°	Length	Shape	Wt. Lbs.	
V4a	4	28	11'-9"	Bent	220	
H4a	4	24	9'-0"	Str't.	144	
H4b	4	26	5'-0"	Str't.	87	
				Total	451.	⊗
Bars bent and cut in field as shown.						
Volume of Concrete (Class "C") 7.5 Cu. Yds.						⊗

NOTE~ Casting for C.B. to be furnished by Penna. R.R. Co.

⊗ NOTE: These quantities included in price bid per each N° 4'x8' R.R. CB.

⊗⊗ NOTE: See Sheet N° 4 for details of N° 2-7 C. Basin.

STRUCTURE DATA

TYPE:~ Std. Pipe Culvert
SIZE:~ 24" x 148'-9"
WORK REQ'D:~ Remove 3'x3'x12' Brick culvert and 3'x10' Concrete slab. Build Std. 24" x 86'-9" pipe culvert with Std. N°1-3 Catch Basin at inlet and 4'x8' R.R. C.B. at outlet. Build 24"x62' pipe culvert (R.R. strength) under P.R.R., connect to 4'x8' C.B. at inlet and to N° 1-3 C.B. at outlet. Connect existing 30" pipe to C.B. Remove 30"x13'-0" pipe. Build N°2-7 CB as shown.

REFERENCE DRAWINGS

Pipe Culverts	S.27, PC2&3
Catch Basins	I-8 C.B. N°1-3

ESTIMATED QUANTITIES

E-2 Structure Excavation	100 Cu. Yds.
S-27 24" Pipe for Roadway Culvert.	87 Lin. Ft.
S-27 24" Pipe for Culverts (Railroad Strength)	62 Lin. Ft.
I-8 Std. N° 1-3 Catch Basin	2 Each
⊗ I-8 N° 4-8 R.R. Catch Basin as per plan	1 Each
S-22 Removal of Portions of Existing Structures	6 Cu. Yds.
E-12 30" Pipe removed and Stored	13 Lin. Ft.
⊗⊗ I-8 N° 2-7 Catch Basin (as per plan)	1 Each

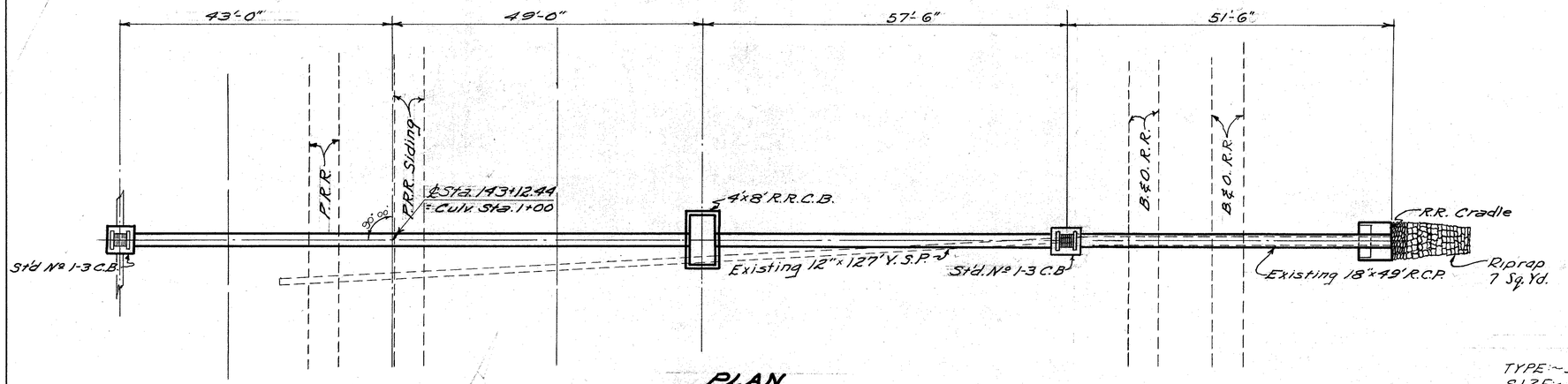
STA. 135+99
24" x 86'-9" PIPE CULV.
24" x 62'-0" PIPE CULV. (R.R.)

52-S

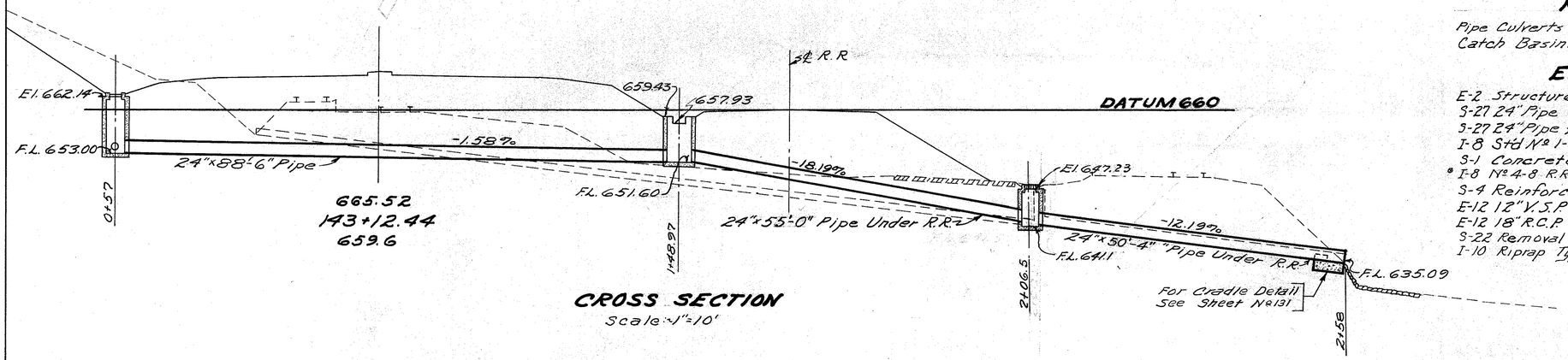
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

146
164

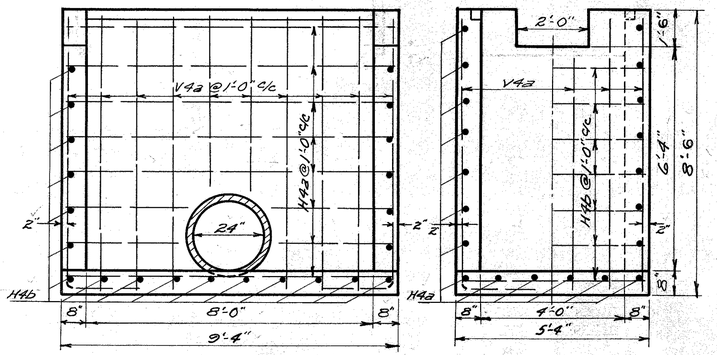
BEL 7-07.71 -20.14)



PLAN
Scale:- 1"=10'



CROSS SECTION
Scale:-1"=10'



DETAIL OF 4'x8' R.R. CATCH BASIN
Scale: 1"=2'

STRUCTURE DATA

TYPE:- Std. Pipe Culvert
SIZE:- 24"x 193'-9"
WORK REQ'D:- Remove existing 12"x127' V.S.P and 18"x 49' R.C.P also existing 1.5'x1.5' Brick Catch Basin. Build Std. 24"x88'-6" pipe culvert with Std. No 1-3 Catch Basin at inlet and 4'x8" R.R.C.B. at outlet. Build 24"x 55'-0" pipe culvert(R.R. strength) under P.R.R. connect to 4'x8' R.R.C.B. at inlet and place Std. No 1-3 C.B. at outlet. Build 24"x 50'-3" pipe culvert under B&O.R.R, connect inlet to Std. No 1-3 C.B, place R.R. cradle at outlet.

REFERENCE DRAWINGS

Pipe Culverts	S.27, P.C. 2&3
Catch Basins	I-8, C.B. No 1-3

ESTIMATED QUANTITIES

E-2 Structure Excavation	146 Cu. Yds.
S-27 24" Pipe for Roadway Culverts	89 Lin. Ft.
S-27 24" Pipe for Culverts (R.R. Strength)	105 Lin. Ft.
I-8 Std No 1-3 Catch Basin	2 Each
S-1 Concrete for Structures (Class "E")	2.3 Cu. Yds.
* I-8 No 4-8 R.R. Catch Basin as per plan	1 Each
S-4 Reinforcing Steel	78 Lbs.
E-12 12" V.S.P Removed and Disposed of	127 Lin. Ft.
E-12 18" R.C.P Removed and Stored	49 Lin. Ft.
S-22 Removal of Portions of Existing Structures	1.5 Cu. Yds.
I-10 Riprap Type "A" Grout Filled	7 Sq. Yds.

STEEL LIST

Mark	Bar No	No	Length	Shape	Wt. Lbs.
V4a	4	28	10'-1"	Bent	188
H4a	4	20	9'-0"	Str't.	120
H4b	4	22	5'-0"	Str't.	74
				Total	382 *
Bars bent and cut in field as shown.					
Volume of Concrete (Class "C") 6.4 Cu. Yds. *					

NOTE:- Casting for Catch Basin to be furnished by Penna. R.R. Co.

* NOTE: These quantities included in price bid per each No 4x8' R.R. C.B.

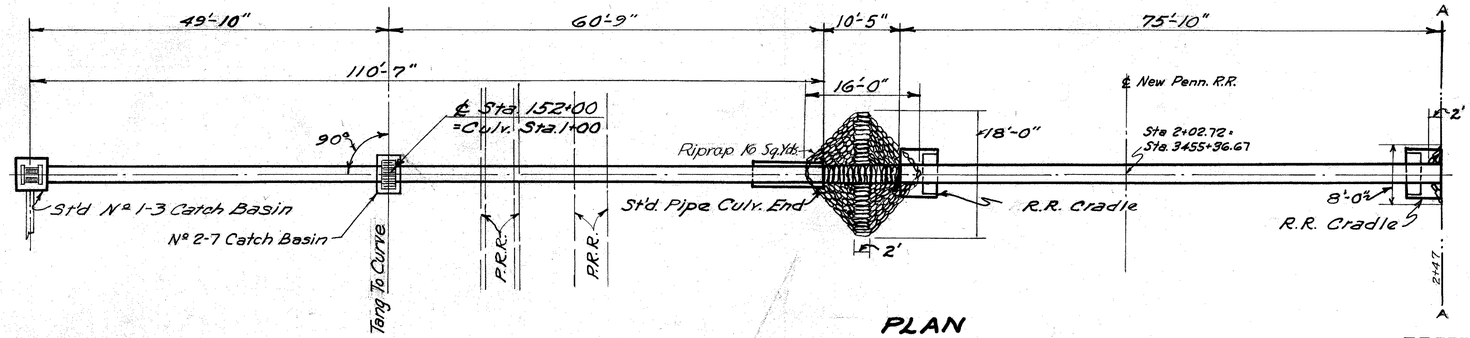
STA. 143+12.44
24"x 89'-0" PIPE CULV.
24"x 105'-0" PIPE CULV. (R.R.)

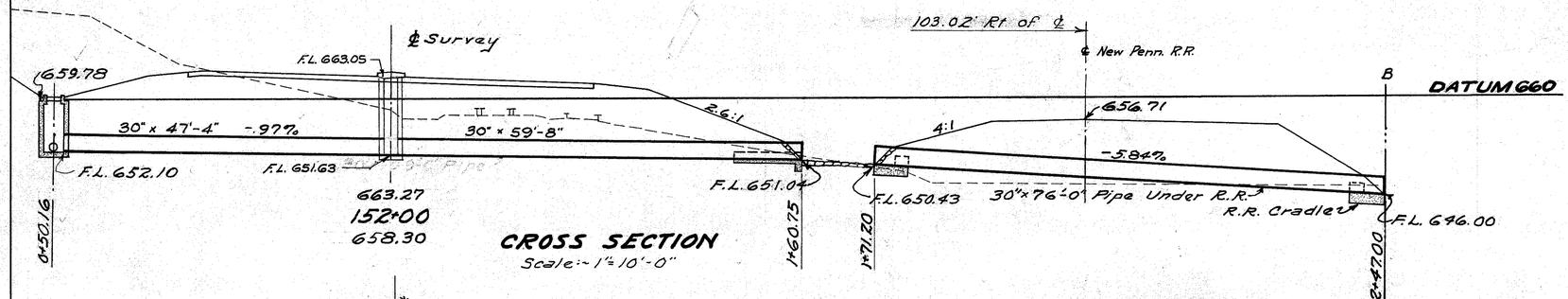
57-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

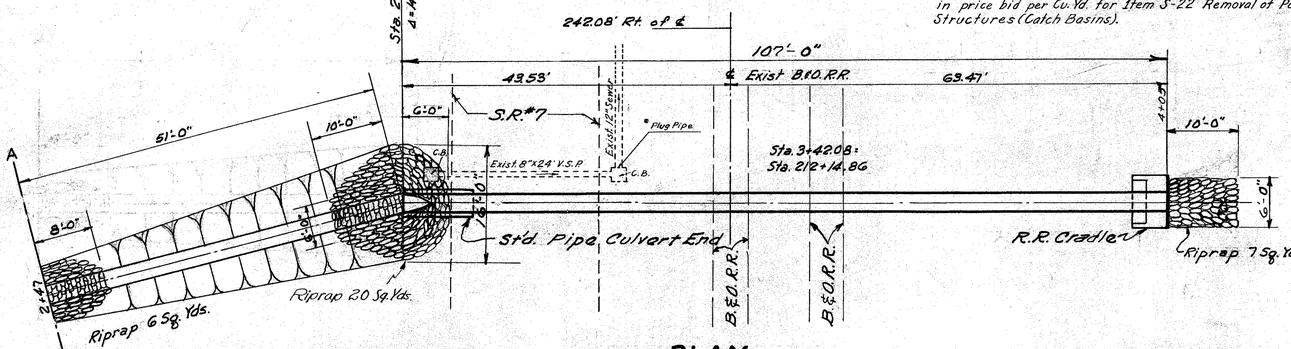
147
164

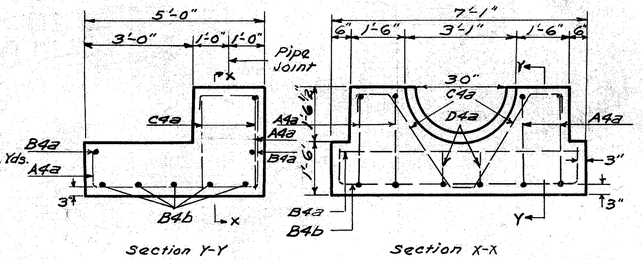
BEL-707.71 -20.14)





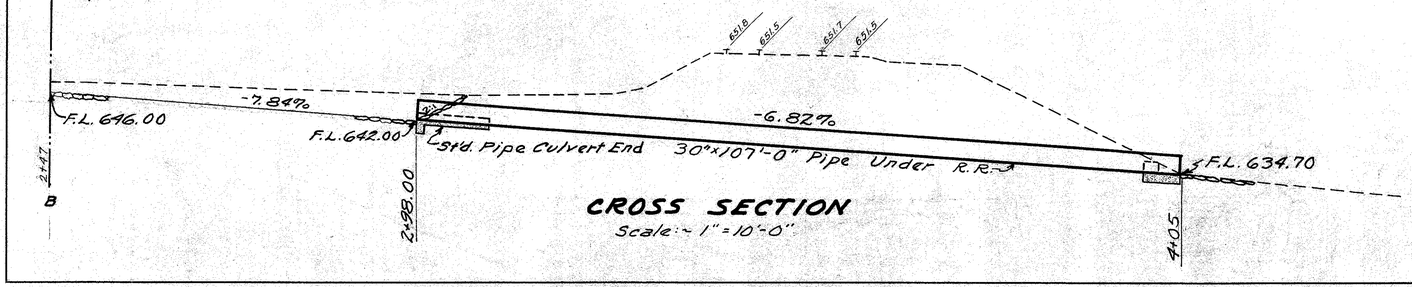
* Note: See Sheet Nº 4 for details of Nº 2-7 Catch Basin. Plug existing 12" Sewer after removal of catch basin, cost to be incl. in price bid per Cu.Yd. for Item S-22 Removal of Portions of Exist. Structures (Catch Basins).





R.R. CRADLE FOR 30" PIPE CULVERT
Scale: 1"=2

STEEL LIST						
Mark	Bar Nº	Spacing	Shape	No.	Length	Wt. Lbs.
A4a	4	1'-0"c/c	Bent	4	9'-8"	26
B4a	4	4'-4"c/c	Strt.	2	6'-7"	9
B4b	4	0'-10"c/c	Bent	6	8'-6"	34
C4a	4	1'-5"	"	4	4'-2"	11
D4a	4	1'-0"	"	2	6'-4"	9
					Total	89
Concrete (Class "E")						2.7 Cu.Yds.



STRUCTURE DATA

TYPE:- St'd. Pipe Culvert
SIZE:- 30"x292'-3"
WORK REQD:- Build St'd. 30"x107'-0" pipe culvert with Std. Nº 1-3 Catch Basin at inlet and std pipe culvert end at outlet. Place riprap as shown. Build 30"x76'-0" pipe culvert (R.R. strength) under P.R.R. with R.R. cradle each end as per plan. Excavate channel and place riprap as per plan. Build 30"x107'-0" pipe culvert (R.R. Strength) under B&O.R.R. with Std. pipe culvert end at inlet and R.R. cradle at outlet. Place riprap each end as per plan. Build Nº 2-7 C.B. as shown.

REFERENCE DRAWINGS

Pipe Culverts	S-27, P.C. 2 & 3
Catch Basins	I-8, C.B. 1-3

ESTIMATED QUANTITIES

E-2 Structure Excavation	255 Cu.Yds.
E-3 Channel Excavation	40 Cu.Yds.
S-27 30" Pipe for Roadway Culverts	107 Lin.Ft.
S-27 30" Pipe Culvert (Railroad Strength)	183 Lin.Ft.
I-8 St'd. Nº 1-3 Catch Basin	1 Each
S-1 Concrete for Structures (Class "E")	10.7 Cu.Yds.
S-4 Reinforcing Steel	267 Lbs.
I-10 Riprap Type "A" Grout Filled	49 Sq.Yds.
* I-8 Nº 2-7 Catch Basin (as per plan)	1 Each
E-12 8" Pipe Removed and Disposed of	24 Lin.Ft.
* S-22 Removal of Portions of Existing Structures (Catch Basins)	3 Cu.Yds.
E-12 15" Pipe Removed and Disposed of	37 Lin.Ft.

STA. 152+00
30" x 107'-0" ST'D PIPE CULVERT
30" x 183'-0" PIPE CULVERT (R.R. STRENGTH)

60-S

CITY OF BELLAIRE & PULTNEY TOWNSHIP - BELMONT COUNTY - SECS. 19 & 25, T.3N., R.2W.

148
164

EDGEHILL ADDITION
PLAT 1 - 11-11
13-5-KG-12

CITY OF BELLAIRE

HARRISON ST.

NOBLE ST.

JEFFERSON ST. (60')

SECTION LINE

SEC. 25 / SEC. 19

R.17-40 E.

RIGHT OF WAY PLANS
BEL. 7 - (17.71 - 23.14)
LENGTH OF PROJECT - 0.286 MI.
LIMITED ACCESS

HIGHWAY CURVE DATA
Δ = 5° 34' Lt.
D = 0° 20'
T = 285.78'
R = 17,189.71'
L = 1720.00'
E = 22.61
PC = 414+70.75
PCC = 531+90.75

NOTE
Line "O" and Line "P" indicated on certain plasses in these plans refers to "Original Alignment" and "Revised Alignment". Parcels surveyed on "Original Alignment" have been tied into "Revised Alignment" and show plasses and stations on both lines. Easements recorded prior to June 1, 1953 were purchased in relation to line "O", while easements recorded after that date will be described in relation to Line "P".

NOTE - Shaded areas on this sheet indicates property transferred from one railroad to the other by descriptions included in the Agreement between the Railroads and the Ohio Highway Department.

SCALE - 1" = 50'

Martin L. Schram — (79-LA)

The Cummins Co. — (48-LA) — Kenneth B. Schram — (49-LA)

The Cummins Co. — (50-LA)

Wheeling Electric Co. — (51-A) — D.C. Transformer Sub-Station — (61-LA)

(54-A)

Martin L. Schram — (45-LA)

PROP. JOINT R/W LINE - STATE OF OHIO AND C.&P. R.R. Co.

Aubrey F. Schram — (62-LA)

(41-LA) Wm. L. & Angela L. Janes

(42-LA) Kenneth B. Schram

(43-LA) Stanley & Virginia Gatesowski

(44-LA) Russell Pinzone

(59-LA) August J. & Marguerite Terrion

(40-LA) Thos. & Mercedes Moore

EXISTING C.&P. R.R. R/W LINE

EXISTING C.&P. R.R. "L"

EXISTING JOINT R/W LINE - C.&P. AND B.&O. R.R.'s

EXISTING "A" B.&O. R.R. "L"

EXISTING B.&O. R.R. R/W LINE

BEGIN

PROPOSED C.&P. R.R.

PROPOSED JOINT R/W LINE - C.&P. AND B.&O. R.R.

PROPOSED B.&O. R.R.

PROPOSED B.&O. R.R. R/W LINE

EQUATION AHEAD - PT. 455+00.00 = 456+34.18 BACK

EXISTING B.&O. R.R. CURVE DATA
Δ = 1°
D = 1° 10'
T = 370.62'
L = 740.00'
R = 34,377.5'
EC = 85+63.0
PT = 93+03.0

B.&O. R.R. CURVE DATA
Δ = 29° 28' 30" Rt.
D = 5° 10'
T = 743.62'
R = 34,377.6'
L = 1485.30
E = 8.02
PC = 85+63.0
PT = 100+32.36
(See EQUATION)

C.&P. R.R. CURVE DATA
Δ = 2° 25' Lt.
D = 0° 30'
R = 11,459.2'
T = 242.09'
L = 484.39'
E = 2.55
PC = 350+60.50
PT = 355+43.10 BACK = PT. 356+45.18 AHEAD

(35-LA) August J. & Marguerite Terrion T.B.A. 0.032 Ac.

(43-LA)

(47-LA) The Cum... Co. T.B.A.

(40-LA) Thomas & Mercedes Moore T.B.A. 0.061 Ac.

(44-LA) Russell Pinzone T.B.A. 0.028 Ac.

(48-LA) The Cummins Co. T.B.A.

(51-B)

(52-A)

(34-A)

(41-LA)

(45-LA)

(49-LA) Kenneth B. Schram T.B.A. 0.152 Ac.

(52-LA) Wheeling Electric Co. T.B.A. 0.0...

(53-X)

(39-X)

(42-LA) Kenneth B. Schram T.B.A. 0.237 Ac.

(46-LA)

(50-LA) Kenneth B. Schram T.B.A. 0.150 Ac.

(53-LA)

(53-X)

(39-A)

(36-A)

LEGEND
L.A. - Limited Access
A.R. - Access Road
E. - Slope Easement
C.A. - Shared Agreement
T.E. - Temporary Easements
C.&P. R.R.
"S" - Temporary Easement, B.&O. R.R.
P - Point for C.&P. R.R.
B - Point for B.&O. R.R.

Revised 4-8-54

BELMONT COUNTY - PULTNEY TOWNSHIP - SECTIONS 19 & 20, T-3-N, R-2-W
149
164
RIGHT OF WAY PLANS
BEL. 7-(17.71-20.14)
LIMITED ACCESS
HIGHWAY CURVE DATA
L = 1770.00'
SEC. 25
SEC. 26
SEC. 19
SEC. 20
SECTION
LINE
OUT LOT 'A'
ALLEY
OVERLOOK PARK SUBDIVISION
JEFFERSON
ST.
HILL
Audery P. Schram
William Jones
Jackson R. & Mary Wyckoff
Angelo Glaser
Otilia Agatha Glaser
Albert Quillen
James A. Mertz
Fern M. Jones
State of Ohio
PROPOSED JOINT R/W LINE - STATE OF OHIO AND C.&P. R.R.
PROPOSED JOINT R/W LINE - C.&P. AND B.&O. R.R.S.
PROPOSED B.&O. R.R.
PROPOSED B.&O. R.R. R/W LINE
Lewis Birkman Co.
Wheeling Electric Co.
John K. Mussio
STA. 44+00
STA. 59+00
BEGIN SHEET
END SHEET
LEGEND
LA = Limited Access.
A = Access Road.
L = Slope Easement.
X-Y-Z = Channel Agreement
T.P. = Temporary Easement, C.&P. R.R.
T.B. = Temporary Easement, B.&O. R.R.
P = Deed for C.&P. R.R.
B = Deed for B.&O. R.R.
NOTE - Shaded areas on this sheet indicates property transferred from one railroad to the other by descriptions included in the Agreement between the Railroads and the Ohio Highway Department.
SEE SHEET No. FOR PARCELS
SCALE - 1" = 50'
C.&P. R.R. CURVE DATA
B.&O. R.R. CURVE DATA
E = 80.26
ACCESS ROAD CURVE DATA

BELMONT COUNTY - PULTNEY TOWNSHIP - SEC. 20, T-3-N, R-2-W.
150
164
OHIO
RIGHT OF WAY PLANS
BEL. 7-(17.71-20.14)
LENGTH OF PROJECT - 2.396 MI.
LIMITED ACCESS
12-LA Elizabeth B. & E. Foster Wallace
14-LA Harry & Nancy Hinton
19-LA Rudolph & Irene Zych
20-LA Roy Eikleberry
21-LA Martha & Horace Drewett
22-LA Gerhart Church
23-LA Fred L. Caruth
24-LA Board of Education of Pultney Township
26-LA George H. & Harry Iner
74-LA State of Ohio
76-LA State of Ohio
HIGHWAY CURVE DATA
Δ = 14°00' LT.
D = 0°-48'
T = 873.38'
R = 7161.98'
L = 1750.00'
E = 53.79'
P.C.C. = 59+40.75
P.T. = 76+90.75
C.&P. R.R. CURVE DATA
Δ = 16°-18' RT.
D = 0°-42'
T = 1172.21'
R = 8185.16'
L = 2328.57'
E = 83.51'
P.C. = 3530+39.24
P.T. = 3553+56.81
B.&O. R.R. CURVE DATA
Δ = 15°-36' LT.
D = 0°-40'
R = 8594.40'
T = 1177.29'
L = 2339.99'
E = 80.26'
P.C. = 112+85.18
P.T. = 136+25.17
Robert E. Jr. & Clara B. Henderson
RIVERSIDE SUBDIVISION
PLAT BOOK 4 - Pg 64, LOTS 1-113
Clark N. Mertz
Fern M. Jones
HIGH STREET
2ND. ST.
PROPOSED JOINT R/W LINE - C.&P. AND B.&O. R.R.S.
PROPOSED B.&O. R.R.
PROPOSED B.&O. R.R. R/W LINE
STA. 39+00
BEGIN SHEET
STA. 75+00
Julius J. Klukas, Sr.
Electric Railway Equipment Co.
NOTE - Shaded areas on this sheet indicates property transferred from one railroad to the other by descriptions included in the Agreement between the Railroads and the Ohio Highway Department.
ACCESS ROAD CURVE DATA
P.C. = 33+95.09
P.T. = 34+79.01
SEE SHEET Nº FOR PARCELS
SCALE - 1" = 50'

SEE PLAN SHEET Nº

(2-LA)	(5-LA)	(4-LA)	(3-LA)	(6-LA)	(7-LA) James C. & Cora S. Bolstad T.B.A. 0.160 Ac.			
(18-LA)				(61-LA)	(58-LA)			
(57-LA)	(57-A)			(60-LA) The Baltimore & Ohio R.R. Co. T.B.A. 0.258 Ac.	(62-P) Lewis Berkman Co. T.B.A. 0.213 Ac.	(62-A) Lewis Berkman Co. T.B.A. 0.021 Ac.	(62-B) Lewis Berkman Co. T.B.A. 0.012 Ac.	
(62-A)	(63-B) Manning Electric Co. T.B.A. 0.20 Ac.	(64-A) John A. Massio T.B.A. 0.459 Ac.	(64-B) John A. Massio T.B.A. 0.723 Ac.	(65-LA)	(66-LA)	(67-LA)	(68-LA)	
(59-A)	(63-P) Manning Electric Co. T.B.A. 0.211 Ac.	(70-LA)	(64-P) John A. Massio T.B.A. 0.330 Ac.	(71-A) Clark N. Marts T.B.A. 0.552 Ac.	(71-B) Clark N. Marts T.B.A. 0.525 Ac.	(71-P) Clark N. Marts T.B.A. 0.144 Ac.		
(63-B)	(63-P) Jessie E. Marts T.B.A. 0.211 Ac.		(55-A) Audrey P. Schram T.B.A. 1.514 Ac.	(55-B) Audrey P. Schram T.B.A. 0.637 Ac.	(55-P) Audrey P. Schram T.B.A. 0.144 Ac.	(55-X) Audrey P. Schram T.B.A. 0.163 Ac.		

SEE PLAN SHEET Nº

(1-LA) C. Gerald Evans T.B.A. 0.113 Ac.	(8-LA)	(9-LA) Lewis J. & Ann Briney T.B.A. 0.115 oc.	(10-LA) Harold & Josephine Thomas T.B.A. 0.057 Ac.	(11-LA) Raymond W. & Evelyn B. Lude T.B.A. 0.115 Ac.	(12-LA) Elizabeth B. & E. Foster Wallace T.B.A. 0.069 Ac.	(13-LA) Norbert N. & Anna E. Rose T.B.A. 0.107 Ac.	(14-LA) Harry & Nancy Hinton T.B.A. 0.115 Ac.	
(15-LA) Annie & Fred S. Landers T.B.A. 0.057 Ac.	(16-LA) Ray P. & Delphia O. Baker, Etal T.B.A. 0.230 Ac.	(17-LA) Paul & Victoria Balgavy T.B.A. 0.172 Ac.	(19-LA) Rudolph P. & Irene Zych T.B.A. 0.302 Ac.	(20-LA) Roy Eikleberry T.B.A. 0.084 Ac.	(21-LA) Martha & Horace Drewett T.B.A. 0.200 Ac.	(22-LA) Gerhart Church T.B.A. 0.086 Ac.	(23-LA) Fred L. Carroll T.B.A. 0.115 Ac.	
(26-LA)	(25-LA) Arthur J. & Laurene Hartman T.B.A. 0.227 Ac.	(26-LA)	(72-LA)	(73-LA)	(74-LA) State Of Conn.	(75-A)	(75-B)	
(76-LA)	(94-B) Brady - Delivery Equipment Co. T.B.A. 0.344 Ac.	(96-P)	(77-X) Clark N. Marts T.B.A. 0.023 Ac.	(87-Wo) Peter Roth T.B.A. 0.344 Ac.	(88-Wo) Leopold A. Hardman T.B.A. 0.459 Ac.	(75-P)	(75-X)	

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RIGHT OF WAY PLANS
REL. 7-(RT11 - 20M)
LENGTH OF PROJECT - 2.380 MI.
LIMITED ACCESS

LEGEND
LA = Limited Access
A = Access Road
L = Slope Easement
X-Y-Z = Channel Agreement
T.E. = Temporary Easement C & P R.R.
T.B. = Temporary Easement B & O R.R.
P = Deed For C & P R.R.
B = Deed For B & O R.R.

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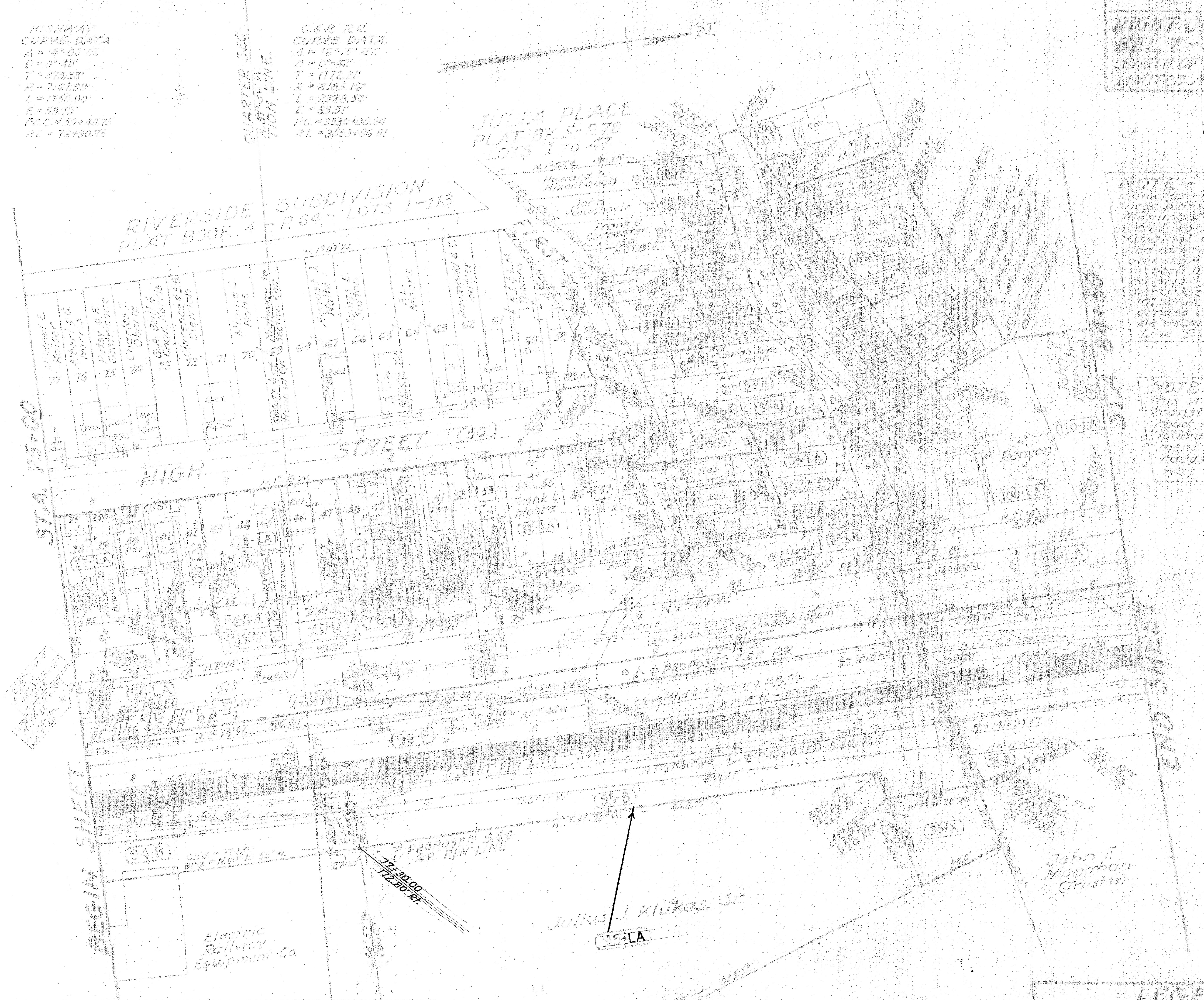
BELMONT COUNTY – PULTNEY TWP. – SEC. 20, T-3-N, R-2-W.

RIGHT OF WAY PLANS
BEL. 7 – (7EN – 28.14)
LENGTH OF PROJECT – 2.366 MI.
LIMITED ACCESS

(27-LA) Wilbur M. & Katherine C. Brown T.B.A. 0.228 Ac.	(97-LA) State of Ohio
(28-LA) Harry & Laura Shook T.B.A. 0.120 Ac.	(29-LA) Rosemary Otte T.B.A. 0.356 Ac.
(30-LA) Frederick A. Reicherbach T.B.A. 0.142 Ac.	(31-LA) Mildred E. Kaiser T.B.A. 0.071 Ac.
(32-LA) [illegible]	(33-LA) [illegible]
(34-LA) [illegible]	(35-LA) Kenneth J. & Clemency H. Fading T.B.A. 0.126 Ac.
(37-A) Clarence A. Sr. & Arlene Porter T.B.A. [illegible] Ac.	(38-A) [illegible]
(77-LA) [illegible]	(38-X) [illegible]
(78-LA) [illegible]	(38-L) [illegible] Smith T.B.A. 0.022 Ac.
(86-A) Jacob & Josephine [illegible] T.B.A. 0.022 Ac.	(86-L) T.B.A. 0.069 Ac.
(99-LA) [illegible]	(100-LA) John A. Runyan T.B.A. 0.531 Ac.
(101-A) [illegible]	(36-A) William Andrew & Helen Kohl T.B.A. 0.084 Ac.
(102-A) [illegible]	(102-L) [illegible] 0.036
(103-A) [illegible]	(103-L) [illegible]
(104-A) [illegible]	(104-L) [illegible]
(105-A) [illegible]	(105-L) [illegible]
(106-A) [illegible]	(106-L) [illegible]
(107-A) [illegible]	(108-A) [illegible]
(109-A) [illegible]	(95-B) Julius J. Klukas, Sr. T.B.A. 0.339 Ac.

(91-B) John F. Monahan, Trustee T.B.A. 0.03? Ac.	(95-L) R.J. & E.M. Theodos T.B.A.
(91-LA) Julius J. Klukas, Sr. Limited Access Only.	(95-X) Julius J. Klukas T.B.A.



NOTE – Should areas on this sheet indicate property transferred from one Railroad to the other by description included in the Agreement between the Railroads and the Ohio Highway Department.

B.& O. R.R. CURVE DATA

SCALE – 1" = 50'

LEGEND

LA = Limited Access
A = Access Road
L = Slope Easement
X-Y-Z = Channel Agreement
T.B. = Temporary Easement, C.& P. R.R.
T.B. = Temporary Easement, B.& O. R.R.
P = Deed for C.& P. R.R.
B = Deed for B.& O. R.R.

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NOTE:- Shaded areas on this sheet indicates property transferred from one Railroad to the other by descriptions included in the Agreement between the Railroads and the Ohio Highway Department.
BELMONT COUNTY — PULTNEY TOWNSHIP - SEC. 20, T.3 N., R.2 W.
LEGEND
LA = Limited Access
A = Access Road
L = Slope Easement
X-Y-Z = Channel Agreement
T.P. = Temporary Easement, C.& P. R.R.
T.B. = Temporary Easement, B.& O. R.R.
P = Deed for C.& P. R.R.
B = Deed for B.& O. R.R.
OHIO
RIGHT OF WAY PLANS
BEL. 7 - (17.71 - 20.14)
LENGTH OF PROJECT = 2.386 Mi.
LIMITED ACCESS
SEE SHEET Nº 4 FOR PARCELS
Earl Barnes
95-W
John F. Monahan (Trustee)
Margaret Boles
112-LA
Helen Moore
113-LA
Virginia Ruff
114-LA
Mary Virginia & Charles V. Ruff
115-LA
Francis Hanwell
129-LA
Agnes Metz & Angel Monahan
130-LA
Mary Angela Hostetler
131-LA
111-LA
John F. Monahan
John F. Monahan - Trustee
110-LA
96-LA
STA. 84+50
BEGIN SHEET
END SHEET
C.& P. R.R.
PROPOSED JOINT R/W LINE STATE OF OHIO AND C.& P. R.R.
Ernest L. & Minnie M. Phillips
116-P
Loretta Sindeldecker
117-P
Francis Hanwell
121-P
122-P
Bertha Anne & Thomas L. Hanifin
123-P
Irene Frances Oberle
124-P
John E. Oberle
125-P
126-P
Emma Hanlon
127-P
128-P
John F. Monahan
133-P
B.& O. R.R.
B.& O. R.R. CURVE DATA
END OF PROPOSED B.& O. R.R. CHANGE
EXISTING B.& O. R.R. R/W LINE
119-P
John F. Monahan, Trustee
118-P
John F. Monahan, Trustee
SCALE - 1" = 25'

BELMONT COUNTY ~ PULTNEY TOWNSHIP ~ SEC. 20, T-3-N, R-2-W.
154
164
OHIO
RIGHT OF WAY PLANS
LEGEND
LA = Limited Access
A = Access Road
L = Slope Easement
X-Y-Z = Channel Agreement
T.P. = Temporary Easement C.&P. R.R.
T.B. = Temporary Easement B.&O. R.R.
P = Deed for C.&P. R.R.
B = Deed for B.&O. R.R.
SEE SHEET Nº 8 FOR PARCELS
N.
H.C. Towner
Bertha Johnson
Mary Angela Hobstetter
(131-LA)
John F. Monahan (Trustee)
(133-LA)
West Wheeling & Coal Co.
(151-LA)
(56-LA)
H.C. Towner
(148-LA)
(150-LA)
James C. & Rose Johnson
(149-LA)
STA. 93+50
STA. 99+50
C.&P. R.R.
PROPOSED JOINT R/W LINE STATE OF OHIO & C.&P. R.R.
Norma M. Scott
(134-P)
Chas. & Virginia Roe
(135-P)
Robert John & Emma H. Rhodes
(137-P)
H.C. Towner
(138-P)
(140-P)
Jane F. Smith
(142-P)
H.C. Towner
(143-P)
Henry G. Towner et al
(145-P)
Margaret A. Towner
(146-P)
Bertha Johnson
EXISTING B.&O. RR. R/W LINE
B.&O. R.R.
EXISTING B.&O. R.R. R/W LINE
BEGIN SHEET
END SHEET
PROPOSED C.&P. R.R. CURVE DATA
HIGHWAY CURVE DATA
B.&O. R.R. CURVE DATA
NOTE :- Shaded areas on this sheet indicates property transferred from one railroad to the other by descriptions included in the Agreement between the Railroads and the Ohio Highway Department.
SCALE - 1" = 25'
John F. Monahan, Trustee
John F. Monahan, Trustee

SEE PLAN SHEET Nº 7

134-P Mary Virginia & Charles J. Ruff T.B.A. 0.046 Ac.	135-P Chas. J. & Virginia Ruff T.B.A. 0.046 Ac.	136-P	137-P Robert J. & Emma M. Rhodes T.B.A. 0.107 Ac.	138-LA	138-P T.B.A. 0.270 Ac.	
139-LA	140-LA	140-P	141-P John F. Monahan, Trustee	142-LA	142-P T.B.A. 0.204 Ac.	
143-LA	143-P	144-P John F. Monahan, Trustee	145-LA	146-P	145-TB James C. & Rose Johnson T.B.A. 0.120 Ac.	145-B T.B.A. 0.061 Ac.
146-LA	146-P	146-TB	146-B	148-LA	149-LA James C. & Rose Johnson T.B.A. 0.120 Ac.	150-LA T.B.A. 0.115 Ac.

SEE PLAN SHEET Nº 9

147-LA Charles Smith T.B.A. 0.045 Ac.	147-P Charles Smith T.B.A. 0.093 Ac.	147-TB Charles Smith T.B.A. 0.029 Ac.	147-B Charles Smith T.B.A. 3.023 Ac.	151-LA	151-A	152-LA	152-P
153-P Geo. W. Rhodes T.B.A. 0.056 Ac.	153-TB Geo. W. Rhodes T.B.A. 0.091 Ac.	153-B Geo. W. Rhodes T.B.A. 0.091 Ac.	154-A	155-A	156-P Geo. W. Rhodes Sr. T.B.A. 0.057 Ac.	156-TB	157-B
157-LB Herman A. Rhodes T.B.A. 0.057 Ac.	157-B Herman A. Rhodes T.B.A. 0.057 Ac.	158-TB Annie DeSiefe T.B.A. 0.057 Ac.	158-B Annie DeSiefe T.B.A. 0.057 Ac.	159-P Annie DeSiefe T.B.A. 0.057 Ac.	160-P George W. Rhodes T.B.A. 0.057 Ac.	161-TB Arthur J. Hartman T.B.A. 0.114 Ac.	161-B Arthur J. Hartman T.B.A. 0.115 Ac.
162-P Arthur J. & Corine Hartman T.B.A. 0.114 Ac.	162-TB Arthur J. Hartman T.B.A. 0.057 Ac.	163-B Arthur J. Hartman T.B.A. 0.057 Ac.	164-TB Mary Zercher T.B.A. 0.057 Ac.	164-B Mary Zercher T.B.A. 0.057 Ac.	165-P	166-TB Nellie K. Imer T.B.A. 0.057 Ac.	166-B Nellie K. Imer T.B.A. 0.057 Ac.
167-TB Mary Zercher T.B.A. 0.057 Ac.	167-B Mary Zercher T.B.A. 0.057 Ac.	168-P Clarence E. Dietrich T.B.A. 0.057 Ac.	168-P William A. & Anna Belle Koch T.B.A. 0.114 Ac.	170-TB Joe DeSiefe T.B.A. 0.114 Ac.	170-B Joe DeSiefe T.B.A. 0.114 Ac.	171-TB	171-B
172-P Joseph P. Satary T.B.A. 0.023 Ac.	173-P Satio Satary T.B.A. 0.034 Ac.	174-P West Wheeling Volunteer Fire Dept T.B.A. 0.114 Ac.	175-TB Ethel & Robert Hopkins T.B.A. 0.057 Ac.	175-B Ethel & Robert Hopkins T.B.A. 0.057 Ac.	176-TB Bertha Curley Knox & Jno. Knox T.B.A. 0.057 Ac.	176-B Lillian Smith T.B.A. 0.057 Ac.	176-P George W. Rhodes Sr. T.B.A. 0.114 Ac.
177-TB Maude Mae Koch T.B.A. 0.057 Ac.	177-B Maude Mae Koch T.B.A. 0.057 Ac.				132-A	90-TB	90-B

SEE PLAN SHEET Nº 6

83-W	110-LA	111-LA	112-LA	113-LA	114-LA Mary Virginia & Charles J. Ruff T.B.A. 0.070 Ac.	115-LA Mary Virginia & Charles J. Ruff T.B.A. 0.057 Ac.	116-P Ernest S. & Minnie M. Phillips T.B.A. 0.000 Ac.
117-P Loretta Shedlecker T.B.A. 0.057 Ac.	118-P John F. Monahan, Trustee T.B.A. 1.01 Ac.	119-P John F. Monahan, Trustee T.B.A. 1.01 Ac.	120-LA John F. Monahan, Trustee T.B.A. 2.051 Ac.	121-P Frances Humway T.B.A. 0.034 Ac.	122-P Virginia Cox T.B.A. 0.195 Ac.	123-P William L. Brandau T.B.A. 0.051 Ac.	124-P Irene Francis Oberle T.B.A. 0.068 Ac.
125-P John L. Oberle T.B.A. 0.057 Ac.	126-P Irene Francis Oberle T.B.A. 0.032 Ac.	127-P Emma Hopkins T.B.A. 0.034 Ac.	128-P Frances Humway T.B.A. 0.051 Ac.	129-LA Frances Humway T.B.A. 0.101 Ac.	130-LA Agnes Mae & Angela Mae Koch T.B.A. 0.137 Ac.	131-LA Mary Ann Oberle T.B.A. 0.051 Ac.	
133-P Mary Ann Oberle T.B.A. 0.216 Ac.							

LEGEND
LA = Limited Access
A = Access Area
E = Slope Easement
A.G.R. = Agricultural Agreement
T.P.E. = Temporary Easement
D.A.G. R.E.
T.E. = Temporary Easement
D.A.G. R.E.
D = Deed for C & D R.E.
E = Deed for R.O.W. R.E.

2	6/80		

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RIGHT OF WAY PLANS
SEC. 7-(12.11-20.14)
LENGTH OF PROJECT - 2.386 MI.
LIMITED ACCESS

BELMONT COUNTY - PULTNEY TWP. - SEC'S. 20 & 21, T-3, R-2
SEE SHEET No. FOR PARCEL
RIGHT OF WAY PLANS
BEL. 7-(17.71-20.16)
LENGTH OF PROJECT
LIMITED ACCESS
156
164
PROPOSED C & P R.R. CURVE DATA
HIGHWAY CURVE DATA
William & Evelyn Johnson
Guy & Edna May Everson
The West Wheeling Coal Company
The West Wheeling Coal Co.
(151-LA)
(56-LA)
(152-LA)
(152-P)
(153-P)
(154-A)
(155-A)
Harry & Edna Nixon
Bert & Edith Hartman
William Bert & Prudence Hartman
June Moore
Zola C. Sullivan
The Cleveland and Pittsburgh Railroad Company
C & P. R.R.
SECOND STREET
PROPOSED JOINT R/W LINE STATE OF OHIO AND C & P RR
Existing
STREET (40')
Alley
Charles Smith
Belle Johnson
Wilbur T. Rhodes
Annie De Steffe
George W. Rhodes
Arthur & Lourine Hartman
Leo V. Lyden
William A. & Anna Belle Rash
Clarence Deltrich
West Wheeling Volunteer Fire Department
George W. Rhodes Sr.
Geo. W. Rhodes
Thos. H. Jenkin, Heirs
William & Christian Wolf, Heirs
James C. Johnson Jr.
Annie De Steffe
Arthur J. Hartman
Arthur Hartman
Mary Zercher
Hallie K. Imer
Mary E. Zercher
Joseph De Steffe
Anna Belle Carpenter & Henrietta M. Moreland
M. M. McCray
SOUTH STREET
SECTION LINE
12 Ft. Alley
FIRST STREET
B & O. R.R.
B & O. R.R. CURVE DATA
WEST WHEELING
RECORD OF DEEDS
SCALE - 1" = 25'
BEGIN SHEET
STA. 93+50
END SHEET
LEGEND
LA = Limited Access.
A = Access Road
L = Slope Easement
X-Y-Z = Channel Agreement
TP = Temporary Easement, C & P. R.R.
T.B. = Temporary Easement B & O. R.R.
P = Deed for C & P. R.R.
B = Deed for B & O. R.R.

PULTNEY TOWNSHIP - SEC. 21, T-3, R-2 & PEASE TOWNSHIP - SEC. 27, T-3, R-2

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OHIO

INDEX OF MAP PLANS
SHEET 2 OF 21 - 22 INCL.
LENGTH OF PROJECT 2.1 MILES
LIMITED ACCESS

PULTNEY
PEASE TWP. - T-3, R-2 - SEC. 27
TWP. - T-3, R-2 - SEC. 21

BEGIN SHEET - STA. 107+50

Nora McDonough
Charlotte Harris
Geo. M. & Nell K. Imler
Nora Pyle (McDonough)
Mark Harris Corner
Reno Kappler
Harold J. Moore
William E. & Dorothy L. Rarfalat
State of Ohio
Nora & Michael McDonough
Wilbur & Martha C. Rothacher
Mary Nora (Elbert) Bartley
Mark Harris Corner
The Cleveland & Pittsburgh Railroad Company
(C&P R.R.)
STREET
SECOND
Alley
Township Board of Equalization
Cemetery
Carey Garage Site
Mary M. Corner
Raymond L. Cox
John W. Garrett
Mike & Mary Turek
Harold Moore
Mrs. Marie Quinn
Herman & Mary Rhoads
Betty Jane Rhoads
Elmer & Annie Fonts
Church of Christ
Parsonage
Wm. Parker
Joe Pelette
Earl Moore
Robert Bond Jackson
G.J. Allen
Albert Yates
Lamb Avenue
PROPOSED
SCALE BOUNDARY LINE - STATE OF OHIO AND C&P R.R. Co.
EXISTING C&P R.R. Co.
FERRY
FIRST
STREET
STREET
STREET
STREET
Alley

NOTE:- Shaded areas on this sheet indicates property to be formed from one ownership to the other as described, to be divided in the Agreement between the Railroad and the Ohio Highway Department.

SEE SHEET NO
FOR PARCELS

LEGEND
LA = Limited Access
A.R. = Access Road
E = Slope Easement
M.A. = Manual Agreement
T.E. = Temporary Easement
C.A. = Control Access
T.R. = Temporary Easement Rights
P.O.E. = Property Owners Easement
B = Deed for C.A. & P.O.E.
B = Deed for E.T.O. & M.A.

SCALE - 1" = 200'

WEST WHEELING
BRIDGE OF DEED
LATS NO. 1 TO NO. 1005

PROPOSED R.R.P.
R.R.'S CURVE DATA
Δ = 14°08'30" RT
D = 1°00'11"
R = 5715.68'
T = 710.11'
L = 1408.63'
E = 21.89'
P.C. = 96+87.71
P.T. = 110+96.34
P.I. = 103+82.06

HIGHWAY
CURVE DATA
Δ = 15°49'00" RT
D = 1°00'00"
R = 5729.58'
T = 795.11'
L = 1580.63'
E = 27.89'
P.C. = 96+87.71
P.T. = 112+68.34
P.I. = 104+82.06

R.R.O. R.R. DRIVE DATA
Δ = 15°49'00" LT
D = 9°00'00"
T = 193.78'
L = 382.60'
P.C. = 164+50.0
P.C.C. = 170+43.0

R.R.O. R.R. CURVE DATA
Δ = 5°16'16"
D = 0°30'00"
T = 668.0
R = 11,459.86'
L = 894.0
P.C.C. = 170+43.0
P.T. = 177+33.0

FED. RD. DIVISION	2
STATE	OHIO
PROJECT	
SHEET NO.	158 / 164

RIGHT OF WAY PLANS
BEL. 7-(17.71-20.14)
LENGTH OF PROJECT = 2.380 MI.
LIMITED ACCESS

SEE PLAN SHEET Nº

(179-TB) [illegible]	(179-B) [illegible]	(180-P) Maude Mae Koch T.B.A. 0.057 Ac.	(181-P) [illegible]	(182-TB) [illegible]	(182-B) [illegible]		
(183-TB) Mary M. Conner T.B.A. 0.114 Ac.	(183-B) Mary M. Conner T.B.A. 0.114 Ac.	(184-TB) Frank & Martha Conway T.B.A. 0.044 Ac.	(184-B) Frank & Martha Conway T.B.A. 0.044 Ac.	(185-P) Harold J. Moore T.B.A. 0.058 Ac.	(189-P) Charles A. Maroon T.B.A. 0.057 Ac.		
(186-TB) Raymond E. Cox T.B.A. 0.057 Ac.	(186-B) Raymond E. Cox T.B.A. 0.057 Ac.	(187-TB) Joe Deseife T.B.A. 0.114 Ac.	(187-B) Joe Deseife T.B.A. 0.114 Ac.	(188-P) Mike Turcki T.B.A. 0.057 Ac.	(190-LA) William F. & Jane Marie Mullen T.B.A. 0.002 Ac.	(190-P) William F. & Jane Marie Mullen T.B.A. 0.057 Ac.	(191-TB) Marietta Johnson T.B.A. 0.057 Ac.
(192-TB) [illegible]	(192-B) [illegible]	(193-LA) Mary Marie Connor T.B.A. 0.005 Ac.	(193-P) Mary Marie Connor T.B.A. 0.057 Ac.	(194-LA) Herman & Marie Rhodes T.B.A. 0.008 Ac.	(194-P) Herman & Marie Rhodes T.B.A. 0.057 Ac.	(195-TB) May G. Fortney T.B.A. 0.057 Ac.	(191-B) Marietta Johnson T.B.A. 0.057 Ac.
(196-TP) [illegible]	(196-P) [illegible]	(196-TB) [illegible]	(196-B) [illegible]	(197-LA) Larry E. & Helen F. Hockenberry T.B.A. 0.012 Ac.	(197-P) Larry E. & Helen F. Hockenberry T.B.A. 0.057 Ac.	(195-B) May G. Fortney T.B.A. 0.057 Ac.	
(198-LA) Elmer & Anna Faddis T.B.A. 0.019 Ac.	(198-P) Elmer & Anna Faddis T.B.A. 0.057 Ac.	(199-LA) [illegible]	(199-P) [illegible]	(200-TP) Joe DeSeife T.B.A. 0.006 Ac.	(200-P) Joe DeSeife T.B.A. 0.006 Ac.	(200-TB) Joe DeSeife T.B.A. 0.051 Ac.	(200-B) Joe DeSeife T.B.A. 0.051 Ac.
(201-TP) Harold J. & Helen Moore T.B.A. 0.021 Ac.	(201-P) Harold J. & Helen Moore T.B.A. 0.021 Ac.	(201-TB) Harold J. & Helen Moore T.B.A. 0.093 Ac.	(201-B) Harold J. & Helen Moore T.B.A. 0.093 Ac.	(202-TP) Robert J. & Emma H. Rhodes T.B.A. 0.031 Ac.	(202-P) Robert J. & Emma H. Rhodes T.B.A. 0.031 Ac.	(202-TB) Robert J. & Emma H. Rhodes T.B.A. 0.093 Ac.	(202-B) Robert J. & Emma H. Rhodes T.B.A. 0.093 Ac.
(203-LA) [illegible]	(203-P) [illegible]	(204-LA) [illegible]	(204-P) [illegible]	(205-LA) Harold J. Moore T.B.A. 0.030 Ac.	(205-P) Harold J. Moore T.B.A. 0.057 Ac.	(259-P) Baltimore & Ohio R.R. T.B.A. 0.004 Ac.	

SEE PLAN SHEET Nº 12

(206-LA) Harold J. Moore T.B.A. 0.059 Ac.	(207-LA) William F. Perigloisi T.B.A. 0.016 Ac.	(208-LA) William F. Perigloisi T.B.A. 0.025 Ac.	(208-TP) William F. Perigloisi T.B.A. 0.136 Ac.	(208-P) William F. Perigloisi T.B.A. 0.136 Ac.	(209-TP) [illegible]	(209-P) [illegible]	(209-TB) [illegible]
(210-LA) G. Amanda Gillespi T.B.A. 0.119 Ac.	(210-TP) G. Amanda Gillespi T.B.A. 0.202 Ac.	(210-P) G. Amanda Gillespi T.B.A. 0.202 Ac.	(210-TB) G. Amanda Gillespi T.B.A. 0.177 Ac.	(210-B) G. Amanda Gillespi T.B.A. 0.177 Ac.	(211-TP) [illegible]	(211-P) [illegible]	(209-B) [illegible]
(212-LA) [illegible]	(212-TP) [illegible]	(212-P) [illegible]	(213-B) [illegible]	(214-A) [illegible]	(211-LA) Wm. Gross T.B.A. [illegible]	(211-TB) Wm. Gross T.B.A. [illegible]	(211-B) Wm. Gross T.B.A. [illegible]
(215-A) [illegible]	(215-L) [illegible]	(216-A) [illegible]	(216-L) [illegible]	(217-A) [illegible]	(217-L) [illegible]	(219-A) [illegible]	(223) [illegible]
(221) [illegible]	(222-X) [illegible]	(224-B) [illegible]	(225-LA) [illegible]	(225-TP) [illegible]	(225-P) [illegible]		(220-LA) Fannie E. Lyle Limited Access Only.
(260-P) [illegible]	(222-LA) [illegible]	(221-LA) Edward W. & Dorothy Weir Limited Access Only.					

SEE (INSERT) PLAN SHEET Nº 14

				(219-A) [illegible] 0.042 Ac.	(218-L) [illegible]		

LEGEND
LA = Limited Access
A = Access Road
L = Slope Easement
X-X-Z = Channel Agreement
T.P. = Temporary Easement P.R.R.
T.B. = Temporary Easement B.&O. R.R.
P = Deed for P.R.R.
B = Deed for B.&O. R.R.

PULTNEY TOWNSHIP ~ SEC. 21, T3, R2
PEASE TOWNSHIP ~ SEC. 27, T3, R2
159
164
RIGHT OF WAY PLANS
BEL. 7 - (1271 - 20.14)
LIMITED ACCESS
Harold J. & Moore
JAMES LOES SUBDIVISION (UNRECORDED) LOTS No 1 TO 16
MATCH SEE INSERT
LINE SHEET
State of Ohio
Maude Mays Fortney
Beulah Lee Dinsmore
John J. Church
Harold Thomas & Eleanor Finnell
Erma Sadler
Harold J. Moore
Edward W. & Dorothy Weir
Fannie E. Lyle
220-LA
221-LA
C. & P. R.R.
PEASE
PULTNEY
Isabella Smith, et al
G. Amanda Gillespy
Wm. Gross
William F. Periginis
Burt & Bessie Yates
Co-Operative Transit Co.
FIRST ST.
B. & O. R.R.
EXISTING B. & O. R.R.
NORTH SHEET
SEE SHEET No FOR PARCELS
LEGEND

PEASE TOWNSHIP SEC. 27 T-3, R-2

Donald M. & Gladys M. Green

Eugene W. Scott

Eugene W. Scott
(226-LA)

George R. Adams
(227-LA)

HIGHWAY CURVE DATA
Δ = 6°21'30" LT
D = 1°00'
R = 5729.58'
T = 316.25'
L = 633.07'
E = 8.61'
PC = 170+81.01
PT = 177+15.08

PROPOSED C&P R.R. CURVE DATA
Δ = 6°21'30" LT
D = 1°00'
R = 5729.58'
T = 318.25'
L = 637.03'
E = 8.79'
PC = 3470+43.62
PT = 3476+59.47

STATE	SCALE		SHEET NO.
OHIO			160
			TOTAL SHEETS
			164

RIGHT OF WAY PLANS
SEC. 7-(0.71-20.14)
LENGTH OF PROJECT = 2396 M.
LIMITED ACCESS

B & O. R.R.
CURVE DATA
Δ = 6°-5' Rt.
D = 1°-0'E.
T = 195.56'
L = 391.45'
P = 3274.17'
PC = 191+51.0
PT = 195+42.4

B & O. R.R.
CURVE DATA
Δ = 9°01' Lt.
D = 1°-15'
T = 321.90'
L = 641.23'
PC = 168+74.0
PT = 175+16.3
R = 4583.75'

NOTE - Shaded areas on this sheet is deeds property transferred from the railroad to the other by description, but is in the occupant between the railroad and the ohio Highway Department.

(82-P)
North Olmsted Development Co.
T.E.A. 0.350 Ac.

(92-P)
Richard T. Shaw, Etal
T.E.A. 0.020 Ac.

(226-LA)
Eugene W. Scott
T.E.A. 0.6 Ac.

(227-LA)
M. Kaminski & Sons, Inc.
T.E.A. 0.142 Ac.

(227-P)
Kaminski & Sons, Inc.
T.E.A. 0.220 Ac.

(228-P)
Cuyahoga Valley Ry. Co.
T.E. 3.68 Ac.

(223-LA)
Penn Central Company
T.E.A. 1.20 Ac.

SCALE - 1" = 50'

LEGEND
LA = Limited Access.
A = Access Road.
L = Slope Easement.
X-Y-Z = Channel Agreement.
T.P. = Temporary Easement. C & P. R.R.
T.E. = Temporary Easement. B & O. R.R.
F = Deed for C & P. R.R.
B = Deed for B & O. R.R.

Revised Tracing Rec'd. 3-15-54 per C.E.

PEASE TOWNSHIP - SEC. 27, T-3, R-2
161
164
OHIO
RIGHT OF WAY PLANS
BEL-7-(17.31-20.14)
LIMITED ACCESS
HIGHWAY CURVE DATA
PROPOSED C.&P. R.R. CURVE DATA
NOTE:- Shaded areas on this sheet indicates property transferred from one railroad to the other by descriptions included in the Agreement between the Railroads and the Ohio Highway Department.
Eugene W. Scott
Premo Funari
George R. Adams
Andrew & Esther M. Lambros
Alfred Holliday
Della P. Berisford
Andrew & Esther M. Lambros
VILLAGE OF BRIDGEPORT CORPORATION LINE
BEGIN SHEET STA. 135+00
END SHEET STA. 148+00
EXISTING B.&O. R.R.
PROPOSED JOINT R/W LINE - STATE OF OHIO & C.&P. R.R.
SEE SHEET No. FOR PARCELS
B.&O. R.R. CURVE DATA
VILLAGE OF BRIDGEPORT
SCALE - 1" = 50'
Alma J. Butler
State of Ohio
Ellie Cobs
Henry & Dorothy Zukowski
Harold J. Moore
MATCH LINE
INSERT FOR SHEET No.
Scale - 1" = 20'
229-LA
230-LA
231-LA
229-P
230-P
231-P
232-LA
233-LA
231-B
LEGEND
LA = Limited Access
A = Access Road
L = Slope Easement
X-Y-Z = Channel Agreement
T.P. = Temporary Easement C.&P. R.R.
T.B. = Temporary Easement B.&O. R.R.
P = Deed for C.&P. R.R.
B = Deed for B.&O. R.R.

PEASE TOWNSHIP - SEC. 27, T.3, R.2
RIGHT OF WAY PLANS
BEL. 7 - (17.71 - 20.18)
LENGTH OF PROJECT
LIMITED ACCESS
STREET (30')
LINCOLN
AVENUE
WASHINGTON
STREET
(Variable Width)
WHITLEY ST.
JACQUETT ST.
KENNON ALLEY
SEE SHEET No FOR PARCELS
J. Peter & Nina Lizon
Joseph J. Lash
Thos. E. Smith
Wayne D. King
Andrew & Esther M. Lambros
Anthony J. & Arla Jane McCarty
Katherine Turner
Willard W. Schaler
The Mountaineer Used Light & Heat Co.
Elizabeth Schramm
233-LA
234-LA
235-LA
236-LA
237-LA
238-LA
239-LA
240-LA
241-LA
242-LA
243-LA
244-LA
246-LA
247-LA
247-P
247-B
247-F
248-B
249-B
State of Ohio
PROPOSED JOINT R/W LINE - STATE OF OHIO AND C&P R.R.
PROPOSED C&P R.R.
VILLAGE OF BRIDGEPORT
PLAT OF KIRKWOOD, (ORIGINAL) - Plat Book #1, Pgs. 140 & 141. (Jan. 28, 1834).
All lots between Bennett Street and Wheeling Creek as originally platted.
PLAT OF KIRKWOOD, (Revised) - Plat Book #1, Pg. 59. (July 16, 1866). All lots between Kennon Alley and Bennett Street included in this revision.
PROPOSED JOINT R/W LINE C&P AND B&O R.R.
F. Dewey & Virginia B. Bishop
Margaret Kirkwood Heirs
B.&O. R.R.
EXISTING B.&O. R.R.
PROP'D. C&P R.R. CURVE DATA
B.&O. R.R. CURVE DATA
B.&O. R.R. CURVE DATA
HIGHWAY CURVE DATA
STA. 148+00
BEGIN SHEET
END SHEET
LEGEND
L.A. = Limited Access
S.E. = Slope Easement
A = Access Road
T.E. = Temporary Easement C&P R.R.
T.B. = Temporary Easement B&O R.R.
P = Deed for C&P R.R.
B = Deed for B&O R.R.
SCALE - 1" = 25'

SEE PLAN SHEET Nº

TRACT	PARCEL	CLASS	ACRES
2	0340		

163
164

RIGHT OF WAY PLANS
BEL-7-(021)-20.44
LENGTH OF PROJECT 0.386 mi
LIMITED ACCESS

234-LA
Mabel V. Holt
TBA 3270 Ac.

235-LA
Wayne D. King
TBA 0.156 Ac.

236-LA
Joseph & Sarah Griffith
TBA 0021 Ac.

237-LA

238-LA

239-LA

240-LA

241-LA

242-LA

243-LA

244-L

245-LA
State of Ohio

246-P

247-LA

247-P

247-B

248-B

249-LA
State of Ohio

250-P

SEE PLAN SHEET Nº 17

251-LA
Elizabeth Schramm
TBA 0.234 Ac.

252-LA

253-LA

254-LA

255-P

256-P

257-LA

258-LA

261-LA

261-L

LEGEND -
LA = Limited Access
A = Access Road
L = Slope Easement
Ch/E = Channel Agreement
T/E = Temporary Easement
C & P. R.R.
T.E. = Temporary Easement
B & O R.R.
P = Deed for C & P. R.R.
B = Deed for B & O. R.R.

PEASE TOWNSHIP -- SEC. 27, T-3, R-2

164
164

LINCOLN AVENUE

BENNETT STREET

STATE STREET

HOWARD STREET

BRIDGEPORT

VILLAGE OF

SECTION 27

Holly M. & Mary K. Anderson

Ellen A. Schulenberg

Elizabeth Schram

Anna Hohman

Margaret Kirkwood, Heirs

The First Presbyterian Church

The United States Of America (Post Office)

The Cleveland & Pittsburgh Railroad Company

C & P RR Co

F. Dewey & Virginia E. Bishop

B & O RR

SEE SHEET No. FOR PARCELS

SCALE - 1" = 25'

~SAMPLES TESTED~

LAB. NOS. SO.

78598 — 78631 INCL.
78634 — 78648 INCL.
78688 — 78691 INCL.
78693 — 78695 INCL.
78697 — 78700 INCL.
78702 & 78704
78854 — 78851 INCL.
78862 & 78864
78867 — 78905 INCL.
78914 — 78934 INCL.
79185 — 79234 INCL.
79329 — 79333 INCL.
79337 — 79355 INCL.
79358 — 79365 INCL.
79385 & 79386
79389 — 79395 INCL.
79399 — 79404 INCL.
79409 — 79412 INCL.
79682 — 79700 INCL.
80495 — 80497 INCL.

~MOISTURE DENSITY SAMPLES~

LAB. NOS. SO.

78646 — 78648 INCL.
78704
78854 — 78855 INCL.

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 262 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	S.H.T.O. CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL, SAND & SOIL	A-2-6(0)	2	43	15	10	19	13	33	12	17	2
GRAVEL & SAND	A-1-a(0)	3	59	25	6	7	3	26	0	17	3
BERM MATERIAL		7		CLASSIFIED BY VISUAL INSPECTION							
SILT	A-4(8)	8	3	1	15	62	19	25	6	22	17
SANDY SILT	A-4(6)	9	15	10	19	40	16	27	7	20	14
TOP SOIL		10		CLASSIFIED BY VISUAL INSPECTION							
SILT & CLAY	A-6(7)	11	13	9	11	42	25	33	12	21	29
ELASTIC SILT & CLAY WITH ORGANIC MATERIAL	A-7-5(7)	12	19	14	8	37	22	45	14	25	10
CLAY & SILT	A-6(11)	15	10	7	8	44	31	39	17	24	40
CLAY	A-7-6(16)	16	9	5	5	42	39	50	26	28	143
CINDERS		18	38	26	6	19	11	45	8	26	3
COAL & COAL BLOSSOM		20	3	10	13	62	12	61	19	42	1
SANDSTONE		23		CLASSIFIED BY VISUAL INSPECTION							
SHALE		24		CLASSIFIED BY VISUAL INSPECTION							

EXISTING PAVEMENT

AUGER BORINGS PLOTTED TO VERTICAL SCALE ONLY.

• WATER CONTENT NEARLY EQUAL TO OR GREATER THAN THE LIQUID LIMIT.

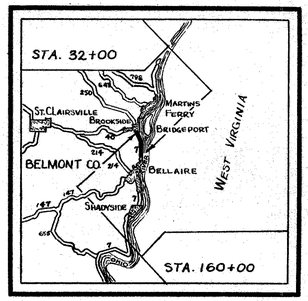
NOTE:- FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PER CENT.

SOIL PROFILE
BELMONT CO.
BEL- 7-(17.71-20.14)

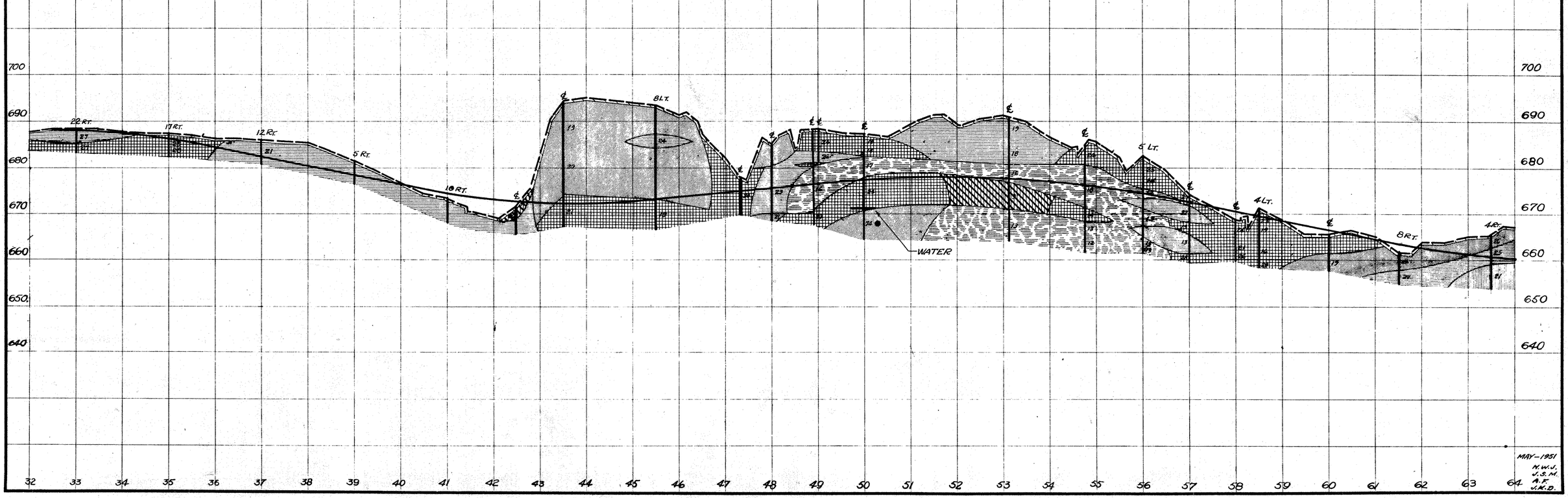
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

1/6

NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE INFORMATION OF THE STATE OF OHIO. THE STATE DOES NOT GUARANTEE THE CORRECTNESS THEREOF AND DOES NOT INCLUDE IT AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.



LOCATION MAP



MAY-1951
N.W.J.
J.S.H.
A.T.
J.K.D.

TE 54-B
200 3-48

SOIL PROFILE

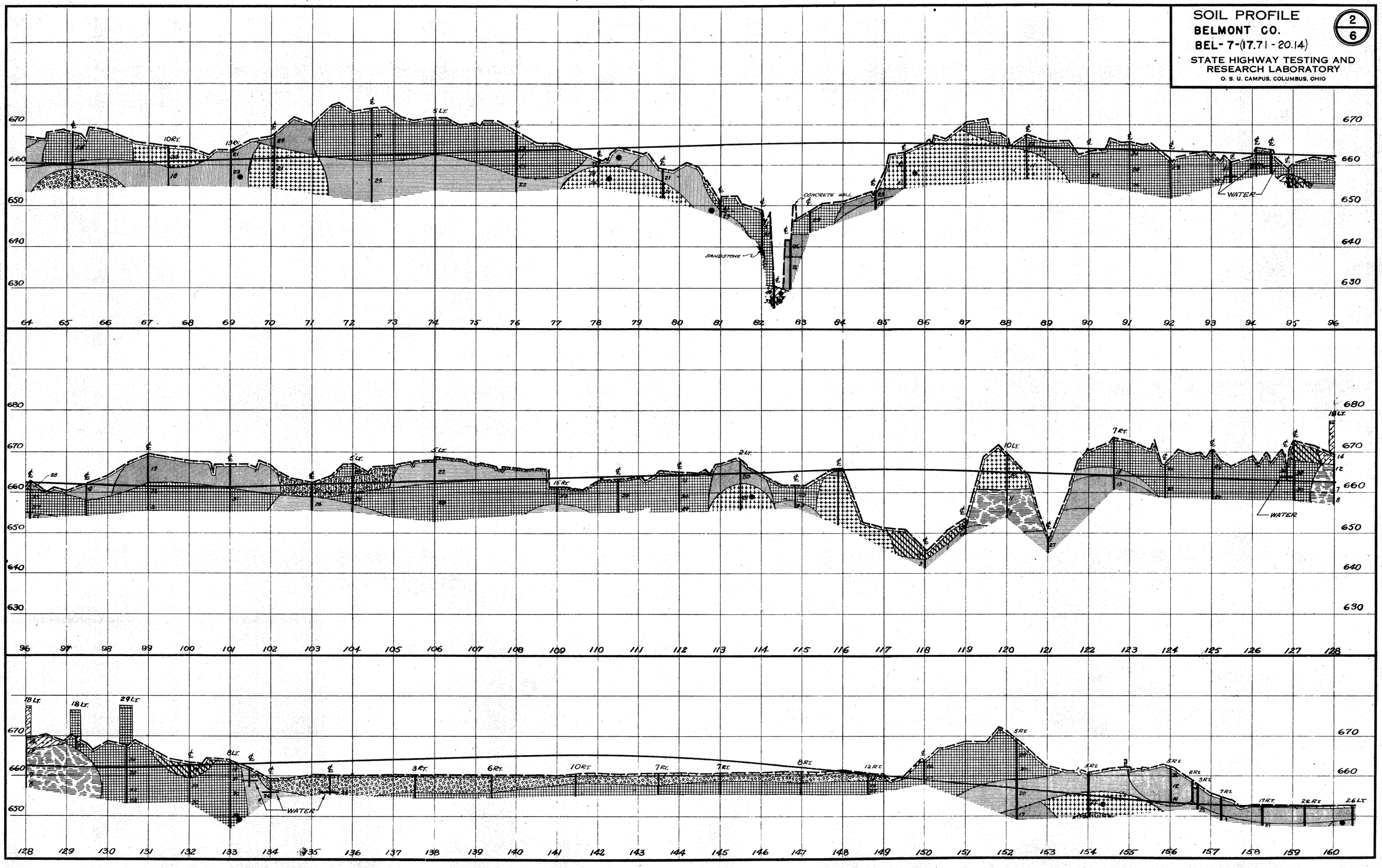
BELMONT CO.

BEL- 7-(17.71 - 20.14)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY

O. S. U. CAMPUS, COLUMBUS, OHIO

2
6



TE-54 B
200-3-48

SOIL PROFILE
BELMONT CO.
BEL-7-(17.71-20.14)

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

3/6

STA 73+15

STA 68+50 (TAKEN FROM STA 63+00)

STA 65+50

ROCK SECTION MEASURED AT STATION 60+00 - 30OLT
EL. 775.7
EL. 761.7
SANDY SANDSTONE
CLAY SHALE

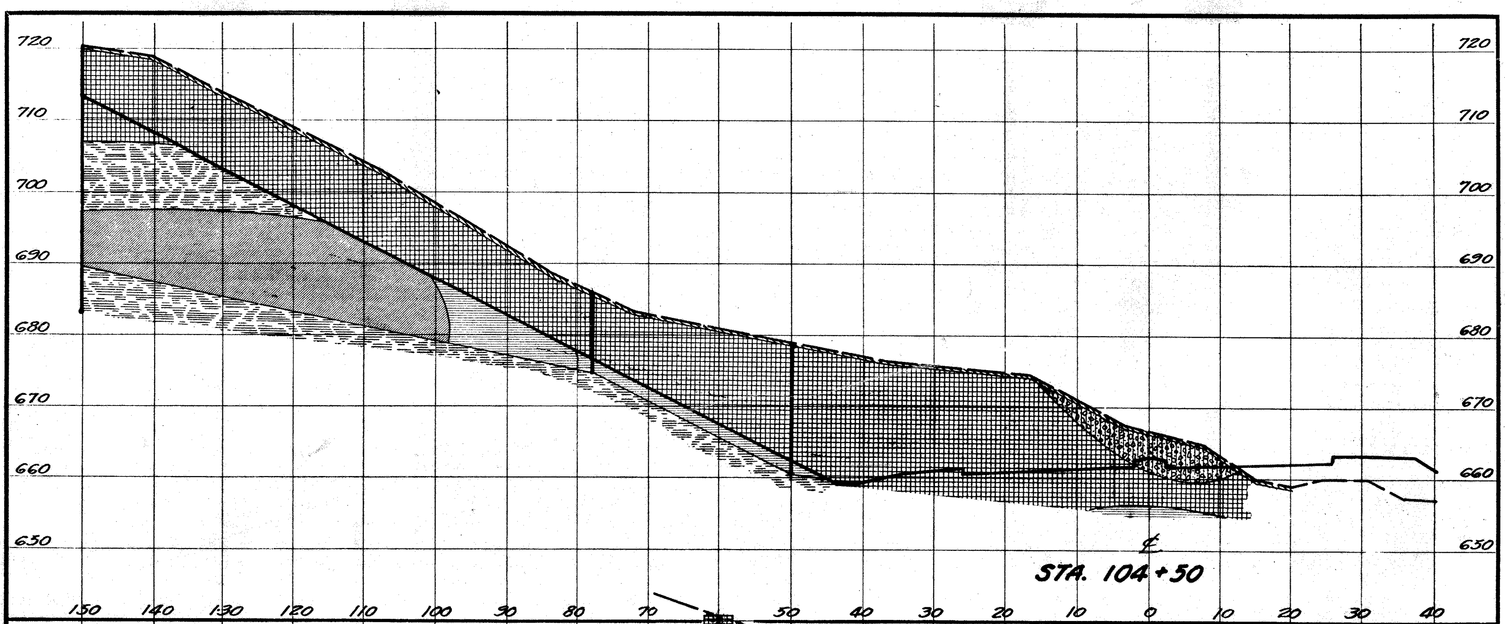
STA 60+00

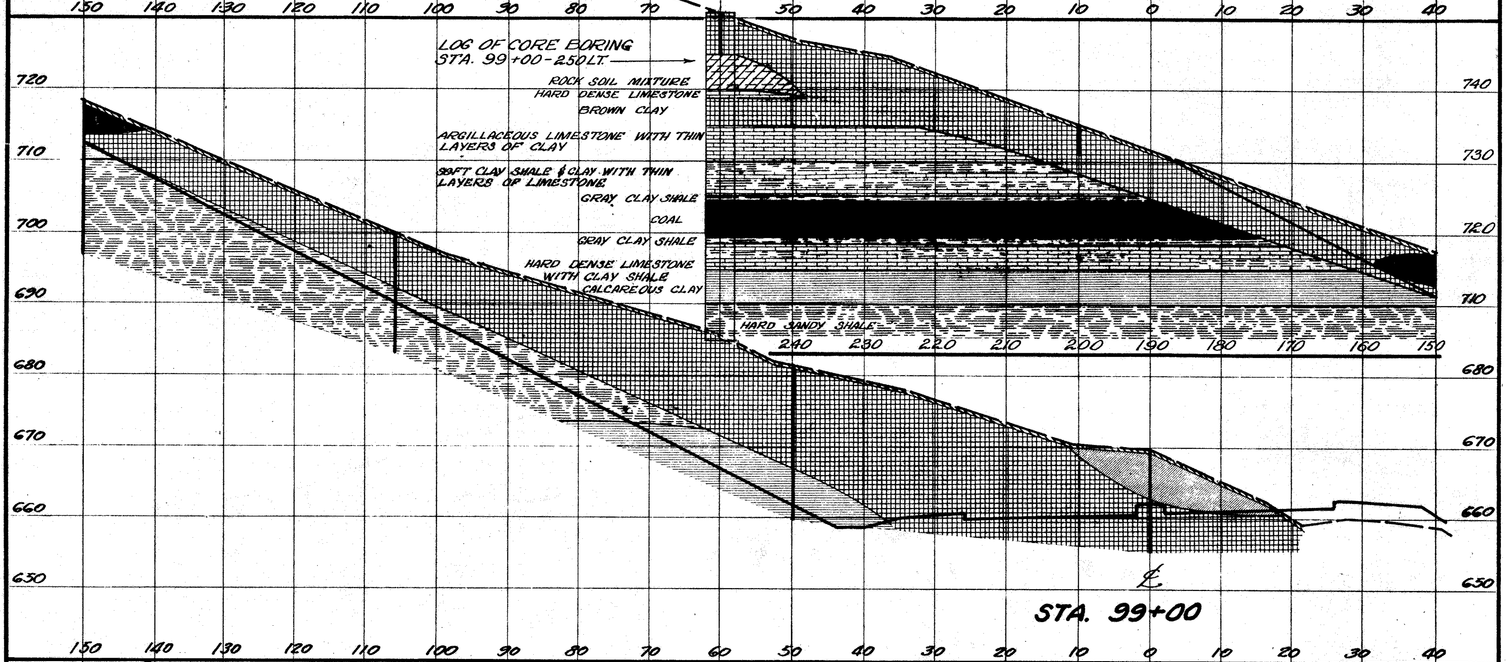
STA 56+00

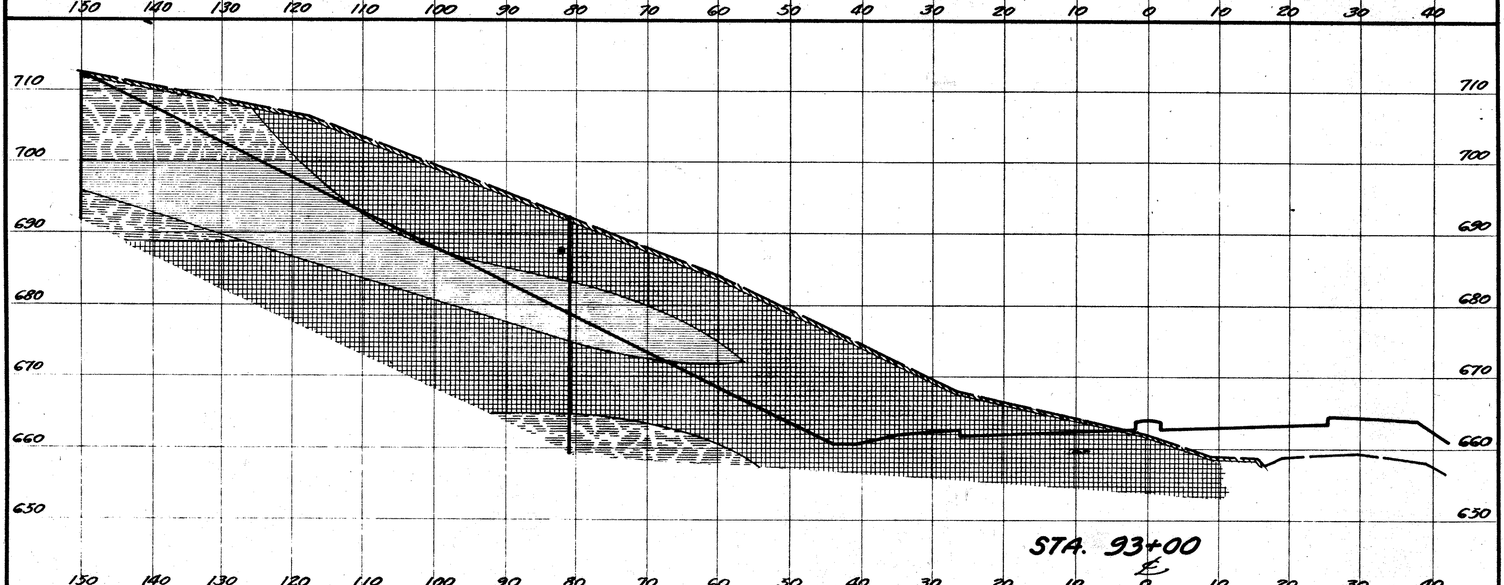
STA 49+00

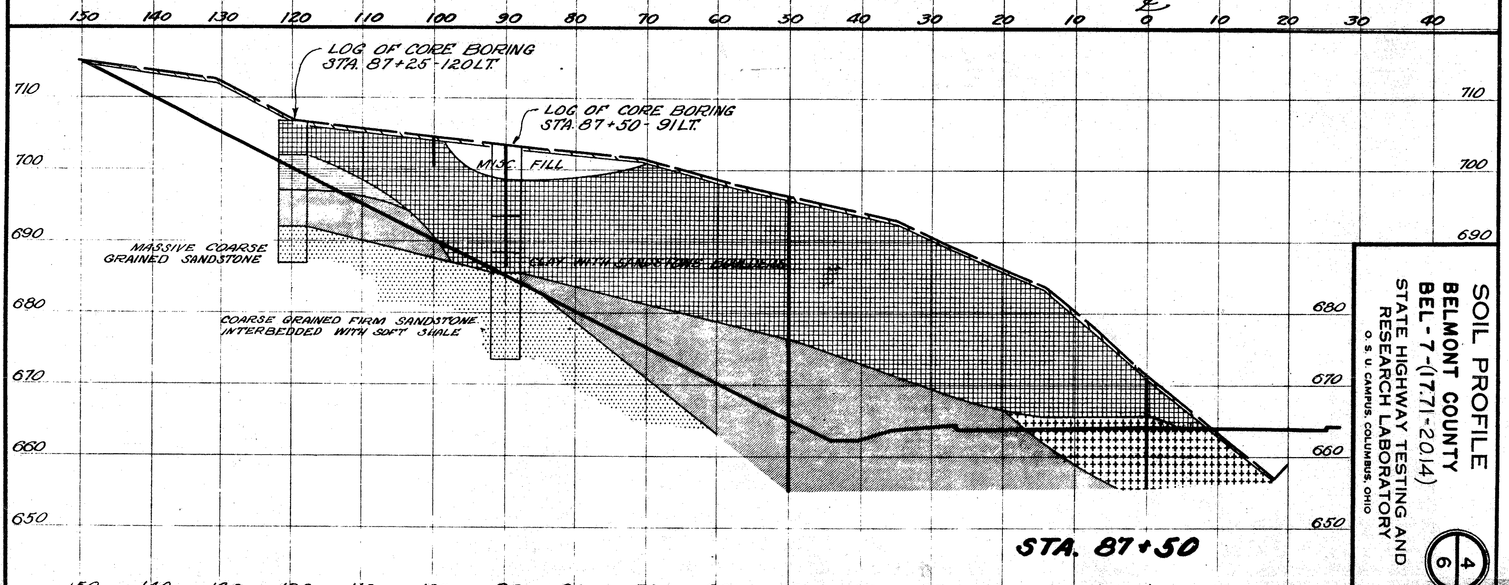
SOFT SHALE

SOFT SHALE FLOATERS









SOIL PROFILE

BELMONT COUNTY
BEL - 7 - (17.71 - 20.14)

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

4/6

TE-54-B
200-3-46

SOIL PROFILE

BELMONT COUNTY
BEL - 7 - (17.71 - 20.14)

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

5/6

LOG OF CORE BORING
STA 127+50 - 153' LT.

- HARD DENSE LIMESTONE WITH CALCAREOUS CLAY
- CALCAREOUS CLAY
- HARD DENSE LIMESTONE WITH CALCAREOUS CLAY
- CALCAREOUS CLAY INTERMIXED WITH THIN LAYERS OF LIME STONE
- HARD DENSE LIMESTONE WITH CALCAREOUS CLAY LAYERS
- CALCAREOUS CLAY WITH THIN LAYERS OF HARD LIMESTONE

LOG OF CORE BORING
STA 127+75 - 50' LT.

NOTE- DATA FOR THIS INTERVAL TAKEN FROM CORE BORING AT STA. 145+75 150' LT. BROWN AND GRAY CLAY SHALE

- SOFT GRAY CLAY SHALE WITH THIN BEDS OF LIMESTONE
- SOFT GRAY SHALE
- FIRM BLUE GRAY SHALE
- DEEP CLAY WITH THIN LAYERS OF LIMESTONE
- GRAY SHALE

STA 124+50

STA 112+00

750 740 730 720 710 700 690 680 670 660 650 640 630

170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

TE 54-B
1M 3-49

SOIL PR... 6
BELMONT COUNTY 6
BEL-7-(17.71-20.14)
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

LOG OF CORE BORING
STA. 145+75-130' Lt.

CLAY SHALE WITH LIMESTONE NODULES
CLAY SHALE WITH CLAY SEAMS
HARD DENSE LIMESTONE WITH CLAY LAYERS INTER-BEDDED
CALCAREOUS CLAY INTERVAL WITH OCCASIONAL NODULES OF LIMESTONE
FIRM GRAY SANDSTONE
YELLOW SHALE
BROWN AND GRAY CLAY SHALE
FIRM GRAY SHALE

1½:1
1:1
2:1
DIVISION TEMPLATES

STA. 145+50

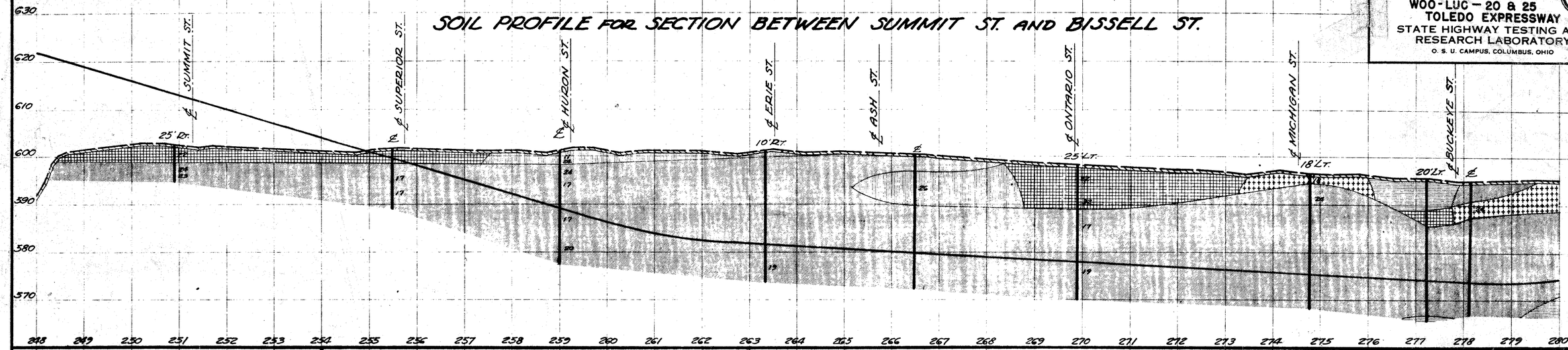
750 740 730 720 710 700 690 680 670 660 650 640

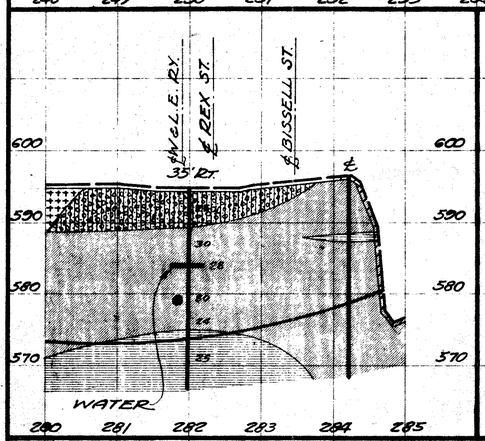
170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70 80 90 100 110 120 130 140

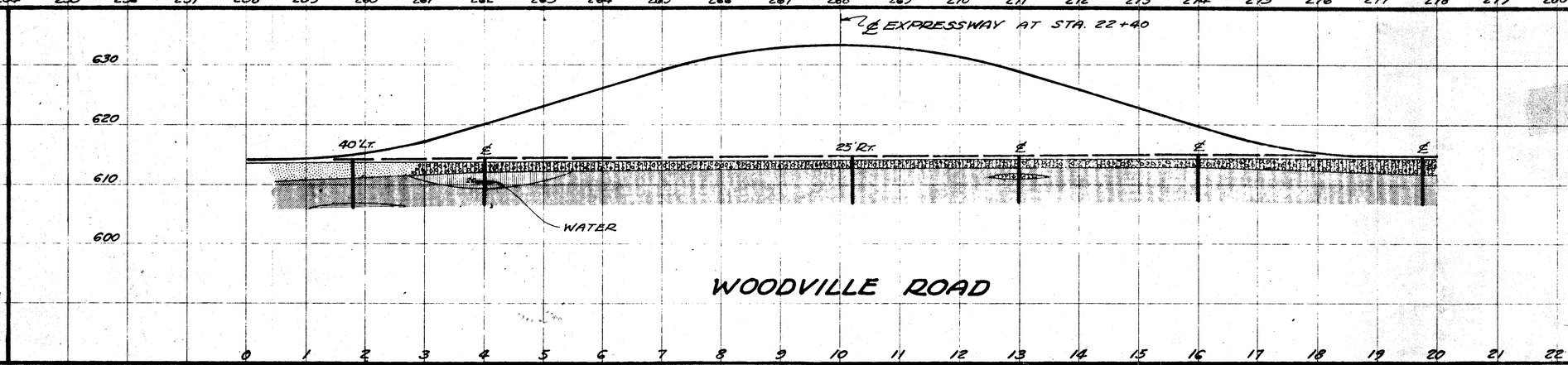
TE-84-B
100-8-42

SOIL PROFILE
WOOD-LUCAS COUNTIES
WOO-LUC-20 & 25
TOLEDO EXPRESSWAY
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

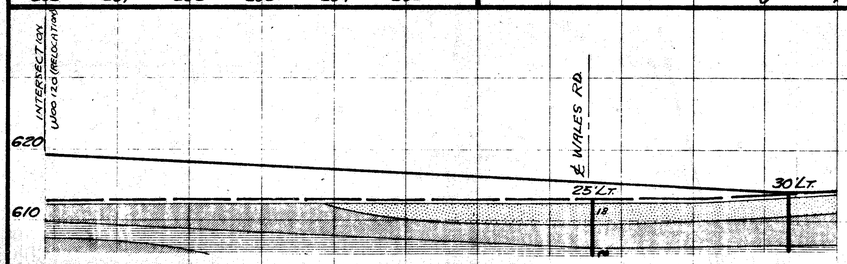
SOIL PROFILE FOR SECTION BETWEEN SUMMIT ST. AND BISSELL ST.



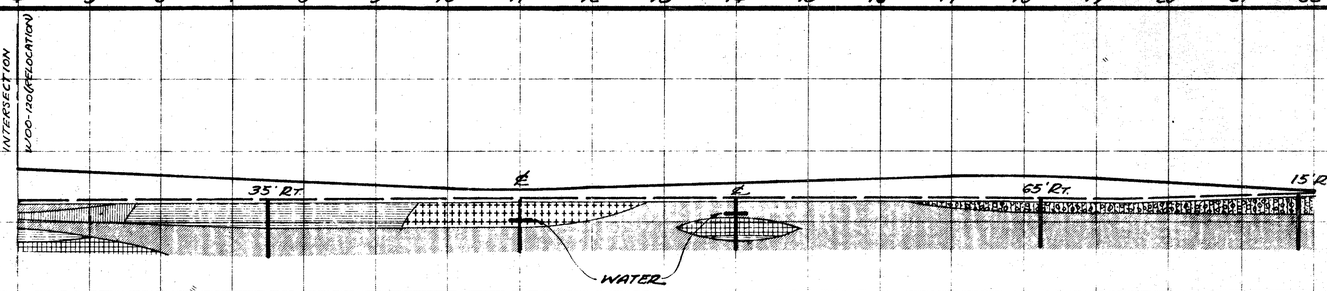




WOODVILLE ROAD



RAMP "A" (WOODVILLE RD.)



RAMP "B" (WOODVILLE RD.)