FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	STATE	

1 / 70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85
JEFFERSON COUNTY
WARREN & WELLS TOWNSHIPS
VILLAGE OF RAYLAND
VILLAGE OF BRILLIANT

CONVENTIONAL SIGNS

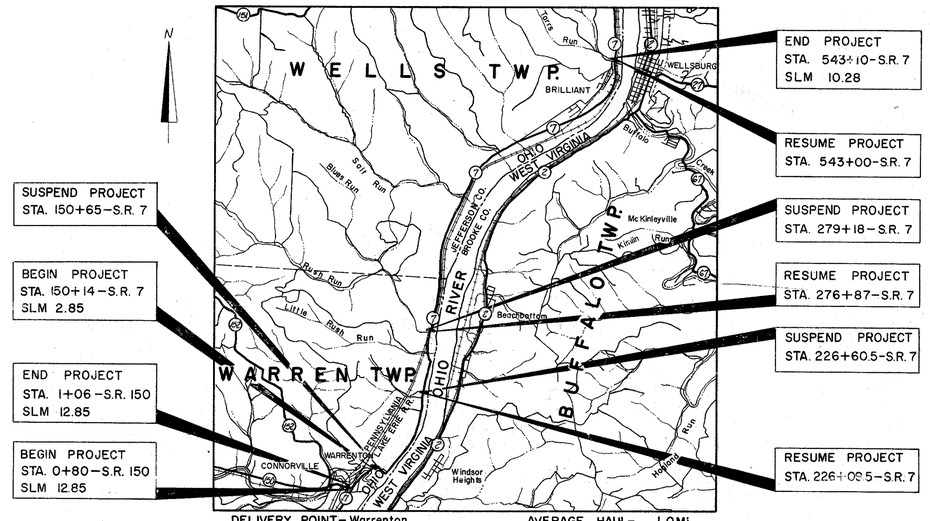
Center Line
State Line
Corporation Line
Existing R/W
Proposed R/W
Slope Easement
Property Line
Fence Line
Power Pole
Trees & Stumps to be Removed
Existing Retaining Wall
Existing Guard Rail
Proposed Guard Rail

INDEX OF SHEETS

LINE DATA

Begin Project - S.R. 150	Sta. 0+80.00	
End Project - S.R. 150	Sta. 1+06.00	26'
Begin Project - S.R. 7	Sta. 150+14.00	
Suspend Project - S.R. 7	Sta. 150+65.00	51'
Resume Project - S.R. 7	Sta. 226+09.50	
Suspend Project - S.R. 7	Sta. 226+60.50	51'
Resume Project - S.R. 7	Sta. 276+87.00	
Suspend Project - S.R. 7	Sta. 279+18.00	23'
Resume Project - S.R. 7	Sta. 543+00.00	
End Project - S.R. 7	Sta. 543+10.00	10'
Net Length of Project	369 L.F. = 0.069 Mi.	
Begin Work - S.R. 150	Sta. 0+80.00	
End Work - S.R. 150	Sta. 1+06.00	26'
Begin Work - S.R. 7	Sta. 147+63.00	
Suspend Work - S.R. 7	Sta. 155+44.00	781'
Resume Work - S.R. 7	Sta. 222+90.00	
Suspend Work - S.R. 7	Sta. 229+00.00	610'
Resume Work - S.R. 7	Sta. 272+80.00	
Suspend Work - S.R. 7	Sta. 280+77.00	797'
Resume Work - S.R. 7	Sta. 540+14.00	
End Work - S.R. 7	Sta. 543+84.00	370'
Gross Length of Work	2584 L.F. = 0.489 Mi.	
Work Additions CR 16 -- 0+55 to 4+00	455 L.F.	
County Road 17 -- 10+50 to 17+60	710 L.F.	
Old County Road 17 -- 0+10 to 3+82	372 L.F.	
Total Work Additions	1537 L.F.	
Net Length of Work	4121 L.F. = 0.780 Mi.	

FILE NUMBER	JEFFERSON COUNTY JEF-7-(2.85)(4.85)(5.25)(10.28) & JEF-150-12.85
	DATE OF LETTING
	CONTRACT NUMBER



DELIVERY POINT - Warrenton
Brilliant (Tarrs Run Only)

AVERAGE HAUL - 1.0 Mi.
0.5 Mi.

LOCATION MAP

SCALE OF MILES 0 1 2 3

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER HIGHWAYS

SCALE

PLAN AND PROFILE 1" = 50'
CROSS SECTIONS 1" = 10'

STANDARD DRAWINGS

NUMBER	DATE	NUMBER	DATE
B-T-70-71	11-15-60	L-1	4-1-50
B-T-71-R	3-2-53	L-3	4-1-50
DR-1	1-3-55	L-3-A	4-1-50
G-7.07	6-1-56		
		L.J. No 1	7-1-55
HW-E	2-1-63		
		RI-1	7-15-58
I-1	11-15-60		
		T-35	1-2-56
I-8 C.B. 2-2A & B	2-1-63		
I-8 C.B. 2-3 & 2-4	2-1-63	T.J.	9-12-60
I-8 M.H. No 1	2-1-63	SP 53	6-30-61
I-8 MH No 1-A	2-1-63		
		AS-1-54	7-5-62
I-14 G	1-22-52	AS-1-54	12-1-54
		CSB-2.56 SM 245	2-2-59
I-15 No 1	11-15-60		
I-15 No 2	11-15-60	AR-1-57	4-2-62
I-15 No 2-A	8-17-60		
		SD-1-63	11-12-63

SUPPLEMENTAL SPECIFICATIONS

NUMBER	DATE	NUMBER	DATE
S-101	7-12-62		
S-307	8-23-60		

1963 SPECIFICATIONS

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

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

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

Approved Earl W. Wilson
Date 7-9-64 Division, Deputy Director

Approved D.H. Sherman
Date 1-13-64 Engineer of Bridges

Approved R.M. Richter
Date 1-21-64 Engineer of Location & Design

Approved R.E. Shultz
Date 1-21-64 Deputy Director of Design & Construction

Approved T.H. Bowers
Date 12-20-63 Deputy Director of Right of Way

Approved S.W. Wilson
Date 1-28-64 Deputy Director of Planning & Programming

Approved
Date First Assistant Director

Approved O.S. Mashuta
Date 1/28/64 Director of Highways

PLANS PREPARED BY
ALDEN E. STILSON & ASSOCIATES, Limited
CONSULTING ENGINEERS
245 NORTH HIGH STREET
COLUMBUS, OHIO
FOR
STATE OF OHIO

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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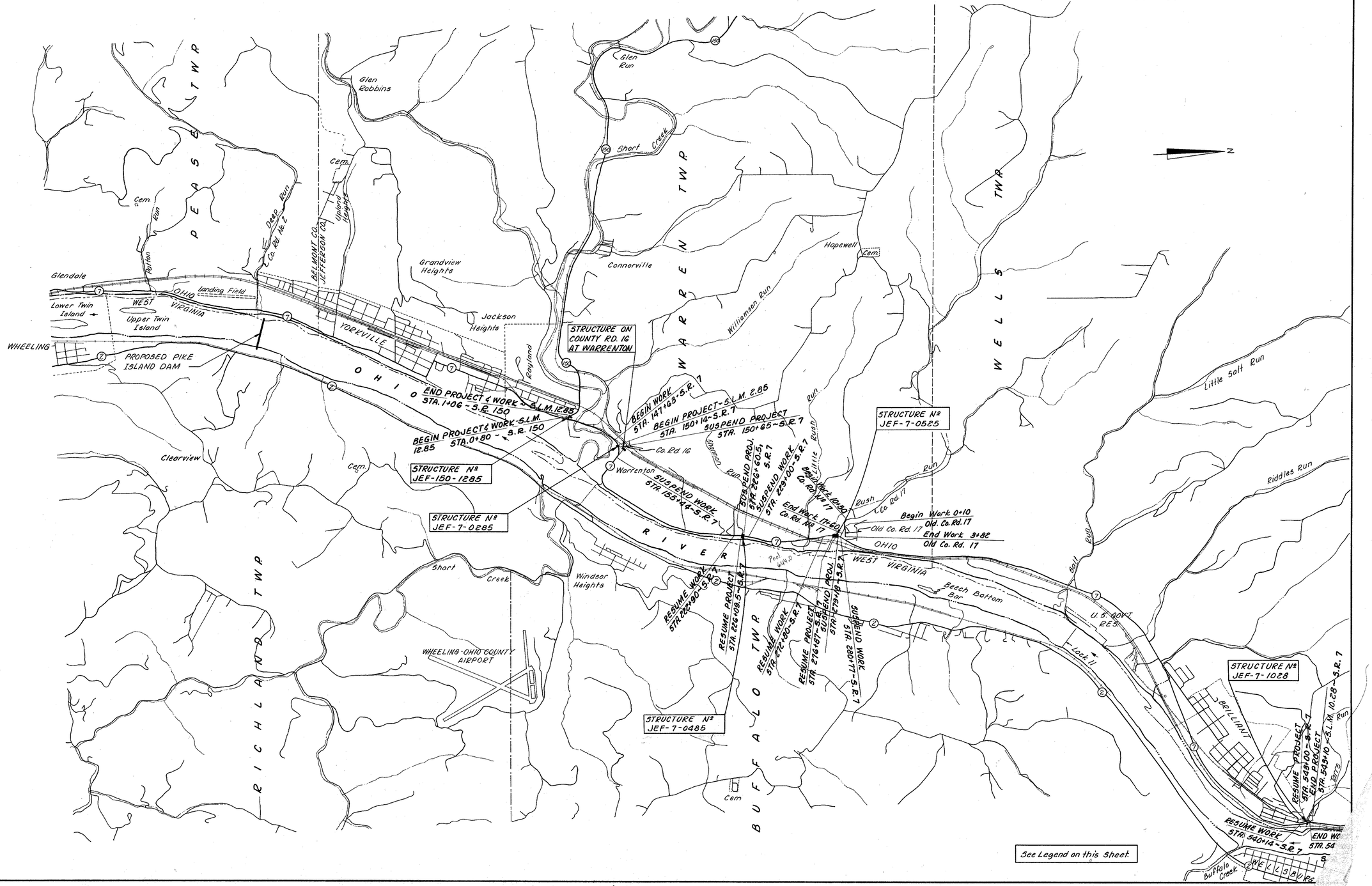
JEFFERSON COUNTY
JEF-7-(2.85)-(4.85)-(5.25)(10.28)
JEF-150- 12.85



See Legend on this Sheet

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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JEFFERSON COUNTY
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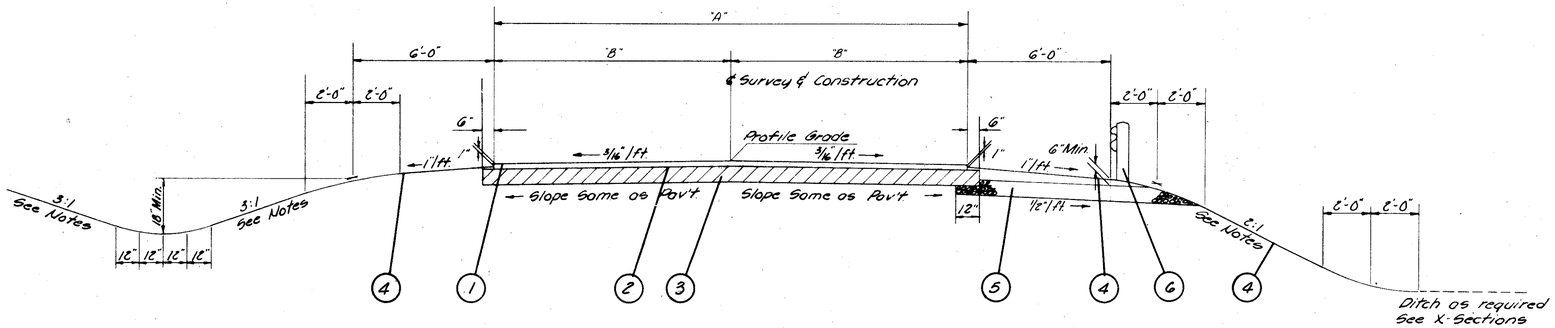
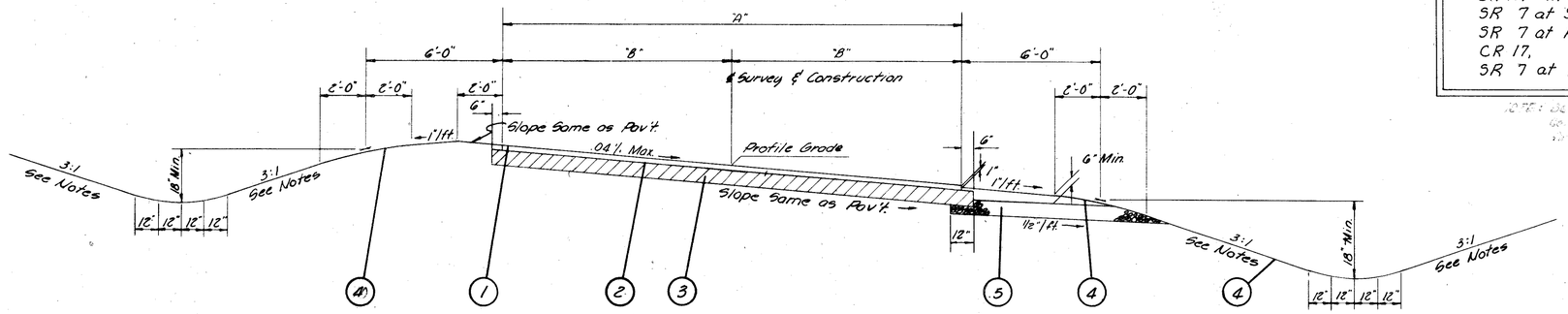
JEF-150-12.85

TYPICAL SECTIONS
TYPE T-35 ON B-19



TYPICAL SECTION "A"
NORMAL SECTION

Sta. 12+00.00 to Sta. 12+33.52 Co. Rd. 17 (A=20' B=10')
Sta. 14+41.30 to Sta. 15+66.28 Co. Rd. 17 (A=20' B=10')
Sta. 0+95.00 to Sta. 3+64.00 Old Co. Rd. 17 (A=16' B=8')



TYPICAL SECTION "B"
SUPERELEVATED SECTION

Sta. 10+50.00 to Sta. 12+00.00 Co. Rd. 17 (A=20' B=10')
Sta. 12+33.52 to Sta. 14+41.30 Co. Rd. 17 (A=20' B=10')
Sta. 15+66.28 to Sta. 17+60.00 Co. Rd. 17 (A=20' B=10')
Sta. 0+20.00 to Sta. 0+95.00 Old Co. Rd. 17 (A=16' B=8')

ITEM		DESCRIPTION
(1)	I-35	1½" Asphaltic Concrete Surface Course (85-100), Type "A"
(2)	I-30	Bituminous Prime Coat using Tar, Sec. M 5.7, RT 2 or 3, applied at the rate of 0.2 Gal./S.Y.
(3)	B-19	8" Aggregate Base Course
(4)	L-9	Seeding and Protecting
(5)	I-9	Stone Underdrains, No. 2
(6)	I-15	Guard Rail, Steel Beam Standard Type (Deep)

NOTE: For other pavement thicknesses and widths, see the following sheets.

SR 150 in Rayland,	see sheet 49
SR 7 in Warrenton,	see sheet 8
SR 7 at Shannon Run,	see sheet 11
SR 7 at Rush Run,	see sheet 14
CR 17,	see sheet 19
SR 7 at Tarr's Run,	see sheet 42

NOTE: I-9 Underdrains shall be spaced alternately right and left at 25 foot intervals as directed by the Engineer. Space at 25 foot intervals on low side of superelevated sections.

NOTE: For details not shown on this drawing see Standard Construction Drawing numbers DR-1, RI-1, & T-35

GENERAL NOTES

1. For Fills 10 and Over use 2:1 Slopes
2. For Fills under 10 use 3:1 Slopes
3. For Cuts 5' and under use 3:1 backslopes
4. For Cuts over 5' use 2:1 backslopes
5. Fills are measured from edge of shoulder to existing ground. Cuts are measured from bottom of ditch to existing ground

Co. Rd. 17 & Old Co. Rd 17

TYPICAL SECTIONS

GENERAL NOTES

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FIELD OFFICE
The Contractor shall, in accordance with Sec. S-0.01(b), provide for the exclusive use of the State's employees, a suitable field office having a minimum of 300 sq. ft. of floor space within ten (10) days after starting work on this contract. The Contractor shall have a telephone installed and maintained in this field office during the construction of this project. (The Contractor shall also provide and install wiring and outlets suitable for connecting electric lights and office equipment in the field office and provide 110-volt alternating current to the office during the entire period of construction of this project).
The location of the field office shall be determined by the Engineer.

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

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

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

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

UTILITY OWNERSHIP
Ohio Power Company, Canton, Ohio
Ohio Bell Telephone Co., Columbus, Ohio
Wheeling Steel Corporation (Gas Line), Steubenville, Ohio
Manufacturers Light & Heat Co., Steubenville, Ohio

PART WIDTH CONSTRUCTION
Because of the necessity of building this project under traffic and constructing the pavement part at a time, extreme care shall be taken to prevent the construction of a butt joint on centerline in the B-19 course. This shall be accomplished by building the B-19 course placed with the first portion of the pavement built, at least eighteen (18) inches beyond the centerline and by surfacing no closer than eighteen (18) inches to this edge of the above courses. When the second portion of the pavement is built, at least twelve (12) inches of the *B-19 course* shall be broken down and thoroughly keyed in with the newly placed corresponding course in the second portion of the pavement built. Payment for this operation shall be included in the unit price bid for *Item B-19.*

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

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

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

SPECIAL SEEDING PREPARATION AREAS
The references in the first paragraph of Sec. L-9.11 to preparation of the seed bed in front of residences, etc., shall, on this project, be considered to be particularly applicable in the following areas:

Station 1+20 to 1+75 Left Old Co. Rd. 17

SCARIFICATION OF EXISTING FLEXIBLE PAVEMENT
Within the limits of construction where the existing flexible pavement will have less than six (6) inches of fill placed upon it, the pavement shall be thoroughly scarified for its full depth, mixed with sufficient soil and properly recompacted to insure the elimination of any planes of separation between it and the embankment placed thereon. Payment for scarification as described above shall be included in the unit price bid for Item E-1, Roadway Excavation.

SHOULDER DRESSING
Between stations 225+75 and 227+00 and between 149+75 and 151+00, the shoulders and slopes shall be graded and seeded and left in a neat condition. Payment for grading, even though specific quantities have not been indicated, shall be included in the price bid per cubic yard for Item E-1, as per plan. Quantities for Item L-9 Seeding have been provided.

DESIGNED THICKNESS
The pavement course thicknesses of T-35 and B-35 shown on the plan are "designed" thicknesses as described in sections T-35.01 and B-35.01.

ITEM I-5 FLAP GATES
The 24" Flap gate is to be wall mounted, Armco Model 10-C, Brown and Brown Type M-5 Class I, or an approved equal. The gate shall be fitted with brass bolts, nuts, and bushings.
Payment for item I-5, Flap Gate, shall include furnishing and placing of bolts, nuts, bushings, hinge bars and gate, complete in place on the proposed wall.

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

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

Sizes	No. Trees	No. Stumps
12" - 18"	32	1
18" - 24"	2	0
24" - 30"	8	0
30" - 36"	0	0
36" - 42"	0	0
42" - 48"	0	0
Over 48"	0	0

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

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

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

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

120" & 126" BITUMINOUS COATED CORRUGATED METAL STRUCTURES
The metal plates that are incorporated into the lower ¼ of these sectional plate structures shall be shop coated in accordance with Sec. M-6.4 (c). The remainder of the plates need not be coated. After installation of the structures, damaged or worn spots in the bituminous coating of the structures shall be re-coated using materials and methods recommended by the manufacturer and as directed by the Engineer.
Payment for all of the above shall be included in the unit price bid for the Item I-1 Structures.

GENERAL NOTES

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

ITEM I-1 TUNNEL LINER PLATE STRUCTURE, AS PER PLAN
In lieu of the provisions of Section I-1.02 under Class A Number 3, material furnished for the liner plate structure *shall be as manufactured by Armco Drainage & Metal Products, Inc, or Republic Steel Corp, or* an approved equal. Base metal composition, depth and span of the corrugations, and size and spacing of bolts, *bolt holes, & grouting plugs* shall be in accordance with the details of the manufacturer and installation of the structure shall be in accordance with his recommendations. However, gage and section modulus of material furnished shall not be less than that indicated on the structure details. Galvanizing shall be in accordance with Paragraph 6 of Section M-6.4(a) and shall be done after corrugating, forming, and punching the plates. Granular bedding will not be required. The completed structure shall conform to the requirements of Paragraph 10 of Section M-6.4(a). Bituminous coating shall meet the requirements of Section M-6.4(c).

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

SEALING OF PIPE JOINTS
Where connections are made between rigid and flexible pipe sections or between pipe sections of different kind or type of end fabrication, whether required by the plans, arising from permissible use of optional materials, or encountered in connection to existing facilities, the joint shall be sealed, if sealing is required by the specifications, by means of a Class "E" concrete collar having a minimum thickness of 6 inches and a minimum length of 12 inches. Payment for sealing as described above shall be included in the unit price bid for the pertinent pipe item.

SOD AROUND CATCH BASINS
An 18" strip of sod shall be placed along all sides of each catch basin, except where paved gutter is adjacent to the catch basin. Payment shall be under Item L-10.

2-3 CATCH BASIN MODIFIED
The modification consists of the elimination of the *steel bars in the side inlet.*

GUARD RAIL POST ANCHORS
At Sta. 17+50 Lt & Rt County Road No. 17, anchorage shall be provided for the existing guard rail. The anchorage shall be in accordance with that shown on Standard Construction Drawing I-15 No. 2. Cost of all materials and labor necessary to construct the anchorage and to provide proper tension in the existing guard rail, to be left in place, shall be included in the price bid for I-15 Guard Rail *Removed and Disposed of, as per plan.*

SPECIAL DITCHES
For special ditch grades, see Cross Sections.

ITEM SPECIAL - FILL AND PLUG EXISTING PIPE CULVERT
This item shall consist of the construction of bulkheads in the existing pipe culvert and filling the area thus sealed off with sand or other granular material approved by the Engineer.

Bulkheads shall be located at the limits of the area to be filled as indicated on the plans. The bulkheads shall consist of brick or concrete masonry with a minimum thickness of 12 inches.

The fill material shall be pumped into place or placed by some other means approved by the Engineer, so that, after settlement, at least 90 percent of the cross-sectional area of the culvert for its entire length shall be filled. The footage of filled and plugged culvert to be paid for shall be the actual number of linear feet (measured along the centerline of the culvert from outer face to outer face of bulkheads) filled and plugged as described above. The footage, measured as provided above, shall be paid for at the contract unit price bid per linear foot for "Item Special, Fill and Plug Existing Pipe Culvert", which price and payment shall constitute full compensation for furnishing, hauling, and placing all the necessary materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

ITEM SPECIAL - MIXING CALCIUM CHLORIDE AND AGGREGATE
See note in Proposal.

TEMPORARY RUNAROUND ROAD USING CLASS "A" PAVEMENT AND RESTORATION OF EMBANKMENT IN ACCORDANCE WITH E-1.08, AS PER PLAN
Reference is made to the temporary runaround road between Stations 272+80 and 280+77, S.R. 7.

1. The excavation quantities established in the plan pertain to the excavation within the bridge limits only. The excavation quantities outside of the bridge limits are included with the temporary runaround road for payment.

2. Restoration of all embankment within the above limits shall be in accordance with Sec. E-1.08.

STRUCTURE NO. JEF-7-0525 (RUSH RUN) CONSTRUCTION SEQUENCE

1. Construct the temporary runaround road.

2. Place traffic on the temporary runaround and construct the east half of the structure complete.

3. Place traffic on the east half of the structure and remove the temporary runaround.

4. Construct the west half of the structure.

TIME OF COMPLETION
WARRENTON
Ninety (90) continuous calendar days shall be allowed to complete all work at this site on S.R. 7 and County Road No. 16.

SHANNON RUN
Sixty (60) continuous calendar days shall be allowed to complete all work at this site.

MAINTENANCE OF TRAFFIC
S.R. 7 - Sta. 147+63 to Sta. 155+44
A Class "A" Temporary Runaround shall be provided as shown on the plans and two-way traffic shall be maintained at all times.

S.R. 7 - Sta. 223+00 to Sta. 229+00
A Class "A" Temporary Runaround shall be provided as shown on the plans and two-way traffic shall be maintained at all times.

S.R. 7 - Sta. 272+80 to Sta. 280+77
A Class "A" Temporary Runaround shall be provided as shown on the Plans and two-way traffic shall be maintained at all times.

County Road No. 16
Two-way traffic shall be maintained at all times by use of either the existing pavement, the proposed Class "A" Temporary Pavement, to be left in place, the Temporary Connection, or temporary roadways surfaced with T-10 aggregate and stabilized with *I-4* Calcium Chloride. Traffic shall be maintained on a minimum surface width of 16 feet.

County Road No. 17 and Old County Road No. 17
Two-way traffic shall be maintained at all times by use of either the existing pavement, the proposed pavement or temporary roadways surfaced with T-10 aggregate and stabilized with *I-4* Calcium Chloride. Traffic shall be maintained on a minimum surface width of 16 feet.
S.R. 150 - One-way traffic shall be maintained at all times.

CONTRACTOR'S MAINTENANCE RESPONSIBILITY
On this project, the Contractor's responsibility for maintenance of the existing pavement per Sec. G-7.07 shall be limited to those portions of the existing pavement lying within the proposed work limits.

TEMPORARY CONNECTIONS AND MAINTENANCE OF LOCAL TRAFFIC
525 C.Y. of T-10 Aggregate, 525 C.Y. of T-10 Aggregate Modified and 21.0 Tons of *I-4* Calcium Chloride are to be used at the direction of the Engineer for temporary connections not shown on the plans. Payment for construction, maintenance and subsequent removal and restoration to original lines of temporary connections, except for furnishing and placing items T-10, T-10 Modified and *I-4* for maintaining traffic, shall be included for payment in the lump sum bid for "Maintaining Traffic."

PAYMENT FOR TEMPORARY ROADWAYS
Payment for construction, maintenance and subsequent removal, wherever required, of temporary roadways not separately itemized under S-15, except for furnishing and placing of Items *I-4, T-10 and T-10 Modified, shall be included in the lump sum price bid for Maintaining Traffic.*

ALTERNATE METHODS
If the Contractor so elects, he may submit alternate methods for the maintenance of traffic provided the intent of the above provisions is followed and no additional inconvenience to the traveling public results therefrom. No alternate plan shall be placed into effect until approval has been granted, in writing, by the Director.

TARRS RUN - OLD S.R. 7
One-way traffic shall be maintained at all times.

GENERAL SUMMARY

Sheet Numbers 7	General Notes	8	11	14	20	41	42	48	49	Item	Quantity	Unit	Description
													ROADWAY
				18,192	330					E-1	18,522	C.Y.	Roadway Excavation, Method "A" as per plan.
		42		69	6549					E-1	6660	C.Y.	Embankment, Method "A"
					2193					E-1	2,193	S.Y.	Compacted Subgrade
						89				E-4	89	C.Y.	Borrow, using Granular Material, as per plan.
							52			E-8	52	L.F.	Removal & Disposal of Existing Curb.
		137	186	616			163		59	E-8	1,111	S.Y.	Removal and Disposal of Existing Pavement.
	Lump									E-9	Lump	Lump	Removal of Trees and Stumps
37										E-11	37	M-Gal.	Water
					16					E-12	16	L.F.	Pipe Removed 15" and under.
							13		63	E-12	76	L.F.	Pipe Removed over 15"
800										I-15	800	L.F.	Guard Rail Steel Beam Standard Type (Deep), as per plan.
600										I-15	600	L.F.	Guard Rail Removed and Rebuilt.
					314					I-15	314	L.F.	Guard Rail Removed and Disposed of as per plan
		6.5	6.4	10.7						I-18	24	C.Y.	Stabilized Crushed Aggregate Shoulders and Approaches.
		403	298	1215	6047		1068			L-9	9,031	S.Y.	Seeding and Protecting.
0.9										L-9	0.9	Ton	Commercial Fertilizer (12-12-12).
4.3										L-9	4.3	Tons	Agricultural Liming Material.
				69	399		4			L-10	472	S.Y.	Sodding.
	21									I-4	21	Tons	Calcium Chloride for Dust Control.
	525									T-10	525	C.Y.	Traffic Compacted Surface Course for Maintaining Traffic.
	525									T-10	525	C.Y.	Traffic Compacted Surface Course for Maintaining Traffic, Modified as per plan.
		46	46	64						Special	156	S.Y.	Furnishing and Mixing Calcium Chloride with Aggregate.
		Lump	Lump							S-15	Lump	Lump	Temporary Runaround Road, using Class "A" Pavement, as per plan.
		Lump								S-15	Lump	Lump	Temporary Runaround Road, using Class "A" Pavement, To Be Left In Place, as per plan.
				Lump						S-15	Lump	Lump	Temporary Runaround Road, using Class "A" Pavement including Restoration of Embankment as per plan.
							Lump			S-24	Lump	Lump	Removal of Existing Structures.
													DRAINAGE
						1505		392		E-2	1897	C.Y.	Excavation for Structures
						Lump		Lump		E-2	Lump	Lump	Cofferdams, Cribs and Sheeting.
							2948			E-2	2948	S.F.	Sheet Piling Left in Place, as per plan.
						269		86		E-3	355	C.Y.	Channel Excavation.
					58					I-1	58	L.F.	4" Class B-1 Pipe M-6.8(b).
					20					I-1	20	L.F.	4" Class E-1 Pipe M-6.8(a).
					44					I-1	44	L.F.	12" Class A-1 Pipe M-6.6(a), M-6.8(b). or M-6.5(b)
					68					I-1	68	L.F.	12" Class F-4 Pipe.
							38			I-1	38	L.F.	15" Class A-1 Pipe M-6.4(d), Under Railroad
					56					I-1	56	L.F.	15" Class E-1 Pipe.
					60					I-1	60	L.F.	18" Class A-1 Pipe M-6.6(a), M-6.8(b) or M-6.5(b)
					239					I-1	239	L.F.	24" Class A-1 Pipe M-6.6(a) or M-6.8(b)
							14			I-1	14	L.F.	24" Class C-1 Pipe
							76			I-1	76	L.F.	24" Class D-1 Pipe
					220					I-1	220	L.F.	36" Class A-1 Pipe M-6.6(d)
									70	I-1	70	L.F.	36" Class A-1 Pipe
							127			I-1	127	L.F.	120" Class A-1 Pipe, 8-7 Gage, M-6.4(g)(c) As per plan.
							136			I-1	136	L.F.	126" Diameter Tunnel Liner Plate Structure Under Railroad, As per plan.
					28					I-1	28	L.F.	2" Pipe, Sec. M-6.9, Std. Weight, Galvanized, with Type 4 Backfill, As Per Plan
					4.8		9.2		1.2	I-2	15.2	C.Y.	Masonry
					2					I-5	2	Ea.	4" Pipe Specials Class E-1, M-6.8(a)
					1					I-5	1	Ea.	4" Pipe Specials Class B-1 M-6.8(b)
								1		I-5	1	Ea.	24" Flap Gate, Wall Mounted, As Per Plan.
					1					I-8	1	Ea.	Standard Nº 1 Manhole.
								1		I-8	1	Ea.	Reinforced Concrete Manhole, as per plan.
					1					I-8	1	Ea.	Standard Nº 2-2B Catch Basin.
							1			I-8	1	Ea.	Standard Nº 2-3 Catch Basin.
					1					I-8	1	Ea.	Standard Nº 2-3 Catch Basin, Modified as per plan.
					336					I-9	336	L.F.	Stone Underdrains Nº 2.
					28.5		148		5.6	I-10	182	C.Y.	Dumped Rock Channel Protection.
		61			13		95			I-10	169	S.Y.	Riprap, using 6" Reinforced Concrete Slab as per plan.
				206	10					I-14	216	L.F.	Standard Type 1 Paved Gutter.
					1					I-16	1	Ea.	Catch Basin Abandoned.
						303		115		S-1	418	C.Y.	Concrete for Structures, Class "C"
						37,813		12,959		S-4	50,772	lbs.	Reinforcing Steel.
								Lump		S-22	Lump	Lump	Removal of Portions of Existing Structures.
								Lump		S-23	Lump	Lump	Dowel Holes.
						201		75		S-29	276	C.Y.	Porous Backfill.
							67			Special	67	L.F.	Fill and Plug Existing 96" Pipe Culvert.
													PAVEMENT
				587						T-71	59	S.Y.	9" Reinforced Portland Cement Concrete Pavement.
		55	54		878					T-30	987	Gal.	Bituminous Prime Coat: M-5.7, RT-2 or RT-3.
			2						6	T-30	8	Gal.	Bituminous Tack Coat: M-5.5, MS-2 or RS-1 or M-5.2, RC-1 or RC-2 as per Sec. T-30.02.
		5.7	4.7		104				2.5	T-35	117	C.Y.	Asphaltic Concrete Surface Course Type "A" (70-85)
							45			T-70	45	S.Y.	8" Portland Cement Concrete Pavement.
		14.3			620.1					B-19	635	C.Y.	Aggregate Base Course.
		147	145							B-20	292	S.Y.	8" Waterbound Macadam Base Course, using Nº 2 Course Aggregate.
		4.8	4.7							B-35	10	C.Y.	Asphaltic Concrete Leveling Course (70-85)
		11.8	11.6							B-35	24	C.Y.	Asphaltic Concrete Base Course Using Type A Composition (70-85)
									59	B-70	59	S.Y.	8" Portland Cement Concrete Base Course.
							93			I-7	93	S.Y.	Reinforced Concrete Approach Slabs, as per plan (T-10")
		107								I-7	107	S.Y.	Reinforced Concrete Approach Slabs, as per plan (T-11½")
				134						I-7	134	S.Y.	Reinforced Concrete Approach Slabs, as per plan (T-13")
		41	21	54			20		11	I-22	147	C.Y.	Subbase
													GAS LINES
		535	209				139			Special	883	L.F.	10" Gas Line, as per plan.
		39					48			I-1	87	L.F.	14" Steel Casing Pipe, as per plan.
													STRUCTURE OVER 20' SPAN
													Bridge Nº JEF-7-0525 For Quantities See Sheet Nº 61
											Lump	Lump	Construction Layout Stakes
										I-3	Lump	Lump	Maintaining Traffic

GENERAL SUMMARY

FED. ROAD DIV. DIST.	STATE	PROJECT
2	OHIO	

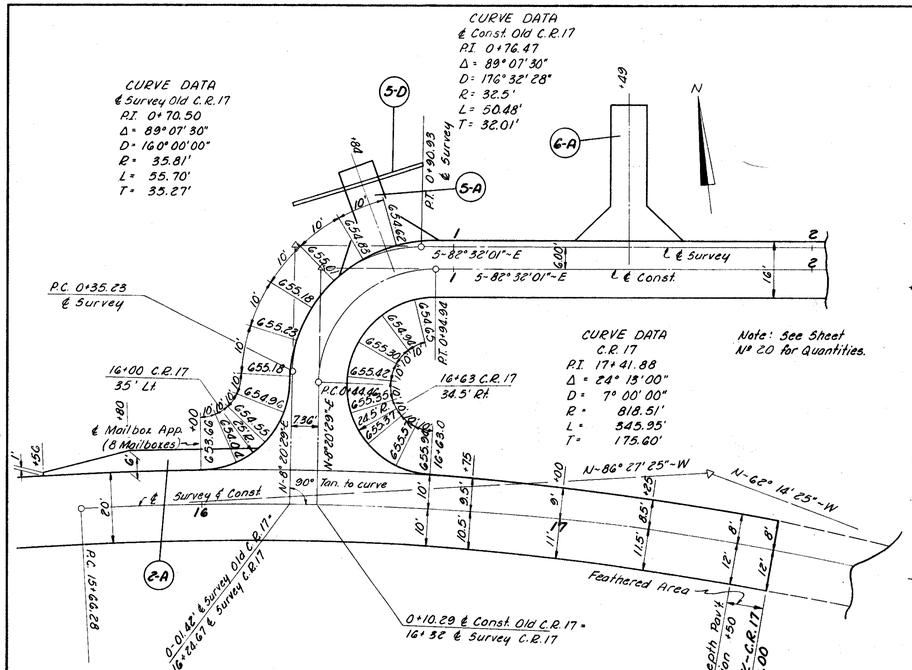
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

61
70

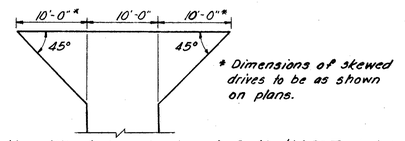
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

7
10

JEFFERSON COUNTY
JEF-7-(2.85)-(4.85)-(5.25)(10.28)
JEF-150- 12.85



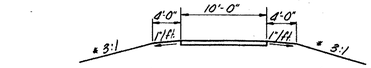
INTERSECTION DETAIL - C.R. 17 ℄ Old C.R. 17



* Dimensions of skewed drives to be as shown on plans.

Use shoulder widths & slopes as shown in Residential Dr. Typ. below.

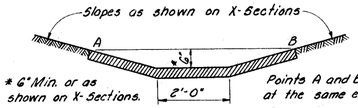
FIELD & RESIDENTIAL DRIVE DETAIL



* Unless otherwise shown. Type pavement as shown on plans.

TYPICAL SECTION RESIDENTIAL DRIVE

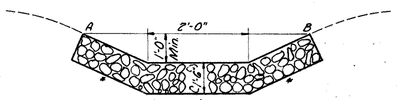
Note: See Sheet N° 20 for Quantities.



* 6" Min. or as shown on X-Sections.

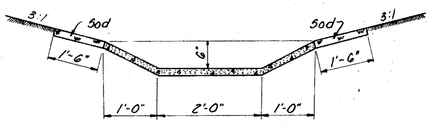
Points A and B are to be at the same elevation.

ROADWAY DITCH SOD DETAIL



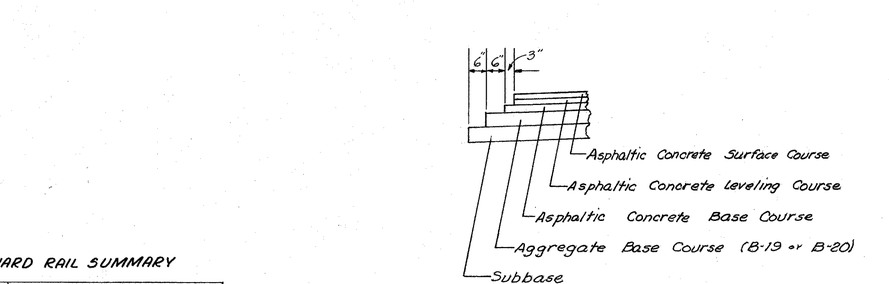
* See X-Sections for Slopes.
Points A and B are to be at the same elevation.

ROADSIDE DITCH DUMPED ROCK DETAIL



Note: Sod is to be paid for under "Item L-10 Sodding."

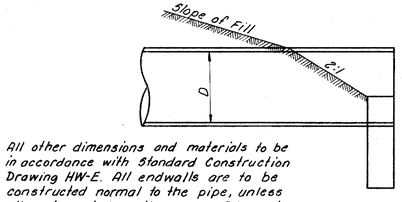
SOD DETAIL FOR TYPE I PAVED GUTTER



NOTE: The abandoned gas well casing shall be cut off at least 4½ ft. below the finished grade. Cost of this operation shall be included in the unit price bid for Masonry, Item I-2.
Pipe specials shall be included in the unit price bid for the Vent pipe, Item I-1, Sec M-6.9 Std. Wt, Galvanized, with Type 4 Backfill, As Per Plan.

ABANDONED GAS WELL VENT DETAIL

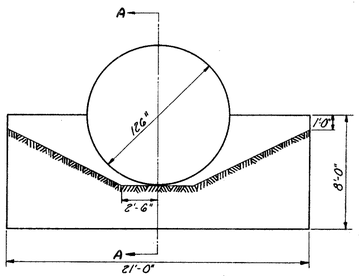
STA. 14+91 53' RT.
(SEE SHEETS 19, 20 & 22)



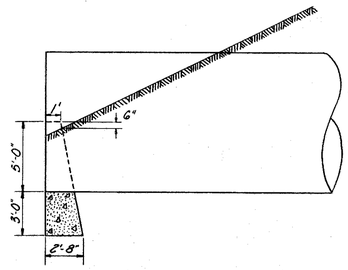
All other dimensions and materials to be in accordance with Standard Construction Drawing HW-E. All endwalls are to be constructed normal to the pipe, unless otherwise noted on the plans. Dimensions shown on the plans are to the outside face of endwalls.

HW-E ENDWALL

EDGE COURSE DETAIL (See Sh. 8 & 11)



TUNNEL LINER PLATE PIPE CULVERT END WALL DETAILS 543+05, 148.90' Rt. ℄ S.R. 7



SECTION A-A

CALCULATIONS

WATER

E-1 Embankment	6,660	C.Y.
B-19	635	C.Y.
I-22	141	C.Y.
I-18	24	C.Y.
Total	7,460	C.Y.

Water: 7,460 C.Y. × 5 Gal. / 1 C.Y. × 1 M. Gal. / 1000 Gal. = 37 M. Gal.

FERTILIZER

L-9 Seeding 9,031 S.Y.
L-10 Sodding 468 S.Y.
Fertilizer = 9,499 S.Y. × 20# / 1000 S.F. × 9 S.F. / 1 S.Y. × 1 Ton / 2000# = 0.9 Tons.

LIMING MATERIAL

Liming Material = 9,499 S.Y. × 100# / 1000 S.F. × 9 S.F. / 1 S.Y. × 1 Ton / 2000# = 4.3 Tons.

GUARD RAIL SUMMARY

Sht. N°	Ref. N°	I-15 Guard Rail, as per plan.	I-15 Guard Rail to be Removed & Rebuilt
		L.F.	L.F.
8	1-G	162.5	162.5
8	2-G	100	100
8	3-G	300	
8	4-G	350	
11	1-G	87.5	62.5
11	2-G	87.5	50
14	1-G		225
14	2-G	75	
14	3-G	75	
14	4-G	75	
20	3-G	25	
42	1-G	62.5	
Totals		1400	600
Deduct for G.R. Removed & Rebuilt		- 600	
Totals to Gen. Summary		800	600

SUMMARY OF QUANTITIES & SPECIAL DETAILS

JEFFERSON COUNTY
JEF-7-7.(2.85)(2.85)(5.25)(10.28)
JEF-150-12.85

S.R.-7 CURVE DATA
P.I 152+59.33
Δ = 80° 25' 00"
D = 11° 00' 00"
R = 520.87'
L = 781.06'
T = 440.30'
E = 161.16'

EXISTING TYPICAL SECTIONS
S.R.7 24' Width Pavement
3" Bit. Matl. on Conc. Base w/5" Bit. Matl. on Slag Base Widening, 2' ea. side
Co. Rd. 16 16' Width Pavement
2" Bituminous Material on Slag Base

PROPOSED STRUCTURES
STRUCTURE Nº JEF-7-0685
Type: Reinforced Concrete Box Culvert
Size: 12'0" × 8'0"
Alignment: Dc = 11°±
Skew: None
Load: CF-600

Co. Rd. 16
Type: Reinforced Concrete Box Culvert
Size: 12'0" × 8'0"
Alignment: Tangent
Skew: None
Loading: CF-30
Approach Slab: AS-1-54, 20' Long

EXISTING STRUCTURES
S.R. 7
(To remain in place)
Type: Reinforced Concrete Box Culvert
Size: 10'0" × 10'0"
Alignment: Dc = 11°±
Skew: 45°± Lt. Forward
Condition: Fair

Co. Rd. 16
(To remain in place)
Type: Concrete Arch. Culvert
Size: 9.0' × 8.3'
Alignment: Tangent
Skew: 3°-30'± Rt. Forward
Condition: Fair

LEGEND
- Class "A" Temporary to be left in place
- Class "A" Temporary Runaround & Road.
- Removal of Existing Pavement
- I-1B 5" Stabilized Shoulders
- I-4 Calcium Chloride applied at the rate of 2.1 lbs. per S.Y.
- I-35 1½" Asphaltic Concrete Surface Course (70-85) Type "A"
- B-36 1½" Asphaltic Concrete Leveling Course (70-85)
- B-35 3" Asphaltic Concrete Base Course (70-85), Using Type "A"
- I-30 Bit. Prime Coat using Tar, Sec. M-5.7, RT-2 or 3 applied at the rate of 0.4 Gal per S.Y.
- B-20 8" Waterbound Macadam Base Course (2-4" Courses)
- I-22 5" Subbase
- 6" B-19 Aggregate
- T-35 1½" Asphaltic Conc. (Type "A") 5" B-19 Aggregate
- 8" B-19 Aggregate

Note: Guard Rail quantities carried to Sht. Nº 7. All other quantities carried to General Summary.

PROPOSED TYPICAL SECTIONS
COUNTY ROAD 16
24' Class "A" Temporary Pavement
3' Shoulders @ 1'/ft.
2:1 Slopes

TEMPORARY CONNECTION
24' Class "A" Temporary Pavement
3' Shoulders @ 1'/ft.
1½":1 Slopes

B.M. # 31-R Elev. 650.75
Corps of Engrs. Marker @ Approx. Sta. 127+20 S.R.7. Located at angle pt. of S.E. R.R. Abutment. 0.5' below ground, 2.8' N. of sign. 3.2' E. of G.R. Post.

B.M. # 1 Elev. 652.82
M.S. in 10" Twin Locust 60' Rt. Sta. 7+41, Co. Rd. 16

BOARD OF COUNTY COMMISSIONERS

(STATE HIGHWAY DEPT.)

Note: Special steel guard rail posts as detailed on Sheet Nº 31 (S.R.7) & Sht. Nº 35 (Co. Rd. 16) are to be used on box culverts. Cost to be included in unit price bid for Item I-15.

I-15	162.5 L.F. Guardrail Removed & Rebuilt	I-35 Leveling	6.8 C.Y.
		B-35 Base	68 C.Y.
		I-30 Prime	11.8 C.Y.
		B-20	55 Gal.
		I-22	1675 S.Y.
		I-18	22 C.Y.
		Special - Mixing Calcium Chloride & Agg.	6.5 C.Y.
			4C 5.8

E-1 Excavation	0 C.Y.
E-1 Embankment	42 C.Y.
L-9 Seeding	403 S.Y.

TEMPORARY CONNECTION
(Profile on ℄ Pavement)

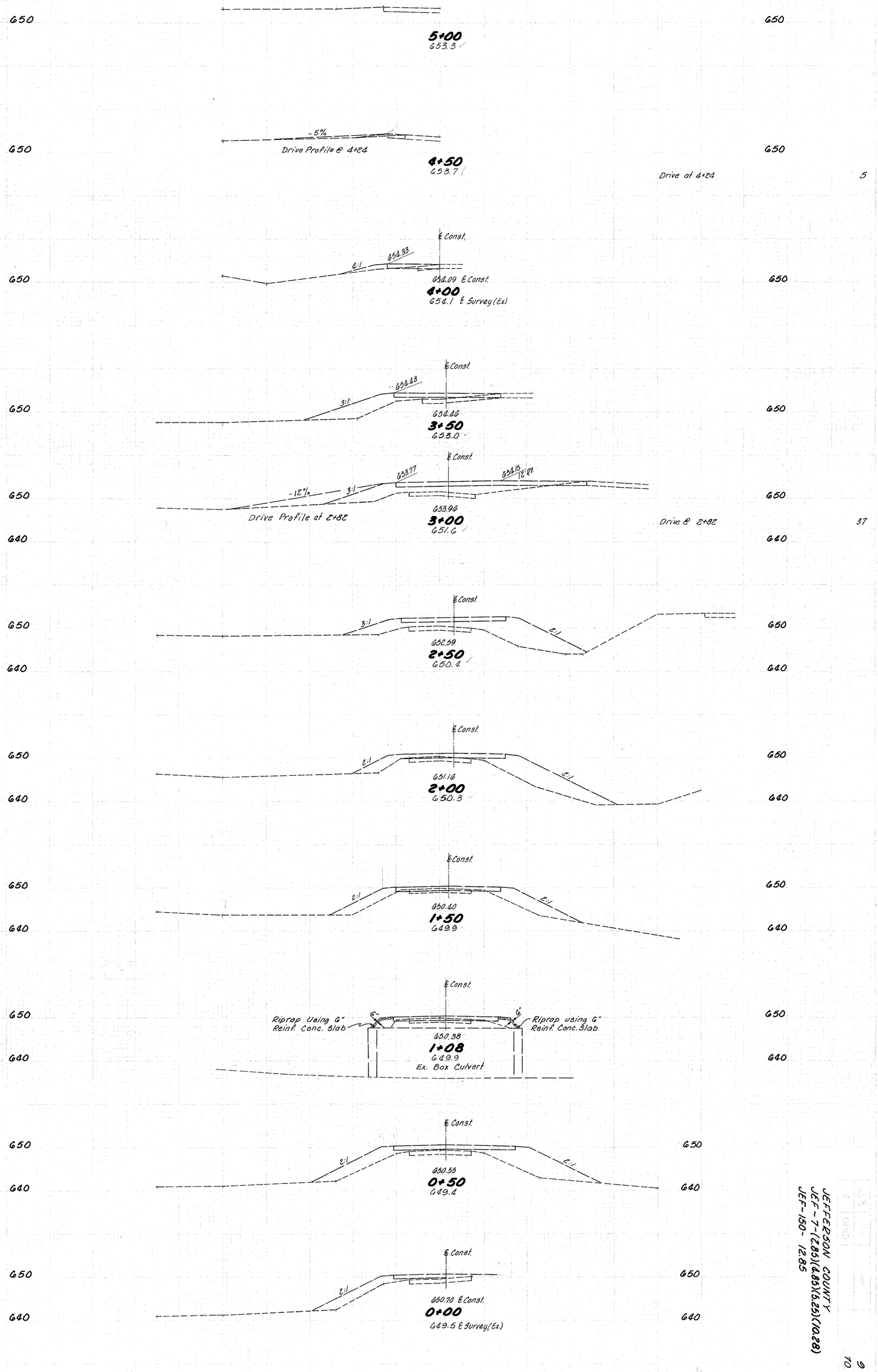
COUNTY ROAD Nº 16

146+00 to 156+00 & TEMPORARY PAVEMENT WARRENTON

	BY	DATE
EXISTING PLOTTED	J.A.M.	8-8-61
EXISTING CHECKED	[illegible]	11-9-61
TEMPLATE PLOTTED	E.E.	11-22-61
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
GRADING QUANTITIES DETERMINED		
GRADING QUANTITIES CHECKED		

90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

END AREA VOLUME
CUT FILL CUT FILL



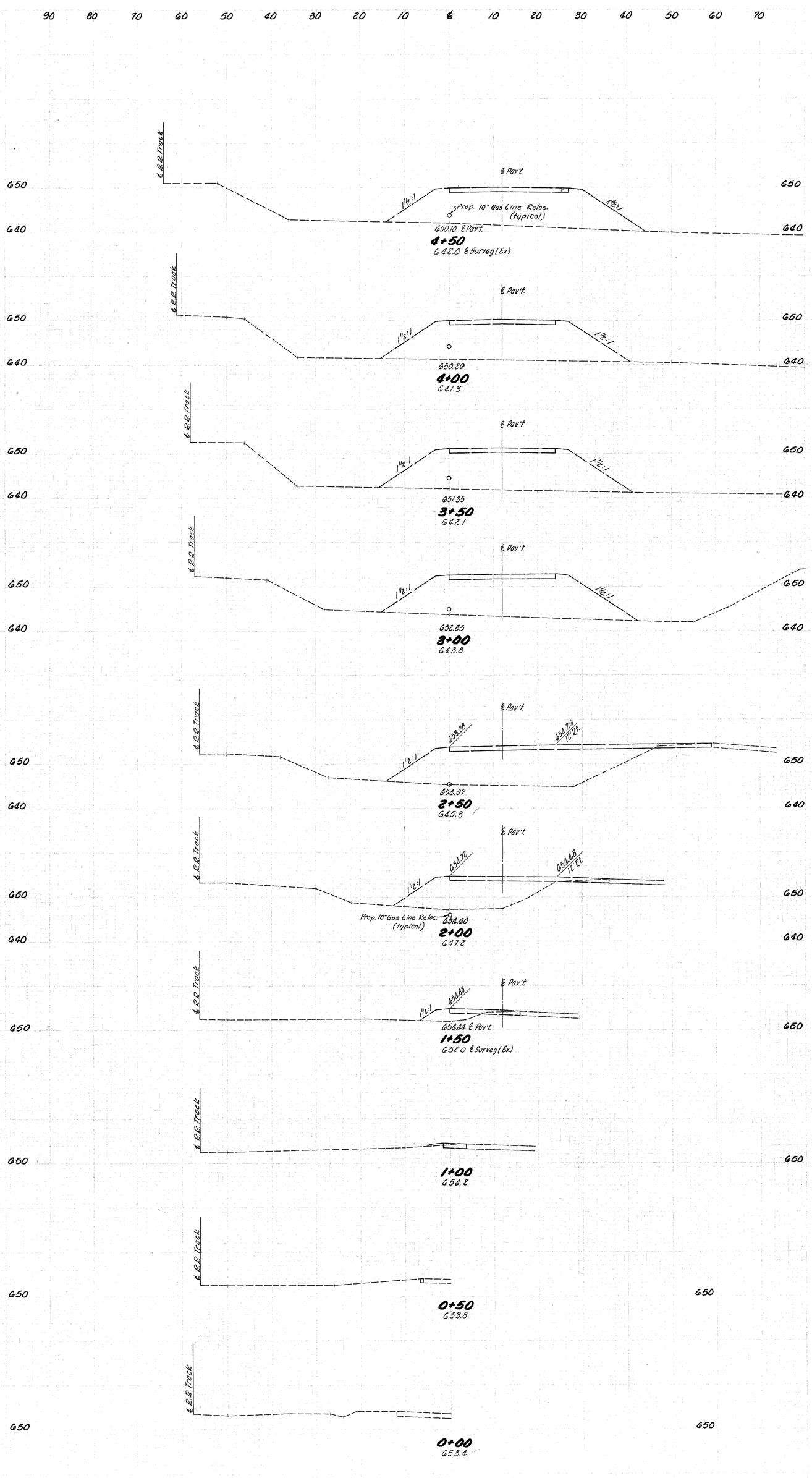
90 80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

9
70

0+00 to 5+00-Co. Rd. N°16-WARRENTON

	BY	DATE
EXISTING PLOTTED	JAM.	8-2-61
EXISTING CHECKED	RWR	9-7-61
TEMPLATE PLOTTED	EB	11-22-61
TEMPLATE CHECKED		
AREAS DETERMINED		
MTAB CHECKED		
C.S. HS DETERMINED		
BUDGING CHECKED		



0+00 to 4+97 - TEMP. CONNECTION - WARRENTON

JEFFERSON COUNTY
JEF-7-7(285)/6.85)(5.25)(10.28)
JEF-150-12.85

10
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

PROPOSED TYPICAL SECTION
TEMPORARY S.R.-7

24' CLASS "A" TEMPORARY PAVEMENT
8' SHOULDERS @ 1"/ft.
1½ : 1 SLOPES.

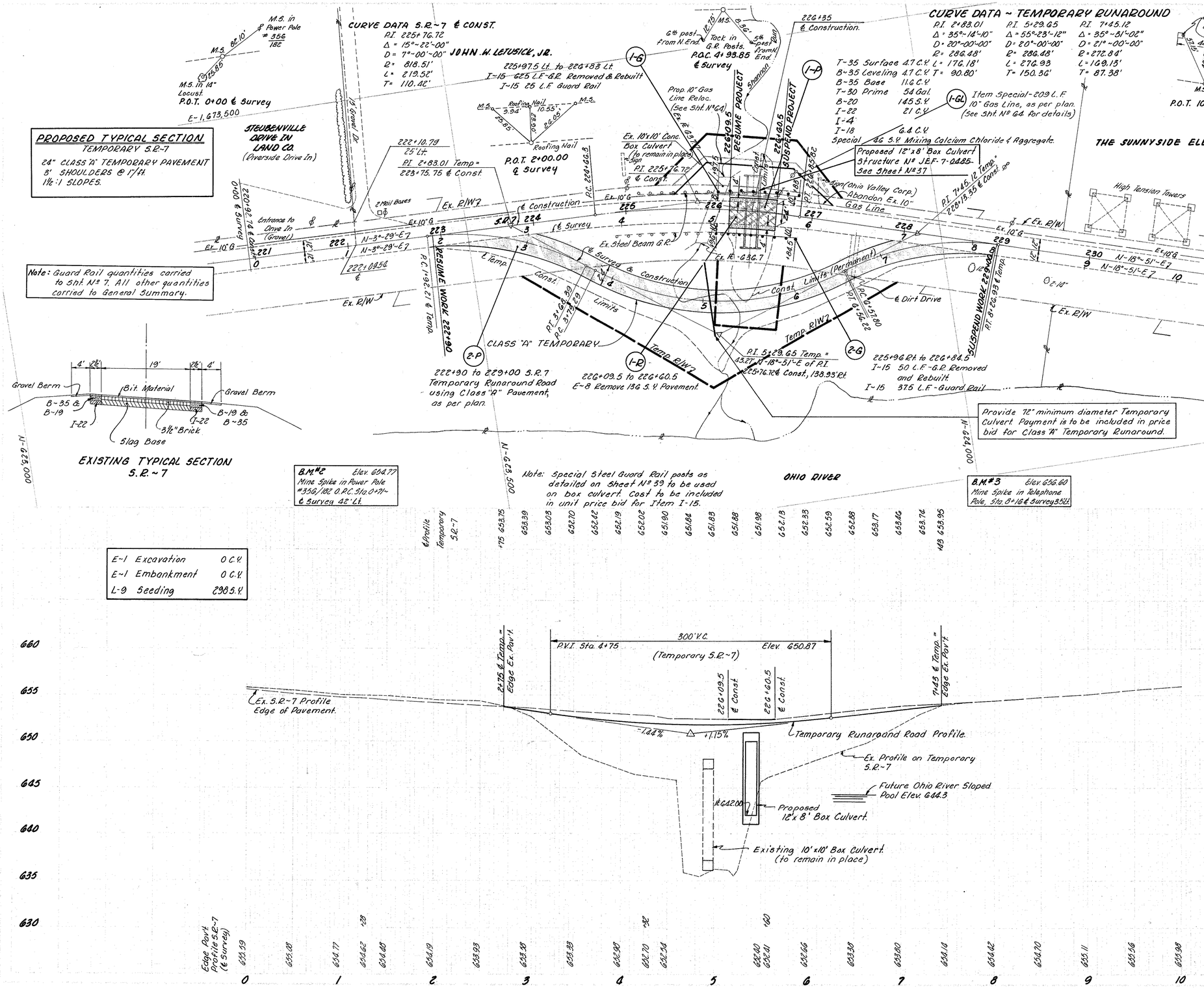
Note: Guard Rail quantities carried to Sht. No 7. All other quantities carried to General Summary.

EXISTING TYPICAL SECTION
S.R.-7

B.M.#2 Elev. 654.77
Mine Spike in Power Pole #356/102 O.P.C. Sta. 0+71± & Survey 42' Lt.

Note: Special Steel Guard Rail posts as detailed on Sheet No 39 to be used on box culvert. Cost to be included in unit price bid for Item I-15.

E-1 Excavation	0 C.Y.
E-1 Embankment	0 C.Y.
L-9 Seeding	2985 S.Y.



PROPOSED STRUCTURE No JEF-7-0485

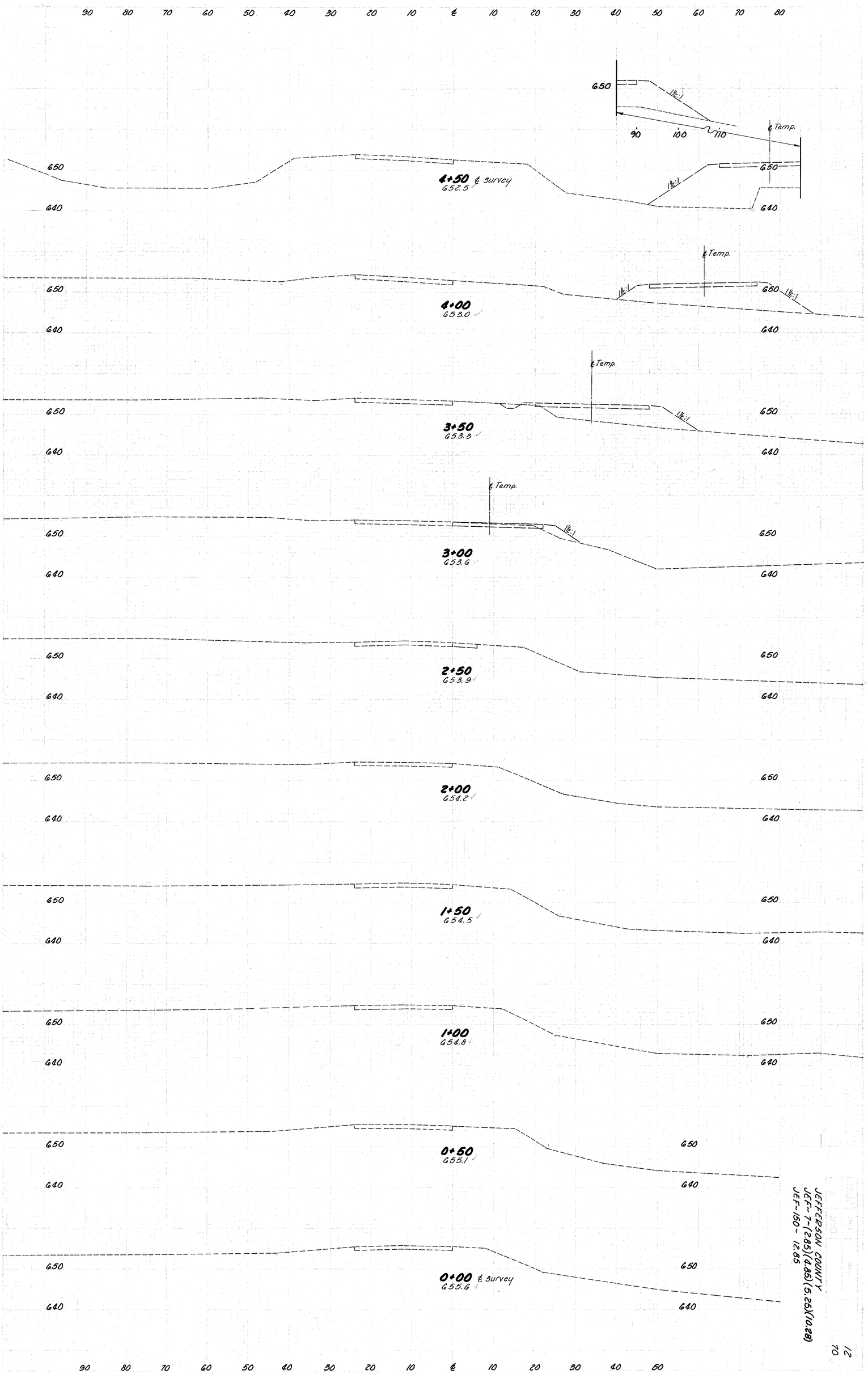
TYPE: Reinforced Concrete Box Culvert
SIZE: 12'-0"x8'-0"
ALIGNMENT: D = 7°
SKEW: None
LOAD: CF=400

EXISTING STRUCTURE
(To Remain in Place)
TYPE: Reinforced Concrete Box Culvert.
SIZE: 10'-0"x10'-0"
ALIGNMENT: D = 7°
SKEW: 14° Lt. Forward
CONDITION: Fair

Edge Pav't Profile S.R.-7 (℄ Survey)	655.39	655.08	654.77	654.62	654.65	654.19	653.93	653.88	653.89	652.89	652.70	652.54	652.40	652.41	652.66	653.03	653.80	654.10	654.62	654.70	655.11	655.36	655.98
	0		1			2		3		4			5		6		7		8		9		10

220+90 to 230+00 SHANNON RUN

	BY	DATE
EXISTING PLOTTED	J.A.M.	8-10-61
EXISTING CHECKED	R.W.E.	8-10-61
TEMPLATE PLOTTED	W.E.E.	12-5-61
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

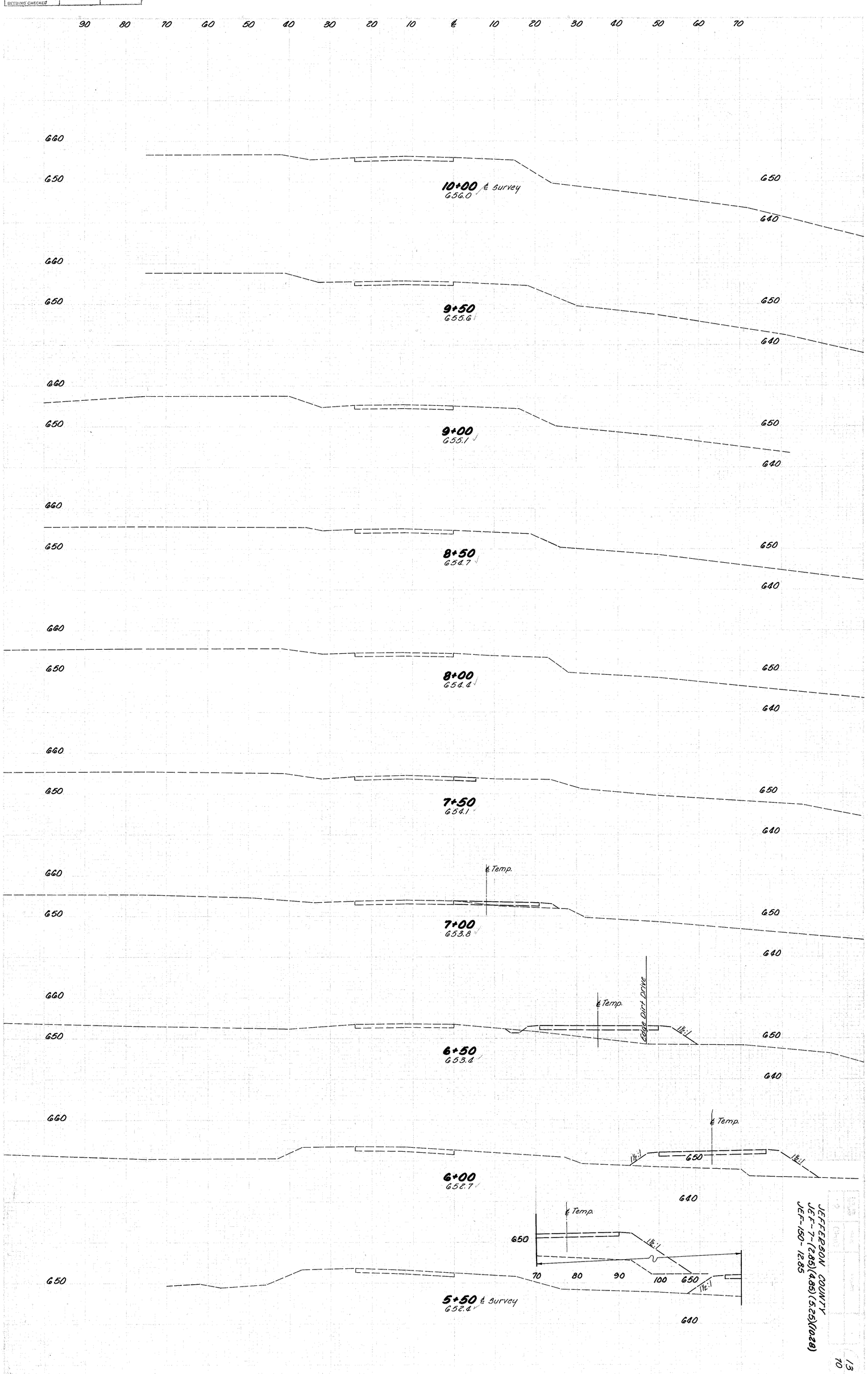


0+00 to 4+50 - SHANNON RUN

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(1028)
JEF-150- 12.85

12
70

	BY	DATE
EXISTING PLOTTED	J.A.M.	5-10-61
EXISTING CHECKED	R.M.R.	5-10-61
TEMPLATE PLOTTED	G.W.B.	12-5-61
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
GRADING DETERMINED		
GRADING CHECKED		



JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

13
10

5+50 to 10+00 ~ SHANNON RUN

2 OHIO

JEFFERSON COUNTY
JEF ~ 7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85

EXISTING & PROPOSED TYPICAL SECTION S.R. 7

PROPOSED TYPICAL SECTION
S.R. 7 TEMPORARY RUNAROUND

24' CLASS "A" TEMPORARY PAV'T.
3' SHOULDERS @ 1"/ft.
1½:1 Slopes

2-P 272+80 to 280+77 S.R. 7
Temporary Runaround Road
using Class "A" Pavement, as per plan.
Restoration of Embankment to be in
accordance with E-1.08 (See General Notes.)

P.I. 8+34.61 Temp. =
278+13, 92' Lt.

P.I. 278+03.64
S.R.-7
2-G I-15 75 L.F.
Guard Rail.

3-G I-15 75 L.F.
Guard Rail.

1-P
T-71 58.75 S.Y.
I-22 54 C.Y.
I-7 T=13" 134 S.Y.
I-18 10.7 C.Y.
Special 64 S.Y. Mixing Calcium
Chloride & Aggregate

4-G I-15 75 L.F.
Guard Rail

1-G 276+79 to 279+16
I-15 225 L.F.-G.R. Removed & Rebuilt

1-R 276+87 to 279+18
E-8 Remove 616 S.Y. Pav't.

Proposed Curve Data
Temporary S.R.-7

P.I. 8+34.61
Δ = 47°-57'-49"
D = 12°-00'-00"
R = 477.47'
L = 399.70'
T = 212.40
E = 45.11

Ex. Curve Data-S.R.-7

P.I. = 278+03.64
Δ = 36°00' Rt.
Dc = 4°00'
Ls = 400'
Ts = 666.79'
Lc = 500.00'
Es = 78.60'
Rc = 1432.39'

Note:
See Sht. № 19 for
proposed work on Co. Rd.
17 & Old Co. Rd. 17.

Note: ℄ Survey & Const. is located
2 feet west of existing pav't.
edge of S.R. 7 & each 100'
station is marked with a
railroad spike.

Note: Guard Rail quantities carried to
Sht. № 7. All other quantities
carried to General Summary.

LEGEND

▨	Class "A" Temporary Runaround.
▨	Removal of existing pavement.
▨	9" T-71 6" I-22
▨	I-18 6" Stabilized Shoulders I-4 Calcium Chloride applied at the rate of 2.1 pounds/Sq. Yd.
Ⓔ	Expansion Joint
Ⓒ	Construction Joint using Expansion Bolts @ 12" c/c Cost to be included in price bid for T-71.

(See Typical Section
on this sheet.)

B.M. #4 Elev. 696.24
□ Cut on Conc. Bridge Abut.
9.5' Lt. Sta. 270+94

B.M. #27-R Elev. 691.93
Corps of Engrs. Marker @ Approx.
Sta. 264+50 S.R. 7. Located 0.5'
S. of S.W. Cor. of R.R. Bridge, 1.3'
W. of W. Edge of S.R. 7, 1' N. of sign
& 0.5' below ground Surface.

B.M. #5 Elev. 683.39
Top of R.R. Spike & Station
277+00 S.R. #7.

B.M. #6 Elev. 667.70
M.S. in top of G.R. Post 36' Rt.
Sta. 283+63 S.R. #7.

Temporary Runaround Profile

E-1 Excavation	18,192 C.Y.
E-1 Embankment	69 C.Y.
L-9 Seeding	1215 S.Y.

PROPOSED STRUCTURE № JEF-7-0525

TYPE: Continuous steel beam with reinforced concrete deck and substructure.
SPANS: 50'-0", 63'-0", 39'-0" c/c brgs along ℄ roadway.
ROADWAY: 72' f/f of parapets with 1'-2" safety curbs, 3' concrete median, concrete parapets and aluminum railings.
LOADING: CF-400 (1957).
SKEW: 14°-17'-12" L.F. from Reference Chord.
WEARING SURFACE: 1" monolithic concrete.
APPROACH SLABS: AS-1-54 (25 ft. long.)
ALIGNMENT: 4° Curve.
SUPERELEVATION: .083'/ft.

EXISTING STRUCTURE № JEF-7-53
(To Remain in Place)

TYPE: Concrete Box.
SIZE: 3 cells (12'-6" + 15'-0" + 12'-6") x 12'-6" x 221'-6".
ALIGNMENT: 4° Curve.
SKEW: 15° L.F.
LOADING: C.F.-400

272+00 to 283+00-RUSH RUN

JEFFERSON COUNTY
JEF.-7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85

273+00 to 275+50 RUSH RUN

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85


End Area
Cut Fill
Volume
Cut Fill
277+50
681.6
Face Abut Footing (1st Stage Const)
(277+35)
X-Section for earthwork only.
Section parallel to culvert
Add for Seeding @ Structure
277+80 End Paved Gutter @ Dumped Rock
93' Lt. & S.P.-7
Note: Transition shoulder slope to meet bridge deck elevation on west half of structure.
Final Shoulder Grading
277+00
683.4
675.0
678.0
679.2
276+50
684.7
678.5
682.1
679.2
Connect Existing Ditch @ Sta. 276+00
15' Lt. to ditch @ 277+00, 70' Lt. & Cut ahead to dumped rock.
276+00
684.4
681.8
684.5
682.7
276+00 Begin Paved Gutter.
Seeding
End
Width 5.4'
425
32
309
79
350
47
181
0

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85


Note: Transition shoulder slope to meet bridge deck elevation on west half of structure.
Final Shoulder Grading
℄ Temp.
1½:1 ft.
1½:1
1½:1
279+00
677.3
Face of Abut. Footing (1st Stage Constr.)
(278+86)
℄ Temp.
278+50
678.8
C=2700
X-Section for earthwork only
Section Parallel to Culvert
2:1
Face of Pier Footing
(278+38)
℄ Temp.
X-Section for earthwork only
Section Parallel to Culvert
278+00
680.4
C=5,100
2:1
Face of Pier Footing
(277+75)
278+04 ℄ 278+21
2,500 0
2,700 0
4,189 0
278+21 5,100 0
3,211 0
278+04 5,100 0
6,757 0
277+50 1657 0
1535 0
277+00 0 0

278+00 to 279+00 RUSH RUN

18
70

JEFFERSON COUNTY
JEF.-7-(2.85)(4.85)(5.25)(10.28)
JEF.-150- 12.85

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

680
670
660

15" C.M.P. (Ex.)

281+00
671.5

680
670
660

280+50
672.9

680
670
660

℄ Temp.

280+00
674.3

680
670
660

℄ Temp.

Final Shoulder Grading

-1.0%

279+50
675.8

680
670
660

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

279+50 to 281+00 RUSH RUN

JEFFERSON COUNTY
JEF- 7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85

Note: See Sht Nº 20 for quantities.

~ CURVE DATA ~

P.I. 8+36.38	P.I. 10+84.54	P.I. 11+27.80 & Const.	P.I. 13+39.54	P.I. 17+41.88
Δ = 9° 48'00"	Δ = 63°58'00"	Δ = 37°30'00"	Δ = 28°03'00"	Δ = 24°13'00"
D = 10°00'00"	D = 36°00'00"	D = 25°00'00"	D = 13°30'00"	D = 7° 00'00"
R = 572.96'	R = 159.16'	R = 229.18'	R = 424.41'	R = 818.51'
L = 98.00'	L = 177.68'	L = 150.00'	L = 207.78'	L = 345.95'
T = 49.12'	T = 99.40'	T = 77.80'	T = 106.02'	T = 175.60'

Note: See Sheet Nº 7 for Curve Data on Old C.R.17, intersection details, & pav't dimensions C.R.17 Sta. 16+63 to 17+60.

COUNTY ROAD 17 REFERENCES

P.I. 8+36.38 — M.S. in edges of pav't.
P.C. 9+85.14 — M.S. in edges of pav't.
P.I. 10+84.54 — M.S. in edge of pav't. Hub & Tack. Hub & Tack.
P.T. 11+62.82 — M.S. in edges of pav't.
P.C. 12+33.52 — M.S. in edges of pav't.
P.I. 13+39.54 — M.S. in edges of pav't. Hub & Tack. M.S. in edge of pav't.
P.T. 14+41.30 — M.S. in edges of pav't.
P.C. 15+66.28 — M.S. in edges of pav't.
P.I. 17+41.88 — M.S. in edges of pav't.
P.T. 19+12.23 — M.S. in edges of pav't.

Note: All plusses & offsets on Old C.R.17 refer to ℄ Construction

19+99.97 Co. Rd. 17 = 280+98.89 S.R.7

END WORK 280+77 S.R.7

C.S. 280+36.85

280+25 S.R.7 = 10+46.64 & Temp.

Note: Dimensions of flares for Res. Drive of 3+42.5 Old C.R.17 are the same as Res. Drive at 1+87 Old C.R.17.

B.M.#7 Elev. 652.19
M.S. in 30" Ash 20' Lt. of 5 to 13+65 Jeff. Co. Rd. 17

EXISTING TYPICAL SECTIONS

C.R. 17 ~ 20' Width Pavement
1"-4" Bituminous Material on Slag Base.

Old C.R. 17 ~ 16' Width Pavement
1"-4" Bituminous Material on Slag Base.

LEGEND

- 0-1" T-35 Feathered Area T-30 Tack Coat (0.16 gl/S.Y.)
- 9" B-19 Aggregate
- 1½" Asphaltic Conc. (Type "A") 7" B-19 Aggregate.
- 8" B-19 Aggregate
- 1½" Asphaltic Conc. (Type "A") 5" B-19 Aggregate.
- 6" B-19 Aggregate.
- Removal of Existing Pavement.

(12-D) Nº 2 Stone Underdrains 10+50 to 17+50 C.R.17
(13-D) Nº 2 Stone Underdrains 0+20 to 3+64 Old C.R.17

Note: Ex. Pav't. to be scarified under E-1 between Limits 15+50 to 16+75 C.R.17 & 0+20 to 1+20 Old C.R.17.

E-1 Excavation	330 C.Y.
E-1 Embankment	6549 C.Y.
L-9 Seeding	6047 S.Y.

Quantities to Sheet Nº 20

PROFILE OLD COUNTY ROAD 17

PROFILE COUNTY ROAD 17

0+10 to 3+82 Old C.R. 17
8+00 to 20+00 C.R. 17

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

20
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

* M-6.6(a), M-6.8(b) or M-6.5(b)

ESTIMATED QUANTITIES

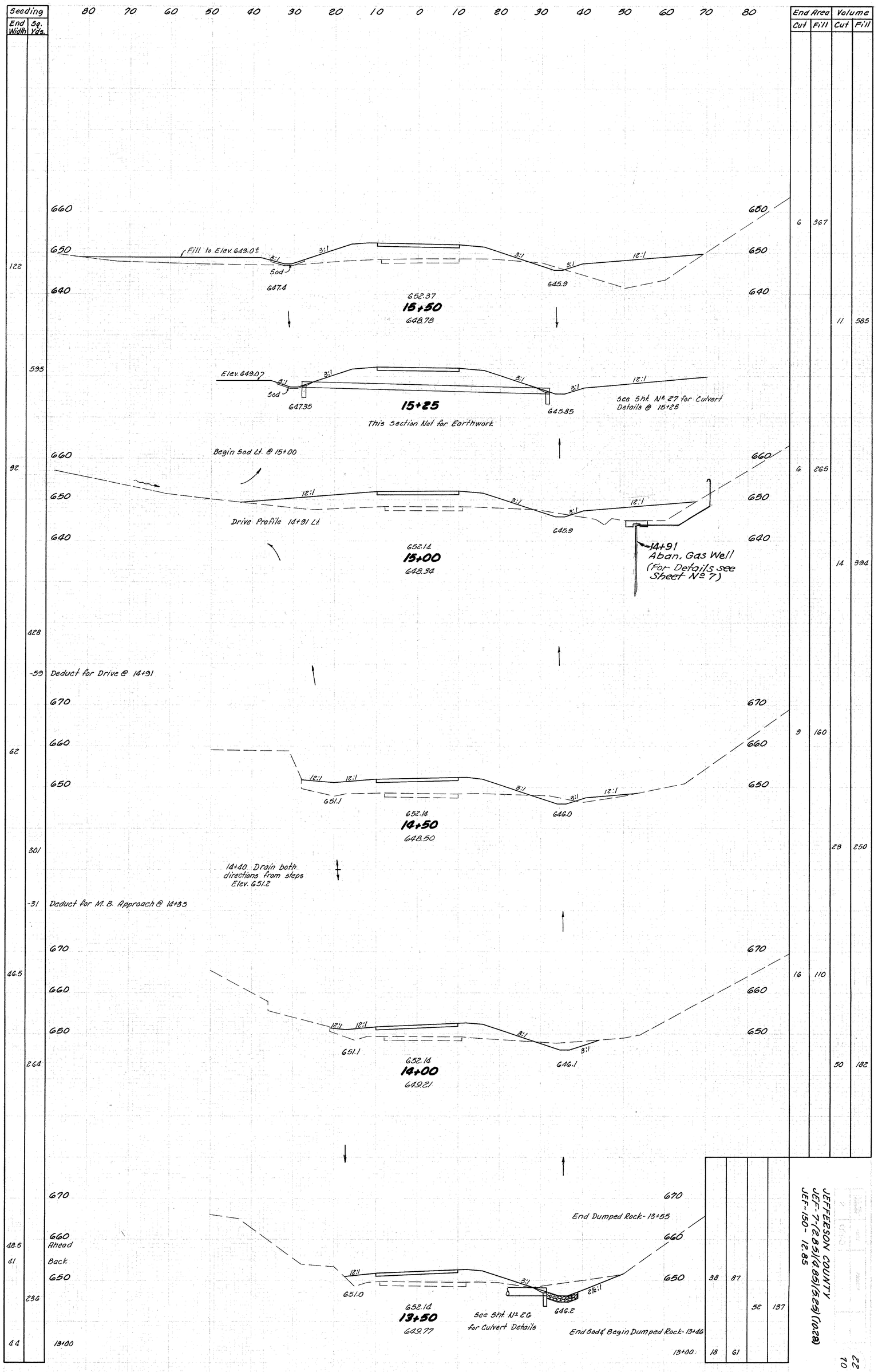
Ref. No.	STATION TO STATION	Side	L-10	I-10		I-14	I-2	L-9	I-8			I-9	I-1									I-15	I-5 Specials			I-16	I-15	E-12	B-19	T-35	T-30			E-1			See Sht. No	Ref. No
			Sodding	Dumped Rock 18" Thickness	Riprap, as per plan	Paved Gutter Type I	Masonry Class "C"	Seeding	No 2-2B C.B.	No 2-3 C.B. Mod.	No 1 Manhole	No 2 Stone Underdrains	Class F4	Cl. B-1 M-6.8(b)	Cl. E-1 M-6.8(b)	Cl. A-1 *	Class E-1	Cl. A-1 M-6.6(b), M-6.8(b)	Cl. A-1 *	Cl. A-1 M-6.6(b)	M-6.9 Galv. Type 4 Steel 2	Guard Rail Steel Beam	Bends Class E-1	Bends Class B-1	Bends Class E-1	Catch Basins Abandoned	G.R. Removed & Disposed of	Removal of ex. pipe 15"		1½" Type A	Prime	Tack		Compacted Subgrade	Exc.	Emb.		
	UNITS		S.Y.	C.Y.	S.Y.	L.F	C.Y.	S.Y.	Ea.	Ea.	Ea.	L.F	12" L.F	4" L.F	4" L.F	12" L.F	15" L.F	24" L.F	18" L.F	36" L.F	L.F	Deep L.F	4'x30° Ea.	4'x30° Ea.	4'x45° Ea.	Ea.	L.F	L.F	C.Y.	C.Y.	Gal.	Gal.		S.Y.	C.Y.	C.Y.		
1-D	11+75 to 12+98 C.R.17	Lt.	107			10																															26	1-D
2-D	11+75 to 13+46 C.R.17	Rt.	99																																		26	2-D
3-D	15+00 C.R.17 to 0+73 Old C.R.17	Lt.	148																																		27	3-D
4-D	16+50 to 17+25 C.R.17	Rt.	28	24																																	28	4-D
5-D	0+73 to 0+93 Old C.R.17	Lt.											38																								24	5-D
6-D	1+43.5 to 2+00.5 Old C.R.17	Lt.												58										1													28	6-D
7-D	2+02 to 2+05 Old C.R.17	Lt.													4										1												28	7-D
8-D	3+26 to 3+56 Old C.R.17	Lt.											30																								25	8-D
9-D	3+15 Old C.R.17	Lt. & Rt.	4				0.2		1							44																						25	9-D
10-D	3+15 to 3+73 Old C.R.17	Rt.									1						56																				25	10-D
11-D	3+64 to 3+73 Old C.R.17	Rt.													16								1														25	11-D
12-D	10+50 & Survey to 17+50 C.R.17	Lt. & Rt.										224																										19	12-D
13-D	0+20.29 to 3+64 Old C.R.17	Lt. & Rt.										112																										19	13-D
1-A	13+35, 10' Lt. to 20' Lt. C.R.17	Lt.																											3.7								26	1-A
2-A	14+35 Mailbox Approach C.R.17	Lt.																											4.3	1.3							27	2-A
3-A	14+91, 10' Lt. to 43' Lt. C.R.17	Lt.																											11.3	0.9							27	3-A
4-A	16+00 Mailbox Approach C.R.17	Lt.																											4.0	1.2							27	4-A
5-A	0+84, 8' Lt. to 33' Lt. Old C.R.17	Lt.																											6.5								7	5-A
6-A	1+49, 8' Lt. to 46' Lt. Old C.R.17	Lt.																											10.0	0.9							28	6-A
7-A	1+87, 8' Lt. to 1+81, 48.5' Lt. Old C.R.17	Lt.																											10.0	1.1							28	7-A
8-A	2+40, 8' Lt. to 46' Lt. Old C.R.17	Lt.																											40.0	5.5							28	8-A
9-A	3+42.5, 8' Lt. to 3+38, 43' Lt. Old C.R.17	Lt.																											9.3	1.1							19	9-A
1-S	13+00, 21.5' Lt. to 13+47.5, 31.5' Rt. C.R.17	Lt. & Rt.		4.5			0.4			1								71																			26	1-S
2-S	15+25, 28' Lt. to 62.5' Rt. C.R.17	Lt. & Rt.	24				0.6												60																			27	2-S
3-S	15+25, 62.5' Rt. to 282.5' Rt. C.R.17	Lt. & Rt.					1.2													220																		27	3-S
4-S	2+00, 36.5' Lt. Old C.R.17 to 16+76, 40.5' Rt. C.R.17	Lt. & Rt.			13		0.8											168																			28	4-S
1-P	10+50 & Survey to 17+60 C.R.17																												3.8	6.5	62.1	2			15.5.3			19	1-P
2-P	0+20.29 to 3+70 Old C.R.17																												15.2	2.7	25.7				6.4.0			19	2-P
1-G	15+17.5 to 17+50 C.R.17	Rt.																										232.5									19	1-G
2-G	16+68.5 to 17+50 C.R.17	Lt.																										81.5									19	2-G
3-G	3+65 Old C.R.17																					2.5															19	3-G
1-R	13+28 to 15+44 C.R.17	Lt.																																			26	1-R
2-R	14+91, 53' Rt. C.R.17 (Gas Well)	Rt.					1.6														28						1		16								7&19	2-R
3-R	16+60, 41' Lt. C.R.17	Lt.																																			19	3-R
Totals to General Summary			399	28.5	13	10	4.8	6047	1	1	1	336	68	58	20	44	56	239	60	220	28	25	1	1	1	1	314	16	620.1	104	878	2		2193	330	6549		

COUNTY ROAD 17
SUMMARY OF QUANTITIES

Seeding End Width	Seeding Sq. Yds.		End Area Cut	End Area Fill	Volume Cut	Volume Fill
	-22	Deduct for Drive @ 13+35				
		12:1 Ex. 15" C.M.P. 650.8				
		DRIVE PROFILE @ 13+35 Lt.				
		670 / 660 / 650	18	61		
44		Ahead				
36		Back				
		649.6 3:1 3:1 3:1 Sod 648.0				
		See Sht. No 26 for Culvert Details				
		652.14 **13+00** 650.31			32	98
		End P.G. Lt. - 12+98				
	189					
		End Sod Lt. & Begin P.G. 12+88				
		670 / 660 / 650	17	45		
32		649.7 3:1 3:1 Sod 3:1 3:1 Sod 649.2				
		652.14 **12+50** 650.78			22	69
	153					
		670 / 660 / 650	7	29		
23		Ahead				
34		Back				
		26.7 3:1 650.0 Sod 3:1 Sod 650.0				
		652.14 **12+00** 651.34			12	35
		Begin Sod Lt. ~ 11+75		Begin Sod Rt. ~ 11+75		
	170					
		670 / 660 / 650	6	0		
27		℄ Const 3:1 3:1 650.3				
		652.14 **11+50** 651.81			15	10
	132					
		670 / 660 / 650				
20.5		℄ Const 3:1 3:1 650.6			9	2
	57	652.22 **11+00** 652.17				
0		10+50 SECTION 10+50 ?	0	0		
		Begin Work ~ 10+50	10	2		

JEFFERSON COUNTY
JEF-(2.85)(685)(525)(1028)
JEF-150- 12.85

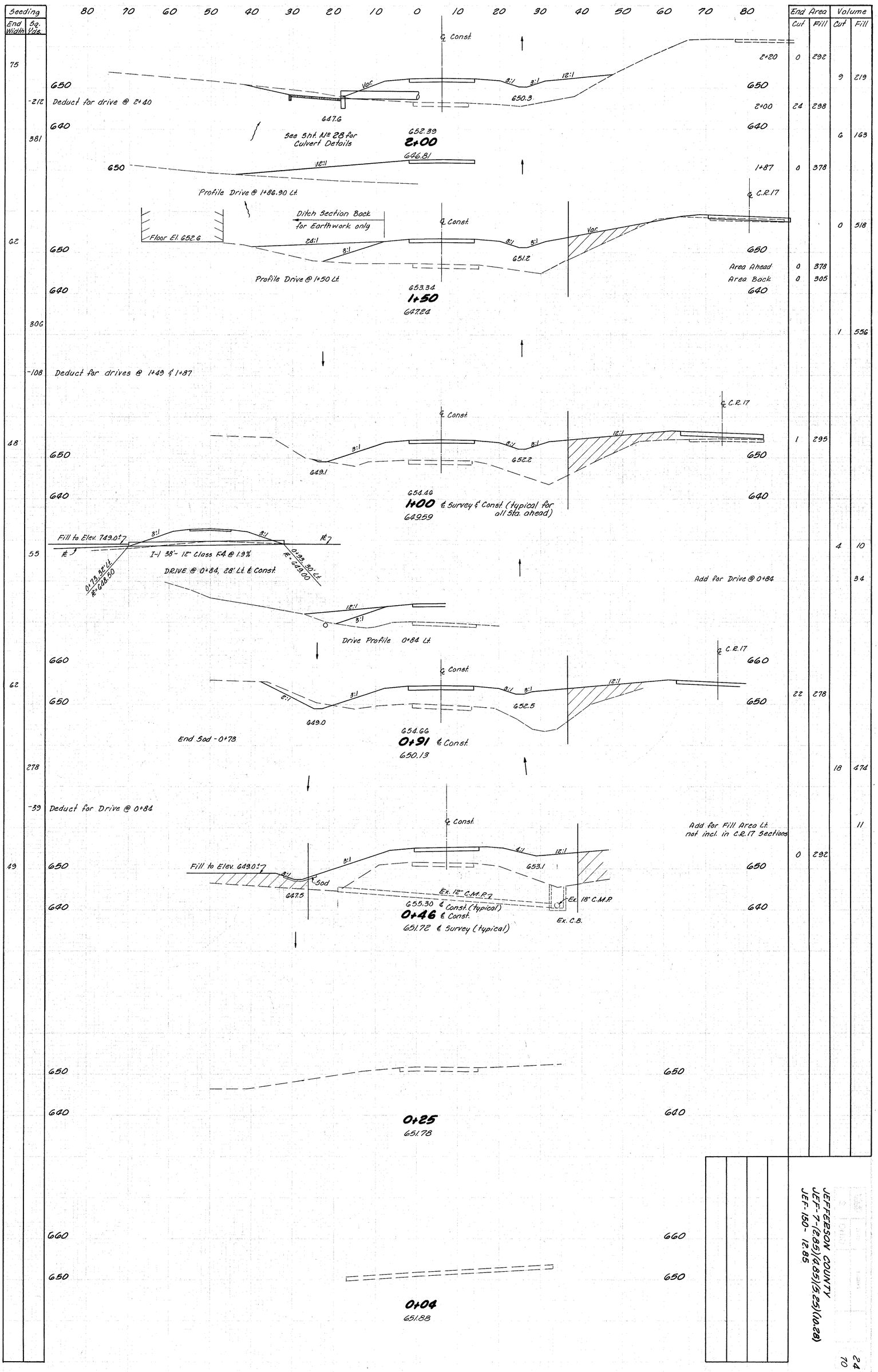
11+00 to 13+00 CL EL MD 17


Seeding
End Width
Sq. Yds.
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80
End Area
Cut
Fill
Volume
Cut
Fill
660
650
640
Fill to Elev. 649.0±
3:1
12:1
Sod
647.4
645.9
652.37
15+50
648.78
122
595
Elev. 649.0±
647.35
645.85
15+25
This Section Not for Earthwork
See Sht. No. 27 for Culvert Details @ 15+25
Begin Sod Lt. @ 15+00
92
Drive Profile 14+91 Lt.
652.14
15+00
648.32
14+91
Aban. Gas Well
(For Details see Sheet No. 7)
428
-59
Deduct for Drive @ 14+91
670
62
651.1
646.0
652.14
14+50
648.50
301
14+40 Drain both directions from steps Elev. 651.2
-31
Deduct for M. B. Approach @ 14+35
46.5
646.1
652.14
14+00
649.21
264
48.5
Ahead
41
Back
651.0
646.2
652.14
13+50
649.77
See Sht. No. 26 for Culvert Details
End Dumped Rock- 13+55
End Sod & Begin Dumped Rock- 13+46
236
44
13+00
13+00.
6
367
11
585
6
265
14
394
9
160
23
250
16
110
50
182
38
87
32
137
18
61
JEFFERSON COUNTY
JEF-71(285)(Q85)(SE29)(102)
JEF-150-12.85
13+50 to 15+50 CO. RD. NO. 17
22
70

Seeding End Width	Seeding Sq. Yds.		End Area Cut	End Area Fill	Volume Cut	Volume Fill
		80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80				
		670 / 660 / 650 — **18+00** 663.97				
0		17+60 — End Work @ 17+60	0	0		
					0	1
	10	670 / 660 — 660.48 **17+50** 660.45	0	6		
19						
	89				19	67
54		Ahead 17+25				
45		Back — End Sod ~ +25				
		670 / 660 / 650 — See Old C.R.17 X-Sections; Var.; 3:1; 3:1; 3:1; Sod; 651.5; 653.0; End Dumped Rock & Begin Sod ~ +00				
	125	657.37 **17+00** 656.83	20	66		
45						
-69		Deduct for Pavement (Old C.R. 17)			20	376
	358	650 — **16+75** — 3:1; 3:1; See Sht. No 28 for Culvert Details 646.15				
84		660 — Ahead; See Old C.R.17 X-Sections				
94		Back				
		650 — 3:1; 3:1; 12:1; 646.1	2	340		
		640 — 654.98 **16+50** 653.31; Ex. 18" CMP; Begin Dumped Rock ~ +50				
					2	562
	492					
		Total Area Back; Area Ahead				
83		660 — Ahead		Area Ahead	0	267
122		Back		Area Back	0	345
		650 — Fill to Elev. 649.07; 3:1; 3:1; Sod. 647.5; 3:1; 3:1; 12:1; 646.0				
678		640 — This Section for Earthwork only; 653.31 **16+00** 650.30			6	659
-29		Deduct for M.B. Approach @ 16+00				
122		15+50		15+50	6	367

16+00 to 18+00 CO. RD. NO. 17

JEFFERSON COUNTY
JEF-7-12.85/16.25/20
JEF-150-12.85


Seeding
End Width
Sq. Yds.
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80
End Area
Cut
Fill
Volume
Cut
Fill
℄ Const.
℄ C.R.17
2+20 0 292
2+00 24 298
1+87 0 378
Area Ahead 0 378
Area Back 0 305
75
650
640
630
660
-212 Deduct for drive @ 2+40
381
GZ
306
-108 Deduct for drives @ 1+49 & 1+87
48
55
62
278
-39 Deduct for Drive @ 0+84
49
9 219
6 163
0 518
1 556
1 295
4 10
3.4
22 278
18 474
11
0 282
VGC
3:1
12:1
2:1
4:1
650.3
651.2
652.2
652.5
653.1
647.6
649.1
649.0
647.5
652.39
646.81
653.34
647.26
654.46
649.59
654.66
650.13
655.30
651.72
651.78
651.88
See Sht. No 28 for Culvert Details
2+00
Profile Drive @ 1+86.90 Lt.
Ditch Section Back for Earthwork only
Floor El. 652.6
Profile Drive @ 1+50 Lt.
1+50
1+00 ℄ Survey & Const. (typical for all Sta. ahead)
Fill to Elev. 749.0±7
I-1 38"- 12" Class F4 @ 1.9%
0+73.32' Lt. E=648.50
0+83.80' Lt. E=648.00
DRIVE @ 0+84, 28' Lt. & Const.
Drive Profile 0+84 Lt.
Add for Drive @ 0+84
End Sod - 0+73
0+91 ℄ Const.
Fill to Elev. 649.0±7
Sod
Ex. 12" C.M.P.
Ex. 18" C.M.P.
Ex. C.B.
655.30 ℄ Const. (typical)
0+46 ℄ Const.
651.72 ℄ Survey (typical)
Add for Fill Area Lt. not incl. in C.R.17 Sections
0+25
0+04
0+04 to 2+00 OLD CA.RD. NO. 17
JEFFERSON COUNTY
JEF-7-7(285)/6.85)/5.25)(10.28)
JEF-150- 12.85
24
70

End Area		Volume	
Cut	Fill	Cut	Fill
0	0		
0	141	0	47
1	82	0	510
4	177	23	
4	475		
0	536		
0	259		

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85

25
10

282	
0	

Seeding	
End Sq.	
Width Yds.	
0	
53	
53	
36	
70	
54	
89	
-51	
89	
144	
71	
406	
75	
2400	

660 650 660 650 660 650 660 650 650 640 650 640 650 640 650 640 650 640 650 640

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

4+50
655.2

4+00
652.2

3+84
650.2

END WORK 3+82

3+66
647.6

Connect to M.H. @ 3+73.24 Elev. = E = 646.25
1-1 12"-4" Cross E-1 M-6.4(10) @ 1.0%
4-1 36" Canal (connect to ex. 4' V.S.P.)
Ex. 4' V.S.P.
646.4
3:1
649.9
Const.
3:1
648.2

3+51.99
647.39

Add for drive @ 3+42.5 Lt.
No. 1 M.H.
3+73.24 Elev. E Const.
E Ex. 36" 648.45
E 15" 645.88
E 4" 648.25
Top 652.01
1-1 36"-15" Cross E-1 Pipe @ 2.0%
Ex. 4' V.S.P.
650
No. 2 C.B.
3+15.20' Lt. & Const.
Grate 649.7
E 12" 647.37
E 15" 647.00
Const.
3:1
649.8
12:1
For Earthwork Only
3:1
648.1

3+50
647.39

3+56.24 Lt.
E = 648.15
1-1 30'-12" Cross F-1 @ 1.0%
E 647.85
E 647.64
DRIVE E-SECTION
3+42.5, 24' Lt. & Const.
Const.
3:1
12:1
648.0
Drive Profile @ 3+42.5
Deduct for Drive @ 3+42.5

3+51.99
647.00

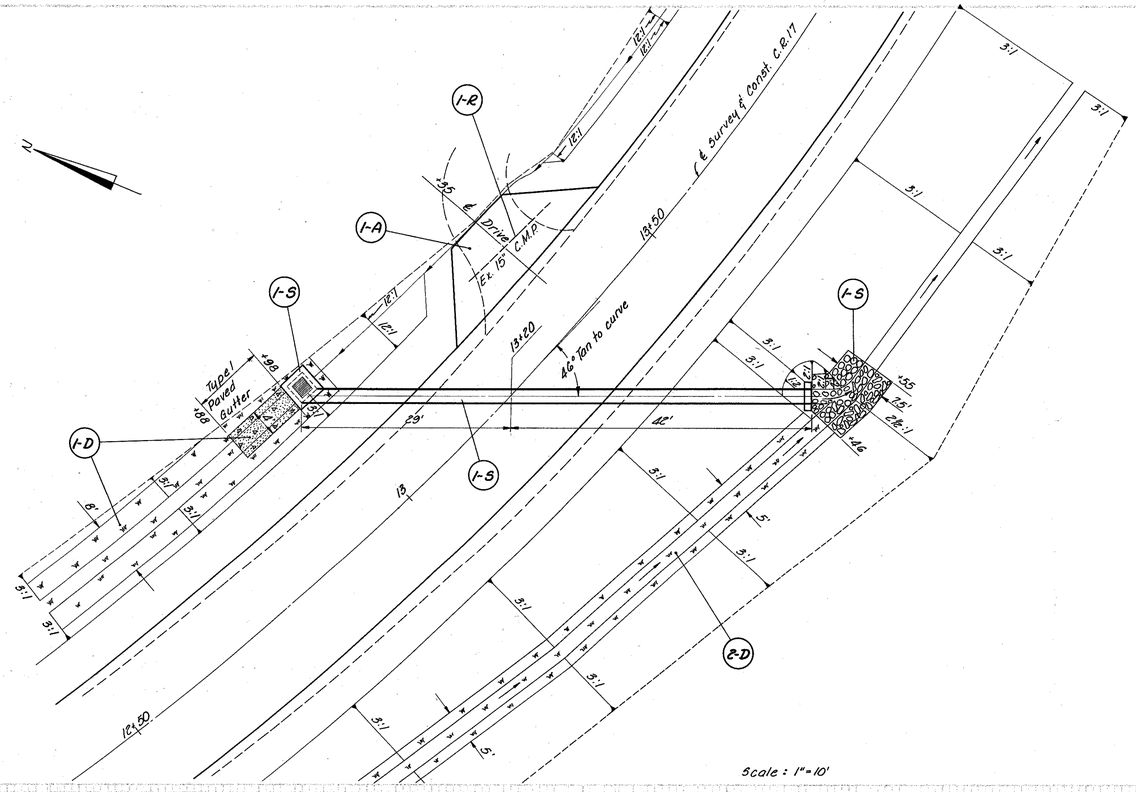
Grate Elev. 649.7
(See above for Conn. to M.H.)
12:1
3:1
E 12" 647.37
E 15" 647.00
1-1 44'-12" Cross A-1 (M-6.8(8)) or M-6.5(8.5) @ 1.0%
3:1
Const.
3:1
647.8
24' Lt.
R 647.80
HW-E Ednwall
24:1

3+00
647.00

Drive Profile @ C+40 Lt.
Const.
12:1
3:1
649.8
24:1

652.00
2+50
646.69

2+50 to 4+50 OLD CO. RD. NO. 17



FED. RD. DIV. NO.	STATE	PROJECT	
2	OHIO		

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85

Note: See Sht. № 20 for
Quantities not shown.

Scale: 1"=10'

PROPOSED STRUCTURE № 1-S
Estimated Quantities

I-1	24" Class A-1 M-6.6 (a) or M-6.8 (b)	71 L.F.
I-2	Masonry, Class "C"	0.4 C.Y.
I-8	№ 2-3 Catch Basin	1 ea.
I-10	Dumped Rock Channel Protection	4.5 C.Y.

D.A. = 5.9 Ac.
Q_{10} = 20 cfs.

Quantities carried to Sht. № 20

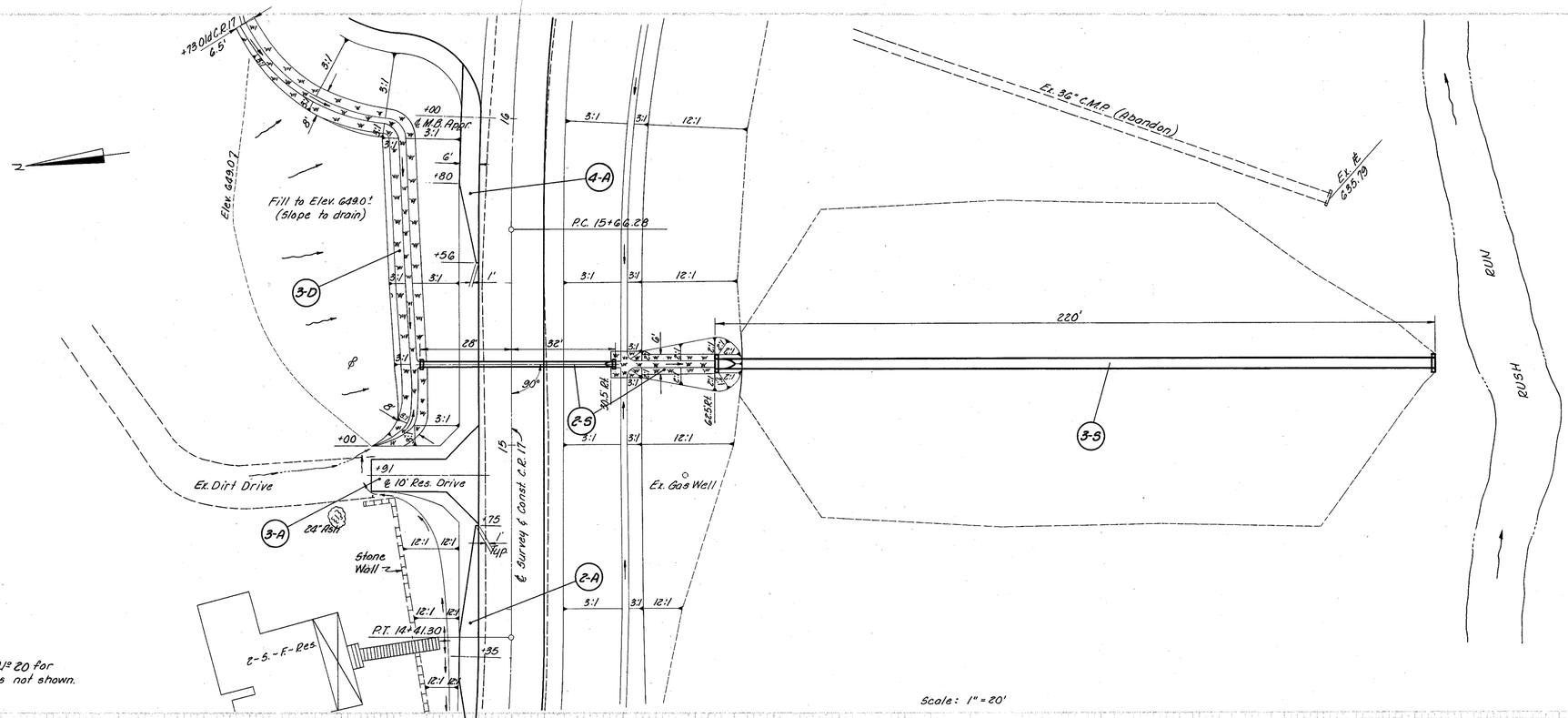
CULVERT DETAILS 13+20 COUNTY ROAD 17

SHEET DESIGNATION	STATE	PROJECT		27
2	OHIO			70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

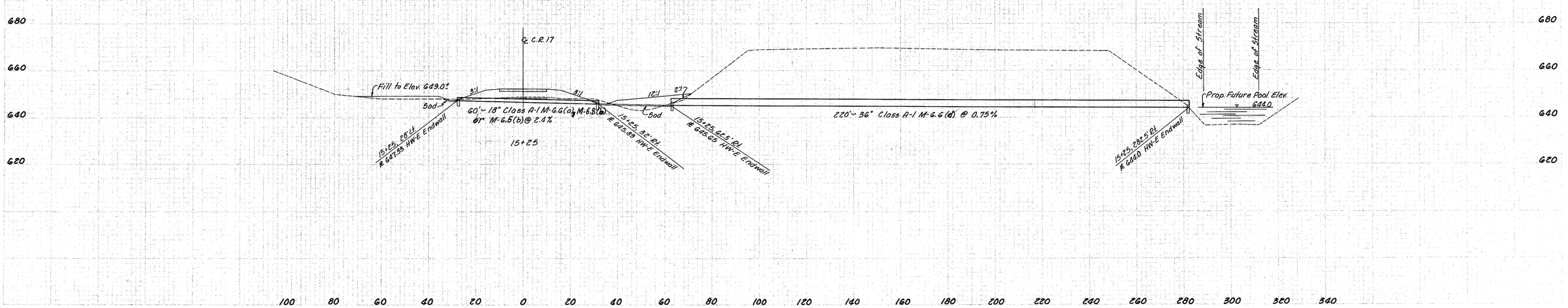
PROPOSED STRUCTURE Nº 2-S Estimated Quantities	
I-1 18" Class A-1 M-G.G(a) or M-G.8(b)	60 L.F.
I-2 Masonry, Class "C"	0.6 C.Y.
L-10 Sodding	24 S.Y.
D.A. = 2.6 Ac. Q_{10} = 10 cfs.	
Quantities carried to Sht Nº 20	

PROPOSED STRUCTURE Nº 3-S Estimated Quantities	
I-1 36" Class A-1 M-G.G(d)	220 L.F.
I-2 Masonry, Class "C"	1.2 C.Y.
D.A. = 19.6 Ac. Q_{10} = 46 cfs.	
Quantities carried to Sht Nº 20	



Note: See Sht. Nº 20 for Quantities not shown.

Scale: 1" = 20'



CULVERT DETAILS - 15+25 COUNTY ROAD 17

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

28
70

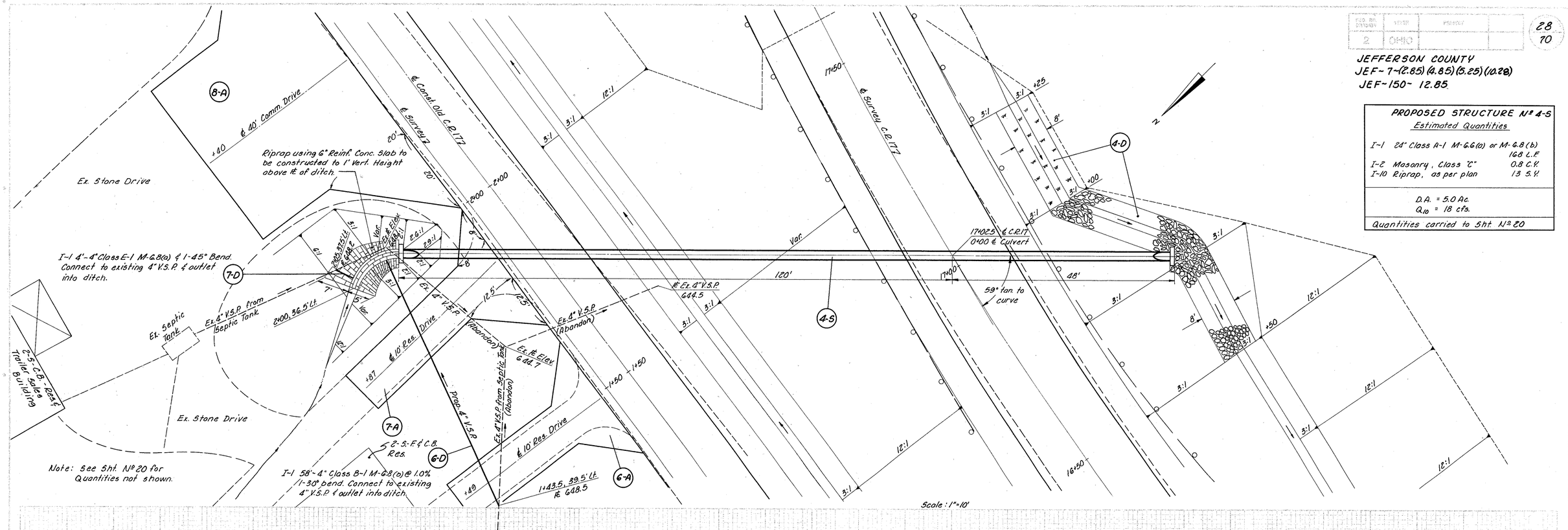
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

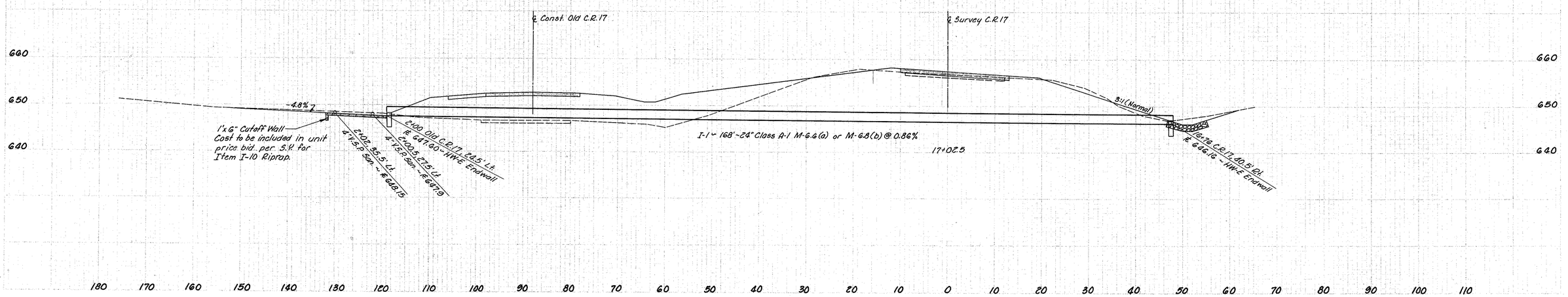
PROPOSED STRUCTURE Nº 4-S
Estimated Quantities

I-1	24" Class A-1 M-6.6(a) or M-6.8(b)	168 L.F.
I-2	Masonry, Class "C"	0.8 C.Y.
I-10	Riprap, as per plan	13 S.Y.

D.A. = 5.0 Ac.
Q_{10} = 18 cfs.

Quantities carried to Sht. Nº 20



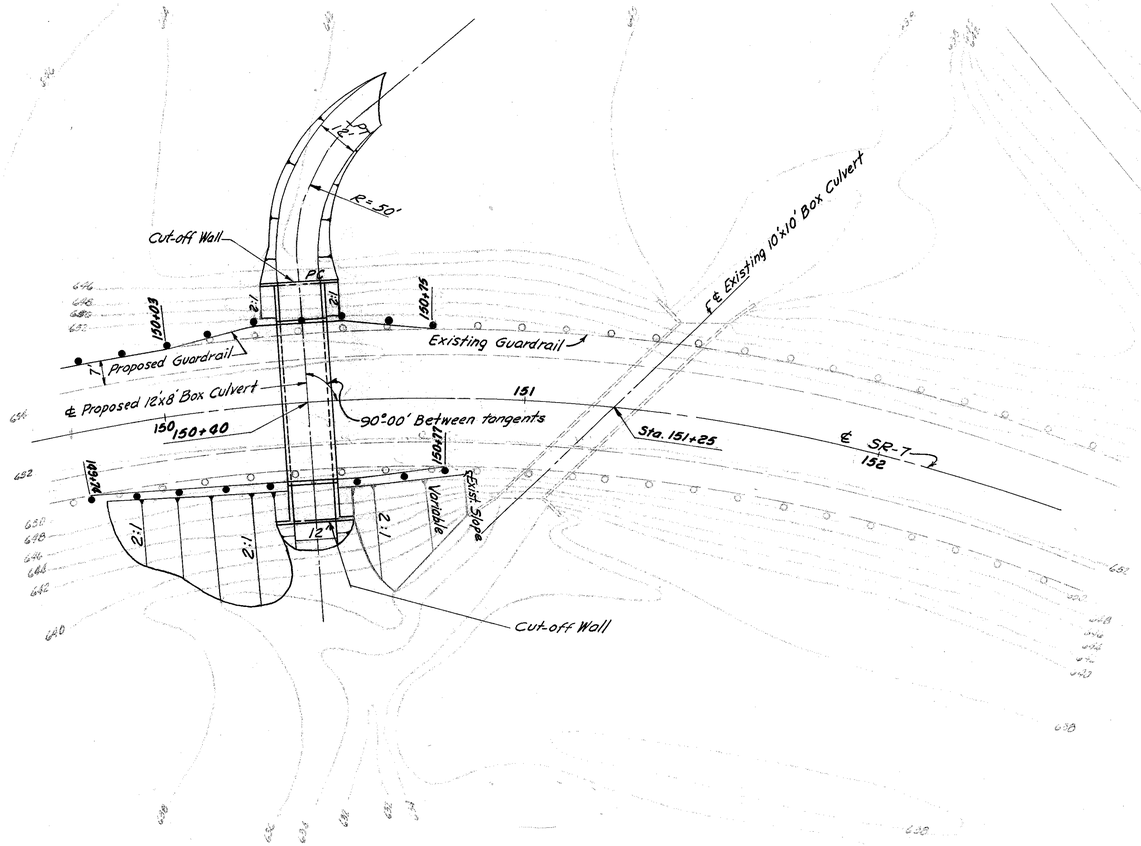


CULVERT DETAILS - 17+02.5 COUNTY ROAD 17

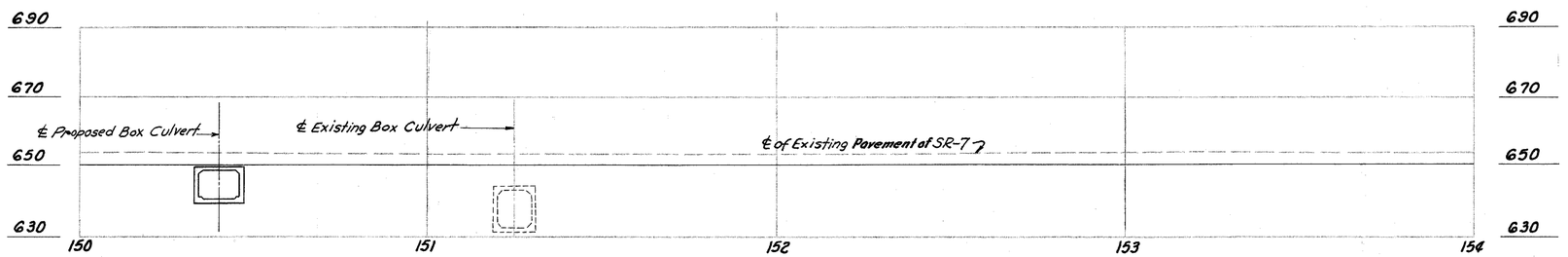
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

29
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85



PLAN



PROFILE
Along ℄ SR-7

PROPOSED STRUCTURE

TYPE: Reinforced Concrete Box Culvert
SIZE: 12'-0" x 8'-0"
ALIGNMENT: $D_c = 11° \pm$
SKEW: None
LOAD: CF-400

DRAINAGE AREA = 280 Acres
OHIO RIVER POOL SLOPE ELEV. = 644.2
TRAFFIC : ADT (1961) = 4980
ADT (1981) = 9960

EXISTING BOX CULVERT DATA

TYPE : Reinforced Concrete Box Culvert
SIZE : 10'-0" x 10'-0"
ALIGNMENT : $D_c = 11° \pm$
SKEW : $45° \pm$ Lt Forward
CONDITION : Fair
(to remain in place)

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

SITE PLAN

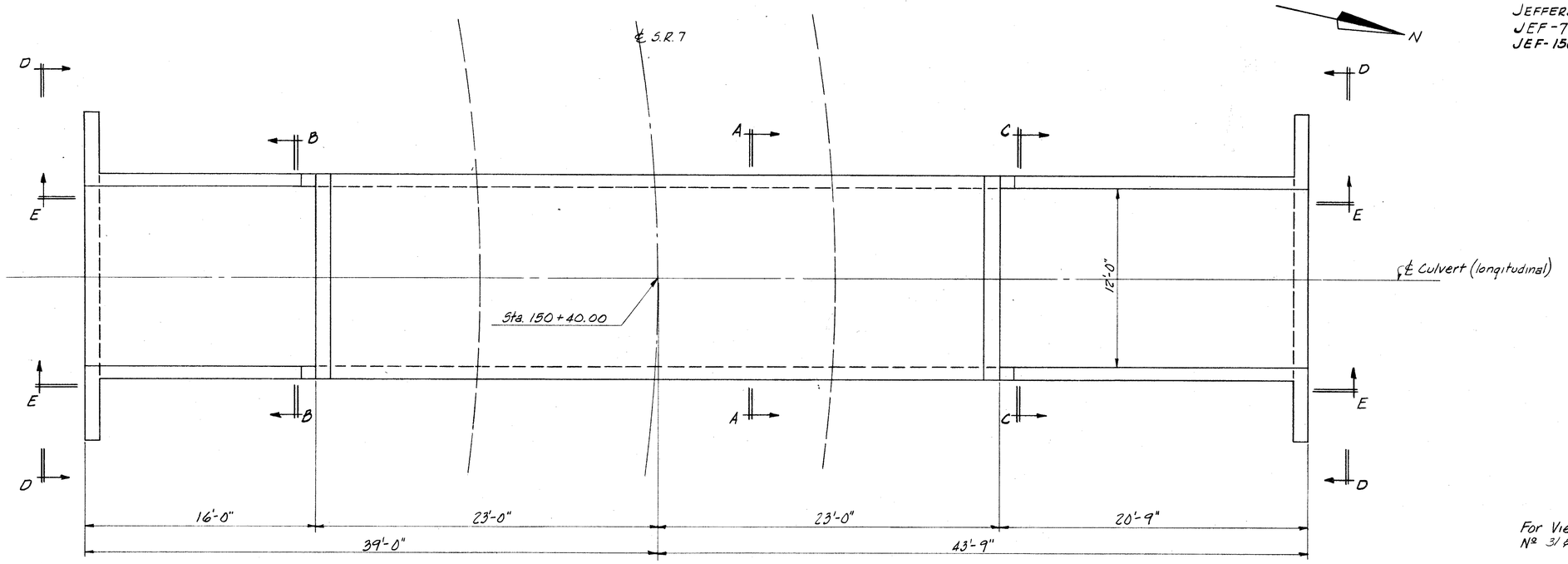
STRUCTURE NO. JEF-7-0285
At Warrenton, Ohio (10 R)
JEFFERSON CO. STA: 150+40.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	R.T.	DWH	TLU	TLU	9-24-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

30
70

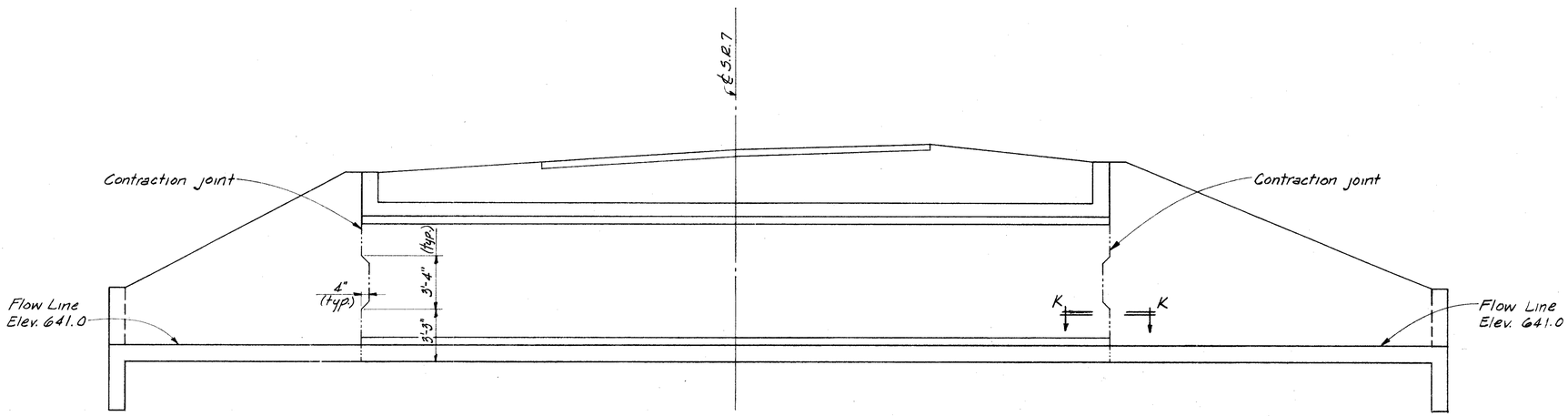
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85



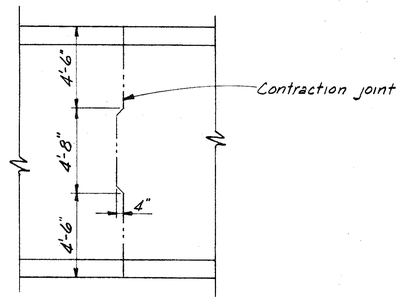
GENERAL PLAN

For Views and Sections see sheet Nº 31 & 32.

All reinforcing steel shall have 2" cover except as noted.



ELEVATION-SECTION THRU CENTERLINE OF CULVERT



VIEW K-K

(Contraction joint at both ends of culvert barrel)

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

GENERAL PLAN & ELEVATION
STRUCTURE Nº JEF-7-0285
AT WARRENTON, OHIO (10R)

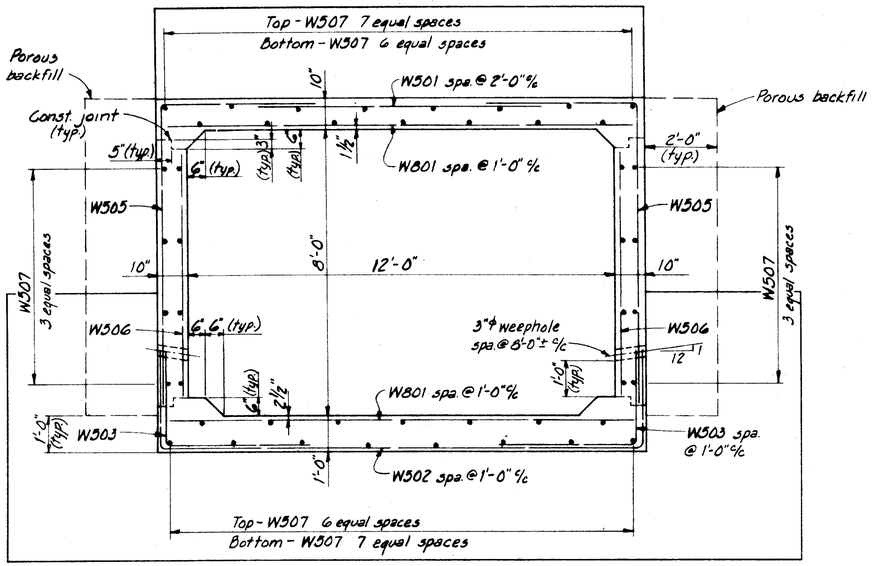
JEFFERSON COUNTY STA. 150+40.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PM	HT		FWD	TLU	9-24-62	

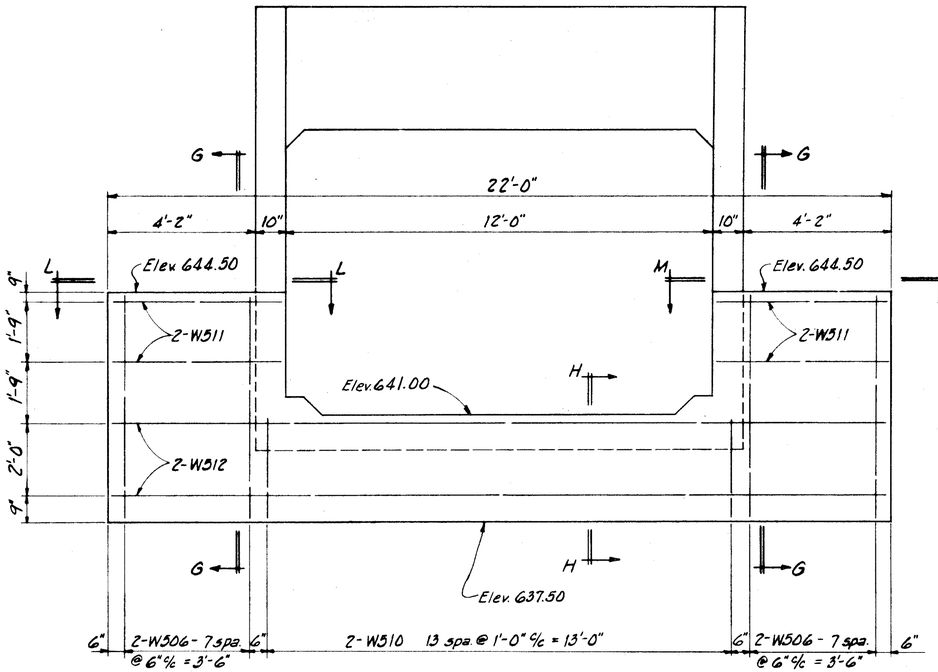
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

31
70

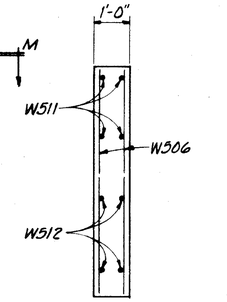
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.23)(10.28)
JEF-150-12.85



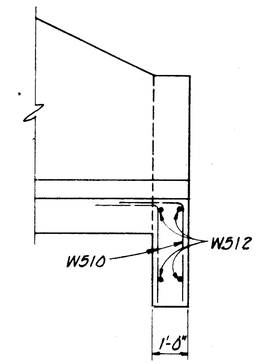
SECTION A-A



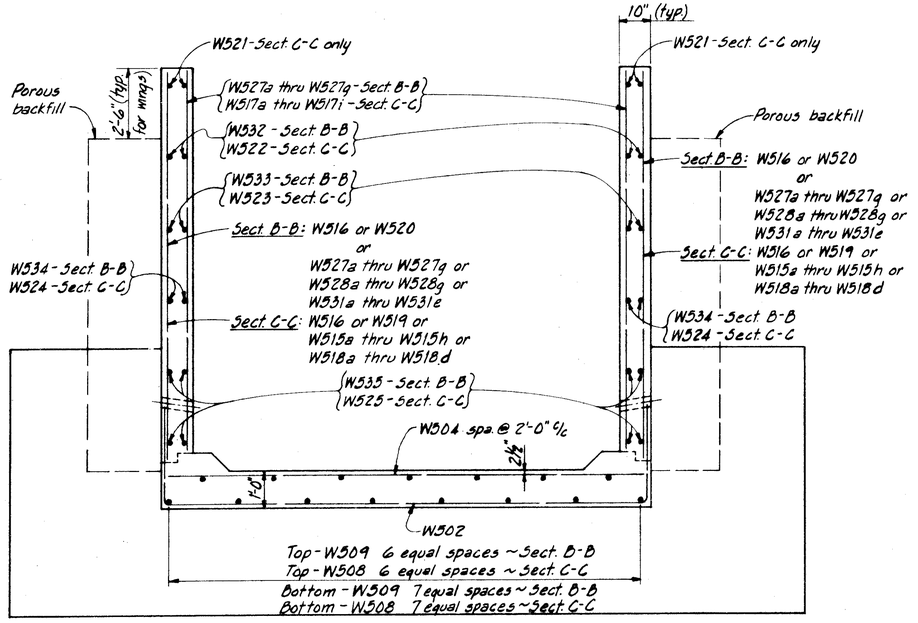
VIEW D-D



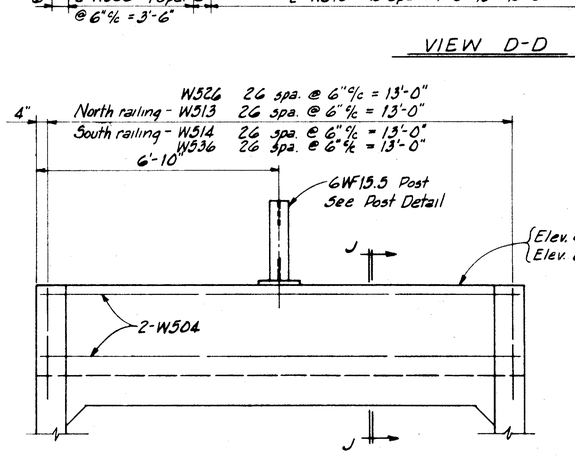
SECTION G-G



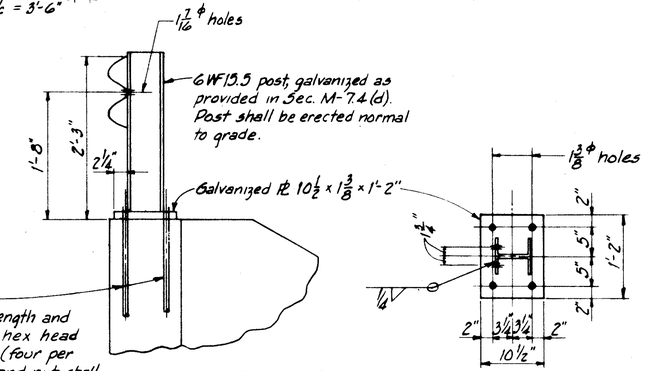
SECTION H-H



SECTION B-B
SECTION C-C

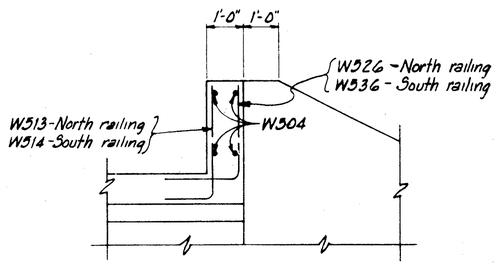


RAILING DETAIL

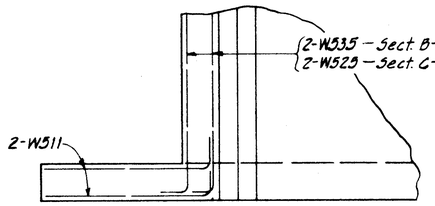


Note - Post and ℞ shall be galvanized after welding.

POST DETAIL



SECTION J-J



SECTION L-L
(Section M-M similar)

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE Nº JEF-7-0285
AT WARRENTON, OHIO (10R)

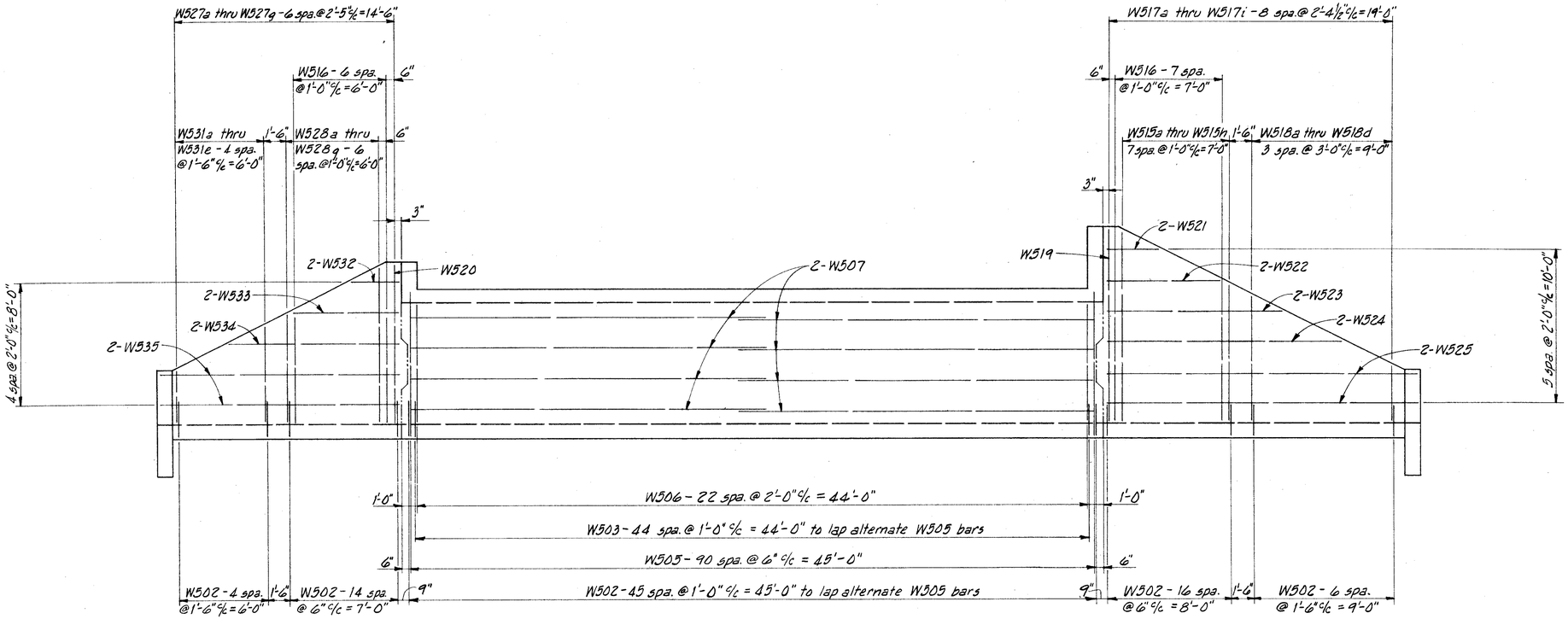
JEFFERSON COUNTY STA. 150+40.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PM	HT		FWD	TLU	3-24-82	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

32
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85



SECTION E-E

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE Nº JEF-7-0285
AT WARRENTON, OHIO (10R)

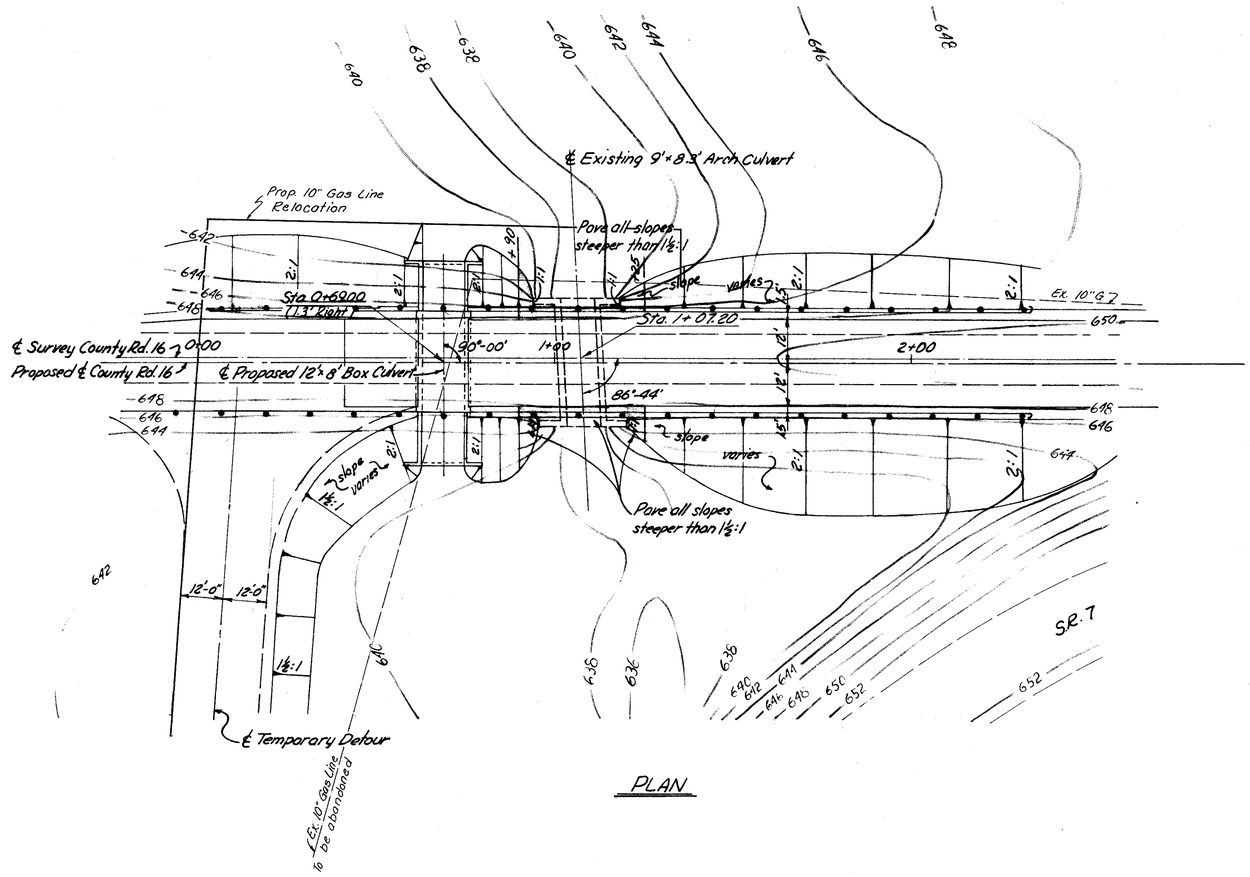
JEFFERSON COUNTY STA. 150+40.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PM	HT		FWD	TLJ	3-21-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

33
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85



PLAN

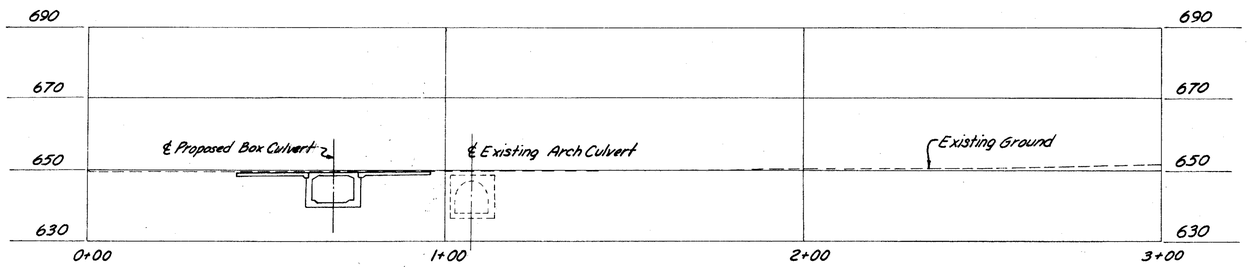
PROPOSED STRUCTURE

TYPE: Reinforced concrete box culvert
SIZE: 12'-0" × 8'-0"
ALIGNMENT: Tangent
SKEW: None
LOADING: CF-30
Approach Slab: AS-1:5A, 20' long

DRAINAGE AREA = 280 acres
OHIO RIVER POOL SLOPE ELEV = 644.2

EXISTING ARCH CULVERT DATA

TYPE: Concrete Arch Culvert
SIZE: 9.0' × 8.3'
ALIGNMENT: Tangent
SKEW: 3°-30(±) right forward
CONDITION: Fair
(to remain in place)



PROFILE
(along proposed ℄)

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

SITE PLAN

STRUCTURE ON COUNTY ROAD 16
AT WARRENTON, OHIO (11R)

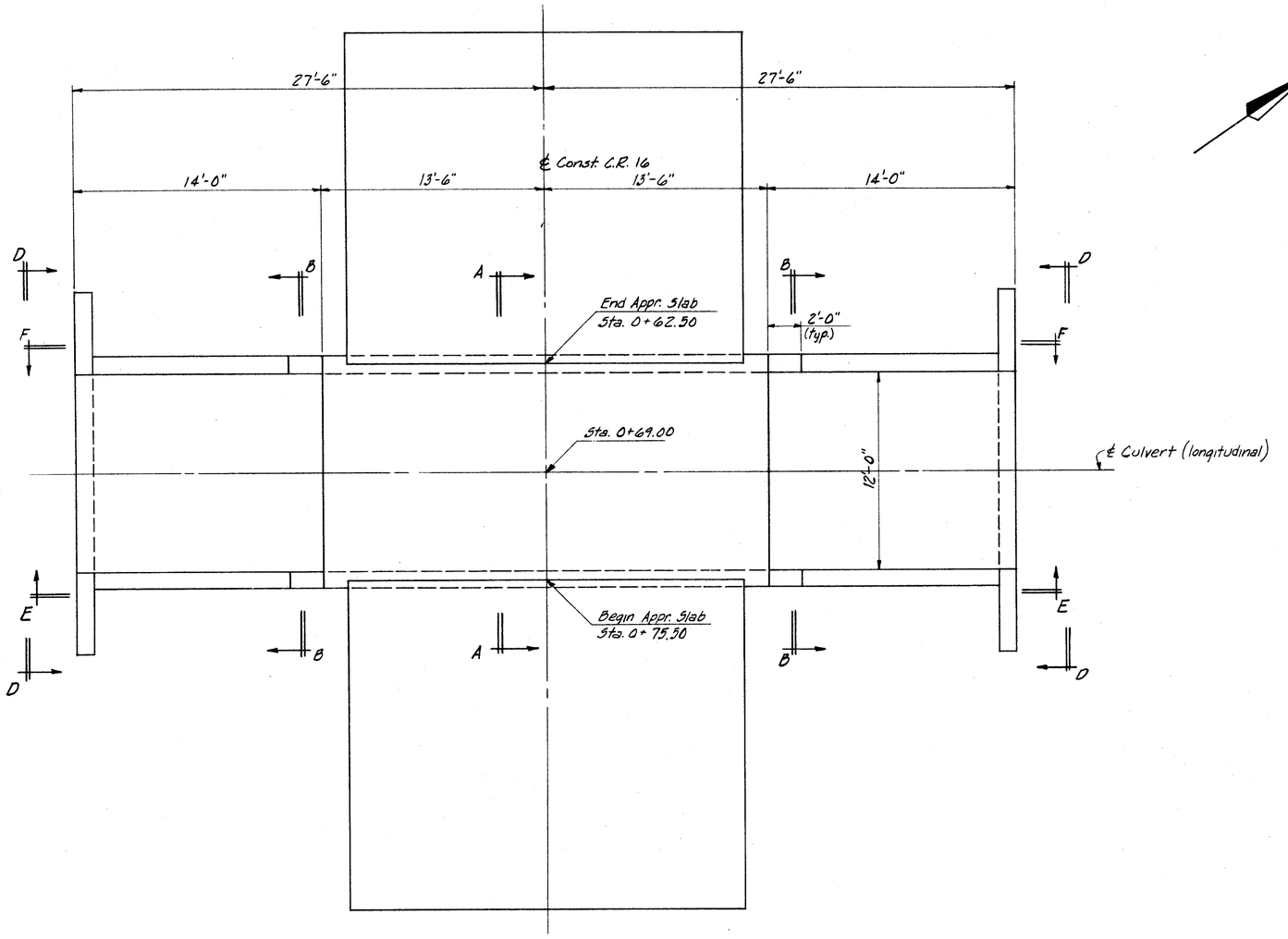
JEFFERSON COUNTY STA. 0+69.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		TLU	TLU	9.24.82	

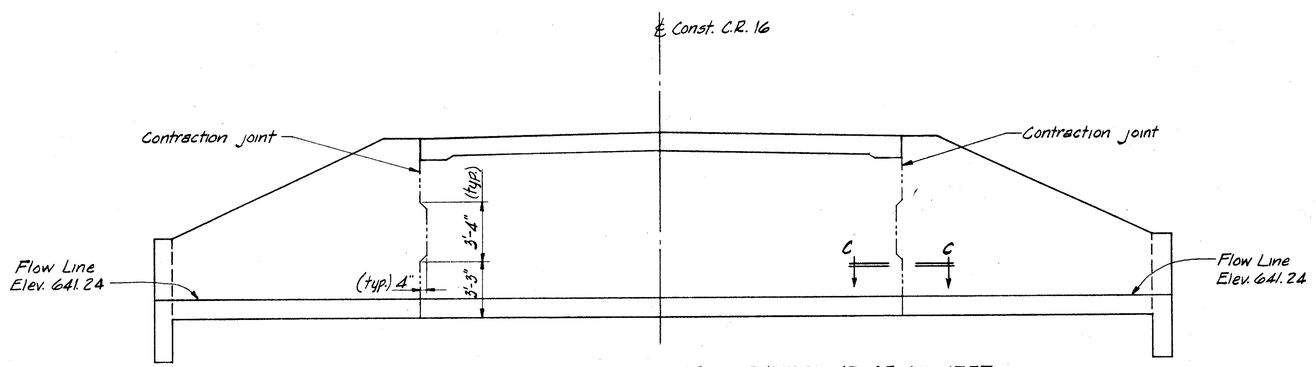
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

34/70

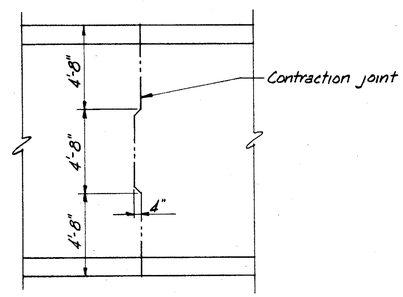
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85



GENERAL PLAN



ELEVATION - SECTION THRU CENTERLINE OF CULVERT



VIEW C-C

(Contraction joint at both ends of culvert barrel)

For Views and Sections see Sheet Nº 35 & 36.

All reinforcing steel shall have 2" cover except as noted.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

GENERAL PLAN & ELEVATION

STRUCTURE ON COUNTY ROAD 16
AT WARRENTON, OHIO (11R)

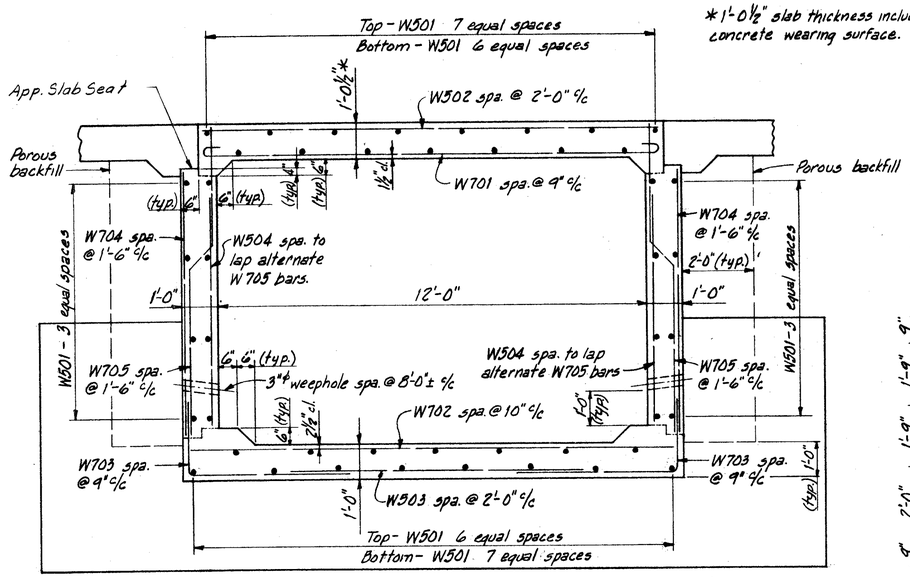
JEFFERSON COUNTY STA. 0+69.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		PM	TLJ	3-24-82	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

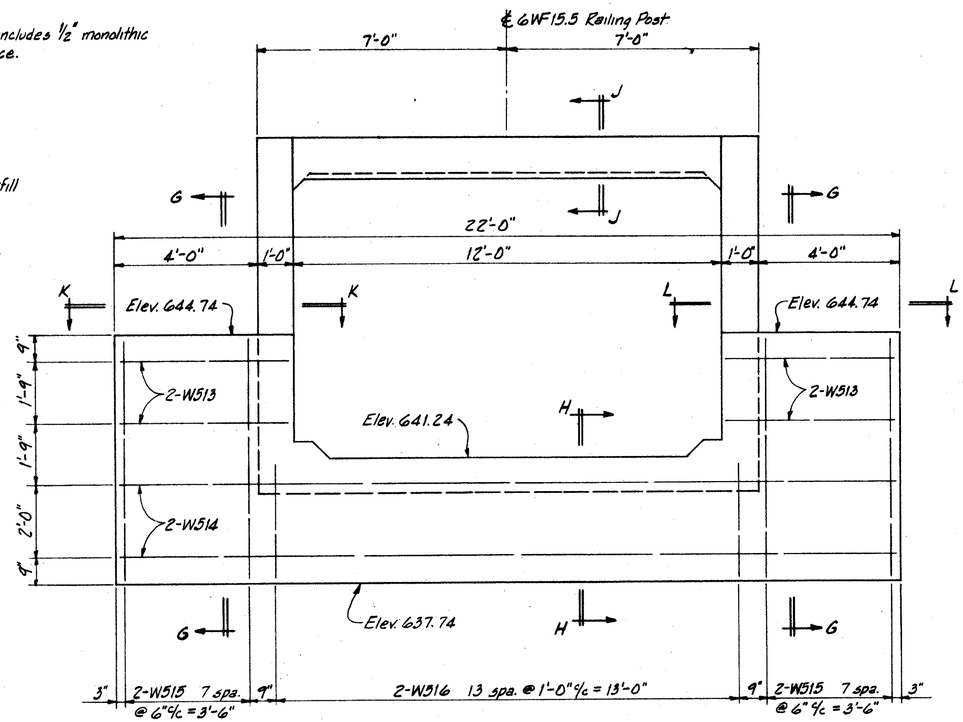
35
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

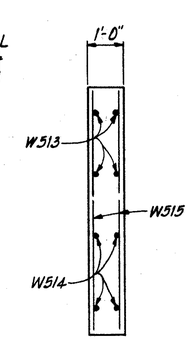


SECTION A-A

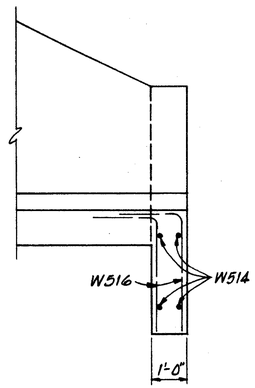
*1'-0½" slab thickness includes ½" monolithic concrete wearing surface.



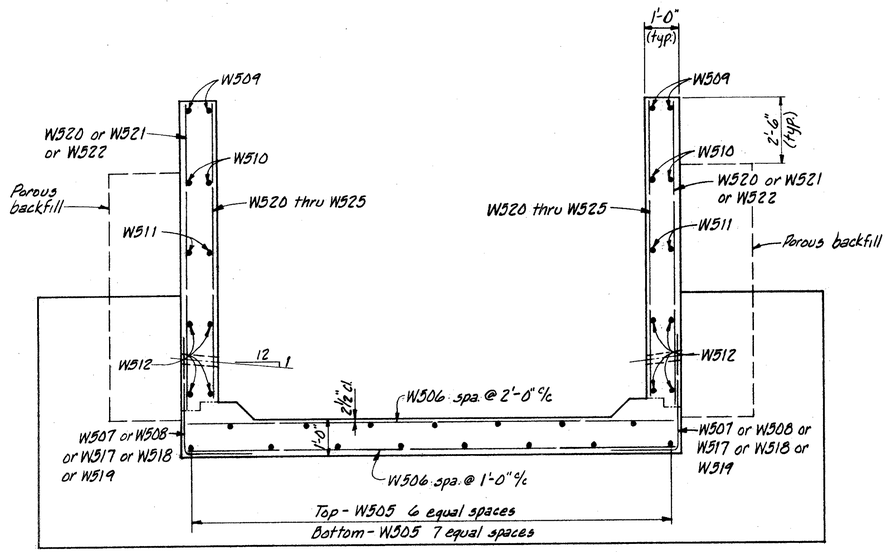
VIEW D-D
(Railing Post not shown)



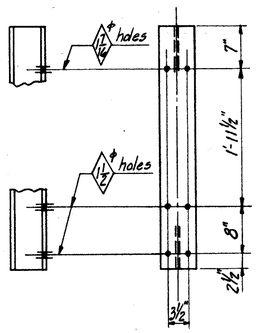
SECTION G-G



SECTION H-H

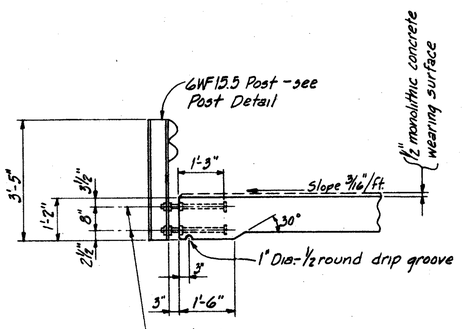


SECTION B-B



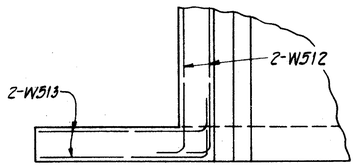
6WF15.5 Post galvanized as per Sec. M-7.4(d)

POST DETAIL



1¼ϕ x 1'-8" galvanized machine bolts with square heads. Thread 8" length and provide 3 galvanized hex nuts per bolt. Fasten bolts rigidly to form before placing concrete. Galvanizing of bolts shall be as provided in Sec. M-7.4(d).

SECTION J-J



SECTION K-K
(Section L-L similar)

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE ON COUNTY ROAD 16
AT WARRENTON, OHIO (11.12)

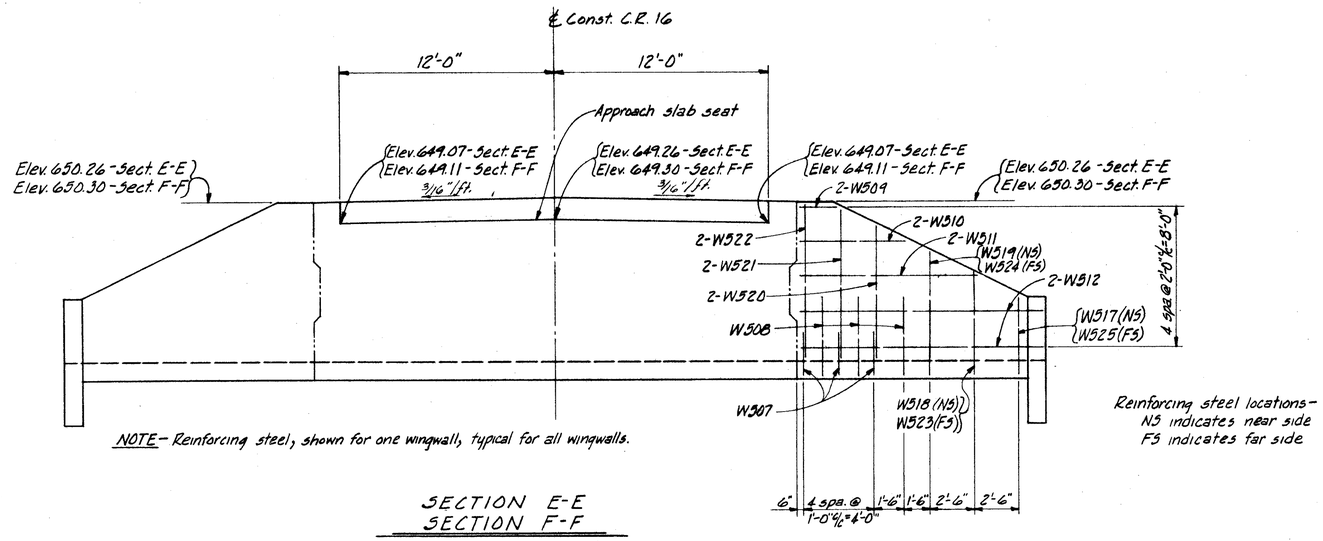
JEFFERSON COUNTY STA. 0+69+00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		PM	TLU	9-21-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

36
70

JEFFERSON COUNTY
JEF-7-(2.83)(4.85)(5.25)(10.28)
JEF-150-12.85



NOTE - Reinforcing steel, shown for one wingwall, typical for all wingwalls.

Reinforcing steel locations -
NS indicates near side
FS indicates far side

SECTION E-E
SECTION F-F

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE ON COUNTY ROAD 16
AT WARRENTON, OHIO (11R)
JEFFERSON COUNTY STA. 0+69.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		PM	TLU	9-24-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

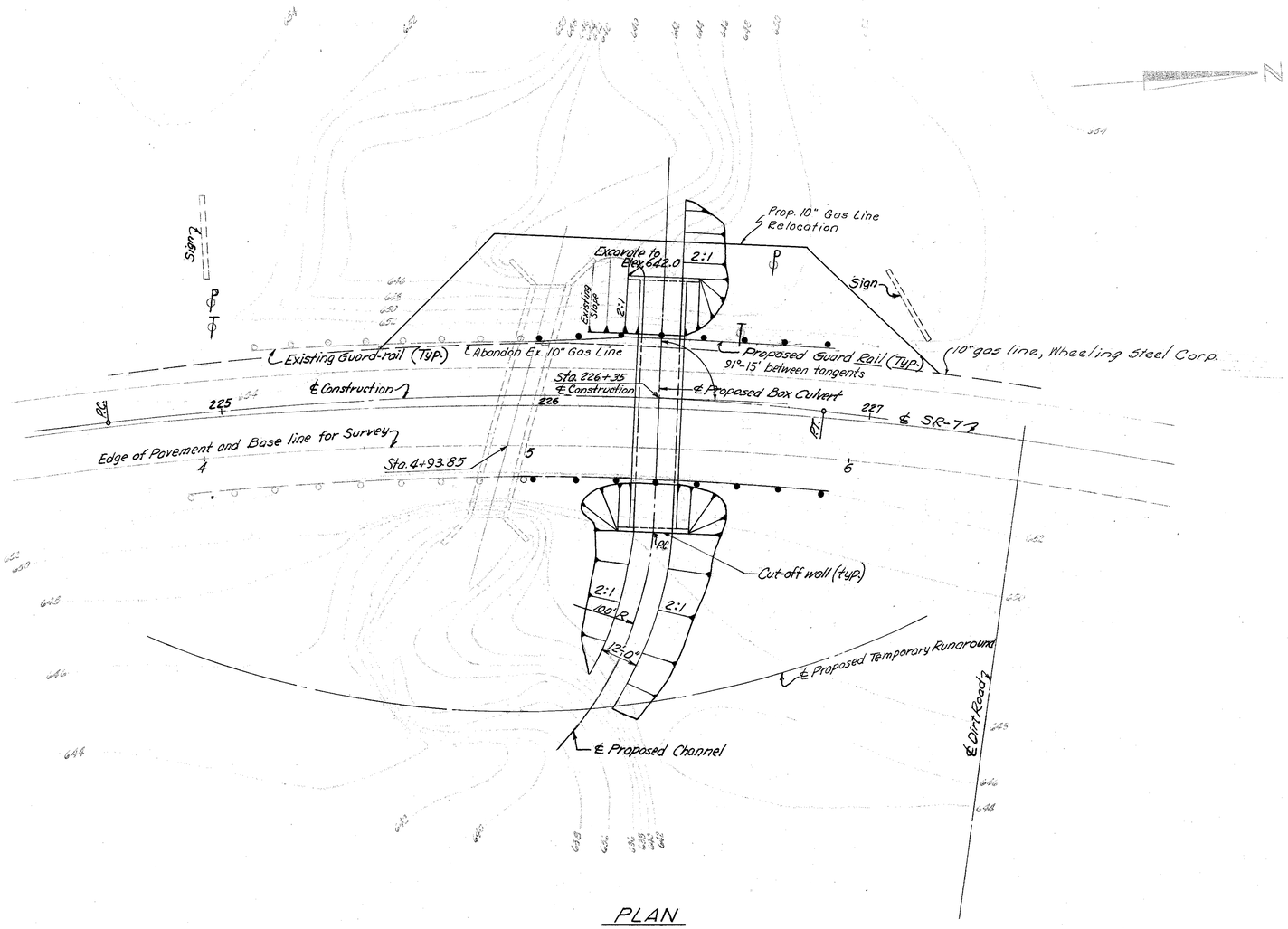
37
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

PROPOSED STRUCTURE

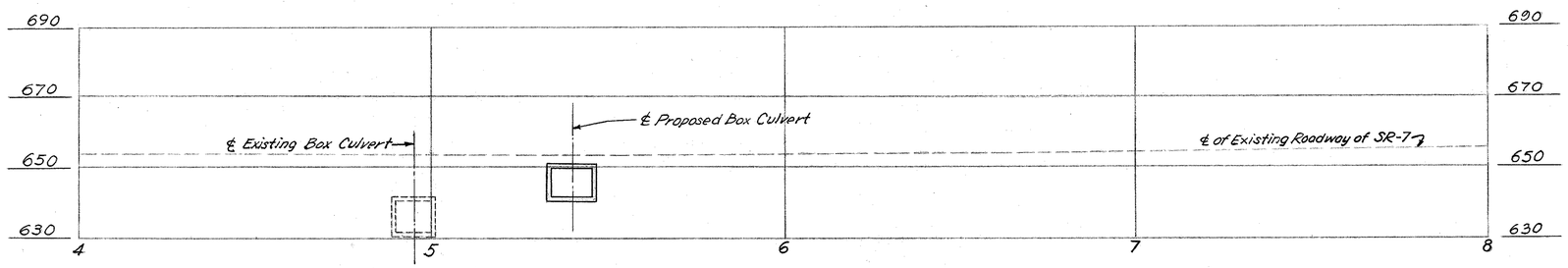
TYPE: Reinforced Concrete Box Culvert
SIZE: 12'-0" x 8'-0"
ALIGNMENT: $D_c = 7° \pm$
SKEW: None
LOAD: CF-400

DRAINAGE AREA = 530 Acres
OHIO RIVER POOL SLOPE ELEV. = 644.3
TRAFFIC: ADT (1961) = 4980
ADT (1981) = 9960



PLAN

EXISTING BOX CULVERT DATA
TYPE: Reinforced Concrete Box Culvert
SIZE: 10'-0" x 10'-0"
ALIGNMENT: $D_c = 7 \pm$
SKEW: 14° ± Lt. Forward
CONDITION: Fair
(to remain in place)



PROFILE
Along ℄ SR-7

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

SITE PLAN

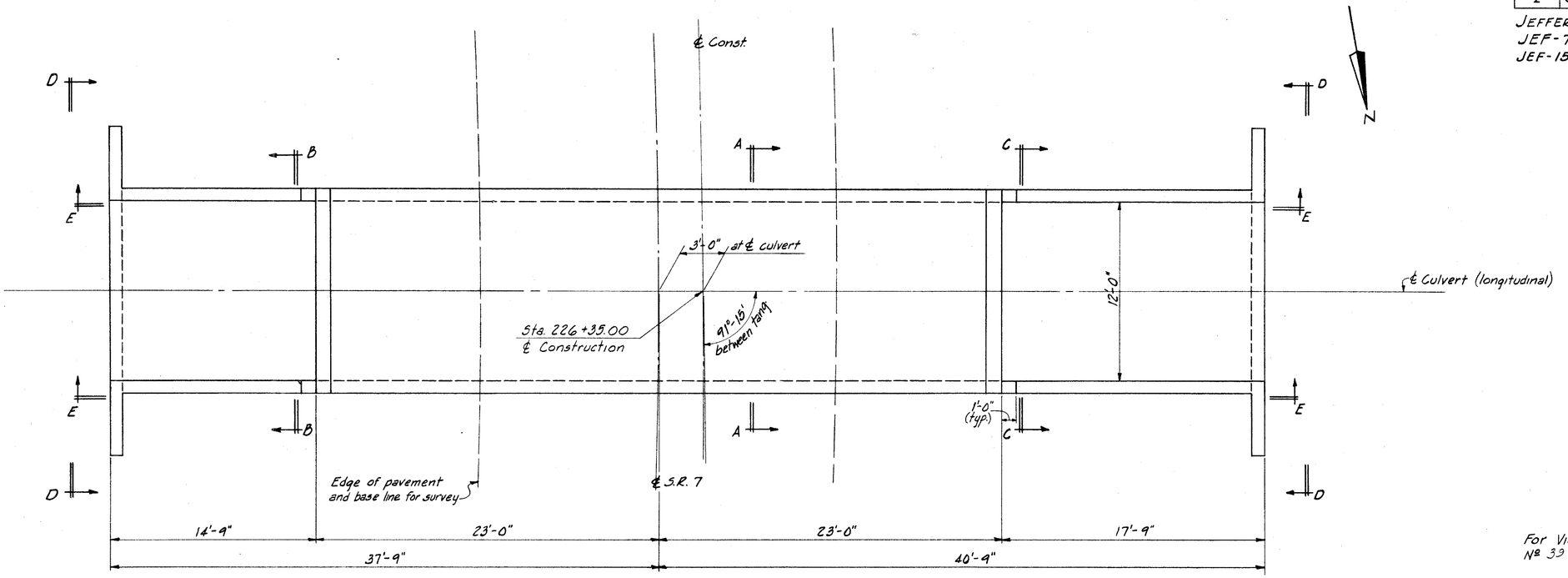
STRUCTURE NO. JEF-7-0485
At Shannon Run (17R)
JEFFERSON CO. Sta. 226+35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	R.T.		TLU	TLU	9-24-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

38
70

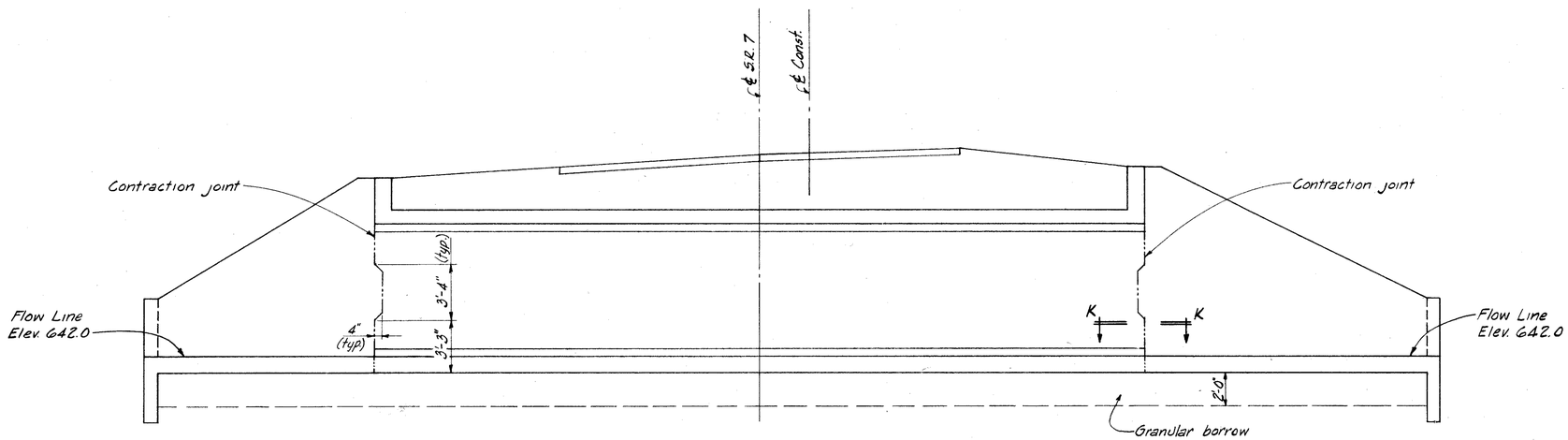
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85



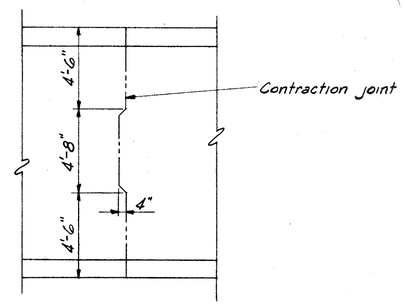
GENERAL PLAN

For Views and Sections see sheet Nº 39 & 40

All reinforcing steel shall have 2" cover except as noted.



ELEVATION-SECTION THRU CENTERLINE OF CULVERT



VIEW K-K

(Contraction joint at both ends of culvert barrel)

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

GENERAL PLAN & ELEVATION
STRUCTURE Nº JEF-7-0485
AT SHANNON RUN (17R)

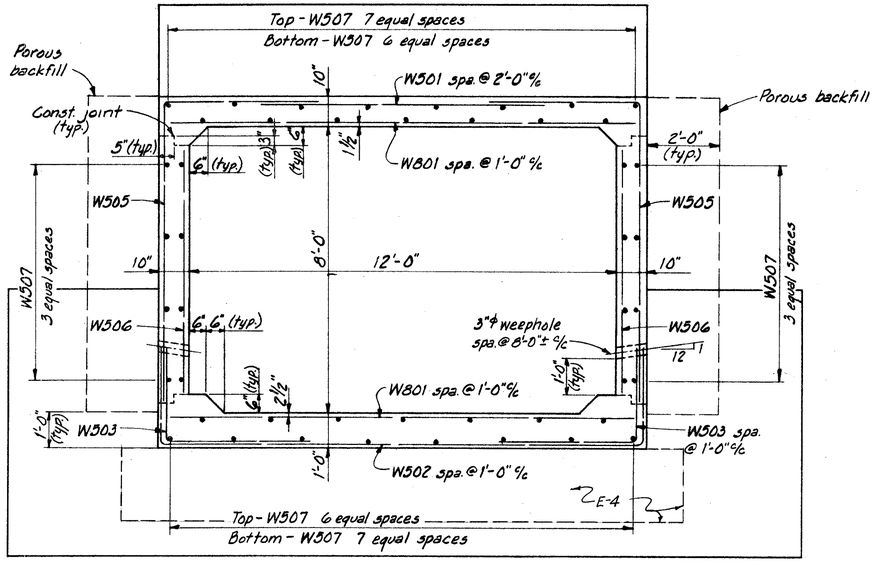
JEFFERSON COUNTY STA. 226+35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.M.	HT		FWA	TLU	3-24-62	

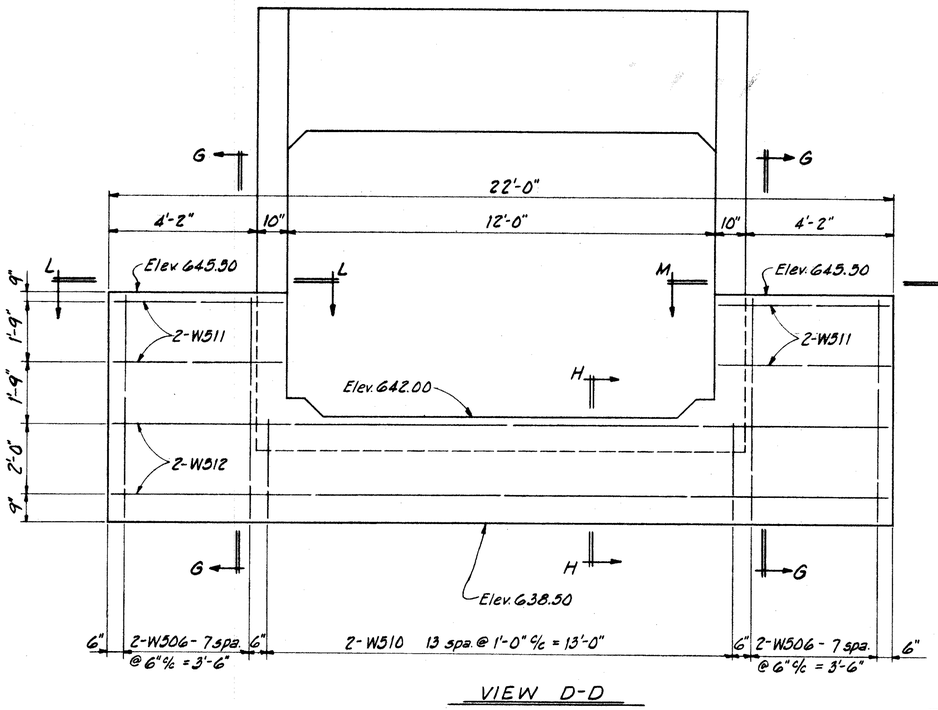
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

39
70

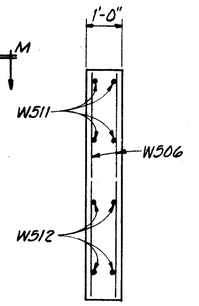
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.23)(10.28)
JEF-150-12.85



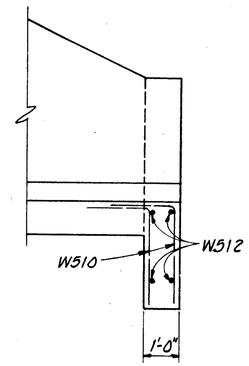
SECTION A-A



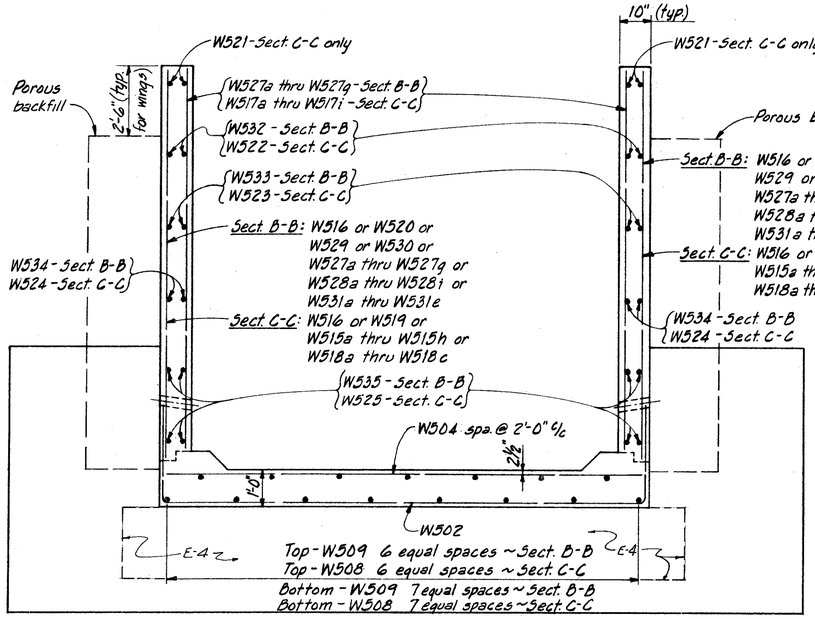
VIEW D-D



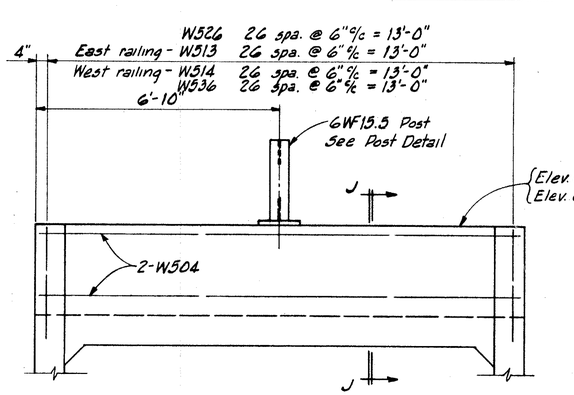
SECTION G-G



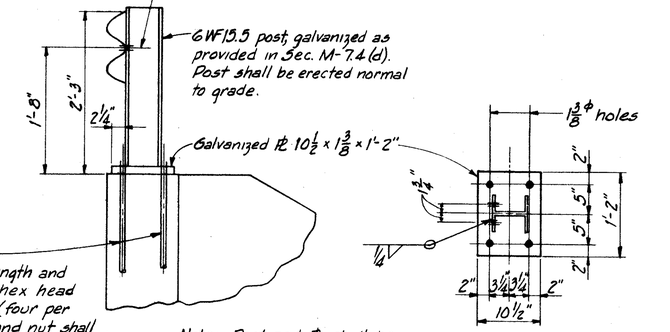
SECTION H-H



SECTION B-B
SECTION C-C

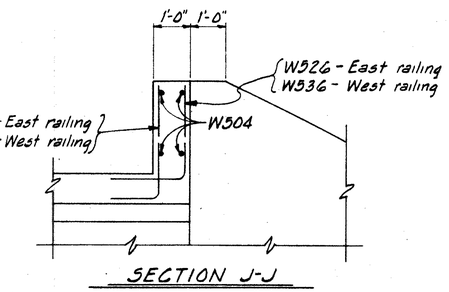


RAILING DETAIL

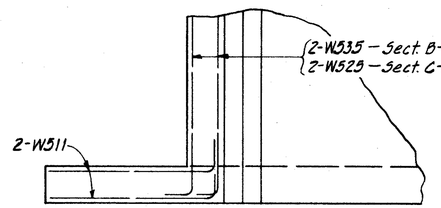


Note - Post and PL shall be galvanized after welding.

POST DETAIL



SECTION J-J



SECTION L-L
(Section M-M similar)

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE NO JEF-7-0485
AT SHANNON RUN (17R)

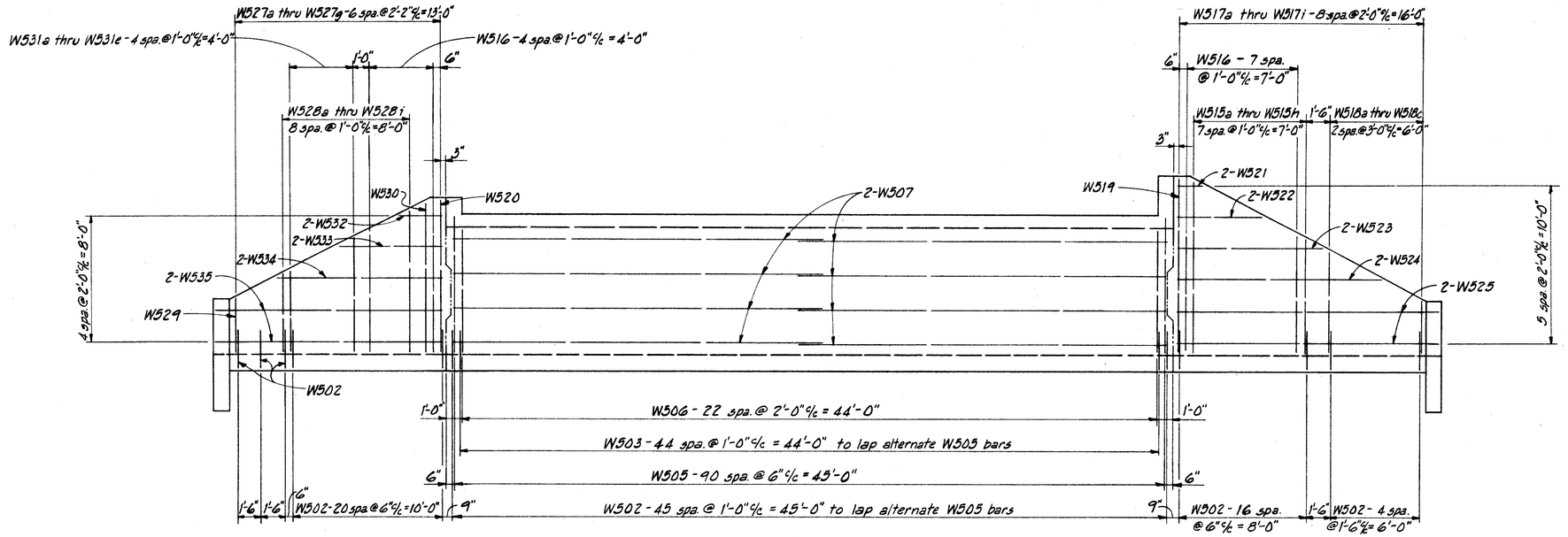
JEFFERSON COUNTY STA. 226+35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.M.	HT		fwd	TZU	9-24-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

40
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.23)(10.28)
JEF-150-12.85



SECTION E-E

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE Nº JEF-7-0485
AT SHANNON RUN (17R)

JEFFERSON COUNTY STA. 226+35

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.M.	HT		FWD	TLU	3-21-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

41
70

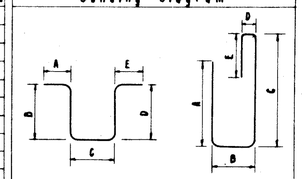
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85

REINFORCING STEEL LIST

Mark	No	Length	Weight	Type	"A"	"B"	"C"	"D"	"E"	Shape
		STRUCTURE No JEF-7-0285								
W501	23	8'-0	192							st.
W502	92	18'-5	1767	1		2'-8	13'-4	2'-8		bt.
W503	90	6'-6	610	1		2'-8	4'-0			bt.
W504	28	13'-4	389							st.
W505	182	12'-6	2373	1		4'-3	8'-5			bt.
W506	110	6'-10	784							st.
W507	92	23'-4	2239							st.
W508	15	20'-5	319							st.
W509	15	15'-8	245							st.
W510	56	4'-6	263	1		1'-7	3'-1			bt.
W511	16	6'-1	102	1		1'-7	4'-8			bt.
W512	8	21'-8	181							st.
W513	27	5'-11	167	1		1'-7	4'-6			bt.
W514	27	3'-8	103	1		1'-7	2'-3			bt.
W515a	2	12'-0								st.
thru		vary 6" by	171							
W515h	2	8'-6								st.
W516	30	7'-3	227							st.
W517a	2	12'-0								st.
thru		vary 1'-2" by	138							
W517i	2	2'-8								st.
W518a	2	7'-4								st.
thru		vary 1'-6" by	42							
W518d	2	2'-10								st.
W519	2	12'-3	26							st.
W520	2	10'-0	21							st.
W521	4	3'-6	15							st.
W522	4	7'-6	31							st.
W523	4	11'-6	48							st.
W524	4	15'-6	65							st.
W525	8	21'-10	182	1		1'-7	20'-5			bt.
W526	27	6'-3	176	1		2'-5	4'-0			bt.
W527a	2	2'-3								st.
thru		vary 3" by	88							
W527g	2	9'-9								st.
W528a	2	6'-9								st.
thru		vary 6" by	120							
W528g	2	9'-9								st.
W531a	2	2'-9								st.
thru		vary 9" by	44							
W531e	2	5'-9								st.
W532	2	3'-0	6							st.
W533	2	7'-0	15							st.
W534	2	11'-0	23							st.
W535	8	17'-1	143	1		1'-7	15'-8			bt.
W536	27	4'-0	113	1		2'-5	1'-9			bt.
W801	92	13'-4	3275							st.
		STRUCTURE No JEF-7-0485								
W501	23	8'-0	192							st.
W502	92	18'-5	1767	1		2'-8	13'-4	2'-8		bt.
W503	90	6'-6	610	1		2'-8	4'-0			bt.
W504	26	13'-4	362							st.
W505	182	12'-6	2373	1		4'-3	8'-5			bt.
W506	110	6'-10	784							st.
W507	92	23'-4	2239							st.
W508	15	17'-4	271							st.
W509	15	14'-4	224							st.
W510	56	4'-6	263	1		1'-7	3'-1			bt.
W511	16	6'-1	102	1		1'-7	4'-8			bt.
W512	8	21'-8	181							st.
W513	27	2'-11	82	1		1'-7	1'-6			bt.
W514	27	4'-5	124	1		1'-7	3'-0			bt.
W515a	2	10'-9								st.
thru		vary 6" by	150							
W515h	2	7'-3								st.
W516	26	7'-3	197							st.

Mark	No	Length	Weight	Type	"A"	"B"	"C"	"D"	"E"	Shape
		STRUCTURE No JEF-7-0485 (cont.)								
W517a	2	10'-6								st.
thru		vary 11" by	128							
W517i	2	3'-2								st.
W518a	2	6'-4								st.
thru		vary 1'-6" by	30							
W518c	2	3'-4								st.
W519	2	10'-9	22							st.
W520	2	9'-3	19							st.
W521	4	1'-8	7							st.
W522	4	5'-6	23							st.
W523	4	9'-8	40							st.
W524	4	13'-6	56							st.
W525	8	18'-10	157	1		1'-7	17'-5			bt.
W526	27	3'-3	92	1		2'-5	1'-0			bt.
W527a	2	3'-2								st.
thru		vary 1" by	90							
W527g	2	9'-2								st.
W528a	2	4'-9								st.
thru		vary 6" by	127							
W528i	2	8'-9								st.
W529	2	3'-0	6							st.
W530	2	9'-3	19							st.
W531a	2	5'-0								st.
thru		vary 6" by	63							
W531e	2	7'-0								st.
W532	4	2'-9	11							st.
W533	4	6'-6	27							st.
W534	4	10'-6	44							st.
W535	8	15'-10	132	1		1'-7	14'-5			bt.
W536	27	4'-9	134	1		2'-5	2'-6			bt.
W801	92	13'-4	3275							st.
		STRUCTURE ON COUNTY ROAD 16								
W501	46	26'-0	1247							st.
W502	14	12'-8	185							st.
W503	14	7'-10	114							st.
W504	18	6'-6	122							st.
W505	30	13'-4	417							st.
W506	46	13'-6	648							st.
W507	12	4'-1	51	1		1'-7	2'-8			bt.
W508	12	5'-9	72	1		1'-7	4'-4			bt.
W509	8	1'-10	15							st.
W510	8	5'-10	49							st.
W511	8	9'-10	82							st.
W512	16	14'-11	249	1		1'-7	13'-6			bt.
W513	16	6'-1	102	1		1'-7	4'-8			bt.
W514	8	21'-8	181							st.
W515	64	6'-6	434							st.
W516	56	4'-6	263	1		1'-7	3'-1			bt.
W517	4	5'-8	24	1		1'-7	4'-3			bt.
W518	4	7'-2	30	1		1'-7	5'-9			bt.
W519	4	8'-2	34	1		1'-7	6'-9			bt.
W520	8	7'-0	58							st.
W521	8	7'-4	61							st.
W522	8	8'-6	71							st.
W523	4	4'-0	17							st.
W524	4	5'-3	22							st.
W525	4	2'-9	11							st.
W701	35	14'-4	1025	3	12'-8					bt.
W702	32	13'-6	883							st.
W703	70	7'-7	1085	1		3'-3	4'-6			bt.
W704	36	7'-3	533							st.
W705	34	8'-8	602	10	4'-6	0'-8	3'-5	0'-8		bt.
		REPLACEMENT STEEL								
RE501	2	5'-7								st.
RE701	1	6'-2								st.
RE801	1	6'-6								st.

Bending Diagram



NOTE:
In the reinforcing steel bar marks, the first digit where three digits are used and the first two where four are used is the bar number which indicates the size of the bar.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	0285	0485	C.R.16
E-2	Lump	Sum	Cofferdams, Cribs and Sheeting	Lump	Lump	Lump
E-2	1505	Cu.Yds.	Structure Excavation	553	644	308
E-3	269	Cu.Yds.	Channel Excavation	15	254	
E-4	89	Cu.Yds.	Granular Borrow		89	
S-1	303	Cu.Yds.	Class "C" Concrete	114	114	75
S-4	37,813	Lbs.	Reinforcing Steel	14,703	14,423	8687
S-29	201	Cu.Yds.	Porous Backfill	76	72	53

Totals to General Summary

GENERAL NOTES

Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.

These structures conform to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with revisions thereof, dated 2-21-58.

Traffic Maintenance: For traffic maintenance details see Roadway Plans.

Granular Borrow: The material for this Item shall meet the requirements of I-22.02 and shall be compacted according to Item E-1.08.

Excavation Quantity: Excavation quantity for Structure No JEF-7-0485 includes the removal of material to the bottom of the Granular Borrow.

Porous Backfill: Excavation in excess of that required for the construction of the culverts, due to porous backfill, shall be considered as paid for in the price per cubic yard paid for porous backfill.

Existing Structures: The existing structures shall remain in place.

REPLACEMENT BARS
IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SEC. S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

REINFORCING STEEL LIST & ESTIMATED QUANTITIES
STRUCTURE No JEF-7-0285
STRUCTURE No JEF-7-0485
STRUCTURE ON COUNTY ROAD 16
JEFFERSON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
P.M.	HT		fwd	TLJ	3-24-62	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEFFERSON COUNTY
JEF~7~(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85
TARRS RUN

Note: Approach Slabs for proposed box culvert are to meet existing pav't. at grade with no additional pav't work being required.

Note: E-3 Channel Excavation at culvert entrance to be used to fill ex. channel where required. See Sheet Nº 48 for quantity.

3-R S-24 Remove cross hatched portion of Ex. Timber & Conc. Wall as shown. E-12 Remove 13L.F. ex.24" C.M.P. flush with inside face of prop. culvert wingwall.

2-D I-10 95S.Y. Riprap using 6" Reinf. Conc. Slab to be constructed to 4' vertical height above ℄ of ditch.

2-R E-8 149S.Y. Removal & Disposal of Existing Pavement.

6-R 101+73, 21'Rt. to 101+85, 30' Lt. Culvert ℄. E-8 52 L.F. Removal & Disposal of Existing Curb.

Existing box culvert to be blocked with poured conc. wall. Wingwalls & railing to be removed. (See Sht. Nºs 46&48 for details & quantities.)

1-P I-7 T=9" 93 S.Y. I-22 5" Thickness 14 C.Y.

1-R E-8 14 S.Y. Removal & Disposal of Ex. Pav't.

1-D 102+21 ℄ Culvert, 87' Rt. I-8 1~2-3 C.B. with no side inlets. Grate Elev. 649.72 ℄ 24" = 646.72 L-10: 4 S.Y. Sod.

76'~24" Class D-1 @ 0.4% Grade shoulder to proposed C.B. Cost included in price bid for Item E-1

14'-24" Class C-1 @ 0.2%

102+21 ℄ Culv., 8' Rt. 1-Special M.H. (Reinf. Conc.) 1-24" Flap Gate ℄ 24" 646.42 ℄ M.H. 645.42 (See Sht. Nºs 47&48 for details & quantities)

1-G I-15 62.5 L.F. Guard Rail. Special steel post as detailed on Sht. Nº 44 to be used on Structure. Cost to be included in unit price bid for Item I-15.

1-GL Prop. 10" Gas Line Reloc. (See Sht. Nº 64)

Crosshatched portion of existing wall to be removed.

⊛ Connect to existing box culvert. Payment for labor & materials necessary to make the connection shall be included in price bid per lin. ft. for 24" Class F-1 Pipe.

Gas line encased in 10" sleeve through culvert

Water line encased in 15" sleeve through culvert

4-R Remove cross hatched portion of ex. stone retaining wall as shown under S-24

2-P T-70 8" Thickness 45 S.Y. I-22 5" Thickness 6 C.Y.

1-S E-2 2,948 sq. ft. steel sheet piling left in place (minimum section modulus of 2.4 in³ per ft. of wall)

3-D I-10 139 C.Y. Dumped Rock Channel Protection

4-D I-10 9 C.Y. Dumped Rock Channel Protection 30" Thickness

I-1 38'-15" Class A-1 M-6.4(d) @ 6.5%

5-R Existing 96" Culvert shall be sealed with bulkheads as shown and filled with sand between bulkheads

Ex. 1-2A C.B. (to remain in place) Ex. Grate - 655.81 Ex. ℄ = 647.8 Plug ex. 15" to south & connect prop. 15" to east.

2'x6" Cutoff Wall Cost to be included in unit price bid for Item I-10 Riprap.

P.O.T. 102+00 ℄ Survey

C.&N. 34.41' M.S. 102+00; 38.31'; + cut on ℄ conc. rail Ex. Box Culvert

P.O.T. 102+93 ℄ Survey

M.S. 102+93; 32.54'; 32.08'; 26.90'; + cut at base of circular pier; 3' + cut on conc. retaining wall.

P.O.T. 103+47.10 ℄ Survey = 543+05 ℄ S.R. 7

M.S. 103+47.10; 29.90'; 15.18'; 28.91'; + cut at base of circular pier; + cut at base of circular pier

EXISTING STRUCTURE DATA
(To Remain in Place)

Type: Concrete Box Culvert and Bituminous Coated 96" Sec. Plate Pipe

Span: 16'~0" (Conc. Box.)

Height: 6.5' to 11.5' (Conc. Box.)

Length: Concrete Box ~ 240'
96" Pipe ~ 238'

PROPOSED STRUCTURE DATA
STRUCTURE Nº JEF~7~1028
(Quantities carried to General Summary)

127 L.F. 120" Shop Bituminous Coated Sectional Plate Corrugated Metal Pipe 8~7 Gage.

136 L.F. ~ 126" Shop Bituminous Coated Tunnel Liner Plates. See Sheet 46

1~SP~53 Endwall using Class "E" Conc. ~9.2 C.Y.

BOX CULVERT
TYPE - Reinforced Concrete Box Culvert
SIZE - 10'-0" x 8'-0"
ALIGNMENT - Tangent
SKEW - Varies
LOADING - CF-30
APPROACH SLABS - 15'-0" long

D.A. = 870 Ac.
Q_{10} = 470 cfs.

E-1 Excavation	0	C.Y.
E-1 Embankment	0	C.Y.
L-9 Seeding	1,068	S.Y.

Totals to General Summary

DATUM: All elevations shown on this sheet are referenced to Corps of Engineers Datum.

EXISTING TYPICAL SECTIONS
Old S.R. 7 ~ Variable Pav't Width
3" Bit. Material on Conc. Base

Drive to Water Plant ~
10' to 12' Pav't Width
2" Bit. Material on 5" Slag Base

B.M. # 8 Elev. 654.77
□ Cut East End - North Abut. C&P. R.R. Underpass 113' Lt. Sta. 541+97 S.R. 7

B.M. # 9 Elev. 659.99
M.S. in Power Pole 5' Lt.
Sta. 104+29 ℄ Survey

ESTIMATED QUANTITIES

Ref. Nº	I-10	I-10	I-7	I-22	T-70	Special	E-8	E-8	S-24	I-15	I-1	I-1	I-8	Special	I-1	I-1	E-12	E-2
	Dumped Rock	Riprap as per plan	Approach Slab T=10"	5"	8"	10" Gas Line, as per plan.	Removal of Ex. Curb	Removal of ex. pav't.	Removal of ex. struct.	Std. 2-A	Steel Casing Pipe as per plan. 14"	Class A-1 M-6.4(d) 15"	Nº 2-3 C.B.	Fill & Plug Existing Pipe Culvert	Class C-1 24"	Class D-1 24"	Removal of ex. pipe 24"	Sheet Piling left in place
UNITS	C.Y.	S.Y.	S.Y.	C.Y.	S.Y.	L.F.	L.F.	S.Y.	Lump	L.F.	L.F.	L.F.	Ea.	L.F.	L.F.	L.F.	L.F.	S.F.
1-D													1		14	76		
2-D		95																
3-D	139																	
4-D	9											38						
1-S																		2948
1-R								14										
2-R								149										
3-R									Lump								13	
4-R									Lump									
5-R														67				
6-R							52											
1-GL						139					48							
1-G										62.5								
1-P			93	14														
2-P				6	45													
Totals	148	95	93	20	45	139	52	163	Lump	62.5	48	38	1	67	14	76	13	2948

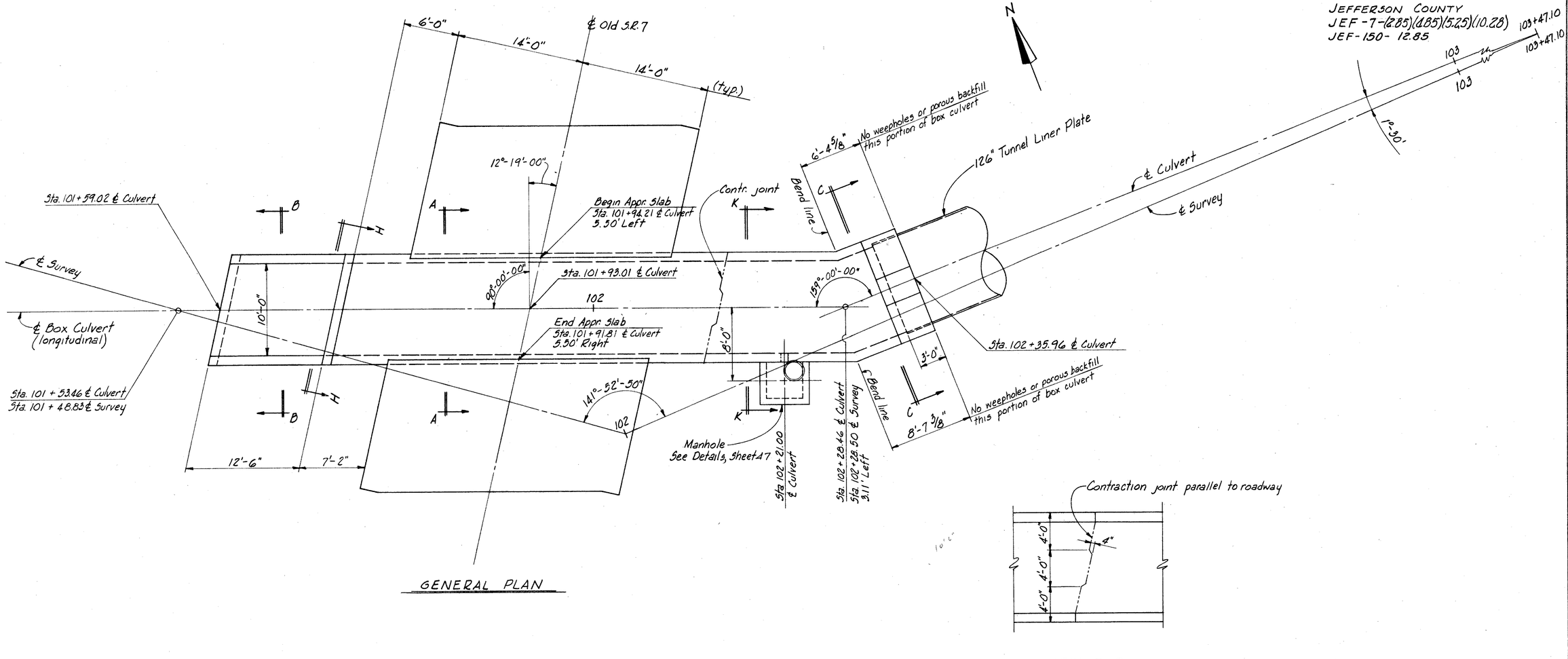
Totals carried to General Summary except Guard Rail carried to Sheet Nº 7.

TARRS RUN
STRUCTURE DETAILS

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

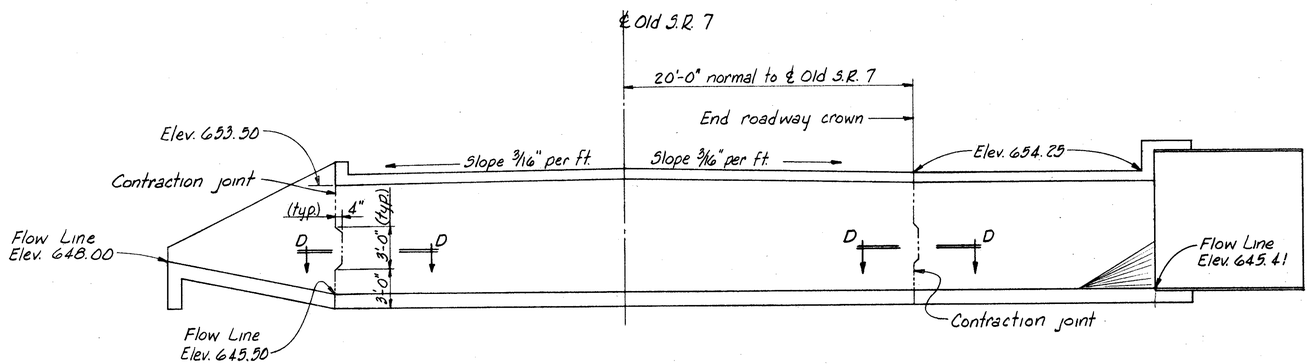
43
70

JEFFERSON COUNTY
JEF-7-(2.85)(1.85)(5.25)(10.28)
JEF-150-12.85



GENERAL PLAN

VIEW D-D



DEVELOPED SECTION THRU CENTERLINE OF CULVERT

For Views and Sections see Sheets Nº 44, 45, 46, & 47.

All reinforcing steel shall have 2" cover except as noted.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

GENERAL PLAN & ELEVATION

STRUCTURE ON OLD S.R. 7
AT TARRS RUN

JEFFERSON COUNTY STA. 101+93.01

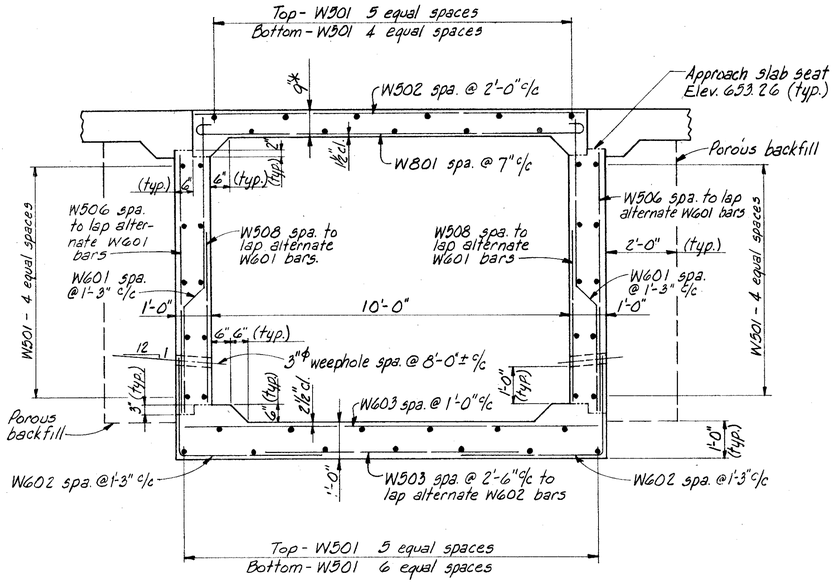
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		fwd	TLV	9-21-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

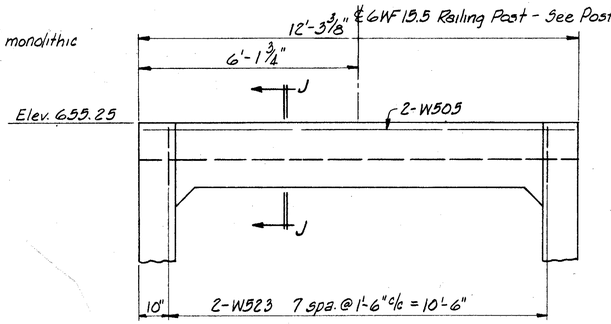
44
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

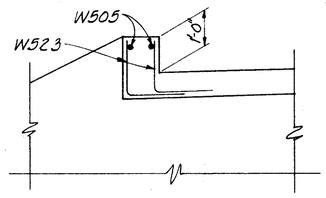
* 9" slab thickness includes ½" monolithic concrete wearing surface.



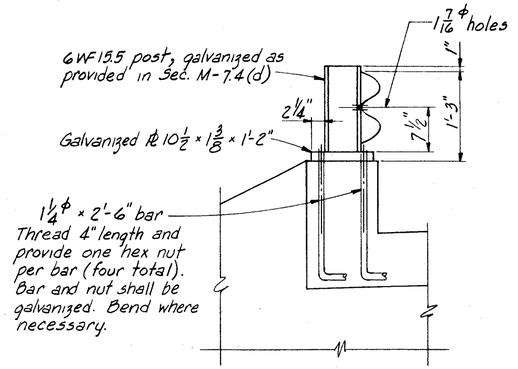
SECTION A-A

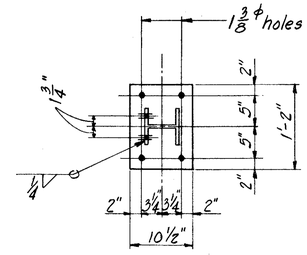


VIEW H-H



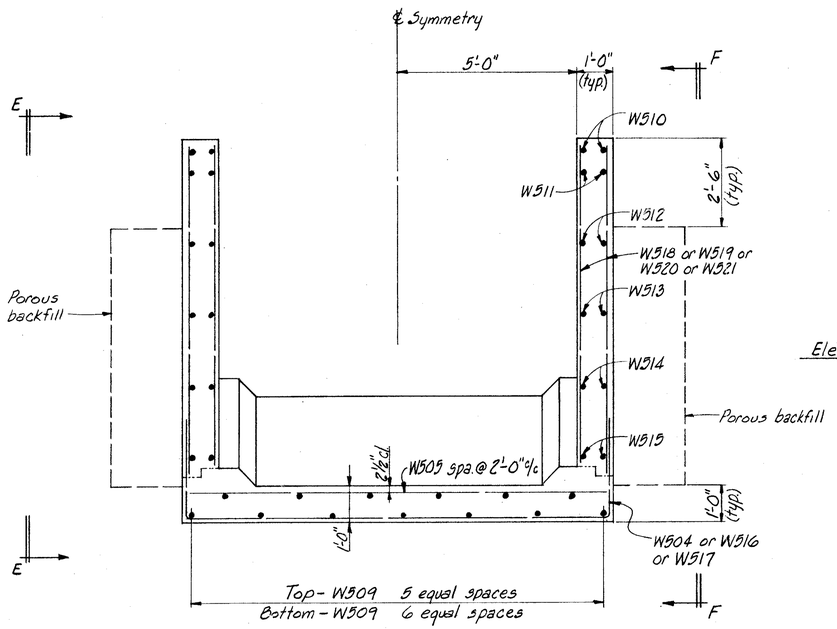
SECTION J-J



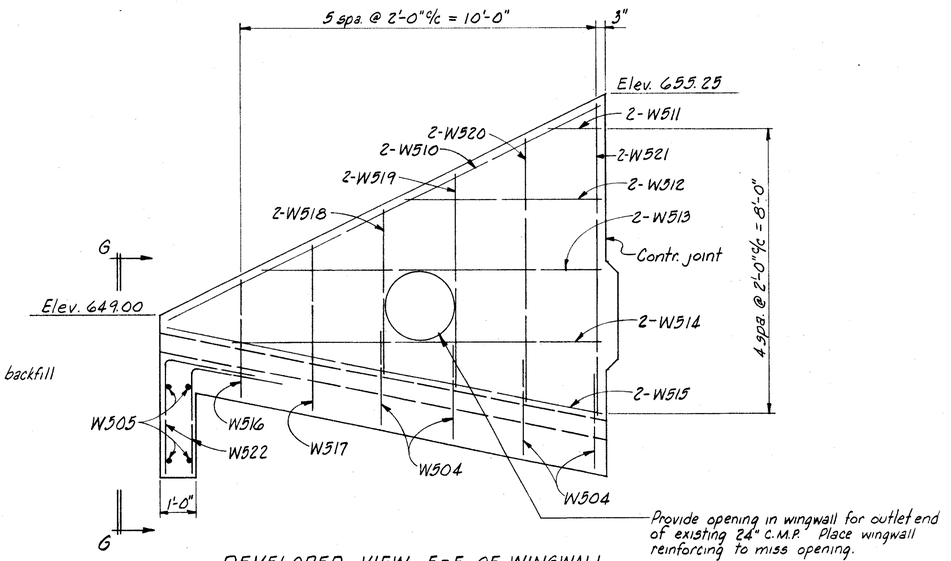


NOTE- Post and ∠ shall be galvanized after welding.

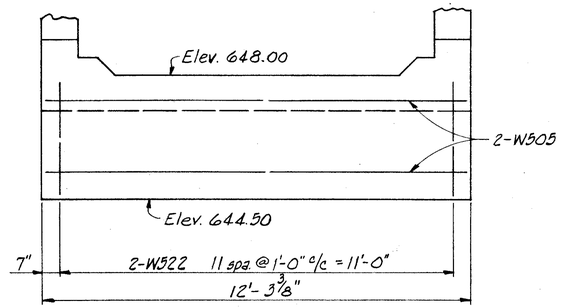
POST DETAIL



SECTION B-B



DEVELOPED VIEW E-E OF WINGWALL
(View F-F Similar)



VIEW G-G

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE ON OLD S.R. 7
AT TARRS RUN

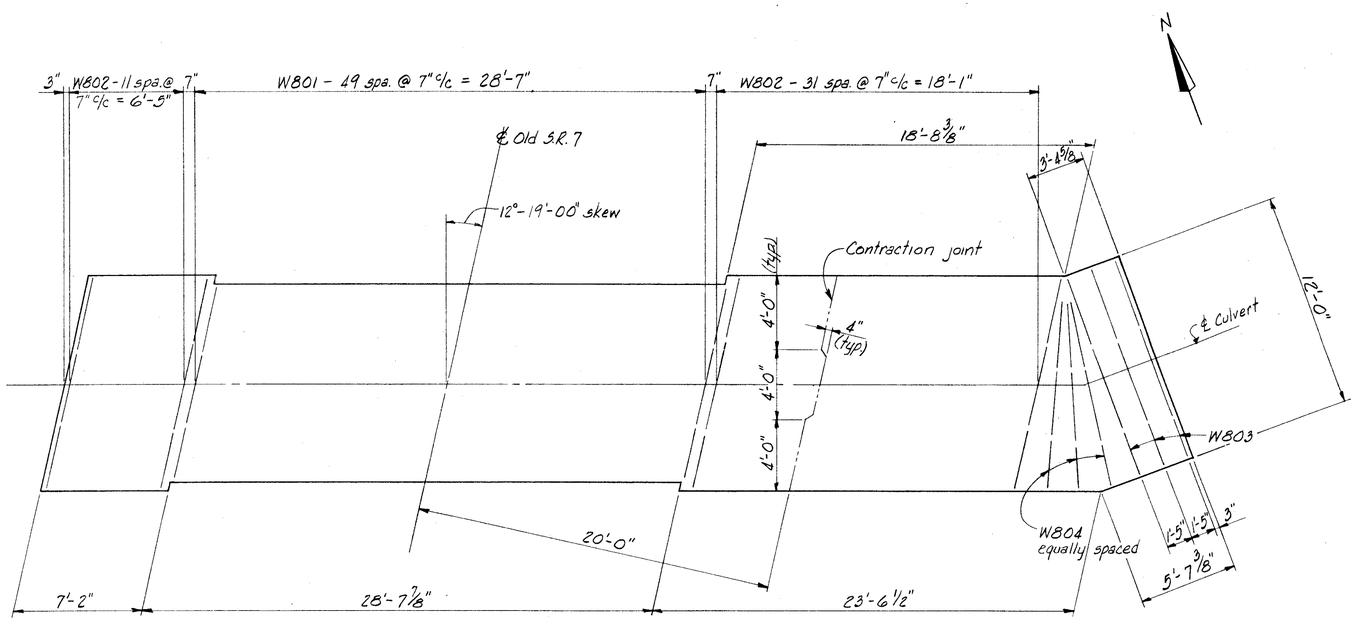
JEFFERSON COUNTY STA. 101+93.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		FWD	TLU	9-24-62	

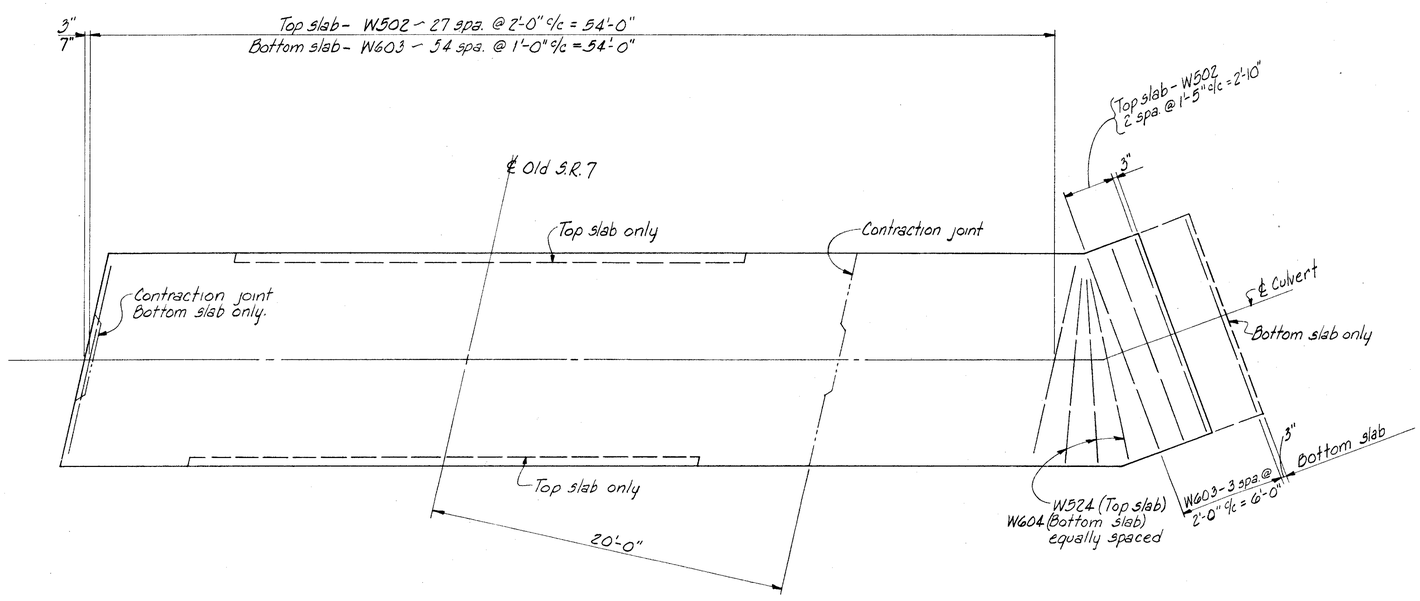
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

45/70

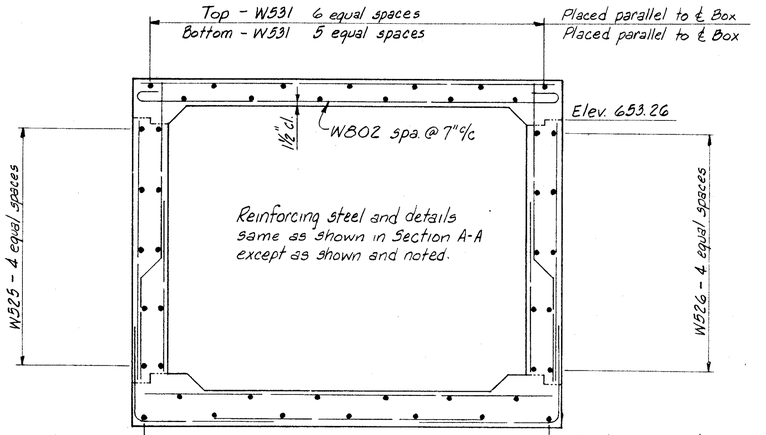
JEFFERSON COUNTY
JEF-7-(2.85)(.085)(5.25)(10.28)
JEF-150-12.85



PLACEMENT OF TRANSVERSE REINFORCING AT INSIDE FACE OF TOP SLAB



PLACEMENT OF W502, W603 & W604 BARS IN TOP AND BOTTOM SLABS



SECTION K-K

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE ON OLD S.R. 7
AT TARRS RUN

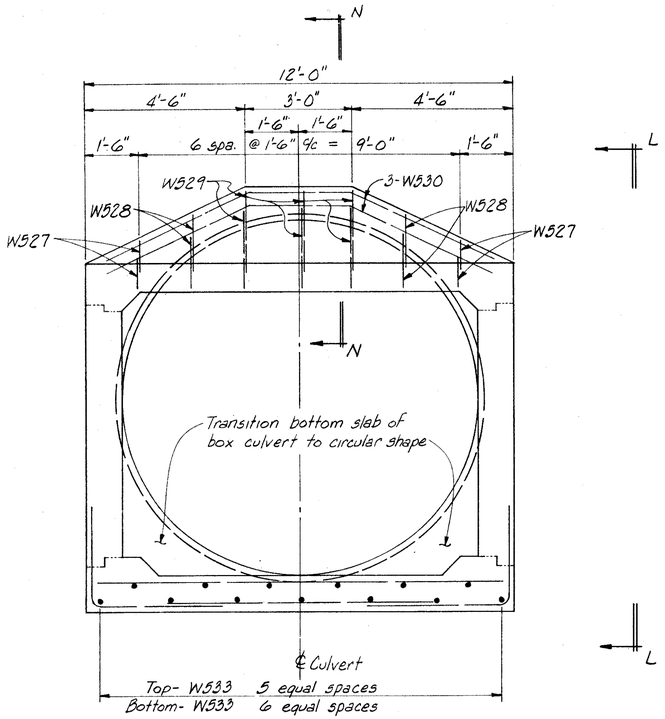
JEFFERSON COUNTY STA. 101+93.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		FWD	TLO	9-24-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

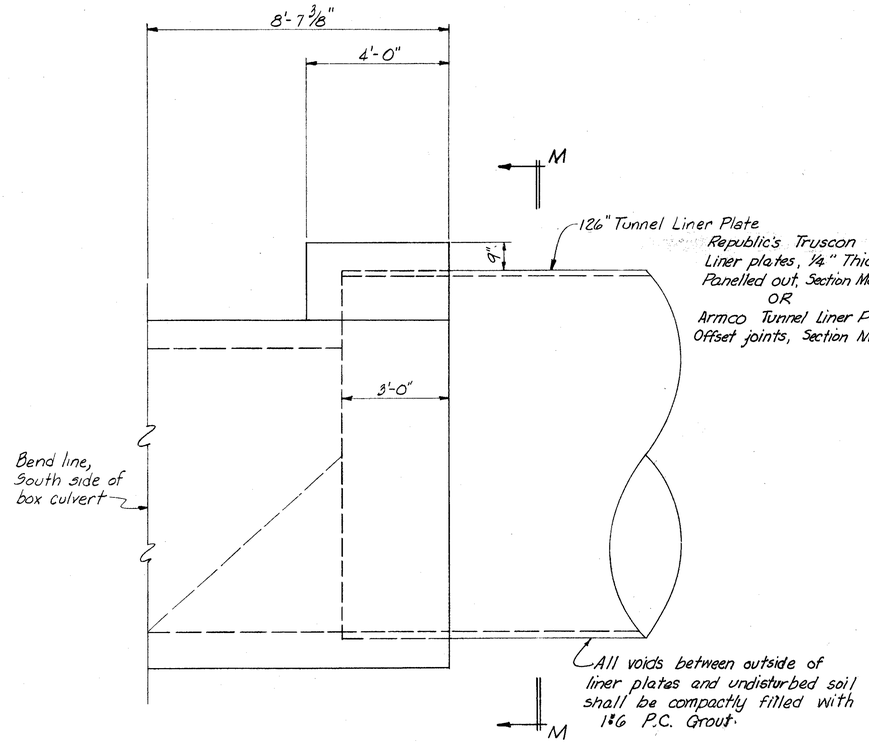
46/70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85

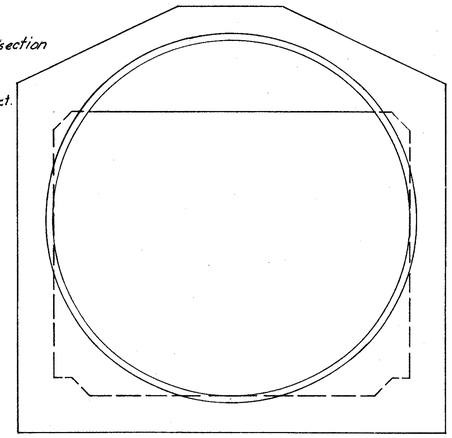


SECTION C-C

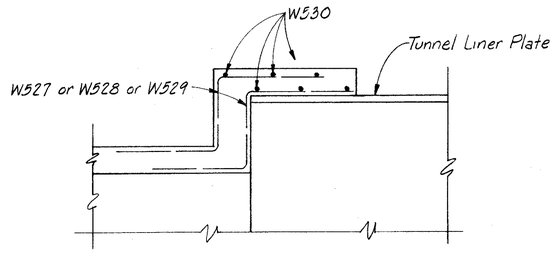
(For reinforcing steel in box not noted, see appropriate section.)



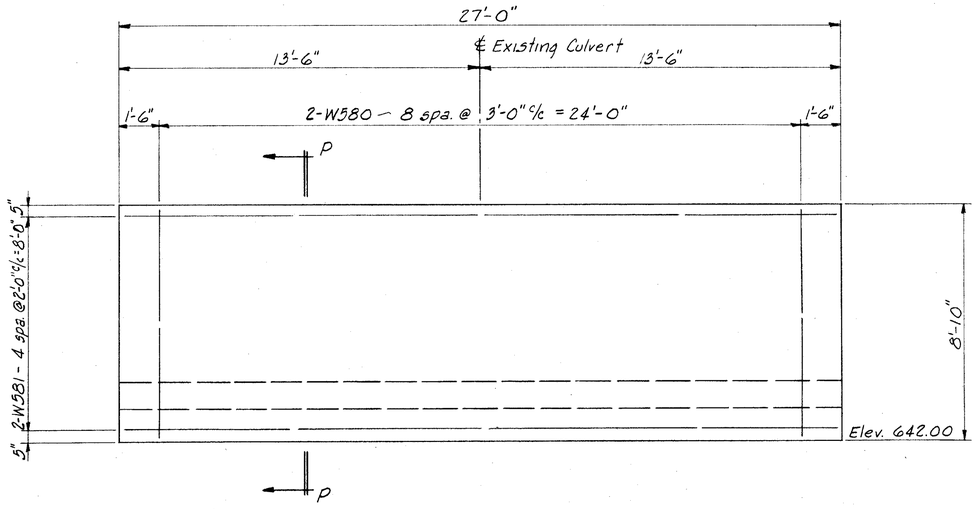
VIEW L-L



SECTION M-M

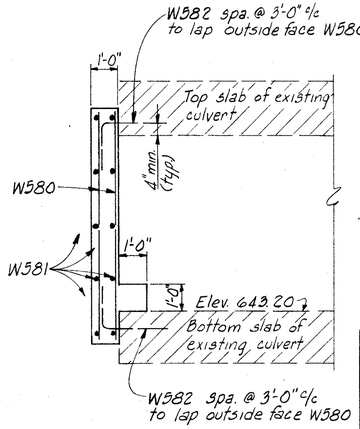


SECTION N-N



ELEVATION ~ RETAINING WALL AT ENTRANCE END OF EXISTING CULVERT

NOTE - To facilitate placing of retaining wall, the wingwalls at the entrance end of the existing culvert shall be removed as per Item 5-22. Also, concrete railing and pilasters on the existing culvert shall be removed flush with the top slab of the culvert.



SECTION P-P

NOTE - W582 bars shall be securely anchored in dowel holes drilled to a depth of 1'-9" into the existing culvert. Dowel holes shall meet the requirements of Item 3-23.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE ON OLD S.R. 7
AT TARRS RUN

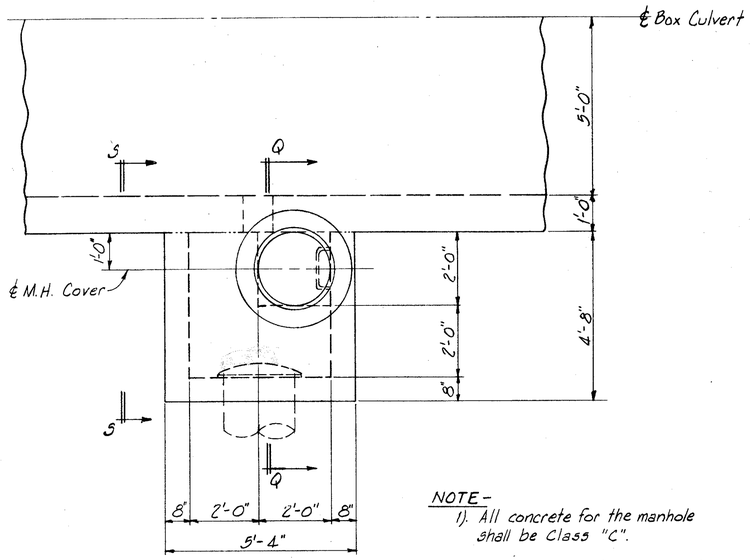
JEFFERSON COUNTY STA. 101+93.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		FWD	TLU	9-21-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

47
70

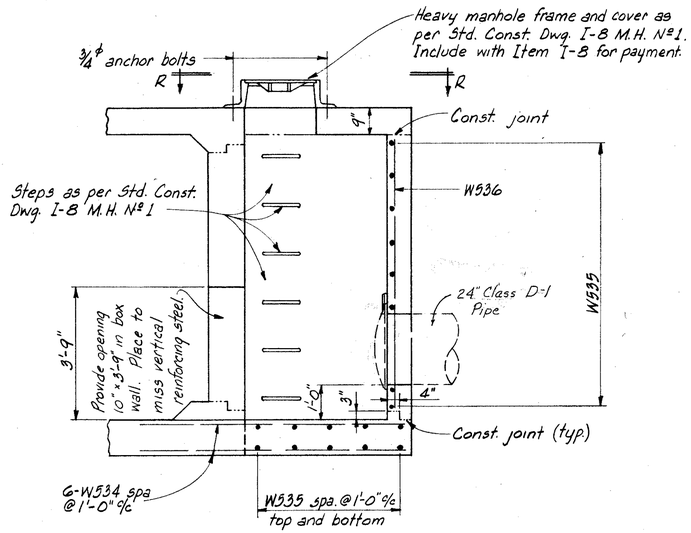
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85



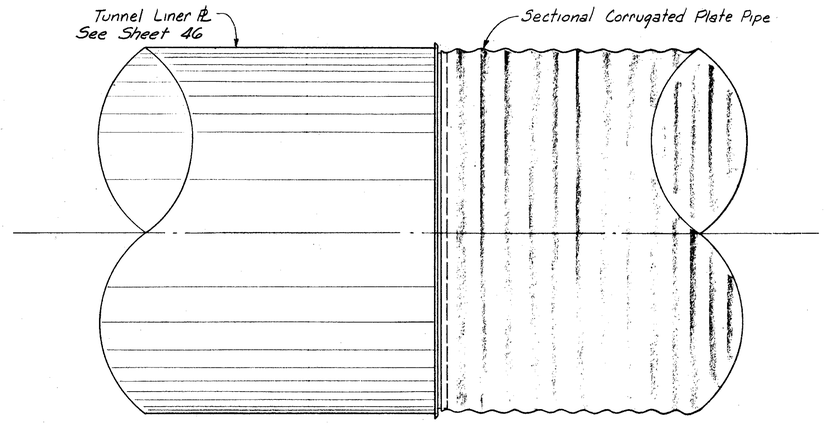
MANHOLE PLAN

NOTE-
1). All concrete for the manhole shall be Class "C".

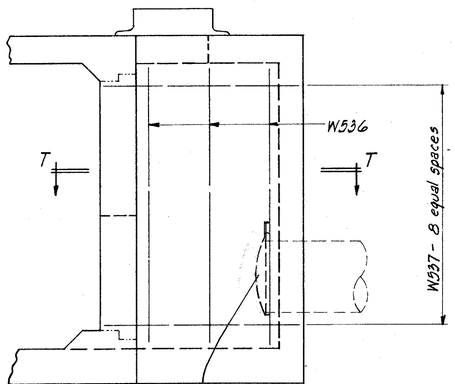
2). Bottom slab of manhole shall be poured integrally with the bottom slab of the box culvert. All manhole concrete shall be included with Item I-8 for payment.



SECTION Q-Q

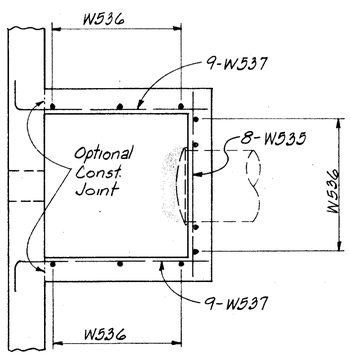


CONNECTION BETWEEN TUNNEL LINER PLATE AND SECTIONAL CORRUGATED PLATE PIPE

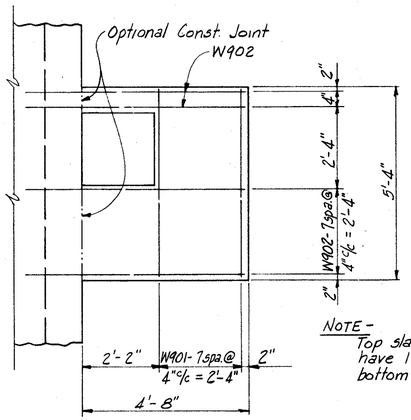


24" Flap Gate, Brown & Brown Type M-5 Class I, Armco Drainage & Metal Products Inc. Model 10C, or approved equal. Wall Mounted

VIEW S-S

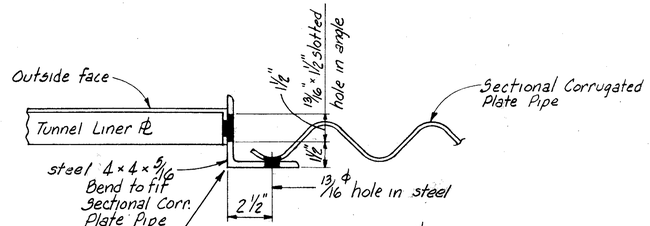


SECTION T-T



NOTE-
Top slab reinforcing to have 1½" cover from bottom face of slab.

VIEW R-R
(Manhole frame and cover not shown)



Class B welding of steel plates will be permitted. The completed connection shall be painted on the inside and outside with 2 coats of red lead paint, Sec. M-9.9, and 2 coats of graphite paint Sec. M-9.11

NOTE-
Bolt joint with ¾ ϕ galvanized bolts. Provide washers for bolts joining Tunnel Liner ℄ with pipe. Cost of connection is included with Tunnel Liner Plate for payment.

SECTION THROUGH JOINT

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

DETAILS

STRUCTURE ON OLD S.R. 7
AT TARRS RUN

JEFFERSON COUNTY STA. 101+93.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	HT		FWD	TLU	3-21-62	

FED. RD DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

48
70

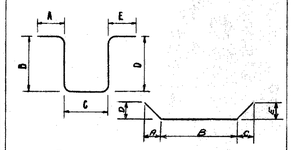
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

REINFORCING STEEL LIST

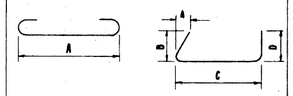
Mark	No	Length	Weight	Type	"A"	"B"	"C"	"D"	"E"	Shape
					BOX CULVERT					
W501	88	21'-8"	1989							st.
W502	31	10'-11"	353							st.
W503	27	6'-8"	188							st.
W504	4	17'-4"	72	9	2'-10"	11'-11"	2'-10"			bt.
W505	13	11'-11"	162							st.
W506	52	7'-4"	398							st.
W508	52	5'-0"	271							st.
W509	13	12'-4"	167							st.
W510	4	13'-6"	56							st.
W511	4	1'-5"	6							st.
W512	4	5'-4"	22							st.
W513	4	9'-6"	40							st.
W514	4	10'-3"	43							st.
W515	4	12'-4"	51							st.
W516	1	18'-2"	19	9	3'-3"	11'-11"	3'-3"			bt.
W517	1	20'-10"	22	9	4'-7"	11'-11"	4'-7"			bt.
W518	4	4'-7"	19							st.
W519	4	6'-0"	25							st.
W520	4	7'-5"	31							st.
W521	4	8'-10"	37							st.
W522	24	5'-1"	127	4	0'-5"	2'-3"	3'-0"			bt.
W523	16	3'-6"	58	1	2'-3"	1'-5"				bt.
W524	3	10'-6"	33							st.
W525	10	18'-3"	190	6	5'-9"	6'-2"	12'-3"			bt.
W526	10	25'-5"	265	6	7'-10"	8'-5"	17'-2"			bt.
W527	4	6'-8"	28	1	3'-0"	0'-11"	3'-0"			bt.
W528	4	7'-5"	31	1	3'-0"	1'-8"	3'-0"			bt.
W529	6	8'-0"	50	1	3'-0"	2'-3"	3'-0"			bt.
W530	6	12'-10"	80	2	4'-4"	3'-0"	4'-4"	2'-6"	2'-6"	bt.
W531	13	15'-6"	210							st.
W532	13	17'-0"	231							st.
W533	13	8'-6"	115							st.
W601	103	8'-5"	1302	7	3'-0"	4'-8"	0'-8"			bt.
W602	103	6'-8"	1031	1	4'-0"	2'-10"				bt.
W603	59	11'-11"	1056							st.
W604	3	10'-6"	47							st.
W801	50	13'-1"	1747	3	10'-11"					bt.
W802	44	14'-1"	1654	3	11'-11"					bt.
W803	3	13'-10"	111	3	11'-8"					bt.
W804	3	11'-7"	93	5	10'-6"					bt.
					RETAINING WALL					
W580	18	8'-6"	160							st.
W581	10	26'-8"	278							st.
W582	18	4'-10"	91	1	2'-6"	2'-6"				bt.

Mark	No	Length	Weight	Type	"A"	"B"	"C"	"D"	"E"	Shape
					MANHOLE					
W534	12	6'-1"	*							st.
W535	18	5'-0"	*							st.
W536	10	7'-7"	*							st.
W537	18	5'-10"	*	1	0'-9"	5'-3"				bt.
W901	8	5'-0"	*							st.
W902	10	7'-4"	*							st.
					REPLACEMENT STEEL					
RE501	1	5'-7"								st.
RE601	1	5'-11"								st.
RE801	1	6'-6"								st.
RE901	1	6'-10"								st.

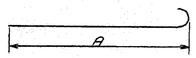
Bending Diagram



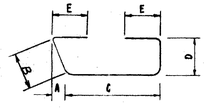
TYPE 1 TYPE 2



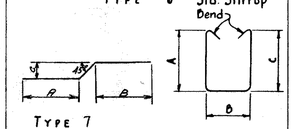
TYPE 3 TYPE 4



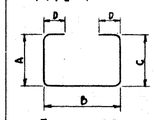
TYPE 5



TYPE 6



TYPE 8 TYPE 7



TYPE 9

NOTE:
In the reinforcing steel bar marks, the first digit where three digits are used and the first two where four are used is the bar number which indicates the size of the bar.

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	CULVERT	RET. WALL		GENERAL		
E-2	Lump	Sum	Cofferdams, Cribs & Sheeting				Lump		
E-2	392	Cu. Yds.	Structure Excavation	392					
E-3	86	Cu. Yds.	Channel Excavation				86		
S-1	115	Cu. Yds.	Class "C" Concrete, Box Culvert, Retaining Wall	105	10				
S-4	12,959	lbs.	Reinforcing Steel	12,430	529				
S-22	Lump	Sum	Removal of Portions of Existing Structure		Lump				
S-23	Lump	Sum	Dowel Holes		Lump				
S-29	75	Cu. Yds.	Porous Backfill	75					
I-5	1	Each	24" Flap Gate, as per plan.				1		
I-8	1	Each	Reinforced Concrete Manhole as per plan. (sheet 47)				1		

Totals to General Summary.

GENERAL NOTES

Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.

This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with revisions thereof dated 2-21-58 & 1-1-62.

Porous Backfill: Excavation in excess of that required for the construction of the culverts, due to porous backfill, shall be considered as paid for in the bid price per cubic yard paid for porous backfill.

* MANHOLE REINFORCING
THESE BARS ARE INCLUDED WITH THE MANHOLE FOR PAYMENT

REPLACEMENT BARS
IF REINFORCING BARS ARE FABRICATED FROM STOCK WHICH HAS PREVIOUSLY BEEN TESTED AND APPROVED BY THE OHIO HIGHWAY TESTING LABORATORY, TEST SAMPLES AS PROVIDED IN SEC. S-4.02 NEED NOT BE FURNISHED AND REPLACEMENT BARS WILL NOT BE REQUIRED.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

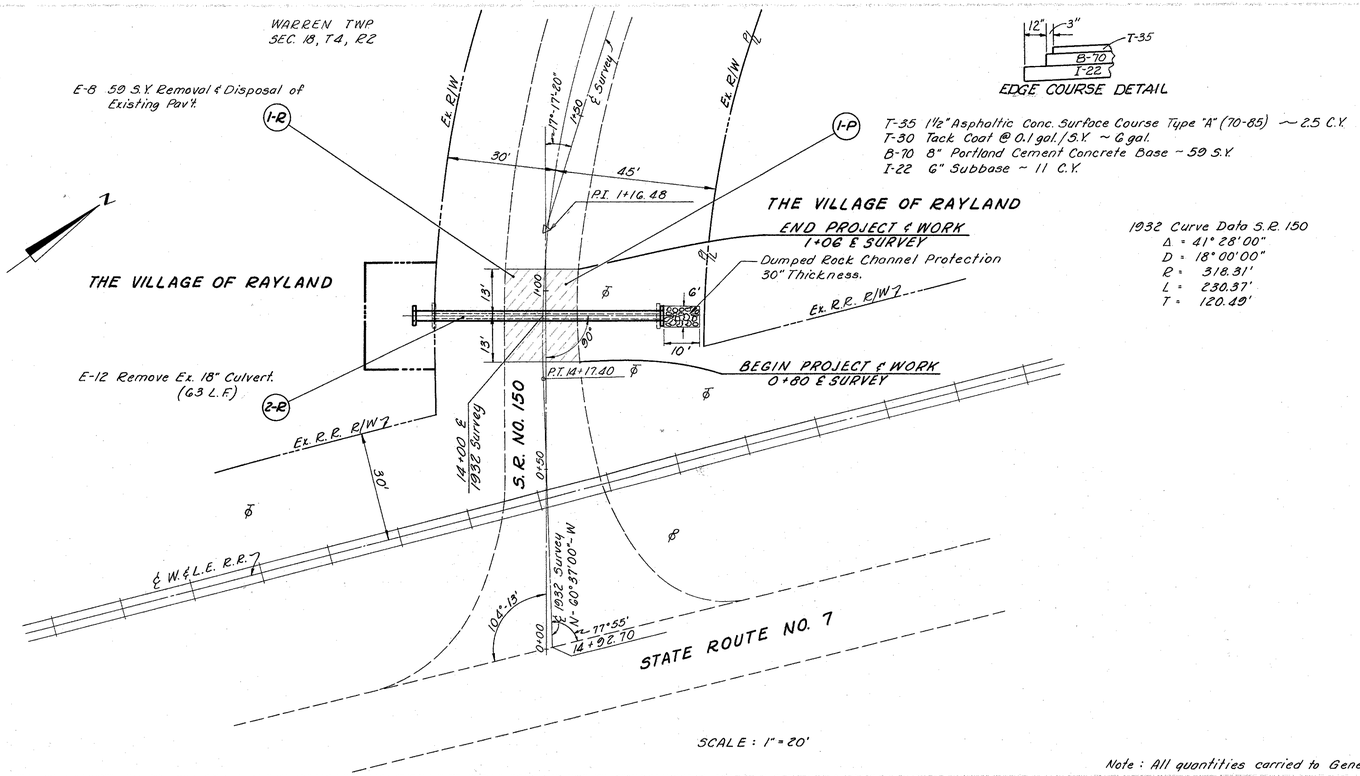
REINFORCING STEEL LIST & ESTIMATED QUANTITIES
STRUCTURE ON OLD S.R. 7 AT TARRS RUN
JEFFERSON COUNTY Sta. 101+93.01

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HT	J.C.W.		FWD	TLW	9-24-62	

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

EX. TYPICAL SECTION - S.R. 150
20' Width Pav't. w/7' Shoulders
1½" Bituminous Material
3" Vit. Brick
1" Cushion
6" Concrete

PROP. TYPICAL SECTION - S.R. 150
20' Width Pav't. w/7' Shoulders
1½" Bituminous Material
8" Concrete Base
6" Subbase



EDGE COURSE DETAIL

T-35 1½" Asphaltic Conc. Surface Course Type "A" (70-85) ~ 2.5 C.Y.
T-30 Tack Coat @ 0.1 gal./S.Y. ~ 6 gal.
B-10 8" Portland Cement Concrete Base ~ 59 S.Y.
I-22 6" Subbase ~ 11 C.Y.

1932 Curve Data S.R. 150
Δ = 41° 28' 00"
D = 18° 00' 00"
R = 318.31'
L = 230.37'
T = 120.49'

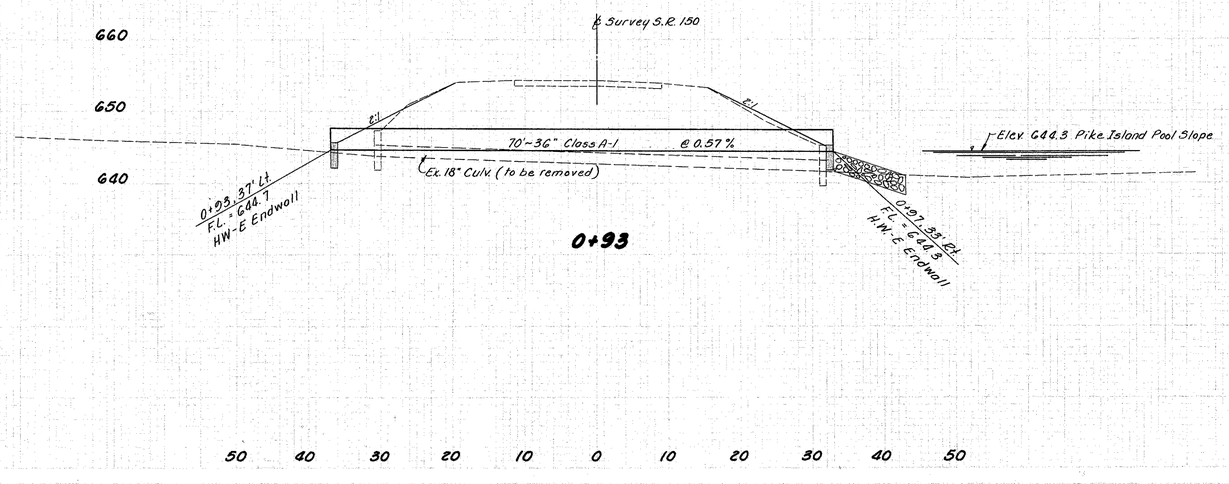
PROPOSED STRUCTURE DATA
STRUCTURE Nº JEF-150-1285
Estimated Quantities

I-1 36" Class A-1	70 L.F.
I-2 Masonry Class "C"	1.18 C.Y.
I-10 Dumped Rock (30" Thickness)	5.6 C.Y.

D.A. = 30 Ac.
Q_{25} = 47.5 c.f.s.

B.M. #31-R Elev. 650.75
Corps of Engrs. Marker @ Approx. Sta. 127+20 S.R. 7. Located at angle pt. of S.E. R.R. Abutment. 0.3' below ground, 2.8' N. of sign, 3.2' E. of G.R. Post.

Note : All quantities carried to General Summary.



SCALE : Horiz. 1" = 10'
Vert. 1" = 10'

CULVERT DETAILS - 0+93 STATE ROUTE NO. 150

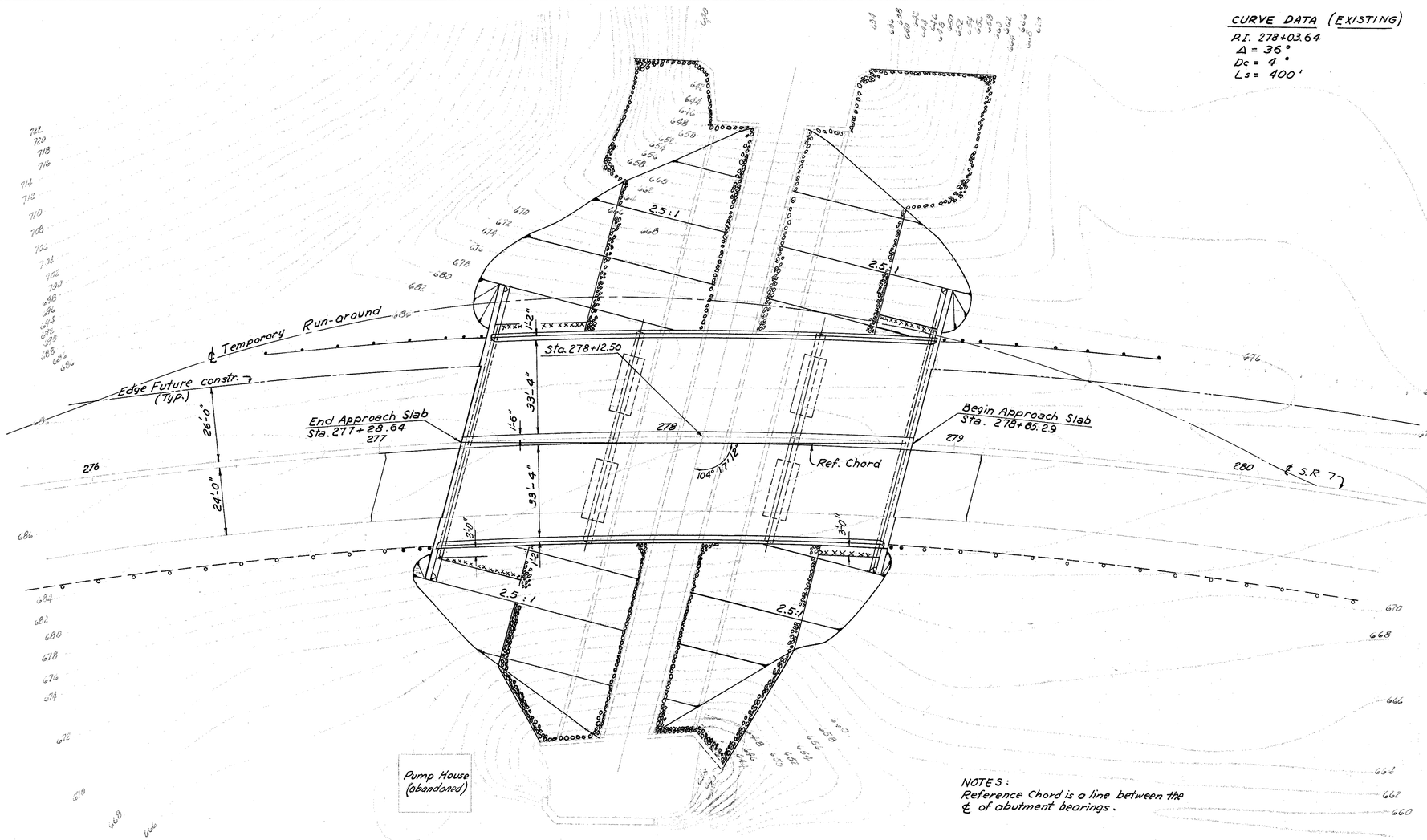
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

50
70

JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85

CURVE DATA (EXISTING)

P.I. 278+03.64
Δ = 36°
Dc = 4°
Ls = 400'



NOTES:
Reference Chord is a line between the ℄ of abutment bearings.

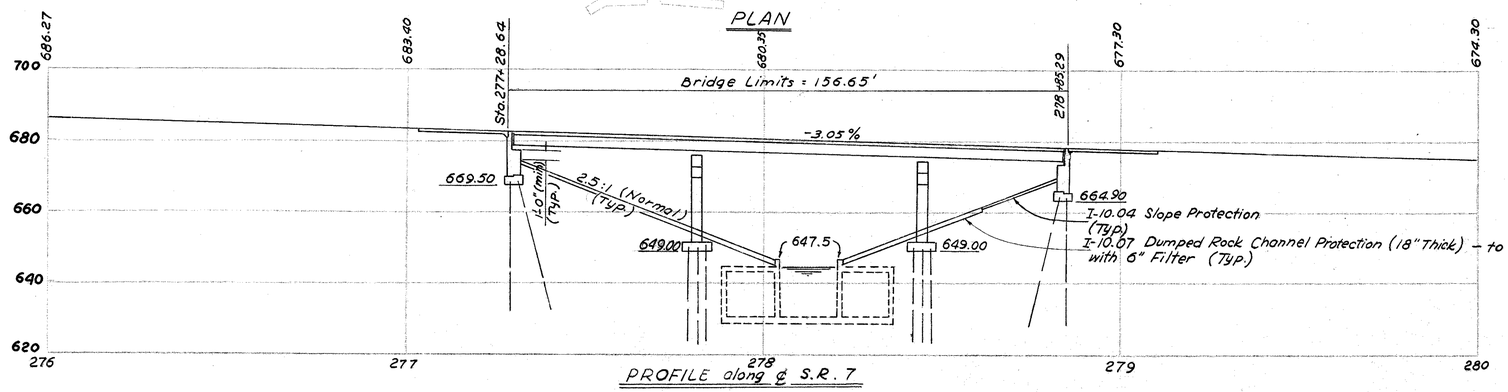
PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure.
SPANS: 50'-0", 63'-0", 39'-0" c/c brgs. along ℄ roadway.
ROADWAY: 72' f/f of parapets with 1'-2" safety curbs, 3' concrete median, concrete parapets and aluminum railings.
LOADING: CF-400 (1957).
SKEW: 14°17'-12" L.F. from Reference Chord.
WEARING SURFACE: 1" monolithic concrete.
APPROACH SLABS: AS-1-54 (25 ft. long.)
ALIGNMENT: 4° curve.
SUPERELEVATION: .083 / ft.

EXISTING STRUCTURE

TYPE: Concrete Box.
SIZE: 3 cells (12'-6"+15'-0"+12'-6") x 12'-6" x 221'-6".
ALIGNMENT: 4° curve.
SKEW: 15° L.F.
LOADING: CF-400.

PLAN



PROFILE along ℄ S.R. 7

All piles shall be 12 BP 53. Estimated average pay length shall be 48' for the South Abut., 32' for pier #1, 34' for Pier #2 and 52' for the North Abut.

Drainage Area = 8000 acres
Ohio River Pool Slope Elev. 644.4
Traffic: A.D.T. (1961) 4980
A.D.T. (1981) 9960
Qes: 4050 c.f.s.
25 year High water elev. = 660.5

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

SITE PLAN

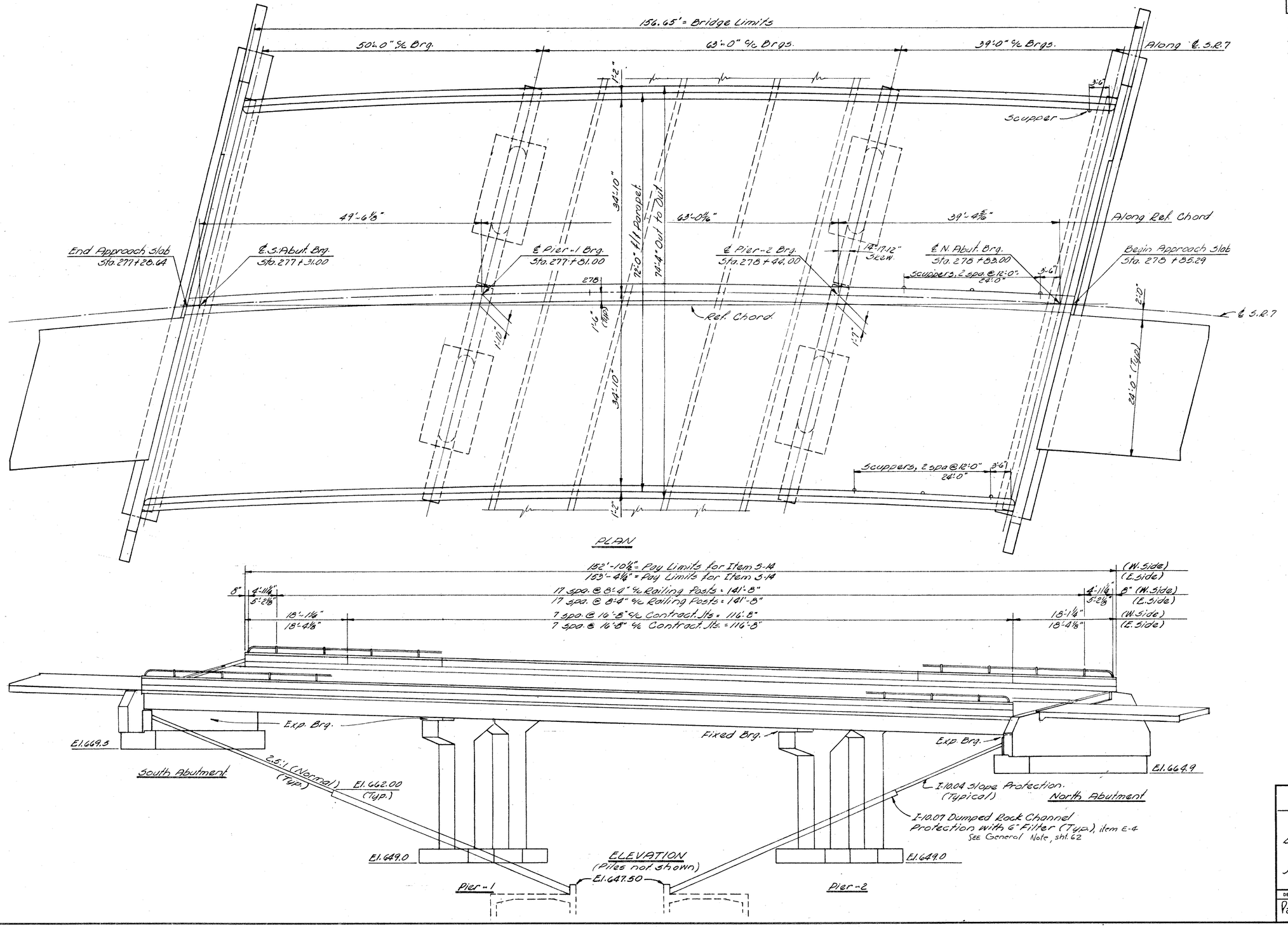
BRIDGE No. JEF-7-0525
S.R. 7 over Rush Run (22R)
Jefferson County Sta. 278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	Pardo		D.E.	TLW	4-25-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

51
10

JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85



ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

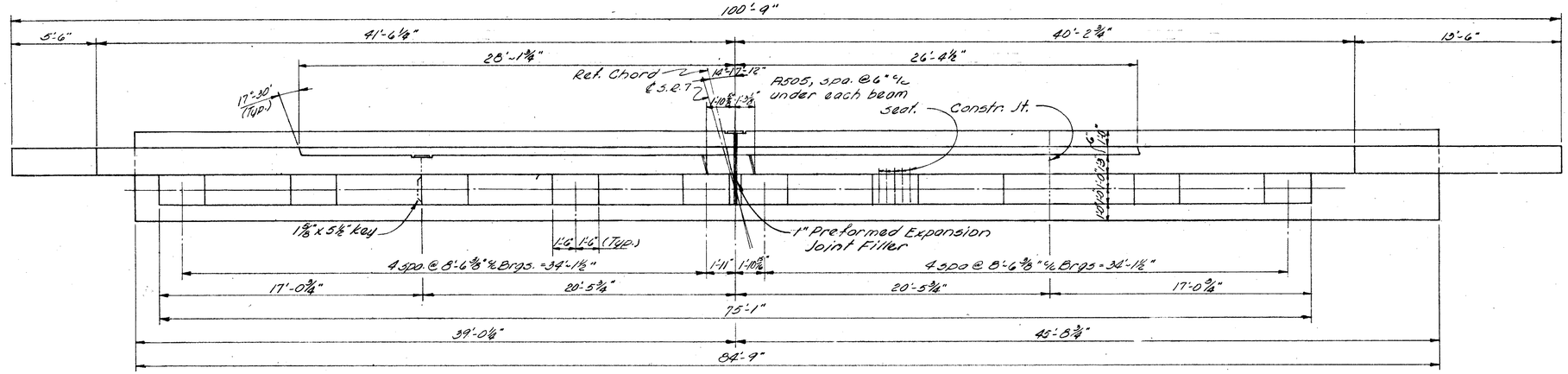
GENERAL PLAN & ELEVATION
BRIDGE No- JEF-7-0525
S.R.7 OVER RUSH RUN (22-R)
JEFFERSON COUNTY
STA-278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		fwd	TLU	4-25-62	

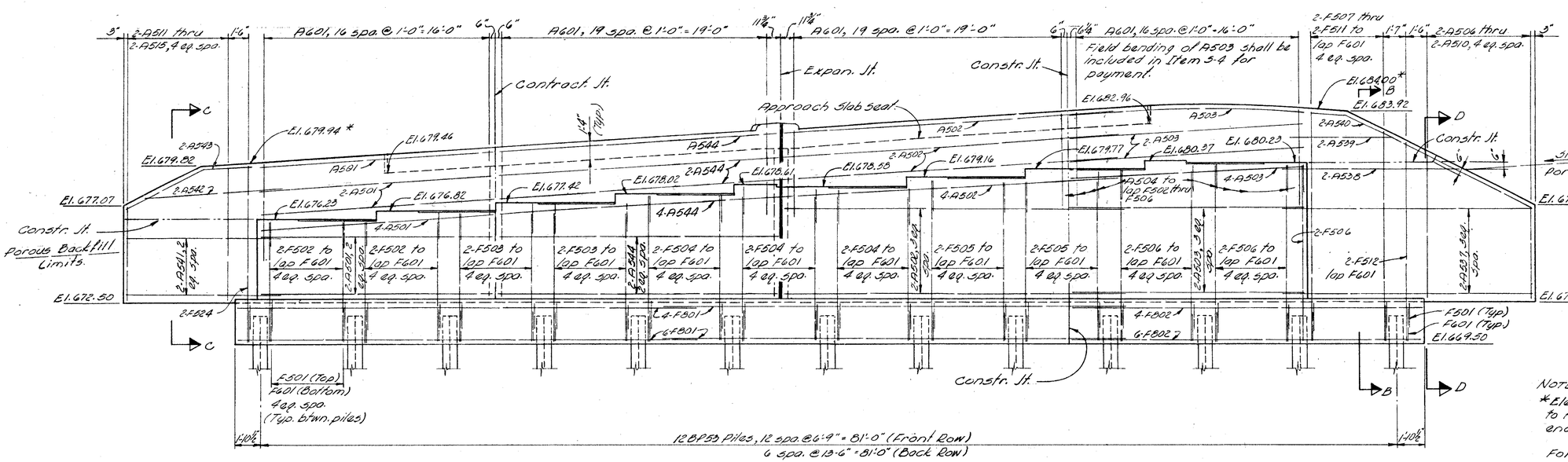
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

52
70

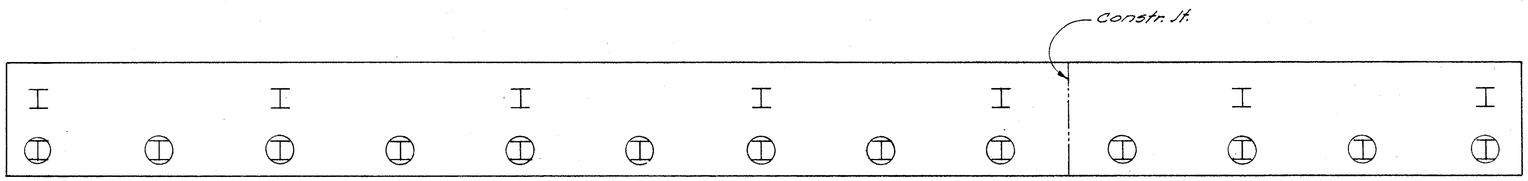
JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85



PLAN



ELEVATION



FOOTING PLAN

① indicates battered pile.

Notes:

*Elevations marked with an asterisk are to the top of the 2" edge bar at end of end dam.

For additional notes and details see sheet 54.

The top of the backwall shall conform to the slope of the roadway crown.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

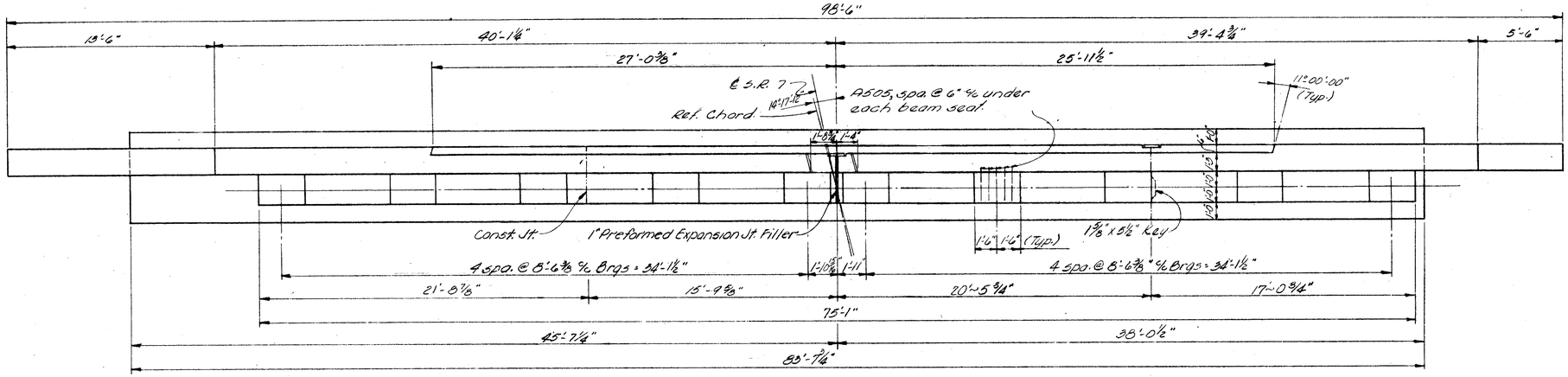
SOUTH ABUTMENT
BRIDGE No. JEF-7-0525
S.R. 7 OVER RUSH RUN (22-R)
JEFFERSON COUNTY
STA-278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		FWA	TLU	4/25/62	

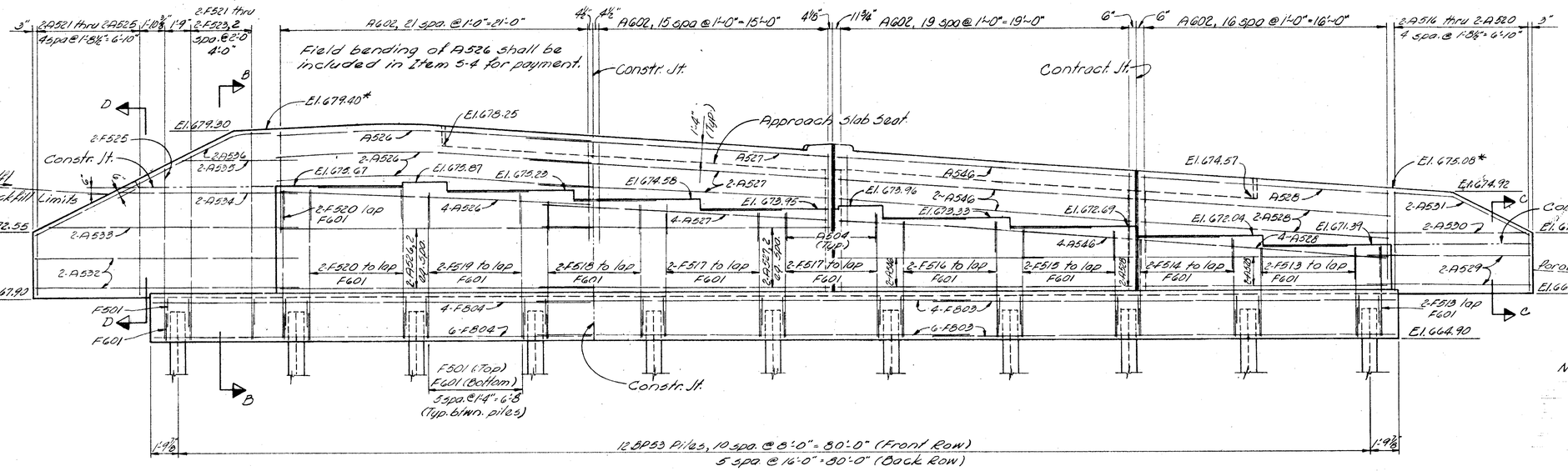
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

53
70

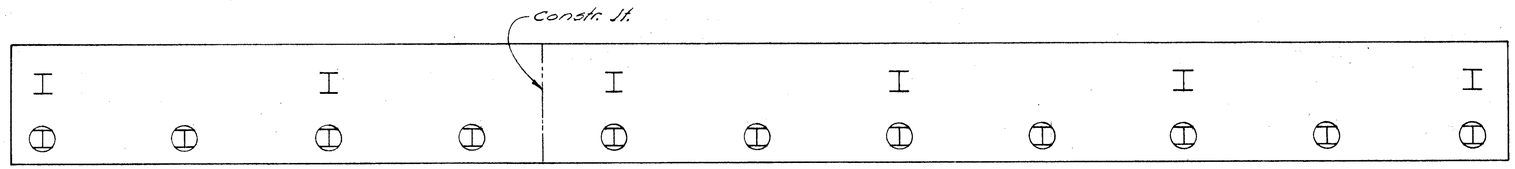
JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85



PLAN



ELEVATION



FOOTING PLAN

⊥ indicates battered pile

Notes:

Elevations marked with an asterisk are to top of 2" edge bar at end of end dam.

For additional notes and details see sheet 54.

The top of the footwall shall conform to the slope of the roadway crown.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

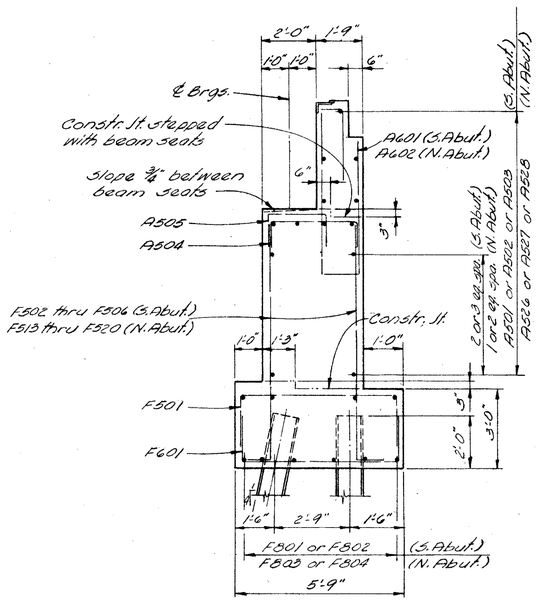
NORTH ABUTMENT
BRIDGE No. JEF-7-0525
S.R. 7 OVER RUSH RUN (22-R)
JEFFERSON COUNTY
STA-278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		fwd	TLU	4-25-62	-

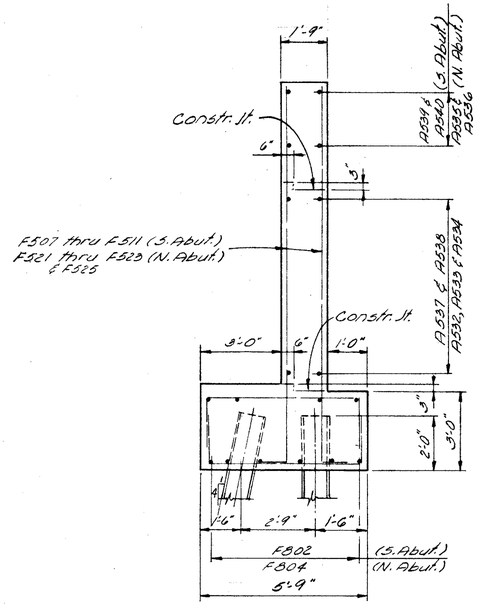
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

54
70

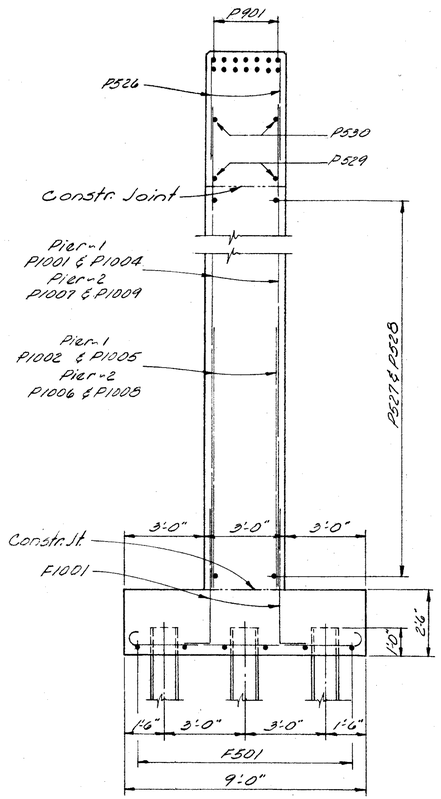
JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85



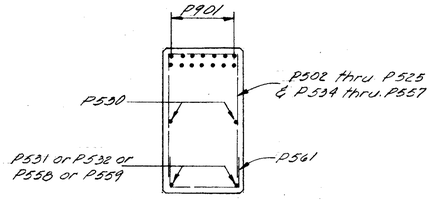
TYPICAL SECTION



SECTION B-B

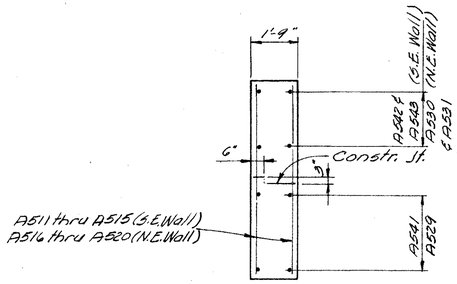


TYPICAL PIER SECTION

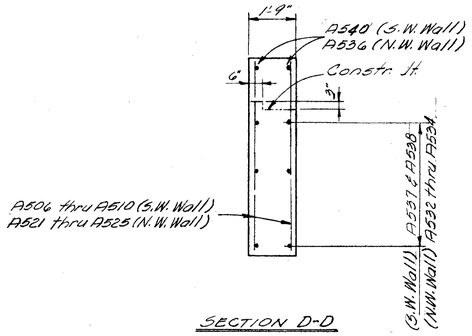


SECTION THRU CANTILEVER

NOTE
For number of bars and bar location see abutment elevation.



SECTION C-C



SECTION D-D

NOTES

POROUS BACKFILL: Porous backfill shall extend upward to the I-22 and to the surface of the earth shoulders and outward to the surface of the embankment slopes. Excavation, therefore, in excess of that required for the construction of the abutment, shall be considered as paid for in the price per cubic yard paid for porous backfill.

CONTRACTION and EXPANSION JOINTS: Contraction and expansion joints shall be waterproofed by installing a premolded sealing strip in a 13"x 3/8" recess extending from the top of the footing to the approach slab seat. A joint shall be provided in the abutment portion of the end dam at each joint.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

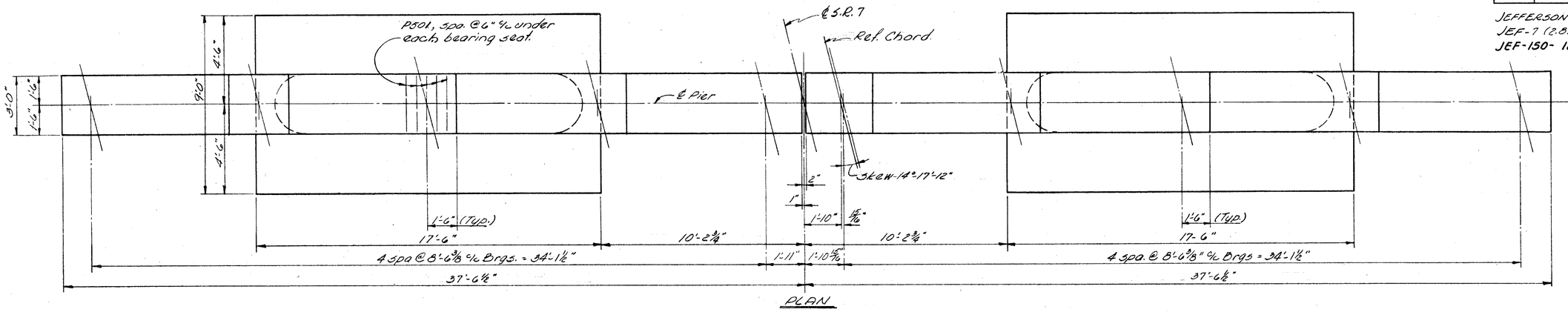
ABUTMENT and PIER DETAILS
BRIDGE No. JEF-7-0525
S.R. 7 OVER RUSH RUN (22-2)
JEFFERSON COUNTY
STA- 278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		fwd	TLU	4-25-62	

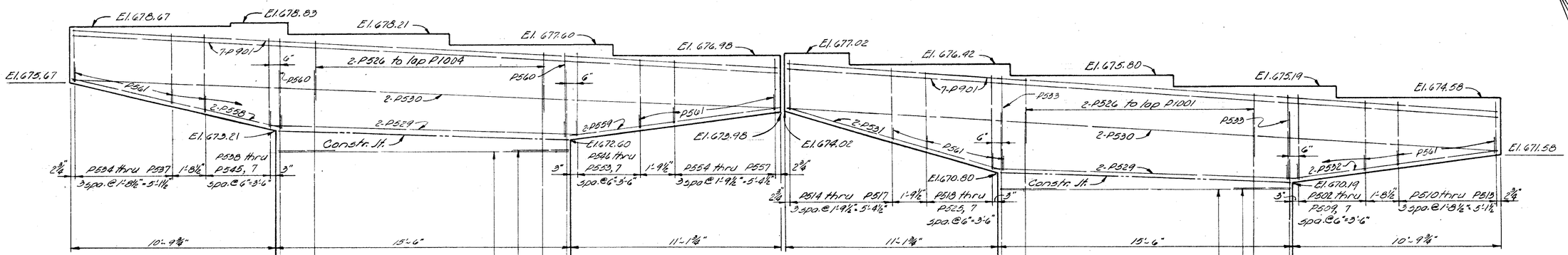
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

55
70

JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85



PLAN



ELEVATION

NOTE: All piles shall be 12BP53

NOTE:
For sections, see sheet 54.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

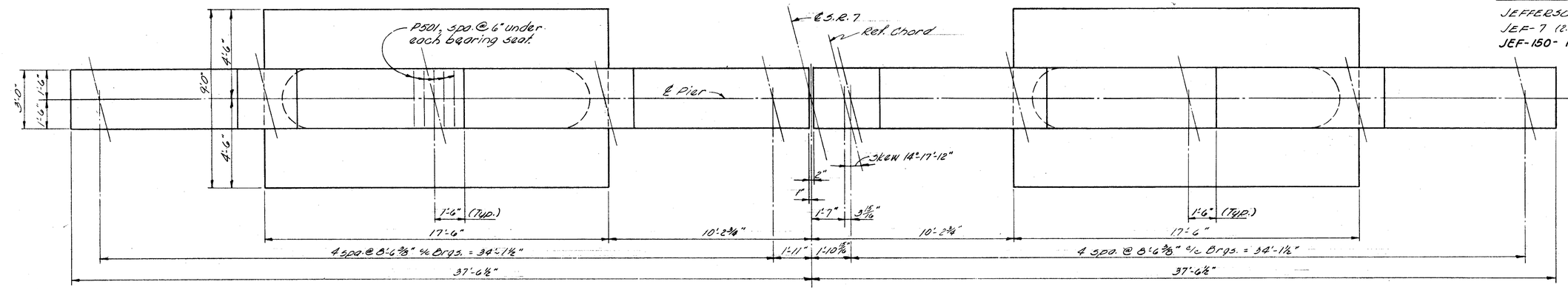
PIER #1 DETAILS
BRIDGE No. JEF-7-0525
S.R.7 OVER RUSH RUN (22-R)
JEFFERSON COUNTY
STA 2784+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		fwd	TLU	4-25-62	

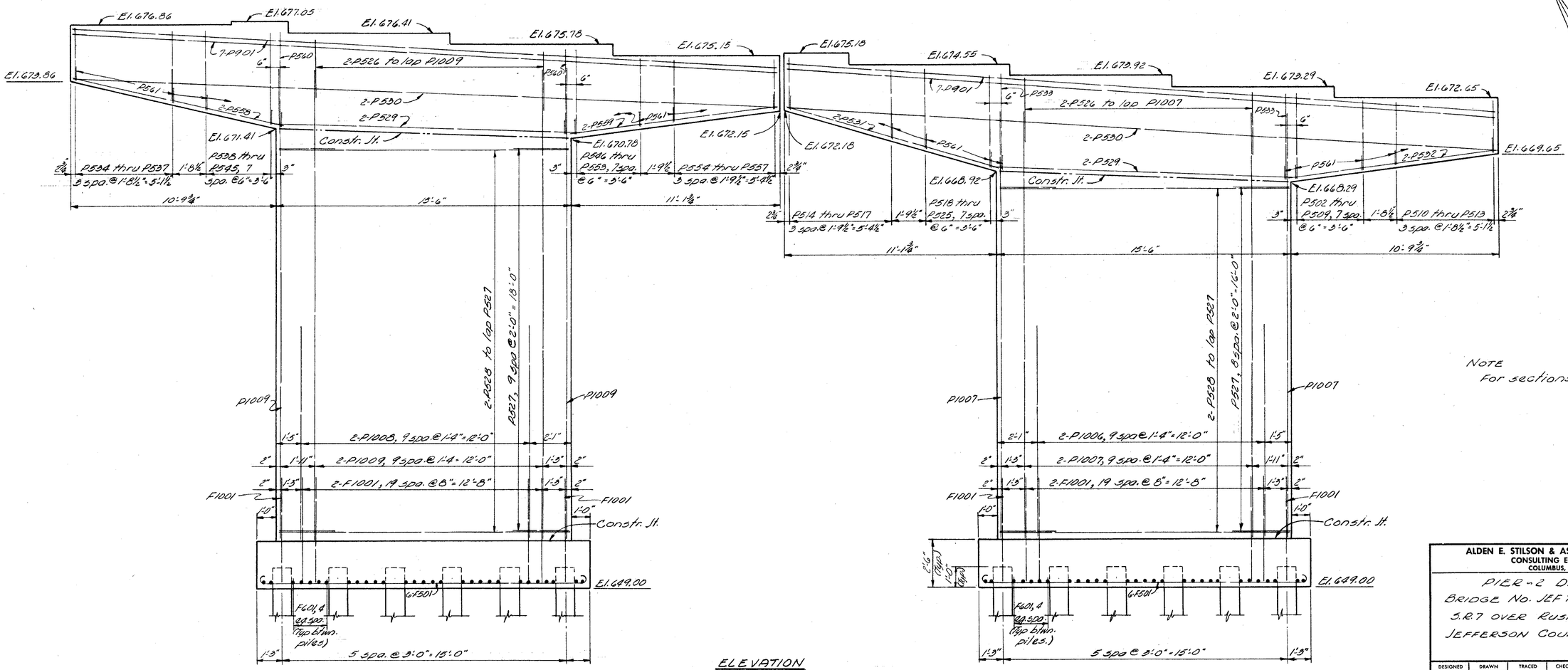
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

56
70

JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85



PLAN



ELEVATION

NOTE: All piles shall be 12BP53

NOTE
For sections, see sheet 54.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

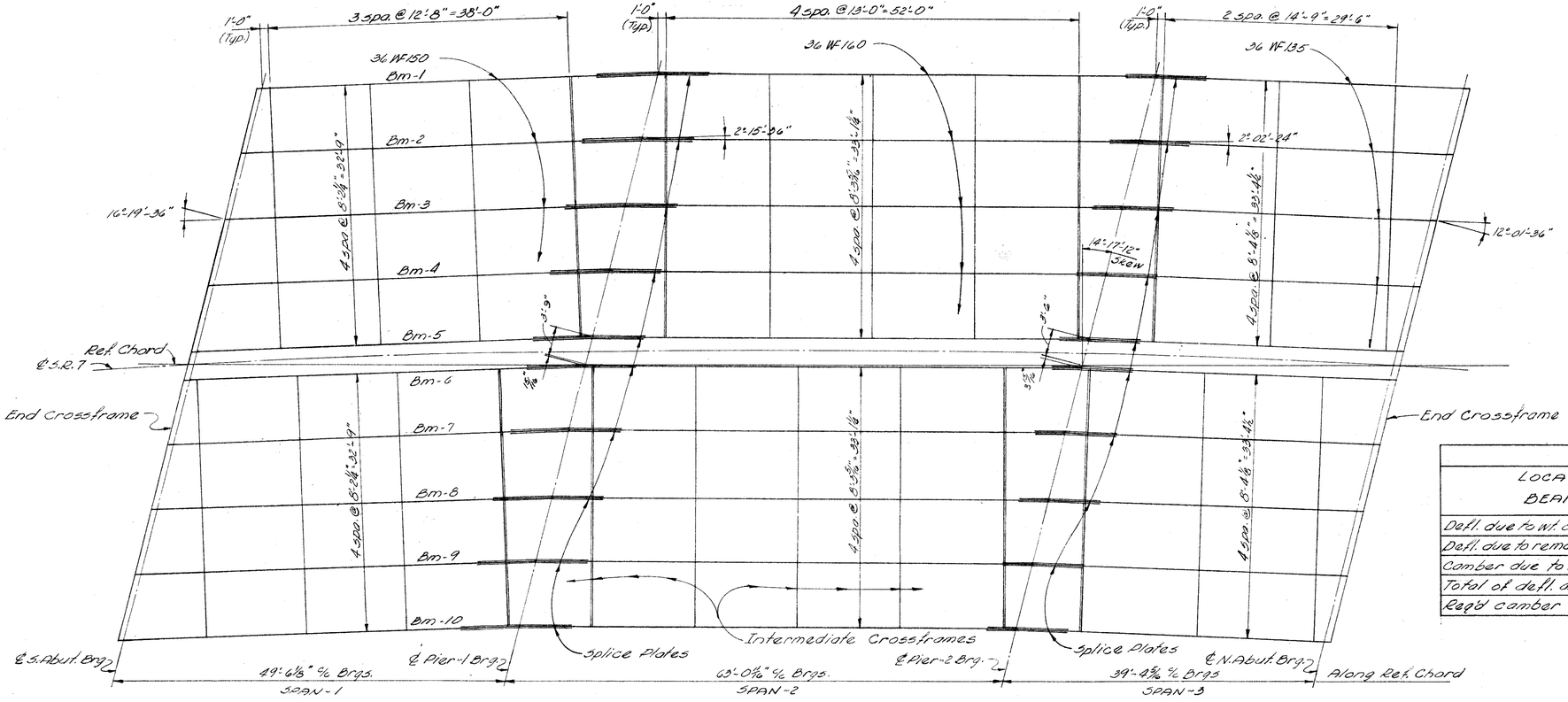
PIER-2 DETAILS
BRIDGE No. JEF 7-0525
S.R. 7 OVER RUSH RUN (22-R)
JEFFERSON COUNTY
STA-278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		FWD	TLU	4-25-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

57
70

JEFFERSON COUNTY
JEF-7 (2.85) (4.65) (5.25) (10.78)
JEF-150- 12.85



FRAMING PLAN

TABLE OF BEAM LENGTHS		
BEAM	SPAN	LENGTH & BEG
1 thru 10	1	50'-0"
1 thru 10	2	62'-11 15/16"
1 thru 10	3	39'-0"

DEFLECTION and CAMBER									
LOCATION	SPAN-1			SPAN-2			SPAN-3		
BEAMS	1	2-3-4-7 / 8-9-10	5-6	1	2-3-4-7 / 8-9-10	5-6	1	2-3-4-7 / 8-9-10	5-6
Defl. due to wt. of steel	0	0	0	1/16	1/16	1/16	0	0	0
Defl. due to remain DL.	1/16	1/8	1/8	1/4	1/2	1/4	1/16	1/16	0
Camber due to horiz. curve	1/8	-1/4	0	3/16	-3/8	0	1/16	-1/8	0
Total of defl. and camber	1/4	-1/8	1/8	1/2	-1/16	5/16	1/8	-1/16	0
Reqd camber	0	0	0	0	0	0	0	0	0

NOTES

Place intermediate crossframes perpendicular to beams in each span.

Place bearing devices normal to end span beams at abutments and normal to beams in Span 2 of Piers

For bearing plate details see C.S.B-2-56

Abutment ends of beams shall be cut to maintain 3" clear between ends of beams & face of backwall

BEAM SPLICE WELDING PROCEDURE

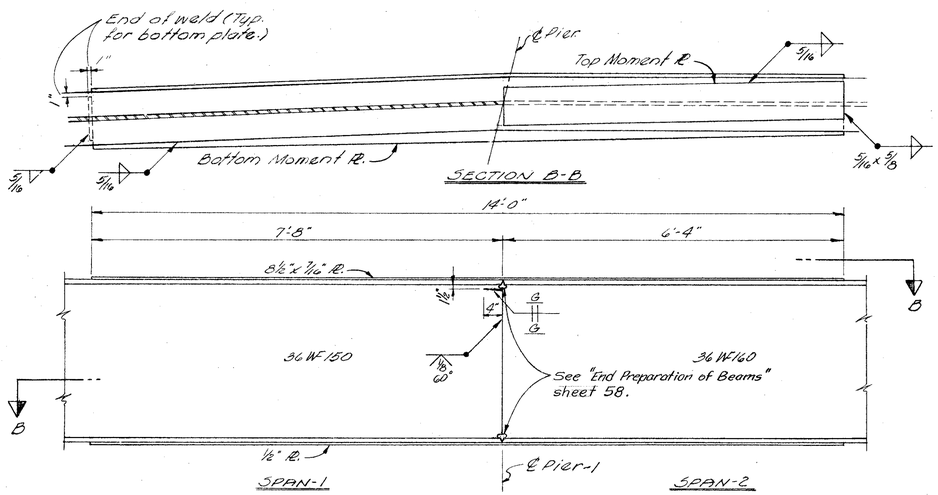
1- Raise the beam ends 3/16" at the South Abutment

2. Butt-weld the beam flanges and web at the piers using the following sequence: make one pass on each flange, then two on the web, repeat, using one pass of each location, until welds are completed.

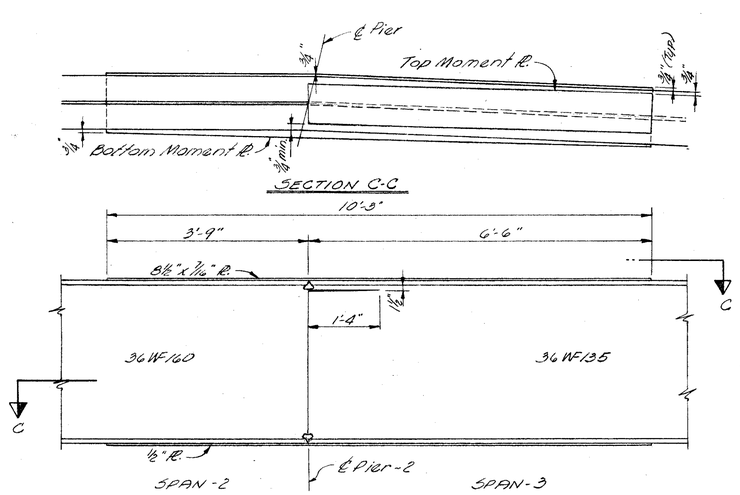
3. Weld the bottom and top moment plates at piers

4- Weld crossframes indicated by double lines on the framing plan.

5- Lower beam ends to final position.



"G" indicates grinding



BEAM SPLICE DETAILS
(Welds shown are typ.)

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

SUPERSTRUCTURE DETAILS
BRIDGE NO. JEF-7-0525
S.R.7 OVER RUSH RUN (22.R)
JEFFERSON COUNTY
STA-278+12.50

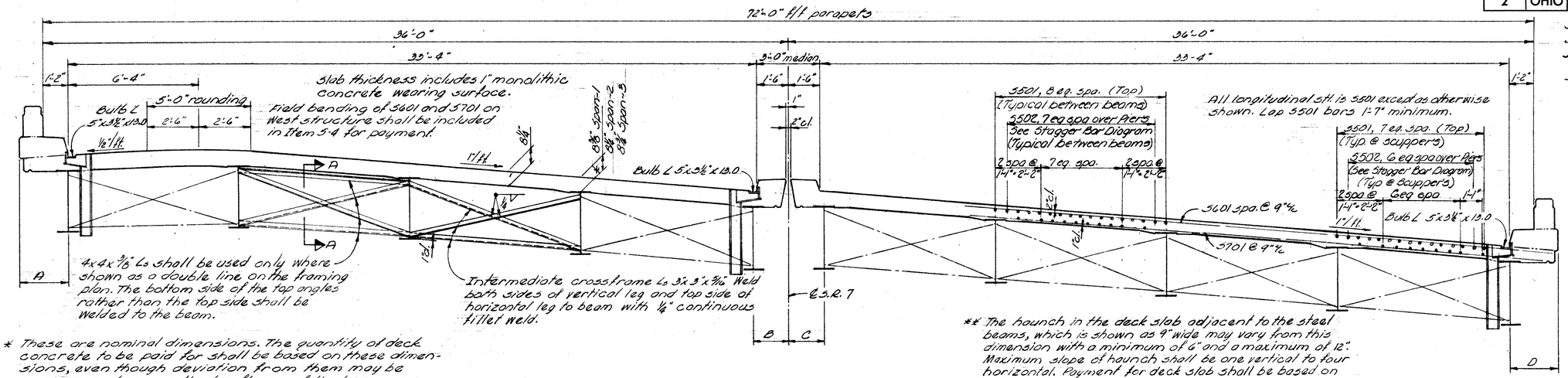
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		fwd	TLU	4-25-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

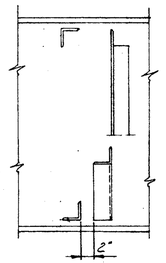
58
70

JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25)(10.28)
JEF-150- 12.85

West side



TRANSVERSE SECTION

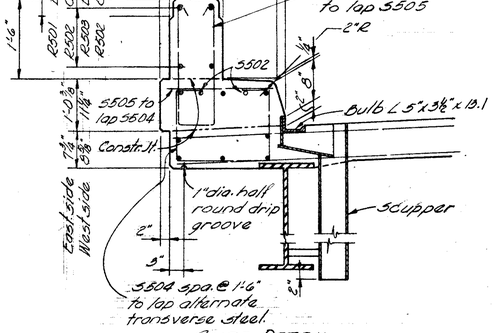


SECTION A-A

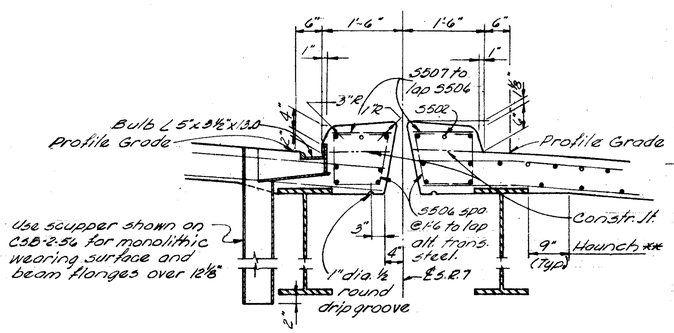
* These are nominal dimensions. The quantity of deck concrete to be paid for shall be based on these dimensions, even though deviation from them may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade

** The haunch in the deck slab adjacent to the steel beams, which is shown as 9" wide may vary from this dimension with a minimum of 6" and a maximum of 12". Maximum slope of haunch shall be one vertical to four horizontal. Payment for deck slab shall be based on a 9" width.

NOTE:
Transverse slab bars shall be placed parallel to the ℄ of bearing and be spaced at 9" ℅ along the reference chord.



CURB DETAIL
(Hand-rail not shown)



MEDIAN DETAIL

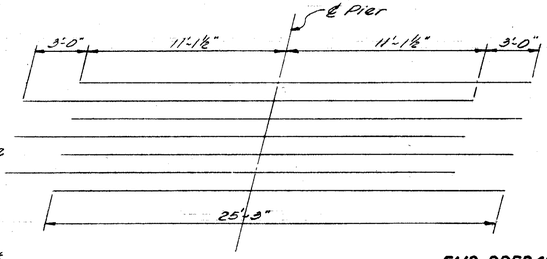
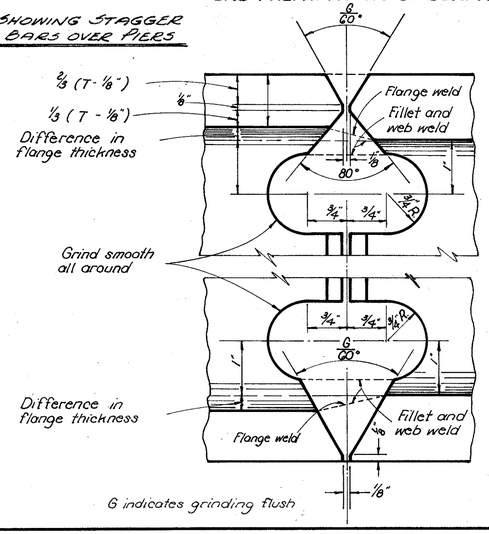


DIAGRAM SHOWING STAGGER OF 3502 BARS OVER PIERS

SLAB CANTILEVER DIMENSIONS				
LOCATION	A	B	C	D
South Abutment	2'-8⅜"	1'-8⅛"	1'-9"	2'-9⅜"
Mid-point Span-1	2'-9⅛"	1'-6⅝"	1'-11⅝"	2'-4⅞"
Pier-1	2'-4¾"	1'-9⅛"	1'-9¼"	2'-5¼"
Mid-point Span-2	2'-6½"	1'-5"	2'-1⅛"	1'-10⅜"
Pier-2	2'-0⅛"	1'-9⅜"	1'-9½"	2'-0⅜"
Mid-point Span-3	2'-0⅛"	1'-7⅛"	1'-11"	1'-9⅜"
North Abutment	1'-9¾"	1'-9½"	1'-9⅜"	1'-10⅛"

END PREPARATION OF BEAMS



G indicates grinding flush

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

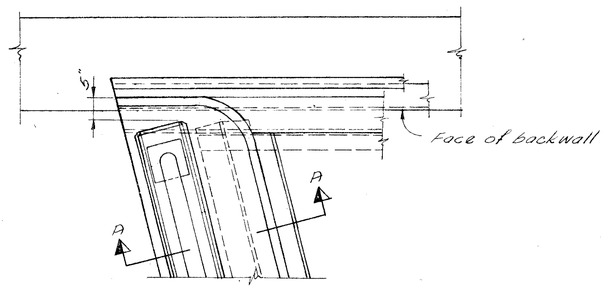
SUPERSTRUCTURE DETAILS
BRIDGE No. JEF-7-0525
S.R. 7 OVER RUSH RUN (22.R)
JEFFERSON COUNTY
STA-278 + 12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		fwd	TLV	4-25-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

59
70

JEFFERSON COUNTY
JEF-7-(12.85)(4.85)(5.25)(10.28)
JEF-150- 12.85



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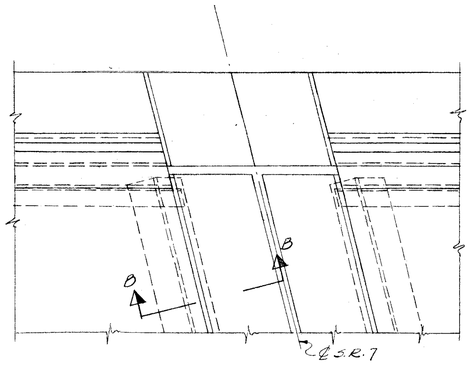

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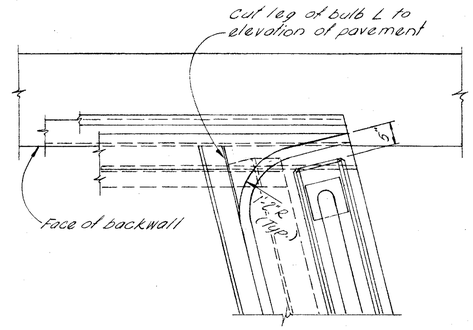
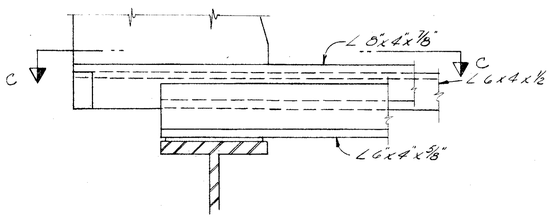
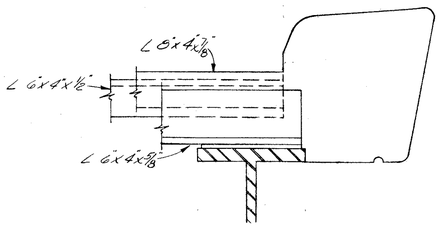


(Curb)

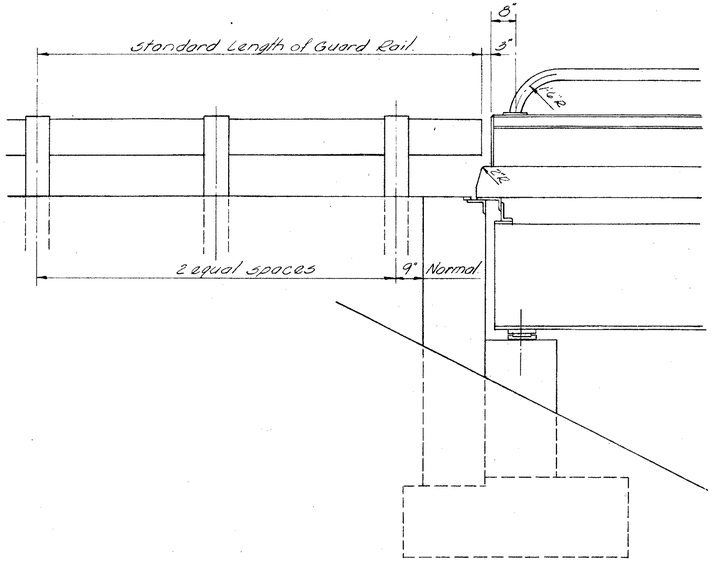
PARTIAL PLANS



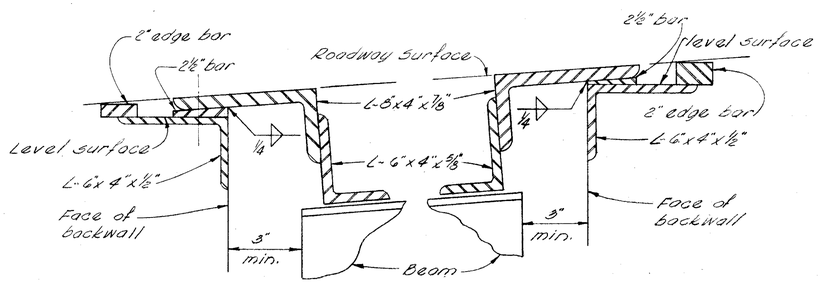
SECTION A-A



SECTION B-B



ELEVATION

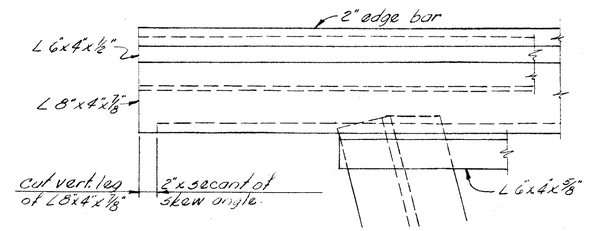


2½" bar shall be beveled to fit slope of roadway surface. Minimum thickness shall be ¼"

Thickness of 2" edge bar shall be determined by slope of roadway surface.

For additional details see Section C-C, Standard Drawing CSB-2-56, Sheet-2

END FINISH DETAIL



SECTION C-C

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

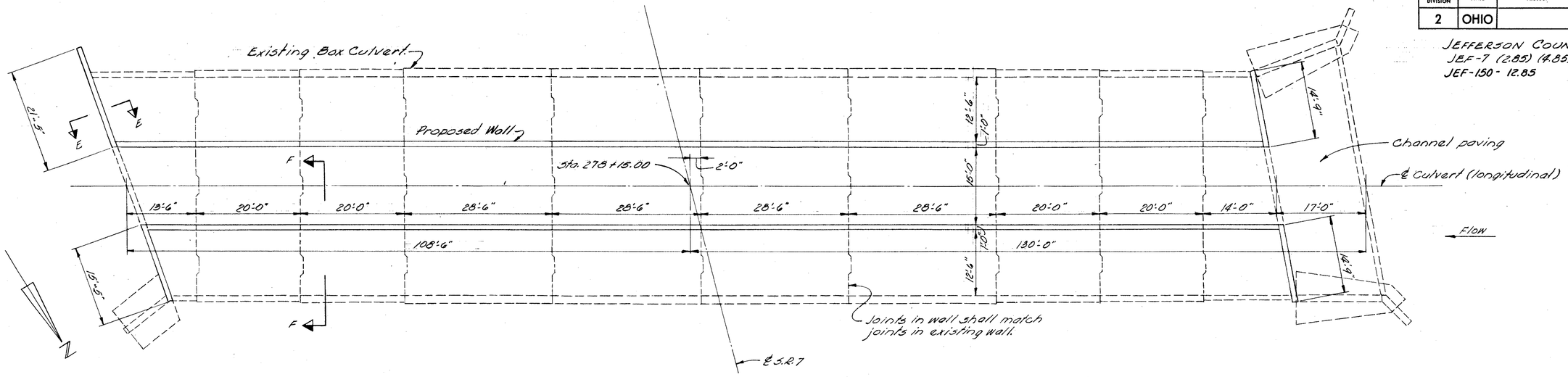
RAILING AND END DAM DETAILS
BRIDGE No. JEF-7-0525
S.R-7 over RUSH RUN (22-R)
JEFFERSON COUNTY STA-278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		fwd	TLU	4-25-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

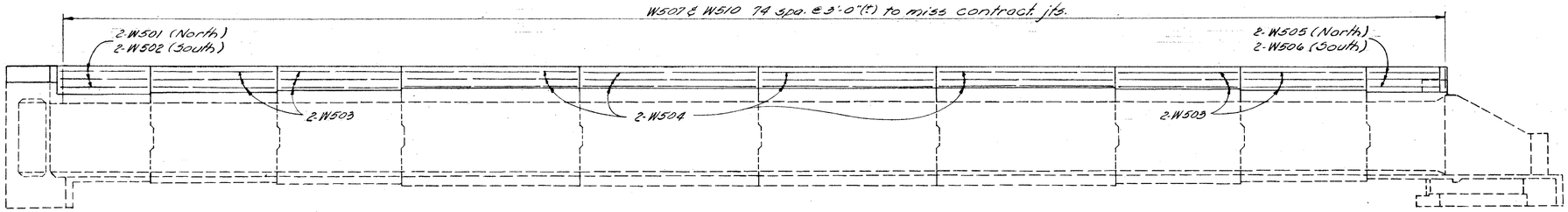
60
70

JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150 - 12.85

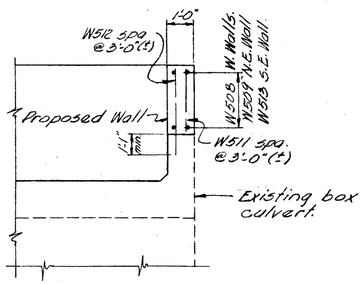


PLAN OF EXISTING CULVERT

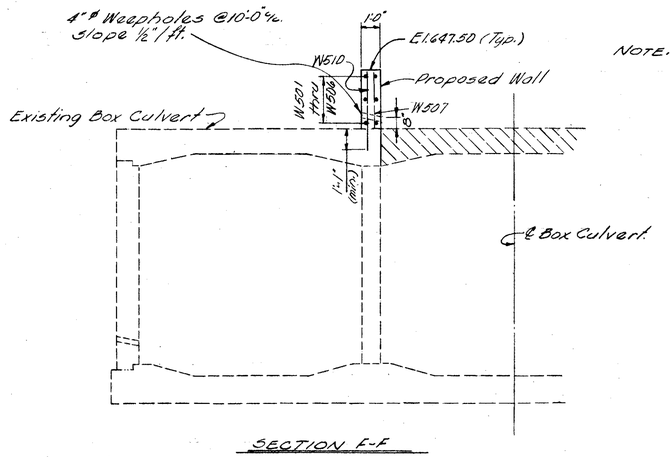
W507 & W510 74 spa. @ 3'-0"(±) to miss contract jts.



SECTION THRU ℄ OF CULVERT



SECTION E-E



SECTION F-F

NOTE: W507, W510, W511 & W512 shall be cut to proper length in field. Cost is included in Item 5-4.

NOTES:

Cross-hatched section shall be removed in accordance with Item 5-22 and shall be disposed of in accordance with Item 524.

The reinforcing steel in the top slab shall be removed to approximately 2 inches from the surface of the proposed wall. All depressions shall be filled with grout and the surface shall be neatly finished in accordance with Item 5-1.22. Cost shall be included with Item 5-22.

Vertical reinforcing bars on the back side of the proposed wall shall be placed in holes drilled in the existing box culvert.

Dowel holes shall conform to Item 5-23.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

ALTERATIONS TO EXISTING BOX CULVERT
BRIDGE No. JEF-7-0525
S.R. 7 OVER RUSH RUN (22-R)
JEFFERSON COUNTY
STA-278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Pardo	BDB		FWD	TLV	4-25-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

61
70

JEFFERSON COUNTY
JEF-7 (2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85

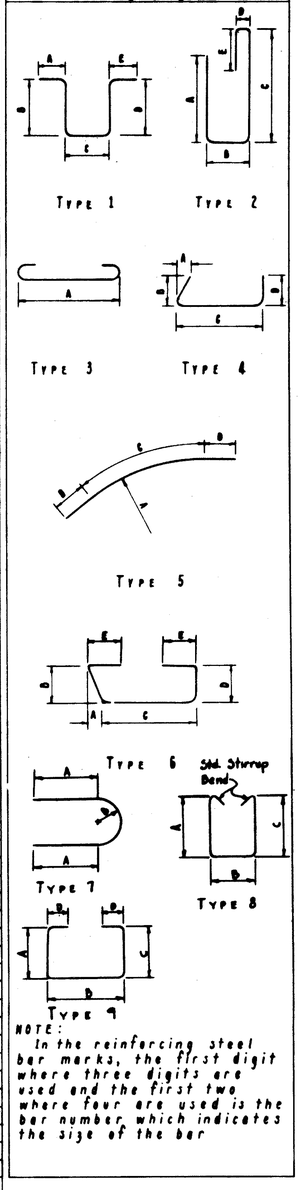
REINFORCING STEEL LIST

Mark	No	Length	Weight		Shp
	So. Abutment				
F801	20	32-11	1758		sf.
F802	10	23-1	670		sf.
A501	15	16'-8	261		sf.
A502	17	22-1	392		sf.
A503	17	16-8	296		sf.
A506	2	8-1			sf.
thru	Var. by 0-11		65		
A510	2	4-5			sf.
A511	2	4-4			sf.
thru	Var. by 0-8		59		
A515	2	7-0			sf.
A537	8	17-8	147		sf.
A538	2	12-4	26		sf.
A539	2	8-4	17		sf.
A541	6	11-1	69		sf.
A542	2	9-7	20		sf.
A544	15	20-1	314		sf.
	No. Abutment				
F803	20	30-1	1606		sf.
F804	10	29-7	790		sf.
A516	2	6-8	14		sf.
A517	2	6-6	14		sf.
A518	2	5-6	11		sf.
A519	2	4-9	10		sf.
A520	2	3-10	8		sf.
A521	2	4-0			sf.
thru	Var. by 0-10		59		
A525	2	7-4			sf.
A526	15	21-4	334		sf.
A527	15	17-4	271		sf.
A528	13	16-8	226		sf.
A529	4	8-11	37		sf.
A530	2	8-5	18		sf.
A532	4	17-6	73		sf.
A533	2	16-6	34		sf.
A534	2	12-1	25		sf.
A535	2	8-0	17		sf.
A546	18	20-1	272		sf.
	Pier				
P526	80	3-3	271		sf.
P528	80	12-6	1049		sf.
P529	8	15-6	129		sf.
P530	8	37-2	310		sf.
P531	4	11-5	48		sf.
P532	4	10-9	45		sf.
P558	4	10-10	45		sf.
P559	4	10-9	45		sf.
P901	56	37-2	7077		sf.
P1001	22	22-6	2130		sf.
P1002	20	9-7	825		sf.
P1004	22	25-0	2367		sf.
P1005	20	10-11	940		sf.
P1006	20	8-7	739		sf.
P1007	22	20-4	1925		sf.
P1008	20	9-11	853		sf.
P1009	22	23-0	2177		sf.
	Parapet				
R501	8	18-0	*		sf.
R502	36	16-4	*		sf.
R503	8	17-9	*		sf.

Mark	No	Length	Weight	Type	"A"	"B"	"C"	"D"	"E"	Shp
	So. Abutment									
F501	62	10-4	668	1		2-7	5-5	2-7		bf.
F502	20	6-8	139	1	0-6	6-4				bf.
F503	20	7-3	151	1	0-6	6-11				bf.
F506	30	8-6	266	1	0-6	8-2				bf.
F505	20	9-7	200	1	0-6	9-3				bf.
F506	22	10-2	233	1	0-6	9-10				bf.
F507	2	14-4		1	0-6	14-0				bf.
thru	Var. by 0-8		143			Var. by 0-4				
F511	2	19-0		1	0-6	12-8				bf.
F512	2	12-2	25	1	0-6	11-10				bf.
F524	2	10-4	22	1	0-6	10-0				bf.
F601	62	8-3	768	1		1-7	5-5	1-7		bf.
A504	36	7-8	448	1		2-3	3-5	2-3		bf.
A505	50	4-11	256	1		1-6	2-2	1-6		bf.
A531	2	9-3	19	6	5-6	2-9	3-3			bf.
A536	2	19-1	40	6	13-6	6-9	4-2			bf.
A602	75	15-4	1727	2	4-9	1-5	6-1	0-11	2-10	bf.
				Pier						
F501	24	18-4	459	3	17-2					bf.
F601	106	10-0	1592	3	8-8					bf.
F1001	168	6-5	4639	1		5-4	1-5			bf.
P501	100	5-5	565	1		1-6	2-8	1-6		bf.
P502	2	10-5		1		4-0 Var. by 0-1	2-8	4-0 Var. by 0-1		bf.
thru	Var. by 0-2		160							
P509	2	9-3		1		3-5	2-8	3-5		bf.
P510	2	9-1	19	1		3-4	2-8	3-4		bf.
P511	2	8-7	18	1		3-1	2-8	3-1		bf.
P512	2	8-1	17	1		2-10	2-8	2-10		bf.
P513	2	7-9	16	1		2-8	2-8	2-8		bf.
P514	2	6-11	14	1		2-3	2-8	2-3		bf.
P515	2	7-11	17	1		2-9	2-8	2-9		bf.

Mark	No	Length	Weight	Type	"A"	"B"	"C"	"D"	"E"	Shp
				Pier (Cont.)						
P516	2	8-7	18	1		3-1	2-8	3-1		bf.
P517	2	9-7	20	1		3-7	2-8	3-7		bf.
P518	2	10-7	22	1		4-1	2-8	4-1		bf.
P519	2	10-11	23	1		4-3	2-8	4-3		bf.
P520	2	11-3	23	1		4-5	2-8	4-5		bf.
P521	2	11-5	24	1		4-6	2-8	4-6		bf.
P522	2	11-5	24	1		4-6	2-8	4-6		bf.
P523	2	11-9	25	1		4-8	2-8	4-8		bf.
P524	2	12-1	25	1		4-10	2-8	4-10		bf.
P525	2	12-5	26	1		5-0	2-8	5-0		bf.
P527	80	7-3	605	7	1-7	1-3 Var. by 0-4				bf.
P533	4	11-9	49	1		4-8	2-8	4-8		bf.
P534	2	7-9		1		2-8 Var. by 0-4	2-8	2-8 Var. by 0-4		bf.
thru	Var. by 0-8		73							
P537	2	9-9		1		3-8	2-8	3-8		bf.
P538	2	10-5		1		4-0 Var. by 0-1	2-8	4-0 Var. by 0-1		bf.
thru	Var. by 0-2		112							
P542	2	11-1		1		4-4	2-8	4-4		bf.
P543	2	10-7	24	1		4-7	2-8	4-7		bf.
P544	2	11-9	25	1		4-8	2-8	4-8		sf.
P545	2	11-11	25	1		4-9	2-8	4-9		bf.
P546	2	12-5		1		5-0 Var. by 0-2-8	2-8	5-0 Var. by 0-2-8		bf.
thru	Var. by 0-8		95							
P549	2	10-5		1		4-0 Var. by 0-1	2-8	4-0 Var. by 0-1		bf.
P550	2	10-1		1		3-10 Var. by 0-1	2-8	3-10 Var. by 0-1		bf.
thru	Var. by 0-2		82							
P553	2	9-7		1		3-7	2-8	3-7		bf.
P554	2	9-1	19	1		3-4	2-8	3-4		bf.
P555	2	8-7	18	1		3-1	2-8	3-1		bf.
P556	2	8-3	17	1		2-11	2-8	2-11		bf.
P557	2	7-9	16	1		2-8	2-8	2-8		bf.
P560	4	11-9	49	1		4-8	2-8	4-8		bf.
P561	104	4-1	443	1		0-10	2-8	0-10		bf.
				Superstructure						
S501	672	39-6	27686							sf.
S502	134	25-3	3529							sf.
S503	204	5-5	1153	8	2-2	0-6	2-2			bf.
S504	204	4-8	993	9	1-3	1-8	1-3	0-6		bf.
S505	204	1-8	355							sf.
S506	204	3-2	674	6	0-3	0-11	0-10	0-11	0-6	bf.
S507	204	1-1	231							sf.
S601	406	37-6	22831							sf.
S701	406	37-6	31120							sf.
				Replacement Steel						
RE501	3	5-7								sf.
RE601	2	5-11								sf.
RE701	2	6-2								sf.
RE801	1	6-6								sf.
RE901	1	6-10								sf.
RE1001	1	7-2								sf.
				Walls						
W501	6	10-3	62							sf.
W502	6	15-11	100							sf.
W503	48	19-8	985							sf.
W504	48	28-2	1410							sf.
W505	6	15-1	94							sf.
W506	6	12-1	76							sf.
W507	150	4-2	652							sf.
W508	8	14-5	120							sf.
W509	4	15-1	63							sf.
W510	150	5-3	821							sf.
W511	26	2-4	63							sf.
W512	26	3-5	93							sf.
W513	4	21-1	88							sf.

Bending Diagram



NOTE:
In the reinforcing steel bar marks, the first digit where three digits are used and the first two where four are used is the bar number which indicates the size of the bar

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abut.	Pier	Supers.	Wall	General
E-2	Lump	Sum	Cofferdams, cribs & sheeting		Lump			
E-2	647	Cu.Yd	Unclassified excavation	340	207			
E-4	387	Cu.Yd	Granular Borrow					387
S-1	324	Cu.Yd	Class "C" concrete, superstructure			324		
S-1	201	Cu.Yd	Class "C" concrete, piers above footings		201			
S-1	169	Cu.Yd	Class "E" concrete, footings	111	58			
S-1	180	Cu.Yd	Class "E" concrete, abutments above footings	180				
S-1	68	Cu.Yd	Class "E" concrete, walls on top of existing box culvert				68	
S-3	38	Lin.Ft.	Waterproofing, premolded sealing strip	38				
S-4	141,627	Lbs.	Reinforcing steel	18,059	30,367	88,372	4629	
S-7	285,400	Lbs.	Structural steel			285,400		
S-8	285,400	Lbs.	Field painting of structural steel			285,400		
S-9	67	Sq.Ft.	1" Pref. Exp. Jt. Filler	67				
S-14	306	Lin.Ft.	Railing (Alum. rail, supports & conc. parapets			306		
S-16	Lump	Sum	First test pile					Lump
S-18	3300	Lin.Ft.	Steel piles, 12BP53	1844	1456			
S-22	164	Cu.Yds	Removal of portions of existing structure					164
S-23	Lump	Sum	Dowel holes					Lump
S-29	65	Cu.Yd.	Porous Backfill	65				
S-29	7	Each	Scuppers, including supports			7		
I-10	1160	Cu.Yd.	Dumped Rock Channel Protection					1160
I-10	508	Sq.Yd.	Crushed Aggregate Slope Protection					508
S-101	324	Each	Water-reducing, set retarding admixture			324		

* HORIZONTAL PARAPET REINFORCING
THESE BARS ARE INCLUDED WITH THE RAILING FOR PAYMENT.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

REINFORCING STEEL LIST AND ESTIMATED QUANTITIES.
BRIDGE NO. JEF-7-0525
S.R. 7 OVER RUSH RUN (22-R)
JEFFERSON COUNTY STA-278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BDB	BDB		fwd	TCU	4-25-62	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

62
70

JEFFERSON COUNTY
JEF-7(2.85)(4.85)(5.25)(10.28)
JEF-150- 12.85

REFERENCES:

Supplemental Specifications:	- *S-307, dated 8-23-60*
Standard Drawings:	*S-101 dated 7-12-62*
End Finish and End Cross Frame Details	- CSB-2-56, Sheets 2 & 3 Revised 2-2-59
Gutter and Scupper Details	- CSB-2-56, Sheets 2 & 3 Revised 2-2-59
Beam Splice Details	*SD-1-63 Dated 11-12-63*
Railing Details Type A	- AR-1-57, Revised *4-2-62*
Bearing Plate Details	- CSB-2-56, Sheet 3 Revised 2-2-59
Approach Slab Details	- AS-1-54, Revised *7-5-62*

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with revisions thereof dated 2-21-58 & *5-1-62*

FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of soil sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.

WELDING of structural steel shall be Class "A" except as otherwise shown. Any welds shown as field welds may be, at the option of the contractor, made in the shop. Class "B" welding shown thus:

B)——↘

TRAFFIC MAINTENANCE: For maintenance of traffic and construction sequence, see Roadway Plans.

REMOVAL OF PORTIONS OF EXISTING STRUCTURE: When no longer needed to maintain traffic and after driving the pier piles, the existing box culvert shall be altered as indicated on the plans.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete in the deck slab, the placing of concrete shall progress up grade. The slab may be placed in sections between transverse construction joints which are parallel to the transverse slab bars and are located near the center of any span.

DESIGN DATA

DESIGN LOADING - CF 400(57)

CONCRETE CLASS C - Basic unit stress 1,333 p.s.i.
CONCRETE CLASS E - Basic unit stress 1,133 p.s.i.

STRUCTURAL STEEL - ASTM A36 - basic unit stress 20,000 p.s.i.
(except piling) (ASTM A7 and A373 steel not permitted)

REINFORCING STEEL - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

MACHINE FINISH: The top of the bridge deck slab shall be machine finished in accordance with Item S-1.23.

CRUSHED AGGREGATE SLOPE PROTECTION shall be provided under the structure as indicated on the General Plan.

PILES shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth of rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. S-18.05 is not less than the following value for a pile hammer of the indicated energy rating:

For abutment piles:

45 tons per pile using a 15000 ft. lb. hammer.

For pier piles:

45 tons per pile using an 11000 ft. lb. hammer.
40 tons per pile using a 15000 ft. lb. hammer.

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 40 tons per pile for the abutment piles and 35 tons per pile for the pier piles.

DUMPED ROCK FILTER MATERIAL: The filter material placed under the Dumped Rock Channel Protection shall be placed and paid for under Item E-4. The material shall conform to Item I-22.02.

SHOP PAINTING STEEL: The surface preparation of all steel requiring shop painting as per the Plans and Specifications shall be accomplished by blast cleaning or power tool cleaning, except as noted in the Specifications regarding the use of chromate primers.

CONTINUOUS BEAM SHOP ASSEMBLY: Reference paragraph 4, Sec. S-7.12 of the Construction and Materials Specifications, if rolled beams are field spliced only at supports, for the purpose of checking the fit-up of weld joint preparation, only two adjacent beams need be shop assembled at a time in their correct, unloaded positions. All beams shall be assembled and match marked.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO

GENERAL NOTES
BRIDGE NO. JEF-7-0525
S.R. 7 OVER RUSH RUN (22.2)
JEFFERSON COUNTY
STA 278+12.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
				TLV	4-30-62	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

63
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

GAS LINE NOTES

GENERAL
Contractor shall be responsible for all excavation, relocating of existing line as required, connections to existing line, and repairs to tape coat covering as required so as to provide complete and satisfactory pipe covering.

Contractor shall by backhoe or other means excavate cover over that portion of existing line at connection points. Extreme care shall be exercised as not to rupture or damage the line in any way.

Contractor shall excavate trench or make fill along lines and grades as shown on the plans.

Contractor shall be responsible for purging the line. The existing line shall be cut cold, relocated and connected back to the line with Dresser Couplings Style No. 38, or an approved equal.

Surfaces for welding shall be thoroughly cleaned before welding and completed welds shall be thoroughly cleaned before pipe coating is applied.

Before welding the pipe, ends shall be carefully aligned with respect to each other and shall be tack welded to preserve alignment during welding, the completed weld shall have a reinforcement extending above the exterior surface of the pipe one-sixteenth (1/16") of an inch.

The Contractor shall use only competent and skilled workmen on welding. No welding shall be done except by welders who have qualified on test welds and hold cards from a utility company testifying as to their competency.

The Contractor shall make all pipe bends in the field to conform to the profile of the grade and to the plan of the pipe line.

Where it is necessary to cut the pipe in the field, bevels must be torched out and cleaned for welding.

The Contractor shall supply all welding equipment and welding supplies, such as oxygen, acetylene, carbide and welding rods.

In order that the pipe line be laid to accurate grade, the Contractor shall furnish 4" x 4" wood blocks which are to be firmly embedded in the trench at 25 feet intervals, their upper surfaces to conform to the grades shown on the plan. After blocks are set to grade, the bottom of the trench is to be backfilled with fine loose earth to an elevation slightly above the top surface of the blocks so that the barrel of the pipe will embed itself to a bearing between the blocks.

After the line is laid, the Contractor shall furnish the labor and necessary equipment for conducting air pressure tests and dead weight leakage test at 100 pounds per sq. in. in pressure, and to repair or replace faulty or defective material or work of an inferior character. After leakage tests are satisfactorily completed, the line shall be tied into the existing line. A minimum cover of 2 feet shall be placed over the pipe,and immediately and thoroughly tamped.

The open ends of the pipe shall be securely closed at the end of each day's work to prevent entrance of small animals or the introduction of foreign matter of any nature.

At night, or when work ceases for any appreciable length of time, lighted yellow lanterns or highway flare torches spaced no more than 50 feet apart will be maintained along all open trenches.

The Contractor shall place gas line and drip identification markers after final fill has been made.

All work performed by the Contractor shall be subject to inspection by an authorized representative of the Wheeling Steel Corporation in addition to the inspection provided by the State Highway Department. Any work found defective shall be corrected at the Contractor's expense.

STEEL PIPE
Steel pipe shall be as specified for Schedule 40, Grade A, black, seamless pipe in the American Society for Testing Materials Standards A-53, A-106 or as specified for Schedule 40 Grade A, black, electric resistance welded pipe in ASTM Standard A-135. The Contractor shall have the option of furnishing pipe conforming to the requirements of any one of the above specifications.

PROTECTIVE COVERING
All straight pipe to be placed underground shall be given a protective covering mechanically applied in a factory or field plant especially equipped for that purpose. Specials and fittings which cannot be coated and wrapped mechanically, shall have the protective covering applied by hand. After the pipe has satisfactorily passed the air pressure tests, all joints shall be coated and wrapped by hand. All hand coating and wrapping shall be done in a manner and with materials which will produce a covering equal in effectiveness to that of the mechanically applied covering. All pipe to receive protective covering shall be thoroughly cleaned of all rust, scale, oil, grease and other matter which would interfere with the proper adhesion of the primer coat before any protective wrapping is applied.

The exterior protection of all underground pipe and fittings shall consist of the following coatings and coverings applied in the order of their listing below:

1. Coal-tar primer
2. Coal-tar enamel (3/32 in., +1/32 in., thick)
3. Fibrous glass mat.
4. Coal-tar enamel (1/32 in. minimum)
5. Bonded asbestos felt
6. Kraft paper

All such materials and applications shall be in accordance with AWWA Specifications C203, together with Section A1.4 of the Appendix of the Specification.

Special precautions shall be observed in handling of the pipe to prevent damage to the wrapping. Slings of belting or other suitable material shall be used.

Malleable iron fittings shall be covered with protective covering as specified for steel pipe.

SCHEDULING
The Contractor shall perform his operations in such a manner that the connections to the existing gas line may be made simultaneously at the Warrenton, Shannon Run and Tarrs Run sites. The existing gas line may be out of service for a period of time not to exceed twelve (12) consecutive hours.

NOTIFICATION
The Contractor shall notify the Wheeling Steel Corporation at least four days in advance of the time he anticipates making connections between the relocated line and the existing line.

OPERATION OF VALVES
The Contractor shall not operate existing valves. All existing valves shall be operated by representatives of the Wheeling Steel Corporation.

CASING PIPE
The casing pipe shall have a smooth shell with an outside diameter of 14 inches and a wall thickness of 1/4" and meet requirements of ASTM Specification A-139. The casing pipe shall be coated on the outside only with a bituminous material meeting the requirements of M-6.4(c). The adjoining pipe ends shall be butt welded around the entire pipe periphery. A leaded joint shall be provided between the 14" casing pipe and the 10" carrier pipe. The price bid per foot for Item I-1, 14" Steel Casing Pipe, as per plan, shall constitute full compensation for all labor, materials and equipment, all as required for excavation, installation and backfilling at locations shown on the drawings. The carrier pipe which is to be installed in the casing pipe shall be paid for separately.
If the casing pipe is placed by open trench method the backfill shall be Type I as described in Sec. I-1.07.

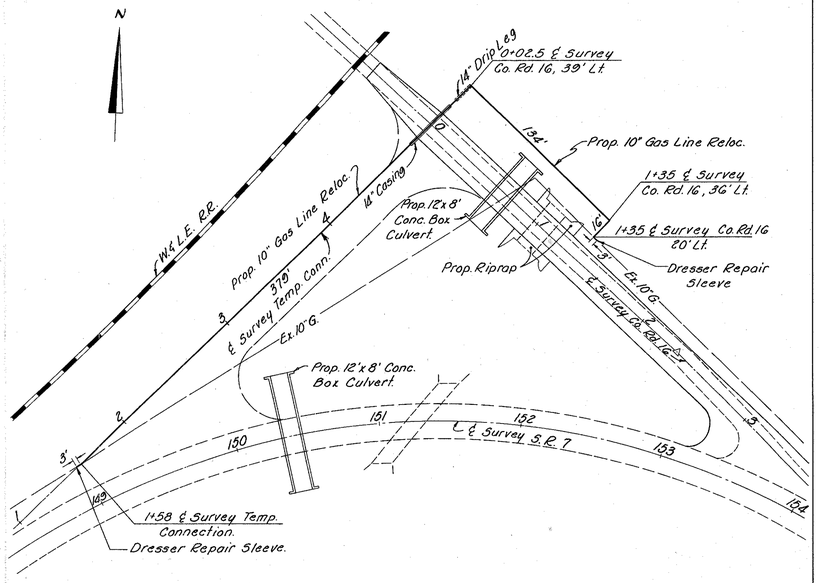
MALLEABLE IRON FITTINGS
Malleable iron fittings shall be as specified in the American Society for Testing Materials Standards A-47.

DRIP LEG VALVE
The drip leg valves shall be Homestead Semi-Steel Plug Valves, Not Lubricated, Fig. 601, or an approved equal.

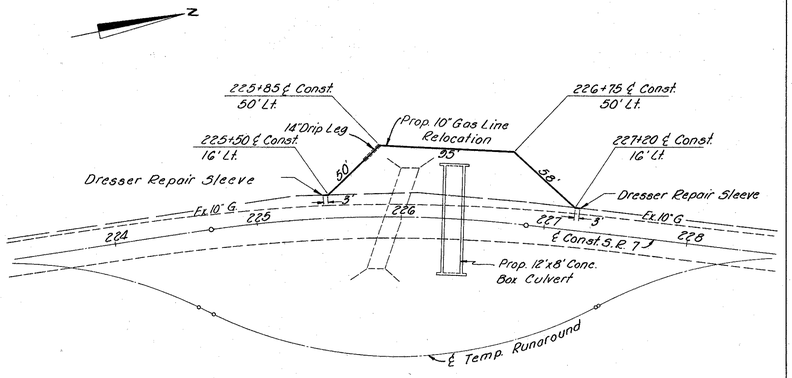
PAYMENT
The footage of pipe to be paid for shall be the actual number of lineal feet of 10" gas line measured along the centerline of the gas line relocations and shall be paid for at the contract price bid per lineal foot for Item Special - 10" Gas Line, as per plan, which price and payment shall constitute full compensation for excavating and for furnishing, hauling and placing all material including backfill, both granular and earth, the removal of all surplus excavation and discarded material, furnishing and constructing joints and connections to existing pipes, purging, testing, wrapping and any other items necessary to perform the work as outlined above or in the plans including all materials and work necessary to construct the 10" gas line, the gas line markers, the Drip Leg complete, and the drip identification post and signs.

COVER
Where the proposed gas line is to be placed within the Temporary Connection at the Warrenton site, a minimum cover of three (3) feet shall be left over the gas line when the area is restored to it's original condition after the Temporary Connection is no longer needed for Traffic Maintenance.

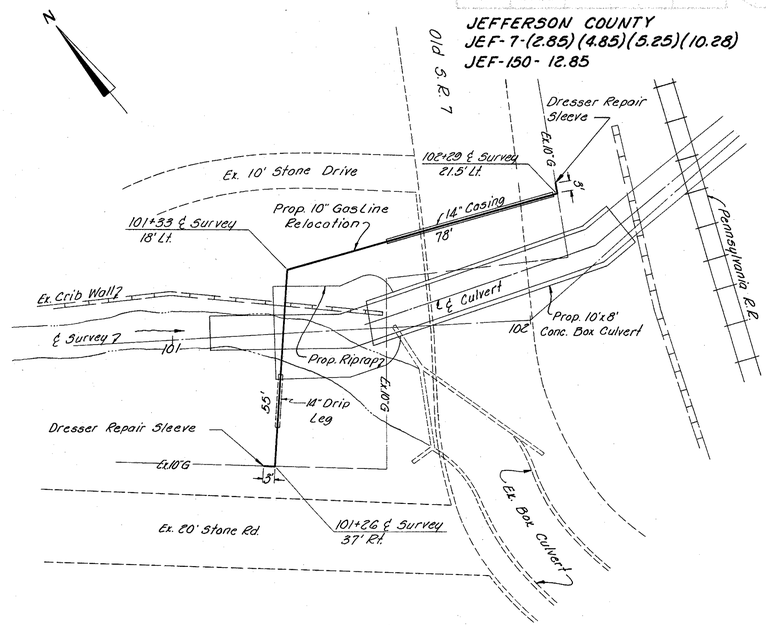
JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85



10" GAS LINE RELOCATION ~ WARRENTON
Scale : 1" = 50'



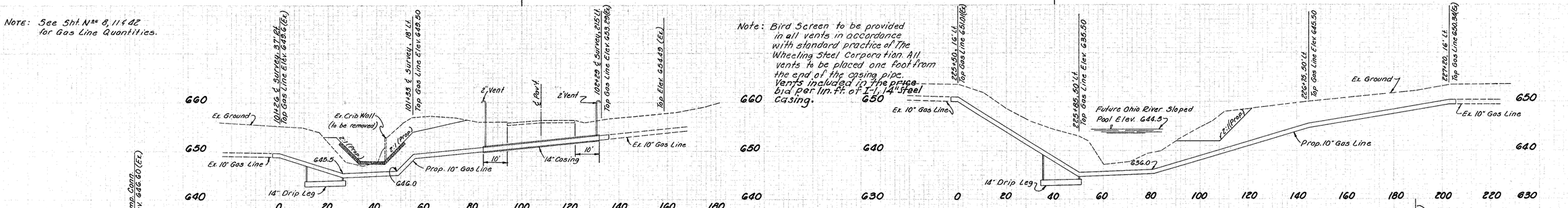
10" GAS LINE RELOCATION ~ SHANNON RUN
Scale : 1" = 50'



10" GAS LINE RELOCATION ~ TARRS RUN
Scale : 1" = 20'

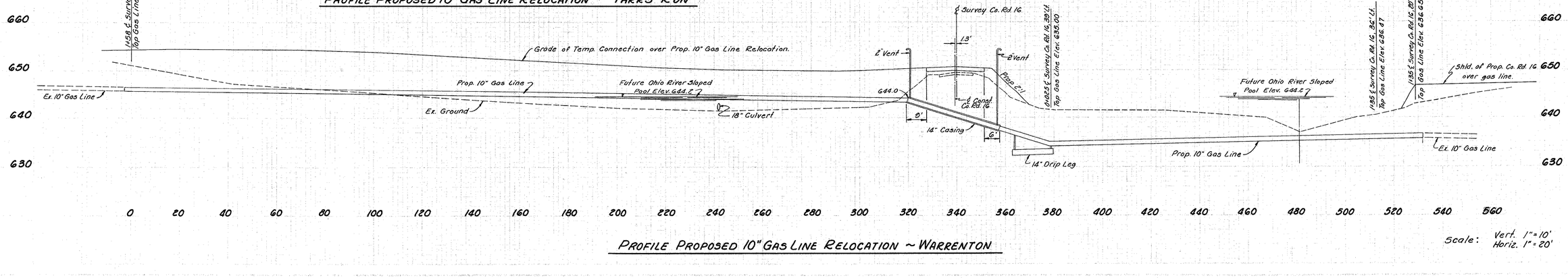
NOTE: See Sht. Nos. 8, 11 & 42 for Gas Line Quantities.

Note: Bird Screen to be provided in all vents in accordance with standard practice of the Wheeling Steel Corporation. All vents to be placed one foot from the end of the casing pipe. Vents included in the price bid per lin. ft. of 1'-1, 14" steel casing.



PROFILE PROPOSED 10" GAS LINE RELOCATION ~ TARRS RUN

PROFILE PROPOSED 10" GAS LINE RELOCATION ~ SHANNON RUN



PROFILE PROPOSED 10" GAS LINE RELOCATION ~ WARRENTON

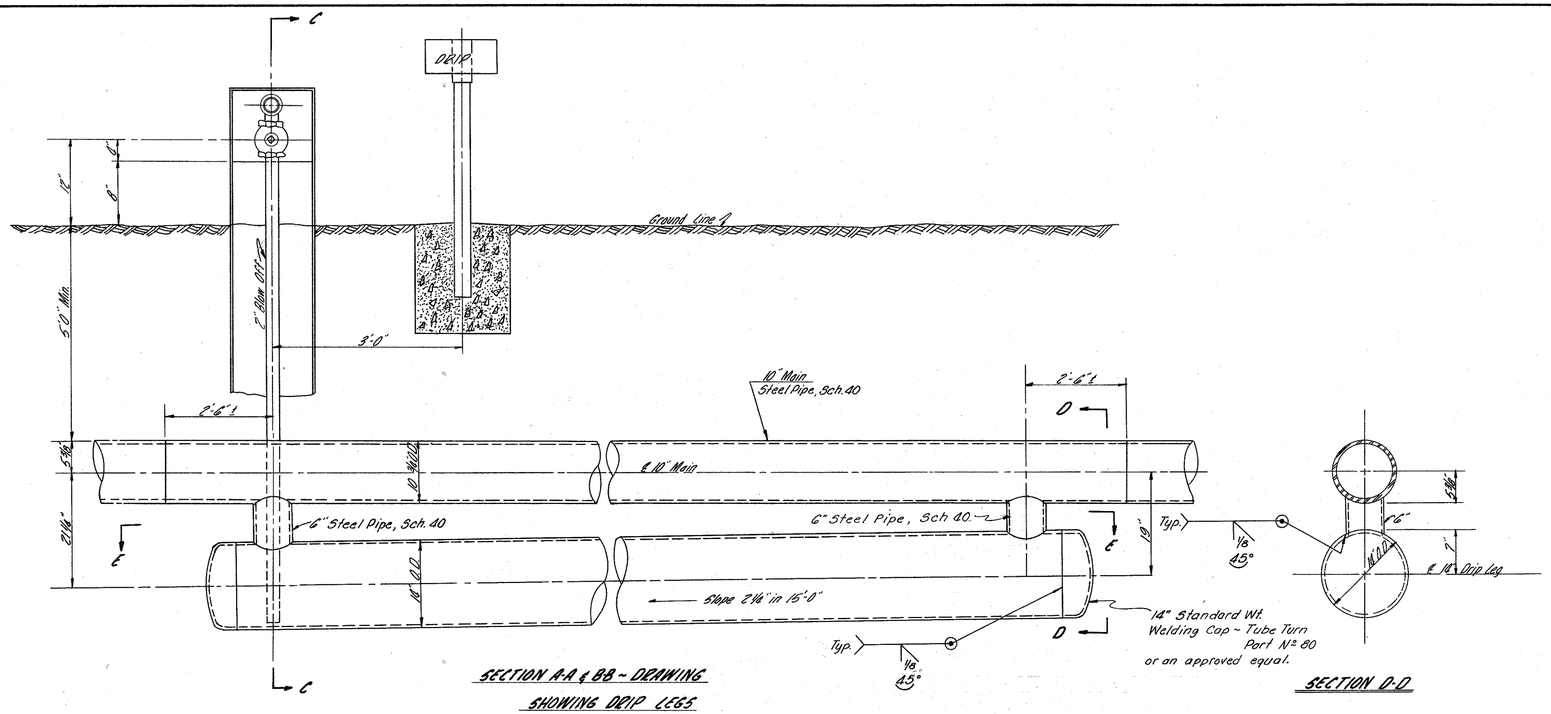
Scale: Vert. 1" = 10'
Horiz. 1" = 20'

10" GAS LINE RELOCATION ~ WARRENTON, SHANNON RUN & TARRS RUN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

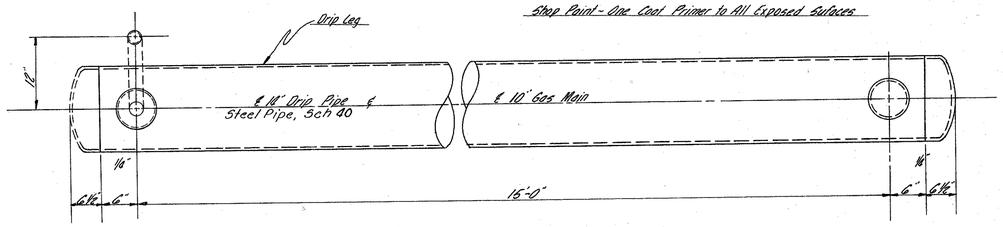
65
70

JEFFERSON COUNTY
JEF.-7-(2.85)(4.85)(5.25)(10.28)
JEF.-150-12.85



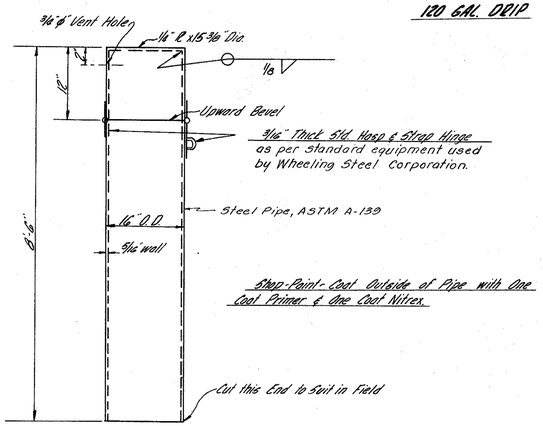
SECTION A-A & BB - DRAWING SHOWING DRIP LEGS

SECTION D-D

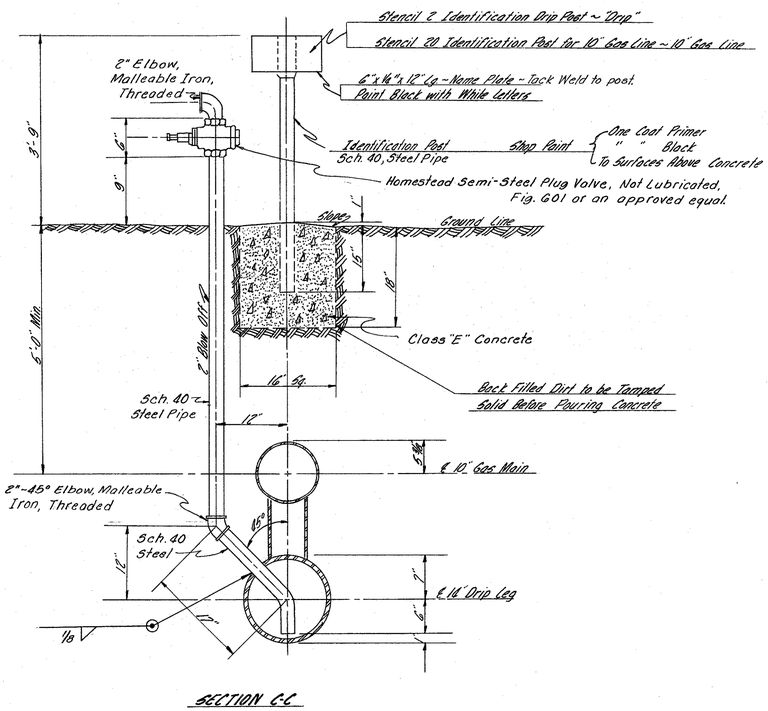


SECTION E-E

120 GAL. DRIP



COVER FOR DRIP BLOW OFF VALVES - 3 REQ'D.



SECTION C-C

Note: Stencil Numbers are to be in accordance with the Wheeling Steel Corporation Standards. White and Black Paint shall be in accordance with Sec. M-9.6 and M-9.8, respectively.

Note: Ten (10) Gas Line Markers to be provided & located as directed by the Engineer. Type of identification post & name plate size to be the same as that used for the drip legs. (See detail this sheet.)

Scale 1"=1'-0"

DRIP LEG DETAILS - 10" GAS LINE RELOCATION

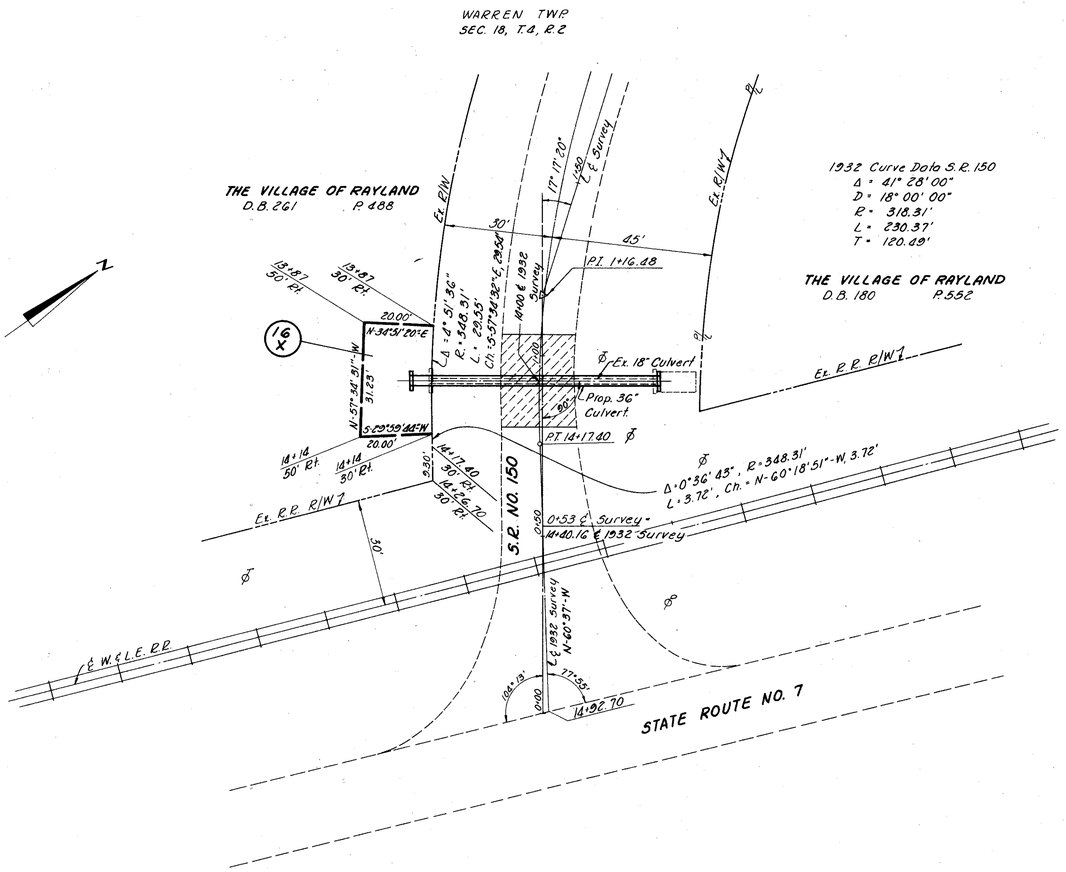
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

66
70

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

Parcel No.	Owner	Deed Record		Deed Area	To be Acquired		Remarks
		Book	Page		Land	Bldg's.	
(16 X)	The Village of Rayland	261	488	1.85	0.01	No	



Scale: 1" = 20'

Note: R/W plusses and offsets are referenced to the 1932 Survey Centerline.

REV.	DATE	DESCRIPTION	BY

RAYLAND R/W

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

67
70

JEFFERSON COUNTY
JEF-7-(12.85)(8.85)(5.25)(10.28)
JEF-150-12.85

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

Parcel No.	Owner	Deed Record Book	Deed Record Page	Deed Area	To be Acquired Land	To be Acquired Bldgs.	Remarks
1	Ohio Edison Company	379	492	87.74	0.05	No	
2	William W. Neely, ETAL	298	577		0.02	No	
2 WA	William W. Neely, ETAL				0.04	No	
3	Joseph Wilson	105	525	1.50	0.55	No	
4-T	Wheeling & Lake Erie Railroad Co.	72	5	0.12	0.065	No	
5	Board of County Commissioners	147	329	1.20	0.10	No	
5-X	Board of County Commissioners				0.08	No	

Note: Valuation Survey Stations shown on The Wheeling and Lake Erie Railroad are referred to those shown on Railroad Company R/W Track Map V8C, Sheet 1.

WARREN TWP.
SEC. 12, T 4, R 2

N

N G 19,000

N G 18,500

E 1663,000

E 1669,500

E 1670,000

OHIO EDISON COMPANY
D.B. 379, P. 492
2-C-60

JOSEPH WILSON
D.B. 105, P. 525
7-12-12

WILLIAM W. NEELY, ETAL
D.B. 298, P. 577

WHEELING STEEL CORPORATION
D.B. 243, P. 77

MARIE DAILEY, ETAL
D.B. 363, P. 119

BERTHA STONEBRAKER, ETAL
D.B. 276, P. 532

BOARD OF COUNTY COMMISSIONERS
D.B. 160, P. 200
12-26-33

WHEELING & LAKE ERIE RAILROAD CO.

A	D.B. 72, P. 7	1-29-95
B	D.B. 72, P. 5	1-29-95
C	D.B. 64, P. 498	5-5-90
E	D.B. 65, P. 43	7-15-90

BOARD OF COUNTY COMMISSIONERS

D	D.B. 160, P. 200	12-26-33

EX. R.R. CURVE DATA
Δ = 17°47'00"
D = 1° 30'00"
L = 1,185.55'
T = 597.59'

S.R.-7 CURVE DATA
P.I. 152+58.33
Δ = 80°25'00"
D = 11°00'00"
R = 520.87'
L = 731.06'
T = 440.30'
E = 161.16'

REV.	DATE	DESCRIPTION	BY

146+00 to 156+00 WARRENTON R/W

Mega-Flex Tracing

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEFFERSON COUNTY
JEF - 7 - (2.85)(4.85)(5.25)(10.28)
JEF - 150 - 12.85

WARREN TWP.
SEC. 7, T.5, R.2

CURVE DATA
S.R.-7 ℄ CONST.
P.I. 225+76.72
Δ = 15°-22'-00"
D = 7°-00'-00"
R = 818.51'
L = 219.52'
T = 110.42'


JOHN W. LETUSICK, JR.
D.B. 263, P. 122 4-20-50
STEUBENVILLE DRIVE-IN LAND COMPANY
D.B. 237, P. 423 3-4-48
THE SUNNYSIDE ELECTRIC COMPANY
D.B. 110 1.40 2-17-10
(Riverside Drive In)
15' Gravel Drive
Entrance to Drive In (Gravel)
2 Mail Boxes
High Tension Towers
OHIO RIVER
RESUME PROJECT
SUSPEND PROJECT
RESUME WORK 222+90.00
SUSPEND WORK 229+00.00
Ex. 10'x10' Conc. Box Culvert
Const. Limits (Permanent)
Temp. Const. Limits
℄ Temporary Runaround
10" Gas Line Relocation (Ohio Valley Corp.)
Cont. 0.54 Ac.±
Cont. 0.11 Ac.±
Δ = 1°05'00", R = 843.51'
L = 15.46', L.C. = 15.46'
Ch. = S-8°49'01"-W
Δ = 9°30'27", R = 843.51'
L = 139.97', L.C. = 139.81'
Ch. = S-14°05'46"-W
Δ = 9°21'33", R = 763.51'
L = 124.72', L.C. = 124.58'
Ch. = N-8°09'47"-E
Δ = 0°47'28", R = 763.51'
L = 10.54', L.C. = 10.54'
Ch. = N-18°29'13"-E
Δ = 5°15'00", R = 763.51'
L = 69.96', L.C. = 69.94'
Ch. = N-15°28'02"-E
P.I. 2+83.01 Temp. = 223+75.75 ℄ Const.
P.I. 7+45.12 Temp. = 228+13.35 ℄ Const.
P.I. 5+29.65 Temp. = 43.27' N-18°51'E of P.I. 225+76.72 ℄ Const., 138.93' Rt.
E-1,673,500
E-1,674,000
N-623,000
N-623,500
N-624,000

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

Parcel No.	Owner	Deed Record Book	Deed Record Page	Deed Area	To be Acquired Land	To be Acquired Bldgs.	Remarks
6-T	John W. Letusick, Jr.	263	122	0.54	No		
6-X	John W. Letusick, Jr.			0.11	No		
6-Y	John W. Letusick, Jr.			0.10	No		
6-S	John W. Letusick, Jr.			0.09	No		

CURVE DATA (TEMPORARY RUNAROUND)

P.I. 2+83.01	P.I. 5+29.65	P.I. 7+45.12
Δ = 35° 14' 10"	Δ = 55° 23' 12"	Δ = 35° 31' 02"
D = 20° 00' 00"	D = 20° 00' 00"	D = 21° 00' 00"
R = 286.48'	R = 286.48'	R = 272.84'
L = 176.18'	L = 276.93'	L = 169.13'
T = 90.80'	T = 150.36'	T = 87.38'

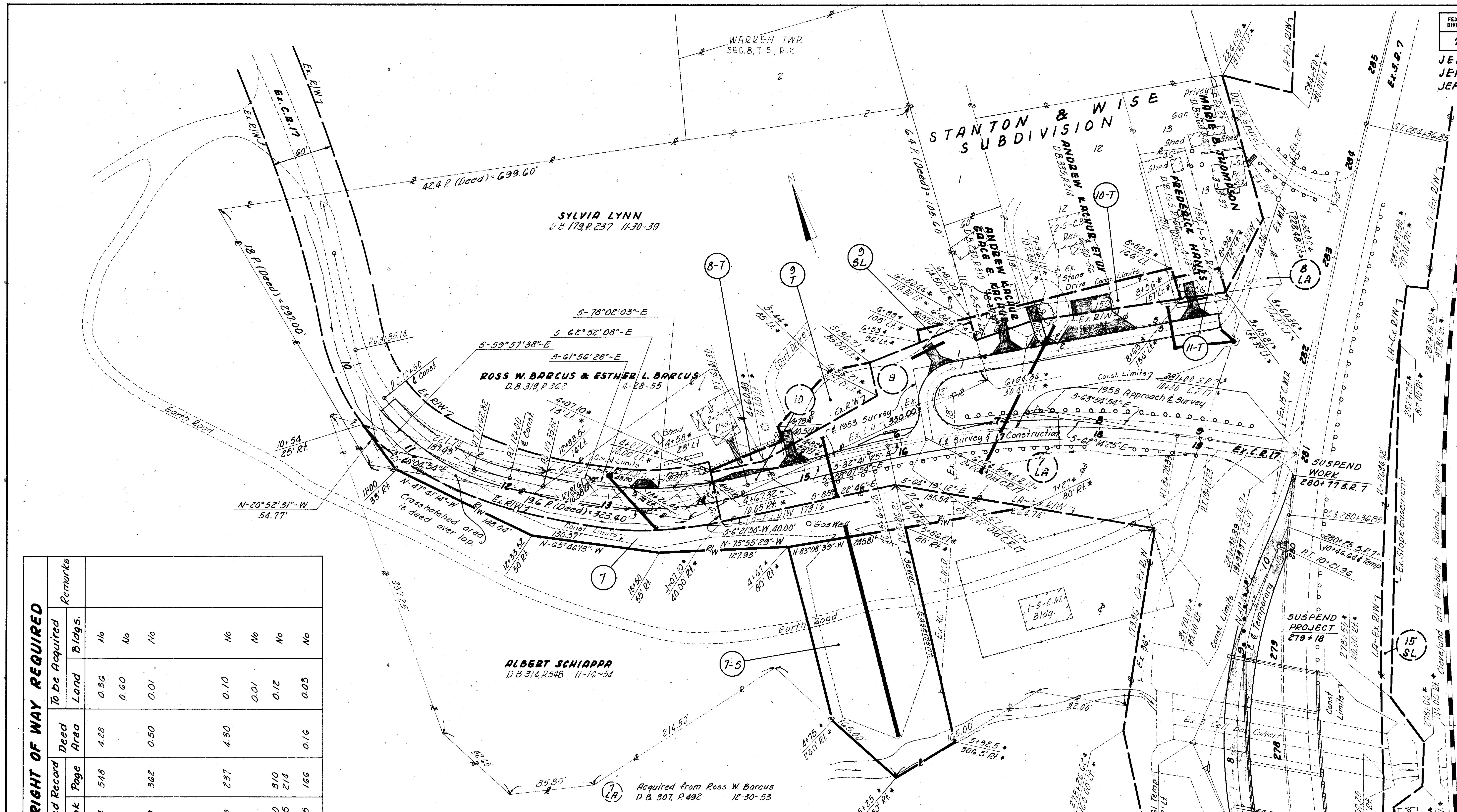
REV.	DATE	DESCRIPTION	BY

Mega-Flex Tracing

220+90 to 230+00 SHANNON RUN R/W

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEFFERSON COUNTY
JEF-7(2.85) (4.85) (5.25) (10.28)
JEF-150- 12.85



Note: No additional Right-of-Way required for proposed S.R. 7 structure at Rush Run. For additional information on existing Right-of-Way see Sheet Nº 14.

Ex. CURVE DATA
Old Co. Rd. 17
P.I. 0+70.50
Δ = 89°07'30"
D = 160°00'00"
R = 35.81'
L = 56.80'
T = 36.36'
E = 15.22'

Ex. CURVE DATA
Co. Rd. 17
P.I. 7+33.85
Δ = 20°27'00"
D = 7°00'00"
R = 818.51'
L = 292.12'
T = 147.64'
E = 13.21'

Ex. Curve Data ~ S.R. 7
P.I. 278+03.64
Δ = 36°00'00" Rt.
D = 4°00'00"
L_s = 400'
T_s = 666.79'
L_c = 500.00'
E_s = 78.60'
R_c = 1432.39'

Proposed Curve Data Temporary S.R.-7
P.I. 8+34.61
Δ = 47°57'49"
D = 12°00'00"
R = 477.47'
L = 399.70'
T = 212.40'
E = 45.11'

CURVE DATA
€ Survey Old C.R. 17
P.I. 0+70.50
Δ = 89°07'30"
D = 160°00'00"
R = 35.81'
L = 55.70'
T = 35.27'

CURVE DATA
€ Const. Old C.R. 17
P.I. 0+74.47
Δ = 89°07'30"
D = 176°32'28"
R = 32.50'
L = 50.48'
T = 32.01'

~ CURVE DATA ~

P.I. 8+36.38	P.I. 10+84.54	P.I. 11+27.80 € Const.	P.I. 13+39.54	P.I. 17+41.88
Δ = 9°48'00"	Δ = 63°58'00"	Δ = 37°30'00"	Δ = 28°03'00"	Δ = 24°13'00"
D = 10°00'00"	D = 36°00'00"	D = 25°00'00"	D = 13°30'00"	D = 7°00'00"
R = 572.96'	R = 159.16'	R = 229.18'	R = 424.41	R = 818.51'
L = 98.00'	L = 177.68'	L = 150.00'	L = 207.78'	L = 345.95'
T = 49.12'	T = 99.40'	T = 77.80'	T = 106.02'	T = 175.60'

(7 LA) Acquired from Ross W. Barcus D.B. 307, P. 492 12-30-53

(8 LA) Acquired from Marie B. Thompson D.B. 307, P. 502 12-15-53

(9) Acquired from Sylvia Lynn D.B. 307, P. 494 12-15-53

(10) Acquired from Charles A. Long D.B. 307, P. 500 1-5-54

(15 SL) Acquired from The Cleveland & Pittsburgh Railroad Company D.B. 318, P. 541 5-9-55

Note: All plusses & offsets on this sheet followed by an asterisk (*) refer to the € of a 1953 survey made by the State of Ohio Highway Department. All others refer to the € of survey for this project unless otherwise indicated.

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

Parcel Nº	Owner	Deed Record Book	Deed Record Page	Deed Area	To be Acquired Land	To be Acquired Bldgs.	Remarks
7	Albert Schiappa	314	548	4.28	0.36	No	
7-S	Albert Schiappa				0.60	No	
8-T	Ross W. & Esther L. Barcus	319	362	0.50	0.01	No	
9-T	Sylvia Lynn	179	237	4.30	0.10	No	
9 SL	Sylvia Lynn				0.01	No	
10-T	Andrew & Grace E. Kachur	230 335	310 214		0.12	No	
11-T	Frederick Hanks	165	166	0.16	0.03	No	

REV.	DATE	DESCRIPTION	BY

10+00 to 20+00 Co. Rd. 17 € 275+00 to 285+00 RUSH RUN R/W

Mega-Flex Tracing

FED. RD. DIVISION	STATE	PROJECT		70 / 70
2	OHIO			

JEFFERSON COUNTY
JEF-7-(2.85)(4.85)(5.25)(10.28)
JEF-150-12.85
TARRS RUN

SUMMARY OF ADDITIONAL RIGHT OF WAY REQUIRED

Parcel No	Owner	Deed Record		Deed Area	To be Acquired		Remarks
		Book	Page		Land	Bldgs.	
12 S	Wheeling & Lake Erie Railroad	Claimed by Adverse Possession, no records available.			0.032	No	
12-A-S	Wheeling & Lake Erie Railroad				0.096	No	
12 WA	Wheeling & Lake Erie Railroad				0.038	No	
13 S	Village of Brilliant	147 192	554 199		0.03	No	
14 S	The Cleveland & Pittsburgh Railroad				0.060	No	
15 X	C.W. & V.E. Tarr	132	524		0.05	No	
15 S	C.W. & V.E. Tarr				0.03	No	

Ex. S.R. 7 CURVE DATA
P.I. 549+15.90
Δ = 13°00'00"
D = 1°10'00"
R = 4911.07'
L = 1114.29'
T = 559.55'
E = 31.77'

Note
Valuation Survey Stations shown on The Cleveland and Pittsburgh Railroad are referred to those shown on Railroad Company R/W Track Map V-10 Ohio, Sheet 24.

Note
Valuation Survey Stations shown on The Wheeling and Lake Erie Railroad are referred to those shown on Railroad Company R/W Track Map V8C, Sheet 8.

Ex. Curve Data
S.R. 7
P.I. 528+42.23
Δ = 47°16'00"
D = 1°50'00"
R = 3125.23'
Ls = 250'
Ts = 1492.90'
Lc = 2328.18'
Es = 287.02'

NOTE Exact Railroad Curve Data is not available
Approx. Curve Data
D = 1°15'
R = 4583.75'
(Claimed by Adverse Possession)
No Records Available.

REV	DATE	DESCRIPTION	BY

Mega-Flex Tracing

TARRS RUN R/W