MICROFILMED
OCT 6 1982

APR 14 1980

U-RF-430(15)

FHWA REGION	STATE	PROJECT	
5	OHIO	U-RF-430(15)	

1/462

BELMONT & JEFFERSON COUNTIES
BEL.-7-23.74 JEF.-7-0.00

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BEL-7-23.74 JEF-7-0.00

BELMONT COUNTY

CITY OF MARTINS FERRY
PEASE TOWNSHIP

Sheets 348 & 359 revised 2-7-75 EBL
Sheet 395 revised 10-21-75 EBL
Sheet 367 revised 11-14-75 EBL

JEFFERSON COUNTY

WARREN TOWNSHIP
VILLAGE OF YORKVILLE

CONVENTIONAL SIGNS

Limited Access R/W — LA R/W
Limited Access Only — LA
Existing R/W
Proposed R/W — R/W
Proposed R/W Fence
Center Line
Section Line
County Line
Township Line
Property Line — ℄
Existing Fence Line — × × ×
Gas Line — G G
Gas Valve
Existing Sewer
Proposed Sewer
Trees & Stumps
Trees & Stumps to be Removed
Power Pole
Light Pole
Railroads
Proposed Guard Rail
Proposed Catch Basin
Telephone or Telegraph Pole
Manholes Reconstructed or Adjusted
Existing Catch Basins
Existing Guard Rail
State Line
Construction Limits

Water Line — W
Water Valves
Water Hydrant
Existing Manholes
Proposed Manholes

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Sheet Nº 314, 315 & 430 Deleted

LINE DATA SUMMARY

Length of U- 430(15) Project = 723.20 L.F. or 0.136 Mi.
Length of RF-430(15) Project = 16,102.66 L.F. or 3.050 Mi.
TOTAL NET LENGTH OF PROJECT = 16,825.86 L.F. or 3.186 Mi.

Length of U- 430(15) Work = 1348.20 L.F. or 0.255 Mi.
Length of RF-430(15) Work = 16,102.66 L.F. or 3.050 Mi.
TOTAL NET LENGTH OF WORK = 17,450.86 L.F. or 3.305 Mi.

WORK ADDITIONS

TOTAL Length of Work Additions RF-430(15) = 1996.51 L.F. or 0.378 Mi.
TOTAL Length of Work RF-430(15) = 18,099.17 L.F. or 3.428 Mi.
TOTAL Length of Work U- 430(15) = 1348.20 L.F. or 0.255 Mi.
TOTAL NET Length of Work = 19,447.37 L.F. or 3.683 Mi.

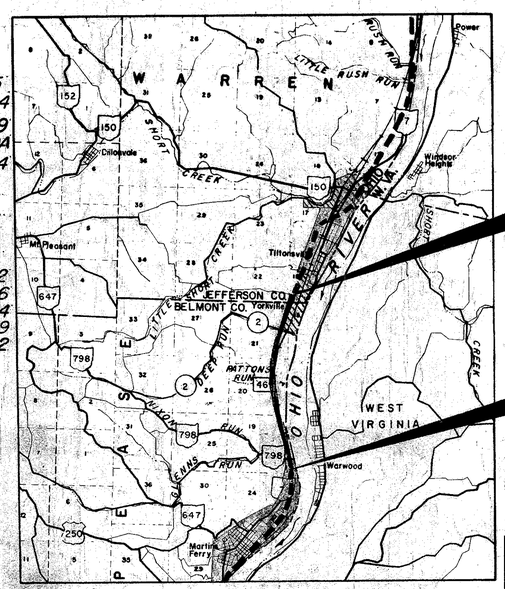
Data from Sheet Nº 3

BELMONT & JEFFERSON COUNTIES BEL-7-23.74 JEF-7-0.00

DATE OF LETTING 19
CONTRACT NUMBER

STANDARD DRAWINGS

NUMBER	DATE	NUMBER	DATE
BP-1	6-1-65	HW-4	1-1-70
BP-2	12-1-68	L-1	6-1-73
BP-3	1-1-71	MC-1	6-13-69
BP-4	1-1-71	MC-3	6-1-73
BP-5	6-1-72	MC-4	6-13-69
BP-6	6-1-65	MC-5	6-1-65
BP-7	1-1-66	MC-6	6-1-65
BP-9	1-1-71	MC-7	10-1-68
CB 2-2A & B	6-1-65	MC-8	12-1-67
CB 3	6-1-65	MH-1	10-1-68
CB 4	9-1-69	MH-1A	10-1-68
CB 5	9-1-69	I-2	6-6-69
CB 458A	6-6-68	HL-15, HL-16	4-6-73
CB 6	6-1-65	I-2A	6-6-69
F-1	6-1-72	HL-1	9-6-73
F-2	1-1-71	HL-2, HL-3	7-27-73
F-3	3-10-69	HL-4, thru HL-10	9-6-73
F-5	3-10-69	HL-11, HL-12	4-6-73
GR-2B	11-9-71	SD-1-69	6-12-69
GR-3	11-9-71	BR-1-67	10-5-71
GR-5	1-1-71	RB-1-55	2-2-59
		AS-1-72	6-30-72
L-2	6-1-73	BR-2-67	10-15-71
GR-2A	1-1-71	GR-4	11-9-71
		GR-6	1-1-71
		1-3	1-20-70
		AS-1-67	6-12-69
		MC-9	1-1-74



LOCATION MAP

SCALE OF MILES 0 1/2 1 2

PORTION TO BE IMPROVED
US HIGHWAYS
STATE HIGHWAYS
COUNTY ROADS
TOWNSHIP ROADS
PROPOSED PROJECT

SCALE
PLAN AND PROFILE 0 25' 50' 100'
VERTICAL 0 5' 10' 20'
PAVEMENT DETAILS 0 10' 20' 40'
CROSS SECTIONS 0 5' 10' 20'
0 10' 20' 40'

N

END PROJECT
STA. 10+50.91
S.L.M. 0.20

BEGIN PROJECT
STA. 1258+00
S.L.M. 23.74

"LIMITED ACCESS"

This improvement is especially designed for thru traffic and has been declared a Limited Access Highway or Freeway by action of the Director of Transportation, in accordance with the provisions of Sec. 5511.02 of The Revised Code of Ohio.

1973 SPECIFICATIONS

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

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

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

Approved Robert F. Jenkins
Date 2-8-71 District Deputy Director of Transportation

Approved Robert B. Pfeifer
Date 8-30-74 Engineer, Bureau of Bridges

Approved E. J. Shaffer
Date 8-30-74 Engineer, Bureau of Roadway Design

Approved W. C. Sholl
Date 8-30-74 Assistant Deputy Director for Highway Design

Approved John Dewar
Date 8-30-74 Assistant Deputy Director for Real Estate

Approved William Bumbly
Date 8-30-74 Assistant Deputy Director for Program Development

Approved
Date Chief Engineer, Division of Highways

Approved William W. Baker
Date 9-3-74 Deputy Director, Division of Highways

Approved William P. McKenna
Date 9-3-74 Assistant Director, Department of Transportation

Approved
Date 9/3/74 Director, Department of Transportation

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

SUPPLEMENTAL SPECIFICATIONS

NUMBER	DATE	NUMBER	DATE
		1001	9-20-72
808	1-1-71	941	11-28-73
814	1-1-69	942	11-25-70
815	9-20-72	948	2-19-74
816	9-20-72	901	5-18-65
836	1-1-71	5625	1-11-74
839	11-25-70	5713	1-11-74

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

STATE OF OHIO ALDEN E. STILSON 18330 REGISTERED PROFESSIONAL ENGINEER

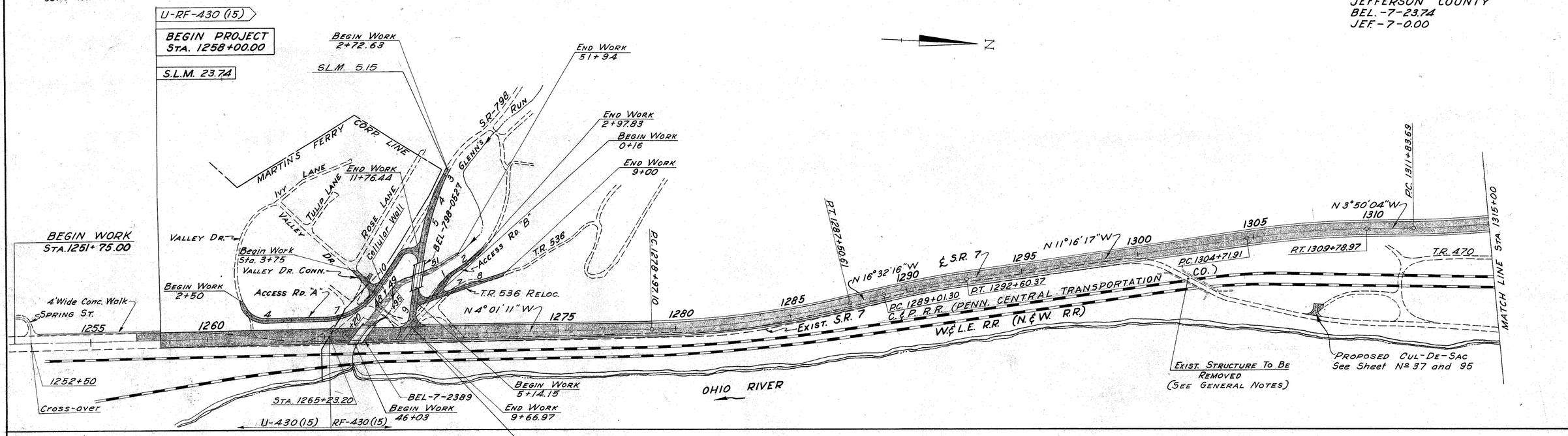
DIVISION ENGINEER DATE

SCHEMATIC PLAN

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



DESIGN DESIGNATION

CURRENT ADT (1974)	19,411
DESIGN YEAR ADT (1994)	33,238
D.H.V.	3324
D. (DIRECTIONAL)	1994
T. PERCENT B&C	15%
V. DESIGN SPEED	60 M.P.H.

NOTE: SEE SHEET No's. 25, 26, 27 & 28 FOR GEOMETRIC LAYOUT

SCHEMATIC PLAN

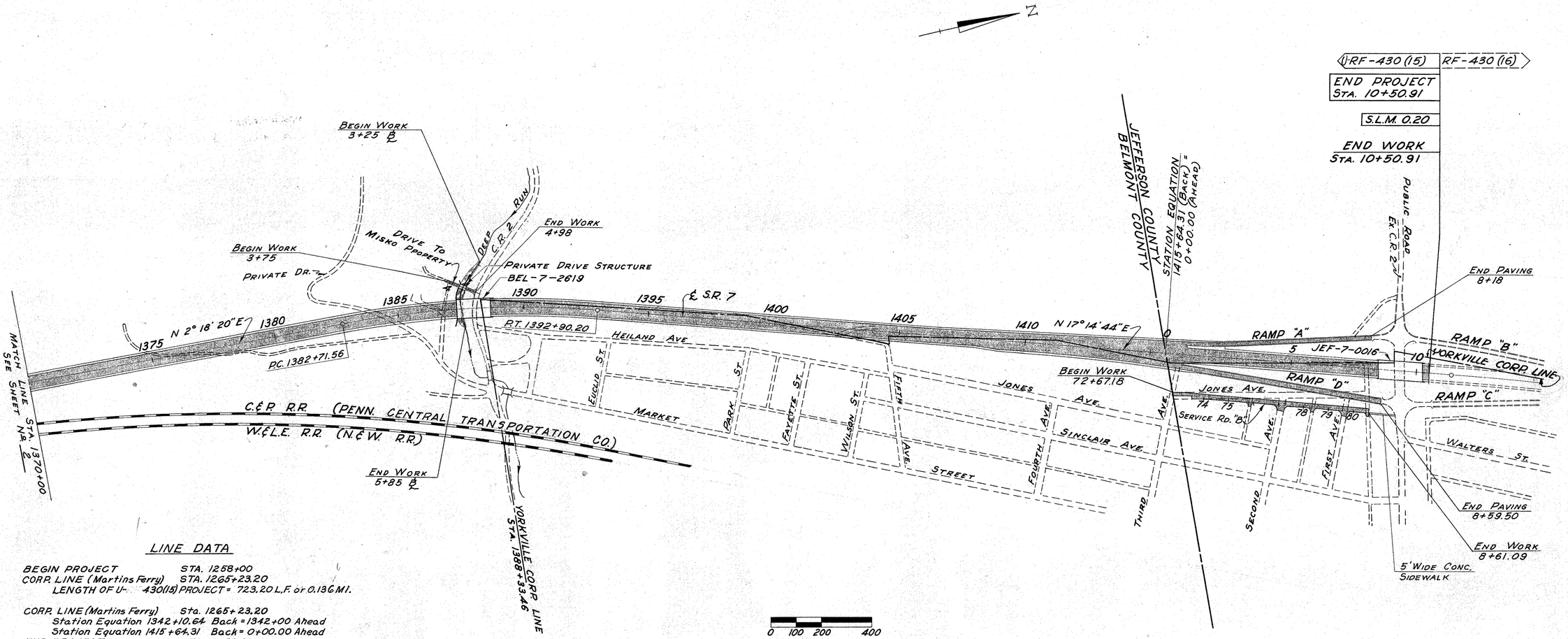
MICROFILMED
OCT 6 1982

SCHEMATIC PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3/462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



LINE DATA

BEGIN PROJECT STA. 1258+00
CORP. LINE (Martins Ferry) STA. 1265+23.20
LENGTH OF U- 430(15) PROJECT = 723.20 L.F. or 0.136 MI.

CORP. LINE (Martins Ferry) Sta. 1265+23.20
Station Equation 1342+10.64 Back = 1342+00 Ahead
Station Equation 1415+64.31 Back = 0+00.00 Ahead
END PROJECT STA. 10+50.91
LENGTH OF RF-430(15) PROJECT = 16,102.66 L.F. or 3.050 Mi.
TOTAL NET LENGTH OF PROJECT = 16,825.86 L.F. or 3.186 Mi.

BEGIN WORK STA. 1251+75.00
CORP. LINE (Martins Ferry) STA. 1265+23.20
LENGTH OF U- 430(15) Work = 1348.20 L.F. or 0.255 MI.

CORP. LINE (Martins Ferry) STA. 1265+23.20
Station Equation 1342+10.64 Back = 1342+00 Ahead
Station Equation 1415+64.31 Back = 0+00.00 Ahead
END WORK STA. 10+50.91
LENGTH OF RF-430(15) WORK = 16,102.66 L.F. or 3.050 Mi.
TOTAL NET LENGTH OF WORK = 17,450.86 L.F. or 3.305 Mi.

WORK ADDITIONS

S.R. 798 STA. 2+72.63 to STA. 9+66.97 = 694.34 L.F.
T.R. 469 Conn STA. 38+27.50 to STA. 51+29.67 = 1302.17 L.F.
Total Length of Work Additions RF-430(15) = 1996.51 L.F. or 0.378 MI.
Total Length of Work RF-430(15) = 18099.17 L.F. or 3.428 Mi.
Total Length of Work U- 430(15) = 1348.20 L.F. or 0.255 Mi.
Total Net Length of work = 19447.37 L.F. or 3.683 MI.

DESIGN DESIGNATION

CURRENT ADT (1974)	16425
DESIGN YEAR ADT (1994)	28125
D.H.V.	2812
D. (DIRECTIONAL)	1687
T. PERCENT B & C	15%
V. DESIGN SPEED	60 M.P.H.

NOTE: SHEET Nos. 29 & 30
FOR GEOMETRIC LAYOUT

SCHEMATIC PLAN

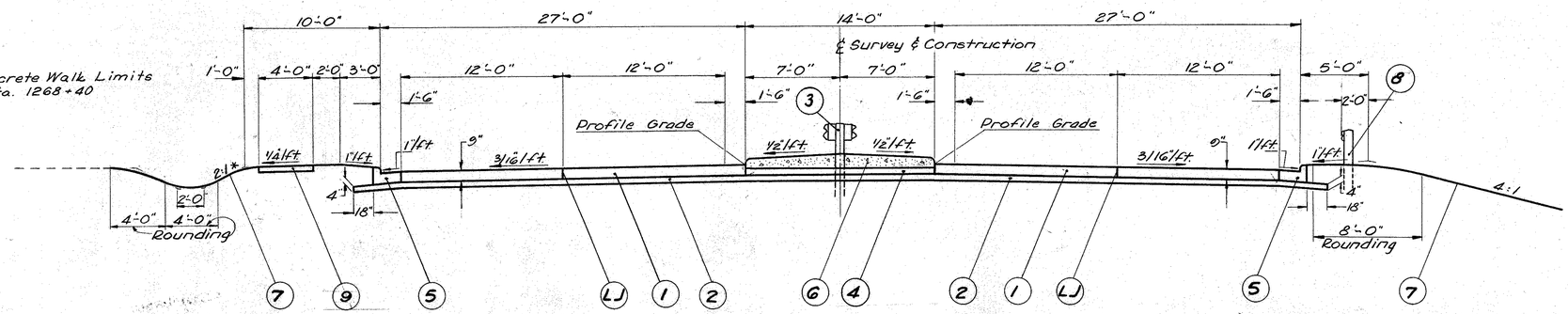
TYPICAL SECTIONS
TYPE 451 (SP)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4 / 462

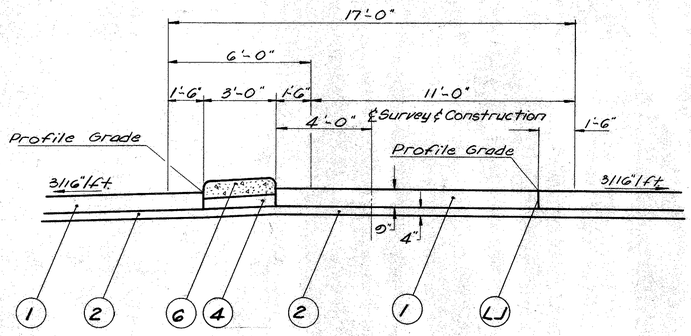
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

NOTE:
Proposed 4" Concrete Walk Limits
Sta. 1252+80 To Sta. 1268+40



NOTE:
* Or as shown on X-Sections

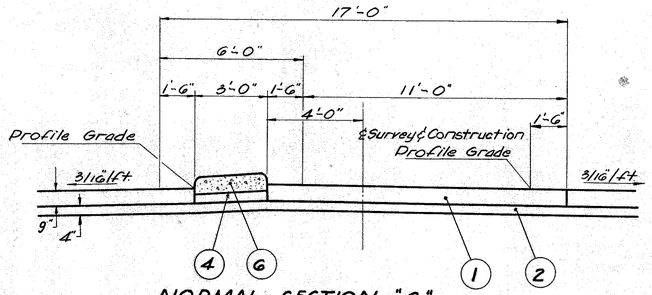
NORMAL SECTION "A"
Sta. 1258+00 To Sta. 1263+12.63



NORMAL SECTION "B"
STORAGE LANE

Sta. 1263+12.63 To Sta. 1265+62.50 (Median Varies From 17'-0" To 6'-0") (See Section "A" For Additional Details)
Sta. 1265+62.50 To Sta. 1267+13.55 (6' Median W/ Storage Lane) (See Section "A" For Additional Details)

NOTE: Structure & Approach Slab Limits - Sta. 1265+96.83 To Sta. 1267+13.55



NORMAL SECTION "C"
W/ STORAGE LANE

Sta. 1267+13.55 To Sta. 1268+14. (See Section "A" For Additional Details)
Sta. 1268+14 To Sta. 1269+22 (No Median)

	ITEM	DESCRIPTION
1	451	9" Reinforced Portland Cement Concrete Pavement
2	301	Bituminous Aggregate Base 702.01 (85-100 or AC-20) or 702.09 RT-11 or RT-12
3	606	Guard Rail Type 5, Barrier Design
4	310	6" Subbase Grading "A"
5	609	Type 2 Curb & Gutter (Mod-1) - See Sh. 24
6	612	Concrete Median
7	659	Seeding & Mulching (See General Notes)
LJ	-	Longitudinal Joint
8	606	Guard Rail, Type 5
9	608	4" Concrete Walk

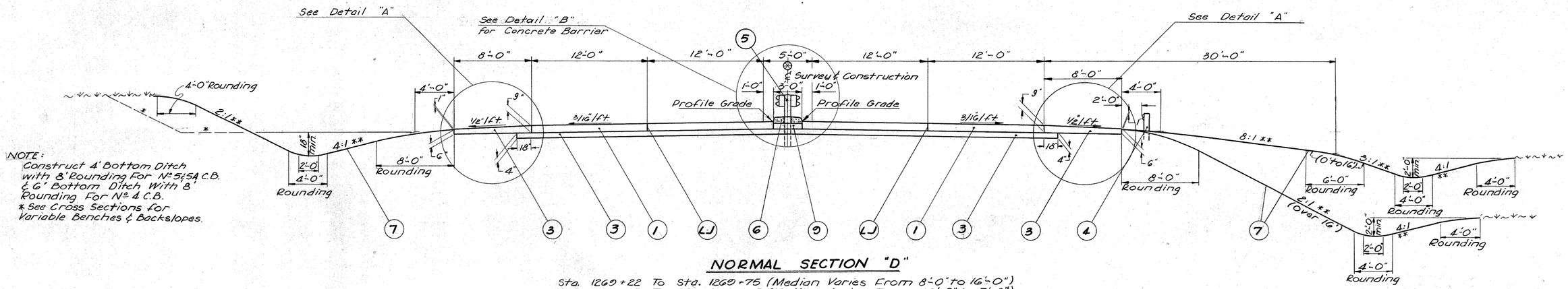
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

5
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

TYPICAL SECTIONS

TYPE 451



NOTE:
Construct 4' Bottom Ditch with 8' Rounding For No. 5 & 5A C.B. & 6' Bottom Ditch With 8' Rounding For No. 4 C.B.
* See Cross Sections for Variable Benches & Backslopes.

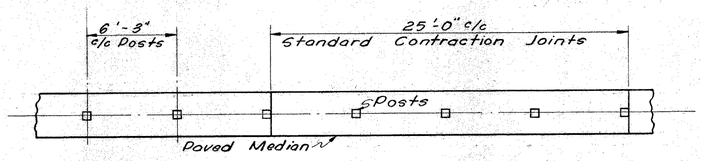
NORMAL SECTION "D"

Sta. 1269+22	To	Sta. 1269+75	(Median Varies From 8'-0" to 16'-0")
Sta. 1269+75	To	Sta. 1275+25	(Median Varies From 16'-0" to 5'-0")
Sta. 1275+25	To	Sta. 1276+50	
Sta. 1295+00	To	Sta. 1302+25	
Sta. 1322+50	To	Sta. 1328+25	
Sta. 1342+25	To	Sta. 1348+75	
Sta. 1362+25	To	Sta. 1380+25	
Sta. Equation 1415+64.31 Back = 0+00.00 Ahead			
Sta. 1395+50	To	Sta. 10+50.91	

See Detail "B"

Structure & Approach Slab JEF-7-0016 Sta. 8+24.89 To Sta. 10+50.91

** or as shown on X-Sections
⊛ Varies from 5'-0" To 16'-0"



JOINT DETAIL AT GUARD RAIL POSTS

NOTES

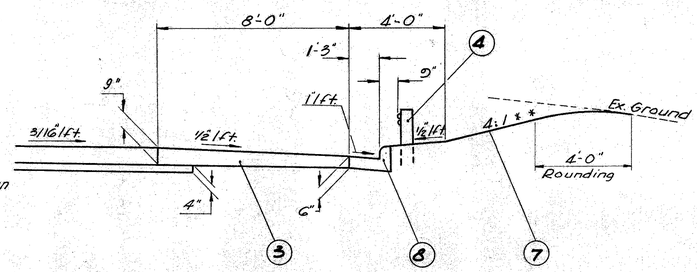
In lieu of the spacing requirements of Standard Drawing MC-6, expansion and contraction joints shall be provided in the concrete median as required hereon whenever guardrail is specified.

1/4" expansion joints, 705.03, shall be provided at each construction joint, at each end of each inlet and approximately 20 feet and 60 feet beyond each approach slab, cost included with 612 for payment.

Circular or square openings may be cast in the median paving so that guardrail posts may be installed later. Maximum dimensions for openings shall be 18" diameter or 18" square. Remaining space shall be filled with 1:3 grout or Class "C" Concrete.

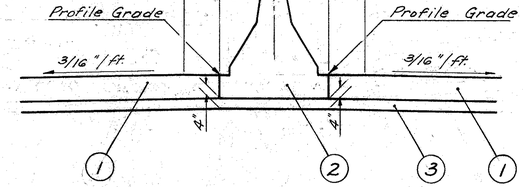
For square-sowed wood posts 1/4" 705.03 expansion joint material shall be used on all four sides for the depth of median. When steel posts are used, a coating such as S.A.E. 140 or other "bond-breaking" material shall be applied to the depth of median prior to placing the concrete. Payment shall be included in 612.

	ITEM	DESCRIPTION
(1)	451	9" Reinforced Portland Cement Concrete Pavement
(2)	622	Concrete Barrier
(3)	301	Bituminous Aggregate Base, 702.01 (85-100 or AC-20) or 702.09, RT II or 12, Thickness as Shown
(4)	606	Guard Rail, Type 5
(5)	606	Guard Rail Type 5, Barrier Design
(6)	612	Concrete Median
(7)	659	Seeding & Mulching (See General Note)
(LJ)		Standard Longitudinal Joint
(8)	609	Type 2 Curb & Gutter (Mod. II) - See Sh. 24
(9)	310	6" Subbase Grading "A"



NORMAL SECTION

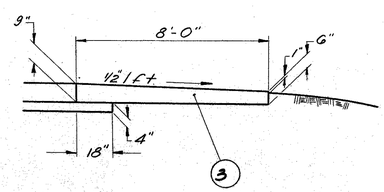
Sta. 1401+25 NA To Sta. 0+00, Ramp "D"



DETAIL "B"

Sta. 1275+31.25	to	Sta. 1276+50	
Sta. 1295+00	to	Sta. 1302+25	
Sta. 1322+50	to	Sta. 1328+25	
Sta. 1342+25	to	Sta. 1348+75	
Sta. 1362+25	to	Sta. 1380+25	
Sta. 1395+50	to	Sta. 1415+64.31	
Sta. 0+00	to	Sta. 8+24.89	

NOTE: For guardrail to concrete barrier connection detail See Sheet 24.



DETAIL "A"

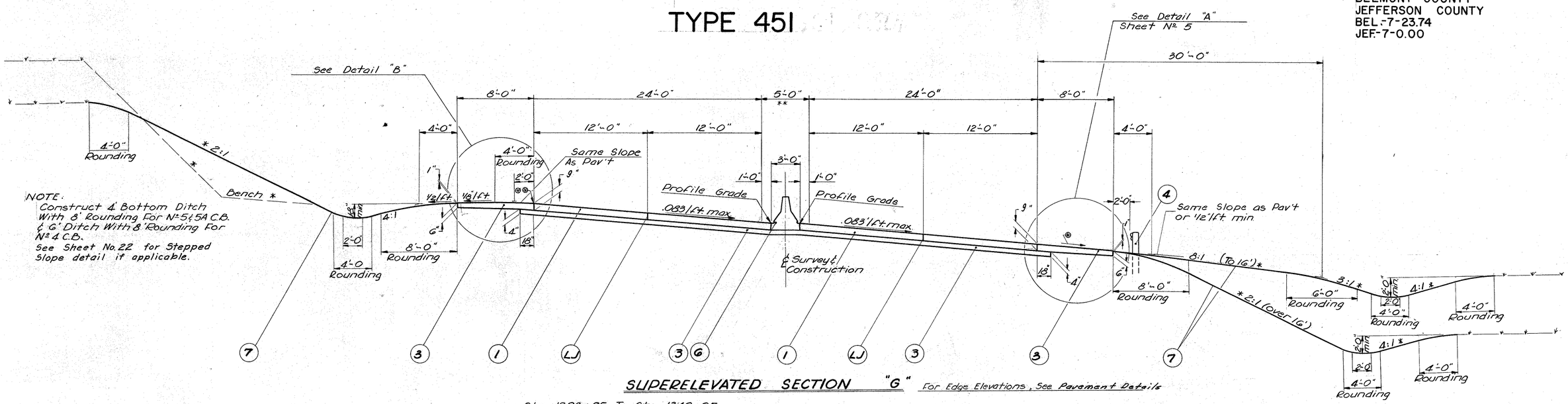
TYPICAL SECTIONS

TYPE 451

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

6
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

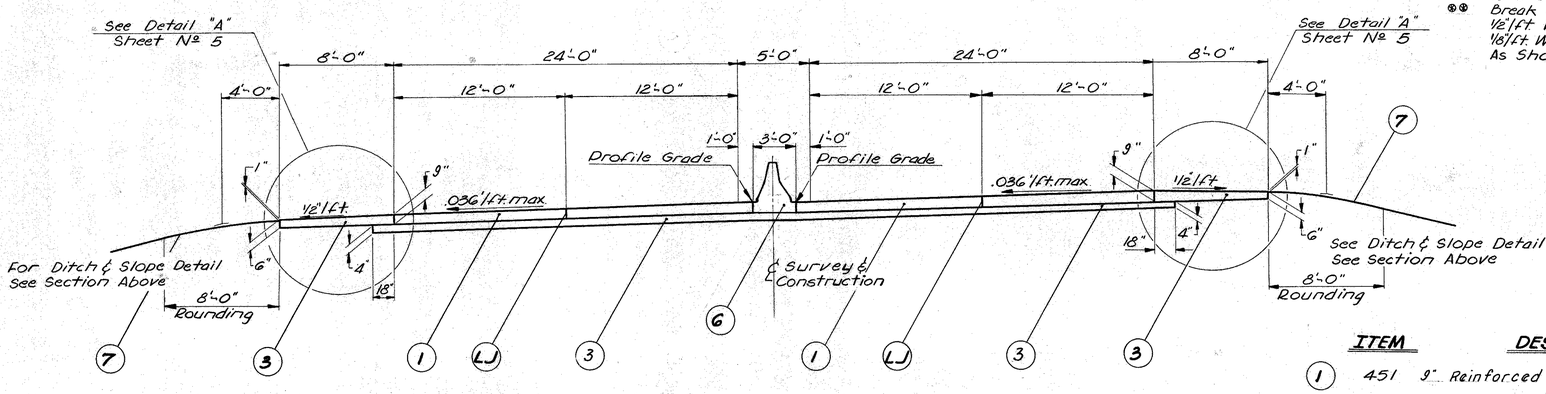


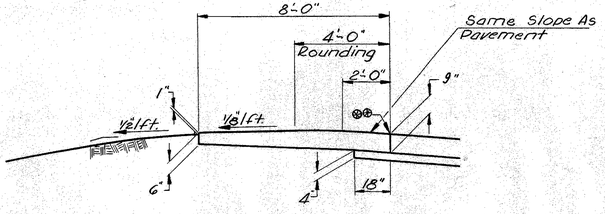
SUPERELEVATED SECTION "G" For Edge Elevations, See Pavement Details

Sta. 1328+25 To Sta. 1342+25
Sta. Equation 1342+10.64 Back = 1342+00.00 Ahead

Structure & Approach Slab BEL-7-2526 - Sta. 1338+09.09 To Sta. 1340+16.95

NOTES:
* Or As Shown On Cross Sections
** Median Width Varies From 5'-0" to 16'-0"
⊗ 1/2" Per Ft. or Rate Of Superelevation Whichever is Greater
⊗⊗ Break Shall Not Exceed 7%:
1/2"/Ft. When Superelevation is Not More Than .028'/Ft.
1/8"/Ft. When Superelevation is Not More Than .055'/Ft.
As Shown When Superelevation is More Than .055'/Ft.





DETAIL "B"

SUPERELEVATED SECTION "H" (For Edge Elevation See Sht. No. 21) & Pavement Details

Sta. 1276+50	To	Sta. 1288+25	Se = .036'/Ft. Max.	
Sta. 1288+25	To	Sta. 1295+00	(Superelevation is Reversed)	Se = .036'/Ft. Max.
Sta. 1302+25	To	Sta. 1310+75	(Superelevation is Reversed)	Se = .036'/Ft. Max.
Sta. 1310+75	To	Sta. 1322+50	Se = .036'/Ft. Max.	
Sta. 1348+75	To	Sta. 1362+25	Se = .024'/Ft. Max.	
Sta. 1380+25	To	Sta. 1395+50	(Superelevation is Reversed)	Se = .036'/Ft. Max.

Structure & Approach Slab BEL-7-2619 - Sta. 1387+05.25 To Sta. 1388+91.75

ITEM		DESCRIPTION
1	451	9" Reinforced Portland Cement Concrete Pavement
3	301	Bituminous Aggregate Base : 702.01 (85-100 or AC-20) or 702.09, RT 11 or 12 Thickness As Shown.
4	606	Guard Rail Type 5
6	622	Concrete Barrier
7	659	Seeding & Mulching (See General Notes)
LJ	~	Standard Longitudinal Joint

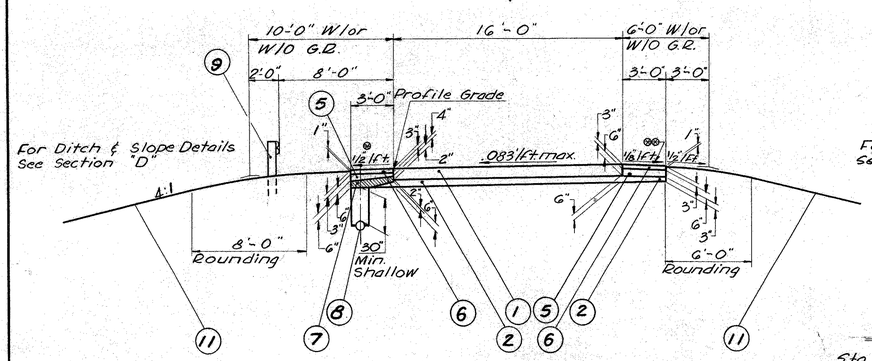
TYPICAL SECTIONS

TYPICAL SECTIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

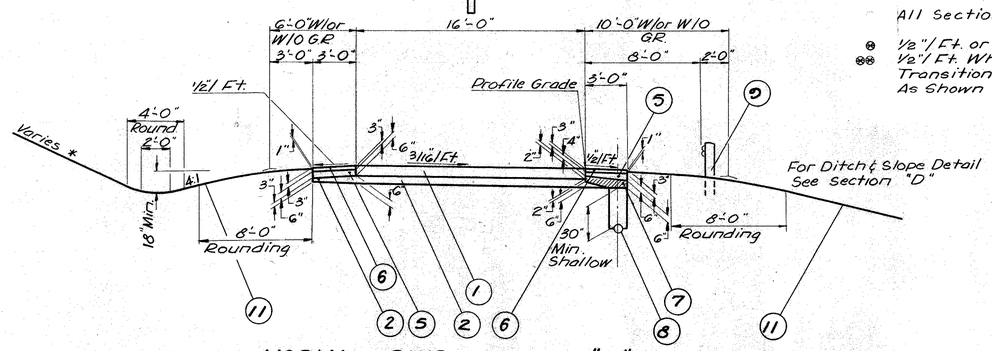
7/462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



SUPERELEVATED RAMP SECTION "I" (For edge elevation See Pavement Details

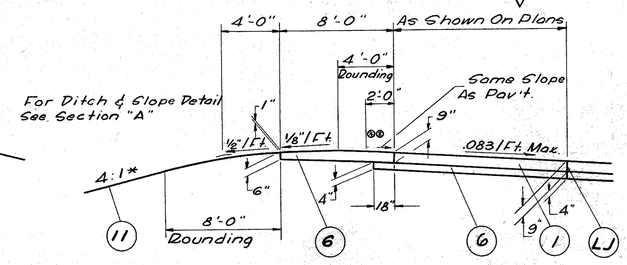
T.R. 469 Inter. Ramp "A"	Sta. 1342+75	To	Sta. 1348+00,	Se = .032/Ft. Max.	
T.R. 469 Inter. Ramp "A"	Sta. 1348+00	To	Sta. 1351+40.14,	Se = .040/Ft. Max.	**
T.R. 469 Inter. Ramp "B"	Sta. 1353+50	To	Sta. 1359+01.98,	Se = .032/Ft. Max.	
T.R. 469 Inter. Ramp "C"	Sta. 1347+51.36	To	Sta. 1353+25.00,	Se = .042/Ft. Max.	
T.R. 469 Inter. Ramp "D"	Sta. 1345+00.00	To	Sta. 1348+85.93,	Se = .050/Ft. Max.	
Public Rd. Inter. Ramp "A"	Sta. 0+84.00	To	Sta. 7+61.00,	Se = .026/Ft. Max.	



NORMAL RAMP SECTION "J"

T.R. 469 Inter. Ramp "A"	Sta. 1340+89.33	To	Sta. 1342+75	Se = .0156/Ft. Max.	
T.R. 469 Inter. Ramp "B"	Sta. 1351+58.56	To	Sta. 1353+50	Se = .0156/Ft. Max.	**
T.R. 469 Inter. Ramp "C"	Sta. 1353+25.00	To	Sta. 1360+00	Se = .0156/Ft. Max.	
T.R. 469 Inter. Ramp "D"	Sta. 1341+91.50	To	Sta. 1345+00	Se = .0156/Ft. Max.	
Public Rd. Inter. Ramp "D"	Sta. 0+59.00	To	Sta. 8+59.50	Se = .0156/Ft. Max.	
Public Rd. Inter. Ramp "A"	Sta. 7+61.00	To	Sta. 8+18.00	Se = .0145/Ft. Max.	

ITEM		DESCRIPTION
(1)	451	9" Reinforced Portland Cement Concrete Pavement
(2)	310	Subbase Grading "A" (Thickness As Shown)
(5)	304	Aggregate Base
(6)	301	Bituminous Aggregate Base: 702.01 (85-100 or AC-20) or 702.09 Rt-11 or 12 Thickness As Shown
(7)		Special Drainage Connection Using No. 8 Aggregate (See Sequence Of Operations Notes)
(8)	605	6" Pipe Underdrains
(9)	606	Guard Rail, Type 5
(10)	605	6" Pipe Underdrains 707.01 Type III or 707.12
(11)	659	Seeding & Mulching (See General Notes)
(12)	608	4" Concrete Walk
(13)	452	8" Portland Cement Concrete Pavement
(LJ)	—	Standard Longitudinal Joint
(14)	609	Curb Type 2-A



ACCELERATION & DECELERATION LANE DETAIL

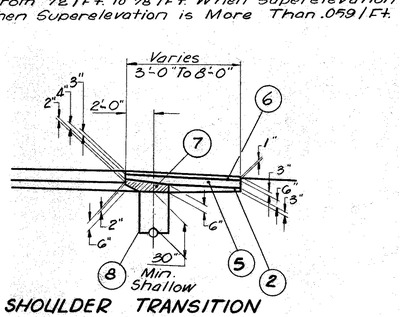
Sta. 1331+00.00 To Sta. 1341+00.00 (Accel. Lane) Se = .083/Ft. Max.

NOTES:

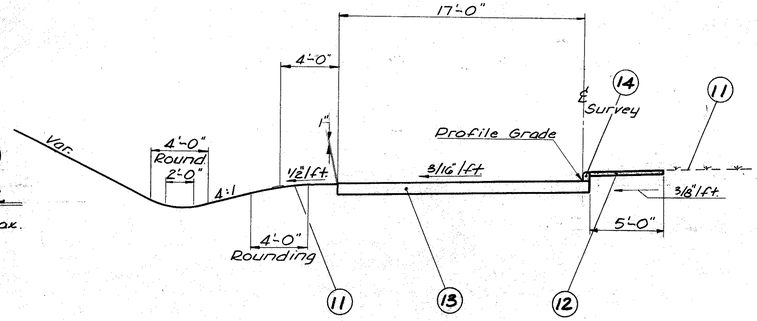
* Or as shown on X-Sections
** Superelevation is Reversed
↑ Direction of Traffic

All Sections drawn in direction of Stationing

⊛ ½"/Ft. or Rate of Superelevation Whichever is Greater
⊛⊛ ⅛"/Ft. When Superelevation is Not More Than .028/Ft.
Transition From ⅛"/Ft. To ⅛"/Ft. When Superelevation is .028/Ft. To .059/Ft.
As Shown When Superelevation is More Than .059/Ft.

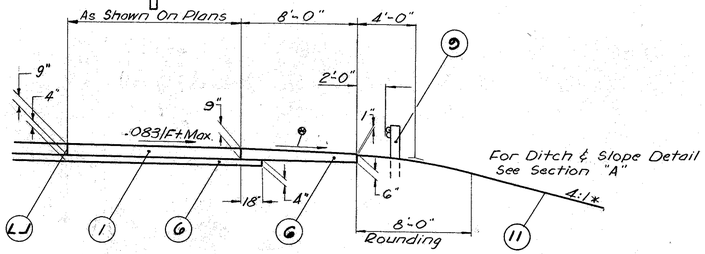


SHOULDER TRANSITION DETAIL



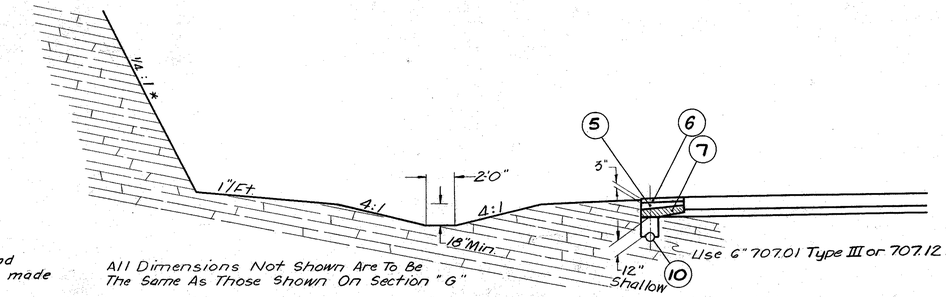
NORMAL SECTION "K" SERVICE ROAD "B"

Sta. 74+00 To Sta. 80+56.09



ACCELERATION & DECELERATION LANE DETAIL

Sta. 1334+00.00	To	Sta. 1342+00.00	(Decel. Lane)	Se = ..083/Ft. Max.
Sta. 1359+00.00	To	Sta. 1367+00.00	(Decel. Lane)	Se = .024/Ft. Max.
Sta. 1360+00.00	To	Sta. 1370+00.00	(Accel. Lane)	Se = .0156/Ft. Max.
Sta. 1406+48.31	To	Sta. 0+84.00	(Accel. Lane)	Se = .0192/Ft. Max.
Sta. 1407+93.56	To	Sta. 0+75.00	(Decel. Lane)	Se = .0156/Ft. Max.



All Dimensions Not Shown Are To Be The Same As Those Shown On Section "G"

ROCK SECTION

Sta. 1273+00 to 1278+00, 1287+50 to 1307+50, 1393+00 to 1415+50
See Plan & Profile Sheets For Limits of The 707.01 Type III or 707.12 Pipe.

SEQUENCE OF OPERATIONS:

(1) Install pipe underdrain on outside shoulder where required.
(2) Place subbase out to outside edge of underdrain or to one foot beyond edge of pavement where no underdrain is present. Payment will be made for all subbase material placed in this operation.
(3) Construct Item 451.
(4) Remove subbase and any contaminated backfill over drain and replace with No. 8 Aggregate as shown by Ref. No. 7 above.
(5) Complete shoulder construction.

TYPICAL SECTIONS
TYPE 404

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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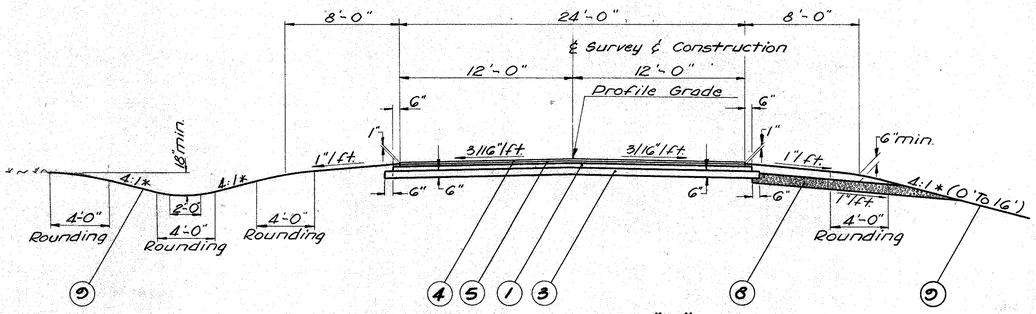
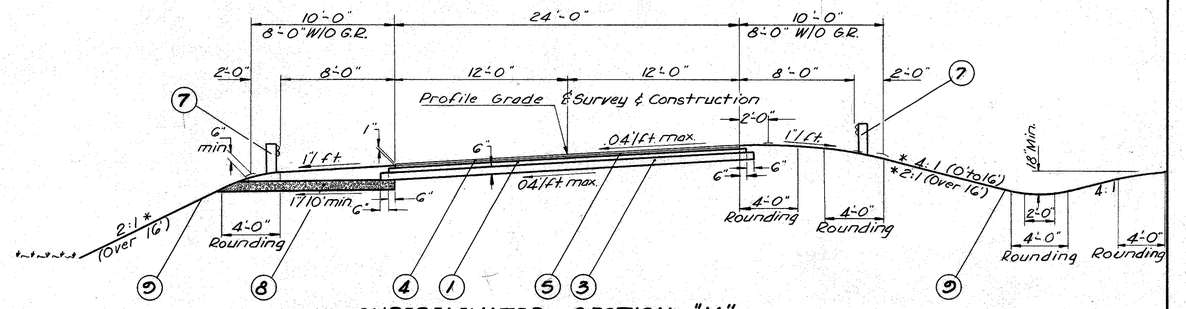
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



NORMAL SECTION "L"
S.R. 798

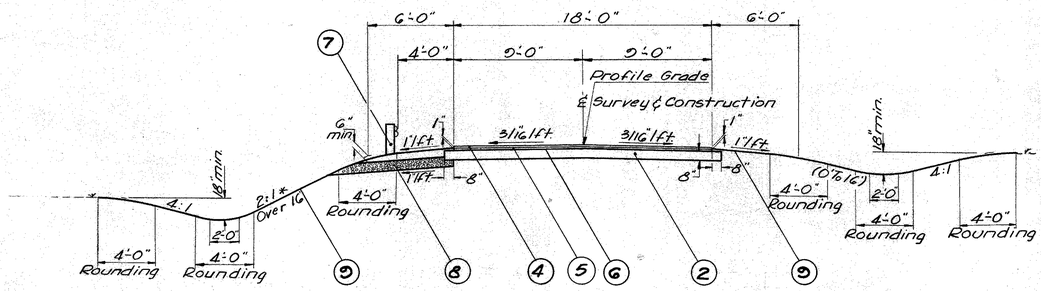
Sta. 8+33.37 To Sta. 9+67



SUPERELEVATED SECTION "M" (For Edge Elevation See Pavement Details
S.R. 798

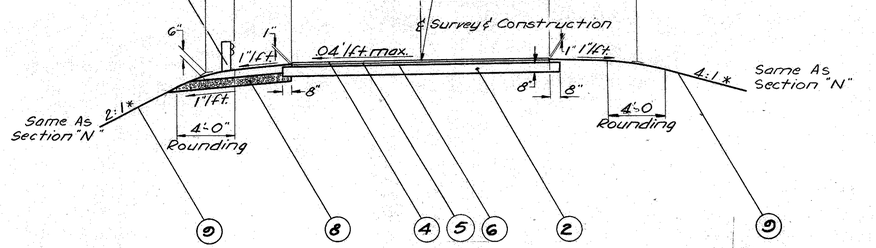
Sta. 3+00 To Sta. 3+75 (Transition Pav't 18'-0" To 24'-0")
Sta. 3+75 To Sta. 6+64.63

NOTE:
* Or Shown On X-Sections



NORMAL SECTION "N"

Sta. 4+50	To	Sta. 5+75	Access Road "A"	
Sta. 9+75	To	Sta. 10+00	Access Road "A"	
Sta. 10+00	To	Sta. 10+88.04	Access Road "A" (Transition Pav't 18'-0" To 24'-0")	
Sta. 10+88.04	To	Sta. 11+76.5	Access Road "A" (Pav't Width 24'-0")	
Sta. 3+75	To	Sta. 3+93	Valley Dr. Conn. (Transition Pav't 22'-0" To 18'-0")	Omit Stone Underdrains
Sta. 3+93	To	Sta. 4+90.5	Valley Dr. Conn.	
Sta. 5+14	To	Sta. 6+45.5	T.R. 536 Reloc. (Variable Width Pav't-See 20 Scale)	
Sta. 6+45.5	To	Sta. 8+00	T.R. 536 Reloc.	
Sta. 8+00	To	Sta. 9+00	T.R. 536 Reloc. (Transition Pav't 18'-0" To 10'-0")	
Sta. 0+00	To	Sta. 2+97.83	Access Road "B" (Variable Width Pav't - See 20 Scale)	



SUPERELEVATED SECTION "O" (For Edge Elevation See Pavement Details

Sta. 2+50	To	Sta. 2+71.90	Access Road "A" (Transition Pav't 12'-0" To 18'-0")	
Sta. 2+71.90	To	Sta. 4+50	Access Road "A"	
Sta. 5+75	To	Sta. 9+75	Access Road "A"	

ITEM		DESCRIPTION
(1)	301	4" Bituminous Aggregate Base, 702.01 (85-100 OR AC-20) OR 702.09 RT-11 OR 12
(2)	304	Aggregate Base
(3)	310	Subbase (Thickness As Shown)
(4)	404	1¼" Asphalt Concrete (70-85 OR AC-20)
(5)	402	1¼" Asphalt Concrete (70-85 OR AC-20)
(6)	408	Bituminous Prime Coat: 702.09, RT-2 or RT-3; 702.02, MC-30 or MC-70; or 702.03, Primer 2.0 Applied at the Rate of 0.40 Gal. per Sq. Yd.
(7)	606	Guard Rail, Type 5
(8)	605	Aggregate Drains (See Note This Sheet)
(9)	659	Seeding & Mulching (See General Notes)

NOTES:

On S.R. 798 Stone Underdrains Shall Be Placed At Fifty Foot Intervals On Each Side Of Normal Crowned Sections And At Twenty-Five Foot Intervals On The Low Side Only Of Superelevated Sections.

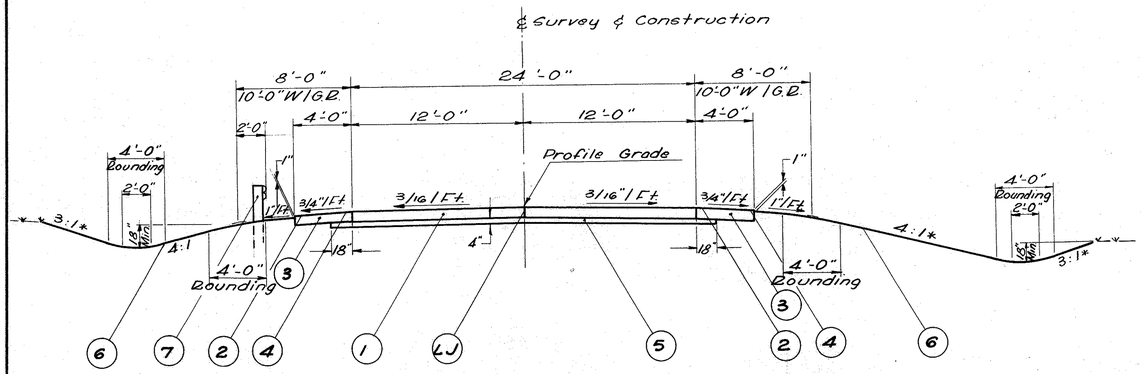
On Access Road "A" Place Stone Underdrains At One Hundred Foot And Fifty Foot Intervals.

TYPICAL SECTIONS
TYPE 451

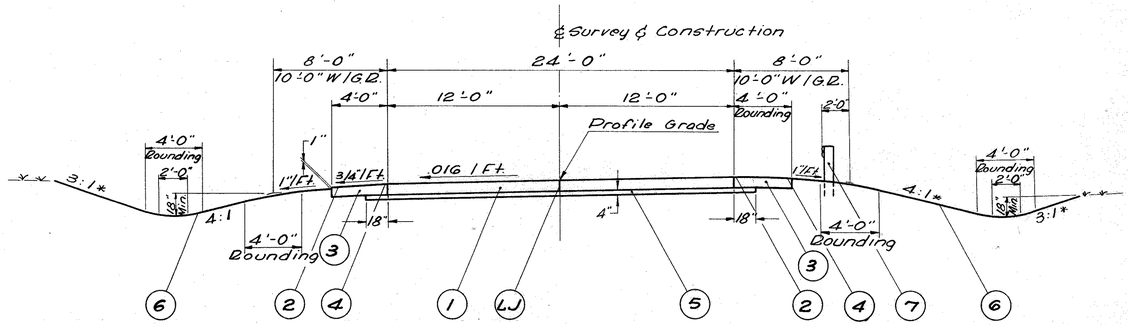
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

9/462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



NORMAL SECTION
T.R. 469 CONNECTOR
Sta. 39+50 To Sta. 43+25



SUPERELEVATED SECTION
T.R. 469 CONNECTOR

Sta. 38+19.20 To Sta. 39+50.00, Se = .0284/Ft. Max. (Superelevation is Reversed)
Sta. 43+25.00 To Sta. 51+29.67, Se = .0160/Ft. Max.

Structure & Approach Slab BEL-7-2549 Sta. 47+85.40 To Sta. 50+53.50

ITEM		DESCRIPTION
(1)	451	9" Reinforced Portland Cement Concrete Pavement
(2)	409	Seal Coat Bituminous Material: 702.09, Rt-9 or Rt-10; 702.02, Mc 800 or Mc 3000; 702.04, RS-1, RS-2 or CRS-2; or 702.03, CBAE-800 Using 0.30 Gal. Per S.Y., Seal Coat Cover Aggregate N°8 Using 0.008 C.Y. per S.Y.
(3)	304	9" Aggregate Base
(4)	408	Bituminous Prime Coat: 702.09, Rt-2 or Rt-3; 702.02, MC-30 or MC-70; or 702.03, Primer 20 applied at 0.40 Gal. per Sq.Yd.
(5)	301	Bituminous Aggregate Base, 702.01 (85-100 or AC-20) OR 702.09 RT-11 OR RT 12 Thickness as Shown
(6)	659	Seeding & Mulching (See General Notes)
(7)	606	Guard Rail, Type 5
(LJ)	-	Standard Longitudinal Joint (See Std. Dwg. BP-3)

BRUNING 44-560 10943

TYPICAL SECTIONS

TITLE BLOCK

It is intended that the Federal Road Division 2 in the title block in the upper right hand corner of all sheets be considered to read FHWA Region 5.

ITEM 619 FIELD OFFICE

The Contractor shall provide a suitable field office having a minimum of 800 square feet of floor space and in addition to the requirements of Item 619 He shall provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for Item 619, Field Office.

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 does not guarantee their accuracy or completeness.

PIPE ENDS

All Culverts, whether terminating in headwalls or endwalls, shall begin and end with pipe ends as normally fabricated by the manufacturer. Ends shall not be cut to fit either skew or slope. If field cutting is found to be necessary to fit an exact length control, the cut end shall be located at an interior joint and cradle, collar or band shall be provided to assure a stable joint. Payment for the joint shall be included in the price bid for the pertinent 603 conduit item.

SUPERELEVATION

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

ELEVATION DATUM

All elevations are based on U.S.G.S. datum.

PAVEMENT

Pavement Joint Symbols

L Standard Longitudinal Joint
LK Longitudinal Key Joint with tie bars
E Standard Expansion Joint

Ⓔ Expansion Joint without tie bars, 2' minimum length

C Contraction Joint

COOPERATION

The contractor is hereby advised that Project (JEF-7-0.20) adjacent to the northend of this project maybe constructed concurrently with this project. The contractor on this project shall schedule his work and cooperate with the contractor on the adjacent project in the area of over lapping work so that unnecessary delays, interference and inconvenience shall be held to an absolute minimum.

Any cost incurred in complying with the above requirements shall be included in the various bid items for this project and no additional compensation will be allowed.

UTILITIES

Any and all work required for public or private utilities will be done by and at the expense of their respective owners, unless otherwise noted on these plans.

Following is a list of the owners of utilities known to be within the limits of construction:

Ohio Bell Telephone Co., 223 N. 5th St., Steubenville, Ohio
Ohio Valley Gas Co., 2023 Sunset Blvd., Steubenville, Ohio
The General Telephone Co., 197 S. Main St., Marion, Ohio
The Ohio Power Corp., 301 Cleveland Ave., Canton, Ohio
The Penn-Central Railroad Company, 623 Pennsylvania Station, Pittsburgh, Pa.
Norfolk & Western Railway Co., Lake Region, Box 6119 Cleveland, Ohio
City of Martins Ferry, Martins Ferry, Ohio
Village of Yorkville, Yorkville, Ohio
Western Union Telegraph Co., 33 E. Gay St., Columbus, Ohio
Manufacturer's Light & Heat Co., 800 Union Trust Bldg., Pittsburgh, Pa.
Columbia Gas of Ohio, Inc. 99 N. Front St., Columbus, Ohio 43215

MEDIAN INLET LOCATION

The location as shown on the plan is at the centerline of sump at the centerline of construction. The elevation shown is the pavement elevation minus 2" at the face of Barrier.

ROADWAY EXCAVATION

A quantity of 100,000 C.Y. of excavation has been added to the project total for correction of slides due to no fault of the Contractor. The displaced material should be removed at the direction of, and in the amounts determined by the Engineer in accordance with Item 203, Excavation Not Including Embankment Construction, at the unit price bid for this item.

SEEDING

Quantities for seeding are calculated for the soil areas between lines ten (10) feet outside the work limits, as shown on the cross sections, or to the right of way line if such line is less than ten (10) feet from the work limits.

PAVEMENT ELEVATIONS

All pavement edge elevations are at the face of the curb unless otherwise specified.

DIMENSIONS

All dimensions shown are to the face of curbs.

INLET LOCATIONS, I2-A

The location of an inlet as shown on the plans is the face of curb and the center of M.H. cover. The elevation shown on the plans is the pavement elevation minus the 2" depression at the face of curb opposite the center of the M.H. cover.

CATCH BASIN LOCATION

The location of a catch basin as shown on the plans is the center of grate.

CONTRACTION AND EXPANSION JOINTS

Although specific locations of certain expansion and contraction joints have been detailed on this plan, no waiver of the specifications is intended. Provision for the maximum spacing between construction joints shall in all cases be in accordance with Standard Construction Drawings and the specifications. *Std. Dwg. BP-9 shall have precedence over any discrepancy between it and the joints as detailed in this plan.*

ESTIMATED QUANTITIES

Specific locations and usage of estimated quantities set up on this plan to be used "as directed by the Engineer" shall be made a matter of record by incorporation into the final change order governing completion of this project. *Estimated quantities of materials shall not be ordered for delivery to the project unless authorized by the Engineer.*

PAVEMENT REMOVAL OUTSIDE NORMAL CONSTRUCTION LIMITS

The existing pavement as indicated on the plans shall be removed and disposed of the old roadway graded to the level of the surrounding ground, the old ditches filled, and the disturbed areas sloped to drain and left in a neat condition ready for seeding. Payment for the above work except seeding shall be included in the unit price bid for Item 202.

Seeding shall be measured and paid for in accordance with Item 659, Seeding and Mulching.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

The rounded corners as shown on the typical sections, apply to all cross sections, even though otherwise shown on these plans.

A. E. STILSON & ASSOC.
Quantities Calculated R.O. MARCH 1969
Quantities Checked D.C.B. DEC. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

REMOVAL OF TREES AND STUMPS

All trees and stumps specifically marked for removal within the construction limits of this project shall be removed under the lump sum price bid for Item 201 Clearing and Grubbing, 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
18"	1991	0
30"	139	0
48"	52	0
60"	3	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 201 Clearing and Grubbing.

LOCATIONS OF GUARD RAIL

The locations of guard rail runs as shown in these plans are subject to adjustment to assure that the planned installations will afford maximum protection for traffic.

TREATMENT OF SUBGRADE IN MINE WASTE AREAS

In areas where mine waste is encountered in subgrade as at Stations 1312+00 - 1317+00 and 1322+00 - 1326+00 or at other locations as designated by the Engineer, the waste, for a depth of 3' below subgrade under the pavement and paved shoulders, shall be removed and replaced with suitable compacted embankment. Prior to filling these undercut areas, the bottom of the cut shall be rolled with a 50 ton pneumatic tired roller, as described in the proposal as Item 203, Compaction Using Heavy Pneumatic Tired Rollers.

ITEM 203 PROOF ROLLING

An estimated quantity for this item has been provided in the general summary for use in proof rolling of subgrade for the mainline and ramp pavements, and for paved shoulders.

BENCHING OF FOUNDATION SLOPES

Although cross sections on this plan indicate specific widths and depths of proposed benching of the embankment foundation in certain areas, no waiver of the specifications is intended and all other sloped foundation areas shall be benched as set forth in 203.09. No additional payment will be made for benching required by the provisions of 203.09.

REMOVAL OF EXISTING PIPE

The removal of all existing pipe drains which would normally be removed in various excavation items shall be included for payment in the unit prices bid for the respective excavation items, unless otherwise itemized in the plans.

Rev. 11-26-74

GENERAL NOTES

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

11
462

A. E. STILSON & ASSOC.
Quantities Calculated E.O. MARCH 1969
Quantities Checked D.L.B. DEC. 1970
Rev. JRF 5-74
Rev. CK DLB 6-74

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

TREATED SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEMS

Treated sanitary flow may be discharged into the highway drainage system provided the Owner has secured the approval of the local health authorities and has acquired from the State Highway Department, the official permit to have the connection made.

In each case, where a permit has been issued for a sanitary connection to be made into a highway drainage conduit, it shall be provided with an inspection well, in accordance with Standard Drawing MC-8.

The following estimated quantities have been included in the general summary, for use as directed by the Engineer, in making the above described connections:

Item 603, 6" Conduit, Type C 500 L.F.

Item 604, Inspection Wells 5 each

Necessary Pipe Bends and Branches which shall be included for payment in the pertinent conduit item. None of the above materials shall be ordered by the Contractor until authorized by the Engineer.

No inspection well is required if effluent is discharged into open ditch, channel, catch basin or manhole.

PLUGGING PIPE ENDS

Existing pipes or new pipe stubs for future connections 15" and under shall be plugged with a vitrified or concrete stopper. Existing pipes or new pipe stubs for future connections over 15" shall be bulkheaded, using a wall of bricks and mortar.

The wall thickness shall be as follows:

Pipe Size	Wall Thickness
18" to 30"	8" (Under 12' Cover)
	12" (12' & over of Cover)
36" to 60"	12"

Payment for the above work not included in the pipe item shall be included in the unit price bid for Item 203. Excavation not including embankment construction.

EXISTING HOUSE CONNECTION SERVICES

An estimated amount of pipe and an estimated number of pipe specials have been added to make sanitary house connection to existing or proposed sanitary sewers that may be required. These quantities shall not be ordered until directed by the Engineer. See the following:

Item		Unit	Quantity
603	6" Type B 706.08 with 706.12 joints	L.F.	500

All necessary pipe bends and branches shall be included in the pertinent 603 conduit item.

ITEM-606-TERMINAL SECTION

Where indicated on the plan, guard rail shall be terminated by using a Terminal Section. This shall consist of bolting a Standard Terminal as detailed on Standard Drawing GR-2A to the rail element at the last post. Also, the three end posts of each Terminal Section shall be encased in a minimum 4-inch thickness of Class C concrete for the full depth of the post below the ground line. *Payment for the Terminal Section shall be included in the unit price bid for Item 606 Guard Rail Type 5.*

MAINTENANCE OF SEWER FLOWS

The Contractor shall conduct his operations so as to maintain at all times sewer flows through existing facilities to remain in place and through existing facilities to be replaced until new facilities are completed and placed into use.

Payment for any additional costs involved in maintaining these flows by pumping or by any other means approved by the Engineer shall be included in the unit prices bid for the respective items of 603 Conduit.

EROSION CONTROL

Items 601, 660 and 667 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.

WATER POLLUTION, SOIL EROSION & SILTATION CONTROL

The following estimated quantities are to be used as directed by the engineer for erosion and siltation control measures.

		U-RF-430(15)	RF-430(15)	
207	Temporary Seeding and Mulching	1341	77158	S.Y.
207	Water	2.9	166.7	M-Gal.
207	Temporary Slope Drains	80	3200	L.F.
207	Temporary Benches, Dikes, Dams, & Sediment Basins	3	463	C.Y.
207	Mowing	15	868	M.S.F.
659	Commercial Fertilizer (12-12-12)	0.3	17.8	Tons
659	Repair Seeding & Mulching	335	19290	S.Y.

The above quantities have been taken to the General Summary

CLOSING OLD MINES

The area in which this project is located Has been mined. If during the course of construction, old mines are encountered, they shall be backfilled and drained as directed by the Engineer. Payment shall be made at the unit price bid for Item 203 Embankment and 603 Conduit.

The following quantities are included for this purpose:

Item 603 6" Conduit, Type "B" 706.08 300 L.F.

Item 603 6" Conduit, Type "C" 706.08 300 L.F.

The Contractor shall not order materials for "Closing Old Mines" until authorized by the Engineer and in the event no mines are encountered, the item shall be non-performed.

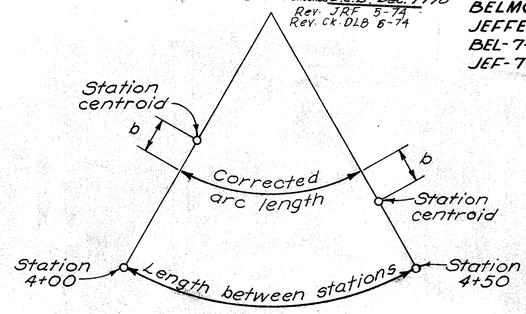
ITEM SPECIAL, DRILLED WELL ABANDONED

The existing concrete or stone slab well cover and pumping equipment shall be removed and disposed of. The casing shall be cut off at least one (1) foot below the proposed finished grade outside proposed pavement areas or at least one (1) foot below the proposed subgrade elevation inside proposed pavement areas. *The well shall be filled from bottom to top with clean puddled clay or concrete.*

The unit price bid for each "Drilled Well Abandoned" shall include payment for all labor, tools, materials, and incidentals necessary to complete this item.

MONUMENTS

Monuments shall be constructed in accordance with details shown on Standard Drawing MC-1. For locations, see sheet No. *431, 432, 433.*



EXAMPLE

Assume a 10° curve, radius 572.96 feet. Centroid at Station 4+00 is found to be 35 feet from the centerline and centroid at Station 4+50 is found to be 25 feet from the centerline. Correct radius between centroids is therefore 572.96 feet minus (35+25)÷2 or 542.96 feet. Alignment factor is then 542.96÷572.96 or 0.94764 which when multiplied by 50 feet gives a corrected arc length between centroids of 47.38 feet.

Curve to the left was used in the above example. If curve had been to the right the correct radius between centroids would be 572.96 feet plus (35+25)÷2 or 602.96 feet. Alignment factor would be 602.96÷572.96 or 1.05236 which when multiplied by 50 feet gives a corrected arc length between centroids of 52.62 feet.

ITEM 604-10" FLAP VALVE, FRAME AND LID

The 10" Flap Valve shall be as manufactured by Neenah Type R-5040 or Flockhart No. 26808 or approved equal furnished fully bronze mounted with bronze hinge pin, flap ring and seat ring.

The work consisting of furnishing and installing the 10" Flap Valve, Frame and lid shall be performed in accordance with the applicable provisions of Item 604.

Payment will be made at the contract unit price bid for each Item 604-10" Flap Valve, Frame and Lid which price and payment shall constitute full compensation for the furnishing of all labor, materials, small tools, equipment and incidentals required to complete this item of work in place (See detail of Flap Valve on Sheet No. *24*)

DUST CONTROL

Item 616 Calcium Chloride and Water used for dust control are to be used at the direction and in amounts requested by the Engineer for dust control within the limits of the following.

U-RF-430(15) Item 616, 35 M-Gallons Water
3 Tons Calcium Chloride

RF-430(15) Item 616, 465 M-Gallons Water
47 Tons Calcium Chloride

STANDARD NO. 6 CATCH BASIN MODIFIED AS PER PLAN

In lieu of the provisions for depressing the pavement one (1) inch as shown on Standard Construction Drawing CB-6, the pavement shall be depressed two (2) inches on this project when the catch basin is located in a paved berm.

ITEM SPECIAL, SANITARY SEWER CLEANOUT

The sanitary sewer cleanout shall be constructed as shown on detail Sheet No. *23* The unit price bid for each "Item Special Sanitary Sewer Cleanout" shall constitute full compensation for the furnishing of all labor, tools, materials, equipment and incidentals necessary to complete this item of work.

A. E. STILSON & ASSOC.
Quantities Calculated E.O. MARCH 1969
Quantities Checked O.L.B. DEC. 1970

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CONNECTIONS TO EXISTING PIPE

Where the plans provide for proposed conduit to be connected to, or to cross either over or under an existing sewer, 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 conduit.

Payment for all operations described above shall be included in the unit price bid for the pertinent 603 conduit items.

SPECIAL DITCHES

For special ditch grades, see Cross Sections.

SWALES AND/OR SPRINGS IN ROCK CUT, SEE SHEET # 22

At the direction of the Engineer, a depression to concentrate the flow of water shall be cut into the face of the rock at all swales and/or springs encountered during construction. The width and depth of the depression for each location shall be as determined by the Engineer (see Detail Sheet) and shall extend to the ditch line. Payment for cutting these depressions shall be included in the unit price bid for Item 203 Excavation Not Including Embankment Construction.

SPRING DRAINS

Reference is made to Standard Drawing No. MC-1 showing the method of draining any spring that may be shown on the plan or encountered during construction as determined by the Engineer. The following estimated quantities have been included in the general summary for this purpose.

Item 605-6" Unclassified Pipe Underdrain, 707.01 Type III or 707.12, as per plan 600 L.F.

Item 605 - Aggregate Drains for Springs, as per plan 60 L.F.

The Contractor shall not order materials for "Spring Drains" until authorized by the Engineer and in the event no springs are encountered, the item shall be non-performed.

LOCATION AND SIZE OF PIPES

The location, type, depth, and size of all existing pipes are shown as nearly exact as the available information will permit. The State will not be responsible for any variations found during construction.

REMOVAL OF EXISTING HIGHWAY STRUCTURE OVER THE PENN CENTRAL AND N & W R.R. (Right of Mainline Sta. 1302+00)

When no longer needed to maintain traffic, the entire structure shall be removed with the exception of the north abutment (including retaining walls) which shall remain in place. The removal shall be done in accordance with Item 202. All removed material shall become the property of the contractor.

PENNSYLVANIA RAILROAD
All reference to the Pennsylvania Railroad Company throughout these plans shall be considered to read, The Penn Central Transportation Company.

TRAFFIC MAINTENANCE

Public Road Street

During construction of the structure over Public Road (JEF-7-0016), a covered walkway shall be provided under the bridge as directed by the Project Engineer for the protection of school children. A watchman shall also be provided for the protection of the school children in the construction area during times that the children are entering and leaving the school building west of the project.

Basis of payment for the above work including the watchman shall be included in the Lump Sum price bid for Item 614, Maintaining Traffic.

COOPERATION WITH RAILROADS

The Contractor shall cooperate with local officials of the Penn Central *Transportation Company* and the Norfolk and Western Railway Company in all work adjacent to the tracks, in order to avoid delay to, or interference with railroad traffic. When blasting operations are necessary, the Contractor shall notify the Company 48 hours in advance, so that watchmen can be provided to protect railroad traffic. During periods of continuous blasting, the Contractor shall consult with railroad personnel as to scheduled train movements and shall control the size and timing of blasting charges in such a manner that railroad traffic delays and damage to company property is confined to the absolute minimum. The Contractor shall execute a bond in favor of the company as well as in favor of the State, as required by Sec. 5525.16 of the revised Code of Ohio, and shall carry insurance of the kinds and amounts prescribed in the special clauses in the proposal covering work affecting railroad property and operation. The Contractor shall pay to the Company all costs for watchmen and flagmen deemed necessary by the Company or occasioned by the operation or negligence of the Contractor or any sub-contractor in carrying forward work on railroad property, or any work affecting railroad operations.

The Contractor shall first secure State and railroad approval of any methods of operation on railroad property or affecting the safety of railroad traffic, before starting such operations. The railroad will perform its engineering review of methods of operations and supervision of construction without cost to the Contractor. Billing against the Contractor by the company will include customary percentage for vacation pay, wage taxes, insurance and overhead expenses.

TRAFFIC MAINTENANCE

Existing S.R. 7 Sta. 1252 + 50 to Sta. 1301 + 00

Step 1 Two-way traffic shall be maintained at all times on Existing S.R. 7 from Sta. 1252 + 50 to the existing structure right of Sta. 1301 + 00. Southbound traffic is to be crossed over at the Spring St. intersection (Sta. 1252 + 50). While traffic is maintained on Existing S.R. 7, the proposed southbound lanes, including pavement, shall be constructed from Sta. 1257 + 00 to Sta. 1301 + 00.

Step 2 Construction of S.R. 798 Relocation, including pavement, is to be completed.

Step 3 S.R. 798 Relocation and the southbound lanes of S.R. 7 are to be opened to two-way traffic. Northbound traffic is to be crossed over to the southbound lanes at the Spring St. intersection (Sta. 1252 + 50). Northbound and southbound traffic is to be crossed over to Existing S.R. 7 at the structure right of Sta. 1301 + 00.

Step 4 Construction of the northbound lanes and remaining southbound lanes of S.R. 7 are to be completed and both the northbound and southbound lanes are to be opened to traffic to Public Road in Yorkville.

Step 5 Construction of the Cul-de-Sac on Existing S.R. 7 right of Sta. 1308 + 00 is to be completed and the existing structure right of Sta. 1301 + 00 is to be removed.

Reference shall be made to the mainline cross sections indicating the excavation limits necessary to permit Existing S.R. 7 to remain in use during the construction of the southbound lanes.

Existing Valley Drive Lt. Mainline Sta. 1262 + 00+

During construction of Access Rd. "A", at least one-way traffic shall be maintained at all times to S.R. 7, by use of the existing pavement or temporary roadways surfaced with Item 410 aggregate and stabilized with Item 616 Calcium Chloride.

Existing Valley Drive Lt. Access Rd. "A" Sta. 9 + 00

May be closed to traffic until construction of Access Rd. "A" has been completed.

Existing S.R. 798 shall remain open to two-way traffic until construction of S.R. 798 Relocation has been completed and traffic placed thereon. Traffic shall be maintained by the use of the existing pavement, the proposed pavement or temporary roadways surfaced with Item 410 aggregate and stabilized with Item 616 Calcium Chloride. One way traffic will be permitted for minimum periods of time consistent with the requirement of the specifications for protection of completed asphalt concrete courses.

T.R. 536 Relocation At least one way traffic shall be maintained at all times.

Access Rd. "B"

May be closed to traffic until T.R. 536 is completed and the Access Rd. "B" connection can be made.

Existing T.R. 470 Rt. Mainline Sta. 1311 + 00 shall be closed to traffic when deemed necessary by the Engineer.

Service Rd. "B" shall be constructed and open to traffic prior to closing Jones Avenue with Ramp "D" Construction. During construction of Service Rd. "B" at least one-way traffic shall be maintained from First and Second Avenues to Service Road "B".

Temporary Connections and Maintenance of Local Traffic

500 C.Y. of Item 410 Traffic Compacted Surface, Type "A" or "B", 1,000 C.Y. of Item 410 Traffic Compacted Surface, Type "C" and 50 tons of Item 616, Calcium Chloride are to be used at the direction of the Engineer for surfacing of temporary roadways. The limits and duration of use of temporary roadways shall be held to an absolute minimum, and in all cases shall be subject to the approval of the Engineer. Payment for construction, maintenance and subsequent removal of temporary roadways, except for furnishing and placing Items 410 and 616 for maintaining traffic, shall be included for payment in the lump sum bid for "Item 614, 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.

Contractor's Maintenance Responsibility

On this project, the Contractor's responsibility for maintenance of the existing pavement per Item 614 shall be limited to those portions of the existing pavement lying within the proposed work limits.

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ITEM 310 SUBBASE, GRADING A AS PER PLAN
Material for this item shall meet the requirements of grading A of 310.02 except that no more than 10% of the material shall pass a No. 200 sieve after all operations of placing and compacting have been completed.

ITEM 304, AGGREGATE BASE
Material described in Supplemental Specification 901 (Steam Boiler Slag) may be used in addition to materials specified in Sec. 304.02, providing the requirements for gradation in Sec. 304.02 and the requirements for soundness and durability in Sec. 703.04 are complied with.

ITEM 301, BITUMINOUS AGGREGATE BASE
In lieu of the provisions of 301.13, the variable depth Bituminous Aggregate Base (9" to 6") on the mainline may be placed in one layer.

ITEM 606, BRIDGE TERMINAL ASSEMBLY, TYPE B
The Bridge Terminal Assembly, Type B, at Bridge, Private Drive over Deep Run, shall be constructed as shown on Standard Drawing GR-3 except that the wheel guard shall be omitted.

603, TYPE B CONDUITS USING JOINTS AS PER 706.11 OR 706.12, AS PER PLAN
If bituminous lined corrugated metal pipe, 707.13, is used for this item, gaskets shall be used in conjunction with the coupling bands.

COATED DOWEL BARS
Dowel bars required on Std. Dwg. BP-4 shall be coated in accordance with Supplemental Specification 948.

GENERAL NOTES

GENERAL SUMMARY

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. JULY 1969
Quantities Checked F.O. DEC. 1970
Rev. Quan. Calc. D.L.B. 5-74
Rev. Quan. Ck'd. J.R.F. 6-74

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*U-[illegible]-430(15) URBAN

TYPE CODE 7223 Unless Otherwise Noted

GENERAL NOTES	GENERAL *NOTES	SHEET NUMBERS: 19 *	19	20	32 *	33	33 *	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	51 *	51	52	58	61	62	63	64	65	95	300	300A	*R/W Sheet No. 24	*PNF Sheet No. 24	U-[illegible]-430(15) (URBAN)	RF-430(15) (RURAL)	PROJECT TOTALS	ITEM	UNIT	DESCRIPTION ROADWAY
L.S.	L.S.																																				L.S.	L.S.	Lump	201	L.S.	Clearing and Grubbing
											2			4					1																							
									1	2	1	1	1		1																							7	7	202	Ea.	Septic Tank Removed
		65	2627																																		7	7	202	Ea.	Privy Vault Removed
		297	2434	6556																																	65	2627	2692	202	S.Y.	Pavement Removed and Disposed of
		489																																			297	8990	9287	202	S.Y.	Base Removed
		1458																																				489		489	202	S.Y.	Median Removed and Disposed of
			6659																																			1458		1458	202	L.F.	Curb and Gutter Removed
			L.S.					L.S.			L.S.	L.S.								L.S.																		6659	6659	202	S.F.	Sidewalk Removed
					1		2		3	1														2													L.S.	Lump	202	L.S.	Structures Removed
																						1	1														3	6	9	202	Ea.	Catch Basin Removed
					10		58			17									40							30											2	2	202	Ea.	Manhole Removed
																																					68	87	155	202	L.F.	Pipe Removed, 24" and Under
					1		1			3																								230			230	230	202	L.F.	Fence Removed For Storage
																																					2	3	5	202	Ea.	Inlet Removed
100.000		3507	1,921,025																																		3507	2021025	2024532	203	C.Y.	Excavation Not Including Embankment Construction
		3459	468,112																																		3459	463112	466,571	203	C.Y.	Embankment
		7427	118,796	40,800																																	7427	159,596	167,023	203	S.Y.	Subgrade Compaction
		2	47																																		2	47	49	203	Hour	Proof Rolling
			8						1		4																											8	8	203	Hour	Compaction Using Heavy Pneumatic Tired Roller
																																						5	5	Spec.	Ea.	Drilled Well Abandoned
1000																																					1000	1000	410	C.Y.	Traffic Compacted Surface, Type C
500																																					500	500	410	C.Y.	Traffic Compacted Surface, Type A or B
																																		18			18	18	604	Ea.	Monument Assembly
																																	4	70	4	70	74	604	Ea.	Centerline Reference Monument
					100		287.5	525											702.5	1006.5	1025	1478	943.5	225	1462	52.8665						100					387.5	525	912.50	606	L.F.	Guard Rail, Type 5, Barrier Design
					843	596.13	523.20	1000	1004.3	1000	995	1044	248.5	859	1091	1921	875																			1591.2	1821.845	1980.965	606	L.F.	Guard Rail, Type 5
								1																													1	1	606	Ea.	Bridge Terminal Assembly, Type E
					1								1	2	2	8	1		2	1		2	1		5	6											32	32	606	Ea.	Anchor Assembly
								1																													1	1	606	Ea.	Bridge Terminal Assembly, Type F
														3	1				4				2			4											14	14	606	Ea.	Bridge Terminal Assembly, Type A
					1	1																														1	1	2	606	Ea.	Anchor Assembly, Barrier Design
					4																																4	4	606	Ea.	Bridge Terminal Assembly, As Per Plan
																																		653.2	4196.8	653.2	4196.8	4850	607	L.F.	Fence, Type CL
																																		15,575			15,575	15,575	607	L.F.	Fence, Type 47
																			4						4												8	8	606	Ea.	Bridge Terminal Assembly, Type B
		5089	5052																																		5089	5052	10,141	608	S.F.	4" Concrete Walk
																										3500												3500	3500	610	S.F.	Cellular Retaining Wall
465	35																																				35	465	500	616	M-Gal.	Water
97	3																																				3	97	100	616	Tons	Calcium Chloride
																																									EROSION CONTROL — TYPE CODE Y005
17.8	0.30	0.63	36.29																																		0.93	54.09	55.02	659	Ton	Commercial Fertilizer (12-12-12)
		3.13	181.47																																		3.13	181.47	184.60	659	Ton	Agricultural Liming
		6704	385,790																																		6704	385790	392,494	659	S.Y.	Seeding and Mulching
19290	335																																				335	19290	19,625	659	S.Y.	Repair Seeding and Mulching
																		9																			9	9	660	S.Y.	Sodding
														89	60				144				239			239												771	771	660	S.Y.	Sodding for Special Berm and Slope Protection, as per plan
					79	250	104				641			1273	2450	2026	1214	666	2247	52	36	450	2859		691	1898											250	16,686	16,936	667	S.Y.	Seeding and Jute Matting
77158	1341																																				1341	77,158	78,499	207	S.Y.	Temporary Seeding and Mulching
167	3																																				3	167	170	207	M.Gal.	Water
3200	80																																				80	3200	3280	207	L.F.	Temporary Slope Drains
463	3																																				3	463	466	207	C.Y.	Temporary Benches, Dikes, Dams and Sediment Basins
868	15																																				15	868	883	207	M.S.F.	Mowing
														1255					1125								1835										4215	4215	601	C.Y.	Dumped Rock Fill, Type A
																												17									17	17	601	C.Y.	Rock Channel Protection, Type A
								1	5	49	10	288	89	42	393	93	197	121		28				13	3		9		137		5						1483	1483	601	C.Y.	Rock Channel Protection, Type B
																				27																	27	27	601	L.F.	Paved Gutter, Sta. Type 1-2
								9	6																		4	11	16	9							55	55	601	S.Y.	Riprap, using 6" Reinforced Concrete Slab
																																									LANDSCAPING — TYPE CODE Y003
																																	330					330	330	662	Ea.	Rhamnus Frangula Columnaris (New Tall Hedge) 4'-5' Height, B & B (15")
																																5					5	5	Spec.	M Gal.	Watering of Landscape Planting

GENERAL SUMMARY

A. E. STILSON & ASSOC.
Quantities Calculated M.T.J. Sept. 1970
Quantities Checked D.L.B. Nov. 1970

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JEFFERSON COUNTY
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TYPE CODE 7223 Unless Otherwise Noted

R/W SHEET No.	PARCEL No.	ITEM	UNIT	TOTAL	DESCRIPTION
					BUILDING REMOVAL
15	1	202	L.S.	L.S.	1-1 Story Frame Residence, 1-Chicken Coop
13	12				1-1 Story Block Gas Station, 2-550 Gal. Gas Tanks, 1-1000 Gal. Gas Tank, 1 Abandonded Tank, Size Unknown
13	13				1-1½ Story Concrete Block Garage
13	17				1-1 Story Frame Garage
15	18				1-Metal Garage
14	19				1-2 Story Frame Residence, 1-Frame Shed, 1-Frame Garage, 1-House Trailer
15	20				1-Privy, 1-House Trailer
15	21				2-Frame Sheds, 1-Privy
13	23				1-1 Story Brick & Stone Restaurant
15	25				1-1 Story Frame Residence, 1-Privy
16	26				1-1½ Story Frame Residence, 1-Chicken Coop
	27				1-1 Story Frame Residence
	28				1-1 Story Frame Residence, 1-Chicken Coop
	29				1-1 Story Frame Residence, 2-Sheds
	30				1-Shed, 1-Garage
	31				1-1 Story Frame Residence, 2-Sheds, 2-Privies, 1-Frame Garage
16	34				1-1 Story Frame Residence, 1-Block Garage, 1-Privy
17	34				1-2 Story Frame Shack, 2-1 Story Frame Shack, 1-1 Story Frame Residence, 1-Shed, 1-Privy
16	36				1-Shed
17	38				1-1 Story Frame Residence
17	39				1-2 Story Frame Residence, 1-1 Story Frame Shack, 2-Privies
18	41				1-Block. Basement Residence
	46				1-Shed, 1-1½ Story Frame Residence
	47				1-1½ Story Frame Residence, 1-Block Garage
18	48				1-1½ Story Frame Residence, 1-Frame Garage
19	50				1-2 Story Frame Residence, 1-Shed, 1-Privy
	51				1-1 Story Frame Residence,
	52				1-1 Story Frame Residence, 1-Frame Garage
	54				1-Frame Shed, 1-Chicken Coop
	55				1-1 Story Brick Residence
19	56				1-2 Story Frame Residence, 1-Frame Garage
21	59				1-Block Garage, 1-Shed, 1-Foundation
21	64				1-1 Story Brick Residence, 1-Metal Shed
21	65				1-2 Story Frame Residence, 1-2 Story Frame Barn
22	65				1-1000 Gal. Gas Tank, 1-Chicken Coop
	67				1-Stone Garage
	68				1-1 Story Stone Residence, 1-Block Garage
	71				1-1 Story Frame Residence, 1-Block Garage
	72				1-1 Story Brick Residence
	77				1-Frame Shed
	80				1-1 Story Block Residence, 1-Brick Garage, 1-Frame Garage, 1-Brick Shelter, 4-Frame Sheds
	81				1-2 Story Frame Residence, 1-Brick Garage
22	82				1-Frame Shed
23	82				1-2 Story Frame Residence
	85				1-Shed
	87				1-Frame Shed
	89				1-1½ Story Frame Residence
	95				1-Frame Shed
	99				1-Chicken Coop
	102				1-1 Story Frame Residence
	105				2-2 Story Frame Residence
	106				1-2 Story Brick Residence
	107				2-2 Story Frame Residence, 1-Block Shed
	108				1-2½ Story Frame Residence, 1-Block Garage, 1-Frame Shed
23	109	202	L.S.	L.S.	1-1 Story Frame Residence

R/W SHEET No.	PARCEL No.	ITEM	UNIT	TOTAL	DESCRIPTION
					BUILDING REMOVAL
23	111	202	L.S.	L.S.	1-3 Story Frame Residence, 1-Shed
	112				1-2 Story Frame Residence, 1-Frame Shed, 1-Frame Garage
	113				2-2 Story Frame Residence
23	114				1-1 Story Frame Residence, 1-2 Story Frame Residence, 1-Carport
24	115				1-2½ Story Frame Residence, 1-Frame Garage
24	116				1-2½ Story Frame Residence
24	117				2-1 Story Frame Residence, 1-Frame Garage
23	125				1-2 Story Frame Residence
24	127				1-2 Story Frame and Stucco Residence
	128				1-2 Story Frame Residence, 1-Carport
	129				1-1 Story Frame Residence
24	133	202	L.S.	L.S.	1-1½ Story Frame and Stone Residence, 1-Garage
U	RF				**BUILDING REMOVAL**
Lump		202	lump	lump	Parcel No. 2-AWL, 2-BWL, 2-CWL, 2-A, 2-BC, Removal of one concrete block and metal commercial building, concrete block and frame warehouse, concrete block and tile service station building, two 500 gallon underground storage tanks, two 1000 gallon underground storage tanks
Lump		202	lump	lump	Parcel No. 23-WL, Removal of one 1-story brick and frame restaurant building
Lump		202	lump	lump	Parcel No. 34-WL, Removal of three 1-story shacks, three frame sheds
Lump		202	lump	lump	Parcel No. 36-WL, Removal of one 1-story frame residence, concrete block garage, shed, privy
Lump		202	lump	lump	Parcel No. 38-WL, Removal of one 1-story frame residence
Lump		202	lump	lump	Parcel No. 39-WL, Removal of one 2-story frame residence, frame shack, frame privy
Lump		202	lump	lump	Parcel No. 59-WL, Removal of two frame sheds, abandoned
Lump		202	lump	lump	Parcel No. 65-WL, Removal of one 2-story frame residence, frame barn, playhouse, chicken house
Lump		202	lump	lump	Parcel No. 87-WL, Removal of one frame shed
Lump		202	lump	lump	Parcel No. 89-WL, Removal of one 1-story frame residence
Lump		202	lump	lump	Parcel No. 95-WL, Removal of one frame shed
Lump		202	lump	lump	Parcel No. 99-WL, Removal of one pile of used lumber

GENERAL SUMMARY

* U- 430 (15) URBAN

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. MARCH 1967
Quantities Checked F.O. DEC. 1970
Rev. Quan. Calc. D.L.B. 5-74
Rev. Quan. Ck'd. J.R.F. 6-74

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GENERAL NOTES	SHEET NUMBERS	U-430(15) *(URBAN)	RF-430(15) (RURAL)	PROJECT TOTALS	ITEM	UNIT	DESCRIPTION
							DRAINAGE
							TYPE CODE 7223
	32* 33* 34 35 36 37 38 39 40 41 42 45 46 47 48 49 51 52 61 62 63 64 65						
	0.66 0.99 0.72 1.22 0.60 0.54 0.67 0.53 0.54 1.26 0.50 1.68 2.20 2.20 0.69 1.68		16.7	16.7	602	C.Y.	Concrete Masonry
	174		174'	174'	603	L.F.	Conduit, Type A, 42" 706.02 Class III, or 48" 707.05
	75'		75'	75'	603	L.F.	15" Conduit, Type A
	88'		88'	88'	603	L.F.	42" Conduit, Type A, 706.02
	80'		80'	80'	603	L.F.	42" Conduit, Type A, 706.05 With ⅓ Vitrified Liner Using 706.02 Class V Under Railroad, As Per Plan
	196'		196'	196'	603	L.F.	Conduit, Type A, 42" 706.05 With ⅓ Vitrified Liner using 706.02 Class III, or 48" 707.05 Asbestos Bonded
	44'		44'	44'	603	L.F.	36" Conduit, Type A, 706.02 or 706.08
	20' 161' 40'		221'	221'	603	L.F.	6" Conduit, Type B
	10' 155' 164' 50' 135' 135' 103' 80' 175' 180' 172' 193' 63'	165'	1450'	1615'	603	L.F.	12" Conduit, Type B
	5' 10' 46'	15'	46'	61'	603	L.F.	15" Conduit, Type B
	109' 190' 328' 86' 192' 54' 191'		1150'	1150'	603	L.F.	18" Conduit, Type B
	89' 127'		216'	216'	603	L.F.	21" Conduit, Type B
	33' 293' 92'	33'	385'	418'	603	L.F.	24" Conduit, Type B
	108'		108'	108'	603	L.F.	30" Conduit, Type B
	60'		60'	60'	603	L.F.	48" Conduit, Type B
300'			300'	300'	603	L.F.	6" Conduit, Type B, 706.08
	91'		91'	91'	603	L.F.	30" Conduit, Type B, 706.08 or 707.13 Asbestos Bonded
	46'		46'	46'	603	L.F.	18" Conduit, Type B, 706.02 Class IV or 707.13
	104'		104'	104'	603	L.F.	27" Conduit, Type B, 706.08, 706.02 Class III or 707.13
500'			500'	500'	603	L.F.	6" Conduit, Type C
	16'		16'	16'	603	L.F.	10" Conduit, Type C, 706.01 Class 3, 706.02, 706.08 E.S. or 707.13
	32'		32'	32'	603	L.F.	4" Conduit, Type C
300'	24'		324'	324'	603	L.F.	6" Conduit, Type C, 706.08
	30'		30'	30'	603	L.F.	12" Conduit, Type C
	156' 100' 300'		570'	570'	603	L.F.	18" Conduit, Type C
18'	300'	18'	300'	318'	603	L.F.	24" Conduit, Type C
	300'		300'	300'	603	L.F.	27" Conduit, Type C
	350'		350'	350'	603	L.F.	30" Conduit, Type C
	450' 50'		500'	500'	603	L.F.	36" Conduit, Type C
	300'		300'	300'	603	L.F.	42" Conduit, Type C
	170' 1004' 250'		1424'	1424'	603	L.F.	48" Conduit, Type C
	120'		120'	120'	603	L.F.	24" Conduit, Type C, 706.08 or 707.13 Asbestos Bonded
	44'		44'	44'	603	L.F.	18" Conduit, Type C, 706.02 Class IV or 707.13
	38'		38'	38'	603	L.F.	18" Conduit, Type D
	54'		54'	54'	603	L.F.	42" Conduit, Type D, 706.02
	50' 20' 20' 20' 10'		120'	120'	603	L.F.	6" Conduit, Type F
	28' 43' 53' 80'		204'	204'	603	L.F.	12" Conduit, Type F
	44' 105' 82' 141'		372'	372'	603	L.F.	18" Conduit, Type F
	78'		78'	78'	603	L.F.	21" Conduit, Type F
	40'		40'	40'	603	L.F.	24" Conduit, Type F
	74'		74'	74'	603	L.F.	30" Conduit, Type F, 707.13 Asbestos Bonded

GENERAL SUMMARY

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. MARCH 1969
Quantities Checked E.A. DEC. 1970
Rev. Quan. Calc. D.L.B. 5-74
Rev. Quan. Ck'd. J.R.F. 6-74

FED. RD. DIVISION	STATE	PROJECT	
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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

* U-[illegible] 430(15) URBAN

GENERAL NOTES	SHEET NUMBERS	U-430(15) *(URBAN)	RF-430(15) (RURAL)	PROJECT TOTALS	ITEM	UNIT	DESCRIPTION
							DRAINAGE
							TYPE CODE 7223
	32* 2 · 33* 1 ·	3 ·		3 ·	604	Ea.	Standard Nº 2-A-6 Paved Shoulder Inlet
	34 1 · 35 2 · 36 1 · 37 2 · 38 2 · 40 1 · 41 1 · 42 3 · 45 3 ·		16 ·	16 ·	604	Ea.	Standard No. I-3A Median Inlet, Modified As Per Plan
	51 1 ·		1 ·	1 ·	604	Ea.	Standard Nº 1-A Manhole
	48 1 · 49 1 ·		2 ·	2 ·	604	Ea.	Manhole Adjusted To Grade
	33* 1 · 33* 1 ·	1 ·	1 ·	2 ·	604	Ea.	Manhole Reconstructed To Grade
	40 2 · 51 2 ·		4 ·	4 ·	604	Ea.	Standard Nº 2-2B Catch Basin
	33* 5 · 47 2 · 48 1 ·	5 ·	3 ·	8 ·	604	Ea.	Standard Nº 3 Catch Basin
	37 1 · 38 2 · 41 1 · 46 1 · 47 2 · 48 1 ·		8 ·	8 ·	604	Ea.	Standard Nº 4 Catch Basin
	33* 1 · 34 1 · 35 2 · 36 3 · 37 1 · 38 2 · 39 3 · 40 2 · 41 2 · 42 1 · 45 1 · 48 3 · 51 5 ·	1 ·	26 ·	27 ·	604	Ea.	Standard Nº 5 Catch Basin
	42 1 · 45 2 · 46 1 ·		4 ·	4 ·	604	Ea.	Standard Nº 5A Catch Basin
	48 2 ·		2 ·	2 ·	604	Ea.	Standard Nº 6 Catch Basin, Modified As Per Plan
5			5	5	604	Ea.	Inspection Well
	1663 1887 48 449 484 51 159		4642 ·	4642 ·	605	L.F.	6" Shallow Pipe Underdrains
	48 417 250		667 ·	667 ·	605	L.F.	6" Shallow Pipe Underdrains, 707.01 Type III or 707.12
600			600 ·	600 ·	605	L.F.	6" Unclassified Pipe Underdrains, 707.01 Type III or 707.12, As Per Plan
	51 622		622 ·	622 ·	605	L.F.	Aggregate Drains
60			60 ·	60 ·	605	L.F.	Aggregate Drains For Springs, As Per Plan
	51 1 ·		1 ·	1 ·	604	Ea.	10" Flap Valve, Frame and Lid
							SANITARY SEWERS ~ TYPE CODE Y060
500		✓ 500 ·	500 ·	500 ·	603	L.F.	6" Conduit, Type B, 706.08 with joints as per 706.12
	48 98		98 ·	98 ·	603	L.F.	8" Conduit, Type B, with joints as per 706.11 or 706.12, As per Plan
	48 1 · 51 1 ·		2	2	604	Ea.	Standard Nº 1-A Manhole with joints as per 706.11
	48 1 ·		1 ·	1 ·	Spec.	Ea.	Sanitary Sewer Cleanout

GENERAL SUMMARY

A. E. STILSON & ASSOC.
Quantities Calculated E.A.S. July 1969
Quantities Checked F.O. DEC. 1970

Rev. Quan. Calc. F.O. 3-74
Rev. Quan. Ck'd. G.V. 4-14

FED. RD. DIVISION	STATE	PROJECT	
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BELMONT COUNTY
JEFFERSON COUNTY
BEL: 7-23.74
JEF.-7-0.00

SECTION OF CITY OF MARTINS FERRY

SHEET NUMBERS 288 ⊠	288 ∓	288 ⊛	289 ⊛	290 ∓	291 ∓	292 ∓	293 ∓	295 ∓	U-430(5) (URBAN) ⊠	RF-430(15) ∓ (RURAL)	TOTAL @ 100% Martins Ferry	PROJECT TOTAL	ITEM	UNIT	DESCRIPTION
															WATER WORK
															TYPE CODE Y060
		102'	340'								442'	442'	814	L.F.	2" TEMPORARY NEW WATER MAIN, WELDED STEEL PIPE, 707.08, as per plan
		102'	340'								442'	442'	814	L.F.	Removing 2" Temporary Water Main Steel Pipe, Fittings, Anchors and Appurtenances, as per plan
						5'				5'		5'	814	L.F.	2" NEW WATER MAIN Steel Pipe, 707.11 including Fittings
			18'			253'				253'	18'	271'	814	L.F.	4" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 22, PUSH-ON JOINTS, INCLUDING FITTINGS
	35'	184'	202'					43'		78'	476'	554'	814	L.F.	6" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 22, PUSH-ON JOINTS, INCLUDING FITTINGS
915'	194'	300'	430'	102'	317'	251'		702'	915'	1566'	790'	3271'	814	L.F.	8" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 22, PUSH-ON JOINTS, INCLUDING FITTINGS
			530'		84'					84'	530'	614'	814	L.F.	8" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 23, PUSH-ON JOINTS, INCLUDING FITTINGS
			70'								70'	70'	814	L.F.	8" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 24, PUSH-ON JOINTS, INCLUDING FITTINGS
				101'	413'					514'		514'	814	L.F.	8" TEMPORARY NEW WATER MAIN, CAST IRON, A.S.A. CLASS 22, PUSH-ON JOINTS, INCLUDING FITTINGS, as per plan
				101'	413'					514'		514'	814	L.F.	Removing 8" Temporary Water Main Cast Iron Pipe, Fittings, Anchors, Concrete Piers. And Appurtenances, as per plan.
						1'				1'		1'	814	Ea.	2" GATE VALVE WITH BOX
			1'								1'	1'	814	Ea.	4" GATE VALVE WITH BOX
1'	1'							4'	1'	5'		6'	814	Ea.	6" GATE VALVE WITH BOX
3'			1'	1'	1'				3'	2'	1'	6'	814	Ea.	8" GATE VALVE WITH BOX
	1'									1'		1'	814	Ea.	6" FIRE HYDRANT, 5¼" VALVE OPENING, DARLING B-50-B
								3'		3'		3'	814	Ea.	6" FIRE HYDRANT, 5" VALVE OPENING, RENSSELEAR
50'		65'	25'	30'	20'			208'	50'	258'	90'	398'	814	L.F.	REMOVING WATER MAINS AND BRANCHES (6"-8"-14")
1'								1'	1'	1'		2'	814	Ea.	VALVE BOX ADJUSTED TO GRADE
							174'			174'		174'	814	L.F.	¾" NEW SERVICE BRANCHES (COPPER) RECONNECTED WITHOUT CORPORATION COCK
						2'				2'		2'	814	Ea.	Plugging Existing 4" Water Main and Branch
							1'			1'		1'	814	Ea.	SERVICE STOP AND BOX REMOVED AND RESET
2'						1'		1'	2'	2'		4'	814	Ea.	PLUGGING EXISTING 8" WATER MAIN AND BRANCH
1'								3'	1'	3'		4'	814	Ea.	FIRE HYDRANT REMOVED AND DISPOSED OF
3'	2'	1'			2'			4'	3'	6'	3'	12'	814	Ea.	GATE VALVE REMOVED AND DISPOSED OF
							4'			4'		4'	814	Ea.	PLUGGING EXISTING (¾"-1") SERVICE BRANCH
			10'								10'	10'	814	L.F.	6" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 22 ENCASED IN CONCRETE, AS PER PLAN
10'			10'		10'				10'	10'	10'	30'	814	L.F.	8" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 22 ENCASED IN CONCRETE, AS PER PLAN
	88'										88'	88'	814	L.F.	6" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 22 IN 18" DIA. x ⅜" STEEL CASING PIPE, AS PER PLAN
72'									72'			72'	814	L.F.	8" NEW WATER MAIN, CAST IRON PIPE, A.S.A. CLASS 22 IN 20" DIA. x ⅜" STEEL CASING PIPE, AS PER PLAN
							206'			206'		206'	814	L.F.	¾" NEW COPPER SERVICE BRANCH IN STEEL CASING PIPE, 707.11, AS PER PLAN
							206'			206'		206'	814	L.F.	2" FURNISHING AND INSTALLING STEEL CASING PIPE, 707.11, AS PER PLAN AS PER PLAN
	88'										88'	88'	814	L.F.	FURNISHING AND INSTALLING 18" DIA. x ⅜" STEEL CASING PIPE ASTM A-139 GRADE B, A
72'									72'			72'	814	L.F.	FURNISHING AND INSTALLING 20" DIA. x ⅜" STEEL CASING PIPE ASTM A-139 GRADE B, AS PER PLAN

GENERAL SUMMARY

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. July 1969
Quantities Checked F.O. Dec. 1970
Rev. Quan. Calc. D.L.B. 5-74
Rev. Quan. Ck'd. J.R.F. 6-74

FED. RD. DIVISION	STATE	PROJECT	
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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

* U-430(15) Urban

TYPE CODE 7223 UNLESS OTHERWISE NOTED.

GENERAL NOTES	SHEET NUMBERS	U-430(15) (URBAN)	RF-430(15) (RURAL)	TOTALS	ITEM	UNIT	DESCRIPTION
							PAVEMENT
	20 67* 68* 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 94 95						
	5416. 444* 199* 130. 942. 116. 881. 425. 672. 553. 177. 182. 615. 654. 748. 581. 531. 531. 531. 324. 531. 531. 531. 573. 732. 768. 310. 7.	643.	18,068.	18,711.	301	C.Y.	Bituminous Aggregate Base: 702.01 (85-100 or AC-20) or 702.09, RT-11 or RT-12
	92* 191* 164. 312. 127. 4. 81. 51. 149. 124. 110. 100. 28. 95. 56. 13. 49.	283.	1463.	1746.	304	C.Y.	Aggregate Base
	130* 40* 90. 98. 75. 314. 197. 291. 409. 357. 82. 339. 283. 50.	170	2585	2755.	310	C.Y.	Subbase, Grading A, As Per Plan
	97 191		288	288	310	C.Y.	Subbase
	23* 28* 24 65 56 3. 6.	51	154	205	402	C.Y.	Asphalt Concrete (70-85 or AC-20)
	3* 3. 10	3	13	16	404	C.Y.	Asphalt Concrete (85-100 or AC-20) (Driveways)
	23* 25* 24. 65 56 1. 1. 2. 6.	48	155	203	404	C.Y.	Asphalt Concrete (70-85 or AC-20)
	166* 344* 295. 561 229 1. 209. 83. 31. 55. 68.	510	1538.	2048.	408	Gal.	Bituminous Prime Coat: 702.09, RT-2 or RT-3; 702.02, MC-30 or MC-70; or 702.03, primer 20
	133. 62. 23.		218.	218.	409	Gal.	Seal Coat Bituminous Material: 702.09, RT-9 or RT-10; 702.02, MC-800 or MC-3000; 702.04, RS-1, RS-2 or CRS-2; or 702.03, CBAE 800
	4. 2. 1.		7.	7.	409	C.Y.	Seal Coat Cover Aggregate Nº 8
	7 7 9		23	23	407	GAL	Tack Coat: 702.04, SS-1, SS-1H, MS-2 or RS-1; 702.02, RC-70 or RC-250
	0.23 0.23 0.31		0.77	0.77	407	Ton.	Cover Aggregate
	28,298. 2833* 1516* 1046. 4667. 4746. 2606. 4785. 3667. 1429. 2742. 4178. 4736. 4740. 3336. 2778. 2778. 2769. 693. 2778. 2778. 2778. 3169. 4591. 5532. 2756. 227.	4209.	106,203.	110,412.	451	S.Y.	9" Reinforced Portland Cement Concrete Pavement
	1767.		1767.	1767.	452	S.Y.	8" Plain Portland Cement Concrete Pavement
	267*	267.		267.	452	S.Y.	9" Plain Portland Cement Concrete Pavement
	1200* 448* 323. 28. 375. 494. 494. 79.	1646.	1793.	3439.	609	L.F.	Combination Curb and Gutter, SH Type 2
	718.		718.	718.	609	L.F.	Concrete Curb, Standard Type 2-A
	100. 50. 216. 171.		537.	537.	609	L.F.	Concrete Curb, Standard Type 7
	311. 235. 171.		717.	717.	609	L.F.	Concrete Curb, Standard Type 8
	70. 34. 104. 104. 104.		416.	416.	609	L.F.	Concrete Curb, Standard Type 6
	248.		248.	248.	611	S.Y.	Reinforced Concrete Approach Slabs (T=14")
	67. 67. 442. 166. 214. 397.		1353.	1353.	611	S.Y.	Reinforced Concrete Approach Slabs (T=15")
	460. 238.		698.	698.	611	S.Y.	Reinforced Concrete Approach Slabs (T=17")
	778* 242* 58. 583.	1020.	643.	1663.	612	S.Y.	Concrete Median
	4940. 69. 800. 314. 499. 500. 470. 470. 500. 500. 500. 500. 460. 343. 500. 500. 500. 500. 500. 564. 374.		14,303.	14,303.	622	L.F.	Concrete Barrier, Std. Type A
	37. 26. 36. 45. 46. 44. 28. 7.		269.	269.	Spec	C.Y.	Drainage Connection Using Nº 8 Aggregate
	124. 82. 100. 24. 100. 50.		480.	480.	SPEC.	L.F.	Pressure Relief Joint

Structures Over 20' Span
Bridge Nº BEL-7-2389, See Quantity Sheet Nº 346
Bridge Nº BEL-798-0527, See Quantity Sheet Nº 339
Bridge Nº BEL-7-2526, See Quantity Sheet Nº 364
Bridge Nº BEL-7-2619, See Quantity Sheet Nº 393
Bridge, Private Drive Over Deep Run, See Quantity Sheet Nº 410
Bridge Nº JEF-7-0016, See Quantity Sheet Nº 419
Bridge Nº BEL-7-2549, See Quantity Sheet Nº 381

Lighting Summary, See Sheet Nº 302
Traffic Control, See Sheet Nº 317

L.S.	Lump	619	L.S.	Field Office
L.S.	Lump	623	L.S.	Construction Layout Stakes
L.S.	Lump	614	L.S.	Maintaining Traffic

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. July 1969
Quantities Checked E.D. Dec. 1970
Rev. Quan. Calc. DLB 5-14
Rev. Quan. Ck'd. J.R.F. 6-14

FED. RD. DIVISION	STATE	PROJECT	
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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

* U-RF-430(15) Urban

Sht. No.	Station To Station	203 Excavation C.Y.	203 Embankment C.Y.	659 Seeding S.Y.
32	1252+80 To 1260+00	1271 *	461 *	2058 *
33	1260+00 To 1270+00	1868 * 1891	692 * 5164	2174 * 2347
34	1270+00 To 1280+00	265,525	0	23,019
35	1280+00 To 1290+00	84,053	3440	18,603
36	1290+00 To 1300+00	185,093	17	27,820
37	1300+00 To 1310+00	118,255	10849	31,146
38	1310+00 To 1320+00	99,110	34,615	35,842
39	1320+00 To 1330+00	211,083	6297	27,449
40	1330+00 To 1340+00	404,280	5850	25,181
41	1340+00 To 1350+00	9211	40,881	6884
42	1350+00 To 1360+00	11,558	21,132	5375
43	1360+00 To 1370+00	13,729	58,190	16,457
44	1370+00 To 1380+00	24,840	16,241	17,481
45	1380+00 To 1390+00	28,581	38,166	18,924
46	1390+00 To 1400+00	122,274	427	22,424
47	1400+00 To 1410+00	109,440	200	16,218
48	1410+00 To 5+00	78,963	21,873	13,748
49	5+00 To 9+15	122	33,640	4,222
54	Access Rd. "A" *	368 *	2106 *	2422 *
54	Access Rd. "A"	394	6188	3160
54	Access Rd. "B"	134	1240	1029
54	S.R. 798 Reloc.	1022	5357	4487
54	T.R. 536 Reloc.	45,552	525	4657
54	Glenn's Run Reloc.	5035	6804	1858
276	Patton's Run Reloc.	2300	2548	1914
277	Deep Run Reloc.	1424	10	465
52	T.R. 469 Connector	2633	36,858	11,563
55	Ramp "A" T.R. 469 Inter.	41,065	1805	15,952
55	Ramp "B" T.R. 469 Inter	14,727	2616	9,300
56	Ramp "C" T.R. 469 Inter.	597	49,916	11,177
56	Ramp "D" T.R. 469 Inter	1178	34,707	8,213
57	Ramp "A" Public Rd. Inter.	34,509	139	8953
57	Ramp "D" Public Rd. Inter.	2337	17,417	7250
246	Cul-De-Sac	110	0	138
	U-RF-430(15) Totals to General Summary *	3507	3459	6954 ⊛
	RF-430(15) Totals to General Summary	1,921,025	463,112	403,256 ⊛

⊛ See Calculations

CALCULATIONS

⊛ SEEDING = 403,256 S.Y. − 17,466 S.Y. Jute Matting and Sodding = 385,790 S.Y. To General Summary
⊛ SEEDING = 6954 S.Y. − 250 S.Y. Jute Matting and Sodding = 6704 S.Y. To General Summary *

ITEM 659 FERTILIZER

385,790 S.Y. + 17,466 S.Y. = 403,256 S.Y. × $\frac{20}{1000}$ × $\frac{9}{2000}$ = 36.29 Tons To Gen. Summary
6704 S.Y. + 250 S.Y. = 6954 S.Y. × $\frac{20}{1000}$ × $\frac{9}{2000}$ = 0.63 Tons To General Summary *

ITEM 659 AGRICULTURAL LIMING

385,790 S.Y. + 17,466 S.Y. = 403,256 S.Y. × $\frac{100}{1000}$ × $\frac{9}{2000}$ = 181.47 Tons To Gen. Summary
6,704 S.Y. + 250 S.Y. = 6,954 S.Y. × $\frac{100}{1000}$ × $\frac{9}{2000}$ = 3.13 Tons To General Summary *

ITEM 203 - COMPACTION USING HEAVY PNEUMATIC TIRED ROLLER

$\frac{900' \times 76'}{9} \times \frac{1}{1000 \text{ SY/HR.}}$ = 8 Hrs. To General Summary

ITEM 203 PROOF ROLLING

SUBGRADE COMPACTION = 159,596 S.Y. − (11,755 S.Y. + 7600 S.Y.), Sideroads &
Special Compaction Deduction = $\frac{140,241 \text{ S.Y.}}{3000 \text{ S.Y./HR.}}$ = 47 Hrs. To General Summary
SUBGRADE COMPACTION = 74,27 S.Y. − (1142) Sideroads = $\frac{6285 \text{ S.Y.}}{3000 \text{ S.Y./H.R}}$ = 2 Hrs. To Gen. Summary *

* U-RF-430(15)

Sheet No.	202 Pav't. Removed S.Y.	202 Concrete Base Removed S.Y.	202 Concrete Median Removed S.Y.	202	202 Conc. Curb & Gutter Removed L.F.	202 Conc. Sidewalk Removed S.F.	202 Structures Removed L.S.	203 Subgrade Compaction S.Y.	608 Concrete Walk S.F.
67	65 *		489 *		1458 *			4946 *	4080 *
68		201 * 606						2481 * 2498	1009 * 164
69		1778						9137	160
70								1688	
71								6701	
72								3835	
73								6948	
74								5389	
75								2039	
76								3750	
77								7180	
78								6996	
79								5963	
80								4549	
81								4000	
82								4000	
83								4000	
84							L.S.	2908	
85	400							4000	
86	71							4000	
87	35							4073	
88								4478	
89								5744	
90								7849	
91								4535	
92	216					794		354	400
94	1905					5865		2021	3708
95								161	
*U-RF-430(15) Totals	65	297	489		1458			7427	5089
RF-430(15) Totals	2627	2434				6659	L.S.	118,796	5052

To General Summary

SUB-SUMMARY OF QUANTITIES

PAVEMENT CALCULATIONS

STA. 1276+00.00 To STA. 1327+00.00

A. E. STILSON & ASSOC.
Quantities Calculated E.C.T. Feb. 1969
Quantities Checked E.O. Nov. 1970
Rev. Quan. Calc. DLB. 5-74
Rev. Quan. Ck'd. J.R.F. 6-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BELMONT COUNTY
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451 (9") Reinforced Portland Cement Concrete Pavement

Sta. 1276+00.00 to Sta. 1327+00.00 5,100.00 L.F.

5,100.00 L.F. x 25.0' x 2 = 255.000 S.F. ÷ 9 = 28,333 S.Y.
Deduct for Inlets (8) x 1.00' x 20.00' x 2 ÷ 9 = - 35 S.Y.
28,298 S.Y. To General Summary

301 Bituminous Aggregate Base

From Item 451 = 5,100.00' x 8' x 0.6250' x 2 ÷ 27 = 1889 C.Y.
5,100.00 x 56 x 0.3333 ÷ 27 = 3526 C.Y.
5415 C.Y. To General Summary

203 Subgrade Compaction

From Item 451 = 5,100.00 L.F. x 72.0' ÷ 9 = 40,800 S.Y. To General Summary

622 Concrete Barrier

Sta. 1276+00 to Sta. 1327+00 = 5100 L.F.
Deduct 8 Median Inlets x 20 L.F. per Inlet = -160 L.F.
4940 L.F. To General Summary

202 Removal of Ex. Pav't. (Conc. Base) S.R. 7

Sta. 1276+00 To Beginning of Cul-de-sac Rt. ℄
Sta. 1306+60 ±
2950 L.F. x 20.0' ÷ 9 = 6,556 S.Y. To General Summary

SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	
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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

STATION	LT. EDGE 26.5' LT. ℄	PROFILE 1.5' LT. & 1.5' RT CENTERLINE	RT. EDGE 26.5' RT. ℄
(NORMAL SECTION TO 1276+25)			
1276+50	667.66	668.04	667.66
1276+75	667.98	668.37	668.05
1277+00	668.33	668.72	668.46
1277+25	668.69	669.08	668.88
1277+50	669.05	669.44	669.31
1277+75	669.41	669.80	669.74
1278+00	669.77	670.16	670.16
1278+25	670.13	670.52	670.63
1278+50	670.49	670.88	671.10
1278+75	670.84	671.24	671.58
1279+00	671.13	671.60	672.05
1279+25	671.40	671.96	672.52
1279+50	671.64	672.32	672.99
1279+75	671.89	672.68	673.47
1280+00	672.17	673.04	673.91
1280+25	672.50	673.40	674.30
1280+50	672.86	673.76	674.66
1280+75	673.22	674.12	675.02
1281+00	673.58	674.48	675.38
1281+25	673.94	674.84	675.74
1281+50	674.30	675.20	676.10
1281+75	674.66	675.56	676.46
1282+00	675.02	675.92	676.82
1282+25	675.38	676.28	677.18
1282+50	675.74	676.64	677.54
1282+75	676.10	677.00	677.90
1283+00	676.46	677.36	678.26
1283+25	676.82	677.72	678.62
1283+50	677.18	678.08	678.98
1283+75	677.54	678.44	679.34
1284+00	677.90	678.80	679.70
1284+25	678.26	679.16	680.06
1284+50	678.62	679.52	680.42
1284+75	678.98	679.88	680.78
1285+00	679.34	680.24	681.14
1285+25	679.70	680.60	681.50
1285+50	680.06	680.96	681.86
1285+75	680.42	681.32	682.22
1286+00	680.78	681.68	682.58
1286+25	681.14	682.04	682.94
1286+50	681.53	682.40	683.26
1286+75	681.99	682.76	683.53
1287+00	682.48	683.12	683.76
1287+25	682.97	683.48	683.99
1287+50	683.45	683.84	684.22
1287+75	683.94	684.20	684.46
1288+00	684.43	684.56	684.69
1288+25	684.92	684.92	684.92
1288+50	685.41	685.28	685.15
1288+75	685.90	685.64	685.38
1289+00	686.38	686.00	685.61
1289+25	686.87	686.36	685.85
1289+50	687.36	686.72	686.08
1289+75	687.85	687.08	686.31
1290+00	688.30	687.44	686.57
1290+25	688.70	687.80	686.90
1290+50	689.06	688.16	687.26
1290+75	689.42	688.52	687.62
1291+00	689.78	688.88	687.98
1291+25	690.14	689.24	688.34
1291+50	690.47	689.60	688.73

DC = 1° 28' LT.
Se = 0.036 FT/FT (MAX)

DC = 1° 28' RT.
Se = 0.036 FT/FT (MAX)

STATION	LT. EDGE 26.5' LT. ℄	PROFILE 1.5' LT. & 1.5' RT CENTERLINE	RT. EDGE 26.5' RT. ℄
1291+75	690.75	689.96	689.17
1292+00	690.99	690.32	689.64
1292+25	691.24	690.68	690.12
1292+50	691.49	691.04	690.59
1292+75	691.74	691.40	691.01
1293+00	691.98	691.76	691.37
1293+25	692.23	692.12	691.73
1293+50	692.49	692.48	692.09
1293+75	692.77	692.83	692.44
1294+00	693.04	693.17	692.78
1294+25	693.29	693.49	693.10
1294+50	693.53	693.79	693.40
1294+75	693.75	694.08	693.69
1295+00	693.96	694.35	693.96
(NORMAL SECTION		1295+25 TO	1302+00)
1302+25	697.68	698.06	697.67
1302+50	697.83	698.16	697.77
1302+75	698.00	698.26	697.87
1303+00	698.16	698.36	697.97
1303+25	698.33	698.46	698.07
1303+50	698.49	698.56	698.17
1303+75	698.67	698.66	698.27
1304+00	698.87	698.76	698.37
1304+25	699.08	698.86	698.47
1304+50	699.30	698.96	698.56
1304+75	699.51	699.06	698.61
1305+00	699.72	699.16	698.60
1305+25	699.93	699.26	698.58
1305+50	700.15	699.36	698.57
1305+75	700.33	699.46	698.58
1306+00	700.46	699.56	698.66
1306+25	700.56	699.66	698.76
1306+50	700.66	699.76	698.86
1306+75	700.76	699.86	698.96
1307+00	700.86	699.96	699.06
1307+25	700.96	700.06	699.16
1307+50	701.06	700.16	699.26
1307+75	701.16	700.26	699.36
1308+00	701.26	700.36	699.46
1308+25	701.36	700.46	699.56
1308+50	701.46	700.56	699.66
1308+75	701.53	700.66	699.78
1309+00	701.55	700.76	699.97
1309+25	701.53	700.86	700.18
1309+50	701.52	700.96	700.40
1309+75	701.51	701.06	700.61
1310+00	701.50	701.16	700.82
1310+25	701.48	701.26	701.03
1310+50	701.47	701.36	701.25
1310+75	701.46	701.46	701.46
1311+00	701.45	701.56	701.67
1311+25	701.43	701.66	701.88
1311+50	701.42	701.76	702.10
1311+75	701.41	701.86	702.31
1312+00	701.40	701.96	702.52
1312+25	701.38	702.06	702 73
1312+50	701.37	702.16	702.95
1312+75	701.39	702.26	703.13
1313+00	701.46	702.36	703.26
1313+25	701.56	702.46	703.36
1313+50	701.66	702.56	703.46
1313+75	701.76	702.66	703.56

DC = 1° 28' RT.
Se = 0.036 FT/FT (MAX)

STATION	LT. EDGE 26.5' LT ℄	PROFILE 1.5' LT. & 1.5' RT CENTERLINE	RT. EDGE 26.5' RT. ℄
1314+00	701.86	702.76	703.66
1314+25	701.96	702.86	703.76
1314+50	702.06	702.96	703.86
1314+75	702.16	703.06	703.96
1315+00	702.26	703.16	704.06
1315+25	702.36	703.26	704.16
1315+50	702.46	703.36	704.26
1315+75	702.56	703.46	704.36
1316+00	702.66	703.56	704.46
1316+25	702.76	703.66	704.56
1316+50	702.86	703.76	704.66
1316+75	702.96	703.86	704.76
1317+00	703.06	703.96	704.86
1317+25	703.16	704.06	704.96
1317+50	703.26	704.16	705.06
1317+75	703.36	704.26	705.16
1318+00	703.46	704.36	705.26
1318+25	703.56	704.46	705.36
1318+50	703.66	704.56	705.46
1318+75	703.76	704.66	705.56
1319+00	703.88	704.76	705 63
1319+25	704.07	704.86	705.65
1319+50	704.28	704.96	705.63
1319+75	704.50	705.06	705.62
1320+00	704.71	705.16	705.61
1320+25	704.86	705.26	705.60
1320+50	704.97	705.36	705.58
1320+75	705.07	705.46	705.57
1321+00	705.17	705.56	705.57
1321+25	705.27	705.66	705.59
1321+50	705.37	705.76	705.63
1321+75	705.47	705.86	705.66
1322+00	705.57	705.96	705.70
1322+25	705.67	706.06	705.74
1322+50	705.77	706.16	705.78
(NORMAL SECTION		1322+75 TO	1328+00)

DC = 1° 28' LT.
Se = 0.036 FT/FT (MAX)

STATION	LT. EDGE 26.5' LT. ℄	PROFILE 1.5' LT & 1.5 RT CENTERLINE	RT. EDGE 26.5' RT. ℄

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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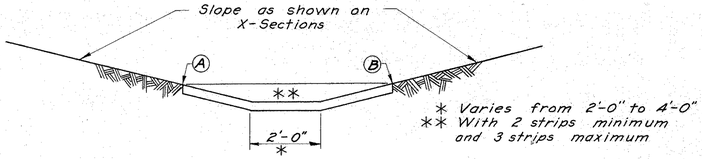
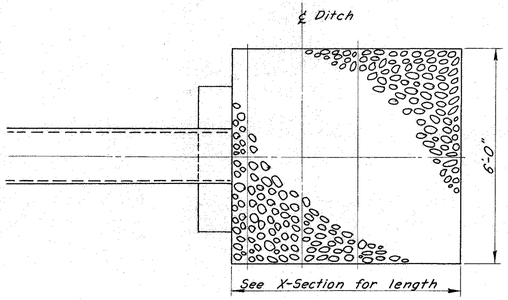
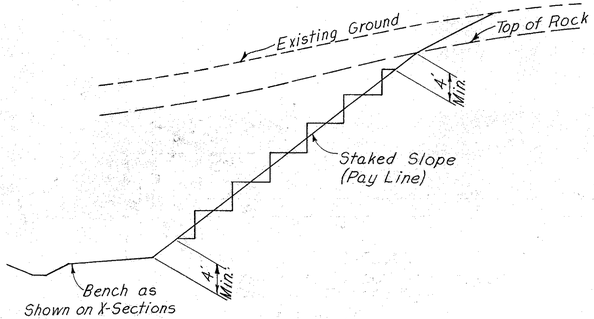
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



ROADSIDE DITCH
JUTE MATTING DETAIL





STEPPED SLOPE DETAIL

Stepped Slopes in Soft Rock - Cuts in soft rock for which the plans provide 1:1 or 1½:1 slopes shall be excavated to shape the cut face to a stepped pattern in reasonably close conformity with the typical cross sections shown on the plans.

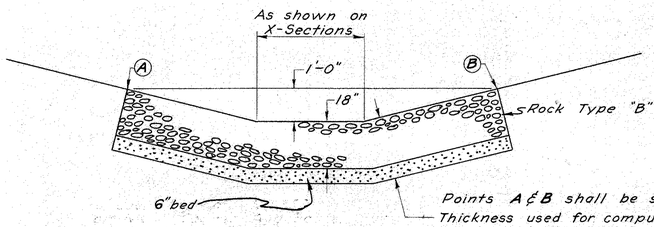
The steps may vary from 2 to 4' vertically, with the horizontal dimension being a function of the staked slope ratio. The approximate midpoint of the horizontal tread of the step shall be constructed on the staked slope line.

The first step shall begin immediately below the soft-rock line and continue to the bottom of the slope.

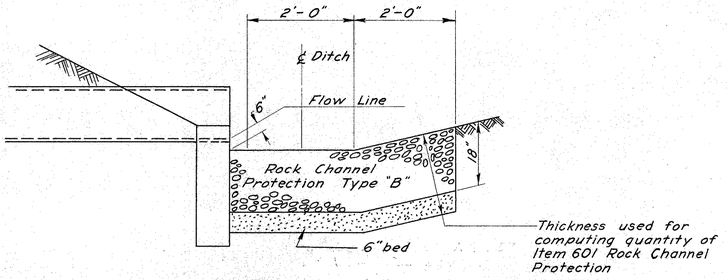
The steps shall be constructed approximately horizontal rother than parallel to the centerline grade. Excavation of each step shall be in the opposite direction from the preceding one to minimize buildup of loose material at the ends of steps. Loose material which collects at the ends of steps shall be removed and the ends blended into the natural ground. Where rock, too hard to rip, is encountered within a cut, the steps shall be blended into the rock.

Scaling need not be performed on the stepped slopes except for removal of large rocks or material which may fall into the ditchline or roadway and create a safety hazard.

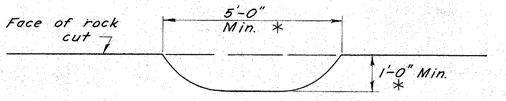
The stepped slopes shall be exposed to the weather for a period of at least 90 days prior to seeding.



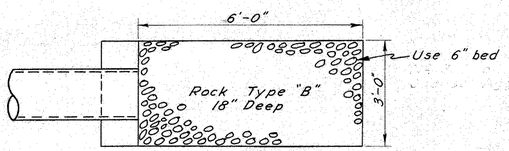
ROADSIDE DITCH
ROCK CHANNEL
PROTECTION



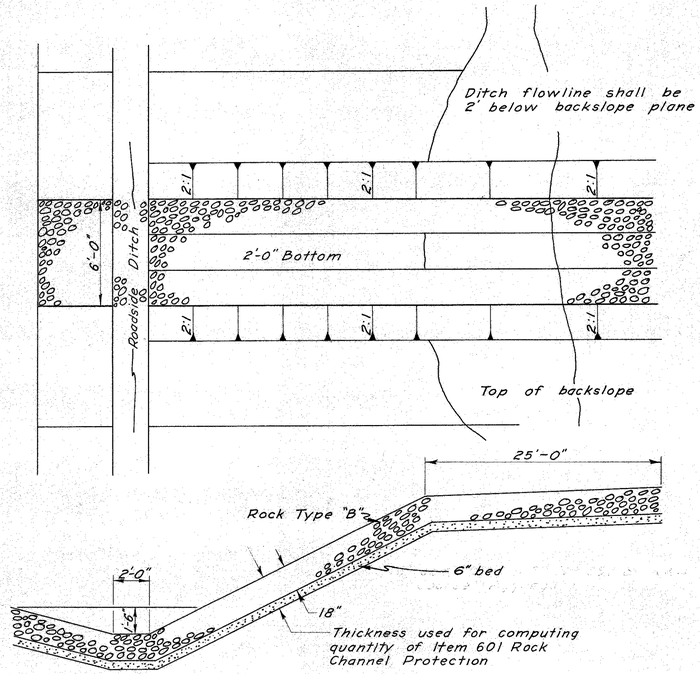
ROCK DETAIL AT PIPE OUTLET
Unless otherwise noted on plans



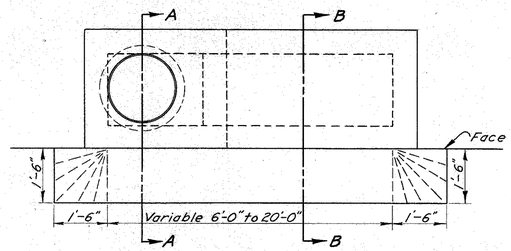
DETAIL OF DEPRESSION
IN ROCK CUT



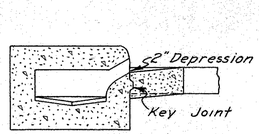
PIPE OUTLET PROTECTION
To be used as noted in areas where no ditches are to be constructed.



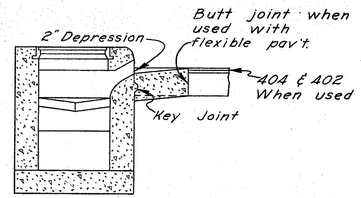
ROCK CHANNEL PROTECTION
FOR DITCHES OVER SLOPES



PLAN



SECTION "B-B"



SECTION "A-A"

See Standard Drawing 1-2A Paved Shoulder Inlet for notes, dimensions and materials not shown above.

The depressed Apron shall be an integral part of the concrete pavement with hand finishing required for the 2" depression being performed before initial set. Payment for all labor and material required to construct the depressed apron shall be included in the cost of the inlet.

ITEM 604 Standard No. 2-A Paved Shoulder Inlet

SPECIAL DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	-	

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BELMONT COUNTY
JEFFERSON COUNTY
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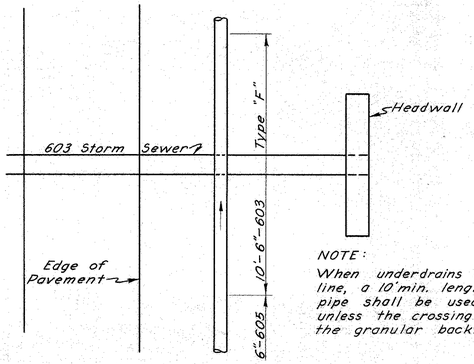
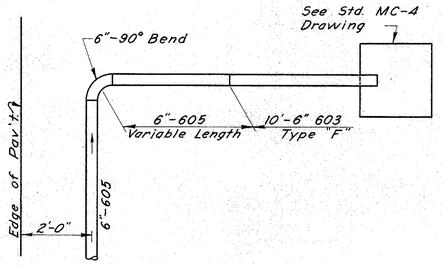
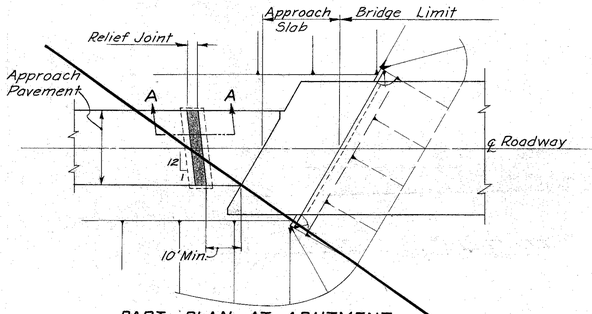


NOTE:
When underdrains cross a transverse line, a 10'min. length of 6" Type "F" pipe shall be used to span the trench unless the crossing is above the top of the granular backfill.

UNDERDRAIN CROSSOVER



UNDERDRAIN OUTLET



PART PLAN AT ABUTMENT

REINFORCING STEEL LIST

Mark	Shape	No.	Length	Bending Diagram
R501	St.	6	S-0.5 *	1'-7" 1'-0" 1'-7"
R502	St.	S+0.5 *	7'-6"	
R503	Bt.	S-1.5 *	4'-6"	1'-0" R503

*S = Length of Sleeper Slab in feet (see SEC. B-B)

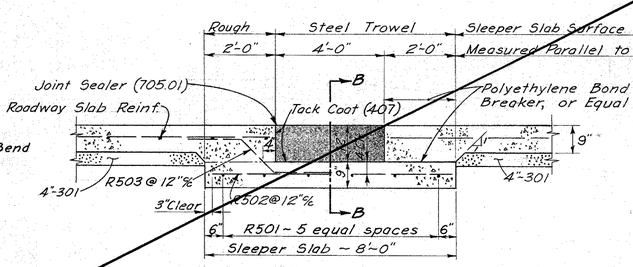
R501 bars, at the option of the contractor, may be furnished in segments with a 1'-7" bar lap between segments.

Asphalt Concrete fill shall be placed and compacted (compaction equipment shall be approved by the Engineer) in three equal courses. Surface tolerance of the fill shall be flush to 1/4 inch above the pavement surface.

Expansion Joints normally required in the approach pavement adjacent to approach slabs (451.08) shall be non-performed.

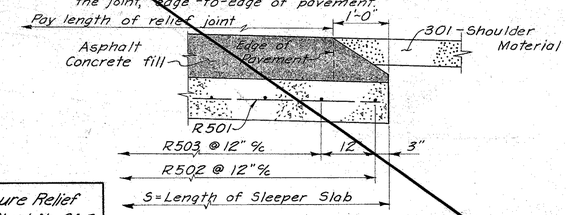
Payment shall be at the contract price bid per linear foot for Item Special, Pressure Relief Joint, which shall include furnishing and placing all of the materials necessary to complete the joint as specified.

Measurement: The length of relief joint for pay purposes shall be based on the length of the joint, measured along the centerline of the joint, edge-to-edge of pavement.

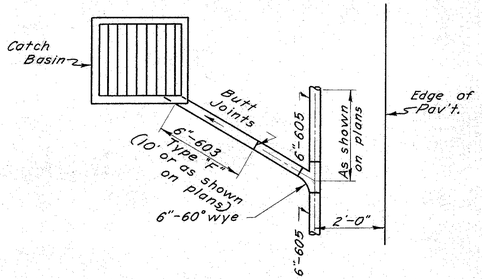


SECTION A-A

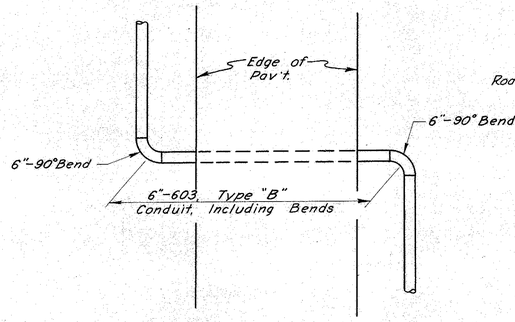
Note: For Pressure Relief Joint Details See Sheet No. 24-B



SECTION B-B
(at edge of pav't.)

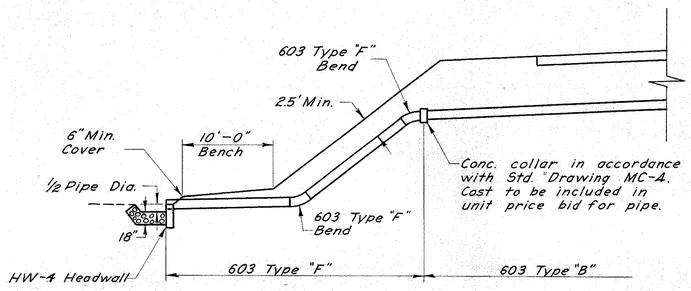


UNDERDRAIN OUTLET

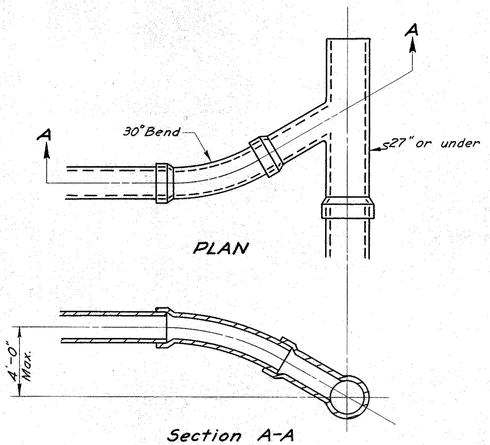


UNDERDRAIN CROSSOVER

PRESSURE RELIEF JOINT DETAILS



STORM SEWER OUTLET IN HIGH FILL



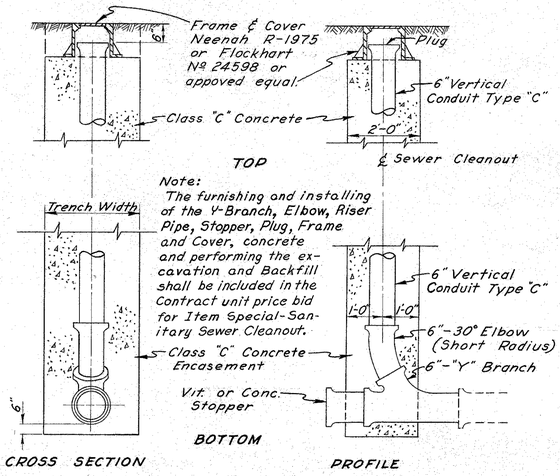
PLAN

Section A-A

TYPICAL RISER DETAIL FOR HOUSE CONNECTION

This detail is to be used when difference in elevation of the two sewer lines are 2' to 4'.

Materials:
603, 2 LF 6" Pipe - Type "B" Joints as per 706.11 or 706.12
603, 1-6" 30° Bend
603, 1-6" Wye



DETAIL ITEM-SPECIAL
SANITARY SEWER CLEANOUT

SPECIAL DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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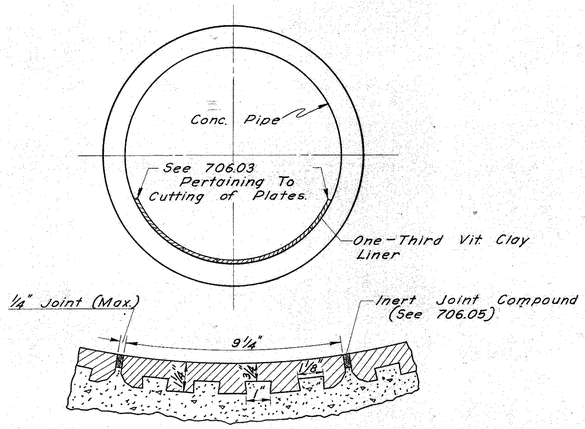
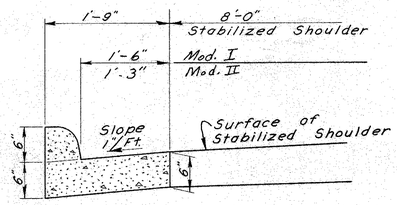
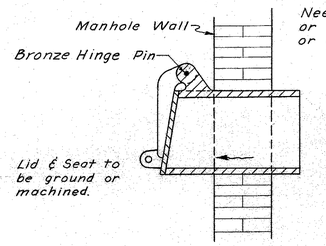
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



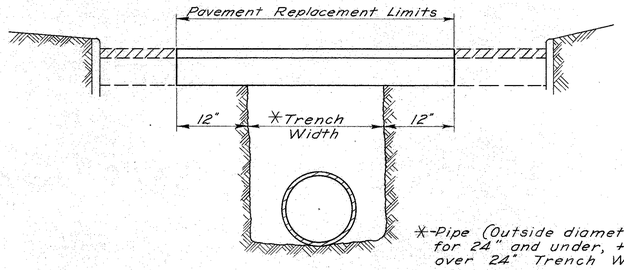
ONE-THIRD VITRIFIED CLAY LINER PLATE



TYPE 2 CURB & GUTTER



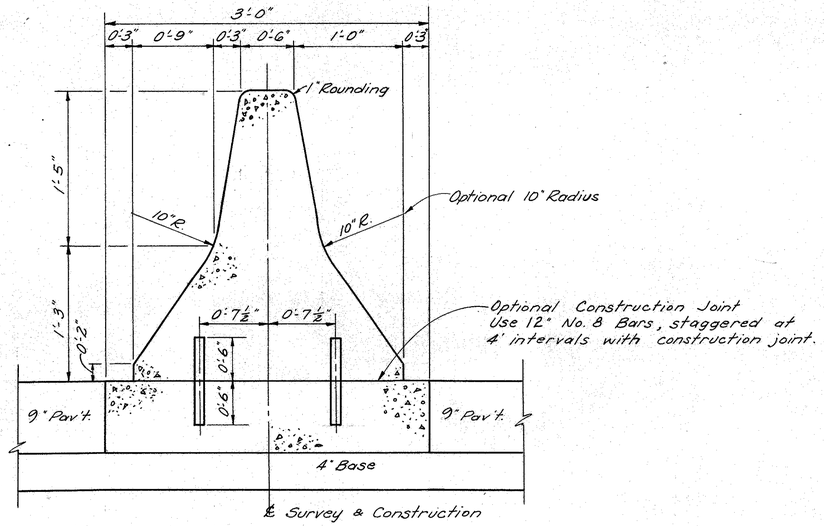
10" MANHOLE FLAP VALVE FRAME AND LID DETAIL ITEM-604



*-Pipe (Outside diameter) +2'-0" for 24" and under, +2'-6" for over 24" Trench Width.

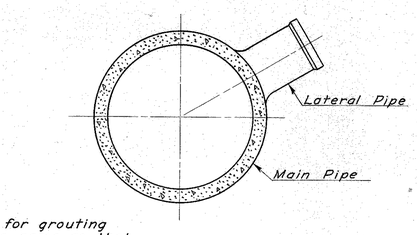
Pavement courses to be as shown on detail sheets.

DETAIL
PAVEMENT REPLACEMENT

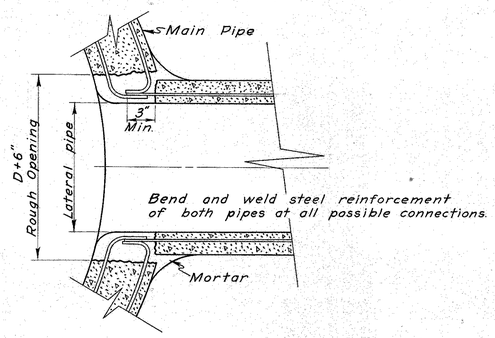


CONCRETE BARRIER

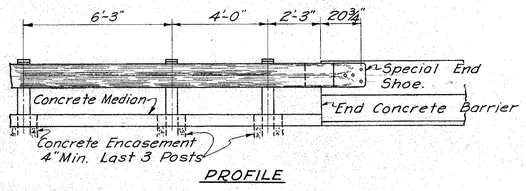
Contraction joints shall be used at 20 ft. intervals. The maximum joint opening shall be 1" and shall not extend into the base. 3/4" preformed expansion joints shall be used at each segment along the alignment, on either side of inlets and at the approach slabs, or as required by the Engineer. (See Std. Dwg. MC-9)



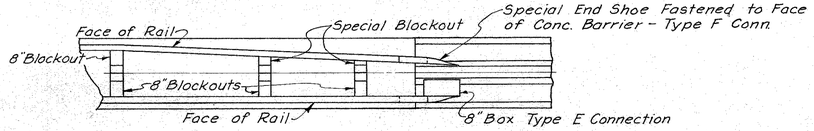
NOTE: Concrete for grouting shall be the same as that specified for the pertinent pipe.



PRE-FABRICATED "T" CONNECTION FOR CONCRETE PIPE



PROFILE



NOTE: Do not modify cross section of concrete barrier.

PLAN

GUARDRAIL TO CONCRETE BARRIER CONNECTION DETAIL Sta. 1275+31.25

For Additional Details See Sheet No. 24-D

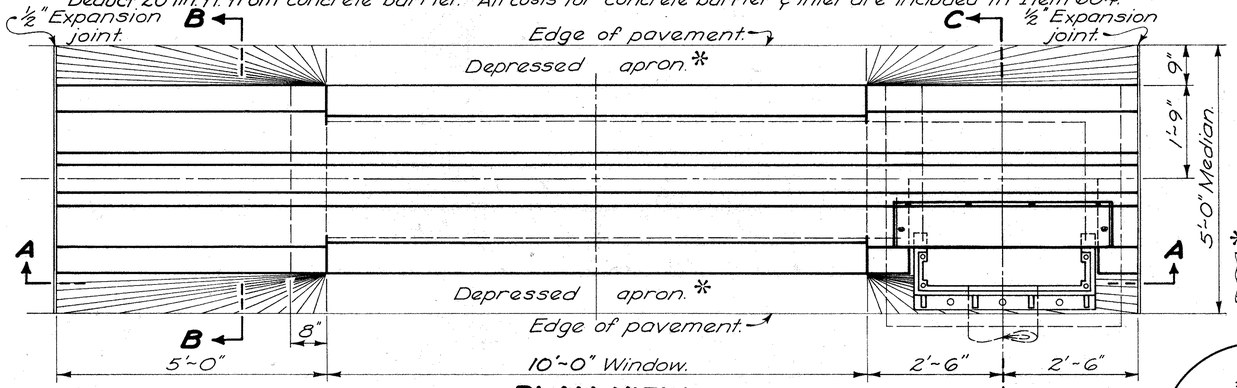
SPECIAL DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

24-A
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

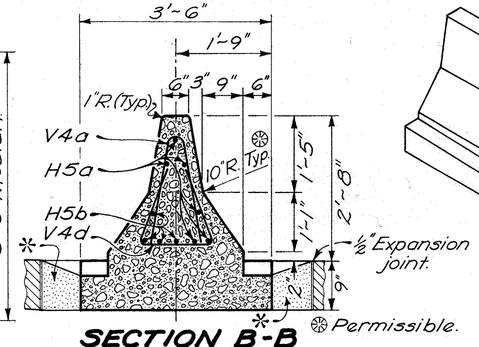
Deduct 20 lin ft from concrete barrier. All costs for concrete barrier & inlet are included in Item 604.



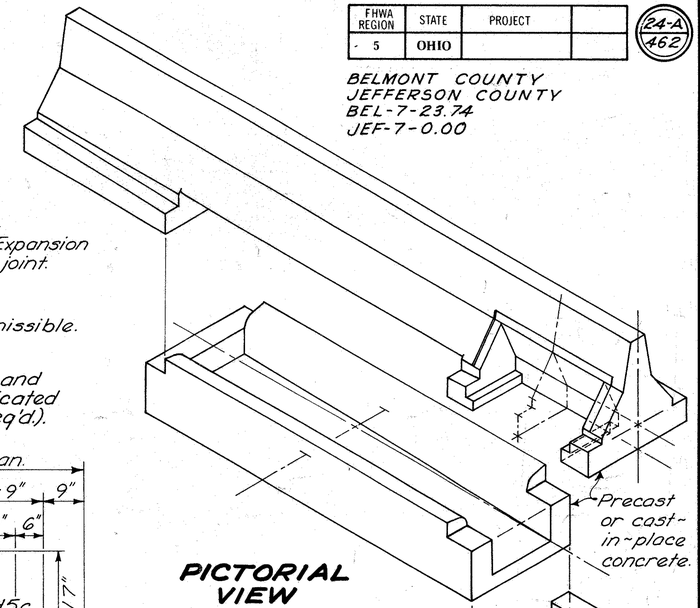
Reinforcing steel is not shown in plan view.

PLAN VIEW

* The 9" wide by 20'-0" long apron areas shall be filled to the depth of adjacent barrier median with concrete and formed to drain. Payment to be included in the median inlet cost.

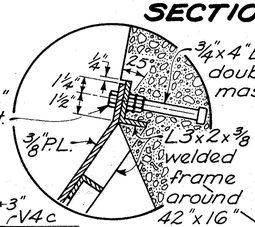


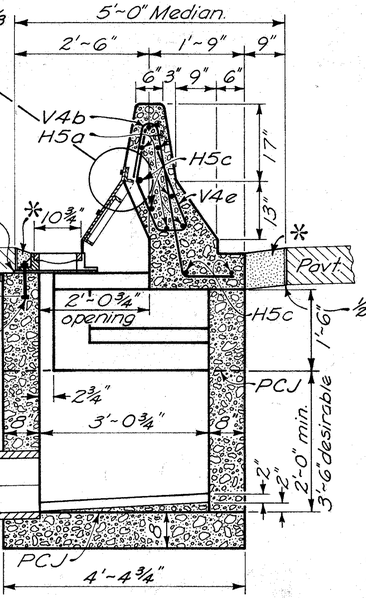
SECTION B-B



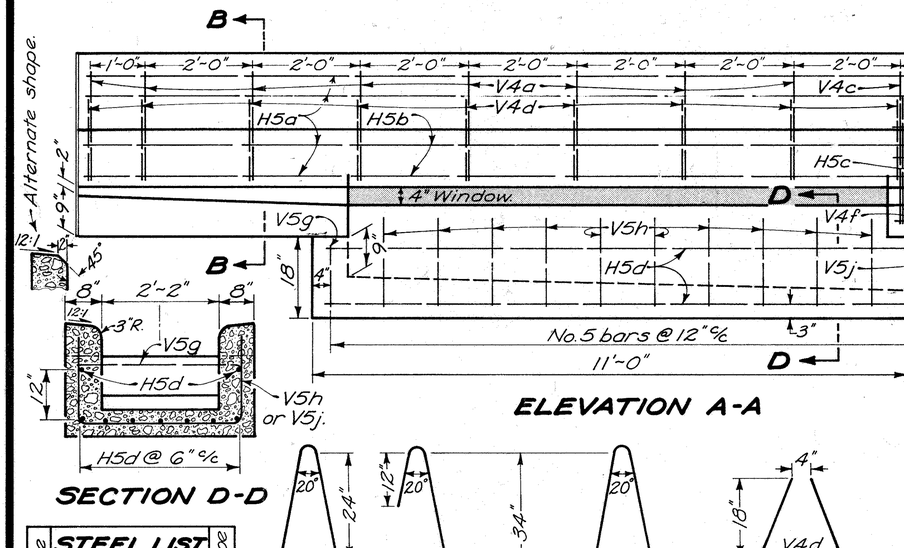
PICTORIAL VIEW

Precast or cast-in-place concrete, brick or concrete block.

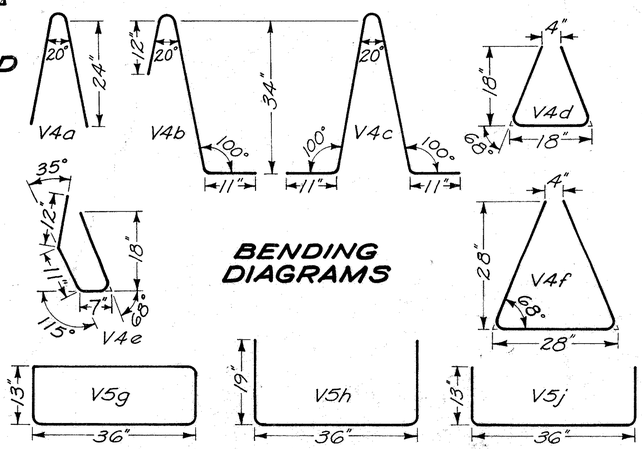




SECTION C-C



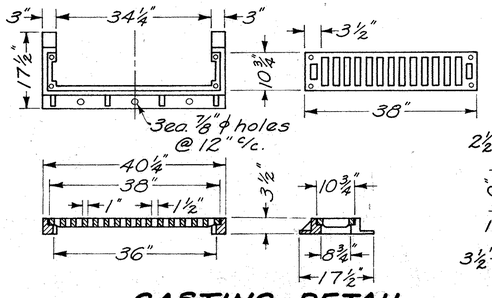
ELEVATION A-A



SECTION D-D

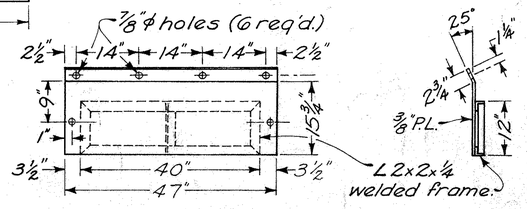
Size	STEEL LIST Bar	Ea.	Lin. Ft.	Shape
No 4	V4a	8	4'-6"	Bent
	V4b	5	5'-3"	
	V4c	2	8'-0"	
	V4d	9	4'-6"	
	V4e	6	4'-0"	
	V4f	2	7'-3"	
No 5	V5g	1	8'-2"	
	V5h	10	6'-4"	
	V5j	1	5'-2"	
	H5a	6	19'-8"	Straight
	H5b	4	15'-4"	
	H5c	4	4'-8"	
	H5d	9	11'-4"	

PCJ (Permissive Construction Joint).



CASTING DETAIL

Min. weight (frame & grate) 240 lbs.



DOOR DETAIL

PIPE: If a skewed pipe protrudes more than 2" inside a wall, the pipe shall be trimmed flush and finished to produce a neat appearance.

GALVANIZING: The steel door, frame and all bolts and nuts shall be galvanized.

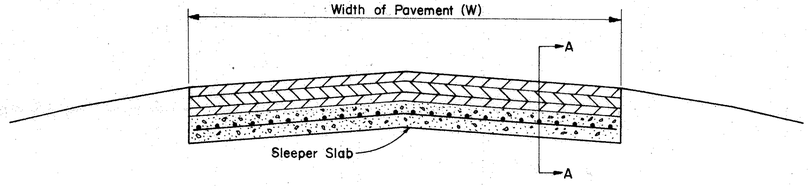
4-2-75

MEDIAN INLET I-3A Modified as per plan

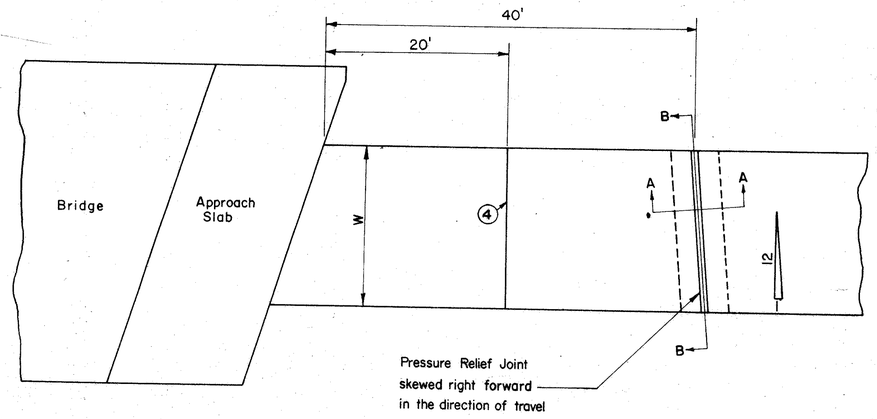
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

24B 462

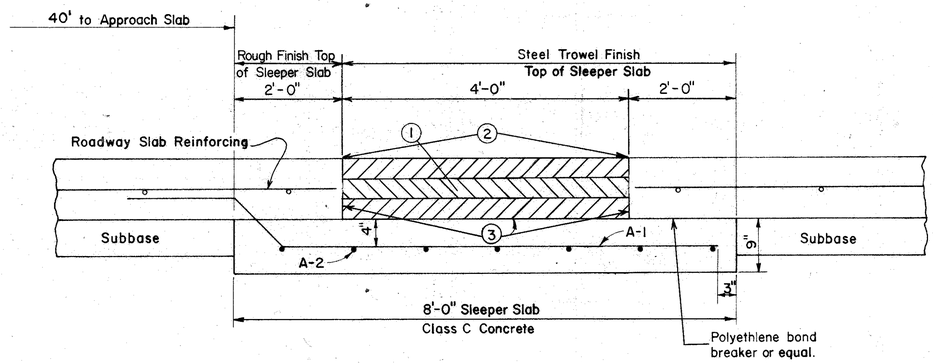
BEL - 7 - 23.74
JEF - 7 - 0.00



SECTION B – B



PLAN

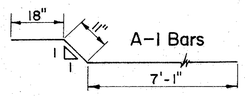


SECTION A – A

LEGEND

① Asphalt Concrete placed in three equal courses shall be in accordance with 404
② The 451 pavement shall have a 1/2" rounding and the joint shall be sealed in accordance with 705.01.
③ Tack Coat: 702.04, SS-1, SS-1h, MS-2 or RS-1; or 702.02, RC-70 or RC-250 in accordance with 407
④ Expansion Joint

SCHEDULE OF REINFORCING STEEL					
Mark	Bar Size	Spa c/c	Length	No. Req'd.	Shape
A-1	5	12"	9'-6"	24 for 24" Pvmt.	Bent
A-2	4	12"	W minus 6"	8	Straight



NOTES

Asphalt concrete shall be placed in the joint in three equal courses and compacted with equipment as approved by the Engineer.

The expansion joint approximately 60' from the bridge approach slab, as specified under 451.08 (c) shall be eliminated.

Barricades in accordance with 614, shall be provided during construction until the joint has been filled with asphalt.

Pressure Relief Joints will be measured by the linear foot along the centerline of the joint from edge to edge of pavement.

Payment for the work shall be made per linear foot under "Item Special, Pressure Relief Joint", which price and payment shall constitute full compensation for furnishing and placing of all concrete, asphalt, reinforcing steel, tack coat and all other materials, labor, tools and equipment, and incidentals necessary to complete this item.

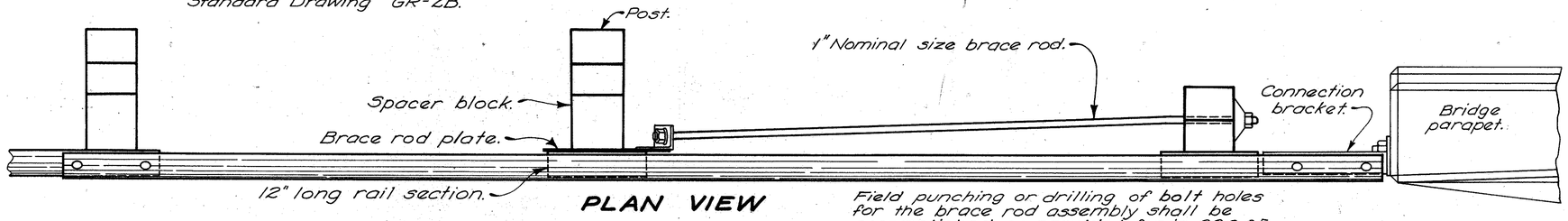
PRESSURE RELIEF JOINT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

246
462

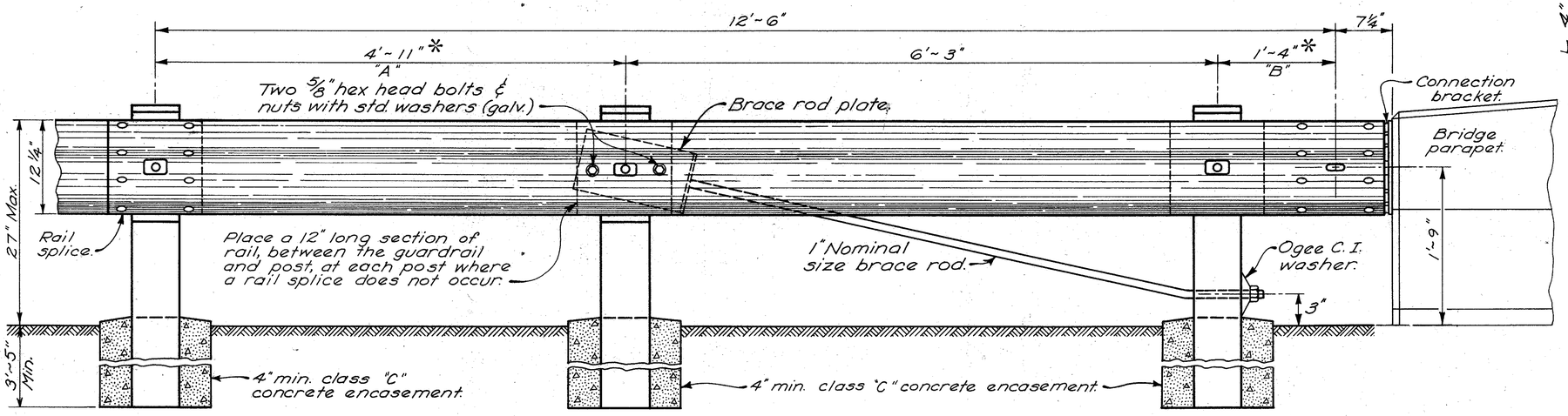
BEL- 7- 23.74
JEF- 7- 0.00

Posts may be round or square-sawed wood, or 6 B8.5 steel. See Standard Drawing GR-2B.



PLAN VIEW

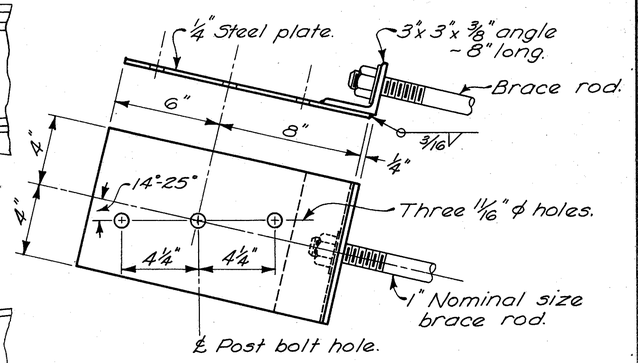
Field punching or drilling of bolt holes for the brace rod assembly shall be accomplished as provided for in 606.05.



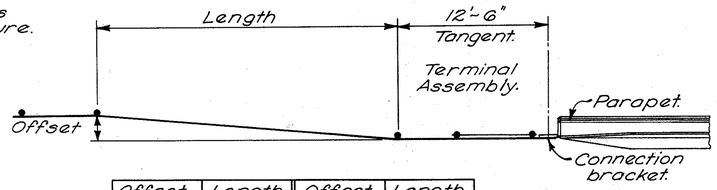
ELEVATION

GUARDRAIL TERMINAL AT BRIDGE

* Dimension "A" shall decrease as dimension "B" increases to accommodate interference by the bridge substructure.



BRACE ROD PLATE



Offset	Length	Offset	Length
1'-0"	25.00'	5'-0"	100.00'
2'-0"	50.00'	6'-0"	100.00'
4'-0"	100.00'	7'-0"	100.00'

GUARDRAIL OFFSET DETAIL

NOTES

BRIDGE TERMINAL ASSEMBLY, AS PER PLAN

The price bid for bridge terminal assembly, as per plan shall include the additional cost, in excess of normal guardrail cost, for concrete encasement, brace rod, brace rod plate and all component parts as detailed.

The connection bracket and anchor bolts are included with the bridge railing for payment. See Std. Dwg. BR-2-67 for connection bracket details.

4710

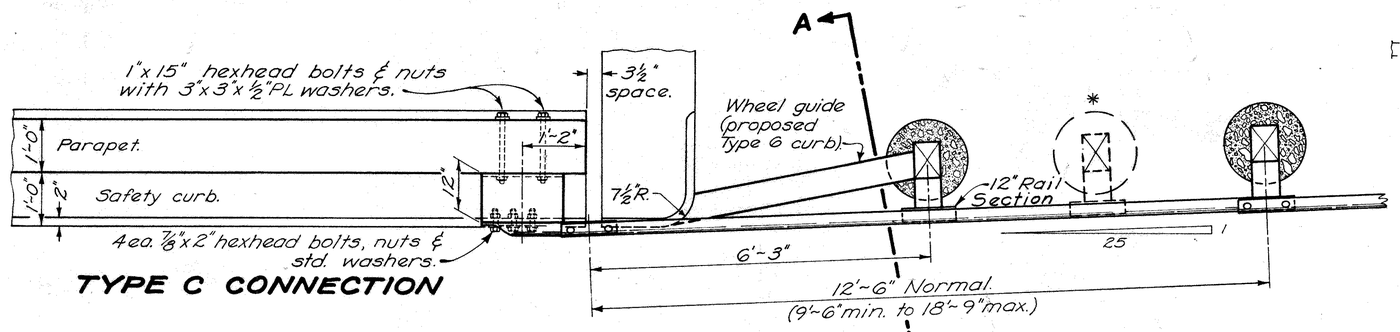
Rev. 1-1-71

BRIDGE TERMINAL ASSEMBLY, AS PER PLAN

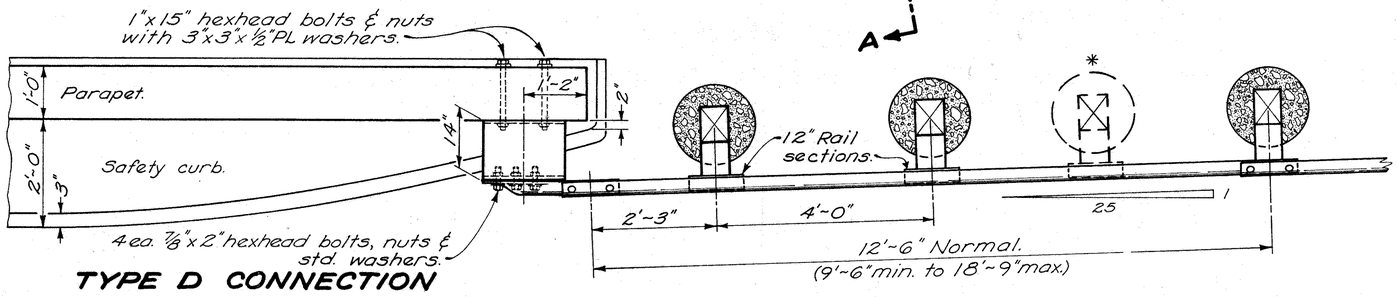
FHWA REGION	STATE	PROJECT	
5	OHIO	-	

24D 462

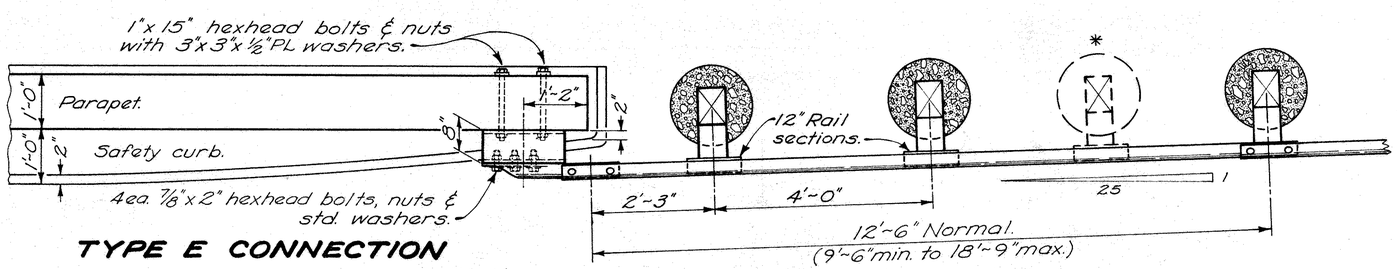
BEL-7-23.74
JEF-7-0.00



TYPE C CONNECTION

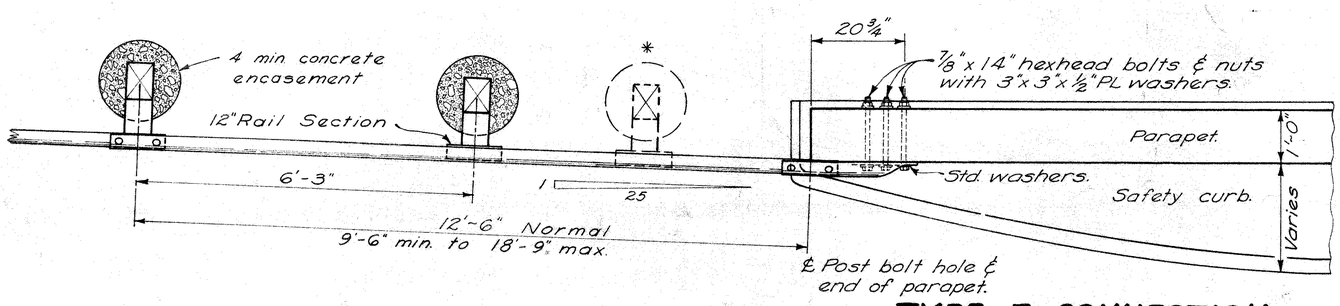


TYPE D CONNECTION



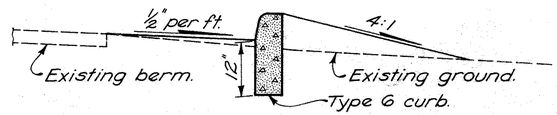
TYPE E CONNECTION

APPROACH ENDS

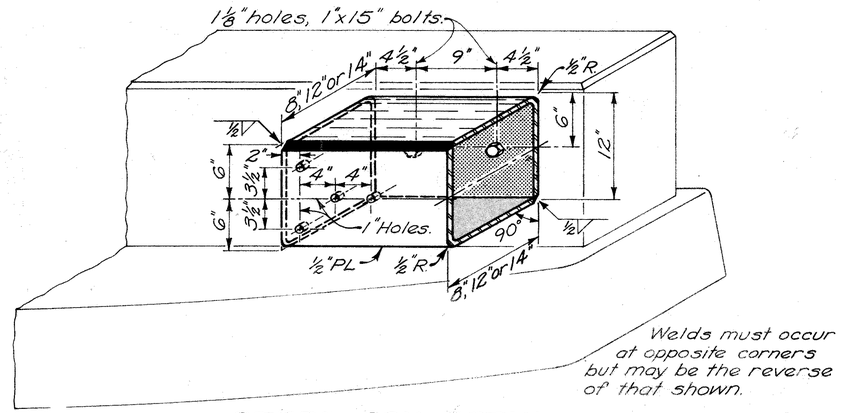


TYPE F CONNECTION

TRAILING END

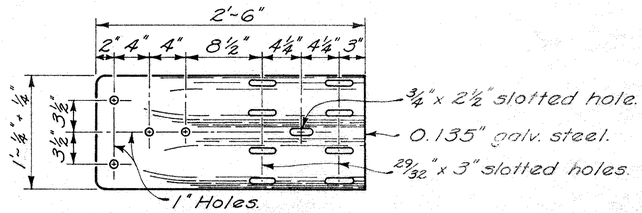


SECTION A-A



STEEL BOX DETAIL

A galv. steel box of the appropriate size (see connection type) shall be used on all approaches.



SPECIAL END SHOE

NOTES

GENERAL: This drawing shall govern where a conflict arises. For details not shown, see Standard Drawings GR-2B & GR-4.

All steel parts shall be galvanized in accordance with 710.06 or 710.10, whichever may apply.

ANCHORS: Self-drilling anchors (of the appropriate size) may be substituted for the 1" and ⅞" hexhead bolts shown in the parapets. Anchors may be of the snap-off chuck-end type or of the flush-end type conforming to Federal Specification No. FF-S-325, Group III, Type 1(a) or (c), or Type 2.

Bolts for use with the self-drilling anchors shall be ⅞"x1½" or 1"x2" as required.

***POSTS:** Place one additional encased post halfway between adjacent posts, or post and parapet, when panel length exceeds 12'-6".

All posts shall be 6"x8" wood or W6 x 15.5 steel.

GUARDRAIL TERMINATION, as directed by the Engineer. To avoid locating new posts of the adjacent run of guardrail in or near old backfilled post holes or to close existing gaps between rail and parapet, the 12'-6" normal rail section may vary as dimensioned. The horizontal dimensions (1'-2" or 20¾") of the end shoe location may be increased to avoid existing parapet steel.

PAYMENT: Price bid for bridge terminal assemblies shall include the additional cost, in excess of normal guardrail cost, for steel posts, concrete encasement, steel boxes, special end shoes, self-drilling anchors, curbing and embankment.

Connections shall be paid for as 606 Bridge terminal assembly, Type ___.

DATE
6-8-70
1-1-71
12-15-71
7-24-72

GUARDRAIL CONNECTIONS TO EXISTING BRIDGES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

25
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.- 7- 23.74
JEF.- 7- 0.00

ACCESS RD. A, S.R. 798 & GLENNS RUN CURVE DATA

	C-1	C-2	C-3	C-4	C-5	C-5A
△	68°14'00"	54°30'22"	64°16'47"	16°57'00"	81°14'30"	24°30'40"
Dc	57°17.45"	20°00'	114°35'30"	6°00'	57°17.45"	38°11' 50"
R	100.00'	286.48'	50.00'	954.03'	100.00'	150.00'
Lc	119.09'	274.20'	56.10'	132.50'	54.53'	65.05'
Ls				150.00'		
T	67.75'	148.62'	31.41'		27.06'	33.04'
Ts				217.41'		
θs				4°30'		
E	20.79'	36.26'	9.05'		3.84'	3.60'
Es				11.53'		
Xc				149.91'		
Yc				3.03'		
PI	3+30.65	7+00.67	11+19.45	4+90.04	49+81.62	1+08.60

BENCH MARKS

REF.	ELEV.	DESCRIPTION
2	662.31	M.S. IN TEL. POLE, 98' RT. 1274+12
1-A	653.52	M.S. IN TEL. POLE, 27' LT. 3+28 S.R. 798
1-B	662.76	M.S. IN TEL. POLE, 4' LT. 1268+19

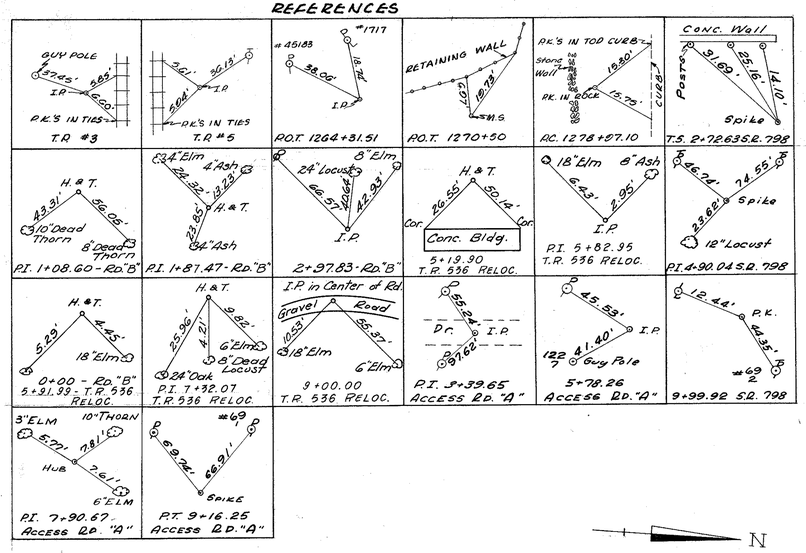
CONTROL POINT COORDINATES

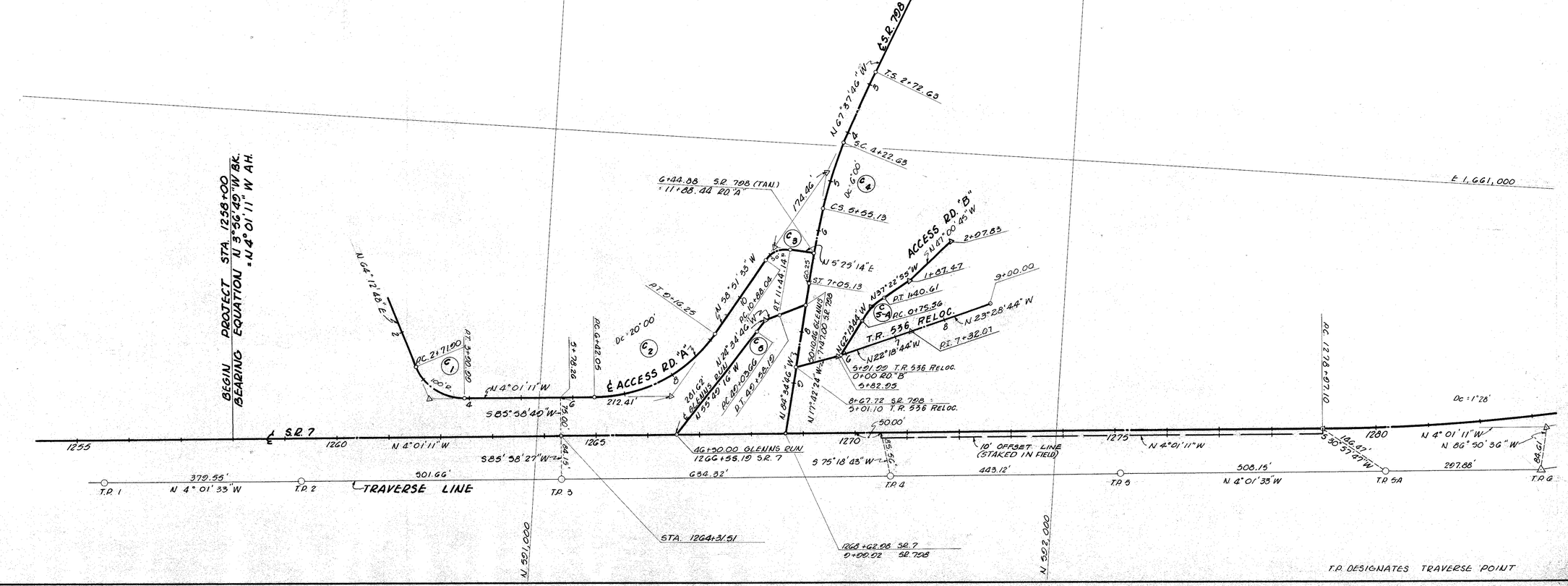
LOCATION	COORDINATES N.	E.
S.R. 7		
P.O.T. 1258+00	500,417.19	1,661,637.29
P.O.T. 1275+00	502,113.01	1,661,518.12
ACCESS RD. "A"		
P.C. 2+71.00	500,758.05	1,661,475.14
P.I. 3+30.65	500,787.52	1,661,536.14
P.T. 3+90.89	500,859.11	1,661,531.38
P.C. C+42.05	501,105.93	1,661,513.76
P.I. 7+90.67	501,253.78	1,661,503.32
P.T. 9+16.25	501,330.65	1,661,376.11
P.C. 10+88.04	501,419.48	1,661,229.07
P.I. 11+19.45	501,435.79	1,661,202.18
P.T. 11+44.14	501,467.00	1,661,206.14
S.R. 798		
T.S. 2+72.63	501,603.60	1,660,851.82
S.C. 4+22.63	501,555.26	1,660,851.94
P.I. 4+90.04	501,525.04	1,661,052.87
C.S. 5+55.13	501,523.47	1,661,120.46
S.T. 7+05.13	501,505.40	1,661,269.33
GLENNS RUN		
P.C. 49+03.66	501,412.78	1,661,367.49
P.I. 49+81.62	501,428.49	1,661,344.36
P.T. 49+58.10	501,453.91	1,661,352.78

TRAVERSE POINT COORDINATES

LOCATION	COORDINATES N.	E.
T.P. 1	500,174.02	1,661,738.83
T.P. 2	500,552.04	1,661,712.18
T.P. 3	501,053.06	1,661,676.56
T.P. 4	501,693.81	1,661,632.43
T.P. 5	502,127.84	1,661,601.32

REFERENCES





CONSTRUCTION LAYOUT 1258+00 to 1278+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

26
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

CURVE DATA

	C-6	C-7	C-8	C-8A
P.I.	1283+25.56	1290+80.96	1307+25.80	T+63.92
Δ	12°31'05"	5°16'50"	7°24'19"	58°24'43"
Dc	1°28.00'	1°28.00'	1°28.00'	57°17.44"
R	3900.58'	3900.58'	3900.58'	100.00'
T	428.46'	179.66'	253.80'	55.90'
Lc	853.51'	359.07'	507.06'	101.95'
E	23.48'	4.13'	8.24'	14.57'

BENCH MARKS

REF.	ELEV.	DESCRIPTION
3	666.35	M.S. IN TEL. POLE, 112' RT. 1285+87.50
4	666.43	M.S. IN TEL. POLE, 162' RT. 1306+25
5	661.54	M.S. IN TEL. POLE, 213' RT. 1308+60

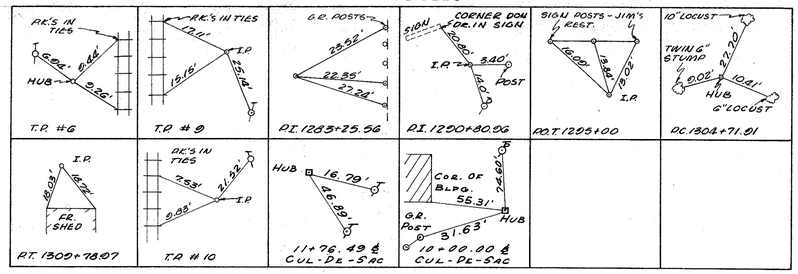
CONTROL POINT COORDINATES

LOCATION	COORDINATES N.	E.
P.C. 1278+97.10	502,300.14	1,661,490.20
P.I. 1283+25.56	502,036.54	1,661,460.25
P.T. 1287+50.61	503,347.28	1,661,338.20
P.C. 1289+01.30	503,401.73	1,661,205.40
P.I. 1290+80.96	503,663.96	1,661,244.26
P.T. 1292+60.37	503,840.16	1,661,209.14
P.C. 1304+71.91	505,028.33	1,660,072.33
P.I. 1307+25.80	505,277.31	1,660,022.71
P.T. 1309+78.07	505,530.64	1,660,905.73

TRAVERSE POINT COORDINATES

LOCATION	COORDINATES N.	E.
T.P. 5-A	502,634.78	1,661,565.65
T.P. 6	502,931.88	1,661,544.73
T.P. 7	503,237.19	1,661,485.23
T.P. 8	503,737.37	1,661,385.30
T.P. 9	504,252.64	1,661,290.34
T.P. 9-A	504,758.76	1,661,192.86
T.P. 10	505,023.80	1,661,141.79
T.P. 11	505,419.10	1,661,126.39

REFERENCES



CONSTRUCTION LAYOUT 1278+00 to 1310+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

27
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

CURVE DATA

	C-9	C-10	C-10A	C-10B
PI	13+15+00.48	1335+39.12	1336+59.44	1338+49.49
Δ	12°08'03"	27°50'27"	4°54'34"	8°55'56"
Dc	1°28'00	4°00'00"	6°00'	3°00'
R	3906.53'	1432.39'	954.93'	1909.86'
Lc	828.46'	399.77'	81.82'	297.74'
Ls		400.00'		
T	415.70'		40.94'	149.17'
Ts		558.05'		
Θs		8°00'00"		
E	22.06'		0.88'	5.82'
Es		48.62'		
Xc		300.22'		
Yc		18.50'		

BENCH MARKS

REF.	ELEV.	DESCRIPTION
C	655.47	M.S. IN TEL. POLE, 3.1' RT. 1318+71
7	657.64	M.S. IN TEL. POLE, 56.0' RT. 1328+80
8	650.11	M.S. IN TEL. POLE, 61.5' RT. 1341+00

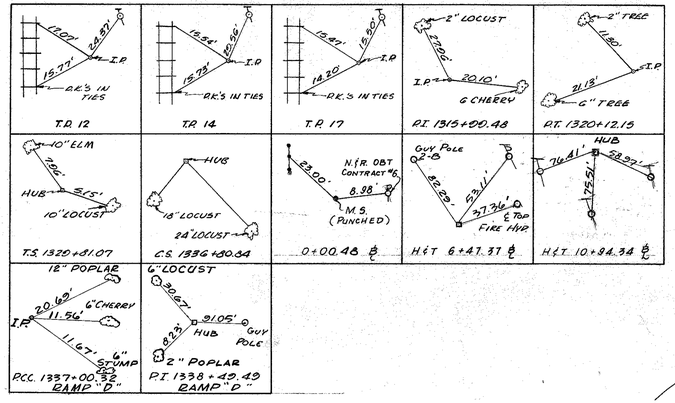
CONTROL POINT COORDINATES

LOCATION	COORDINATES N.	E.
S.R. 7		
P.C. 1311+83.60	595,734.90	1,660,892.04
P.I. 1315+00.48	596,149.75	1,660,864.24
P.T. 1320+12.15	596,540.47	1,660,749.73
T.S. 1320+81.07	597,480.92	1,660,482.90
S.C. 1333+81.07	597,869.83	1,660,300.83
P.I. 1335+39.12	598,017.38	1,660,329.22
C.S. 1336+80.84	598,168.87	1,660,380.43
S.T. 1340+80.84	598,563.23	1,660,445.20
RAMP "D"		
P.C. 1336+18.50	598,105.59	1,660,415.32
P.I. 1336+59.44	598,146.51	1,660,417.00
P.C.C. 1337+00.32	598,187.19	1,660,421.58
P.I. 1338+49.49	598,335.43	1,660,438.26
P.C.C. 1339+98.06	598,479.28	1,660,477.76

TRAVERSE POINT COORDINATES

LOCATION		COORDINATES N.	E.
T.P.	12	595,936.93	1,661,106.22
T.P.	13	596,456.58	1,661,085.08
T.P.	14	596,979.50	1,661,065.59
T.P.	15	597,493.07	1,661,045.55
T.P.	16	598,036.76	1,661,024.40
T.P.	17	598,556.32	1,661,004.15

REFERENCES



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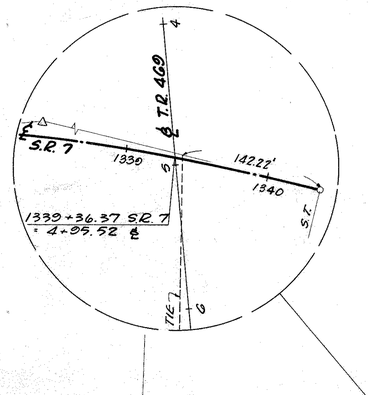
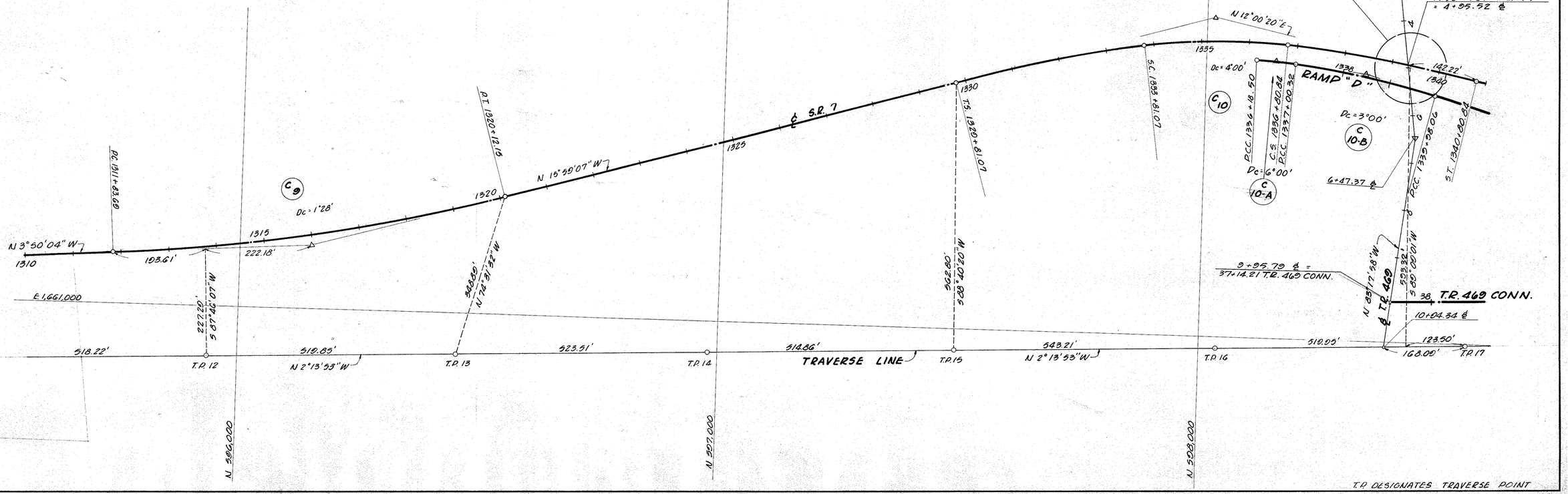




T.P. DESIGNATES TRAVERSE POINT

CONSTRUCTION LAYOUT 1310+00 to 1341+00

FED. RD. DIVISION	STATE	PROJECT		28 / 462
2	OHIO			

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

CURVE DATA

C-11		C-11A		C-11B		C-11C	
P.I.	1355+52.77	P.I.	1345+14.36	P.I.	1350+20.78	P.I.	1352+33.75
Δ	9°42'00"	Δ	13°26'24"	Δ	15°51'37"	Δ	10°26'01"
Dc	1°00'00"	Dc	3°00'	Dc	6°00'	Dc	6°00'
R	5729.58'	R	1909.86'	R	954.93'	R	954.93'
L	970.01'	L	448.00'	L	264.43'	L	173.80'
T	486.17'	T	225.08'	T	133.07'	T	87.19'
E	20.59'	E	13.21'	E	9.23'	E	3.97'

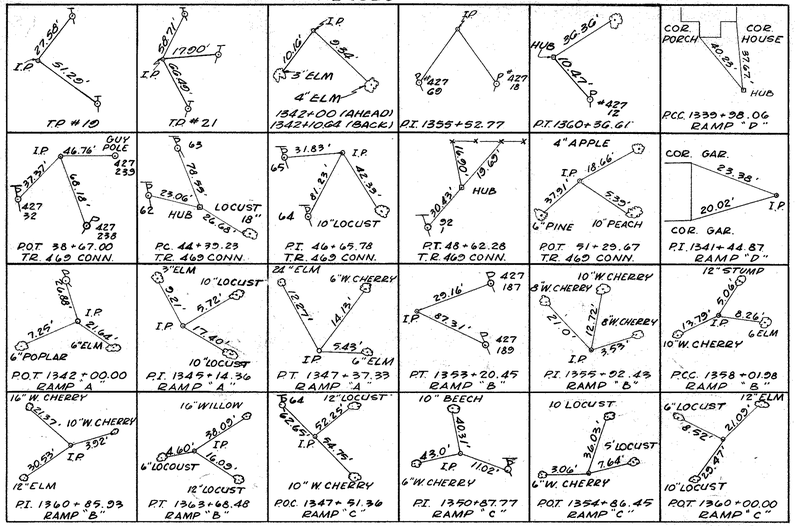
C-11D		C-11E		C-11F		C-11G	
P.I.	1355+92.43	P.I.	1360+85.93	P.I.	1341+44.87	P.I.	1346+35.71
Δ	12°37'28"	Δ	8°30'10"	Δ	4°24'08"	Ls	200'
Dc	3°00'	Dc	1°30'	Dc	1°30'	LT	133.64'
R	1909.86'	R	3819.72'	R	3819.72'	S.T.	66.95'
L	420.81'	L	566.86'	L	293.48'	Ds	12°00'
T	211.26'	T	283.95'	T	146.81'		
E	11.65'	E	10.54'	E	2.82'		

C-11H		C-11I		C-11J	
P.I.	1348+01.40	P.I.	46+65.78	P.I.	1350+87.77
Δ	23°30'13"	Δ	50°46'00"	Δ	14°25'47"
D	12°00'	D	12°00'	Dc	4°00'
R	477.46'	R	477.47'	R	1432.39'
L	195.86'	L	423.05'	L	360.74'
T	99.33'	T	226.55'	T	181.33'
E	10.22'	E	51.02'	E	11.43'

CONTROL POINT COORDINATES

LOCATION	COORDINATES N.	E.
S.R. 7		
POT 1342+00.00	598,600.10	1,660,472.20
P.C. 1350+66.60	600,537.83	1,660,652.55
P.I. 1355+52.77	600,013.36	1,660,753.69
PT. 1360+36.61	600,490.14	1,660,773.23
RAMP "A"		
POT 1340+80.33	598,592.68	1,660,338.90
P.C. 1342+89.33	598,789.28	1,660,435.60
P.I. 1345+14.36	599,010.50	1,660,476.89
P.T. 1347+37.33	599,235.25	1,660,465.64
P.C. 1348+87.71	599,387.44	1,660,458.12
P.I. 1350+20.78	599,518.34	1,660,451.46
POC 1351+52.14	599,647.99	1,660,481.39
RAMP "B"		
P.I. 1352+33.75	599,732.95	1,660,501.00
P.T. 1353+20.45	599,812.94	1,660,535.67
P.C. 1353+81.17	599,868.66	1,660,559.82
P.I. 1355+92.43	600,062.50	1,660,643.84
PCC. 1358+01.98	600,270.02	1,660,683.45
P.T. 1360+85.93	600,548.93	1,660,736.70
P.T. 1363+68.84	600,832.65	1,660,748.12
RAMP "C"		
POC 1347+51.26	599,218.87	1,660,883.76
P.C. 1349+06.44	599,369.75	1,660,847.92
P.I. 1350+87.77	599,546.18	1,660,806.02
P.T. 1352+67.18	599,727.48	1,660,809.40
POT 1360+00.00	600,460.16	1,660,873.77
RAMP "D"		
P.I. 1341+44.87	598,620.85	1,660,516.63
P.T. 1342+31.54	598,759.02	1,660,566.25
T.S. 1345+02.07	598,957.16	1,660,637.41
P.I. 1346+35.71	599,082.93	1,660,682.59
S.C. 1347+02.07	599,139.85	1,660,717.82
P.I. 1348+01.40	599,224.31	1,660,770.10
POC 1348+07.93	599,280.91	1,660,851.72
T.R. 469 CONNECTOR		
P.C. 44+39.23	599,121.32	1,660,884.64
P.I. 46+65.78	599,350.70	1,660,879.84
P.T. 48+62.28	599,487.05	1,660,624.92
POT. 49+19.67	599,521.60	1,660,649.08

REFERENCES

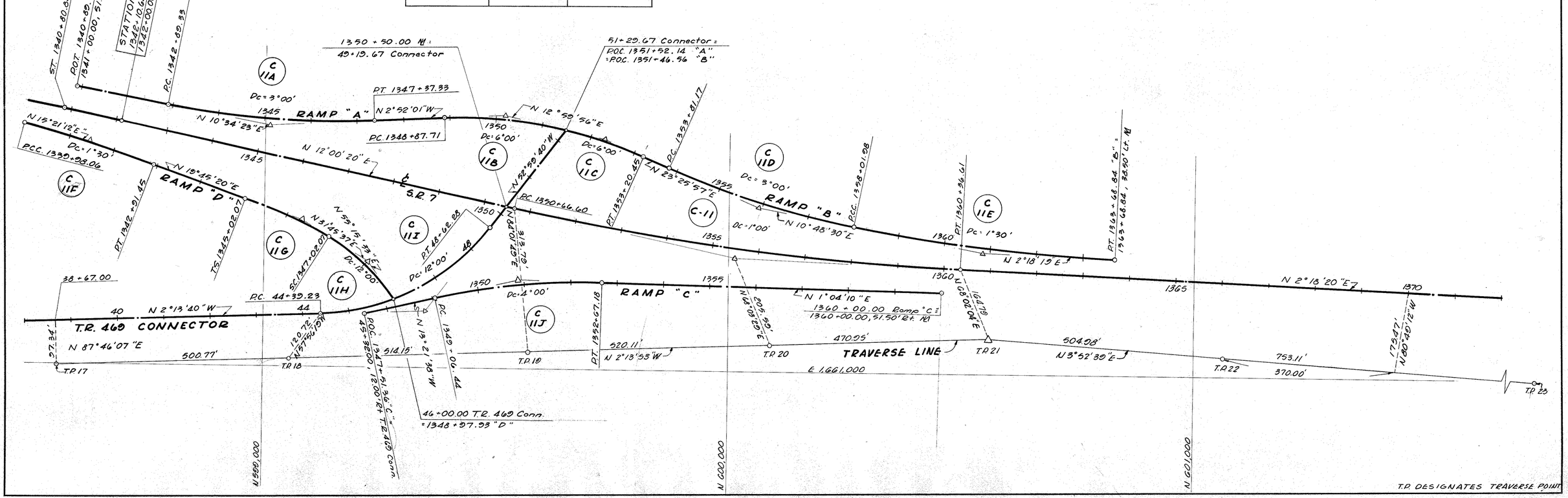


TRAVERSE POINT COORDINATES

LOCATION	COORDINATES N.	E.
T.P. 18	599,056.71	1,660,384.65
T.P. 19	599,570.47	1,660,964.64
T.P. 20	600,050.13	1,660,944.39
T.P. 21	600,560.78	1,660,926.05
T.P. 22	601,064.60	1,660,960.20

BENCH MARKS

REF.	ELEV.	DESCRIPTION
9	658.23	M.S. IN TEL. POLE, 421' RT. 1346+98
10	660.00	M.S. IN TEL. POLE, 202' RT. 1356+63
11	657.13	M.S. IN TEL. POLE, 165' RT. 1365+54



T.P. DESIGNATES TRAVERSE POINT

CONSTRUCTION LAYOUT 1341+00 to 1372+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

29
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

CURVE DATA	
	C-12
PI	1387+83.78
Δ	14°56'24"
Dc	1°28.00'
R	3906.53'
T	512.22'
Lc	1018.64'
E	33.44'

BENCH MARKS

REF.	ELEV.	DESCRIPTION
12	656.76	M.S. IN TEL. POLE, 321'RT. 1370+45.50
13	653.41	M.S. IN TEL & LIGHT POLE, 338'RT. 1380+77
14	670.62	M.S. IN LIGHT POLE S.E. CORNER OF HEILAND & PARK ST. 122'RT. 1398.93
15	665.44	M.S. IN LIGHT POLE S.W. CORNER OF HEILAND & 5TH. AVE. 162'RT. 1404+76

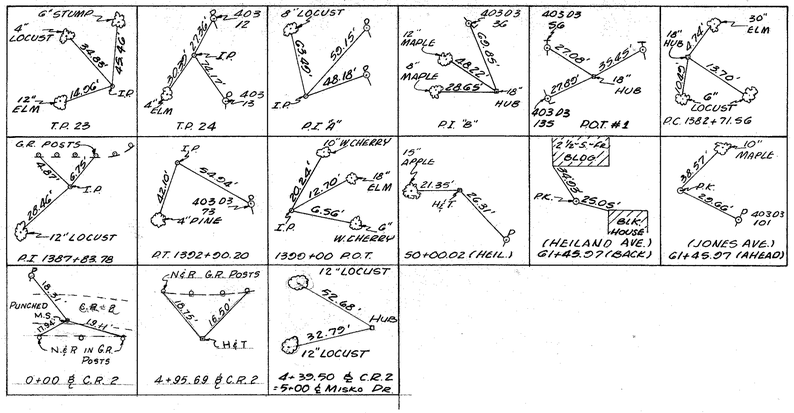
HEILAND & JONES AVE. & CONTROL POINT COORDINATES

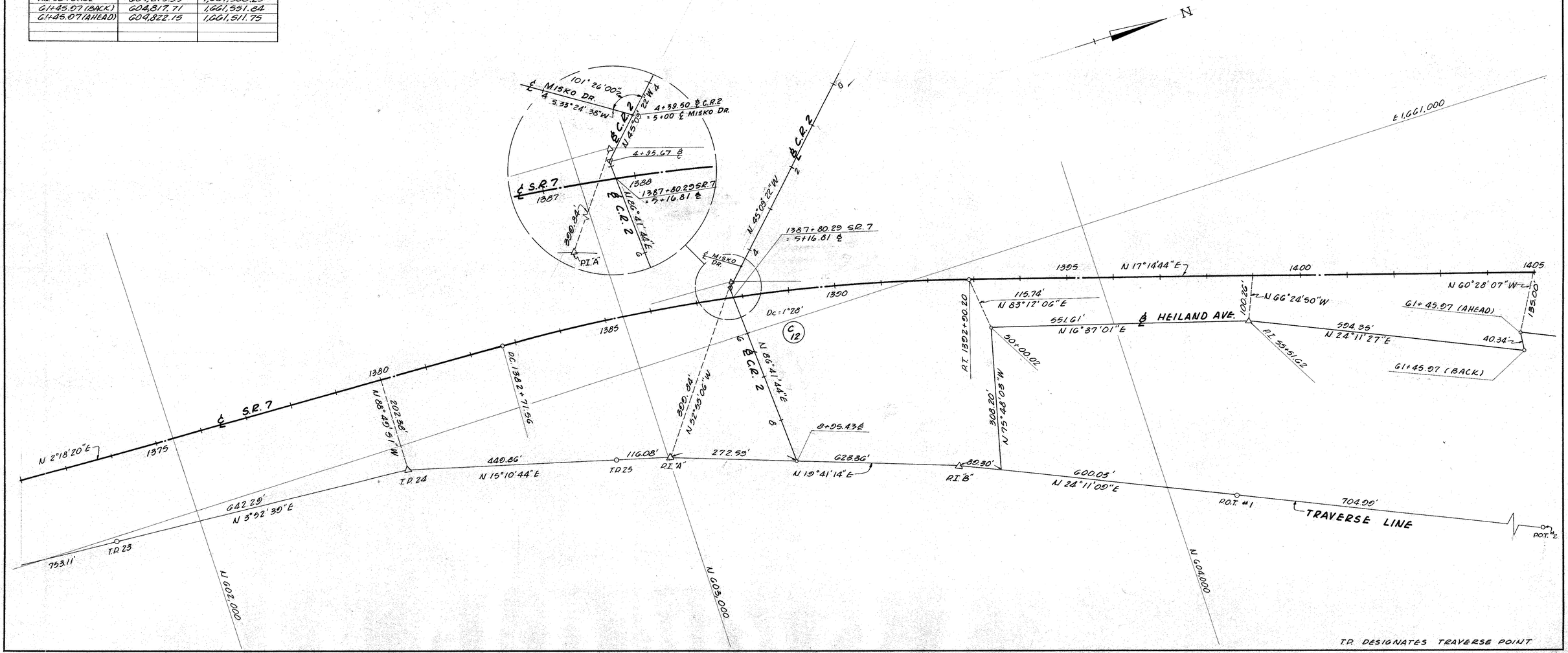
LOCATION	COORDINATES	
	N.	E.
30+00.02 (HEIL.)	603,746.90	1,661,150.55
PI 55+51.62	604,275.55	1,661,308.20
G1+45.07 (BACK)	604,817.71	1,661,551.84
G1+45.07 (AHEAD)	604,822.15	1,661,511.75

CONTROL POINT COORDINATES		
LOCATION	COORDINATES	
	N.	E.
P.C. 1382+71.56	602,732.28	1,660,863.13
P.I. 1387+83.78	603,244.09	1,660,883.76
P.T. 1392+90.20	603,733.20	1,661,035.59

TRAVERSE POINT COORDINATES		
LOCATION	COORDINATES	
	N.	E.
T.D. 23	601,815.00	1,661,011.13
T.D. 24	602,456.81	1,661,052.56
T.D. 25	602,800.07	1,661,172.35
P.I. "A"	603,003.01	1,661,202.74
P.I. "B"	603,580.03	1,661,412.74
P.O.T. 1	604,137.20	1,661,658.57

REFERENCES





T.D. DESIGNATES TRAVERSE POINT

CONSTRUCTION LAYOUT 1372+00 to 1405+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

30
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

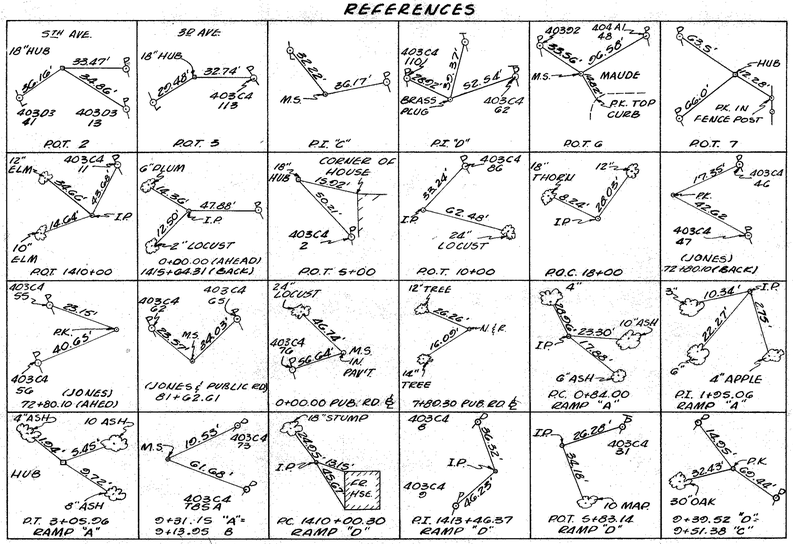
CONTROL POINT COORDINATES

LOCATION	COORDINATES N.	E.
RAMP "A"		
P.C. 0+84.00	606,000.65	1,661,685.53
P.I. 1+05.06	606,107.50	1,661,715.80
P.T. 3+05.96	606,216.78	1,661,735.50
RAMP "B"		
P.C. 10+11.68	606,023.07	1,661,882.43
P.I. 11+02.45	607,091.53	1,661,947.08
P.T. 13+73.04	607,254.32	1,662,026.60
P.C. 16+10.27	607,476.04	1,662,139.68
P.I. 19+25.90	607,752.16	1,662,267.03
P.C. 22+32.38	608,035.01	1,662,385.41
RAMP "C"		
P.C. 16+27.78	607,431.99	1,662,269.78
P.I. 17+55.08	607,556.53	1,662,206.06
P.C.C. 18+82.00	607,676.48	1,662,338.70
RAMP "D"		
P.C. 1410+00.30	605,355.09	1,661,570.38
P.I. 1413+46.57	605,685.80	1,661,682.05
P.T. 1+12.56	606,005.85	1,661,814.19
PUBLIC RD.		
P.C. 2+11.52	606,862.17	1,661,710.31
P.I. 3+83.37	606,821.62	1,661,886.31
P.T. 5+55.19	606,786.10	1,662,054.65
INTER. 3+42.50	606,831.09	1,661,846.09
INTER. 6+32.00	606,770.22	1,662,129.80
S.R. 7		
STA. EQUA.		
0+00.00 (AHEAD)	605,905.16	1,661,709.82
P.C. 11+39.05	606,993.00	1,662,047.51
SER. RD. "B"		
P.C. 73+47.13	605,963.98	1,661,910.73
P.I. 74+00.00	606,015.52	1,661,922.51
P.T. 74+52.80	606,065.70	1,661,938.06
P.O.T. 80+56.09	606,638.96	1,662,126.03

TRAVERSE POINT COORDINATES

LOCATION	COORDINATES N	E
P.O.T. 2	604,780.39	1,661,947.41
P.O.T. 3	605,676.59	1,662,350.09
P.I. "C"	606,616.45	1,662,772.03
P.I. "D"	606,780.12	1,661,903.02
P.O.T. 6	607,524.48	1,662,336.24
P.O.T. 7	607,932.37	1,662,523.85

REFERENCES



CURVE DATA

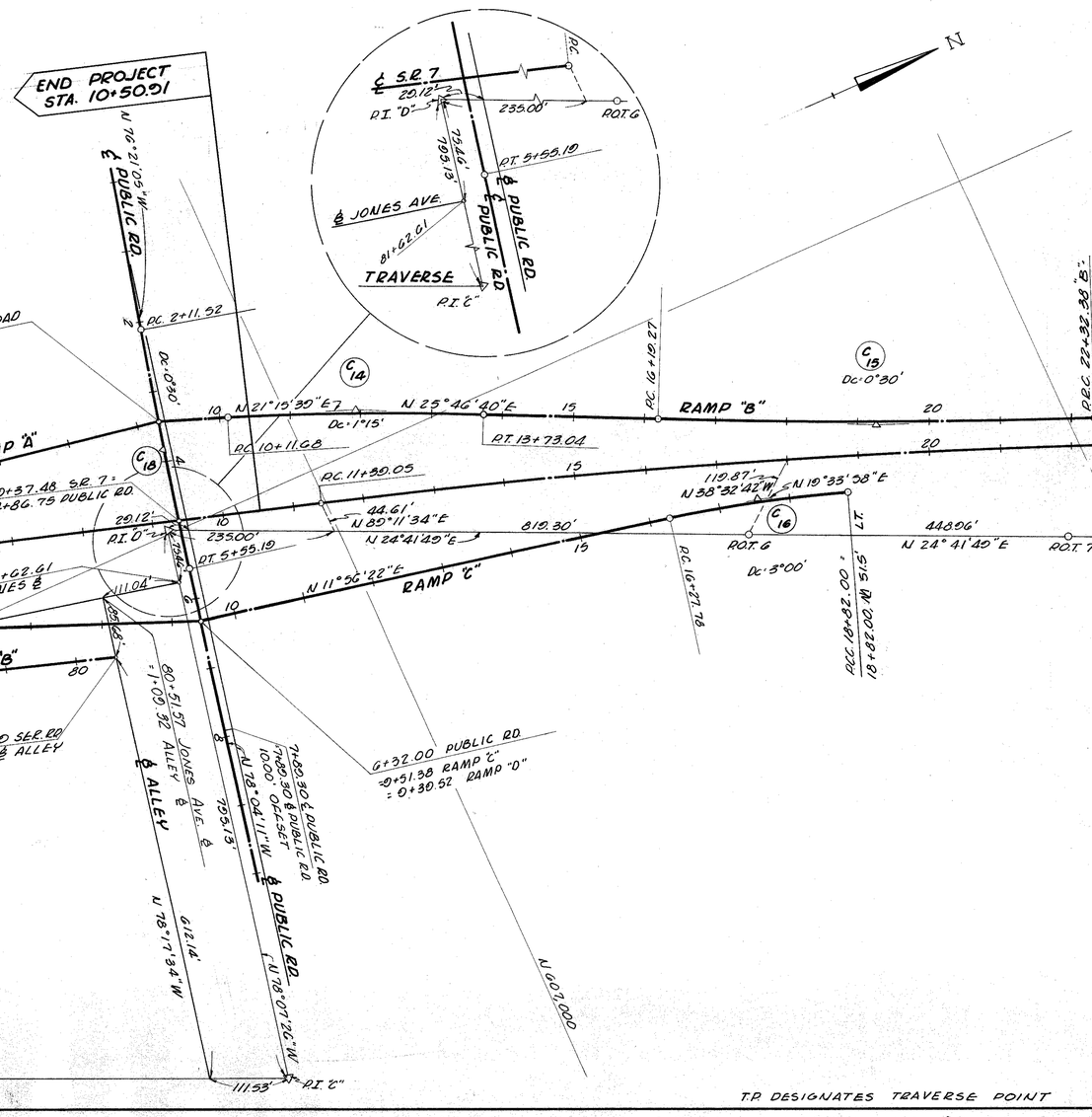
	C-13	C-14	C-15	C-16	C-17	C-18	C-17-A
P.I.	1+05.06	11+02.45	19+25.90	17+55.08	1413+46.57	3+83.37	74+00.00
Δ	5°32'56"	4°31'01"	3°03'56"	7°37'36"	5°11'26"	1°43'06"	5°17'00"
Dc	2°30'00"	1°15'00"	0°30'00"	3°00'00"	0°45'00"	0°30'00"	3'00'
R	229.183'	4583.66'	11,459.16'	1909.86'	7639.44'	11,459.16'	1,145.92'
T	111.06'	180.77'	306.63'	127.50'	346.27'	171.85'	52.87'
Lc	221.96'	361.36'	613.11'	254.22'	692.08'	343.67'	105.67'
E	2.69'	3.56'	4.09'	4.23'	7.48'	1.29'	1.22'

BENCH MARKS

REF.	ELEV.	DESCRIPTION
16	669.20	M.S. IN POWER POLE S.E. CORNER OF JONES & THIRD AVE., 283' ET. 1413+62.50.
17	693.78	M.S. IN TELE. POLE S.E. CORNER OF PUBLIC RD. & WORTHINGTON ST., 18' ET. 9+60

JONES AVE. ℄ CONTROL POINT COORDINATES

LOCATION	COORDINATES N.	E.
72+80.10 (BACK)	605,857.32	1,661,975.08
72+80.10 (AHEAD)	605,904.26	1,661,871.18
81+62.61	606,764.50	1,662,067.77



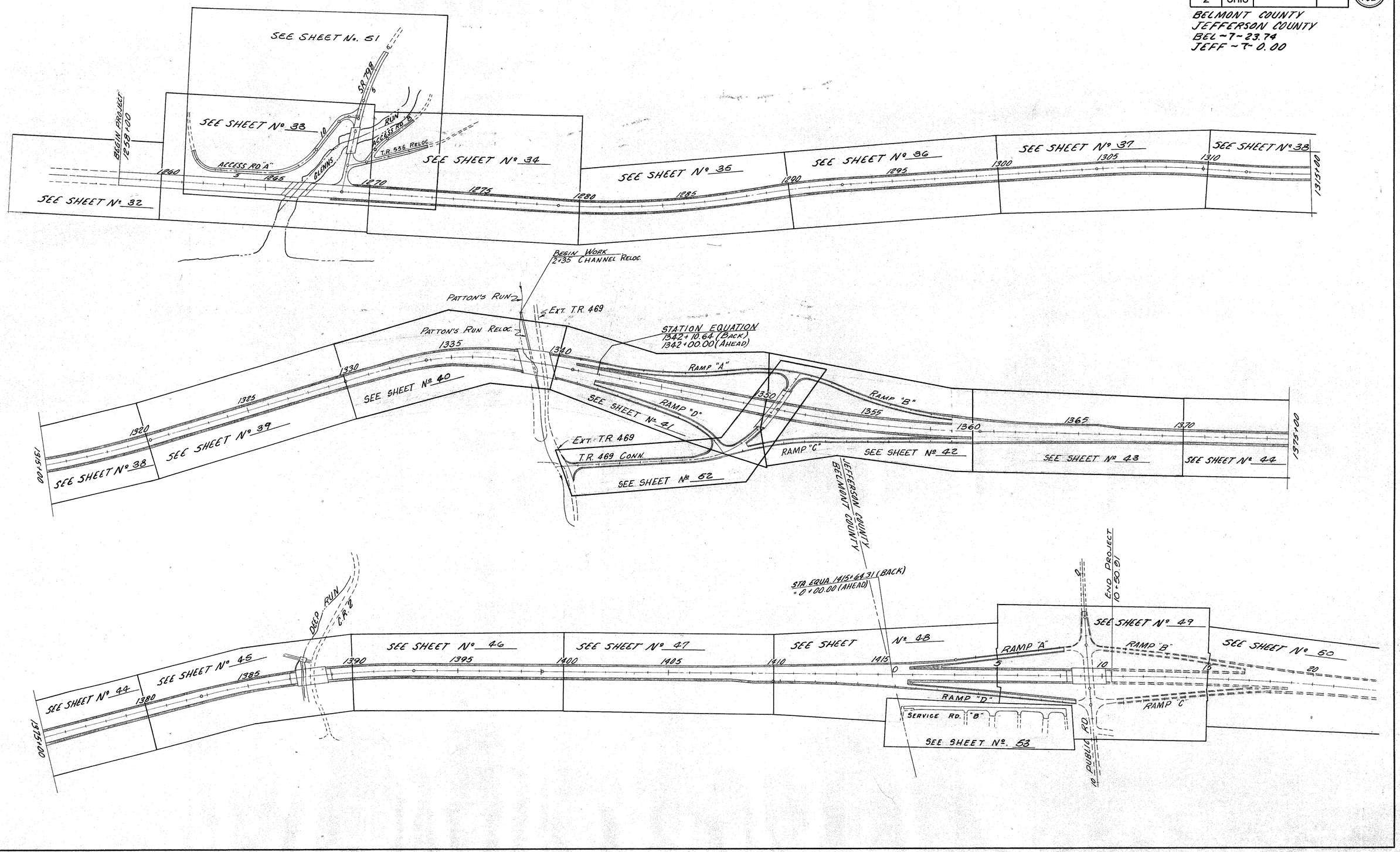
T.P. DESIGNATES TRAVERSE POINT

CONSTRUCTION LAYOUT 1405+00 to 22+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

31
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEFF-7-0.00



KEY MAP ~ PLAN AND PROFILE

A. E. STILSON & ASSOC.
Quantities Calculated D.C.B. MARCH, 69
Quantities Checked E.O. Nov. 1970
Rev. JAF 5-74
Rev. Ck. DLB 6-74

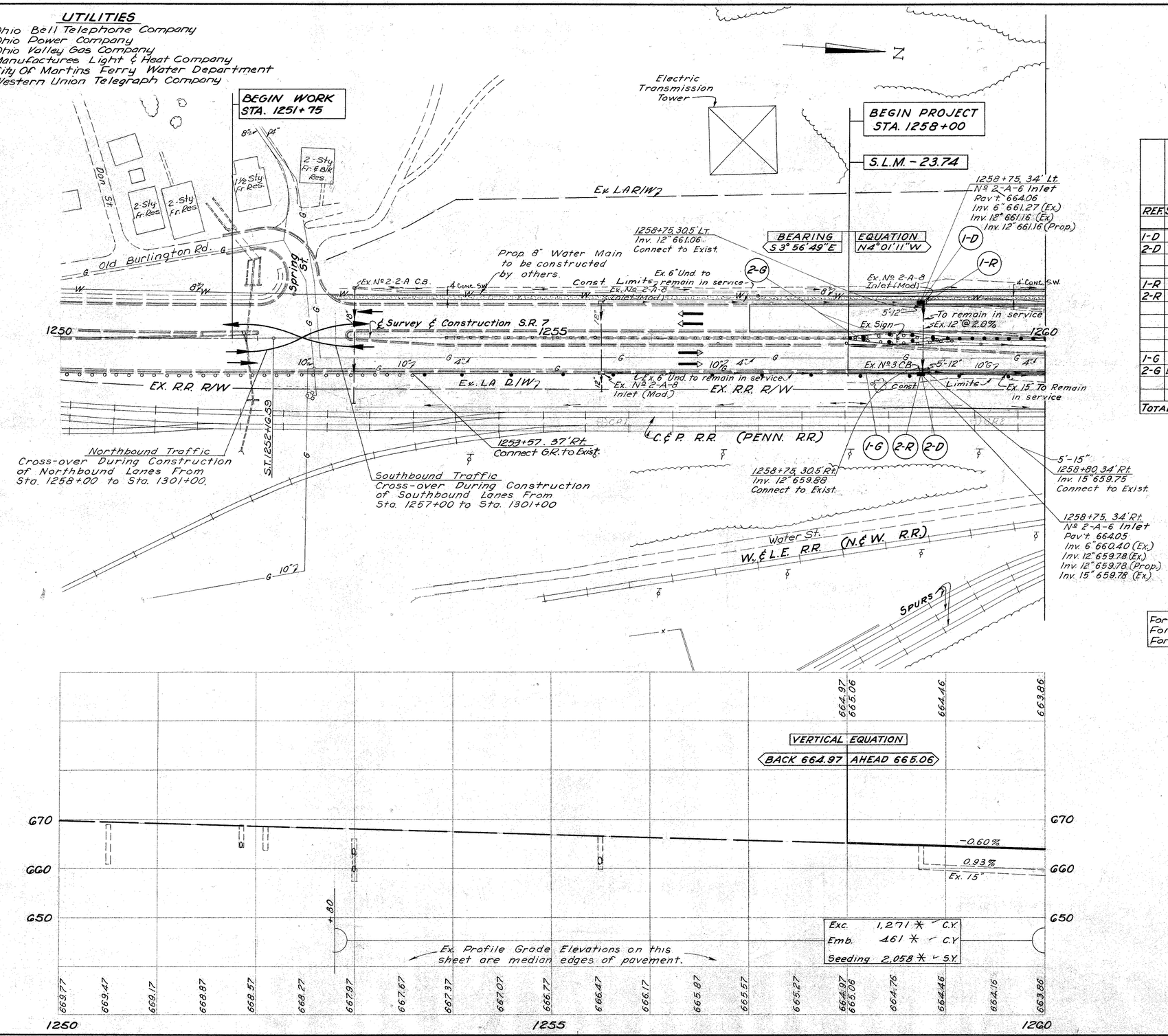
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

32
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF.-7-0.00

UTILITIES

Ohio Bell Telephone Company
Ohio Power Company
Ohio Valley Gas Company
Manufactures Light & Heat Company
City Of Martins Ferry Water Department
Western Union Telegraph Company



ESTIMATED QUANTITIES			603		604	202			606			
REF.	SIDE	LOCATION	Type "B" 12"	Type "B" 15"	No. 2-A-6 Inlet	Inlet Removed	Catch Basin Removed	Pipe Removal 24" & Under		GR Type 5 Barrier Design	Guard Rail Type - 5	See Sheet No.
			L.F.	L.F.	Ea.	Ea.	Ea.	L.F.		L.F.	L.F.	
1-D	Lt.	1258+75	5		1							100
2-D	Rt.	1258+75	5	5	1							100
1-R	Lt.	1258+75				1		5				
2-R	Rt.	1258+75					1	5				
1-G	Rt.	1253+57 to 1260+00									643	
2-G	Lt & Rt.	1258+00 to 1260+00								100	200	
TOTALS TO GEN. SUMMARY*			10'	5'	2'	1'	1'	10'		100	843	

*-U-RF-430 (15)

For Pavement Details & Elevations See Sheet # 67
For Construction Layout, Bench Marks & References See Sheet # 25
For Water Line Details See Sheet # 288

EXISTING PLOTTED
EXISTING CHECKED
PROPOSED DESIGNED
PROPOSED CHECKED
QUANTITIES CALCULATED
QUANTITIES CHECKED
BY
DATE

1250+00 to 1260+00

A. E. STILSON & ASSOC.	FED. RD. DIVISION	STATE	PROJECT		33 / 462
Quantities Calculated D.L.B. MARCH 1969	2	OHIO			
Quantities Checked E.G. Nov. 1970					
Rev. JRF 5-74					
Rev. Ck DLB 6-74					

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7- 23.74
JEF.-7-0.00

UTILITIES

Ohio Bell Telephone Company
Ohio Power Company
Ohio Valley Gas Company
Manufactures Light & Heat Company
City of Martins Ferry Water Department
Western Union Telegraph Company

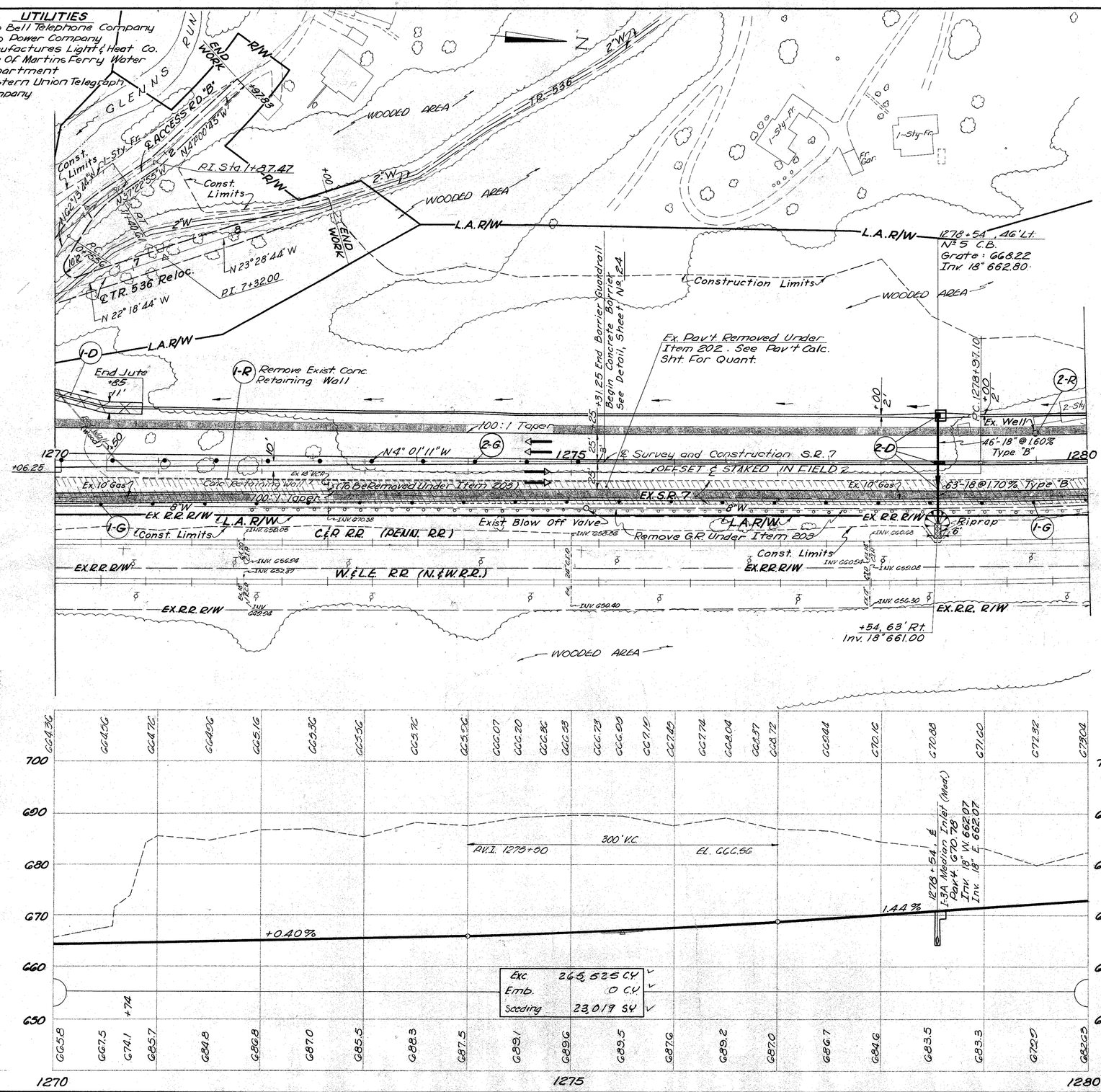
N

VALLEY DRIVE
ROSE LANE
VALLEY DR. CONN.
MARTINS FERRY CORP. LINE
Ex. S.R. 798
Const. Limits
R/W
Ex. L.A. R/W
Ex. R.R. R/W
Ex. 12" Gas Line
Ex. 10" Gas Line
Ex. 4" G
Ex. 15" To Remain
Ex. 12" W
Ex. 8" W
Ex. 2" W
Ex. 6" W
Ex. 3" W
Ex. 4" Conc. S.W.
4' Conc. S.W.
2' Conc. S.W.
Ex. 12"
Ex. 15"
Ex. 27"
Ex. 24" CMP
Ex. 10" Gas Line
Ex. 1-Sty. Brick Res.
Ex. 1-Sty. Stone Res.
Ex. 1-Sty. Blk. Res.
Ex. 1½ Sty. Fr. Res.
Ex. 1-Sty. Blk. Gas Station
Ex. 1½ Sty. Conc. Blk. Gar.
Ex. Slate & Asphalt Roofed Shed
Ex. Wooded Area
Ex. Shrubs & Wooded Area
Kehrer Angelis Greenhouse
House Trailer
Brick Post
Steel Post
Guy Pole
Ex. C.B.
Ex. Inlet
Ex. Manhole
Ex. Sign
Ex. Fence
Ex. Hedge
Ex. Bldg.
Ex. Pole
Ex. Gas Regulator
Ex. Gas Line
Ex. Gas Valve
Ex. Water Valve
Ex. Water Meter
Ex. Water Line
Ex. Gas Meter
Ex. Gas Vent
Ex. Gas Marker
Ex. Water Marker
Ex. Gas Line Marker
Ex. Water Line Marker
Ex. Gas Service Line
Ex. Water Service Line
Ex. Gas Service Line Marker
Ex. Water Service Line Marker
Ex. Gas Service Line Valve
Ex. Water Service Line Valve
Ex. Gas Service Line Meter
Ex. Water Service Line Meter
Ex. Gas Service Line Vent
Ex. Gas Service Line Marker
Ex. Water Service Line Marker
Ex. Gas Service Line Valve
Ex. Water Service Line Valve
Ex. Gas Service Line Meter
Ex. Water Service Line Meter
Ex. Gas Service Line Vent

BEGIN WORK STA. 2+50
PC 2+71.90
PT 3+30.99
PC G+42.07
PC 10+38.04
PC 10+88.04
PC 11+44.14
PC 11+94.14
PC 12+70.75
PC 13+22.75
PC 13+72.75
PC 14+22.75
PC 14+72.75
PC 15+22.75
PC 15+72.75
PC 16+22.75
PC 16+72.75
PC 17+22.75
PC 17+72.75
PC 18+22.75
PC 18+72.75
PC 19+22.75
PC 19+72.75
PC 20+22.75
PC 20+72.75
PC 21+22.75
PC 21+72.75
PC 22+22.75
PC 22+72.75
PC

UTILITIES

Ohio Bell Telephone Company
Ohio Power Company
Manufactures Light & Heat Co.
City Of Martins Ferry Water Department
Western Union Telegraph Company



For № Pavement Details & Elevations See Sheets 20 & 69
For Access Roads "B", T.R. 536 Reloc. Pav't. Details & Elev. See Sheet 69
For Access Roads "B", T.R. 536 Reloc. Plan See Sheet 51
For Access Roads "B", T.R. 536 Reloc. Profile See Sheet 54
For Construction Layout, Bench Marks & References See Sheet 25
For Water Work Details See Sheet 289

DATE	BY	
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES COMPUTED		
QUANTITIES CHECKED		

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. MAR. 1969
Quantities Checked E.O. NOV. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

34
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF.-7-0.00

ESTIMATED QUANTITIES

REF.	SIDE	LOCATION	601 Riprap (6" Reinf. Conc. Slab) S.Y.	603 Type "B" 18" L.F.	606 Bridge Term. Assembly, Type E Ea.	604 № 5 C.B. Ea.	604 1-3A Median Inlet (Mod.) Ea.	606 Bridge Term. Assembly, Type E Ea.	606 Guard Rail Type-5 L.F.	606 GR Type-5 Barrier Design L.F.	667 Seeding & Mulching S.Y.	5pec. Drilled Well Abandoned Ea.	202 Existing Structure Removed L.S.	See Sheet №
1-D	L.	1270+00 To 1270+85									104			
2-D	L&R.	1278+54	9.3	109		1	1							117
1-G	R.	1270+00 To 1280+00							1000					
2-G	℄	1270+06.25 to 1275+31.25			1			1		525				
1-R	R.	1270+85± To 1275+55±											L.S.	
2-R	L.	1279+50. 38' Lt.										1		
TOTALS TO GEN. SUMMARY			9	109	1	1	1	1	1000	525	104	1	L.S.	

1270+00 to 1280+00

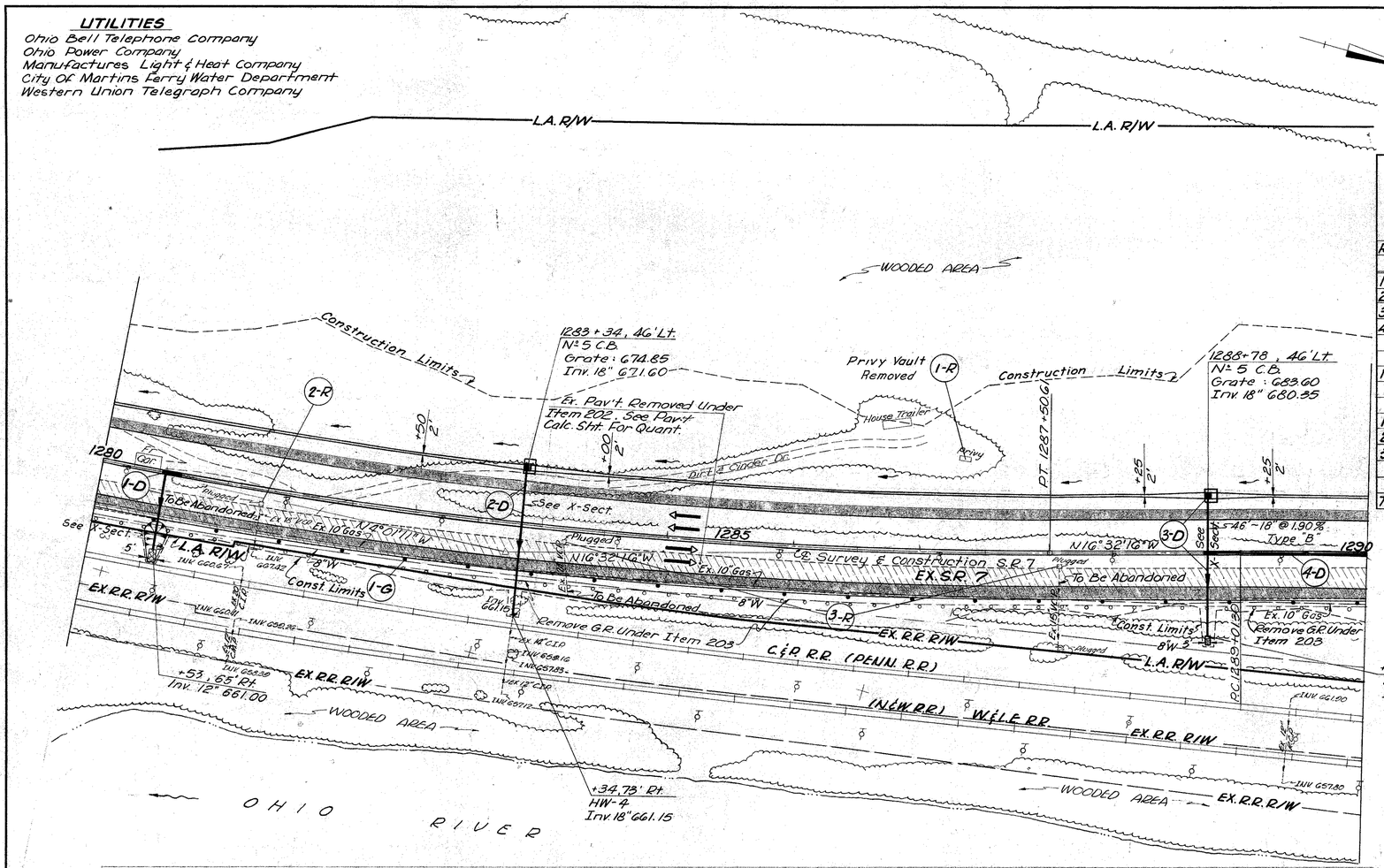
UTILITIES
Ohio Bell Telephone Company
Ohio Power Company
Manufactures Light & Heat Company
City of Martins Ferry Water Department
Western Union Telegraph Company

A. E. STILSON & ASSOC.
Quantities Calculated D.L.S. MAR. 1969
Quantities Checked E.O. NOV. 1970

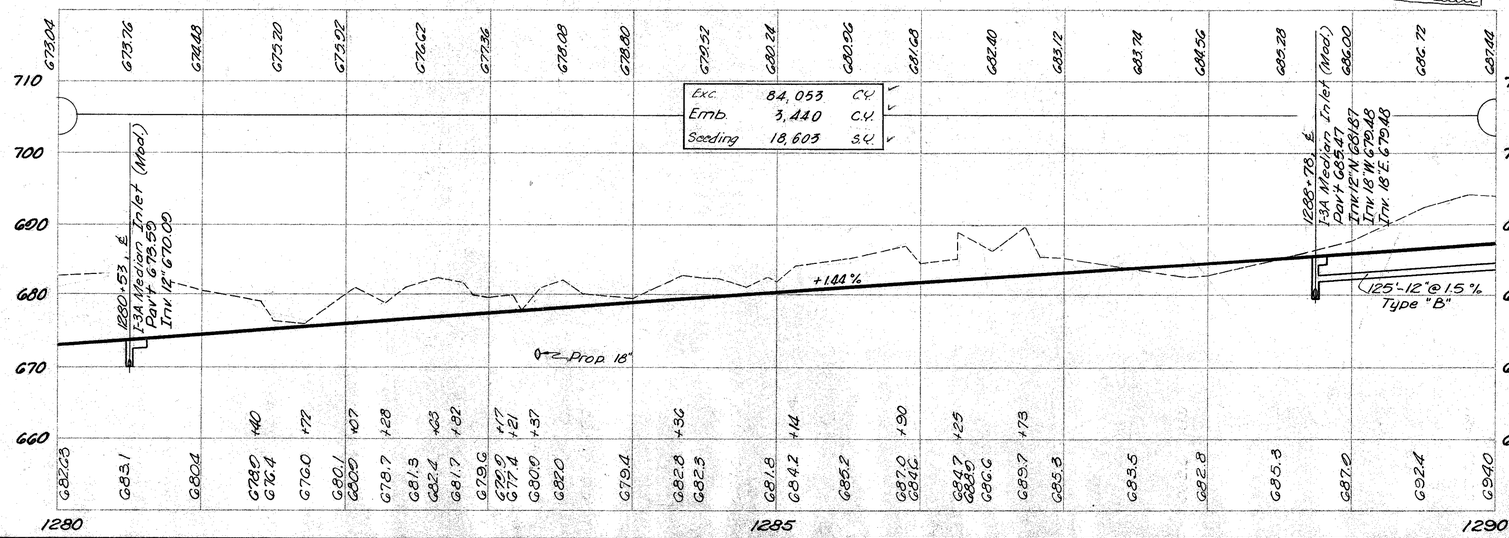
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

35
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



REF.	SIDE	LOCATION	601 Riprap (6" Rein. Conc.) S.Y.	602 Rock Channel Protection Type "B" C.Y.	602 Concrete Masonry C.Y.	603 Type "B" 12" L.F.	603 Type "B" 18" L.F.	603 Type "C" 12" L.F.	603 Type "C" 18" L.F.	604 Bonds & Branches 12" 18"	604 No. S.C.B. Ea.	606 3/4" Mes. (Mod.) Posts (Wood) Ea.	606 Guard Rail Type-5 L.F.	202 Privy Vault Removed Ea.	202 C.B. Removed Ea.	See Sheet No.
1-D	R.	1280+53	5.6			39		28		2		1				119
2-D	L & R.	1283+34			0.33		97		24		2	1				122
3-D	L & R.	1288+78		1.3	0.33		93		20		2	1	1			127
4-D	Med.	1288+75 To 1290+00				125										
1-G	R.	1280+00 To 1290+00											100			
1-R	L.	1286+85												1		
2-R	R.	1281+25													1	
3-R	R.	1283+70 & 1287+60													2	
TOTALS To GEN. SUMMARY			6 ✓	1 ✓	0.66 ✓	164 ✓	190 ✓	28 ✓	44 ✓	✓	2 ✓	2 ✓	100 ✓	1 ✓	3 ✓	



For 10 Superelevations See Sheet 21
For Construction Layout, Bench Marks & References See Sheets 25 & 26
For Water Work Details See Sheets 289 & 290

1280+00 to 1290+00

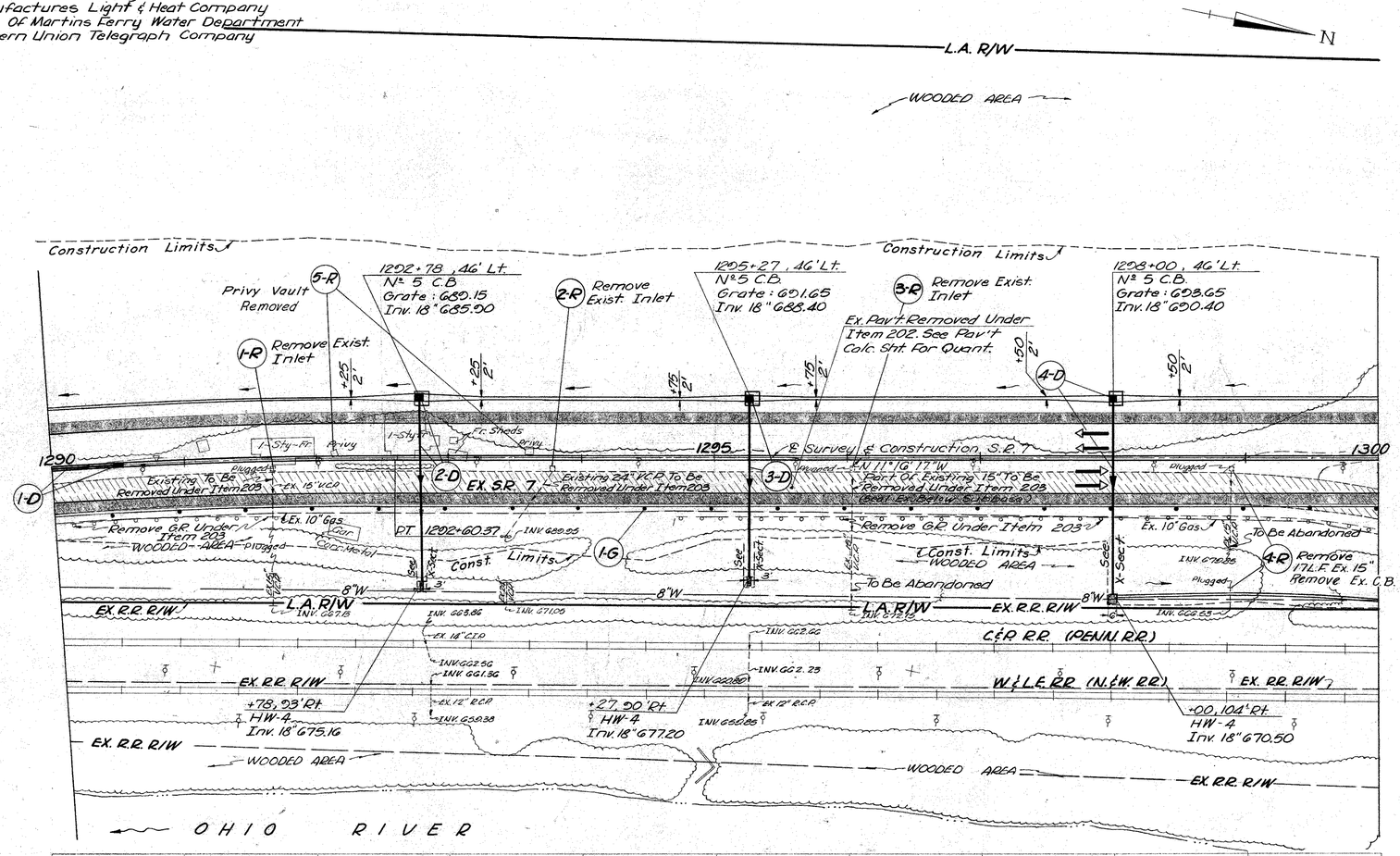
UTILITIES
Ohio Bell Telephone Company
Ohio Power Company
Manufactures Light & Heat Company
City Of Martins Ferry Water Department
Western Union Telegraph Company

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. Mar. 1969
Quantities Checked E.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

36
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF.-7-0.00


L.A. R/W
N
WOODED AREA
Construction Limits
1292+78, 46' Lt.
№ 5 C.B.
Grate: 680.15
Inv. 18" 685.90
1295+27, 46' Lt.
№ 5 C.B.
Grate: 691.65
Inv. 18" 688.40
1298+00, 46' Lt.
№ 5 C.B.
Grate: 698.65
Inv. 18" 690.40
Privy Vault Removed
1-R Remove Exist. Inlet
2-R Remove Exist. Inlet
3-R Remove Exist. Inlet
Ex. Pav't Removed Under Item 202. See Pav't Calc. Sht. For Quant.
4-D
1-D
2-D
3-D
1-G
4-R Remove 171 L.F. Ex. 15" Remove Ex. C.B.
1290
1295
1300
1-Sty-Fr. Privy
Fr. Sheds
Survey & Construction S.R. 7
N 11° 6' 17" W
Existing 15" To Be Removed Under Item 203
Part Of Existing 15" To Be Removed Under Item 203 (See Ex. Below & Behind)
Existing 15" To Be Removed Under Item 203
Ex. 15" VCP
Ex. 10" Gas
Remove G.R. Under Item 203
WOODED AREA
Plugged
PT 1292+60.37
INV. 680.95
Const. Limits
Ex. 10" Gas
To Be Abandoned
Const. Limits
WOODED AREA
Remove G.R. Under Item 203
8'W
L.A. R/W
EX. R.R. R/W
INV. 667.18
INV. 668.06
INV. 671.06
INV. 672.18
INV. 672.65
Ex. 18" C.I.P.
C&EA R.R. (PENN. R.R.)
W. & L.E. R.R. (N. & W. R.R.)
EX. R.R. R/W
INV. GG2.66
INV. GG2.25
INV. GG2.36
INV. GG1.36
INV. GG0.38
INV. GG0.65
Ex. 12" R.C.P.
+78, 93' Rt.
HW-4
Inv. 18" 675.16
+27, 90' Rt.
HW-4
Inv. 18" 677.20
+00, 104' Rt.
HW-4
Inv. 18" 670.50
WOODED AREA
EX. R.R. R/W
OHIO RIVER
1290+53, ℄
13A Median Inlet (Mod.)
Rev't 687.00
Inv 12" 684.40
50'-12" @ 1.5% Type "B"
+1.44%
℄ Prop. 18"
PVI 1293+50
400' V.C.
EL. 695.36
+0.40%
℄ Prop. 18"
Exc. 185,093 C.Y.
Emb. 17 C.Y.
Seeding 27,820 S.Y.
687.44
688.16
688.88
689.60
690.32
691.04
691.76
692.48
693.20
693.92
694.64
695.36
696.08
696.80
697.52
698.24
698.96
699.68
700.40
701.12
701.84
702.56
703.28
704.00
704.72
705.44
706.16
706.88
707.60
708.32
709.04
709.76
710.48
711.20
711.92
712.64
713.36
714.08
714.80
715.52

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. Mar. 1969
Quantities Checked F.O. Nov. 1970

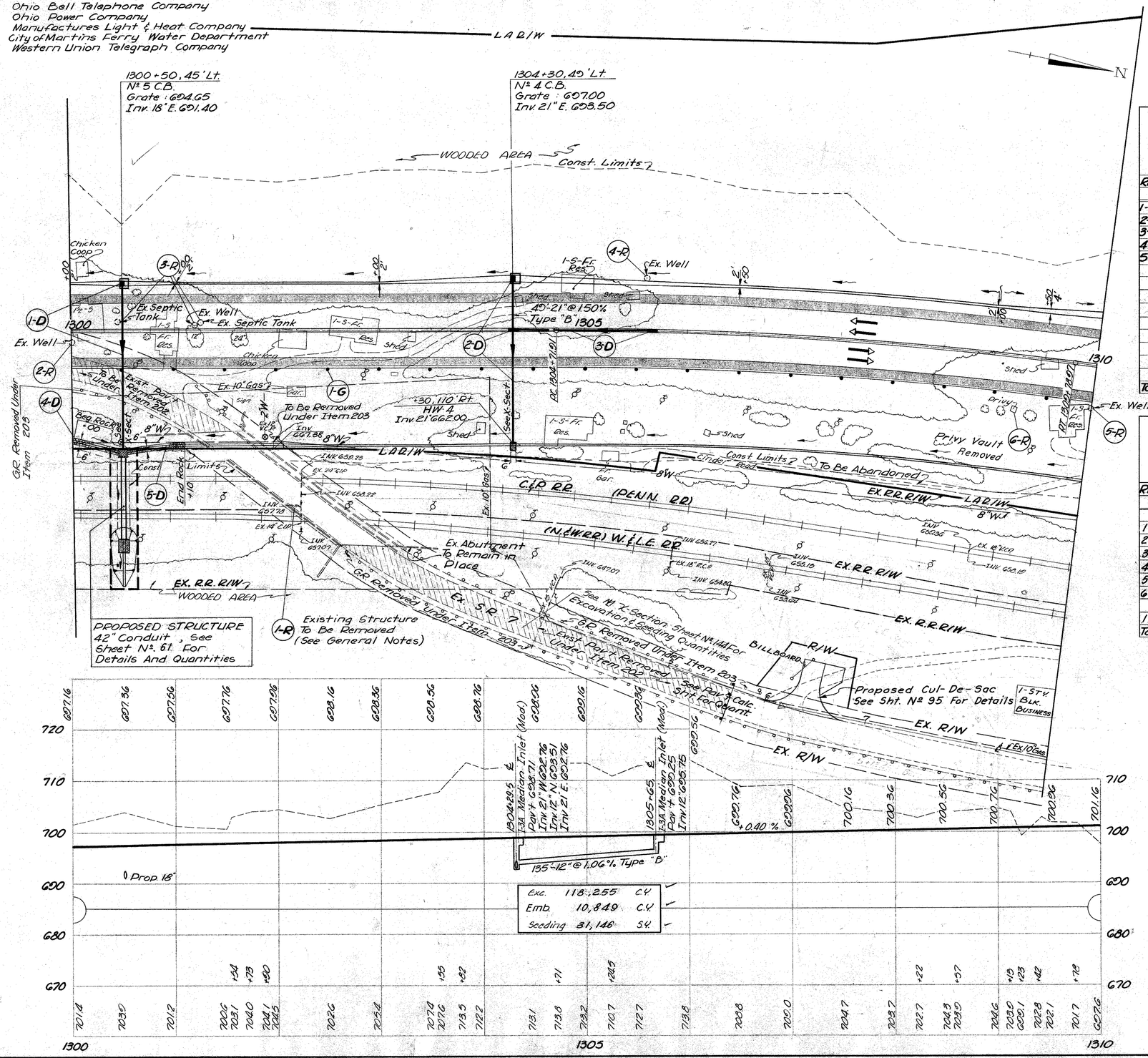
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

37/462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

UTILITIES

Ohio Bell Telephone Company
Ohio Power Company
Manufactures Light & Heat Company
City of Martins Ferry Water Department
Western Union Telegraph Company



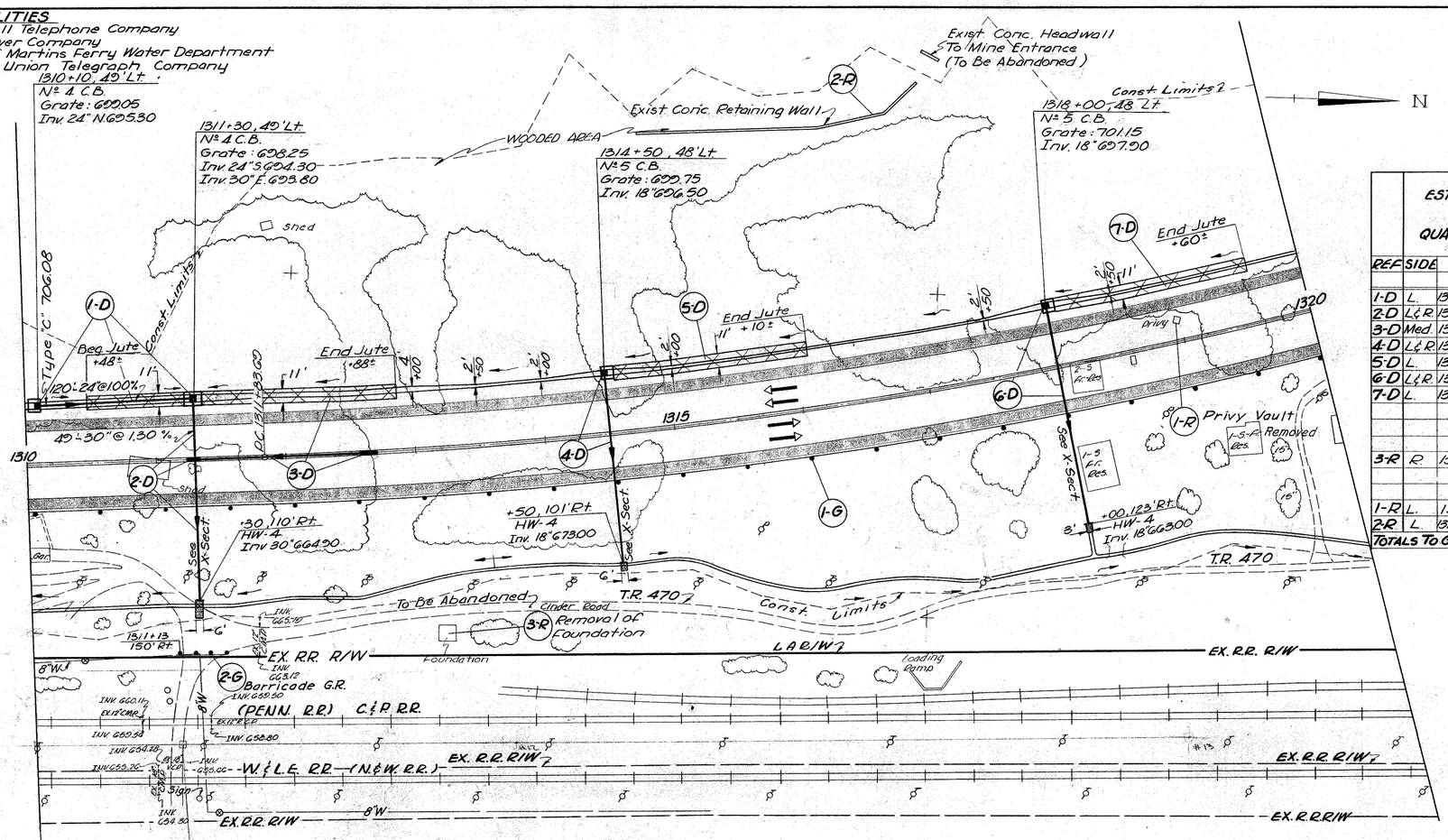
REF.	SIDE	LOCATION	601 Rock Channel Protection Type "B" C.Y.	602 Concrete Masonry C.Y.	603 Type "B" 12" L.F.	603 Type "B" 18" L.F.	603 Type "B" 21" L.F.	603 Type "F" 18" L.F.	603 Type "F" 21" L.F.	603 Bends & Branches 18" Ea.	603 Bends & Branches 21" Ea.	604 Nº 4 C.B. Ea.	604 Nº 5 C.B. Ea.	604 I-3A Median Inlet (Mod.) Ea.	See Sheet Nº
1-D	L&R	1300+50		0.33		86		82		2			1		139
2-D	L&R	1304+30	3.1	0.39			89		78		2	1		1	143
3-D	Med.	1304+29.5 To 1305+65			135									1	
4-D	R.	1300+00 To 1300+46±	20.9												
5-D	R.	1300+54± To 1301+10±	24.8												
TOTALS TO GEN. SUMMARY			49	0.72	135	86	89	82	78			1	1	2	

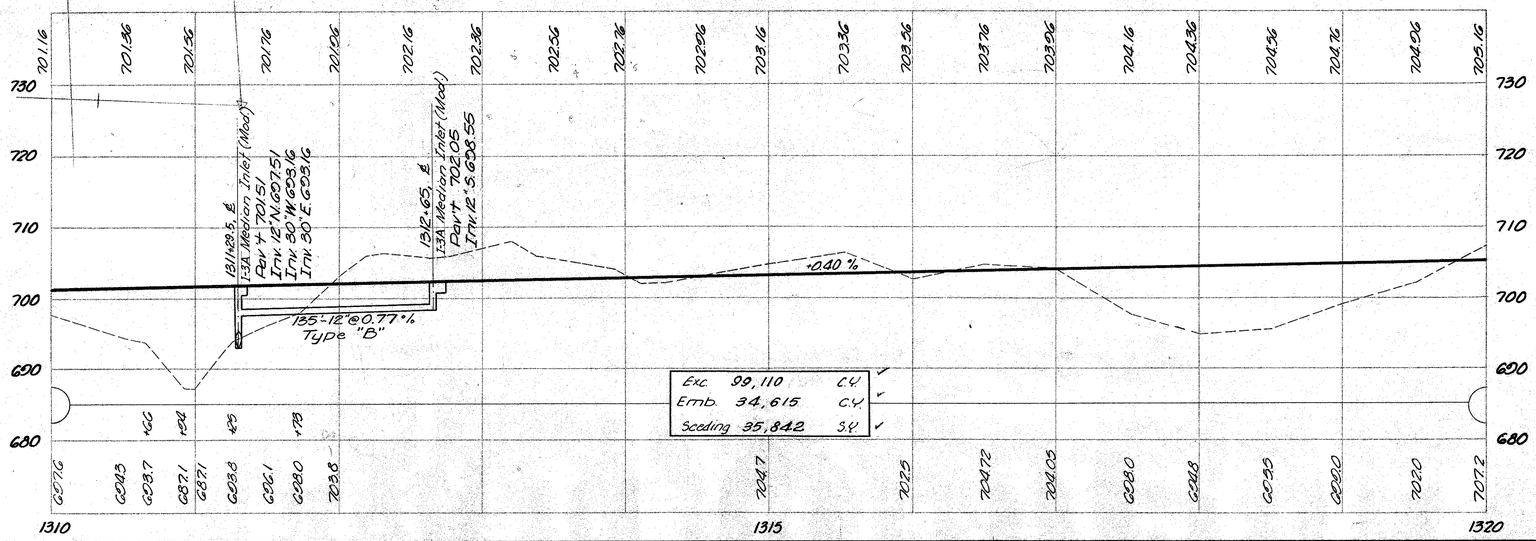
REF.	SIDE	LOCATION	202 Existing Structure Removed L.S.	202 Privy Vault Removed Ea.	606 Guard Rail Type-5 L.F.	Spec. Drilled Well Abandoned Ea.	202 Septic Tank Removed Ea.	See Sheet Nº
1-R	R.	As Shown	LS.					
2-R	R.	1300+00, 11' Rt.				1		11
3-R	L.	As Shown				1	2	11
4-R	L.	1305+60, 50' Lt.				1		11
5-R	R.	1310+00, 42' Rt.				1		11
6-R	R.	1309+25		1				
1-G	R.	1300+00 To 1310+00			995			
TOTALS TO GEN. SUMMARY			L.S.	1	995	4	2	

For M Superelevations See Sheet 21
For Construction Layout, Bench Marks & References See Sheet 26
For Water Work Details See Sheet 291
For Proposed Cul-de-Sac Plan On Ex. S.R. 7 See Sheet 95
For Proposed Cul-de-Sac X-Sections See Sheet 246

1300+00 to 1310+00

UTILITIES
Ohio Bell Telephone Company
Ohio Power Company
City Of Martins Ferry Water Department
Western Union Telegraph Company





A. E. STILSON & ASSOC.
Quantities Calculated E.L.B. MAR. 1969
Quantities Checked E.G. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

ESTIMATED QUANTITIES			601	602	202	608						604		603		667	202	
REF	SIDE	LOCATION	Rock Channel Protection "B"	Concrete Masonry	Privy Vault Removed	Type "B" 12"	Type "B" 18"	Type "B" 30" 706.08 or *	Type "C" 706.08 or * 24"	Type "F" 18"	Bends & Branches 18"	30"	№ 4 C.B.	№ 5 C.B.	133 Medico Inlet (Mod.) Type "F" * 30"		Seeding & Jute Matting	Existing Structures Removed	See Sheet №
			C.Y.	C.Y.	Ea.	L.F.	L.F.	L.F.	L.F.	LF	Ea	Ea	Ea	Ea	Ea	L.F.	S.Y.	L.S.	
1-D	L.	1310+10 To 1311+30							120			2					92		149
2-D	L & R.	1311+30	5.8	0.56				91			2*			1	74				149
3-D	Med.	1311+29.5 To 1312+65			135									1			183		
4-D	L & R.	1314+50	2.7	0.33			96			58	2		1						153
5-D	L.	1314+50 To 1316+10±															183		
6-D	L & R.	1318+00	1.3	0.33			96			85	2		1						156
7-D	L.	1318+00 To 1319+60															183		
3-R	R	1313+15±																L.S.	
1-R	L.	1319+00			1														
2-R	L	1315+00± To 1317+30.220 Lt																L.S.	
TOTALS TO GEN. SUMMARY			10 ✓	1.22 ✓	1 ✓	135 ✓	192 ✓	91 ✓	120 ✓	141 ✓			2 ✓	2 ✓	2 ✓	74 ✓		641 ✓	L.S. ✓	

* = 707.13 Asbestos Bonded

ESTIMATED QUANTITIES			606
REF	SIDE	LOCATION	Guard Rail Type - S L.F.
1-G	R.	1310+00 To 1320+00	1006.5
2-G	R.	As Shown	37.5
TOTAL TO GEN. SUMMARY			1044.0 ✓

For NA Superelevations See Sheet 21
For Construction Layout, Bench Marks & References See Sheet 27

1310+00 to 1320+00

UTILITIES

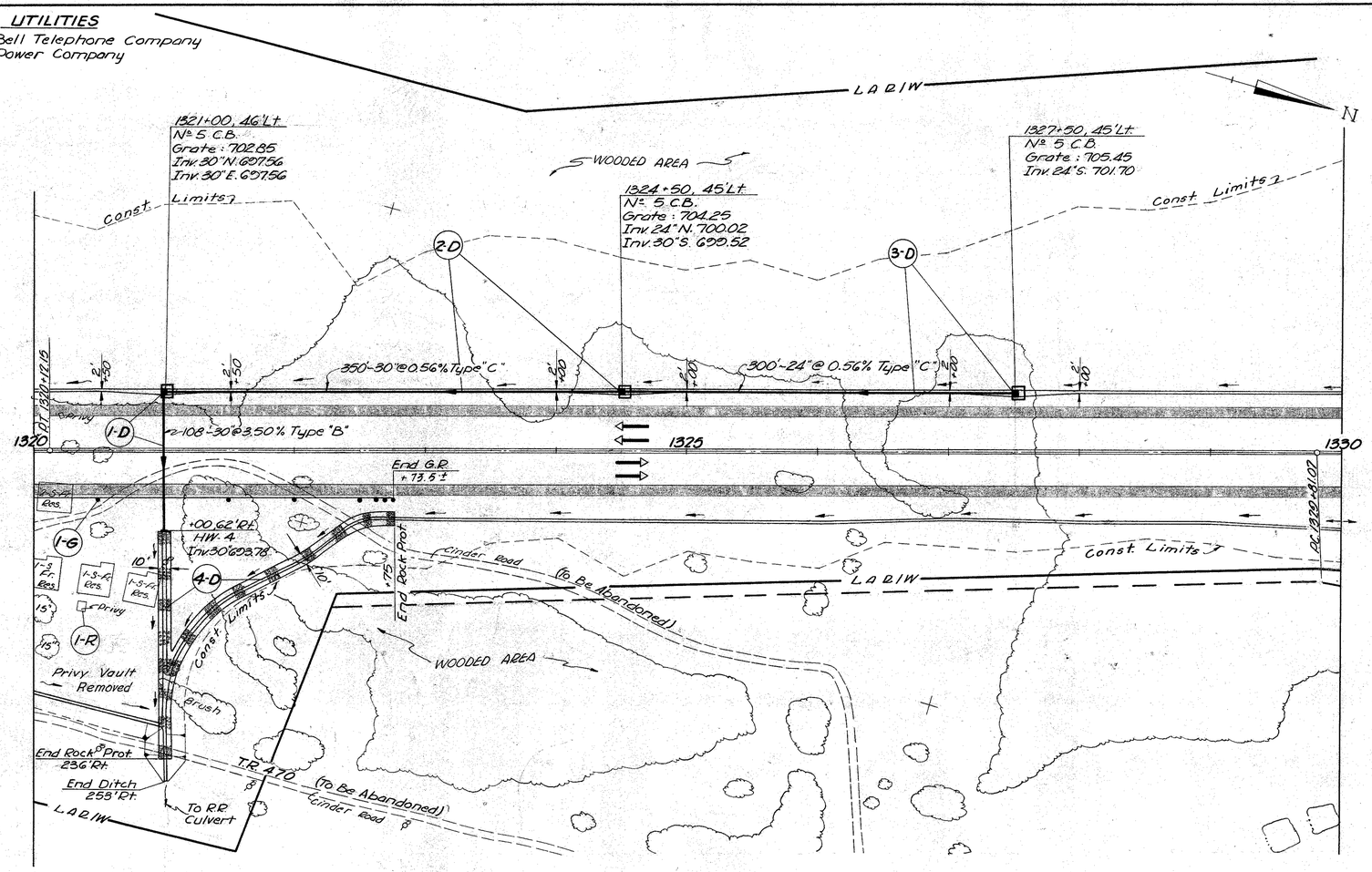
Ohio Bell Telephone Company
Ohio Power Company

A. E. STILSON & ASSOC.
Quantities Calculated D.C.B. MAR. 1969
Quantities Checked E.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

39
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



REF.	SIDE	LOCATION	601 Rock Channel Protection Type "B" C.Y.	602 Concrete Masonry C.Y.	603 Type "B" 30" L.F.	603 Type "C" 24" L.F.	603 Type "C" 30" L.F.	604 No. 5 C.B. Ea.	606 Guard Rail Type-5 L.F.	606 Anchor Assembly Ea.	202 Privy Vault Removed Ea.	See Sheet No.
1-D	L & R	1321+00		0.60	108			1				159
2-D	L.	1321+00 To 1324+50					350	1				60
3-D	L	1324+50 To 1327+50				300		1				60
4-D	R.	1321+00 To 1322+73.5±	287.5									
1-G	R.	1320+00 To 1322+73.5±							248.5	1		
1-R	R.	1320+35									1	
TOTALS TO GEN. SUMMARY			288 ✓	0.60 ✓	108 ✓	300 ✓	350 ✓	3 ✓	248.5 ✓	1 ✓	1 ✓	

For ℄ Pavement Details & Elevations See Sheet 71
For ℄ Superelevations See Sheet 21
For Construction Layout, Bench Marks & References See Sheet 27

1320+00 to 1330+00

UTILITIES

Ohio Bell Telephone Company
Ohio Power Company
Manufactures Light & Heat Company
City of Martins Ferry Water Department

A. E. STILSON & ASSOC.
Quantities Calculated O. C. & Sept. 1970
Quantities Checked F.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

40 / 462

Items 660, 667 Rev. 5-8-73 wgm
Checked 7-12-73 FO

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

601-Dumped Rock Fill, Type "A" For Pattons Run Channel Relocation: 1255 C.Y.

Item 204-2-1" Courses Asphalt Conc.-0.7 C.Y.
408-Prime Coat-5.3 Gal.
304-8" Aggregate Base-3.0 C.Y.
Quantities Taken To Sheet No. 12

BEGIN WORK
2+35 CHANNEL RELOC.

1338+84, 63' Lt
Inv. 12" 676.22

1339+30, 80' Lt
No 5 C.B. (Grate B")
Grate: 681.50
Inv. 12" 678.75

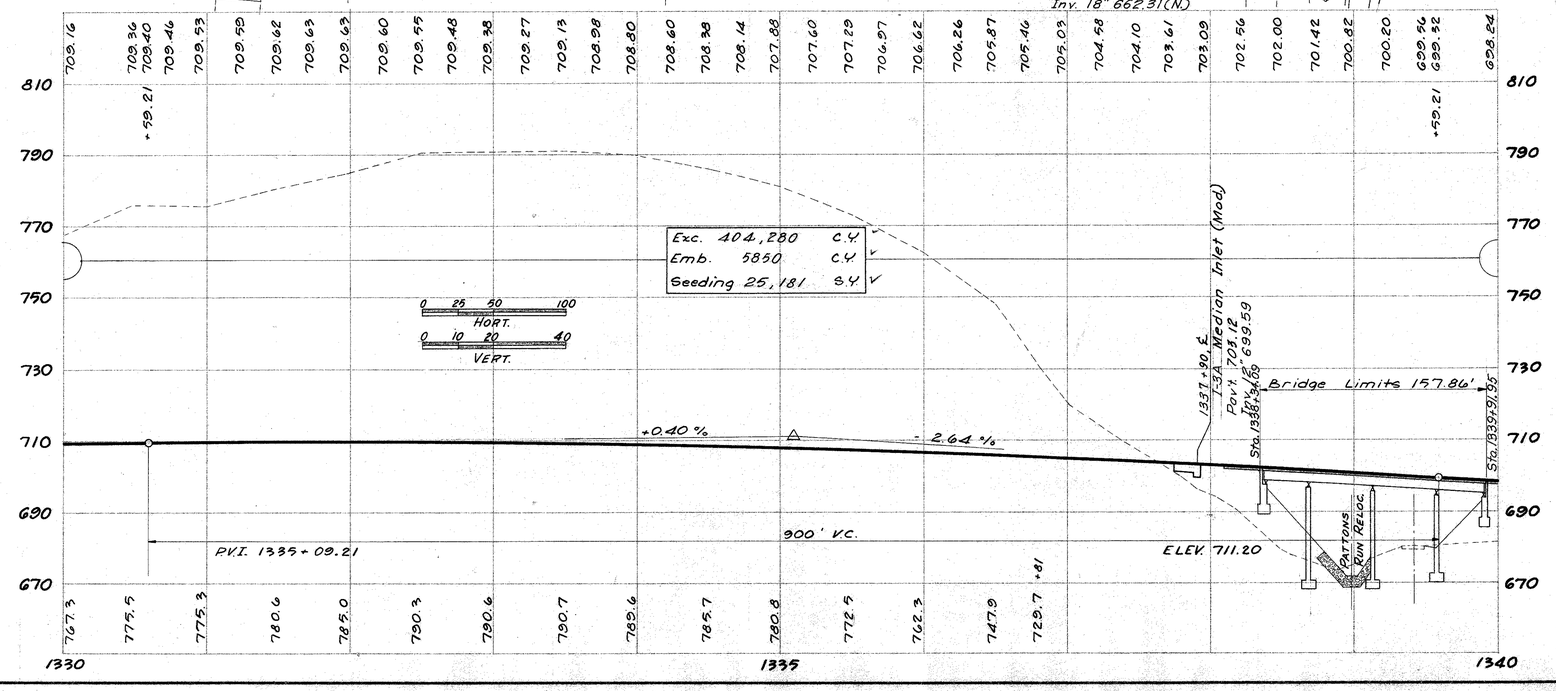
+90, 91' Lt
HW-4 Endwall
Inv. 12" 688.8

Beg Jute +60
Beg G.R. +40 ±
Beg RCP +60
End Approach Slab Sta. 1338+34.09
See X-Sect
End Parapet +0.46
Begin Approach Slab Sta. 1338+09.09
& RAMP "D"
End Parapet +42.93
Beg Jute +00
Const. Limits
L.A. O.I.W
Beg. G.R. +00
End Jute Beg RCP +60
End R.C.P. Beg Jute +60
End Parapet +18.45
Prop. A"W
Prop. B"W
Septic Tank
Found. Elec.
B.T.L. Gar.
B.T.L. Gen.
1 1/2" S Ex. Elec.
10-12" S Tile Type "B"
Ex. 30" STM.
Ex. 24" STM.
Ex. 15"
Ex. 12" STM.
Ex. 30" STM.
Asphalt Parking Area
PIPE COUPLING MFG.
Concrete
1338+82±, 116' Rt
No 5 C.B.
Grate: 666.00
Inv. 663.00
6+66.77' Rt. T.R.469 Ø
No 2-2B C.B.
Grate: 668.00
Inv. 18" 662.70 (E & W)
7+42.64' Rt. T.R.469 Ø
No 2-2B C.B.
Grate: 668.00
Inv. 18" 662.31 (W.)
Inv. 18" 662.31 (N.)
7+50.47' Rt. T.R.469 Ø
HW-4 Endwall
Inv. 18" 662.21
PATTONS RUN
EX. T.R. 469
Begin Approach Slab Sta. 1338+9.95
END WORK
50+60 CHANNEL RELOC.
STRUCTURE No. BEL-7-2526

REF.	SIDE	LOCATION	601 Dumped Rock Fill A C.Y.	602 Rock Channel Protection "B" C.Y.	602 Concrete Masonry C.Y.	603 Type "B" 12" L.F.	603 Type "C" 18" L.F.	603 Type "F" 12" L.F.	603 Bends & Branches EA.	604 No 5 C.B. EA.	604 13A Median Inlet (Mod) Ea.	604 No 2-2B C.B. Ea.	660 Special Berm Slope Protection S.Y.	202 Septic Tank Removed EA.	667 Seeding & Mulching S.Y.	667 See Sheet No
1-D		Pattons Run Reloc.	1255													
2-D	Lt.	1336+60 To 1338+40±		42.3											83	
3-D	Lt.	1338+10 ±											24		242	
4-D	Lt.	1338+84 To 1339+30				43		10		1						216
5-D	Lt.	1339+50 ±													231	
6-D	Lt.	1337+90		0.21		60		33	2		1					178
7-D	Rt.	1335+00 To 1338+75 ±		46.6											217	
8-D	Rt.	1338+82 ± To 7+50 @ T.R.469			0.33		158			1		2				60
9-D	Rt.	1338+50 ±											65		500	
1-R	Lt.	As Shown												2		
2-R	Lt & R.	As Shown												2		
TOTALS		To Gen. Summary	1255	69	0.54	103	158	43	X	2	1	2	89	4	1273	

REF.	SIDE	LOCATION	606 Guard Rail Type-5 L.F.	606 Anchor Assembly EA.	606 Type A Bridge Terminal Assembly EA.
1-G	Lt.	1337+40 ± To 1338+02.46	37.5	1	1
2-G	Lt.	1339+78.45 To 1340+00	21.5		1
3-G	Rt.	1330+00 ± To 1338+42.93	800	1	1
TOTALS		To Gen. Summary	859.0	2	3

For Pavement Details & Elevations See Sheets 11 & 12
For Construction Layout, Bench Marks & References See Sheet 27
For Water Work Details See Sheet 292
For Pattons Run X-Sections See Sheet 276



PROPOSED STRUCTURE No. BEL-7-2526

TYPE: Continuous steel beam with reinforced concrete deck and substructure.
SPANS: 31'-6", 45'-0", 45'-0", 31'-6" c/c brgs. along ℄ S.B. 7
ROADWAY: 110'-7" average width f/f concrete barrier type parapet with 3'-0" concrete barrier median
LOADING: HS-20-44
WEARING SURFACE: 2½" Asphalt concrete
SKEW: 22°-15'-00" Rt. fwd. with respect to reference chord
ALIGNMENT: Spiral right
APPROACH SLABS: 25'-0" long see sheet 337
SUPERELEVATION: varies, etc.

1330+00 TO 1340+00

BRUNING 44-560 10943

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. Sept. 1970
Quantities Checked E.O. Nov. 1970
Checked 7-12-73 FO

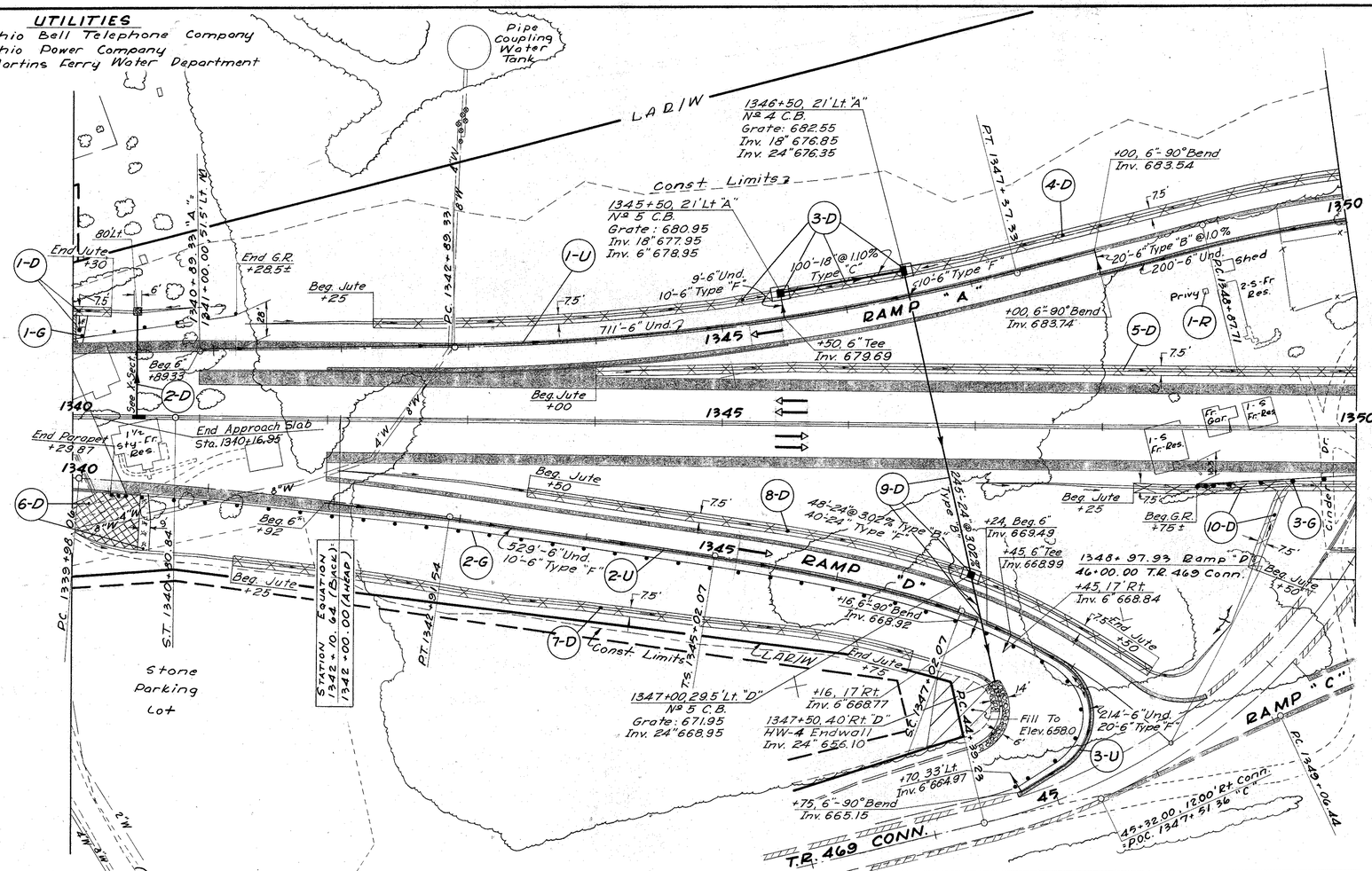
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

41/262

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

UTILITIES

Ohio Bell Telephone Company
Ohio Power Company
Martins Ferry Water Department

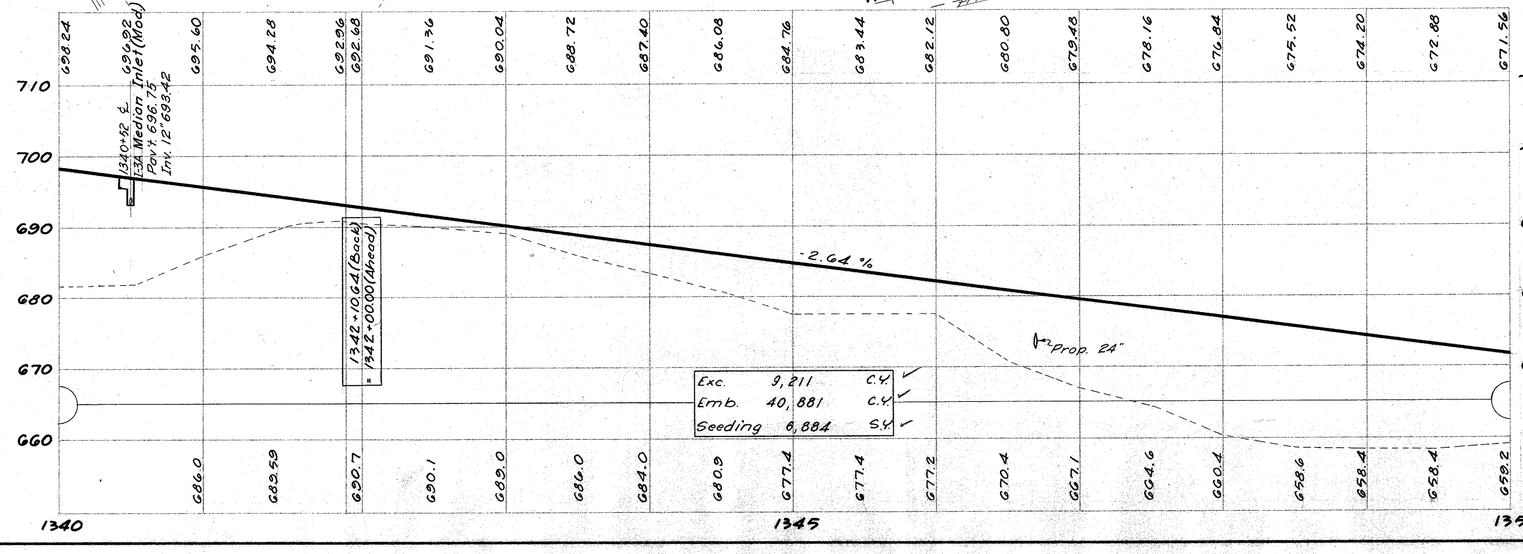


ESTIMATED QUANTITIES

REF.	SIDE	LOCATION	601 Rock Channel Protection Type "B" C.Y.	602 Concrete Masonry C.Y.	603 Type "B" 12" L.F.	603 Type "B" 24" L.F.	603 Type "C" 18" L.F.	603 Type "F" 24" L.F.	603 Bends & Branches EA.	604 № 4 C.B. EA.	604 № 5 C.B. EA.	604 F3A Median Inlet (Mod) EA.	202 Privy Vault Removed EA.	660 Special Berm Type "F" S.Y.	667 Seeding & Jute Matting S.Y.	See Sheet №
1-D	Lt.	1340+00 to 1340+30												18	31	
2-D	Lt.	1340+50	1.8	0.21	80							1				180
3-D	Lt.	1342+25 to 1346+50 "A"					100			1	1				340	251
4-D	Lt.	1346+50 to 1350+00 "A"													286	
5-D	Lt.	1344+00 to 1350+00 "M"													501	
6-D	Rt.	1340+25±												42	237	
7-D	Rt.	1341+25 to 1346+75 "D"													450	
8-D	Lt.	1343+50 to 1348+50 "D"													405	
9-D	Lt. & Rt.	1346+70±	40.5	0.46		293		40	2		1					251
10-D	Rt.	1348+25 to 1350+00													200	
1-R	Lt.	1348+75											1			
TOTALS TO GEN. SUMMARY			42 ✓	0.67 ✓	80 ✓	293 ✓	100 ✓	40 ✓	✗	1 ✓	2 ✓	1 ✓	1 ✓	60 ✓	2450 ✓	

ESTIMATED QUANTITIES

REF.	SIDE	LOCATION	603 Type "B" 6" L.F.	603 Type "F" 6" L.F.	605 Shallow Pipe Underdrains 6" L.F.	605 Bends & Branches 6" EA.	606 Guard Rail Type-5 L.F.	606 Type A Bridge Terminal Assembly Anchor Assembly EA.	606 Type A Bridge Terminal Assembly Anchor Assembly EA.	See Sheet №
1-U	Lt. & Rt.	1340+89 to 1350+00 "A"	20	20	920	3				55
2-U	Rt.	1341+92 to 1347+16 "D"		10	529	1				56
3-U	Rt.	1347+24 "D" to 44+75 T.R. 469		20	214	2				56
1-G	Lt.	1340+00 ℳ to 1341+28.5± "A"					103.5		1	
2-G	Rt. & Lt.	1340+28.87 ℳ to 44+70± T.R. 469					887.5	1		
3-G	Rt.	1348+75± to 1350+00					100		1	
TOTALS TO GEN. SUMMARY			20 ✓	50 ✓	1663 ✗		1091 ✓	1 ✓	2 ✓	



Exc.	9,211	C.Y. ✓
Emb.	40,881	C.Y. ✓
Seeding	6,884	S.Y. ✓

For ℳ Pavement Details & Elevations See Sheets 73 & 74
For Ramp Pavement Details & Elevations See Sheets 73, 74 & 76
For Construction Layout, Bench Marks & References See Sheets 21 & 28
For Ramp Profiles See Sheets 55 & 56
For T.R. 469 Connector Profile See Sheet 52
For T.R. 469 Connector Pavt. Details & Elevations See Sheet's 75-77

1340+00 TO 1350+00

BRUNING 44-560 10943

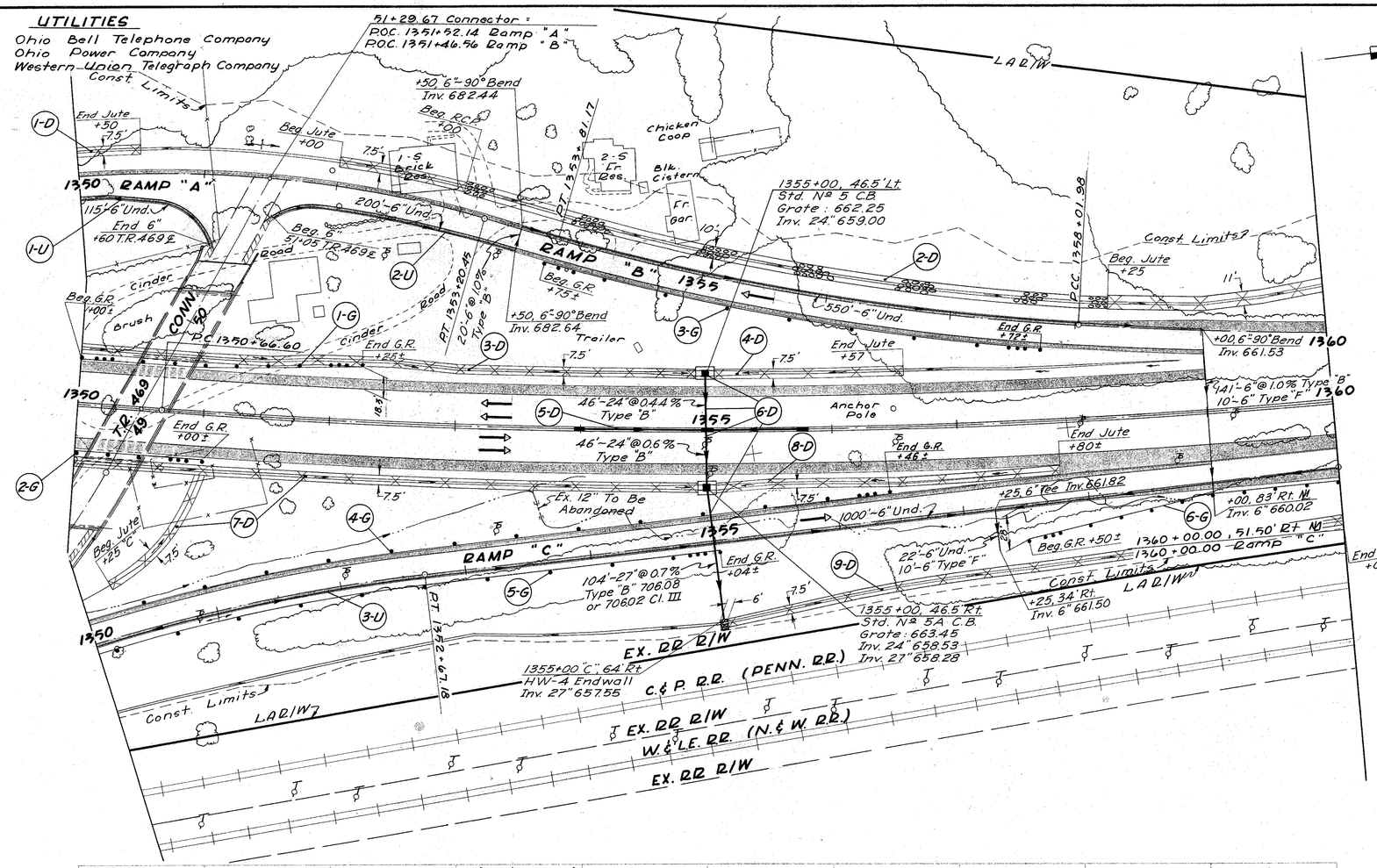
A. E. STILSON & ASSOC.
Quantities Calculated by O.L.B. Sept. 1970
Quantities Checked by E.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

42
462

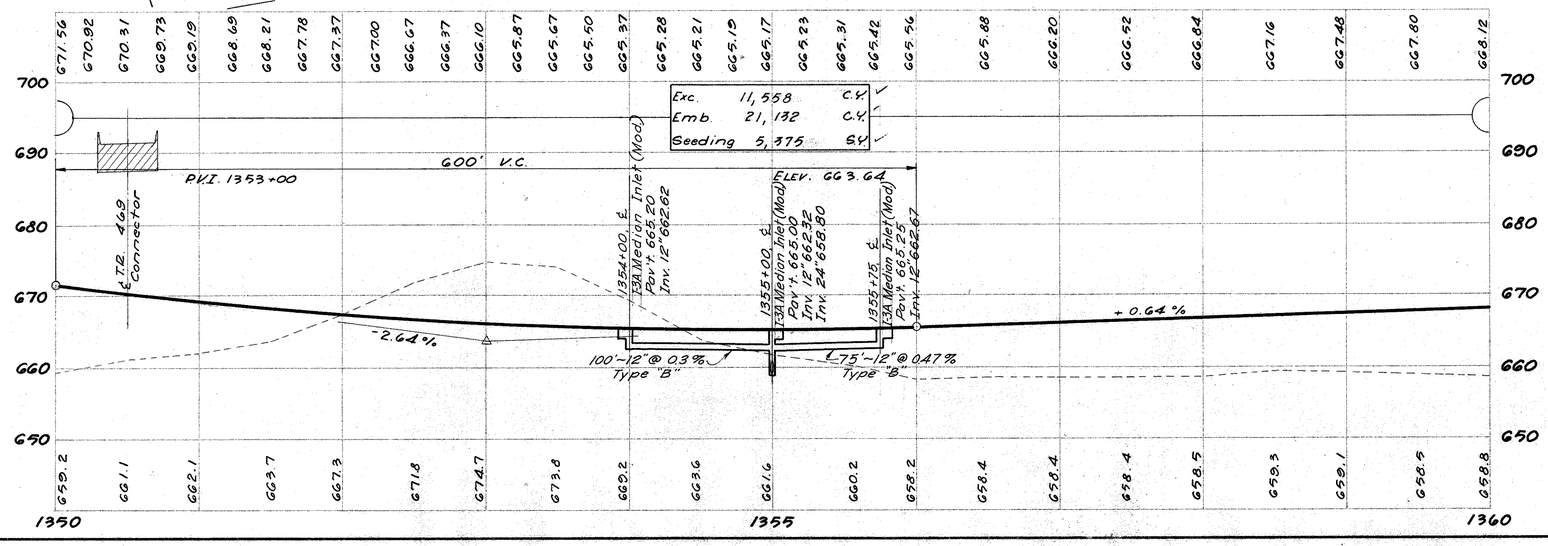
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

UTILITIES
Ohio Bell Telephone Company
Ohio Power Company
Western Union Telegraph Company



REF.	SIDE	LOCATION	601 ROCK CHANNEL PROTECTION "B" C.Y.	602 CONCRETE MASONRY C.Y.	603 TYPE "B" 6" L.F.	603 TYPE "B" 12" L.F.	603 TYPE "B" 24" L.F.	603 TYPE "B" 706.08, 706.13 706.02 Cl. III 27" L.F.	603 TYPE "F" 6" L.F.	604 Nº 5 C.B. EA.	604 3A Median Inlet (Mod.) EA.	604 Nº 5A C.B. EA.	605 SHALLOW PIPE UNDERDRAINS 6" L.F.	605 BENDS & BRANCHES 6" EA.	667 SEEDING & JUTE MATTING S.Y.	SEE SHEET Nº
1-D	Lt.	1350+00 TO 1350+50 ℄													42	
2-D	Lt.	1352+00 TO 1360+00 "B"	389												297	
3-D	Lt.	1350+00 TO 1354+93 ℳ													411	
4-D	Lt.	1355+07 TO 1356+57 ℳ													125	
5-D	℄	1354+00 TO 1355+75				175					3					
6-D	Lt & Rt.	1355+00	3.5	0.53			92	104		1		1				188
7-D	Rt.	1350+00 TO 1354+93 ℳ													507	
8-D	Rt.	1355+07 TO 1356+57													229	
9-D	Rt.	1355+03 TO 1360+00 "C"													415	
1-U	Rt.	1350+00 ℄ TO 50+60 T.R. 469											115			55
2-U	Rt. & Lt.	51+05 T.R. 469 TO 1359+00 "B"			161				10				750	3		55
3-U	Rt.	1350+00 TO 1360+00 "C"							10				1022	1		56
TOTALS TO GEN. SUMMARY			393	0.53	161	175	92	104	20	1	3	1	1887	2026		

REF.	SIDE	LOCATION	606 GUARD RAIL TYPE "S" L.F.	606 ANCHOR ASSEMBLY EA.	SEE SHEET Nº
1-G	Lt.	1350+00± TO 1352+25±	175	2	
2-G	Rt.	1350+00 TO 1351+00±	75	1	
3-G	Rt.	1353+75± TO 1357+72±, "B"	350	2	
4-G	Lt.	1350+00 TO 1356+46±, "C"	621	1	
5-G	Rt.	1350+00 TO 1355+04±, "C"	475	1	
6-G	Rt.	1357+50± TO 1360+00, "C"	225	1	
TOTALS TO GEN. SUMMARY			1921	8	

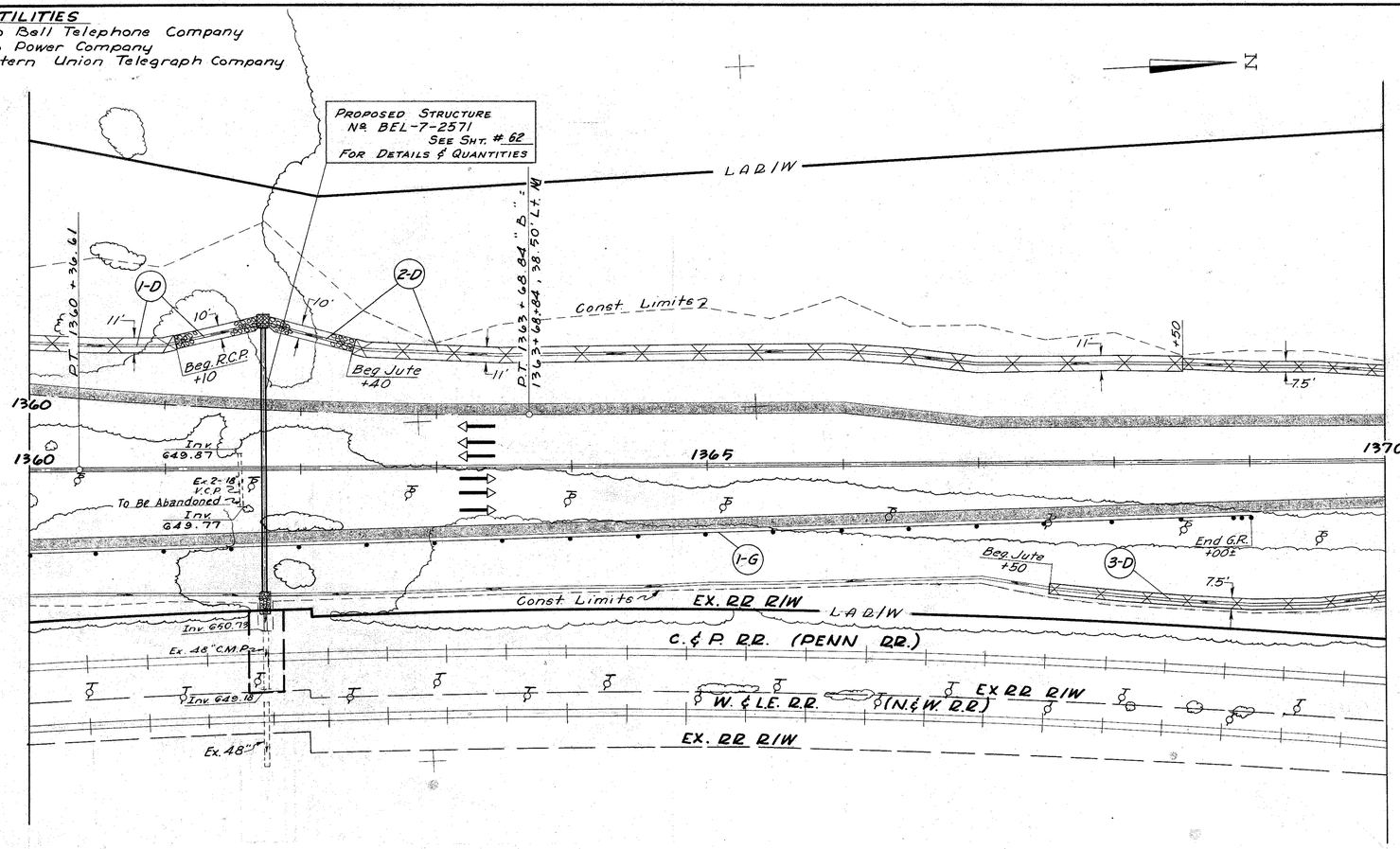


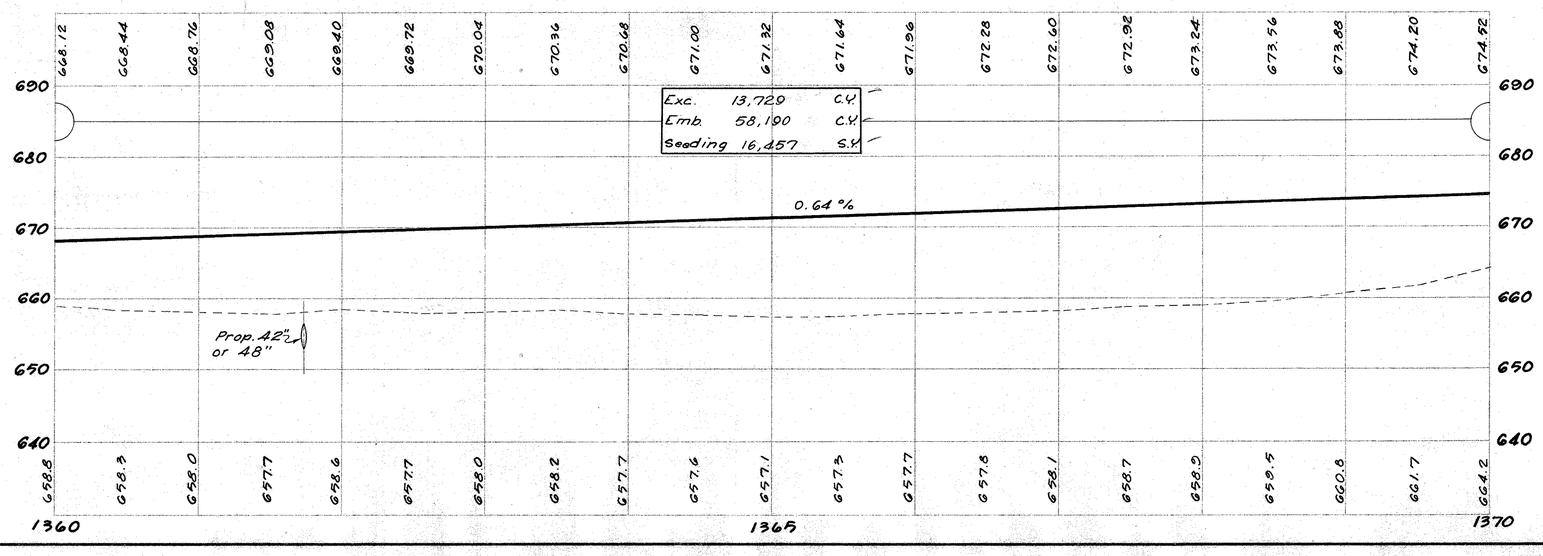
For ℳ Pavement Details & Elevations See Sheets 77 & 78
For Ramp Pavement Details & Elevations See Sheets 76, 77 & 78
For Construction Layout, Bench Marks & References See Sheet 28
For Ramp Profiles See Sheets 55 & 56
For T.R. 469 Connector Profile See Sheet 52
For T.R. 469 Connector Pav't. Details & Elevations See Sheet 77

1350+00 TO 1360+00

BRUNING 44560 10943

UTILITIES
Ohio Bell Telephone Company
Ohio Power Company
Western Union Telegraph Company





A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. Sept. 1970
Quantities Checked E.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. - 7 - 23.74
JEF. - 7 - 0.00

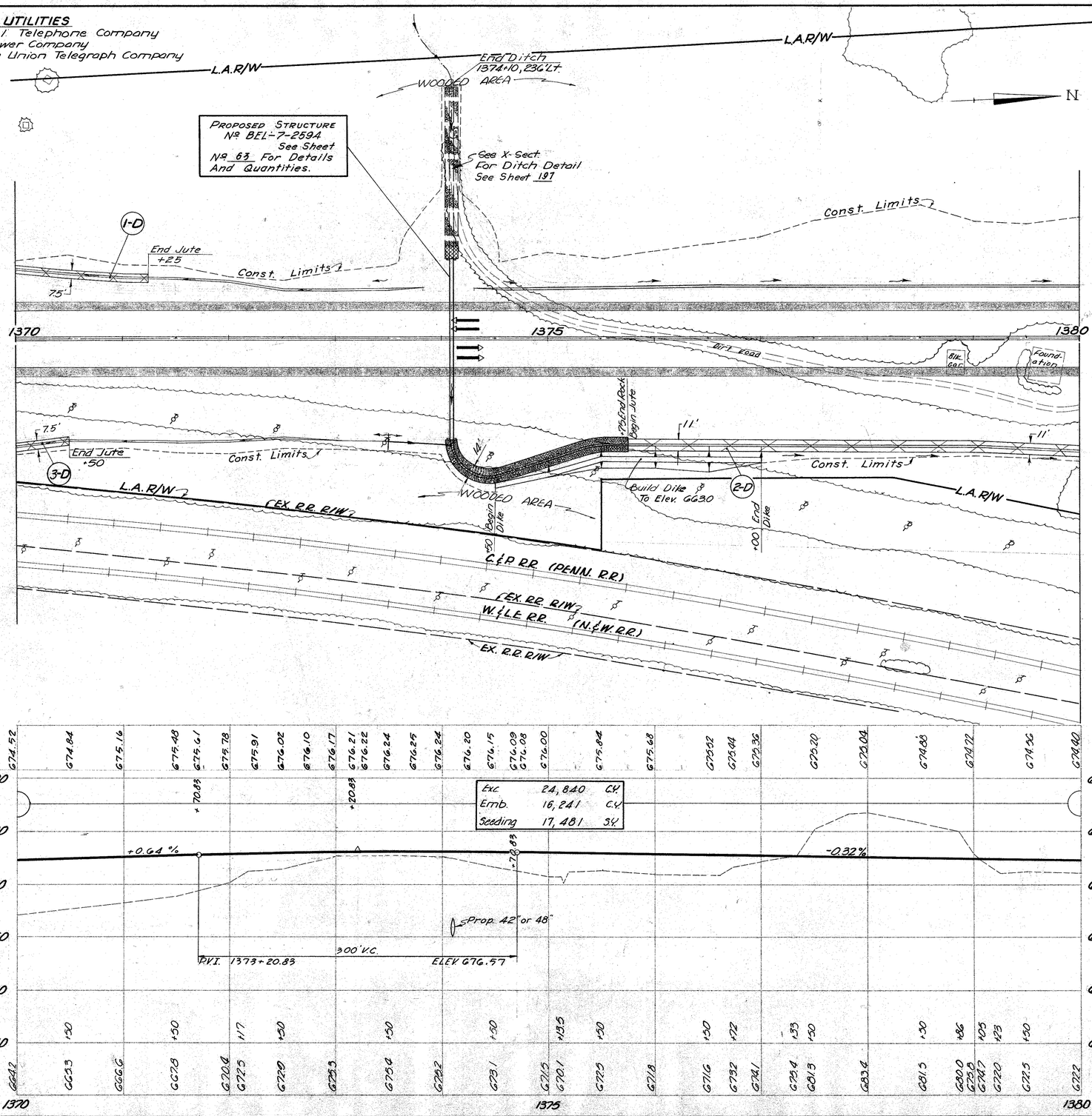
ESTIMATED QUANTITIES			601		606		667
REF.	SIDE	LOCATION	ROCK CHANNEL PROTECTION TYPE-B C.Y.		GUARD RAIL TYPE-5 L.F.	ANCHOR ASSEMBLY EA.	SEEDING JUTE & MATTING S.Y.
1-D	Lt.	1360+00 To 1361+68.5	45.2				135
2-D	Lt.	1361+78.5 To 1370+00	47.4				871
3-D	Rt.	1367+50 To 1370+00					208
1-G	Rt.	1360+00 To 1369+00±			875	1	
TOTALS TO GEN. SUMMARY			93 ✓		875 ✓	1 ✓	1214 ✓

For ℳ Pavement Details & Elevations See Sheets 19 & 80
For Construction Layout, Bench Marks & References See Sheet 28

1360+00 TO 1370+00

BRUNING 44-560 10943

UTILITIES
General Telephone Company
Ohio Power Company
Western Union Telegraph Company



| ESTIMATED QUANTITIES | | | 601 | | 667 | | |

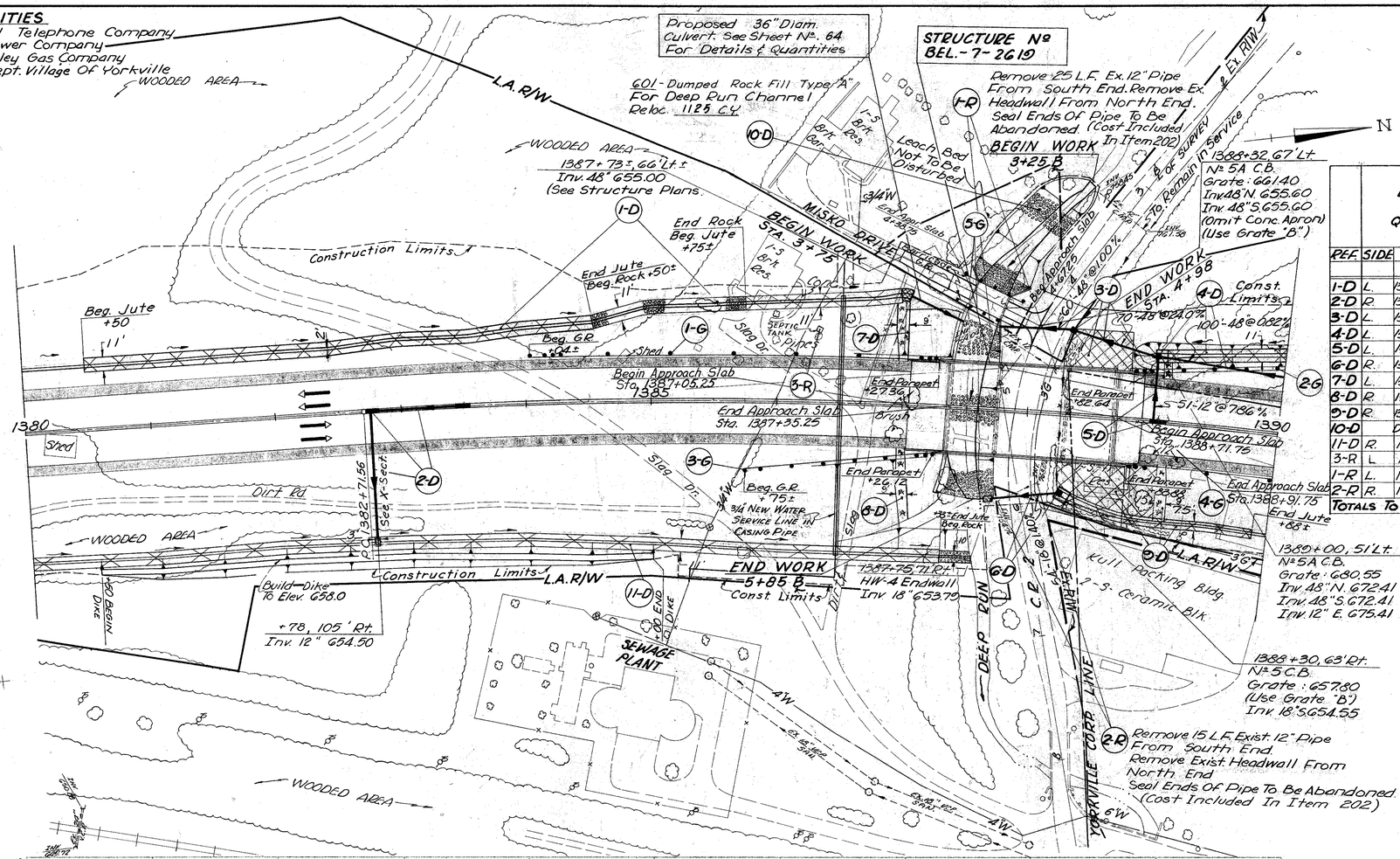
UTILITIES
General Telephone Company
Ohio Power Company
Ohio Valley Gas Company
Water Dept. Village Of Yorkville

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. MAR. 1969
Quantities Checked E.O. NOV. 1970
Quantities Rev. 5-9-73 WJM
Checked 7-12-73 FO

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

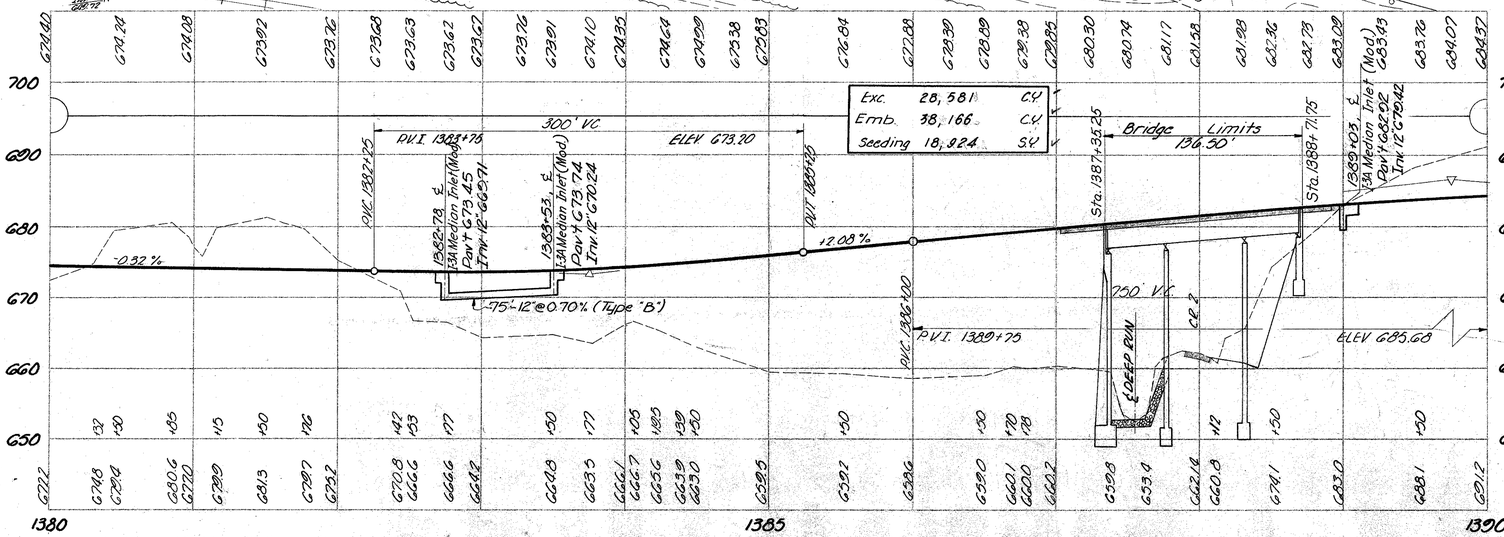
45
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



ESTIMATED QUANTITIES			601	602	603					604		202	660	667	202		
REF.	SIDE	LOCATION	Rock Channel Protection Type B	Dumped Rock Type "A"	Concrete Masonry	Type "B" 12"	Type "C" 18"	Type "F" 48	Bends & Branches 12"	Nº 5 C.B.	Nº 5A C.B.	Septic Tank Removed	Special Berm & Slope Protection	Seeding & Jute Matting	Pipe Removed 24" & Under		See Sheet Nº
			C.Y.	C.Y.	C.Y.	L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	Ea.	Ea.	S.Y.	S.Y.	L.F.		
1-D	L.	1380+00 To 1387+00±	101.8												648			
2-D	R.	1382+78 To 1383+53	0.9		21	15			53	2			2					203
3-D	L.	1387+78± To 1389+00						60	70		1			9	177			60
4-D	L.	1389+00 To 1390+00							60		1				116			60
5-D	L.	1389+03			51							1						206
6-D	R.	1387+75 To 1388+30			33	54				1								206
7-D	L.	1387+25±											40					
8-D	R.	1387+25±											52					
9-D	R.	1388+30 To 1389+88±											43	421				
10-D		Deep Run Chan Reloc.		1125														277
11-D	R.	1380+00 To Deep Run	18.5												885			
3-R	L	As Shown										1						
1-R	L.	1388+20±, 34' Lt.±														25		
2-R	R.	1388+10±, 56' Rt.±														15		
TOTALS TO GEN. SUMMARY			121	1125	0.54	90	54	60	53		1	2	3	1	144	2247	40	

ESTIMATED QUANTITIES			606					
REF.	SIDE	LOCATION	Guard Rail Type "S"		Anchor Assembly Bridge Term. Assembly Type B		Type A Bridge Terminal Assembly	
			L.F.		Ea.		Ea.	
1-G	L.	1384+04± To 1387+27±	300		1		1	
2-G	L.	1388+82 64 To 1390+00	118.5				1	
3-G	R.	1385+75± To 1387+26	125		1		1	
4-G	R.	1388+88 88 To 1390+00	116				1	
5-G	L&R.	As Shown	43			4		
TOTALS TO GEN. SUMMARY			702.5		2	4	4	



PROPOSED STRUCTURE
(PRIVATE DRIVE over DEEP RUN)

TYPE : Single span reinforced concrete slab with reinforced concrete substructure.
SPAN : 26'-0" ℄ℓ abutments along ℄ Drive.
ROADWAY : 20'-0" ℄ℓ guardrail.
LOADING : HS 10-44
WEARING SURFACE : 2½" Asphalt concrete.
SKEW : 4°-00'-00" Rt. Fwd.
ALIGNMENT : Tangent
APPROACH SLABS : AS 1-72, 20' long.

For Pavement Details & Elevations See Sheets 83 & 84
For Misko Drive Profile See Sheet 205
For Misko Drive Pavement Details & Elevations See Sheet 84
For Construction Layouts Bench Marks & References See Sheet 29
For Water Work Details See Sheet 203
For Storm Sewer Profile See Sheet Nº 60
For Deep Run X-Sections See Sheet 277
For Misko Drive X-Sections See Sheet 205

PROPOSED STRUCTURE ~ Nº BEL.-7-26.19

TYPE : Continuous steel beam with reinforced concrete deck and substructure.
SPANS : 38'-6", 55'-0", 38'-6" ℄ brg. along ℄ S.R. 7
ROADWAY : 73'-0" ft. concrete barrier railings and 2'-6" Concrete Barrier Median
LOADING : HS 20-44
WEARING SURFACE : 2½" Asphalt concrete.
SKEW : 0° with respect to reference chord.
ALIGNMENT : 1°-28' Right
APPROACH SLABS : AS-1-72, 30'-0" rear abut, 20'-0" fwd abut.
SUPERELEVATION : 0.036'/'.

	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
PROPOSED DRAWN	
PROPOSED CHECKED	
QUANTITIES CALCULATED	
QUANTITIES CHECKED	

1380+00 to 1390+00

UTILITIES

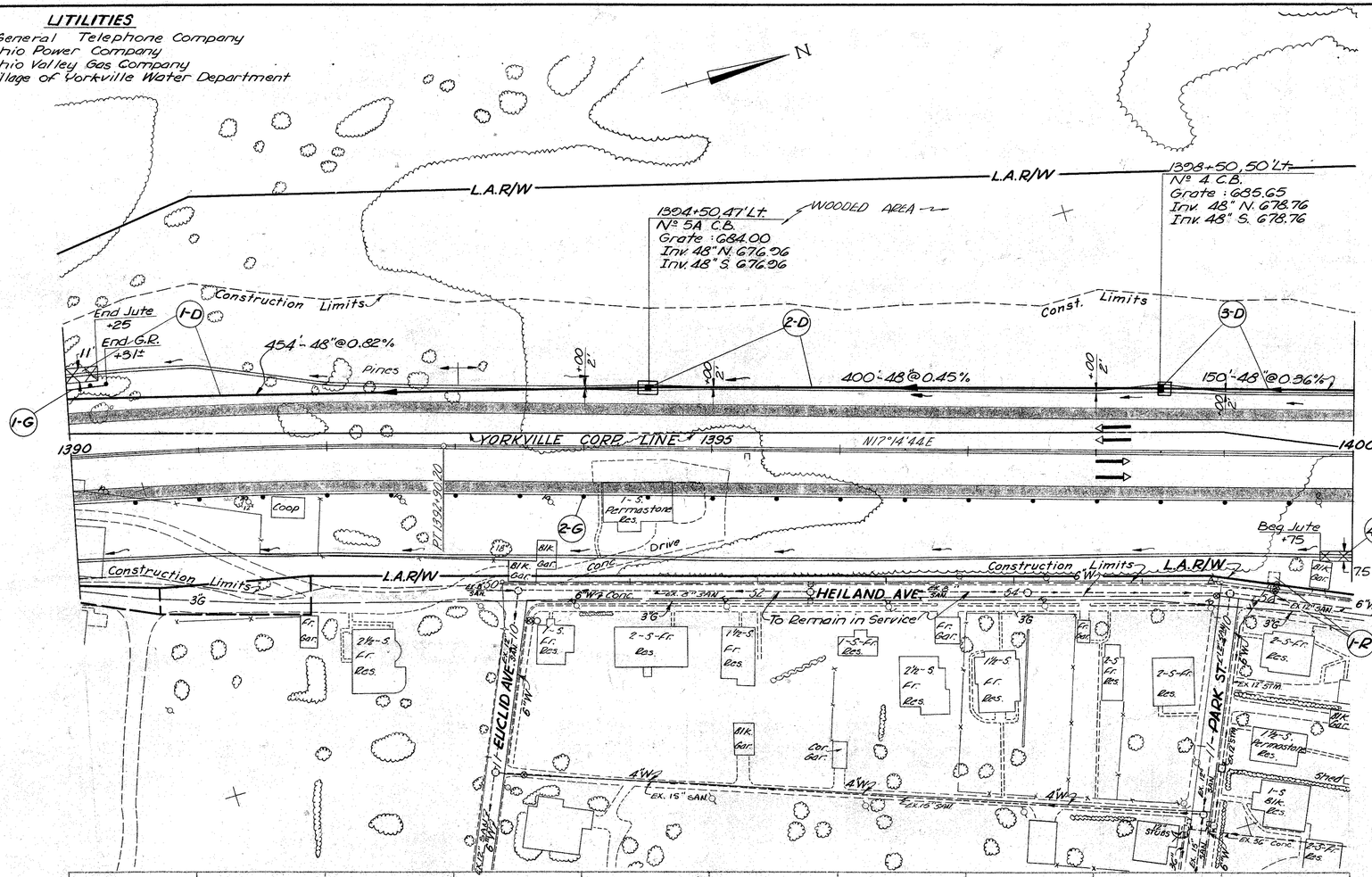
General Telephone Company
Ohio Power Company
Ohio Valley Gas Company
Village of Yorkville Water Department

A. E. STILSON & ASSOC.
Quantities Calculated R.L.B. MAR. 1969
Quantities Checked F.O. NOV. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

46
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



REF.	SIDE	LOCATION	603 Type "C" 48" L.F.	604 № 4 C.B. Ea.	604 № 5A C.B. Ea.	606 Guard Rail Type - 5 L.F.	606 Anchor Assembly Ea.	667 Seeding & Jute Matting S.Y.	202 Existing Structure Removed L.S.	See Sheet №
1-D	L.	1390+00 To 1394+50	454					31		60
2-D	L.	1394+50 To 1398+50	400		1					60
3-D	L.	1398+50 To 1400+00	150	1						60
4-D	R.	1399+75 To 1400+00						21		
1-R	R.	As Shown							L.S.	
1-G	L.	1390+00 To 1390+31±				6.5	1			
2-G	R.	1390+00 To 1400+00				100				
TOTALS TO GEN. SUMMARY			1004 ✓	1 ✓	1 ✓	106.5 ✓	1 ✓	52 ✓	L.S. ✓	

For Pavement Details & Elevations See Sheets 85 & 86
For Construction Layout, Bench Marks & References See Sheet 29
For Water Work Details See Sheet 293
For Storm Sewer Profile See Sheet № 60

QUANTITIES CHECKED
QUANTITIES CALCULATED
QUANTITIES CHECKED

1390+00 to 1400+00

UTILITIES

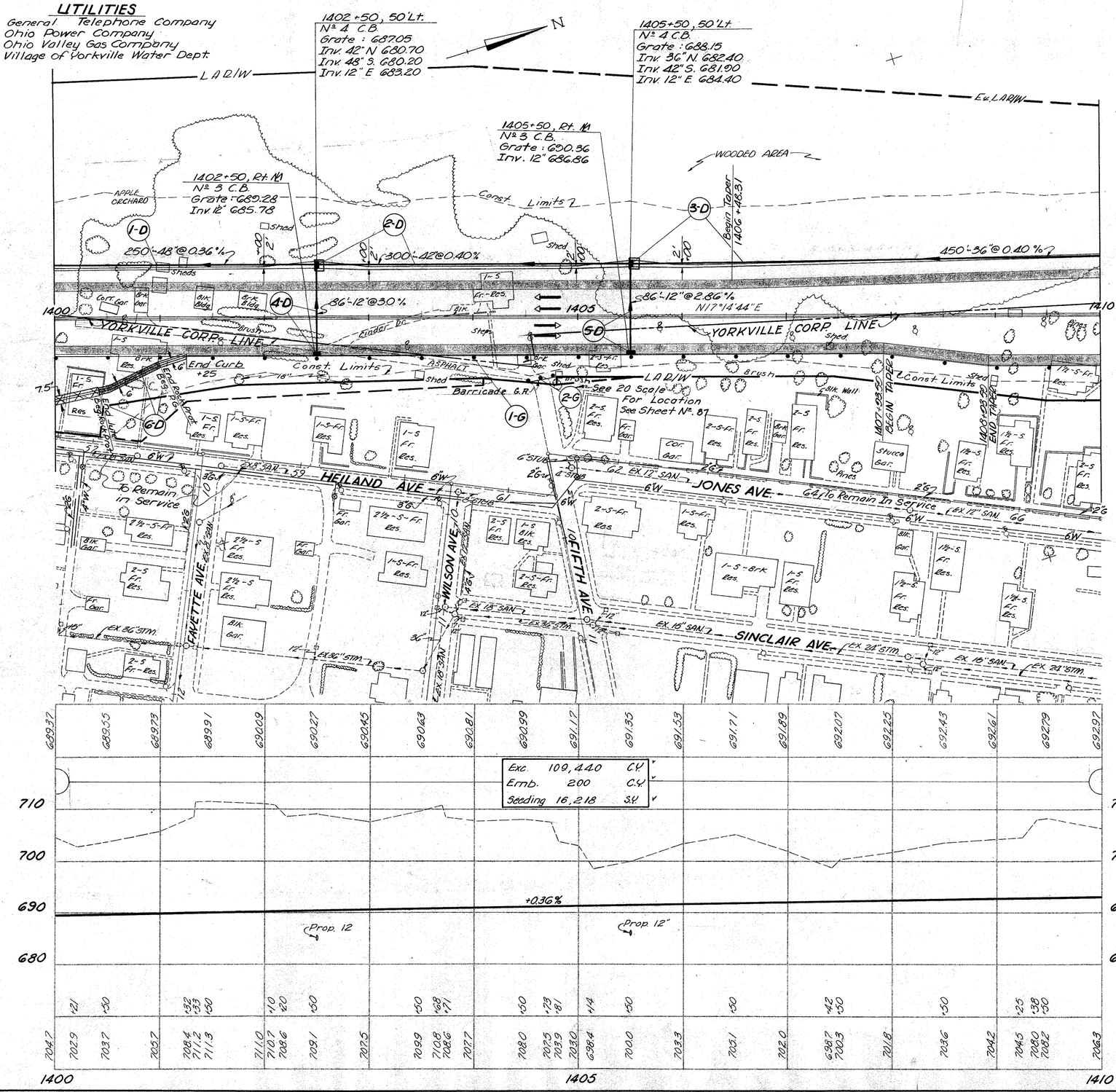
General Telephone Company
Ohio Power Company
Ohio Valley Gas Company
Village of Yorkville Water Dept.

A. E. STILSON & ASSOC.
Quantities Calculated D.C.B. MAR. 1969
Quantities Checked E.D. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

47
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



REF	SIDE	LOCATION	601 Rock Channel Protection Type "B" C.Y.	601 Paved Gutter Type 12 L.F.	603 Type "B" 12" L.F.	603 Type "C" 36" L.F.	603 Type "C" 42" L.F.	603 Type "C" 48" L.F.	604 №3 C.B. Ea.	604 №4 C.B. Ea.	606 Guard Rail Type-5 L.F.	660 Sodding S.Y.	667 Seeding & Mulch Matting S.Y.	See Sheet №
1-D	L.	1400+00 To 1402+50						250						60
2-D	L.	1402+50 To 1405+50					300			1				60
3-D	L.	1405+50 To 1410+00				450				1				60
4-D	L&R.	1402+50			86				1					218
5-D	L&R.	1405+50			86				1					221
6-D	R.	1400+00 To 1401+25	28.4	27								9	36	
1-G	R.	1400+00 1410+00									1000			
2-G	R.	1404+53. 62' Rt.									25			
TOTALS TO GEN. SUMMARY			28	27	172	450	300	250	2	2	1025	9	36	

For Pavement Details & Elevations See Sheets 87 & 88
For Construction Layout, Bench Marks & References See Sheets 29 & 30
For Water Work Details See Sheet 294
For Storm Sewer Profile See Sheet № 60

1400+00 to 1410+00

A. E. STILSON & ASSOC.
Quantities Calculated R.C.B. MAR. 1969
Quantities Checked E.O. NOV. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

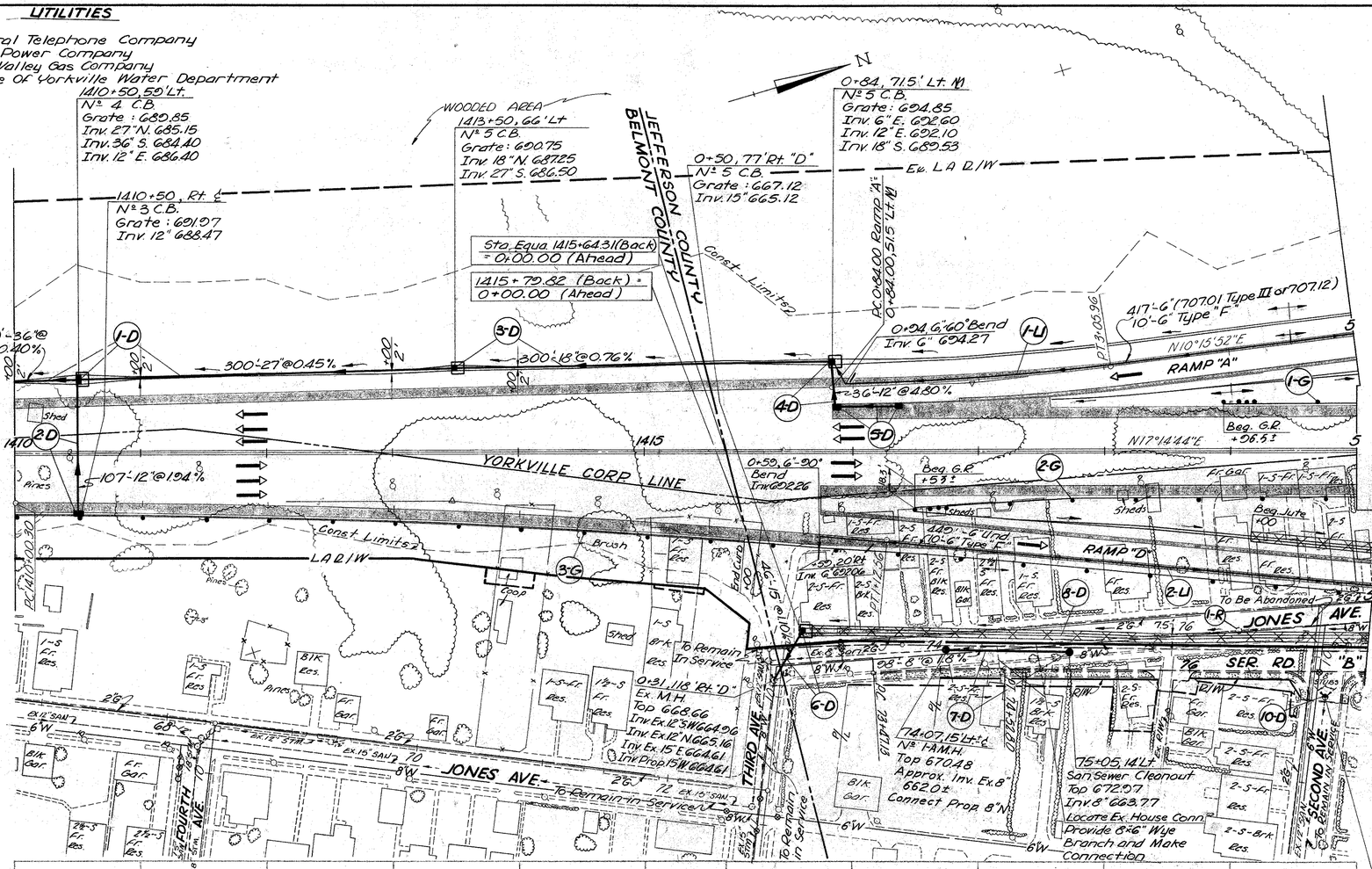
48
462

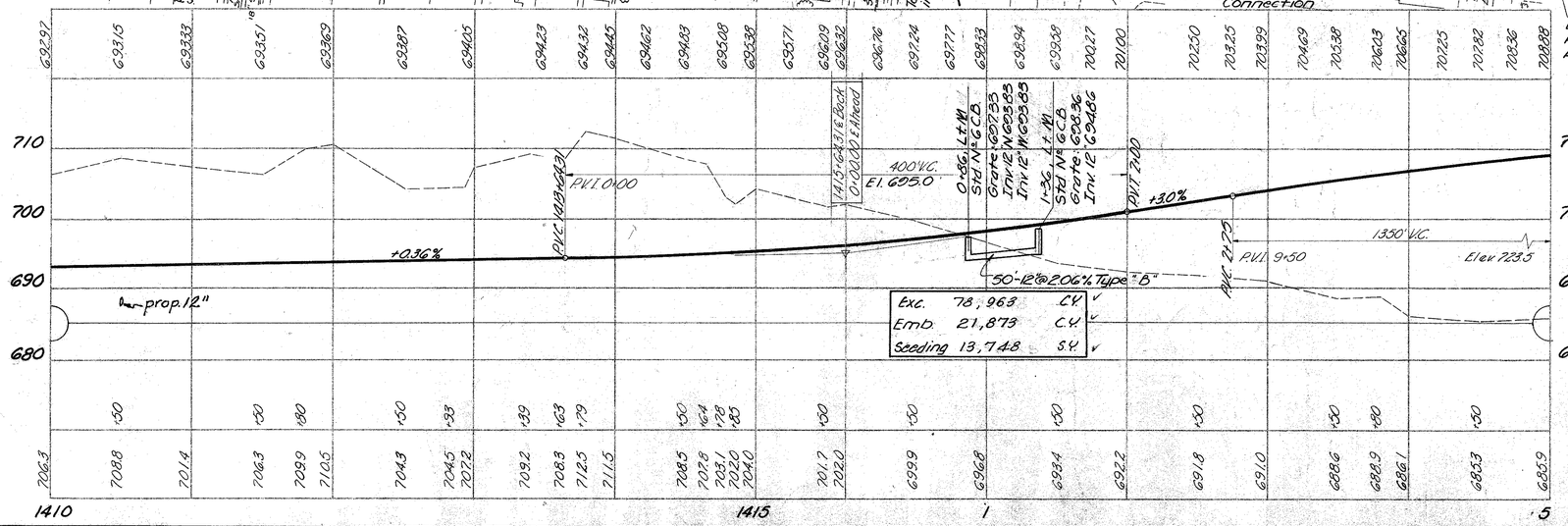
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.72
JEF.-7-0.00

⊛ With Joints As Per 706.11 (Sanit.)

UTILITIES

General Telephone Company
Ohio Power Company
Ohio Valley Gas Company
Village Of Yorkville Water Department





ESTIMATED QUANTITIES			603 CONDUIT						604						667 SPEC	
			Type "B" *	Type "B"	Type "C"			Bends & Branches						MH (Adjust To Grade)	Seeding & Jute Matting Clearing & Cleanout	See Sheet Nº
REF.	SIDE	LOCATION	8"	12"	15"	18"	27"	36"	8"	Nº 3 C.B.	Nº 4 C.B.	Nº 5 C.B.	Nº 6 C.B.	Nº 1-A M.H. ⊛		
			L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	S.Y.	Ea.	
1-D	L.	1410+00 To 1413+50					300	50			1							60
2-D	L & R	1410+50		107					1									226
3-D	L.	1413+50 To 0+84				300						1						60
4-D	L & R	0+84 Ramp "A"		36								1						232
5-D	L.	0+86 To 1+36 NM		50									2					
6-D	R.	0+31 To 0+50 "D"			46							1						282
7-D	L.	74+07 To 75+05 S.R. "B"	98						2				1				1	60
8-D	R.	0+50 To 5+00 "D"														367		
9-D	L.	4+00 To 5+00 "D"														83		
10-D	R.	77+07, 18.5' Rt. S.R. "B"													1			
TOTALS TO GEN. SUMMARY			98	193	46	300	300	50	1	1	1	3	2	1	1	450	1	

NOTE: * With Joints, As Per 706.11 or 706.12 (Sanitary) As Per Plan

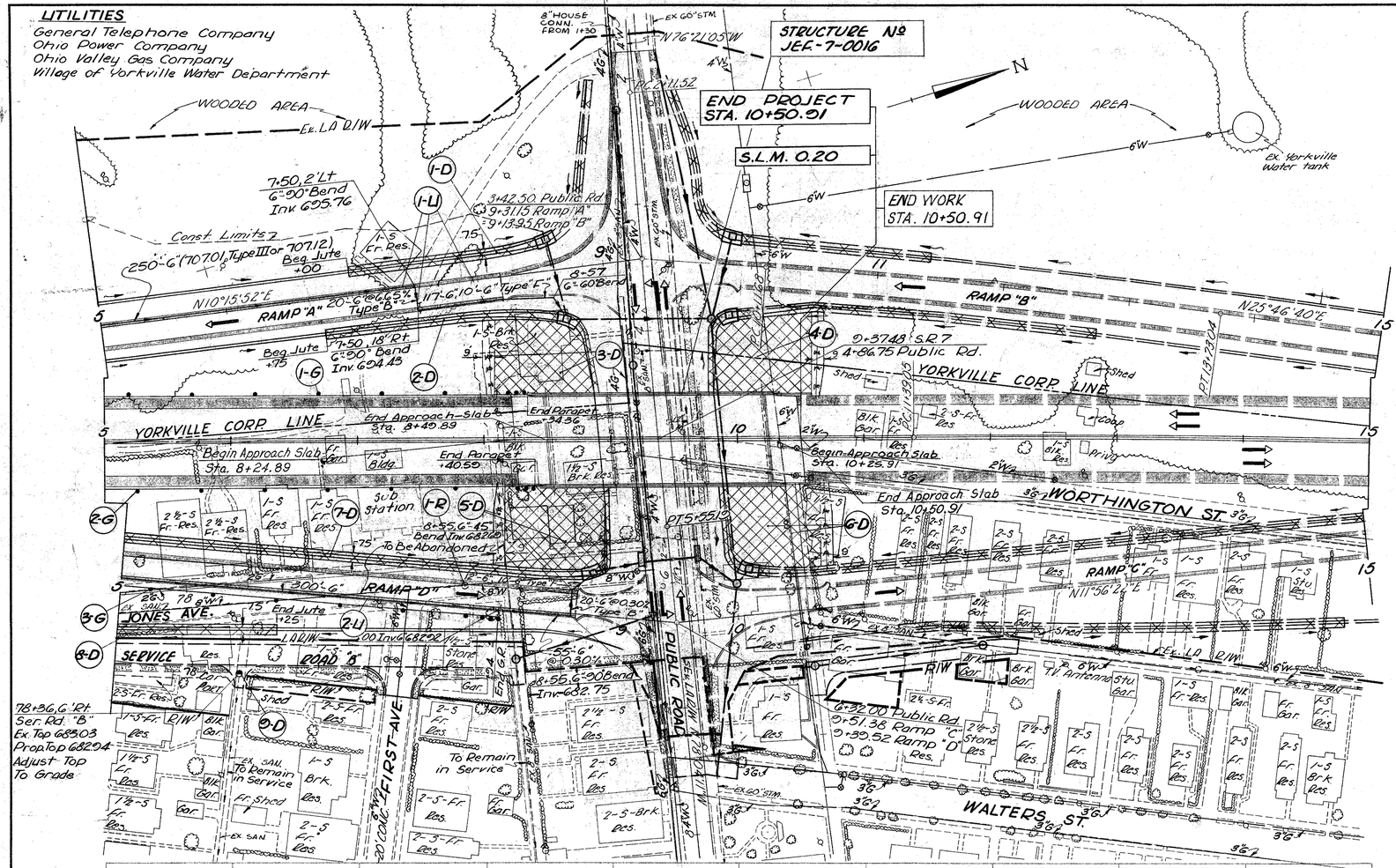
ESTIMATED QUANTITIES			202	603	605			606								
			Manhole Removed	Type "F"	Shallow Pipe Underdrains **		Bends & Branches	Guard Rail Type - 5	Anchor Assembly							See Sheet Nº
REF.	SIDE	LOCATION	Ea.	C.F.	C.F.	L.F.	Ea.	L.F.	Ea.							
1-R	R.	4+00±, 47 Rt± "D"	1													
1-U	L.	0+84 To 5+00 "A"		10		417	1									57
2-U	R.	0+50 To 5+00 "D"		10	440		1									57
1-G	L.	3+06.5 To 5+00 NA						18.5	1							
2-G	R.	1+53 To 5+00 NA						322	1							
3-G	R.	1410+00 NA To 5+00 "D"						1077.5								
TOTALS TO GEN. SUMMARY			1	20	440	417		1478	2							

** Shallow Pipe Underdrains 707.01 Type III or 707.12

For NA Pavement Details & Elevations See Sheets 89 & 90
For Ramp Pavement Details & Elevations See Sheets 89 & 90
For Construction Layout, Bench Marks & References See Sheet 30
For Ramp Profiles See Sheet 57
For Service Road "B" Pavement Details & Elevations See Sheet 94
For Service Road "B" Plan & Profile See Sheet 53
For Water Work Details See Sheet 295
For Sewer Profiles See Sheet Nº 60

DATE	
TESTING CHECKED	
PROPOSED DRAWN	
PROPOSED CHECKED	
QUANTITIES CALCULATED	
QUANTITIES CHECKED	

1410+00 to 5+00



A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. MAR. 1969
Quantities Checked F.O. NOV. 1970
Quantities 660, 667' Rev. May 73, W.J.M
Checked 7-12-73 F.O.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

ESTIMATED QUANTITIES			603			604	605		606			660	667	202			
REF.	SIDE	LOCATION	Type "B" 6"	Type "F" 6"	Bends & Branches 6"	Mortised To Grade Shallow Pipe Underdrains *	Bends & Branches 6"	6"	Guard Rail Type - 5	Anchor Assembly	Type A Bridge Terminal Assembly	Special Berm Slope Protection	Seeding & Jute Matting	Manholes Removed			See Sheet No.
			L.F.	L.F.	Ea.	Ea.	L.F.	L.F.	Ea.	Ea.	Ea.	Ea.	S.Y.	S.Y.	Ea.			
1-D	L.	7+00 To 8+50± "A"												125				
2-D	R.	6+75 To 8+60± "A"												154				
3-D	L.	8+35 ℄											57	479				
4-D	L	10+30 ℄											61	549				
5-D	R.	8+40 ℄											59	587				
6-D	R.	10+40 ℄											62	558				
7-D	L.	5+00 To 8+60 "D"												303				
8-D	R.	5+00 To 6+25 "D"												104				
9-D	R.	70+36, 6' Rt. Ser. Rd. "B"				1												
1-R	L.	7+70±"D", 15' Lt.													1			
1-U	L & R	5+00 To 8+66 "A"	20	10	2		117	250	1									57
2-U	L & R	5+00 To 8+70 "D"	20	10	2		367											57
1-G	L.	5+00 To 8+34.36 ℄							33.4		1							
2-G	R.	5+00 To 8+40.50 ℄							340.5		1							
3-G	R.	5+00 To 7+04± "D"							26.9	1								
TOTALS		To Gen. Summary	40	20	X	1	484	250	X	94.3.5	1	2	239	2859	1			

* Shallow Pipe Underdrains 707.01 Type III or 707.12

For ℄ Pavement Details & Elevations See Sheets 91 & 92
For Ramp Pavement Details & Elevations See Sheets 91 & 92
For Service Road "B" Pavement Details & Elevations See Sheet 94
For Construction Layout, Bench Marks & References See Sheet 30
For Ramp Profiles See Sheet 51
For Service Road "B" Plan & Profile See Sheet 53
For Public Road 20 Scale Drainage Detail See Sheet 59
For Water Work Details See Sheet 295

PROPOSED STRUCTURE JEF-7-0016

TYPE : Continuous steel beam with reinforced concrete deck and substructure.
SPANS : 50'-0", 71'-6", 50'-0" c/c brg. along ℄ S.R. 7
ROADWAY : 73'-0" ℄ concrete barrier railings and 2'-6" Concrete Barrier Median
LOADING : HS 20-44
WEARING SURFACE : 1½" Asphalt concrete.
SKEW : 4°-58'-37" Right Forward.
ALIGNMENT : Tangent.
APPROACH SLABS : AS-1-72, 25'-0" long.

DATE
ACCEPTED FOR USE
PROPOSED CHANGES
QUANTITIES CALCULATED
QUANTITIES CHECKED

5+00 to 15+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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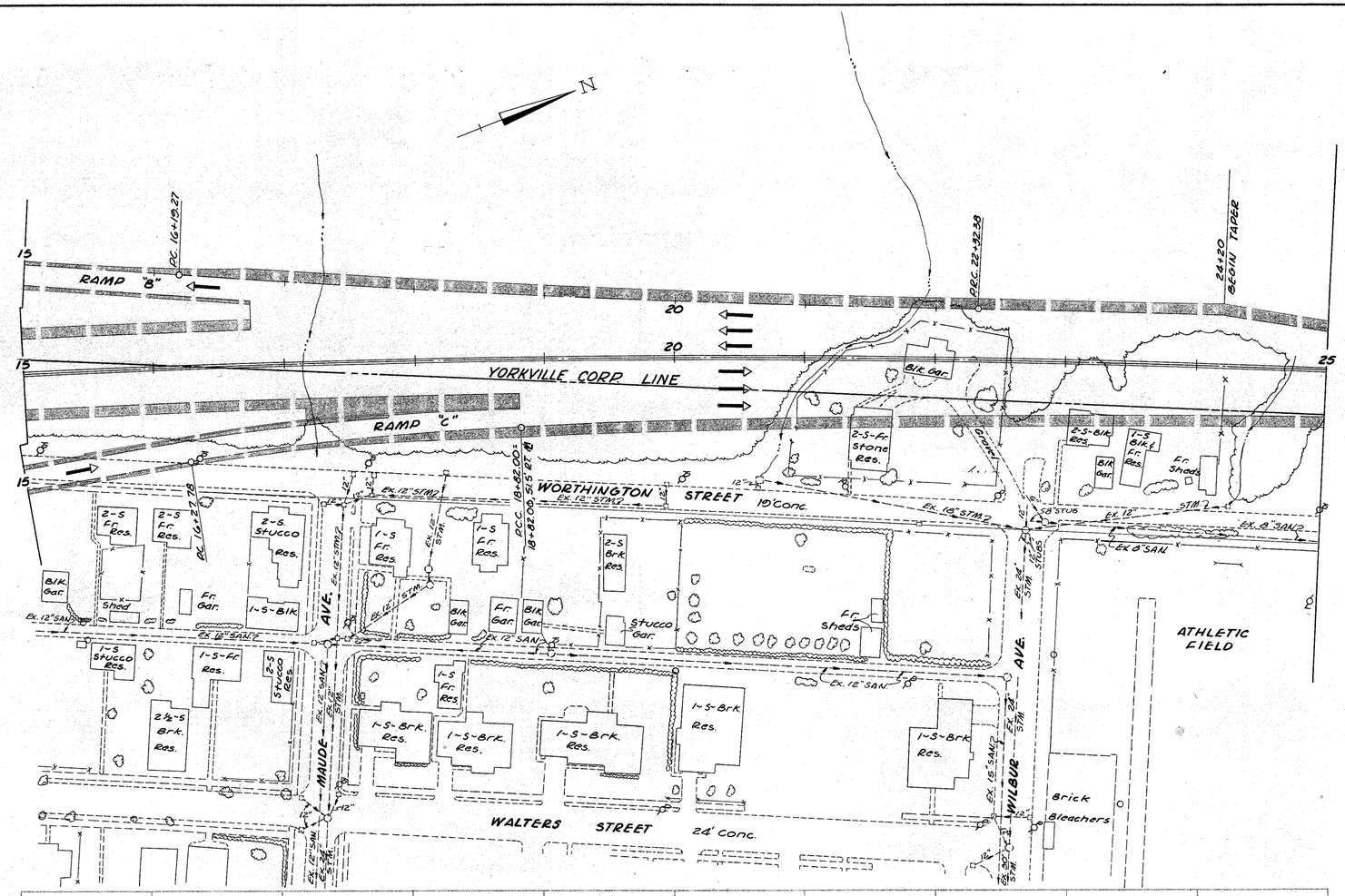
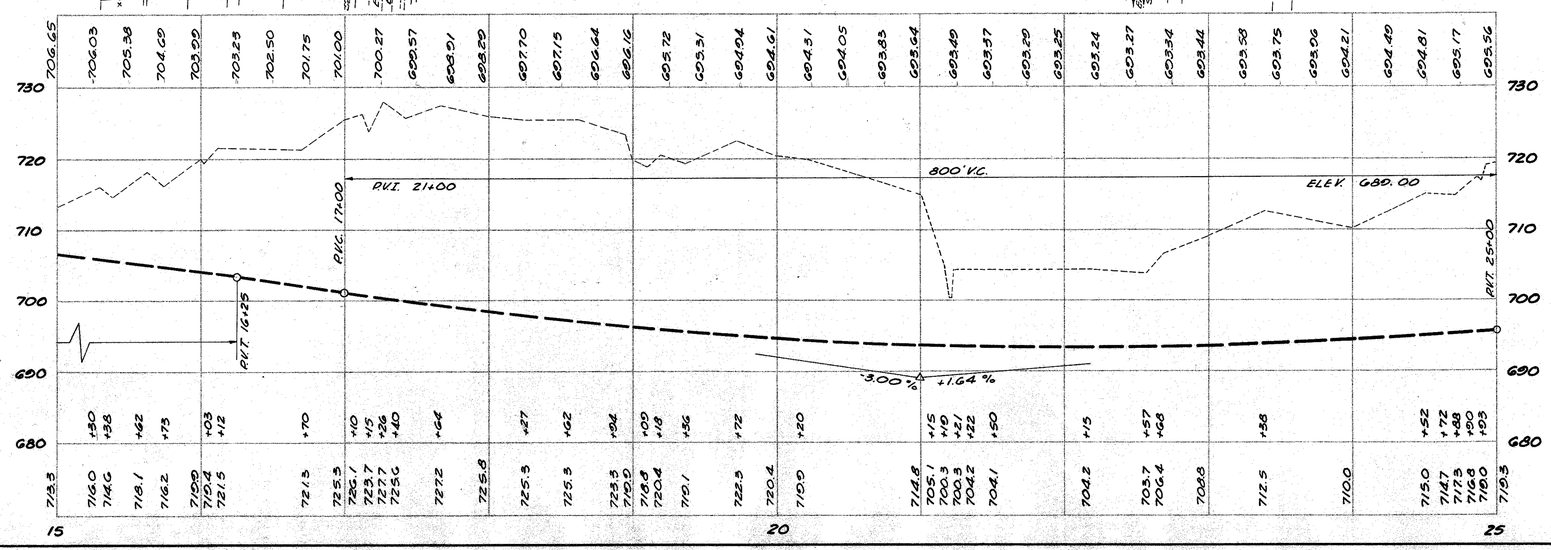
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00





NOTE : This Sheet For Reference Purposes Only

15+00 to 25+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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* With Joint as per 706.11

ESTIMATED QUANTITIES			601	602	603												604				605	604	667	603		
REF.	SIDE	LOCATION	Rock Channel Prot. Type 'B'	Concrete Masonry	Type "C"	Type "C" 706.08	Type "B"	Type "B"	Type "B"	Type "C"	Type "C" 706.02 Cl. III or 707.13	Type "C" 706.02 Cl. III or 903.13	Type "D"	Type "F"	Type "F" Bends and Branches		Std. No. 1-A Manhole (Sanitary)	Std. No. 1-A Manhole	Aggregate Drains	10" Flap Valve	Seeding And Matting	Type "C" 706.02 Cl. III Pipe Liners	See Sheet No.
					4"	6"	12"	18"	21"	12"	18"	18"	18"	18"	12"	12"								10"		
			C.Y.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.		Ea.	Ea.	Ea.	Ea.	L.F.	Ea.	S.Y.	L.F.		
2-D	Lt.	As Shown								30																
3-D	Lt.	7+56 to 8+00 Acc. Rd. "A"											38													237
4-D	Lt. & Rt.	8+00 Access Rd. "A"									12	44	46				1	1	1	1		1	58	16		238
5-D	Lt.	47+21± to 48+95 Glenns Run																					145			
6-D	Lt.	As Shown			8	24																				
7-D	Rt.	As Shown			24																					
8-D	Lt.	9+50 "A" to 4+97± S.R. 798																					283			
9-D	Lt. & Rt.	4+10 S.R. 798	1.3	0.33				89									1									242
10-D	Lt. & Rt.	5+69 S.R. 798	1.3	0.33				102									1									243
11-D	Lt. & Rt.	2+00 "B" to 7+68 T.R. 536	1.3	0.21			63							80	2		2						205			240
12-D	Lt. & Rt.	9+08 S.R. 798	8.5	0.39					127								1									244
13-D	Lt. & Rt.	S.R. 798																								
		2+79.63 to 9+66																			432					
14-D	Lt. & Rt.	Ac. Rd. "A" ℄ +50 to 11+75																			190					
TOTALS TO GEN. SUMMARY			13	1.26	32	24	63	191	127	30	12	44	46	38	80		2	5	1	1	622	1	691	16		

ESTIMATED QUANTITIES			202	606					
REF.	SIDE	LOCATION	Catch Basin Removed	Bridge Term. Assembly Type B			Anchor Assembly	Guard Rail Type 5	
			Ea.				Ea.	Ea.	L.F.
1-G	Lt.	7+25 to 8+85± Access Rd. "A"							162.5
1-G	Lt.	5+00± to 7+25							225 ⊛
3-G	Rt.	7+20± to Bridge S.R. 798		1				1	431.26
4-G	Lt.	4+72± to Bridge S.R. 798		1				1	168.76
5-G	Lt.	Bridge S.R. 798 to E.O.T. "B"		1				1	337.50
6-G	Lt.	6+43 to 8+93, T.R. 536 Reloc.						2	200
7-G	Lt.	1268+14.89 S.R. 7 to S.R. 798 Bridge		1					162.5
1-R	—	As Shown	2						
TOTALS TO GEN. SUMMARY ⊛									225
TOTALS TO GEN. SUMMARY			2	4				5	1462.5

⊛ - U-RF-430 (15)

* Use Standard Terminal Section. For details see sheet No. 11

UTILITIES

Ohio Bell Telephone Company
Ohio Power Company
Ohio Valley Gas Company
Manufactures Light & Heat Company
City of Martins Ferry Water Department
Western Union Telegraph Company

A. E. STILSON & ASSOC.
Quantities Calculated Rv. & Mar. 1969
Quantities Checked Eo. Nov. 1970

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

(6-D) A quantity of 8'-4" and 24'-6" Type "C" pipe has been provided to connect Exist. drains to the proposed ditch. (8' per connection)

(2-D) A quantity of 30'-12" Type "C" pipe has been provided to outlet Exist. 10". Final location and grade of Prop. 12" to be as determined by Project Engineer.

4+10, 27' Rt. Nº 2-2B C.B. Grade: 654.50 Inv. Ex. 18" S. 651.13 (Connect) Inv. 18" N. 651.00

Ex. M.H. (To remain) Top 653.11. Inv. 12" S.E. 649.84 Inv. 12" S.W. 649.84 Inv. 15" N. 648.80

5+69, 41' Rt. Nº 5 W/Grate "B" Grate: 651.50 Inv. Ex. 15" 648.00± Inv. 18" N. 647.75

Top M.H. 651.89 Inv. 8" S. 645.00 Inv. 10" E & W. 644.03

Top Exist Sanitary M.H. 653.52 Inv. 8" S. 646.08 Inv. 10" E & W. 643.00 10" Overflow to north to be plugged (Inv. 648.11). Replace Exist. M.H. with a Nº 1-A M.H. Sanitary with Joints as per 706.11. Construct top to Elev. 663.64.

8+00, 33' Lt. Std. Nº 5 W/Grate "B" Grate: 653.70 Inv. 18" E. 650.14 Inv. 18" N. 650.14 Inv. 12" W. 650.64

7+98.5, 12' Rt. "A" Nº 1-A M.H. Top 663.64 Inv. 18" S. 647.28 Inv. 10" W. 648.07 (Flap Valve) Inv. 18" N. 647.28

Top M.H. 654.10 Inv. 648.50

Top M.H. 663.39 Inv. 655.74

Top Exist. Sanitary M.H. 653.52

Gas Regulator To Be Abandoned

Nº 2-2B C.B. Grade: 648.50 Inv. 18" S. 645.75 Inv. 18" N. 645.75

Inv. 18" 645.47 See Structure Plans

Exist. Superstructure to be removed (See Structure Quantities)

Exist. Structure to be removed. (See Structure Quantities)

7+68, 23' Rt. Nº 5 C.B. W/Grate "B" Grate: 698.00 Inv. 12" 695.25

9+08, 53' Lt. Nº 5 C.B. Grate: 657.00 Inv. 21" 653.50

4+10, 62' Lt. HW-4 Inv. 18" 647.44

5+69, 61' Lt. HW-4 Inv. 18" 645.08

2+00, 13' Rt. Access Rd. "B" Nº 5 C.B. W/Grate "B" Grate: 664.50 Inv. 12" 662.00

7+20± to Bridge S.R. 798 Top 663.64 Inv. 18" S. 647.28 Inv. 10" W. 648.07 (Flap Valve) Inv. 18" N. 647.28

Top M.H. 652.20 Inv. 10" 644.78

Top M.H. 652.20 Inv. 10" 644.78

Top M.H. 652.20 Inv. 10" 644.78

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

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BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

Checked F.O. 7-12-73
A.E. STILSON & ASSOC.
Quantities Calculated D.C.B. Sept. 1970
Quantities Checked F.O. Nov. 1970
660 & 667 Rev. WJM May 1973

For T.R. 469 Conn. Pavement Details & Elevations See Sheets 15, 16 & 17
For Ramp "C" Pavement Details & Elevations See Sheet 16
For Construction Layout, Bench Marks & References See Sheets 27 & 28
For Ramp "C" Profile See Sheet 56

*Use Standard Terminal Section. For details see Sheet No. 11

51+23.67 T.R. 469 Conn.
POC. 1351+52.14 Ramp "A"
POC. 1351+46.56 Ramp "B"

END WORK 51+23.67

PC 1342+89.33
PT 1342+91.54
PT 1347+37.33
PC 1348+67.71
TS 1345+02.07
SC 1347+02.07
PC 44+39.23
PC 1349+06.44
PC 1349+10.01
PC 1349+10.01
PC 1349+10.01

1345 RAMP "A"
1345 ℄ S.R. 7
1345 RAMP "D"
1349 RAMP "C"
1340
1350

PATTON'S RUN
Stone Parking Lot
T.R. 469
Ex. T.R. 469
T.R. 469 CONNECTOR
EX. RR R/W
C. & P. R.R. (PENN. R.R.)
W. & L.E. R.R. (N. & W. R.R.)
Const. Limits
L.A. ℄/W
℄/W
Fr. Gar.
1-S Fr. Res.
1-S-Tr. Res.
Cinder
Road
Fence

STATION EQUATION
1342+10.44 (Back) = 1342+00.00 (Ahead)

39+23, 44' Lt.
Inv. 42" 654.35
54'-42" @ 0.20%
See X-Sec.
39+77, 41.5' Lt.
Inv. 42" 654.46
+50, 39' Lt.
HW-4 Endwall
Inv. 15" 654.80
+50.6° 90° Bend
Inv. 673.51
+50.36' Rt.
HW-4 Endwall
Inv. 15" 655.50
75'-15"@0.93%
See X-Sect.
Exist Inv. 655.05
Exist Inv. 653.94
Remove 30 L.F. ± Plug
To Be Abandoned
Barricade & G.R.
Beg. G.R. +00
Beg. G.R. +57±
Beg. G.R. +37±
Beg. G.R. +56±
Beg. G.R. +32±
Beg. G.R. +01.5±
End Parapet +32.56
End Parapet +51.50
End Parapet +18.56
End Parapet +07.55
End Approach Slab Sta. 50+53.40
Begin Appro. Slab Sta. 50+28.40
END APPRO. SLAB Sta. 48+10.79
Begin Approach Slab Sta. 47+85.79
49+19.67 T.R. 469 Conn. = 1350+50.00 ℄
45+32.00, 12.00' Rt. Conn. = POC. 1347+51.36 Ramp "C"
46+00.00 T.R. 469 Conn. = 1348+97.93 Ramp "D"
38+06± 5' Lt. ± ℄ T.R. 469 Conn.
37+14.21 Conn. = 9+93.52 ℄
38+21± 42' Rt. ± ℄ T.R. 469 Conn.
BEGIN WORK 38+27.50
1½"-S Fr. Res.
1-S Fr. Res.
1-S-Tr. Res.
4"W 8"W 2"W

PROPOSED STRUCTURE 42" CONDUIT SEE SHEET # 65 FOR DETAILS & QUANTITIES

PROPOSED STRUCTURE Nº BEL-7-2549

TYPE: Continuous steel beam with reinforced concrete deck & substructure.
SPANS: 62'-0", 88'-6", 62'-0" c/c brg. along ℄ T.R. 469 Conn.
ROADWAY: 40'-0" c/c concrete barrier type parapet.
LOADING: HS 20-44
WEARING SURFACE: 1½" Asphalt concrete
SKEW: 25°00'00" Rt. fwd with respect to ref. tan.
ALIGNMENT: Curve left and tangent.
APPROACH SLABS: AS-1-72, 25'-0" long.
SUPERELEVATION: 0.016 ft. per ft.

| ESTIMATED QUANTITIES | | |

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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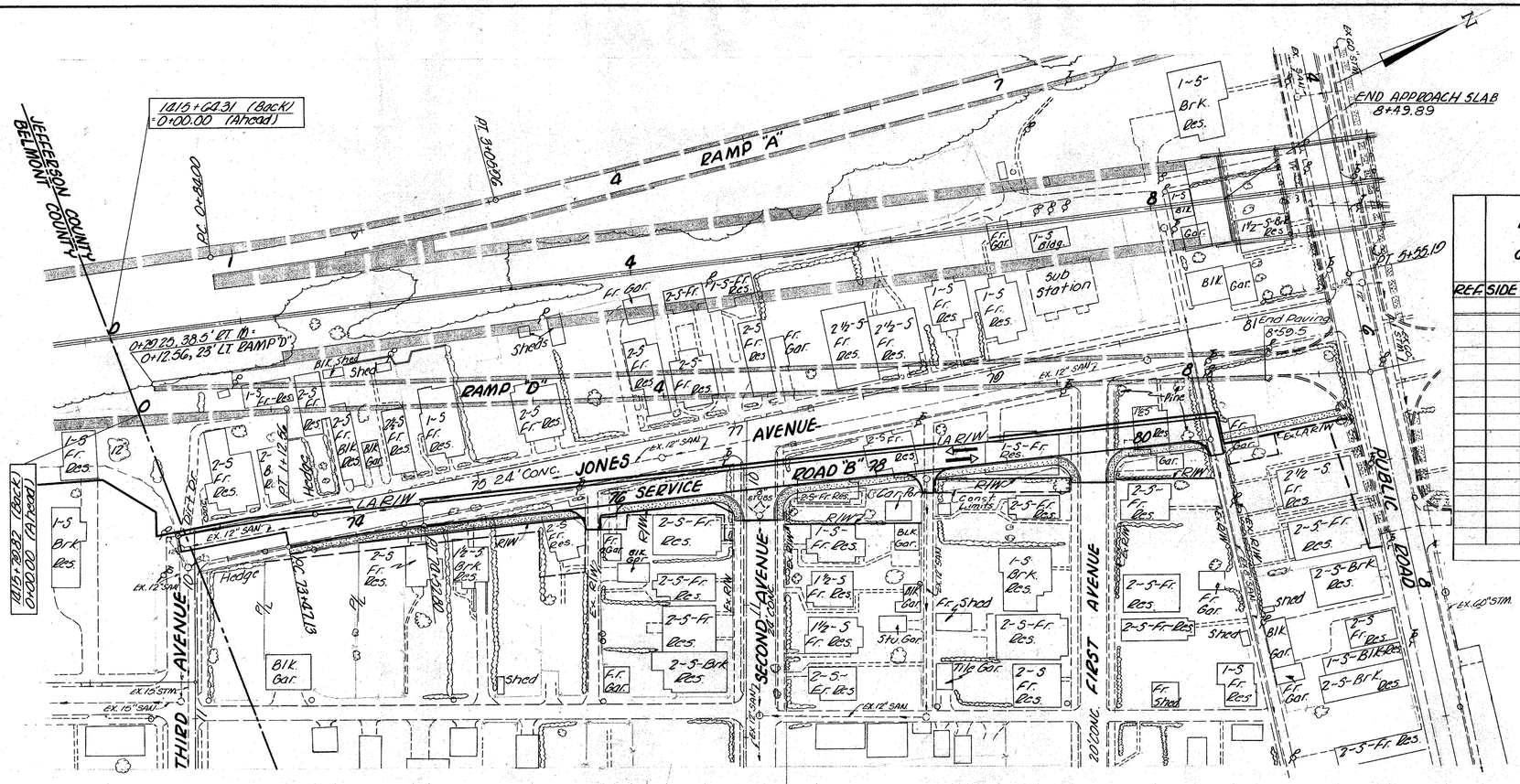
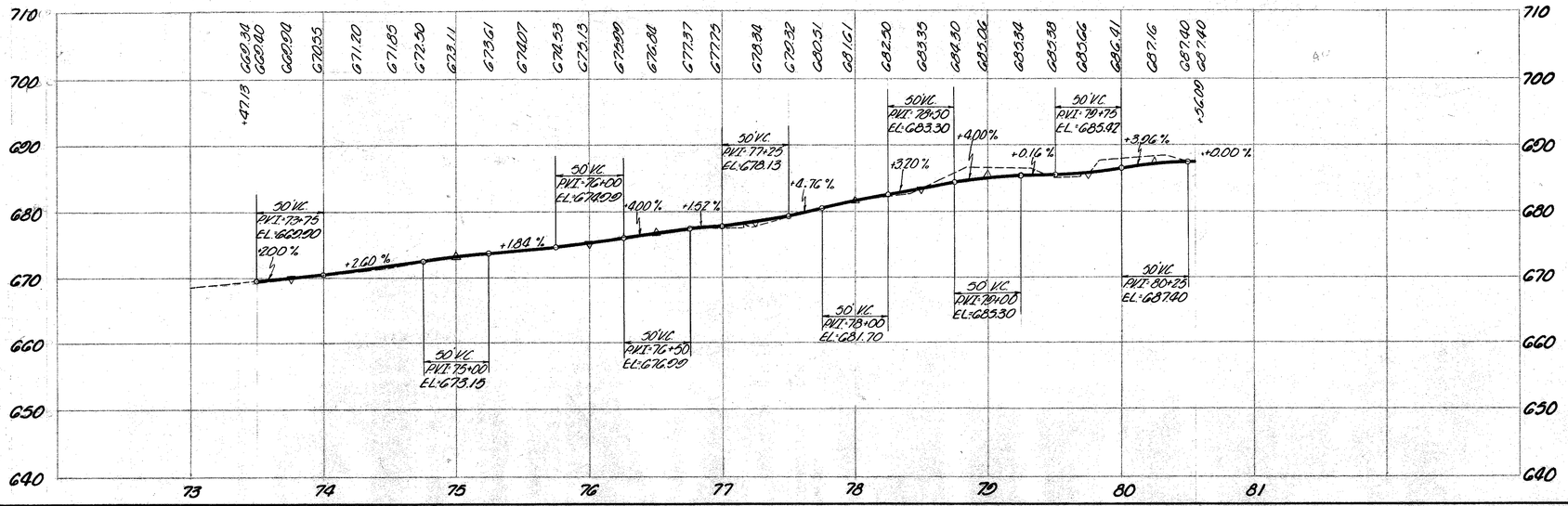
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. -7-23.74
JEF. -7-0.00

REF.	SIDE	LOCATION	ESTIMATED QUANTITIES





SERVICE ROAD "B"

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

A. E. STILSON & ASSOC.
Quantities Calculated Oct. 6, July 1969
Quantities Checked Sep. 14th, 1970
Rev. J.R.F. 5-74
Rev. Ck. D.L.B. 6-74

FED. AID PROJ. NO.	STATE	PROJECT
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BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

PROFILE S.R. 798

Exc. 1,022 C.Y.
Emb. 5,357 C.Y.
Seeding 4,487 S.Y.

Bridge Limits 118.74
℄ Access Rd "A"
S.R. 7
+1.98%
+1.76%
+1.46%

PROFILE ACCESS ROAD "B"

100' V.C.
P.V.I. 2+45 G62.68
+9.64%
-7.23%
+2.32%
120' V.C.
P.V.I. 0+75 G73.06

Exc. 134 C.Y.
Emb. 1,240 C.Y.
Seeding 1,029 S.Y.

PROFILE VALLEY DRIVE

Begin Work
Sta. 3+75
Ex. G68.5
Ex. G66.90
+38.68 G64.42
+63.68 G63.35
+88.68 G63.34
+98.68 G63.58
℄ Access Rd "A"
50' V.C.
-6.40%
2.08%
Rt. 4+63.68
Elev. 662.82

PROFILE GLENNS RUN CHANNEL

Exc. 5,035 C.Y.
Emb. 6,804 C.Y.
Seeding 1,858 S.Y.

1.78%

PROFILE CELLULAR WALL

For Additional Details See Sheet No 58

Poured Wingwall
Begin Wall
End Cellular Wall
0.0%

PROFILE ACCESS ROAD "A"

100' V.C.
P.V.I. 3+00 El. 662.78
100' V.C.
P.V.I. 6+75 El. 661.58
200' V.C.
P.V.I. 9+00 El. 664.64
100' V.C.
P.V.I. 10+21.43 El. 658.09
-3.64%
-0.32%
+1.36%
-2.96%
-0.16%
+7.43
+88.44
℄ S.R. 798

Exc. 368 * — 394 C.Y.
Emb. 2106 * — 6188 C.Y.
Seeding 2422 * — 3160 S.Y.
* - U-RF-430(15)

PROFILE T.R. 536 RELOCATION

Exc. 45552 C.Y.
Emb. 525 C.Y.
Seeding 4,657 S.Y.

150' Assymetrical Curve
P.I. 5+65 El. 660.65
℄ S.R. 798
Sta. 5+01.10
+19.54%
+21.21%
+12.39%
+16.20%
726.10

DRAWING PLOTTED	BY	DATE
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

PROFILES

A. E. STILSON & ASSOC.
Quantities Calculated A.E.S. Sept. 1970
Quantities Checked F.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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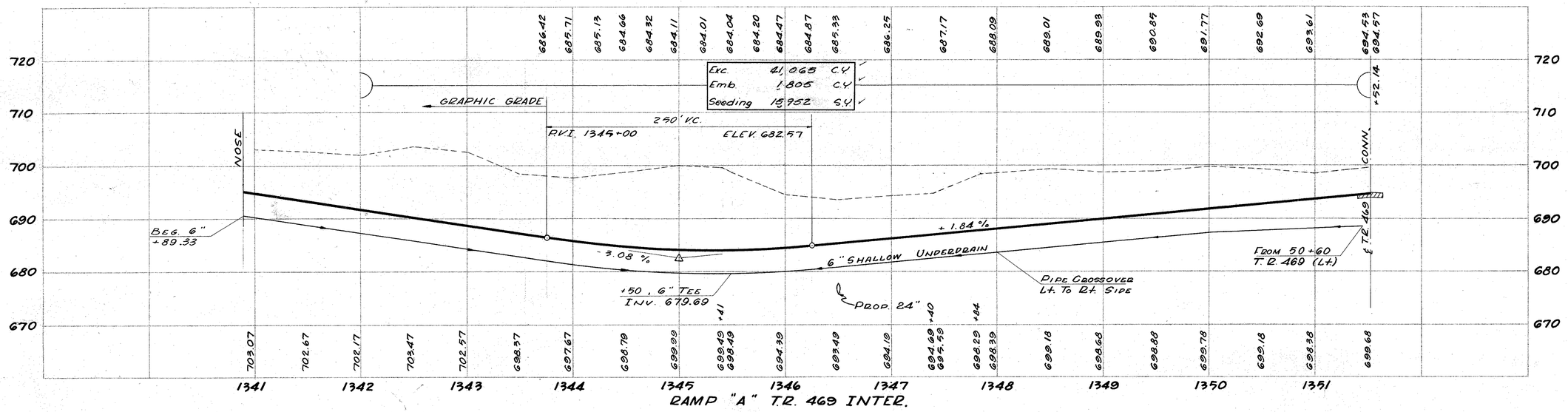
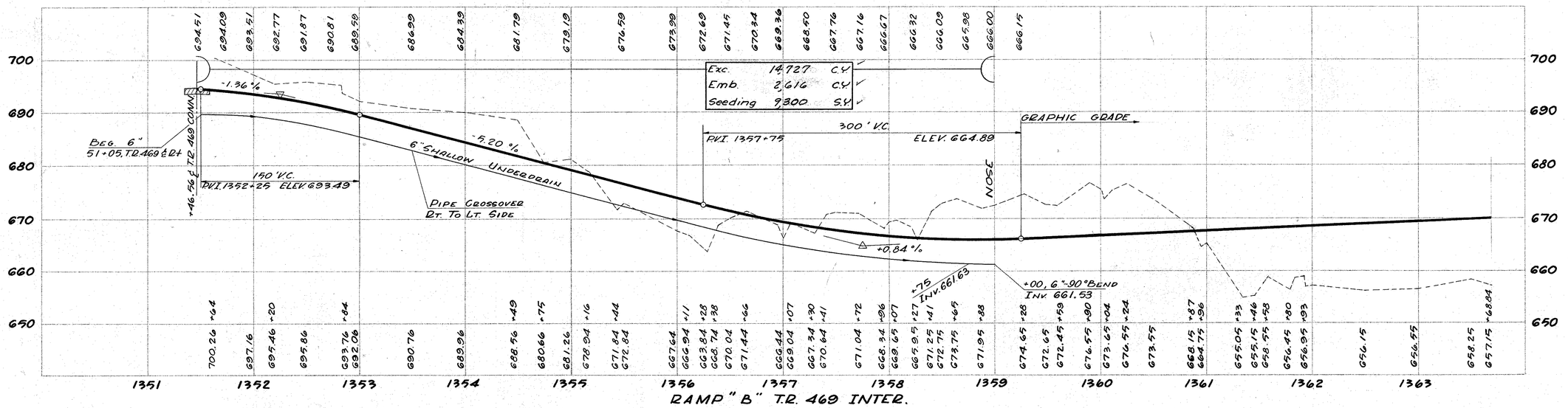
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00



RAMP "A" T.R. 469 INTER.



RAMP "B" T.R. 469 INTER.

PROFILES

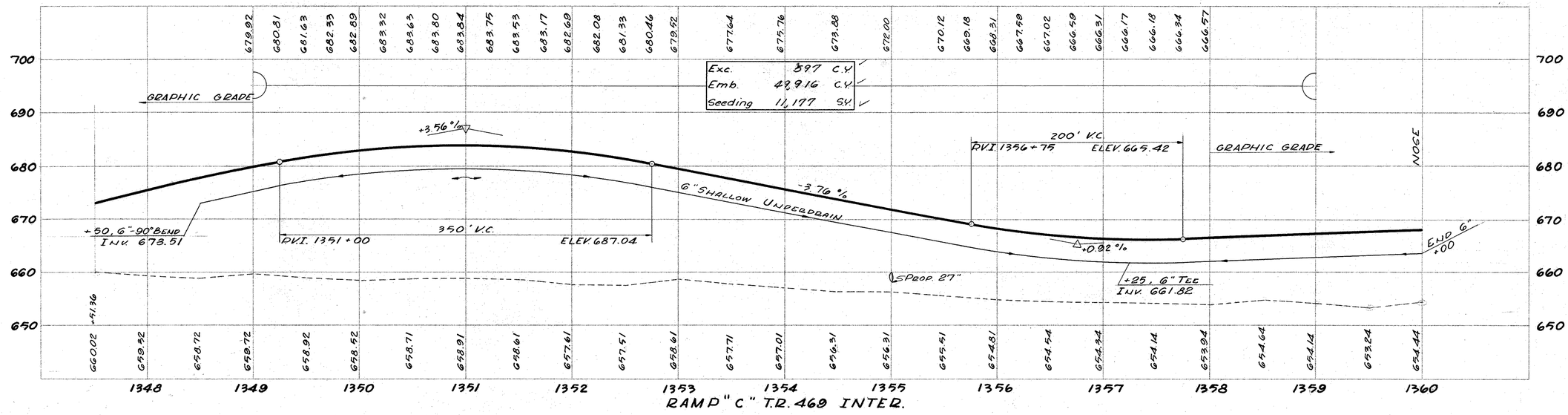
BRUNING 44-560 10943

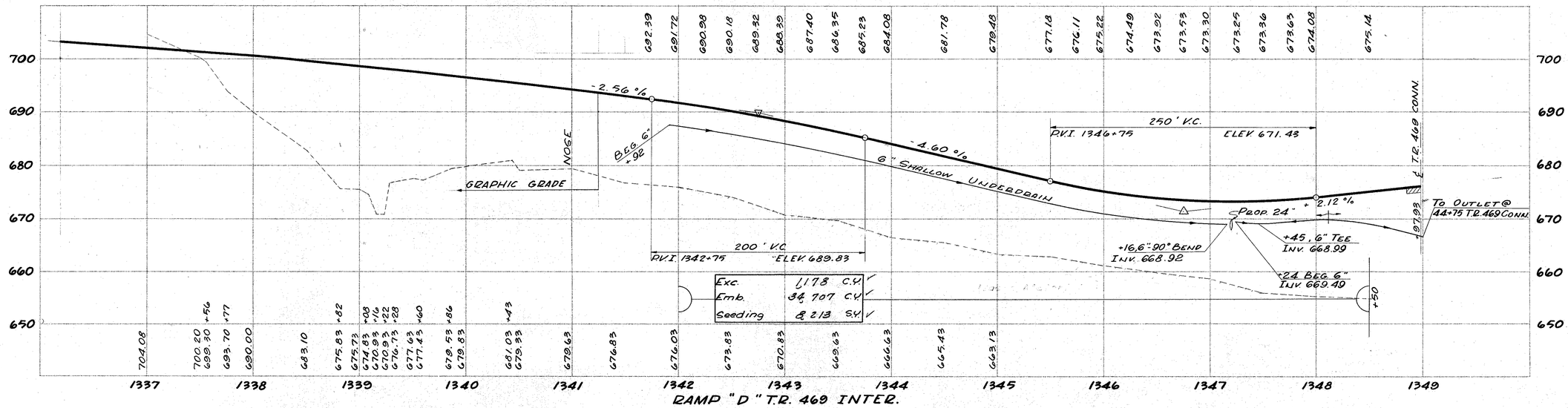
A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. Sept. 1970
Quantities Checked E.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

56
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7- 0.00





BRUNING 44-560 10943

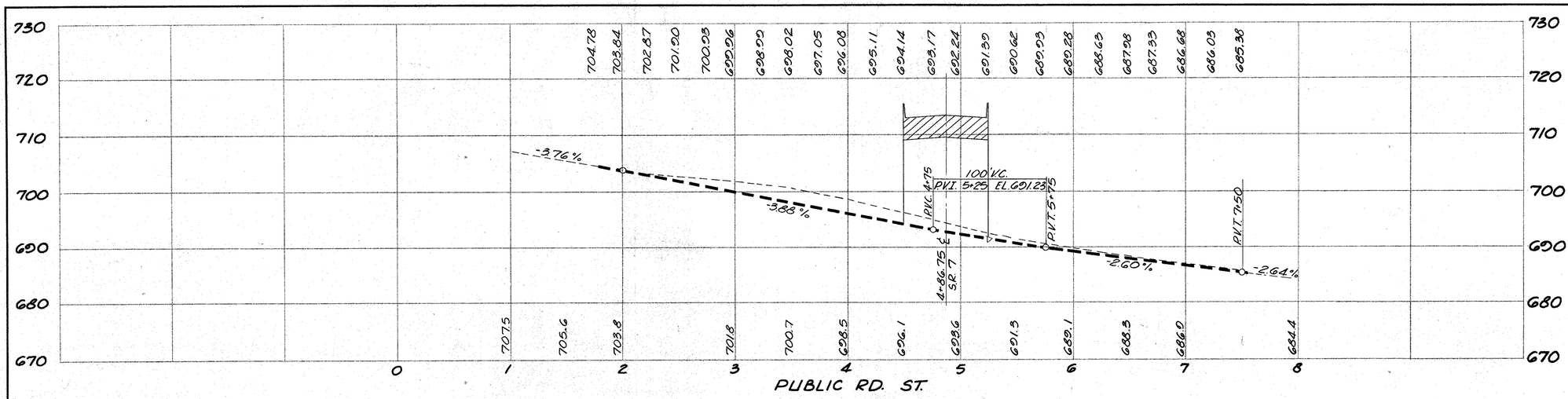
PROFILES

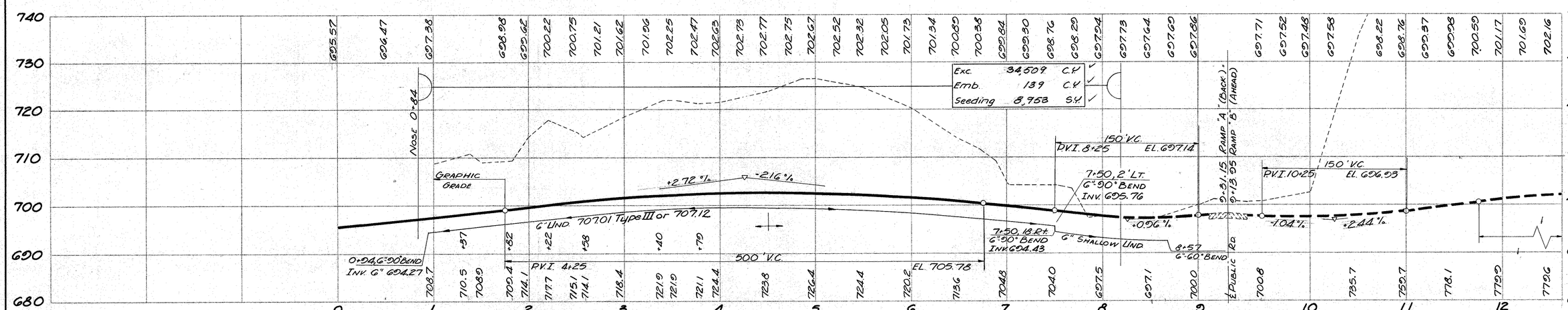
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

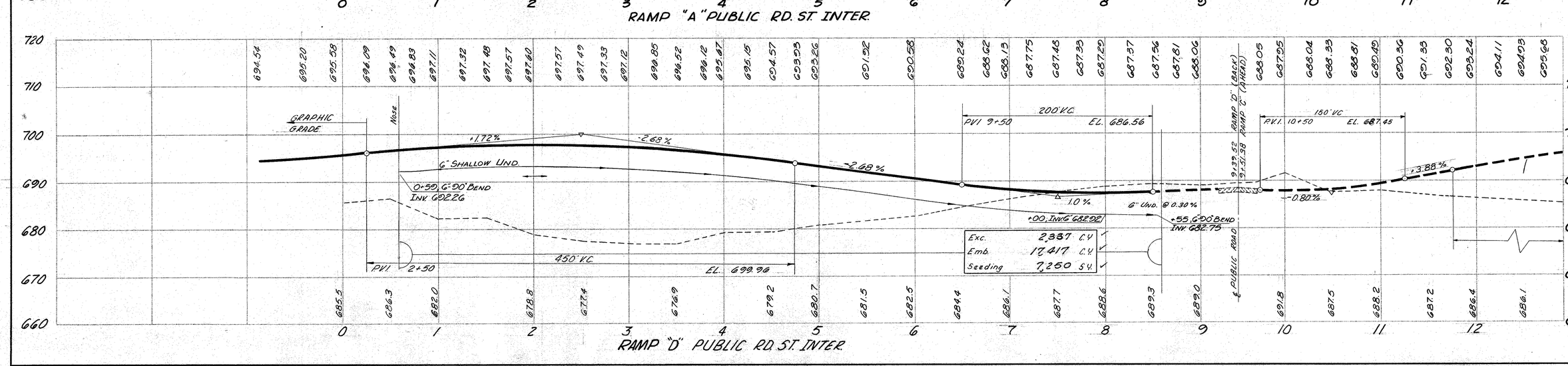
57
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL: 7-23.74
JEF: -7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated R.L.B. JULY 1969
Quantities Checked E.O. NOV. 1970.







PROFILES

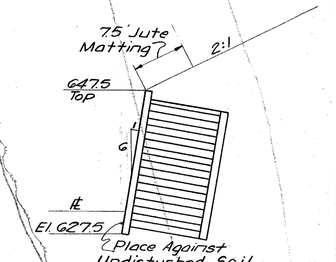
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

58
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated A.E.S. MAR. 1971
Quantities Checked A.E.S. NOV. 1970

For Channel X-Sections See Sht. No. 245
For Wall Profile And Additional Details
See Sheet No. 54



SECTION THRU CELLULAR WALL

END CHANNEL WORK 51+94

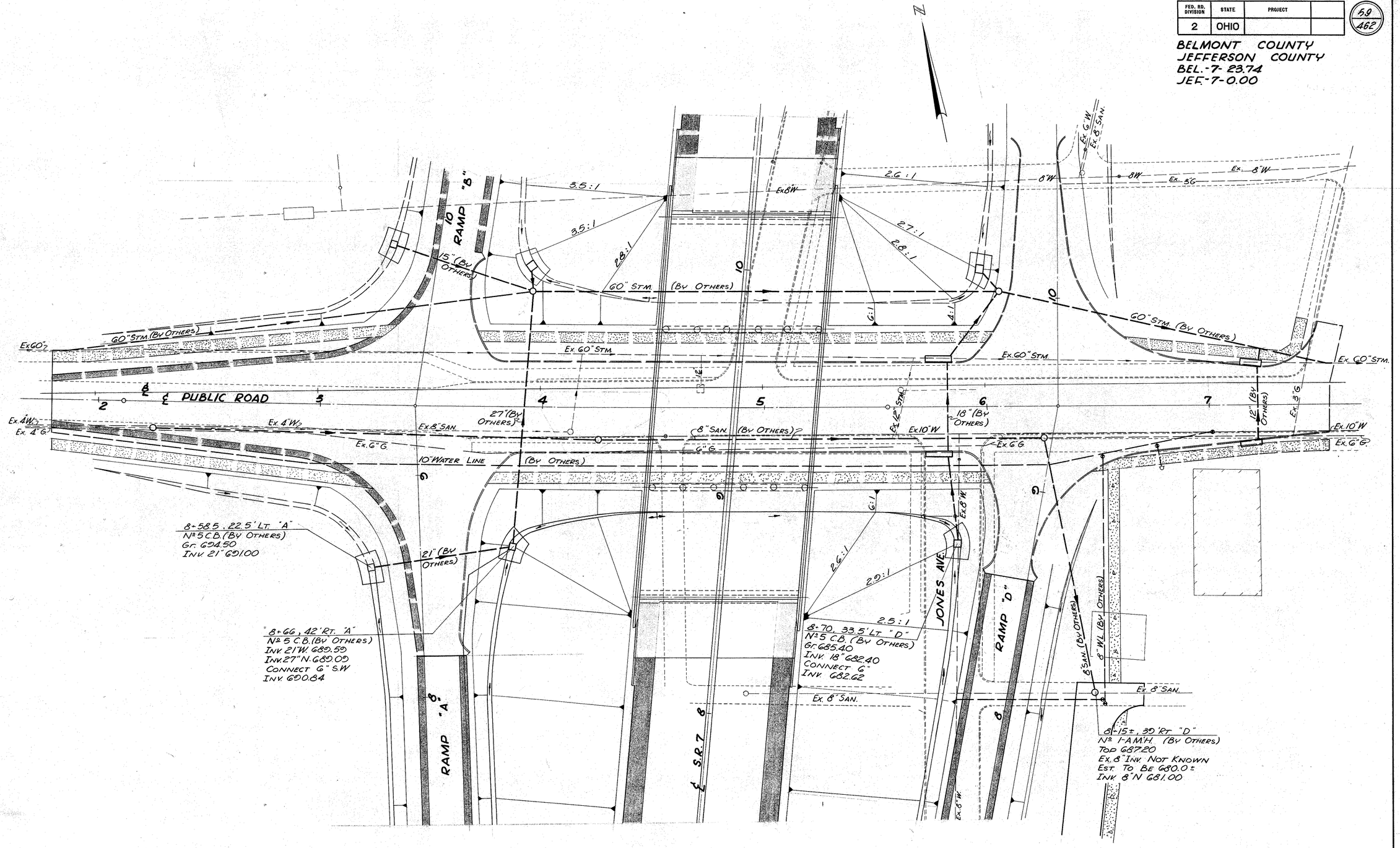
ITEM	QUANTITY
610 Cellular Wall	3500 S.F.
601 Dumped Rock Fill, Type "A"	
Glenns Run Channel Relocation	1835 CU. YDS.

GLENNS RUN CHANNEL SITE PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

59
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

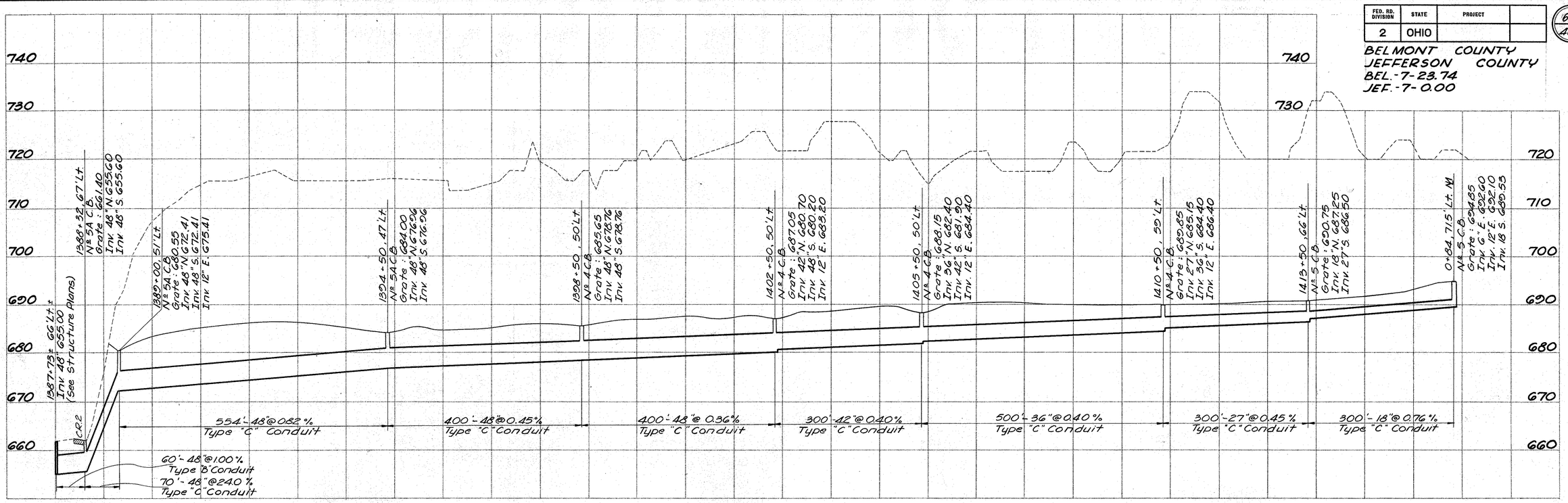


PUBLIC ROAD GRADING AND DRAINAGE

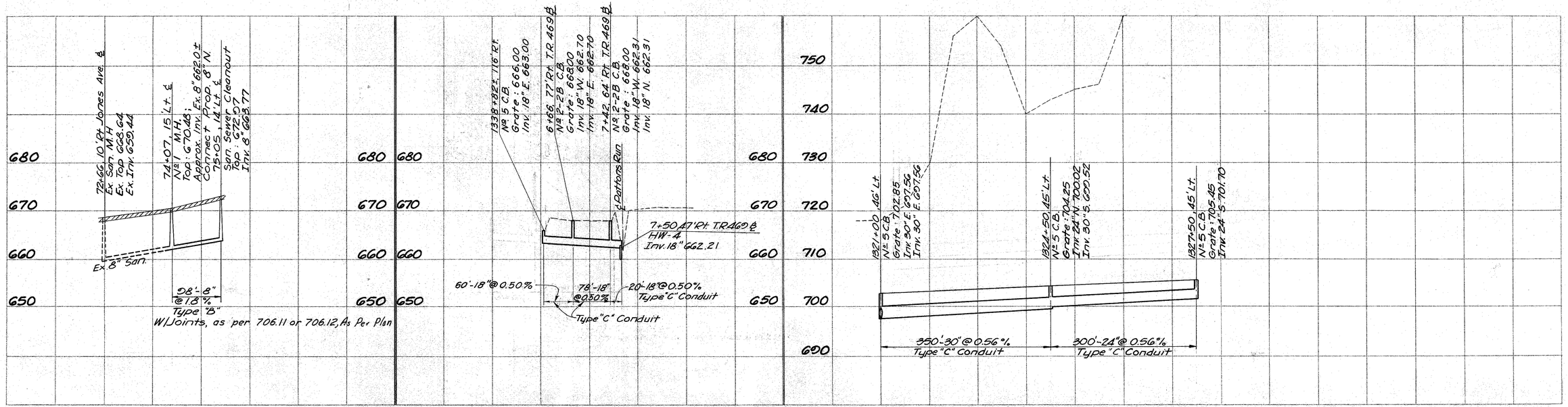
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

60
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



STORM SEWER TRUNK LINE PROFILE (YORKVILLE)



SANITARY SEWER RELOC. (JONES AVE.)

STORM SEWER (ALONG T.R. 469)

STORM SEWER (ALONG ℳ)

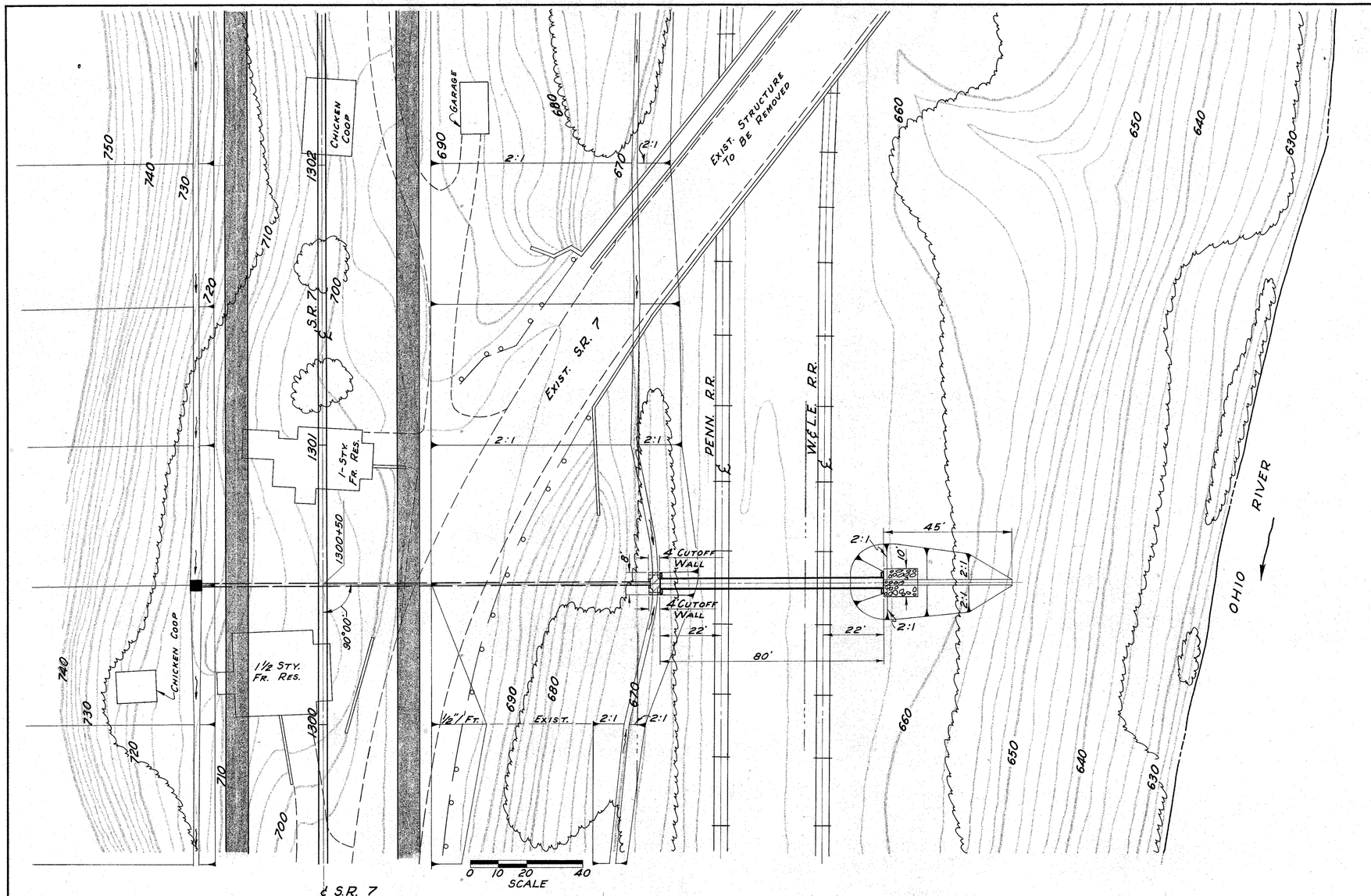
SEWER PROFILES

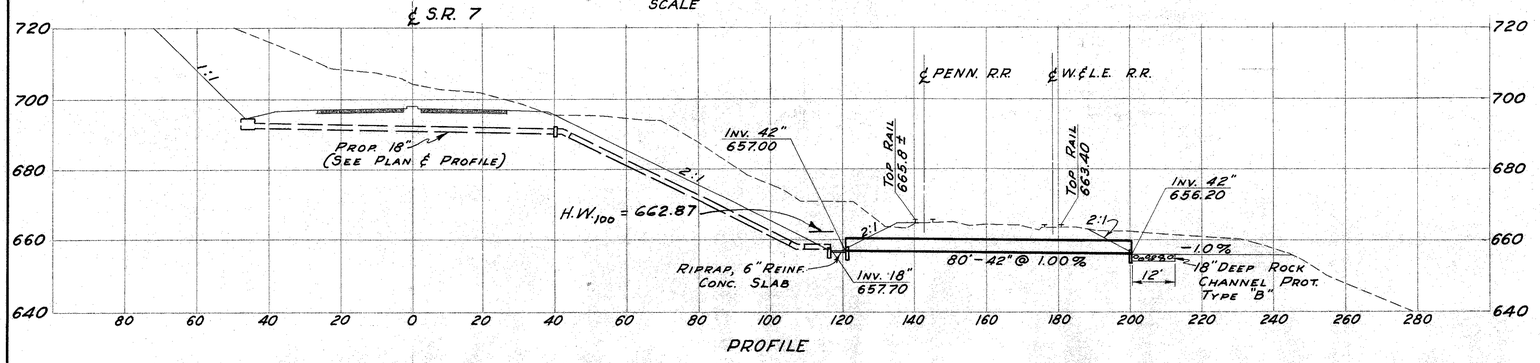
A. E. STILSON & ASSOC.
Quantities Calculated Fe. Mar. 1969
Quantities Checked D.L.B. Dec. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

61/462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF.-7-0.00





DRAINAGE STRUCTURE UNDER PENN. R.R. & W.℄L.E. R.R. Rt. ℳ Sta. 1300+50

DESIGN INFORMATION

D.A.	Q25	Q100	
44 Ac.	92 cfs	125 cfs	

TYPE HEADWALL : HW-4

ESTIMATED QUANTITIES

603-80 L.F. - 42" TYPE "A" CONDUIT, 706.02 Cl. V WITH 1/3 VITRIFIED LINER PLATES AS PER 706.05 (UNDER RAILROAD)
602-1.68 C.Y. CONCRETE MASONRY
601-8.9 C.Y. ROCK CHANNEL PROTECTION, TYPE "B"
601-3.6 S.Y. RIPRAP, 6" REINFORCED CONCRETE SLAB

Rev. 10-21-74

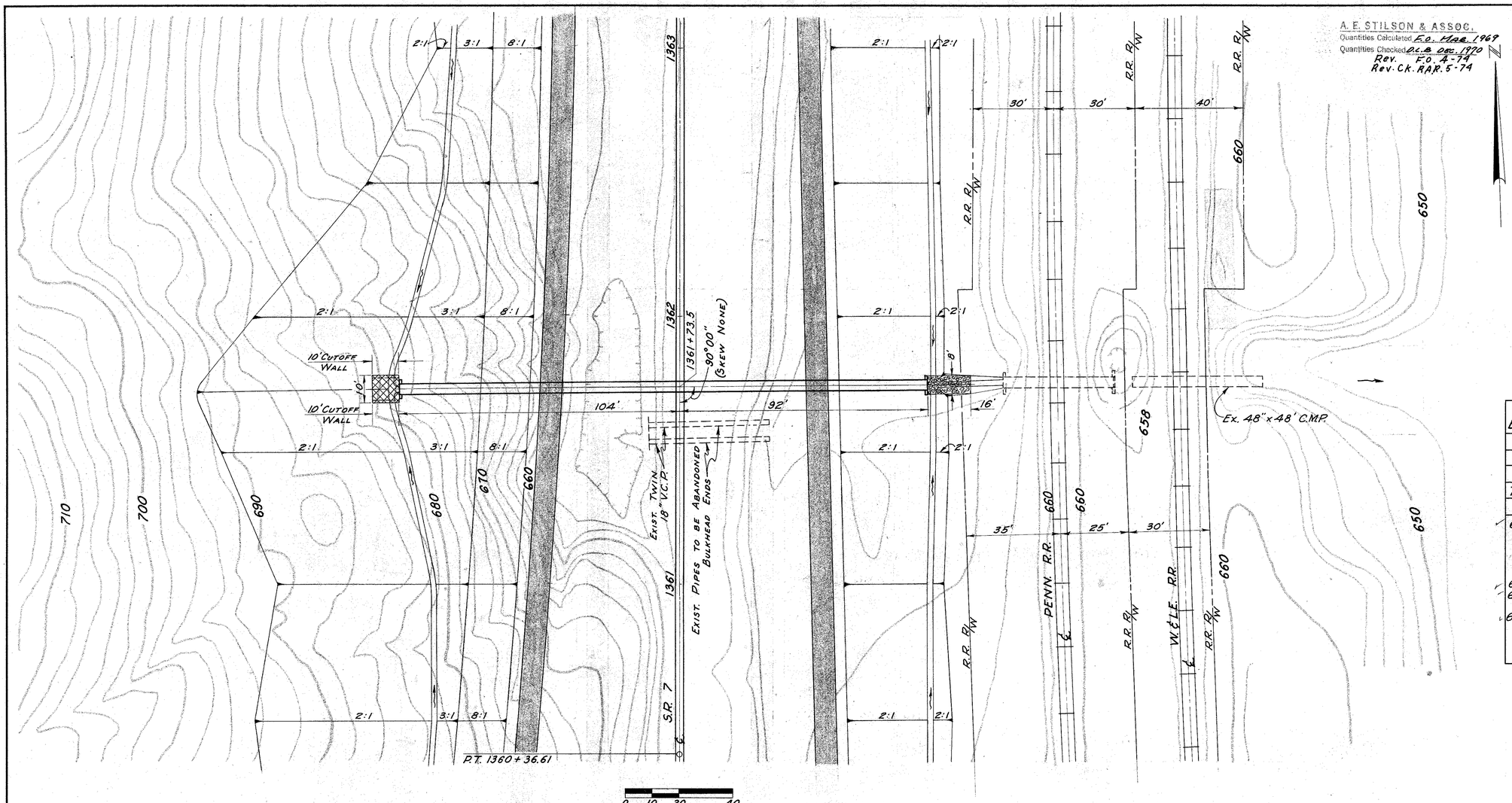
CULVERT DETAILS Rt. ℳ Sta. 1300+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

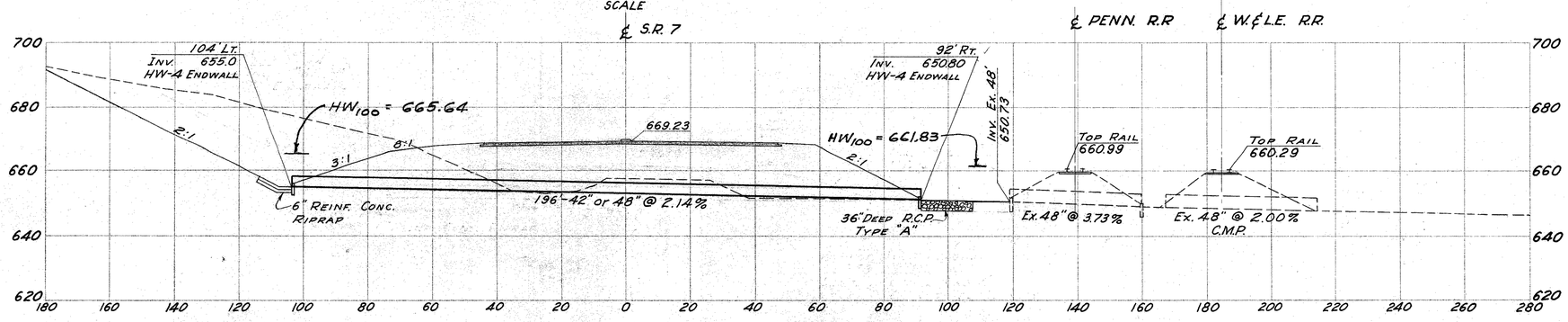
62
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. – 7 – 23.74
JEF. – 7 – 0.00

A. E. STILSON & ASSOC.
Quantities Calculated F.O. Mar. 1969
Quantities Checked O.L.B. Dec. 1970
Rev. F.O. 4-74
Rev. Ck. R.A.R. 5-74



0 10 20 40
SCALE



DRAINAGE STRUCTURE
BEL-7-2571 STA. 1361+73.5

DESIGN INFORMATION

D.A.	Q25	Q100
54 Ac.	109 c.f.s.	143 c.f.s. prop. pipe / 170 c.f.s. ex. 48" pipe

TYPE HEADWALL : HW-4

ESTIMATED QUANTITIES

603 – 196 L.F. – 42" 706.05, Type "A" Conduit, With ½ Vitrified Liner Plates using 706.02 Cl. III, or 48" 707.05 Asbestos Bonded
602 – 2.20 C.Y. Conc. Masonry.
601 – 11.1 S.Y. Riprap (6" Reinf. Conc. Slab)
601 – 16.6 C.Y. Rock Channel Protection Type "A"

Rev. 10-21-74

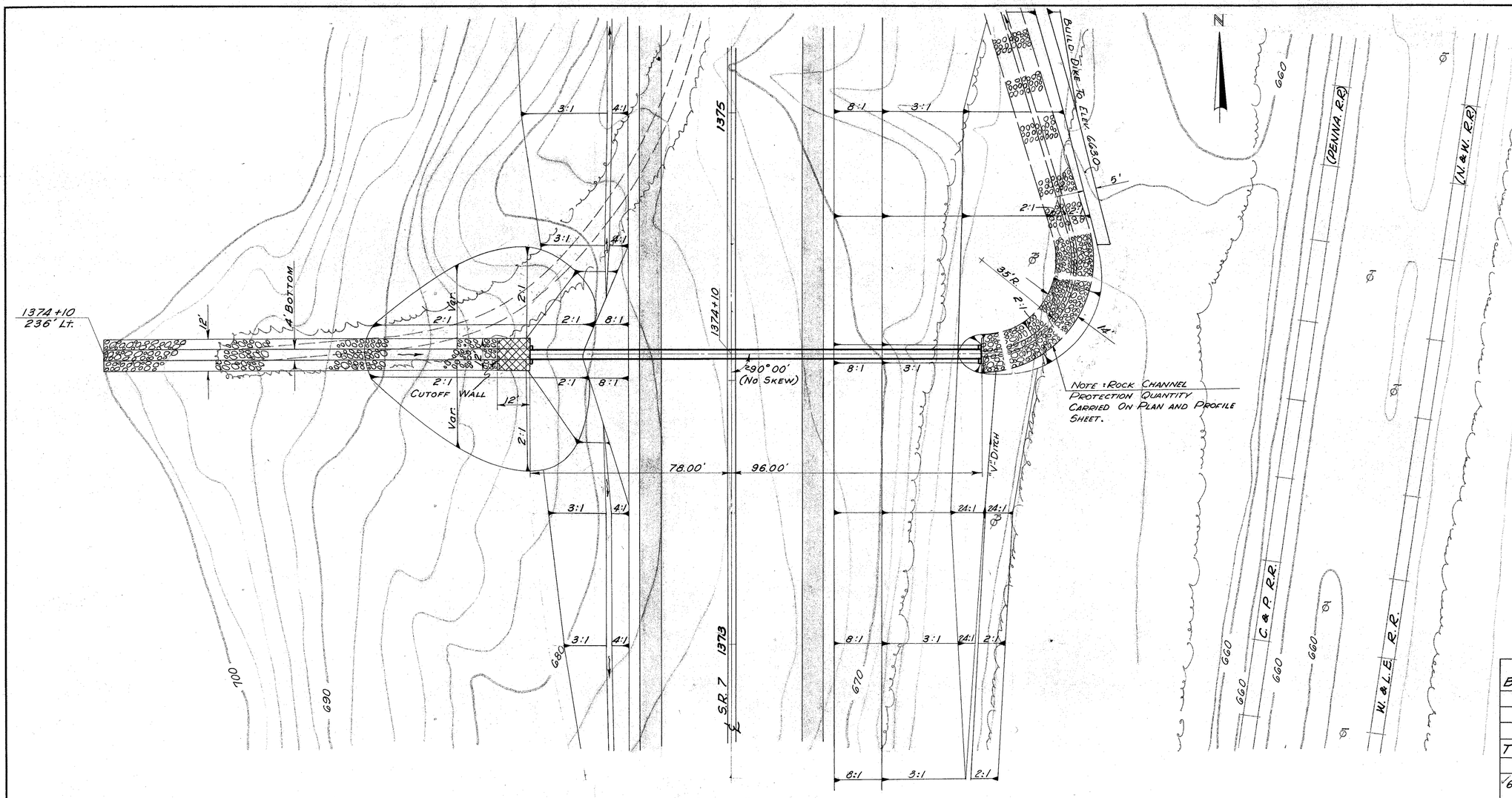
CULVERT DETAILS STA. 1361+73.5

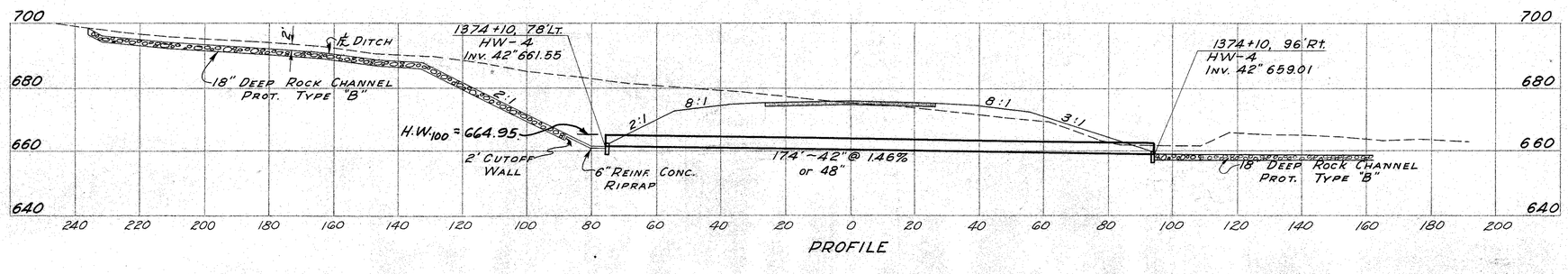
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

63
162

BELMONT COUNTY
BEL-7-23.74
JEFFERSON COUNTY
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated K.O. June 1969
Quantities Checked D.L.B. Dec. 1970





DRAINAGE STRUCTURE BEL-7-2594 STA. 1374+10			
DESIGN INFORMATION			
D.A.	Q25	Q100	
46 Ac.	97 cfs	130 cfs	
TYPE HEADWALL: HW-4			
ESTIMATED QUANTITIES			
✓603-174 L.F. Type "A" Conduit, 42" 706.02 Cl. III, or 48" 707.05			
✓602-2.20 C.Y. Concrete Masonry			
✓601-16 S.Y. Riprap (6" Reinf. Concrete Slab)			
✓601-137 C.Y. Rock Channel Prot. Type "B"			

Rev. 10-21-74

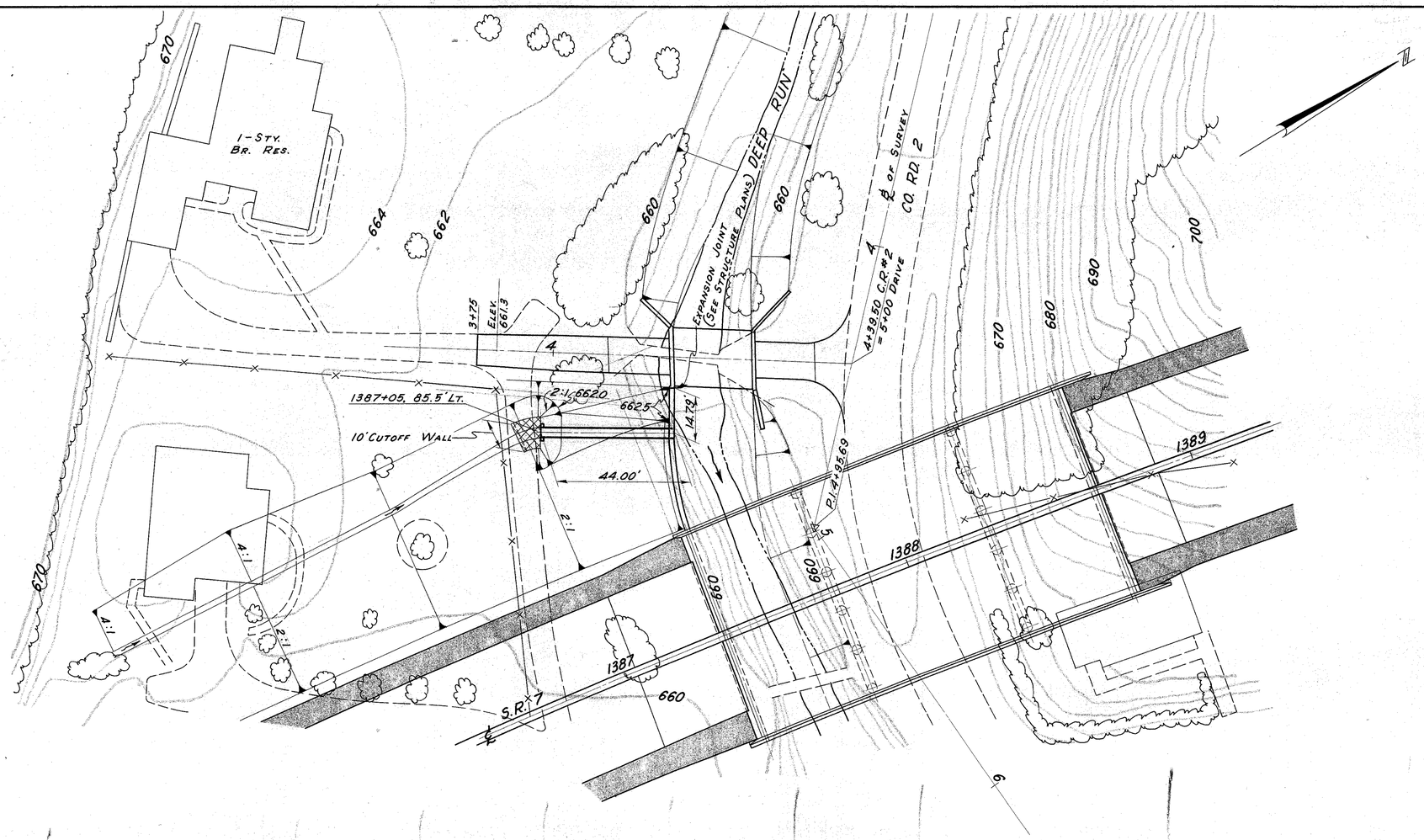
CULVERT DETAILS STA. 1374+10

A. E. STILSON & ASSOC.
Quantities Calculated C.O. MAR. 1969
Quantities Checked D.C.B. DEC. 1970

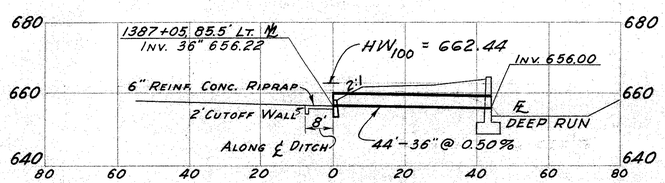
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

64
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

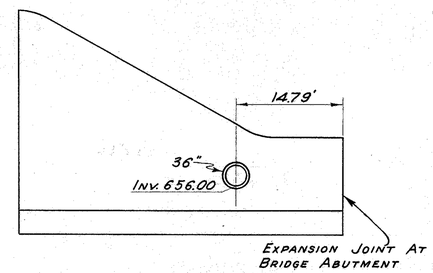


0 10 20 40
SCALE



PROFILE (ALONG ℄ PIPE & DITCH)

DRAINAGE STRUCTURE Lt. ℄ Sta. 1387+00			
DESIGN INFORMATION			
D.A.	Q10	Q100	
14 Ac.	36 cfs	62 cfs.	
TYPE HEADWALL: HW-4 Entrance *Retaining Wall Outlet			
ESTIMATED QUANTITIES			
✓ 603-44 L.F. 36" Type "A" Conduit 706.02 or 706.08			
✓ 602-0.69 C.Y. Concrete Masonry			
✓ 601-9 S.Y. 6" Reinforced Concrete Riprap			



OUTLET VIEW IN RETAINING WALL
(SEE STRUCTURE PLANS)

Rev. 10-21-74

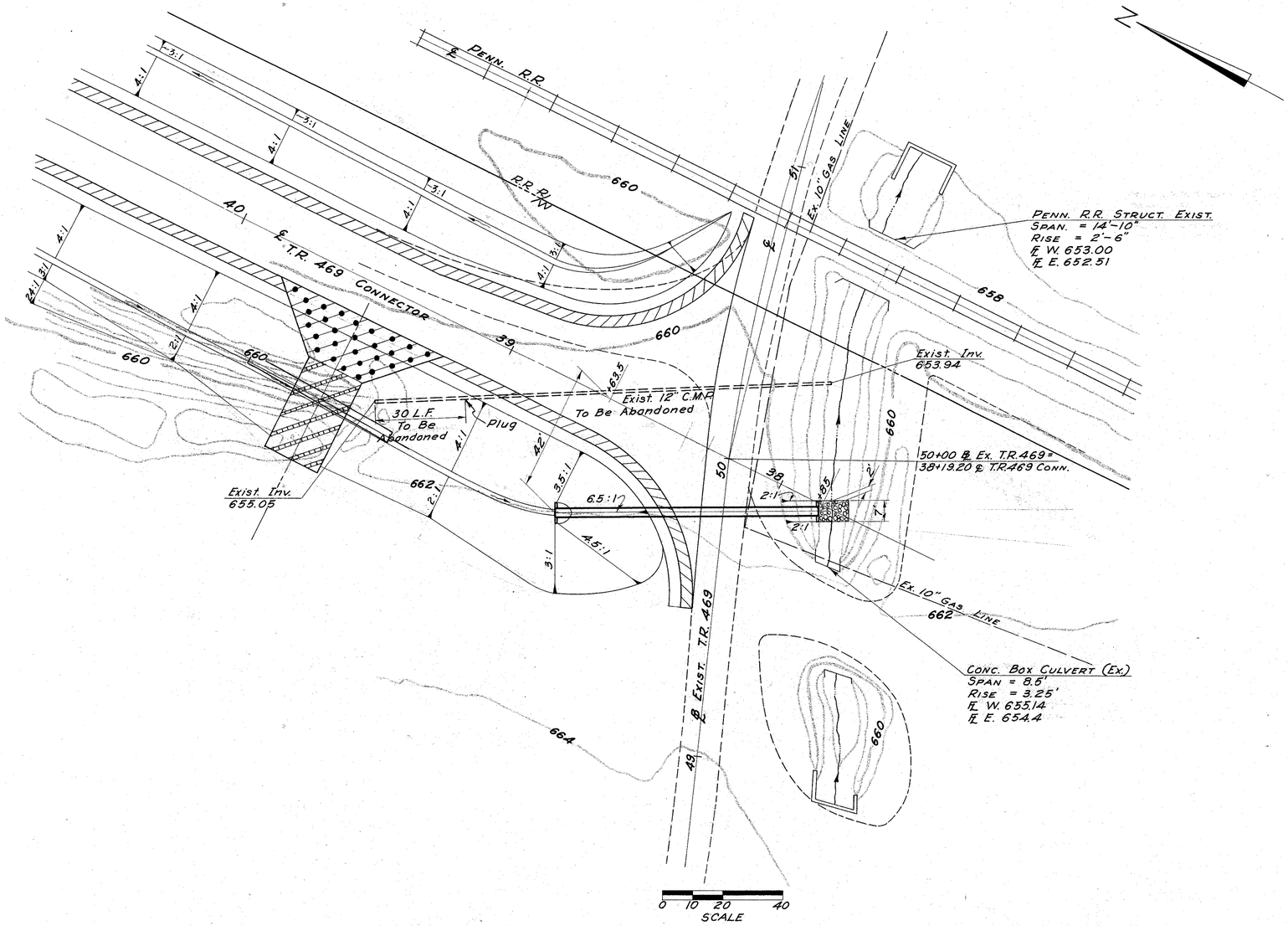
CULVERT DETAILS Lt. ℄ Sta. 1387+00

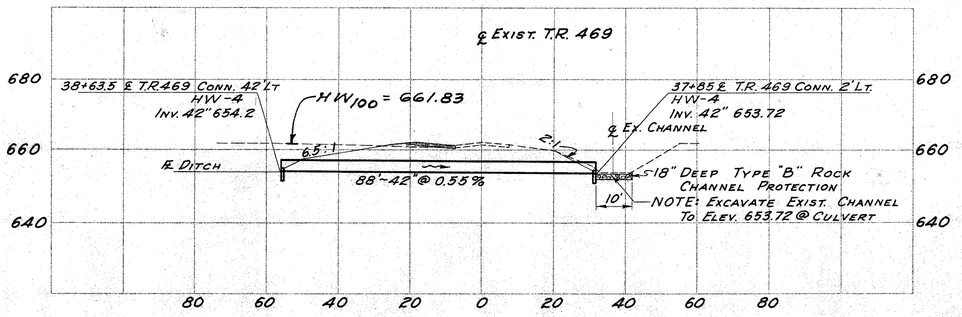
A. E. STILSON & ASSOC.
Quantities Calculated D.C.B. July 1970
Quantities Checked F.O. Dec. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

65
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00





DRAINAGE STRUCTURE
STA. 38+63.5 (LT) T.R. 469 CONNECTOR

DESIGN INFORMATION

D.A.	Q25	Q100	
21.0 Ac.	47 c.f.s.	62 cfs	

TYPE HEADWALL: HW-4

ESTIMATED QUANTITIES

603 - 88 L.F. - 42" TYPE "A", 706.02
602 - 1.68 C.Y. CONC. MASONRY
601 - 5.2 C.Y. TYPE "B" ROCK CHANNEL PROTECTION

Rev. 10-21-74

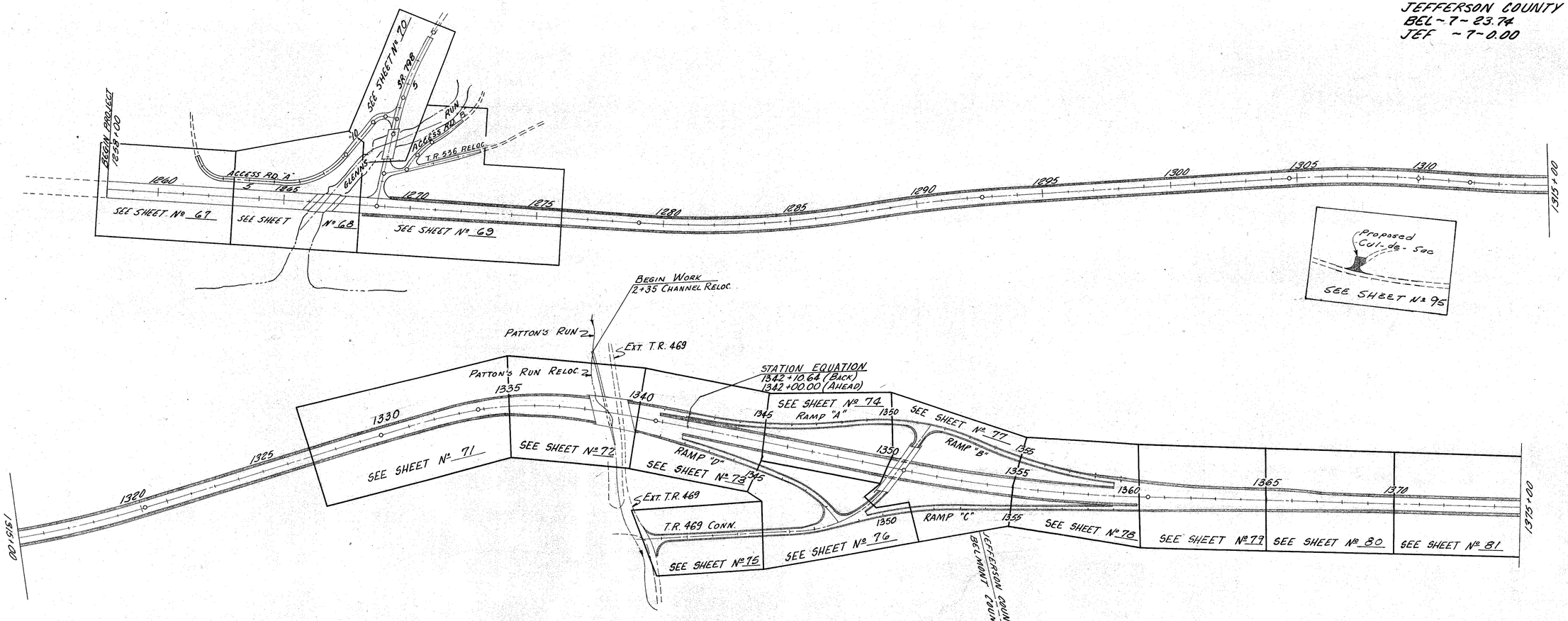
CULVERT DETAIL STA. 38+63.5 T.R. 469 CONN. LT.

BRUNING 44-560 10943

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

66
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL ~ 7 ~ 23.74
JEF ~ 7 ~ 0.00



KEY MAP ~ PAVEMENT DETAILS

A. E. STILSON & ASSOC.
Quantities Calculated R.C.T. 2-1974
Quantities Checked F.O. 11-2-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

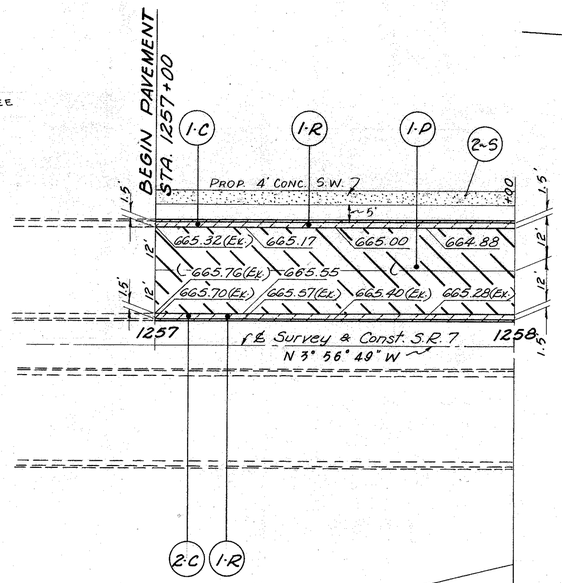
67
462

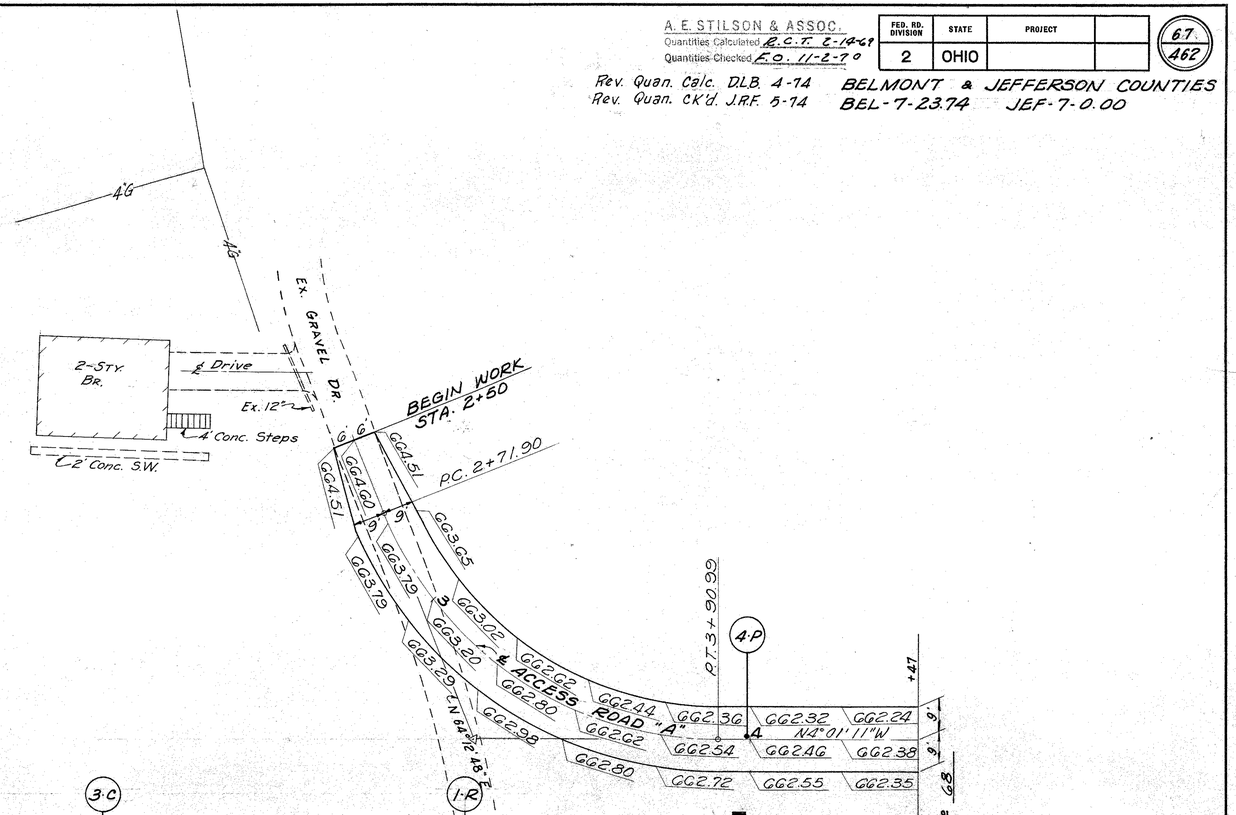
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd. J.R.F. 5-74

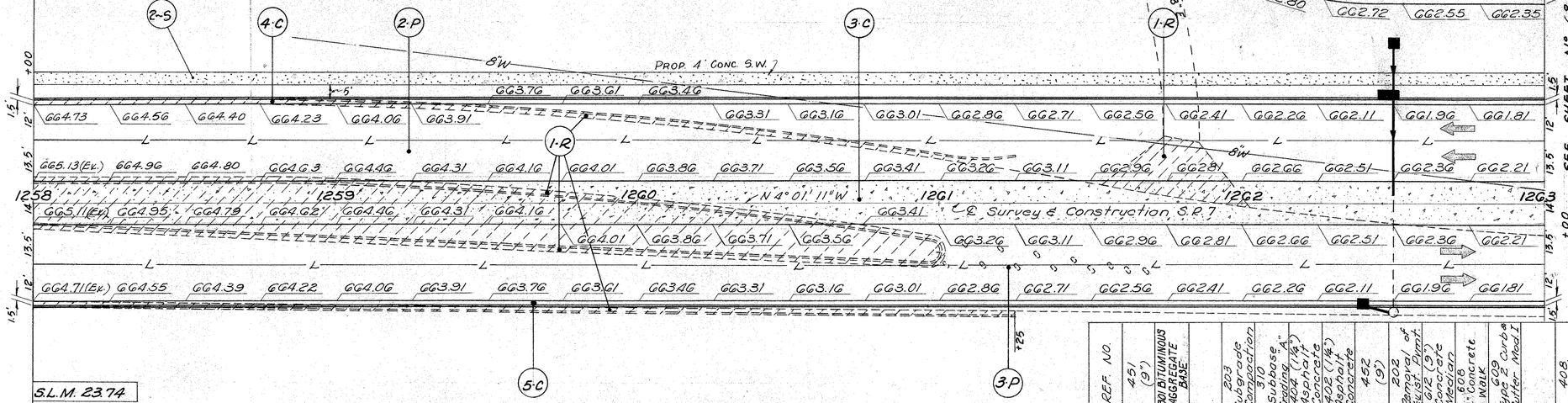
BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

NOTE:
PROP. 4' SIDEWALK CONSTRUCTED BACK TO 1252+80± (SPRING ST.). SEE P&P. SHT. # 32 FOR DETAILS.

1-S 608 - 1680 S.F.







S.L.M. 23.74

BEGIN PROJECT
STA. 1258+00

BEARING EQUATION
N 3° 56' 49" W BK. =
N 4° 01' 11" W AH.

LEGEND

- Item 404 (1½") Asphalt Conc., Item 402 (1¼") Asphalt Conc., Item 452 (9") Port. Cement.
- Item 202 Removal of Exist. Pavement, Exist. Conc. Median, Exist. Curb & Gutter.
- Item 612 Conc. Median
- Item 608 (4") Conc. Walk

Note: See General Notes for Key Legend of Pavement Joint Symbol.

REF. NO.	451 (9")	301 BITUMINOUS AGGREGATE BASE		203 Subgrade Compaction	310 Subbase, Grading "A"	404 (1½") Asphalt Concrete	402 (1¼") Asphalt Concrete	452 (9")	202 Removal of Exist. Port.	612 (9") Concrete Median	608 4" Concrete Walk	609 Type 2 Curb & Gutter Mod. I		408 Bituminous Prime Coat	304 (8") Aggregate Base	202 Removal of Ex. Conc. Median	202 Removal of Ex. Curb & Gutter			
	S.Y.	C.Y.		S.Y.	C.Y.	C.Y.	C.Y.	S.Y.	S.Y.	S.Y.	S.F.	L.F.		Gal.	C.Y.	S.Y.	L.F.			
1-P				328		9.3	9.3	266.6												
2-P	1416.7	222		2083	GAB															
3-P	1416.7	222		2083	GAB															
4-P				452		13.5	13.5							1664	92.4					
1-C												100								
2-C												100								
3-C										777.8										
4-C												500								
5-C												500								
1-S											1680									
2-S											2400									
1-R									65							489	1458			
U-RF-430 (15) Total	2833	444		4946	130	23	23	267	65	778	4080	1200		166	92	489	1458			

PAVEMENT DETAILS STA. 1258+00 TO STA. 1263+00

	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
PROPOSED DRAWN	
PROPOSED CHECKED	
QUANTITIES CALCULATED	
QUANTITIES CHECKED	

BY

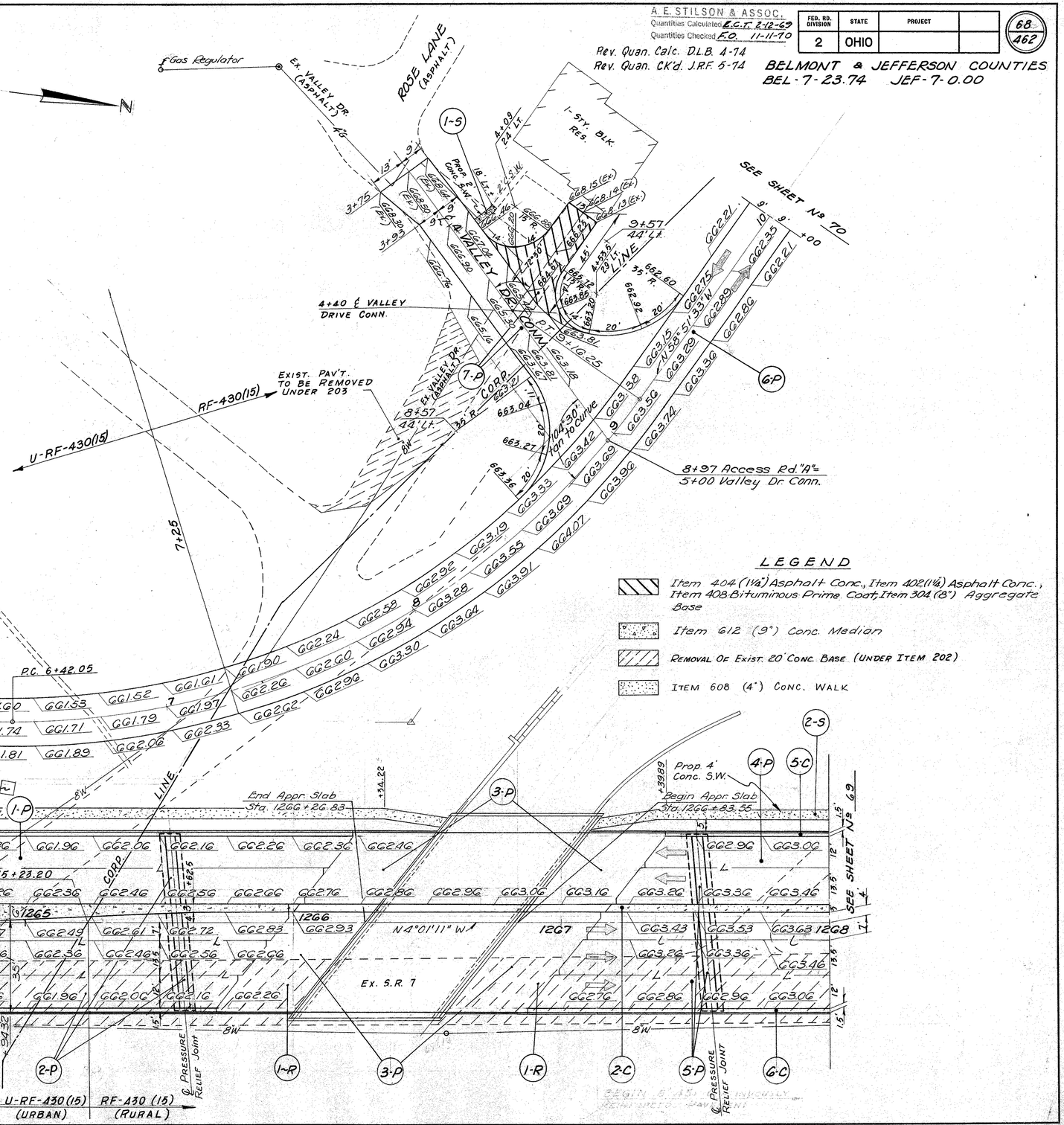
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd. J.R.F. 5-74

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

* = U-RF-430(15) (Urban)

REF. NO.		451 (9") S.Y.	301 BITUM. AGGREGATE BASE C.Y.		203 Subgrade Compaction S.Y.	Reinf. Conc. Approach Slabs S.Y.	310 Subbase, 4" Grading (9") C.Y.	Concrete Median S.Y.	404 (1¼") Asphalt Concrete C.Y.	408 Bituminous Prime Coat Gal.	304 Aggregate Base C.Y.	402 (1¼") Asphalt Concrete C.Y.	Item Special Pressure Relief Joint L.F.	404 Asphalt Driveway C.Y.	202 Removal of Exist. Conc. Base S.Y.	609 Type 2 Curb & Gutter Mod. I L.F.		608 4" CONCRETE WALK S.F.	
1-P *		632.4*	79.9 *		719.2 *														
1-P		242.3	29.5		288.4														
2-P *		743.6*	92.3*		830.4*														
2-P		232.9	26.1		276.4								62						
3-P					480.0	460	80.0												
4-P		189.8	22.5		252.4														
5-P		381.2	45.4		460.2								62						
6-P*					689.9 *				19.3 *	238.9*	132.7 *	19.3*							
6-P					682.4				19.1	236.3	131.3	19.1							
7-P*									6.0 *	104.7*	58.2*	8.5 *		2.5					
7-P									4.9	59.1	32.8	4.9							
1-C*			26.9*		241.8*		40.3*	241.8*											
1-C			3.4		30.5		5.1	30.5											
2-C			3.0		27.3		4.6	27.3											
3-C *																225*			
3-C																100			
4-C *																223*			
4-C																49			
5-C																61			
6-C																113			
1-S *																		17 *	
2-S *																		992*	
2-S																		784	
1-R *															297.2*				
1-R															655.6				
*U-RF-430(15) TOTAL		1376	199		2481		40	242	25	344	191	28		3	297	446		1009	
RF-430(15) TOTAL		1046	130		2498	460	90	58	24	295	164	24	124		656	323		784	

Note : U-RF-430(15)(Urban) – Sta. 1263+00 to 1265+23.20 (Corp. Line)
RF-430(15)(Rural) – Sta. 1265+23.20 (Corp. Line) to 1268+00



PAVEMENT DETAILS STA. 1263+00 TO STA. 1268+00

REF. NO.	451 (3")	407 COVER AGGREGATE	407 TACK COAT	622 CONCRETE BARRIER	203 SUBGRADE COMPACTION	310 SUBBASE GRADING "A"	404 ASPHALT CONCRETE (4")	402 ASPHALT CONCRETE (1½")	310 SUBBASE	408 BITUMINOUS PRIME COAT	304 AGGREGATE BASE	611 (15') REINF. CONC. APPRO. SLABS	612 (9") CONCRETE MEDIAN	609 TYPE 2 CURB & GUTTER, MOD.-I.	202 (20') REMOVAL OF EX. CONC. BASE	301 BITUMINOUS AGGREGATE BASE	608 4" CONCRETE WALK
	S.Y.	TON	GAL	L.F.	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	GAL.	C.Y.	S.Y.	S.Y.	L.F.	S.Y.	C.Y.	S.F.
1-P	1194.4				1552	10.6										185.2	
2-P	1319.4				2065	40.7										270.5	
3-P	1319.4				2065	40.7										270.5	
4-P	416.7				603	2.8										79.9	
5-P	416.7				603	2.8										79.9	
6-P		0.23	6.7		628		19.2*	19.2*	97.3			66.7				55.6	
7-P					561		16.9	16.9		204.2	113.5						
8-P					585		16.1	16.1		200.0	111.1						
9-P					475		12.4	12.4		157.2	87.4						
1-C													4.9	28.0			
2-C													546.9				
3-C				68.75									33.3				
1-R															1777.8		
1-S																	160
TOTAL	4667	0.23	6.7	69	9137	98	65	65	97	561	312	67	585	28	1778	942	160

*Includes 2.3 Cu. Yd. for Approach Slabs

Rev. Quan. Calc. DLB. 4-74
Rev. Quan. Ck'd. J.R.F. 5-74

A. E. STILSON & ASSOC.
Quantities Calculated R.C.T. 2-11-67
Quantities Checked D.L.B. 11-26-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

69
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

SEE SHEET No. 70

BEG. APPRO. SLAB 8+08.37

END WORK 2+97.83

P.I. 1+87.47

P.I. 7+32.07

END WORK 6+00

1 ST'Y. FR.

120'R

160'R

P.C. 0+75.56

RELOC. & T.R. 536

& Access Rd. "B"

N 22°18'44" W

N 23°28'44" W

N 42°10'25" W

N 17°42'24" W

N 22°52'22" W

N 32°32'46" W

N 38°13'44" W

Limits of 7-P

35°55'00"

0+16, RD. "B" 46' Lt.

6+46.5 19' Lt.

5+91.99, T.R. 536 RELOC. 0+00, RD. "B"

P.I. 5+82.95

8+67.72 S.R. 798, 5+01.10, T.R. 536 RELOC

9+99.92 S.R. 798

1268+14 NM 82.5' Lt.

1269+39.50 NM 82.5' Lt.

1268+62.98 S.R. 7

12'5" Conc. Blk. Gdr.

Conc.

END CURB & GUTTER +14

PROP 4" Conc. S.W.

*Taper Median Nose 0"to6" in 20'-0"

Ex. Conc. Retaining Wall 7

Ex. Slope

2:1

1.4:1

1.9:1

8:1

10:1

4.3:1

5.3:1

7.6:1

10.2:1

7.8:1

7.2:1

6.1:1

5.4:1

5:1

4:1

2:1

1.2:1

1:1

BENCH 765.0

ELEV. 765.0

1 V/Ft.

1 Air Valve

End Paver 1275+25

+31.25

End Concrete Median

Begin Concrete Barrier See Sheet No. 24 For Details

REFER TO SHEET No. 20 FOR PAV'T. CALCULATIONS STA. 1276.00 TO 1327+00

LEGEND

- ITEM 301, BITUMINOUS AGGREGATE
- ITEM 612, 9" CONCRETE MEDIAN
- REMOVAL OF EXIST. 20' CONC. BASE

NOTE:
⊗ TRANSITION CURB HEIGHT 2" TO 6" IN 20 FT.

MATCH LINE THIS SHEET

SEE SHEET No. 68

MATCH LINE THIS SHEET

100:1 Taper

200:1 Taper

Limits of 2-P

Limits of 3-P

Ex. Conc. Retaining Wall 7

& Survey & Construction

N 4° 01' 11" W

BEG PAV'T. TAPER +25

END PAV'T TAPER +75

PAVEMENT DETAILS STA. 1268+00 TO STA. 1276+00

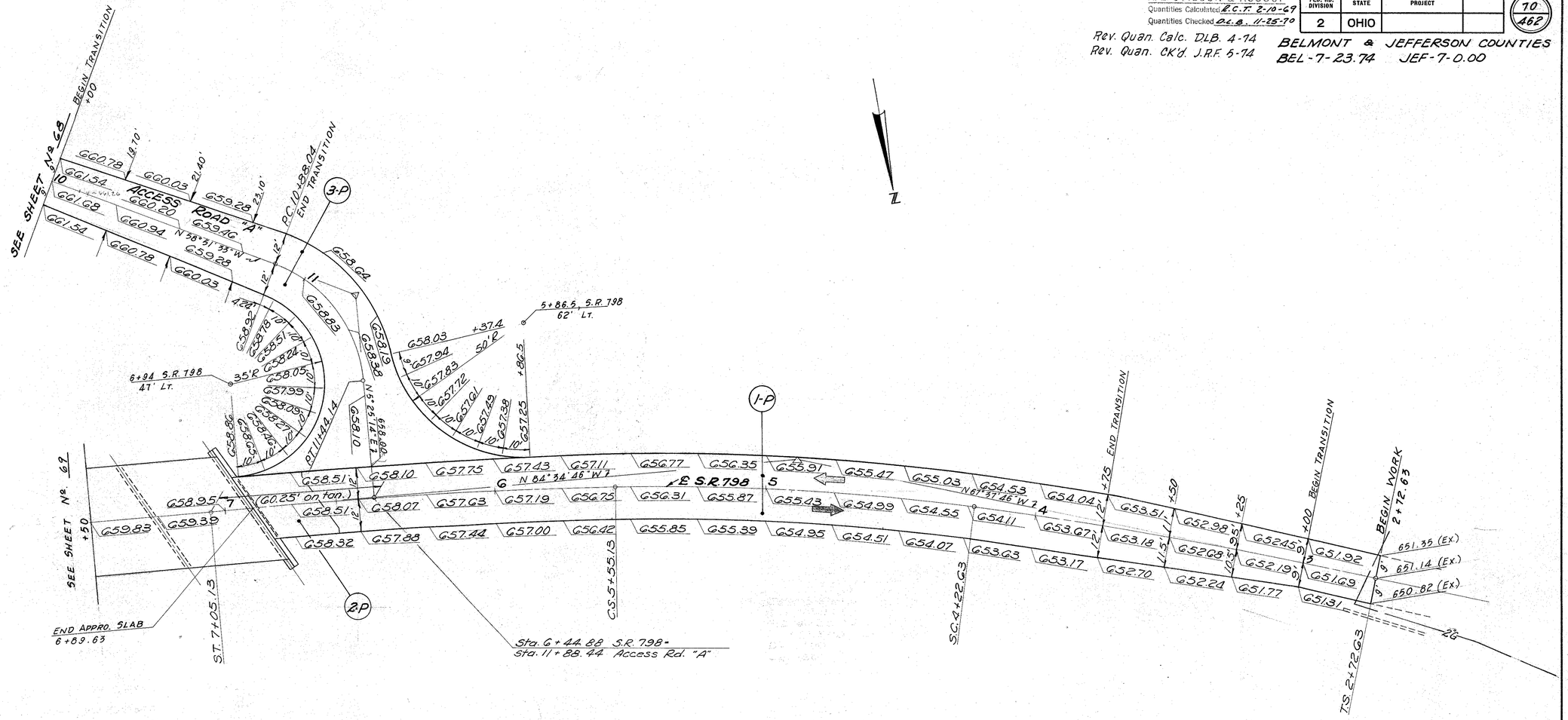
A. E. STILSON & ASSOC.
Quantities Calculated E.C.T. 2-10-69
Quantities Checked D.L.B. 11-25-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

70
462

Rev. Quan. Calc. DLB. 4-14
Rev. Quan. CK'd. J.R.F. 5-14

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



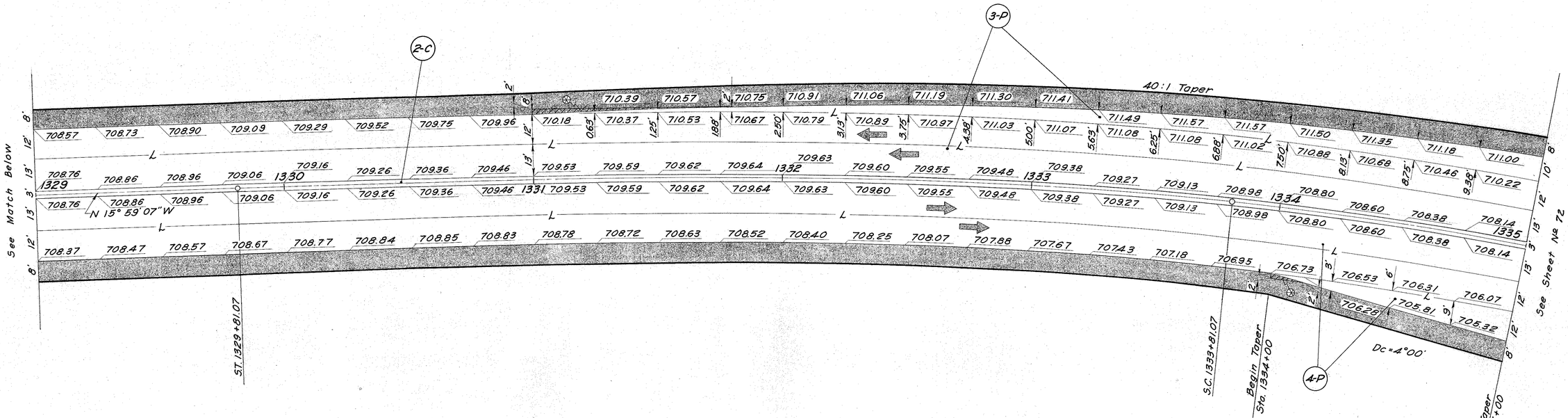
REF. NO.	404 (1¼") Asphalt Concrete	402 (1½") Asphalt Concrete	301 Bituminous Agg. Base	310 Subbase	611 (15") Reinf. Conc. Apor. Slabs	407 Cover Aggregate	408 Bituminous Prime Coat	304 Agg. Base	203 SUBGRADE COMPACTION	407 Tack Coat
	C.Y.	C.Y.	C.Y.	C.Y.	S.Y.	TON.	Gal.	C.Y.	S.Y.	GAL.
1-P	34.8	34.8	115.6	179.8					925.9	
2-P	2.3	2.3		11.6	66.7	0.23			73.6	6.7
3-P	18.8	18.8					228.8	127.1	638.7	
Total	56	56	116	191	67	0.23	229	127	1688	6.7

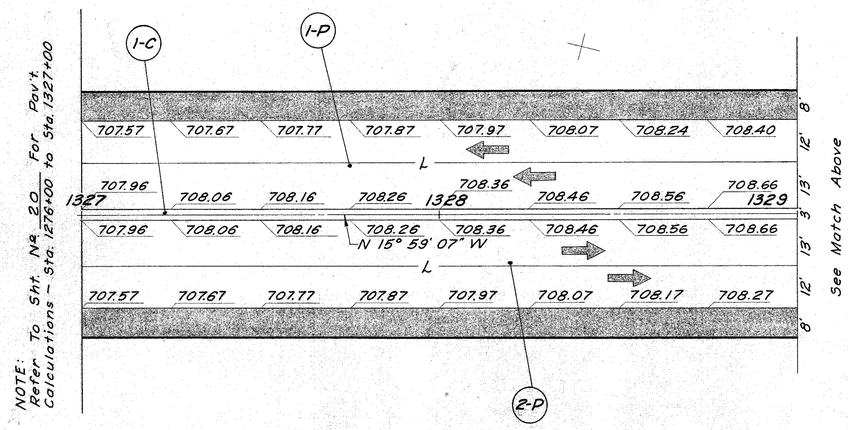
	BY	DATE
BRIDGE PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

PAVEMENT DETAILS S.R. 798

A. E. STILSON & ASSOC.	FED. RD. DIVISION	STATE	PROJECT
Quantities Calculated D.L.B. 9-11-70			
Quantities Checked G.V. 11-12-70	2	OHIO	

Rev. Quan. Calc. DLB 4-74 BELMONT & JEFFERSON
Rev. Quan. CK'd. J.R.F. 5-74 BEL-7-23.74 JEF-7-C





⊛ The hatched area shall be constructed of concrete pavement to an elevation two inches lower than the adjacent pavement and surfaced with two inches bituminous aggregate. This area shall be paid for as Item's 451 and 301.

LEGEND

Item 301, Bituminous Aggregate Base

REF. No.	451 (9") S.Y.	301 B.T. Aggregate Base C.Y.	203 Subgrade Compaction S.Y.	622 Concrete Barrier L.F.
1-P	555.6	106.1	800	
2-P	555.6	106.1	800	
3-P	1901.1	344.6	2634	
4-P	1733.6	324.2	2467	
1-C				200
2-C				600
TOTAL	4746 ✓	881 ✓	6701 ✓	800 ✓

PAVEMENT DETAILS STA. 1327+00 TO STA. 1335+00

BRUNING 44-560 10943

A. E. STILSON & ASSOC.
Quantities Calculated D.C.B. 9-14-70
Quantities Checked G.V. 11-12-70
Rev. 5-8-73 WJM
Checked 7-12-73 F.O.
Rev. Quan. Calc. DLB 4-74
Rev. Quan. CK'd. J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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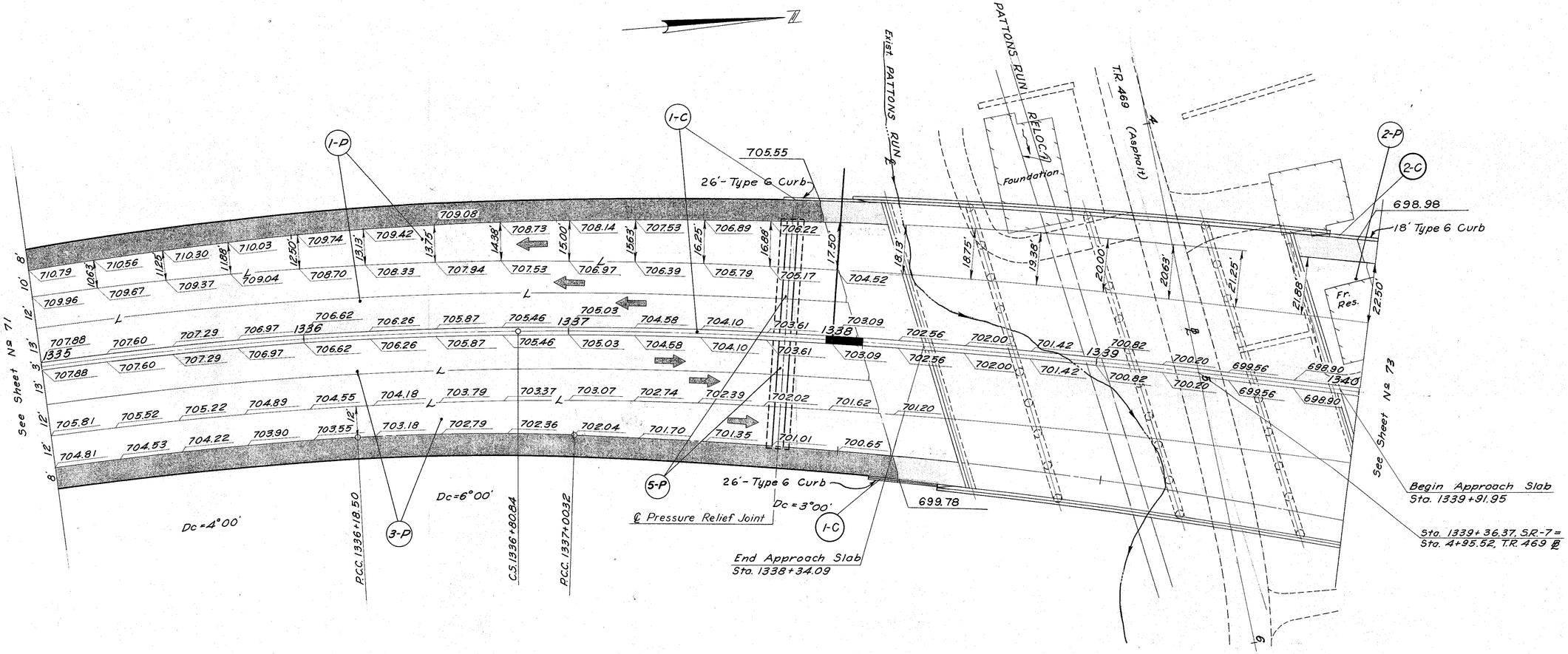
BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



REF. No.		404 - 2" ASPHALT CONCRETE 451 (9") C.Y.	S.Y.	301 BITUMINOUS AGGREGATE BASE 304 - 8" AGGREGATE BASE 310 SUBBASE (GRADING - A) C.Y.	409 PRIME COAT GAL.	203 SUBGRADE COMPACTION S.Y.	609 Type 6 Curb L.F.	611 REINF. CONC. APPRO. SLAB (T=15") S.Y.	622 CONCRETE BARRIER ITEM SPECIAL TRANSVERSE RELIEF JOINT L.F.	L.F.
1-P			1892.6	209.1	24.5	1813		143		
2-P				1.3	27.0	158		156		
3-P			1313.3	214.5	23.6	1864		143		
4-P		0.9		3.1	6.6					
1-C							52		314	
2-C							18			
5-P										82
TOTAL		1 ✓	2606 ✓	425 ✓	4 ✓	75 ✓	7 ✓	3835 ✓	70 ✓	442 ✓	314 ✓	82 ✓

NOTE: 4-P Quantities Carried from Sheet No 40

LEGEND

Item 301, Bituminous Aggregate Base

PAVEMENT DETAILS STA. 1335+00 TO STA. 1340+00

BRUNING 44560 10943

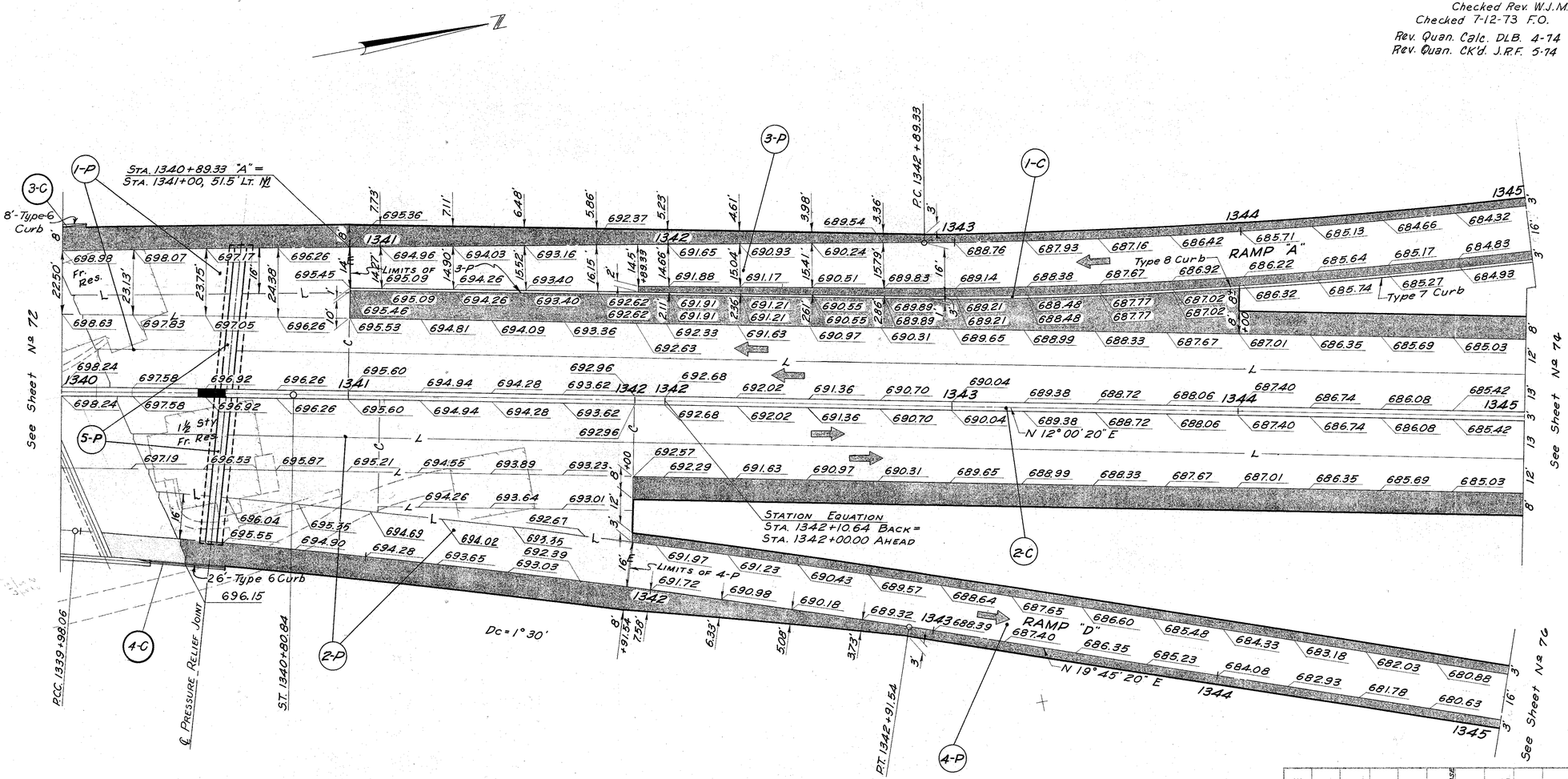
A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 9-14-70
Quantities Checked G.V. 11-13-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

73/462

Checked Rev. W.J.M. 5-8-73
Checked 7-12-73 F.O.
Rev. Quan. Calc. DLB. 4-74
Rev. Quan. CK'd. J.R.F. 5-74

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



REF. No.	451 (9") S.Y.	301 Bituminous Aggregate Base C.Y.	304 Aggregate Base C.Y.	310 Subbase (Grading-A) C.Y.	203 Subgrade Compaction S.Y.	Spec. Drainage Conn. No. 8 Agg. C.Y.	609 Type 6 Curb L.F.	609 Curb Type-7 L.F.	609 Curb Type-8 L.F.	Item Special Pressure Relief Joint L.F.	611 Reinf. Conc. Appro. Slabs (T=15") S.Y.	622 Concrete Barrier L.F.
1-P	1622.8	314.7			2246							
2-P	1900.3	313.1		27.9	2664						166.0	
3-P	713.4	24.2	44.6	160.9	1153	21.0						
4-P	548.4	19.5	36.0	124.9	885	15.8						
5-P										100		
1-C								100	310.7			
2-C												499
3-C							8					
4-C							26					
TOTAL	4785	672	81	314	6948	37	34	100	311	100	166	499

LEGEND

Item 301, Bituminous Aggregate Base

BRUNING 44-560 10943

PAVEMENT DETAILS STA. 1340+00 TO STA. 1345+00

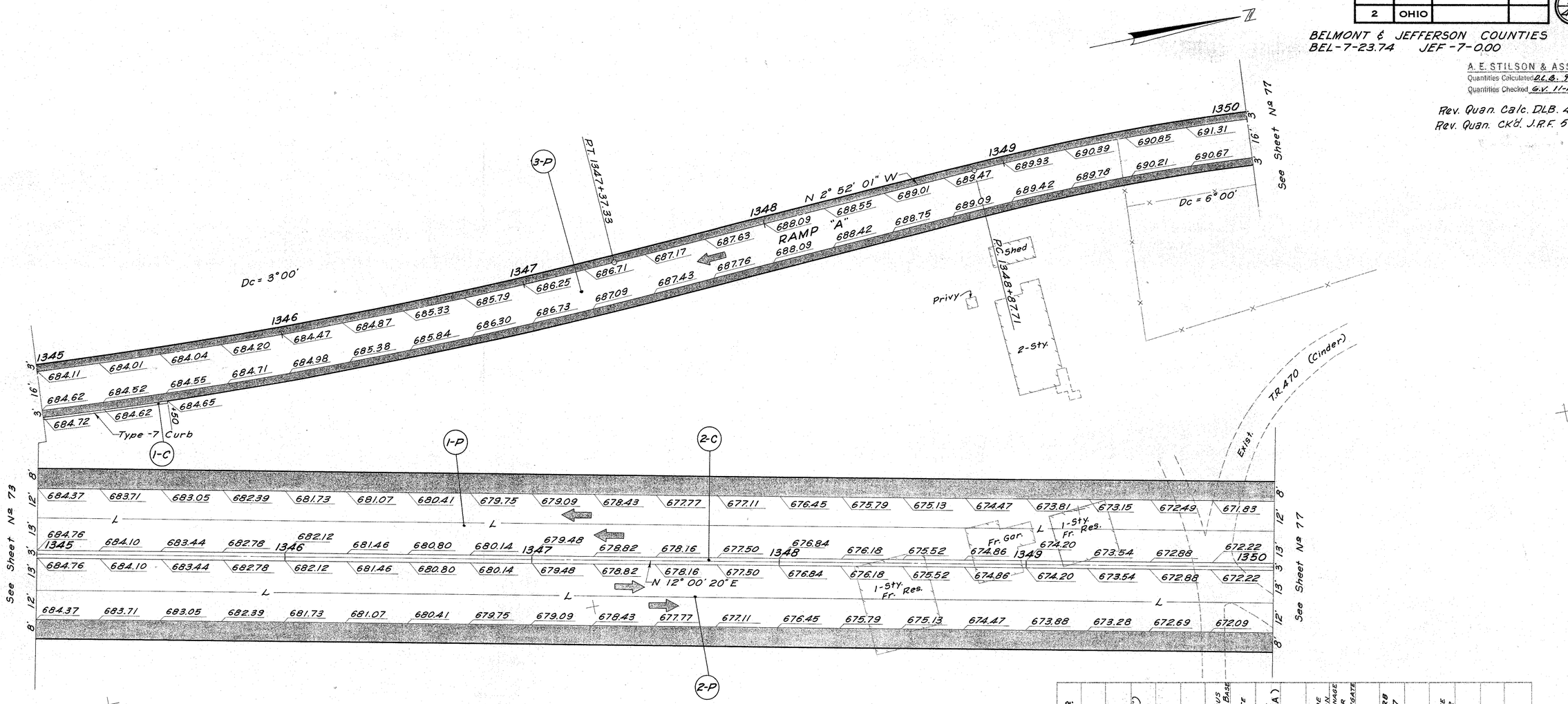
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

74
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 9-15-70
Quantities Checked G.V. 11-17-70

Rev. Quan. Calc. DLB. 4-74
Rev. Quan. Ck'd. J.R.F. 5-74



REF. No.		451 (9") S.Y.		301 Bituminous Aggregate Base 304 Aggregate Base C.Y.	310 Subbase (Grading A) C.Y.	203 Subgrade Compaction Spec. Drainage Connector Mat'l Aggregate S.Y.	C.Y.	609 Curb Type - 7 L.F.	622 Concrete Barrier L.F.
1-P		1388.9		265.4		2000			
2-P		1388.9		265.4		2000			
3-P		888.9		27.8 50.9	196.8	1389	25.6		
1-C								50	
2-C									500
TOTAL		3667 ✓		559 ✓ 51 ✓	197 ✓	5389 ✓	26 ✓	50 ✓	500 ✓

LEGEND

Item 301, Bituminous Aggregate Base

PAVEMENT DETAILS STA. 1345+00 TO STA. 1350+00

BRUNING 44-560 10943

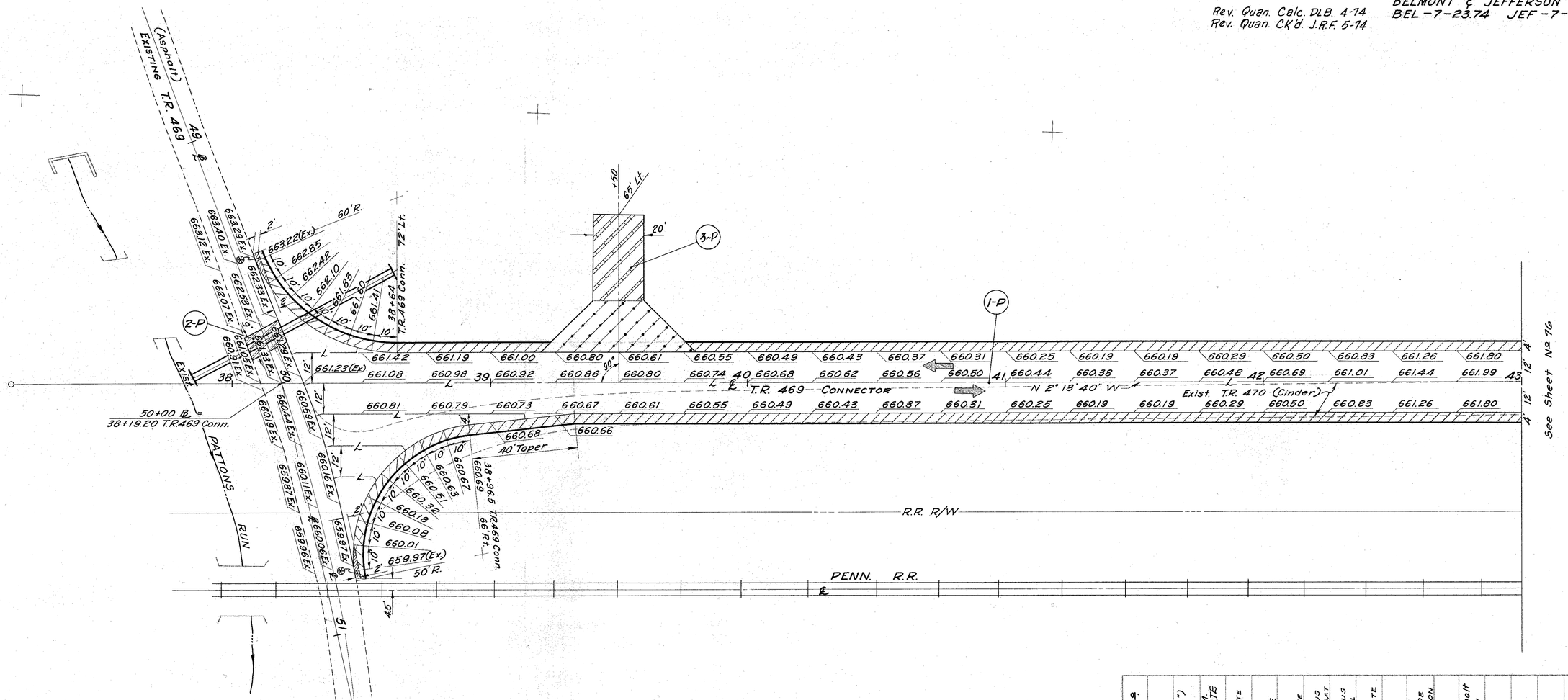
A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 7-16-70
Quantities Checked G.V. 11-18-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

15
162

Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd. J.R.F. 5-74

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



REF. Nº	451 (9")	301 BITUM. AGGREGATE BASE	304 AGGREGATE BASE	403 ASPHALT CONCRETE	404 ASPHALT CONCRETE	408 BITUMINOUS PRIME COAT	409 BITUMINOUS MATERIAL	409 AGGREGATE	203 SUBGRADE COMPACTION	404 Asphalt Driveway					
	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	GAL.	GAL.	C.Y.	S.Y.	C.Y.					
1-P	14287	177.2	111.0			177.6	133.2	3.6	20392						
2-P			3.3		0.8	6.0									
3-P			11.6	3.1		25.6				3.1					
TOTALS	1429 ✓	177 ✓	14.9 ✓	3 ✓	1 ✓	209 ✓	133 ✓	4 ✓	2039 ✓	3 ✓					

⊛ The hatched area shall be constructed of concrete pavement to an elevation two inches lower than the adjacent pavement and surfaced with two inches bituminous aggregate. This area shall be paid for as Item's 451 and 404.

LEGEND

Item 404 (1¼") Asphalt Concrete
Item 402 (1¼") Asphalt Concrete
Item 408 Bituminous Prime Coat
Item 304 (8") Aggregate Base

Item 304 (10") Aggregate Base

LEGEND

Item 304 - 8" Aggregate Base
Item 408 - Bituminous Prime Coat
Item 409 - Seal Coat, Bituminous Materiol & Aggregate

Item 404 - 2-1" Courses Asphalt Conc.
Item 408 - Bituminous Prime Coat
Item 304 - 8" Aggregate Base

PAVEMENT DETAILS T.R. 469 CONN. STA. 38+28 TO STA. 43+00

BRUNING 44560 10943

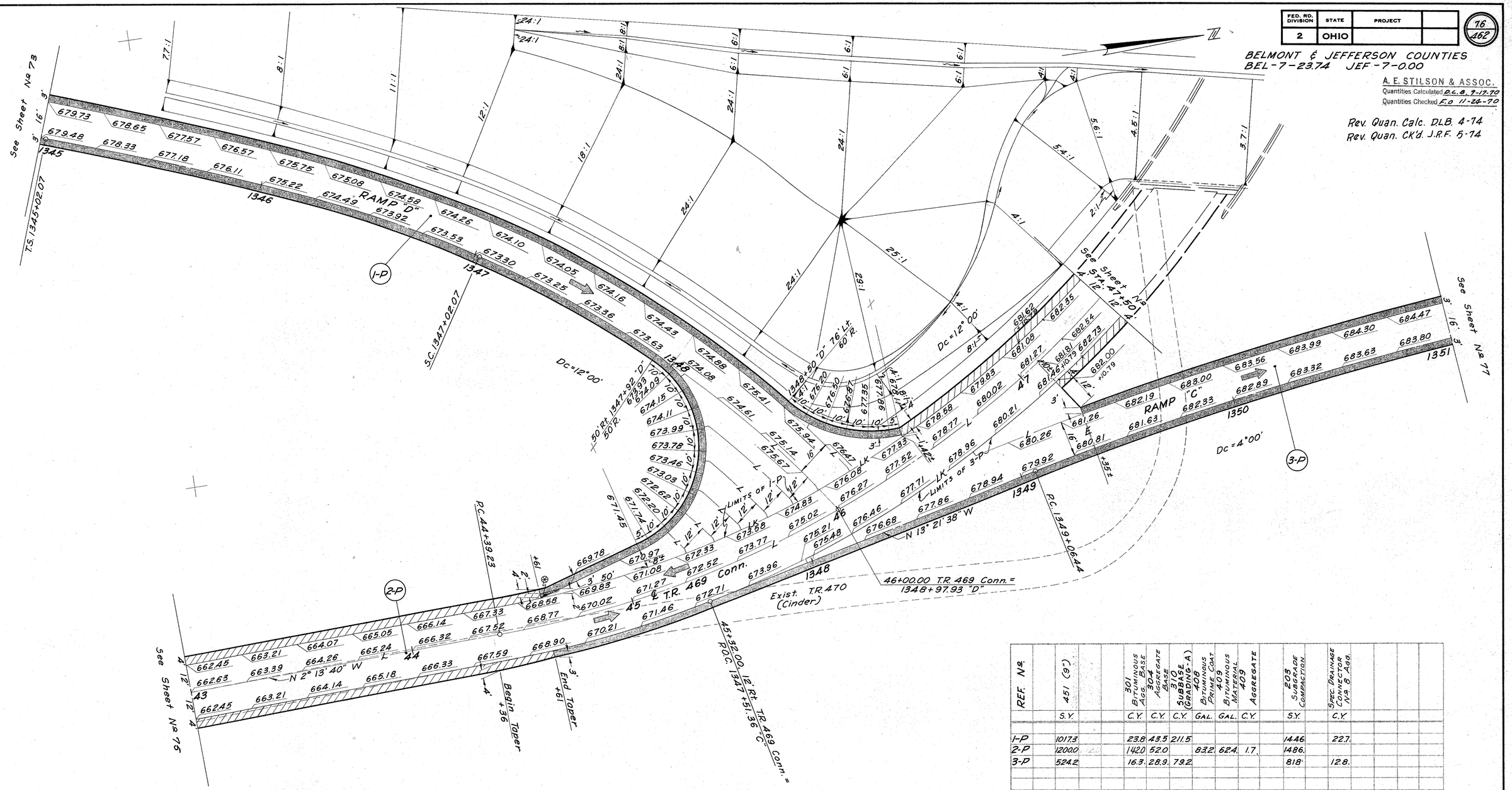
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

76
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 7-17-70
Quantities Checked F.O 11-24-70

Rev. Quan. Calc. D.L.B. 4-14
Rev. Quan. Ck'd. J.R.F. 5-74



LEGEND

Item 301 – Bituminous Aggregate Base
Item 304 – 8" Aggregate Base
Item 408 – Bituminous Prime Coat
Item 409 – Seal Coat, Bituminous Material & Aggregate

⊛ The hatched area shall be constructed of concrete pavement to an elevation two inches lower than the adjacent pavement and surfaced with two inches bituminous aggregate. This area shall be paid for as Item's 451 and 301.

REF. No.	451 (9")		301 Bituminous Agg. Base	304 Aggregate Base	310 Subbase (Grading-A)	408 Bituminous Prime Coat	409 Bituminous Material	409 Aggregate	203 Subgrade Compaction	Spec. Drainage Connector No. 8 Agg.			
	S.Y.		C.Y.	C.Y.	C.Y.	GAL.	GAL.	C.Y.	S.Y.	C.Y.			
1-P	1017.3		23.8	43.5	211.5				144.6	22.7			
2-P	1200.0		142.0	52.0		83.2	62.4	1.7	148.6				
3-P	524.2		16.3	28.9	79.2				81.8	12.8			
TOTAL	2742	✓	182	124	291	83	62	2	375.0	36			

PAVEMENT DETAILS T.R. 469 CONN. STA. 43+00 TO STA. 47+50

BRUNING 44.560 10943

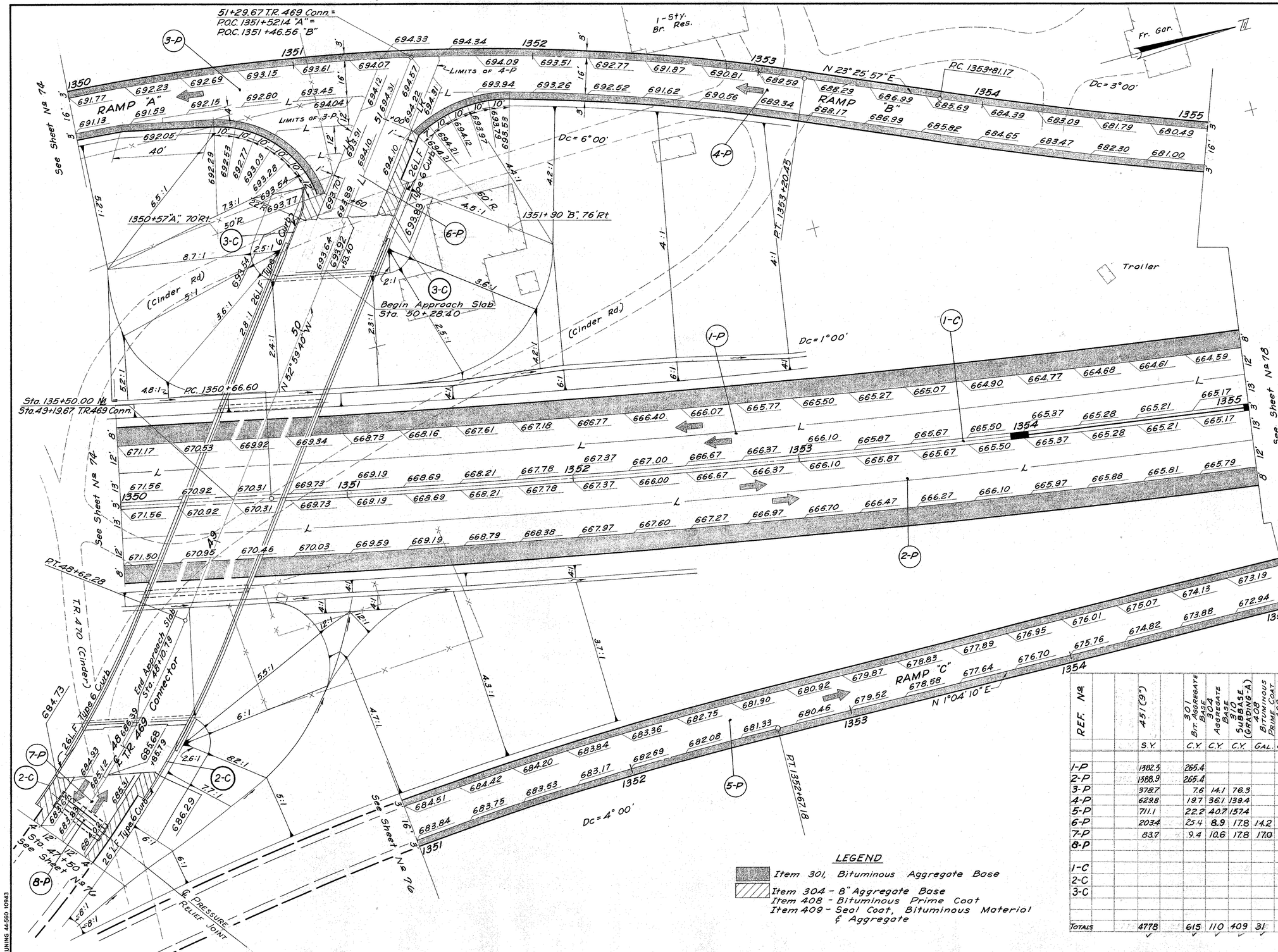
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

77
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 9-16-70
Quantities Checked G.V. 11-17-70

Rev. W.J.M. 5-17-73
Checked 7-12-73 F.O.
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd. J.R.F. 5-74



LEGEND

Item 301, Bituminous Aggregate Base
Item 304 - 8" Aggregate Base
Item 408 - Bituminous Prime Coat
Item 409 - Seal Coat, Bituminous Material & Aggregate

REF. No	451 (9")	301 Bit. Aggregate Base	304 Aggregate Base	310 Subbase (Grading-A)	408 Bituminous Prime Coat	409 Bituminous Material	409 Aggregate	609 Curb Type 6	611 Reinf. Conc. Appro. Slab (T=15")	622 Concrete Barrier	203 Subgrade Compaction	Item Special Pressure Relief Joint	Spec. Drainage Connector No 8 Agg.
	S.Y.	C.Y.	C.Y.	C.Y.	GAL.	GAL.	C.Y.	L.F.	S.Y.	L.F.	S.Y.	L.F.	C.Y.
1-P	1382.3	265.4									2000		
2-P	1388.9	265.4									2000		
3-P	378.7	7.6	14.1	76.3							516		6.3
4-P	629.8	19.7	36.1	139.4							984		18.2
5-P	711.1	22.2	40.7	157.4							1111		20.4
6-P	203.4	25.4	8.9	17.8	14.2	10.7	0.3		106.9		336		
7-P	83.7	9.4	10.6	17.8	17.0	12.7	0.3		106.9		233		
8-P												24	
1-C										470			
2-C								52					
3-C								52					
TOTALS	4778	615	110	409	31	23	1	104	214	470	7180	24	45

PAVEMENT DETAILS STA. 1350+00 TO STA. 1355+00

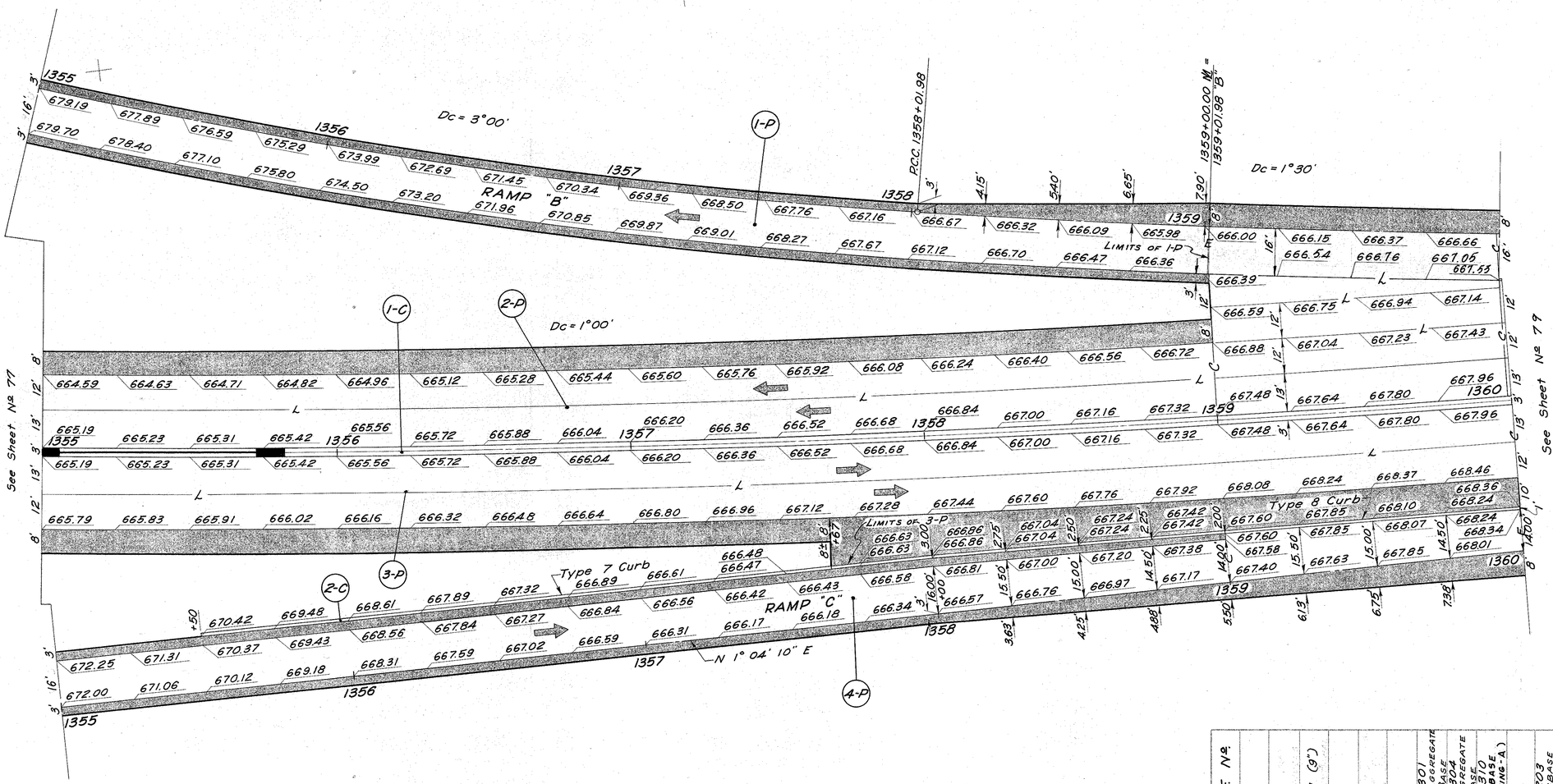
BRUNING 44-560 10943

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BELMONT & JEFFERSON COUN
BEL-7-23.74 JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 9-17-70
Quantities Checked E.O. 11-25-70

Rev. Quan. Calc. DLB. 4-14
Rev. Quan. Ck'd. J.R.F. 5-14



LEGEND

Item 301, Bituminous Aggregate Base

REF. No.		451 (9")		301 BIT. AGGREGATE BASE	304 AGGREGATE BASE	659 SUBSEALE (GRADING - A)	203 SUBBASE COMPACTION	609 CURB TYPE-7	609 CURB TYPE-8	622 CONCRETE BARRIER	SPEC. DRAINAGE CONNECTOR No 8 AGG.
		S.Y.		C.Y.	C.Y.	C.Y.	S.Y.	L.F.	L.F.	L.F.	C.Y.
1-P		714.6		24.6	45.7	161.7	11444.				20.5
2-P		1765.6		308.0			23833.				
3-P		1388.9		292.3			20906.				
4-P		866.7		29.2	53.9	195.1	13778.				25.6
1-C										470	
2-C								216.	235.		
TOTAL		4136		654	100	357	6996.	216	235	470	46

PAVEMENT DETAILS STA. 1355+00 TO STA. 1360+00

BRUNING 44-560 10943

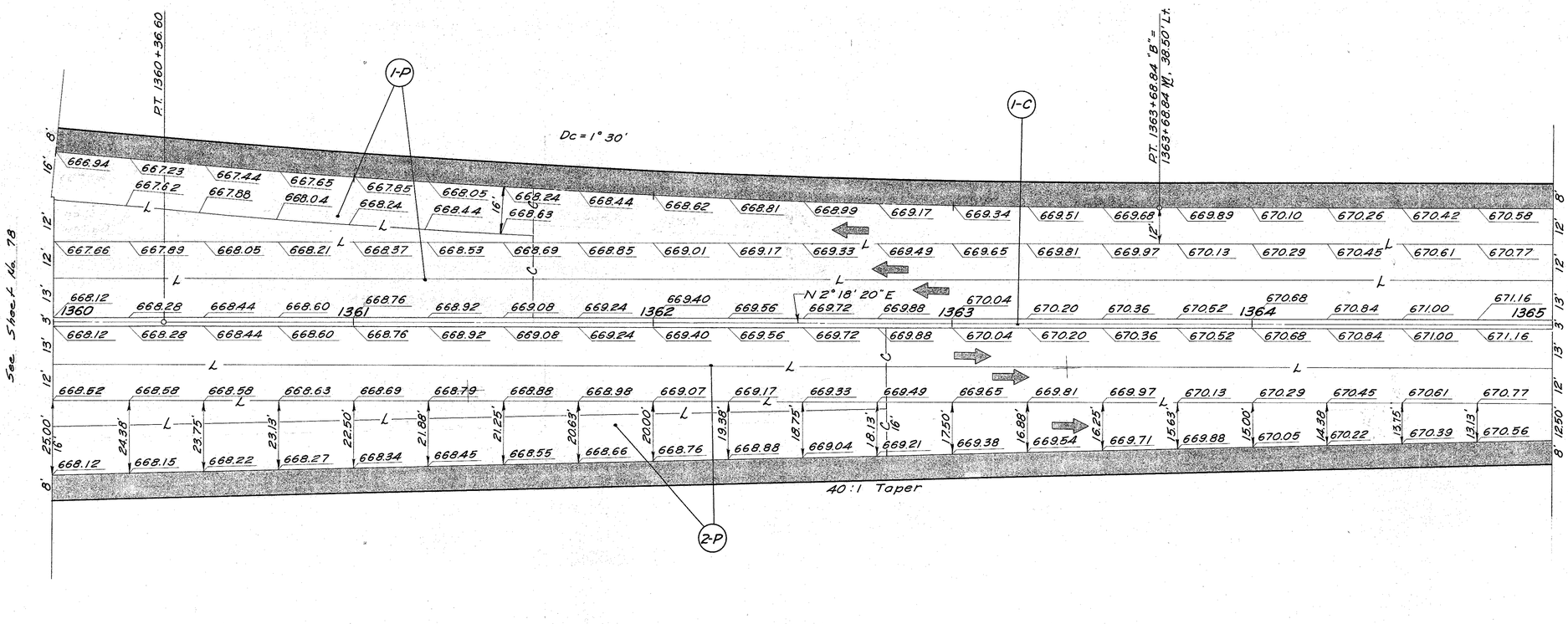
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

79
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 9-18-70
Quantities Checked F.O. 11-25-70

Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd. J.R.F. 5-74



LEGEND

Item 301, Bituminous Aggregate Base

REF. Nº		451 (9")		301 Bituminous Agg. Base	203 Subgrade Compaction	622 Concrete Barrier
		S.Y.		C.Y.	S.Y.	L.F.
1-P		2509.1		367.1	29208	
2-P		2430.6		381.1	3041.7	
1-C						500
TOTAL		4940 V		749 V	5963 V	500 V

PAVEMENT DETAILS STA. 1360+00 TO STA. 1365+00

BRUNING 44-560 10943

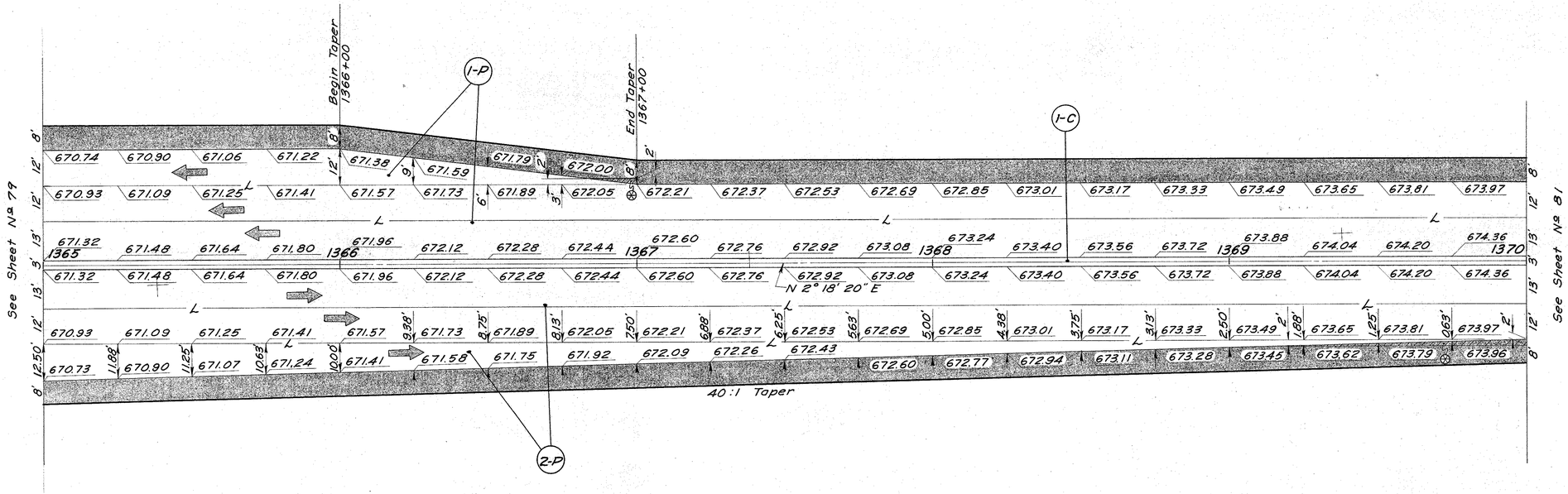
Rev. Quan. Calc. DLB 4-14
Rev. Quan. Ck'd. J.R.F. 5-14

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 9-18-70
Quantities Checked F.O. 11-25-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

80
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



⊗ The hatched area shall be constructed of concrete pavement to an elevation two inches lower than the adjacent pavement and surfaced with two inches bituminous aggregate. This area shall be paid for as Item's 451 and 301.

LEGEND

Item 301, Bituminous Aggregate Base

REF. No.	451 (9")	301 Bit. Aggregate Base	203 Sub-grade Compaction	622 Concrete Barrier
	S.Y.	C.Y.	S.Y.	L.F.
1-P	1590.1	287.6	2202	
2-P	1745.0	303.6	2347	
1-C				500
TOTAL	3336	591	4549	500

PAVEMENT DETAILS STA. 1365+00 TO STA. 1370+00

BRUNING 44-560 10943

A. E. STILSON & ASSOC.
Rev. Quan. Calc. D.L.B. 4-74 Quantities Calculated D.L.B. 9-21-70
Rev. Quan. Ck'd J.A.F 5-74 Quantities Checked E.O. 11-25-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

81
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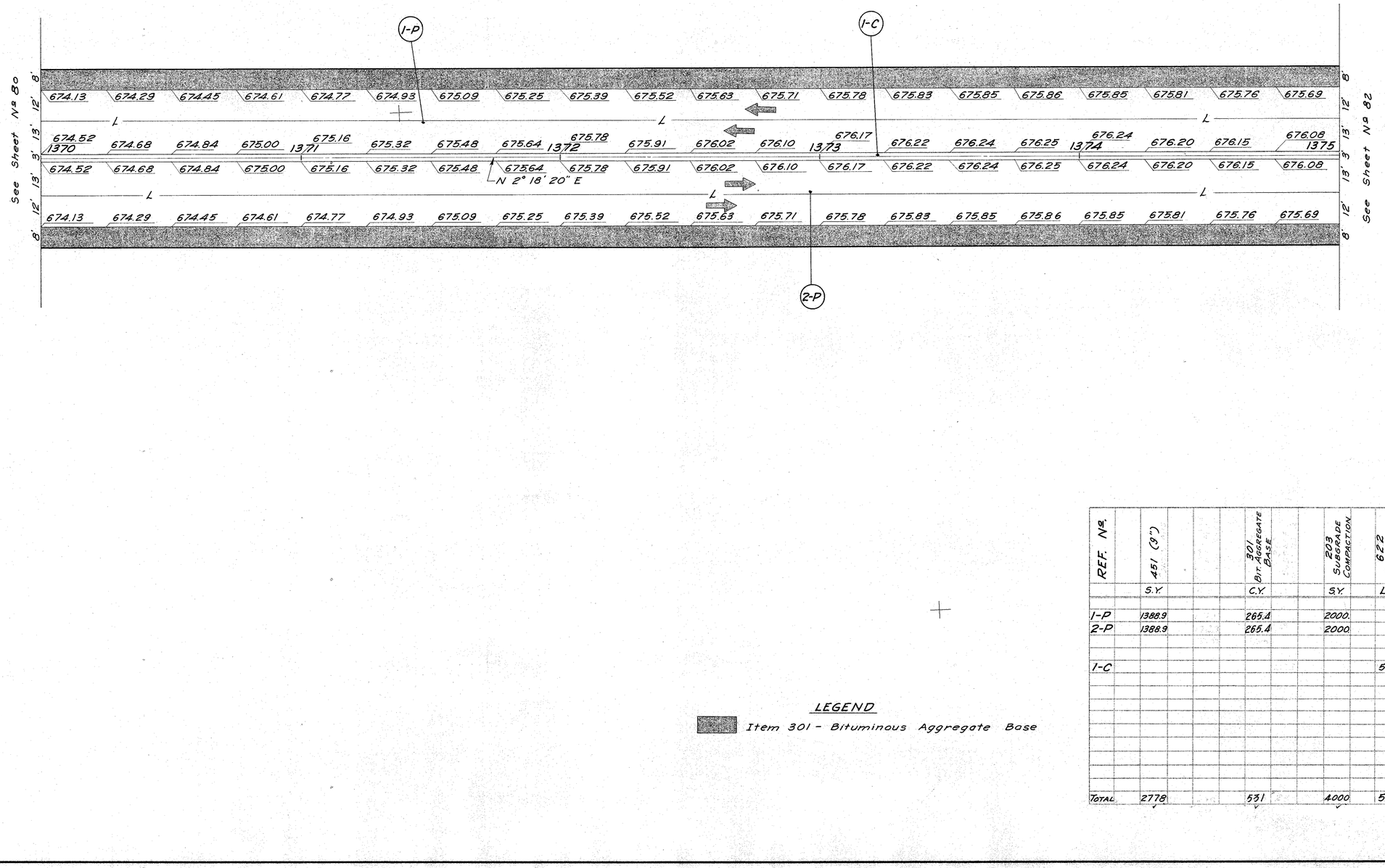
BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



LEGEND

Item 301 - Bituminous Aggregate Base

REF. Nº.	451 (3")	301 Bit. Aggregate Base	203 Subgrade Compaction	622 Concrete Barrier
	S.Y.	C.Y.	S.Y.	L.F.
1-P	1388.9	265.4	2000	
2-P	1388.9	265.4	2000	
1-C				500
TOTAL	2778	531	4000	500

PAVEMENT DETAILS STA. 1370+00 TO STA. 1375+00

BRUNING 44-560 10943

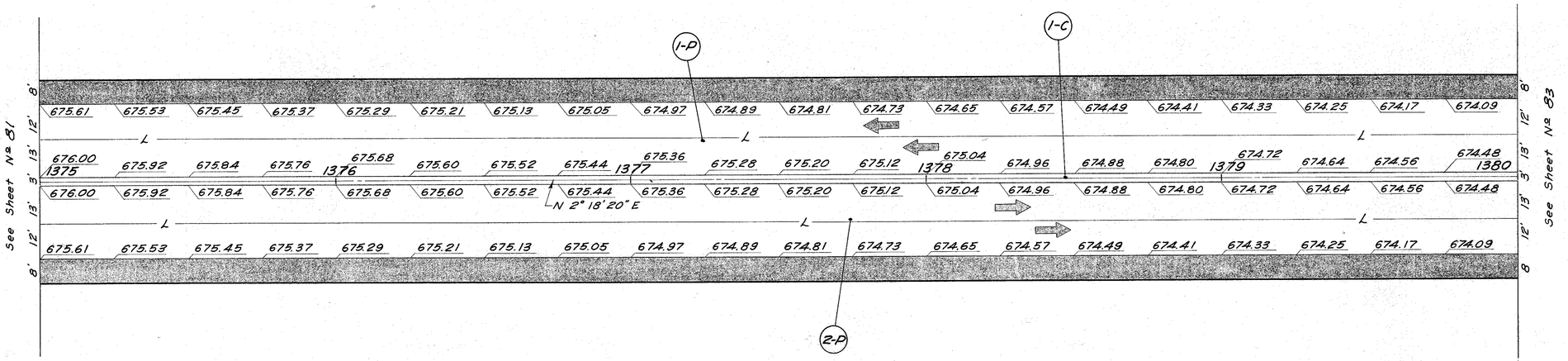
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ch'd J.A.F. 5-74

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. 9-21-70
Quantities Checked E.O. 11-25-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

82
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



LEGEND

Item 301 - Bituminous Aggregate Base

REF. Nº	451 (3")			301 BIT. AGGREGATE BASE		203 SUBBASE COMPACTION	622 CONCRETE BARRIER						
	S.Y.			C.Y.		S.Y.	L.F.						
1-P	1388.9			265.4		2000							
2-P	1388.9			265.4		2000							
1-C							500						
TOTAL	2778			531		4000	500						

PAVEMENT DETAILS STA. 1375+00 TO STA. 1380+00

BRUNING 44-560 10943

A. E. STILSON & ASSOC.
Quantities Calculated R.C.T. 1-29-69
Quantities Checked D.L.B. 11-25-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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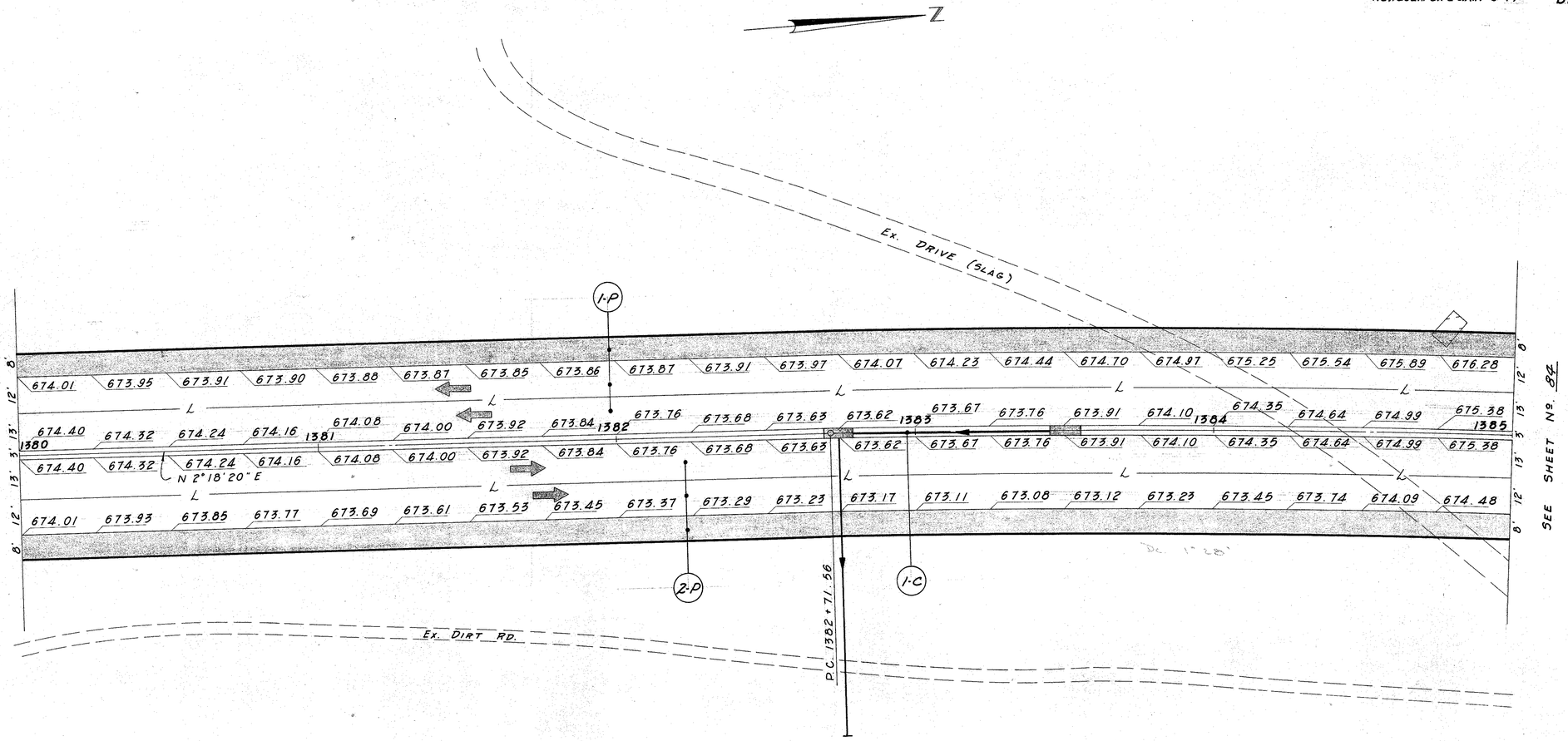
Rev. Quantities Calc. D.L.B. 4-74
Rev. Quan. Ch'd J.A.F. 5-74

BELMONT & JEFFERSON COUNTIES
BEL -7-23.74 JEF -7-0.00



LEGEND

Item 301, Bituminous Aggregate Base

REF NO	451 (3")		301 Bituminous Agg. Base	203 Subgrade Compaction	622 Concrete Barrier
	S.Y.		C.Y.	S.Y.	L.F.
1-P	1380.1		265.4	2000	
2-P	1388.9		265.4	2000	
1-C					460
Total	2769 ✓		531 ✓	4000 ✓	460 ✓

PAVEMENT DETAILS STA. 1380+00 To STA. 1385+00

	BY	DATE
DRAFTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

A. E. STILSON & ASSOC.
Quantities Calculated D.C.T. 1-29-69
Quantities Checked D.L.B. 11-25-70
Rev. W.J.M. 5-22-73
Checked 7-13-73 F.O.
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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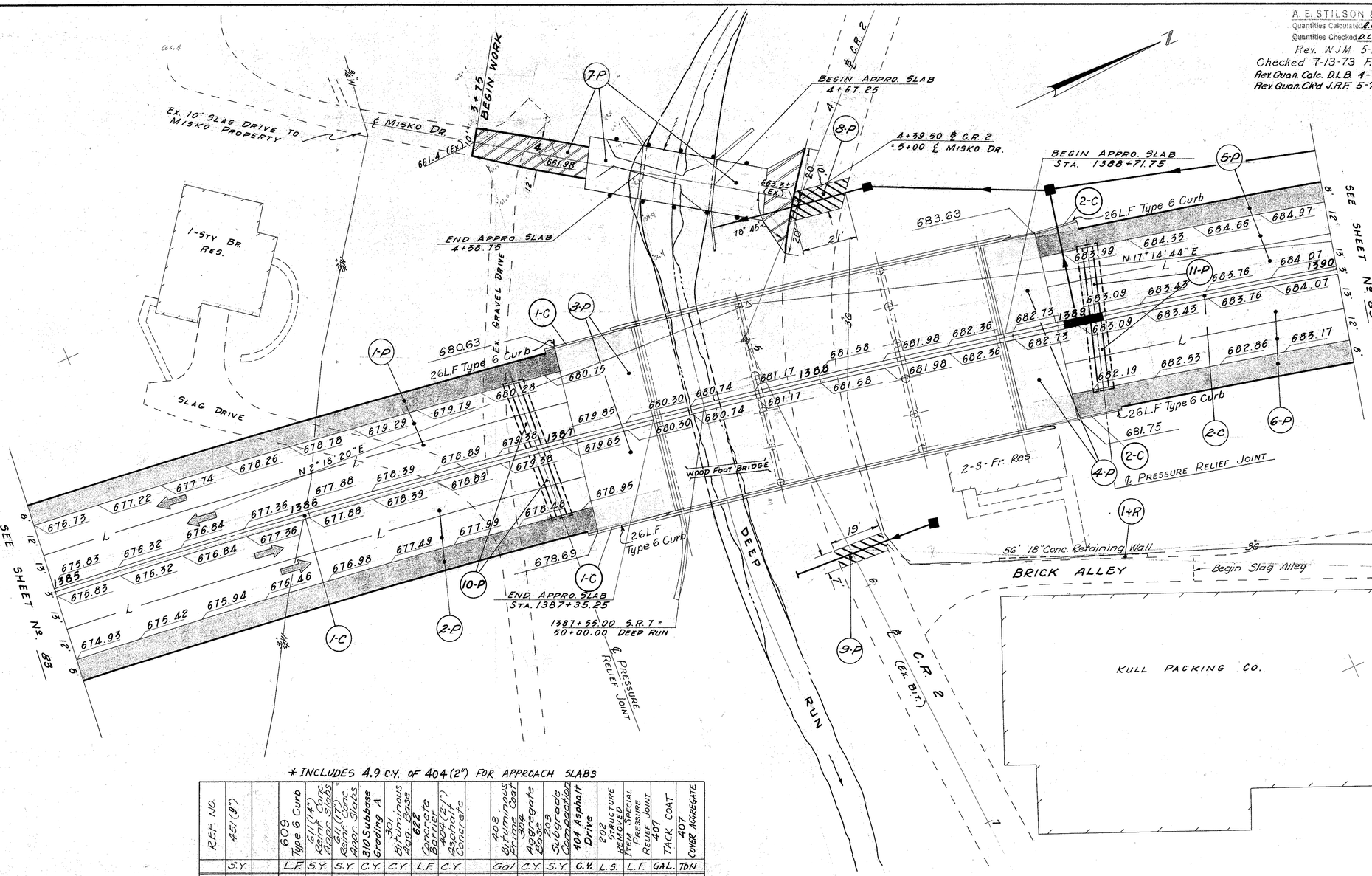
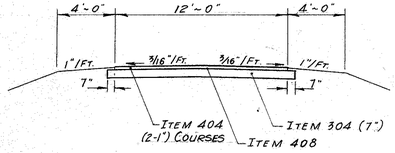
462

BELMONT & JEFFERSON COUNTIES
BEL - 7 - 23.74 JEF - 7 - 0.00



* INCLUDES 4.9 C.Y. of 404 (2") FOR APPROACH SLABS

REF. NO	451 (9")		609 Type 6 Curb	611 (14") Rein. Conc. Apron Slabs	611 (8") Rein. Conc. Apron Slabs	310 Subbase Grading A	301 Bituminous Agg. Base	622 Concrete Barrier	404 (2-1") Asphalt Concrete		408 Bituminous Prime Coat	Aggregate Base	203 Subgrade Compaction	404 Asphalt Drive	202 STRUCTURE REMOVED	ITEM Special PRESSURE RELIEF JOINT	407 TACK COAT	407 COVER AGGREGATE
	S.Y.		L.F.	S.Y.	S.Y.	C.Y.	C.Y.	L.F.	C.Y.		Gal.	C.Y.	S.Y.	C.Y.	L.S.	L.F.	GAL.	TON
1-P	559.0						106.9						821					
2-P	559.0						106.1						821					
3-P					238.4	39.7							240					
4-P				158.9		26.5							160					
5-P	285.2						56.0						433					
6-P	289.6						54.9						433					
7-P				88.9		15.7					39.8	19.3		10*			8.8	0.31
8-P									1.3		9.3	5.2						
9-P									0.8		5.9	3.3						
10-P																50		
1-C			52					230										
2-C			52					113										
11-P																50		
1-R															L.S.			
Total	1693		104	248	238	82	324	343	2		55	28	2908	10*	L.S.	100	8.8	0.31



TYPICAL SECTION MISKO DRIVE

LEGEND

Item 404 (2-1" Courses) Asphalt Conc., Item 408 Prime Coat, Item 304, 7" Aggregate Base

Item 301, Bituminous Aggregate Base

Item 404 (2-1" Courses) Asphalt Conc., Item 408 Bituminous Prime Coat, Item 304, 8" Agg. Base

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

PAVEMENT DETAILS STA. 1385+00 TO STA. 1390+00

A. E. STILSON & ASSOC.
Quantities Calculated E.C.T. 1-29-69
Quantities Checked D.L.B. 11-25-70
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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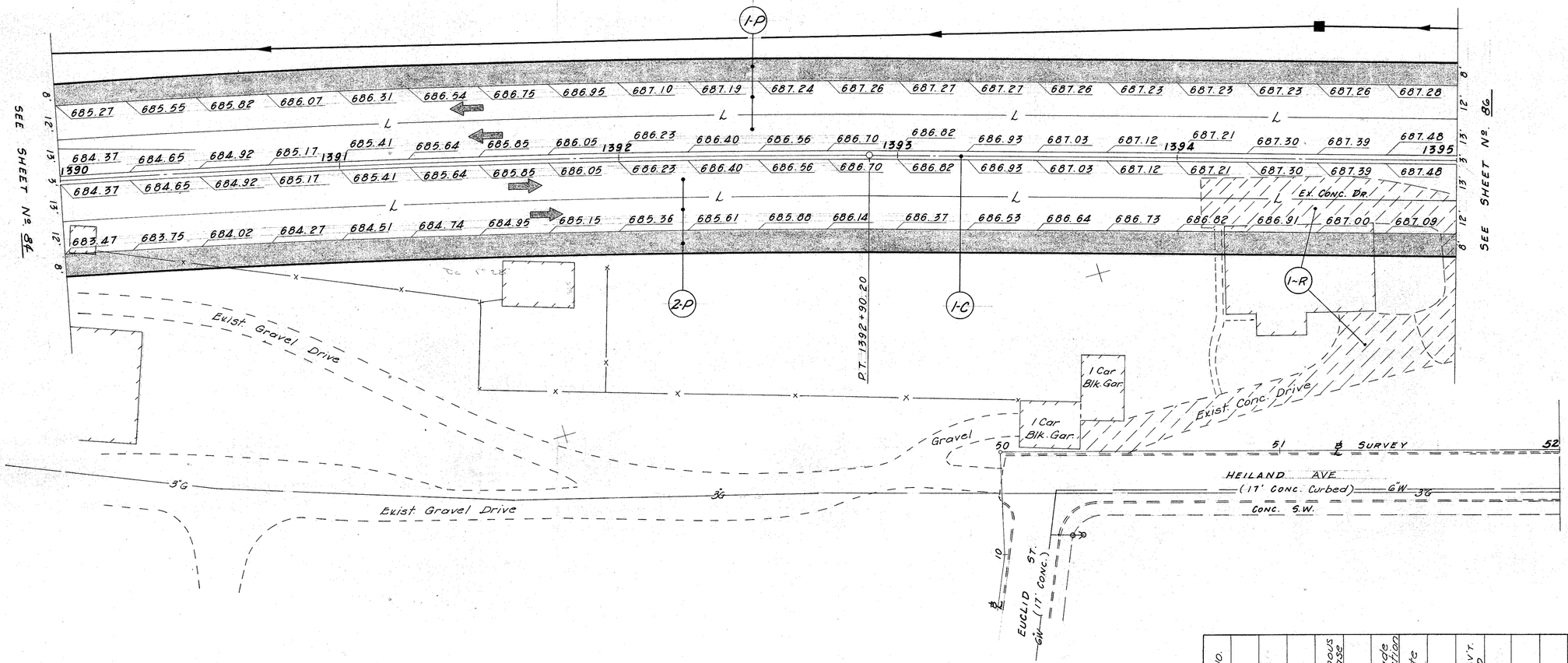
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



REF. NO.	451 (8")		301 Bituminous Agg. Base		203 Subgrade Compaction	622 Concrete Barrier	202 Pav't. Removed									
	S.Y.		C.Y.		S.Y.	L.F.	S.Y.									
1-P	13889		265.4		2000											
2-P	13889		265.4		2000											
1-C						500										
1-R							400.0									
Total	27778		531		4000	500	400									

LEGEND

Item 301, Bituminous Aggregate Base

ITEM 202, EXISTING PAV'T. REMOVED

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCD.		
QUANTITIES CHECKED		

PAVEMENT DETAILS STA. 1390+00 To STA. 1395+00

A. E. STILSON & ASSOC.
Quantities Calculated E.C.T. 1-30-69
Quantities Checked A.E.S. 11-30-70
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ch'd J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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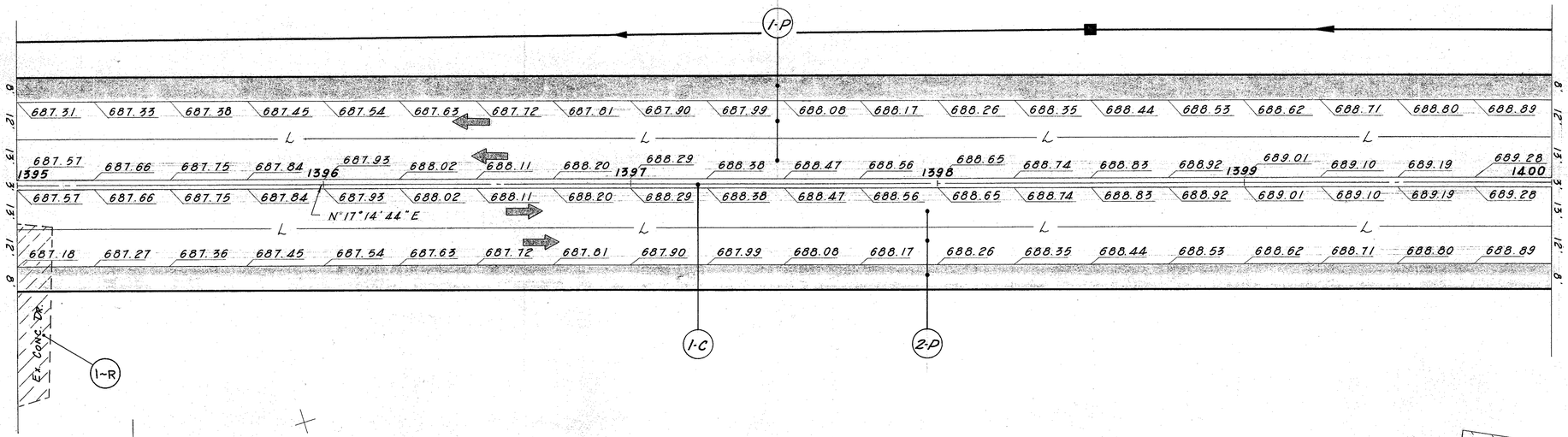
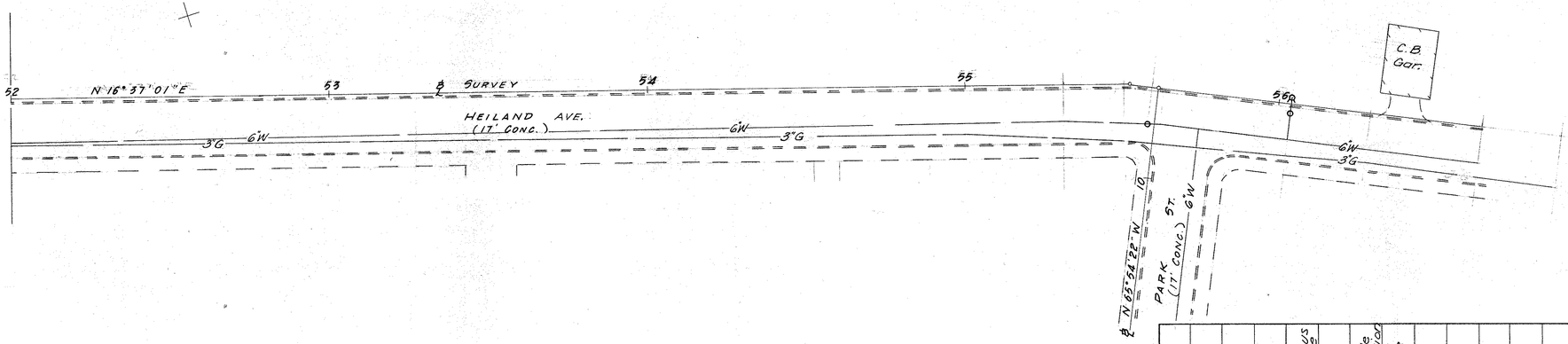
BELMONT & JEFFERSON COUNTIES
BEL - 7 - 23.74 JEF - 7 - 0.00

SEE SHEET No. 85



SEE SHEET No. 87



LEGEND

Item 301, Bituminous Aggregate Base

ITEM 202, EXIST. PAV'T REMOVED

Ref. No.	451 (9")		301 Bituminous Agg. Base		203 Subgrade Compaction	622 Concrete Barrier		202 PAV'T REMOVED								
	S.Y.		C.Y.		S.Y.	L.F.		S.Y.								
1-P	1388.9		265.4		2000											
2-P	1388.9		265.4		2000											
1-C						500										
1-R								71.0								
Total	2778	✓	531	✓	4000	500	✓	71	✓							

PAVEMENT DETAILS STA. 1395+00 To STA. 1400+00

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

A. E. STILSON & ASSOC.
Quantities Calculated E.C.T. 1-30-69
Quantities Checked D.L.B. 11-30-70
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ch'd J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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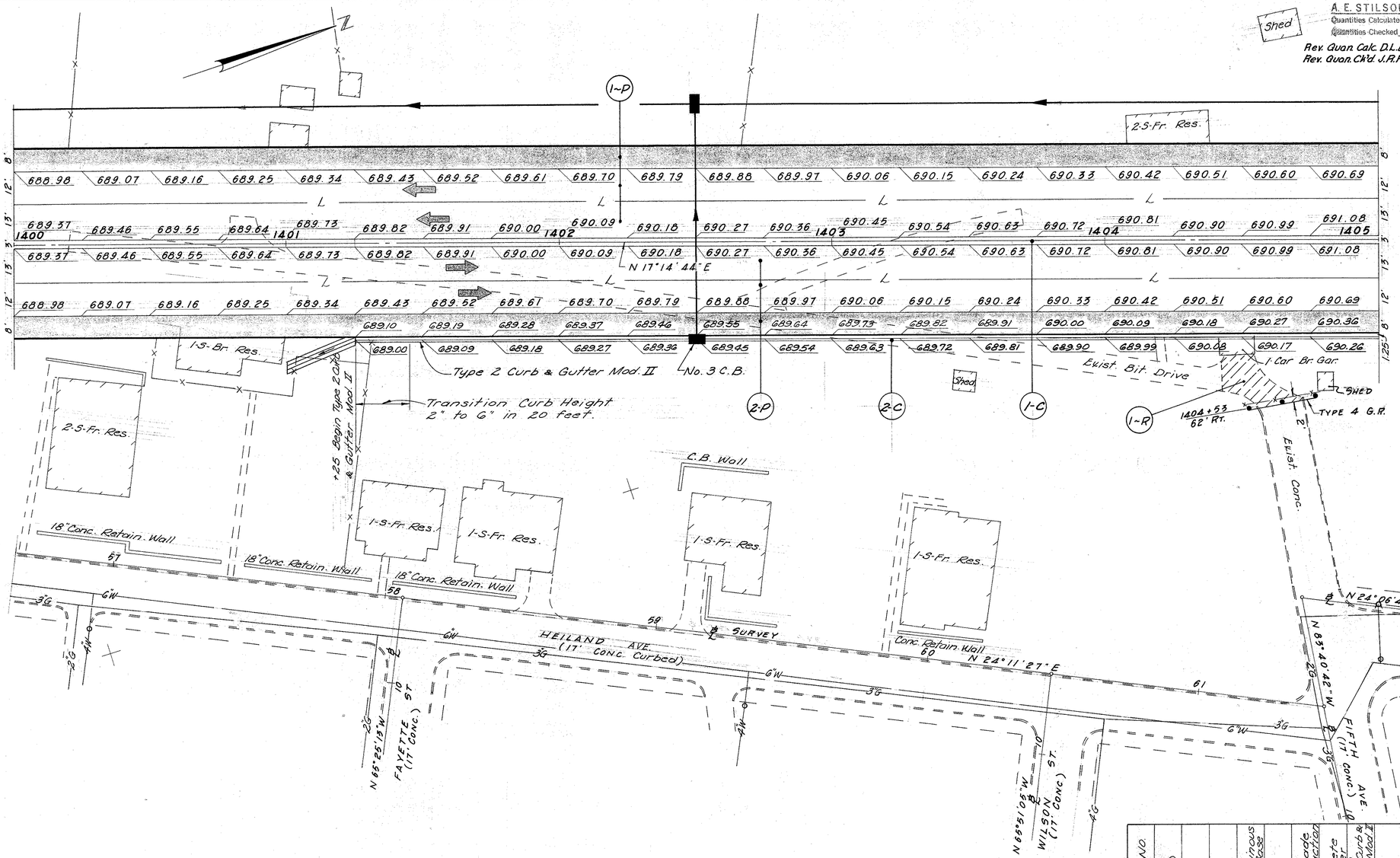
462

BELMONT & JEFFERSON COUNTIES
BEL - 7 - 23.74 JEF - 7 - 0.00

SEE SHEET No. 86

SEE SHEET No. 88



REF. NO	451 (9")			301 Bituminous Agg. Base		203 Subgrade Compaction	622 Concrete Barrier	609 Curb & Gutter Mod. II		202 Exist. Pav't. Removed									
	S.Y.			C.Y.		S.Y.	L.F.	L.F.		S.Y.									
1-P	13889			265.4		2000													
2-P	13889			265.4		2073													
1-C							500												
2-C								375											
1-R										34.6									
Total	27778			531		4073	500	375		35									

LEGEND
Item 301, Bituminous Aggregate Base
ITEM 202, EXISTING PAV'T. REMOVAL

PAVEMENT DETAILS STA. 1400+00 TO STA. 1405+00

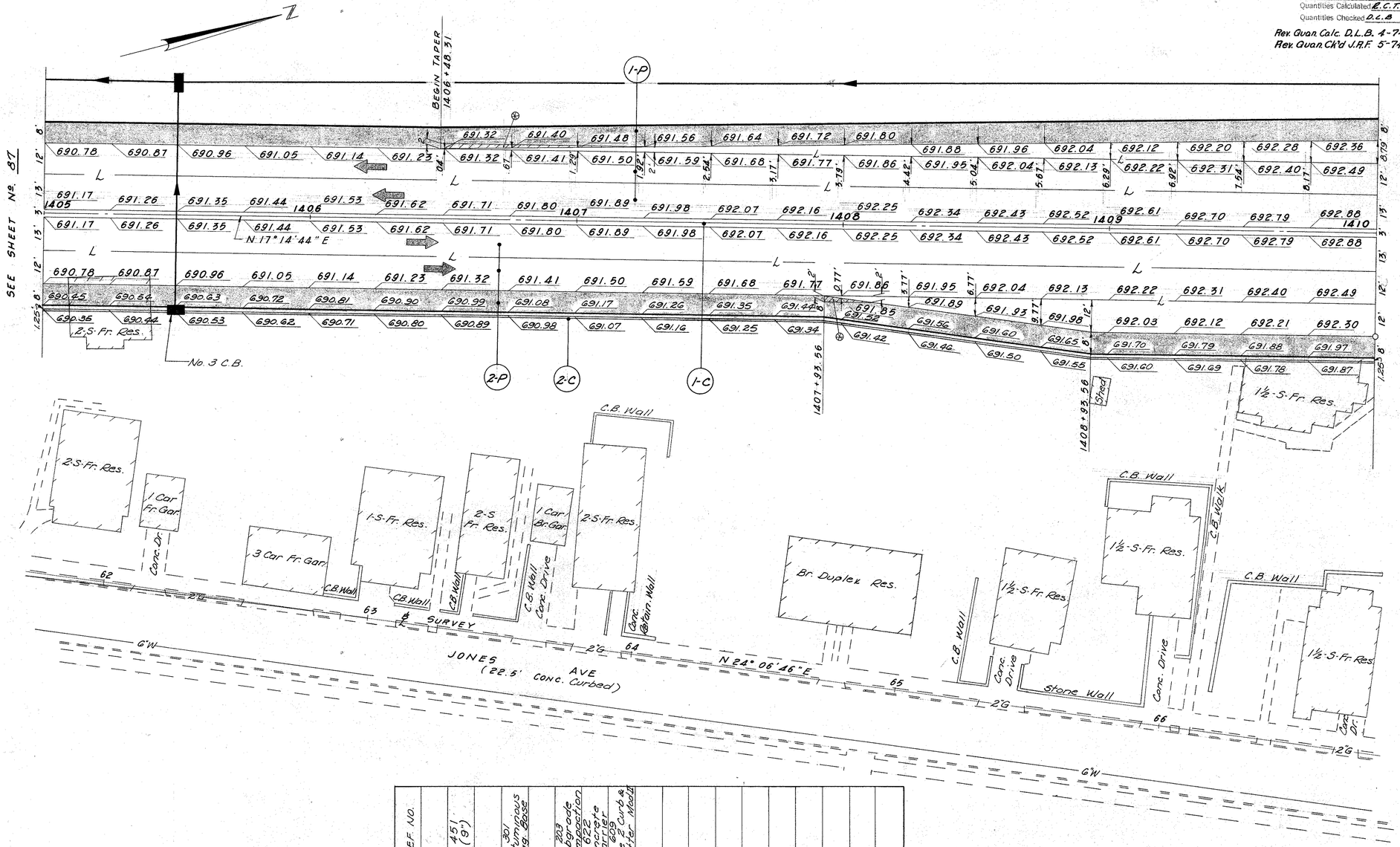
	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

A. E. STILSON & ASSOC.
Quantities Calculated R.C.T. 1-30-69
Quantities Checked D.C.B 11-30-70
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

88
462

BELMONT & JEFFERSON COUNTIES
BEL - 7 - 23.74 JEF - 7 - 0.00



REF. NO.		451 (9")		301 Bituminous Agg. Base		203 Subgrade Compaction	622 Concrete Barrier	609 Curb & Gutter Width
		S.Y.		C.Y.		S.Y.	L.F.	L.F.
1-P		1569.5		284.1		2172		
2-P		1599.4		289.5		2306		
1-C							500	
2-C								494
Total		3169		573		4478	500	494

⊛ The hatched area shall be constructed of concrete pavement to an elevation two inches lower than the adjacent pavement and surfaced with two inches bituminous aggregate. This area shall be paid for as Item's 451 and 301.

LEGEND

Item 301, Bituminous Aggregate Base

PAVEMENT DETAILS STA. 1405+00 TO STA. 1410+00

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd J.R.F. 5-74

A. E. STILSON & ASSOC.
Quantities Calculated R.C.T. 1-31-69
Quantities Checked D.L.B. 11-30-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

SEE SHEET No. 88

SEE SHEET No. 90



REF NO	451 (9")	301 Bituminous Agg Base	203 Subgrade Compaction	622 Concrete Barrier	609 Type 2 Curb & Gutter Mod. II
	S.Y.	C.Y.	S.Y.	L.F.	L.F.
1-P	2224.5	358.2	2836		
2-P	2366.1	374.0	2908		
1-C				500	
2-C					494
Total	4591	732	5744	500	494

LEGEND
Item 301, Bituminous Aggregate Base

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

PAVEMENT DETAILS STA. 1410+00 To STA. 1415+00

A. E. STILSON & ASSOC.
Quantities Calculated R.C.T. 1-31-67
Quantities Checked D.L.B. 11-30-70
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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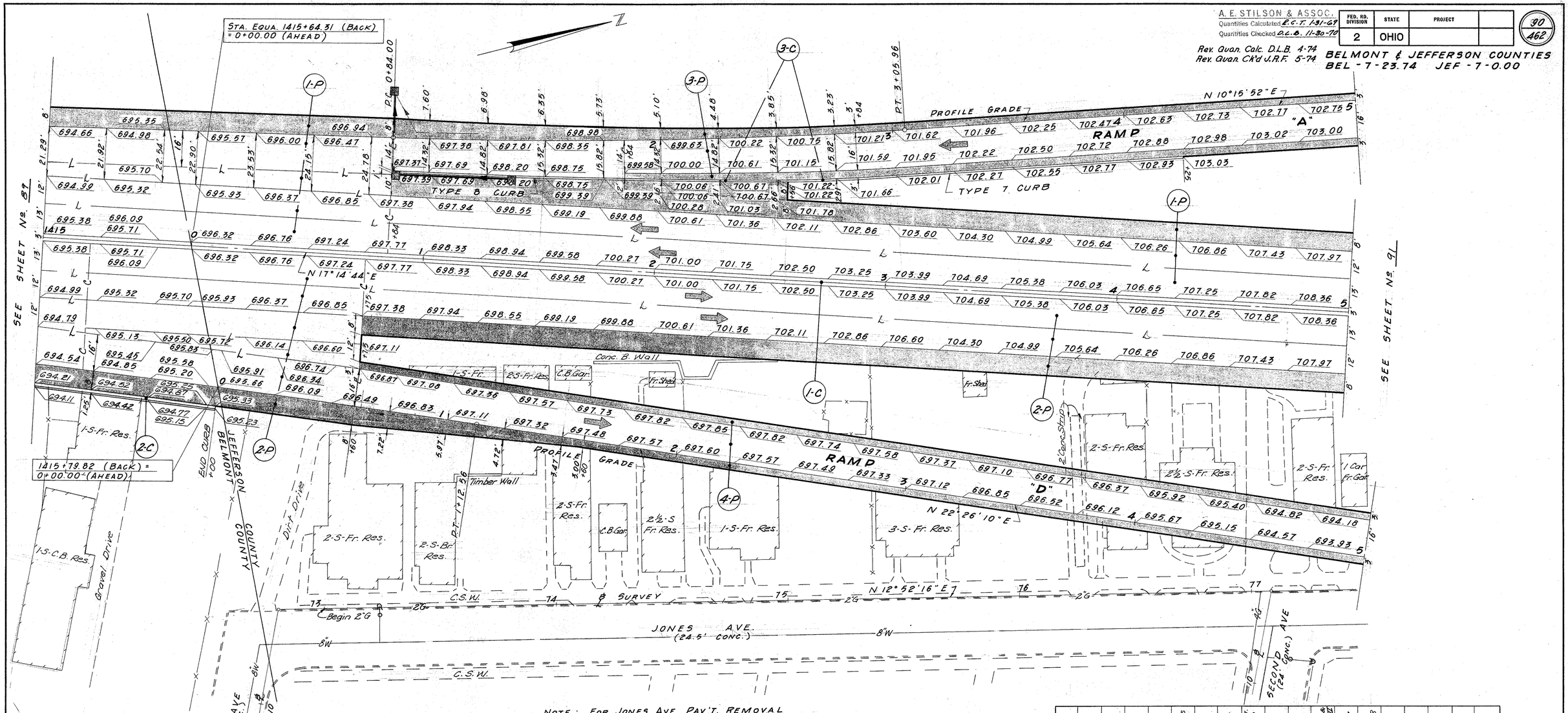
462

BELMONT & JEFFERSON COUNTIES
BEL - 7 - 23.74 JEF - 7 - 0.00



NOTE: FOR JONES AVE. PAV'T. REMOVAL SEE SHEET No. 94

LEGEND

Item 301, Bituminous Aggregate Base

REF. NO.	451 (9")			301 Bituminous Agg. Base	310 Subbase Grading "A"	304 Aggregate Base	Special Dra Connection No. 8 Agg.	203 Subgrade Compaction	622 Concrete Barrier	609 Type 2 Curb & Gutter Mod. II	609 Curb Type 7	609 Curb Type 8					
	S.Y.			C.Y.	C.Y.	C.Y.	C.Y.	S.Y.	L.F.	L.F.	L.F.	L.F.					
1-P	1948.9			359.6				2695									
2-P	2088.4			356.8				2773									
3-P	717.4			84.5	62.1	45.2	21.3	1131									
4-P	782.2			26.8	176.7	49.3	22.5	1250									
1-C									564.3								
2-C										78.5							
3-C											17.1	17.1					
Total	5532			768	339	95	44	7649	564	79	17.1	17.1					

PAVEMENT DETAILS STA. 1415+00 TO STA. 5+00

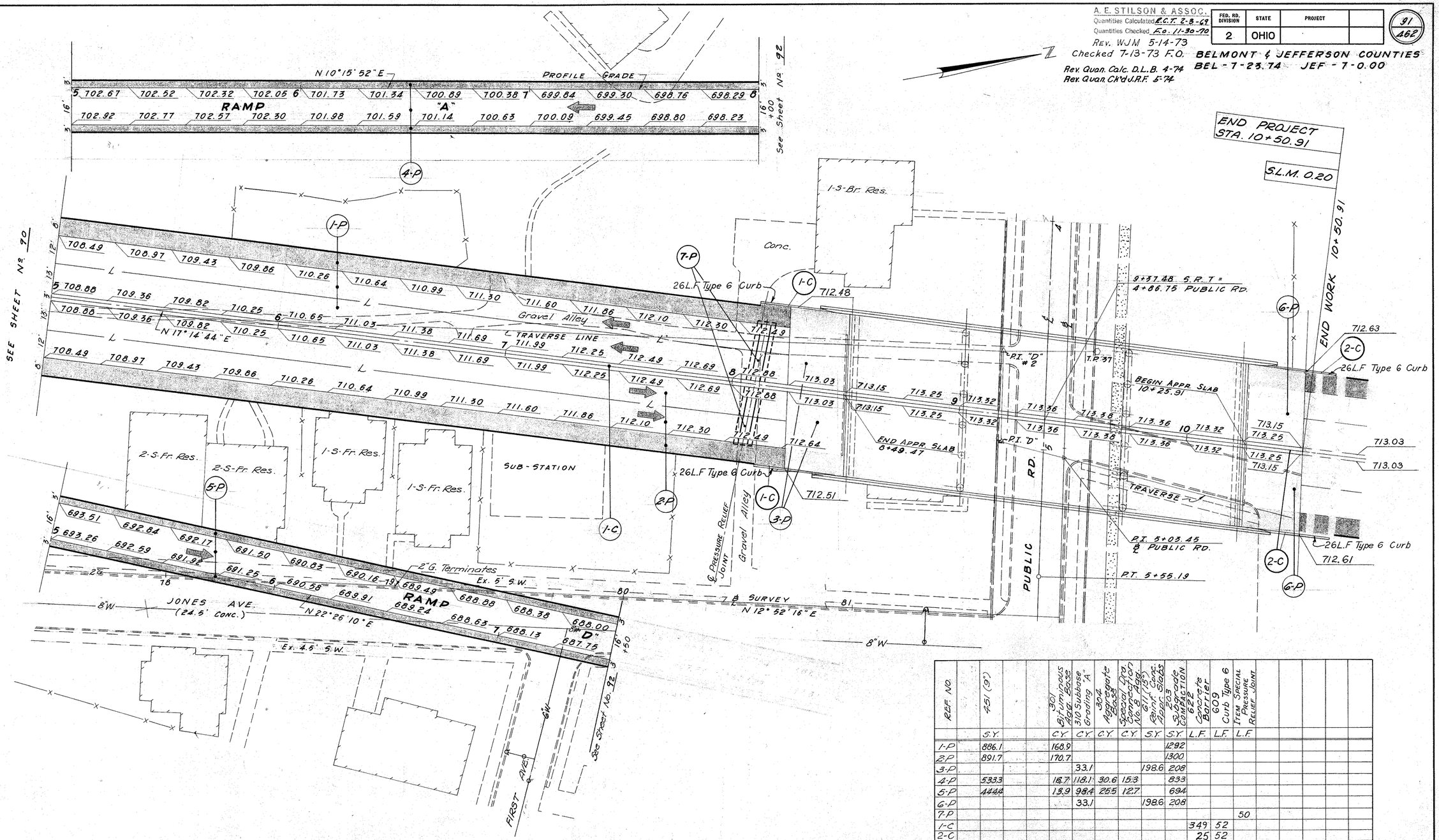
	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

A. E. STILSON & ASSOC.
Quantities Calculated E.C.T. 2-3-69
Quantities Checked F.O. 11-30-70
Rev. WJM 5-14-73
Checked 7-13-73 F.O.
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

91
462



REF. NO.	451 (9")		301 Bituminous Aggr. Base	310 Subbase Grading "A"	304 Aggregate Special Dns Compaction No. 8 Agg.	611 (15") Reinf. Conc. Apron Slabs	2 Subgrade Compaction 622	Concrete Barrier	609 Curb Type 6	Item Special Pressure Relief Joint					
	S.Y.		C.Y.	C.Y.	C.Y.	C.Y.	S.Y.	S.Y.	L.F.	L.F.	L.F.				
1-P	886.1		168.9				1292								
2-P	891.7		170.7				1300								
3-P				33.1			198.6	208							
4-P	5333		187	118.1	30.6	15.3		833							
5-P	4444		139	98.4	25.5	12.7		694							
6-P				33.1			198.6	208							
7-P											50				
1-C									349	52					
2-C									25	52					
Total	2756		370	283	56	28	3.97	4535	374	104	50				

LEGEND
Item 301 Bituminous Aggregate Base

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

PAVEMENT DETAILS STA. 5+00 TO STA. 10+50.91

A. E. STILSON & ASSOC.
Quantities Calculated R.C.T. 2-6-69
Quantities Checked F.O. 11-30-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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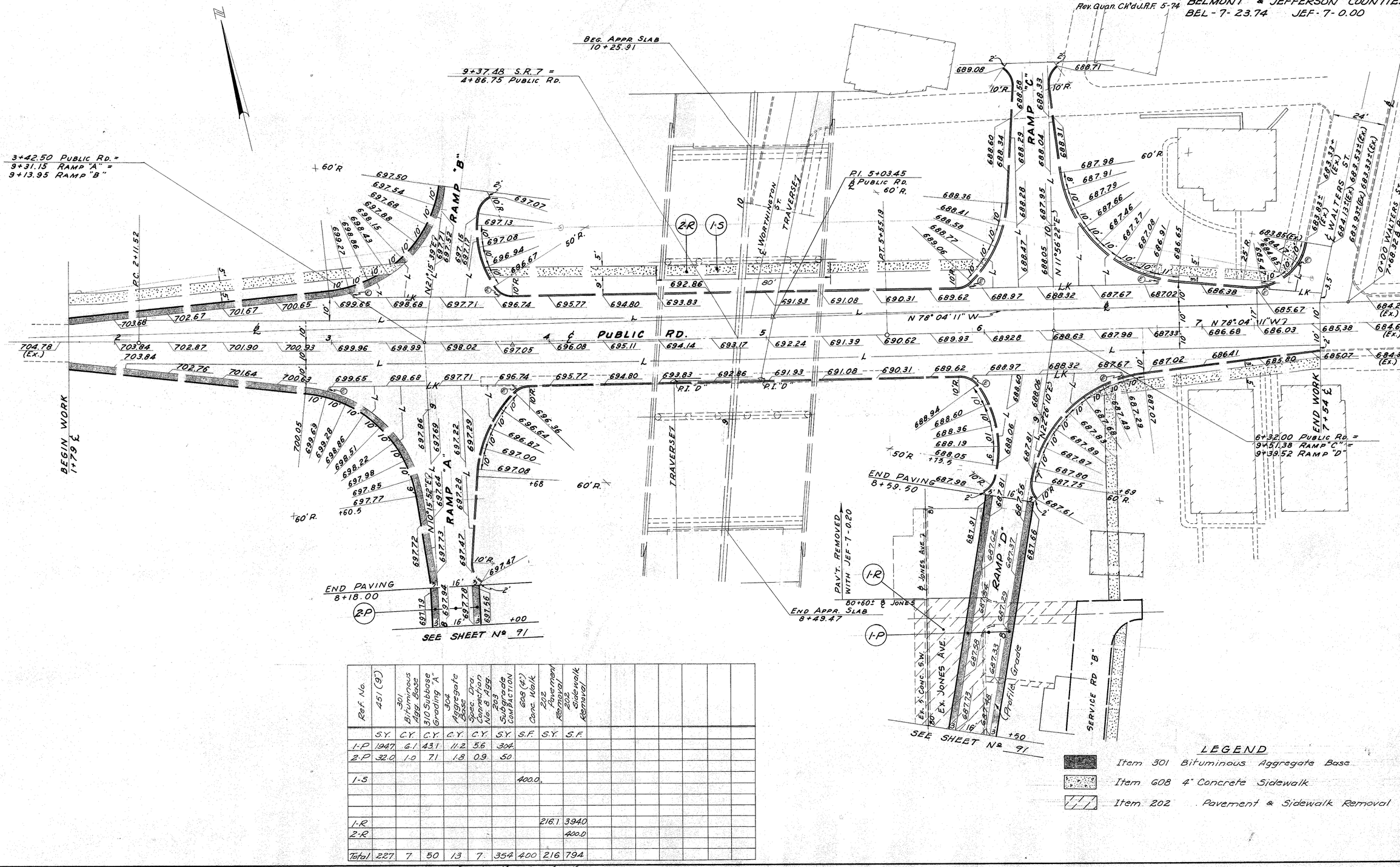
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd J.R.F. 5-74

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



Ref. No.	451 (9")	301 Bituminous Agg. Base	310 Subbase Grading "A"	304 Aggregate Base	Spec. Dra. Connection No. 8 Agg.	203 Subgrade COMPACTION	608 (4") Conc. Work	202 Pavement Removal	202 Sidewalk Removal
	S.Y.	C.Y.	C.Y.	C.Y.	C.Y.	S.Y.	S.F.	S.Y.	S.F.
1-P	194.7	6.1	43.1	11.2	5.6	304			
2-P	32.0	1.0	7.1	1.8	0.9	50			
1-S							400.0		
1-R								216.1	394.0
2-R									400.0
Total	227	7	50	13	7	354	400	216	794

LEGEND
Item 301 Bituminous Aggregate Base
Item 608 4" Concrete Sidewalk
Item 202 Pavement & Sidewalk Removal

PUBLIC ROAD PAVEMENT DETAIL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00



NOTE : This Sheet For Reference Purposes Only.

33-08-5-28

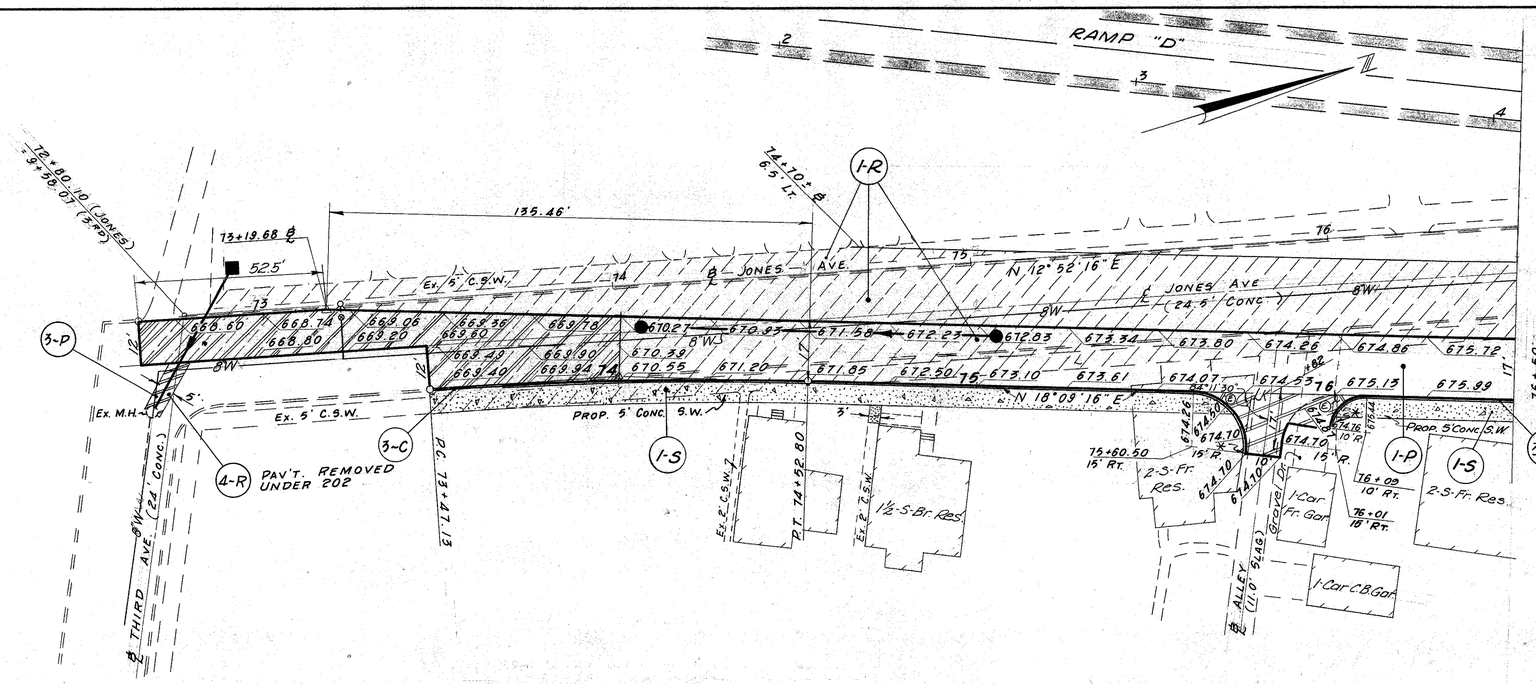
PAVEMENT DETAILS

A. E. STILSON & ASSOC.
Quantities Calculated E.C.T. 2-6-69
Quantities Checked D.L.B. 12-1-70
Rev. Quan. Calc. D.L.B. 4-74
Rev. Quan. Ck'd J.R.F. 5-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

94
462

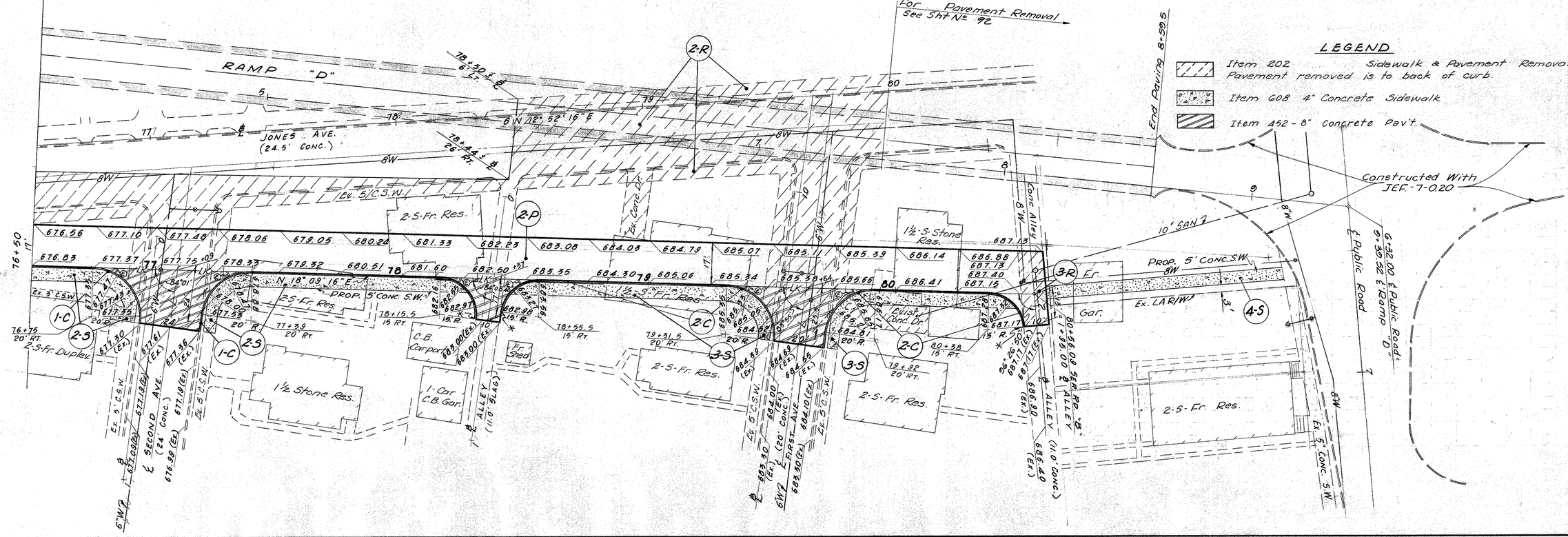
BELMONT & JEFFERSON COUNTIES
BEL - 7 - 23.74 JEF - 7 - 0.00



REF. No	452 (8")	608 (4") Concrete Sidewalk	609 Curb Type 2A	202 Pvmt. Removed	202 Sidewalk Removed	203 Subgrade Compaction				
	S.Y.	S.F.	L.F.	S.Y.	S.F.	S.Y.				
1-P	763.4					877.9				
2-P	1003.4					1142.6				
3-P	8.3									
1-R				804.4	2515					
2-R				932.2	3350					
3-R				70.0						
4-R				8.3						
1-C			194							
2-C			232							
3-C			292							
1-S		1372.5								
2-S		575.0								
3-S		980.0								
4-S		480.0								
TOTAL	1767	3708	718	1005	5865	2021				

NOTE:
* TRANSITION CURB FROM 0" TO 6" IN 10'

For Pavement Removal See Sht No. 92



LEGEND

Item 202 Sidewalk & Pavement Removal
Pavement removed is to back of curb.

Item 608 4" Concrete Sidewalk

Item 452 - 8" Concrete Pav't.

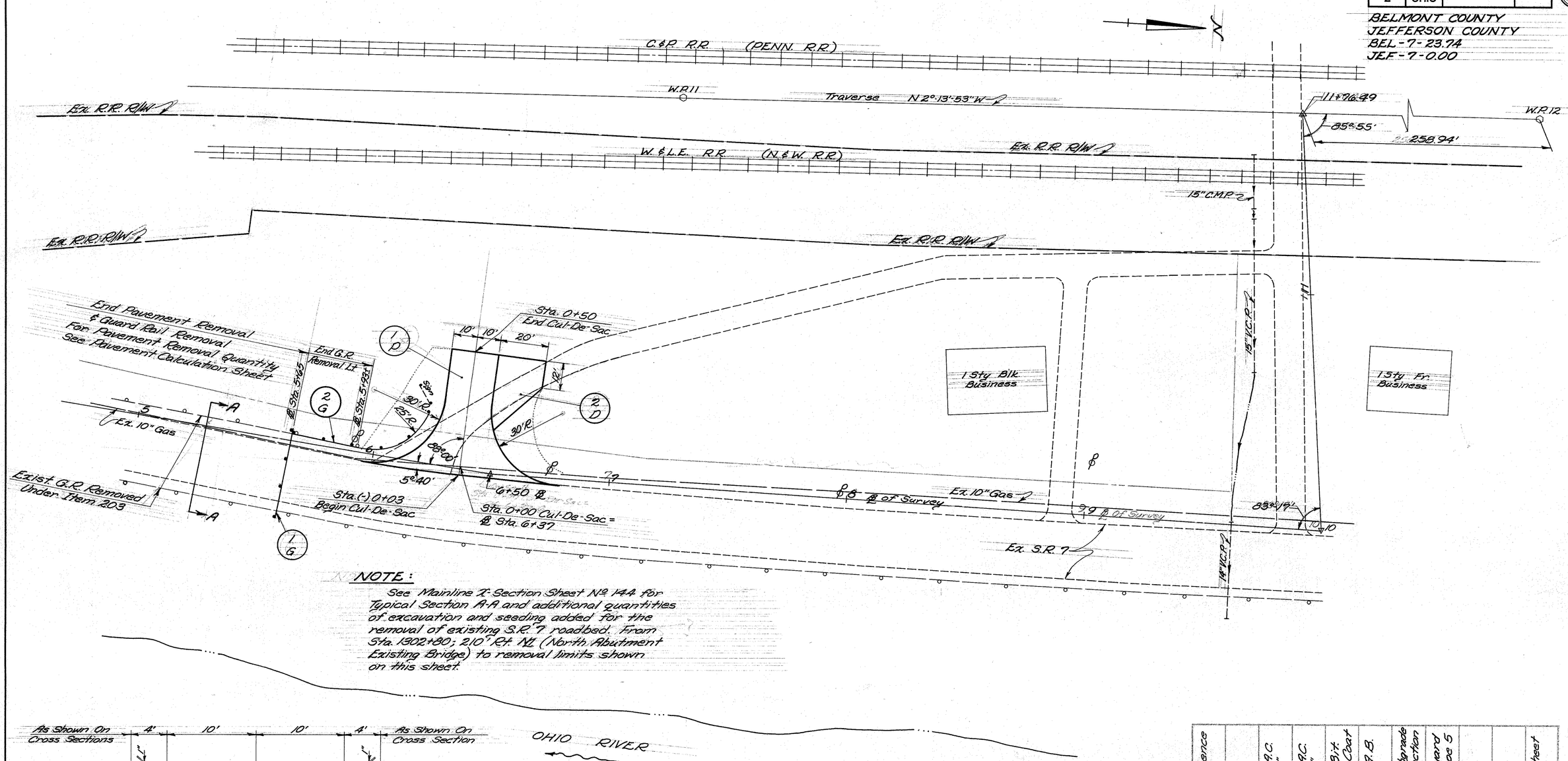
	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED DRAWN		
PROPOSED CHECKED		
QUANTITIES CALCULATED		
QUANTITIES CHECKED		

SERVICE ROAD "B"

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

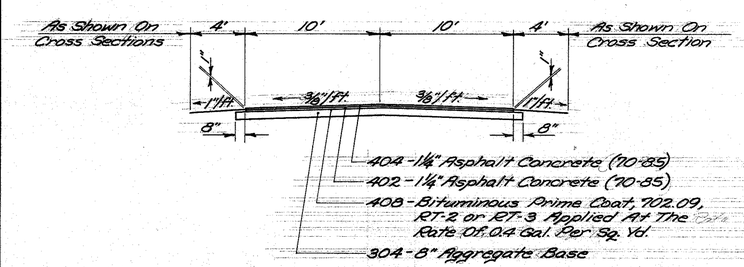
95
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00



NOTE:

See Mainline X-Section Sheet No. 144 for Typical Section A-A and additional quantities of excavation and seeding added for the removal of existing S.R. 7 roadbed. From Sta. 1302+80; 210' Rt. NL (North Abutment Existing Bridge) to removal limits shown on this sheet.



TYPICAL SECTION

Reference No.		404 A.C. 1¼"	402 A.C. 1¼"	408 Bit. Prime Coat	304 A.B. 8"	203 Subgrade Compaction	606 Guard Rail, Type 5			See Sheet No.
		Cu. Yd.	Cu. Yd.	Gal.	Cu. Yd.	Sq. Yd.	Lin. Ft.			
1-P		5.58	5.58	68.4	38.01	161				
2-D					10.86					
1-G							37.5			
2-G							62.5			
Total		5.58	5.58	68.4	48.87	161	100			

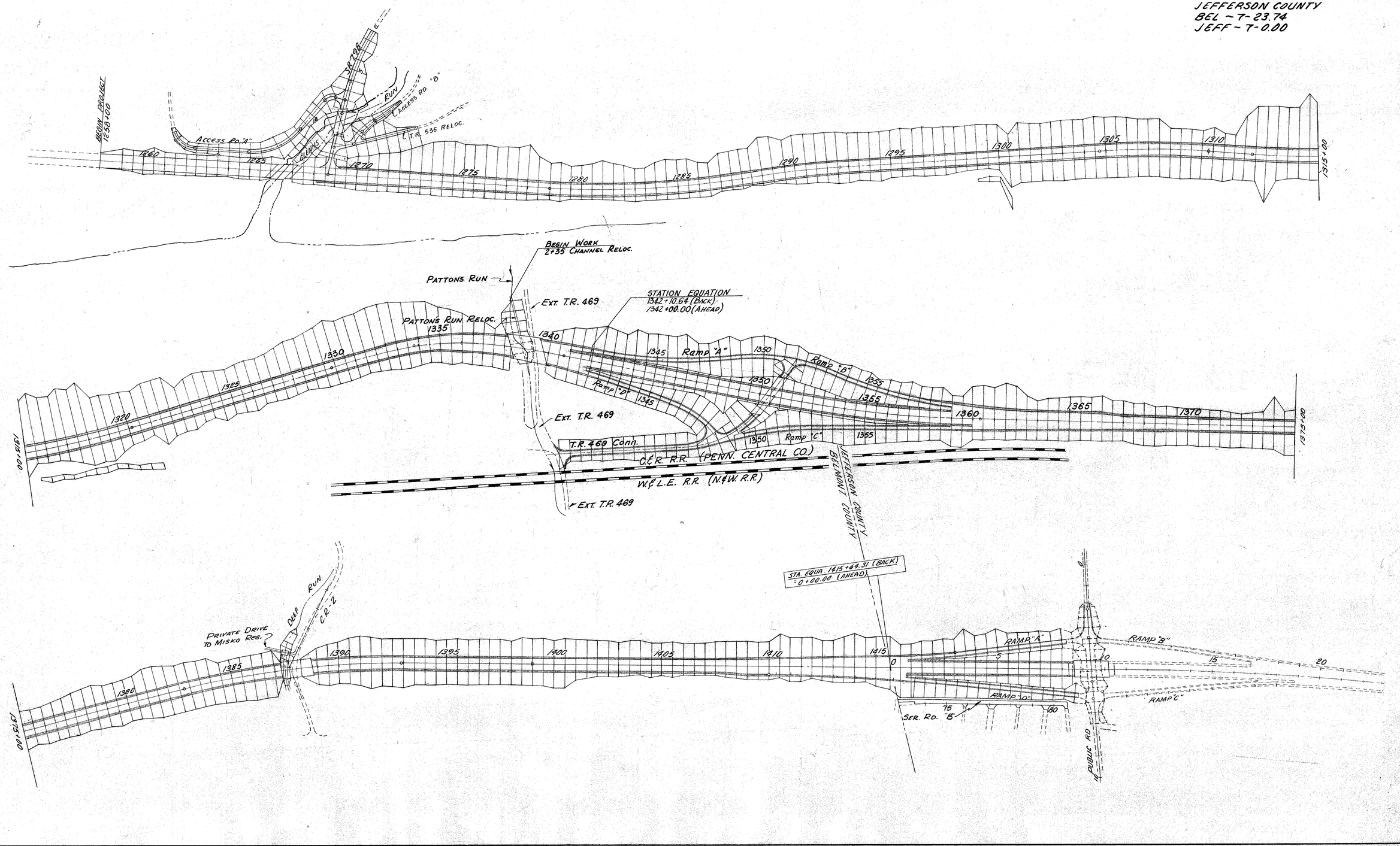
Calculated By	Checked By
JWH	J.T.P.
12-31-71	10-22-73

PROPOSED CUL-DE-SAC (EXIST. S.R. 7)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

96
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL - 7- 23.74
JEFF - 7- 0.00



CROSS SECTION LAYOUT

SEC. NO. REVISION	STATE	PROJECT	
2	OHIO		

37
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.L.B. Feb. 1970

GRADING	CROSS SECTIONS
CUT SHEET	CUT VOL.

CROSS SECTION AREA		VOLUME	
CUT	FILL	CUT	FILL

140 120 100 80 60 40 20 0 20 40 60 80 100

740
720
700
680
660

15

167*

1255+00
666.77

C=2 2:1 2:1 E=4 C=1

℄ R.R.

3 4

700
680
660

11* 15*

15

1254+00
667.37

C=2 2:1 2:1 E=4 C=1

℄ R.R.

3 4

128*

8

1253+00
667.47

2:1 E=4 C=2

℄ R.R.

2 4

8*

1* 2*

0

STA. 1252+80

* U-RF-430(15)

0 0

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

STA. 1253+00 TO STA. 1255+00

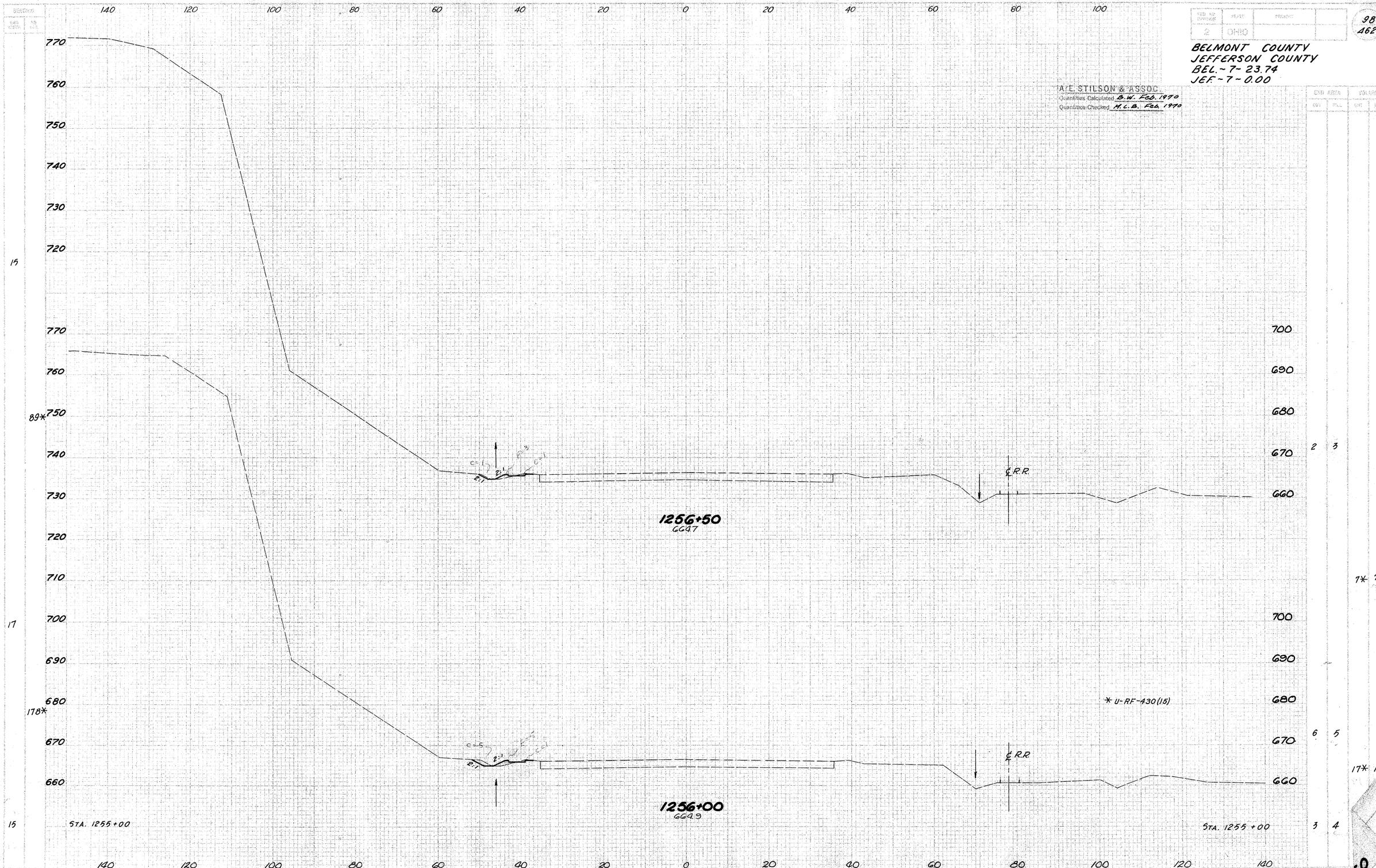
SHEET NO.	STATE	PROJECT	
2	OHIO		

38
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A.E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 1970
Quantities Checked M.C.B. FEB. 1970

CROSS SECTIONS	AREA		VOLUME	
	CUT	FILL	CUT	FILL



	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
SECOND DETERMINED	
SECOND CHECKED	

1256+00 to 1256+50

SECOND

FED. AID PROJECT	STATE	NUMBER	
2	OHIO		

99
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970

EXIST AREA		VOLUME	
CUT	FILL	CUT	FILL

120 100 80 60 40 20 0 20 40 60 80 100

770 760 750 740 730 720 710 700 690 680 670 660

21 100* 83*

Pav't Removed Under Item 203
C=7 2:1 2:1 F=1 C=46 F=2 F=13

1257+50
G640

℄ R.R.

770 760 750 740 730 720 710 700 690 680 670 660

15

Pav't Removed Under Item 203
F=1 2:1 2:1 C=55 F=1 F=7

1257+00
G643

℄ R.R.

700 690 680 670 660

48 19

95* 26*

* U-RF-430(15)

AHEAD 55 9
BACK 3 1

5* 4*

STA. 1256+50 2 3

15 STA. 1256+50

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
-AREAS CHECKED		
-DING DETERMINED		
-D ING CHECKED		

1257+00 to 1257+50

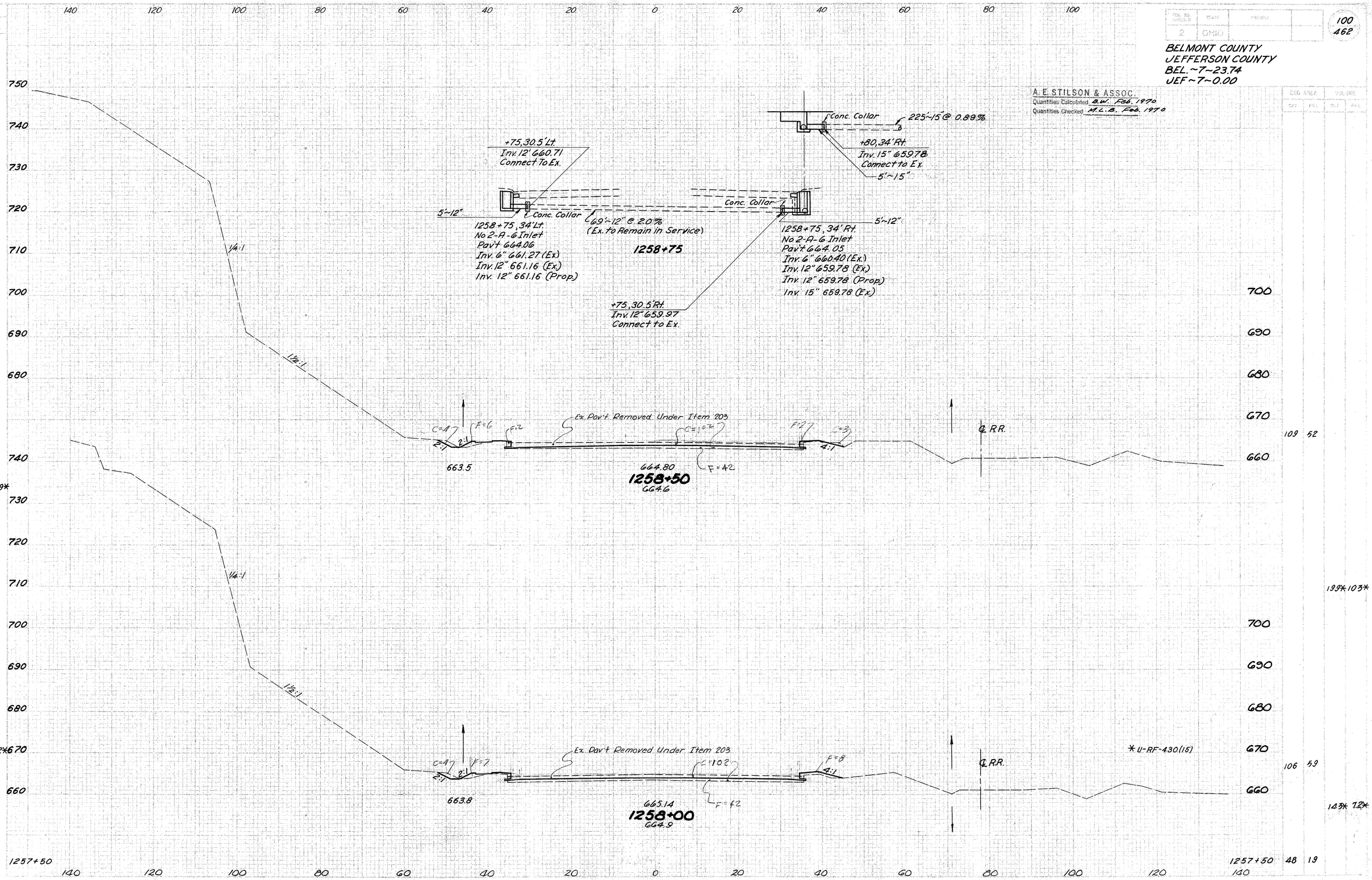
REV. NO.	STATE	PROJECT	
2	OHIO		

100
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

EXIST. AREA		VOLUME	
CUT	FILL	CUT	FILL



	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
VOLUMES DETERMINED	
VOLUMES CHECKED	

1258+00 to 1258+50

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.A. Feb. 1970

CHG AREA | VOLUME
CUT | FILL | CUT | FILL

140 120 100 80 60 40 20 0 20 40 60 80 100

700 690 680 670 660 650

2:1 2:1 C=1.9 F=3 662.5 C=NR2 Ex. Pav't Removed Under Item 203 F=2.5 F=6 C=1 4:1 0 15"

663.86
1260+00
663.8

283* 51

710 700 690 680 670 660 650

1½:1 1½:1 ½:1 1½:1 2:1 2:1 C=18 F=5 662.8 C=1.24 Ex. Pav't Removed Under Item 203 F=2.2 F=6 0 15"

664.16
1259+50
664.1

283* 51

730 720 710 700 690 680 670 660 650

1½:1 1½:1 ½:1 1½:1 2:1 2:1 C=12 F=2 663.1 C=1.44 Ex. Removed Under Item 203 F=2.4 F=4 0 15"

664.46
1259+00
664.3

278* 49

1258+50

℄ R.R.

142 34
142 33
156 32
1258+50 109 52

263* 62*
276* 60*
245* 78*

* U-RF-430(15)

EXISTING PLOTTED
EXISTING CHECKED
TEMPLATE PLOTTED
TEMPLATE CHECKED
AREA DETERMINED
AREA CHECKED
VOLS. DETERMINED
VOLS. CHECKED
BY
DATE

1259+00 to 1260+00

SCALING
1"=5' WIDTH | 1"=5' VERT.

140 120 100 80 60 40 20 0 20 40 60 80 100

REF. BK.	STATE	PROJECT	
2	OHIO		

102
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.L.B. Feb. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL

55 670 660 650 289*

C=8 F=18 C=4 F=10 C=70 F=15 C=1 F=1 4:1 2:1 2:1 0.15"
Ex. Pav't Removed Under Item 203
660.0 662.66 662.5
1262+00

83 42

49 670 660 650 283*

C=4.6 C=91 F=25 F=90 4:1 2:1 2:1 0.15"
Ex. Pav't Removed Under Item 203
661.6 662.36 662.8
1261+50

137 34

Conc. Collar Conc. Collar
+05.36' Lt. Inv. 15" 657.73 Connect to Ex.
10'-15" @ 1.40%
+05.36' Rt. Inv. 15" 657.59 Connect to Ex.

53 670 660 650 350*

C=174 F=2 C=1 F=1 4:1 2:1 2:1
Ex. Pav't Removed Under Item 203
661.9 663.26 663.1
1261+00
Ex. Inlets and Pipe to be Removed

175 9

73 680 670 660 650 344*

2:1 C=151 F=37 C=95 F=3 F=40 4:1 2:1 2:1 0.15"
Ex. Pav't Removed Under Item 203
662.2 663.56 663.5
1260+50

246 12

51 1260+00

* U-RF-430(15)

| | | |

FED. ROAD DIVISION | STATE | PROJECT
2 | OHIO

103
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.L.B. Feb. 1970

SEEDING
EXIST. WIDTH | NO. REQ.

CONTRACT NO. | DESIGN
APPROVED | DATE
APPROVED | DATE CHECKED
SEEDING DETERMINED
MULCHING CHECKED

END AREA
CUT | FILL | CUT | FILL

140 120 100 80 60 40 20 0 20 40 60 80 100

32 | 660 | 650 | 181*
See Access Rd. "A"
1264+50, 34' Lt.
Std. No. 3 C.B.
Pav't. 661.59
Grate 661.42
Inv. 12" 658.26
1264+50, 34' Rt.
Std. No. 3 C.B.
Pav't. 661.59
Grate 661.42
Inv. 12" 657.58 W.
Inv. 12" 656.03 E.
Ex. R.R. R/W
℄ C.&P. R.R.
A6:1
F=7.6
C=5
660.6
662.16
1264+50
GG1.3
68'-12" @ 1.0%
Type "B"
5'-12"
F=7.4
27"
660.0
(Ex. Ditch)
1264+50, 38.5' Rt.
Inv. 27" 653.71 ± Ex.
Inv. 12" 654.34
Connect to Ex.
G50 | 5 | 100 | 40* 118*

33 | 660 | 650 | 183*
See Access Rd. "A"
A8:1
F=19
C=7.5
660.4
661.98
1264+00
GG1.3
C=3
F=8
27"
659.6
(Ex. Ditch)
4'-12"
1263+75, 34' Lt.
Std. No. 3 C.B.
Pav't. 661.37
Grate 661.20
Inv. 12" 658.04
68'-12" @ 1.0%
Type "B"
1263+75, 34' Rt.
Std. No. 3 C.B.
Pav't. 661.37
Grate 661.20
Inv. 12" 657.36 W.
Inv. 12" 655.81 E.
1263+75, 37.5' Rt.
Inv. 27" 654.21 ± Ex.
Inv. 12" 654.84
Connect to Ex.
G60 | 38 | 27
G50 | 110* 51*

33 | 660 | 650 | 181*
See Access Rd. "A"
C=1
A5:1
F=9.2
Ex. Pav't Removed Under Item 203
C=80
660.2
661.95
1263+50
GG1.4
27"
F=7
659.8
(Ex Ditch)
G60 | 81 | 28
G50 | 171* 44*

32 | 660 | 650 | 181*
See Access Rd. "A"
A5:1
C=8
F=9
Ex. Pav't Removed Under Item 203
C=90
660.0
27"
F=11
659.9
(Ex. Ditch)
G60 | 104 | 20
G50

30 | 660 | 650 | 172*
662.08
1263+00
GG1.7
See Access Rd. "A"
1262+50, 34' Lt.
No. 2-A6 Inlet
Pav't. 661.79
Inv. 24" 656.68
Ex. Pav't Removed Under Item 203
C=6
F=11.7
C=14
F=8
C=58
F=11.7
Ex. R.R. R/W
Ex. Top 662.05
Ex. No. 1 M.H. @ 1262+50, 36 Rt.
660.3
(Ex. Ditch)
G60 | 78 | 27
G50 | 169* 44*
1262+50, 53' Lt.
Std. No. 5 C.B.
Grate 659.65
Inv. 24" 656.86
18'-24" @ 1.0% Type "C"
33'-24" @ 1.15% Type "B"
Conc. Collar
E=2
Ex. 24" @ 3.22%
+50, 3' Lt.
Inv. 24" 656.30
Connect to Ex.
1262+40, 34' Rt.
Std. No. 3 C.B.
Pav't. 661.85
Grate 661.68
Inv. 12" 658.52
Inv. 24" 655.05 Ex.
Ex. Manhole to remain in service. Reconstruct top to Elev. 662.41. (See detail at right)
662.36
1262+50
GG2.2
Ex. C.B.
Inv. 24" 656.46 Ex.
To be removed
* U-RF-430(15)
236* | 650
55 | 1262+00
G50 | 149* 64*
1262+00 | 83 | 42

1262+50 to 1264+50

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

104
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated D.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970

SOME AGREE		DIFFERS	
CUT	FILL	CUT	FILL

BEGIN STRUCTURE
Sta. 1266+26.83

Sta. 1266+26.83
(Same as 1266+00)
(Back Only) 0 530

0 527

660 0 530

650

640

630 0 628

See Access Rd. "A"

℄

12:1 8:1

661.2

F=5.30

662.76
1266+00
657.4

Ex. R.R. R/W

Ex. Structure Wall

℄ C.E.P. R.R.

660

650

640

630

0 128

0* 155*

0* 135*

0 185

5* 264*

See Access Rd. "A"

℄

5:1

661.0

F=5.8

662.56
1265+50
661.7

F=2

4:1

F=3.6

27"

Ex. R.R. R/W

℄ C.E.P. R.R.

660.7
(Ex. Ditch)

1265+50, 40' Rt.
Ex. No. 1 M.H.
Ex. Top 661.59
Ex. 27" 653.03
Reconstruct Top
To Elev. 662.95

RF-430(15)

1265+23.20

U-RF-430(15)

See Access Rd. "A"

℄

5:1

660.8

F=1.51

662.36
1265+00
660.8

F=3.4

27"

Ex. R.R. R/W

4:1

℄ C.E.P. R.R.

660.6
(Ex. Ditch)

* U-RF-430(15)

1264+50 5 100

1264+50

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

1265+00 to 1266+00

DATE	BY	
EXISTING PLOTTED		
EXISTING CHECKED		
PROPOSED PLOTTED		
PROPOSED CHECKED		
PROFILE DRAWING		
DRAWING DETAILED		
DRAWING CHECKED		

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

105
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970

FND AREA		VOLUME	
CUT	FILL	CUT	FILL
0	735		
		0	1467
0	849		
		0	517
0	849		

140 120 100 80 60 40 20 0 20 40 60 80 100

660
650
640
630

Glenns Run
Wing Wall
2:1
F=735
663.36
1267+50
666.1
1" I Ft. 4:1
Ex. RR. R/W
℄ C. & P. R. R.
Ex. Pav't
659.9
(Ex. Ditch)

Prop. Struc.
F=849
663.16
1267+00
636.0
Ex Structure
Ex. Pav't
659.7
(Ex. Ditch)

END STRUCTURE
STA 1266+83.55

Exist Bridge
659.5
(Ex. Ditch)

Prop Pump Sta
662.96
1266+50
629.1

(Ahead only)
1266+83.55

56
203
17
128
29
169
32

1266+00

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PAINTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
CODING DETERMINED		
CODING CHECKED		

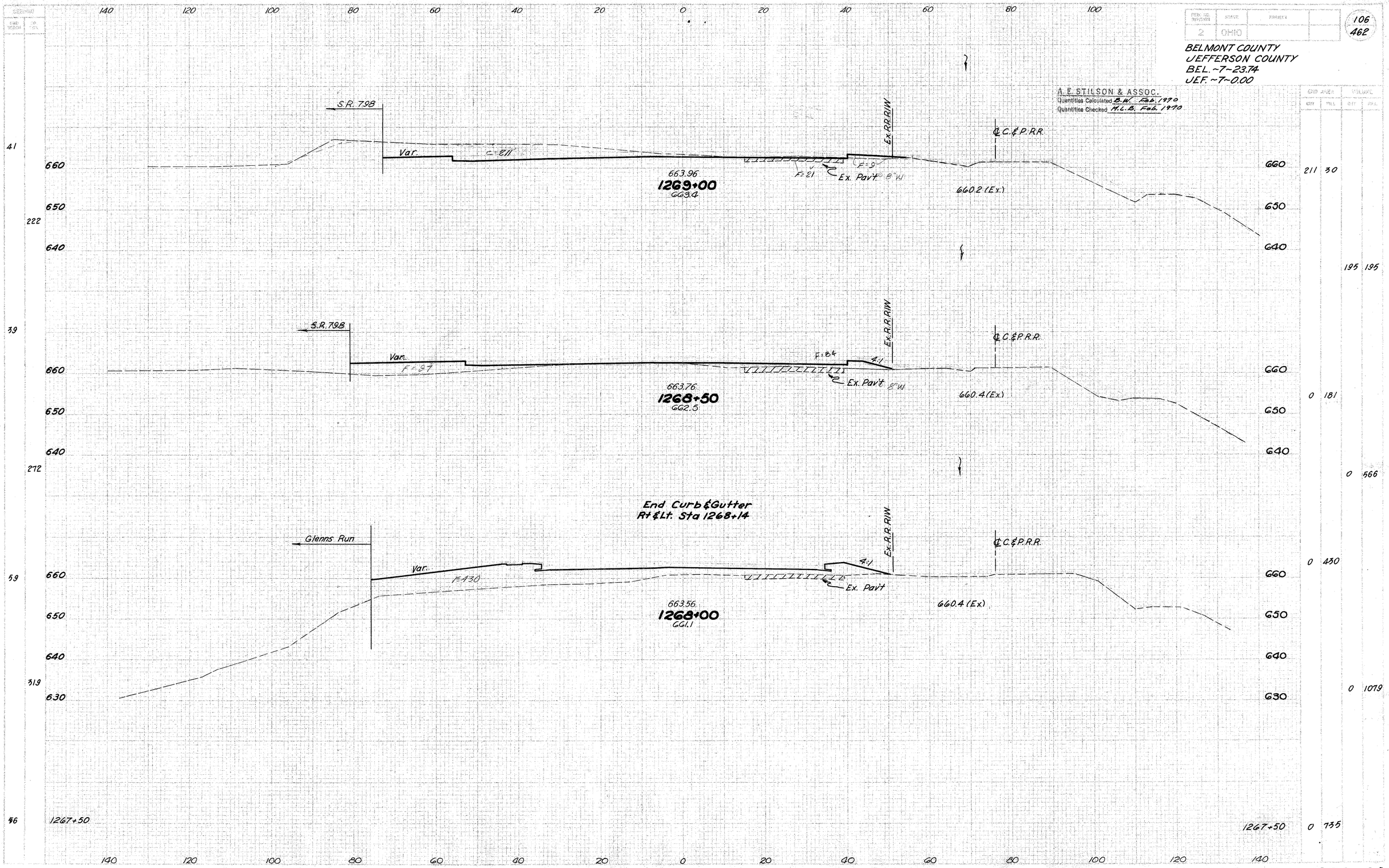
1266+50 to 1267+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

106
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
211	30		
		195	195
0	181		
		0	566
0	430		
		0	1079
0	735		

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SPEEDING DETERMINED		
SPEEDING CHECKED		

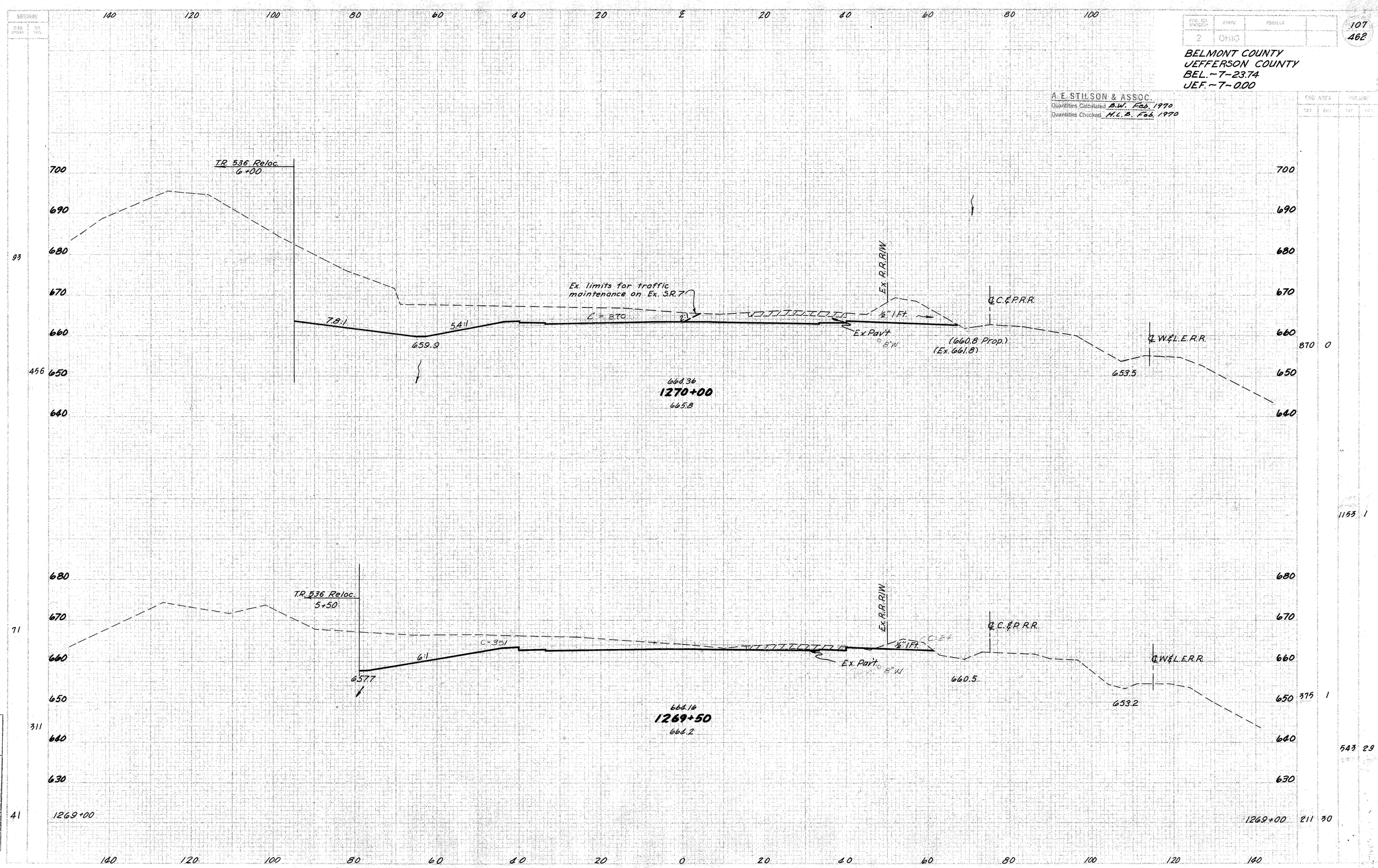
1268+00 to 1269+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

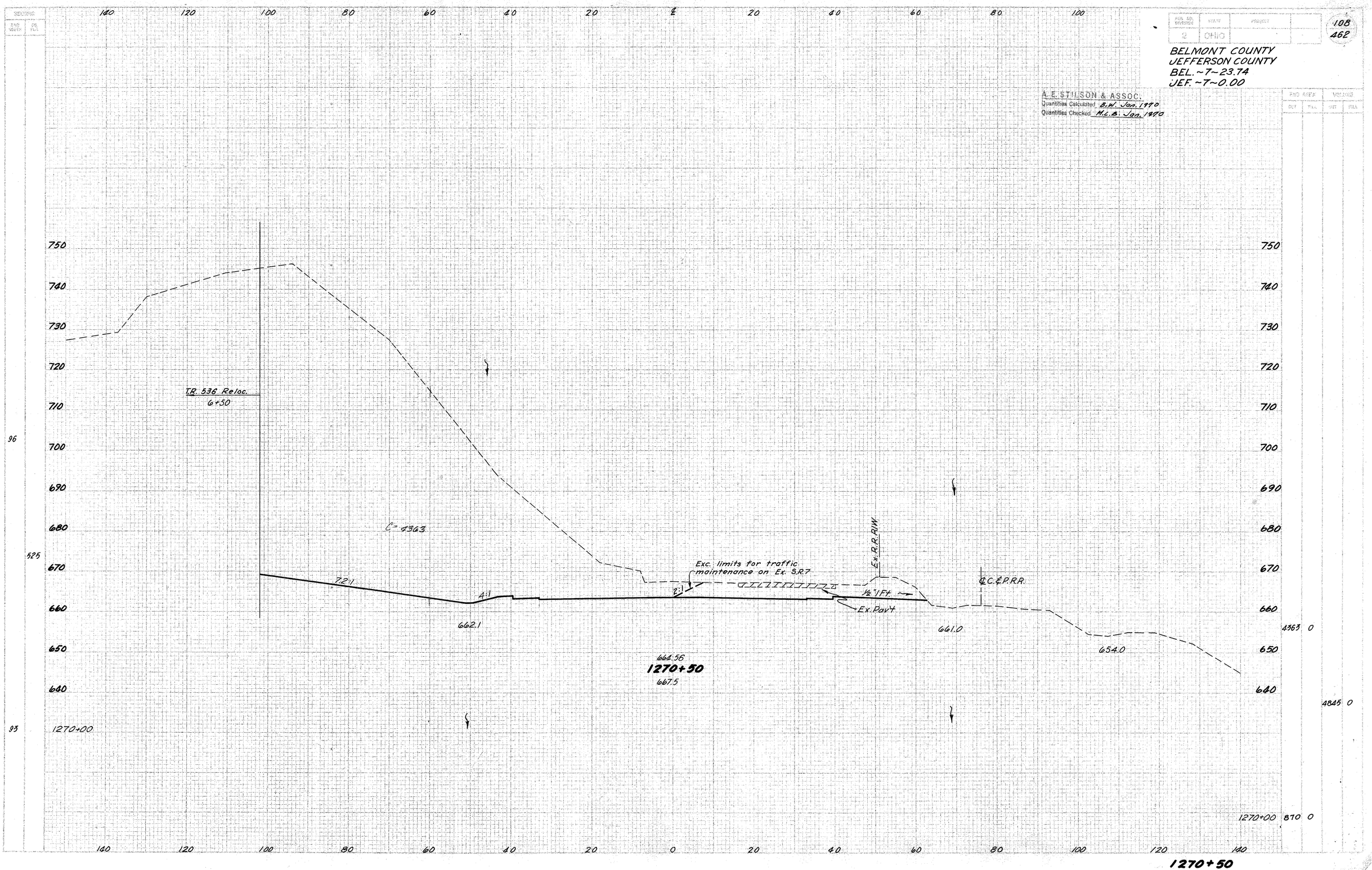
107
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

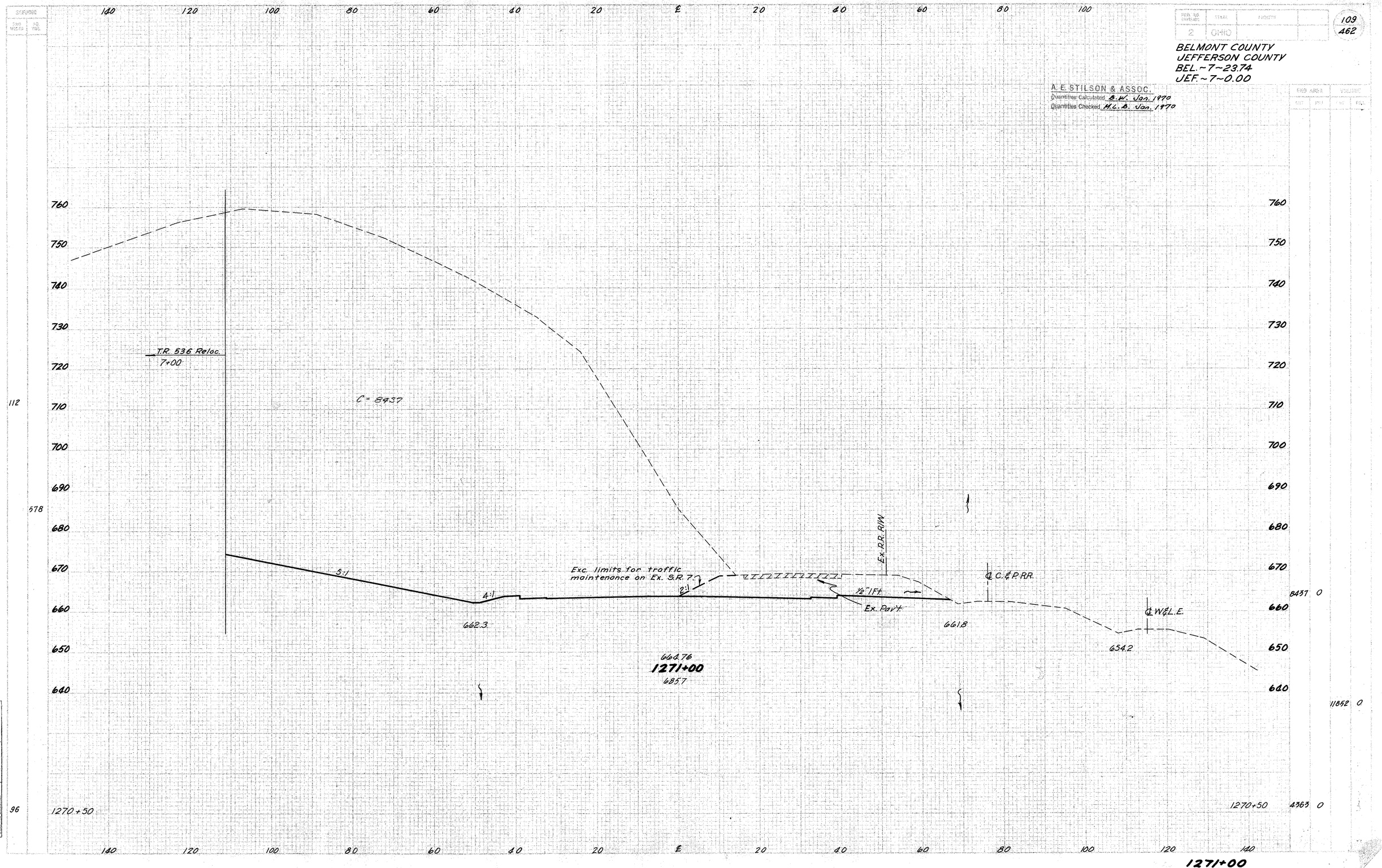
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970



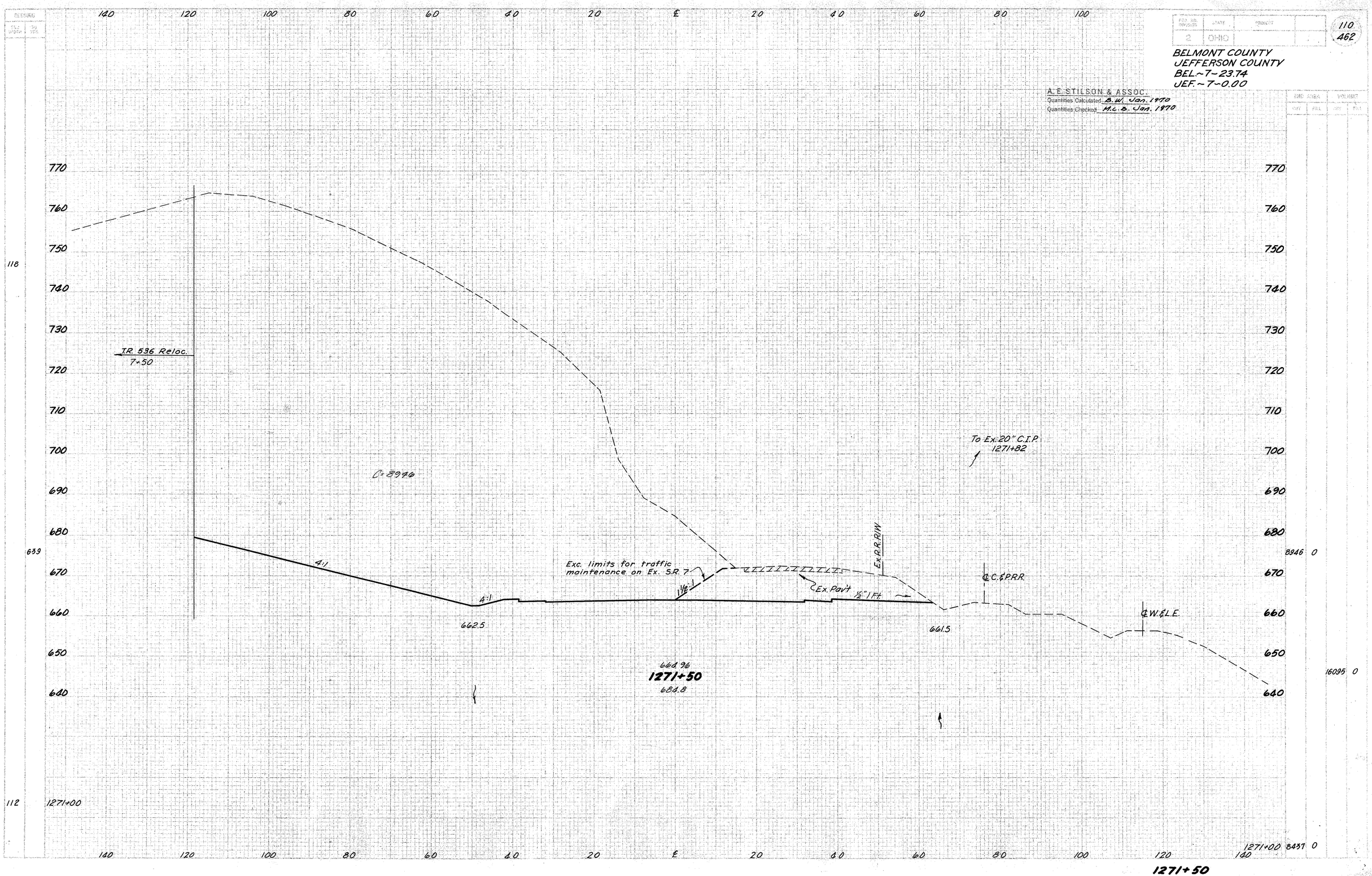
1269+50 to 1270+00



FED. RD. DIVISION 2
STATE OHIO
PROJECT
108
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
END AREA
VOLUME
CUT
FILL
140
120
100
80
60
40
20
℄
20
40
60
80
100
750
740
730
720
710
700
690
680
670
660
650
640
96
525
93
T.R. 536 Reloc.
6+50
C = 4363
7.2:1
4:1
2:1
Exc. limits for traffic maintenance on Ex. S.R.7
Ex. R.R. R/W
℄ C.&P.R.R.
½" 1 Ft.
Ex. Pav't
662.1
661.0
654.0
664.56
1270+50
667.5
1270+00
4363 0
4845 0
1270+00 870 0
0
1270+50
EXISTING PLOTTED
EXISTING CHECKED
TEMPLATE PLOTTED
TEMPLATE CHECKED
AREAS DETERMINED
AREAS CHECKED
SEEDING DETERMINED
SEEDING CHECKED
BY
DATE

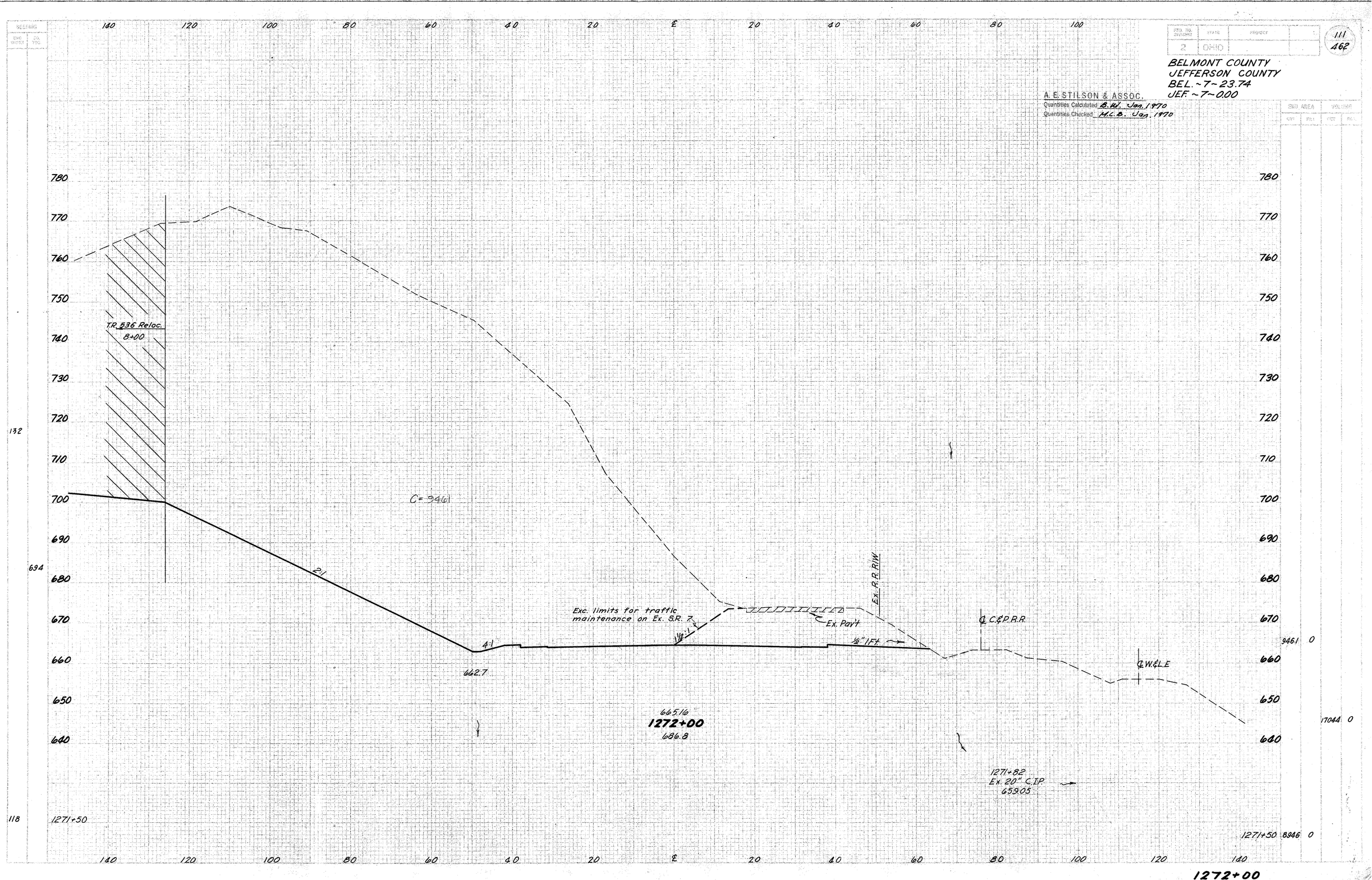


109
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
T.R. 536 Reloc.
7+00
C = 8437
Ex. R.R. R/W
Exc. limits for traffic maintenance on Ex. S.R. 7
5:1
4:1
2:1
½" 1 Ft.
Ex. Pav't.
℄ C.&P.R.R.
℄ W&L.E.
662.3
664.76
1271+00
685.7
661.8
654.2
8437 0
11852 0
4363 0
1270+50
1270+50
1271+00



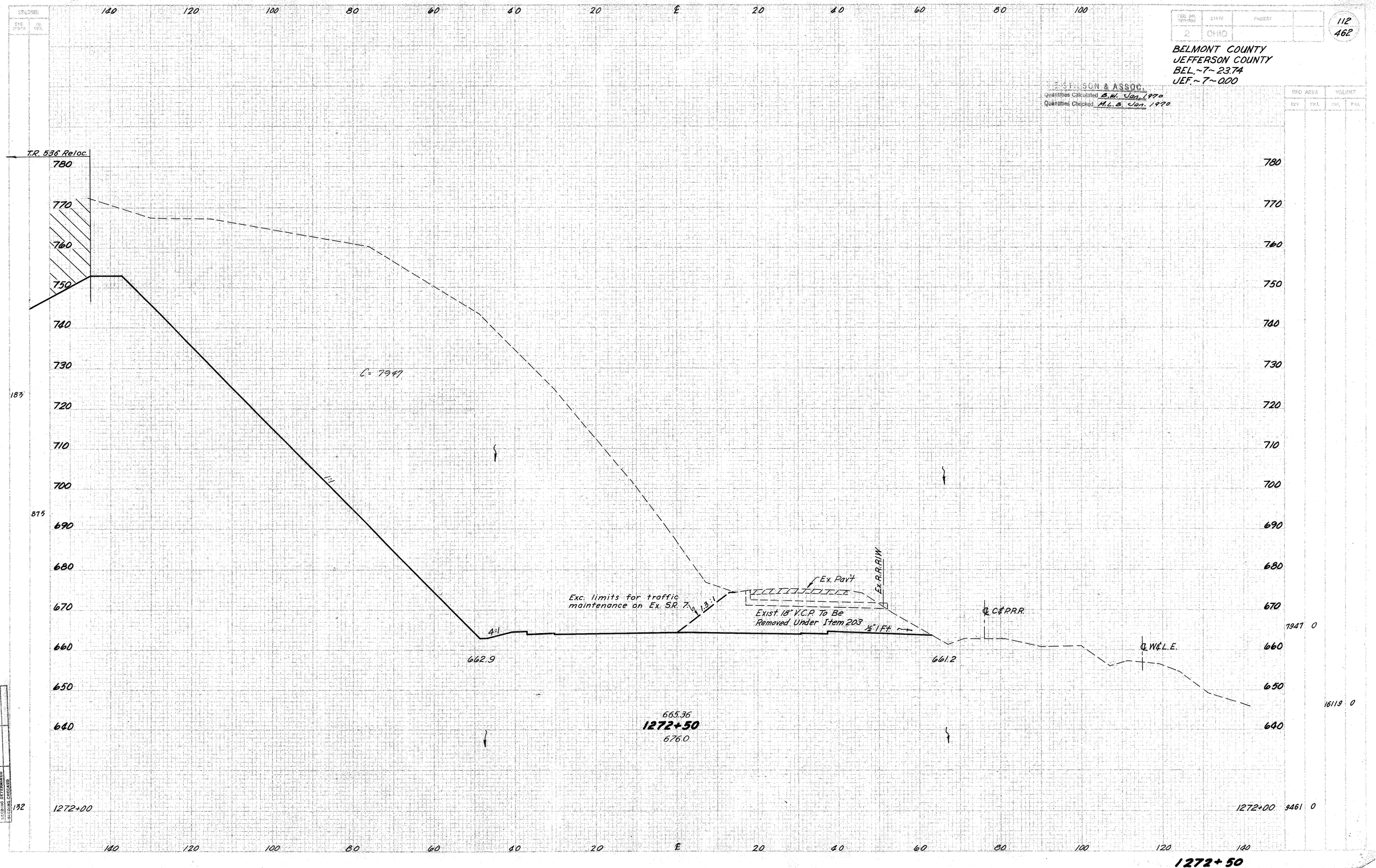
FED. RD. DIVISION 2
STATE OHIO
PROJECT
110
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
END AREA
VOLUME
CUT
FILL
SEEDING
SEED WIDTH
SEED YDS.
140
120
100
80
60
40
20
℄
20
40
60
80
100
770
760
750
740
730
720
710
700
690
680
670
660
650
640
118
639
112
1271+00
8946 0
16095 0
8437 0
1271+00
T.R. 536 Reloc.
7+50
C=8946
4:1
4:1
662.5
Exc. limits for traffic maintenance on Ex. S.R. 7
1½:1
Ex. Pav't
½" 1 Ft.
Ex. R.R. R/W
To Ex. 20" C.I.P.
1271+82
℄ C.&P.R.R.
℄ W.&L.E.
661.5
664.96
1271+50
684.8
EXISTING PLOTTED
EXISTING CHECKED
TEMPLATE PLOTTED
TEMPLATE CHECKED
AREAS DETERMINED
AREAS CHECKED
SEEDING DETERMINED
SEEDING CHECKED
BY
DATE

1271+50



FED. RD. DIVISION 2
STATE OHIO
PROJECT
111
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.C.B. Jan. 1970
SEEDING
END AREA
VOLUME
140 120 100 80 60 40 20 ℄ 20 40 60 80 100
780 770 760 750 740 730 720 710 700 690 680 670 660 650 640
132
694
118
T.R. 536 Reloc.
8+00
C=9461
2:1
4:1
662.7
Exc. limits for traffic maintenance on Ex. S.R. 7
1½:1
Ex. Pav't
½" 1 Ft.
Ex. R.R. R/W
℄ C&P.R.R.
℄ W.&L.E.
665.16
1272+00
686.8
1271+82
Ex. 20" C.I.P.
659.05
1271+50
9461 0
17044 0
8946 0
EXISTING PLOTTED
EXISTING CHECKED
TEMPLATE PLOTTED
TEMPLATE CHECKED
AREAS DETERMINED
AREAS CHECKED
SEEDING DETERMINED
SEEDING CHECKED
BY
DATE

1272+00



FED. RD. DIVISION 2
STATE OHIO
PROJECT
112
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00
JEFFERSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
T.R. 536 Reloc.
C= 7947
1:1
4:1
1.3:1
Exc. limits for traffic maintenance on Ex. S.R. 7
Ex. Pav't
Ex. R.R. R/W
Exist. 18" V.C.P. To Be Removed Under Item 203
½" 1 Ft.
℄ C&P.R.R.
℄ W&L.E.
662.9
661.2
665.36
1272+50
676.0
1272+00
7947 0
16119 0
9461 0
1272+50

SECOND | SHEET NO. | ROAD NO. | SEC. NO.

FED. ROAD DIVISION 2 | STATE OHIO | PROJECT | 113 / 462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

EXISTING PLOTTED	BY	DATE
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
VOLUMES DETERMINED		
VOLUMES CHECKED		

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

800 780 760 740 720 700 680 660 640

260 1411 248 1267 208 1086 183

1272+50

T.R. 536 Reloc. 9+00

C=9689

Exc. limits for traffic maintenance on Ex. S.R. 7

4:1 1:1 1½:1 1" I Ft.

Ex. Pav't

Ex. R.R. R/W

℄ C.&P.R.R.

℄ W&L.E.

663.5 665.96 **1274+00** 687.5 657.3

C=8584

663.3 665.76 **1273+50** 688.3 662.1 656.8

C=8394

663.1 665.56 **1273+00** 685.5 661.9 656.0

½" I Ft.

AREA: CUT 9624 0 | 16859 0 | 8584 0 | 15674 0 | 8344 0 | 15084 0 | 7947 0

VOLUME: CUT

BEGIN 1"=20' SCALE

1273+00 to 1274+00

FEDERAL DIVISION	STATE	PROJECT		114
2	OHIO			462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

C. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.C.B. Jan. 1970

SECTIONS	END AREA		VOLUME	
CUT	FILL	CUT	FILL	

266 1497 273 1494 265 1458 260

800 780 760 740 720 700 680 660

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

1:1 ¼:1 1" 1 Ft. 4:1 ½" 1 Ft.

C = 9540

Exc. limits for traffic maintenance on Ex. S.R. 7

Ex. Pavt. Ex. R.R. R/W ℄ C.&P.R.R. ℄ W.&L.E.

664.5 666.95 **1275+50** 689.5 658.7

C = 10436

664.1 666.53 **1275+00** 689.6 Inv. 658.86 663.2 (Ex. Ditch) 657.8 Inv. 650.40

C = 9908

663.8 666.20 **1274+50** 689.1 663.5 658.0

1274+00

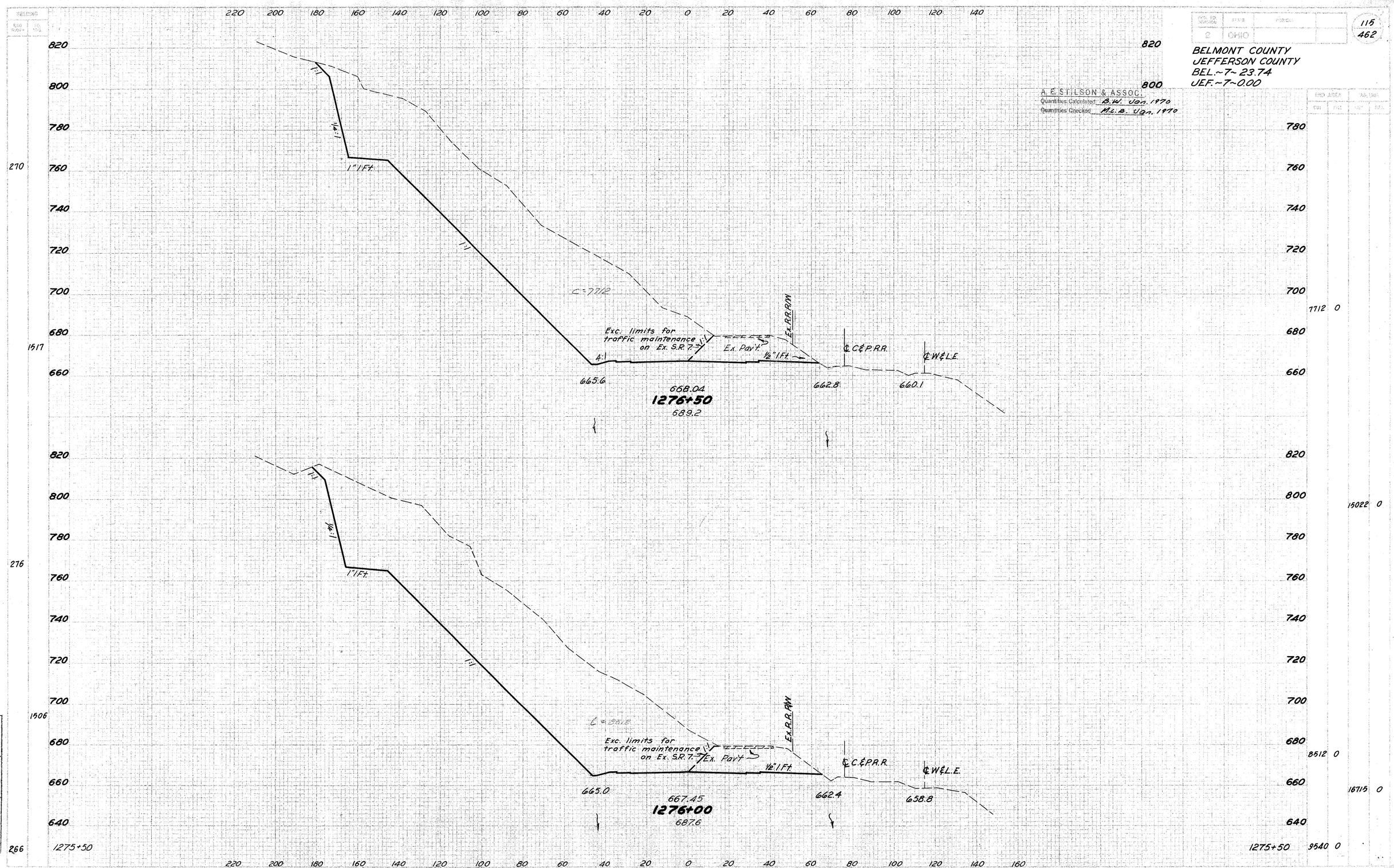
9540 0 18496 0 10436 0 18837 0 9908 0 18085 0 9624 0

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
VOLUMES DETERMINED		
VOLUMES CHECKED		

1274+50 to 1275+50

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~ 23.74
JEF.~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970



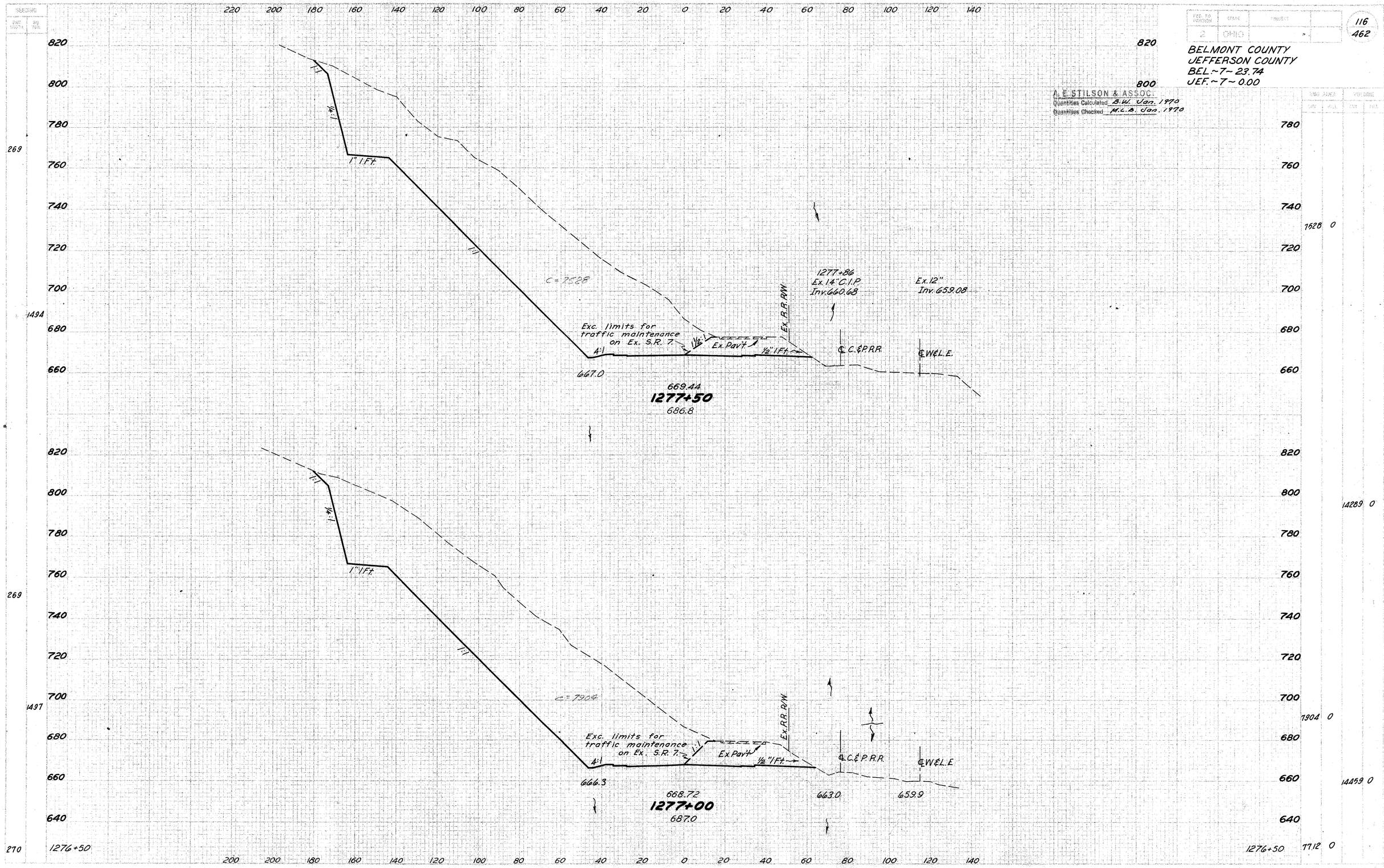
	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMP. ALIGN. PLOTTED		
TEMP. ALIGN. CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SECOND DETERMINED		
SECOND CHECKED		

1276+00 to 1276+50

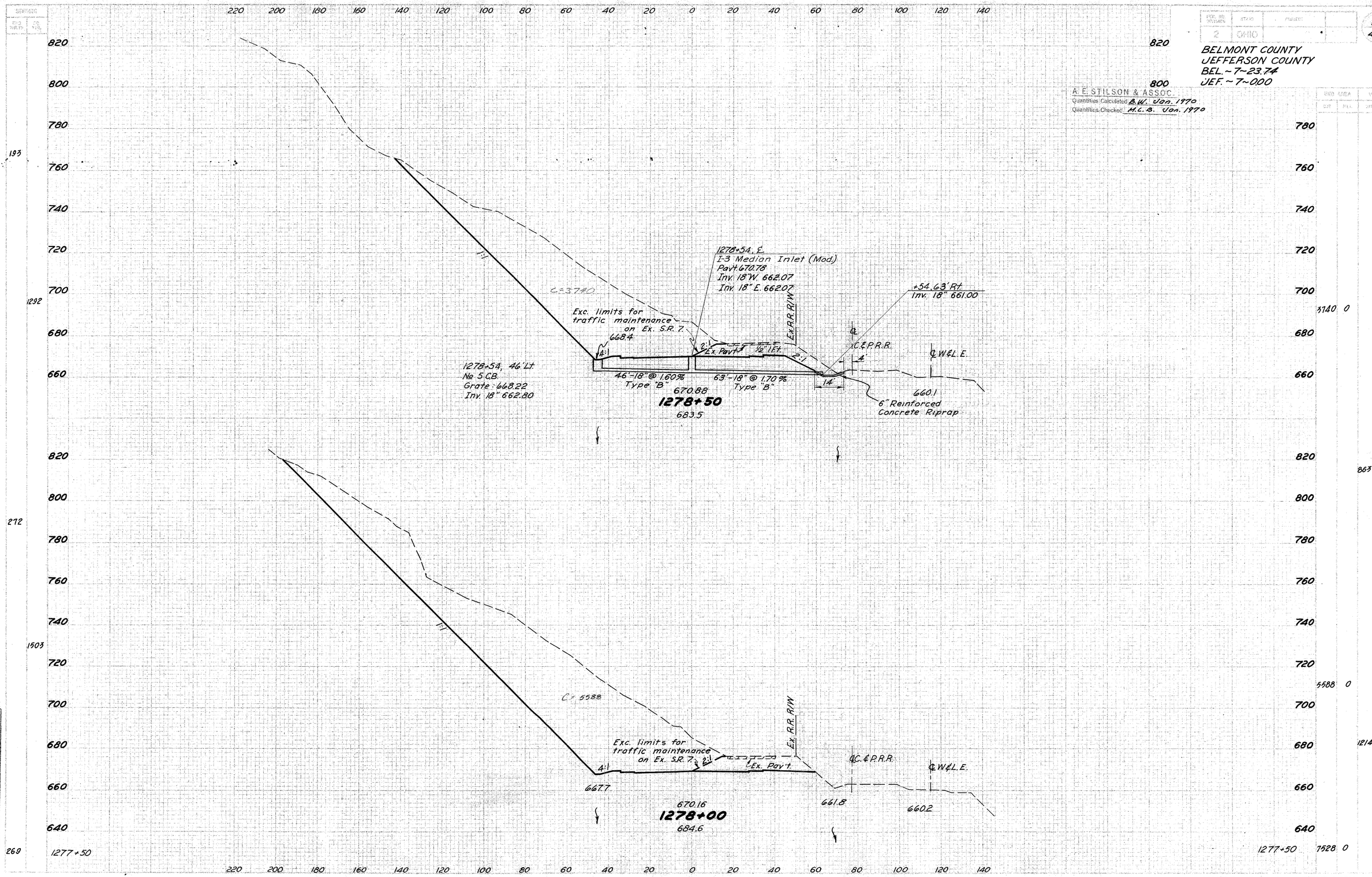
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

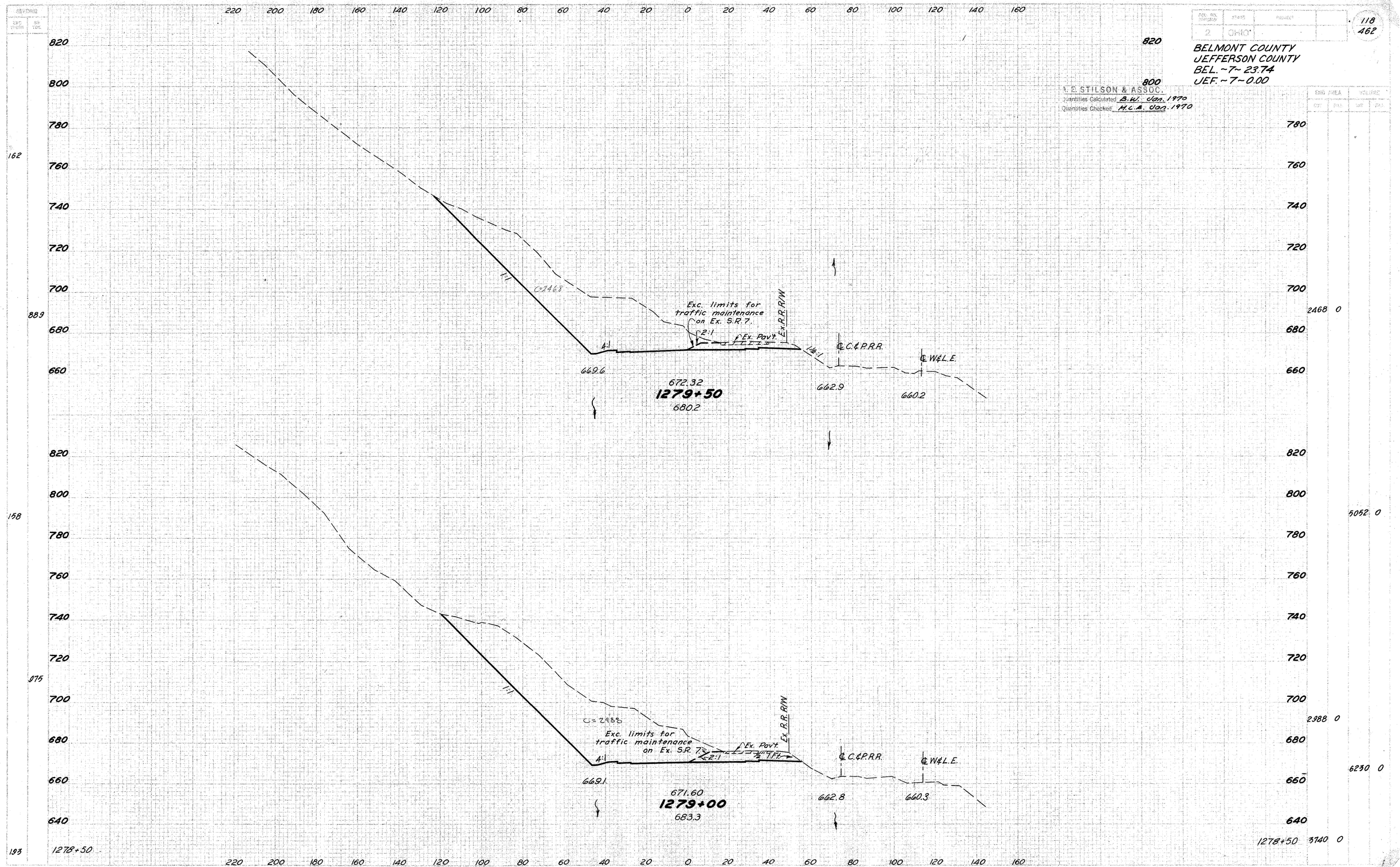
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970



1277+00 to 1277+50



117
462
2
OHIO
BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.C.B. Jan. 1970
1278+54, ℄
I-3 Median Inlet (Mod.)
Pavt. 670.78
Inv. 18" W. 662.07
Inv. 18" E. 662.07
+54, 63' Rt.
Inv. 18" 661.00
C=3740
Exc. limits for traffic maintenance on Ex. S.R. 7
668.4
Ex. R.R. R/W
℄ C.&P.R.R.
℄ W&L.E.
Ex. Pavt.
1278+54, 46' Lt.
No. 5 C.B.
Grate: 668.22
Inv. 18" 662.80
46'-18" @ 1.60%
Type "B"
670.88
63'-18" @ 1.70%
Type "B"
660.1
6" Reinforced Concrete Riprap
1278+50
683.5
C=5588
Exc. limits for traffic maintenance on Ex. S.R. 7
Ex. R.R. R/W
℄ C.&P.R.R.
℄ W&L.E.
Ex. Pavt.
667.7
670.16
661.8
660.2
1278+00
684.6
1277+50
1278+00 to 1278+50



118
462
2
OHIO
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
Exc. limits for traffic maintenance on Ex. S.R. 7.
Ex. Pav't.
Ex. R.R. R/W
℄ C.&P.R.R.
℄ W&L.E.
1:1
4:1
2:1
669.6
672.32
1279+50
680.2
662.9
660.2
C=2468
C=2988
669.1
671.60
1279+00
683.3
662.8
660.3
1278+50
2468 0
5052 0
2988 0
6230 0
3740 0
1279+00 to 1279+50

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7- 23.74
JEF.-7- 0.00

A. E. STILSON & ASSOC.
Quantities Calculated A.W. Van., 1970
Quantities Checked M.L.B. Van. 1970

END AREAS: CUT | FILL — VOLUMES: CUT | FILL

139 | 1796 | 1

158

134 | 3365 | 1

822 | 3987

162 | 2468 | 0

1280+53, ℄
I-3 Median Inlet (Mod.)
Pavt 673.59
Inv. 12" 670.09

+53, 65' Rt.
Inv. 12" 661.00

C = 1796
Exc. limits for traffic maintenance on Ex. S.R. 7

Ex. Pav't

Ex. R.R. R/W

Conc. Collar

2.5' Min.

℄ W&L.E.

℄ C. & P.R.R.

1:1

4:1

A

39'-12" @ 1.5% Type "B"
Inv. 669.50

6708

673.76
1280+50
683.1

28'-12" Type "F"
Inv. 12"
661.10

10'

660.1

6" Reinforced Conc. Riprap

C = 1838

Exc. limits for traffic maintenance on Ex. S.R. 7

4:1

1:1

A

Ex. Pav't

Ex. R.R. R/W

℄ C. & P.R.R.

℄ W&L.E.

670.1

673.04
1280+00
680.9

662.2

661.9

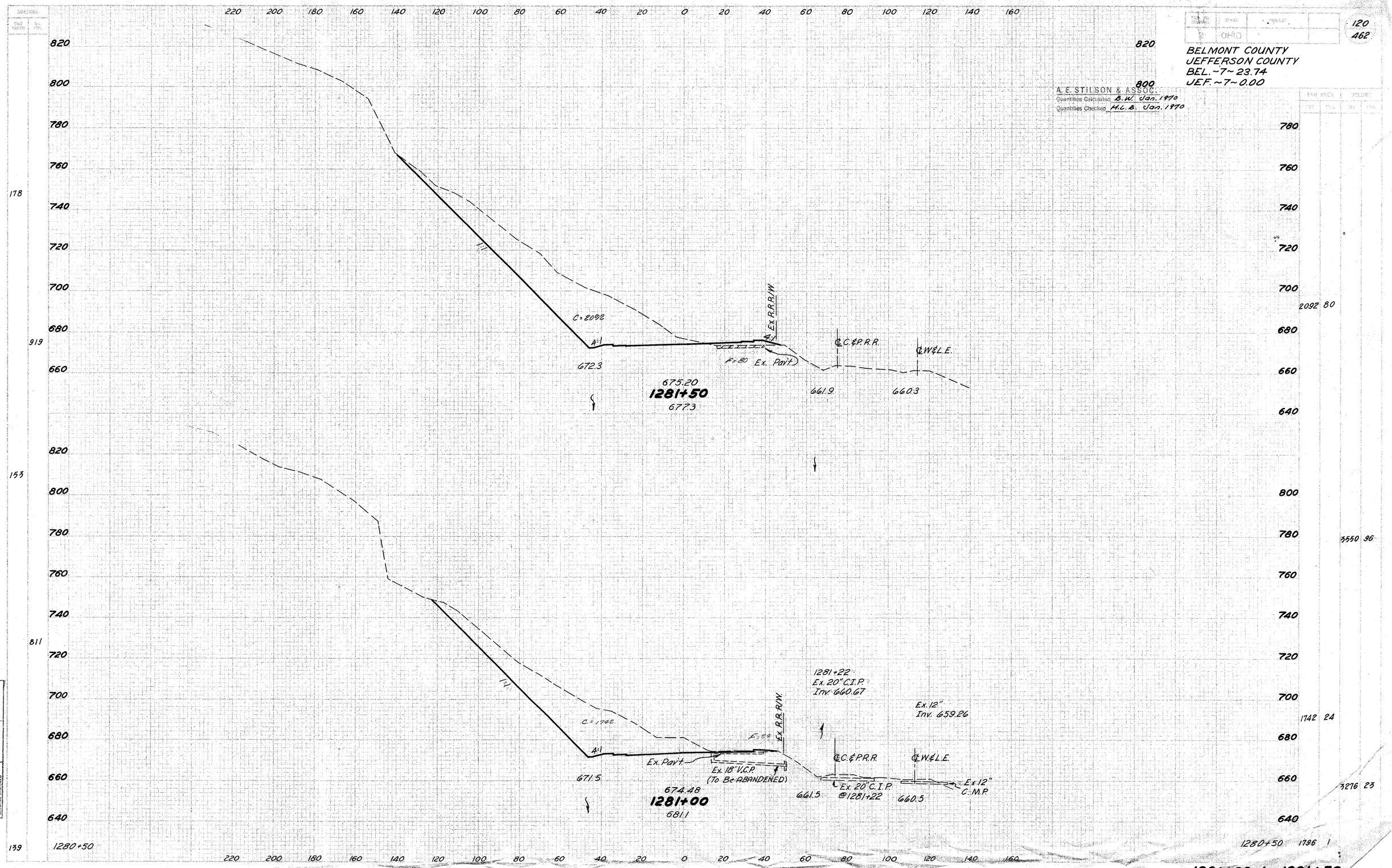
1279+50

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

820 800 780 760 740 720 700 680 660 640

	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
VOLUMES DETERMINED	
VOLUMES CHECKED	

1280+00 to 1280+50



BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970
120
462
C=2092
4:1
672.3
675.20
1281+50
677.3
Ex. R.R.R/W
F=80
Ex. Pav't.
℄C.&P.R.R.
℄W.&L.E.
661.9
660.3
C=1742
4:1
671.5
674.48
1281+00
681.1
Ex. Pav't.
Ex. 18" V.C.P.
(To Be ABANDENED)
Ex. R.R.R/W.
1281+22
Ex. 20" C.I.P.
Inv. 660.67
Ex. 12"
Inv. 659.26
℄C.&P.R.R.
℄W.&L.E.
661.5
Ex. 20" C.I.P.
@1281+22
660.5
Ex. 12"
C.M.P.
178
919
153
811
139
1280+50
2092 80
3550 96
1742 24
3276 23
1796 1
1281+00 to 1281+50

SEEDING

SEED MIXTURE	LB PER 1000 SQ FT

	DATE	BY
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

121
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.C.B. Jan. 1970

END AREA		VOLUME	
CUT	FILL	CU.	FILL

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

820 800 780 760 740 720 700 680 660 640

148 847 157 931 178

1:1 C=19.80 4:1 Ex. Pavt. F=11.2 Ex. R.R. R/W 4:1 ℄ C.&P.R.R. ℄ W.&L.E.

673.7 676.64 **1282+50** 681.3 662.4 660.9

1:1 C=19.56 4:1 Ex. Pavt. F=8.0 Ex. R.R. R/W 4:1 ℄ C.&P.R.R ℄ W.&L.E.

673.0 675.92 **1282+00** 680.1 662.0 660.3

1281+50

1432 112 3137 178 1956 80 3748 148 2092 80

1282+00 to 1282+50

FED. AID PROJECT	STATE	PROJECT	
2	OHIO		

122
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

SHEETING		END AREA		VOLUME	
LEFT WASTE	RIGHT WASTE	CUT	FILL	CUT	FILL

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

820 800 780 760 740 720 700 680 660 640

127 714

1283+34, 46' Lt.
No. 5 C.B.
Grate: 674.85
Inv. 18" 671.60

675.1

1:1 C=1388 4:1

97'~18" @ 1.70%
Type "B"

Ex. Pavt. 3.2% Conc. Collar

Ex. R.R. R/W

Ex. 24" Y.C.P. (To Be Abandoned) Inv. 668.95

24'~18" Type "F" Inv. 18" 661.47

678.08
1283+50
686.8

C. & P.R.R.

℄ W. & L.E.

660.4

Exist. Pipe Under Railroad

+34.73' Rt.
HW-4
Inv. 18" 661.15

603 - 97'~18" Type "B"
24'~18" Type "F"
2 ~ 18" Type "F" Bends
602 - 033 C.Y. Masonry

1388 148

130 772

1:1 C=1458 4:1

674.4

Ex. R.R. R/W

Ex. Pavt. F=1.32

1283+35
Ex. 14" C.I.P. (Plugged
Ditch - 661.15

Ex. 12"
Inv. 657.83

677.36
1283+00
679.6

C. & P.R.R.

℄ W. & L.E.

662.0 661.0

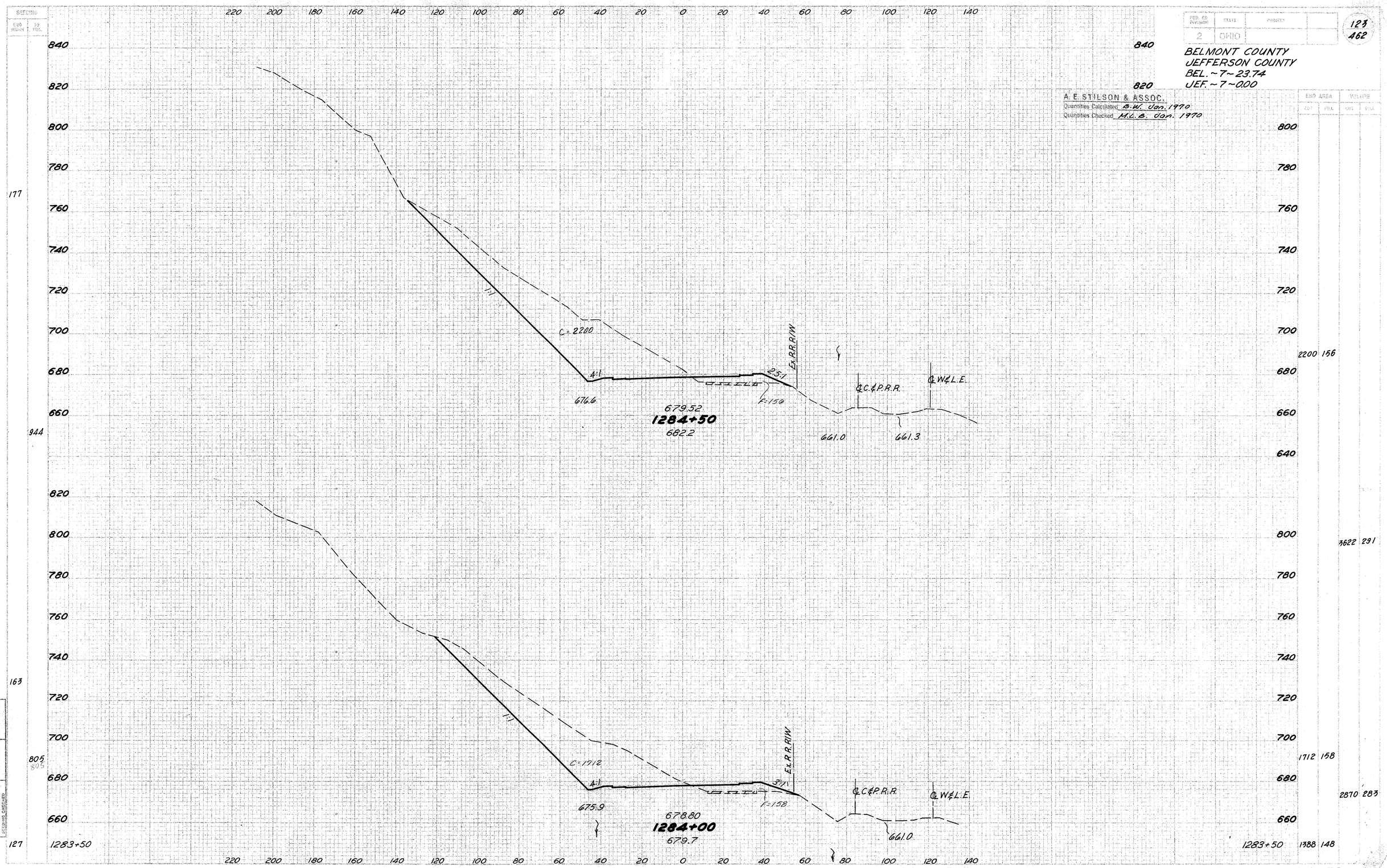
2635 259
2676 226
1458 132

148 1282+50 1432 112

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TOPO. SITE PLOTTED		
TOPO. SITE CHECKED		
TRIAL PROFILE PLOTTED		
TRIAL PROFILE CHECKED		
AREAS CHECKED		
GRADING DETERMINED		
SECTIONS CHECKED		

1283+00 to 1283+50



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

123
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
2200	156		
		3622	291
1712	158		
		2870	283
1388	148		

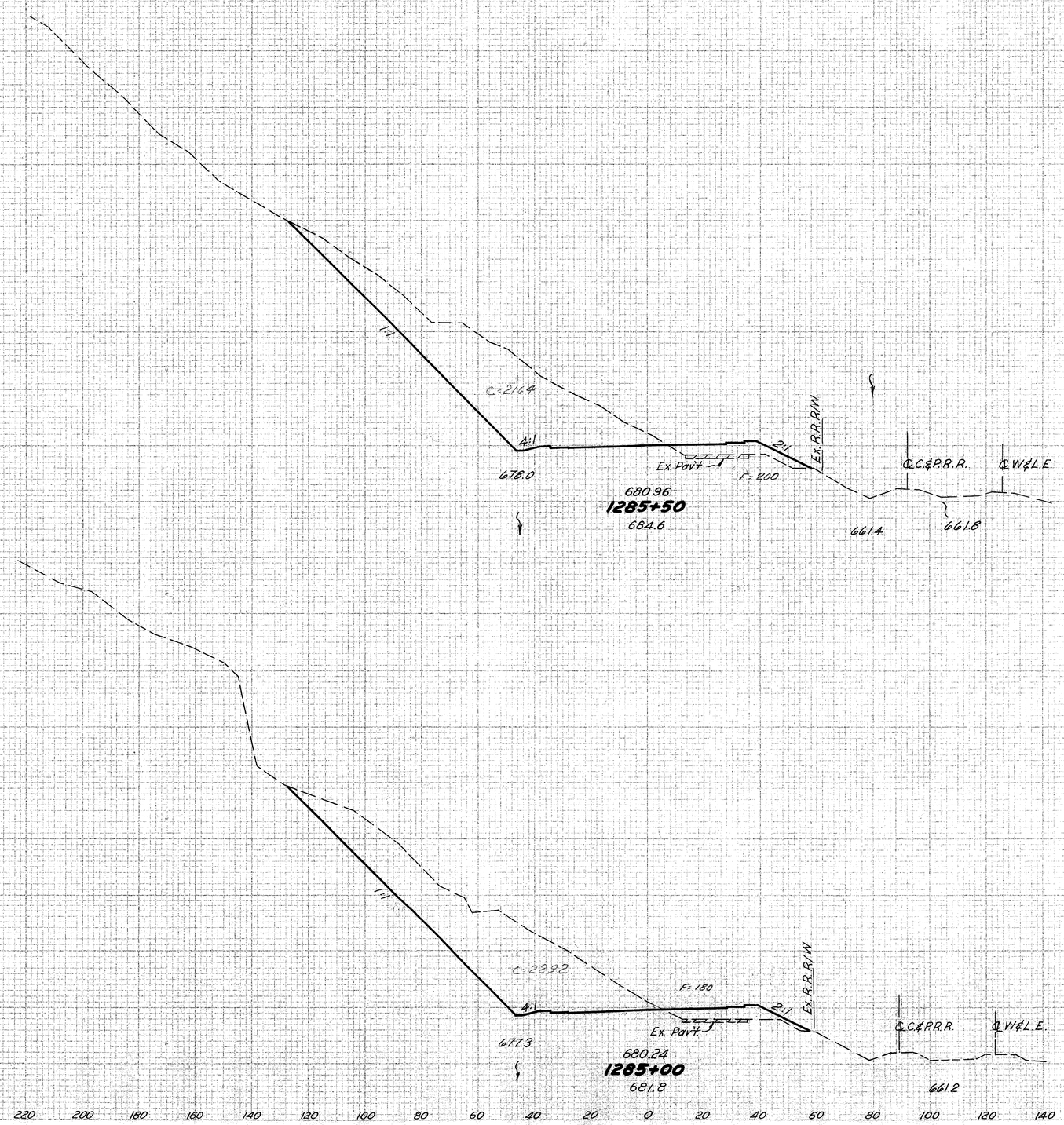
1284+00 to 1284+50

SECTIONS

END WIDTH	SQ. YDS.
173	961
173	972
177	

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

840 820 800 780 760 740 720 700 680 660 840 820 800 780 760 740 720 700 680 660



PRS. RD. PROJECT	STATE	PROJECT	
2	OHIO		

124
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

AREA		VOLUME	
CUT	FILL	CUT	FILL
		2164	200
		4126	352
		2292	180
		4159	311
		2200	156

	BY	DATE
DRAFTING PLOTTED		
DRAFTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SECTIONS DETERMINED		
SECTIONS CHECKED		

1284+50 to 1285+50

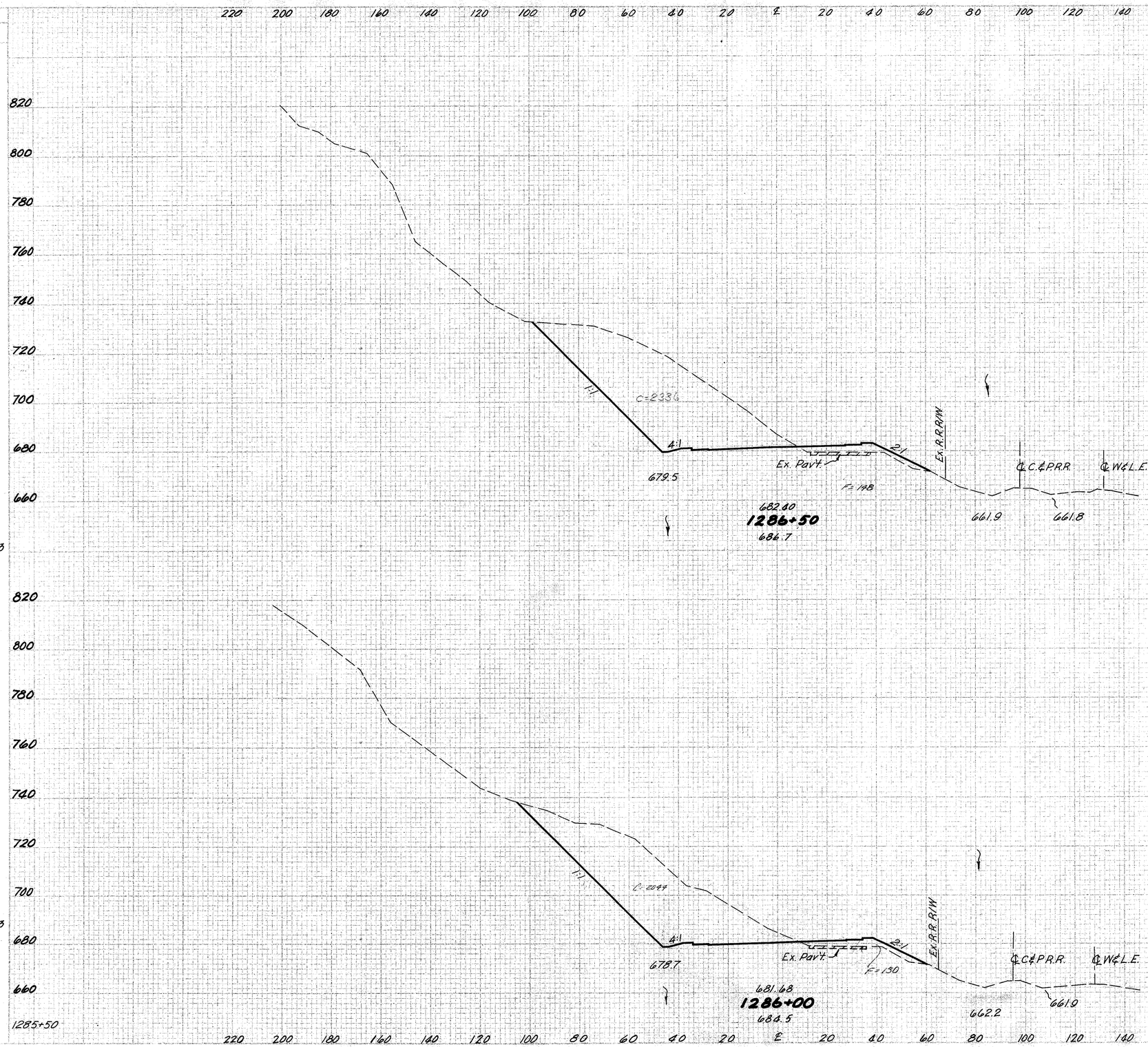
FED. AID PROJECT	STATE	PROJECT		
2	OHIO			

125
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
FIELD NO. DETERMINED	
VOLUMES CHECKED	



END AREA		VOLUME	
CUT	FILL	CUT	FILL

SHEETING

GRD WIDTH	SO YDS

FED. HWY. DIVISION: 2 | STATE: OHIO | PROJECT: | 126 / 462

BELMONT COUTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

GRD AREA		VOL YDS	
CUT	FILL	CUT	FILL

200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

840 820 800 780 760 740 720 700 680 660

171

C=2492
4:1
2:1
F=96
Ex. Pavt.
Ex. R.R. R/W
℄ C&P R.R.
℄ W&L E
681.4
Ex. 15" U.C.P. To Be Abandoned
683.84
1287+50
683.5
662.6
661.8

931

2492 96

4907 181

164

C=2808
4:1
2:1
F=100
Ex. Pavt.
Ex. R.R. R/W
℄ C&P R.R.
℄ W&L E
680.4
683.12
1287+00
685.1
662.1
661.6

836

2808 100

4763 230

137

1286+50

2336 148

1287+00 to 1287+50

SEEDING

END AREA		VOLUME	
CUT	FILL	CUT	FILL

DIST. NO.	STATE	PROJECT	
2	OHIO		

127
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

1288+78, ℄
I-3 Median Inlet (Mod)
Pavt. 685.47
Inv. 18" W. 683.85
Inv. 12" N. 681.87
Inv. 18" E. 679.48

+78.66 Rt.
HW-4
Inv. 18" 673.20

Conc. Collar
6
2.5 Min.

1288+78, 46' Lt.
No 5 C.B.
Grate 683.60
Inv. 18" 680.35

46'-18" @ 1.9%
Type "B"

47'-18" @ 2.4%
Type "B"

18" Deep Rock Chan. Prot. Type "B"

Inv. 678.30

Inv. 673.30

6'

20'-18" Type "F"

603'-93'-18" Type "B"
20'-18" Type "F"
2'-18" Type "F" Bends
602-0.33 C.Y. Masonry
601-1.3 C.Y. Rock Chan. Prot. Type "B"

Pipe Profile
1288+78

1:1

C=2784

4:1

Ex. Pavt.

683.4

F=28

685.28
1288+50
685.2

Ex. R.R. R/W

℄ C. & P. R.R.

℄ W. & L. E.

663.0

662.3

1:1

C=2568

4:1

4:1

Ex. Pavt.

F=84

Ex. RR R/W

682.4

684.56
1288+00
682.8

℄ C. & P. R.R.

℄ W. & L. E.

663.1

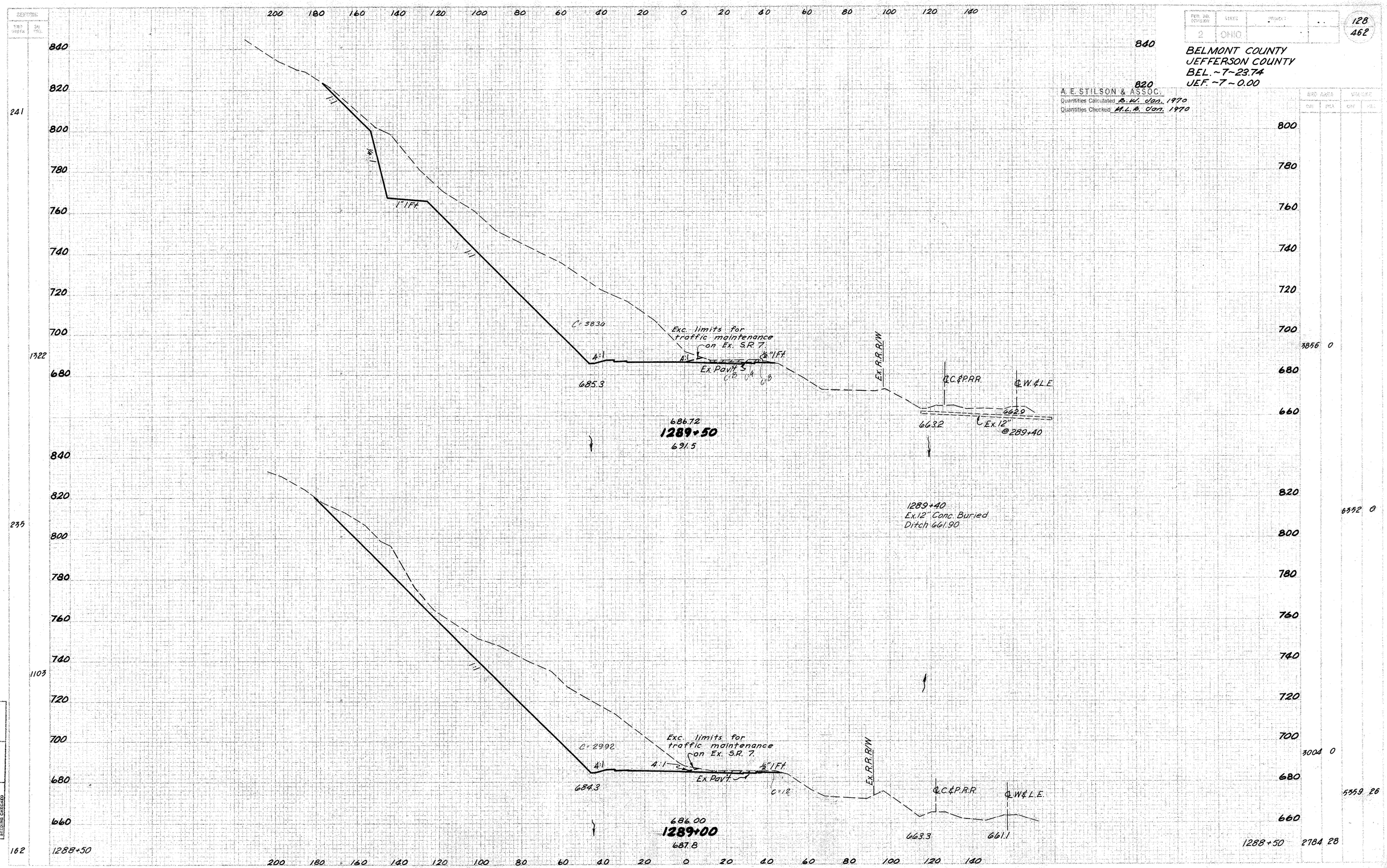
661.1

1287+50

1875+50

1288+00 to 1288+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE ASSIGNED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		



128
462
2
OHIO
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
1:1
1" 1 Ft.
C=3836
4:1
685.3
Exc. limits for traffic maintenance on Ex. S.R. 7.
Ex. Pav't.
½" 1 Ft.
Ex. R.R. R/W
℄ C.&P.R.R.
℄ W.&L.E.
662.9
663.2
Ex. 12" @ 289+40
686.72
1289+50
691.5
1289+40
Ex. 12" Conc. Buried
Ditch 661.90
C=2992
684.3
C=12
686.00
1289+00
687.8
663.3
661.1
1288+50
3856 0
6352 0
3004 0
5359 26
2784 28
1288+50
1289+00 to 1289+50

SECTIONS

END AREA | CU. YDS.

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

129
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

END AREA | VOLUME
CUT | FILL | CUT | FILL

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

840 820 800 780 760 740 720 700 680 660

253

1397

1:1

1" 1 Ft.

4:1

C = 4576

Exc. limits for traffic maintenance on Ex. S.R. 7.

Ex. Pavt.

4:1

½" 1 Ft.

687.0

688.16

1290+50

693.1

Ex. R.R. R/W

℄ C&P R.R.

663.8

4576 0

250

1364

1:1

1" 1 Ft.

4:1

C = 4602

Exc. limits for traffic maintenance on Ex. S.R. 7.

Ex. Pavt.

4:1

½" 1 Ft.

686.3

687.44

1290+00

693.9

Ex. R.R. R/W

℄ C&P R.R.

662.2

8581 0

4692 0

7915 0

241

1289+50

3856 0

1290+00 to 1290+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
VOLUMES DETERMINED		
VOLUMES CHECKED		

SHEET NO. 130
TOTAL SHEETS 462

FED. ROAD DIV. NO.	STATE	PROJECT
2	OHIO	

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~ 7 ~ 23.74
JEF. ~ 7 ~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

SCREENING

END AREA		VOLUME	
CUT	FILL	CUT	FILL

200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

840 820 800 780 760 740 720 700 680 660

248 1392

1:1 1:1 1" I Ft. C=4732. 4:1 688.4 Exc. limits for traffic maintenance on Ex. S.R. 7. Ex Pavt. 1/2" I Ft. Ex. R.R. R/W ℄ C. & P.R.R.

689.60
1291+50
698.8

4732 0

840 820 800 780 760 740 720 700 680 660

253 1406

1:1 1:1 1" I Ft. C=4160. 4:1 2:1 687.7 Exc. limits for traffic maintenance on Ex. S.R. 7. Ex. Pavt. 1/2" I Ft. Ex. R.R. R/W ℄ C. & P.R.R.

688.88
1291+00
697.6

253 1290+50

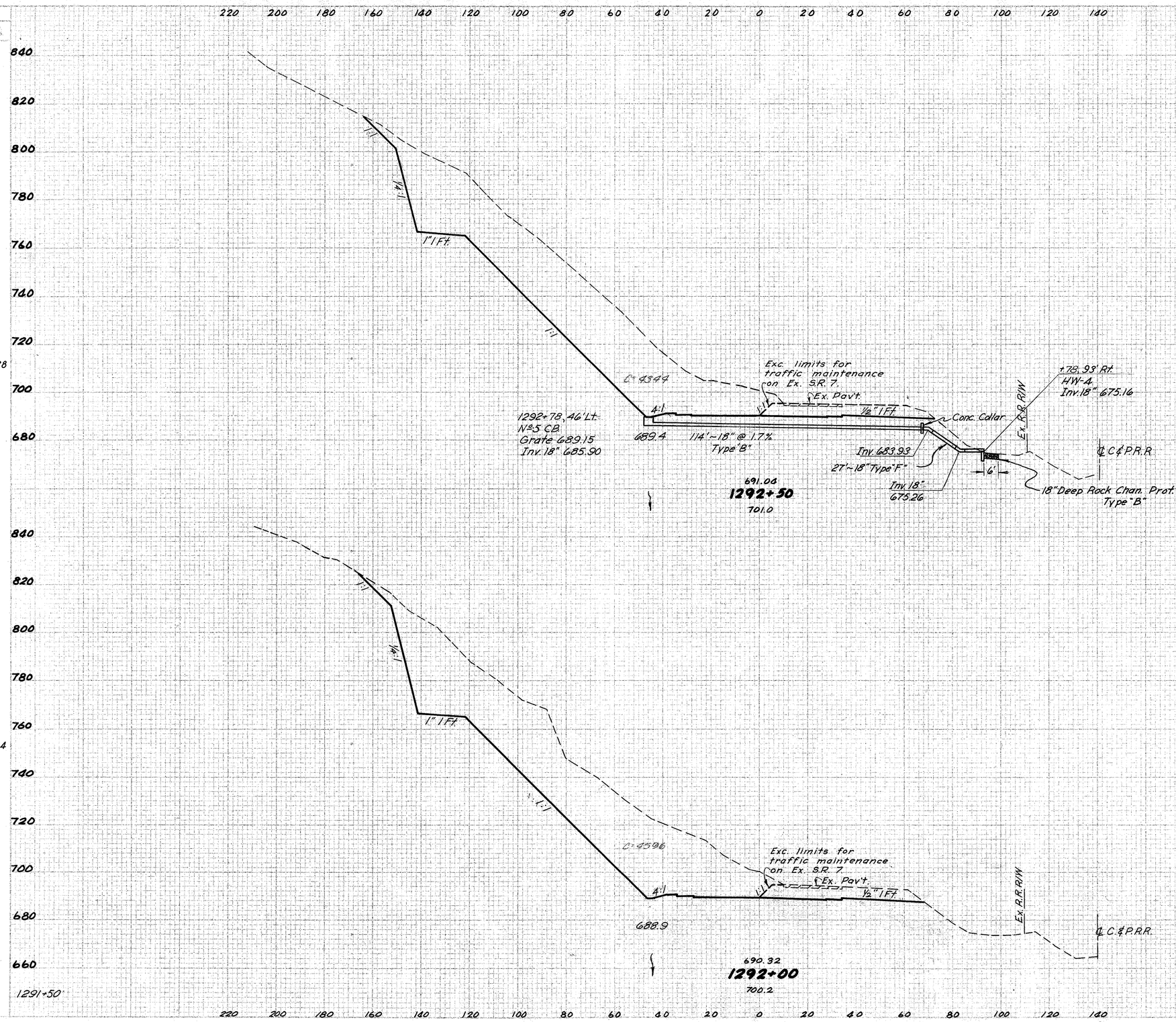
8233 0 8089 0 4160 0 4576 0

DATE	BY	DESCRIPTION
		EXISTING PLOTTED
		EXISTING CHECKED
		TEMPLATE PICKED TO
		TEMPLATE CHECKED
		AREAS DETERMINED
		AREAS CHECKED
		FINAL DETERMINED
		FINAL CHECKED

1291+00 to 1291+50

SEEDING

EXIST. WIDTH	CU. YDS.
253	
1428	
261	
1414	
248	



FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

131
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

603 - 114'-18" Type "B"
27'-18" Type "F"
2'-18" Type "F" Bends
602 - 0.33 C.Y. Masonry
601 - 1.3 C.Y. Rock Chan. Prot. Type "B"

Sta. 1292+10
Add for backfill of privy vault.

SHR AREA		VOLUMES	
CUT	FILL	CUT	FILL
		4344	0
		8470	0
		4804	0
		8830	0
		4732	0
		1	

	BY	DATE
EXISTING PLOTTED		
EXISTING AMENDED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

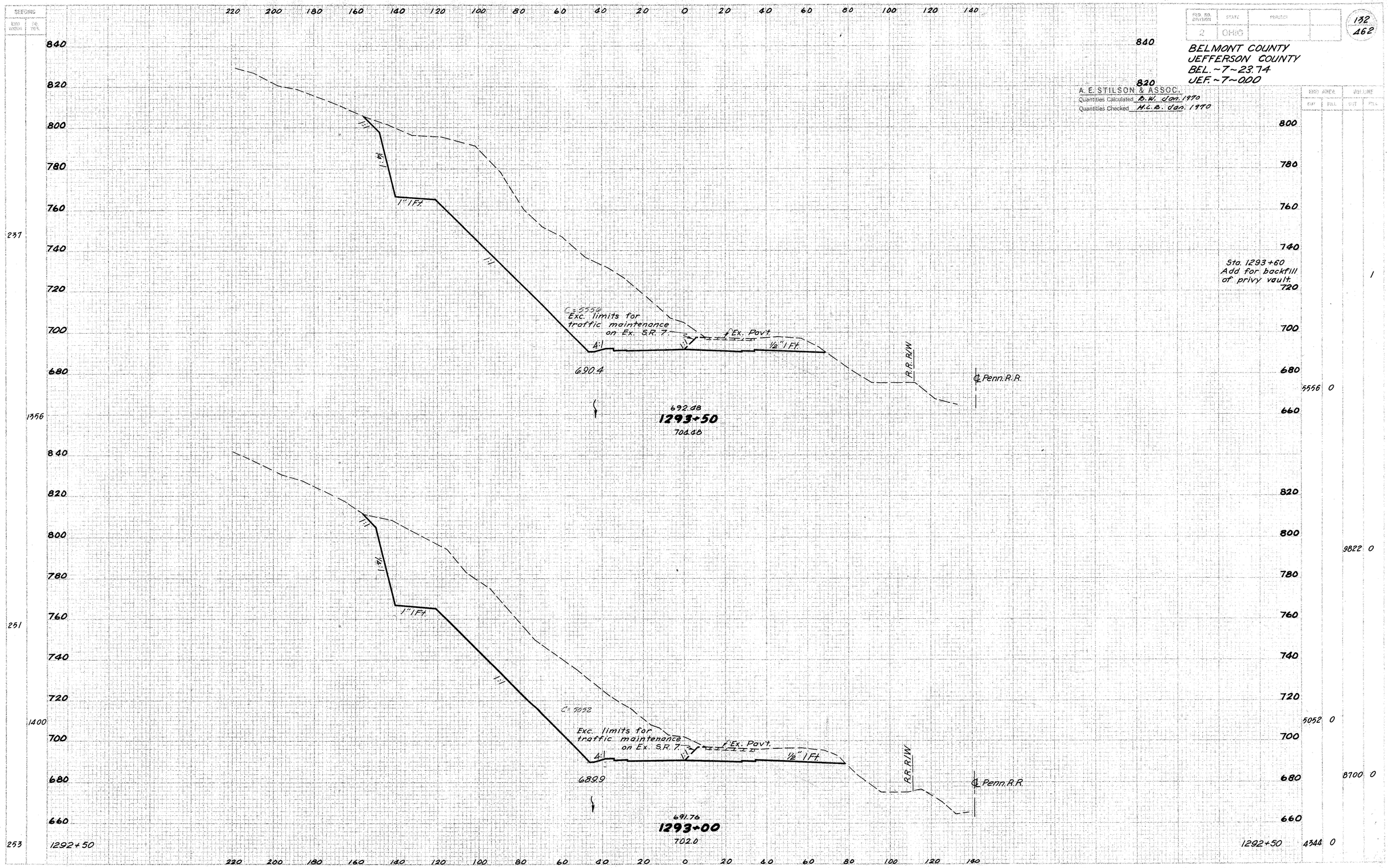
1292+00 to 1292+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

132
462

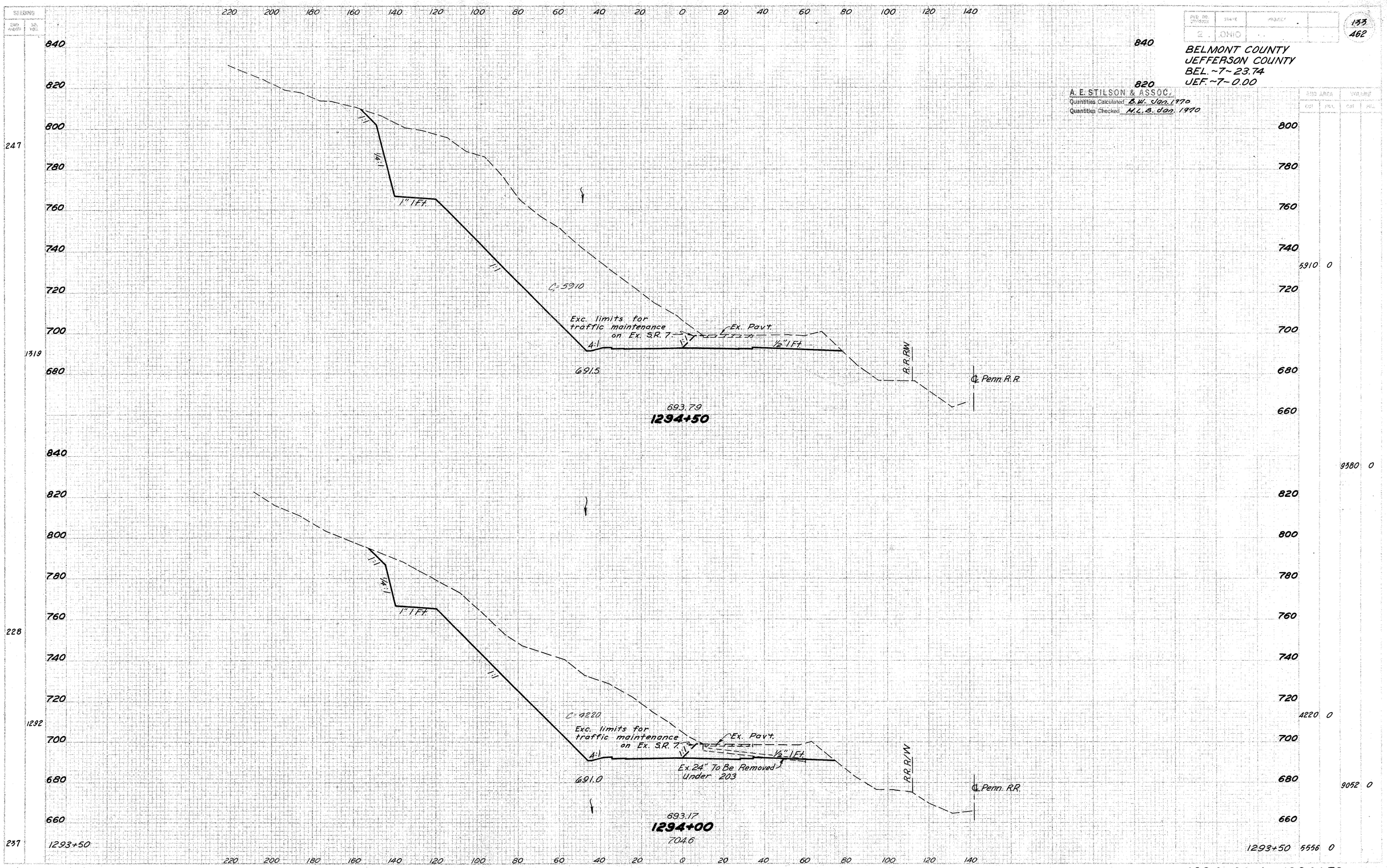
BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970



1293+00 to 1293+50

	BY	DATE
XISTING PLOTTED		
XISTING CHECKED		
EMPLATE PLOTTED		
EMPLATE CHECKED		
REAS DETERMINED		
REAS CHECKED		
EEDING DETERMINED		
EEDING CHECKED		



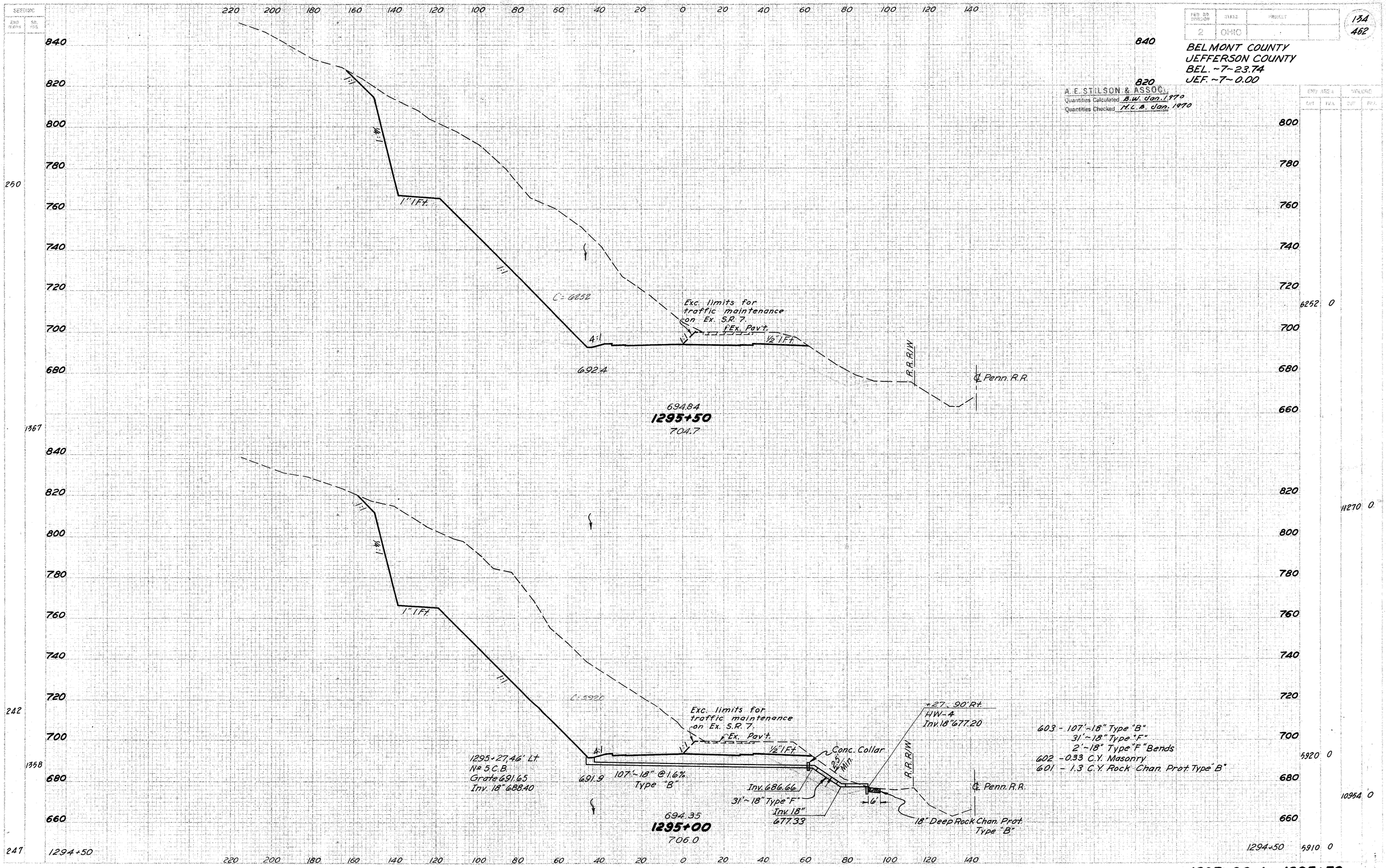
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
133
462
1:1
1/4:1
1" 1 Ft.
C=5910
Exc. limits for traffic maintenance on Ex. S.R. 7
Ex. Pavt.
4:1
1/2" 1 Ft.
R.R. R/W
℄ Penn. R.R.
691.5
693.79
1294+50
C=4220
Ex. 24" To Be Removed Under 203
691.0
693.17
1294+00
704.6
1293+50
247
1319
228
1292
237
5910 0
9380 0
4220 0
9052 0
5556 0
1294+00 to 1294+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

134
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970



1295+00 to 1295+50

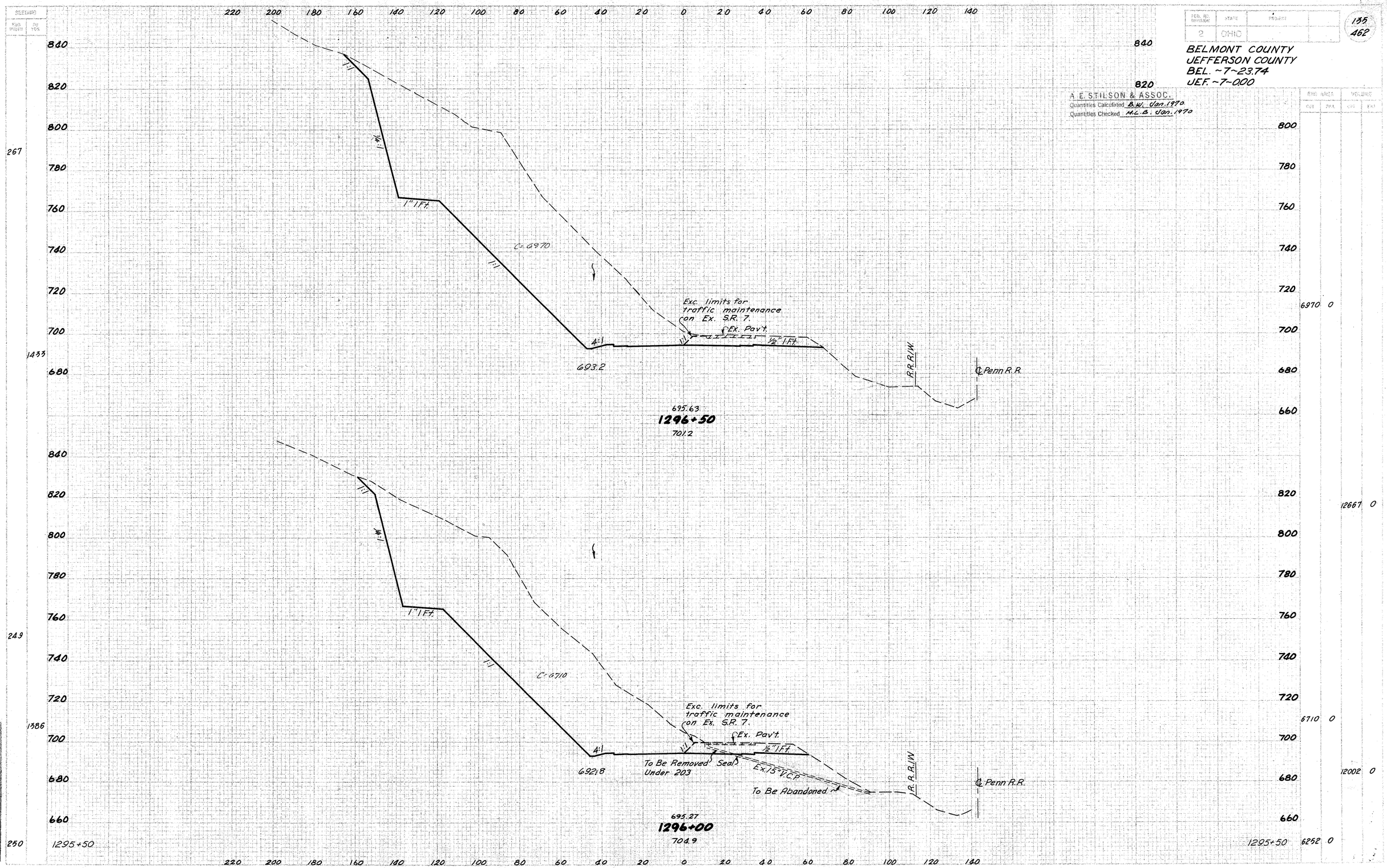
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

135
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE ASSIGNED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
EXISTING DETERMINED		
EXISTING CHECKED		



1296+00 to 1296+50

SEEDING

SEED MIXTURE	LB. PER ACRE

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

136
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

END AREA	VOLUME
CUT FILL	CUT FILL
5436.0	
10363.0	
5756.0	
11,783.0	
1296+50	6970.0

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

840 820 800 780 760 740 720 700 680 660

247

1378

1:1

1:1

1" I Ft.

C = 5436

4:1

693.7

Exc. limits for traffic maintenance on Ex. S.R. 7.

Ex. Pav't.

½" I Ft.

R.R. R/W

℄ Penn. R.R.

696.16
1297+50
697.0

249

1433

1:1

1:1

1" I Ft.

C = 5756

4:1

2:1

693.5

Exc. limits for traffic maintenance on Ex. S.R. 7.

Ex. Pav't.

½" I Ft.

R.R. R/W

℄ Penn. R.R.

695.93
1297+00
699.3

267

1296+50

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

1297+00 to 1297+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

SEEDING	
LIME TONS	SEED LBS.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

137
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

840 820 800 780 760 740 720 700 680 660

261 1450

1:1 1½:1 1" 1 Ft. C=7900 1:1 4:1 694.1

Ex. Pav't. C=28 ½" 1 Ft. F=4 C=6

2:1 2:1 R.R. R/W ℄ Penn. R.R. L=20 668.5

696.56
1298+50
695.7

4960 4

9278 7

261 1411

1:1 1½:1 1" 1 Ft. 1:1 C=5009

F=4 Ex. Pav't. C=50 ½" 1 Ft.

4:1 693.9 107'~18" @ 1.8% Type "B"

1298+00, 46' Lt.
No. 5 C.B.
Grate 693.65
Inv. 18" 690.40

Conc. Collar

Inv. 688.44

2.5 min.

47'~18" Type "F"

Inv. 18"
670.64

670.0

R.R. R/W

+00, 104' Rt.
HW-4
Inv. 18" 670.50

℄ E 670.00

℄ Penn. R.R

18" Deep Rock Chan. Prof. Type "B"

603 ~ 107' ~ 18" Type "B"
47' ~ 18" Type "F"
2' ~ 18" Type "F" Bends
602 ~ 0.33 C.Y. Masonry
601 ~ 2.7 C.Y. Rock Channel Prof. Type "B"

696.36
1298+00
697.1

5060 4

9719 4

247 1297+50

1297+50 5436 0

1298+00 to 1298+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SECTIONS DETERMINED		
SECTIONS CHECKED		

SEEDING

FIELD DITCH	FIELD POS.

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

138
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL

254
1408

840 820 800 780 760 740 720 700 680

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

1:1
1:1
C=2396
1"I.Ft.
4:1
694.5
Ex. Pavt.
½"I.Ft.
C=44
R.R.R/W
2:1
2:1
667.5
℄ Penn. R.R.

696.96
1299+50
697.6

253
1428

840 820 800 780 760 740 720 700 680 660

1:1
1:1
1"I.Ft.
1:1
C=3828
4:1
694.3
Ex. Pavt.
C=8
½"I.Ft.
C=16
Ex. 15" V.C.P.
To Be Abandoned
C=20
R.R.R/W
2:1
2:1
668.0
℄ Penn. R.R.

696.76
1299+00
696.3

261
1298+50

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

840 820 800 780 760 740 720 700 680 660

2440 0

5844 0

3872 0

8178 4

1298+50 4960 4

DATE	BY	
		EXISTING PLOTTED
		EXISTING CHECKED
		TEMPLATE PLOTTED
		TEMPLATE CHECKED
		AREAS DETERMINED
		AREAS CHECKED
		FINAL DETERMINATION
		FINAL CHECKED

1299+00 to 1299+50

SECTION

END AREA		VOLUME	
CUT	FILL	CUT	FILL

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

139
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
UEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.S. Jan. 1990

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

880 860 840 820 800 780 760 740 720 700 680 660

224 1280 237 1364 254

1:1

694.9
4:1
C=1528
F=4
℄ Ex. Pavt.
C=798
+50,117'Rt.
HW-4
Inv. 18" 657.70
2% min.
2%
R.R. R/W
℄ WEL. E.R.R.
22'
22'
℄ Penn R.R.
656.20
C=228
48" @ 1.00%
(See Culvert Details)
Inv. 18
658.00
657.00
E 6572

1300+50.45'Lt.
No. 5 C.B.
Grate 694.65
Inv 18" 691.40

86'-18" @ 1.9%
Type "B"

Conc.
Collar
Inv.
689.73

697.36
1300+50
703.9

82'-18" Type "F"

603- 86'-18" Type "B"
82'-18" Type "F"
2-18" Type "F" Bends
602- 0.33 C.Y. Masonry

1:1
4:1
C=1712
Ex. Pavt.
½" I.Ft.
694.7
C=36
R.R. R/W
℄ Penn R.R.
667.0

697.16
1300+00
701.4

1299+50

2554 16
3983 16
1748 0
3878 0
2440 0

EXISTING PLOTTED	BY	DATE
ENGINEER PACKED		
TEMPLATE PACKED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SECTIONS DETERMINED		
SECTIONS CHECKED		

1300+00 to 1300+50

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

CUT AREA | FILL AREA
EXT | REM | EXT | REM

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

880 860 840 820 800 780 760 740 720 700 680 660

271 1525 278 1394 224

C=2284 4:1 695.3 F=40 2:1 C=1900 2:1 6604 R.R.R/W ℄ Penn. R.R.

697.76
1301 + 50
700.6

C=1900 4:1 695.1 F=4 2:1 C=1116 2:1 660.2 R.R.R/W ℄ Penn. R.R.

697.56
1301 + 00
701.2

1300+50

3684.40
6222.41
3036.4
5176.19
2554.16

1300+50

1301+00 to 1301+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

STATE: OHIO

141
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
UEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.S. Jan. 1970

END AREA | VOLUME
CUT | FILL | CUT | FILL

274
1492
263
1483
271

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

900 880 860 840 820 800 780 760 740 720 700 680 660

1:1

C=2684
4:1
695.8
698.16
1302+50
702.6
R=80
2:1
R.R. R/W.
C=294
2:1
660.8
℄ Penn. R.R.

1:1

C=2420
4:1
695.5
697.96
1302+00
704.5
R=80
2:1
R.R. R/W.
C=294
2:1
660.6
℄ Penn. R.R.

1301+50

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

860
840
700
680
660
2978 80
5409 185
740
720
2864 120
700
680
6063 148
660
1301+50
3684 40

1302+00 to 1302+50

SECTIONS

END AREA	FILL	CUT

END AREA	VOLUME	
CUT	FILL	FILL CUT

REV. BY	DATE	APPR.	
	OHIO		

142
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

900 880 860 840 820 800 780 760 740 720 700 680 660

284 1578

284 1550

274

1302+50

C=3908

4:1

6964

698.56

1303+50

707.4

F:260

2:1

R.R.R/W

℄ Penn.R.R.

C=206

2:1

661.2

1:1

C=3128

4:1

696.1

698.36

1303+00

705.4

F:68

2:1

C=116

R.R.R/W

℄ Penn.R.R.

C=268

2:1

661.0

1302+50

4112 260

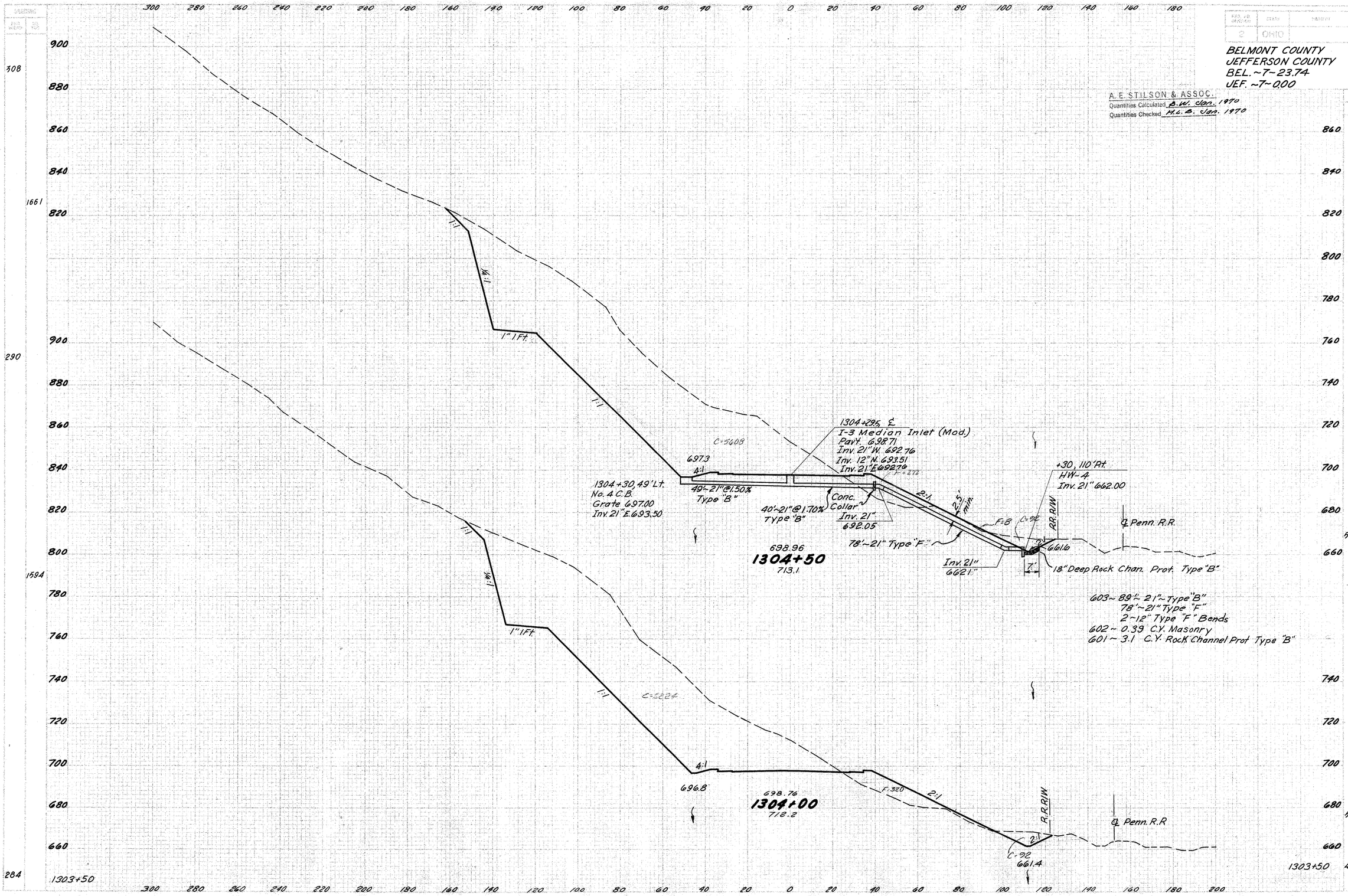
6967 304

3412 68

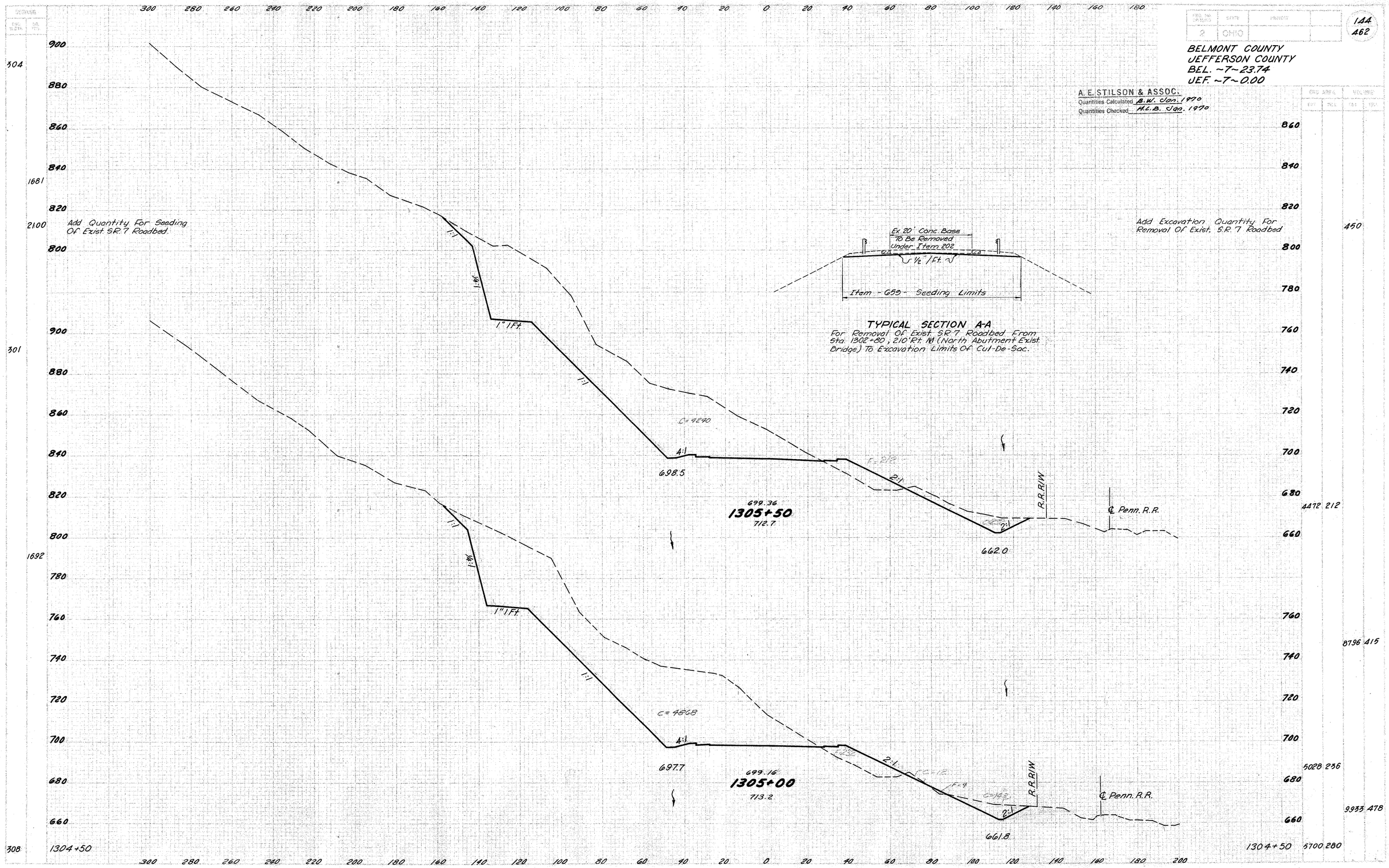
5917 137

2978 80

1303+00 to 1303+50



2 OHIO
143
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7-23.74
JEF. ~7-0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
1304+29.5 ℄
I-3 Median Inlet (Mod.)
Pavt. 698.71
Inv. 21" W. 692.76
Inv. 12" N. 693.51
Inv. 21" E. 692.76
1304+30, 49' Lt.
No. 4 C.B.
Grate 697.00
Inv. 21" E. 693.50
49'~21" @ 1.50%
Type "B"
40'~21" @ 1.70%
Type "B"
Conc. Collar
Inv. 21"
692.05
78'~21" Type "F"
Inv. 21"
662.1"
+30, 110' Rt.
HW-4
Inv. 21" 662.00
℄ Penn. R.R.
18" Deep Rock Chan. Prot. Type "B"
698.96
1304+50
713.1
603~89'~21"~Type "B"
78'~21" Type "F"
2~12" Type "F" Bends
602~0.39 C.Y. Masonry
601~3.1 C.Y. Rock Channel Prot Type "B"
1" 1 Ft.
1:1
1/4:1
4:1
2:1
2.5' min.
F=8
C=92
R.R. R/W
C=5608
C=5224
F=320
696.8
698.76
1304+00
712.2
℄ Penn. R.R
661.4
1303+50
1304+00 to 1304+50



144
462
2
OHIO
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970
Add Quantity For Seeding Of Exist. S.R. 7 Roadbed.
Add Excavation Quantity For Removal Of Exist. S.R. 7 Roadbed
Ex. 20' Conc. Base To Be Removed Under Item 202
1/2"/Ft.
Item - 659 - Seeding Limits
TYPICAL SECTION A-A
For Removal Of Exist. S.R. 7 Roadbed From Sta. 1302+80, 210' Rt. M (North Abutment Exist. Bridge) To Excavation Limits Of Cul-De-Sac.
1:1
1/4:1
1"/Ft.
C=4240
4:1
698.5
699.36
1305+50
712.7
2:1
R.R.R/W
℄ Penn. R.R.
662.0
C=4868
697.7
699.16
1305+00
713.2
661.8
1304+50
1305+00 to 1305+50

FED. SU DIVISION | STATE | PROJECT
3 | OHIO |

145
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

SIDELINES
CNT. | RT.

CROSS SECTIONS
CUT | FILL

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

900 880 860 840 820 800 780 760 740 720 700 680 660

261

1489

275

1608

304

C=3000
4:1
699.0
699.76
1306+50
708.8
F.376
2:1
R.R.R/W
2:1
C=180
662.4
℄ Penn. R.R.

1:1
C=3160
4:1
698.8
699.56
1306+00
713.8
F=380
2:1
R.R.R/W
C=108
2:1
662.2
℄ Penn. R.R.

1305+50

3140 376
6481 644
3860 320
7715 493
1305+50 4472 212

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

1306+00 to 1306+50

STD. SHEET NUMBER	STATE	PROJECT	
2	OHIO		

146
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL

DESIGNS
ENG. WORTH | VOL.

269
1475
262
1453
261

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

860 840 820 800 780 760 740 720 700 680 660

1:1

C=1900
4:1
699.4
700.16
1307+50
704.7
1:1
F=600
C=78
2:1
2:1
662.8
R.R.R/W
℄ Penn. R.R.

2032 600

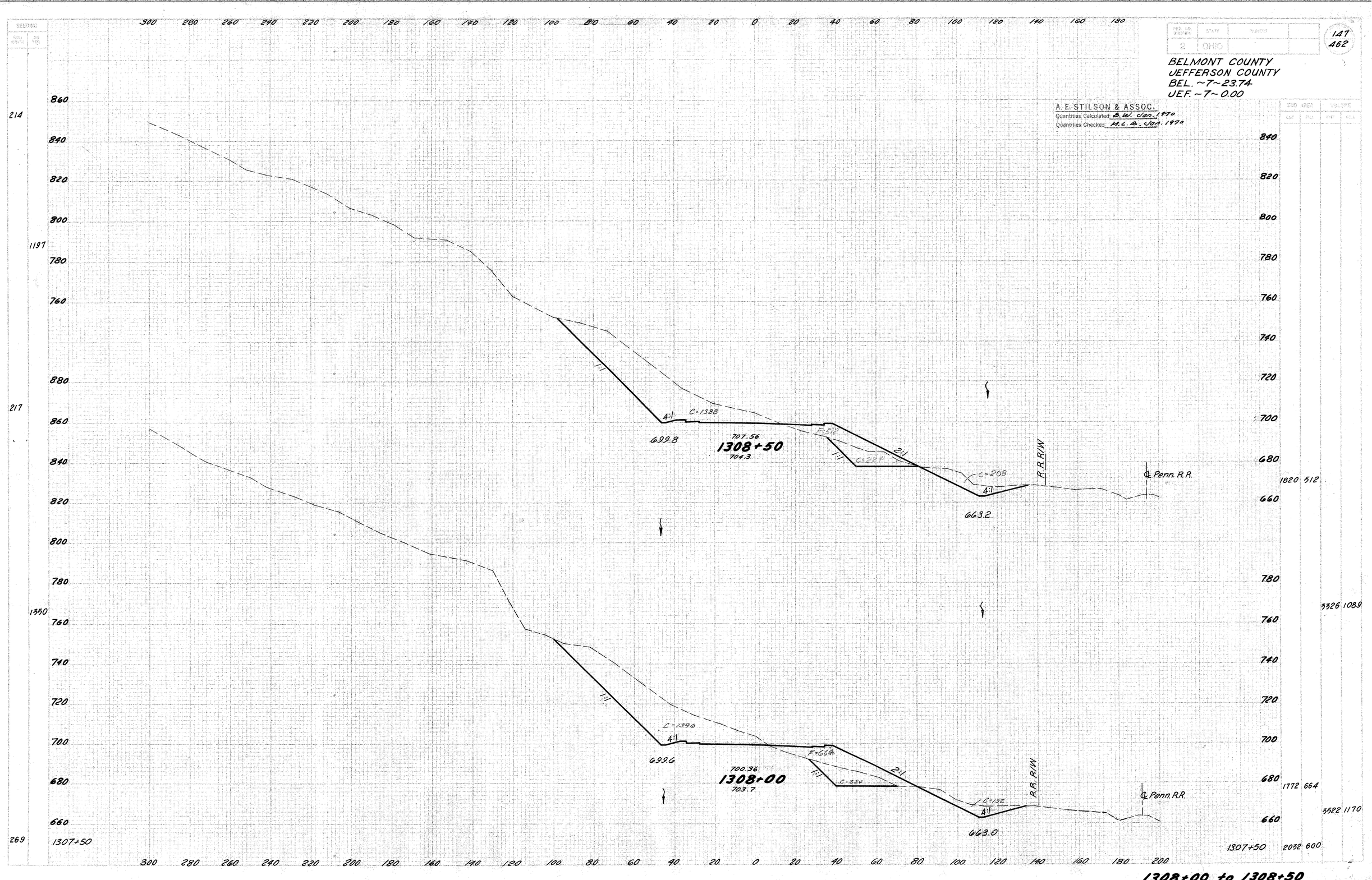
1:1
C=2340
4:1
699.2
699.96
1307+00
709.0
1:1
F=492
C=84
2:1
2:1
662.6
C=118
R.R.R/W
℄ Penn. R.R.

4230 1011
2536 492
5256 804

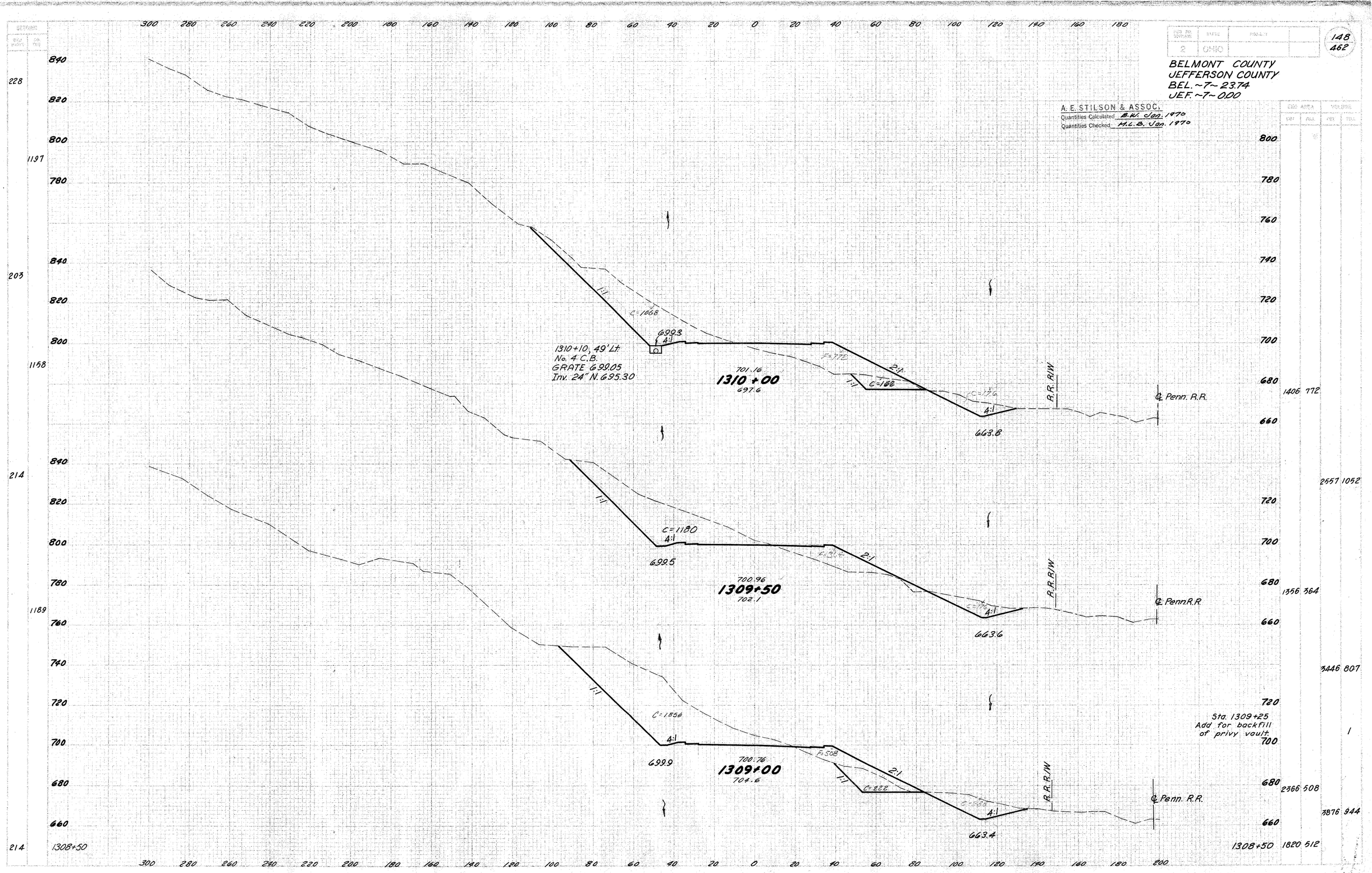
1306+50
3140 376

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

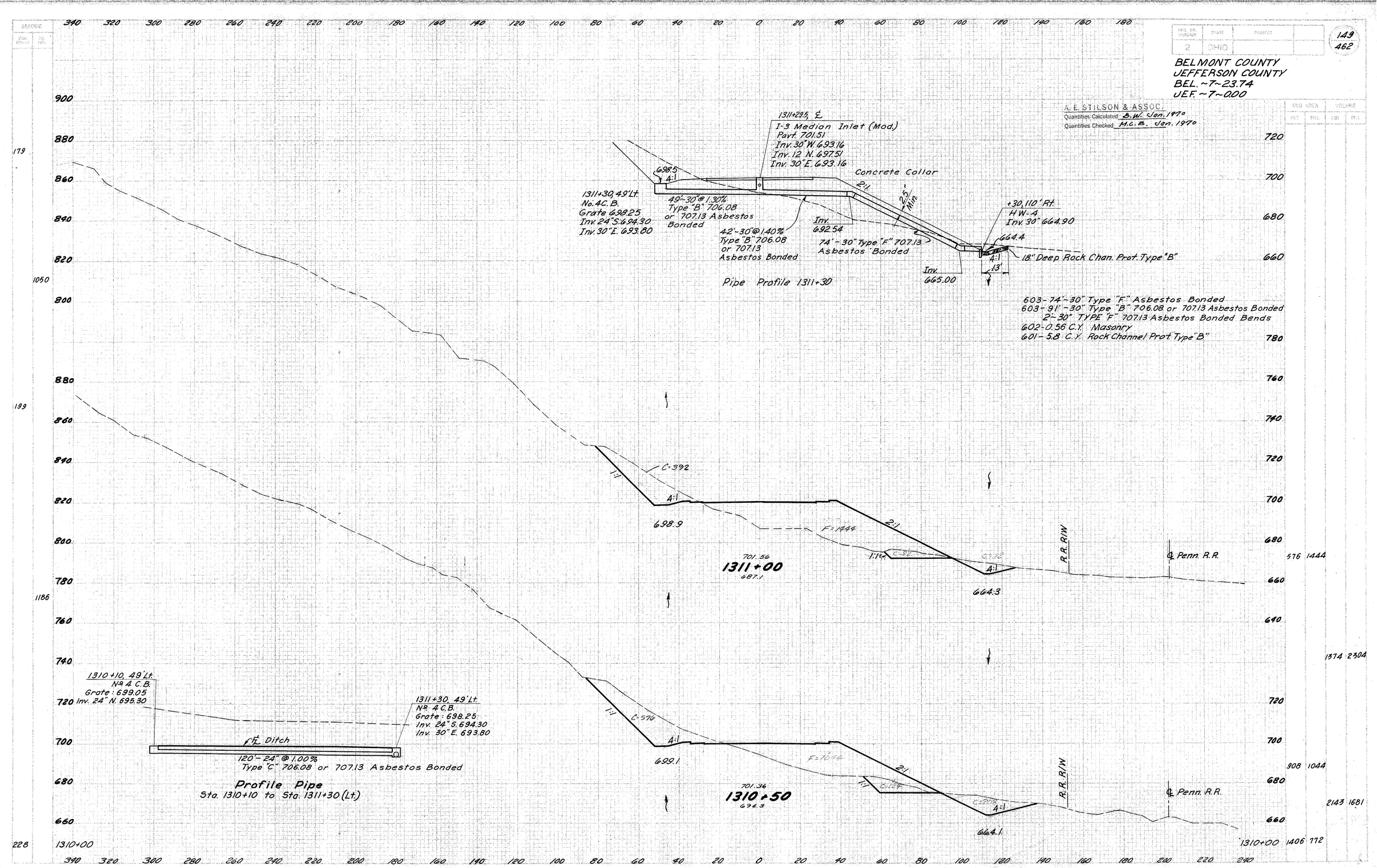
1307+00 to 1307+50



147
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
1308+50
707.56
704.3
699.8
663.2
1308+00
700.36
703.7
699.6
663.0
1:1
4:1
2:1
C=1388
C=1396
C=208
C=224
C=152
F=512
F=664
R.R. R/W
℄ Penn. R.R.
1307+50
1308+00 to 1308+50



148
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970
1310+10, 49' Lt.
No. 4 C.B.
GRATE 699.05
Inv. 24" N. 695.30
1310+00
697.6
701.16
C=1068
699.3
4:1
1:1
2:1
C=1168
663.8
R.R. R/W
℄ Penn. R.R.
1309+50
702.1
700.96
C=1180
699.5
663.6
1309+00
704.6
700.76
C=1856
699.9
C=222
663.4
Sta. 1309+25
Add for backfill
of privy vault.
1308+50
1309+00 to 1310+00



149
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.C.B. Jan. 1970
1311+29.5, ℄
I-3 Median Inlet (Mod.)
Pavt. 701.51
Inv. 30" W. 693.16
Inv. 12 N. 697.51
Inv. 30" E. 693.16
Concrete Collar
1311+30, 49' Lt.
No. 4 C.B.
Grate 698.25
Inv. 24" S. 694.30
Inv. 30" E. 693.80
49'-30" @ 1.30%
Type "B" 706.08
or 707.13 Asbestos
Bonded
42'-30" @ 1.40%
Type "B" 706.08
or 707.13
Asbestos Bonded
Inv.
692.54
74'-30" Type "F" 707.13
Asbestos Bonded
+30, 110' Rt.
HW-4
Inv. 30" 664.90
18" Deep Rock Chan. Prot. Type "B"
Inv.
665.00
Pipe Profile 1311+30
603-74'-30" Type "F" Asbestos Bonded
603-91'-30" Type "B" 706.08 or 707.13 Asbestos Bonded
2'-30" TYPE "F" 707.13 Asbestos Bonded Bends
602-0.56 C.Y. Masonry
601-5.8 C.Y. Rock Channel Prot. Type "B"
C=392
698.9
F=1444
701.56
1311+00
687.1
664.3
R.R. R/W
℄ Penn. R.R.
1310+10, 49' Lt.
No. 4 C.B.
Grate: 699.05
Inv. 24" N. 695.30
1311+30, 49' Lt.
No. 4 C.B.
Grate: 698.25
Inv. 24" S. 694.30
Inv. 30" E. 693.80
℄ Ditch
120'-24" @ 1.00%
Type "C" 706.08 or 707.13 Asbestos Bonded
Profile Pipe
Sta. 1310+10 to Sta. 1311+30 (Lt.)
C=576
699.1
701.36
1310+50
694.3
664.1
1310+00
1310+50 to 1311+00

SECOND | SHEET | TOTAL SHEETS

FED. AID PROJECT	STATE	PROJECT	
2	OHIO		

150
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked M.L.B. Jan. 1970

END AREA | VOLUME
CUT | FILL | CUT | FILL

339 1742 288 1297 179

860 840 820 800 780 760 740 720 700 680 660

1:1 2:1 C=2820 Undercut - Mine Waste 4:1 699.0 F=168 C=168 701.96 1312+00 703.8 1:1 C=130 F=516 2:1 1:1 C=192 4:1 668 665.0 R.R.R/W Penn. R.R.

1:1 1.5:1 C=1040 4:1 698.7 701.76 1311+50 696.1 1:1 F=1280 C=1180 2:1 1:1 C=630 C=16 4:1 664.5 R.R.R/W Penn. R.R.

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

3380 984 4448 2096 1424 1280 1852 2522 1311+00 576 1444

1311+50 to 1312+00

SURFACE

SAG	VERT.	FIG.
	322	
	1797	
	325	
	1844	
	339	

SHEET NO.	STATE	PROJECT	
2	OHIO		

151
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

U.E.C. SUN & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL

320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

860 840 820 800 780 760 740 720 700 680 660

2:1

C=2600

4:1

699.4 (F=214 C=216)

1313+00

707.7

Undercut-Mine Waste

2:1

C=92

4:1

671.5

℄ Ex. Rd.

R.R. R/W

℄ Penn. R.R.

3040 256

5985 604

3424 396

6300 1278

3380 984

2:1

C=3120

4:1

699.2 (F=204 C=204)

1312+50

706.4

Undercut-Mine Waste F=112

702.16

2:1

F=80

C=100

4:1

668.0

℄ Ex. Rd.

R.R. R/W

℄ Penn. R.R.

1312+00

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

1312+50 to 1313+00

SHEET NO.	TOTAL SHTS.
313	
1736	
312	
1761	
322	

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

152
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
2824	356		
4959	626		
2532	320		
5159	533		
3040	256		

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

860 840 820 800 780 760 740 720 700 680 660

2:1 C=2690 4:1 699.8 C=172 F=172 1314+00 703.7 702.76 2:1 F=184 4:1 C=12 674.5 Q Ex. Rd.

Undercut - Mine Waste

2:1 C=2272 4:1 699.6 Undercut - Mine Waste 1313+50 706.5 702.56 F=50 F=232 C=230 2:1 C=4 F=9 C=4 4:1 C=20 675.0 Q Ex. Rd.

1313+00

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

1313+50 to 1314+00

SECTIONING

FED. DIV.	STATE	PROJECT	
2	OHIO		

153
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Jan. 1970
Quantities Checked H.L.B. Jan. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL

342
2044
394
1964
313

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

840 820 800 780 760 740 720 700 680 660

Exist. Conc. Wall
1½:1
2:1
C=2416
4:1
700.2
F=152
C=152
Undercut - Mine Waste
703.16
1315+00
704.7
F=800
2:1
1:1
C=16
4:1
672.2
℄ Ex. Rd.
2796 952

C=3968
2:1
700.0
4:1
1314+50, 48'Lt
No. 5 C.B.
Grate 699.75
Inv. 18" 696.50
F=148
C=148
Undercut - Mine Waste
96'~18" @ 2.70% Type "B"
702.96
1314+50
702.5
Conc. Collar
Inv. 693.65
F=608
2:1
1:1
2.5' Min.
C=16
C=12
C=320
58'~18" Type "F"
Inv. 673.10
4:1
672.4
℄ Ex. Rd.
18" Deep Rock Chan. Prot. Type "B"

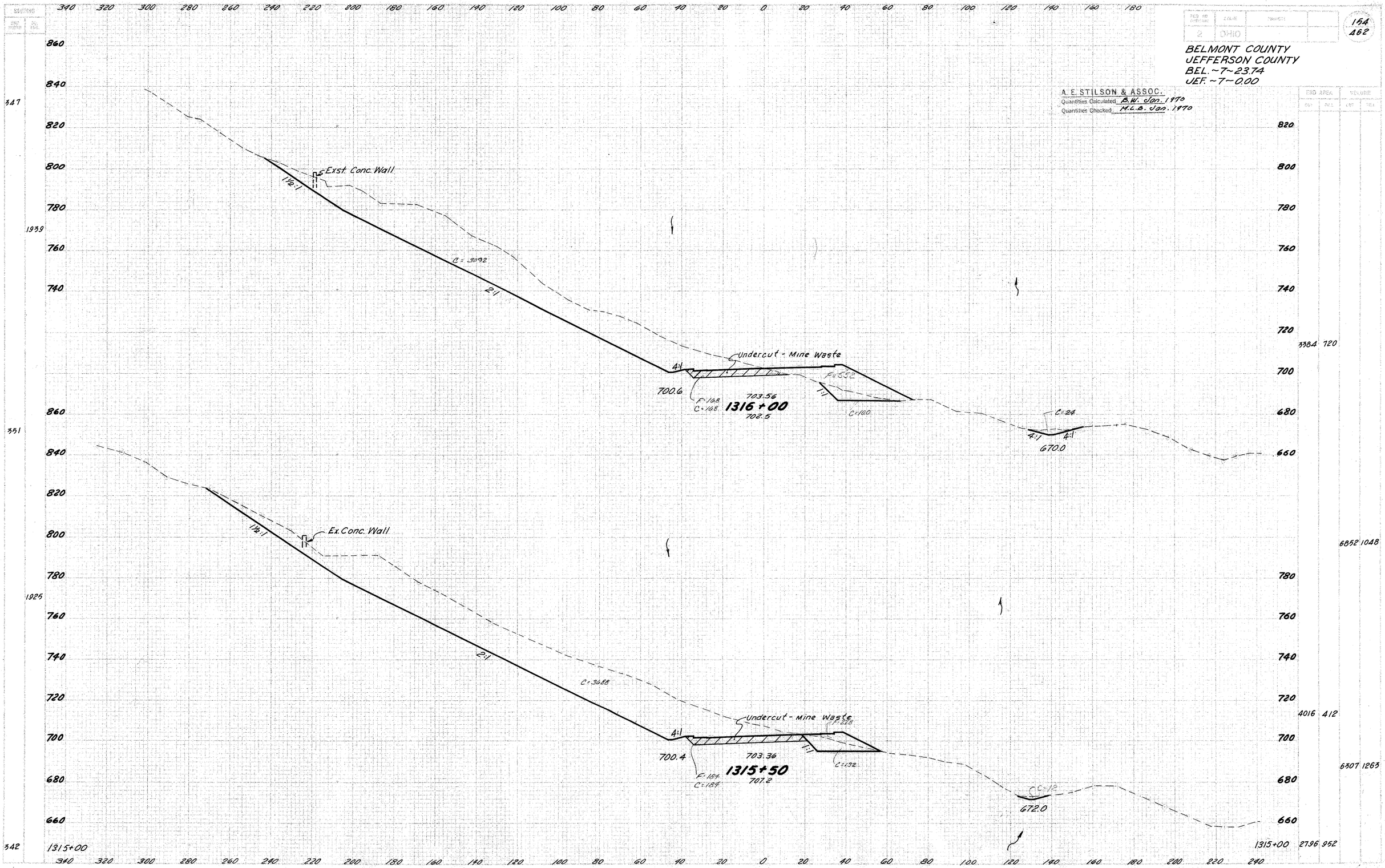
603- 96'~18" Type "B"
58'~18" Type "F"
2~18" Type "F" Bends
602- 0.33 C.Y. Masonry
601- 2.7 C.Y. Rock Chan. Prot. Type "B"
+50, 101' Rt.
HW-4
Inv. 18" 673.00

5796 1581
3464 756
5822 1030
2824 356

1314+00

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

1314+50 to 1315+00



1315+50 to 1316+00

| SECTION | | |

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated U.F.W. & B.W. Feb. 1970
Quantities Checked H.L.B. Feb. 1970

Add for ditch 2

1318+00, 48' Lt.
No. 5 C.B.
Grate 701.15
Inv. 18" 697.90

96~18" @ 2.4%
Type "B"

701.4

Conc. Collar

Inv. 695.55

2:1

2.5' Min.

F=18.66

C=1.60

1:1

1:1

+00, 123' Rt.
HW-4
Inv. 18" 663.00

℄ 662.5
(Ditch)
F:1

℄ Ex. Dr.

704.36
1318+00
694.8

83~18" Type "F"

Inv. 18"
663.20

4:1

C=1.10

662.0

18" Deep Rock Chan. Prot. Type "B"

603~ 96'~18" Type "B"
83'~18" Type "F"
2-18" Type "F" Bends
602~ 0.33 C.Y. Masonry
601~ 1.3 C.y. Rock Chan. Prot. Type "B"

Exist. Conc. Wall

1½:1

C=31.32

2:1

701.2

F=10.92

1:1

C=1.44

2:1

704.16
1317+50
698.0

C=2.8

℄ Ex. Dr

4:1

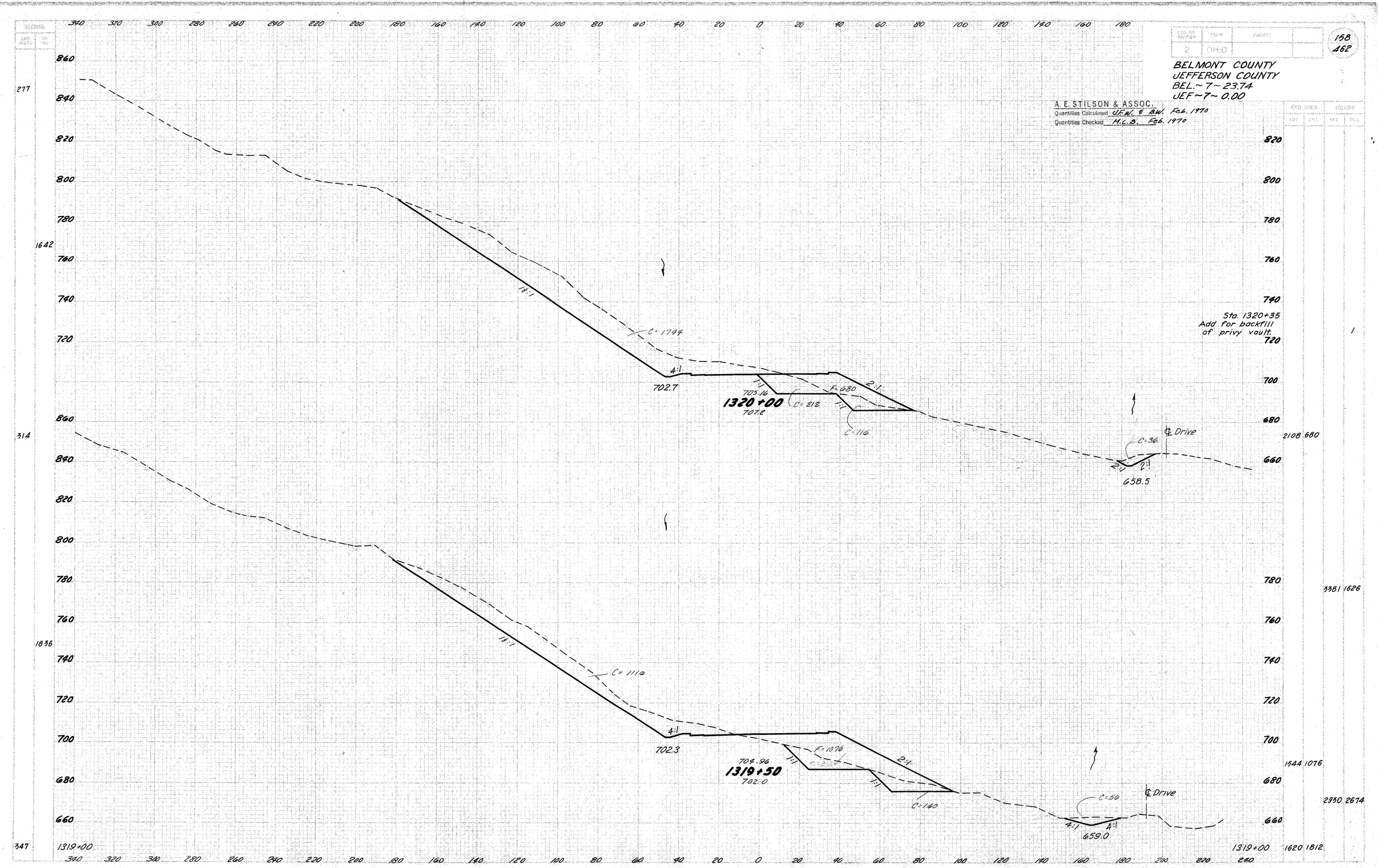
4:1

664.0

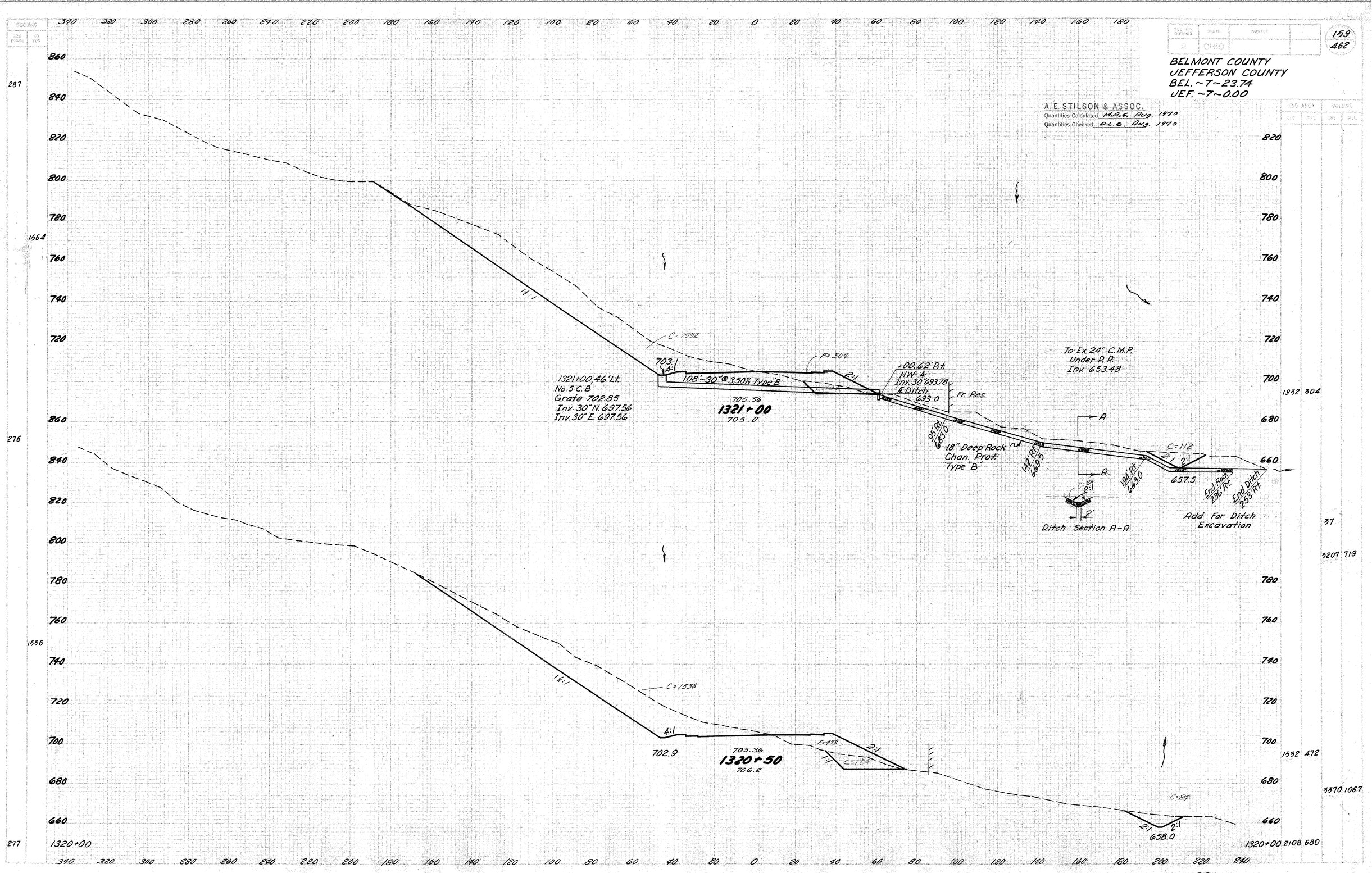
1317+00

1317+50 to 1318+00

| SHEETING | | |



FED. RD. DIVISION 2
STATE OHIO
PROJECT
158
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated J.F.W. & B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970
Sta. 1320+35
Add for backfill
of privy vault.
1
1320+00
707.2
702.7
705.16
C=1744
C=212
F=680
C=116
C=36
℄ Drive
658.5
1319+50
702.0
702.3
704.96
C=1116
F=1076
C=160
C=50
℄ Drive
659.0
1319+00
1319+00
1319+50 to 1320+00



159
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970
1321+00, 46' Lt.
No. 5 C.B.
Grate 702.85
Inv. 30" N. 697.56
Inv. 30" E. 697.56
108'~30" @ 3.50% Type "B"
705.56
1321+00
705.0
+00, 62' Rt.
HW-4
Inv. 30" 693.78
℄ Ditch
693.0
Fr. Res.
To Ex. 24" C.M.P.
Under R.R.
Inv. 653.48
95' Rt.
683.0
18" Deep Rock
Chan. Prot.
Type "B"
142' Rt.
669.5
194' Rt.
663.0
657.5
End Rock
236' Rt.
End Ditch
253' Rt.
Add For Ditch
Excavation
Ditch Section A-A
C=1932
C=1532
C=112
C=84
1320+00
1320+50
706.2
702.9
705.36
658.0
1320+50 to 1321+00

SHEET NO. 25

FED. ROAD DIV.	STATE	PROJECT	
2	OHIO		

160
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated H.R.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

EMB. AREA		SHRINK.	
CU.	CU.L.	CU.	CU.L.

MATCH Line

1572

269

297

1622

287

1:1

4:1

C=3578

703.5

Undercut - Mine Waste

C=208
F=206

705.96
1322+00
714.5

692.5

3784 208

C=2196

703.3

705.76
1321+50
707.1

F=316
3:1
1:1
C=192
C=732

682.0

5781 485

2460 316

4067 574

1932 304

1321+00

1321+50 to 1322+00

SECTIONS
END AREA | VOLUME
CUT | FILL | CUT | FILL

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

ROUTE	STATE	PROJECT	
2	OHIO		

161
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B Aug. 1970

233
1189
195
1289
269

860 840 820 800 780 760 740 720 700 680 660

1½:1
1:1
C = 5540
4:1
4:1
4:1
703.9
Undercut - Mine Waste
706.36
1323+00
724.7
F = 228
C = 228
702.0

1½:1
1:1
C = 4890
4:1
4:1
4:1
703.7
Undercut - Mine Waste
706.16
1322+50
729.7
F = 228
C = 228
701.8

END AREA | VOLUME
CUT | FILL | CUT | FILL

820 800 780 760 740 720 700 680 660

5768 228
10085 422
5124 228
8148 404
5184 208

1322+00

1322+50 to 1323+00

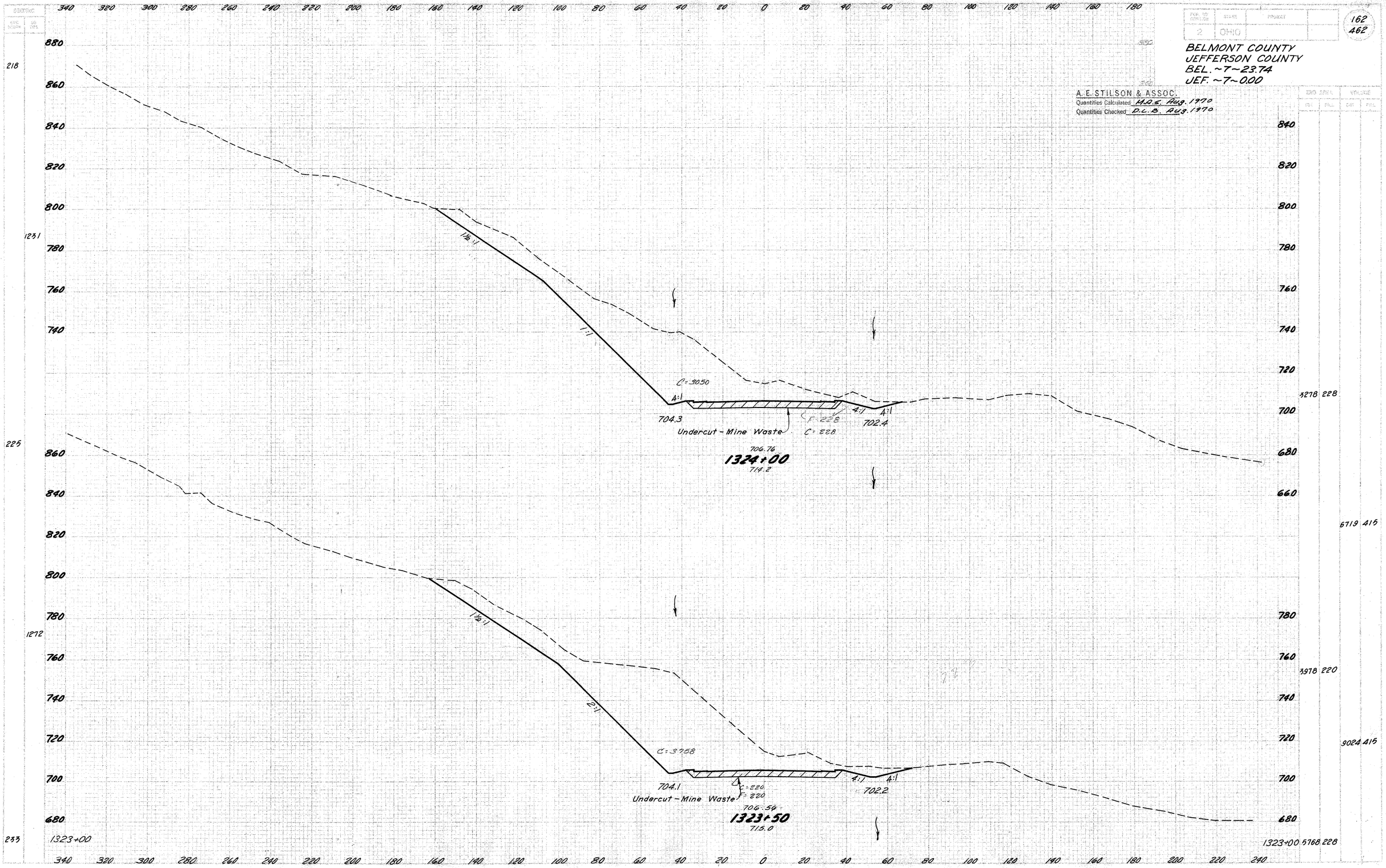
FOR ID DIVISION	STATE	PROJECT	
2	OHIO		

162
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.D.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
SEEDING DETERMINED	
SEEDING CHECKED	

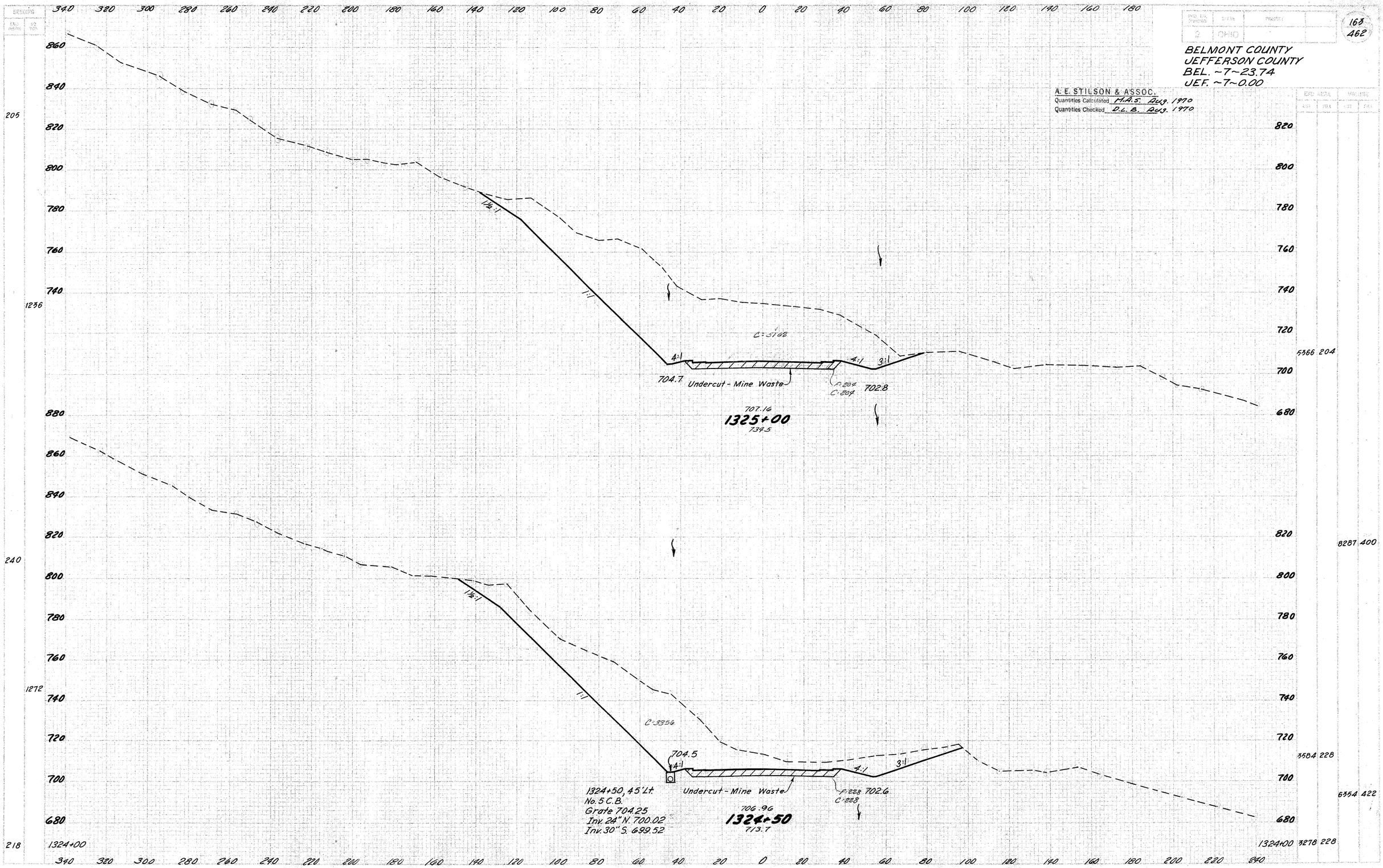


SHEET NO.	STATE	PROJECT	
2	OHIO		163 462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

EXISTING PLOTTED	BY	DATE
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
LINES CHECKED		
VOLS. COMPUTED		
VOLS. CHECKED		



1324+50 to 1325+00

SECTIONS	
END AREA	CU. YDS.

REG. OR DIVISION	STATE	PROJECT	
2	OHIO		

164
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 1970
Quantities Checked D.L.B. AUG. 1970

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SLOPES DETERMINED		
SLOPES CHECKED		

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

206

1172

860 840 820 800 780 760 740 720

1½:1

1:1

4:1

C= 5320

705.1

Undercut - Mine Waste

4:1

3:1

703.2

F= 228
C= 228

707.56

1326+00

738.8

END AREA	VOLUME
5548	228

820 800 780 760 740 720 700 680

860 840 820 800 780 760 740 720 700 680

216

1169

1½:1

1:1

4:1

C= 4692

704.9

Undercut - Mine Waste

4:1

3:1

703.0

F= 196
C= 196

707.36

1325+50

732.3

END AREA	VOLUME
9663	393
4888	196
9494	370
5366	204

205

1325+00

1325+00

820 800 780 760 740 720 700 680

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

1325+50 to 1326+00

SHEETS	SHEET NO.
2	2

FED. ROAD DIVISION	STATE	PROJECT
2	OHIO	

165
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
BEDDING DETERMINED		
BEDDING CHECKED		

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

880 860 840 820 800 780 760 740 720 700 680

1½:1 1:1 4:1 4:1 4:1

C=8056

705.5 703.6

707.96
1327+00
756.6

1½:1 1:1 4:1 4:1 4:1

C=5844

705.3 703.4

707.76
1326+50
737.8

1326+00

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

222 1192 207 1147 206

8056 0 12870 0 5844 0 10548 211 5548 228

1326+50 to 1327+00

SECTION

END STA. | NO. PTS.

259
1389
241
1286
222

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

900 880 860 840 820 800 780 760 740 720 700 680 660

1½:1 1:1 1½:1 1:1

C=7692

4:1 4:1 4:1

705.9 704.0

708.36
1328+00
742.3

C=7888

705.7 4:1 703.8 4:1 4:1

1327+50.45 Lt.
No. 5 C.B
Grate 705.45
Inv. 24" S. 701.70

708.16
1327+50
749.0

1327+00

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

EXISTING PLOTTED	BY	DATE
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
GRADING DETERMINED		
GRADING CHECKED		

REG. NO. DIVISION	STATE	PROJECT		SHEET NO.	TOTAL SHEETS
2	OHIO			166	462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~000

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.C.B. Aug. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
7692	0		
14426	0		
7888	0		
14762	0		
8056	0		

1327+50 to 1328+00

SEEDING	
EXIST. VEGET.	PROP. VEGET.

SUB. DIV. OR DIVISION	COUNTY	PROJECT	
D	OHIO		

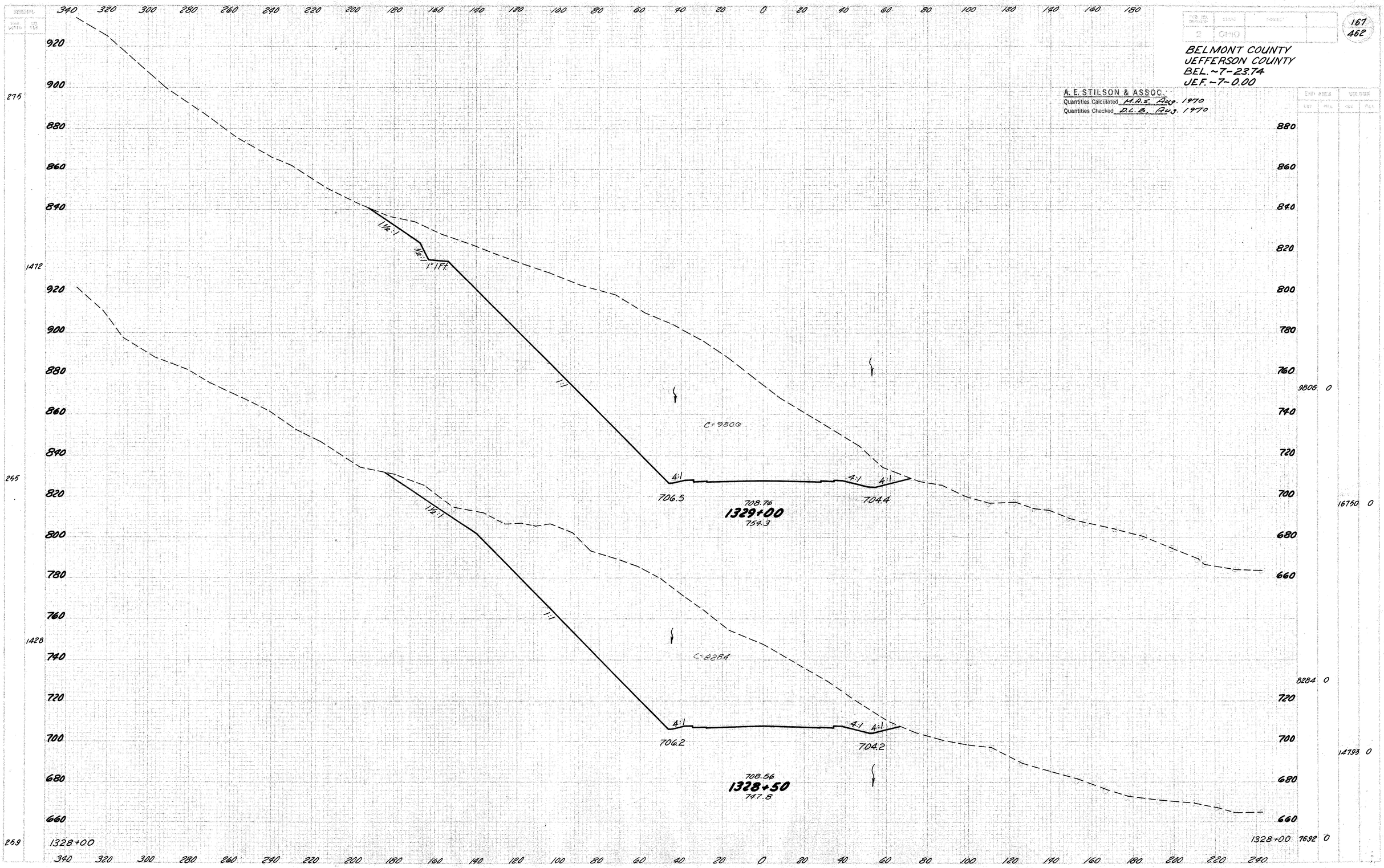
167
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

EXIST. AREAS		VOL. BASE	
CUT	FILL	CUT	FILL

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		



BEARING

CUT AREA		FILL AREA	
CUT	FILL	CUT	FILL

NO. OF DIVISION	STATE	PROJECT	
2	OHIO		

168
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

VOLUME	
CUT	FILL

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

333

1786

310

1625

275

920 900 880 860 840 820 800 780 760 740 720 700 680 660

1½:1 1½:1 1"I.F. 1:1

C=13116

4:1 8:1 4:1

707.2 706.0

709.16
1330+00
767.3

C=11596

4:1 6:1 4:1

706.8 705.0

708.96
1329+50
761.6

1329+00

880 860 840 820 800 780 760 740 720 700 680 660

13116 0

22881 0

11596 0

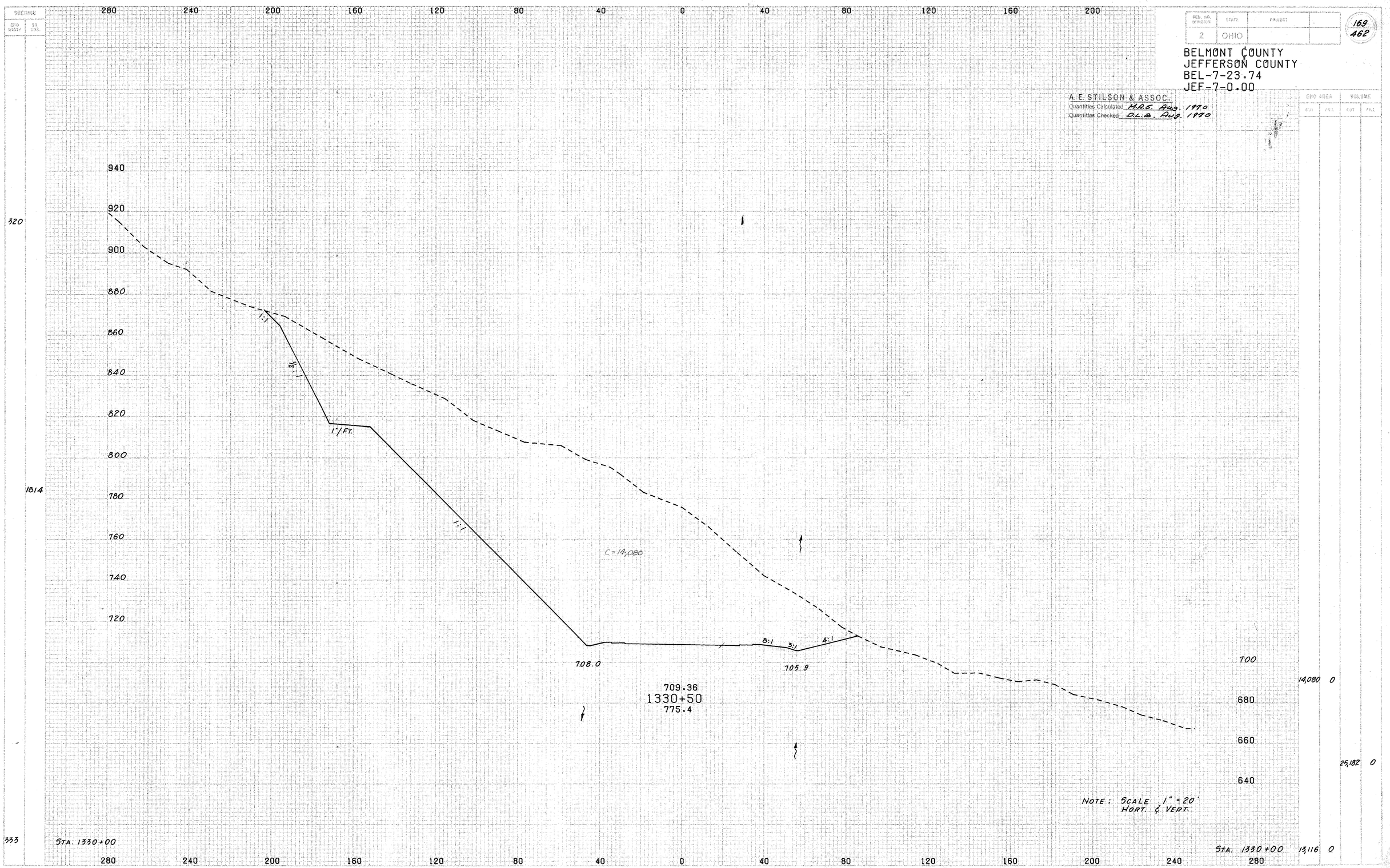
19817 0

9806 0

1329+00

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240

1329+50 to 1330+00



FED. RD. DIVISION 2
STATE OHIO
PROJECT
169
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00
A.E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970
SECOND
END WIDTH
SQ. YDS.
280 240 200 160 120 80 40 0 40 80 120 160 200
940
920
900
880
860
840
820
800
780
760
740
720
700
680
660
640
320
1814
333
1:1
1/2:1
1"/FT.
1:1
C=14,080
8:1
3:1
4:1
708.0
705.9
709.36
1330+50
775.4
NOTE: SCALE 1" = 20'
HORT. & VERT.
STA. 1330+00
STA. 1330+00
END AREA
VOLUME
CUT
FILL
14,080 0
25,182 0
13,116 0
STA. 1330+50

SEEDING

END WIDTH	SQ. YDS.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

ENG. DIV. DISTRICT	STATE	PROJECT	
2	OHIO		

170
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.C.B. Aug. 1970

280 240 200 160 120 80 40 0 40 80 120 160 200

940
920
900
880
860
840
820
800
780
760
740
720
700

314

1761

320

1:1

1½:1

1'/Ft.

1:1

C=15,060

4:1

8:1

3:1

4:1

708.5

705.8

709.53
1331+00
775.3

STA. 1330+50

STA. 1330+50

15,060 0

26,982 0

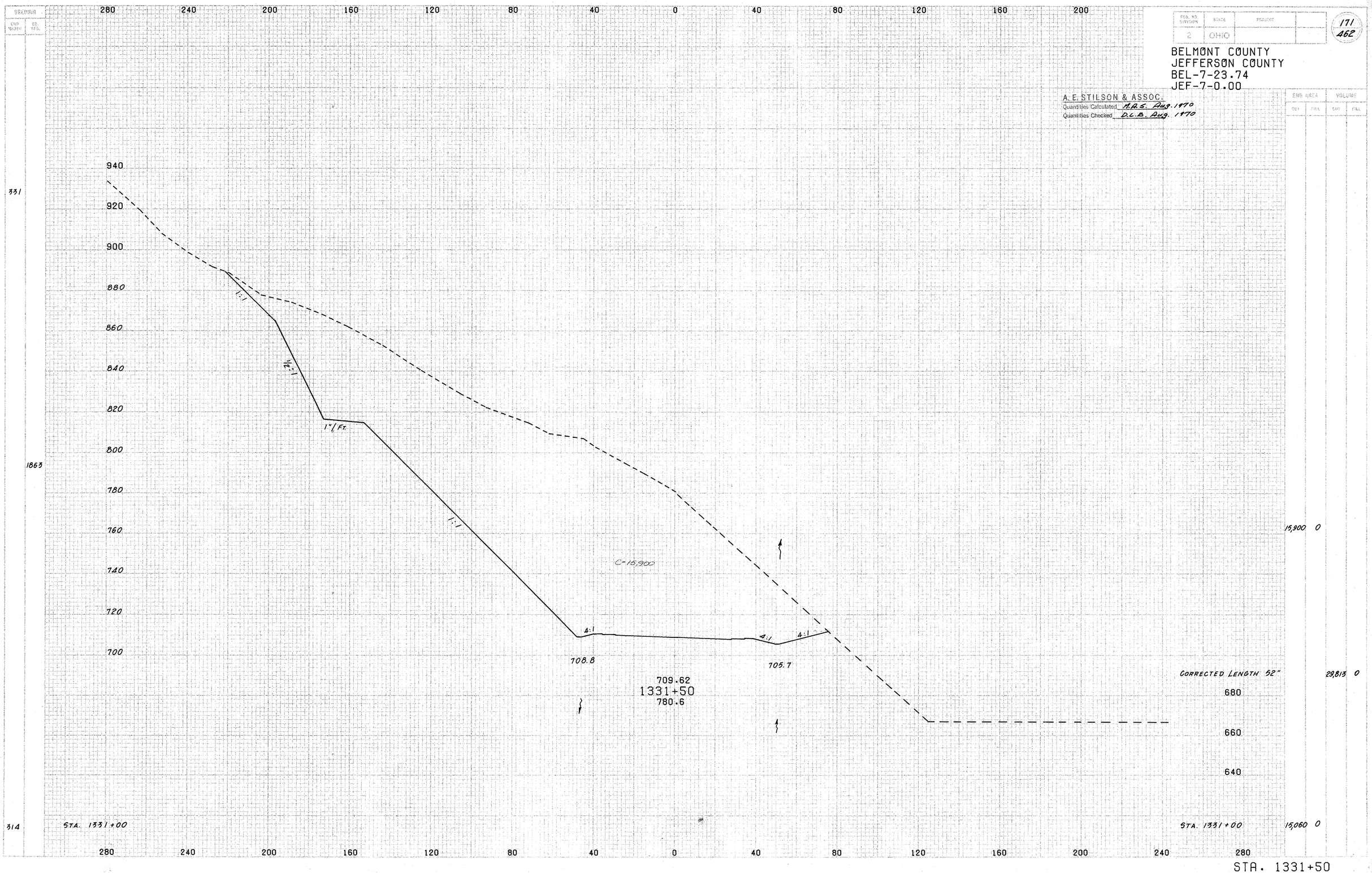
14,080 0

680
660
640

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

STA. 1331+00

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TERMINATE PLOTTED		
TERMINATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		



FED. RD. DIVISION 2
STATE OHIO
PROJECT
171
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00
A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970
END AREA
VOLUME
CUT
FILL
CUT
FILL
SEEDING
END WIDTH
SQ. YDS.
331
1863
314
280
240
200
160
120
80
40
0
40
80
120
160
200
940
920
900
880
860
840
820
800
780
760
740
720
700
1:1
1/2:1
1"/FT.
1:1
C=15,900
4:1
4:1
4:1
708.8
705.7
709.62
1331+50
780.6
CORRECTED LENGTH 52"
680
660
640
15,900 0
29,813 0
15,060 0
STA. 1331+00
STA. 1331+00
280
240
200
160
120
80
40
0
40
80
120
160
200
240
280
EXISTING PLOTTED
EXISTING CHECKED
TEMPLATE PLOTTED
TEMPLATE CHECKED
AREAS DETERMINED
AREAS CHECKED
SPEEDING DETERMINED
SPEEDING CHECKED
BY
DATE

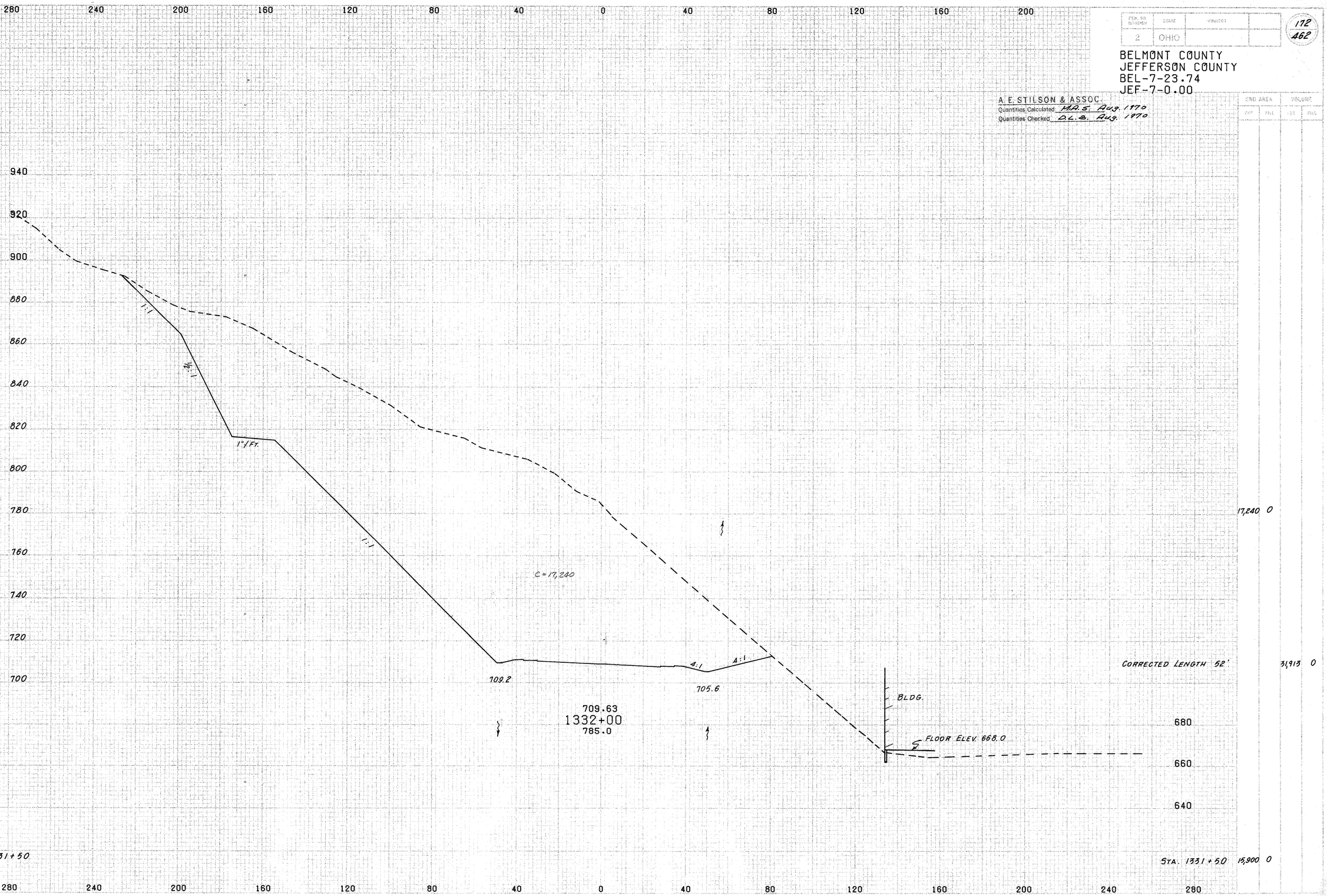
STA. 1331+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

172
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970



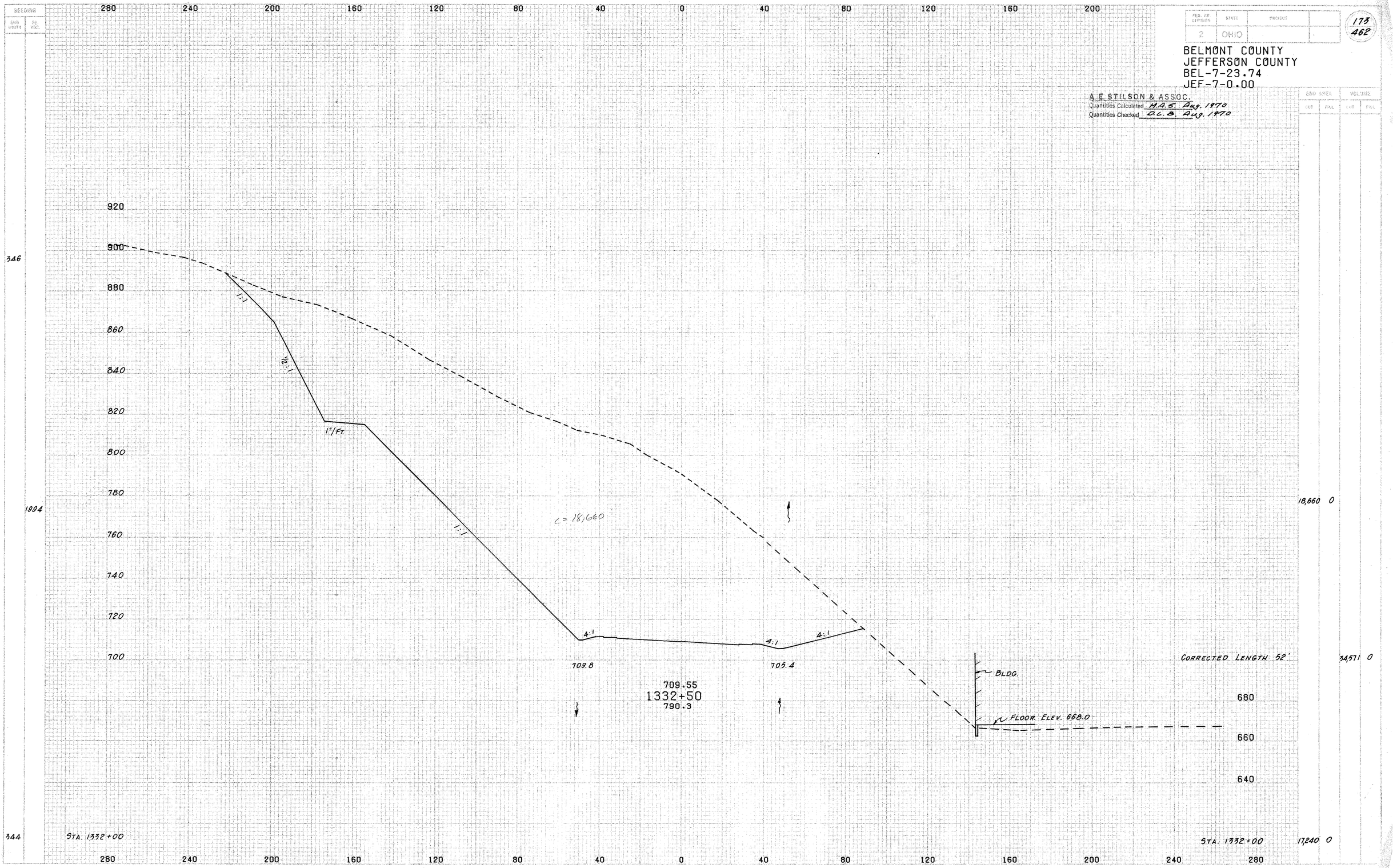
STA. 1332+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

173
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970



	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

STA. 1332+50

SEEDING

CHG WIDTH	SQ. YDS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

174
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

ZERO AREA		VOLUME	
CUT	FILL	CUT	FILL

280 240 200 160 120 80 40 0 40 80 120 160 200

347

880
860
840
820
800
780
760
740
720
700

2:1
1½:1
1"/Ft.
1:1
C=19,440
4:1
4:1

710.2
705.0

709.38
1333+00
790.6

BLDG.
FLOOR ELEV. 668.0

2041

19,440 0

CORRECTED LENGTH 53

37,395 0

680
660
640

346

STA. 1332+50

STA. 1332+50 18,660 0

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

STA. 1333+00

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS CHECKED		
VOLS. CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

SECTIONS

END WIDTH	SQ. YDS.
308	
1917	
331	
1959	
347	

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

175
468

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
18,520	0		
		37,961	0
19,440	0		
		37,441	0
19,440	0		

860
840
820
800
780
760
740
720
700
680
660
640

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

2:1
1/2:1
1"/FT.
1:1
C=18,520
4:1
710.2
704.0
708.80
1334+00
789.6
EX. BLDG.
FLOOR ELEV. 668.0
CORRECTED LENGTH 54'

2:1
1/2:1
1"/FT.
1:1
C=19,440
4:1
710.4
704.6
709.13
1333+50
790.7
EX. BLDG.
FLOOR ELEV. 668.0
CORRECTED LENGTH 52'

STA. 1333+00
STA. 1333+00

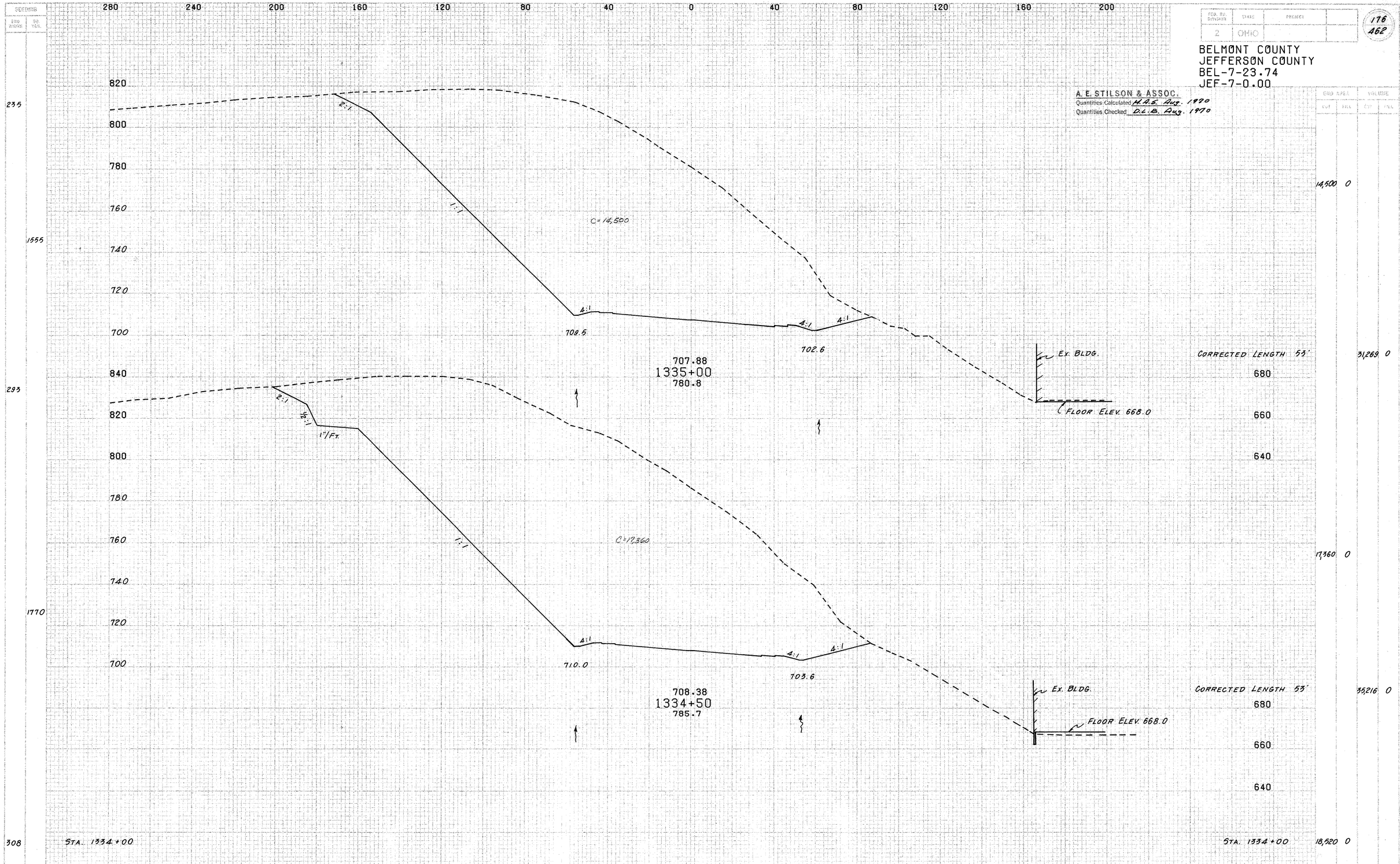
STA. 1333+50 TO STA. 1334+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

176
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970



STA. 1334+50 TO STA. 1335+00

SEEDING

EACH WIDTH	SQ. YDS.
188	
1187	
223	
1350	
235	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

177
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

EROS OVER		VOLUME	
CUT	FILL	CUT	FILL
9800	0		
		21,571	
12,600	0		
		26,598	0
14,500	0		

280 240 200 160 120 80 40 0 40 80 120 160 200

780 760 740 720 700

1/4:1 1:1 C=9,800 4:1 4:1 4:1

708.5 701.0

706.62
1336+00
762.3

CORRECTED LENGTH 52'

EX. BLDG.
FLOOR ELEV. 668.0

800 780 760 740 720 700

2:1 1:1 C=12,600 4:1 4:1 4:1

709.0 701.6

707.29
1335+50
772.5

CORRECTED LENGTH 53'

EX. BLDG.
FLOOR ELEV. 668.0

680 660 640

STA. 1335+00

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

	DATE
EXISTING PROFILES	
EXISTING PIECHES	
TEMPLATE PLOTTED	
TEMPLATE CUTS(F)	
AREAS DETERMINED	
CROSS SECTIONS DRAWN	
BEDDING CHECKED	

STA. 1335+50 TO STA. 1336+00

SECTIONS	
END HUNDR	DIV. YDS.
159	
805	
125	
774	
143	
847	
156	
994	
188	

FED. AID PROJECT NUM.	STATE	PROJECT	
2	OHIO		

178
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

603 ~ 60 -12" TYPE "B"
33 -12" TYPE "F"
2 -12" TYPE "F" BENDS
602 ~ 021 C.Y. CONC. MASONRY

1337+90 ℄
I-3 Median Inlet (Mod.)
PAV'T. 703.12
INV. 12" 699.59

+90, 91' LT.
HW-4 ENDWALL
INV. 12" 688.8

2.5%

CONC. COLLAR

60'-12" @ 0.65 %
TYPE "B"

33'-12"
TYPE "F"

INV. 12"
699.25

INV. 12"
688.9

688.3

684.0

2:1

4:1

C=1880

F=1880

2:1

EX. ASPHALT PARKING AREA

4:1

C=70

666.5

703.09
1338+00
694.7

CORRECTED LENGTH 51'

705.5

2:1

4:1

C=400

F=20

C=120

2:1

704.10
1337+50
706.5

EX. ASPHALT PARKING AREA

4:1

667.0

CORRECTED LENGTH 52'

2:1

1:1

4:1

C=2940

707.0

705.03
1337+00
722.6

2:1

4:1

683.5

EX. BLDG.

FLOOR ELEV. 668.0

CORRECTED LENGTH 51'

1½:1

1:1

4:1

C=6400

708.0

700.0

4:1

4:1

705.87
1336+50
747.9

EX. BLDG.

FLOOR ELEV. 668.0

CORRECTED LENGTH 52'

END AREA		VOLUME	
CUT	FILL	CUT	FILL
45	1880		
		515	1794
500	20		
		3313	19
2940	0		
		8820	0
6400	0		
		15600	0
9800	0		

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TRIANGLE PLOTTED	
TRIANGLE CHECKED	
AREA COMPUTED	
AREA CHECKED	
LEVELING SETTLEMENT	
LEVELING CHECKED	

STA. 1336+50 TO STA. 1338+00

SECTIONS	
END WIDTH	SQ. FOR.
48	133
48	
88	467
159	

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO		

179
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated H.A.S. Aug. 1970
Quantities Checked D.C.B. Aug. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
67	1760		
		20	524
67	1760		
		43	1139
0	0		
45	1880		
		57	2314
45	1880		

280 240 200 160 120 80 40 0 40 80 120 160 200 240 280

740
720
700
680
660
640

STA. 1339+75
(SAME AS 1340+00)

687.0

C=60'
2:1
2:1
E=1960
Z=7

698.24
1340+00
682.2

STA. 1339+91.95
(SAME AS 1340+00)

END STRUCTURE 1339+91.95

STA. 1339+57

699.56
1339+50
679.5

700.82
1339+00
673.0

702.00
1338+50
680.0

STA. 1338+34.09
(SAME AS Rt. SIDE 1338+00)

BEGIN STRUCTURE 1338+34.09

STA. 1338+34.09

STA. 1338+00

STA. 1338+50 TO STA. 1340+00

SEEDING
SQ. YARDS | SQ. YARDS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

180
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.R.S. Aug. 1970
Quantities Checked D.C.B. Aug. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
1380	1200		
980	1240	2185	2259
1185	2852		
300	1840		
340	3333		
67	1760		

694.28
1341+50
689.6

695.60
1341+00
686.0

696.92
1340+50
681.9

1.5:1 C=1360 12:1 12:1 692.0 F=1,200 2:1 3:1 672.0

2:1 C=980 12:1 693.0 F=1240 2:1 3:1 674.0

+52. 80' LT.
HW-4 ENDWALL
INV. 12" 692.46

603 - 80'-12" TYPE "B"
602 - 0.21 C.Y. CONC. MASONRY
601 - 1.8 C.Y. R.C.P.

C=300 2:1 3:1 8:1 692.0

18" DEEP R.C.P. TYPE "B"

1340+52. ℄
I-3 Median Inlet (Mod.)
PAV'T. 696.75
INV. 12" 693.42

80'-12" @ 1.2 % TYPE "B"

F=1840 2:1 3:1 674.5

STA. 1340+00

STA. 1340+50 TO STA. 1341+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SECTIONS DETERMINED		
SECTIONS CHECKED		

SEEDING	
SQ. YDS.	SQ. YDS.
15	67
9	
33	
7	
210	
1294	
174	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

181
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.C.B. Aug. 1970

SEED AREA		MULCH	
YDS.	PRCL.	YDS.	PRCL.
148	270		
278	410		
152	238		
222	356		
AHEAD	152	250	
STA. 1342+10.64 BACK	1930	1060	
3717	2537		
STA. 1341+50	1380	1200	

690.04
1343+00
689.0

691.36
1342+50
690.1

692.40
1342+10.64 BACK = 1342+00 AHEAD
689.8

RAMP "A" RAMP "D" C=148 4.6:1 F=270 687.0 670

RAMP "A" RAMP "D" C=152 4:1 F=788 689.0 670 660 650

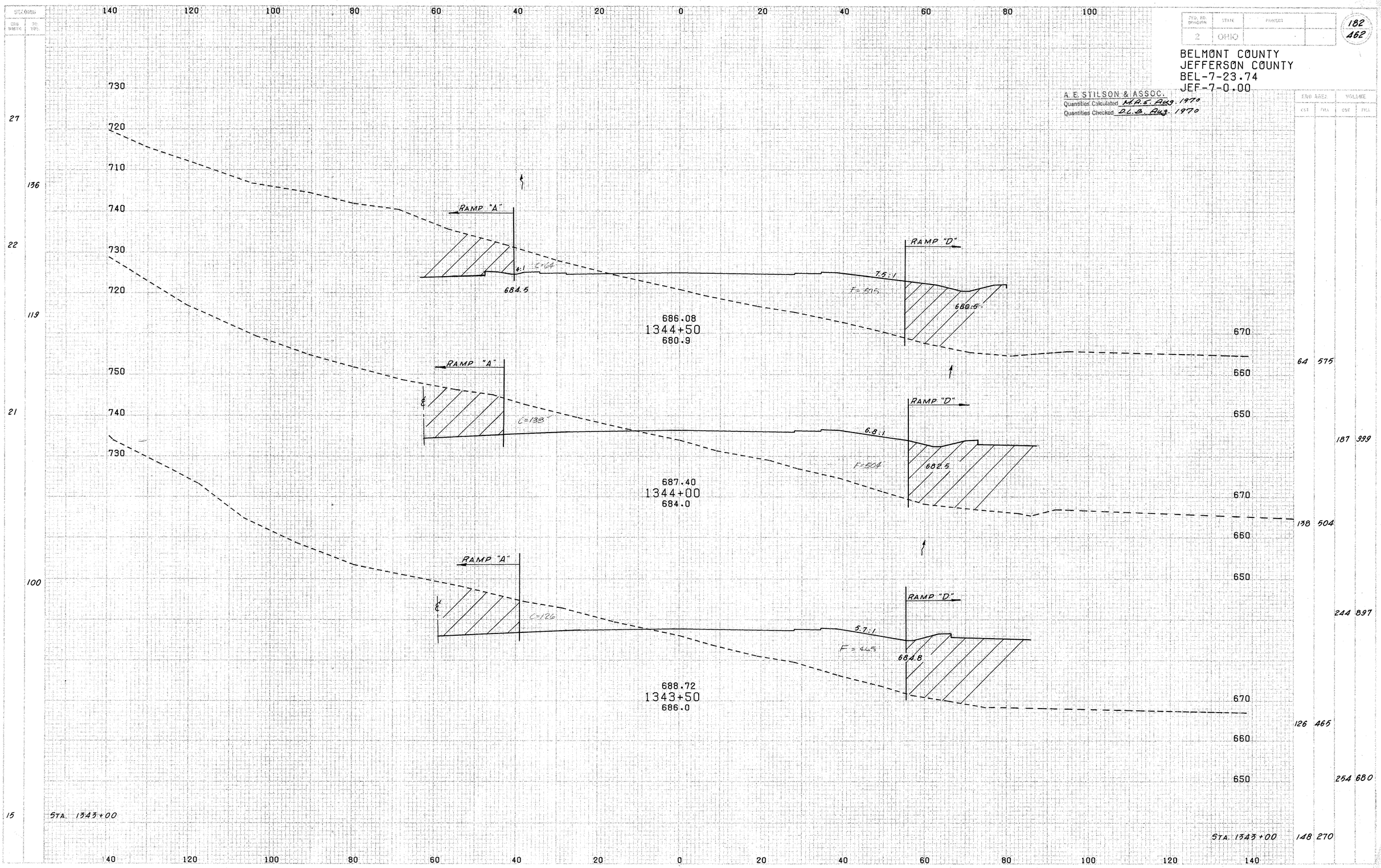
BACK W/1341+50
AHEAD W/ 1342+50 M
AHEAD W/1342+50 RAMP "D"
RAMP "A" C=152 4:1 12:1 12:1 F=250 F=310 2:1 670.0 660 650 680 670 660

1:1 C=1268 15:1 4:1 689.1 740 750 760 730 740 750 760

NOTE: BEGIN 1" = 10' SCALE HORT. & VERT.

STA. 1341+50 1342+00 STA. 1342+10.64 TO STA. 1343+00

DATE	BY	CHECKED BY	DESIGNED BY	DRAWN BY	TRACED BY	QUANTITIES CALCULATED	QUANTITIES CHECKED	AERIAL SURVEYED	FIELD SURVEYED	DESIGNING DETERMINED	DETAILING DETERMINED



ENG AREA CUT	ENG AREA FILL	VOLUME CUT	VOLUME FILL
64	575		
		187	999
138	504		
		244	897
126	465		
		254	680
148	270		

STA. 1343+50 TO STA. 1344+50

SEEDING	
SQ. YDS.	SQ. YDS.
33	183
33	183
33	178
31	161
27	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

183
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.C.B. Aug. 1970

EXISTING PLOTTED	BY	DATE
EXISTING CHECKED		
TEMP. EASE. PLOTTED		
TEMP. EASE. CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
GRADING DETERMINED		
GRADING CHECKED		

RAMP "A"
4:1
C=110
678.4
F=990
680.80
1346+50
670.7
11:1
RAMP "D"

RAMP "A"
4:1
C=83
679.7
F=990
682.12
1346+00
677.2
8:1
RAMP "D"

RAMP "A"
C=100
4:1
681.0
F=735
683.44
1345+50
677.4
7.7:1
RAMP "D"

RAMP "A"
C=95
4:1
683.0
F=765
684.76
1345+00
677.4
7.4:1
RAMP "D"

STA. 1344+50

STA. 1344+50

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		10	990
		86	1463
		83	590
		170	1227
		100	735
		181	1389
		95	765
		147	1241
		64	575

STA. 1345+00 TO STA. 1346+50

FED. HIS DIVISION	STATE	PROJECT	
2	OHIO		

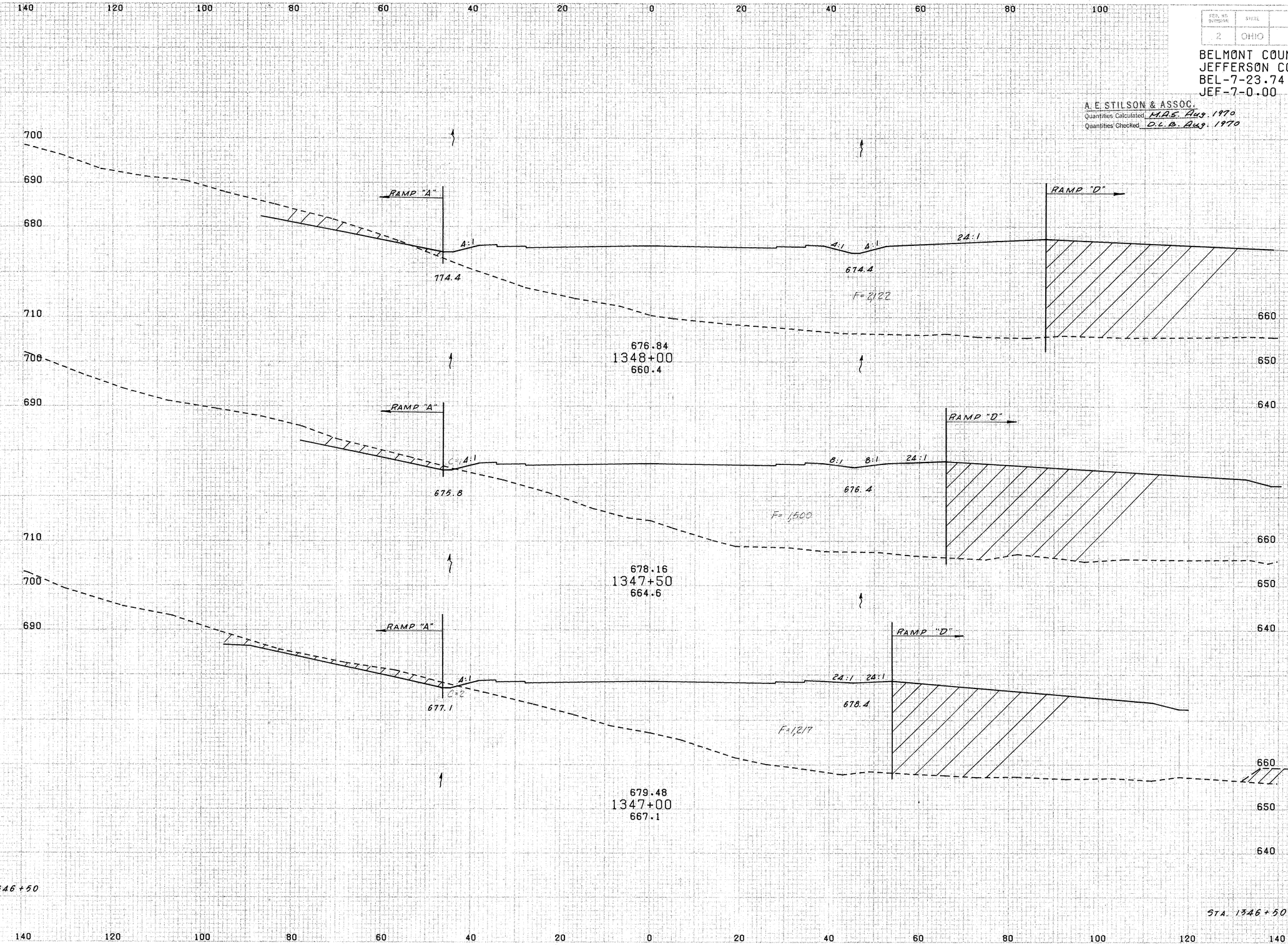
184
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

SEEDING

END WIDTH	SQ. YDS.
66	306
44	208
31	178
33	



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	2122		
		1	3354
1	1500		
		3	2516
2	1217		
		11	2044
10	990		

	BY	DATE
EXISTING PLOTTED		
EXISTING ADJUSTED		
PROPOSITE PLOTTED		
PROPOSITE ADJUSTED		
AREAS PLOTTED		
AREAS ADJUSTED		
SECOND ALTERNATE		
SECOND CHECKED		

STA. 1347+00 TO STA. 1348+00

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO		

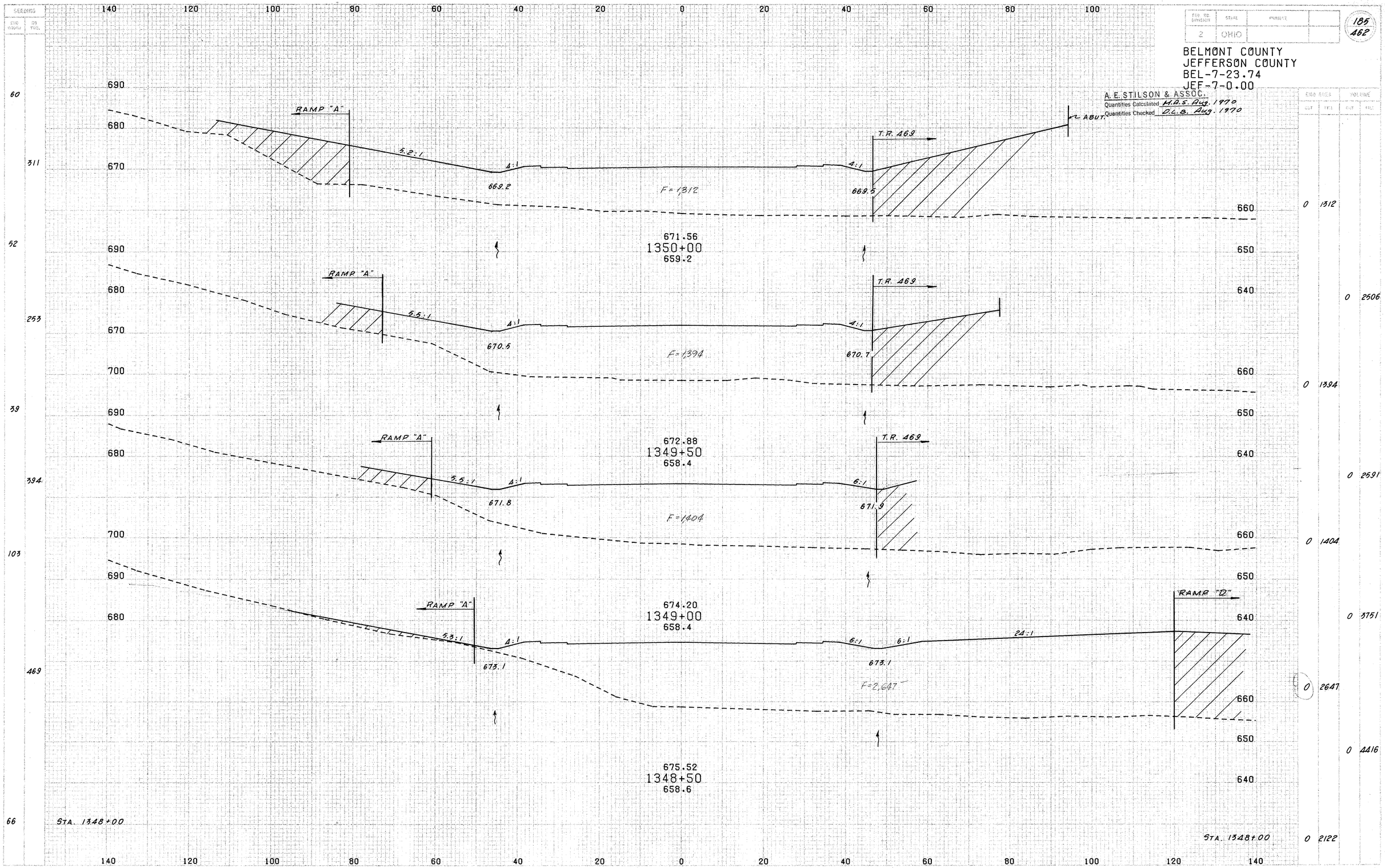
185
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.C.B. Aug. 1970

SEEDING

END WIDTH	SQ. YDS.
60	311
52	253
39	394
103	469
66	



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	1312
		0	2506
		0	1394
		0	2591
		0	1404
		0	3751
		0	2647
		0	4416
		0	2122

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS CALCULATED	
AREAS CHECKED	
SECTIONS DETERMINED	
SECOND CHECKED	

STA. 1348+50 TO STA. 1350+00

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

186
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

SEEDING		END AREA		VOLUME	
SHD VIGNA	SH VIG.	CUT	FILL	CUT	FILL
	65				
	383				
		117	97		
	73				
	422			109	701
	79				
	425			0	1657
	74			0	1,130
	372			0	2296
				0	1349
	60			0	2464
				0	1312

RAMP "B" — 4:1 — 6:1 — F=60 — C=119 — 664.8

667.37
1352+00
667.3

RAMP "C" — F=37 — 4:1 — 665.9

MATCH — 4:1 — 665.6

RAMP "C" — 4:1 — F=660 — 4:1 — 666.8

668.21
1351+50
663.7

ABUT. — 2.2:1 — 4:1 — 666.7

T.R. 469 — 4:1 — F=1,130 — 667.6

669.19
1351+00
662.1

MATCH — 4:1 — 667.9

T.R. 469 — 4:1 — F=1349 — 668.5

670.31
1350+50
661.1

STA. 1350+00

STA. 1350+00

EXISTING PLOTTED	BY	DATE
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS CHECKED		
VOLS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

STA. 1350+50 TO STA. 1352+00

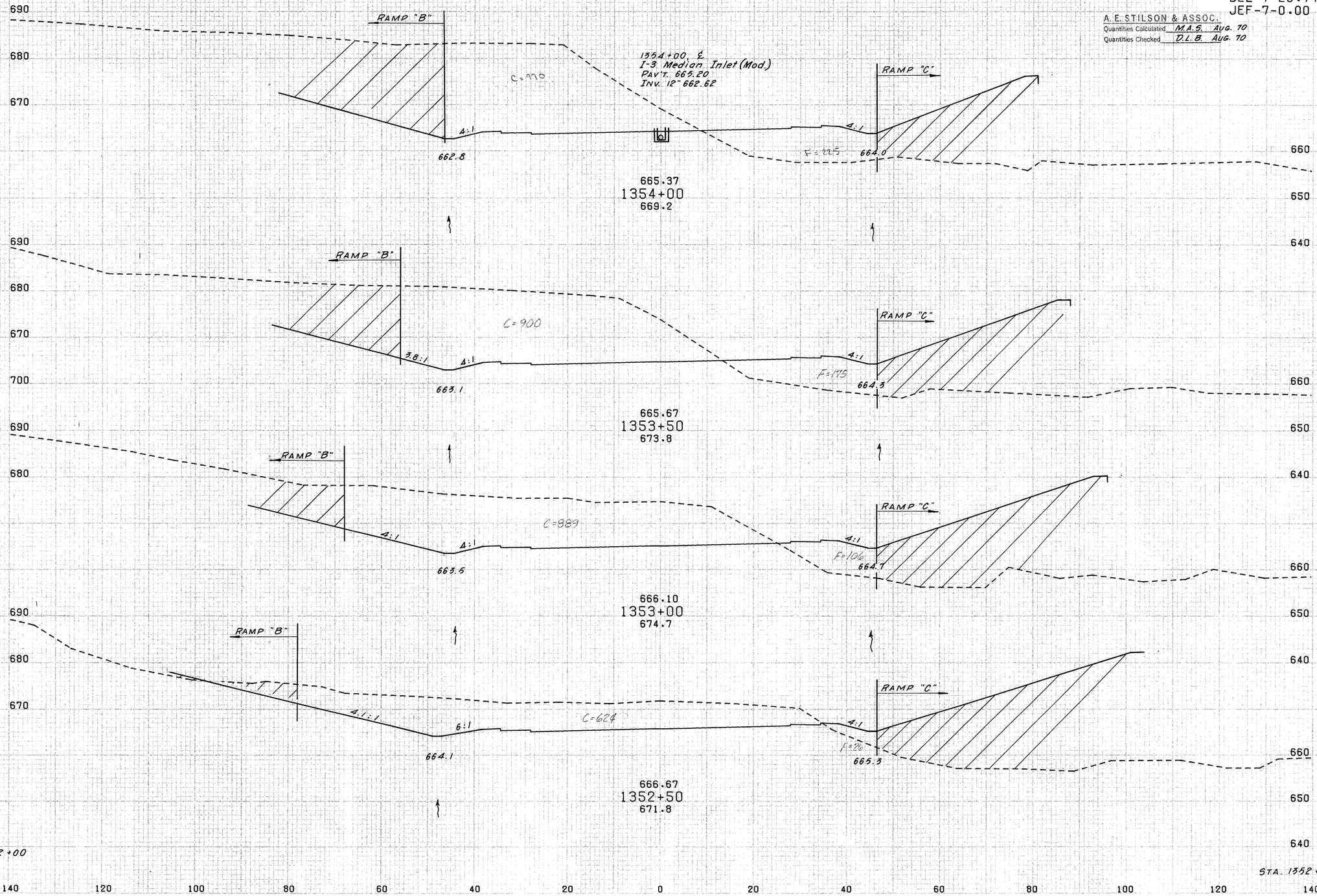
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

187
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

SECTIONS		END AREA		VOLUMES	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
25	167				
35	228				
47	292				
58	342				
65					



770	225		
1546	370		
900	175		
1657	260		
889	106		
1401	122		
624	26		
686	114		
117	97		

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPORARY ADDITION	
TEMPORARY CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
SECTIONS DETERMINED	
SECTIONS CHECKED	

STA. 1352+50 TO STA. 1354+00

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

188
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

SECTIONS

END AREAS	50 YDS.
25	
139	
25	
147	
28	
147	
25	
139	
25	

140 120 100 80 60 40 20 0 20 40 60 80 100

RAMP "B" — 4:1 — 662.9 — F=680 — RAMP "C" — 4:1 — 665.0

665.56
1356+00
658.2

1355+75, ℄
I-3 Median Inlet (Mod.)
PAV'T. 665.25
INV. 12" 662.67

RAMP "B" — C=.5 — 4:1 — 662.7 — F=440 — RAMP "C" — 4:1 — 664.5

665.31
1355+50
660.2

RAMP "B" — C=.475 — 4:1 — 662.5 — F=268 — RAMP "C" — 4:1 — 663.7

1355+00, ℄
I-3 Median Inlet (Mod.)
PAV'T. 665.20
INV. 12" 662.32
INV. 24" 658.80

1355+00, 46.5' LT.
STD. No. 5 C.B.
GRATE : 662.25
INV. 24" 659.00

46'-24" @ 0.44 %
TYPE "B"

46'-24" @ 0.6 %
TYPE "B"

665.19
1355+00
661.6

1355+00, 46.5' RT.
STD. No. 5A C.B.
GRATE : 663.45
INV. 24" 658.53
INV. 27" 658.28

See Sheet No 264

RAMP "B" — C=.565 — 4:1 — 662.6 — F=240 — RAMP "C" — 4:1 — 663.8

665.21
1354+50
663.6

STA. 1354+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

STA. 1354+00

FOR AREA		VOLUME	
CUT	FILL	CUT	FILL
0	680		
		5	1037
5	440		
444	656		
475	268		
963	470		
565	240		
1236	431		
770	225		

STA. 1354+50 TO STA. 1356+00

	BY	DATE
EXISTING PLOTTED		
CONTOURS CHECKED		
TRAVERSE PLOTTED		
TERRAIN CORRECTED		
CROSS SECTIONED		
DETAILS CHECKED		
SLOPES DETERMINED		
SECTIONS CHECKED		

SEEDING	
END SLOPES	SIDE SLOPES
13	89
19	111
21	122
23	133
25	

SEQ. NO. DIVISION	STATE	PROJECT	
2	OHIO		

189
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

T. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

END AREA		VOLUME	
CUT	FILL	CUT	FILL
8	560		
		14	1044
7	567		
		7	1118
0	640		
		0	1251
0	711		
			1288
0	680		

140 120 100 80 60 40 20 0 20 40 60 80 100

690 680 670 660 650

RAMP "B" — 4:1 — F-2 — C-6 — 664.6

666.84
1358+00
658.5

RAMP "C" — 8:1 — F=568

RAMP "B" — 4:1 — F-2 — C-7 — 664.1

666.52
1357+50
658.4

RAMP "C" — 8:1 — F=545 — 666.4

RAMP "B" — 4:1 — F=640 — 663.6

666.20
1357+00
658.4

RAMP "C" — 6:1 — 666.2

RAMP "B" — 4:1 — F=711 — 663.3

665.88
1356+50
658.4

RAMP "C" — 5:1 — 665.7

STA. 1356+00

STA. 1356+50 TO STA. 1358+00

ENTERED PLOTTED	BY	DATE
CHECKED		
CORRECTIONS		
AREAS PLANIMETERED		
AREAS CHECKED		
SECTIONS DETAILED		
SECTIONS CHECKED		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

190
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A.E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B AUG. 70

SEEDING

END WIDTH	SQ. YDS.
155	
	833
145	
	786
138	
0	
	31
11	
	67
13	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1273	1052		
1987	1965		
872	1,070		
1450	1846		
1359+00 (AHEAD)		694	923
1359+00 (BACK)		29	478
		36	983
		10	584
		17	1059
STA. 1358+00		8	560

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

690 680 670 660 650 640

C=1753 2:1 3:1 8:1 662.0 F=1052 2:1 2:1 C=20 653.6 EX. R.R. R/W

668.12
1360+00
658.7

C=867 2:1 3:1 8:1 662.6 F=1070 2.5:1 2:1 C=15 654.4 EX. R.R. R/W

FULL SECTION AHEAD

667.80
1359+50
658.5
BACK W/ 1359+00

1359+00, RAMP "C"
AVE. BACK W/ 1358+50 "C"

AHEAD 1359+00
BACK

C=642 4:1 663.1 C=29 F=478 F=945 3:1 2:1 C=23 655.2 EX. R.R. R/W

667.48
1359+00
659.1

RAMP "B" 4:1 C=10 665.2 F=524 RAMP "C"

667.16
1358+50
659.3

STA. 1358+00

STA. 1358+50 TO STA. 1360+00

BY	DATE
EXISTING PLOTTED	
SECTIONS CHECKED	
TEMPORARY ADJUSTMENTS	
FINISHED PLOTTED	
FINISHED CHECKED	
SHEETING DETERMINED	
SEEDING DETERMINED	

SEEDING
280 WINTER | 70 VAR.

DIST. NO. DIVISION	STATE	PROJECT	
2	OHIO		

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482

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

AREA		VOLUME	
CUT	FILL	CUT	FILL
906	1,695		
2186	3155		
1454	1,714		
2445	2717		
1186	1220		
2500	2077		
1514	1023		
2581	1922		
1273	1052		

140 120 100 80 60 40 20 0 20 40 60 80 100

184 690 680 670 1056 2:1 C=900 3:1 8:1 657.0 F=1,693 2:1 2:1 C=6 650.8 Ex. R.R. R/W 670 660 650

669.40
1362+00
658.1

196 690 680 670 1006 2:1 C=1,944 3:1 8:1 657.0 F=1,714 2:1 2:1 C=10 651.0 Ex. R.R. R/W 670 660 650

TO CULVERT

669.08
1361+50
657.8

166 690 680 942 2:1 C=1,178 3:1 8:1 661.0 F=110 F=1,210 2:1 2:1 C=27 652.0 Ex. R.R. R/W 670 660 650

668.76
1361+00
658.0

173 690 680 911 2:1 C=1,487 3:1 8:1 661.6 F=1,023 2:1 2:1 C=27 652.8 Ex. R.R. R/W 670 660 650

668.44
1360+50
658.4

155 STA. 1360+00 STA. 1360+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

STA. 1360+50 TO STA. 1362+00

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS CALCULATED	
AREAS CHECKED	
SEEDING DETERMINED	
SEEDING CHECKED	

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

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462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

SEEDING

END WIDTH	AD TSC
126	
714	
131	
678	
113	
700	
139	
897	
184	

SEED AREA		VOLUME	
CUT	FILL	CUT	FILL
174		1610	
		254	3033
100		1665	
104		3195	
12		1785	
172		3292	
174		1770	
1000		3207	
906		1693	

140 120 100 80 60 40 20 0 20 40 60 80 100

690 680 670 660 650

663.2 C=170 2:1 3:1 8:1 F=1610 2:1 C=4 651.6 EX. R.R. R/W

670.68
1364+00
657.7

663.0 C=98 2:1 3:1 8:1 F=1665 2:1 C=2 651.4 EX. R.R. R/W

670.36
1363+50
658.2

662.0 C=6 2:1 3:1 8:1 F=1785 2:1 C=6 2:1 651.2 EX. R.R. R/W

670.04
1363+00
657.9

661.0 C=170 2:1 3:1 8:1 F=1770 2:1 C=4 651.0 EX. R.R. R/W

669.72
1362+50
657.7

STA. 1362+00

STA. 1362+00

DW	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
FINISH PLOTTED	
FINISH CHECKED	
SECOND DETERMINED	
SECOND CHECKED	

STA. 1362+50 TO STA. 1364+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

STEERING		END AREA		VOLUME	
CHG. WIDTH	CU. YDS.	CUT	FILL	CUT	FILL

STA. 1364+00

671.00
1364+50
657.8

152 792 133 772 145 794 141 742 126

690 680 670 690 680 670 690 680 670 690 680 670

2:1 C=258 3:1 8:1 F=1,600 2:1 C=2

663.4 651.8

STA. 1364+00 174 1610

671.32
1365+00
656.9

402 2973

260 1600

2:1 C=250 3:1 8:1 F=1,570 2:1 C=5

663.6 652.0

EX. R.R. R/W

255 1570

477 2936

671.64
1365+50
657.2

368 2896

2:1 C=130 3:1 8:1 F=1,557 2:1 C=4

663.8 652.2

EX. R.R. R/W

142 1557

671.96
1366+00
657.7

2:1 C=258 3:1 8:1 F=1,591 2:1 C=4

664.0 652.4

EX. R.R. R/W

262 1591

374 2915

STA. 1366+00

STA. 1364+50 TO STA. 1366+00

DATE	BY	EXISTING PLOTTED	EXISTING CHECKED	TEMPLATE PLOTTED	TEMPLATE CHECKED	AREAS PLOTTED	AREAS CHECKED	SECTIONS DETERMINED	SECTIONS MEASURED

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO	-	-

134
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

SEEDING

END STA.	SQ. YDS.
156	
	828
142	
	792
143	
	775
136	
	800
152	

140 120 100 80 60 40 20 0 20 40 60 80 100

690 680 670 700 690 680 690 680 670 690 680 670

2:1 C=23 3:1 8:1 F=1,671 3:1 C=10 4:1 EX. R.R. R/W

665.0 654.0

673.24
1368+00
658.9

2:1 C=28 3:1 8:1 F=1,635 2.5:1 C=10 4:1 EX. R.R. R/W

664.6 653.0

672.92
1367+50
658.5

2:1 C=127 3:1 8:1 F=1,590 2.5:1 C=6 3:1 EX. R.R. R/W

664.4 652.8

672.60
1367+00
658.0

2:1 C=62 3:1 8:1 F=1,649 2:1 C=4 3:1 EX. R.R. R/W

664.2 652.6

672.28
1366+50
657.9

STA. 1366+00 STA. 1366+00

660 650 640 660 650 660 650 660 650 670 660 650

END STA.	VOLUME
	33 1671
	66 3062
	38 1635
	159 2987
	133 1590
	175 3000
	56 1649
	295 3000
	262 1591

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

DATE	BY	
		KEYING PRINTED
		EARTHS CHECKED
		TEMPLATE PLOTTED
		TEMPLATE DESIGN
		AREAS DETERMINED
		VOLUMES CHECKED
		SEEDING DETERMINED
		SEEDING CHECKED

STA. 1366+50 TO STA. 1368+00

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

195
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

SECTIONS

CHA. UNDER	EQ. OVER
137	789
147	819
148	814
145	836
156	

140 120 100 80 60 40 20 0 20 40 60 80 100

700 690 680 670 660 650 640

C=8 F=1,292 668.0 674.52 1370+00 664.0 C=9 656.5

C=18 F=1,536 667.0 674.20 1369+50 661.5 C=11 655.0

C=20 F=1658 666.5 673.88 1369+00 660.7 C=6 654.8

C=4 F=1708 665.5 673.56 1368+50 659.5 C=8 654.4

2:1 3:1 8:1 3:1 4:1 EX. R.R. R/W

STA. 1368+00

AREA CUT	AREA FILL	VOLUME CUT	VOLUME FILL
17	1292		
43	2619		
29	1536		
51	2958		
26	1658		
35	3117		
12	1708		
42	3129		
33	1671		

DATE	BY
CREATING PLOTTED	
LOCATING EXISTING	
TERRAIN DRAWING	
AREAS ESTIMATED	
AREAS CHECKED	
SECTIONS DETERMINED	
SECTIONS CHECKED	

STA. 1368+50 TO STA. 1370+00

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

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462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

SECTIONS

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
121	703		
132	719	99	690
127	739	168	1448
139	767	82	873
137		125	1681
		55	942
		94	1890
		48	1099
		60	2214
		17	1292

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

700 690 680 700 690 680 700 690 680 700 690 680

670 660 650 670 660 650 670 660 650 670 660 650

C=1 3:1 8:1 F=690 8:1 3:1 C=98 2:1
672.8 659.5

675.78
1372+00
670.4

C=12 3:1 8:1 F=873 8:1 3:1 C=70 2:1
672.5 659.3

675.48
1371+50
667.8

C=18 3:1 8:1 F=942 8:1 3:1 C=35 2:1
672.0 659.1

675.16
1371+00
666.5

C=25 3:1 2:1 8:1 F=1099 8:1 3:1 C=28 3:1
670.5 658.9

674.84
1370+50
665.3

STA. 1370+00 STA. 1370+00

STA. 1370+50 TO STA. 1372+00

EXISTING PLOTTED
PROPOSED PLOTTED
TRANSECT EXTENDED
TEMP. DITCH CHANGED
AREAS PLANIMETERED
AREAS CHECKED
SECOND DETERMINED
SECOND CHECKED

BY	DIST.

SHEET NO.	REVISION DATE	BY

REVISION DATE	BY
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS CALCULATED	
AREAS CHECKED	
VOLUMES CALCULATED	
VOLUMES CHECKED	

REVISING DIVISION	STATE	PROJECT
2	OHIO	

197
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

HILLSIDE DITCH PROTECTION
LT. 1374+10

4'
2'
18" Deep Type "B" R.C.P.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

ADD FOR HILLSIDE DITCH EXC. 147

213 950 129 700 123 656 113 650 121

140 120 100 80 60 40 20 0 20 40 60 80 100

700 690 680 670 690 680 670 690 680 670 690 680 670 650

C=122
2:1
8:1
8:1
TEMP.
3:1
676.24
1374+00
675.1
661.55
659.01
C=28
2:1
1249 198

C=162
3:1
4:1
8:1
3:1
24:1
24:1
673.8
676.24
1373+50
675.3
F=305
663.0
1307 466

C=115
3:1
4:1
8:1
3:1
673.6
676.17
1373+00
675.2
F=290
662.0
C=9
2:1
162 305

C=20
3:1
4:1
8:1
3:1
673.4
676.02
1372+50
672.8
F=430
661.0
C=31
2:1
124 290

57 430

145 1037

STA. 1372+00

STA. 1372+00 99 690

STA. 1372+50 TO STA. 1374+00

SEEDING

END AREAS | CU. YDS.

FED. AID PROJECT NO.	STATE	PROJECT	
2	OHIO		

198
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. AUG. 70
Quantities Checked D.L.B. AUG. 70

END AREAS		VOLUME	
CUT	FILL	CUT	FILL

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS CUT/FILLED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

140 120 100 80 60 40 20 0 20 40 60 80 100

164 700 690 680 906 700 690 162 680 1042 213 STA. 1374+00

3:1 C=98 4:1 672.8 676.00 1375+00 671.5 8:1 F=505 3:1 C:1 24:1 F=2 2:1 F=4 2:1 F=3 658.6

3:1 C=102 4:1 673.4 676.15 1374+50 673.0 8:1 F=269 3:1 24:1 5G 2:1 2:1 658.8

670 660 650 670 660 650 STA. 1374+00

122 511 283 749 184 289 1327 459 1249 198

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

STA. 1374+50 TO STA. 1375+00

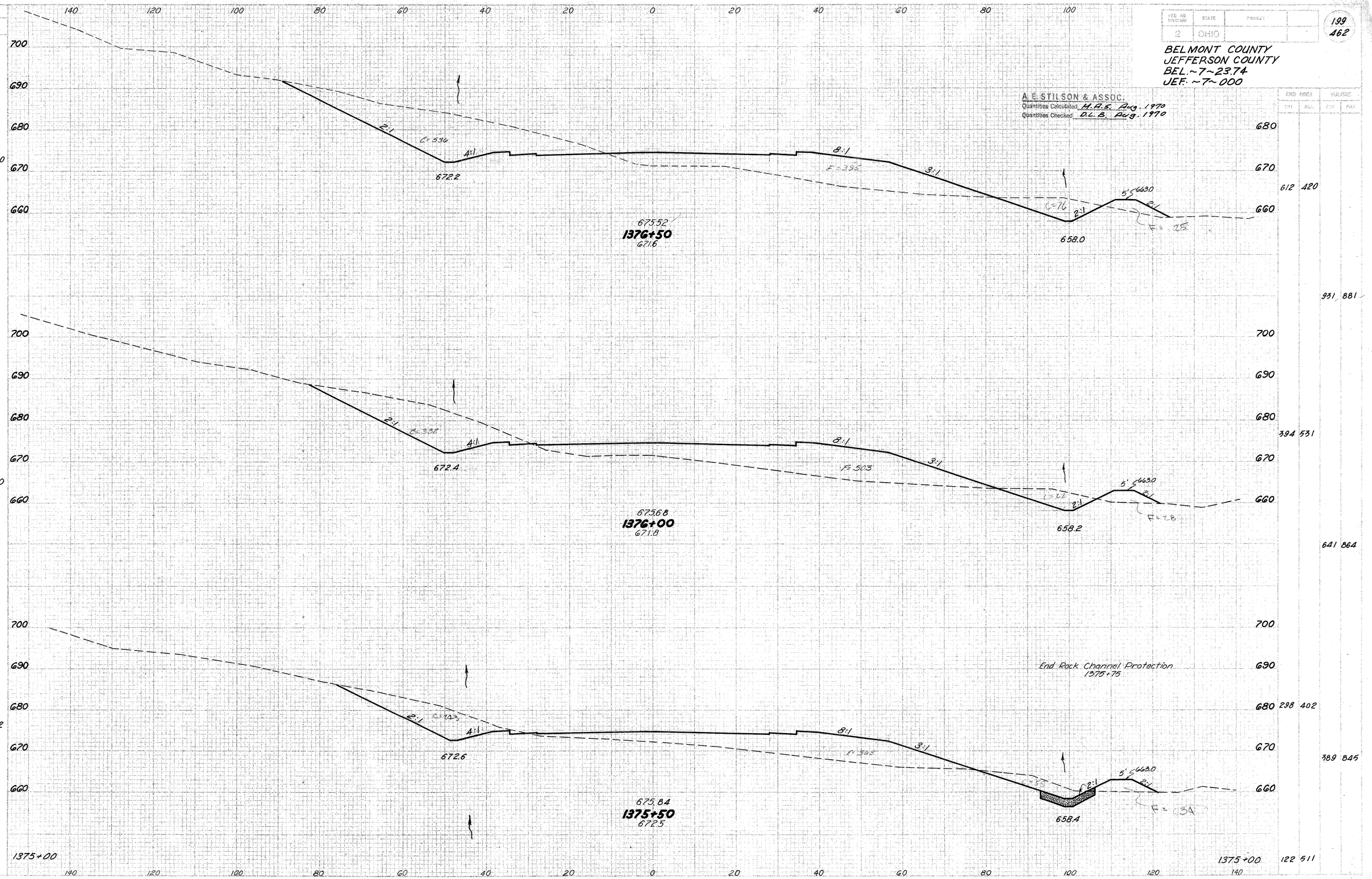
FED. ROAD SYSTEM	STATE	PROJECT	
2	OHIO		

199
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-000

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Aug. 1970
Quantities Checked D.L.B. Aug. 1970

SECTIONS		END AREA		VOLUMES	
CHG WIDTH	CL TER	CUT	FILL	CUT	FILL
157	850			612	420
149	800			394	531
139	842			298	402
164				122	511
				931	881
				641	864
				389	845



	BY	DATE
GRADING PLOTTED		
GRADING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
VOLUMES COMPUTED		
VOLUMES CHECKED		

1375+50 to 1376+50

SECTIONS

END DEPTH	SQ. YDS.
196	
1058	
185	
983	
169	
905	
157	

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

200
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Sept. 1970
Quantities Checked D.L.B. Sept. 1970

ENG AREA		VOLUME	
CUT	FILL	CUT	FILL
2083	110		
		3567	336
1769	253		
		2634	542
		1076	332
		1563	696
		612	420

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS COMPUTED		
AREAS CHECKED		
BEGINNING DETERMINED		
BEGINNING CHECKED		

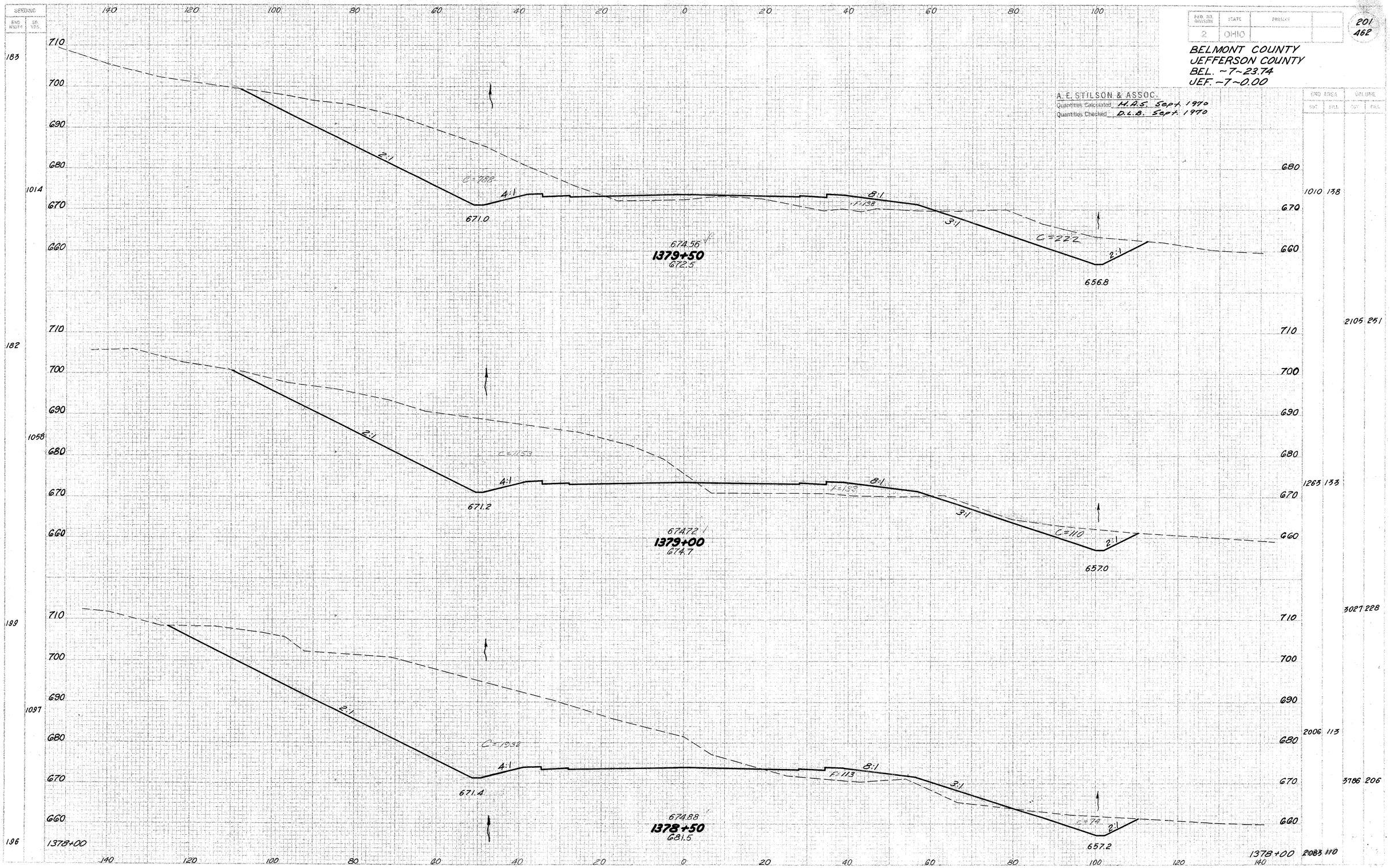
1377+00 to 1378+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

201
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. Sept. 1970
Quantities Checked D.L.B. Sept. 1970



	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

1378+50 to 1379+50

SECTIONS

END AREA		VOLUME	
CUT	FILL	CUT	FILL
233	1294		
233	1200		
199	1086		
192	1042		
183			

FED. NO. DIVISION	STATE	PROJECT
2	OHIO	

202
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.C.B. Feb. 1970

			2161	476
				3879 750
			2028	334
				3420 498
			1666	204
				2716 291
			1267	110
				2108 250
			1379+50	1010 138

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
VOLUMES COMPUTED		
VOLUMES CHECKED		

240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

740 720 700 680 660

2:1 C=2150 4:1 8:1 F=432 3:1 2:1 5' 2:1 C=5 F=44

670.2 673.92 **13B1+50** 681.3 658.0 654.4

2:1 C=2000 4:1 8:1 F=320 3:1 2:1 5' 2:1 C=70 F=14

670.4 674.08 **13B1+00** 677.0 658.0 654.6

2:1 C=1605 4:1 8:1 F=84 3:1 F=220 C=58 2:1

670.6 674.24 **1380+50** 679.4 654.8

2:1 C=1672 4:1 8:1 F=110 3:1 C=175 2:1

670.8 674.40 **1380+00** 672.2 655.0

BEGIN 1"=20' SCALE X-SECTIONS

1380+00 to 1381+50

REG. NO. DIVISION	STATE	PROJECT	
2	OHIO		

203
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

SEEDING

ENG. WIDTH	SQ. YDS.
223	1250
227	1233
217	1231
226	1275
233	

	BY	DATE
GRADING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180

740 720 700 680 660

C=380 4:1 669.4 673.91 **1383+50** 664.8 2:1 8:1 3:1 F=1132 653.6 2:1 6580 F=44

C=672 4:1 669.6 673.67 **1383+00** 664.2 2:1 8:1 3:1 F=1200 653.8 2:1 6580

C=0.8 4:1 669.8 673.63 **1382+50** 667.1 2:1 8:1 3:1 2.5' Min F=1084

1382+78 Ł
I-3 Median Inlet (Mod.)
Pavt. 673.45
Inv. 12" 669.71

54~12" @5.38% Type "B" Conc. Collar

603~54 LF 12" Conduit Type "B"
53 LF 12" Conduit Type "F"
2~12" Type "F" Bends
602~021 C.Y Masonry
601~0.9 C.Y. Type "B" Rock Prot.

1382+78.105 Rt
HW~A Endwall
Inv. 12" 654.50
Inv. 12" 6667
Inv. 12" 654.6
53 LF 12" Type "F" 654.0
658.0
18" Deep Rock Channel Prot.

C=1232 4:1 670.0 673.76 **1382+00** 675.2 2:1 8:1 3:1 F=698 654.2 2:1 658.0

1381+50 1382+00 1382+50 1383+00 1383+50

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		589	1176
		1176	2241
		955	1088
		2273	1641
		1500	684
		3390	1074
		2161	476

1382+00 to 1383+50

SEEDING

SEED LBS/ACRE	MULCH TONS/ACRE
180	967
168	972
182	1108
217	1222
223	

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

204
462

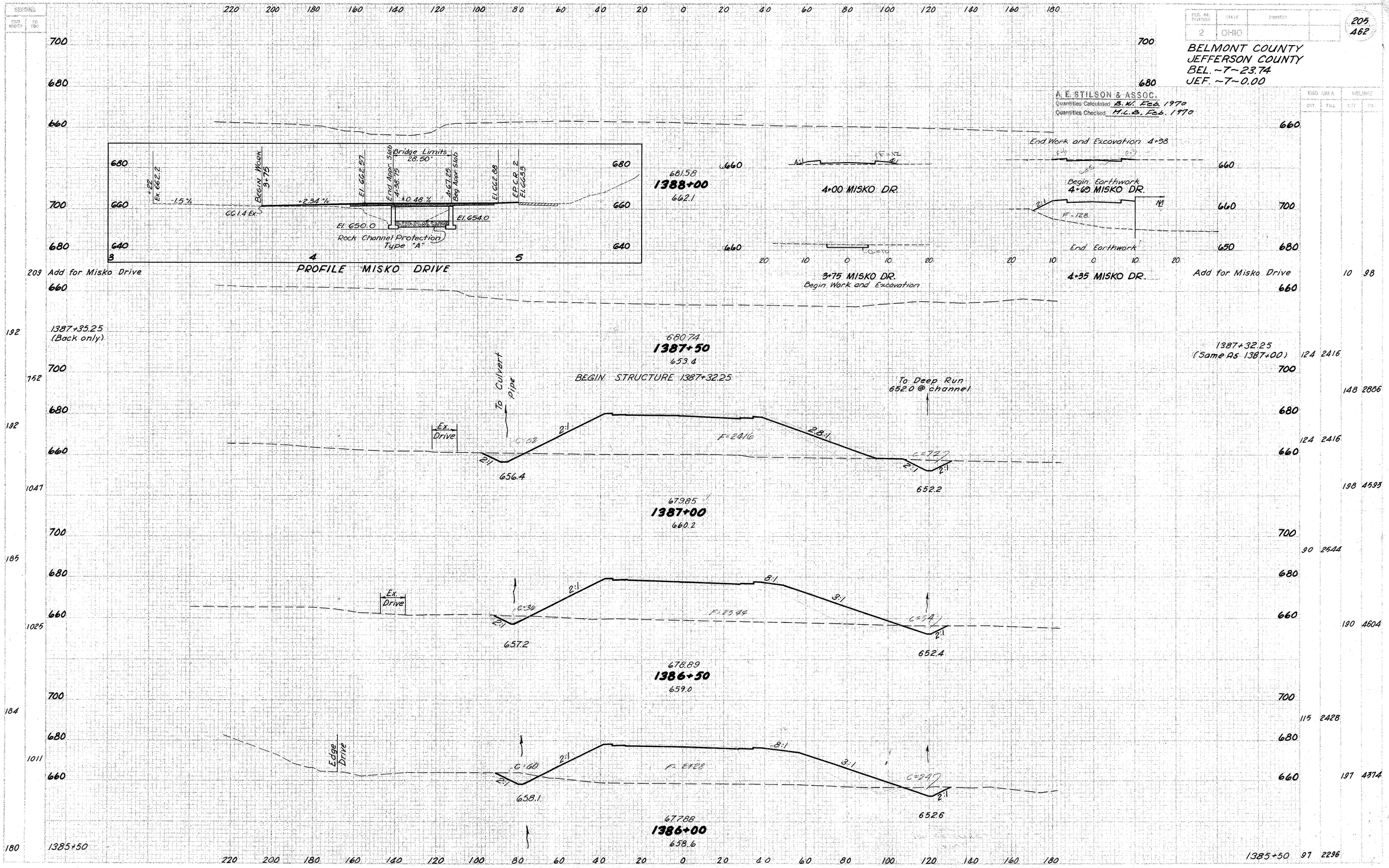
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.Va. Feb. 1970

STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
1385+50	97	2296	149	4122
1385+00	64	2156	163	3454
1384+50	112	1574	378	2670
1384+00	297	1310	821	2302
1383+50	589	1176		

1384+00 to 1385+50

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
SEEDING DETERMINED	
SEEDING CHECKED	



FED. RD. DIVISION 2
STATE OHIO
205
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970
PROFILE MISKO DRIVE
Bridge Limits 28.50'
Begin Work 3+75
Rock Channel Protection Type "A"
El. 650.0
El. 654.0
El. 662.57
End Appr. Slab 4+38.75
Beg. Appr. Slab 4+67.25
El. 662.88
EP.C.R. 2 El. 663.3
Ex. 662.2
-1.5%
+2.34%
+0.48%
681.58
1388+00
662.1
4+00 MISKO DR.
End Work and Excavation 4+98
Begin Earthwork
4+69 MISKO DR.
F-128
End Earthwork
3+75 MISKO DR.
Begin Work and Excavation
4+35 MISKO DR.
Add for Misko Drive
1387+35.25 (Back only)
680.74
1387+50
653.4
BEGIN STRUCTURE 1387+32.25
1387+32.25 (Same As 1387+00)
To Culvert Pipe
To Deep Run 652.0 @ channel
Ex. Drive
656.4
652.2
679.85
1387+00
660.2
657.2
652.4
678.89
1386+50
659.0
Edge Drive
658.1
652.6
677.88
1386+00
658.6
1385+50
1386+00 to 1388+00

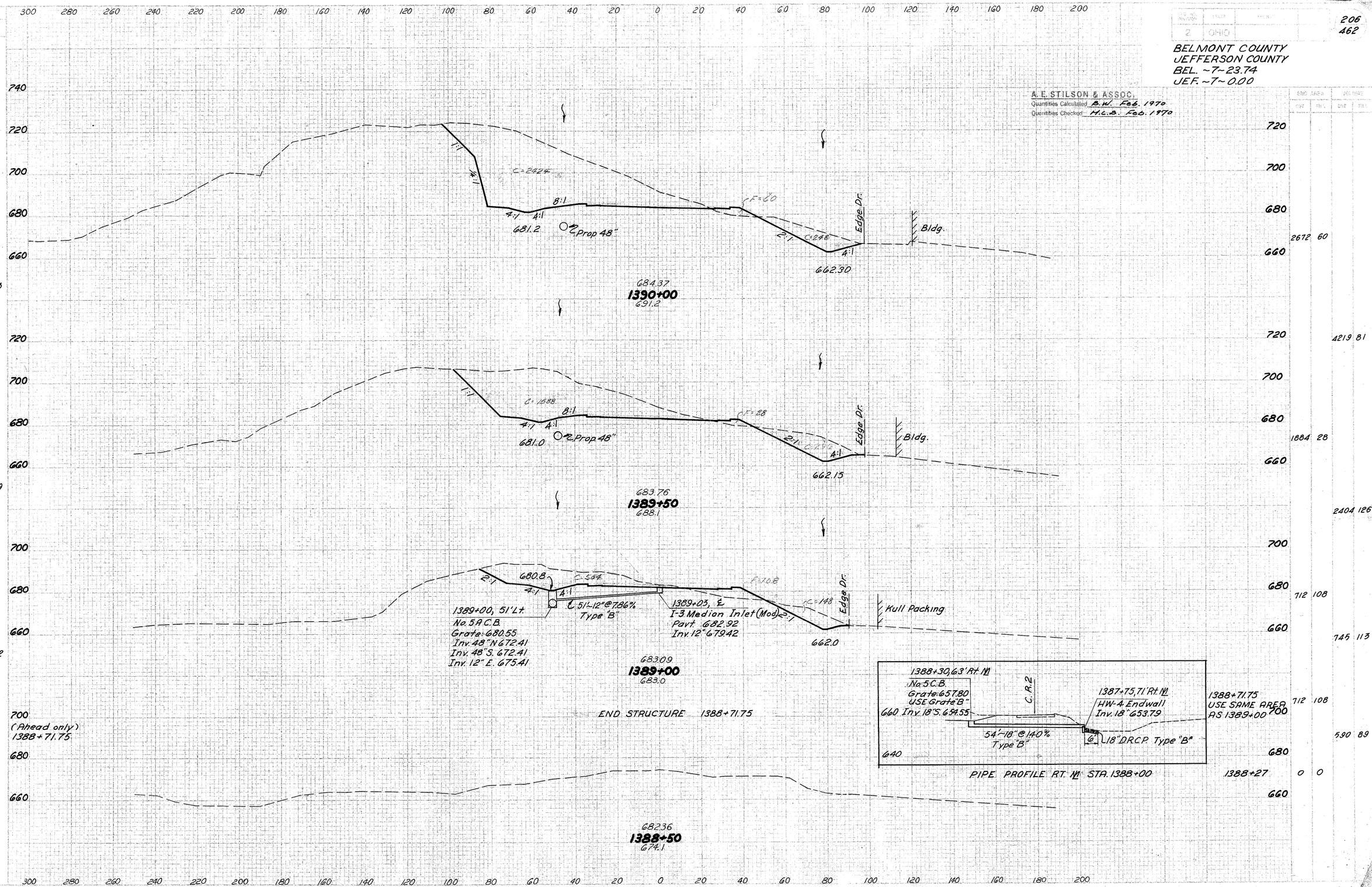
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.C.B. Feb. 1970

SECTION 2 OHIO

SHEETING — TWO SHEETS — SQ. YDS.

END AREA — CUT — FILL
MID AREA — CUT — FILL



LOCATING PLOTTED
LOCATING CHECKED
TEMPLATE PLOTTED
TEMPLATE CHECKED
AREAS DETERMINED
AREAS CHECKED
SHEETING DETERMINED
SHEETING CHECKED

BY DATE

1388+50 to 1390+00

SECOND		300	280	260	240	220	200	180	160	140	120	100	80	60	40	20	0	20	40	60	80	100	120	140	160	180
BID ITEMS	RD

REG. NO. REVISION	STATE	PROJECT	
2	OHIO		

207
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. -7-23.74
JEF. -7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970

END AREA		VOLUMES	
CUT	FILL	CUT	FILL

760
740
720
700
680
660

222

1228

1:1
1:1
4:1
8:1
4:1
C=3368
683.0
Prop 48"
685.85
1391+50
697.9
F=4
2:1
C=42
8:1
Edge Dr.
662.75

3850 4

760
740
720
700
680
660

220

1172

1:1
1:1
4:1
8:1
4:1
C=3632
682.0
Prop 48"
685.41
1391+00
694.8
F=20'
C=372
2:1
4:1
Edge Dr.
662.60

4004 20

740
720
700
680
660

202

1042

1:1
1:1
4:1
8:1
4:1
C=3268
681.6
Prop 48"
684.92
1390+50
692.9
F=30
C=268'
2:1
4:1
Edge Dr.
662.45

6974 52
3528 36
5741 89

173

1390+00

1390+00 2672 60

7272 22

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

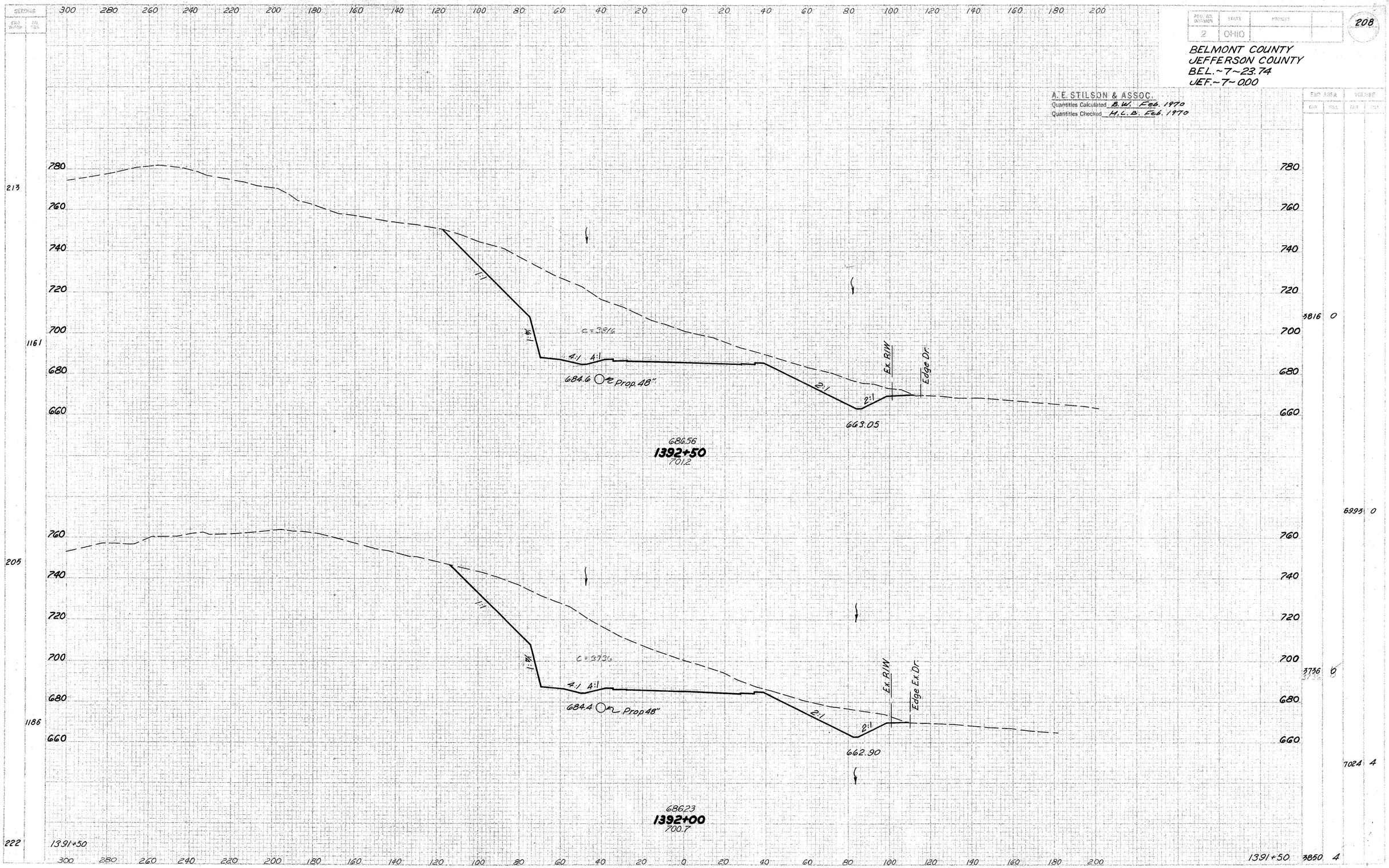
1390+50 to 1391+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

208

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970



1392+00 to 1392+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

209

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

SECOND WIDTH | SQ. YDS.

END AREA | VOLUME
CUT | FILL | CUT | FILL

202 1122

360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

820 800 780 760 740 720 700 680 660

1:1 1:1 4:1 4:1 C=2944

684.6 ℄ Prop 48"

2:1 C=390 2:1 Ex. RW ℄ HELAND Ex. Curb

663.35

687.03
1393+50
700.1

3264 4

202 1153

800 780 760 740 720 700 680 660

1:1 1½:1 C=3540 4:1 4:1

684.8 ℄ Prop 48"

2:1 2:1 Ex. RW

663.20

686.82
1393+00
700.8

6300 4
3540 0
6811 0
3816 0

213

1392+50 360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 1392+50

1393+00 to 1393+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
BEDDING DETERMINED		
BEDDING CHECKED		

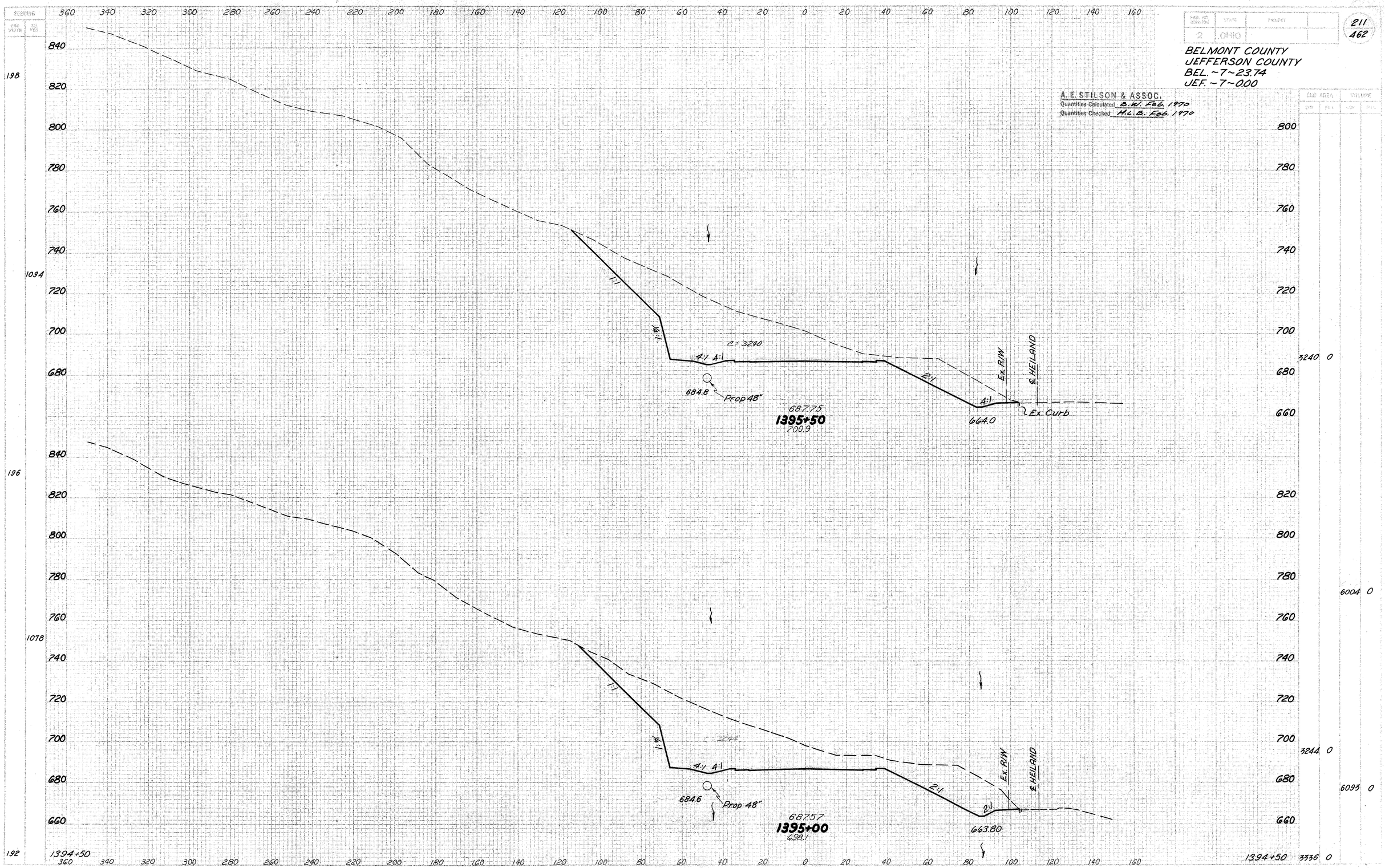
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

210
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970

| SEEDING | | |



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

211
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.L.B. Feb. 1970

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

1395+00 to 1395+50

SEEDING

SUR WIDTH	SO FOS
198	
1086	
193	
1086	
198	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

212
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.L.G. Feb. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		2820	4
		5170	4
		2764	0
		5559	0
		3240	0

360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

840 820 800 780 760 740 720 700 680 660

1:1 4:1 C=2392 4:1 4:1 685.2 Prop 48" 688.11 **1396+50** 696.6 2:1 42.8 4:1 665.0 Ex. RW ℄ HEILAND Ex. Curb

1:1 4:1 C=2764 4:1 4:1 685.0 Prop 48" 687.93 **1396+00** 696.4 2:1 4:1 664.5 Ex. RW ℄ HEILAND

13950+50

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS COMPUTED	
AREAS CHECKED	
VOLUMES COMPUTED	
SEEDING CHECKED	

1396+00 to 1396+50

SEEDING

EXIST. GRADE	PROJ. GRADE
1097	1097
1098	1100
1098	1396+50

EXIST. GRADE	PROJ. GRADE
2812.80	
5109.89	
2106.16	
5117.19	
2820.4	1396+50

EXISTING PLOTTED	BY	DATE
EXISTING CHECKED		
PROPOSED PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
VOLUMES DETERMINED		
VOLUMES CHECKED		

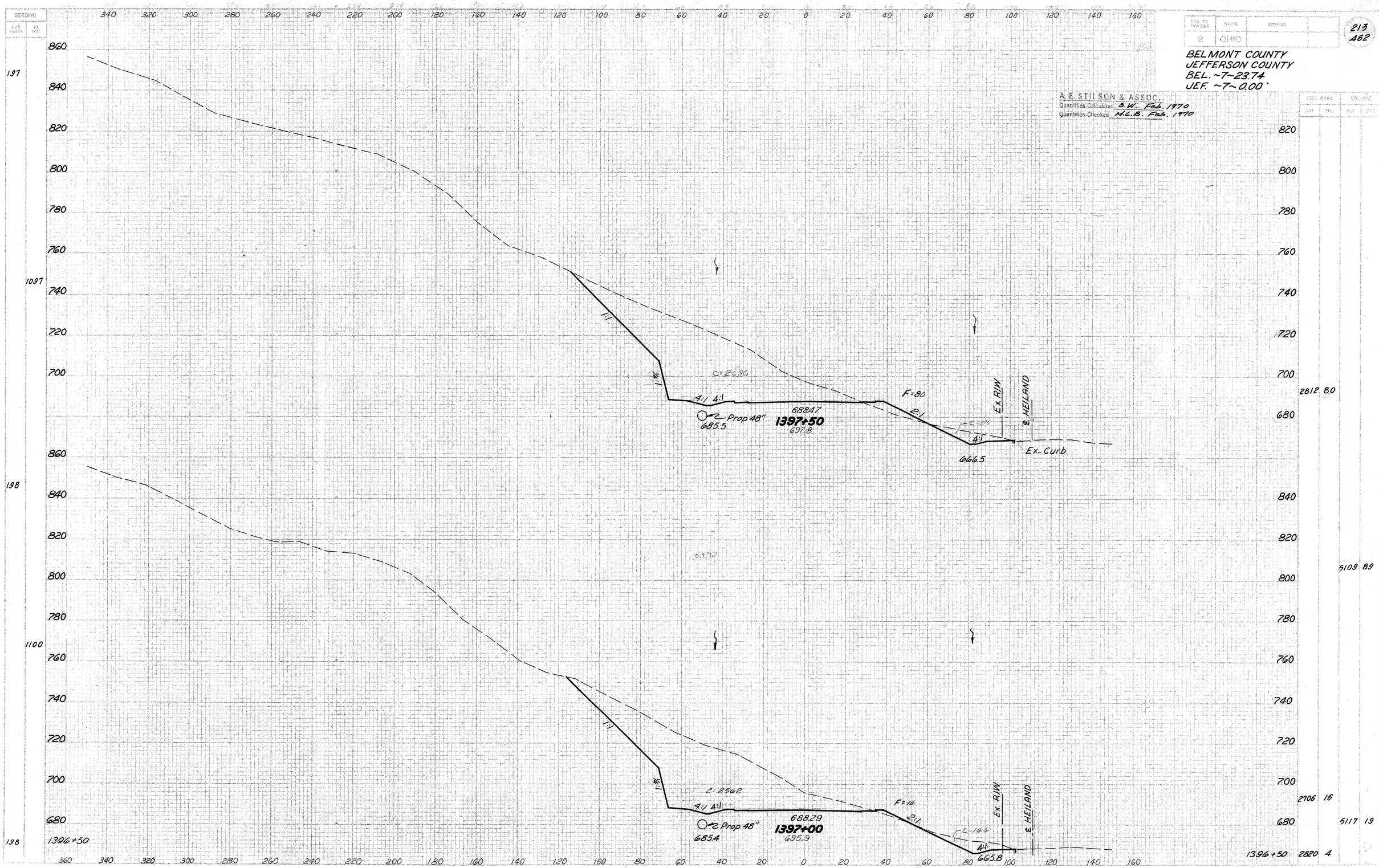
ERD RD DIVISION	STATE	PROJECT	
2	OHIO		

213
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.C.B. Feb. 1970

ERD AREA		VOLUME	
CUT	FILL	CUT	FILL



1397+00 to 1397+50

FED. DIV. 2 | STATE OHIO | PROJECT | 214 462

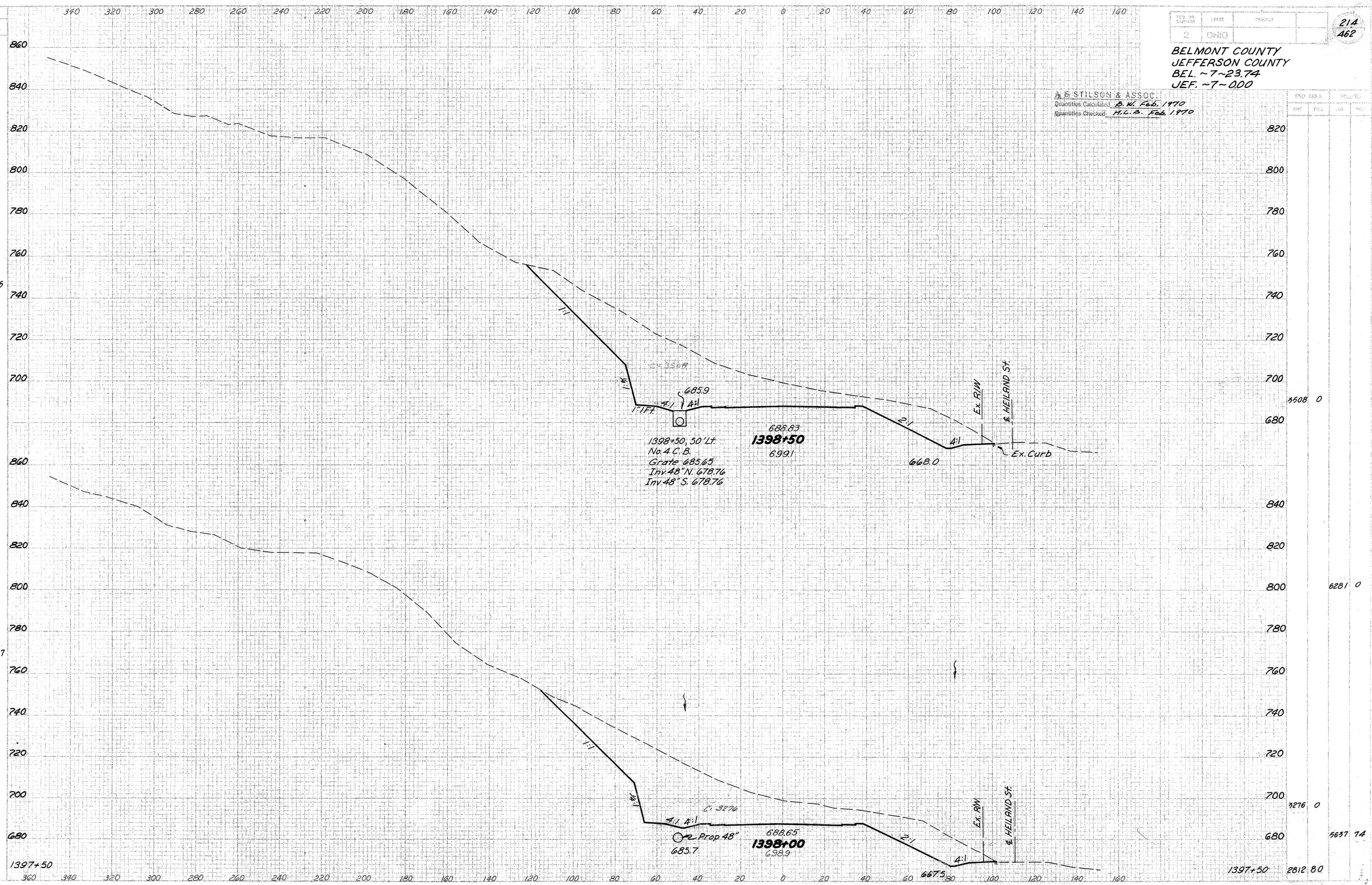
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

SEEDING

END AREA SQ. FT.	END AREA SQ. YDS.
207	1125
198	1097
197	

VOLUME CU. FT.	VOLUME CU. YDS.
3508	0
6281	0
3276	0
5637	74
2812	80



1398+00 to 1398+50

SEEDING	
LEAD WIDTH	AD TOP

REVISED DIVISION	STATE	PROJECT	
2	OHIO		

215
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.S. Feb. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL

211
1139
199
1128
207

340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

840 820 800 780 760 740 720 700 860 680 660

1:1
1:1
C=2780
4:1 4:1
Prop. 48"
686.3
F=36
2:1
C=234
4:1
669.0
Ex. R/W
℄ HEILAND
Ex. F.H. NOT TO BE DISTURBED
Ex. Curb

689.19
1399+50
701.9

1:1
1:1
C=2765
4:1 4:1
Prop. 48"
686.1
2:1
C=949
4:1
668.5
Ex. R/W
℄ HEILAND

689.01
1399+00
701.5

13.98+50

3014 36
5765 33
3212 0
6222 0
3508 0

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

1399+00 to 1399+50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

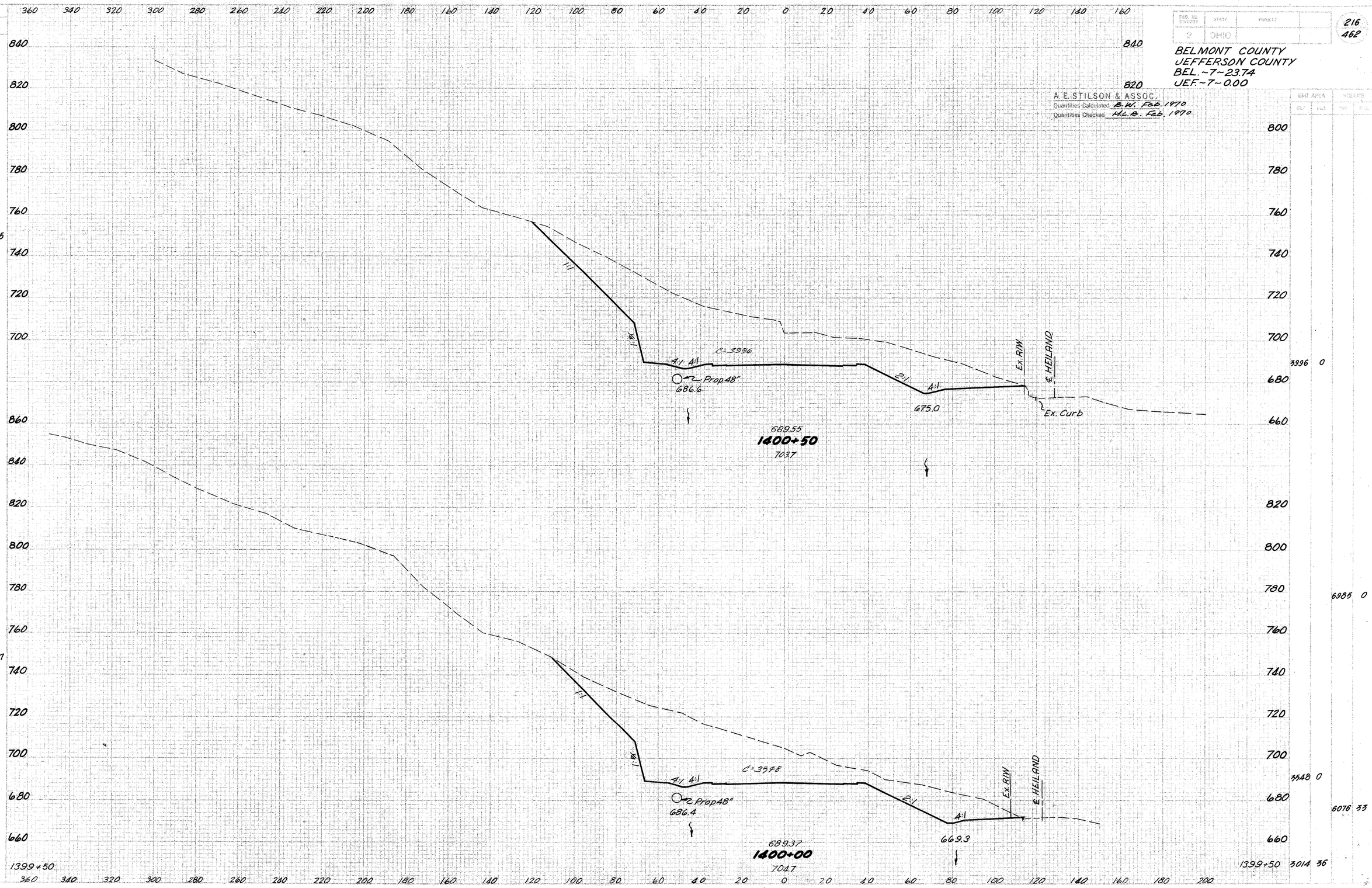
216
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked A.L.B. Feb. 1970

SECTIONS		END AREA		VOLUMES	
FIELD BOOK	PAGE	CUT	FILL	CUT	FILL
214					
1155					
202					
1147					
211					

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE CHECKED		
SLOPES STAKED		
AREAS DETERMINED		
AREAS CHECKED		
SECOND DETERMINED		
SECOND CHECKED		



FED. DIV.	STATE	PROJECT	
2	OHIO		

217
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. F. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

EXISTING PLOTTED	BY	DATE
EXISTING CROSSED		
TEMPLATE LAYED OUT		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
BEDDING DITERMINED		
BEDDING CHECKED		

159
919
172
1072
214

1400+50
840 820 800 780 760 740 720 700 680 840 820 800 780 760 740 720 700 680 660
360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

1:1 1:1 C=3725 4:1 4:1 4:1 Prop 48" 687.0 House Ex. R/W ℄ HEILAND

689.91
1401+50
711.3

1:1 1:1 C=3572 4:1 4:1 4:1 4:1 Prop 48" 686.8 687.3 Ex. R/W

689.73
1401+00
705.7

1400+50 360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

AREA		VOLUME	
CUT	FILL	CUT	FILL
		3128	0
		6759	0
		3512	0
		7007	0
		3996	0

1401+00 to 1401+50

SEEDING
2ND WIDTH | 2ND VAR.

360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

840 820 800 780 760 740 720 700 680 660

152 836 149 856 159

1401+50

SEC. NO. DESIGNATION | STATE | PROJECT
2 | OHIO

218
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970

1:1

4:1 4:1 4:1

687.3

1" I.F.

1402+50, 50' Lt.
No. 4 C.B.
Grade 687.05
Inv. 42" 680.70 N.
Inv. 12" E. 683.20
Inv. 48" S. 680.20

C-3560

86'-12" @ 3.0% ~
Type "B"

1402+50 Rt. N
No. 3 C.B.
Grade 689.28
Inv. 12" 685.78

WALL
HOUSE

690.27
1402+50
709.11

1:1 1:1

4:1 4:1 4:1

C-3712

687.2 Prop. 48"

House

690.09
1402+00
711.0

SEC. NO. | VOLUME
CUT | FILL | CUT | FILL

3560.0
3712.0
3728.0
6733.0
6889.0

1401+50 3728 0 | 1402+00 to 1402+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS PLOTTED		
AREAS CHECKED		
SECOND DETERMINED		
SECOND CHECKED		

SECTIONS

CHG WIDTH	SQ YDS
	144
	194
	142
	817
	152

STA. NO. DESIGN	STATE	PROJECT	
2	OHIO		

219
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

EMB AREA		VOLUME	
CUT	FILL	CUT	FILL
		3284	0
		6674	0
		3924	0
		6930	0
		3560	0

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

840 820 800 780 760 740 720 700 680 660

1:1 1:1 C=3284 4:1 4:1 4:1 Prop. 42" 687.7

690.63
1403+50
709.9

840 820 800 780 760 740 720 700 680 660

1:1 1:1 C=2924 4:1 4:1 4:1 Prop. 42" 687.5

690.45
1403+00
707.5

1402+50

320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

	BY	DATE
CROSSING PLOTTED		
LIGHTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SCORING DETERMINED		
SCORING CHECKED		

1403+00 to 1403+50

SEEDING

EAS. SIDE	OPP. SIDE
140	
186	
143	
197	
144	

TEA. RD. DISTRICT	STATE	PROJECT	
2	OHIO		

220
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

	AREA		VOLUME	
	CUT	FILL	CUT	FILL
1403+50				
1404+00			3284	0
1404+50			3390	0
			6180	0
			5669	41
			2732	44

320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

840 820 800 780 760 740 720 700 680 660

1:1 1:1 4:1 4:1 C=27.30 F=.44 2:1 Prop. 42'S 688.1

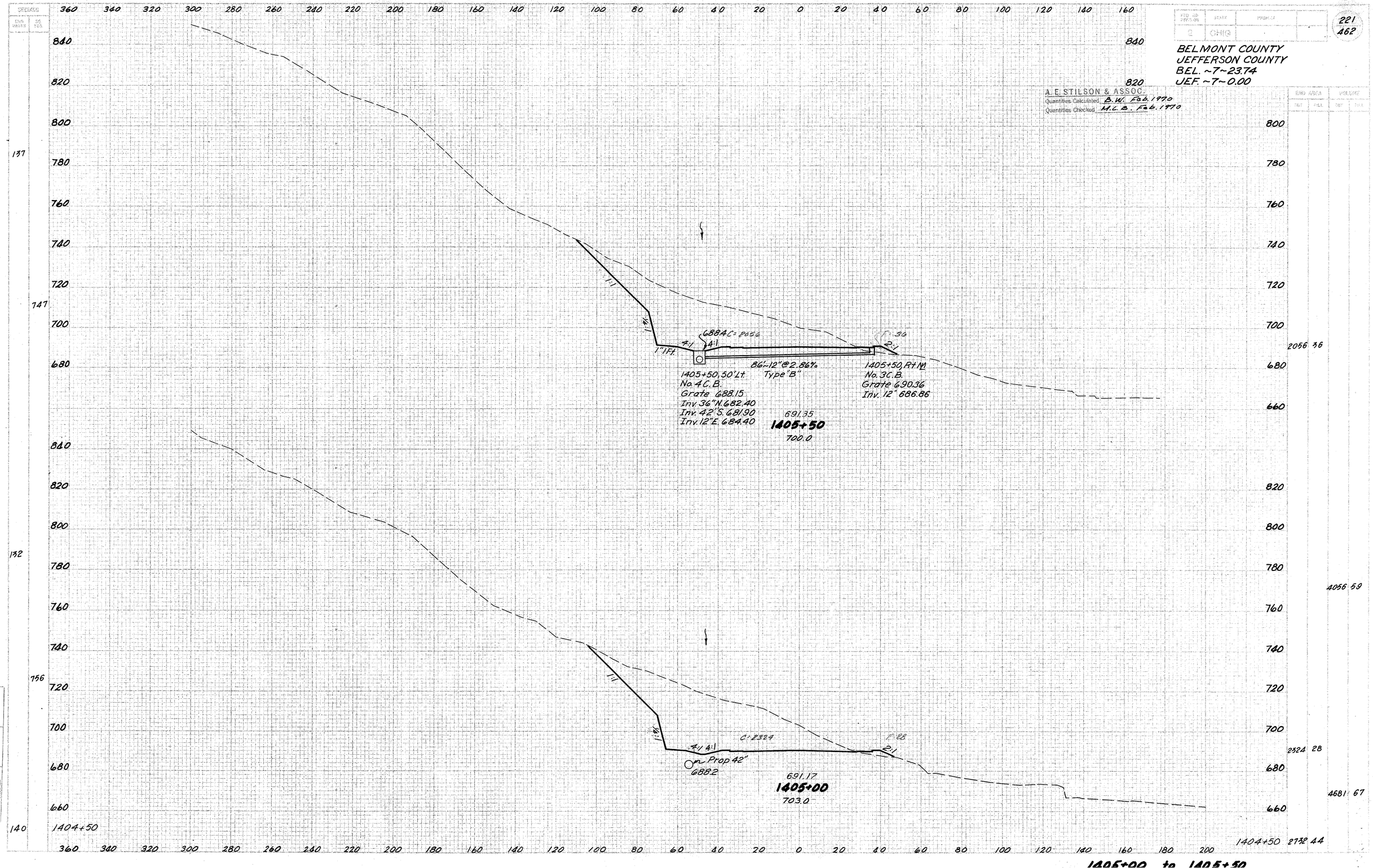
690.99
1404+50
708.0

1:1 1:1 4:1 4:1 C=33.90 Prop. 42'SR 687.9

690.81
1404+00
707.

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

1404+00 to 1404+50



221
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A.E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970
137
747
132
756
140
1404+50
1:1
1:1
1:1
4:1
4:1
1"1Ft.
6884 C=2056
86'~12"@2.86%
Type "B"
1405+50, 50' Lt.
No. 4 C.B.
Grate 688.15
Inv. 36" N. 682.40
Inv. 42" S. 681.90
Inv. 12" E. 684.40
691.35
1405+50
700.0
1405+50, Rt. M
No. 3 C.B.
Grate 690.36
Inv. 12" 686.86
2:1
2056 36
4056 59
2324 28
4681 67
1404+50 2732 44
C=2324
Prop 42"
688.2
691.17
1405+00
703.0
1405+00 to 1405+50

SECTIONS

CUT SQ FEET | FILL SQ FEET

124 | 680

121

717

137

360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

840 820 800 780 760 740 720 700 680 660 860 840 820 800 780 760 740 720 700 680 660

1:1 1½:1 4:1 4:1 4:1 4:1

C=2532

Prop 36" ○ 688.8

691.71
1406+50
705.1

C=2260

Prop 36" ○ 688.6

691.53
1406+00
703.3

1405+50 1405+50

360 340 320 300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

DRAWN BY	DATE
PROFILING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
VOLUMES DETERMINED	
VOLUMES CHECKED	

SHEET NO.	STATE	PROJECT
2	OHIO	

222
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC
Quantities Calculated: B.W. Feb. 1970
Quantities Checked: M.L.B. Feb. 1970

AREA CUT	AREA FILL	VOLUMES CUT	VOLUMES FILL
2592	0		
4493	0		
2260	0		
3996	33		
2056	36		

1406+00 to 1406+50

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

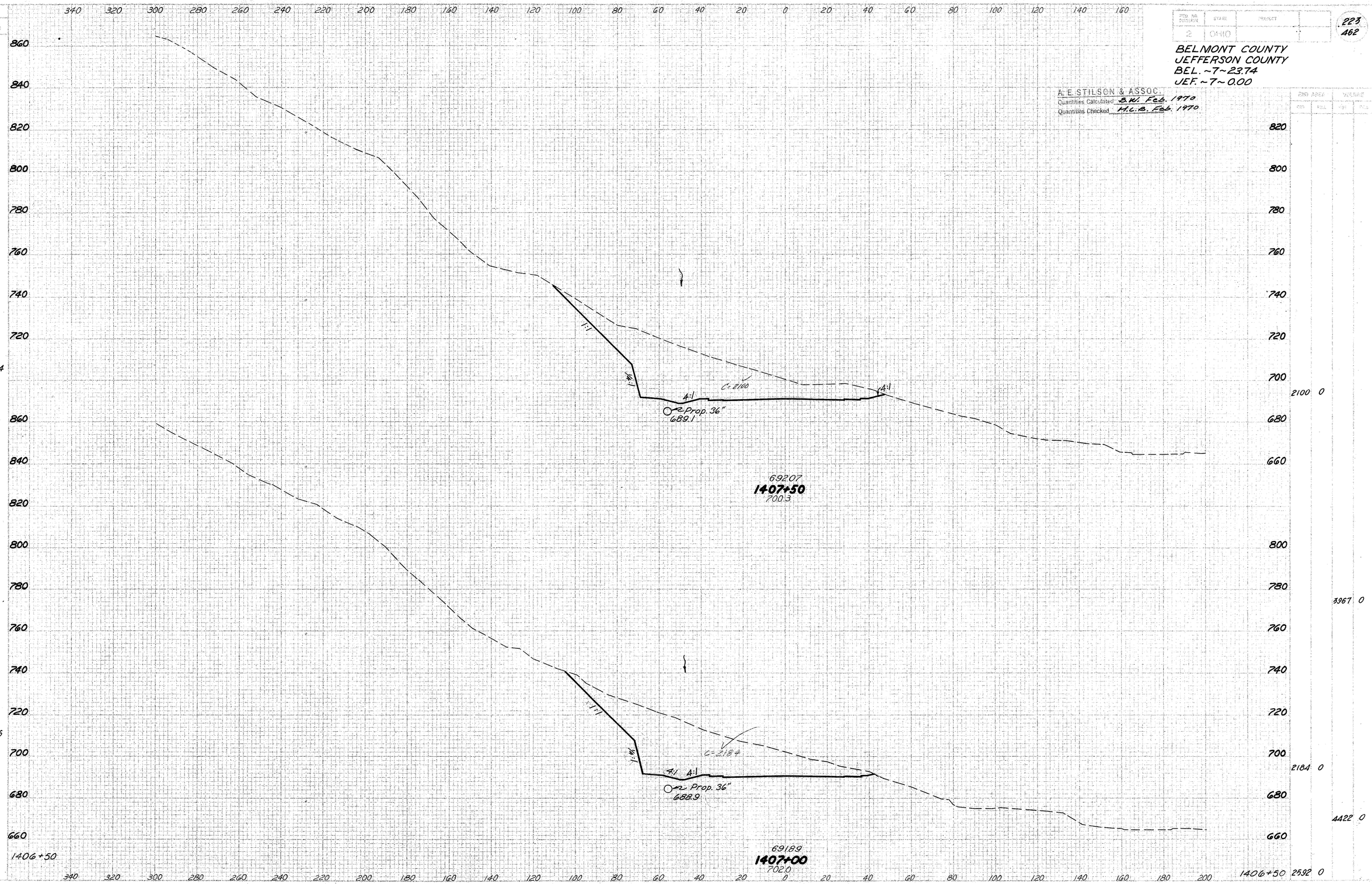
223
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.C.B. Feb. 1970

SPACING	
BASE WIDTH	CL TO TP
134	
114	
123	
686	
124	

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		2100	0
		3967	0
		2184	0
		4422	0
		2592	0



DATE	BY	
DRAWING PLOTTED		
EXISTING CHECKED		
PROPOSAL PLOTTED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
CUBING DETERMINED		
CUBING CHECKED		

1407+00 to 1407+50

SEEDING

SQ. YDS.	SQ. YDS.
SNE NORTH	SQ. YDS.
137	
	772
141	
	764
	134

FED. AID PROJECT | STATE | PROJECT
2 | OHIO |

224
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated S.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

EARTHWORK		WORK UNDER	
CUT	FILL	CUT	FILL
	2816		0
	4607		0
	3944		0
	2160		0
	2100		0

1:1 1:1 4:1 4:1 4:1 4:1
C=2816
℄ Prop. 36"
689.4

692.43
1408+50
703.6

1:1 1:1 4:1 4:1 4:1
C=2160
℄ Prop. 36"
689.3

692.25
1408+00
701.8

1407+50

1408+00 to 1408+50

	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE SELECTED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
ZONING DETERMINED	
VOLUMES COMPUTED	

DESIGN DESIGNATION	STATE	PROJECT	
2	OHIO		

225
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated O.H. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

BEARING		360	340	320	300	280	260	240	220	200	180	160	140	120	100	80	60	40	20	0	20	40	60	80	100	120	140	160	180	200	220
END AREA	CUT																														
	FILL																														
VOLUMES	CUT																														
	FILL																														

135
789
140
794
137

860 840 820 800 780 760 740 720 700 680 660

1:1 1½:1 4:1 4:1 C=2840 4:1
Prop. 36"
689.7

69279
1409+50
708.2

1:1 1½:1 4:1 4:1 C=2600 4:1
Prop 36"
689.6

69261
1409+00
704.2

1408+50

2840 0
5037 0
2600 0
5015 0
2816 0

DATE	BY
DESIGN PLOTTED	
EXISTING DRGDTD	
TERMINATE PLOTTED	
TERMINATE DRGDTD	
ENDS DETERMINED	
QUANTITIES COMPUTED	
QUANTITIES DETERMINED	
DESIGN CHECKED	

1409+00 to 1409+50

SHEETING	
LEFT (SHEET)	RT. (SHEET)
173	
872	
141	
767	
135	

REGION DIVISION	STATE	PROJECT	
2	OHIO		

226
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
3644	0		
6141	0		
2988	0		
5396	0		
2840	0		

1:1
1:1
1'-1 Ft.
4:1
690.1
4:1
C=3644
107'-12"@1.94%
Type "B"
1410+50, 59' Lt.
No. 4 C.B.
Grate 689.85
Inv. 27" N. 685.15
Inv. 36" S. 684.40
Inv. 12 E. 686.40
693.15
1410+50
708.8
1410+50, Rt. ℄
No. 3 C.B.
Grate 691.97
Inv. 12" 688.47
1:1
4:1
4:1
4:1
C=2988
4:1
Prop. 36"
689.9
692.97
1410+00
706.3
1409+50
1409+50

1410+00 to 1410+50

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

227
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated P.W. Feb. 1970
Quantities Checked H.L.B. Feb. 1970

SEEDING	
ERO MULCH	SQ YDS

END AREA		VOLUMES	
CUT	FILL	CUT	FILL

168
950
174
964
173

860 840 820 800 780 760 740 720 700 680 660

340 320 300 280 260 240 220 200 180 160 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160

1:1 1:1 4:1 4:1 2:1

C=3972
12" Prop 27"
690.4
693.51
1411+50
706.3

F=124
2:1

C=4020
12" Prop 27"
690.2
693.33
1411+00
707.4

F=64
2:1

1410+50

340 320 300 280 260 240 220 200 180 160 160 140 120 100 80 60 40 20 0 20 40 60 80 110 120 140 160 180 200 220

3912 124
7400 174
4020 64
7096 59
1410+50 3644 0

	BY	DATE
EXISTING PLOTTING		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
STAS CHECKED		
VOLUMES DETERMINED		
PLOTTING CHECKED		

1411+00 to 1411+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

228
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970

EMB AREA		VOLUME	
CUT	FILL	CUT	FILL
2634	0		
5224	0		
3008	0		
6463	115		
3972	124		

133
786
150
883
168

1:1
4:1 4:1
c=2630
2-2 Prop. 27"
690.7

693.87
1412+50
704.3

1:1
1:1
4:1 4:1
c=3008
2-2 Prop. 27"
690.5

693.69
1412+00
710.5

1411+50

1411+50

1412+00 to 1412+50

	DATE
ADDING PLOTTED	
ADDING CHECKED	
TOPS TO BE PLACED	
TOPS TO BE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
SECOND DETERMINES	
SECOND CHECKED	

BY

SECTIONS
END NORTH | END YOU

FED. HIGHWAY DIVISION 2 | STATE OHIO | PROJECT | | 229 462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked H.L.B. Feb. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
4176	0		
		6420	0
2758	0		
		4993	0
2634	0		

170
886
149
783
133

1:1
1:1
4:1
4:1
4

SEEDING

SEED WIDTH	SEED LBS.
145	919
186	989
170	

FED. RD. DIV.SYM.	STATE	PROJECT	
2	OHIO		

230
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

	EXIST. PLOTTED	EXISTING CHECKED	TEMPLATE PLOTTED	TEMPLATE CHECKED	AREAS DETERMINED	AREAS CHECKED	SEEDING DETERMINED	SEEDING CHECKED
BY								
DATE								

XSEC AREA		VOLUMES	
CUT	FILL	CUT	FILL
		3228	0
		7472	0
		4842	0
		8350	0
		4176	0

1:1
4:1 4:1
Prop 18"
691.6
C=3228
4:1
694.83
1414+50
708.5
1:1
4:1 4:1
Prop 18"
691.2
C=4842
4:1
694.45
1414+00
711.5

1414+00 to 1414+50

DRAWING	
END AREA	VOL.

FHWA RD. DIVISION	STATE	PROJECT	
2	OHIO		

231
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.C.B. Feb. 1970

END AREA		VOLUME	
CUT	FILL	CUT	FILL
		3022	236
		5276	352
		2676	144
		5467	133
		3228	0

STA. EQUATION
1415+64.31 BACK =
0+00.00 AHEAD

192
1008
171
878
145

1:1
1:1
4:1 4:1
C=3022
Prop. 18"
692.8
F=230
2:1

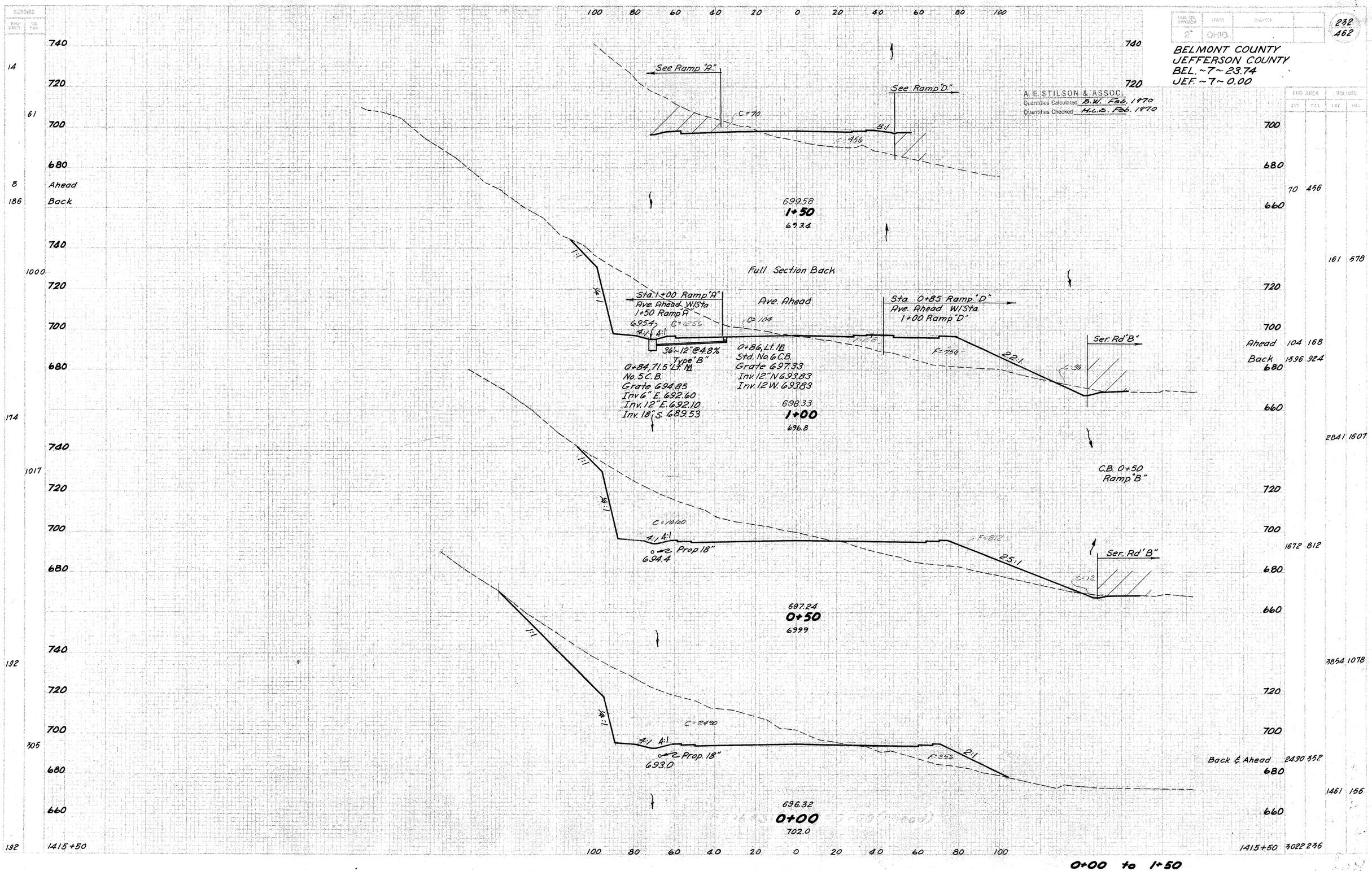
696.09
1415+50
701.7

1:1
1:1
4:1 4:1
C=2670
Prop. 18"
692.1
F=144
2:1

695.38
1415+00
704.0

1414+50

1415+00 to 1415+50



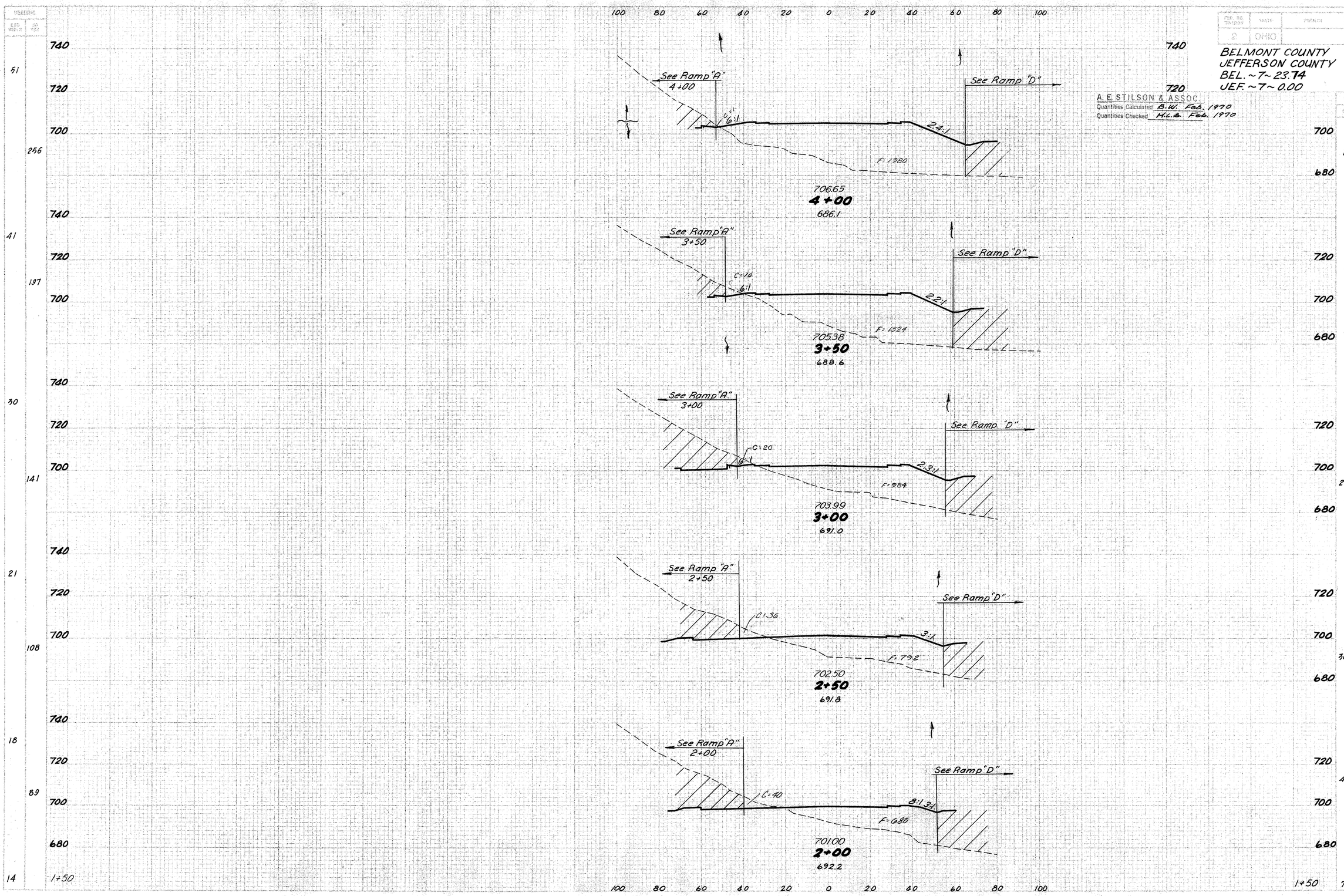
232
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970
See Ramp "A"
See Ramp "D"
C=70
8:1
F=456
699.58
1+50
693.4
Full Section Back
Ave. Ahead
Sta. 1+00 Ramp "A"
Ave. Ahead W/Sta
1+50 Ramp "A"
695.4
C=1256
4:1
4:1
C=104
36'~12" @ 4.8%
Type "B"
0+84, 71.5' Lt. M
No. 5 C.B.
Grate 694.85
Inv 6" E. 692.60
Inv. 12" E. 692.10
Inv. 18" S. 689.53
0+86, Lt. M
Std. No. 6 C.B.
Grate 697.33
Inv. 12" N 693.83
Inv. 12 W. 693.83
Sta. 0+85 Ramp "D"
Ave. Ahead W/Sta.
1+00 Ramp "D"
F=756
2.2:1
Ser. Rd "B"
698.33
1+00
696.8
C.B. 0+50
Ramp "B"
C=1660
4:1 4:1
Prop 18"
694.4
F=812
2.5:1
Ser. Rd "B"
697.24
0+50
699.9
C=2490
4:1 4:1
Prop. 18"
693.0
F=352
2:1
696.32
0+00
702.0
Ahead
Back
Back & Ahead
1415+50
0+00 to 1+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

233
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970



51	256	1	1980	16	3244
41	197	16	1524	33	2322
30	141	20	984	52	1644
21	108	36	792	70	1363
18	89	40	680	102	1052
14		70	456		

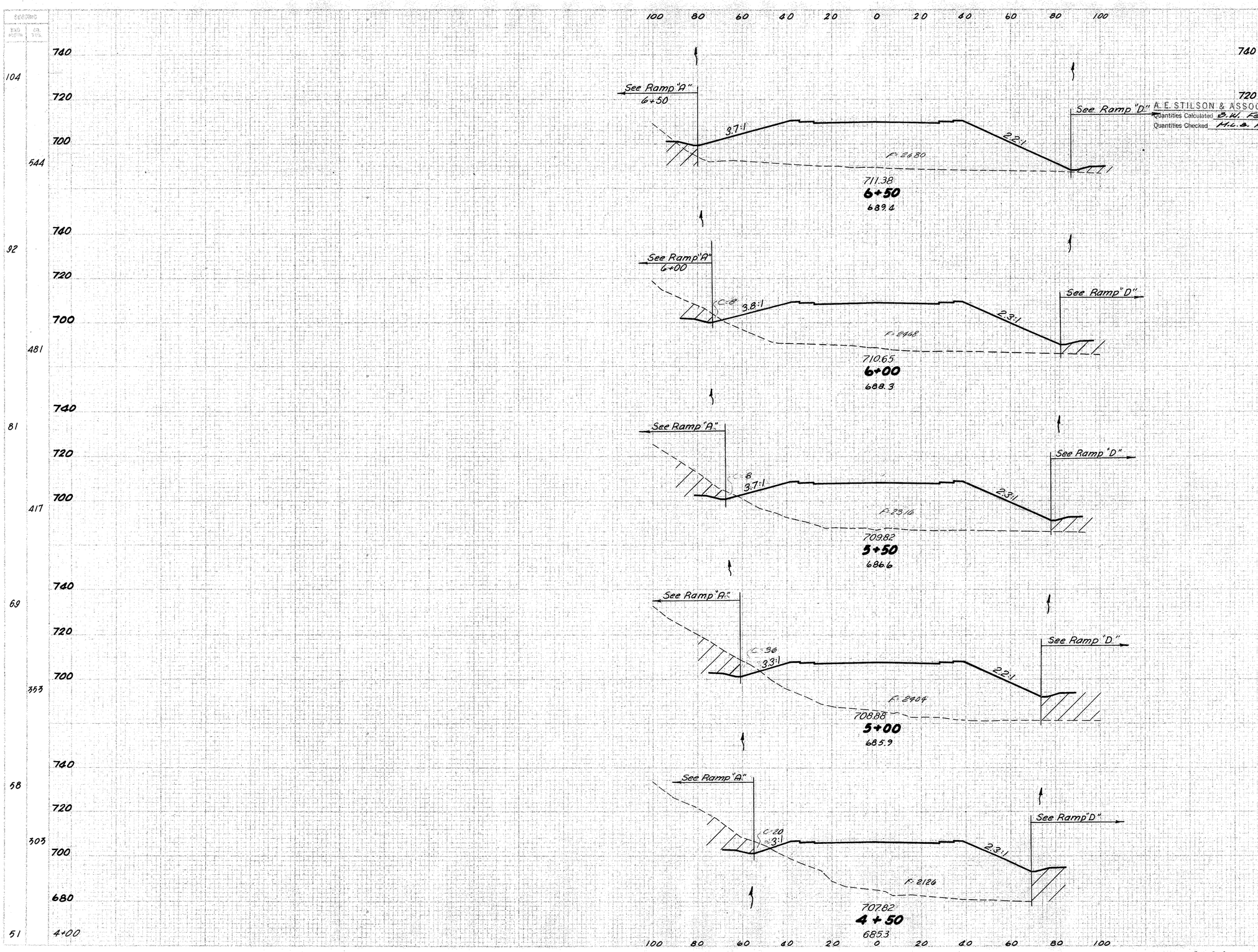
2+00 to 4+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

234
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970



Station	End Area Cut	End Area Fill	Volume Cut	Volume Fill
104				
	544			
92			7	4767
	481			
81			15	4430
	417			
69			41	4370
	353			
58			52	4194
	303			
51			19	3802
4+00	0	2680		
	8	2468		
	8	2316		
	36	2404		
	20	2126		
4+00	1	1980		

4+50 to 6+50

SECTIONS

PER SECTION	TO

100 80 60 40 20 0 20 40 60 80 100

STRUCTURE

PROJECT	STATE	FED. PROJECT
2	OHIO	

235
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. Feb. 1970
Quantities Checked M.L.B. Feb. 1970

				END AREA		VOLUME	
				CUT	FILL	CUT	FILL
	740						
	720						
	700						
138	8+49.47			0	0		
	680					0	27
768		713.15	8+50	693.4			
			8+49.47 (Same Area As 8+00)		16	2744	
		BEGIN STRUCTURE 8+49.47					
	740					29	5028
138							
	720	See Ramp "A" 8+00					
	700	4:1 3.7:1 F 2744 2.5:1 C=10	See Ramp "D"		16	2744	
	680	712.88	8+00	691.4			
736							
	740					19	5076
	720						
127		See Ramp "A"					
	700	4:1 3.6:1 F 2738 2.3:1 C=9	See Ramp "D"		4	2738	
675	680	712.49	7+50	690.3			
							1 4998
	740						
116							
	720	See Ramp "A"					
	700	3:8:1 F 2660 2.3:1 C=8	See Ramp "D"		4	2660	
611	680	711.99	7+00	689.3			
							4 4944
104	6+50						
					6+50	0	2680

7+00 to 8+50

DATE	
NO.	
REVISIONS	
EXISTING PLOTTED	
EXISTING PHOTOS	
TEMPORARY PLOTTED	
TEMPORARY PHOTOS	
FINAL PLOTTED	
FINAL PHOTOS	
AS BUILT PLOTTED	
AS BUILT PHOTOS	

END AREA	VOLUME	
Cut	Fill	Cut Fill
11	85	92* 85*
24	7	95* 11*
35	5	58* 9*
28	5	67* 6*
44	0	53* 0*
13	0	

			236
2	OHIO		462

BELMONT COUNTY
JEFFERSON COUNTY
BEL~7~23.74
JEF~7~0.00

* U-RF-430(15)

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

| | | |

END AREA	VOLUME
cut / fill	cut / fill
0 / 550	
	16 / 680
25 / 439	
	17 / 383
12 / 427	
	17* / 382*
14 / 335	
	24* / 615*
12 / 248	
	24* / 540*
	19* / 306*
9 / 82	
	19* / 155*
11 / 85	

237
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

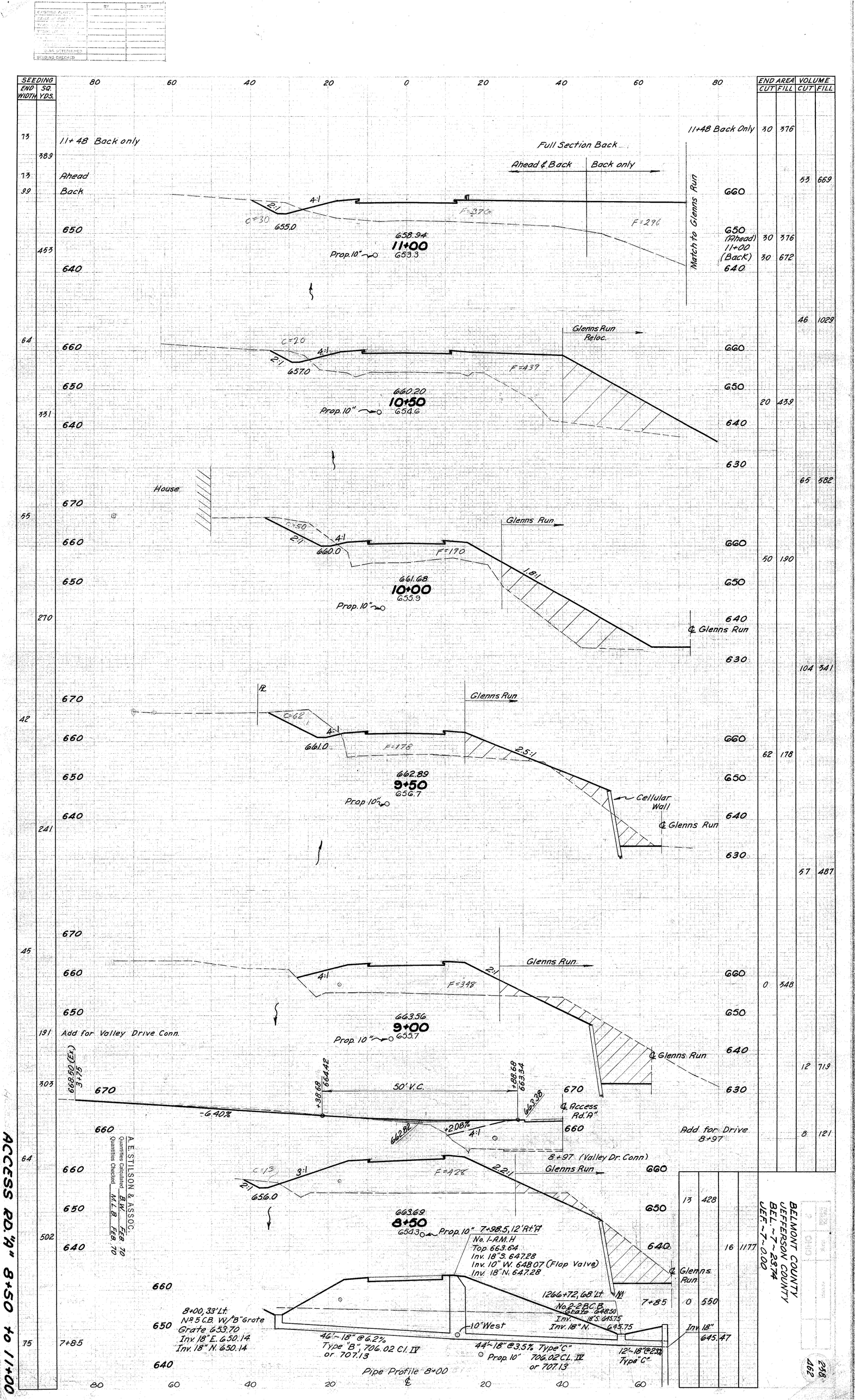
A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

* U-RF-430(15)

Abutment
Wing Wall
℄ Glenns Run
Relocated Glenns Run
℄ Access Rd. "A"
Top Slab 660.80
Prop. Pump Sta.
8'x10' 33' Lt. No 5 C.B. W/ 8' Grate
Grate: 653.70
Inv. 18" E 650.14
Inv. 18" N 650.14
Inv. 12" W 650.64
38'~18" @ 3.85% Type "D" 706.01, 706.02, 706.03
SECTION "A-A"
7+56, 36' Lt.
Inv. 18" 651.60
Prop. 8"
Prop. 4"
See M
Ex. R/W
House
℄
A
7+25.00
RF-430(15)
U-RF-430(15)

Seeding	75	19	299	181	180*	51	281*	50	278*	50	278*	50	275*	49
END SC. WDR 125														

| | | | | | | | | | | | | | |



SEEDING
END WIDTH
SQ. YDS.
END AREA
CUT
FILL
VOLUME
CUT
FILL
11+48 Back only
Full Section Back
Ahead & Back
Back only
Ahead
Back
Match to Glenns Run
11+48 Back Only
(Ahead)
11+00
(Back)
658.94
11+00
653.3
Prop. 10"
Glenns Run Reloc.
660.20
10+50
654.6
House
Glenns Run
661.68
10+00
655.9
℄ Glenns Run
662.89
9+50
656.7
Cellular Wall
663.56
9+00
655.7
Add for Valley Drive Conn.
50' V.C.
-6.40%
+2.08%
℄ Access Rd. "A"
Add for Drive 8+97
8+97 (Valley Dr. Conn)
663.69
8+50
654.3
Prop. 10" 7+98.5, 12' Rt. "A"
No. 1-A.M.H
Top 663.64
Inv. 18" S. 647.28
Inv. 10" W. 648.07 (Flap Valve)
Inv. 18" N. 647.28
1266+72, 68' Lt.
No. 2-2 B.C.B.
Grate 648.50
Inv. 18" S. 645.75
Inv. 18" N. 645.75
8+00, 33' Lt.
No. 5 C.B. W/"B" Grate
Grate 653.70
Inv. 18" E. 650.14
Inv. 18" N. 650.14
10" West
46'~18" @ 6.2%
Type "B", 706.02 Cl. IV
or 707.13
44'~18" @ 3.5% Type "C"
Prop. 10" 706.02 Cl. IV
or 707.13
12'~18" @ 2.5%
Type "C"
Inv. 18"
645.47
Pipe Profile 8+00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70
BELMONT COUNTY
JEFFERSON COUNTY
BEL.~7~23.74
JEF.~7~0.00
ACCESS RD. "A" 8+50 to 11+00

END AREA		VOLUME	
cut	fill	cut	fill
6466	0		
1648	0	3028	0
3445	0	4216	244
1108	264	1583	281
602	40		

FED. AID PROJECT	STATE	PROJECT	
	OHIO		

239
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-000

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS COMPUTED		
AREAS CHECKED		
SLOPING DETERMINED		
SEEDING CHECKED		

Seeding
End SQ.
WIDTH YDS.

125 115 82 64 515 589 482 115 33 80

Access Rd. "B"
℄ Ditch
2.7:1
669.3
687.02
7+00
71.92

Ahead Only
Back ℄ Ahead
Access Rd. "B"
C=203
2:1
670.7
672.33
6+50
692.4

Ahead
Back
Glenns Run Reloc.
3.1:1
F=204
18:1
668.99
6+00
678.0

Glenns Run Reloc.
F=90
Var.
C=52
662.69
5+50
660.6

INTERSECTION
Sta. 5+91.99 T.R. 536 Reloc.
Sta. 0+00 Rd. "B"

INTERSECTION
Sta. 5+01.10 T.R. 536 Reloc.
Sta. 8+67.72 S.R. 798

C=1446
C=3405
C=1108
C=550
5.3:1
7.5:1
10.2:1
10.7:1

1271+00
1270+50
1270+00
1269+50

T.R. 536 RELOC. 5+50 to 7+10

END AREA VOLUME		
CUT	FILL	CUT FILL
0	0	
382	0	909 0
1608	0	2398 0
4112	0	5296 0
5695	0	9240 0
6465	0	11982 0

SEEDING		
END WIDTH	SQ. YDS.	
0		
294		
106		
594		
108		
608		
111		
733		
133		
772		
125		

SHT. NO.	STATE	PROJECT	
2	OHIO		240 462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

1273+00 — 1272+50 — 1272+00 — 1271+50

C=972 — C=1608 — C=4112 — C=5975

9+50 731.7 — END WORK 9+00 — 9+00 726.1 — 8+50 717.9 — 8+00 717.9 — 7+68 700.61 — 7+50 726.9

2:1 — 1:1 — 4:1 — 10:1 — 12:1 — 4:1 — 4:1 — 4:1 — 2:1

7+68.23 Rt. No. 5 C.B. W/B" Grate Inv. 12" 695.25

Conc. Collar 33"-12" @ 120.38 Type "B"

Inv. 12" 694.83

8.0' - 12" Type "F"

2+00, 13' Rt. Access Rd. "B" No. 5 C.B. W/B" Grate Grate: 664.50 Inv. 12" 662.00

Inv. 12" 662.10

2.5' Min. 670

12"

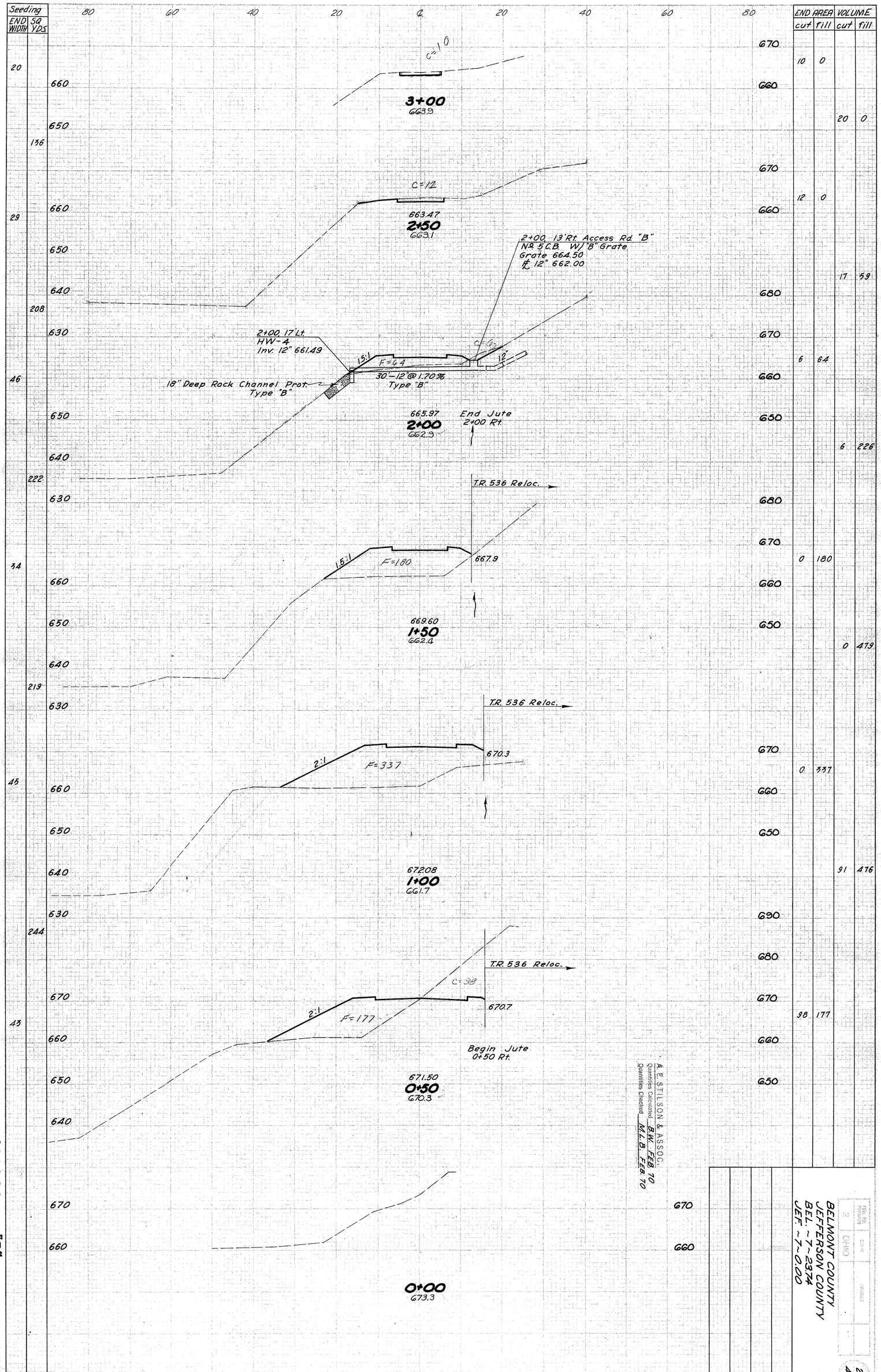
Saw Slot 24"

℄ Ditch

Access Rd. "B" 665.6

TR 536 RELOC 7+50 to 9+

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		



END AREA cut	END AREA fill	VOLUME cut	VOLUME fill
10	0		
		20	0
12	0		
		17	59
6	64		
		6	226
0	180		
		0	479
0	337		
		91	476
98	177		

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB 70
Quantities Checked M.L.B. FEB 70

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

OHIO

241
462

ENDAREA VOLUME		
cut	fill	cut fill
0	21.9	
4	66	
12	22	
60	2	
91	6	
85	22	
19	2	
18	4	
0	0	
0	0	
4	265	
33	81	

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462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

Seeding	
End	SQ.
WIDTH	YDS.
14	417
56	361
14	394
68	151
51	109
20	

1"/FT.
4:1
6525
5+00
6530
4:1
6533.0
4+50
6522
4:1
F=3.8
C=3
3:1
6534.55
4:1
F=20
C=3
2:1
6532
4+10.62'LH
HW-4
Inv. 18" 647.44
68' RT.
6531.2
4+10.27'RT.
No. 2-2B C.B.
Grate 654.30
Inv. Ex. 18"S 651.13 Connect
Inv. 18"N. 651.00
Ex. 18" R.C.P.
18" DEEP Rock Chan. Prot.
TYPE "B"
24:1
89~18" @ 4.00%
TYPE "B"
6531.67
4+00
6523
604 - 1-2-2B C.B.
603 - 89~18" Type "B"
602 - 0.33 C.Y. Conc. Masonary
601 - 1.3 C.Y. Rock Channel Prot. Type "B"
F=2
C=3.0
C=3.4
6529
2:1
C=1.5
F=2
6523.3
4:1
C=1
C=1.4
6532.68
3+50
6524
24:1
F=3
C=1.5
F=1.5
C=2.5
6531.49
3+00
6520
2:1
6531.5 (EX)
DITCH
BEGIN WORK
2+72.63
STA. 2+72.63
Wall
2+72
6511
2+50
6507
G60
G50
G40

S.R. 798 ~ 2+50 to 5+00

END AREA		VOLUME	
cut	fill	cut	fill
0	711	0	1929
0	398	0	1669
0	805	5	1169
457		5	626
5		0	219

243
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

END STRUCTURE
8+08.37

6607
8+00
661.5

6598.3
7+50
637.1

Match to 11+00
Access Rd. "A"

Glenns Run

Abut.

6+92
640.5
BEGIN STRUCTURE
6+89.63

Access Rd."Q"

INTERSECTION STA.
6+44.88 SR 798 =
12+88.44 Access Rd "A"

6588.7
6+50
643.7

6571.9
6+00
646.9

6563.1
5+50
652.7

Glenns Run

+69.61 Lt.
HW-4
Inv. 18" 645.00

61 Lt.

18" DEEP Rock Channel Prot.
Type "B"

102'~18" @ 2.70%
Type "B"

F = 435

F = 798

F = 711

4:1

2:1

C = 65

24'

Ex. 15"

Ex. M.H.

5+69.41 Rt.
No. S.C.B. W/B "Grate
Grate 651.50
Inv. Ex. 15" 648.00 Out
Inv. 18" N. 647.75

5+00

604 - 1-2-2 B.C.B.
603 - 102 L.F. ~18" Type "B"
602 - 0.33 C.Y. Conc. Masonry
601 - 1.3 C.Y. Rock Channel Prot.

| Seeding | | |

END AREA		VOLUME	
cut	fill	cut	fill

244
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

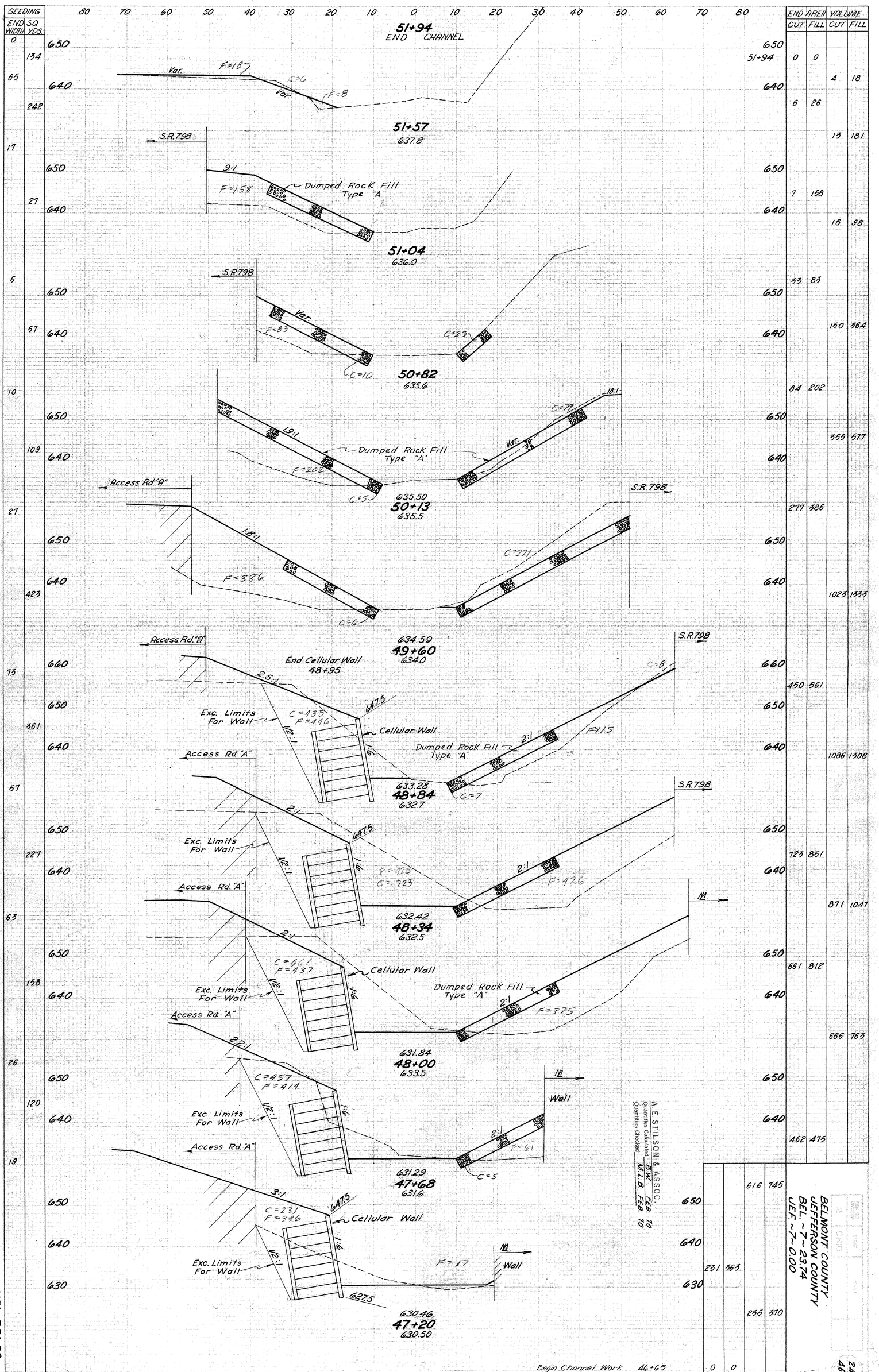
		6	
		67	
			0
		55	

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

	BY	DATE
EXISTING PLOTTED		
EXISTING PRINTED		
TEMPLATE DRAWN		
TEMPLATE PLOTTED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

Seeding
END SA
WIDTH 105

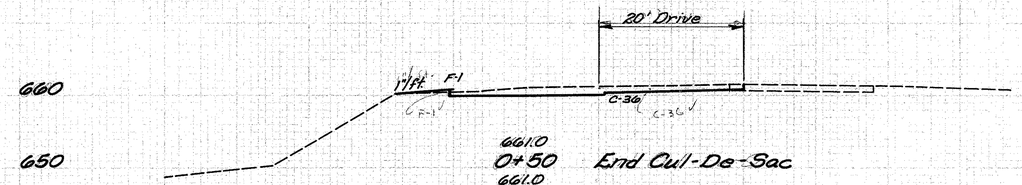
S.R. 798 - 8+50 to 10+00


SEEDING
END WIDTH
SQ YDS.
END AREA
CUT
FILL
VOLUME
CUT
FILL
51+94
END CHANNEL
Var.
F=187
C=6
Var.
F=8
51+57
637.8
S.R.798
9:1
F=158
Dumped Rock Fill
Type "A"
51+04
636.0
S.R.798
Var.
F=83
C=23
C=10
50+82
635.6
19:1
Dumped Rock Fill
Type "A"
Var.
C=79
18:1
F=202
C=5
635.50
50+13
635.5
Access Rd "A"
S.R.798
1.8:1
C=271
F=386
C=6
634.59
49+60
634.0
Access Rd "A"
End Cellular Wall
48+95
S.R.798
2.5:1
647.5
Exc. Limits
For Wall
C=433
F=446
1/2:1
1:6
Cellular Wall
Dumped Rock Fill
Type "A"
2:1
F=115
C=8
633.28
48+84
632.7
Access Rd "A"
S.R.798
2:1
647.5
Exc. Limits
For Wall
1/2:1
1:6
F=113
C=723
2:1
F=426
632.42
48+34
632.5
Access Rd "A"
2:1
C=661
F=437
Cellular Wall
Exc. Limits
For Wall
1/2:1
1:6
Dumped Rock Fill
Type "A"
2:1
F=375
Access Rd "A"
2.2:1
631.84
48+00
633.5
C=457
F=414
1/2:1
1:6
Exc. Limits
For Wall
Wall
2:1
F=61
C=5
Access Rd "A"
3:1
647.5
C=231
F=346
Cellular Wall
1:6
1/2:1
Exc. Limits
For Wall
F=17
Wall
627.5
630.46
47+20
630.50
631.29
47+68
631.6
Begin Channel Work 46+65
A. E. STILSON & ASSOC.
Quantities Calculated BW FEB 10
Quantities Checked M.L.B. FEB 10
BELMONT COUNTY
JEFFERSON COUNTY
BEL. -7- 23.74
JEF. -7- 0.00
GLENNS RUN CHANNEL RELOC.
245
462

246
A62

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

60 40 20 ℄ 20 40 60



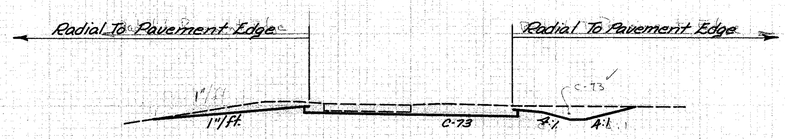
660
650

661.0
0+50
661.0
End Cul-De-Sac

0+44 Field Drive Rt. Type 2 (Modified)
304 A.B. - 8" Thick

660
650

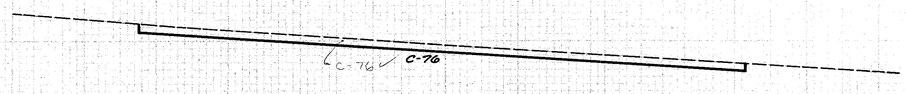
660.1
0+25
660.3



660
650

659.7
0+13
660.0

660
650



659.38
(-)0+03
659.38
Begin Cul-De-Sac

Seeding	End Areas	Cu. Yds.		
Width	S.Y.	Cut	Fill	Exc. Emb.
10		30	1	
49		39	0	
25		48	0	
46		27	0	
44		73	0	
43		44	0	
4		76	0	

659.38
659.2
661.0

53'
(-)0+03
0+50
+3.6%
℄ Exist. S.R.7

660
650

110 Cu. Yds. Exc.
0 Cu. Yds. Emb.
138 Sq. Yds. Seeding

PROFILE
Scale In Feet
Horiz. 0 10 20
Vert. 0 5 10

659.2 661.0 659.0
0 +50 1+00

Plotting & End Areas	
By: WWW 4-25-72	Checked By: JWH 4-25-72

60 40 20 ℄ 20 40 60

CUL-DE-SAC ~ PROFILE AND CROSS SECTIONS

SECTIONS	
SUB HEIGHT	SUB TYPE
153	
138	

SHEET NO. DIVISION	STATE	PROJECT	
2	OHIO		

247
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

END AREA		VOLUME	
CUT	FILL	CUT	FILL
1770	0		
		3310	0
1768	0		

180 160 140 120 100 80 60 40 20 0 20 40 60

810
800
808
790
790
780
770

1.5:1
1:1
C= ITO
4:1
687.8
690.27
1342+50
703.5

1.5:1
C=1768
4:1
689.1
691.65
1342+00
702.2

680
670
660
680
670
660

180 160 140 120 100 80 60 40 20 0 20 40 60 80 100

EXISTING PLOTTED	BY	DATE
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
VOLUME DETERMINED		
VOLUME CHECKED		

STA. 1342+00 TO STA. 1342+50 - RAMP O.T.P. 460 INTER

FED. AID PROJECT	STATE	PROJECT	
	OHIO		

248
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

LAND AREA | VALUES

128
747
141
817
153

810
800
790
810
800
790

1:1
1.5:1
4:1
C=1292
684.6
687.16
1343+50
698.4
1292 0
1:1
1.5:1
4:1
C=1585
686.3
688.76
1343+00
702.6
1585 0
2663 0
3140 0
1770 0

680
670
660
680
670
660

STA. 1342+50

180 160 140 120 100 80 60 40 20 0 20 40 60 80 100

STA. 1343+00 TO STA. 1343+50 RAMP A T.R. 469 INTER.

STATE	STATE	PROJECT	
7	OHIO		

219
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

GRID AREA | VOLUME

180 160 140 120 100 80 60 40 20 0 20 40 60

790
780
770
790
780
770

145
845
159
797
128

L.5:1

C = 1445

N

4:1

5:1

682.2

684.A

684.66
1344+50
698.8

L.5:1

C = 1354

N

4:1

24:1

683.2

685.71
1344+00
697.7

680
670
660
680
670
660

1415 0
2564 0
1354 0
2450 0

STA. 1343+50

STA. 1343+50 1292 0

180 160 140 120 100 80 60 40 20 0 20 40 60 80 100

STA. 1344+00 TO STA. 1344+50 RAMP A T.R. 469 INTER.

DATE	BY	
		ARRIVING PLOTTED
		FROM AS CONSTRUCTED
		FROM PROPOSED
		FROM FIELD CHECKED
		IMAGE CHECKED
		MAS CHECKED
		APPROVED DISTRICT
		E. CENG. CHECKED

250
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

180 160 140 120 100 80 60 40 20 0 20 40 60

780
770
760
790
780
770

148
820
147
811
145

1.5:1

C=1665

1345+50, 21' LT.
Nº 5 C.B.
GRATE: 680.95
INV. 18" 677.95

4:1 3.6:1

681.2 680.9

684.04
1345+50
698.5

680
670
660

1665 0

2901 0

1.5:1

C=1468

4:1 4:1

681.6 682.7

684.11
1345+00
700.0

680
670
660

1468 0

2694 0

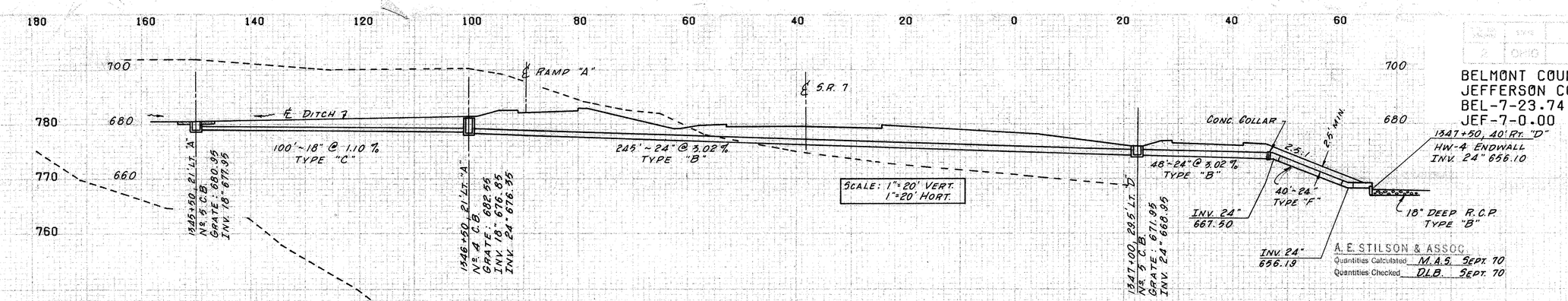
STA. 1344+50 1415 0

STA. 1344+50

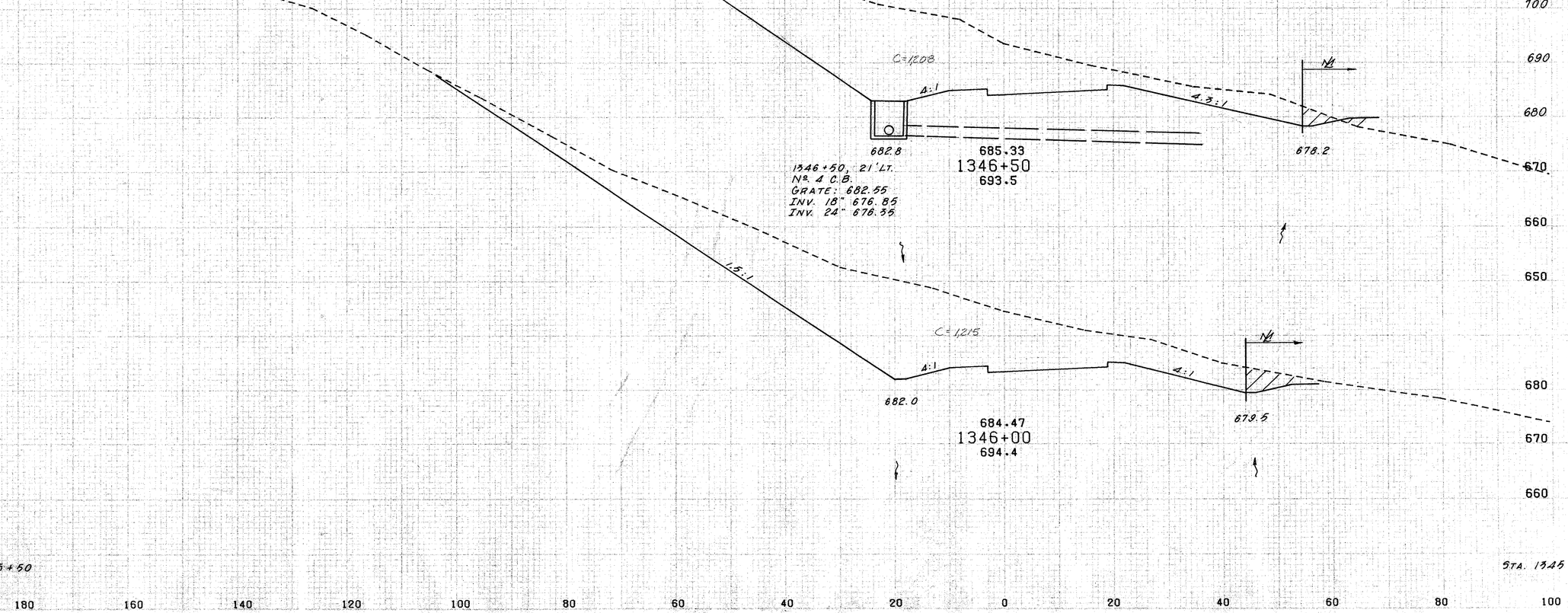
180 160 140 120 100 80 60 40 20 0 20 40 60 80 100

STA. 1345+00 TO STA. 1345+50 RAMP A T.R. 469 INTER.

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00



A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70



STA. 1346+00 TO STA. 1346+50 RAMP A T.R. 469 INTER.

SHEET NO.	STATE	PROJECT
2	OHIO	

252
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

END AREA		VOLUME	
CUT	FILL	CUT	FILL

148
775
131
814
162

180 160 140 120 100 80 60 40 20 0 20 40 60

790
780
770
800
790
780

1.5:1
C=972
4:1
684.7
4.9:1
N1
687.17
1347+50
695.6
670
675.4
660
650
1.5:1
C=818
4:1
683.8
4.5:1
N1
686.25
1347+00
694.2
676.8
670
660
650
STA. 1346+50

972 0
1658 0
818 0
1876 0
1208 0

180 160 140 120 100 80 60 40 20 0 20 40 60 80 100

STA. 1347+00 TO STA. 1347+50 RAMP A T.R. 469 INTER.

FED. AID PROJECT NO.	STATE	PROJECT	SHEET NO.
	OHIO		253 462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

EARTH AREA		ROCK AREA	
CUT	FILL	CUT	FILL

EARTH VOLUME		ROCK VOLUME	
CUT	FILL	CUT	FILL

202
1061
180
889
148

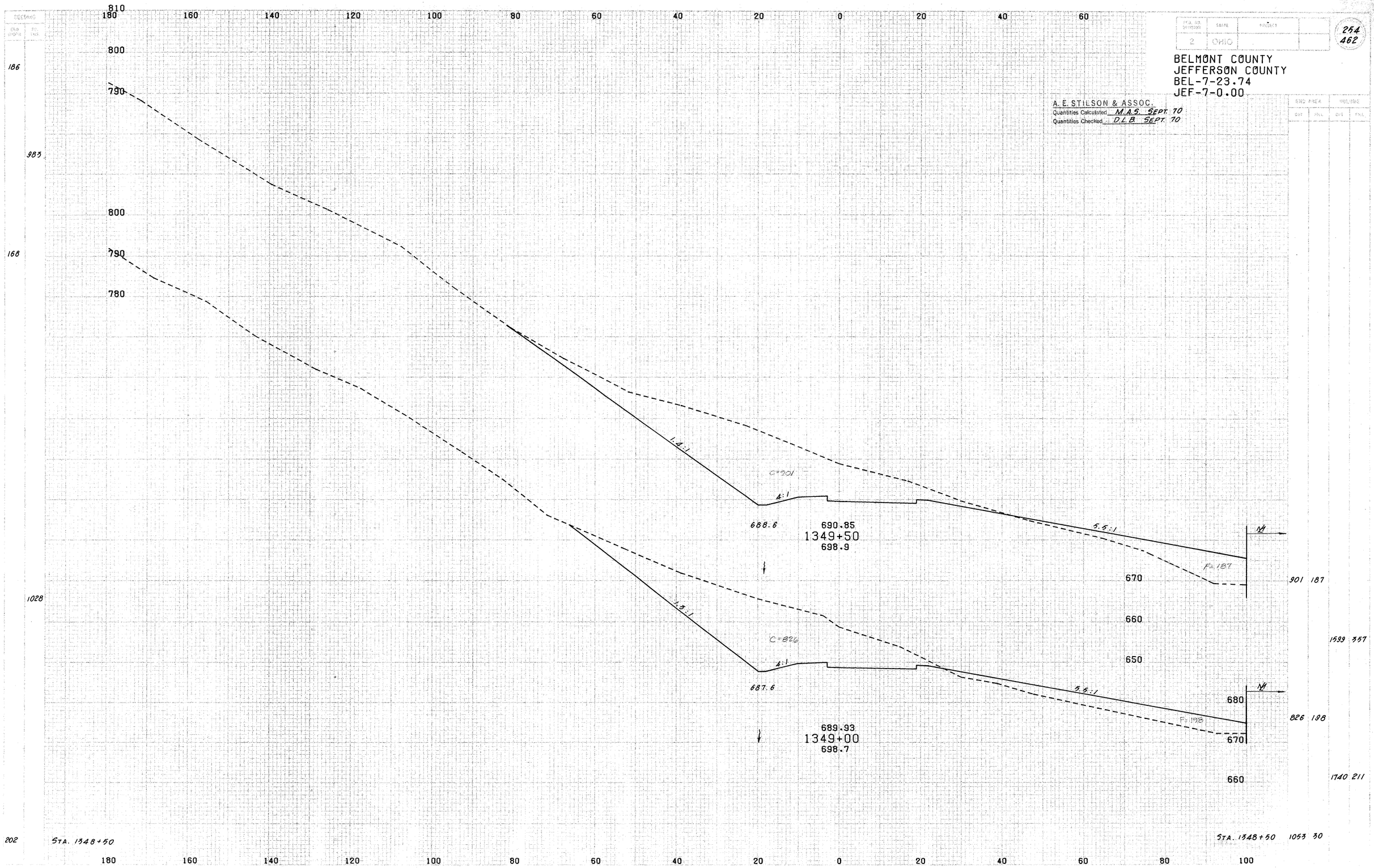
180 160 140 120 100 80 60 40 20 0 20 40 60 80 100

790
780
770
790
780
770

1.5:1
C=1033
4:1
686.5
689.01
1348+50
699.2
5.3:1
N
680
F=30
670
1053.30
660
1.5:1
C=1257
4:1
685.6
688.09
1348+00
698.4
5:1
N
673.9
670
1257.0
660
2064.0
650
STA. 1347+50 972.0
STA. 1347+50

STA. 1348+00 TO STA. 1348+50 RAMP A T.R. 469 INTER.

DESIGN COMPUTED	DRAWING CHECKED
TRIGONOMETRY	
CROSS SECTIONS	
AREA & VOLUMES	
DRAWING DETAILING	
SCREENING CHECKED	



STA. 1349+00 TO STA. 1349+50 RAMP A T.R. 469 INTER.

SEEDING	
AREA WIDTH	SQ YDS.
119	
178	
1033	
194	
1056	
186	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

256
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

END AREA		VOLUME	
CUT	FILL	CUT	FILL

AHEAD
BACK

STA. 1349+50

FULL SECT. BACK
AHEAD W/1351+00
C=805
4:1
690.5
692.69
1350+50
699.2
1.5:1
F=25
VAR.
F=511
N
AHEAD 805 25
BACK 805 536
1606 737
C=929
4:1
689.6
691.77
1350+00
699.8
5.2:1
F=260
929 260
1695 414
STA. 1349+50 901 187

EXISTING PLOTTED	DATE
TYPICAL SECT. CHECKED	
TEMPLATE PLOTTED	BY
TEMPLATE CHECKED	
AREAS CALCULATED	
AREAS CHECKED	
SEEDING DETERMINED	
SEEDING CHECKED	

STA. 1350+00 TO STA. 1350+50 RAMP A T.R. 469 INTER.

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

256
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

SECTION		END AREA		VOLUME	
SEND WIDTH	NO. TOP.	CUT	FILL	CUT	FILL
75					
	17				
75					
	406				
71					
	528				
	119				

STA. 1351+52.14
BACK ONLY

180 160 140 120 100 80 60 40 20 0 20 40 60

780
770
760
790
780
770

2:1
C=7.40
A:1
692.7
T.R. 469
P=35
694.53
1351+50
699.7

1.5:1
C=5.12
A:1
691.5
T.R. 469
693.61
1351+00
698.4

680
670
660
670
660
650

STA. 1351+52.14 440 35
(SAME AS 1351+50)
BACK ONLY

349 28
440 35
887 33
518 0
1225 23

STA. 1350+50 805 25

STA. 1350+50

180 160 140 120 100 80 60 40 20 0 20 40 60 80 100

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SPACING DETERMINED		
SPACING CHECKED		

STA. 1351+00 TO STA. 1351+50 RAMP A T.R. 469 INTER.

DESIGN	
SIDE WIDTH	SL VOL
138	
	781
143	
	770
134	
85	
	475
75	

FED. AID CONTROL	STATE	PROJECT	
0	OHIO		

257
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

EMB. AREA		VOLUME	
CUT	FILL	CUT	FILL

180 160 140 120 100 80 60 40 20 0 20 40 60

760 750 740 760 750 740 770 760 750

AHEAD
BACK

2:1 4:1 687.1

689.59
1353+00
692.1

2:1 C=366 4:1 689.4

691.87
1352+50
695.9

2:1 C=342 4:1 691.0

693.51
1352+00
697.2

STA. 1351+46.56

4.2:1 C=597 F=13 C=56 F=50 C=1 F=41 VAR. F=151

680 670 660 680 670 660 650

N1 N1 N1

597 0
944 58
423 63
709 236
342 192
342 41
774 75
440 35

BACK w/ 1351+46.56

FULL SECT. AHEAD

STA. 1351+46.56
(SAME AS 1351+52.14 "A")
AHEAD ONLY

180 160 140 120 100 80 60 40 20 0 20 40 60 80 100

STA. 1352+00 TO STA. 1353+00 RAMP 'B' T.R. 469 INTER.

	BY	DATE
EXISTING PLOTTED		
CENTER LINE STAKED		
EARTHWORK COMPUTED		
ESTIMATE COMPUTED		
FINISH ROAD STAKED		
CHECKED		
DETAILS DETERMINED		
RECORD CHECKED		

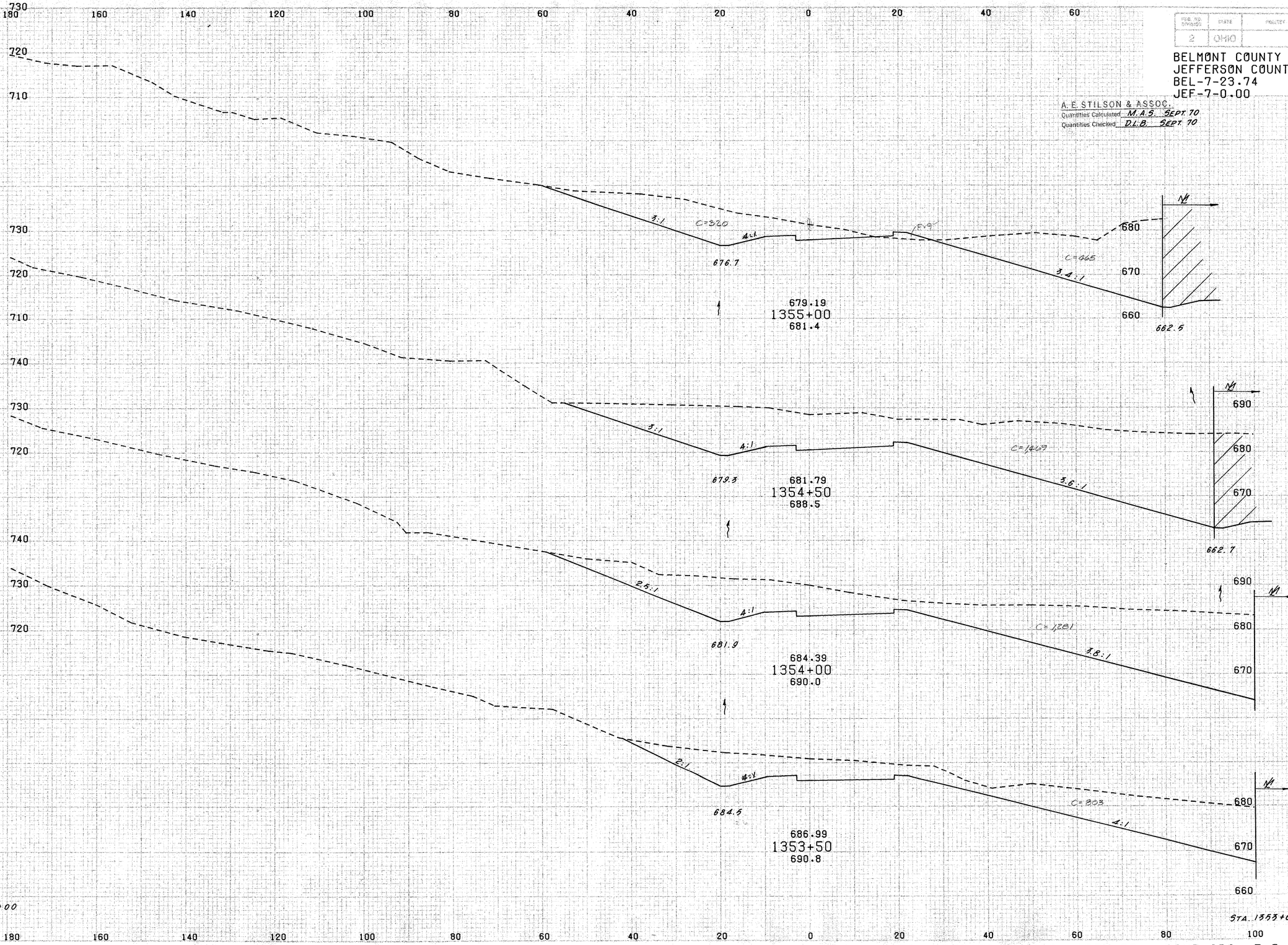
FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

258
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

SECTIONS		END AREA		VOLUME	
CUT WIDTH	FILL	CUT	FILL	CUT	FILL
133	756				
139	814			785	9
154	806			2087	8
136	761			1469	0
138				2547	0
				1281	0
				1930	0
				803	0
				1296	0
				597	0



STA. 1353+50 TO STA. 1355+00 RAMP 'B' T.R. 469 INTER.

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO		

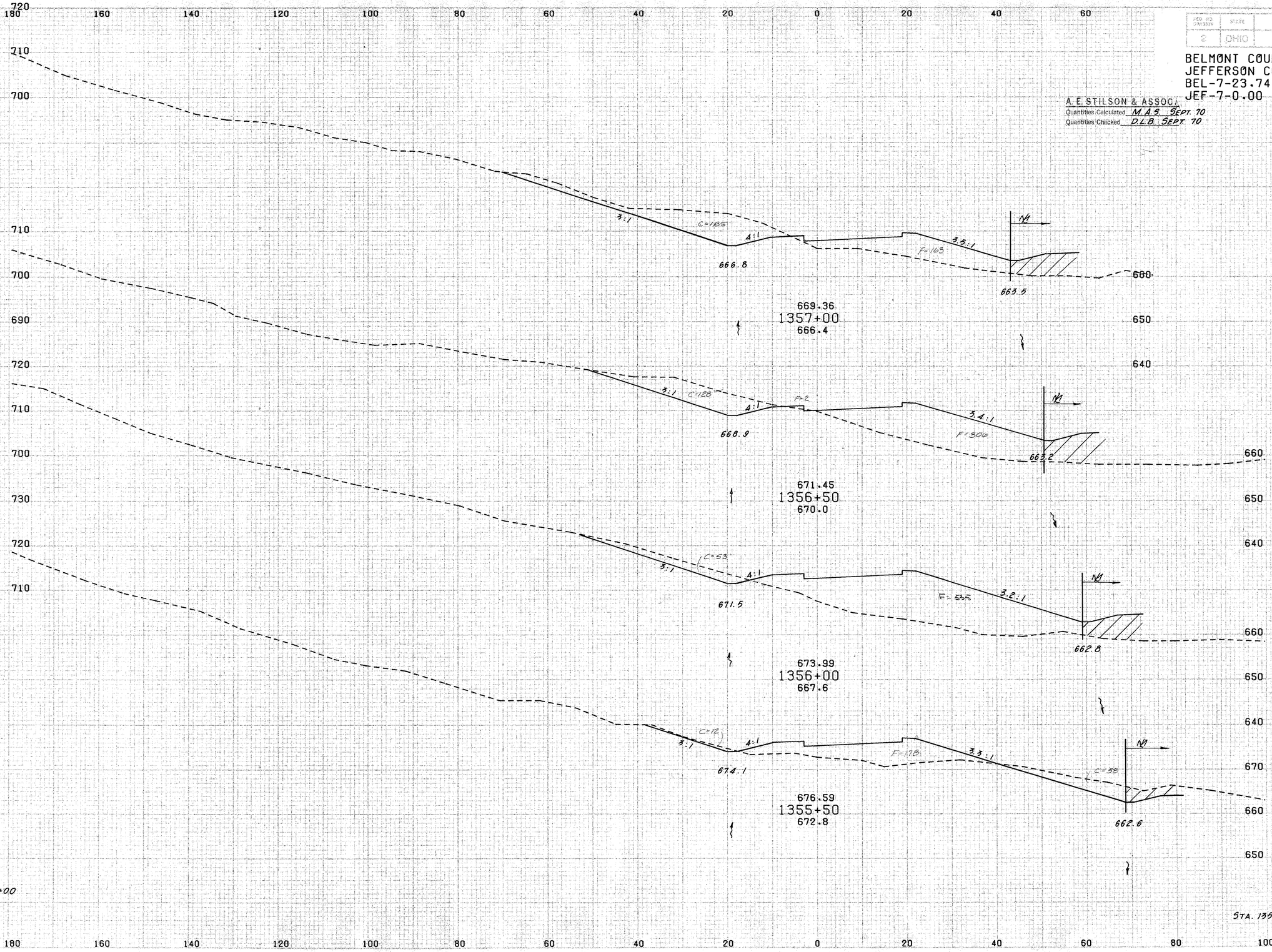
259
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

END AREA		VOLUME	
CUT	FILL	CUT	FILL
185	163		
290	436		
128	308		
168	843		
53	535		
114	713		
70	178		
782	173		
STA. 1355+00		785	9

CROSSINGS	
END WIDTH	SQ. FEET
105	553
94	553
105	567
99	644
133	



CALCULATIONS PLOTTED	BY	DATE
CALCULATIONS CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS PLANIMETERED		
AREAS CHECKED		
SECTIONS DETERMINED		
SECTIONS CHECKED		

STA. 1355+50 TO STA. 1357+00 RAMP 'B' T.R. 469 INTER.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

260
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated: M.A.S. SEPT. 70
Quantities Checked: D.L.B. SEPT. 70

SECTION		AREA		VOLUME	
CUT	FILL	CUT	FILL	CUT	FILL
82	467	678	0		
86	436			1220	0
71	411	639	0		
77	506	870	16		
		301	17		
		547			
		289	3		
105		439	154		

STA. 1357+00 185 163

666.00
1359+00
672.5

666.09
1358+50
672.8

666.67
1358+00
669.2

667.76
1357+50
671.2

2:1
4:1
C=678
663.1
C=639
663.6
665.2
C=300
664.2
F=17
C=1
664.6
C=280
665.3
F=3
C=3
664.1

STA. 1357+00

STA. 1357+50 TO STA. 1359+00 RAMP 'B' T.R. 469 INTER.

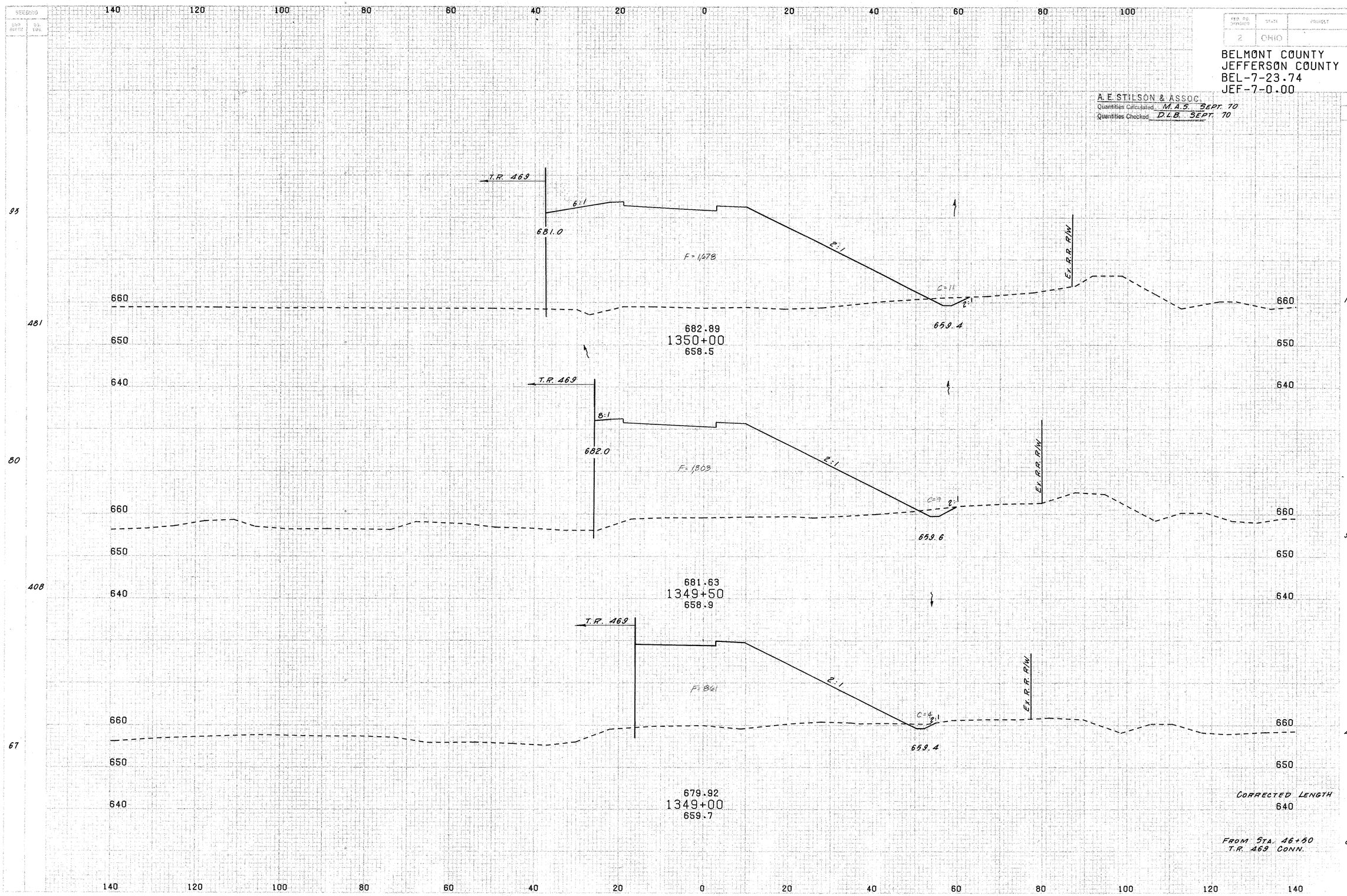
BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPORARY ADJUSTED	
TEMPORARY CONTROLS	
FINAL CONTROLS	
FINAL CONTROLS CHECKED	
SLOPES DETERMINED	
SLOPES CHECKED	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

261
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70



END AREA FILL	END AREA FILL	VOLUME CUT	VOLUME FILL
11	1678		
		19	276
9	1303		
		12	2004
4	861		
		6	773
8	809		

STA. 1349+00 TO STA. 1350+00 RAMP ' C '

SEEDING

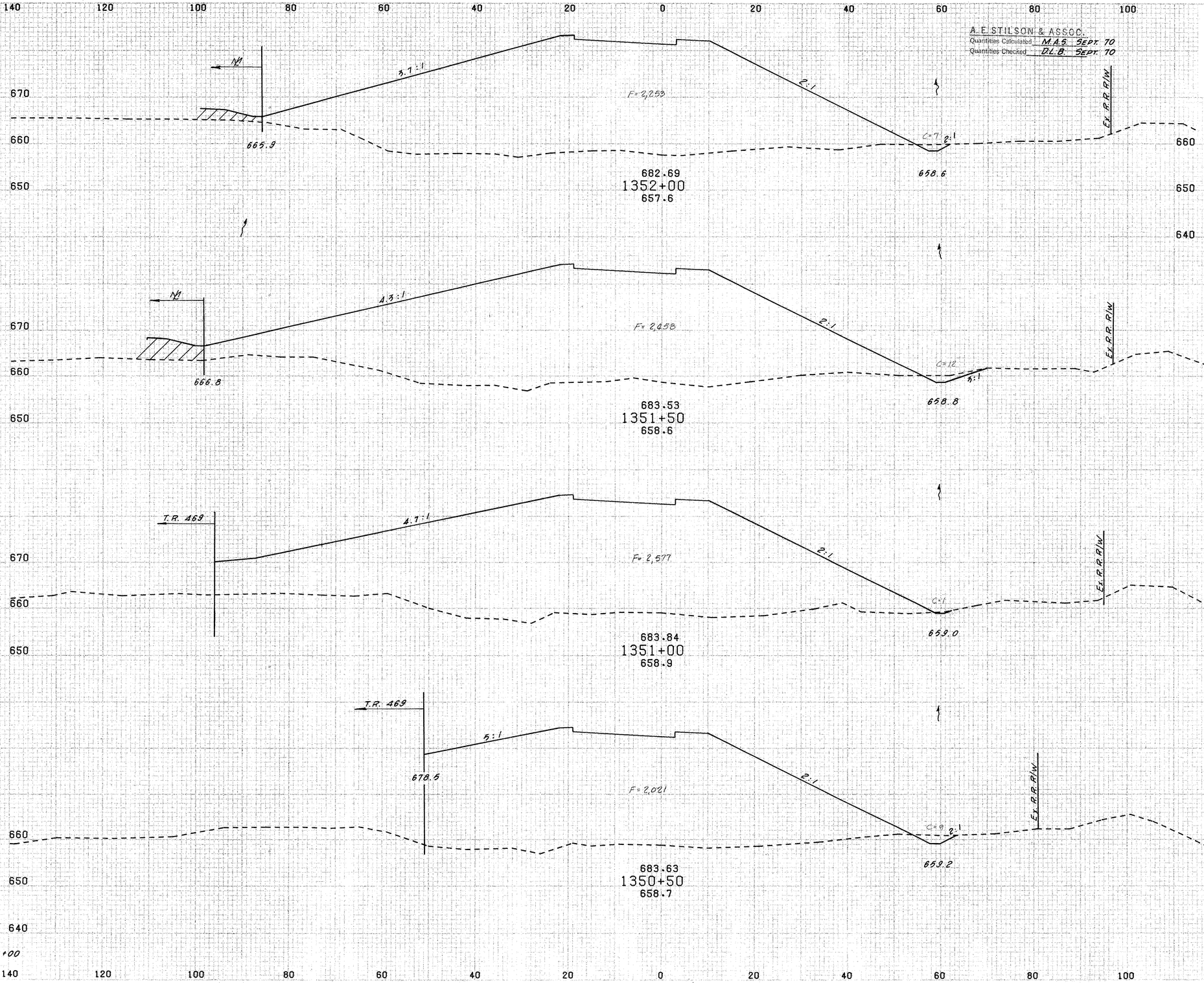
END WIDTH	SQ. YDS.
145	867
167	903
158	742
109	561
93	

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

262
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70



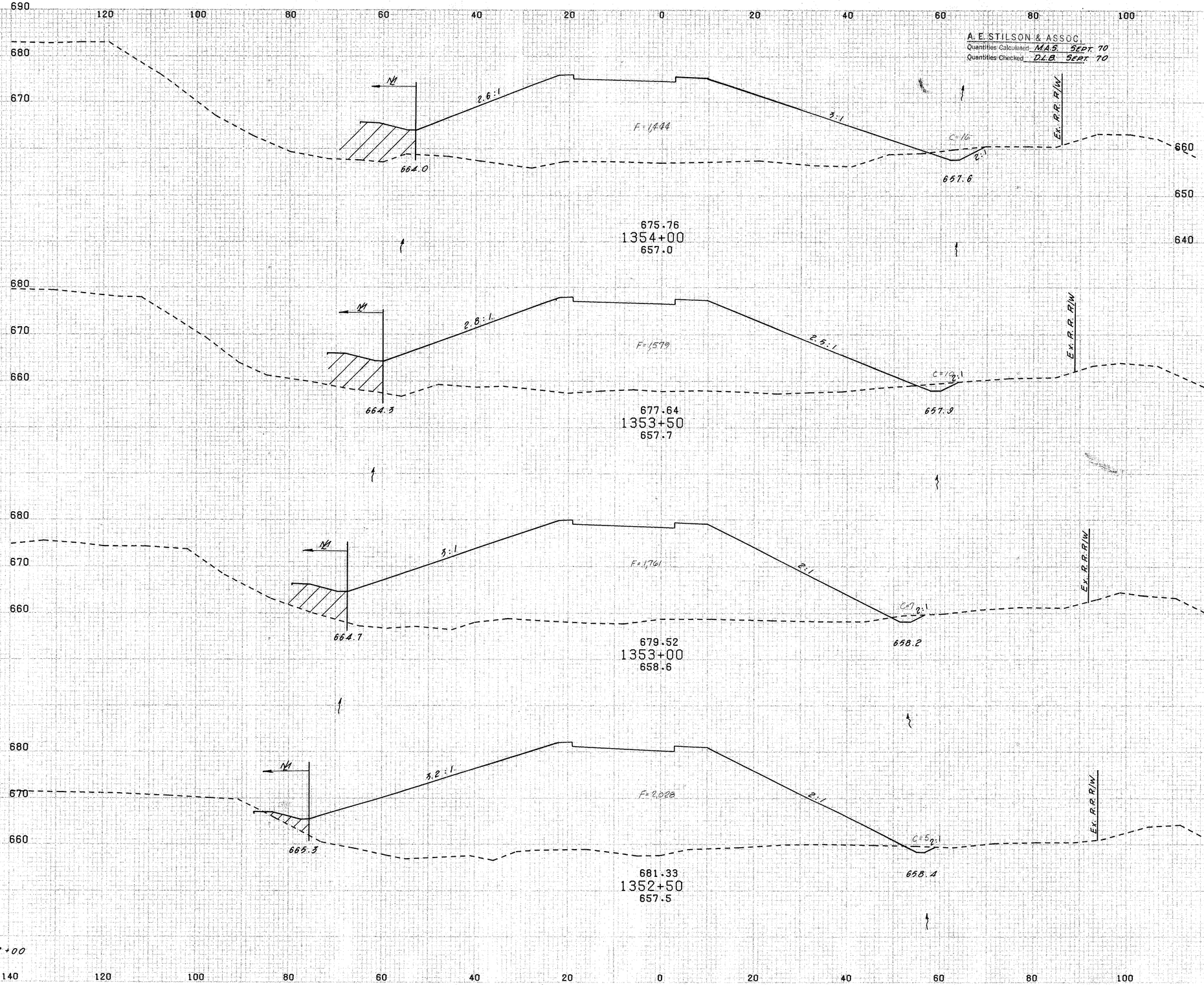
END AREA	VOLUME		
CUT	FILL	CUT	FILL
7 2253			
		18	4362
12 2458			
		12	4662
1 2577			
		9	4258
9 2021			
		19	3825
11 1678			

	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS COMPUTED	
AREAS CHECKED	
SPECIFICS DETERMINED	
SEEDING CHECKED	

STA. 1350+50 TO STA. 1352+00 RAMP "C"

SEEDING

END AREA CUT	END AREA FILL
115	
647	
118	
661	
120	
697	
131	
767	
145	



A. E. STILSON & ASSOC.
Quantities Calculated MAS. SEPT. 70
Quantities Checked DLB. SEPT. 70

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

263
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
16	1444		
		24	2800
10	1579		
		16	3093
7	1761		
		11	3509
5	2028		
		11	3964
7	2253		

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE SELECTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

STA. 1352+50 TO STA. 1354+00 RAMP 'C'

FED. AID PROJECT | STATE | PROJECT | | SHEET NO. 264 462
2 | OHIO | | |

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

SECTIONAL END AREA | VOLUME | CUT | FILL | CUT | FILL

667.02
1356+50
654.5

86 481 — F=705 — C=28 — 665.7 — 656.2 — Ex. R.R. R/W

28 705

668.31
1356+00
654.8

87 514 — F=835 — C=32 — 665.0 — 656.4 — Ex. R.R. R/W

56 1426

32 835

670.12
1355+50
655.5

98 569 — F=1,110 — C=38 — 664.5 — 656.7 — Ex. R.R. R/W

65 1671

38 970

107 617 — F=1,062 — C=26 — 663.7 — 657.0 — Ex. R.R. R/W

See Sh # 188

1355+00 "C" 64' Rt.
HW-A ENDWALL
INV. 27" 657.55

1355+00, 46.5' Rt.
STD. No. 5A C.B.
GRATE: 663.45
INV. 24" 658.53
INV. 27" 658.28

104'~27" @ 0.7%
TYPE "B" 706.08 OR 706.02 CL. III.

18" DEEP R.C.P.
TYPE "B"

59 1881

26 1062

672.00
1355+00
656.3

115 639 — F=1,282 — C=22 — 663.8 — 657.3 — Ex. R.R. R/W

44 2171

22 1282

673.88
1354+50
656.3

115 STA. 1354+00

35 2524

16 1444

STA. 1354+00

STA. 1354+50 TO STA. 1356+50 RAMP "C"

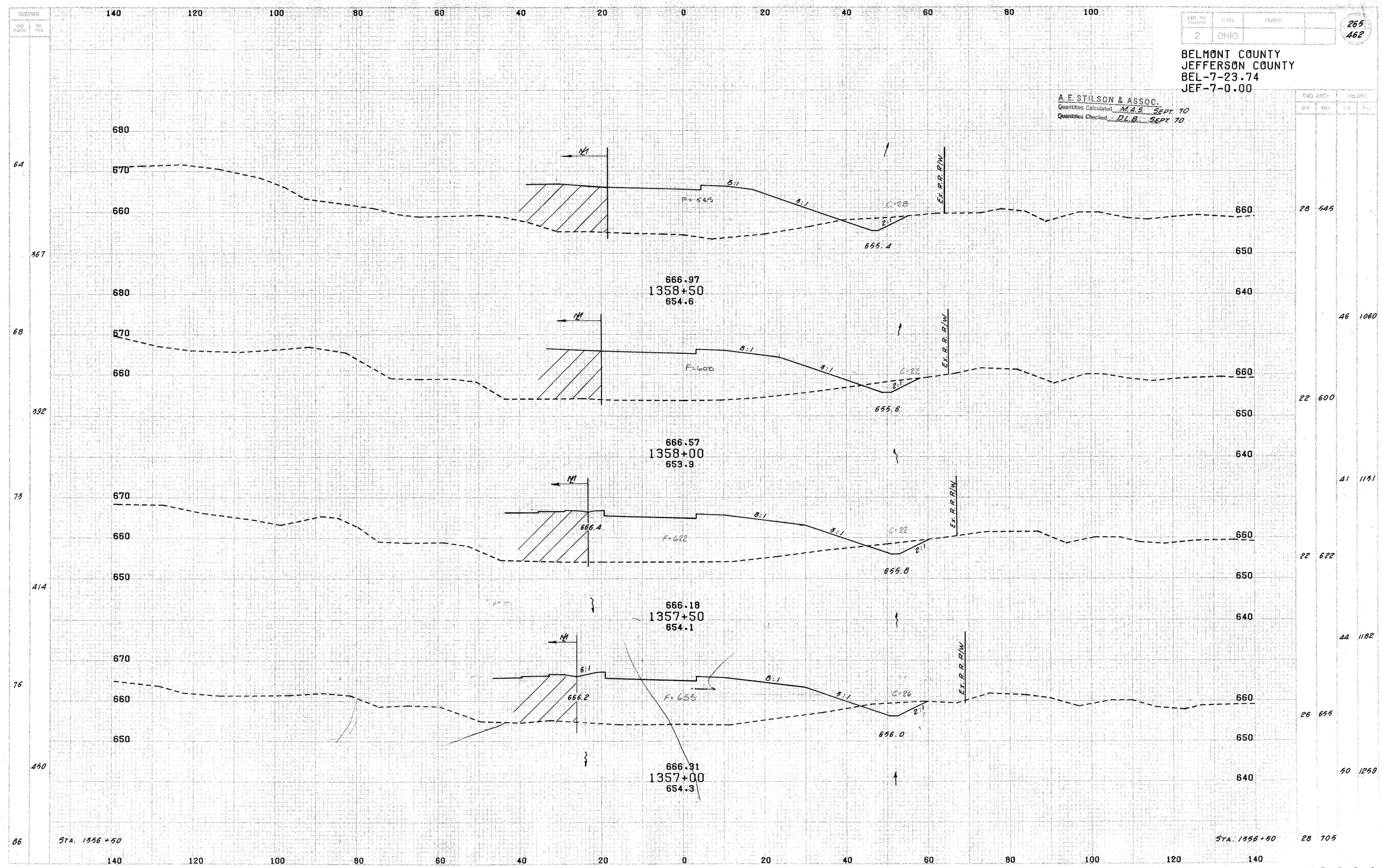
EXISTING SHOWN
EXISTING ADJUSTED
EXISTING CLEARED
ASPHALT
CONCRETE
CURBS
SEEDING DETERMINED
SEEDING CHECKED
DATE | BY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

265
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70



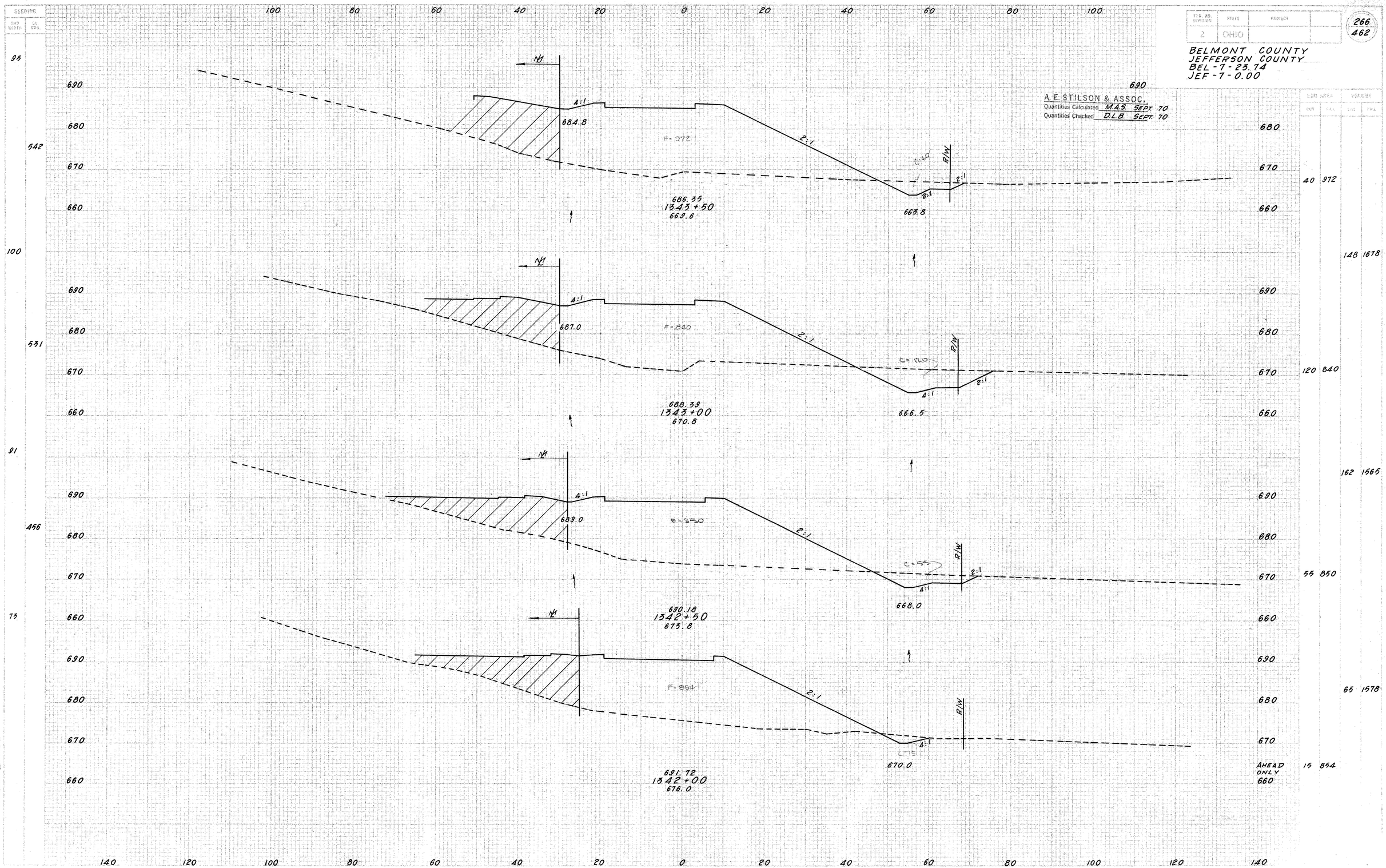
STA. 1357+00 TO STA. 1358+50 RAMP 'C'

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

266
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70



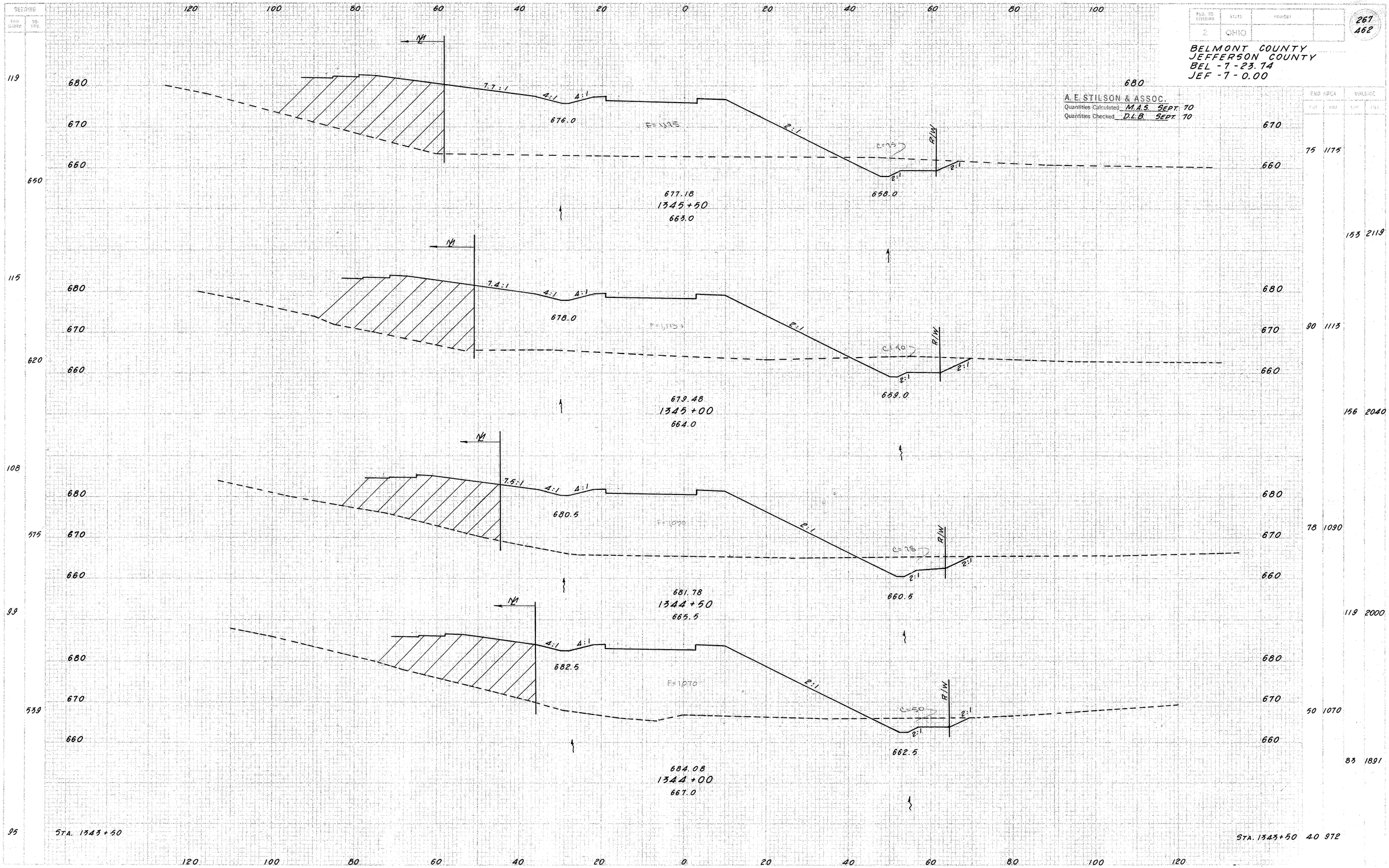
STA. 1342+00 TO STA. 1343+50 RAMP "D"

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

267
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL -7-23.74
JEF -7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70



STA. 1344+00 TO STA 1345+50 RAMP "D"

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

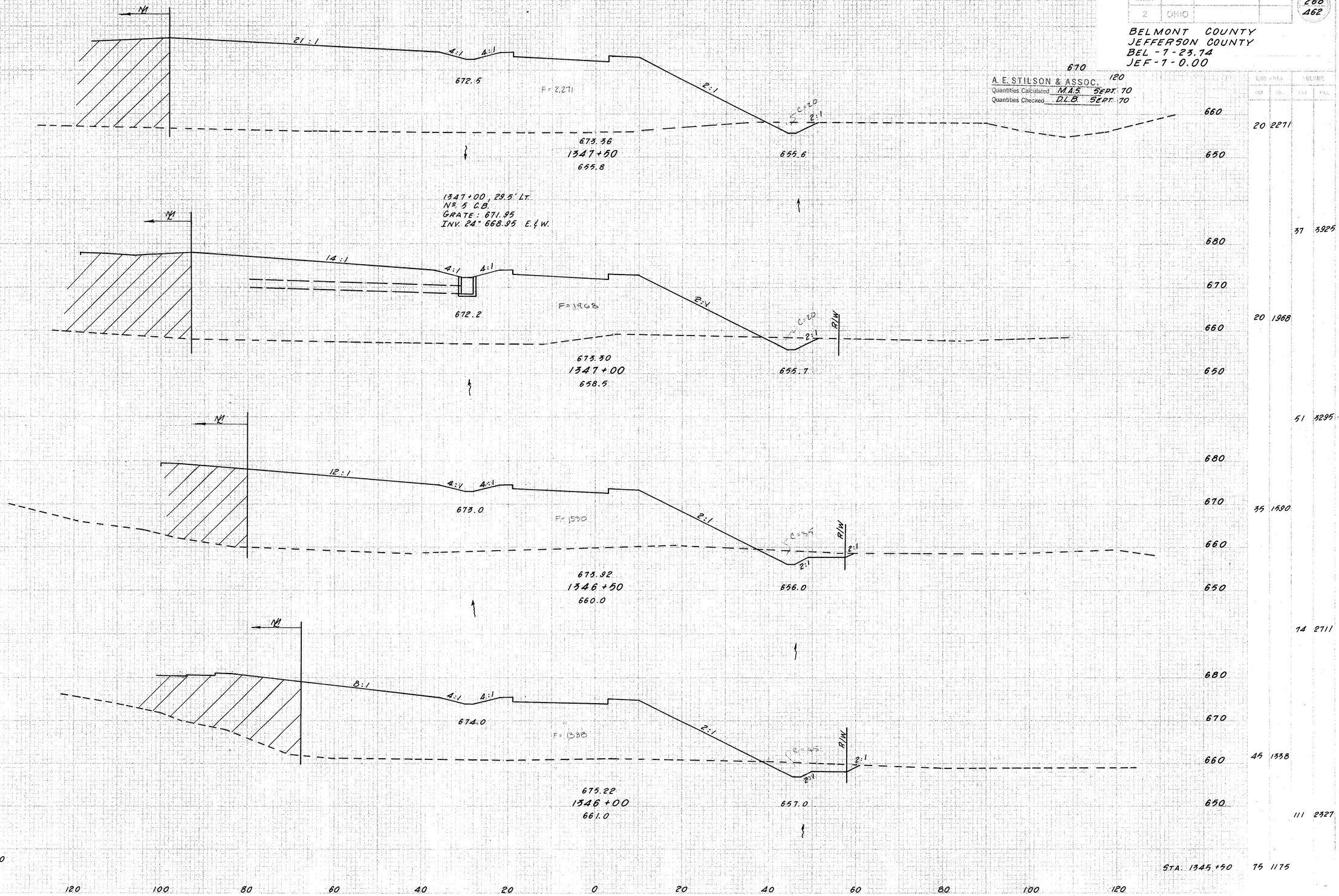
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

268
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

SECTIONS		END AREA		VOLUME	
END SECTION	CU. YDS.	CUT	FILL	CUT	FILL
142					
		20	2271		
138					
		37	3925		
132					
		35	1590		
123					
		14	2711		
119					
		45	1338		
		111	2327		
		75	1175		



	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS COMPUTED		
AREAS CHECKED		
GRID DRAWING		
DRAWING CHECKED		

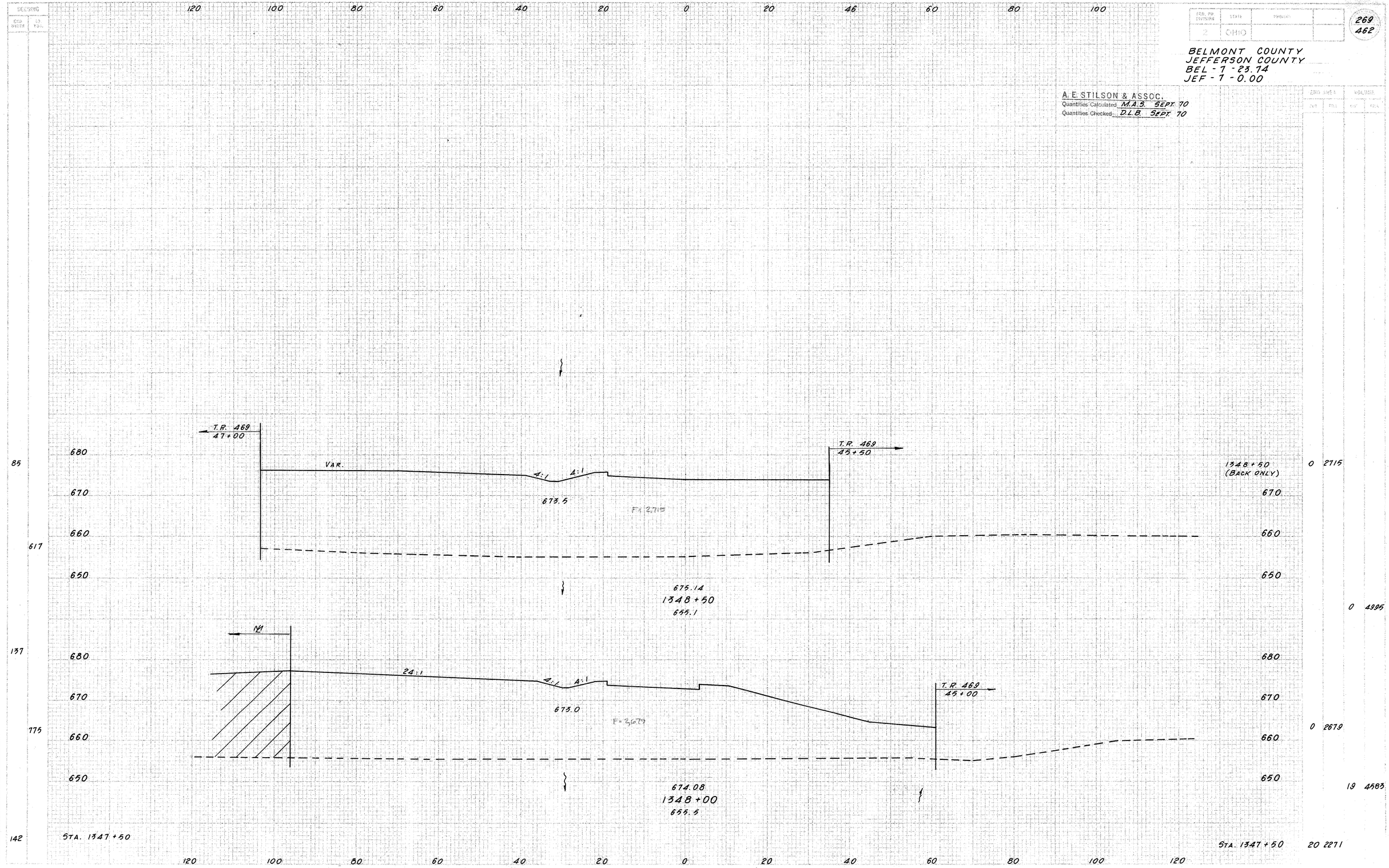
STA. 1346+00 TO STA. 1347+50 RAMP "D"

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

269
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL - 7 - 23.74
JEF - 7 - 0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70



STA. 1348+00 TO STA. 1348+50 RAMP "D"

SEEDING	
SQ. YDS.	LBS. YDS.
89	
	481
84	
	494
94	
	511
90	
	414
59	
12	
0	

DES. HWY DIVISION	STATE	PROJECT	
2	OHIO		

270
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

660.56
40+50
657.9

660.68
40+00
658.4

660.80
39+50
659.4

660.92
39+00
660.1

661.08
38+50
660.7

39+77, 41.5' Lt.
Inv. 42" 654.46

39+23, 44' Lt.
Inv. 42" 654.33

F=264

54'-42" @ 0.20%

SECTION "A-A"

TO CULVERT

STA. 38+28

STA. 38+50

Add for Drive

EXIST. AREA		VOLUME	
CUT	FILL	CUT	FILL
139	71		
		254	120
135	49		
		268	69
154	25		
		10	196
		325	28
		197	3
		382	3
216	0		
		88	0
0	0		

BY	DATE
EXISTING PLOTTED	
EXISTING CHECKED	
TEMPLATE PLOTTED	
TEMPLATE CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
VOLUME DETERMINED	
VOLUMES CHECKED	

STA. 38+50 TO STA. 40+50 T.R. 469 CONNECTOR

FED. AID PROJECT	STATE	PROJECT	
2	OHIO		

271
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

CUT	FILL
67	172
78	180
115	135

CUT	FILL
134	326
179	292
235	208
139	90
253	157
134	79
253	139
139	71

662.63
43+00
658.6

661.44
42+50
657.7

660.69
42+00
657.3

660.37
41+50
657.5

660.44
41+00
657.7

+50, 39' Lt.
HW-A ENDWALL
INV. 15" 654.8

+50, 36' Rt.
HW-A ENDWALL
INV. 15" 655.5

Q_{100} = 6 c.f.s.
$H.W_{100}$ = 666.47

603 - 15 L.F. - 15" TYPE "A"
601 - 2.7 C.Y. - R.C.P.
602 - 0.50 C.Y. - CONC. MASONRY

18" DEEP R.C.P. TYPE "B"

75'-15" @ 0.93 % TYPE "A"
706.01, 706.02 OR 706.08

655.1 · 655.0 · 654.9 · 655.8 · 654.8 · 655.5 · 654.7 · 655.8

STA. 40+50

STA. 41+00 TO STA. 43+00 T.R. 469 CONNECTOR

Rev. 10-21-74

SEEDING

END AREA		VOLUME	
CUT	FILL	CUT	FILL
88			
556			
112			
614			
109			
583			
101			
553			
98			

140 120 100 80 60 40 20 0 20 40 60 80 100

END OF DIVISION	STATE	PROJECT	
2	OHIO		

272
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

RAMP "D"
1348+00

F=324
2:1
2:1
Ex. R.R. R/W
C=15
658.6

671.27
45+00
659.5

3:2:1
3:1
C=2
655.4
F=535
2:1
2:1
Ex. R.R. R/W
C=13
658.4

668.77
44+50
659.6

24:1
F=2
3:1
3.5:1
F=359
2.5:1
C=10
2:1
Ex. R.R. R/W
655.3
658.2

666.32
44+00
659.5

24:1
3:1
4:1
C=30
F=6
655.2
F=210
8:1
3:1
C=7
2:1
Ex. R.R. R/W
658.0

664.26
43+50
659.2

STA. 43+00

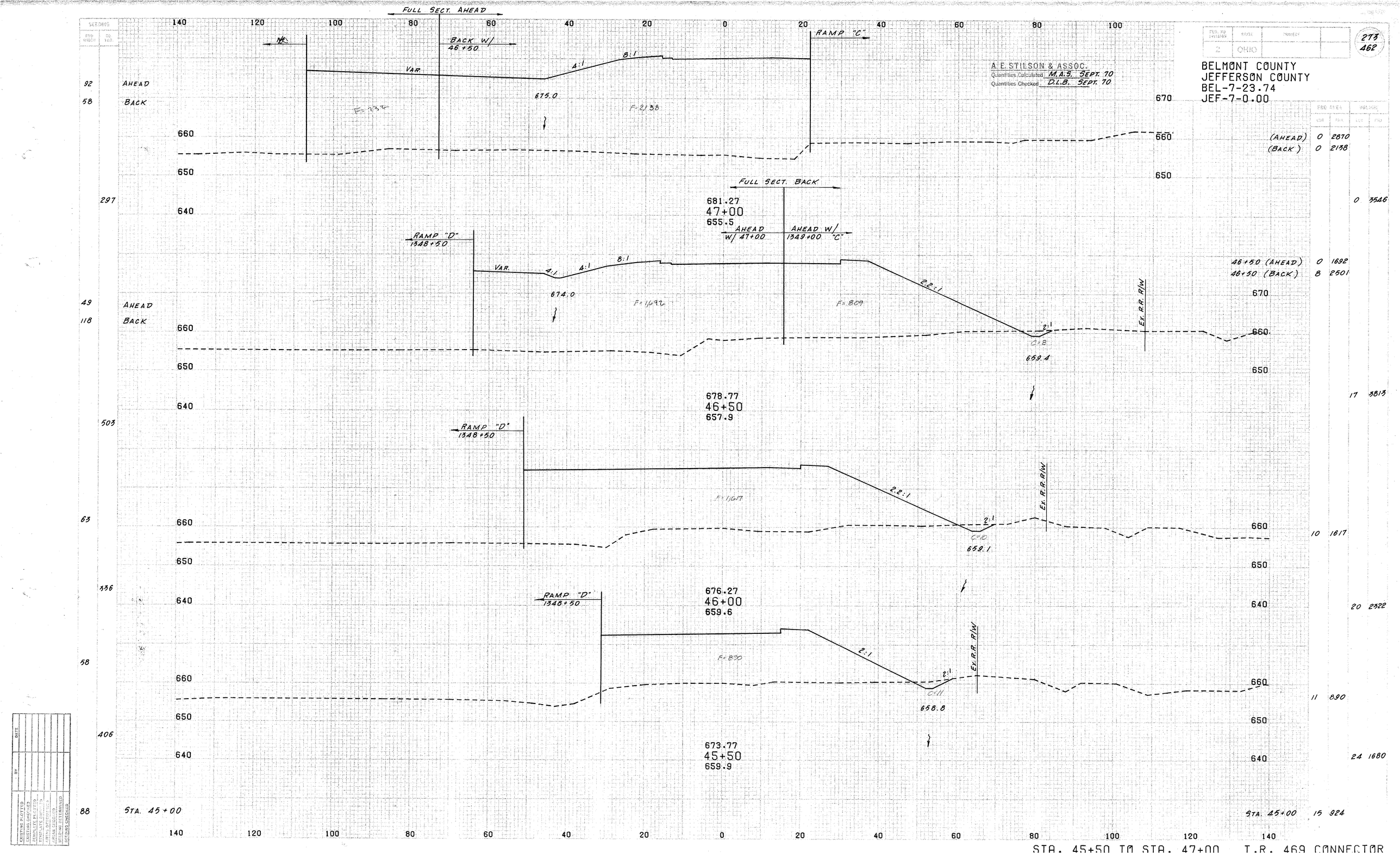
END AREA		VOLUME	
CUT	FILL	CUT	FILL
15	324		
		28	1351
15	535		
		23	830
10	361		
		27	534
37	216		
		96	359
67	172		

STA. 43+00

140 120 100 80 60 40 20 0 20 40 60 80 100 120 140

STA. 43+50 TO STA. 45+00 T.R. 469 CONNECTOR

BY	DATE
EARTHWORK PLOTTED	
EARTHWORK CHECKED	
TRIANGLES PLOTTED	
TRIANGLES CHECKED	
AREAS DETERMINED	
AREAS CHECKED	
SECTIONS INTERPOLATED	
SECTIONS CHECKED	



A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

273
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

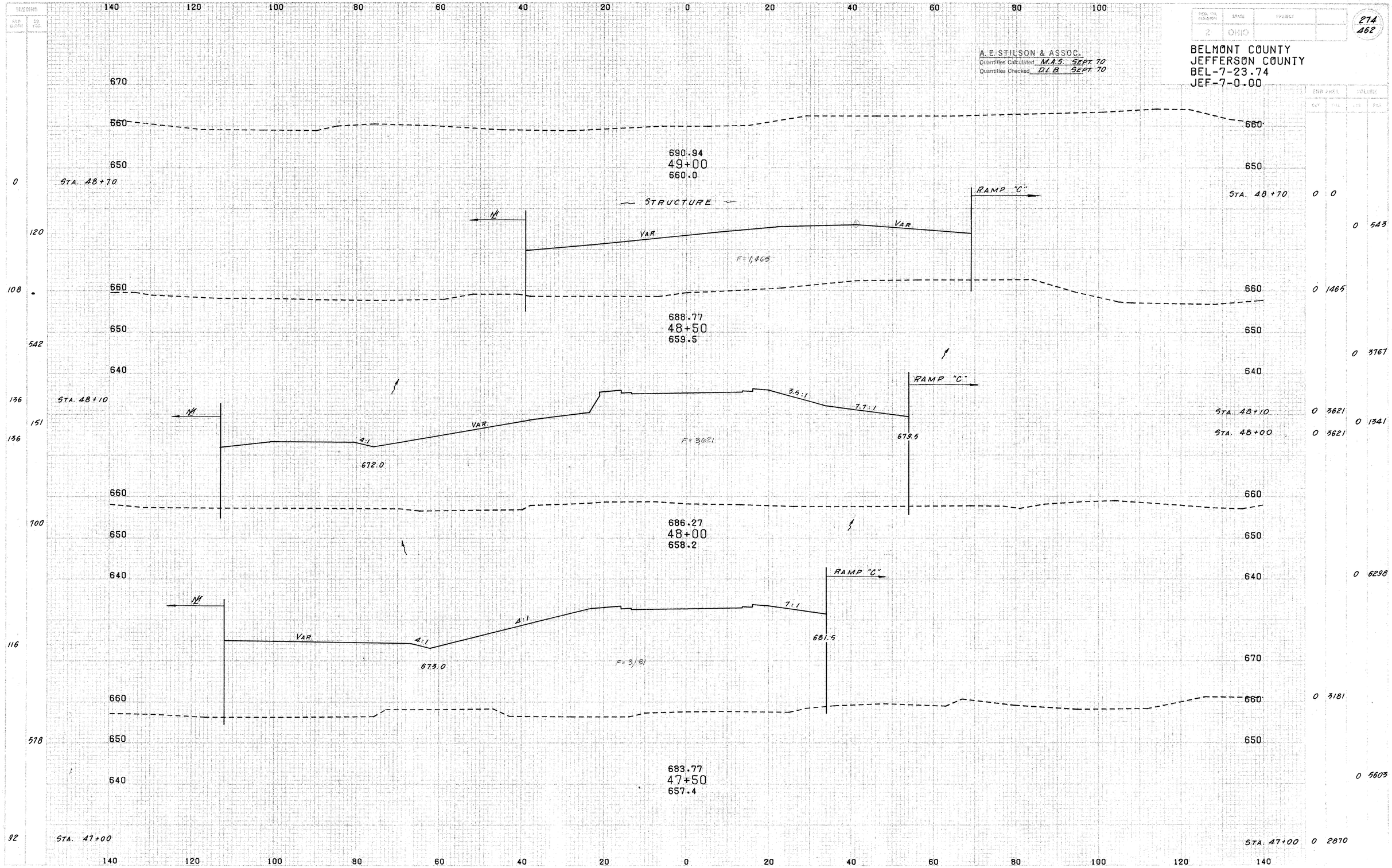
STA. 45+50 TO STA. 47+00 T.R. 469 CONNECTOR

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

SEEDING: SQ. YDS. 542 | SQ. YDS. 578

END AREA VOLUME: CUT | FILL | CUT | FILL



| | | |

SEEDING	
SQ. UNIT	SQ. YDS.
53	508
130	238
41	171
0	

FED. ROAD DIV. & NO.	STATE	PROJECT	
2	OHIO		

275
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated M.A.S. SEPT. 70
Quantities Checked D.L.B. SEPT. 70

END AREA		VOLUME	
CUT	FILL	CUT	FILL
BACK ONLY 51+00	8	350	
		0	1896
	0	1698	
		0	1200
STA. 50+25	0	892	
		0	248
STA. 50+10	0	0	

RAMP "A"
C=8
F=350
VAR.
RAMP "B"
1352+00
694.27
51+00
689.9
RAMP "A"
1350+50
VAR.
F=1698
3.7:1
RAMP "B"
1352+00
693.77
50+50
677.6
RAMP "A"
1350+50
VAR.
VAR.
F=892
693.52
50+25
670.0
STA. 50+10
STRUCTURE
692.44
49+50
662.1

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TERRAIN PLOTTED		
TERRAIN CHECKED		
AREAS CALCULATED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

STA. 49+50 TO STA. 51+00 T.R. 469 CONNECTOR

SHEET NO.	STATE	PROJECT	
2	OHIO		

276
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
21	0	141	266
129	287	406	636
108	402	624	573
258	217	436	454
213	252	374	495
191	218	357	202
195	0	33	0
	65		0
	0		

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

SEEDING END WIDTH	38 105
	20
	57
	214
	60
	325
	311
	52
	358
	77
	408
	10
	261
	24
	57
	20

END WORK 5+60

5+50 677.3

5+00 679.4

4+50 682.9

4+00 683.4

3+50 686.9

3+00 688.1

2+50 689.49

BEGIN WORK 2+35

Match to ℄ Abut.

2:1

F=233

F=482

F=217

F=232

F=218

C=129

C=308

C=158

C=213

C=191

C=195

36" Deep Dumped Rock Fill, Type-A

1339+80.80 Lt
Na. 5 C.B. (Grate "B")
Grate: 681.50
Inv. 12": 678.75

1338+84.63 Lt
Inv. 12": 678.22

43'-12" @ 1.0% Type "B"
10'-12" Type "F"

DR. 36" Deep

670.0 672.0 674.0 676.0 678.0 680.0 682.0

PATTONS RUN CHANNEL RELOC. 2+50 to 5+50

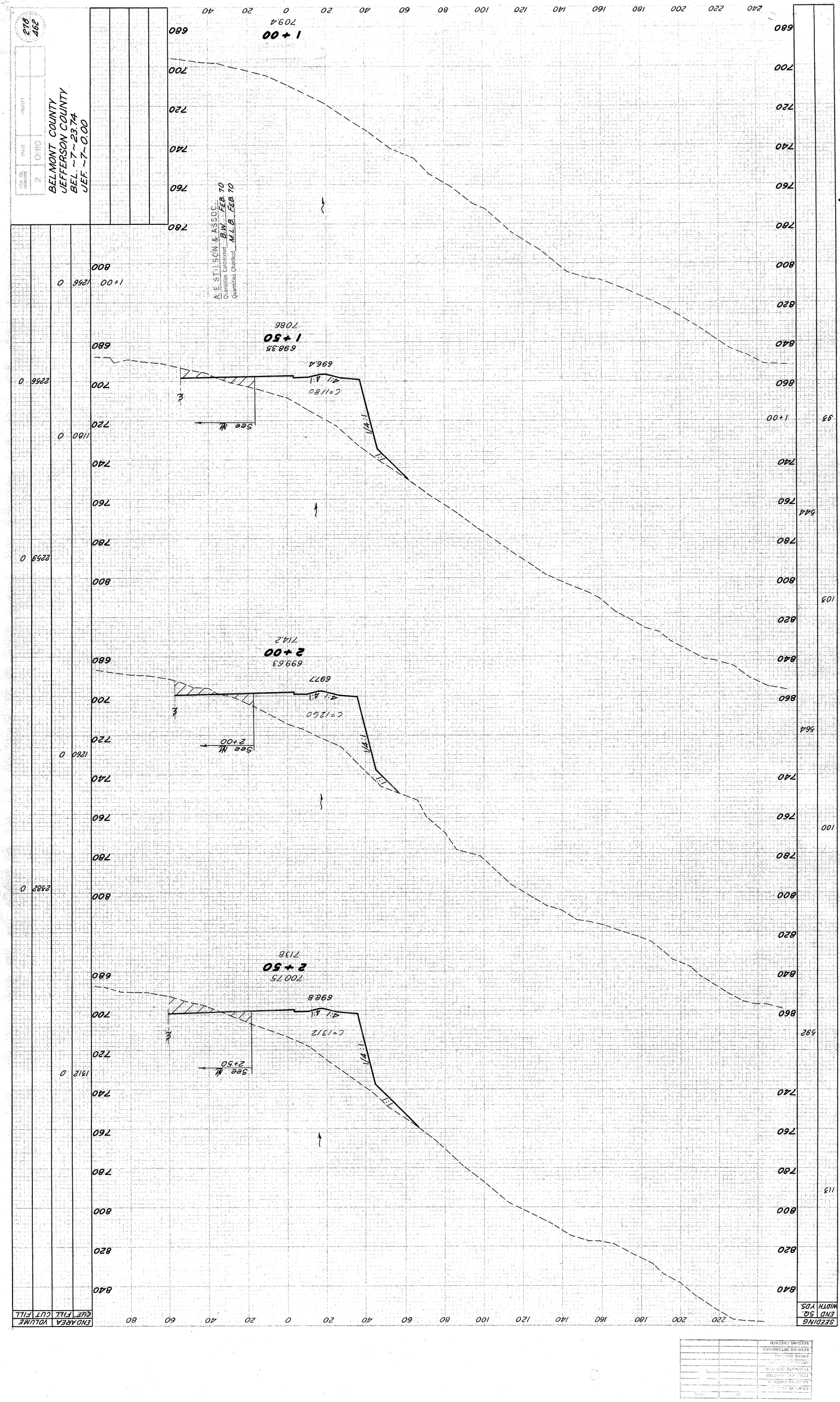
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

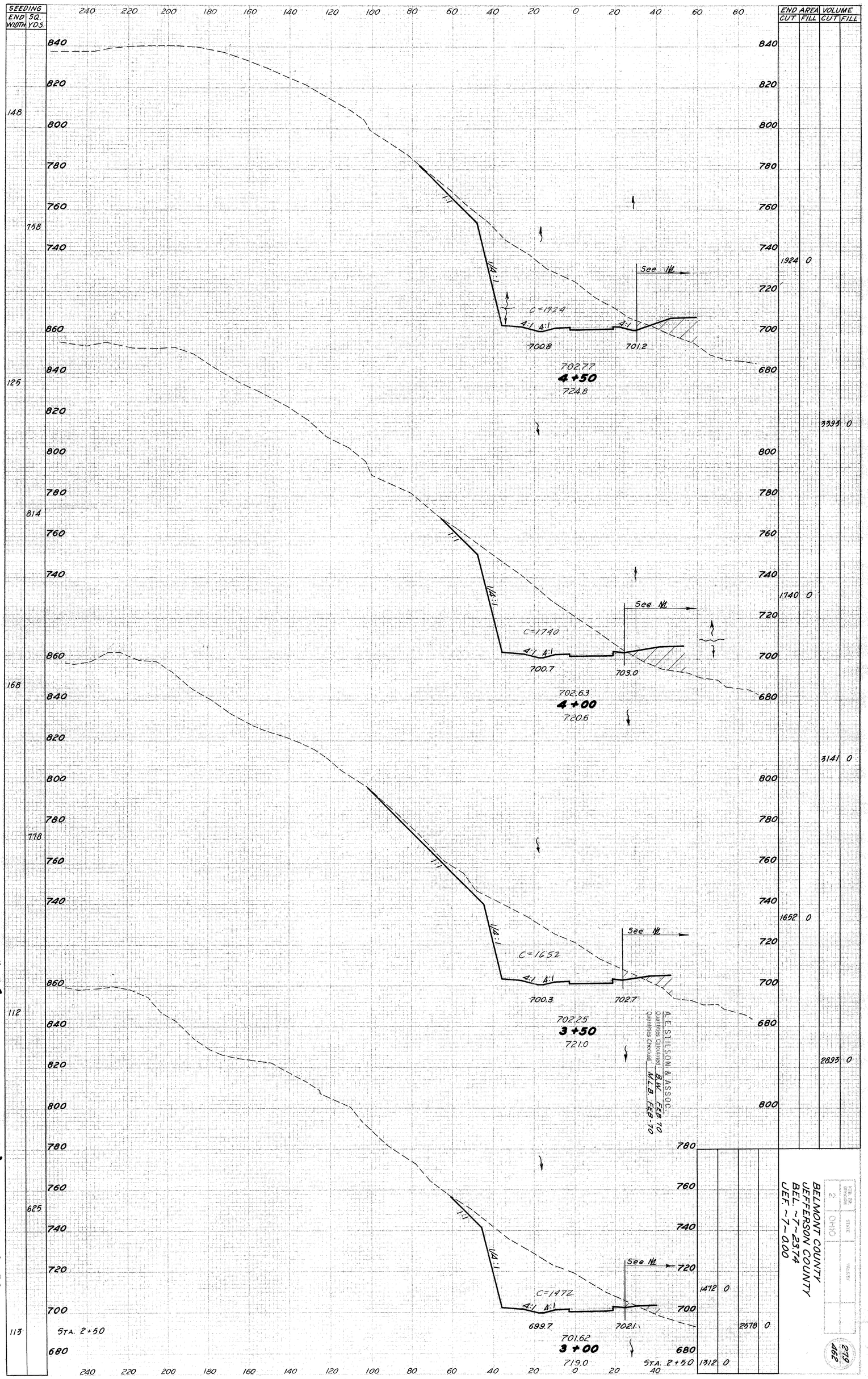
277
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

| Seeding End Sq. Width Yds. | | |


276
462
BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~23.74
JEF. ~7~0.00
A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB 10
Quantities Checked M.L.B. FEB 10
1+00
709.4
1+50
698.35
708.6
696.4
2+00
699.63
714.2
697.7
2+50
700.75
713.8
698.8
See M 1+00
See M 1+50
See M 2+00
See M 2+50
RAMP "A" (PUBLIC RD. ST. INTER.) 1+00 to 2+50
SEEDING
END SQ. YDS.
WIDTH
END AREA
FILL
CUT
VOLUME
FILL
CUT



RAMP "A" (PUBLIC RD. ST. INTER.) 3+00 to 4+50

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

280
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. ~7~ 23.74
JEF. ~7~ 0.00

A. E. STILSON & ASSOC.
Quantities Calculated B.W. FEB. 70
Quantities Checked M.L.B. FEB. 70

END AREA	VOLUME
CUT / FILL	CUT / FILL
1024 / 24	2305 / 22
1552 / 0	3169 / 0
1864 / 0	3626 / 0
2052 / 0	3682 / 0
1324 / 0	

6+50 — 713.7 — 700.89 — 6994 — 698.9 — C=1024 — 4:1 4:1 — 1/4:1 — 1:1 — See Note

6+00 — 701.73 — 700.2 — 699.8 — C=1552 — 4:1 4:1 — 1/4:1 — 1:1 — See Note

5+50 — 724.0 — 702.32 — 700.8 — 700.4 — C=1864 — 4:1 4:1 — 1/4:1 — 1:1 — See Note

5+00 — 720.3 — 702.67 — 701.0 — 700.7 — C=2052 — 4:1 4:1 — 1/4:1 — 1:1 — See Note

4+50 — STA.

SEEDING	
END WIDTH	SQ YDS
94	564
109	655
126	756
157	941
148	

RAMP "A" (PUBLIC RD. ST. INTER.) 5+00 to 6+50

FED. ROAD DIVISION	STATE	PROJECT		281 462
2	OHIO			

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated: B.W. FEB. 70
Quantities Checked: M.L.B. FEB. 70

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
		1024	24
		1481	26
		822	22
		381	48
		67	21

SEEDING END SQ. WIDTH YDS.
62
134
12
303
66
411
84
494
94

Match to Public Rd. 4+00

9+00
699.9
697.86

8+58.22 "A" 22½° "B"
N°s 3 CB (Grate "B")
Gr. 694.50
Inv. 2" 691.00
4-2" @ 22½° Type "B"
PROFILE @ 8+58.50

8+46.42 "A" 12½°
N°s 3 CB (Grate B)
Gr. 693.00
Inv. 21" 689.59 (W)
Inv. 27" 689.09 (N)

8+50
697.1
697.64

8+18 (Back)

8+00
697.5
697.94

See ℄

F=3.8
C=10.0
4:1
4:1
4:1
696.0
696.0

7+50
703.5
698.76

See ℄

F=9.0
C=3½
4:1
2:1
696.8
697.0

7+00
704.5
699.84

See ℄

F=4
C=5.76
4:1
4:1
1:1
697.9
698.3

6+50

Match to Public Rd. 3+00

RAMP "A" (PUBLIC RD. ST. INTER.) 7+00 TO 9+00

	BY	DATE
EXISTING PLOTTED		
EXIST. TC CHECKED		1/6/71
TEMP. TC PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED	BW	1-25-69
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

SEEDING END WIDTH	SEEDING SQ. YDS.
99	533
93	144
81	

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
60	908		
		93	1544
40	160		
		19	407
0+85 (Ahead) 28			

100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

See N1

C=4:1

696.9

F=908

2:1

C=28

C=4:1

668.3

C=32 ℄ Ser. Rd. "B"

Prop. 5' Conc. S.W.

Ser. Rd. "B" Quan.

697.48

1+50

See N1

F=760

2:2:1

C=28

C=4:1

667.5

℄ Ser. Rd. "B"

Ser. Rd. "B" Quan.

697.11

1+00

682.0

0+50, 77' Rt. "D"
№ 5 C.B.
Grate = 667.12
Inv. 15" 665.12

0+31, 118' Rt. "D", Ex. M.H., Top 668.66,
Inv. Ex. 12" S.W. 664.96
Inv. Ex. 12" N. 665.16, Inv. Ex. 15" E. 664.61
Inv. Prop. 15" W. 664.61

46 -15" @ 1.10% Type "B"

Ex. 15"

PIPE PROFILE RT. RAMP "D" 0+50

Sta. 0+85

0+50

686.3

0+00

685.5

BEGIN RAMP "D" CROSS SECTIONS

18+50

697.6

18+00

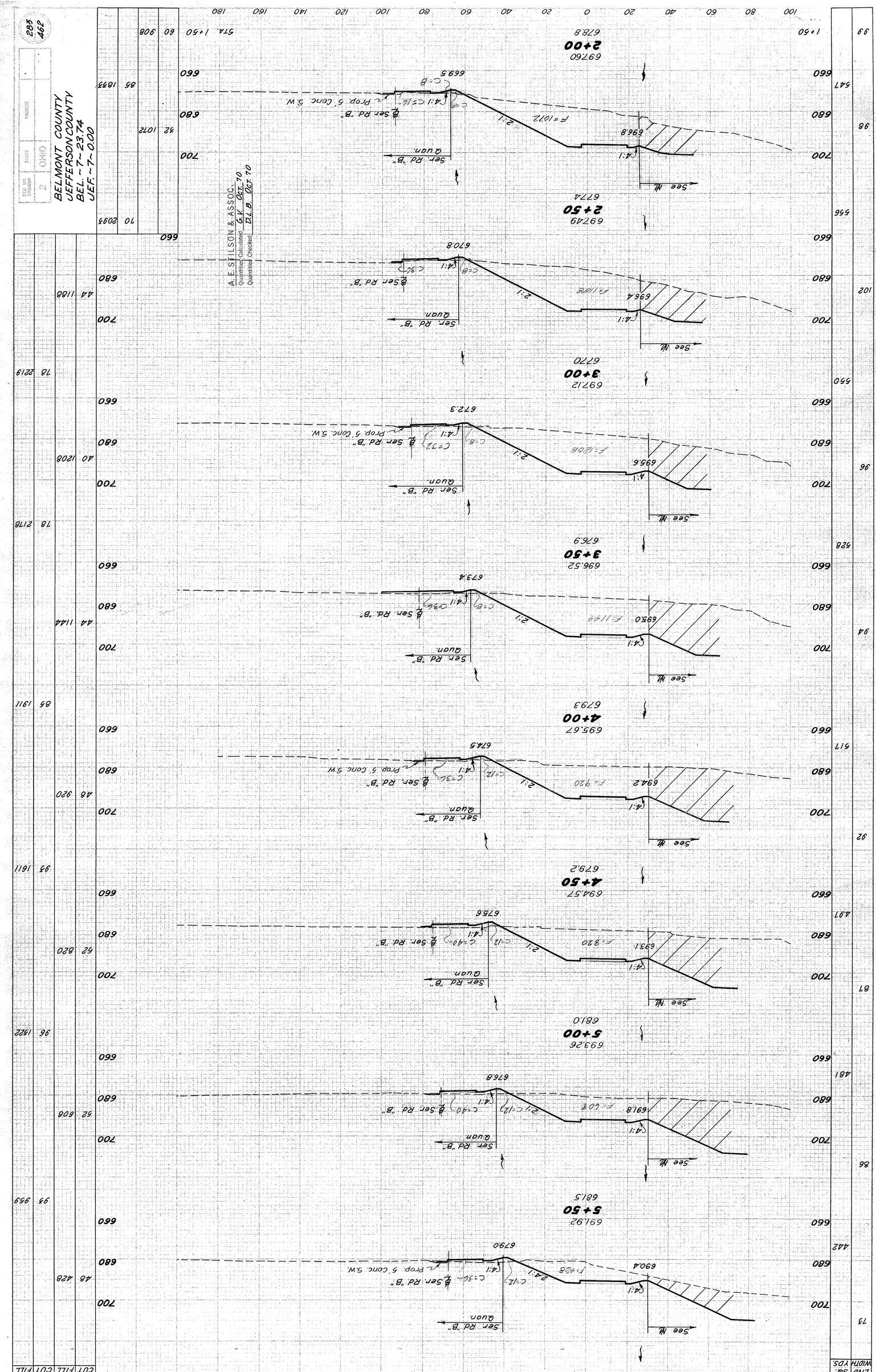
696.5

RAMP "C" (PUBLIC RD. ST. INTER.) 18+00 to 18+50 & RAMP "D" (PUBLIC RD. ST. INTER.) 0+00 to 1+50

A. E. STILSON & ASSOC.
Quantities Calculated GV Oct. 70
Quantities Checked DLB Oct. 70

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

OHIO


RAMP "D" (PUBLIC ROAD ST. INTER) 2+00 to 5+50
BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00
DIST. 2
STATE OHIO
PROJECT
A.E. STILSON & ASSOC.
Quantities Calculated G.V. Oct. 70
Quantities Checked D.L.B. Oct. 70
2+00
697.60
678.8
2+50
697.49
677.4
3+00
697.12
677.0
3+50
696.52
676.9
4+00
695.67
679.3
4+50
694.57
679.2
5+00
693.26
681.0
5+50
691.92
681.5
Ser. Rd "B" Quan.
Prop. 5' Conc. S.W.
See M
SEEDING
END AREA
VOLUME
CUT
FILL
STA 1+50

	BY	DATE
EXISTING PLOTTED		
EXISTING CHECKED		
TEMPLATE PLOTTED		
TEMPLATE CHECKED		
AREAS DETERMINED		
AREAS CHECKED		
SEEDING DETERMINED		
SEEDING CHECKED		

SEEDING END WIDTH	SEEDING SQ. YDS.
88	
	92
88	
	406
58	
	322
58	
	344
66	
	394
76	
	453
87	
	444
73	

RAMP "D" (PUBLIC ROAD ST. INTER.) 6+00 to 9+00

100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200

700 680 660

See Public Rd. 5+86

687.0

688.06
9+00
689.2

8+59.5

See Public Rd. 5+50

F=108 2.6:1 4:1 C=200 4:1

685.6 685.6

687.56
8+50
689.3

See Ml. Ser. Rd. "B" Quan.

℄ Ser. Rd. "B"

4:1 C=92 4:1 4:1 C=80 PROP. 5' CONC. S.W.

685.8 685.4

687.29
8+00
688.9

See Ml. Ser. Rd. "B" Quan.

℄ Ser. Rd. "B"

4:1 C=108 4.6:1 4:1 C=88

686.0 684.1

687.48
7+50
687.9

See Ml. Ser. Rd. "B" Quan.

℄ Ser. Rd. "B"

C=4 4:1 F=44 C=40 4.2:1 4:1 C=60 PROP. 5' CONC. S.W.

686.6 683.4

688.13
7+00
685.9

See Ml. Ser. Rd. "B" Quan.

℄ Ser. Rd. "B"

4:1 F=128 3.5:1 C=110 4:1 PROP. 5' CONC. S.W.

687.7 C=24 682.7

689.24
6+50
684.9

See Ml. Ser. Rd. "B" Quan.

℄ Ser. Rd. "B"

4:1 F=263 2.7:1 C=16 C=52 4:1

689.1 680.9

690.58
6+00
683.1

5+50

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
200	108		
		70	38
200	108		
		344	100
172	0		
		341	0
196	0		
		278	41
104	44		
		220	159
134	128		
		187	362
68	263		
		107	640
48	428		

STA. 5+50

A. E. STILSON & ASSOC.
Quantities Calculated D.L.B. OCT 70
Quantities Checked D.L.B. OCT 70

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

284
462

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

285
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

WATER MAIN AND SERVICE BRANCHES SPECIFICATIONS

All water line work shall be performed in accordance with Department of Highways Supplemental Specification 814 entitled "Item 814 Water Mains and Service Branches" dated 1-1-69. This Specification is modified by the following notes which constitute the Special Provisions of Supplemental Specification 814. The figures or letters in parenthesis in the notes refer to the section of Supplemental Specification 814 which is being modified. In all cases of conflict with Supplemental Specification 814, these notes shall govern.

STATUS OF CITY AND VILLAGE INSPECTORS

Inspectors, as designated by the respective City and Village Departments, are authorized to inspect all work done and materials furnished. City and Village inspection shall extend to all or any part of the Water Work and to the preparation or manufacture of materials incorporated in the Water Work. All instructions shall be worked through and coordinated with the Project Engineer.

EXISTING 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 does not guarantee their accuracy or completeness.

The Contractor shall make such investigations as are necessary to determine the extent to which existing surface, subsurface, or overhead structures may interfere with the prosecution of the work.

CONNECTIONS TO EXISTING PIPE

At places where the plans provide for proposed or new pipe to be connected to existing pipe, 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 new pipe. The cost of this operation shall be included in the unit price bid for the pertinent pipe item. Connections to existing pipe may be made with leaded sleeved or pipe couplings where mechanical joints are not practical.

NIGHT AND WEEK END CONNECTIONS

It may be necessary that certain main line connections be made at night and/or on weekends. The respective City or Village Water Departments shall determine the time and place of such connections and the Contractor shall be responsible for making these connections in the time allotted. No extra payment will be made for any work required under this note.

Night and/or weekend work will be ordered only when such work must be done at these times in order to protect the water supply at the respective City or Village.

REMOVAL OF VALVES AND HYDRANTS

All existing valves, valve boxes and fire hydrants within the limits of the work or right of way that are designated for being removed and disposed of shall be removed in accordance with the requirements for Item 814 - Fire Hydrants Removed and Disposed Of. They shall become the property of the Contractor and shall be disposed of by him. Payment will be made at the contract unit price bid per Each "Item 814 - Valves and Valve Boxes Removed and Disposed OF" and "Item 814 - Fire Hydrants Removed and Disposed of".

REMOVAL OF EXISTING WATER MAIN

The removal and disposal of the water main and fitting designated for removal on the plans shall be done in accordance with the requirements of Item 202 - Pipe Removed. The pipe and fittings indicated for removal shall become the property of the Contractor and shall be disposed of by him.

Payment will be made at the contract unit price bid per linear foot for "Item 814 - Removing Water Mains and Branches" of the sizes indicated.

PAINTING

All pipe accessories such as tie rods, nuts, bolts, straps, etc., which are not encased in concrete shall be painted with a bitumastic paint such as Inertol No. 66, Koppers Bitumastic 50, or approved equal.

WORKING OR OPERATING PRESSURES

Martins Ferry and Yorkville - 150 psi.

CUTTING AND PLUGGING PIPE

The Contractor shall do the excavating, sheeting and bracing, cutting into and removing pipe, plugging or capping pipe, tees, crosses at the mains, branches and service lines with cast iron, malleable iron, wrought iron or copper caps or plugs with clamps and concrete piers, backfilling and surface restoration.

Payment will be made at the contract unit price bid per each Item 814 - Plugging Existing Water Mains and Service Branches of the Sizes Specified, which shall constitute full compensation for performing all the requirements of this item complete and in place.

SERVICE BRANCHES RECONNECTED

The Contractor shall perform all of the work consisting of excavating, furnishing and installing 3/4" copper service piping, fittings and corporation cock, reconnecting new service piping with existing service piping, backfilling and surface restoration.

Payment will be made at the contract unit price bid per linear foot for Item 814 - 3/4" Service Branches (Copper) Reconnected, which shall constitute full compensation for the furnishing of all labor, material, small tools and equipment necessary to complete this item of work.

REMOVING AND DISPOSING OF TEMPORARY WATER MAINS

The removing and disposing of the temporary water mains shall be done in accordance with the requirements of Item 202 and payment will be made at the contract unit price bid per linear foot for "Item 814 - Removing Temporary Water Main Pipe, Fittings, Anchors, Concrete Piers and Appurtenances, of the sizes specified. The temporary pipe, fittings, anchors, concrete piers and appurtenances indicated for removal shall become the property of the Contractor and shall be removed and disposed of by him.

MATERIALS (814.02)

(a) Cast Iron Pipe. Cast iron pipe for water mains sizes 4" thru 8" shall conform to ASA A21.6 or ASA A21.8. ASA thickness classes 22 and joints for all pipe shall be push-on type conforming to ASA A21.11.

At the following locations, 8" Cast Iron Pipe ASA Class 23 push-on-joints shall be used:

Sta. 1271+80 to Sta. 1274+50
Sta. 1275+20 to Sta. 1277+80
Sta. 1303+00 to Sta. 1303+83.5

8" Cast Iron Pipe ASA Class 24 Push-on-joints shall be used from Sta. 1274+50 to Sta. 1275+20.

Cast Iron Pipe Fittings. All iron pipe fittings shall be mechanical joint conforming to ASA A21.10, 250 psi pressure rating.

(d) Valves and Hydrants. All valves and hydrants shall conform to the following:

Martins Ferry - Valves. Darling Fig. No. 55; Mechanical Joint Ends, NRS, "O" Ring Seals and "open-left" (counterclockwise).

Fire Hydrants. Darling B-50-B, 8-1/2" Barrel, 5-1/4" Valve Opening, 6" M.J. inlet connection, one 4-1/2" pump nozzle, two 2-1/2" hose nozzles, "open-right", 4 feet cover.

Yorkville - Valves. Meuller AWWA Fig. No. A-2380-20; Mechanical Joint Ends, NRS, "O" Ring Seals and "open-left" (counter-clockwise).

Fire Hydrants. Rensselaer 5 inch valve opening. One 4-1/2" pumper nozzle, two 2-1/2" hose nozzles, 6" MJ inlet connection, 4 feet cover.

(f) Cement Mortar Lining. All cast iron pipe and fittings shall be cement mortar lined, standard thickness, conforming to ASA 21.4.

(g) Steel Casing Pipe. Steel for casing pipe shall conform to ASTM A139-64, Grade B. Thickness and diameter is shown on the plans.

Item 707.11
(h) Nickel-Copper Alloy Steel Water Pipe and Casing pipe. Nickel Copper Alloy Steel for 2" Water Main, Casing Pipe and Pipe Couplings shall conform to ASTM A53-69, minimum ASA Schedule 40.

(u) Item 707.08 Welded and Seamless Steel Pipe and Couplings A.S.T.M. A-53, Schedule 40. The fittings shall be American Standard 250 Lb. Cast Iron, Screwed, A.S.A. B 16d.

WATER LINE NOTES

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

NOTIFICATION (814.04)

The Contractor shall notify the State of Ohio, Department of Health and the respective City and Village Water Departments before beginning any work under this Specification.

LAYING PIPE (814.06)

Casing pipe shall be installed by the jacking and boring method and to the lines and grade as shown on the plans. All joints shall be welded completely in accordance with the requirements of Item 513.23.

BLOCKING, BACKING AND ENCASING (814.06)-NEW WATER MAINS

No separate payment will be made for work done in accordance with Item 602 - Masonry but paid for under Item 814 and shall include material conforming to Item 711 such as reinforcing steel, tie rods, nuts, bolts, spacers, strapping, steel backing plates, concrete and timber blocking, as called for in the details. Concrete shall be Class C. Cost shall be included with the contract unit price bid for Item 814 - New Water Mains.

HYDROSTATIC TEST (814.07)

The hydrostatic test shall be made as specified under Alternate "A". The cost of all test plugs, caps, taps and blocking on pipe tested prior to connection to existing mains shall be included in the unit price bid per linear foot for Item 814 - New Water Mains.

NEW COPPER SERVICE BRANCH IN NICKEL-COPPER ALLOY STEEL CASING PIPE, 707.11

Payment for furnishing and installing new Copper Service Pipe in Nickel-Copper Alloy Steel Casing Pipe will be made at the contract unit price bid per linear foot for "Item 814 - New Copper Service Branch in Steel Casing Pipe 707.11 , as per plan", of the size indicated.

Payment for Steel Casing Pipe made under Item 814 - Furnishing and Installing Steel Casing Pipe 707.11 as per plan.

NICKEL - COPPER ALLOY STEEL CASING PIPE, 707.11

The contractor shall furnish all materials, labor, equipment and tools necessary for the installation of Nickel - Copper Alloy Steel Casing Pipe complete and in place by the open cut method and as approved by the Engineer.

The ends of the casing pipe shall be sealed as shown on the plans.

Payment will be made at the contract unit price bid per linear foot for "Item 814 - Furnishing and Installing Steel Casing Pipe 707.11, as per plan", of the size indicated.

NEW WATER MAIN IN STEEL CASING PIPE

Payment for installing the new water main in Steel Casing Pipe will be made at the contract unit price bid per linear foot for Item 814 - New Water Main Cast Iron Pipe ASA Class 22 in Steel Casing Pipe, as per plan.
Payment for Steel Casing Pipe made under Item 814 - Furnishing and Installing . . . . Steel Casing Pipe A.S.T.M. A-139 Grade B.

STEEL CASING PIPE

The Contractor shall furnish all materials, labor, equipment and tools necessary for the installation of the Steel Casing Pipe complete and in place by the jacking and boring method as approved by the Engineer.

The voids between the outside of the water main and the inside of the casing pipe shall be hydraulically filled with sand or pea gravel.

Wood blocking skids and masonry bulkheads shall be furnished and installed as detailed on Sheet No. 287. Payment will be made at the contract unit price bid per linear foot for "Item 814 - Furnishing and Installing Steel Casing Pipe A.S.T.M. A-139 Grade B as per plan" of the sizes indicated.

NEW WATER MAIN - CONCRETE ENCASED

Concrete encasement work of the new water mains shall be done in accordance with the requirements of Item 603.05.

Payment for concrete encasement work and new water main in place, complete will be made at the contract unit price bid per linear foot for "Item 814 - New Water Main, Cast Iron Pipe, ASA Class 22, Encased in Concrete, as per plan", of the sizes indicated.

TEMPORARY WATER MAINS

Temporary water mains as shown on the plans are to provide continuous water service during the various phases of construction. When temporary mains are utilized, some will be abandoned in place and others shall be removed and disposed of by the Contractor. Mains placed on the surface of the ground as indicated shall be done in non-freezing temperatures. It is anticipated that completion of permanent mains will be accomplished before freezing weather begins. The Contractor shall furnish all material and labor and be responsible for maintenance and protection of these mains while in service as temporary mains. A sequence of construction is indicated on the plans for each temporary main to be installed.

Payment will be made at the contract unit price bid per linear foot for Item 814 - 2" Temporary New Water Main Welded Steel Pipe 707.08 as per plan and Item 814 - 8" Temporary New Water Main Cast Iron Pipe ASA Class 22, Push-on-joints, as per plan, which shall constitute full compensation for the furnishing of all labor, material, small tools and equipment required to complete this item of work.
Pipe Fittings, Anchors, Concrete Piers and Appurtenances shall be included in contract prices bid for the above items of work.

See Stability Blocking Detail for 8" Temporary Water Main on Sheet No. 287.

VALVE BOX ADJUSTED TO GRADE

This work shall consist of resetting existing valve box to grade at the locations shown on the plans or as directed by the Engineer.

The Contractor shall carefully excavate around the valve box without injuring the box, valve or pipe and reset the telescope, base and hood. If it is necessary to adjust the existing valve box beyond its design limits, an extension shall be furnished and installed. After the valve box has been adjusted to grade, the backfilling and surface restoration work shall be completed.

Payment will be made at the contract unit price bid for Each "Item 814-Valve Box Adjusted to Grade" which price and payment shall constitute full compensation for the furnishing of all labor, materials, small tools and equipment required to complete this item of work in place.

WATER LINE NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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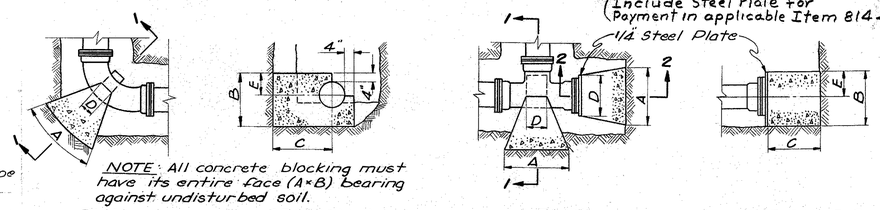
BELMONT COUNTY
JEFFERSON COUNTY
BEL - 7 - 23.74
JEF - 7 - 0.00

THRUST BLOCKING DETAILS
FOR BENDS IN HORIZONTAL PLANE

(Include Steel Plate for Payment in applicable Item 814 - Water Mains)



NOTE: All concrete blocking must have its entire face (A×B) bearing against undisturbed soil.

PLAN
90°, 45°, 22½°, 11¼°

SECTION 1-1

PLAN
DEAD END OR TEE

SECTION 2-2

WORKING PRESSURE 150 psi (MARTINS FERRY & YORKVILLE)

TABLE OF DIMENSIONS

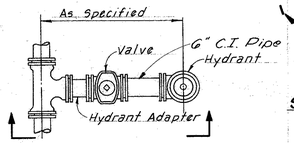
DIAM.	11¼° BEND			22½° BEND			45° BEND			90° BEND			TEE-DEAD END		
	A	B	C.Y.	A	B	C.Y.	A	B	C.Y.	A	B	C.Y.	A	B	C.Y.
4"	—	—	—	—	—	—	1'-0"	1'-0"	008	1'-6"	1'-0"	0.10	1'-1"	1'-0"	008
6"	—	—	—	1'-0"	1'-0"	008	1'-7"	1'-2"	0.12	2'-6"	1'-4"	0.17	1'-10"	1'-4"	0.15
8"	1'-0"	1'-0"	007	1'-5"	1'-2"	0.11	2'-5"	1'-4"	0.17	2'-7"	1'-8"	0.23	2'-6"	1'-8"	0.23
10"	1'-2"	1'-0"	009	1'-4"	1'-4"	0.15	3'-0"	1'-8"	0.25	4'-3"	2'-2"	0.44	3'-4"	2'-0"	0.32

DIMENSION "C"
4'-10" Diam. = 2'-0"

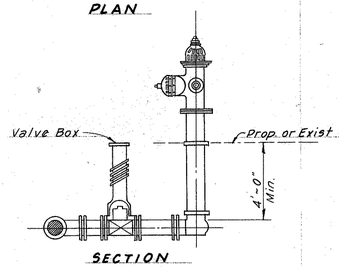
DIMENSION "D"
4'-10" Diam. = 1'-0"

DIMENSION "E"
For all diameters
E = D/2+4

TYPICAL HYDRANT CONNECTION

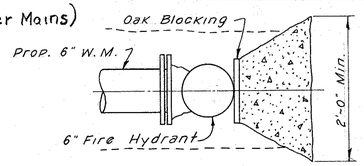


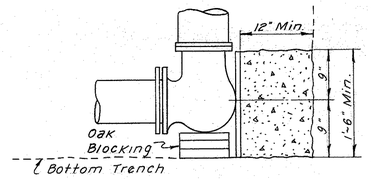
PLAN



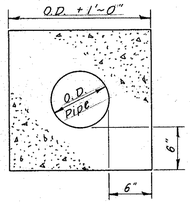
SECTION

TYPICAL HYDRANT BLOCKING





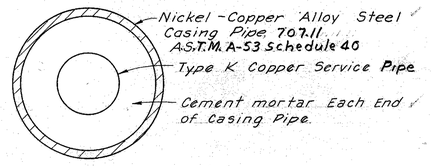
CONCRETE ENCASEMENT CAST IRON PIPE



SECTION

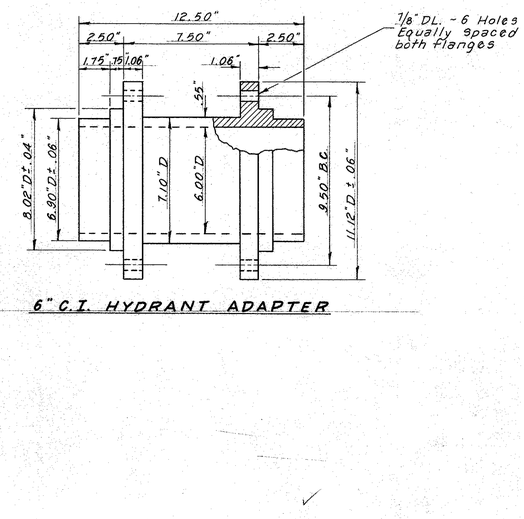
NOM. DIAM.	C.Y./L.F.
4	0.07
6	0.08
8	0.10
10	0.11
12	0.13

NOTE: O.D. OF PIPE SHOWN IS THAT OF PIPE BARREL ONLY.



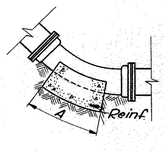
NOTE: Mortared Ends of Casing Pipe shall be included in the Unit Price Bid for Nickel-Copper Alloy Steel Casing Pipe

SERVICE PIPE CASING PIPE DETAIL

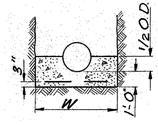


6" C.I. HYDRANT ADAPTER

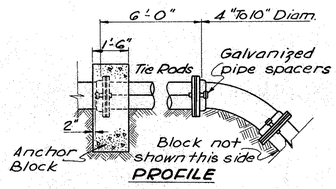
THRUST BLOCKING DETAILS
FOR BENDS IN VERTICAL PLANE



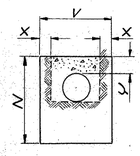
PROFILE



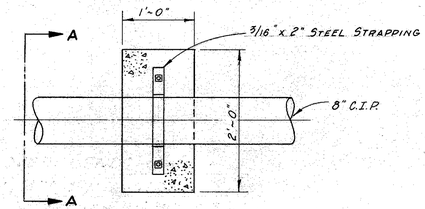
SECTION



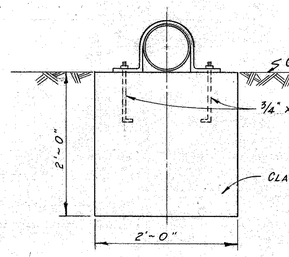
PROFILE



SECTION

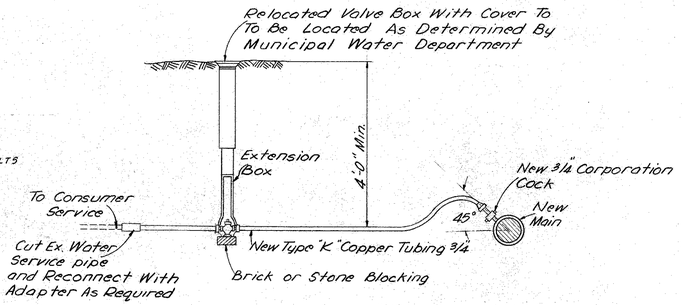


PLAN



VIEW A-A

STABILITY BLOCKING DETAIL
FOR TEMPORARY 8" WATER LINE



RECONNECTION OF SERVICE BRANCH AND RELOCATION OF CURB STOP AND SERVICE BOX

Valve Size	"L"
6"	17"
8"	20"
12"	24"



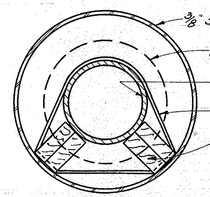
CONCRETE VALVE SUPPORT
Scale: 1" = 1'-0"

OVER BENDS

11¼°, 22½°, 45°, 90° BENDS					
X	V	Y	N	C.Y.*	TIE RODS - No & SIZE **
1'-0"	4'-3"	1'-0"	2'-4"	0.55	2 - 3/4" ϕ
1'-0"	4'-6"	1'-0"	2'-6"	0.61	2 - 3/4 ϕ
1'-0"	4'-8"	1'-0"	2'-8"	0.67	2 - 3/4 ϕ
1'-0"	4'-10"	1'-0"	3'-2"	0.85	4 - 3/4" ϕ

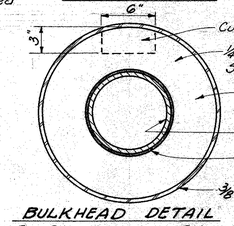
SAG BENDS

DIAM.	11¼° BEND			22½° BEND			45° BEND		
	A	W	C.Y.	A	W	C.Y.	A	W	C.Y.
4"							0'-8"	1'-0"	00
6"				0'-8"	1'-0"	005	1'-0"	2'-5"	0.11
8"	0'-8"	0'-10"	00	1'-0"	2'-0"	0.09	1'-8"	2'-8"	021



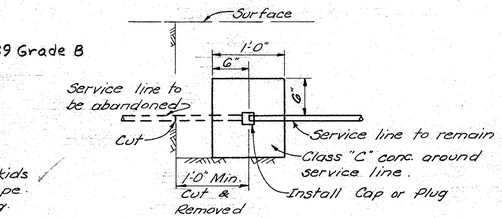
SKID DETAIL

NOTE: Bulkheads and skids shall be included in the price bid for "Steel Casing Pipe".

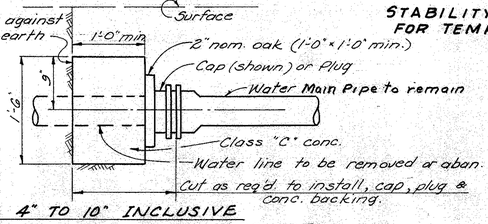


BULKHEAD DETAIL

CASING PIPE SKID AND BULKHEAD DETAILS



LINES LESS THAN 4"



WATER MAIN PIPES 4" TO 10" INCLUSIVE

CUTTING AND PLUGGING DETAILS

WATER LINE DETAILS

ITEM 814

	Remove & Dispose Gate Valve & Box	Remove & Dispose Fire Hydrant	Remove & Dispose W.M. & Misc.	New 8" W.M. Cast I.P. Cl. 52 Push-On Joint	New 8" W.M. Cast I.P. Cl. 52 Mech. Joint	New 8" W.M. Cast I.P. Cl. 52 Push-On Joint Encased in Concrete	New 8" W.M. Welded Steel Pipe Cl. 52 Push-On Joint	New 8" W.M. Welded Steel Pipe Cl. 52 Mech. Joint	New 8" W.M. Welded Steel Pipe Cl. 52 Push-On Joint Encased in Concrete	New 8" W.M. Welded Steel Pipe A.S.A. 3/8 x .18 Steel Casing Pipe	New 8" W.M. Welded Steel Pipe A.S.A. 3/8 x .18 Steel Casing Pipe Encased in Concrete	New Gate Valve & Box	New Gate Valve & Box	Cut & Plug Ex. Main	Fire Hydrant Complete with 6" Gate Valve & Box	Remove & Dispose Of Ex. 14" Casing Pipe & C.I. Water Main	Concrete Backing	Bends				Tees				Plug Existing Valve Box Adjusted To Grade	
	8"	6"	6"&8"	8"	6"	2"	2"	8"	8"	6"		8"	6"	8"	6"				6"	8"	8"	6"	8"				8"	8"
	Ea.	Ea.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	Ea.	Ea.	L.F.	C.Y.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.
I-I	3⊠	1⊛	50 ⊛																								
I-II	2 ⊛		30 ⊛														35 ⊛										
I-III			22FT 30DEG					10 ⊛	72 ⊛		72 ⊛	1⊠	1⊠	1⊠			385			4		4	1					
I-IV			162 ⊛ 194 ⊛	35								1⊠	1#	1#			672		1	1		2		1		1		
I-V			64 ⊛									1⊠		1⊠														
I-VI				184 ⊛				88 ⊛		88 ⊛							032		1			1			1		
I-VII				102 ⊛	102 ⊛																							
I-VIII																											1⊠
TOTAL U-RF-430 (15) ⊠	3	1	50	915				10	72		72	3	1	2														1
TOTAL RF-430 (15) †				194	35								1		1													
TOTAL 100% MARTINS FERRY ⊛	2		30	300	184	102	102			88		88					35											

For 8" Water Main Profile along S.R. 7 See Sheet No. 296
For 8" Water Main Profile Crossing Mainline, See Sheet No. 298
For 8" Water Main Profile Along Access Rd. "A" See Sheet No. 298
For 6" Water Main Profile Crossing Mainline and Along T.R. 536 Reloc. See Sheet No. 298

* Estimating Purposes Only
** Welded Steel Pipe 70708

CONSTRUCTION SEQUENCE

Temporary Connection New 8" W.M. to be left in place - Access Rd. "A"
Install New 8" W.M. along NW to 8"x8" Tee at Sta. 1264+60 49'± Lt.

Install Temp. New 8" W.M. as shown to Sta. 1265+24± 49'± Lt. Connect to Ex. 8" W.M., Cut & Plug as shown.
Upon completion of embankment for Access Rd. "A" and Drives, complete the installation of 8" & 6" W.M.
Close Gate Valve when 8" Temporary Connection is no longer needed for Service
For Construction Sequence for S.R. 798 & T.R. 536 see Sheet # 287

WATER LINES TO BE ABANDONED

I-A Ex. 8" W.M. NW Sta. 1258+34 Lt. to 1264+60 Rt. & 1265+23 Lt.
I-B Ex. 8" W.M. Access Rd. "A" Lt. & Rt.
I-C Ex. 6" & 2" W.M. S.R. 7, S.R. 798 and T.R. 536

WORK TO BE DONE

I-I Remove & Dispose Ex. Gate Valves, Hydrants & W.M.
I-II Remove & Dispose Ex. Gate Valves, Casing Pipe & W.M. in Casing Pipe
I-III Install New 8" W.M. Gate Valves & Casing Pipe as shown. (NW)
I-IV Install New 8" & 6" W.M., Gate Valve, Fire Hydrant.

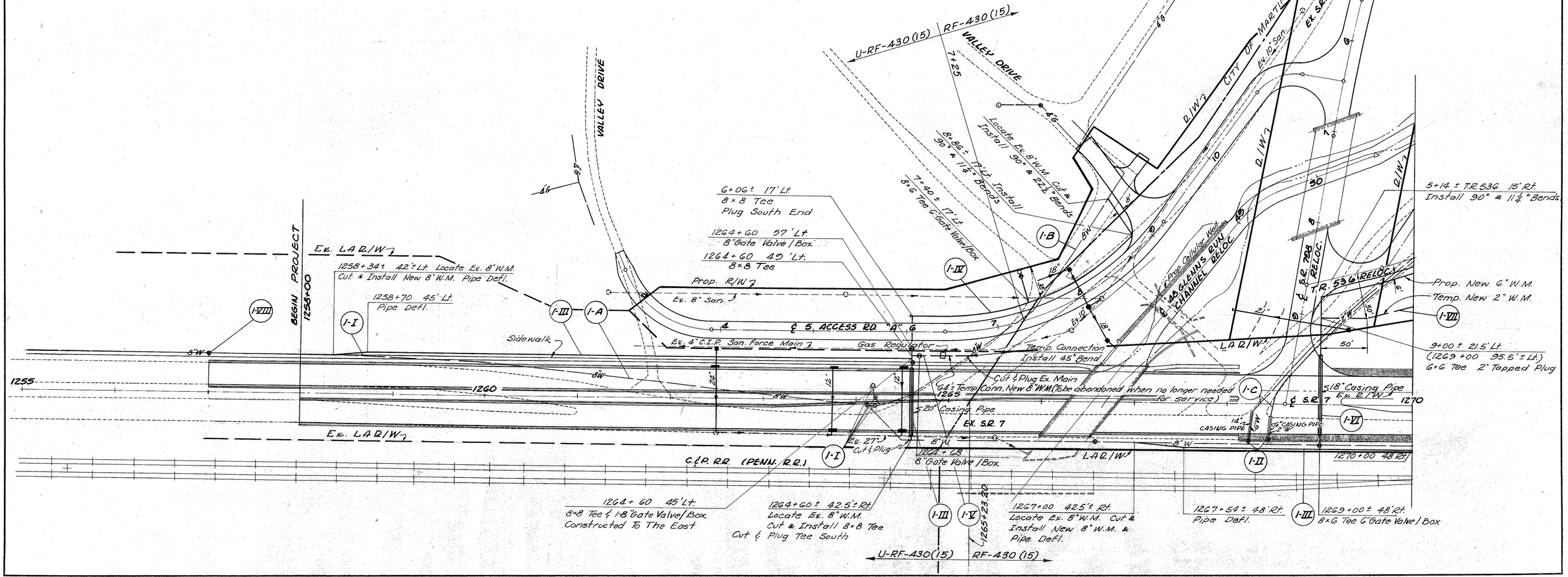
I-V Install Temp. New 8" W.M. Connection as shown and noted in Construction Sequence
I-VI Install New 6" W.M. & Casing Pipe as shown (S.R. 798 & T.R. 536) and as noted.
I-VII Install Temp. New 2" W.M. as shown and noted in Construction Sequence.
I-VIII Adjust Exist. Valve Box to Grade

A. E. STILSON & ASSOC.
Quantities Calculated R.A.S. July 1969
Quantities Checked F.O. Nov. 1970
Rev. Fo. 6-74
Rev. Ck. J.R.F. 6-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

288 / 462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



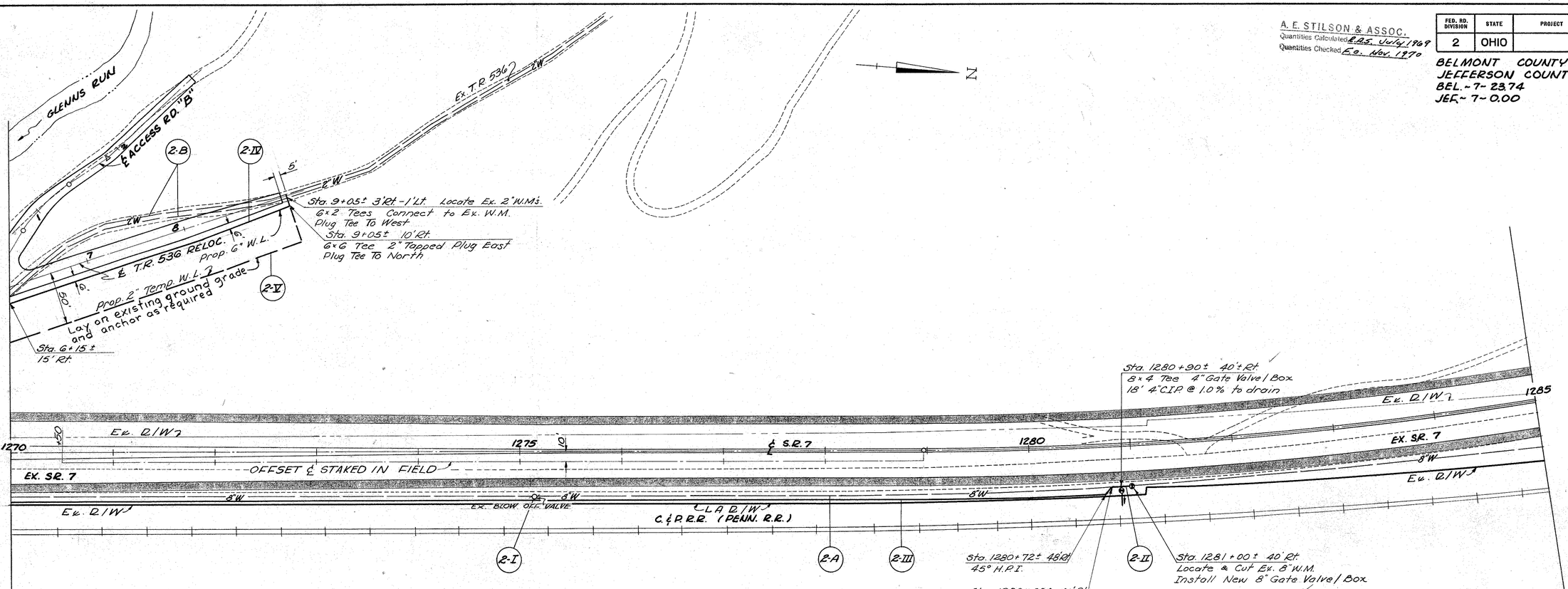
WATER PLANS 1255+00 to 1270+00

A. E. STILSON & ASSOC.
Quantities Calculated R.A.S. July 1969
Quantities Checked E.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

289
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



CONSTRUCTION SEQUENCE

T.R. 536 and S.R. 798 (This sheet and sheet # 288)

Install New 6" W.M. to 6×6 Tee at Sta. 9+00 21.5'± Lt. S.R. 798 plug West end of Tee.
Install New 2" Temporary W.M. and New 6" W.M. to Sta. 9+05± 1'± Lt. T.R. 536 connecting New 6" W.M. to existing 2" W.M.'s. Plug 6×6 Tee at Sta. 9+05± 10' Rt. T.R. 536 at North End.
Relocate Temporary W.M. along the ground surface as required during the excavation for T.R. 536 to maintain water service.
Upon completion of required excavation; Install New 6" W.M. from 6×6 Tee at Sta. 9+00 21.5'± Lt. S.R. 798 to 6×6 Tee at Sta. 9+05± 10' Rt. T.R. 536. Disconnect, remove & dispose of Temporary W.M. from tees and plug.

WATER LINES TO BE ABANDONED

2-A Sta. 1270+00 to 1281+00 Rt.
2-B Sta. 6+20± to 9+05± Rt. T.R. 536

WORK TO BE DONE

2-I Remove and Dispose of Existing Valve
2-II Remove and Dispose of Existing 8" W.M.
2-III Install New 8" W.M. ASA Thickness Classes 22, 23 & 24 (See Profile)
2-IV Install New 6" W.M. T.R. 536 Connect to existing 2" W.M.'s.
2-V Install New 2" Temporary W.M. T.R. 536 as indicated.

NOTES

For Profile New 6" W.M. (T.R. 536) See Sheet # 298
For Profile New 8" W.M. (NB) See Sheet # 296 & 297

*Estimating Purposes Only

ITEM 814 *

	New W.M. Cast Iron Pipe A.S.A. Cl.-22	New W.M. Cast Iron Pipe A.S.A. Cl.-22	New W.M. Cast Iron Pipe A.S.A. Cl.-22	Temp. New W.M. Welded Steel Pipe of 707.08 Removed and Disposed of	New W.M. Cast Iron Pipe A.S.A. Cl.-23	New W.M. Cast Iron Pipe A.S.A. Cl.-24	New W.M. Cast Iron Pipe A.S.A. Cl.-22 Encased in Concrete	Gate Valve/Box	Gate Valve/Box	Remove & Dispose Of Ex. Gate Valve	Remove & Dispose Of Ex. Water Main	New W.M. Cast Iron Pipe A.S.A. Cl.-22 Encased in Concrete	Temp. New W.M. Welded Steel Pipe 707.08	Concrete Backing	Bends 22½°	Bends 22½°	Bends 45°	Bends 8×4	Bends 6×6	Bends 6×2	Tees Plug 6"×6" Tee
	4"	6"	8"	2"	8"	8"	8"	4"	8"	8"	8"	6"	2"		8"	6"	8"				6"
	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	Ea.	Ea.	L.F.	L.F.	L.F.	C.Y.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.
2-I										1											
2-II											25										
2-III	18		490		530	70	10	1	1					320	4		2	1			
2-IV		292										10		300		4			1	2	2
2-V				340									340								
TOTAL TO GEN. SUM.	18	292	490	340	530	70	10	1	1	1	25	10	340								

NOTE: ALL QUANTITIES THIS SHEET IS 100% PARTICIPATION BY CITY OF MARTINS FERRY.

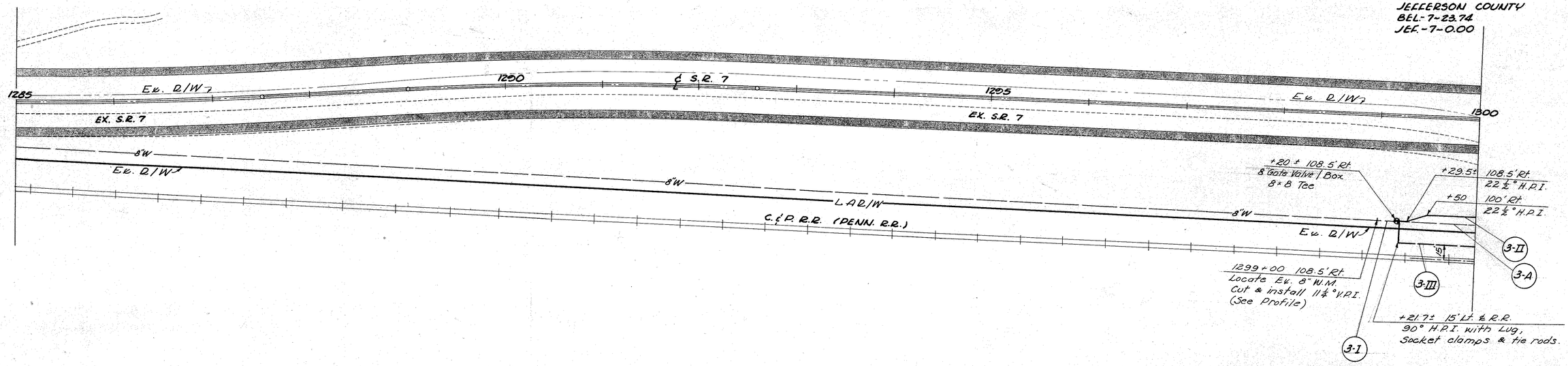
WATER PLANS 1270+00 to 1285+00

A. E. STILSON & ASSOC.
Quantities Calculated R.B.S. July 1969
Quantities Checked E.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

290
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



NOTE

New 8" W.M. Profile shown on this sheet.
New Temporary 8" W.M. Profile shown on Sheet No. 291

WATER LINES TO BE ABANDONED

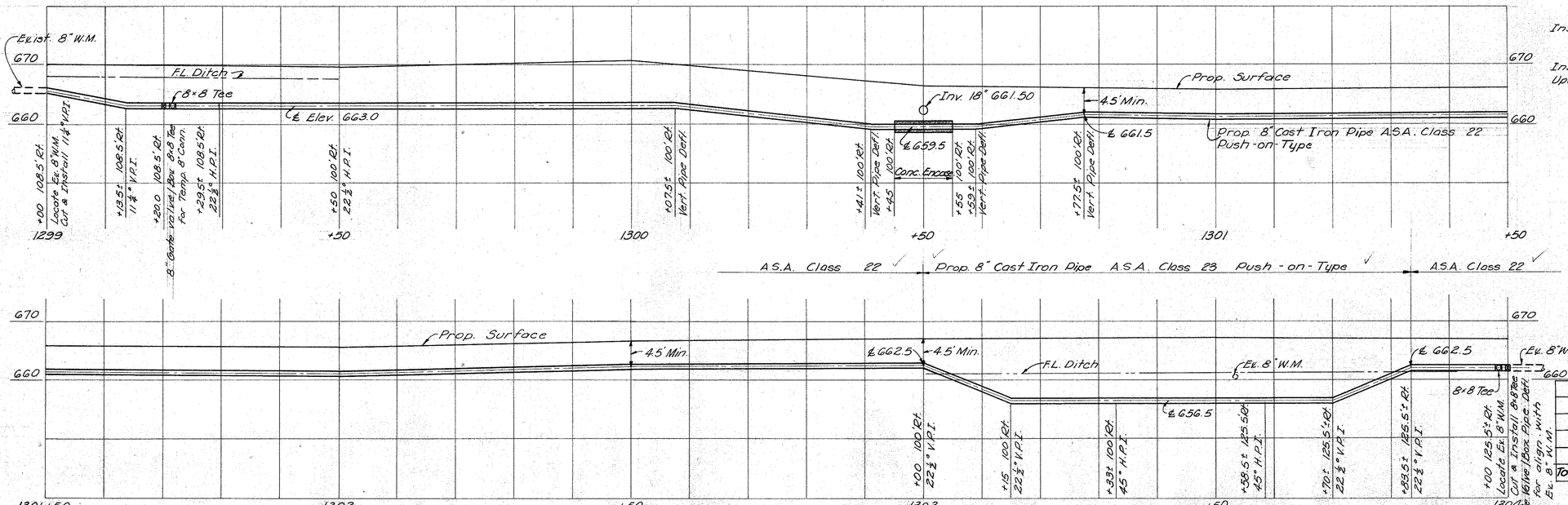
3-A Existing 8" W.M. Sta. 1299+00 to Sta. 1300+00, 108.5' Rt.

WORK TO BE DONE

3-I Remove and dispose of existing 8" W.M. Sta. 1299+00 to Sta. 1299+30.
3-II Install New 8" W.M. Sta. 1299+00 to Sta. 1300+00.
3-III Install Temporary New 8" W.M. Sta. 1299+21.7± to Sta. 1300+00

CONSTRUCTION SEQUENCE

Install New 8" W.M. and 8" G.V. from Sta. 1299+00 to 8"x8" Tee at Sta. 1299+21.7±. Plug North end of Tee.
Install New 8" G.V. at Sta. 1304+00 and 8"x8" Tee at Sta. 1303+98.2± (Sheet No. 291) plug South end of Tee.
Install New Temporary 8" W.M. as shown.
Upon completion of the removal of existing S.R. 7 Structure, install New 8" W.M. between 8"x8" Tees at Sta. 1299+21.7± and Sta. 1303+98.2±. Remove plugs and connect to Tees. Disconnect the New Temporary 8" W.M. at Tees and Plug. Remove and dispose of New Temporary 8" W.M.



NEW 8" WATER MAIN PROFILE

* Estimating Purposes Only

ITEM 814	New Water Main Cast Iron Pipe A.S.A. Cl. 22	Temp. New Water Main Cast Iron Pipe A.S.A. Cl. 22	Gate Valve & Box	Remove Ex. Water Main	Temp. New W.M. Cast Iron Pipe A.S.A. Cl. 22	Removed & Disposed of	Concrete Backing	Bends 11¼°	Bends 22½°	Tee 8" Lug & Socket Clamps	Tee 8x8
	8" L.F.	8" L.F.	8" Ea.	8" L.F.	8" L.F.	CY	Ea.	Ea.	Ea.	Ea.	Ea.
3-I				30							
3-II	102.		1			18	8	2	2		1
3-III		101.			101.					1	
TOTAL TO GEN. SUM.	102.	101.	1	30	101.						

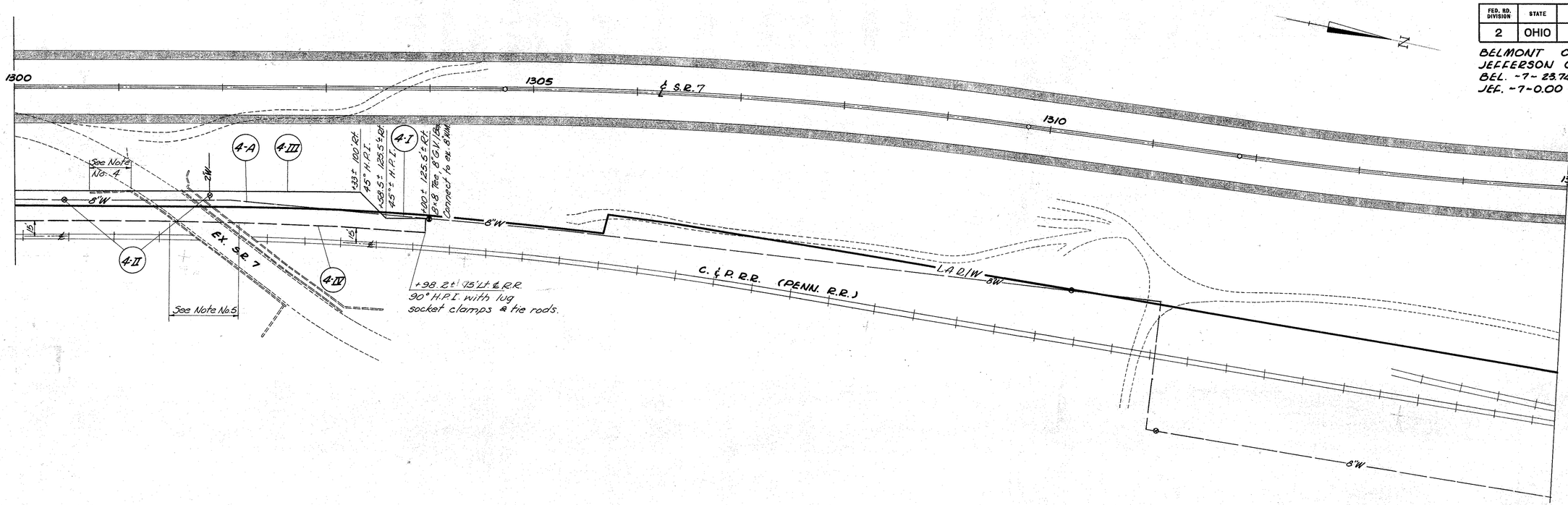
WATER PLANS 1285+00 to 1300+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

291
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL. -7- 23.74
JEF. -7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated R.A.S. July 1969
Quantities Checked F.O. Nov. 1970



WATER LINES TO BE ABANDONED

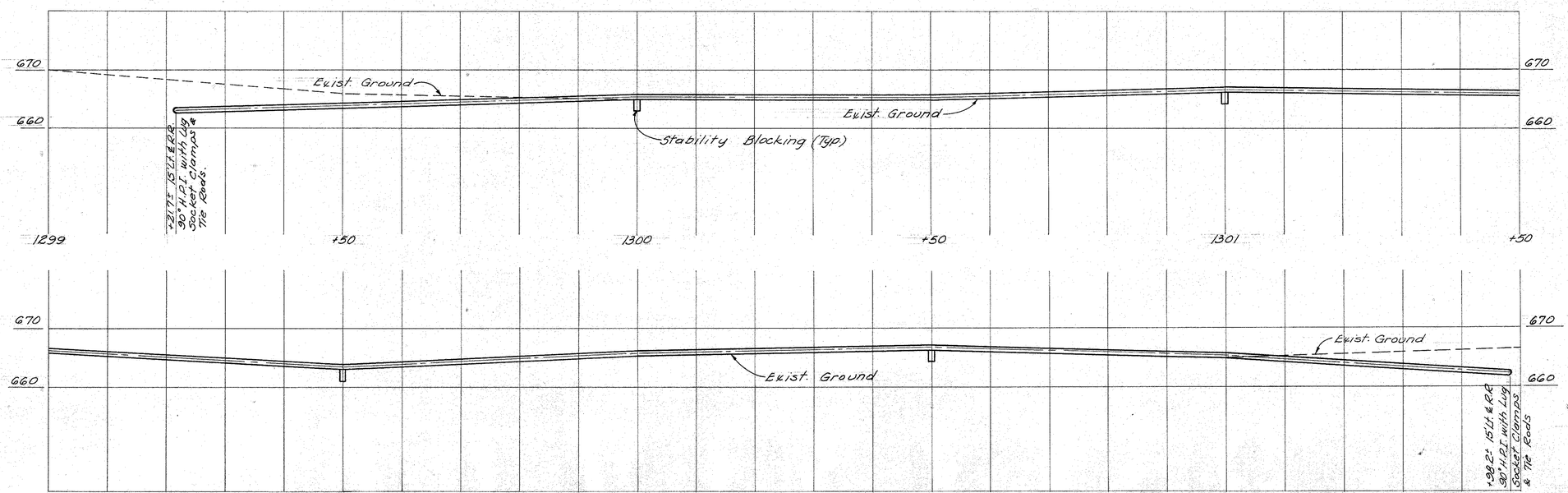
4-A Exist. 8" W.M. and 2" W.L. Sta. 1300+00 to Sta. 1304+00 ±.

WORK TO BE DONE

4-I Remove exist. 8" W.M. Sta. 1303+80± 124'± Rt. to Sta. 1304+00 125.5'± Rt.
4-II Remove and dispose of exist. 8" and 2" valves.
4-III Install New 8" W.M. Sta. 1300+00 to Sta. 1304+00.
4-IV Install Temporary New 8" W.M. Sta. 1300+00 to Sta. 1303+98.2±.

NOTES

1. For Construction Sequence see Sheet # 290
2. New Temporary 8" W.M. Profile shown on this sheet.
3. New 8" W.M. Profile shown on Sheet # 290
4. New W.M. may be deflected around abutment remains as required.
5. Protect New Temporary W.M. from structure demolition and equipment as required.



TEMPORARY NEW 8" WATER MAIN PROFILE

* Estimating Purposes Only

ITEM 814

	New Water Main ⊛ 8" L.F.	New Water Main ⊛ 8" L.F.	Temp. New W.M. Removed & Disposed Of ⊛ 8" L.F.	Gate Valve 1 Box New W.M. Encased in Conc. ⊛ 8" Ea.	Remove Exist. Water Main Remove & Dispose Exist. Gate Valve ⊛ 8" L.F.	Remove New W.M. ⊛ 8" L.F.	Concrete Backing 2½" Ea.	Bends 45° Ea.	Bends 90° 1 Lug & Socket Clamps Ea.	Tee 8"×8" Ea.
4-I					20					
4-II						2				
4-III	84	317		1	10			2	12	4	2		1
4-IV			413				413	0.60			1	
TOTAL TO GEN. SUM.	84	317	413	1	10	20	2	413				

⊛ Cast Iron Pipe A.S.A. Class 22
⊛⊛ Cast Iron Pipe A.S.A. Class 23

WATER PLANS 1300+00 to 1315+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

292
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

A. E. STILSON & ASSOC.
Quantities Calculated R.A.S. July 1969
Quantities Checked F.O. Nov. 1970

WATER LINES TO BE ABANDONED

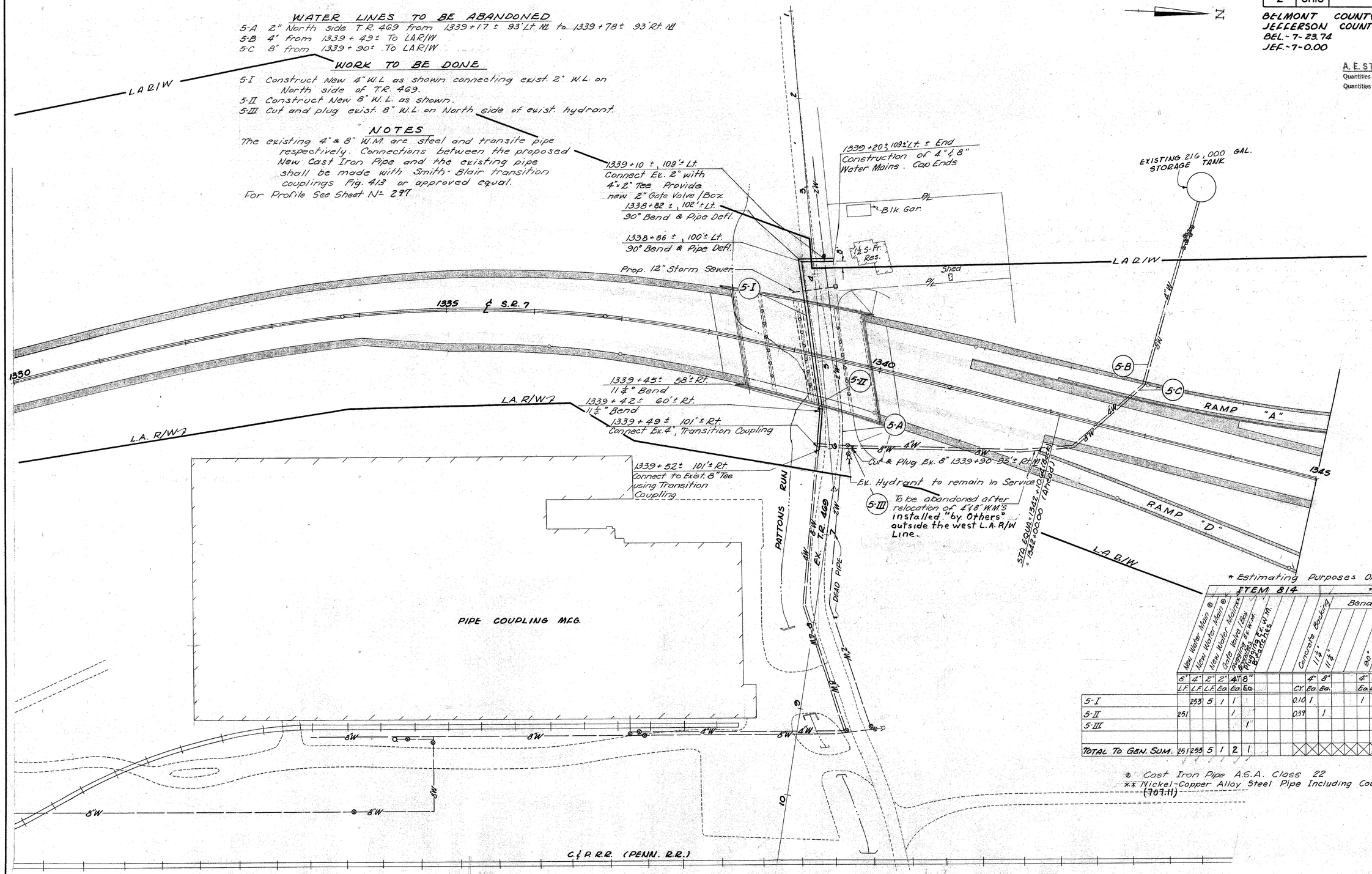
5-A 2" North side T.R. 469 from 1339+17± 93' Lt. N1 to 1339+78± 93' Rt. N1
5-B 4" from 1339+49± To LAR/W
5-C 8" from 1339+90± To LAR/W

WORK TO BE DONE

5-I Construct New 4" W.L. as shown connecting exist. 2" W.L. on North side of T.R. 469.
5-II Construct New 8" W.L. as shown.
5-III Cut and plug exist. 8" W.L. on North side of exist. hydrant.

NOTES

The existing 4" & 8" W.M. are steel and transite pipe respectively. Connections between the proposed New Cast Iron Pipe and the existing pipe shall be made with Smith-Blair transition couplings Fig. 413 or approved equal.
For Profile See Sheet No. 297



* Estimating Purposes Only.

	ITEM 814																						
	New Water Main ⊛	New Water Main ⊛	New Water Main**	Gate Valve/Box	Plugging Ex. W.M. Branches	Plugging Ex. W.M. Branches				Concrete Backing	Bends 11¼°	Bends 11¼°			Bends 90°	Bends 90°	Bends 4"x2"	Tee	Transition Coupling	Transition Coupling
	8"	4"	2"	2"	4"	8"					4"	8"			4"	8"		4"	8"	
	L.F.	L.F.	L.F.	Ea.	Ea.	Ea.				CY.	Ea.	Ea.			Ea.	Ea.	Ea.	Ea.	Ea.	
5-I		253	5	1	1					0.10	1				1		1	1		
5-II	251				1					0.39		1				1			1	
5-III						1														
TOTAL TO GEN. SUM.	251	253	5	1	2	1														

⊛ Cast Iron Pipe A.S.A. Class 22
** Nickel-Copper Alloy Steel Pipe Including Couplings & Fittings (707.11)

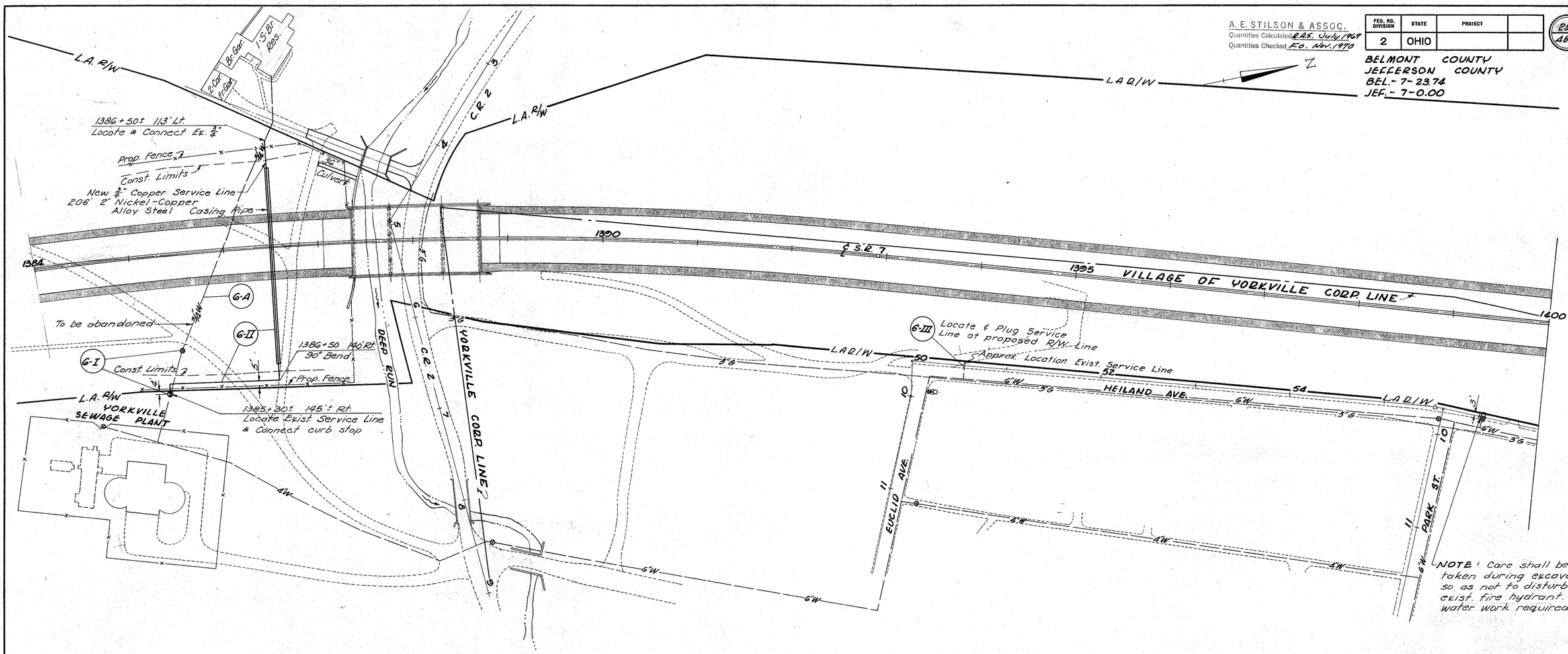
WATER PLANS 1330+00 to 1345+00

A. E. STILSON & ASSOC.
Quantities Calculated R.A.S. July 1969
Quantities Checked F.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

293
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.- 7-23.74
JEF.- 7-0.00

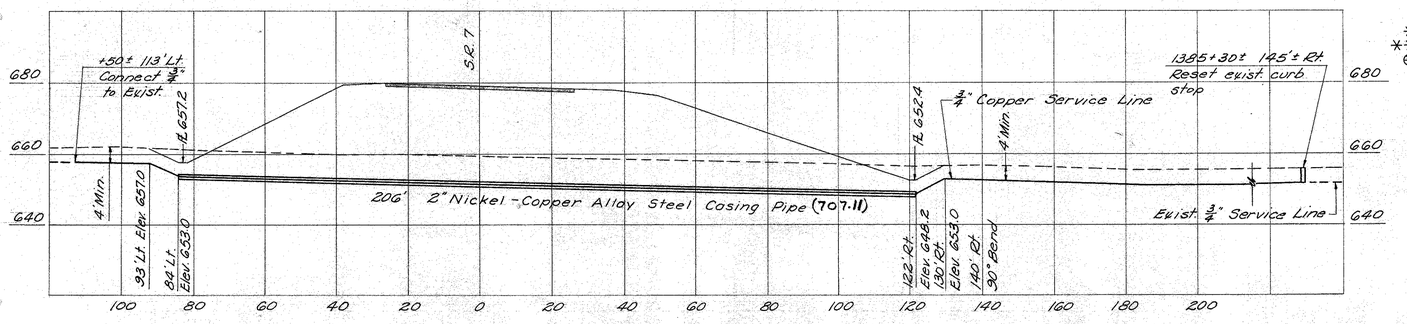


WATER LINES TO BE ABANDONED

6-A Exist. 3/4" Service Branch as shown.

WORK TO BE DONE

6-I Reset exist. curb stop
6-II Install New 3/4" Copper Service Branch and 2" Nickel-Copper Alloy Steel Casing Pipe
6-III Locate and Plug Exist. Service Branch at Locations Shown



* Reconnected W/O Corporation Cock
** Estimating Purposes only
⊛ Nickel Copper Alloy Steel Casing Pipe (707.11)

ITEM 814 **	Service Stop & Box Removed & Reset	New Copper Serv. Br.*	New Copper Serv. Br. in 2" ⊛	Plugging Exist. Service Branch	Plug or Cap
	3/4" Ea.	3/4" L.F.	3/4" L.F.	2" L.F.	3/4"-1" Ea.	3/4"-1" Ea.
6-I	1					
6-II		174	206	206		
6-III					4	4
TOTAL TO GEN. SUM.	1	174	206	206	4	

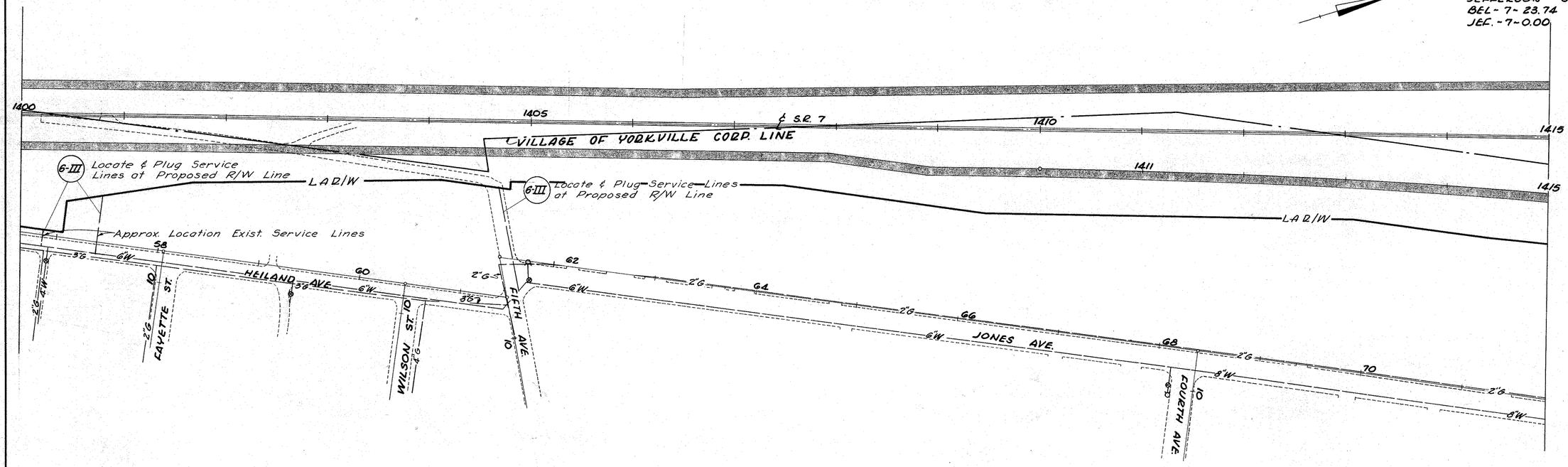
WATER PLANS 1384+00 to 1400+00

A. E. STILSON & ASSOC.
Quantities Calculated F.O. Nov. 1970
Quantities Checked D.L.B. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

294
A62

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



NOTE :
Quantities carried to Sheet No. 298

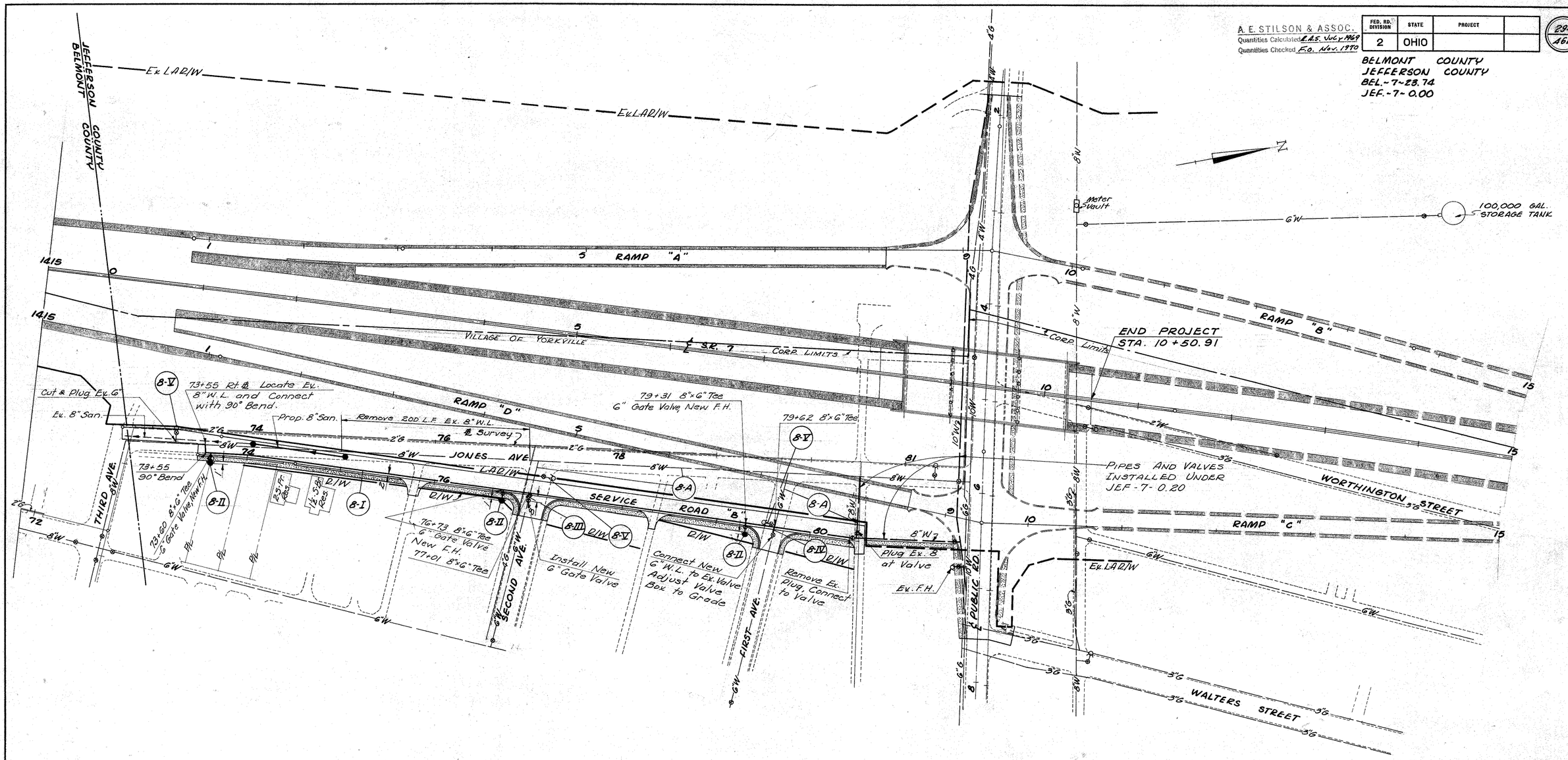
WATER PLANS 1400+00 to 1415+00

A. E. STILSON & ASSOC.
Quantities Calculated E.A.S. July 1969
Quantities Checked F.O. Nov. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

295
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



WATER LINES TO BE ABANDONED

8-A 8" in Jones Ave. From Sta. 73+55 to 75+00 and Sta. 77+00 to 80+51. Remove Ex. 8" From Sta. 75+00 to 77+00.
6" in Second Ave. From New Valve Location to Ex. 8" in Jones Ave.
6" in First Ave. From Ex. Valve Location to Ex. 8" in Jones Ave.
8" in Alley North of First Ave From Ex. Valve Location to Ex. 8" in Jones Ave.

WORK TO BE DONE

8-I Install New 8" W.L. as shown From Sta. 73+55 to Ex. Valve at Sta. 80+40±
8-II Install New Fire Hydrant, Gate Valve and 6" W.L. to 8" Main.
8-III Install New 6" Gate Valve and 6" W.L. to 8" Main. Remove Ex. 6" G.V.
8-IV Connect New 6" W.L. to Ex. Gate Valve and 8" Main. Adjust Valve Box to Grade.
8-V Remove and Dispose of Ex. Fire Hydrant and Valve.

NOTE

FOR PROFILE NEW 8" W.M. (SERVICE RD. "B") SEE SHEET # 299

⊗ Cast Iron Pipe A.S.A. Class 22

* Estimating Purposes Only

ITEM 814 *

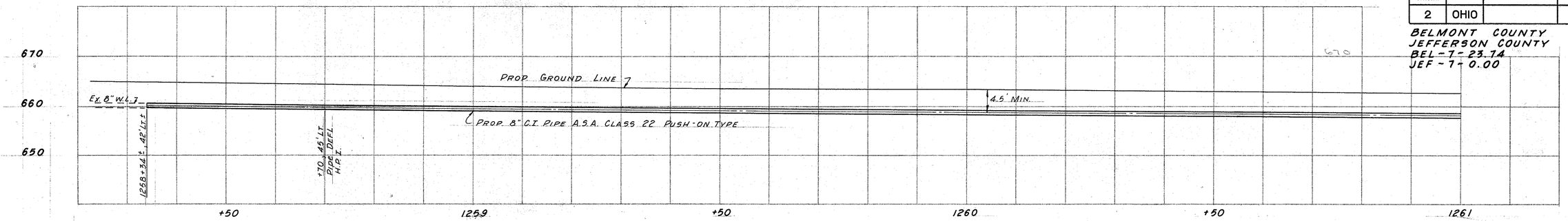
	New Water Main ⊗	New Water Main ⊗	New Gate Valve/Box	Fire Hydrant Reassembler & Opening	Remove & Dispose Ex. Fire Hydrant	Remove & Dispose Ex. Water Main	Remove & Dispose Ex. Gate Valve	Ex. Valve Box Adjusted to Grade	Cut & Plug Ex. W.M.	Concrete Backing	90° MJ-MJ Bend	8"x6" Tee
	8"	6"	6"	6"	6"	8"	6"	6"	8"		8"	
	L.F.	L.F.	Ea.	Ea.	Ea.	L.F.	Ea.	Ea.	Ea.	C.Y.	Ea.	Ea.
8-I	702									1.21	2	5
8-II		27	3	3								
8-III		8	1				1					
8-IV		8				8		1				
8-V					3		3		1			
8-A						200						
TOTAL TO GEN. SUM.	702	43	4	3	3	208	4	1	1			

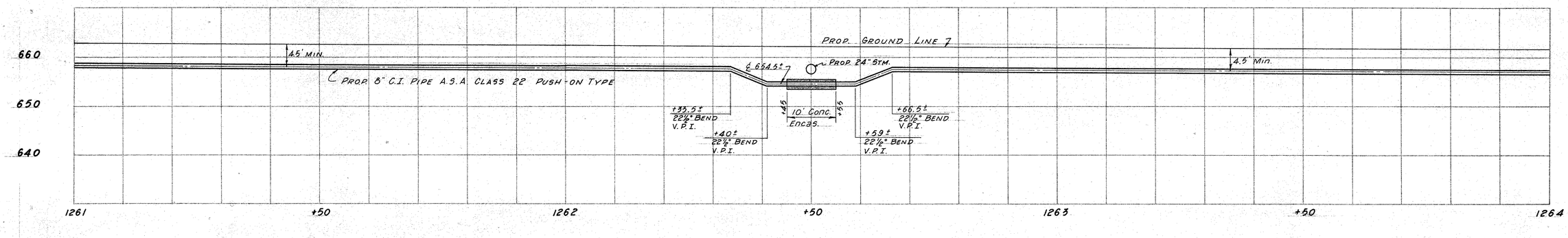
WATER PLANS 1415+00 to 15+00

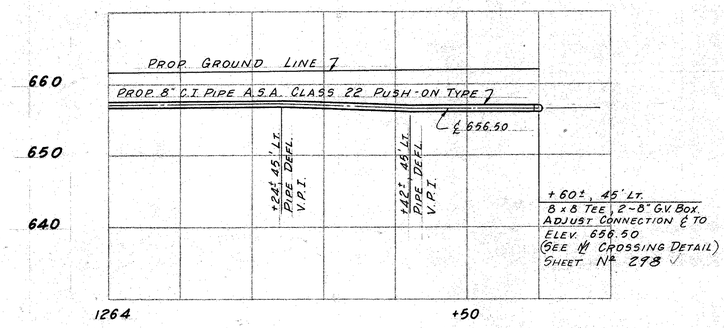
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

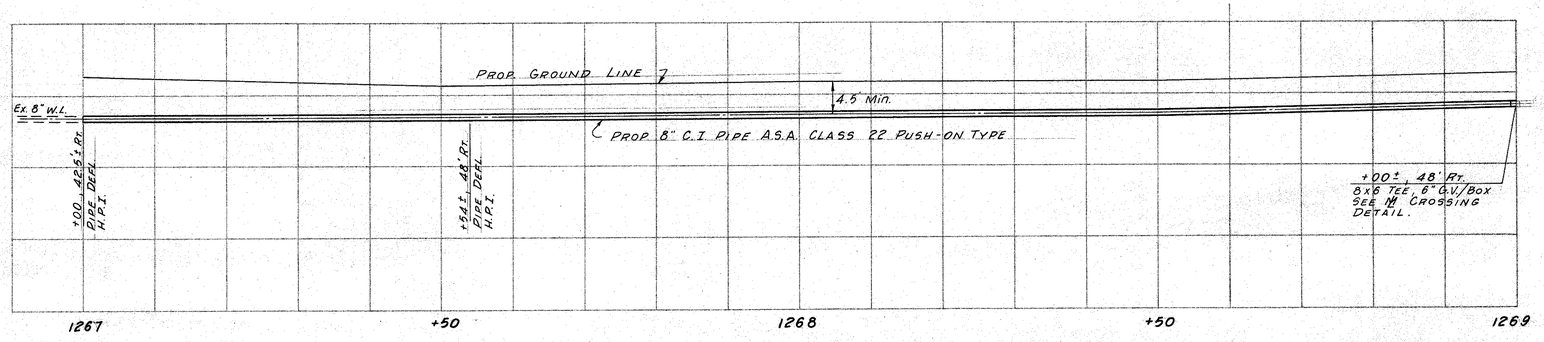
296
462

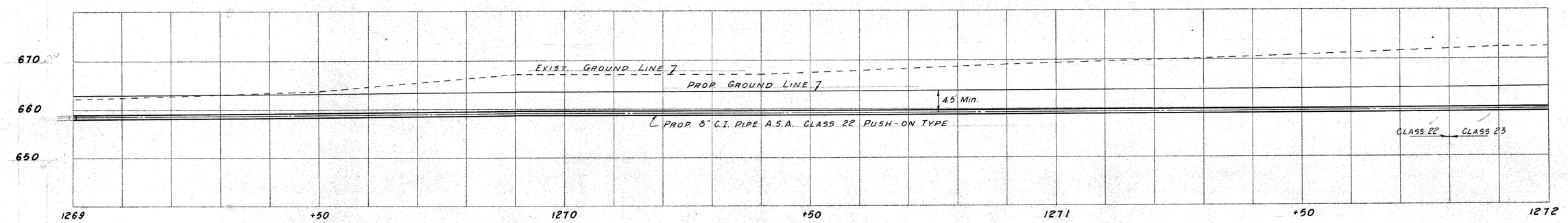
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.14
JEF-7-0.00











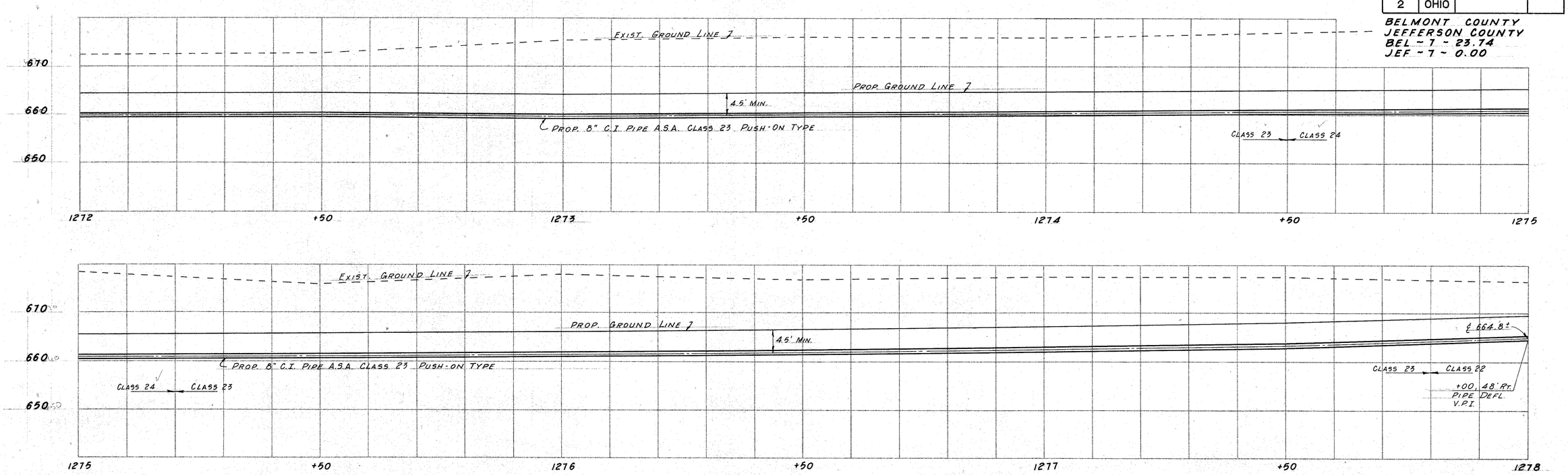
PROP. 8" WATER LINE RELOCATION
ALONG PROP. S.R. 7

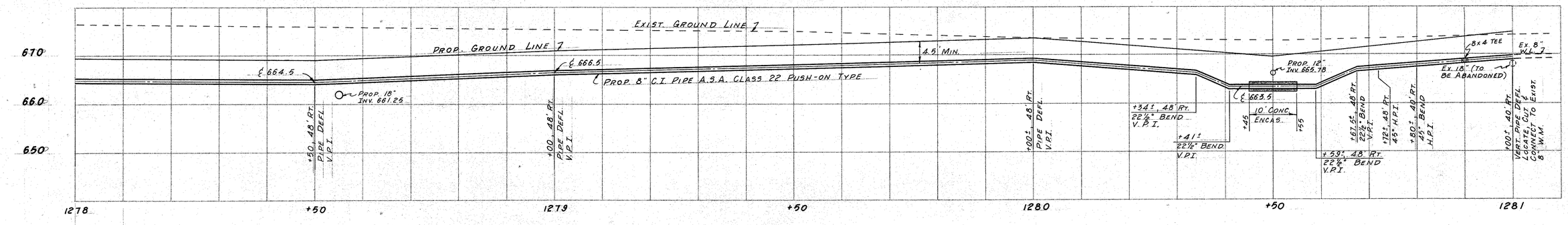
WATER LINE PROFILES

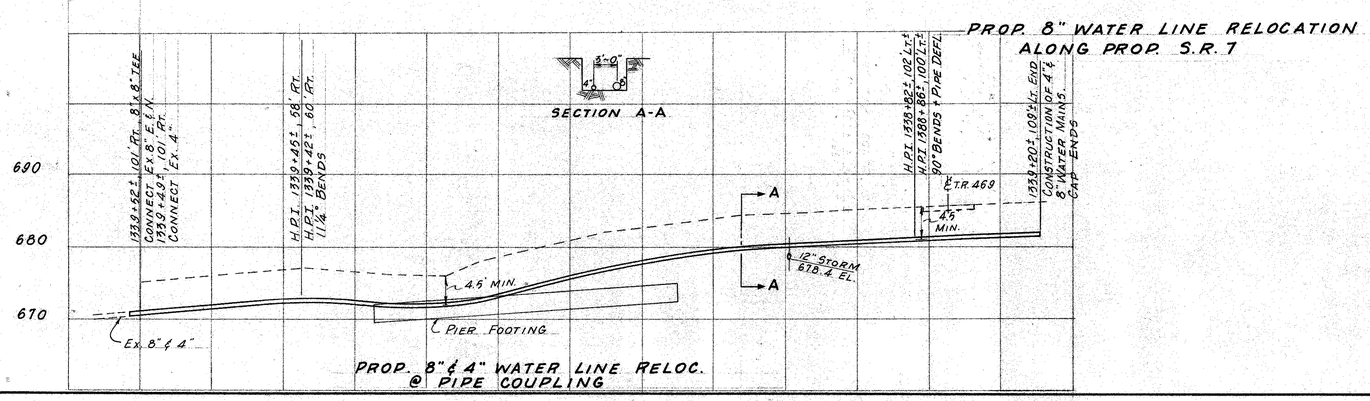
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

297
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL ~ 7 ~ 23.74
JEF ~ 7 ~ 0.00





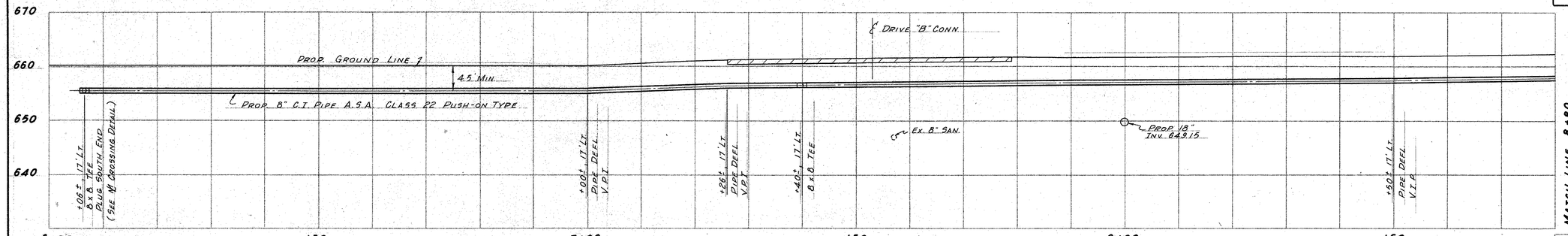


WATER LINE PROFILES

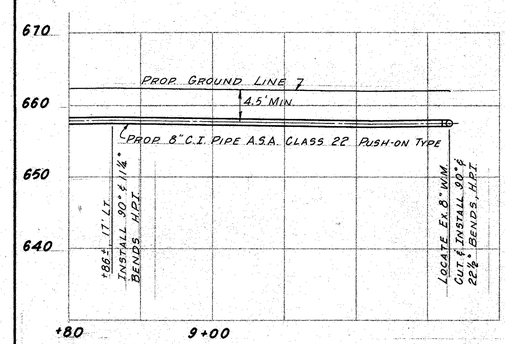
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

298
462

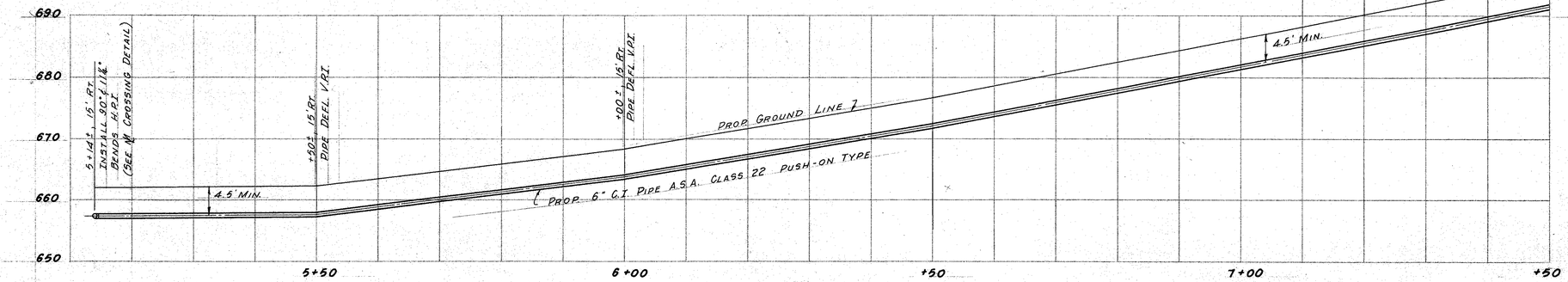
BELMONT COUNTY
JEFFERSON COUNTY
BEL ~ 7 ~ 23.74
JEF ~ 7 ~ 0.00



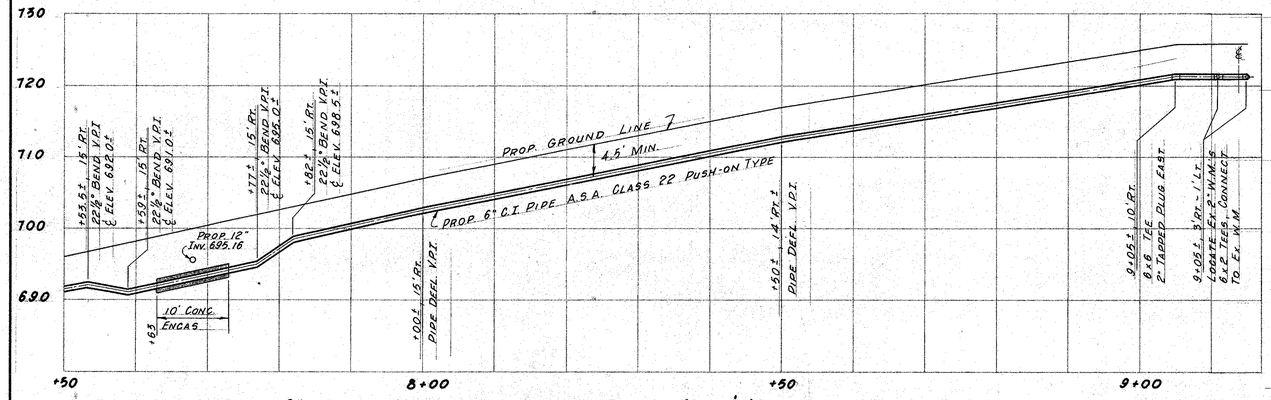
PROP. 8" WATER LINE
ALONG ACCESS RD. "A"



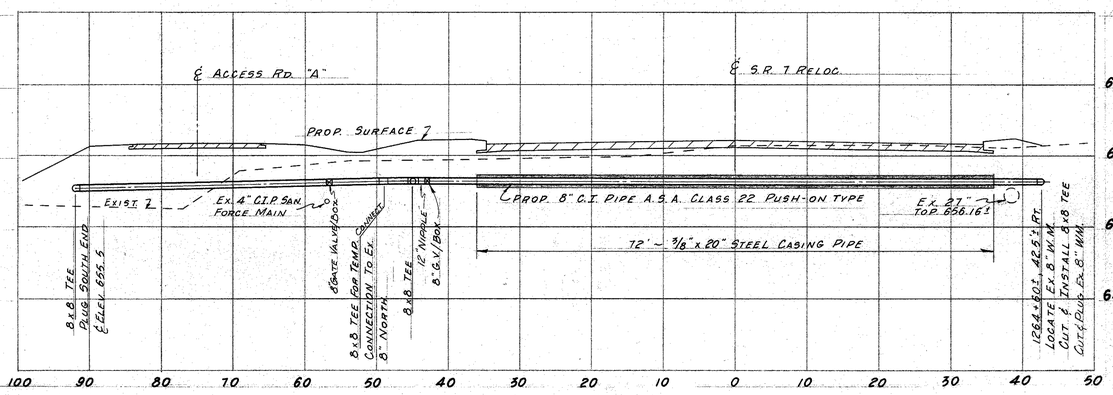
PROP. 8" WATER LINE (CONT'D.)



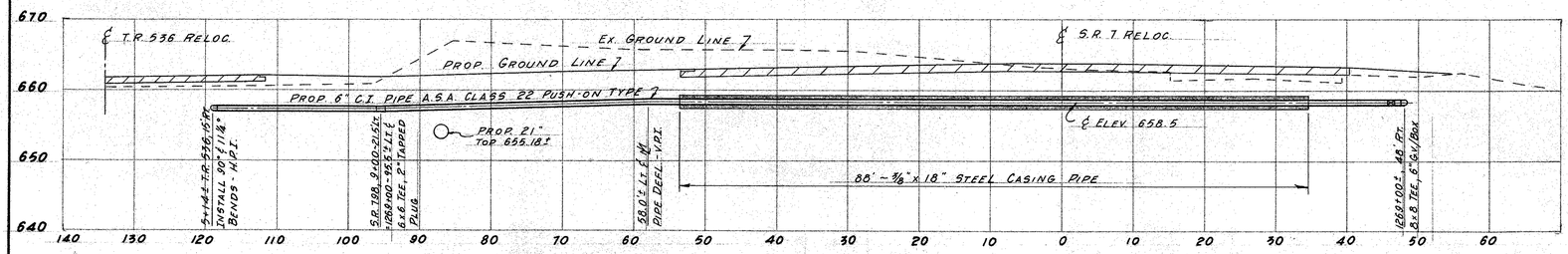
PROP. 6" WATER LINE ALONG T.R. 536 RELOC.



PROP 6" WATER LINE ALONG T.R. 536 RELOC. (CONT'D.)



ℳ CROSSING DETAIL @ STA. 1264+60



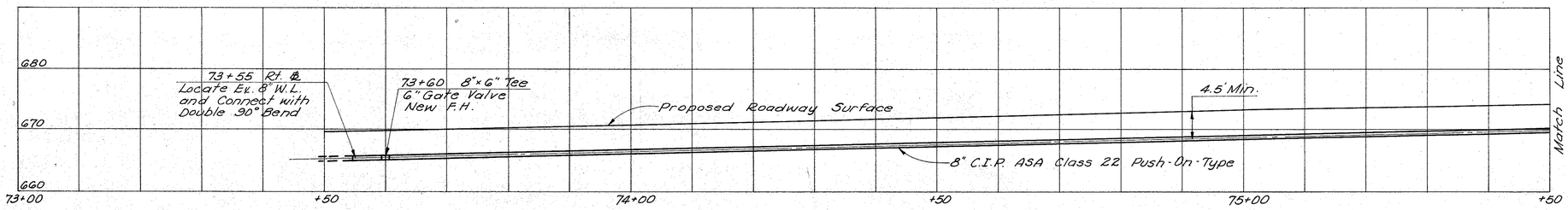
ℳ CROSSING DETAIL @ STA. 1269+00

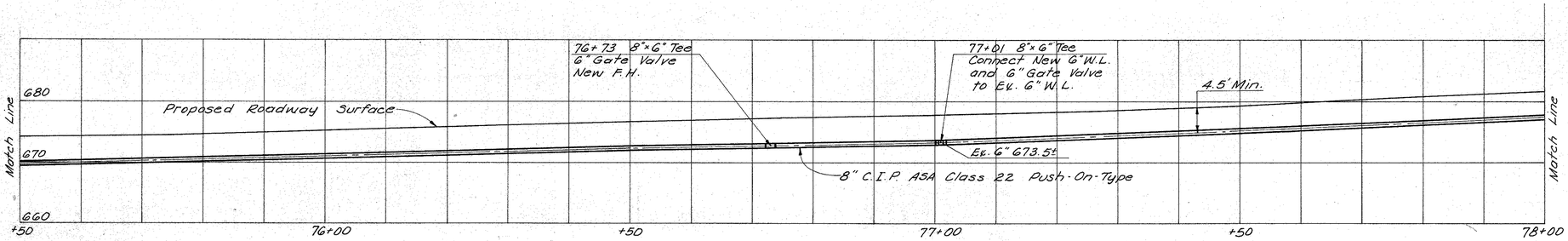
WATER LINE PROFILES

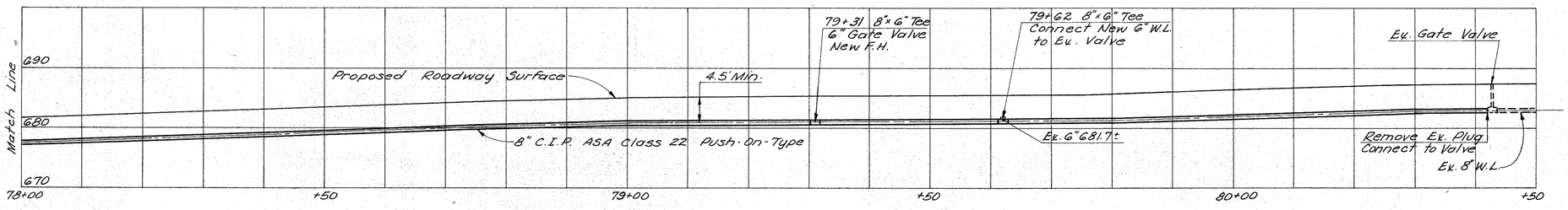
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

299
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL - 7 - 23.74
JEF - 7 - 0.00







PROFILE 8" W.L. IN SERVICE RD. "B"

WATER LINE PROFILES

FED.RD. DIVISION	STATE	PROJECT	
5	OHIO		

300
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF-7-0.00

GENERAL NOTES

MAINTAINING TRAFFIC

NO INTERRUPTION OF TRAFFIC ON ANY ROADWAY THROUGH LANES WILL BE PERMITTED BY THE CONTRACTOR'S CONSTRUCTION OPERATION. NO EQUIPMENT SHALL BE PERMITTED ON THE ROAD DURING THE HOURS OF 7:00 A.M. TO 9:00 A.M. AND 3:00 P.M. TO 6:00 P.M. WHEN WORKING ON OTHER PAVED AREAS, THE CONTRACTOR SHALL PROVIDE REQUIRED TRAFFIC CONTROL DEVICES. THE USE AND PLACEMENT OF ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CHAPTER 7, "CONSTRUCTION AND MAINTENANCE OPERATIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," CURRENT EDITION, LATEST REVISION.

THE COST OF ALL THE ABOVE SHALL BE INCLUDED IN THE LUMP-SUM PRICE BID FOR "ITEM 614-MAINTAINING TRAFFIC."

PLANTING - HOLE AND BED PREPARATION

AFTER THE LAYOUT IS APPROVED BY THE ENGINEER, SHRUB BEDS SHALL BE CULTIVATED TO A MINIMUM DEPTH OF SIX (6) INCHES BY A PLOW, HARROW OR DISC, OR OTHER METHOD APPROVED BY THE ENGINEER. THE CULTIVATION SHALL TAKE PLACE AS FAR IN ADVANCE OF THE PLANTING OPERATION AS POSSIBLE. WHERE SHRUBS ARE SHOWN, INDIVIDUAL HOLES SHALL BE DUG ON CENTERS AS SHOWN ON THE PLANS. THESE HOLES SHALL ALLOW FOR A MINIMUM OF NINE (9) INCHES OF BACKFILL MIXTURE AROUND THE SIDES OF THE BALLS.

THE MATERIAL REMOVED FROM THE HOLES SHALL BE TAKEN FROM THE PROJECT IF IT IS FOUND TO BE UNACCEPTABLE FOR USE AS BACKFILL AS DETERMINED BY THE ENGINEER. THE PLANT SHALL THEN BE SET AND THE HOLE FILLED WITH BACKFILL MIXTURE, AND THE PLANTING OPERATION PERFORMED AS SPECIFIED IN ITEMS 662.17 AND 662.18. ALL EXCESS DIRT SHALL BE REMOVED FROM THE SITE.

IF PLANT POCKET HOLES PROVE TO BE IMPERMEABLE TO WATER AS DETERMINED BY THE ENGINEER, SUCH HOLES MUST BE OPENED TO FREE DRAINAGE OR HOLES RELOCATED AS DIRECTED BY THE ENGINEER.

WHEN PLANTING CLOSE TO DITCH LINES, THE BOTTOM OF THE POCKET HOLES SHALL NOT BE BELOW THE FLOWLINE OF THE DITCH. POCKET HOLES ON 2:1 SLOPE OR MORE SHALL BE BACKFILLED WITH BACKFILL MIXTURE WITHIN THREE DAYS, OR WITHIN SUCH TIME AS DIRECTED BY THE ENGINEER, SO THAT NO UNDESIRABLE SUBSOIL WILL DISLODGE AND FILL THE HOLE PRIOR TO PLANTING. EXISTING TREES AND SHRUBS WILL TAKE PRIORITY OVER PROPOSED PLANTINGS. THE LOCATIONS OF THE PROPOSED TREES AND SHRUBS ARE APPROXIMATE AND MAY BE REARRANGED AT THE DIRECTION OF THE ENGINEER WHEN OBSTRUCTIONS ARE ENCOUNTERED.

IF AN AUGER IS USED IN DIGGING POCKET HOLES AND POLISHED (SHINY) SIDES OCCUR IN CLAY OR HEAVY SOILS, THE HOLES SHALL BE DUG WITH A BACKHOE OR ANOTHER APPROVED METHOD.

BACKFILL NO.1 - THE BACKFILL MIXTURE USED TO FILL POCKET HOLES IN LIGHT AND MEDIUM SOILS (SAND & AVERAGE) SHALL CONSIST BY VOLUME OF: 2 PARTS CALCINE CLAY, 2 PARTS COMPRESSED SPHAGNUM PEAT AND 2 PARTS APPROVED TOPSOIL.

BACKFILL NO.2 - THE BACKFILL MIXTURE USED TO FILL POCKET HOLES IN HEAVY SOILS (CLAY & SHALE) SHALL CONSIST BY VOLUME OF: 1 PART CALCINE CLAY, 1 PART COMPRESSED SPHAGNUM PEAT AND 2 PARTS APPROVED TOPSOIL.

INCORPORATE THOROUGHLY INTO THE BACKFILL MIXTURES 5 LBS. OF COMMERCIAL FERTILIZER (0-20-20) PER CUBIC YARD. THE ENGINEER, AFTER CONSULTATION WITH THE LANDSCAPE ARCHITECT, SHALL DETERMINE THE LOCATIONS WHERE THE BACKFILL MIXTURES SHALL BE USED.

SCHEDULING

ALL DIGGING AND PLANTING OF DECIDUOUS PLANTS SHALL BE DONE AFTER OCTOBER 1, AND BEFORE JUNE 1. EVERGREENS SHALL BE DUG AND PLANTED AFTER MARCH 15, AND BEFORE JUNE 1.

FERTILIZER

TWENTY-ONE-GRAM COMMERCIAL FERTILIZER TABLETS SHALL BE USED IN PLANTING AND SHALL BE DELIVERED DRY, IN ORIGINAL, UNOPENED CONTAINERS. FERTILIZER SHALL BE 20% NITROGEN, 10% PHOSPHORIC ACID AND 5% POTASH.

EACH SHRUB OR TREE SHALL BE FERTILIZED ACCORDING TO THE FOLLOWING SCHEDULE:

SHRUBS,	4'-5'	3 TABLETS PER PLANT
TREES,	5' - 6'	3 TABLETS PER TREE
TREES,	2" - 2-1/2"	5 TABLETS PER TREE

TABLETS SHALL BE PLACES IN THE LOWER THIRD OF THE PLANTING HOLE AND EVENLY SPACED AROUND THE PERIMETER OF THE HOLE.

HERBICIDES

AFTER PLANTING AND FERTILIZING HAVE BEEN COMPLETED AND APPROVED, THE AREA OF THE BED SHALL BE TREATED WITH SIMAZINE, DYMID OR AN APPROVED EQUAL HERBICIDE. RATE AND METHOD OF APPLICATION SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS AND UNDER THE DIRECT SUPERVISION OF A PESTICIDE APPLICATOR LICENSED BY THE STATE OF OHIO.

WATERING

WATER SHALL BE FURNISHED BY THE CONTRACTOR AND ALL PLANT MATERIAL SHALL BE WATERED THOROUGHLY AT THE TIME OF PLANTING REGARDLESS OF AMPLE MOISTURE CONTENT OF THE SURROUNDING SOIL. SUSPENSION OF WATERING OPERATIONS BECAUSE OF RAINFALL WILL BE DETERMINED BY THE ENGINEER.

MULCH

MULCH SHALL BE AS PER ITEM 661.04 WITH THE FOLLOWING EXCEPTIONS: WOOD SHAVINGS OR PEAT MOSS OR CORN COBS SHALL NOT BE USED AS A TOP MULCH.

STAKING MATERIALS

ALL TREES SHALL BE STAKED AS SHOWN IN THE STANDARD DRAWING L-2. STAKING OF SMALL ORNAMENTAL TREES SHALL BE SIMILAR TO THAT OF EVERGREENS. ALL DECIDUOUS TREE TRUNKS ARE TO BE TREATED WITH DIELDRIN SPRAY BEFORE WRAPPING.

PRUNING

ALL PLANTS WILL BE PRUNED WITHIN SEVEN DAYS AFTER PLANTING. THE PRUNING WILL BE DONE ACCORDING TO SAMPLE(S) AS DIRECTED BY THE ENGINEER.

ANY CANDLE GROWTH ON NEEDLE EVERGREENS WHICH EXCEED 3 INCHES AT PLANTING TIME SHALL BE CUT BACK TO THAT LENGTH IMMEDIATELY.

STORAGE AREAS

THE CONTRACTOR MAY STORE MATERIALS AND EQUIPMENT WITHIN OR ADJACENT TO THE PROJECT LIMITS BY OBTAINING OFFICIAL PERMISSION OF THE ENGINEER. NO PEDESTRIAN OR VEHICULAR TRAFFIC MAY BE IMPEDED NOR HAZARDOUS CONDITION CREATED AS A RESULT OF SUCH STORAGE.

THE STORAGE OF ALL DUG PLANTS SHALL CONFORM TO 661.14 WHETHER WITHIN THE PROJECT LIMITS, ADJACENT THERETO, OR AT SOME OTHER LOCATION. THESE AREAS SHALL BE DESIGNATED PRIOR TO ACTUAL PLANT STORAGE AND SHALL BE OPEN TO INSPECTION UPON REQUEST OF THE ENGINEER.

PLANT - PERIOD OF ESTABLISHMENT

BEFORE FINAL INSPECTION, ALL PLANTINGS SHALL HAVE BEEN IN PLACE AND UNDER THE CARE OF THE CONTRACTOR FOR A PERIOD OF ESTABLISHMENT EXTENDING FROM JUNE 1 TO OCTOBER 1 (NOT INCLUDING REPLACEMENT PLANTING) PRIOR TO JUNE 1. ON COMPLETION OF THE PLANTING TO THE SATISFACTION OF THE ENGINEER, THE CONTRACTOR MAY RECEIVE PAYMENT IN THE AMOUNT OF 75 PERCENT OF THE CONTRACT SUM.

DURING THE PERIOD OF ESTABLISHMENT, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW SUCH HORTICULTURAL PRACTICES AS REQUIRED TO ASSURE THE VIGOR AND GROWTH OF THE TRANSPLANTED MATERIAL. THIS CARE SHALL INCLUDE REMULCHING, RESTAKING AND GUYING, AND CULTIVATING. THERE SHALL ALSO BE INCLUDED DURING THIS PERIOD TWO WEEDING AND CULTIVATING PROGRAMS OF SUCH INTENSITY AS MAY BE REQUIRED TO CLEAR THE PLANTINGS AND MULCHED AREAS OF WEEDS AND GRASSES. THE FIRST WEEDING AND CULTIVATING PROGRAM TO BE PERFORMED DURING THE LAST HALF OF JUNE AND THE SECOND PROGRAM TO BE PERFORMED DURING THE LAST HALF OF AUGUST.

ADDITIONAL WATERING OF PLANTINGS (AFTER INITIAL WATERING AT TIME OF PLANTING) SHALL BE IN ACCORDANCE WITH "ITEM SPECIAL-WATERING OF LANDSCAPE PLANTING."

ON OR ABOUT SEPTEMBER 15, THE ENGINEER SHALL INSPECT THE PLANTING AND SUPPLY THE CONTRACTOR WITH A LISTING OF SUCH PLANT MATERIAL AS IS DEAD, HAS DIED BACK BEYOND THE NORMAL PRUNING LINES OR IS MISSING FROM THE PLANTING. THE CONTRACTOR SHALL MAKE THE REPLANTINGS AS REQUIRED AND IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE ORIGINAL MATERIAL.

AFTER REPLACEMENTS HAVE BEEN PLANTED, THE FINAL INSPECTION SHALL BE MADE AND THE ACTUAL COUNT OF LIVE PLANTS OF EACH VARIETY AND SPECIES LISTED FOR PAYMENT.

TOPSOIL TESTING

TOPSOIL FAILING CURRENT TEST STANDARDS MAY BE ALTERED, UPON APPROVAL OF THE ENGINEER, BY ADDING APPROVED CONDITIONERS TO CORRECT THE DEFICIENCIES. TOPSOIL SHALL BE FREE OF JOHNSON GRASS AND CONFORM TO ITEM 653 AS DETERMINED BY THE ENGINEER.

RENOVATION OF EXISTING GRASS AREAS

1. AREAS WHICH ARE DAMAGED DUE TO THE STORAGE OR PLANTING OPERATIONS UNDER THIS CONTRACT ARE TO BE UNIFORMLY COVERED WITH ONE (1) INCH OF TOPSOIL (653.02).

2. FERTILIZER (12-12-12), 659.03, SHALL BE APPLIED AT THE RATE OF 15 POUNDS PER 1,000 SQUARE FEET AND WORKED INTO THE SOIL TO A DEPTH OF THREE (3) INCHES.

3. THE FOLLOWING MIXTURE OF SEED SHALL BE WORKED INTO THE SOIL FOR A DEPTH OF 1/4 INCH, AND AT THE RATE OF THREE (3) POUNDS PER 1,000 SQUARE FEET:

20% PENNLAWN RED FESCUE	(FESTUCA RUBRA PENNLAWN)
60% KENTUCKY BLUEGRASS	(POA PRATENSIS)
20% ANNUAL RYE GRASS	(LOLIUM MULTIFLORUM)

4. MULCH SHALL BE AS SPECIFIED IN 659.09.

EARTH DAMS RESULTING FROM THE PLANTING OF ALL PLANTS SHALL BE HAND GRADED, SEEDED, FERTILIZED AND MULCHED AS OUTLINED ABOVE UNDER "RENOVATION OF EXISTING GRASS AREAS."

5. EXTENT OF AREAS TO BE RENOVATED SHALL BE DETERMINED BY THE ENGINEER.

ALL AREAS TO BE RENOVATED, PLUS THE IMMEDIATE ADJACENT AREA, SHALL BE MOWED TO A HEIGHT OF TWO (2) INCHES BEFORE ACTUAL OPERATION OF SEEDING AND RENOVATING EXISTING SOIL IN ACCORDANCE WITH ITEM 655. ALL AREAS TO BE RENOVATED SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

METHOD OF PAYMENT

ALL EQUIPMENT, LABOR AND MATERIALS SHALL BE INCLUDED IN THE BID PRICE PAID FOR THE INDIVIDUAL VINE, SHRUB OR TREE EXCEPT AS OTHERWISE NOTED.

SPECIFICATIONS

ALL OPERATIONS NOT HEREIN COVERED SHALL BE IN ACCORDANCE WITH THE CURRENT "CONSTRUCTION AND MATERIAL SPECIFICATION" MANUAL.

APPROVALS

ALL APPROVALS OR CHANGES MADE BY THE ENGINEER SHALL BE MADE IN CONSULTATION WITH THE LANDSCAPE ARCHITECT.

COOPERATION

THE CONTRACTOR IS HEREBY ADVISED THAT THERE MAY BE ANOTHER CONTRACTOR OPERATING IN CERTAIN AREAS OF THIS PROJECT AT THE SAME TIME WORK IS BEING CARRIED ON UNDER THIS CONTRACT. THE CONTRACTORS SHALL COOPERATE ONE WITH THE OTHER SO THAT INTERFERENCE AND INCONVENIENCE TO EACH BE HELD TO A MINIMUM.

WATERING OF LANDSCAPE PLANTING

During the Planting Period of Establishment, the contractor shall submit to the Landscape Architect the regular watering schedule and source for approval.

The approximate quantity of water needed for this purpose shall be included in this contract as a bid item (Item Special - Watering of Landscape Planting) payable per M gallon units (thousands of gallons), which includes obtaining water, delivering it, regularly watering the plants according to the watering schedule, all labor, equipment and incidentals necessary to complete this item as specified.

Water to used during planting operations is not to be included in this pay item.

The following estimated quantities are provided for the watering of newly planted trees and shrubs, to be applied as directed by the Landscape Architect.

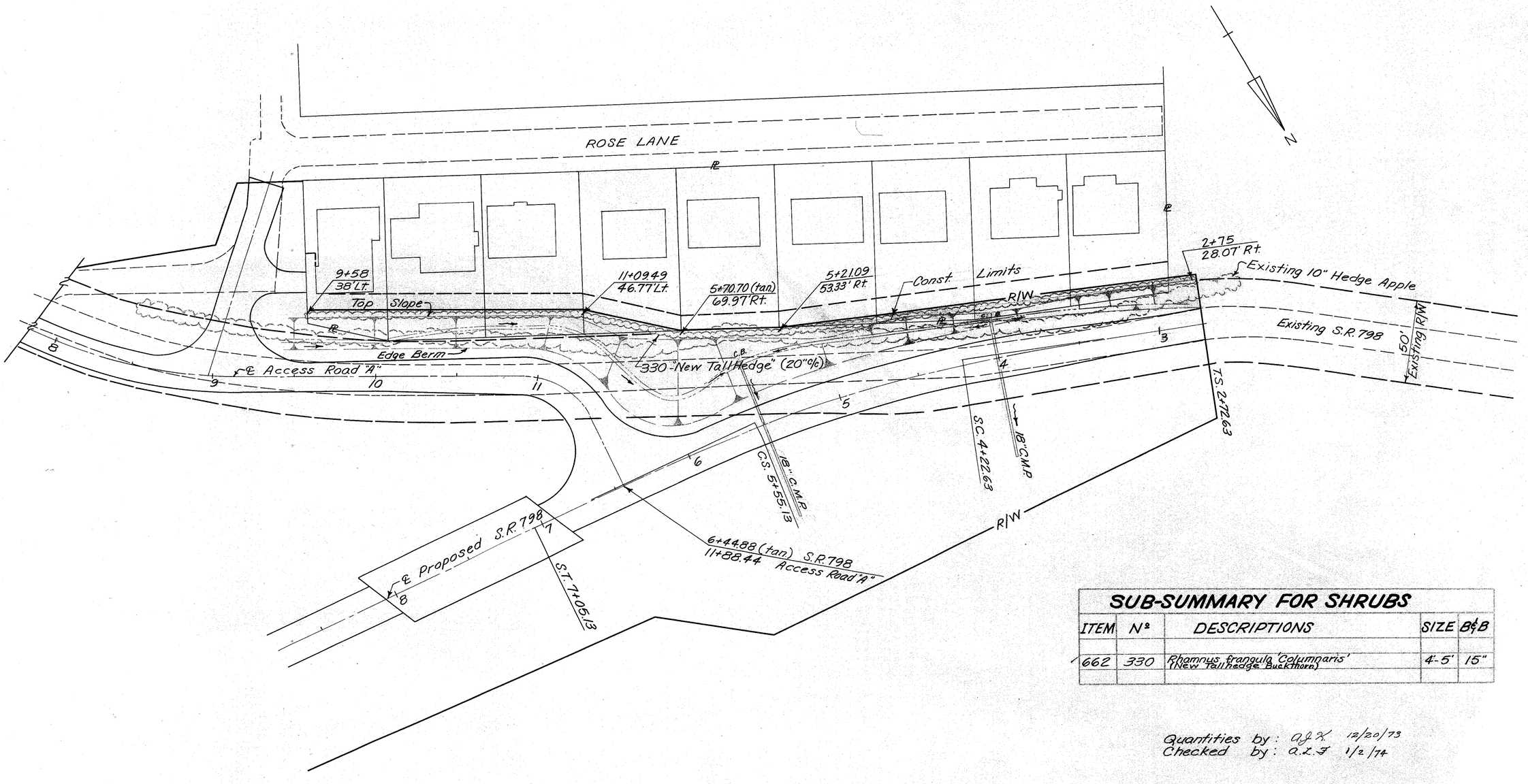
Item Special - Watering of Landscape Planting 5.0 M Gallons

9-11-73 HWB

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

300A
462

BELMONT & JEFFERSON COUNTIES
BEL-7-23.74 JEF.-7-0.00



SUB-SUMMARY FOR SHRUBS

ITEM	Nº	DESCRIPTIONS	SIZE	B&B
662	330	Rhamnus frangula 'Columnaris' (New Tallhedge Buckthorn)	4-5'	15"

Quantities by: A.J.K. 12/20/73
Checked by: A.L.F. 1/2/74

Scale 0 10 20 30 60

PLANTING PLAN

LIGHTING GENERAL NOTES

FHWA REGION	STATE	PROJECT	
5	OHIO		

301
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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74 JEF-7-0.00

SPECIFICATIONS

THESE NOTES ARE SUPPLEMENTAL TO ITEMS 625 AND 713 OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS.

REFERENCE SHALL BE MADE TO STANDARD CONSTRUCTION DRAWINGS AS SHOWN ON TITLE SHEET.

625.03 - GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS
THE OHIO POWER COMPANY, STEUBENVILLE DIVISION
STEUBENVILLE OHIO
SERVICE* 480 VOLT 2-WIRE GROUNDED NEUTRAL SUPPLY.

625.07 - 713.11 LUMINAIRES.

400/WATT LUMINAIRES SHALL HAVE DUAL RATED 240/480 VOLT INTEGRAL REGULATOR BALLASTS AND SHALL BE GENERAL ELECTRIC M400, WESTINGHOUSE OV-25, MCGRAW-EDISON 'UNISTYLE', OR EQUAL APPROVED BY THE ENGINEER.

625.07 - 713.13 UNDERPASS LUMINAIRES

250-WATT UNDERPASS LUMINAIRES SHALL BE HOLOPHANE 'UNDERPASS WALLPACK', OR EQUAL WESTINGHOUSE, MCGRAW-EDISON, OR GENERAL ELECTRIC UNDERPASS UNIT APPROVED BY THE ENGINEER, AND SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND 10 AMPERE FUSE. THE INTEGRAL BALLAST SHALL BE OF A REGULATOR TYPE RATED FOR 480 VOLTS.

625.08 - 713.14 LAMPS

MERCURY LAMPS SHALL BE GENERAL ELECTRIC 'BONUS LINE', WESTINGHOUSE 'LIFEGUARD', SYLVANIA 'ROUGH SERVICE', OR EQUAL APPROVED BY THE ENGINEER.

LIGHT POLE ANCHOR BOLTS FOR BRIDGES AND RETAINING WALLS

ANCHOR BOLTS FOR MOUNTING LIGHT POLES ON BRIDGES AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF 713.01 AND DETAILS SHOWN ON THE PLANS AND STANDARD DRAWINGS, OR THE APPROVED SHOP DRAWINGS FOR THE RESPECTIVE POLES TO BE PLACED THEREON. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR EACH SET OF THE SIZE REQUIRED AND NECESSARY TO INSTALL ONE POLE, AND THIS PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING AND PLACING THE BOLTS.

STANDARD CONSTRUCTION DRAWING HL-3

POLE BASE DETAILS SHOWN ON THIS DRAWING ARE ESSENTIALLY FOR GALVANIZED STEEL POLES. FOR ALUMINUM DESIGNS, OR OTHER PERMITTED STEEL MATERIAL DESIGNS, VARIATIONS FROM THESE DETAILS WILL BE ACCEPTABLE, AS APPROVED BY THE ENGINEER.

STANDARD CONSTRUCTION DRAWING HL-15

WEEPHOLE DIAMETERS OF 1/8 INCH SHOWN ON THIS DRAWING SHALL BE INCREASED TO 1/4 INCH.

CONDUIT ON STRUCTURES

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE AX, CROUSE-HINDS TYPE XJ-4, APPLETON TYPE XJ-4, OR EQUAL APPROVED BY THE ENGINEER.
EACH EXPANSION FITTING SHALL HAVE A COPPER EXTERNAL BONDING JUMPER.

ITEM 625 - SERVICE TO UNDERPASS LIGHTING, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE, EXCEPT FOR LUMINAIRS, LAMPS, AND GROUNDING SYSTEMS FOR AN UNDERPASS LIGHTING SYSTEM ON BRIDGE NO. JEF-7-0016
THE INSTALLATION WORK SHALL INCLUDE CONDUITS, CONDUIT GROUNDING, MOUNTINGS, FITTINGS, JUNCTION BOXES, CABLES, AND ALL INCEDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE SERVICE AS DETAILED ON SHEET NO.312

THE LUMP SUM PRICE BID FOR 'ITEM 625- SERVICE TO UNDERPASS LIGHTING, AS PER PLAN' SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE FURNISHED AND CONSIDERED PAID FOR AS PART OF THE ITEM.

HIGH VOLTAGE DIRECT CURRENT TESTS

A HIGH VOLTAGE TEST, AS DESCRIBED IN SUPPLEMENTAL SPECIFICATION 839 SHALL BE PERFORMED ON ALL SECONDARY FEEDER CABLE DISTRIBUTION CABLE, AND DUCT-CABLE SYSTEMS TO BE INSTALLED ON THIS PROJECT. THE TEST SHALL NOT BE PERFORMED UNTIL AFTER ALL NEW CONSTRUCTION, SUCH AS GUARD RAIL, FENCES, DELINEATOR POSTS, SIGNS ET CETERA, IN THE IMMEDIATE VICINITY OF THE LOCATION OF THE CABLE RUN BEING TESTED HAS BEEN COMLETED. PAYMENT SHALL BE AS PER 839.05.

ESTIMATED QUANTITIES

(a) AN ESTIMATED QUANTITY OF 120'LIN.FT. OF 605, 4-INCH SHALLOW PIPE UNDERDRAINS IS PROVIDED IN THE LIGHTING GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN PROVIDING POSITIVE DRAINAGE FOR PULL BOXES IN FILL AREAS. IT IS INTENDED THAT ALL PULL BOXES IN THESE AREAS BE PROVIDED WITH SUCH DRAINAGE, PROVIDED THE LENGTH OF UNDERDRAIN NECESSARY TO OBTAIN A SATISFACTORY OUTFALL DOES NOT EXCEED 20 FEET APPROXIMATELY. A PERFORATED PVC PIPE OR CONDUIT MATERIAL APPROVED BY THE ENGINEER MAY BE USED IN THE CONSTRUCTION OF THIS ITEM.

(b) AN ESTIMATED QUANTITY OF 10 EACH OF 625 MARKERS IS PROVIDED IN THE LIGHTING GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN PROVIDING GROUND SURFACE INDICATION OF THE LOCATION OF UNDERGROUND CIRCUITS. THE MARKERS SHALL BE LOCATED DIRECTLY OVER THE CENTERLINE OF THE CABLE OR DUCT. IT IS INTENDED THAT A MARKER SHALL BE PROVIDED AT A POINT MIDWAY BETWEEN ADJACENT SIDE-MOUNTED LIGHT UNITS WHERE THE DISTANCE BETWEEN UNITS EXCEEDS 300 FEET BUT DOES NOT EXCEED 450 FEET, AND AT INTERVALS OF APPROXIMATELY 200 FEET ON ALL OTHER CIRCUIT SECTIONS LOCATED OUTSIDE OF PAVED AREAS.

CONNECTOR KITS

AT THE OPTION OF THE CONTRACTOR, TYPE IX CABLE CONNECTIONS MAY BE SUBSTITUTED WHERE TYPE II OR III CABLE CONNECTIONS ARE SPECIFIED IN HAND HOLES OR TRANSFORMER BASES OF LIGHT POLES.

TYPE I THROUGH TYPE VII CABLE CONNECTIONS IN PULL BOXES, JUNCTION BOXES, AND OTHER ENCLOSURES BELOW GROUND MAY BE ACCOMPLISHED BY THE USE OF EITHER OF THE FOLLOWING:

1. A SLEEVE OR TEE CABLE CONNECTOR CONFORMING TO THE GENERAL REQUIREMENTS OF STYLE "S" OR "H", OR OTHER CONNECTING DEVICE APPROVED BY THE ENGINEER. THE CONNECTOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND THE CONNECTION SHALL BE SEALED AND WATERPROOFED WITH A HI-DIELECTRIC COMPOUND SUCH AS "AQUA SEAL" AS MANUFACTURED BY KEARNEY, OR EQUAL APPROVED BY THE ENGINEER. THE SEALING MATERIAL SHALL BE APPLIED IN ACCORDIANCE WITH THE MANUFACTURER'S DIRECTIONS TO MAKE A WATER-TIGHT CONNECTION. CONNECTIONS NOT ACCOMPLISHED IN-LINE OR IN TEE FORM SHALL BE ADDITIONALLY PROTECTED BY USE OF A HI-DIELECTRIC PVC, OR OTHER APPROVED MATERIAL, BOOT WITH AN APPROVED FASTENING DEVICE.

2. A PREASSEMBLED KIT, AS MANUFACTURED BY JOY OR BUSSMAN, OR APPROVED EQUAL, WITH A WATERPROOF OR WATER-TIGHT RATING ACCEPTABLE TO THE ENGINEER.

PLAN SPECIFICATION REFERENCES

REFERENCES TO ITEM 625 AND 713 IN THESE PLANS SHALL BE CONSIDERED TO READ AS RESPECTIVE REFERENCES TO ITEMS S625 AND S713.

PULL BOX 713.09

THE AIR BELL AS DETAILED ON STANDARD CONSTRUCTION DRAWING HL-10 SHALL BE DELETED, AND THE COVER DETAIL REFERENCE CHANGED FROM "713.08" TO "S713.09"

GENERAL SUMMARY LIGHTING QUANTITIES

A.E. STILSON & ASSOC.
Quantities Calculated F.O. July 1971
Quantities Checked G.P.S. Aug. 1971
Rev. G.P.S. 6-74
Rev. Ck. G.V. 6-74

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74/JEF-7-0.00

REFERENCE LINE	STRUCTURE Nº		STRUCTURES					ROADWAY						* U-430 (15) (URBAN)	RF-430 (15) (RURAL)	PROJECT TOTAL	ITEM	UNIT	DESCRIPTION	REFERENCE LINE
	SUB-SUMMARY SHEET Nº			303			304		303			304								
	DETAIL SHEET Nº	301	306	306	308	309	311	306	307	308	309	310	311						Code 7223	
1																				1
2													1		1	1	5625	EACH	LIGHT POLE, DESIGN AT20B34.2	2
3								*2		2	1	1		2	4	6	5625	EACH	LIGHT POLE, DESIGN AT12B34.2	3
4								1		2		4	4		11	11	5625	EACH	LIGHT POLE, DESIGN AT15B34.2	4
5								4		1	5				10	10	5625	EACH	LIGHT POLE, DESIGN T12B34.2	5
6										1					1	1	5625	EACH	LIGHT POLE, DESIGN AT25B34.2	6
7								*1 / 1						1	1	2	5625	EACH	EXISTING LIGHT POLE RELOCATED, AS PER PLAN	7
8								2	5	3		2	2		14	14	5625	EACH	LIGHT POLE, DESIGN T15B34.2	8
9								*3 / 8	5	9	6	7	7	3	12	15	5625	EACH	LIGHT POLE FOUNDATION, 24"x6' DEEP	9
10																				10
11								4		3	6	1	1		15	15	5625	EACH	LUMINAIRE, TYPE II, 400 WATT, S713.11	11
12								*2 / 3	5	6		6	6	2	26	28	5625	EACH	LUMINAIRE, TYPE III, 400 WATT, S713.11	12
13							4								4	4	5625	EACH	LUMINAIRE, UNDERPASS, 250 WATT MERCURY, S713.13	13
14																				14
15							4								4	4	5625	EACH	LAMP, 250 WATT, S713.14 MERCURY	15
16								*2 / 7	5	9	6	7	7	2	41	43	5625	EACH	LAMP, 400 WATT, S713.14 MERCURY	16
17		10									2				12	12	5625	EACH	MARKER	17
18								8		8	7	3	10		36	36	5625	EACH	PULLBOX, 18" CIRCULAR, S713.09	18
19													1		1	1	5625	EACH	PULLBOX, 24" CIRCULAR, S713.09	19
20								*525 / 1141	1210	2030	1697	2050	2647	525	10,775	11,300	5625	LIN. FT.	TRENCH, 24" DEEP	20
21							1	*3 / 8	5	9	6	7	7	3	43	46	5625	EACH	GROUND ROD	21
22																				22
23			75	182	383	253	430								1323	1323	5625	LIN. FT.	CONDUIT 2", S713.04	23
24								201		228	156	158	203		946	946	5625	LIN. FT.	CONDUIT 3", S713.04	24
25																				25
26								14		10	12		2		38	38	5625	EACH	CONNECTOR KIT, TYPE I, AS PER PLAN	26
27								*3 / 8	5	9	6	7	7	3	42	45	5625	EACH	CONNECTOR KIT, TYPE II, AS PER PLAN	27
28								*3 / 8	5	9	6	7	7	3	42	45	5625	EACH	CONNECTOR KIT, TYPE III, AS PER PLAN	28
29								6		8	4	6	12		36	36	5625	EACH	CONNECTOR KIT, TYPE III-B, AS PER PLAN	29
30																				30
31								*545 / 980	1260	2333	1839	1972	2554	545	9958	10,503	5625	LIN. FT.	1½" DUCT CABLE WITH TWO Nº 4 AWG, 600 VOLT CABLES	31
32			170	384	806	526		462		636	372	356	466		4178	4178	5625	LIN. FT.	Nº 4 AWG, 600 VOLT DISTRIBUTION CABLE	32
33								*184 / 662	490	884	552	680	696	184	3964	4148	5625	LIN. FT.	Nº 10 AWG, POLE AND BRACKET CABLE	33
34																				34
35																				35
36					3	1	1								5	5	5625	EACH	JUNCTION BOX, 18"x8"x6"	36
37							LUMP								LUMP	LUMP	5625	LUMP	SERVICE TO UNDERPASS LIGHTING, AS PER PLAN, BRIDGE Nº JEF-7-0016	37
38					3	1	1								5	5	5625	SET	LIGHT POLE ANCHOR BOLTS FOR BRIDGES, S713.01	38
39																				39
40								LUMP							LUMP	LUMP	5625	LUMP	SERVICE POLE AND CONTROL CENTER Nº 1	40
41										LUMP					LUMP	LUMP	5625	LUMP	SERVICE POLE AND CONTROL CENTER Nº 2	41
42													LUMP		LUMP	LUMP	5625	LUMP	SERVICE POLE AND CONTROL CENTER Nº 3	42
43																				43
44																				44
45														Lump	Lump	LUMP	839	LUMP	HIGH VOLTAGE TEST	45
46																				46
47			1												1	1	5625	EACH	STRUCTURE GROUNDING SYSTEM, BRIDGE Nº BEL-7-2389	47
48				1											1	1	5625	EACH	STRUCTURE GROUNDING SYSTEM, BRIDGE Nº BEL-798-0527	48
49					1										1	1	5625	EACH	STRUCTURE GROUNDING SYSTEM, BRIDGE Nº BEL-7-2526	49
50						1									1	1	5625	EACH	STRUCTURE GROUNDING SYSTEM, BRIDGE Nº BEL-7-2549	50
51							1								1	1	5625	EACH	STRUCTURE GROUNDING SYSTEM, BRIDGE Nº JEF-7-0016	51
52																				52
53		120													120	120	605	LIN. FT.	4" SHALLOW PIPE UNDERDRAIN	53
54																				54
55																				55

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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A. E. STILSON & ASSOC.
Quantities Calculated E.O. JULY 1971
Quantities Checked G.R.S. Aug. 1971
Rev. G.R.S. 6-74
Rev. Ck. G.V. 6-74

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74/JEF-7-0.00

✳ U-RF-430(15) (URBAN)

REFERENCE Nº	SIDE	FROM STATION	TO AND INCLUDING STATION	LIGHT POLE DESIGN AT12B34.2	LIGHT POLE DESIGN AT15B34.2	LIGHT POLE DESIGN T12B34.2	EXISTING LIGHT POLE RELOCATED AS PER PLAN	LIGHT POLE DESIGN T15B34.2	LIGHT POLE FOUNDATION 24'x6'-0"	LUMINAIRE TYPE II 400 WATT	LUMINAIRE TYPE III 400 WATT	LAMP 400 WATT		GROUND ROD	TRENCH 24" DEEP	PULLBOX 18" CIRCULAR	CONDUIT 2"	CONDUIT 3"	CONNECTOR KIT TYPE I	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CONNECTOR KIT TYPE VIII B	DUCT CABLE 600 V. 1½" TWO Nº 4	DIST. CABLE 600 V. Nº 4	POLE AND BRACKET CABLE Nº 10	STRUCTURE GROUNDING SYSTEM	SERVICE POLE AND CONTROL CENTER Nº1
				EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.		EA.	L.F.	EA.	L.F.	L.F.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	EA.	Lump
1	RT.	1263+25 SR-7					*/1		*/1					*/1						*/1	*/1						
2	RT.	1265+80 SR-7	1265+90 SR-7				1		1					1	10	1			2	1	1		20				
3	RT.	1265+90 SR-7	1266+65 SR-7													1	75		2					170		1	
4	RT.	1266+65 SR-7	1268+60 SR-7					1	1		1	1		1	195					1	1		205		98		
5	RT.	1268+60 SR-7	1269+90 SR-7												130	1						2	140				
6	RT./LT.	1269+90 SR-7													90	1		90				2		200			
7	RT.	1269+90 SR-7	1271+00 SR-7												110								110				
8	LT.	1259+25 SR-7	1261+90 SR-7	*/1					*/1		*/1	*/1		*/1	*/265					*/1	*/1			*/275		*/92		
9	LT.	1261+90 SR-7	1264+50 SR-7	*/1					*/1		*/1	*/1		*/1	*/260					*/1	*/1			*/270		*/92		
10	LT.	1267+40 SR-7	9+25 SR 798			1		1	2	1	1	2		2	128					2	2		138		190		
11	LT.	9+09 SR 798	1269+90 SR-7												117	1			2				127				
12	LT.	1269+90 SR-7	1270+00 SR-7		1				1		1	1		1	10					1	1		20		98		
13	LT.	5+40 SR 798	6+45 SR 798			2			2	2		2		2	105					2	2		115		184		
14	LT.	6+45 SR 798	8+20 SR 798												60	1	182		2					384			
15	LT.	7+60± SR 798	BEL 798-0527																							1	
16	RT./LT.	8+20 SR 798	8+50 SR 798			1			1	1		1		1	65			65		1	1			150	92		
17	RT.	8+50 SR 798	9+09 SR 798												59	2			6			2	79				
18	RT.	9+09 SR 798	9+25 SR 798												16								26				
19	RT./LT.	9+09 SR 798													46			46						112			
20	RT.	8+60.33 Rt. SR 798																									LUMP
✳ TOTAL SHEET NO. 306 U-RF-430(15)				2			1		3		2	2		3	525					3	3		545		184		
TOTAL SHEET Nº 306 RF-430(15)				1	4	1	2	8	4	3	7		8	1141	8	257	201	14	8	8	6		980	1016	662	2	LUMP
21	RT.	1271+00 SR-7	1271+40 SR-7					1	1		1	1		1	40					1	1		50		98		
22	RT.	1271+40 SR-7	1274+25 SR-7					1	1		1	1		1	285					1	1		295		98		
23	RT.	1274+25 SR-7	1277+20 SR-7					1	1		1	1		1	295					1	1		305		98		
24	RT.	1277+20 SR-7	1280+10 SR-7					1	1		1	1		1	290					1	1		300		98		
25	RT.	1280+10 SR-7	1283+10 SR-7					1	1		1	1		1	300					1	1		310		98		
TOTAL SHEET Nº 307 RF-430(15)								5	5		5	5		5	1210					5	5		1260		490		

REFERENCE Nº	SIDE	FROM STATION	TO AND INCLUDING STATION	LIGHT POLE DESIGN AT12B34.2	LIGHT POLE DESIGN AT15B34.2	LIGHT POLE DESIGN AT25B34.2			DESIGN T12B34.2	DESIGN T15B 34.2	LUMINAIRE TYPE II 400 WATT	LUMINAIRE TYPE III 400 WATT	LAMP 400 WATT		GROUND ROD	MARKER	TRENCH 24" DEEP	PULLBOX 18" CIRCULAR	CONDUIT 2"	CONDUIT 3"	CONNECTOR KIT TYPE I	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CONNECTOR KIT TYPE VIII B	DUCT CABLE 600 V. 1½" TWO Nº 4	DIST. CABLE 600 V. Nº 4	POLE AND BRACKET CABLE Nº 10	STRUCTURE GROUNDING SYSTEM	LIGHT POLE ANCHOR BOLTS FOR STRUCTURE	LIGHT POLE FOUNDATION 24'x6'-0"	SER. POLE & CONTROL CENTER Nº 2
				EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.	L.F.	L.F.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	EA.	EA.	SET	EA.	LUMP
25A	RT.	41+75 TR 469																													
26	RT.	1335+00 SR-7	1338+40 SR-7							1		1	1	1			328	1			2	1	1		338		98				1
27	RT.	1338+40 SR-7	1340+35 SR-7															1	193							406				
28	RT.	1338+63 SR-7	STRUCTURE																										1	1	
29	RT.	1340+05 SR-7	STRUCTURE																										1	1	
30	RT.	1340+35 SR-7	1341+56 SR-7							1		1	1	1			122				1	1			132		98				1
31	RT.	1341+56 SR-7	1342+92 RAMP "D"														141	1					2	151							
32	RT.	1342+92 SR-7	1342+92 RAMP "D"			1						1	1	1			48			48		1	1			116	98				1
33	RT.	1342+92 RAMP "D"	1343+50 RAMP "D"							1	1		1	1			58					1	1		68		92				1
34	RT.	1343+50 RAMP "D"	1345+00 RAMP "D"														150								150						
35	LT.	1333+75 SR-7	1337+60 SR-7			1				1		2	2	2			400				2	2			410		196				2
36	LT.	1337+60 SR-7	1337+95 SR-7														35	1			2				45						
37	LT.	1337+95 SR-7	1339+85 SR-7															1	190		2					400					
38	LT.	1338+90± SR-7	BEL-7-2526																											1	
39	LT.	1339+31 SR-7	STRUCTURE																										1	1	
40	LT.	1339+85 SR-7	1340+35 SR-7														50	1			2	60									
41	RT./LT.	1340+35 SR-7															135		135							290					
42	LT.	1340+35 SR-7	1341+00 SR-7			1						1	1	1			67				1	1			77		118				1
43	LT.	38+16 TR 469	39+05 TR 469	1								1		1	1		105	1			4	1	1		2507		92				1
44	RT./LT.	39+05 TR 469															45	1		45				2		220					
45	RT.	38+63 TR 469	39+05 TR 469	1								1		1	1		50					1	1		60		92				1
46	RT.	39+05 TR-469	42+00 TR-469														296								592						
47	LT.	38+30.59 LT. TR-469																													LUMP
TOTAL SHEET Nº 308 RF-430(15)				2	2	1	1	3	3	6	9	9		2030	8	383	228	10	9	9	8	2333	1432	884	1	3	3	9	LUMP

LIGHTING QUANTITIES SUB-SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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Rev. G.P.S. 6-74
Rev. Ck. G.V. 6-74

A. E. STILSON & ASSOC.
Quantities Calculated E.O. July 1971
Quantities Checked G.P.S. Aug. 1971

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74 / JEF-7-0.00

REFERENCE Nº	SIDE	FROM STATION	TO AND INCLUDING STATION	LIGHT POLE DESIGN AT15B34.2	LIGHT POLE DESIGN AT15B34.2	LIGHT POLE DESIGN T12B34.2	LIGHT POLE DESIGN T15B34.2	LUMINAIRE TYPE II 400 WATT	LUMINAIRE TYPE III 400 WATT	LAMP 400 WATT	GROUND ROD	MARKER	TRENCH 24" DEEP	PULLBOX 18" CIRCULAR	CONDUIT 2"	CONDUIT 3"	CONNECTOR KIT TYPE I	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CONNECTOR KIT TYPE IIIB	DUCT CABLE 600 V. 1½" TWO Nº 4	DIST. CABLE 600 V. Nº 4	POLE AND BRACKET CABLE Nº 10	LIGHT POLE ANCHOR BOLTS FOR STRUCTURE	STRUCTURE GROUNDING SYSTEM 18"x8'x6"	JUNCTION BOX	LIGHT POLE FOUNDATION 24"x6'0"
				EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.	L.F.	L.F.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	SET	EA.	EA.	EACH
1	RT.	1345+00 RAMP "D"	44+65 TR 469										407	1			2				427						
2	RT.	1346+00 RAMP "D"										1															
3	RT.	1348+30 RAMP "D"										1															
4	RT./LT.	44+65 TR469											46	1		46	4					112					
5	RT.	42+00 TR469	44+55 TR469			1		1		1	1		255					1	1		520		92				1
6	RT.	44+55 TR469	44+65 TR469										10								40						
7	RT.	44+65 TR 469	1348+20 RAMP "C"			1		1		1	1		140					1	1		150		92				1
8	RT.	1348+20 RAMP "C"	1349+85 RAMP "C"										165	1						2	175						
9	RT.	1349+85 RAMP "C"	1350+00 RAMP "C"			1		1		1	1		15					1	1		25		92				1
10	RT./LT.	1349+85 RAMP "C"	47+70 TR469			1		1		1	1		62			62		1	1			144	92				1
11	RT.	47+70 TR469	48+02 TR 469										32	1			2				42						
12	RT.	48+02 TR 469	50+55 TR 469											1	253		2					526					
13	RT.	49+20 TR 469																						1		1	
14	LT.	48+65 TR469	BEL-7-2549																						1		
15	RT.	50+55 TR 469	50+65 TR 469			1		1		1	1		10					1	1		20		92				1
16	RT.	50+65 TR469	51+00 TR469										35	1			2				45						
17	RT./LT.	51+00 TR469	1351+55 RAMP "B"										48	1		48				2		116					
18	LT.	1351+30 RAMP "A"	1351+55 RAMP "B"	1				1		1	1		30					1	1		40		92				1
19	LT.	1351+55 RAMP "B"	1355+00 RAMP "B"										345								355						
TOTAL SHEET Nº 309				1		5		6		6	6	2	1697	7	253	156	12	6	6	4	1839	898	552	1	1	1	6
20	LT.	1355+00 RAMP "B"	1357+90 RAMP "B"	1				1		1	1		290					1	1		300		92				1
21	LT.	1357+90 RAMP "B"	1358+00 RAMP "B"										10	1						2	20						
22	LT.	1358+00 RAMP "B"	1358+00 SR-7		1				1	1	1		48			48		1	1			116	98				1
23	LT.	1358+00 RAMP "B"	1359+40 SR-7		1				1	1	1		140					1	1		150		98				1
24	LT.	1359+40 SR-7	1363+00 SR-7										362	1						2	372						
25	RT./LT.	1363+00 SR-7											110	1		110				2		240					
26	LT.	1363+00 SR-7	1366+00 SR-7		1				1	1	1		300					1	1		310		98				1
27	RT.	1361+60 SR-7	1363+00 SR-7			1			1	1	1		140					1	1		150		98				1
28	RT.	1363+00 SR-7	1365+15 SR-7			1			1	1	1		215					1	1		225		98				1
29	RT.	1365+15 SR-7	1369+50 SR-7		1				1	1	1		435					1	1		445		98				1
TOTAL SHEET Nº 310				1	4		2	1	6	7	7		2050	3		158		7	7	6	1972	356	680				7

REFERENCE Nº	SIDE	FROM STATION	TO AND INCLUDING STATION	LIGHT POLE DESIGN AT15B34.2	LIGHT POLE DESIGN AT20B34.2	LIGHT POLE DESIGN LT5B34.2	LUMINAIRE TYPE II 400 WATT	LUMINAIRE TYPE III 400 WATT	LUMINAIRE UNDERPASS 250 WATT	LAMP 250 WATT	LAMP 400 WATT	GROUND ROD	MARKER	TRENCH 24" DEEP	PULLBOX 18" CIRCULAR	PULLBOX 24" CIRCULAR	CONDUIT 2"	CONDUIT 3"	CONNECTOR KIT TYPE I	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CONNECTOR KIT TYPE IIIB	DUCT CABLE 600 V. 1½" TWO Nº 4	DIST. CABLE 600 V. Nº 4	POLE AND BRACKET CABLE Nº 10	SERVICE POLE AND CONTROL CENTER Nº 3	STRUCTURE GROUNDING SYSTEM 18"x8'x6"	JUNCTION BOX	SERVICE TO UNDERPASS LIGHTING AS PER PLAN	LIGHT POLE ANCHOR BOLTS FOR STRUCTURE	LIGHT POLE FOUNDATION 24"x6'0"
				EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.	EA.	L.F.	L.F.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	Lump	EA.	EA.	Lump	SET	EA.
30	LT.	1407+10 SR-7	1411+35 SR-7	2				2			2	2		425						2	2		435		196						2
31	LT.	1411+35 SR-7	1411+60 SR-7											25	1						2	35								
32	LT.	1411+60 SR-7	1415+05 SR-7	1				1			1	1		345						1	1		355		98						1
33	RT./LT.	1411+60 SR-7												106	1			106				2		232							
34	RT.	1408+94 SR-7	1411+60 SR-7	1				1			1	1		265	1					1	1		275		98						1
35	RT.	1411+60 SR-7	1414+95 SR-7											338									348								
36	RT.	1414+95 SR-7	0+35 SR-7				1	1			1	1		102						1	1		112		98						1
37	RT.	0+35 SR-7	1+65 RAMP "D"											146	1						2	156								
38	RT./LT.	1+65 RAMP "D"	1+80 SR-7		1			1			1	1		42				42		1	1			104	108						1
39	RT.	1+65 RAMP "D"	2+20 RAMP "D"			1	1				1	1		55						1	1		65		98						1
40	RT.	2+20 RAMP "D"	6+45 PUBLIC RD.											688		1			2			2	708								
41	RT.	5+12 RAMP "D"																													
42	RT.	6+45 PUBLIC RD.																								LUMP					
43	RT.	5+35 PUBLIC RD.	5+90 PUBLIC RD.											55	2							4	65								
44	RT.	5+90 PUBLIC RD.	6+45 PUBLIC RD.											55				55						130							
45	RT./LT.	SR-7 OVER PUBLIC RD. PIERS 1 AND 2 JEF-7-0016					4	4			1																			LUMP	
46	RT.	9+30 SR-7																											1		1
47	RT.	9+75± SR-7	JEF-7-0016																												
48	RT.	8+35 SR-7	10+50 SR-7												2		215														
49	LT.	8+25 SR-7	10+40 SR-7												2		215														
TOTAL SHEET Nº 311				4	1	2	1	6	4	4	7	8		2647	10	1	430	203	2	7	7	12	2554	466	696	LUMP	1	1	LUMP	1	7

LIGHTING QUANTITIES SUB-SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BELMONT COUNTY
JEFFERSON COUNTY
BEL - T- 23.74
JEFF - T- 0.00

KEY PLAN LEGEND

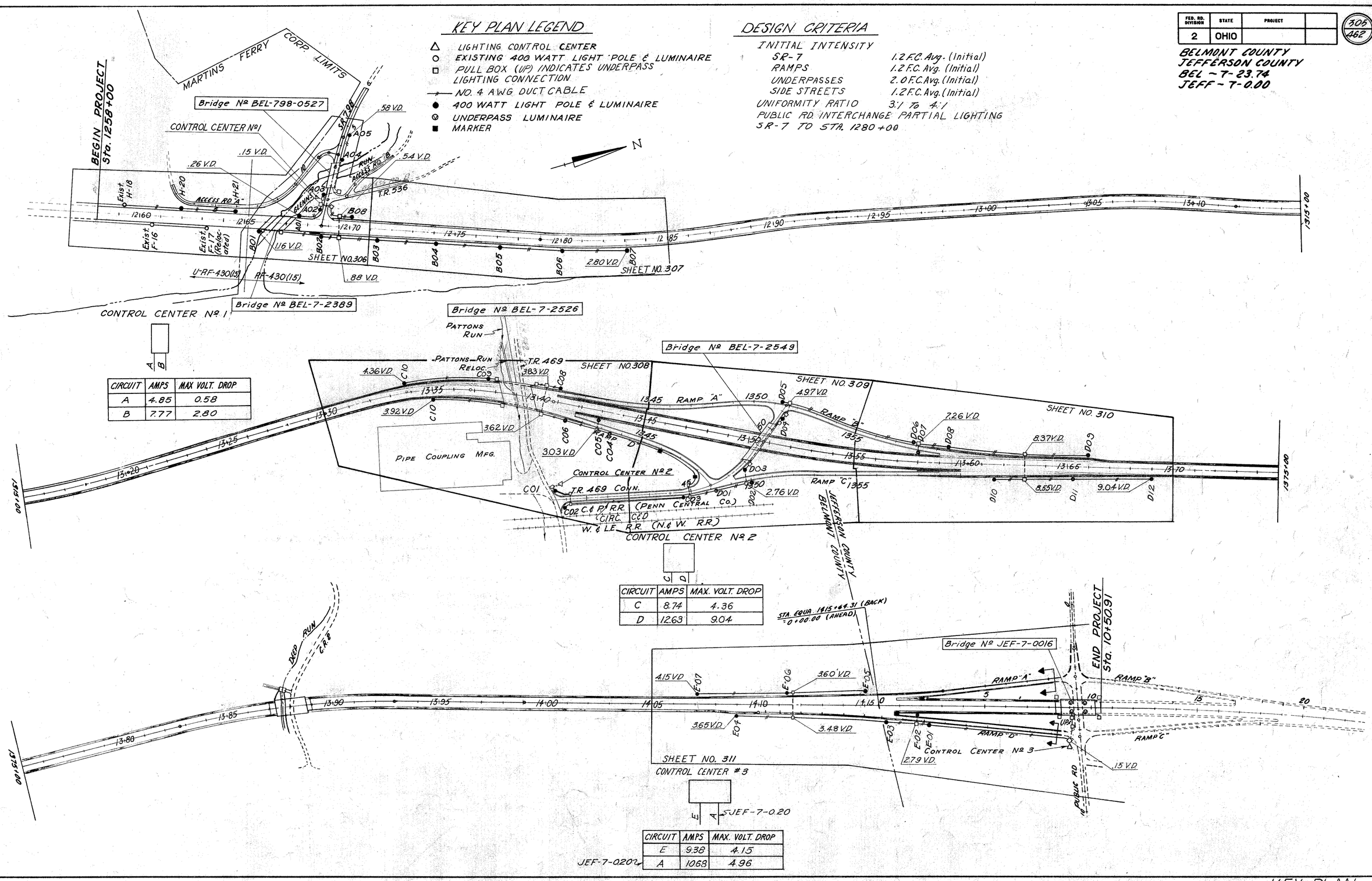
- △ LIGHTING CONTROL CENTER
- ○ EXISTING 400 WATT LIGHT POLE & LUMINAIRE
- □ PULL BOX (UP) INDICATES UNDERPASS LIGHTING CONNECTION
- —// NO. 4 AWG DUCT CABLE
- ● 400 WATT LIGHT POLE & LUMINAIRE
- ⊘ UNDERPASS LUMINAIRE
- ■ MARKER

DESIGN CRITERIA

INITIAL INTENSITY

SR-7	1.2 F.C. Avg. (Initial)
RAMPS	1.2 F.C. Avg. (Initial)
UNDERPASSES	2.0 F.C. Avg. (Initial)
SIDE STREETS	1.2 F.C. Avg. (Initial)

UNIFORMITY RATIO 3:1 TO 4:1
PUBLIC RD. INTERCHANGE PARTIAL LIGHTING
SR-7 TO STA. 1280+00



CIRCUIT	AMPS	MAX. VOLT. DROP
A	4.85	0.58
B	7.77	2.80

CIRCUIT	AMPS	MAX. VOLT. DROP
C	8.74	4.36
D	12.63	9.04

CIRCUIT	AMPS	MAX. VOLT. DROP
E	9.38	4.15
A	1068	4.96

JEF-7-0.20

KEY PLAN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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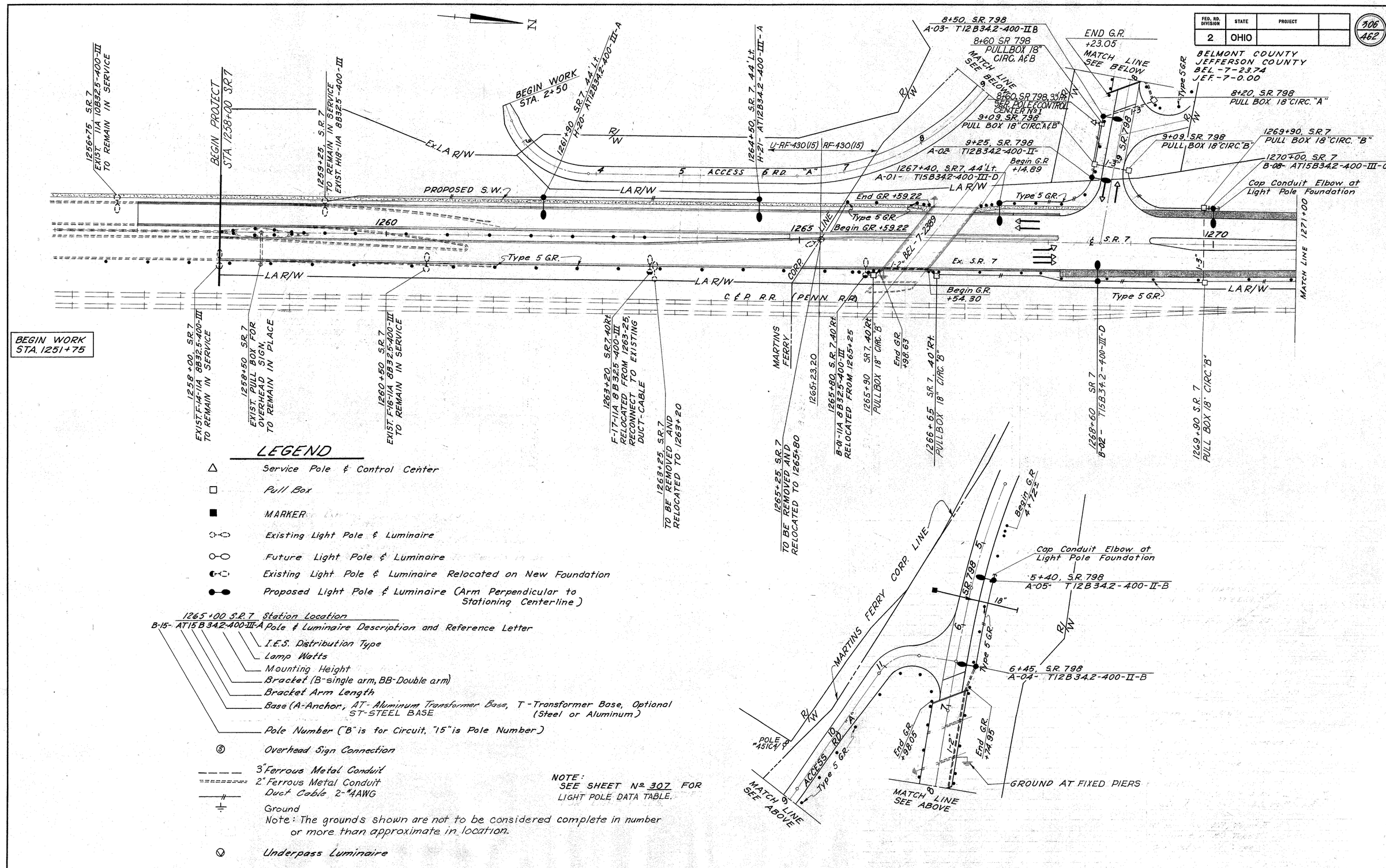

LEGEND

- △ Service Pole & Control Center
- □ Pull Box
- ■ MARKER
- Existing Light Pole & Luminaire
- Future Light Pole & Luminaire
- Existing Light Pole & Luminaire Relocated on New Foundation
- Proposed Light Pole & Luminaire (Arm Perpendicular to Stationing Centerline)

1265+00 S.R.7 Station Location

B-15- AT15B34.2-400-III-A Pole & Luminaire Description and Reference Letter

- I.E.S. Distribution Type
- Lamp Watts
- Mounting Height
- Bracket (B-single arm, BB-Double arm)
- Bracket Arm Length
- Base (A-Anchor, AT-Aluminum Transformer Base, T-Transformer Base, Optional ST-STEEL BASE (Steel or Aluminum)
- Pole Number ("B" is for Circuit, "15" is Pole Number)

Ⓢ Overhead Sign Connection

3" Ferrous Metal Conduit

2" Ferrous Metal Conduit

Duct Cable 2-#4AWG

Ground

Note: The grounds shown are not to be considered complete in number or more than approximate in location.

Underpass Luminaire

NOTE: SEE SHEET No. 307 FOR LIGHT POLE DATA TABLE.

LIGHTING PLANS 1256+00 to 1271+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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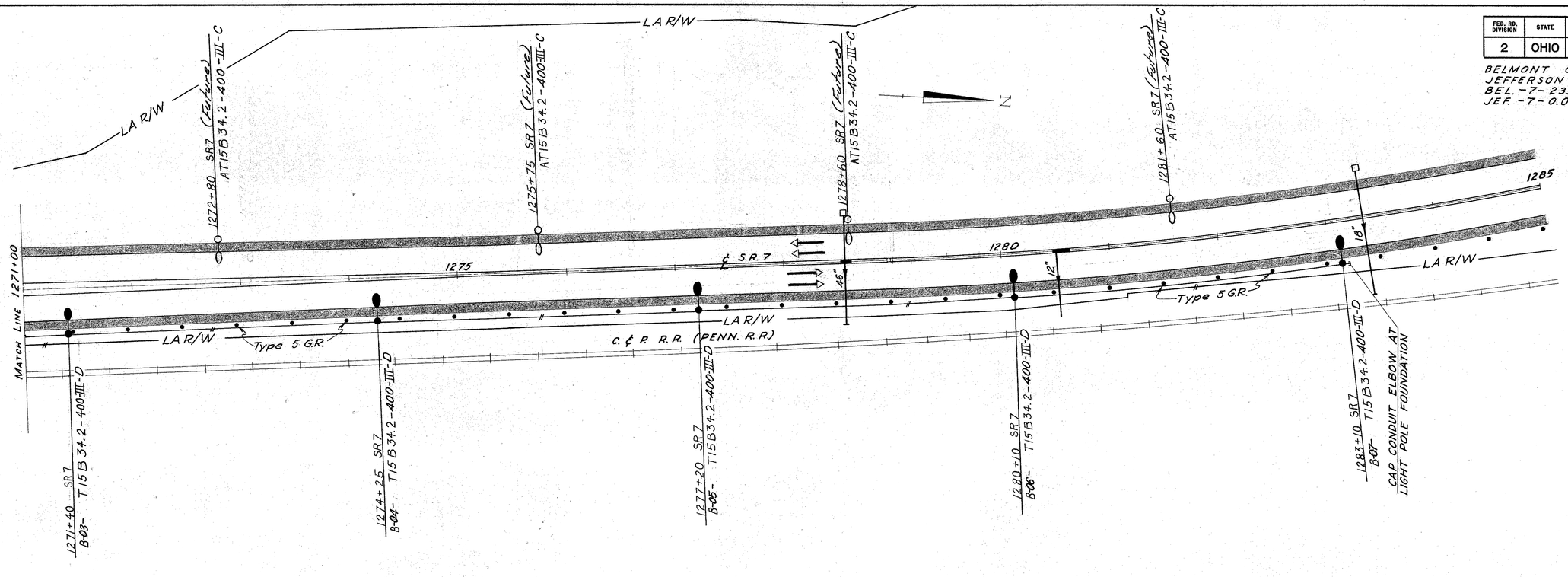
BELMONT COUNTY
JEFFERSON COUNTY
BEL. -7- 23.74
JEF. -7- 0.00



LIGHT POLE DATA				
REFERENCE LETTER	DESIGN NUMBER	FOUNDATION ANCHOR BOLTS		TRANSFORMER BASE STYLE
		SIZE DIA. x LENGTH	BOLT CIRCLE DIAMETER	
A	AT12B34.2	1"x40"	15"	AT-A
B	T12B34.2	1"x40"	15"	Steel or AT-A
C	AT15B34.2	1"x40"	15"	AT-A
D	T15B34.2	1"x40"	15"	Steel or AT-A
E	AT20B34.2	1"x40"	15"	AT-A
F	AT25B34.2	1"x40"	15"	AT-A
G	ST10B34.2 (Future)	1"x40"	15"	Steel * for Bridge

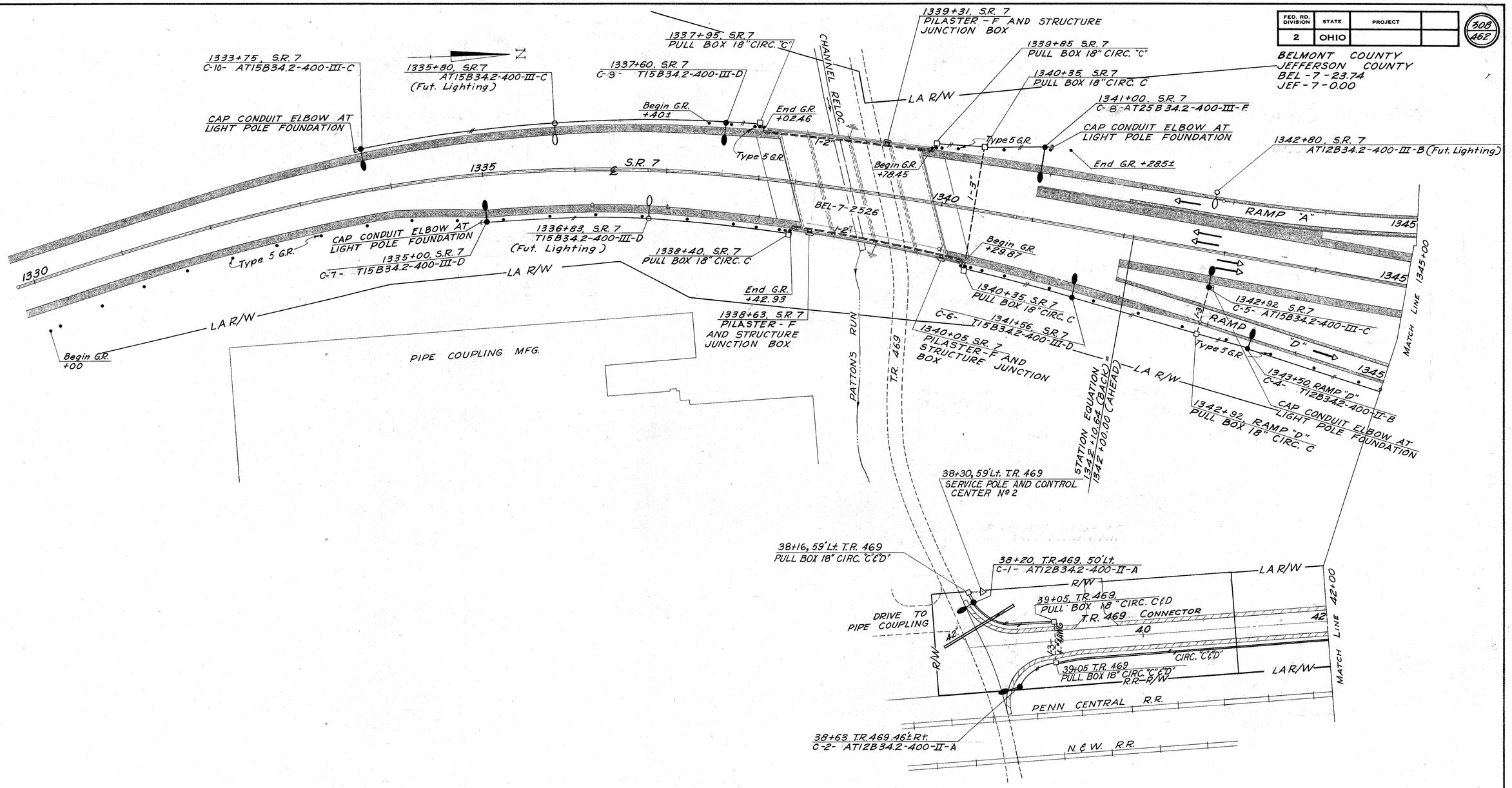
* Transformer Base Not Required at This Time For Future Poles

LIGHTING PLANS 1271+00 to 1285+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

308
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL - 7 - 23.74
JEF - 7 - 0.00



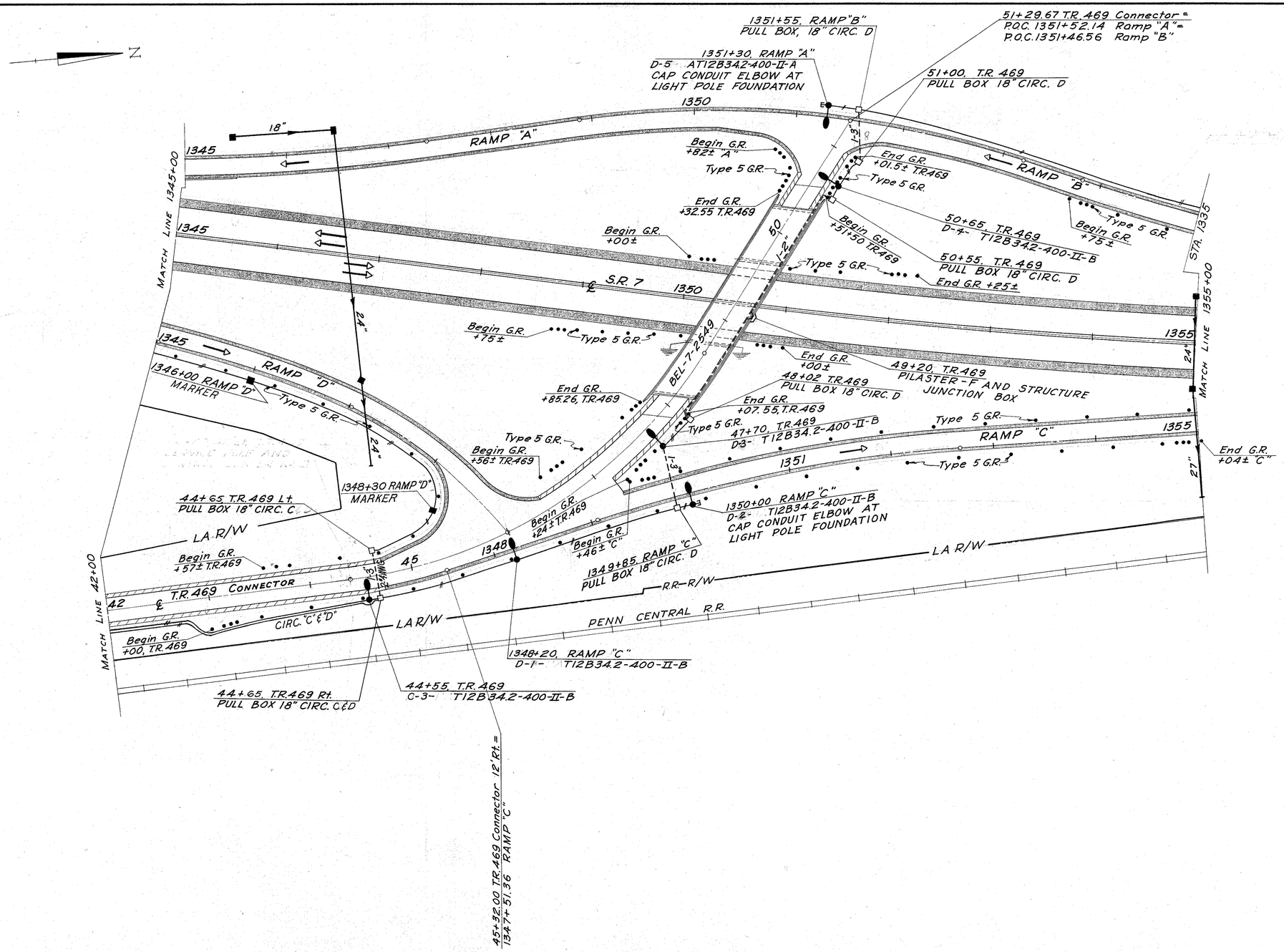
LIGHTING PLANS 1330+00 TO 1345+00

BRUNING 44-560 10943

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

309
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00



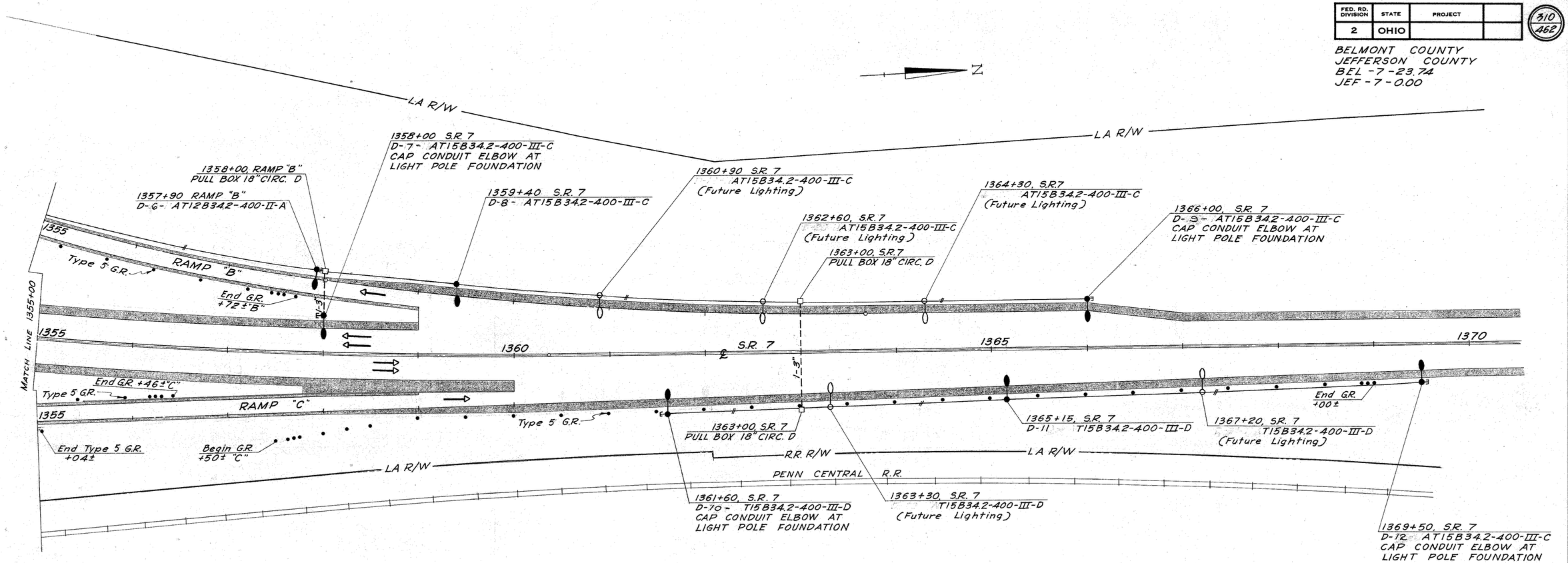
BRUNING 44-560 10943

LIGHTING PLANS 1345+00 TO 1355+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

310
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL -7 -23.74
JEF -7 -0.00



BRUNING 44-560 10943

LIGHTING PLANS 1355+00 TO 1370+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

311
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

1411+35. S.R. 7
E-6- AT15B34.2-400-III-C
LA R/W
1411+60 S.R. 7
PULL BOX 18" CIRC."E"
1413+20. S.R. 7
AT15B34.2-400-III-C
(Future Lighting)
1411+00
MATCH LINE
1411+05. S.R. 7
T15B34.2-400-III-D
(Future Lighting)
1411+60 S.R. 7
PULLBOX 18" CIRC."E"
1412+85 S.R. 7
T15B34.2-400-III-D
(Future Lighting)
1414+57 S.R.7
T15B34.2-400-III-D
(Future Lighting)
1407+10 S.R.7
E-7- AT15B34.2-400-III-C
CAP CONDUIT ELBOW AT
POLE FOUNDATION
1409+25 S.R.7
AT15B34.2-400-III-C
(Future Lighting)
1415+05 S.R.7
E-5 AT15B34.2-400-III-C
CAP CONDUIT ELBOW AT
POLE FOUNDATION
JEFFERSON COUNTY
BELMONT COUNTY
STATION EQUATION
1415+64.31 (Back) =
0+00.00 (Ahead)
0+35. S.R.7
T15B34.2-400-III-D
1+80. S.R.7
AT20B34.2-400-III-E
00+85 RAMP "A"
AT15B34.2-400-III-C
(Future Lighting)
1408+94 S.R.7
E-4- T15B34.2-400-III-D
CAP CONDUIT ELBOW AT
LIGHT POLE FOUNDATION
Sta. 0+00.00 RAMP "D"
7TH RD AVE.
1405
1410
1411+00
1415
1-3"
Type 5 G.R.
S.R. 7
LA R/W
MATCH LINE
5 RAMP "A"
Begin G.R. +96.5±
Type 5 G.R.
8+25 S.R.7
PULL BOX 18"**
End G.R.
+34.36
Begin G.R.
+53 ±
CAP CONDUIT ELBOW AT
POLE FOUNDATION
1-3"
5
End G.R.
+40.59
JEF-7-0016
U.P.
8+35 S.R.7
PULL BOX 18"**
2+20 RAMP "D"
E-01 T15B34.2-400-II-D
1+65 RAMP "D"
PULL BOX 18" CIRC.E
5 RAMP "D"
SERVICE RD "B"
End G.R.
+94
FIRST AVE.
END WORK
8+59.5 RAMP "D"
3+95. PUBLIC RD. 33.5' Rt. *
A16- AT15B34.2-400-III-A
3+15 PUBLIC RD 40' Rt.*
PULLBOX 18" CIRC. A
END WORK
8+18.5 RAMP "A"
3+05 PUBLIC RD 35' Lt.*
A17- AT15B34.2-400-III-A
10
RAMP "B"
9+30 SR.7
PILASTER-F AND STRUCTURE
JUNCTION BOX
10+40 SR.7
PULL BOX 18"**
1-2"
10
1-2"
PUBLIC ROAD
5+35 38' Rt. PUBLIC RD
PULL BOX 18" CIRC. A
SAFETY SERVICE
SWITCH
10+50 SR.7
PULL BOX 18"**
END PROJECT
10+50.91 SR.7
5+90 38' Rt PUBLIC RD
PULL BOX 18" CIRC. A
RAMP "C"
5+90 35.5' Lt. PUBLIC RD.*
A-15- AT15B34.2-400-III-A
6+75. 33' Lt.*
PULL BOX 18" CIRC.A
6+72. 33.5' Rt. PUBLIC RD *
A-01- AT15B34.2-400-III-A
WALTERS ST.
6+45. 60' Rt. PUBLIC RD.
SERVICE POLE AND
CONTROL CENTER No. 3
6+45. 38' Rt. PUBLIC RD.
PULL BOX 24" CIRC. E.E.A

*-To be constructed with JEF-7-0.20

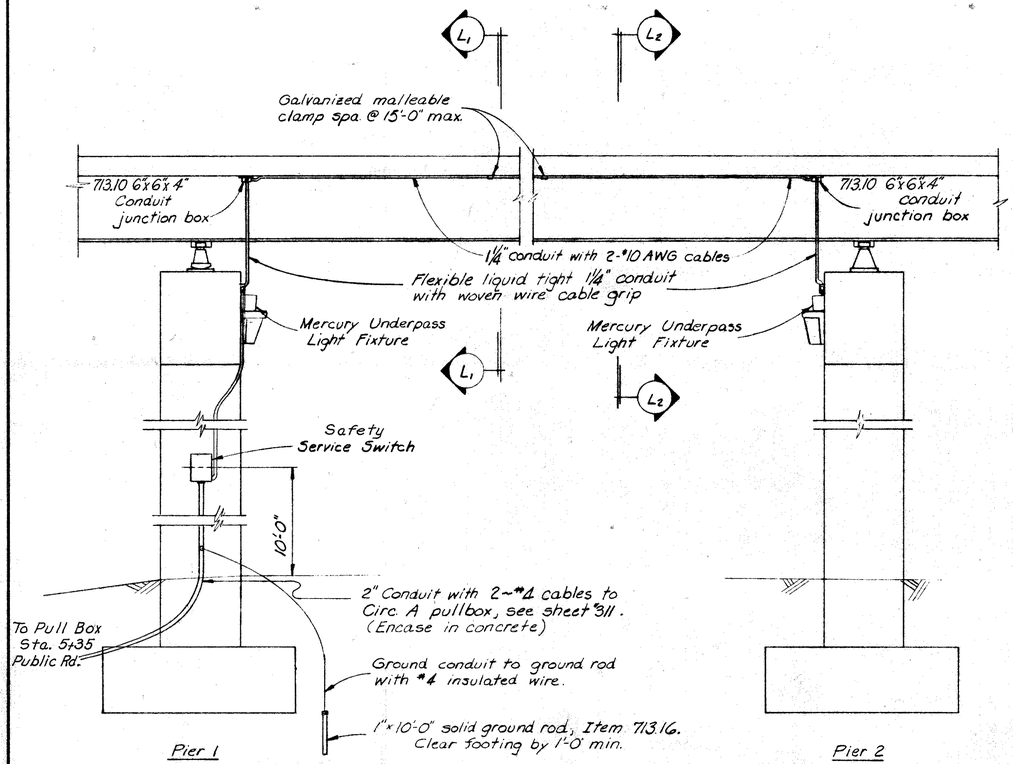
**-Cap conduit in pull box for future use

LIGHTING PLANS 1405+00 to 11+00

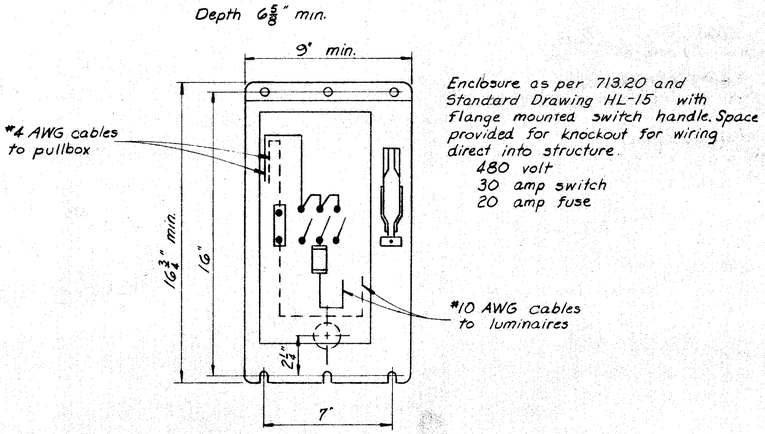
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

312
A62

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

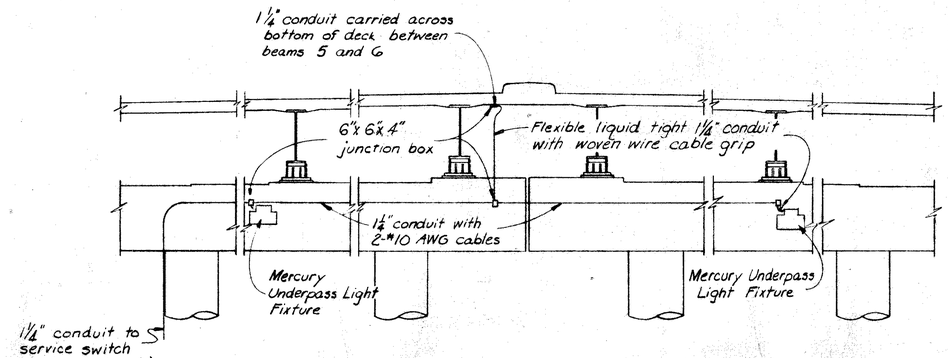


LONGITUDINAL SECTION



Enclosure as per 713.20 and Standard Drawing HL-15 with flange mounted switch handle. Space provided for knockout for wiring direct into structure.
- 480 volt
- 30 amp switch
- 20 amp fuse

SAFETY SERVICE SWITCH



SECTION L_1-L_1

SECTION L_2-L_2 (Opposite hand)

NOTES

Junction Boxes - All junction boxes shall be as per Item 713.10. Payment shall be included with service to underpass lighting.

Conduit - All conduit shall be rigid ferrous metal, as per Item 713.04.

Light Fixture Location - For location of light fixtures see General Plan & Elevation, sheet 420 and Pier 1&2 Details, sheet 424.

Luminaire Mounting - For Details of underpass Luminaire Mounting, See Standard Construction Drawing HL-6.

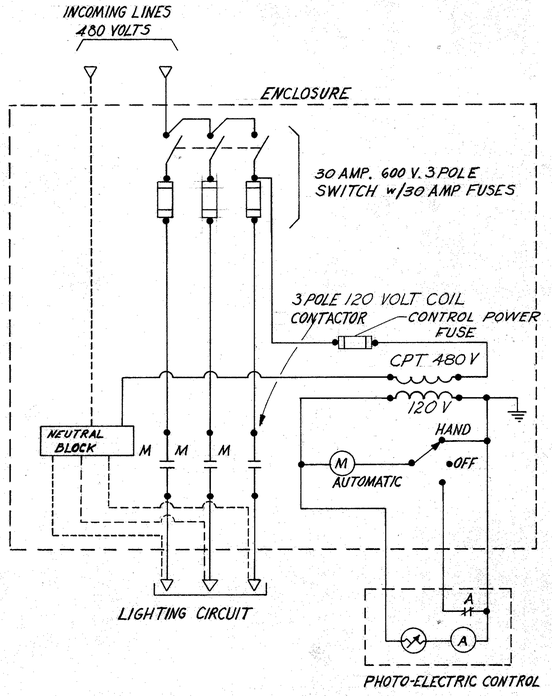
Cable
#10 Pole & Bracket Cable, as per Item 713.02

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

UNDERPASS LIGHTING DETAILS

BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8+49.89 to STA. 10+25.91

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	RT		PHB			



TYPICAL CONTROL CENTER WIRING DIAGRAM

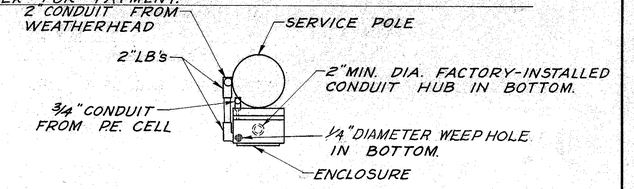
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

713
462

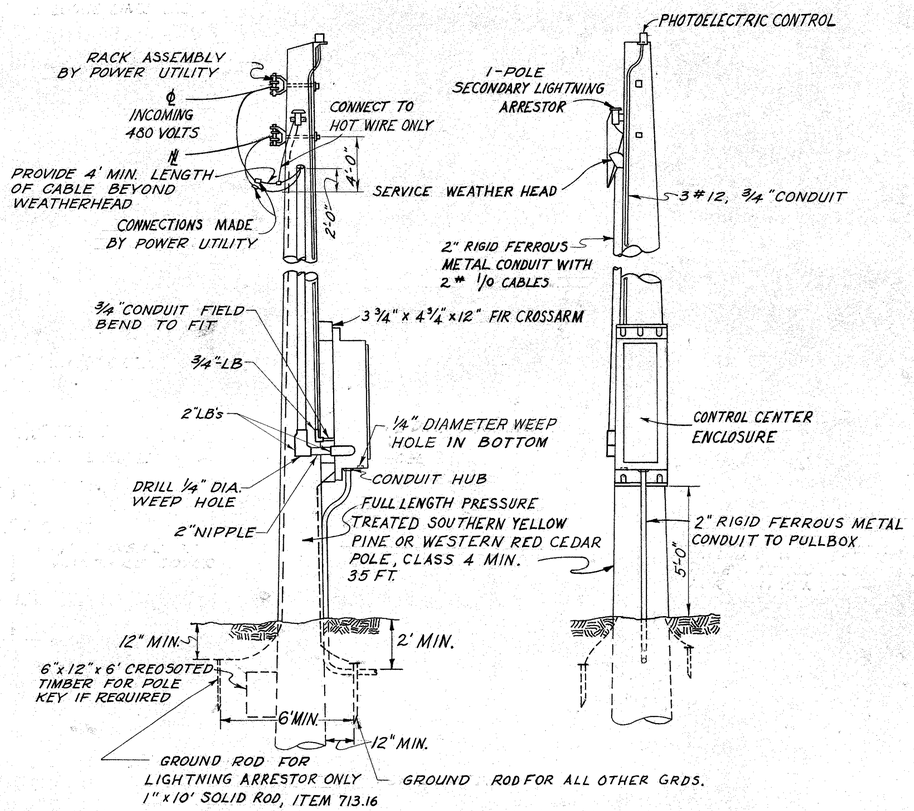
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

NOTES:

1. ALL CONDUIT SHALL BE RIGID FERROUS METAL, AS PER ITEM 713.04
2. ALL OPENINGS IN ENCLOSURES SHALL BE MADE BY FABRICATOR.
3. CONTRACTOR MAY ELIMINATE ANY LB CONDUIT FITTINGS BY FIELD BENDING CONDUIT TO ACHIEVE THE SAME RESULTS PROVIDED THE WORK IS APPROVED BY THE ENGINEER.
4. ALL CONDUIT TO FIRST PULL BOX INCLUDED WITH SERVICE POLE AND CONTROL CENTER FOR PAYMENT.



PLAN



LEFT SIDE VIEW

FRONT ELEVATION

LIGHTING CONTROL CENTER

FOR ADDITIONAL DETAILS AND REFERENCE SEE STANDARD CONSTRUCTION DRAWING'S HL-15 AND HL-16.

LIGHTING DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

316
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

815 SIGN ERECTION, EXTRUSHEET OR FLAT SHEET TYPE
THE CONTRACTOR SHALL ERECT SIGN PANELS AS INDICATED ON THE SCHEMATIC SIGNING PLAN SHEET NUMBER(S) 320-326. THE PANELS WILL BE FURNISHED BY OTHERS AND SHALL BE MOUNTED ON THE BRACKETS OR BEAM SUPPORTS PROVIDED IN THE PLANS.
ALL SIGN MATERIAL AND ACCESSORIES WILL BE FURNISHED AND TRANSPORTED BY OTHERS TO A DELIVERY POINT DESIGNATED BY THE CONTRACTOR ON OR NEAR THE SUBJECT PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HANDLING, PROTECTION AND STORAGE OF THE SIGN PANELS AND ACCESSORIES FROM THE TIME OF UNLOADING BY OTHERS AT THE DELIVERY POINT.
LARGE GUIDE SIGNS (OVER 8 FEET IN HEIGHT) MAY BE DELIVERED IN TWO PIECES. WORK SHALL ALSO CONSIST OF ASSEMBLY OF THESE PANELS INCLUDING ATTACHMENT OF DEMOUNTABLE SIGN LEGEND, WHERE NECESSARY, AND ERECTION OF SIGNS IN CONFORMANCE WITH THE SCHEMATIC SIGN PLAN.
THE CONTRACTOR SHALL SUBMIT, IN THREE COPIES, A SCHEDULE FOR SIGN ERECTION TO THE ENGINEER AT LEAST 120 CALENDAR DAYS PRIOR TO THE START OF ANY SCHEDULED ERECTION WORK. THE SCHEDULE SHALL INCLUDE PROPOSED DATES, SIGN NUMBERS, AND DELIVERY POINT. THE ENGINEER WILL FURNISH COPIES OF THE SCHEDULE TO THE DISTRICT TRAFFIC ENGINEER AND TO THE ENGINEER OF DESIGN SERVICES, 25 SOUTH FRONT STREET, COLUMBUS, OHIO, 43215.
THE PRICE BID PER SQUARE FOOT FOR 'ITEM 815, SIGN ERECTION, BY TYPE', SHALL INCLUDE PAYMENT FOR ALL NECESSARY EQUIPMENT, LABOR, AND TOOLS TO STORE, ASSEMBLE, AND ERECT THE SIGNS AS SPECIFIED.

816 STRUCTURAL SUPPORTS, STEEL BEAM (TYPE)
THE STRUCTURAL STEEL BEAM SUPPORTS INCLUDING 6 POUND BEAMS, 4 POUND POST AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AND A-153 RESPECTIVELY. ALL FABRICATION SHALL BE COMPLETED PRIOR TO GALVANIZING.
QUANTITIES FOR ITEM 816 'STRUCTURAL SUPPORTS, STEEL BEAM (TYPE)' APPEARING IN THE QUANTITY TABLES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT SUPPORT LENGTHS PRIOR TO FABRICATION AND GALVANIZING OF SUPPORTS. PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID PER LIN. FT. WHICH PRICE AND PAYMENT SHALL INCLUDE ALL COSTS IN CONNECTION WITH THE PLACEMENT OF THE SUPPORTS.
THE COST OF THE CONCRETE USED FOR EMBEDMENT WILL BE A SEPARATE PAY ITEM.

816 BREAKAWAY SIGN SUPPORT CONNECTION
THIS ITEM CONSISTS OF CUTTING AND DRILLING THE STRUCTURAL SUPPORT, FURNISHING AND ATTACHING THE FUSE PLATE, AND FURNISHING AND ATTACHING THE BASE PLATES FOR EACH STRUCTURAL SIGN SUPPORT AS INDICATED ON THE PLANS.
ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO FABRICATE AND INSTALL THIS ITEM FOR EACH SIGN SUPPORT (EXCLUSIVE OF THE STRUCTURAL SIGN SUPPORT) WILL BE MEASURED AND PAID FOR AT THE UNIT PRICE BID FOR ITEM 816 EACH BREAKAWAY SIGN SUPPORT CONNECTION.

816 STRUCTURAL SUPPORTS, DRIVEN, AS PER PLAN
ALL 4 POUND POST TO BE PLACED IN
CONCRETE MEDIANS SHALL BE DRIVEN THROUGH A SIX-INCH DIAMETER HOLE IN THE CONCRETE TO A DEPTH OF FIVE FEET BELOW THE SURFACE. SUPPORTS SHALL BE DRIVEN USING A DRIVING CAP IN SUCH A MANNER THAT NO DEFORMATION WITHIN THE LENGTH OF THE SUPPORT OR DAMAGE TO THE SUPPORT WILL OCCUR.
PRIOR TO INSTALLATION EACH SUPPORT SHALL BE SIGNIFICANTLY MARKED WITH PAINT AT A LOCATION ON THE SUPPORT 5 FT.-6 IN. FROM THE EMBEDDED END AND APPROVED BY THE ENGINEER.
THE HOLE IN THE CONCRETE SHALL BE FILLED WITH ASPHALT OR PORTLAND CONCRETE AFTER THE POST IS IN THE PROPER POSITION.
REFERENCE THE TSP-1 DRAWING, SHEET NO. 334 OF THIS PLAN.
BASIS OF PAYMENT FOR THIS ITEM OF WORK WILL BE AT THE UNIT PRICE PER LINEAR FOOT, WHICH SHALL INCLUDE ALL LABOR TOOLS AND INCIDENTALS NECESSARY TO PERFORM THE REQUIRED WORK.

816 STRUCTURAL SUPPORTS, 6 LB. BEAM, AS PER PLAN DRIVEN
THIS ITEM SHALL CONSIST OF THE FURNISHING, ASSEMBLY, AND INSTALLATION OF TWO (2) 3 LB. PER FOOT DRIVE POSTS (6 LB. BEAM) IN COMBINATION WITH A SQUARE WELDED OR SEAMLESS GALVANIZED TUBULAR POST EXTENSION SPLICED TO THE TOP OF THE 6 LB. BEAM. DETAILS ARE SHOWN ON SHEET 329 .
SQUARE SEAMLESS TUBULAR POST MATERIAL SHALL CONFORM TO ASTM-570 GRADE B AFTER FABRICATION MINIMUM 55,000 PSI ULTIMATE YIELD 45,000 PSI.
WORK SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND HARDWARE NECESSARY TO PERFORM THE REQUIRED ITEM OF WORK.
BASIS OF PAYMENT SHALL BE FOR STRUCTURAL SUPPORTS, 6 LB. BEAM, AS PER PLAN DRIVEN PER LINEAR FOOT MEASURED BY TOTAL LENGTH OF COMBINATION BEAM FROM END TO END.

816 STRUCTURAL SUPPORTS DRIVEN TYPE

DRIVEN TYPE STRUCTURAL SUPPORTS WILL BE DRIVEN TO A DEPTH OF FIVE FEET (5 FT.) MINIMUM BELOW GROUND LINE IN SUCH A MANNER THAT NO DEFORMATION WITHIN THE LENGTH OF THE SUPPORT, OR DAMAGE TO THE SUPPORT, WILL OCCUR.

PRIOR TO INSTALLATION EACH SUPPORT SHALL BE SIGNIFICANTLY MARKED WITH PAINT AT A LOCATION ON THE SUPPORT 5 FT. 6 IN. FROM THE EMBEDDED END, AND APPROVED BY THE ENGINEER.

'STRUCTURAL SUPPORTS 6 LB. BEAM, DRIVEN AND 6 LB. BEAM, DRIVEN AS PER PLAN' WILL INCLUDE THE 10 IN.X 12 IN.X 1/4 IN. SOIL PLATE DETAILED IN THE PLANS.

PAYMENT FOR INSTALLATION OF SIGN SUPPORTS BY THE ABOVE METHOD SHALL BE INCLUDED IN THE COST OF THE VARIOUS SUPPORT TYPES SPECIFIED INCLUDING ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED.

202 REMOVAL OF EXISTING SIGN INSTALLATIONS, AS PER PLAN
THIS WORK SHALL CONSIST OF THE REMOVAL OF ALL EXISTING SIGN INSTALLATIONS ON MAIN ROADWAY, RAMPS AND APPROACH ROADWAYS WITHIN WORK LIMITS OF THIS PROJECT.
WORK SHALL ALSO INCLUDE REMOVAL OF SIGN SUPPORTS AND FOUNDATIONS AS REQUIRED IN SECTION 202.
ALL SIGNS SUPPORTS AND ACCESSORIES REMOVED SHALL BE STORED NEATLY WITHIN THE LIMITS OF THE PROJECT AT LOCATIONS APPROVED BY THE ENGINEER FOR REMOVAL BY STATE FORCES. THIS WORK SHALL INCLUDE DISPOSAL OF ALL WASTE MATERIAL.
TO ASSURE MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AT ALL TIMES, NO SIGNS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
PAYMENT FOR REMOVAL OF EXISTING SIGNS SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO PERFORM THE REQUIRED WORK AS INDICATED ABOVE.
BASIS OF PAYMENT SHALL BE AS FOLLOWS FOR SIGNS FORTY (40) SQUARE FEET OR GREATER
REMOVAL OF EXISTING MAJOR SIGN INSTALLATIONS AS PER PLAN AT THE CONTRACT PRICE PER EACH.
BASIS OF PAYMENT SHALL BE AS FOLLOWS FOR ALL OTHER SIGNS
REMOVAL OF EXISTING SIGN INSTALLATIONS AS PER PLAN AT THE CONTRACT LUMP SUM PRICE.

623 CONSTRUCTION LAYOUT STAKES FOR SIGNS

THE CONTRACTOR SHALL STAKE OUT ALL SIGN
SUPPORTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 PRIOR TO INSTALLATION OF ANY FOUNDATIONS OR SUPPORTS.
AFTER STAKEOUT THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF SEVEN (7) DAYS IN ADVANCE OF SCHEDULED WORK.
SUPPORT LOCATIONS FOR EACH SUPPORT WILL BE FIELD CHECKED TAKING INTO ACCOUNT BOTH UNDERGROUND AND OVERHEAD OBSTRUCTIONS AND CONFLICTS AND APPROVED BY THE ENGINEER WHO SHALL COORDINATE WITH THE DISTRICT AND/OR CITY TRAFFIC ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION WORK REQUIRED.
IF BOTH MAJOR AND MINOR TYPE SUPPORTS ARE INCLUDED WITHIN THE PROJECT IT WILL BE PERMISSIBLE TO PERFORM THE CONSTRUCTION STAKEOUT AND FIELD INSPECTION IN TWO (2) STAGES, ONE FOR MAJOR SUPPORTS AND ONE FOR MINOR SUPPORTS.
COST FOR THIS ITEM OR WORK WILL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 623 'CONSTRUCTION LAYOUT STAKES'

EXISTING SIGNS
EXISTING SIGNS LOCATED WITHIN THE ROADWORK AREAS WHICH ARE NECESSARY FOR INTERIM OR PERMANENT TRAFFIC CONTROL SHALL BE REMOVED AND RE-ERECTED IN LOCATIONS INDICATED BY THE PLANS OR AS APPROVED BY THE ENGINEER. STOP SIGNS WILL BE MAINTAINED AT ALL TIMES WHILE TRAFFIC IS MAINTAINED. THE COST OF REMOVAL, RE-ERECTION AND SUBSEQUENT REMOVAL IF REQUIRED SHALL BE CONSIDERED A SUBSIDIARY WORK ITEM, THE COST OF WHICH SHALL BE INCLUDED IN THE PRICE BID FOR THE ROADWAY WORK ITEMS. THE SIGNS WHICH ARE TO BE RE-ERECTED ON THE BERMS SHALL BE LOCATED WITH THE CENTER LINE OR SUPPORT ON THE P.I. OF THE SHOULDER.

ITEM 621 EXISTING INTERIM PAVEMENT MARKINGS REMOVED
THIS ITEM SHALL CONSIST OF THE REMOVAL OR OBLITERATION OF INTERIM PAVEMENT MARKINGS ON THE PAVEMENT.
THE MARKINGS MAY BE REMOVED BY APPLYING HEAT OR A SOLVENT (PULL UP TAPE) OR BY ANY OTHER METHOD APPROVED BY THE ENGINEER EXCEPT THAT THE METHOD SHALL NOT BE INJURIOUS TO THE APPEARANCE, TEXTURE OR STRENGTH OF THE PAVEMENT.
UPON REMOVAL OF ALL PULL UP TAPE, THE PRIMER STAINS SHALL BE REMOVED BY USE OF KEROSINE, GASOLINE OR OTHER APPROVED SOLVENT.
PAYMENT FOR ITEM 621 EXISTING INTERIM PAVEMENT MARKINGS REMOVED SHALL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT AND SHALL CONSTITUTE FULL COMPENSATION FOR ALL WORK, INCLUDING MATERIALS, EQUIPMENT, LABOR, INCIDENTALS AND DISPOSAL OF SURPLUS MATERIALS.

816 CONCRETE FOUNDATIONS, FOR SIGN SUPPORTS
PAYMENT FOR THIS ITEM SHALL BE BASED ON PLAN DIMENSIONS (OR DIMENSIONS AS MODIFIED BY THE ENGINEER IN LIEU OF PLAN QUANTITIES) AS REQUIRED IN SUPPLEMENTAL SPECIFICATION 816. Concrete shall be class 'C'.
BASIS OF PAYMENT SHALL BE AS FOLLOWS.
CONCRETE FOR GROUND MOUNTED SIGN SUPPORT FOUNDATIONS, PER CUBIC YARD.

202 INTERIM GUARDRAIL, REMOVE AND STORE, AS PER PLAN
THIS WORK SHALL CONSIST OF THE REMOVAL OF EXISTING TEMPORARY GUARDRAIL, BARRELS, SIGNS, DELINEATORS, AND POST.
ALL ITEMS REMOVED SHALL BE STORED AS SPECIFIED BY THE ENGINEER. TO BE PICKED UP BY STATE'S FORCES. THIS WORK SHALL INCLUDE DISPOSAL OF ALL WASTE MATERIAL.
TO ASSURE MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AT ALL TIMES, NO ITEMS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
THE QUANTITY REMOVED AND STORED WILL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT WHICH PRICE SHALL BE FULL COMPENSATION FOR REMOVAL AND STORAGE OR DISPOSAL OF GUARDRAIL, BARRELS, SIGNS, DELINEATORS, POST AND CLEANING OF SITE INCLUDING ALL NECESSARY LABOR AND EQUIPMENT.

FHWA REGION	STATE	PROJECT	
5	OHIO		

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BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

U-430(15) (URBAN)	RF-430(15) (RURAL)	PROJECT TOTAL	ITEM	UNIT	DESCRIPTION Code 7223
6	128	134	620	EA.	DELINEATORS, TYPE A, POST MOUNTED
	121	121	620	EA.	DELINEATORS, TYPE D, POST MOUNTED
	5	5	620	EA.	DELINEATORS, TYPE A, BRACKET MOUNTED
	2	2	620	EA.	DELINEATORS, TYPE D, BRACKET MOUNTED
0.52	15.23	15.75	621	MI.	EDGE LINES
0.26	6.79	7.05	621	MI.	4 IN. LANE LINES
	0.28	0.28	621	MI.	CENTER LINES
	3586	3586	621	L.F.	CHANNELIZING LINES
	1251	1251	621	L.F.	CURB MARKING
	206	206	621	L.F.	24 IN. STOP LINES
	2568	2568	621	L.F.	24 IN. BROAD TRANSVERSE LINES
	3	3	621	EA.	LANE ARROWS
	1425	1425	621	L.F.	EXISTING INTERIM PAVEMENT MARKINGS REMOVED
	103	103	621	L.F.	8 IN. CROSSWALK LINES
	457	457	815	S.F.	SIGN ERECTION, FLAT SHEET TYPE
22	956	978	815	S.F.	SIGN ERECTION, EXTRU SHEET TYPE
	219	219	816	L.F.	STRUCTURAL SUPPORT, 4 POUND POST, DRIVEN
28	818	846	816	L.F.	STRUCTURAL SUPPORT, 6 POUND BEAM, DRIVEN
	46	46	816	L.F.	STRUCTURAL SUPPORT, 4 POUND POST, DRIVEN, As Per Plan
	44	44	816	L.F.	STRUCTURAL SUPPORT, 6 POUND BEAM, DRIVEN, As Per Plan
	239	239	816	L.F.	STRUCTURAL SUPPORT STEEL BEAM, 10WF21
	15	15	816	C.Y.	CONCRETE FOR GROUND MOUNTED SIGN SUPPORTS FOUNDATIONS
	12	12	816	EA.	BREAKAWAY SIGN SUPPORT CONNECTION
lump	lump	lump	202	LUMP	REMOVAL OF EXISTING SIGN INSTALLATION, AS PER PLAN
	3	3	202	EA.	REMOVAL OF EXISTING MAJOR SIGN INSTALLATION. AS PER PLAN
	950	950	202	L.F.	INTERIM GUARD RAIL, REMOVE AND STORE. AS PER PLAN

A. E. STILSON & ASSOC.
Quantities Calculated J.R.F. 4-74
Quantities Checked D.L.B. 4-74

TRAFFIC CONTROL GENERAL SUMMARY

A. E. STILSON & ASSOC.
Quantities Calculated J. E. N. June 1970
Quantities Checked J. E. F. Aug. 1970

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

318
462

A. E. STILSON & ASSOC.
Quantities Calculated J. R. F. 4-74
Quantities Checked D. L. B. 4-74

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

RF-430(15) / U-RF-430(15)

Reference No	Sign Identification	816 Steel Drive Post One Post #4 Post Driven LF.	#6 Beam Driven LF.	#4 Post Driven As Per Plan LF.	#6 Beam As Per Plan Driven LF.	Two Post #6 Beam Driven LF.		Structural Support 10WF21 LF.	Conc. For Sign Support C.Y.	Breakaway Sign Support Connection EA.		815 Sign Erection Extru Sheet S.F.	Sign Erection Flat Sheet S.F.	
1	R-1-30	14											6.2	
2	R-1-30	14											6.2	
3	M-17-24	14											2.0	
	M-2-24												4.0	
3A	W-45-36		15										9.0	
4	R-1-30	14											6.2	
4A	M-40-24	15											2.0	
	M-2-24												4.0	
5	D-4-1					28						22.0		
6	GX					37						36.0		
7	M-37-30	15											3.1	
	M-2-30												6.3	
8	D-4-1					28						22.0		
9	R-10-36		17										12.0	
	R-16-36												9.0	
10	D-6-80					32						23.3		
10A								38	2.5	2		70.0		
11								42	2.5	2		91.0		
11A	R-10-36		17										12.0	
	R-16-36												9.0	
11B	M-38-30	15											3.1	
	M-2-30												6.3	
11E	M-37-30	15											3.1	
	M-2-30												6.3	
12	D-6-80					32						23.3		
12A	R-10-36		17										12.0	
	R-16-36												9.0	
13	R-10-36		17										12.0	
	R-16-36												9.0	
13A								38	2.5	2		70.0		
14	M-38-30	15											3.1	
	M-2-30												6.3	
15	G1					32						24.0		
16	W-49R-48, *		15										18.0	
17	GK					30						21.0		
18								41	2.5	2		91.0		
19	G1					32						28.0		
20	N-12-72					32						30.0		
21	D-4-1					30						16.0		
22	GK					28						27.0		
23	M-38-30	14											3.1	
	M-2-30												6.3	
24	M-45-42		17									17.5		
25	R-1-36		14										9.0	
26	D-1-72					30						18.0		
27	R-1-30	15											6.2	
	[illegible]													
	[illegible]													
	[illegible]													
29	R-37R-36			15									10.5	
30	M-45-42		17									17.5		
31	[illegible]													
31	M-2-24		15										4.0	
	M-25-21												2.2	
32	R-37R-36			15									10.5	
33	M-45-42		16									17.5		
34	R-41B-36				14								9.0	
	R-43R-36												3.0	
	R-43L-36												3.0	
35	R-41B-36		15										9.0	
	R-1-48												16.0	
36	M-38-30	14											3.1	
	M-2-30												6.3	
37								41	2.5	2		70.0		

CONTINUED

RF-430(15)

Reference No	Sign Identification	816 Steel Drive Post One Post #4 Post Driven LF.	#6 Beam Driven LF.	#4 Post Driven As Per Plan LF.	#6 Beam As Per Plan Driven LF.	Two Post #6 Beam Driven LF.		Structural Support 10WF21 LF.	Conc. For Sign Support C.Y.	Breakaway Sign Support Connection EA.		815 Sign Erection Extru Sheet S.F.	Sign Erection Flat Sheet S.F.	
38	M-8-24		15										2.0	
	M-2-24												4.0	
	M-21-21												2.2	
39	M-45-42		17									17.5		
40	M-45-42		17									17.5		
41	R-1-36		15										9.0	
42	M-8-24		15										2.0	
	M-2-24												4.0	
	M-21-2												2.	
43	N-12-72					32						30.0		
44	D-4-1					27						20.0		
45	W-49R-48, *		15										18.0	
46	R-1-48		15										16.0	
	R-41B-36												9.0	
47	R-43R-36			15									3.0	
	R-41B-36												9.0	
	R-36L-36												3.0	
48	D-3-24G					25						20.0		
49	M-45-42		17									17.5		
50	R-41B-36			15									9.0	
	R-43L-36												3.0	
51	R-41B-36		15										9.0	
	R-1-48												16.0	
52	D-4-1					27						20.0		
53	W-49R-48, *		15										18.0	
54	N-12-72					32						30.0		
55								39	2.5	2		70.0		
56	R-41A-36	15											12	
57	R-41A-36	15											12	
58	R-41A-36	15											12	
	U-RF-430(15) TOTAL TO G.S.					28						22		
	RF-430(15) TOTAL TO G.S.	219	332	46	44	486		239	15	12		956	457	

*-WP-49-24

U-RF-430(15) / RF-430(15)

ITEM 620 DELINEATORS

Station From	Station To	Side	Interval	Post A Ea.	Post D Ea.	Bracket A Ea.	Bracket D Ea
S.R. 7			L.F.				
1260+00	1264+00	R&L		6			
1264+00	1330+00	L	200	30			
1260+00	1332+00	R	200	37			
1342+00 (Ahead)	1358+00	R	200	9			
1344+00	1358+00	L	200	8			
1368+00	1406+00	L	200	19		1@1388+00	
1370+00	1406+00	R	200	18		1@1388+00	
1+00	9+00	R	200	4		1@ 9+00	
3+00	9+00	L	200	3		1@ 9+00	
T.R. 469 Interchange							
Ramp "A"							
1330+60	1337+00	L	80		9		
1338+00	1341+00	L	100		3	1@1339+00	
1342+00 Ahead	1344+00	L	100		3		
1344+00	1347+00	R	100		4		
1349+60	1351+40	L	60		4		
1347+00	1349+00	L	100		3		
Ramp "B"							
1351+80	1353+00	L	60		3		
1354+00		L			1		
1354+00	1358+00	R	100		5		
1358+00	1367+00	L	100		10		
Ramp "C"							
1349+80	1353+00	L	80		5		
1353+00	1369+00	R	100		17		
Ramp "D"							
1334+00	1335+00	R	100		2		
1335+70	1337+50	R	60		4		
1338+50	1339+50	R	100				2.
1340+50	1345+50	R	100		6		
1345+50	1346+50	L	100		2		
1347+10		L			1		
1347+50	1348+70	L	40		4		
Public Rd. Inter. Ramp "A"							
1406+50	1415+50	L	100		10		
0+86	7+86	L	100		8		
Ramp "D"							
1407+94	1414+94	R	100		8		
0+14	8+14	R	100		9		
U-RF-430(15) TOTAL TO G.S.				6			
RF-430(15) TOTAL TO G.S.				128	121	5	2

U-RF-430(15) / RF-430(15)

202

Reference Number	Station	Removal of Ex. Signs Lump	Removal of Ex. Mail Sign Ea.	Guard Rail Removed And Stored L.F.
1-R	1254+00	1		
2-R	1256+06	1		
3-R	1259+26	1		
4-R	1259+26	1		
5-R	1260+75	1		
6-R	1261+11	1		
7-R	1262+56	1		
8-R	1267+31	1		
9-R	1276+00	1		
10-R	14+50 Ramp "B"	1		
11-R	16+50 Ramp "B"	1		
12-R	17+00 To 26+00	7		
13-R	31+00	1		
14-R	43+00		1	
15-R	53+00		1	
16-R	71+00		1	
17-R	16+75 To 26+00			950.0
U-RF-430(15) TOTAL TO G.S.		7		
RF-430(15) TOTAL TO G.S.		12	3	950

SUB-SUMMARY

BRUNING 44-560 10943

621

STATION FROM	TO	SIDE	Edge Lines White L.F.	Edge Lines Yellow L.F.	4" Lane Line L.F.	Centerline Double Solid Yellow L.F.	Channelizing Lines White L.F.	Curb Marking White L.F.	24" Stop Lines L.F.	24" Broad Transverse Stripes L.F.	Ex. Interim Pavement Marking Removed L.F.	Lane Arrow Ea.	Crosswalk Lines 8" L.F.
North Bound S.R. 7													
1258+00	1265+23.20	R	723.2										
1258+00	1265+23.20	L		723.2									
1258+00	1265+23.20	℄			723.2								
South Bound S.R. 7													
1258+72.00	1265+23.20	L	651.2										
1258+72.00	1265+23.20	R		651.2									
1258+72.00	1265+23.20	℄			651.2								
			1374.4	1374.4	1374.4								
			5280	5280	5280								
Total U-RF-430(15) To General Summary			0.26 Mi.	0.26 Mi.	0.26 Mi.								
North Bound S.R. 7													
1265+23.20	1268+14.00	R	290.8										
1265+23.20	1268+14.00	L		290.8									
1265+62.00	1268+12.00	L					250.00						
1265+25.20	1342+10.64	℄			7687.44								
1269+25.00	1342+10.64	L		7285.64									
1268+14.00	1334+00.00	R	6586.00										
1342+00 (Back)	1342+10.64	R	10.64										
1342+00 (Ahead)	1364+40.00	R	2240.00										
1342+00 (Ahead)	1415+64.31	L		7364.31									
1342+00 (Ahead)	1415+64.31	℄			7364.31								
1370+00.00	1407+93.59	R	3793.59										
1415+64.31 (Back) = 0+00.00 (Ahead)													
0+00.00	10+50.91	L		1050.91									
0+00.00	10+50.91	℄			1050.91								
0+75.00	10+50.91	R	975.91										
South Bound S.B. 7													
1265+23.20	1268+14.00	L	290.8										
1265+23.20	1268+14.00	R		290.8									
1265+23.20	1342+10.64				7687.44								
1269+40.00	1331+00.00	L	6160.00										
1269+25.00	1342+10.64	R		7285.64									
1336+60.00	1342+10.64	L	550.64										
1342+00 (Ahead)	1415+64.31	R		7364.31									
1342+00 (Ahead)	1415+64.31	℄			7364.31								
1342+00 (Ahead)	1359+00.00	L	1700.00										
1367+00.00	1406+48.31	L	3948.31										
1412+08.31	1415+64.31	L	356.00										
0+00.00	10+50.91	L	1050.91										
0+00.00	10+50.91	℄			1050.91								
0+00.00	10+50.91	R		1050.91									
10+50.91	16+75.00	L	624.09										
10+50.91	31+00.00	℄			2049.09								
10+50.91	31+00.00	R		2049.09									
25+20.00	31+00.00	R									580.00		
T.R. 469 Interchange													
Ramp "A"													
1336+60.00	1339+00.00	R			240.00								
1339+00.00	1341+00.00	R					200.00						
1331+00.00	1342+10.64	L	1110.64										
1342+00.00	1351+52.14	L	952.14										
1341+00.00	1342+10.64	R						110.64					
1342+00.00	1345+50.00	R						350.00					
1342+00 (Back)	1342+10.64	R		10.64									
1342+00 (Ahead)	1351+09.00	R		924.00									
Ramp "B"													
1351+46.56	1367+00.00	L	1553.44										
1351+70 & 1352+20		R							19.00			1	
1351+46.56	1359+00.00	R		757.00									
1361+70.00	1364+10.00	R			240.00								
1359+00.00	1361+70.00	R					540.00						
1359+00.00	1361+70.00	R								512.00			
Ramp "C"													
1347+51.36	1370+00.00	R	2248.64										
1349+35.00	1359+00.00	L		965.00									
1355+50.00	1360+00.00	L						450.00					
1360+00.00	1362+00.00	L					200.00						
1362+00.00	1364+40.00	L			240.00								
1348+75.00	1349+35.00	L					117.00						
1348+75.00	1349+35.00	L								96.32			
Ramp "D"													
1334+00.00	1336+18.50	R	215.00										
1336+18.50	1348+00.00	R	1181.50										
1348+00.00	1348+43.50	R	56.00										
1348+43.50 Rt.	1348+63.00 Lt.								55.00				
1336+70.00	1338+70.00	L			200.00								
1338+70.00	1341+95.00	L					650.00						
1338+70.00	1341+95.00	L								613.82			
1341+95.00	1348+63.00	L		670.00									
1348+07												1	
T.R. 469 Connector													
38+47		L							12.00				
38+15.00	45+49.50	L	748.50										
38+41.00	45+32.00	R	711.00										
38+80.00	50+43.00	℄				1163.00							
47+10.00	50+93.50	R	389.50										
46+08.50	50+60.00	L	460.50										
Public Road Interchange Ramp "A"													
1415+64.31 (Back) = 0+00.00 (Ahead)													
1414+48.31	0+84.00	R					200.00						
1412+08.31	1414+48.31	R			240.00								
1406+48.31	1415+64.31	L	916.00										
0+00.00	8+18.00	L	818.00										
0+84.00	4+24.00	R						340.00					
1+84.00	8+18.00	R		634.00									
Ramp "B"													
16+75.00	20+00.00	R					650.00						
16+75.00	20+00.00	R								613.82			
20+00.00	22+40.00	R			240.00								
16+75.00	25+20.00	R									845.00		
Ramp "D"													
1407+93.56	1415+79.82	R	786.26										
0+00.00	8+60.00	R	860.00										
1412+50.00	1415+64.31	L					628.62						
0+00.00	0+75.00	L					150.00						
1412+50.00	0+75.00	L								732.24			
1410+71.78	1412+46.78	L			175.00								
0+60.00	8+60.00	L		800.00									
9+04.00 L+R	& 8+55.00 ℄								37.00			1	103
S.R. 798													
6+55.00	9+55.00	℄				300.00							
9+55.00		R							21.00				
11+65.00 Access Rd. "A"		R							20.00				
5+45.00 Access Rd. "B"		L							20.00				
0+25.00 Access Rd. "C"		L							10.00				
4+80.00 Valley Drive		R							12.00				
			41,504.81/5280	38,733.05/5280	35,823.24/5280	1,463.63/5280							
Total RF-430(15) To General Summary			7.88 Mi.	7.35 Mi.	6.79 Mi.	0.28 Mi.	3586 L.F.	1251 L.F.	206 L.F.	2568 L.F.	1425 L.F.	3	103

SUB-SUMMARY

A. E. STILSON & ASSOC.
Quantities Calculated JRF 3/74
Quantities Checked DLB 3/74

FHWA REGION	STATE	PROJECT
5	OHIO	

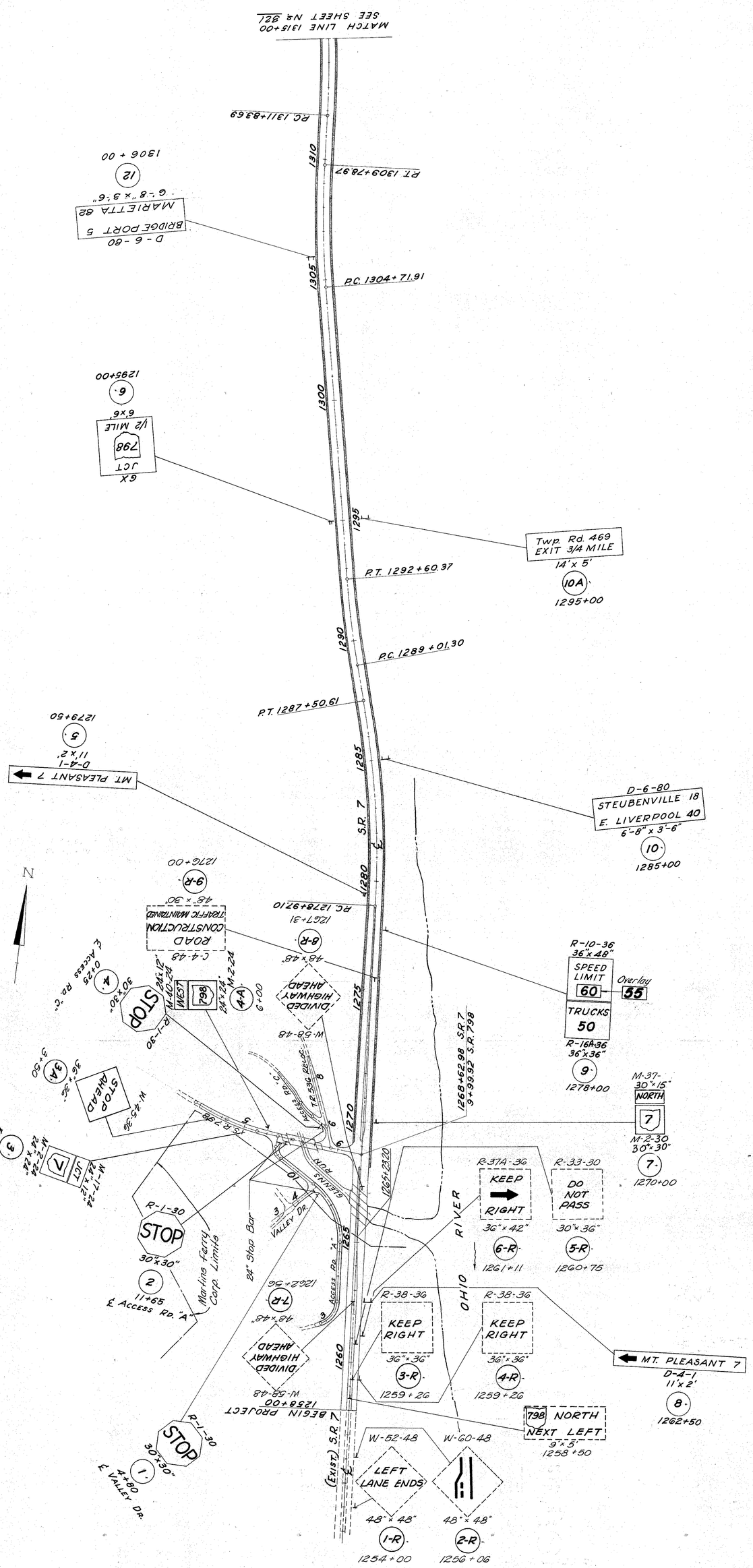
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

319
462

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

SIGN LOCATION 1255+00 to 1315+00



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

321
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

MATCH LINE 1315+00 SEE SHEET NO 322

R-10-36 36"x48" SPEED LIMIT 60 Overlay 55 TRUCKS 50 R-16A36 36"x36" (11A) 1316+00

P.T. 1320+12.15

1320 1325 1330 1335 1340

M-38-30 30"x15" SOUTH 7 M-2-30 30"x30" (18) 1328+00

TWP. Rd. 469 EXIT 1/2 MILE 14'x5' (13A) 1386+90

DEEP RUN

C.R. 2

1380 1385 1390 1395 1400 1405 1410 1415

S.R. 7 ℄

MATCH LINE 1375+00

P.C. 1382+71.56

R-10-36 36"x48" SPEED LIMIT 60 Overlay 55 TRUCKS 50 R-16A36 36"x36" (12A) 1380+00

YORKVILLE CORP LIMIT 7'x3' 6'X

YORKVILLE CORP LINE

(17) 1387+00

P.T. 1392+20.00

TWP. Rd. 469 14'x5' (37) 1334+00

T.S. 1329+81.07

S.C. 1333+81.07

S.C. 1336+80.84

S.T. 1340+80.84

PATTONS RUN

T.R. 469

T.R. 469 CONN.

T.R. 470

A5

40 (PENN. CENTRAL Co.)

C.&P. R.R.

W.&L.E. R.R.

(N.&W. R.R.)

EXIT 6'x5' (43) 1342+10

N-12-72

R-A1A-36 WRONG WAY 36"x24" (56) 1346+07 0' RAMP "D"

M-38-30 30"x15" SOUTH 7 M-2-30 30"x30" (14) 1404+50

PUBLIC RD YORKVILLE 13'x7' (18) 1407+84

EXIT 6'x5' (20) 0+85

N-12-22

ENTERING JEFFERSON COUNTY 2'x4' 61 (19) 0+00

STA. EQUA. 1415+64.31 (BACK) = 0+00.00 (AHEAD)

P.C. 0+84.00

D-4-1 TWP. Rd. 469 10'x2' (52) 1354+20 E RAMP "B"

W-49B-48 48"x48" MERGE (45) 1345+00

WP-49-24 24"x12"

D-4-1 TWP. Rd. 469 10'x2" (44) 1348+07 E RAMP "D"

STA. EQUA. 1342+10.64 (BACK) = 1342+00.00 (AHEAD)

P.T. 1350+66.60

RAMP "A"

RAMP "B"

RAMP "C"

RAMP "D"

1350 1355 1360 1365 1370

N-12-72 EXIT 6'x5' (54) 1358+80

P.T. 1360+36.61

R-41A-36 WRONG WAY 35"x24" (57) 1354+20 E RAMP "B"

TWP. Rd. 469 14'x5' (55) 1367+00

M-38-30 30"x15" NORTH 7 M-2-30 30"x30" (11E) 1373+00

MATCH LINE 1375+00

W-49B-48 48"x48" MERGE (53) 1356+00

WP-49-24 24"x12"

PUBLIC RD YORKVILLE EXIT 1/4 MILE 13'x7' (11) 1350+00

ENTERING BELMONT COUNTY 6'x4' (15) 0+00

W-49-24 24"x12"

W-49B-48 48"x48" MERGE (16) 3+00

END PROJECT BEL.-7-23.74 JEF.-7-0.00
BEGIN PROJECT JEF.-7-0.20

STA. 10+50.91

P.C. 11+39.05

PUBLIC RD

WALTERS ST.

MARTHA ST.

MARKET ST.

WILLIAMS ST.

R-A1A-36 WRONG WAY 36"x24" (58) 6+55 Ramp "D" ℄

D-4-1 YORKVILLE 8'x2" (21) 6+55 RAMP "D"

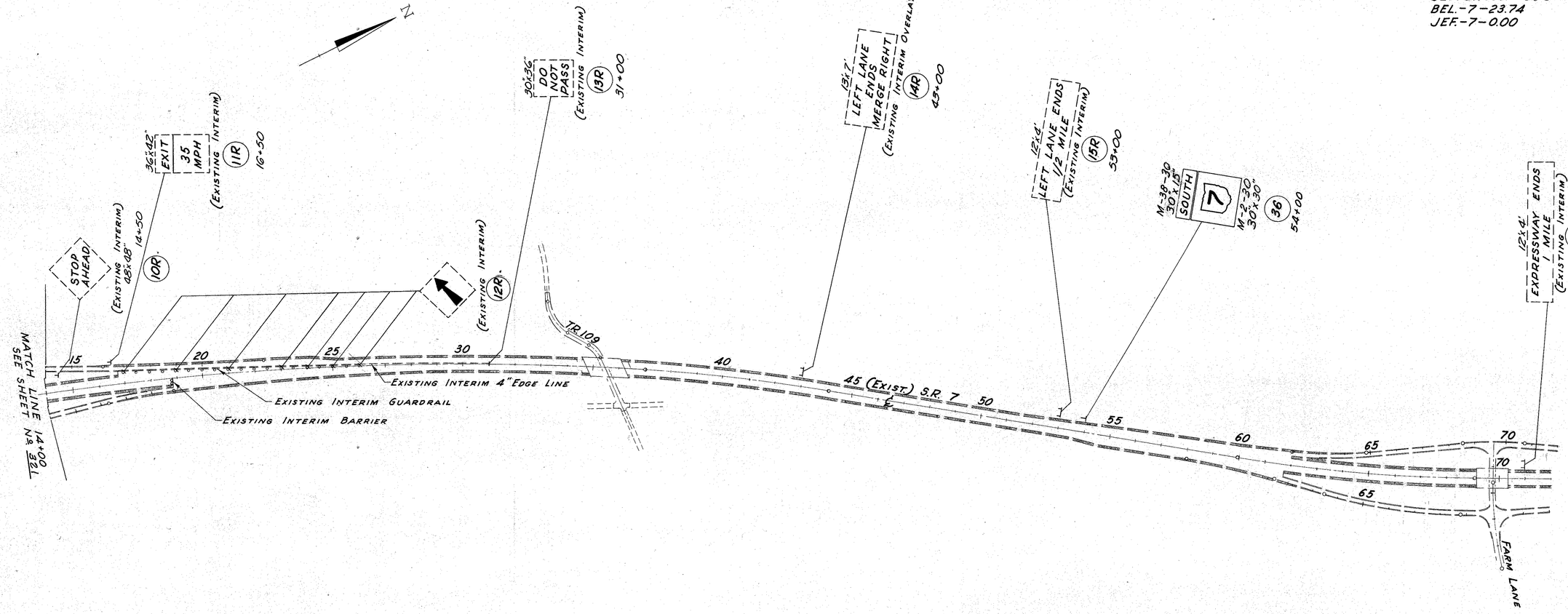
MATCH LINE 14+00 SEE SHEET NO 322

SIGN LOCATION 1315+00 to 14+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

322
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



SIGN LOCATION 14+00 to 72+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

323/162

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00

N

GK
MARTINS FERRY
CORP. LIMIT
9'x3'
22
1265+15

M-38-30
30"x15"
SOUTH
7
M-2-30
30"x30"
23
1266+25

M-2W-20
60"x15"
M-2-24
SOUTH
14"x12"
M-28-41
1267+00
28

D-1-22
STEUBENVILLE 18
BRIDGEPORT 4
6'x3'
8+50
℄ S.R. 798
26

R-1-30
STOP
30"x30"
27
5+45
℄ T.R. 536 RELOC.

8
9
300' 4" CENTERLINE SOLID DOUBLE
24" Stop Line
℄ T.R. 536 RELOC.

9+55
℄ S.R. 798
25
36"x36"
STOP
R-1-36

M-45-42
WEST
798
3.5'x5'
24
1268+25

SR 798
+55
℄
24" Stop Line

R-37R-36
KEEP
RIGHT
36"x42"
29
1268+05

1264
1265
℄ S.R. 7
1266
250' 8" CHANNELIZING LINE
1267
1268
1269
22+62
21+

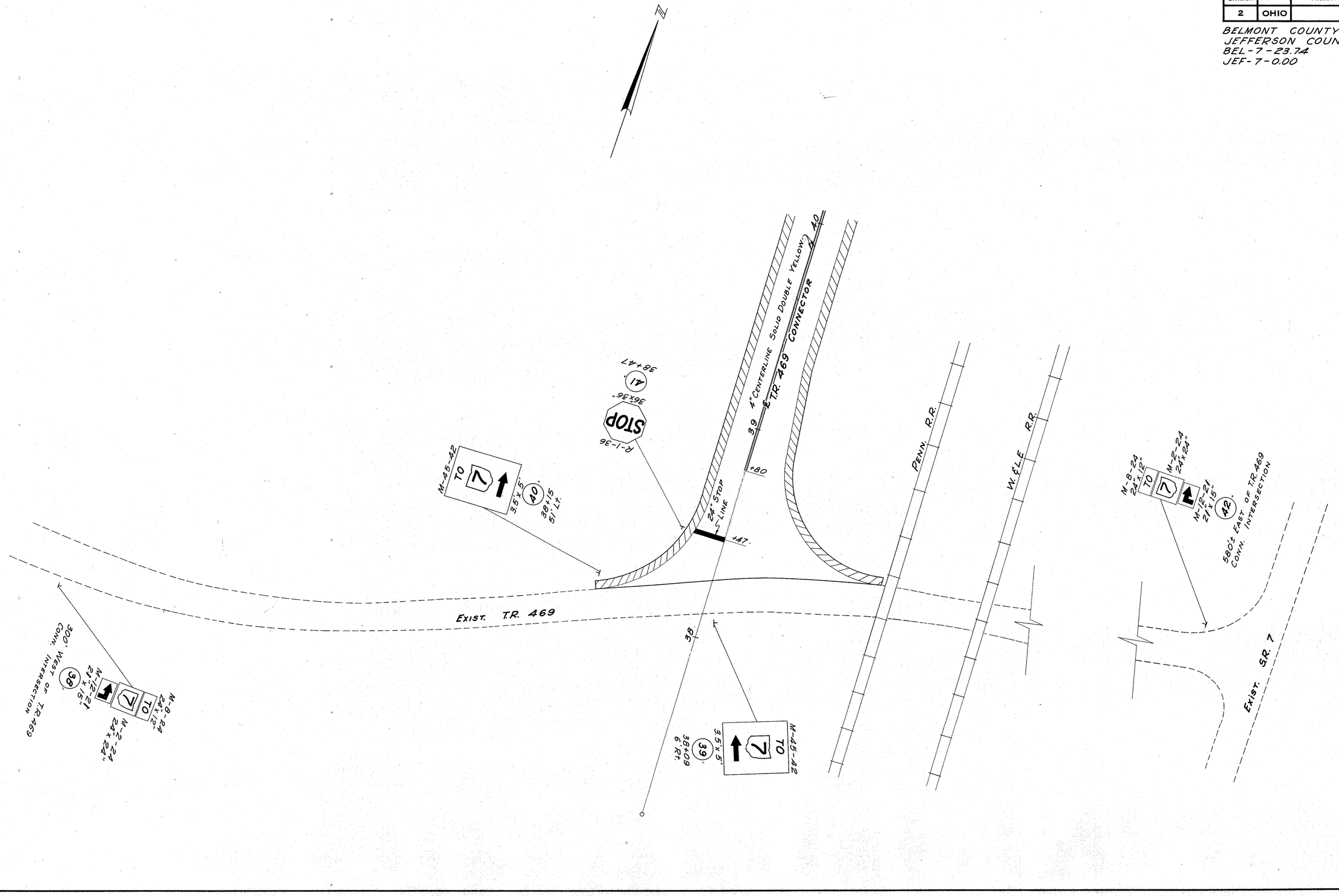
1268+70
31
M-25-21
21"x15"
R-37R-36
KEEP
RIGHT
36"x42"
32
1269+35
M-45-42
WEST
798
3.5'x5'
30
1268+50
7
M-2-24
24"x24"
MINOR
M-1-24

S.R. 798 CONNECTION

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

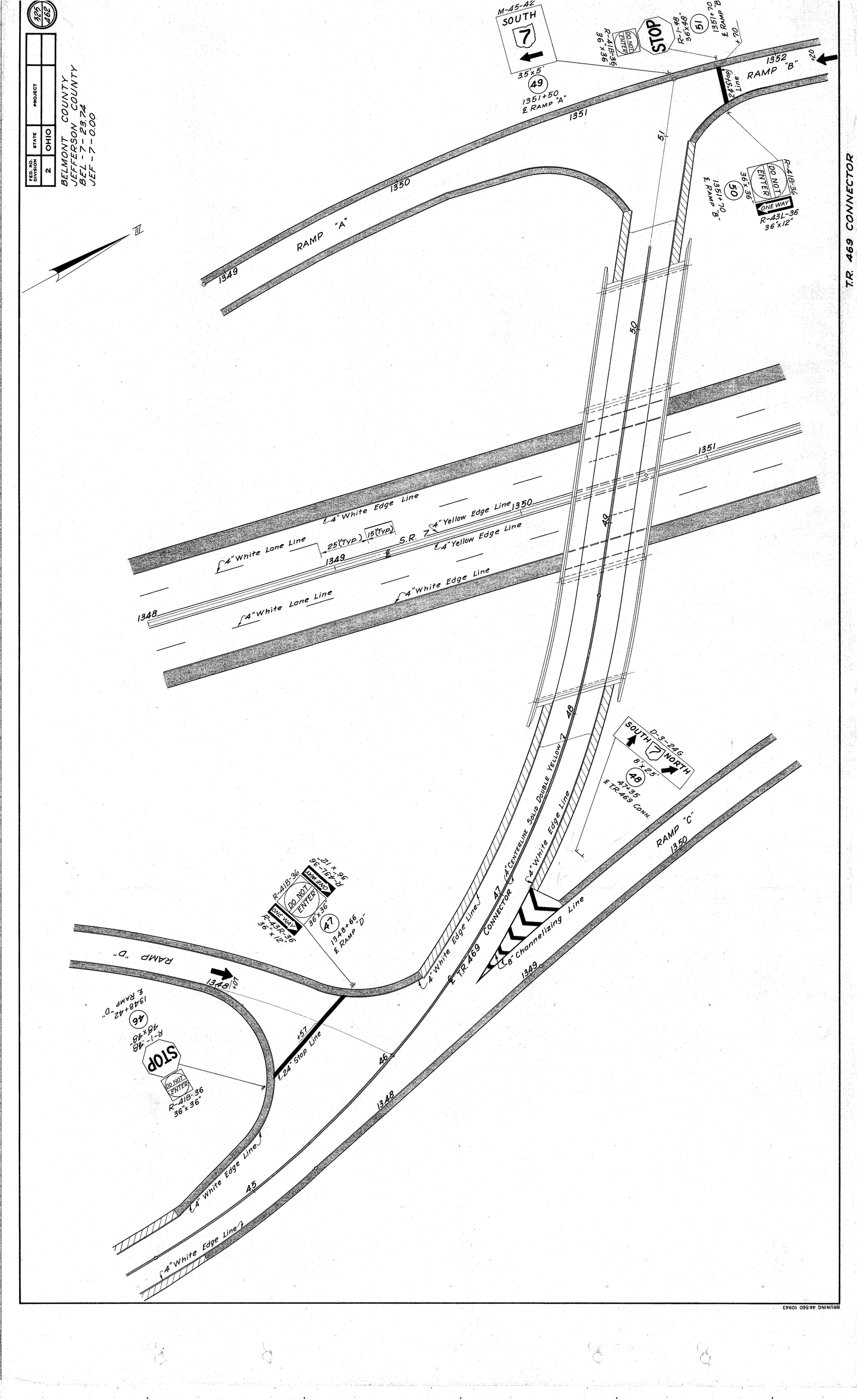
324
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00



T.R.469 CONNECTOR INTERSECTION

BRUNING 44-560 10943

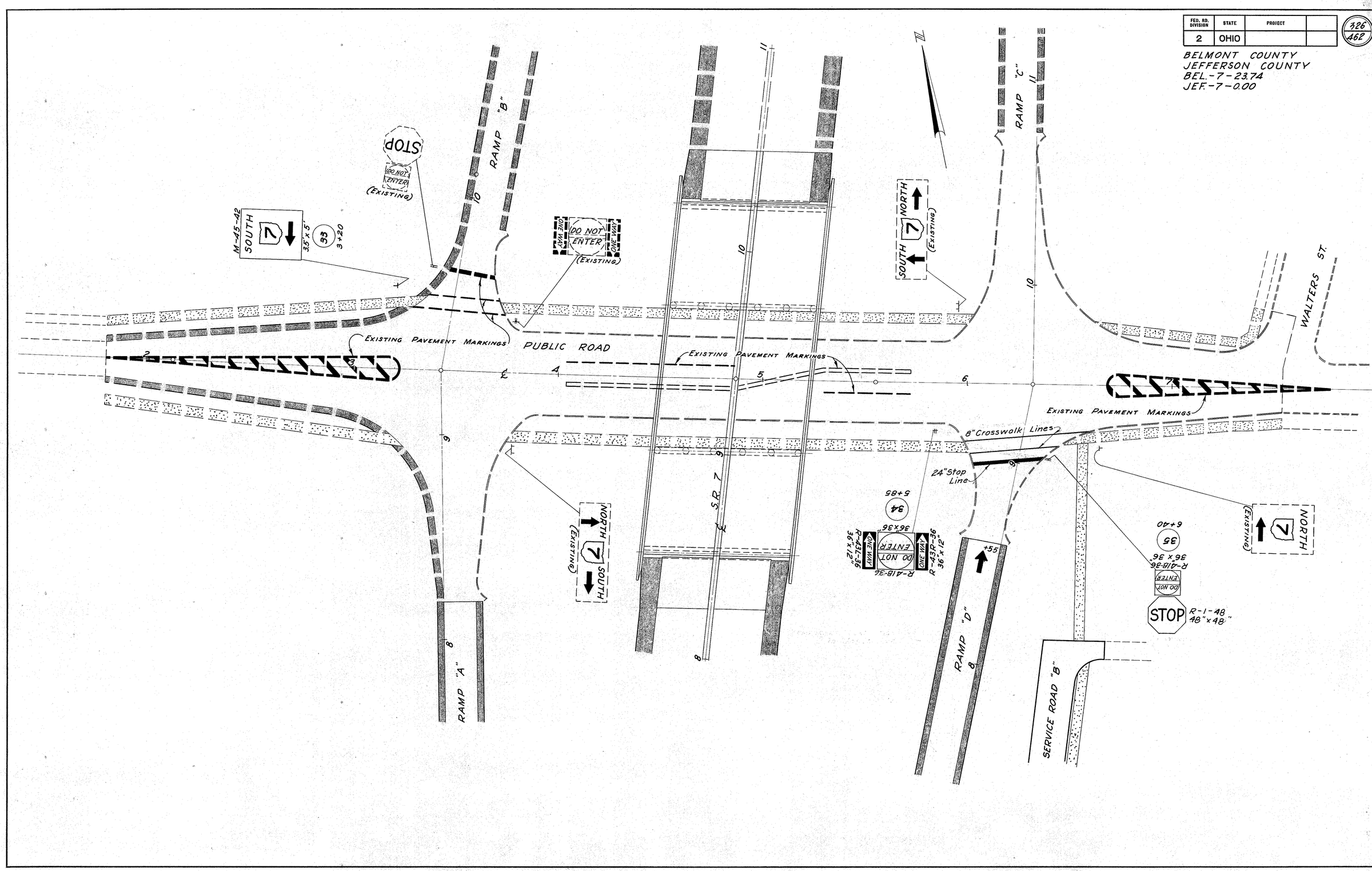


FED. RD. DIVISION 2
STATE OHIO
PROJECT
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00
325
462
T.R. 469 CONNECTOR
M-45-42
SOUTH
7
3.5'x5'
49
1351+50
℄ RAMP "A"
R-41B-36
36"x36"
DO NOT ENTER
STOP
R-1-48
36"x48"
51
1351+70
℄ RAMP "B"
+70
1352
RAMP "B"
+20
24" Stop Line
R-41B-36
DO NOT ENTER
36"x36"
50
1351+70
℄ RAMP "B"
ONE WAY
R-43L-36
36"x12"
1351
1350
RAMP "A"
1349
51
50
49
48
4" White Edge Line
4" White Lane Line
25'(Typ.)
15'(Typ.)
S.R. 7
4" Yellow Edge Line
1348
D-3-24G
SOUTH
7
NORTH
8'x25'
48
47+35
℄ T.R. 469 CONN.
4" CENTERLINE SOLID DOUBLE YELLOW
4" White Edge Line
RAMP "C"
1350
R-41B-36
DO NOT ENTER
ONE WAY
R-43L-36
36"x12"
R-43R-36
36"x12"
36"x36"
47
1348+66
℄ RAMP "D"
℄ T.R. 469 CONNECTOR
8" Channelizing Line
RAMP "D"
1348
+07
1348+42
℄ RAMP "D"
46
R-1-48
48"x48"
STOP
DO NOT ENTER
R-41B-36
36"x36"
+57
24" Stop Line
46
1348
45
4" White Edge Line
BRUNING 44-560 10943

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

326
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL.-7-23.74
JEF.-7-0.00



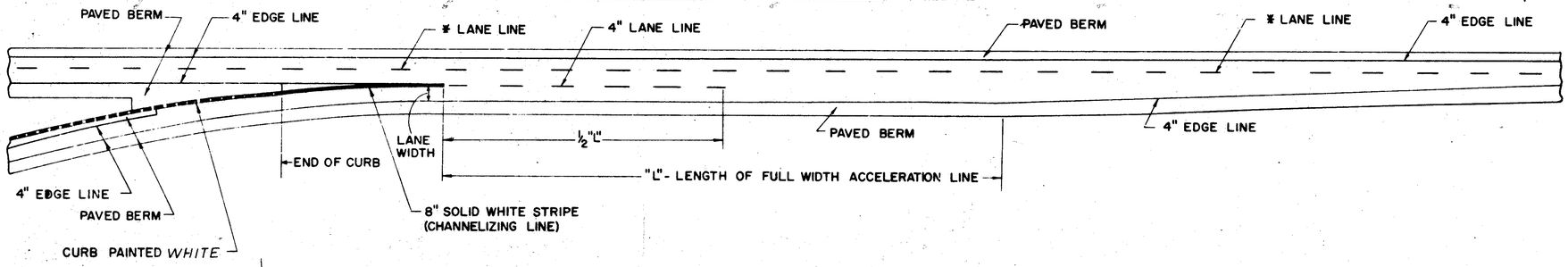
PUBLIC ROAD INTERCHANGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

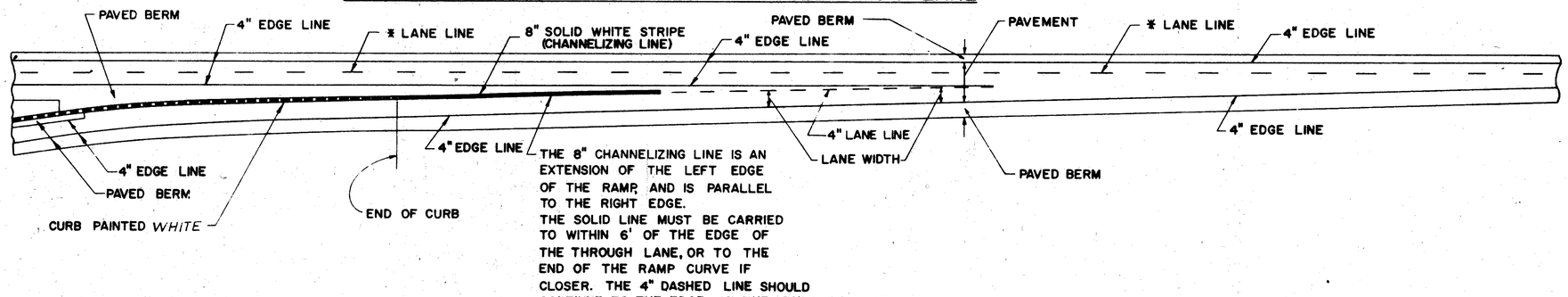
327
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE

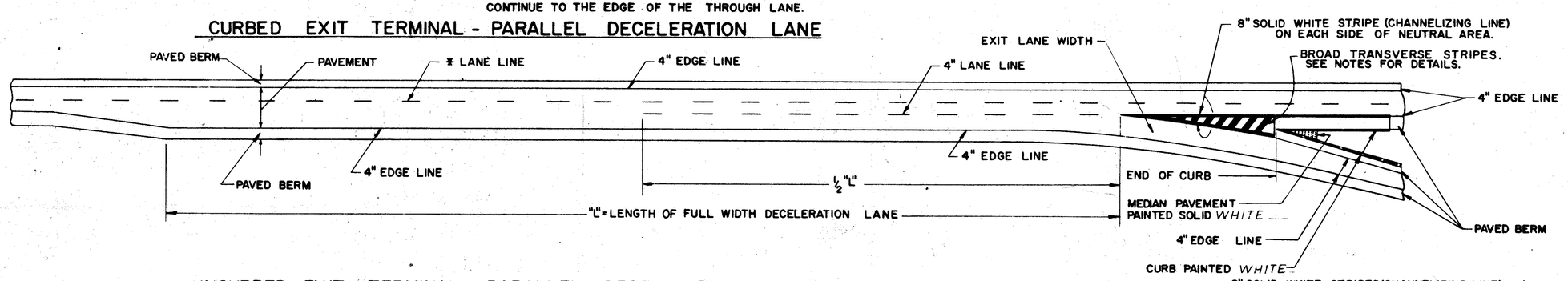


ENTRANCE TERMINAL - TAPERED ACCELERATION LANE

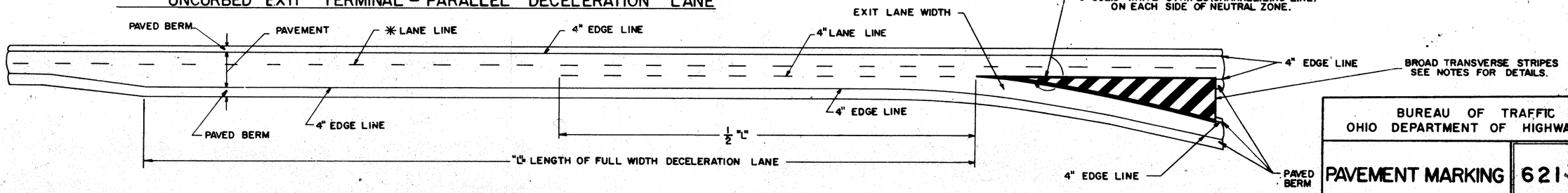


THE 8" CHANNELIZING LINE IS AN EXTENSION OF THE LEFT EDGE OF THE RAMP, AND IS PARALLEL TO THE RIGHT EDGE. THE SOLID LINE MUST BE CARRIED TO WITHIN 6' OF THE EDGE OF THE THROUGH LANE, OR TO THE END OF THE RAMP CURVE IF CLOSER. THE 4" DASHED LINE SHOULD CONTINUE TO THE EDGE OF THE THROUGH LANE.

CURBED EXIT TERMINAL - PARALLEL DECELERATION LANE



UNCURBED EXIT TERMINAL - PARALLEL DECELERATION LANE



NOTES

DIAGONAL STRIPES AT EXIT RAMPS SHALL BE 24" BROAD TRANSVERSE STRIPES, 62I.II, WITH A 6' SPACE BETWEEN STRIPES.

* 6" LANE LINE ON INTERSTATE HIGHWAYS ONLY.
4" LANE LINE ON ALL OTHER HIGHWAYS.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

PAVEMENT MARKING 621

DATE
7-17-61
4-6-62
5-24-65
9-[illegible]-67
4-17-68
1-11-72

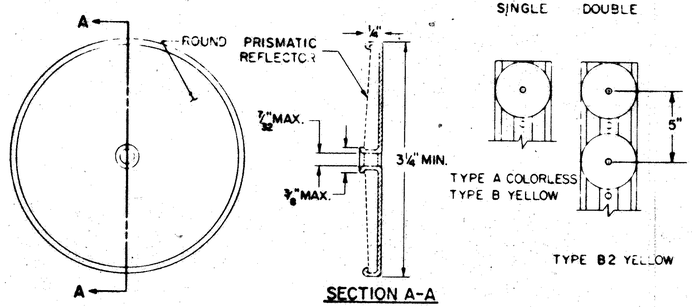
APPROVED Robert E. Lower
ENGINEER OF TRAFFIC

FHWA REGION	STATE	* PROJECT	
5	OHIO		

328
462

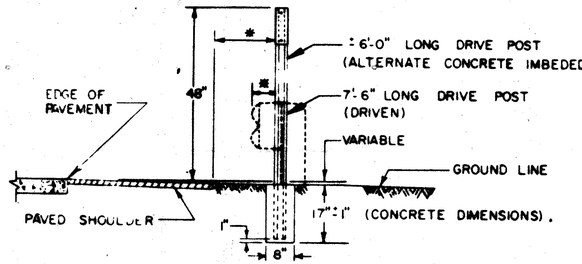
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

ROUND DELINEATORS



SECTION A-A

RECTANGULAR SHEET DELINEATORS



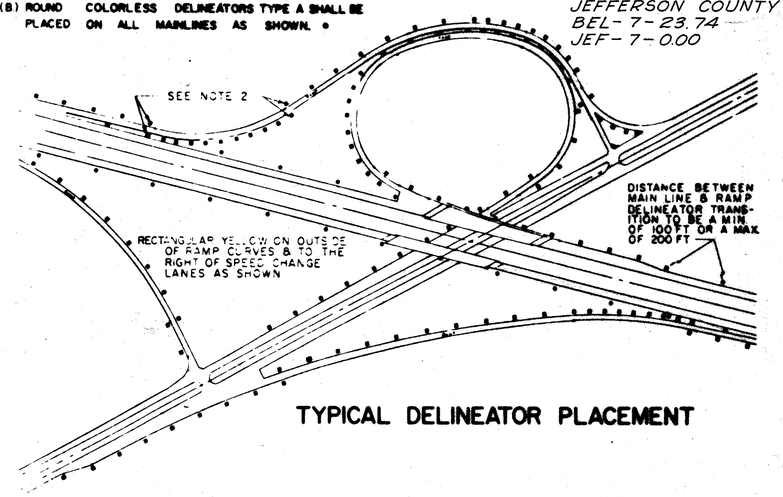
LATERAL PLACEMENT OF DELINEATORS

* DELINEATORS SHALL BE 6" BEHIND FACE OF TYPICAL GUARDRAIL LOCATION BUT WITH A MINIMUM DISTANCE OF 2'6" FROM EDGE OF PAVED SHOULDER WHERE GUARDRAIL IS NOT PRESENT.

NOTE:

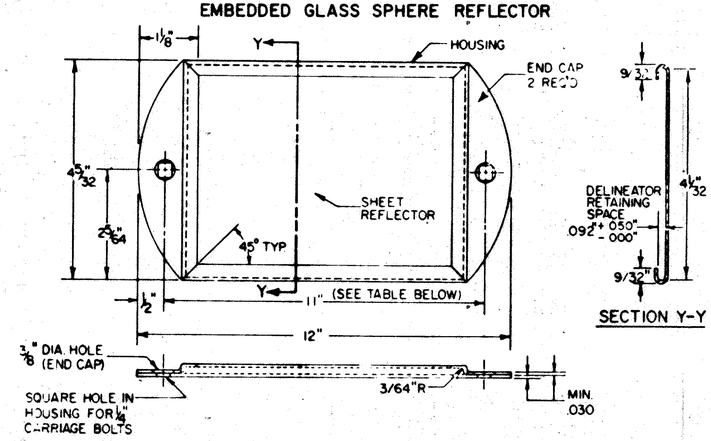
(A) RECTANGULAR YELLOW DELINEATORS TYPE D SHALL BE PLACED ON ALL RAMPS AS SHOWN. *

(B) ROUND COLORLESS DELINEATORS TYPE A SHALL BE PLACED ON ALL MAINLINES AS SHOWN. *

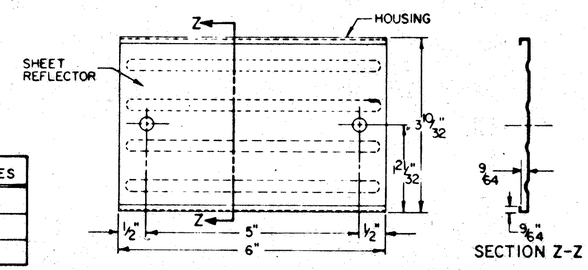


TYPICAL DELINEATOR PLACEMENT

EMBEDDED GLASS SPHERE REFLECTOR

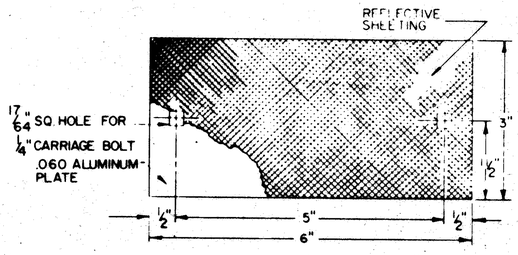


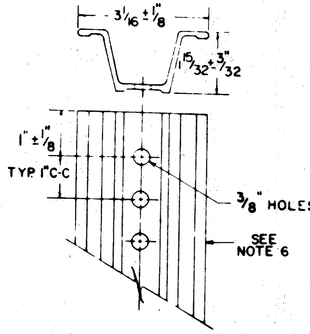
ACRYLIC PLASTIC PRISMATIC REFLECTOR



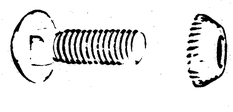
RECTANGULAR TYPES
C - COLORLESS
D - YELLOW
E - RED

REFLECTIVE SHEETING REFLECTOR





2 LB./FT. DELINEATOR DRIVE POST



TAMPER RESISTANT FASTENERS SHALL BE USED TO FASTEN DELINEATORS TO POST AS/OR SIMILAR TO ONE SHOWN ABOVE.

TAMPER RESISTANT FASTNERS

DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

RADII, FT. FROM	RADII, FT. TO	SPACING ON CURVE	* TRANSITION SPACING	
TANGENT	1,801	100'	100'	100'
1,800	1,401	80'	100'	100'
1,400	1,001	70'	100'	100'
1,000	751	60'	100'	100'
750	551	50'	80'	100'
550	326	40'	70'	100'
325	——	30'	60'	100'

* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE.

NOTES

1. TYPE A DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES.

2. WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.

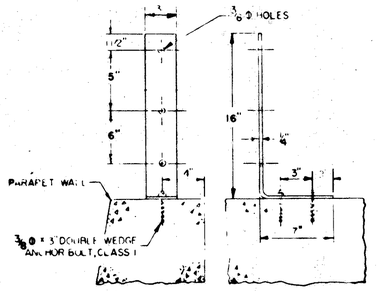
3. NO DELINEATORS ARE TO BE PLACED IN PAVED BERM

4. WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.

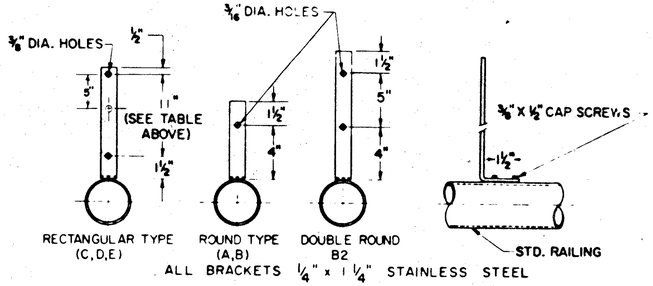
5. IN ADDITION TO MATERIALS LISTED IN 620.02, RECTANGULAR SHEET REFLECTORS MAY CONSIST OF REFLECTIVE SHEETING COMPOSED OF GLASS SPHERES IMBEDDED IN A WEATHER PROOF SYNTHETIC RESIN SHEET, THE REFLECTIVE FACE OF WHICH SHALL BE PLACED BEHIND AND SEALED TO A WEATHERPROOF RIGID PLASTIC FACE OF METHYL METHACRYLATE OF 0.060 INCHES MINIMUM THICKNESS.

6. SUPPLEMENTING THE DRIVE POST DETAILS SHOWN, ALTERNATE POST SECTIONS MAY BE FURNISHED. ANY ALTERNATE SECTION FURNISHED SHALL MEET ALL THE MATERIAL REQUIREMENTS OF 620, HAVE A SHAPE APPROXIMATELY AS DETAILED, AND HAVE A MOMENT OF INERTIA EQUAL TO OR GREATER THAN THE SECTION DETAILED. THE REQUIREMENTS OF 712.20 REALTIVE TO MAXIMUM WEIGHT TOLERANCE ARE HEREBY WAIVED. NO ALTERNATE SECTION FURNISHED SHALL EXCEED THE WEIGHT OF THE CORRESPONDING SECTION BY MORE THAN 10 PERCENT.

BRIDGE PARAPET BRACKET



BRIDGE RAIL BRACKET



ALL BRACKETS 1/4" x 1 1/4" STAINLESS STEEL

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

DELINEATOR DETAILS

DATE 1/1/73 3/12/73

APPROVED _____
ENGINEER OF DESIGN SERVICES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

329
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

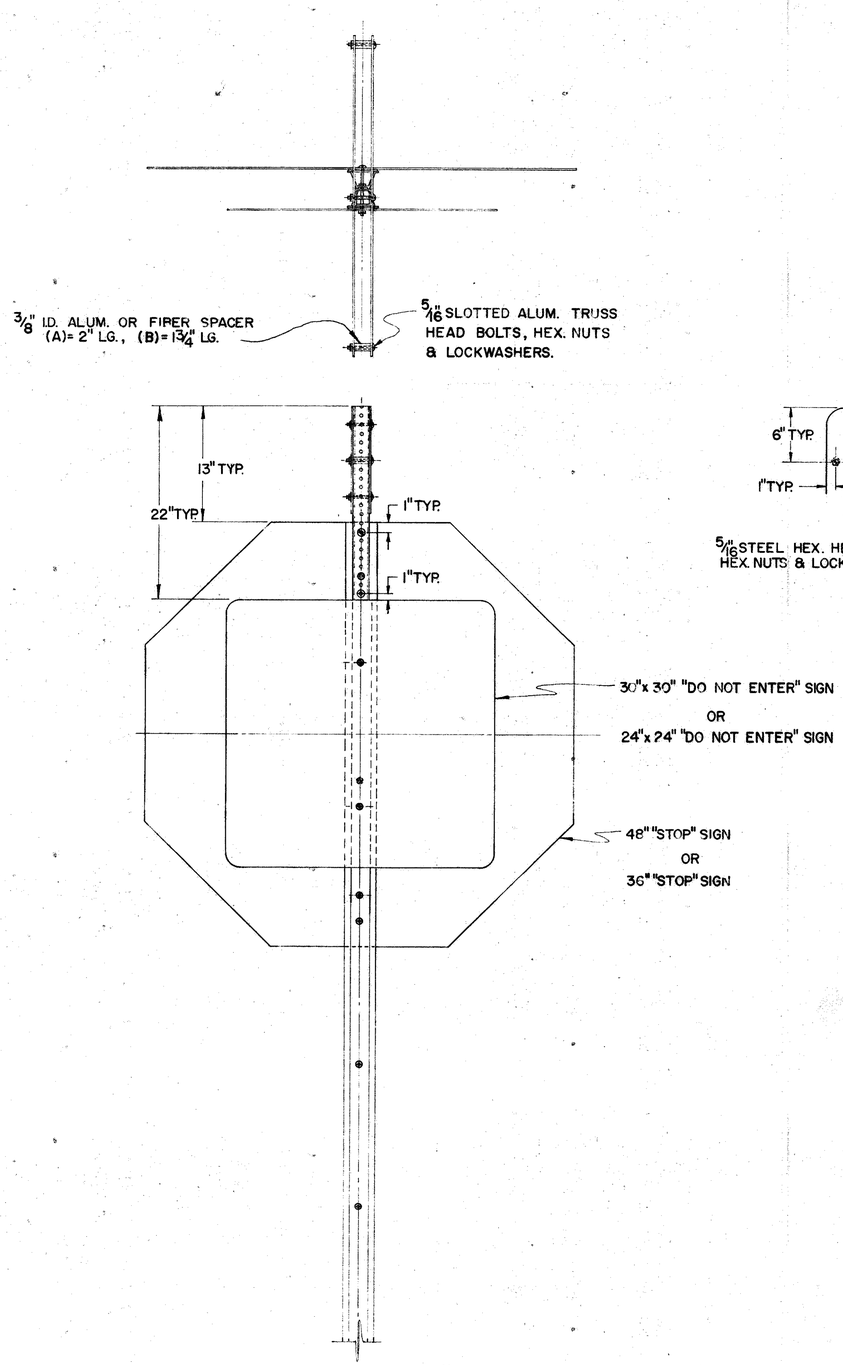
NOTES

MATERIALS

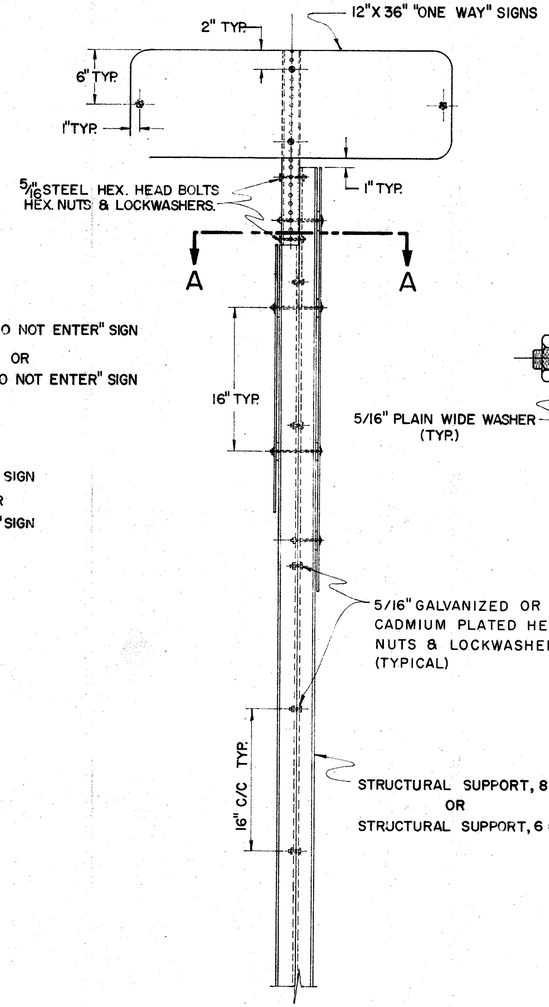
ALL SIGN MATERIALS SHALL BE IN ACCORDANCE WITH SUPPLEMENT SPECIFICATION 815.

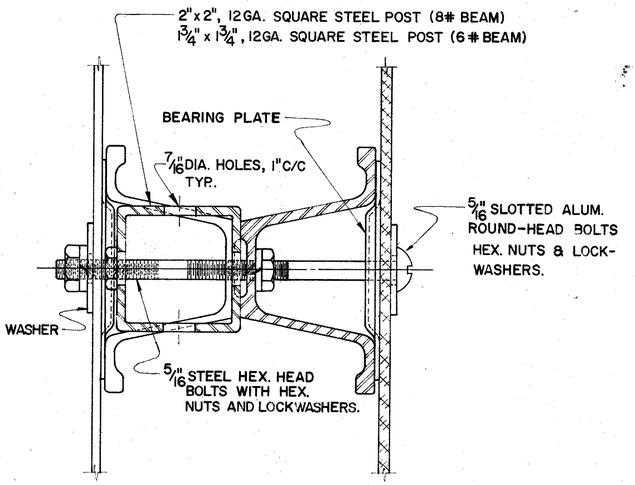
ALL STRUCTURAL MATERIALS SHALL BE IN ACCORDANCE WITH SUPPLEMENT SPECIFICATION 816.

FOR SPECIFICATIONS FOR THE 2" & 1¾" SQUARE STEEL POST SEE GENERAL NOTES, SHEET NO. 3/6.

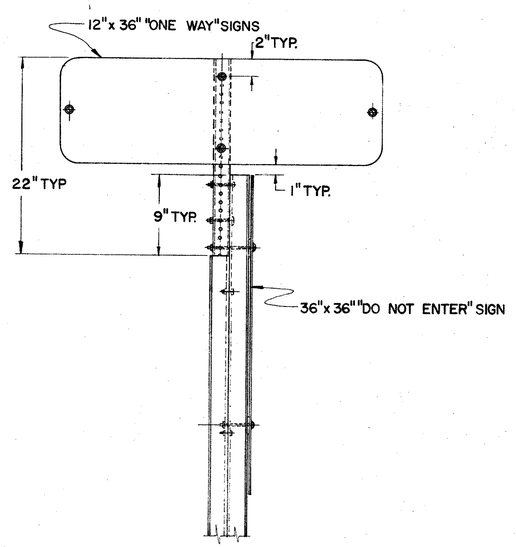


"ONE WAY", "STOP", "DO NOT ENTER", SIGN INSTALLATION.





SECTION A-A



"ONE WAY", "DO NOT ENTER" SIGN INSTALLATION

BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS		
SPECIAL "ONE WAY" SIGN SUPPORT DETAILS	SOW	DATE 2-7-66 4-18-67
APPROVED _____ ENGINEER OF TRAFFIC		

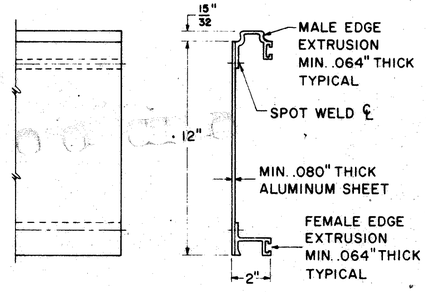
SPECIAL "ONE WAY" SIGN SUPPORT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

330
462

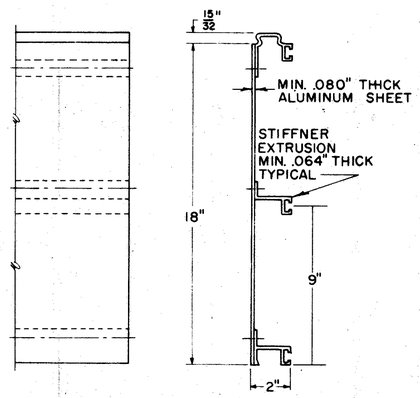
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

12" EXTRUSHEET PANEL



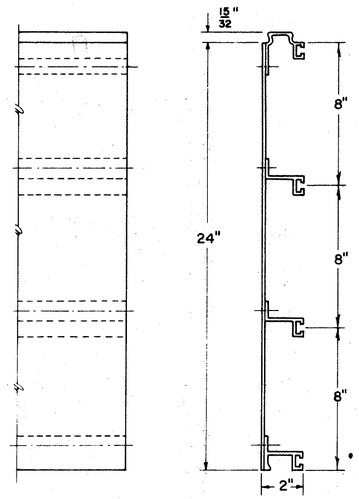
FRONT VIEW SIDE VIEW

18" EXTRUSHEET PANEL



FRONT VIEW SIDE VIEW

24" EXTRUSHEET PANEL



FRONT VIEW SIDE VIEW

NOTES:

EXTRUSHEET PANELS SHALL BE ALUMINUM; SPOT WELDING AND ALL MATERIALS SHALL CONFORM WITH SUPPLEMENTAL SPECIFICATION NO. 815

COMBINATIONS OF 12", 18", AND 24" PANELS ARE USED TO ATTAIN REQUIRED SIGN HEIGHT.

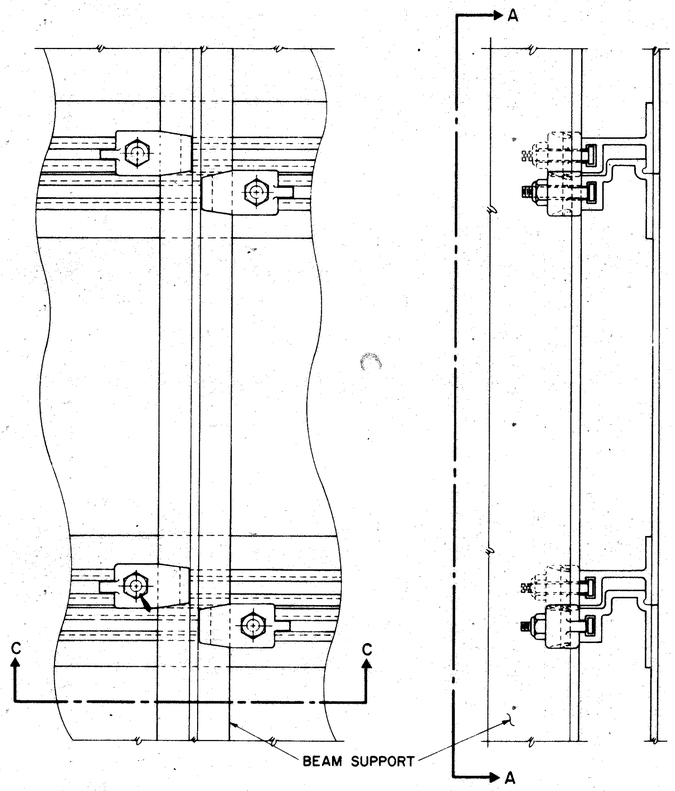
INDIVIDUAL PANELS SHALL BE THE SAME LENGTH AS THE HORIZONTAL LENGTH OF SIGN WITH NO SPLICES.

PANELS SHALL BE INTERLOCKED AND ERECTED WITH THE MALE EXTRUSION LOCATED AT THE TOP EDGE OF THE SIGN.

EXTRUSHEET PANELS SHALL BE FASTENED TO EACH VERTICAL SUPPORT MEMBER WITH MOUNTING CLIPS; ALTERNATELY AT EACH HORIZONTAL EXTRUSION; BOTH SIDES AT EACH JOINT, AND ON BOTH SIDES AT TOP AND BOTTOM EDGE OF SIGN.

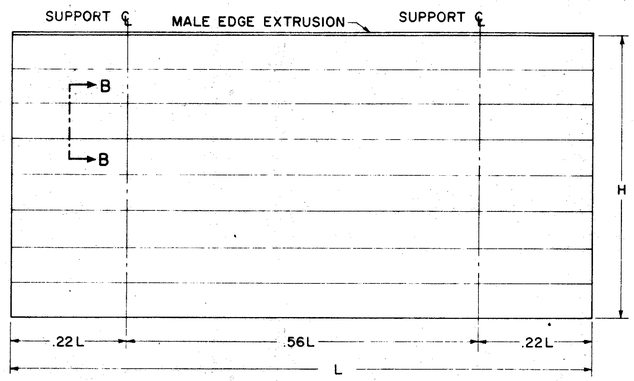
THE PANELS SHALL BE DESIGNED TO WITHSTAND A WIND LOAD OF 35 POUNDS PER SQUARE FOOT, IN ACCORDANCE WITH THE A.A.S.H.O. SPECIFICATION FOR DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS.

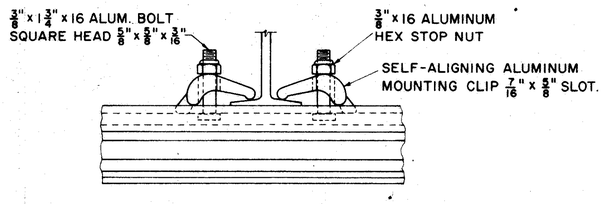
THE MAXIMUM SIGN LENGTH FOR TWO SUPPORTS IS 19'-0".
THE MAXIMUM SIGN LENGTH FOR THREE SUPPORTS IS 29'-0".



SECTION A-A SECTION B-B

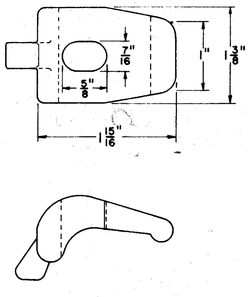
GENERAL ARRANGEMENT





SECTION C-C

CLIP DETAIL



SPOT WELDS

PANEL SIZE	MAXIMUM SPOT WELD SPACING	
	CENTER TO CENTER	BETWN ROWS
12 INCH	4 INCH	10 INCH
18 & 24 INCH	4 INCH	8 INCH

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ALUMINUM EXTRUSHEET PANEL SIGN

ECD 1

DATE
9-25-63
5-19-64
10-21-65
5-24-67

APPROVED Fred C. Gerber
ENGINEER OF TRAFFIC

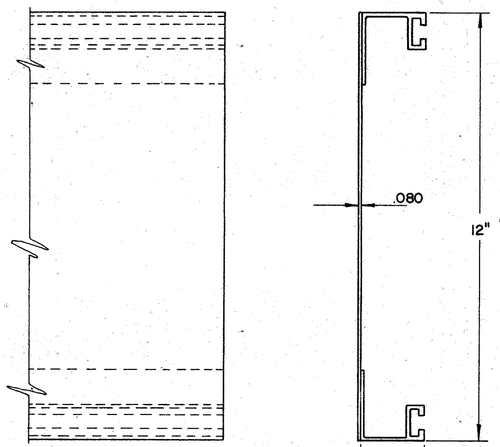
ALUMINUM EXTRUSHEET PANEL SIGN

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

331
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL - 7 - 23.74
JEF - 7 - 0.00

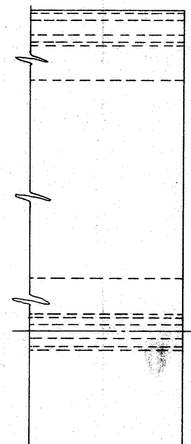
12" BOLTED-EXTRUSHEET PANEL



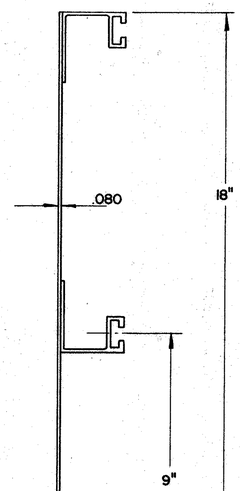
FRONT VIEW

SIDE VIEW

18" BOLTED-EXTRUSHEET PANEL

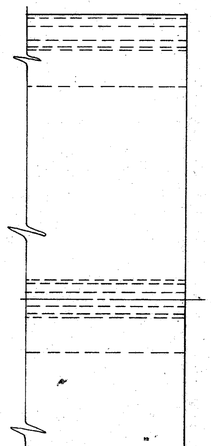


FRONT VIEW

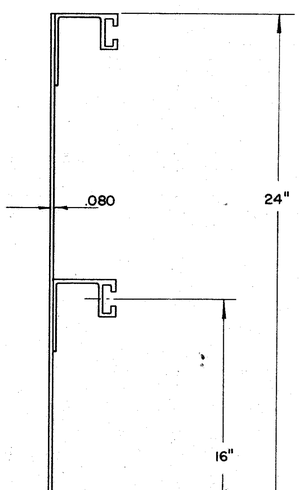


SIDE VIEW

24" BOLTED-EXTRUSHEET PANEL



FRONT VIEW



SIDE VIEW

NOTES

EXTRU-SHEET PANELS SHALL BE ALUMINUM; SPOT WELDING, MATERIALS AND HARDWARE SHALL CONFORM WITH SPECIFICATION NO. 815.

COMBINATIONS OF 12", 18" AND 24" PANELS ARE TO BE USED TO ATTAIN REQUIRED SIGN HEIGHT.

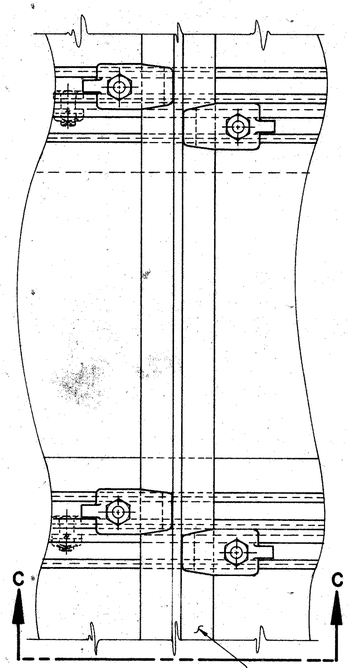
INDIVIDUAL PANELS SHALL BE THE SAME LENGTH AS THE HORIZONTAL LENGTH OF SIGN, WITH NO SPLICES.

THE PANELS SHALL BE ERECTED HORIZONTALLY AND BOLTED ON 24" CENTERS.

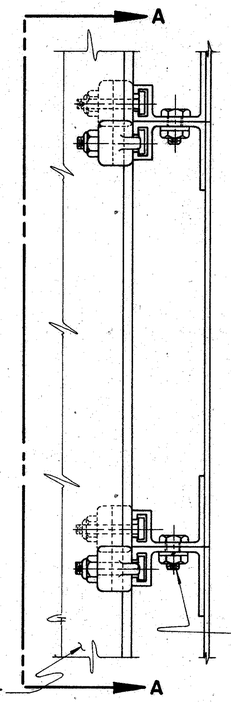
THE PANELS SHALL BE FASTENED TO EACH VERTICAL SUPPORT MEMBER WITH MOUNTING CLIPS; ALTERNATELY AT EACH HORIZONTAL EXTRUSION; BOTH SIDES AT EACH JOINT, AND BOTH SIDES AT TOP AND BOTTOM EDGES OF SIGN.

THE PANELS SHALL BE DESIGNED IN ACCORDANCE WITH THE A.A.S.H.O SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, BASE ON A WIND LOAD OF 35#/SQ. FT.

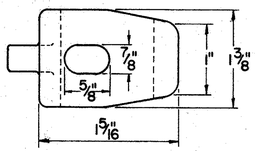
THE MAXIMUM SIGN LENGTH FOR TWO SUPPORTS IS 19'-0". THE MAXIMUM SIGN LENGTH FOR THREE SUPPORTS IS 29'-0".

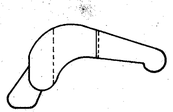


SECTION A-A

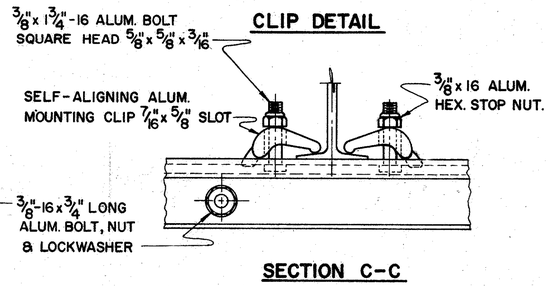


SECTION B-B

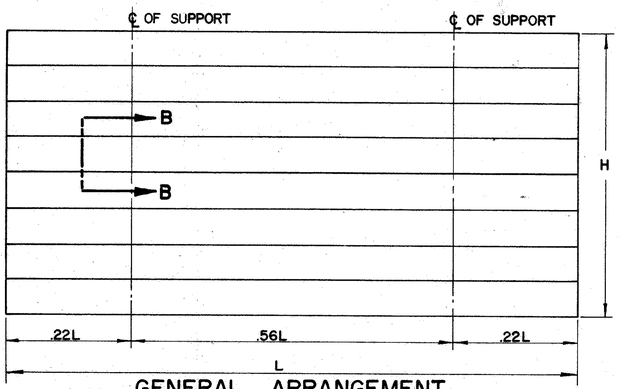




CLIP DETAIL



SECTION C-C



GENERAL ARRANGEMENT

SPOT WELDS

PANEL SIZE	MAXIMUM SPOT WELD SPACING	
	CENTER TO CENTER	BETWN ROWS
12 INCH	4 INCH	10 INCH
18 & 24 INCH	4 INCH	8 INCH

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

ALUMINUM BOLTED EXTRUSHEET PANEL SIGN

ECD 2

DATE 10-14-65

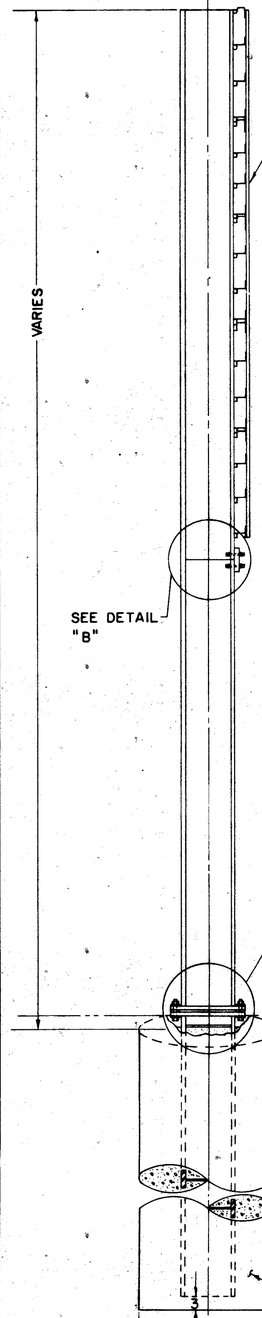
APPROVED Fred C. Talbot
ENGINEER OF TRAFFIC

ALUMINUM BOLTED-EXTRUSHEET PANEL SIGN

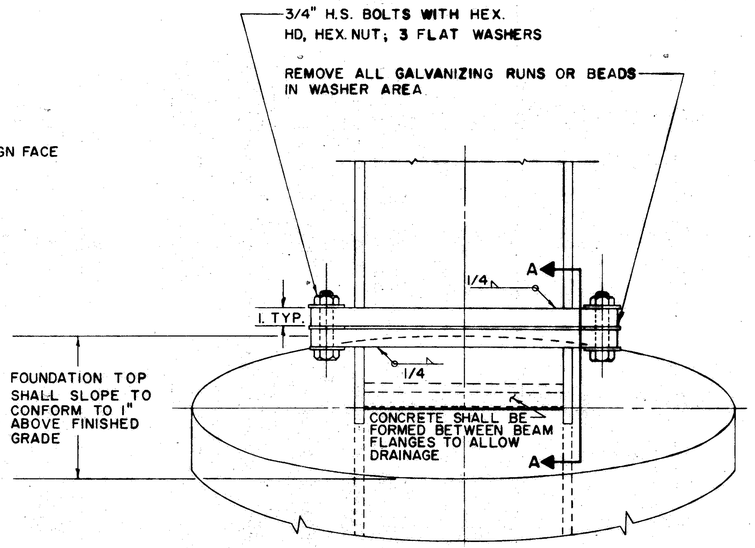
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

332
462

BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00



SIDE ELEVATION

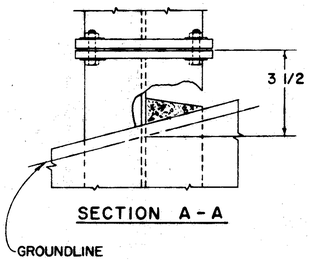


BOLTING PROCEDURE

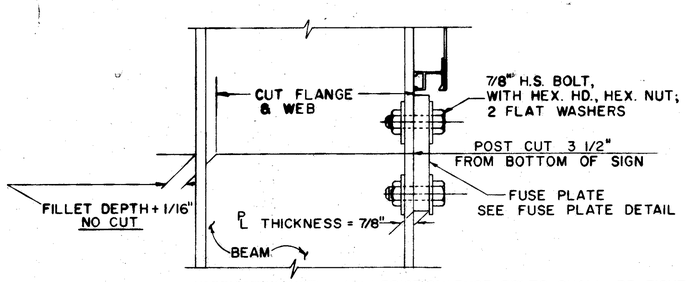
1. ASSEMBLE POST TO STUB W/BOLTS & ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES.
2. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE W/12" TO 15" WRENCH TO BED & TO CLEAN BOLT THREADS. LOOSEN EACH BOLT IN TURN & RETIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE OF 750 IN. LBS.
3. BURR THREADS AT JUNCTION W/NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE: TIGHTEN THE H.S. BOLTS IN THE BASE CONNECTION ONLY TO GIVEN TORQUE DO NOT OVER TIGHTEN

VIEW "A" ROTATED 180°



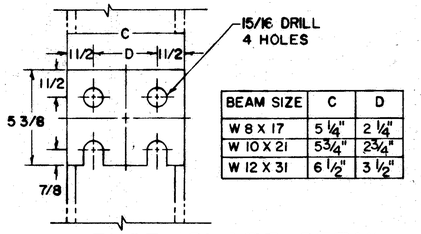
SECTION A-A



FABRICATOR NOTE: ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN THE SHOP FOLLOWING A METHOD APPROVED BY THE ENGINEER. TIGHTENING SHALL BE TO SUCH A DEGREE AS TO OBTAIN MINIMUM RESIDUAL TENSION IN EACH BOLT OF 36,050 LBS.

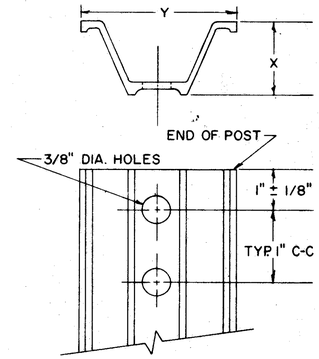
NOTE: INSTALL FUSE PLATE WITH NOTCHES TOWARD BASE

DETAIL "B"



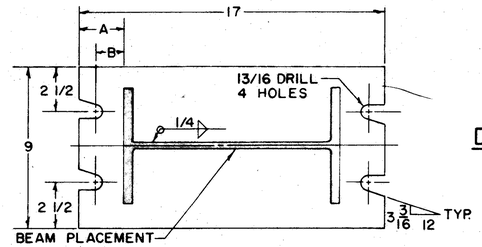
BEAM SIZE	C	D
W 8 X 17	5 1/4"	2 1/4"
W 10 X 21	5 3/4"	2 3/4"
W 12 X 31	6 1/2"	3 1/2"

FUSE PLATE DETAIL



WEIGHT PER FOOT	X ± 3/32"	Y ± 1/8"
2.00 #	1 15/32"	3 1/16"
3.00 #	1 7/8"	3 1/2"
4.00 #	2"	3 5/8"

DRIVE POST DETAIL



BEAM SIZE	A	B
W 8 X 17	4 1/2"	3 5/8"
W 10 X 21	3 1/2"	2 5/8"
W 12 X 31	2 1/2"	1 5/8"

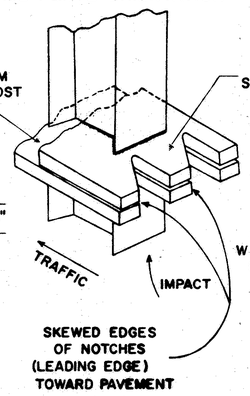
BASE PLATE DETAIL
(TOP VIEW)

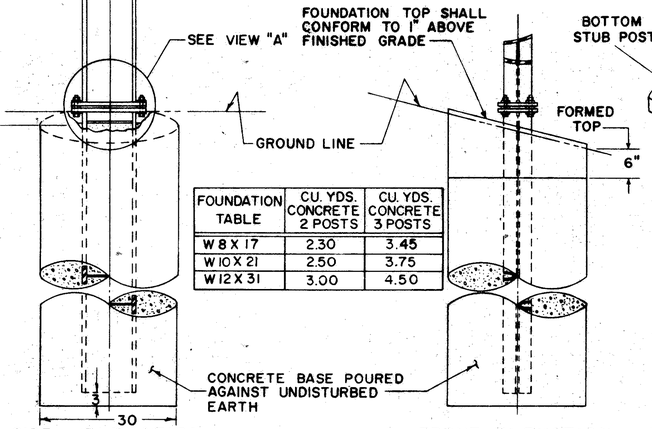
NOTES: ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO, CONSTRUCTION & MATERIALS SPECIFICATIONS OR AS OTHERWISE SPECIFIED

1.) 511 FOUNDATIONS
2.) 711.01 STRUCTURAL STEEL SHAPES & PLATES
3.) 711.09 H.S. STEEL BOLTS, NUTS & WASHERS

ALL DIMENSIONS IN INCHES UNLESS OTERWISE SHOWN

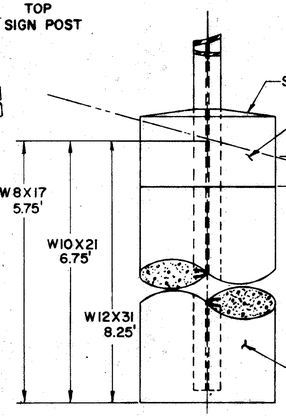
BREAKAWAY SIGN SUPPORT BASE PLATE ORIENTATION





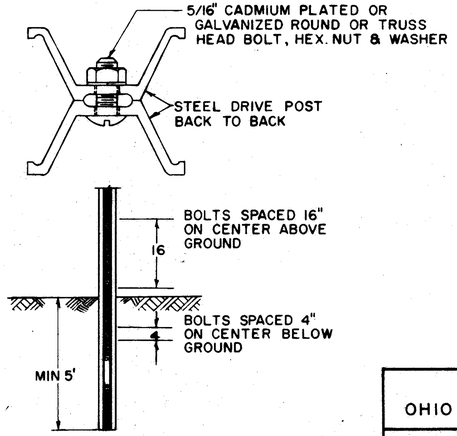
FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
W 8 X 17	2.30	3.45
W 10 X 21	2.50	3.75
W 12 X 31	3.00	4.50

FRONT ELEVATION
BREAK-AWAY SUPPORT



FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
W 8 X 17	2.30	3.45
W 10 X 21	2.50	3.75
W 12 X 31	3.00	4.50

FRONT ELEVATION
STANDARD SUPPORT



6# BEAM DETAIL

STRUCTURAL SUPPORTS

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

GROUND MOUNTED SIGN SUPPORTS

GMSS

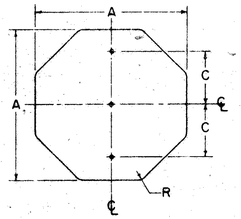
DATE
5-10-68
7-12-68
5-23-69
9-16-69
12-20-71

APPROVED _____
ENGINEER OF TRAFFIC

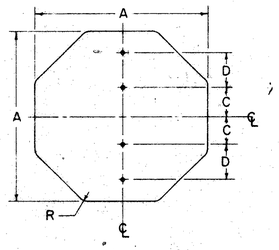
DIVISION	STATE	PROJECT	
2	OHIO		

333
462

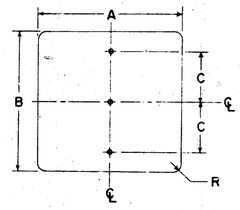
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00



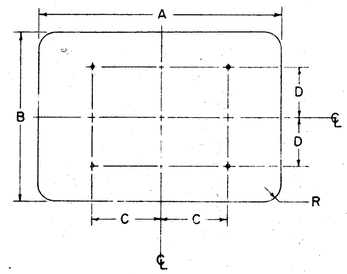
A	C	R	GAUGE
30	8	1 1/2	.080
36	8	1 1/2	.080



A	C	D	R	GAUGE
48	8	10	1 1/2	.100

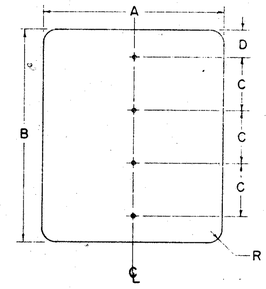


A	B	C	R	GAUGE
24	30	8	1 1/2	.063
24	48	15	1 1/2	.100
30	36	11	1 1/2	.080
30	42	12	1 1/2	.080
36	36	11	1 1/2	.080
36	42	15	1 1/2	.080
36	48	15	1 1/2	.080
48	24	10	3	.100
48	36	13	3	.100

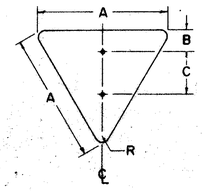


A	B	C	D	R	GAUGE
48	48	22	16	3	.100
48	60	22	22	3	.100

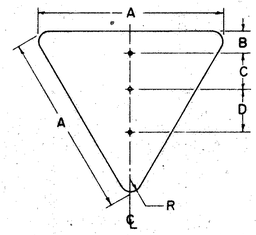
SPEED LIMIT SIGNS ON TWO SUPPORTS



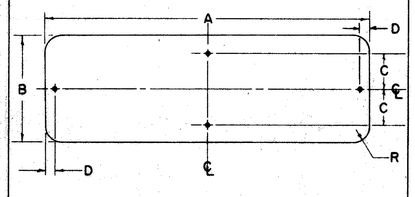
A	B	C	D	R	GAUGE
48	48	12	6	3	.100
48	60	15	7 1/2	3	.100



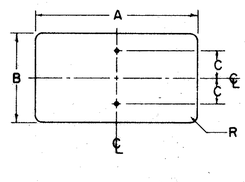
A	B	C	R	GAUGE
36	3	16	2 1/2	.080



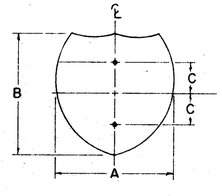
A	B	C	D	R	GAUGE
48	4	10	15	3	.100
60	5	10	15	4	.100



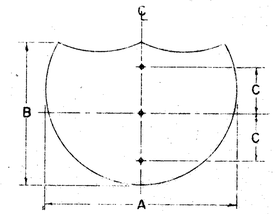
A	B	C	D	R	GAUGE
36	12	4	1	1 1/2	.080
72	12	—	16	1 1/2	.100
60	12	—	13	1 1/2	.100



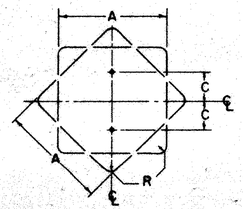
A	B	C	R	GAUGE
12	6	1 1/2	1 1/2	.063
20	15	6	1 1/2	.063
24	12	4 1/2	1 1/2	.063
24	18	7 1/2	1 1/2	.063
8	26	8	1	.063
36	18	7 1/2	1 1/2	.080



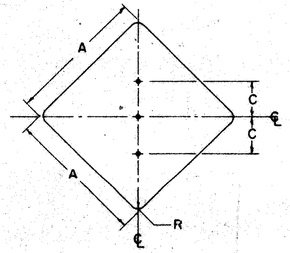
A	B	C	GAUGE
24	24	8	.063
30	24	8	.080



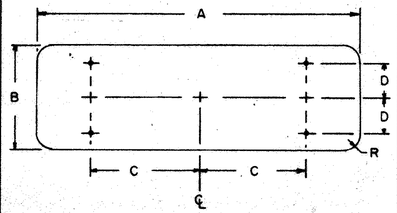
A	B	C	GAUGE
36	36	11	.080
48	36	11	.100



A	C	R	GAUGE
18	7 1/2	1 1/2	.063
24	8	1 1/2	.063
30	8	1 1/2	.080

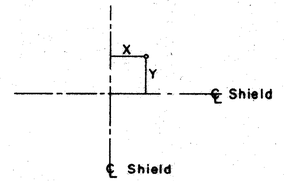


A	C	R	GAUGE
36	12	1 1/2	.080
48	14	3	.100



A	B	C	D	R	GAUGE
72	18	20	6	1 1/2	.100
72	24	20	8	1 1/2	.100
60	30	17	10	1 1/2	.100
96	18	27	6	1 1/2	.100

Location of holes on "Demountable Shields" (attached to guide signs)



SIZE	NO. HOLES	X	Y
(26) 24X24	4	7	7
30X24	4	8	8
(39) 36X36	4	10	10
		0	10
48X36	6	15	10

For notes on fastening see drawing for miscellaneous "Signing Items" sheet.

NOTES:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

MATERIAL

FLAT SIGN BLANKS SHALL BE FURNISHED IN ALUMINUM ALLOY 6061-T6, (ASTM-B209, GSIIA-T6) WITH MILL FINISH.

BOLT HOLES

THE BOLT HOLES SHALL BE 3/8" IN DIAMETER, AND MAY BE DRILLED, BLANKED OR PUNCHED TO FINISHED SIZE.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

SIGN BLANK DETAILS

SBD

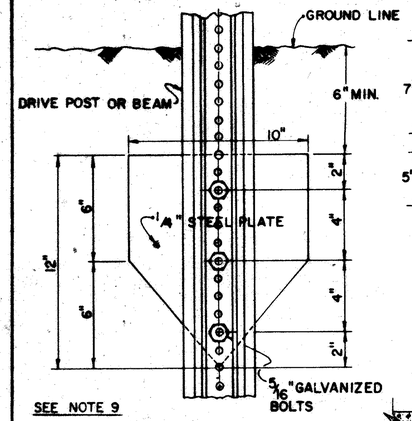
DATE
4-14-67
5-10-68
10-1-68
5-27-69
6-18-69

APPROVED_____
ENGINEER OF TRAFFIC

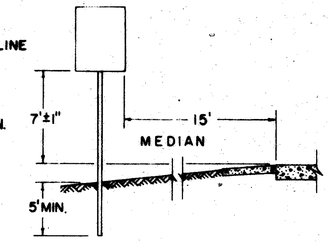
FED. RD. DIVISION	STATE	PROJ.	SHT.
2	OHIO		

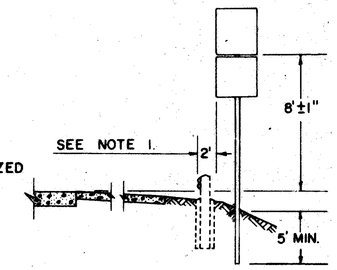
334
462

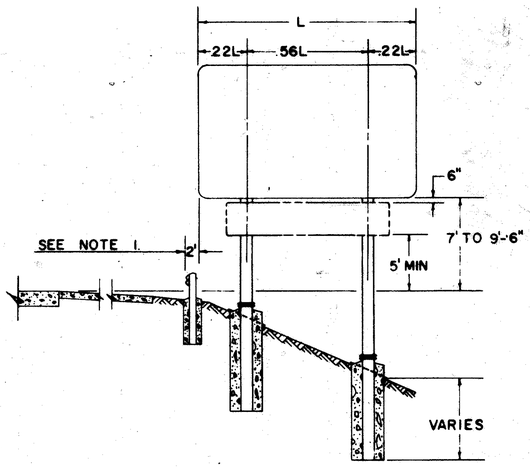
BELMONT COUNTY
JEFFERSON COUNTY
BEL-7-23.74
JEF-7-0.00

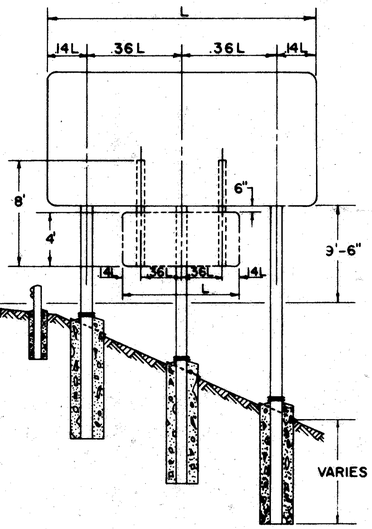


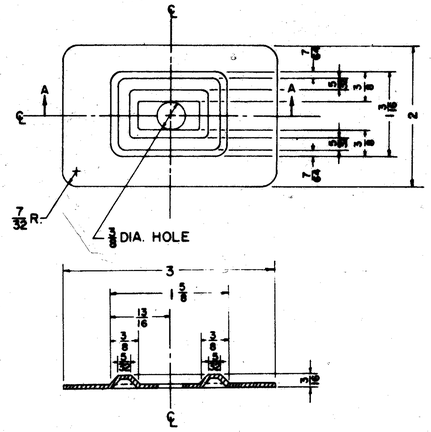
SOIL PLATE DETAIL







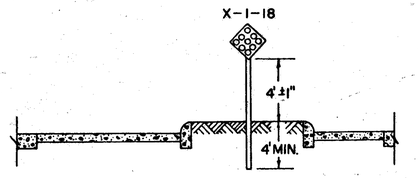


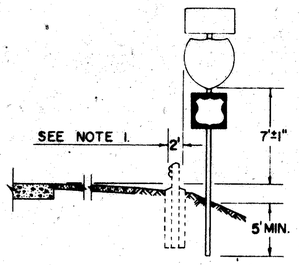


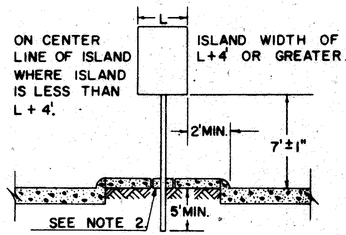
SECTION AA

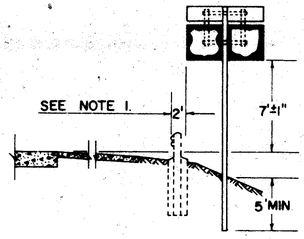
NOTE:
THE PLATE IS SYMMETRICAL ABOUT EITHER CENTERLINE.
METAL SHALL BE 16 GAUGE STEEL.
ALL DIMENSIONS ARE IN INCHES.

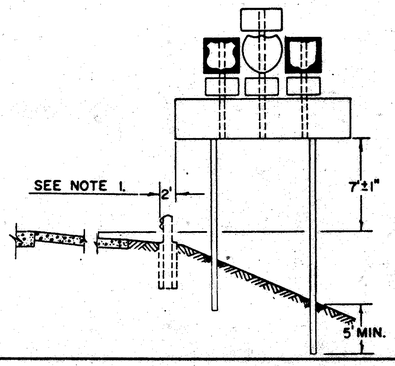
BEARING PLATE DETAIL

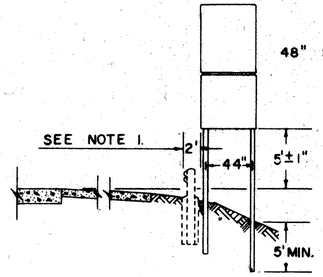






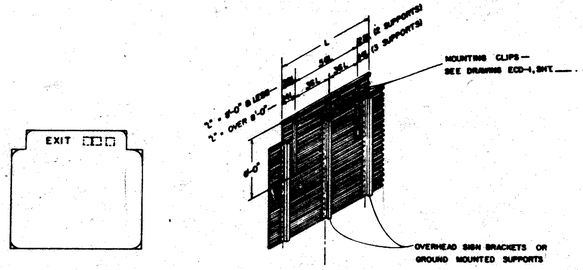




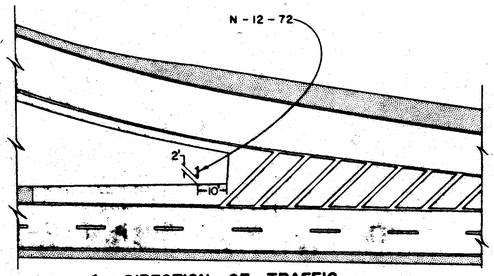


SIGN SUPPORT SPACING

L-FT	2 SUPPORTS .22	2 SUPPORTS .56	3 SUPPORTS .14	3 SUPPORTS .36	L-FT	2 SUPPORTS .22	2 SUPPORTS .56	3 SUPPORTS .14	3 SUPPORTS .36
5.0	1.10	2.80	0.70	1.80	17.0	3.74	9.52	2.38	6.12
6.0	1.32	3.36	0.84	2.16	18.0	3.96	10.08	2.52	6.48
7.0	1.54	3.92	0.98	2.52	19.0	4.18	10.64	2.66	6.84
8.0	1.76	4.48	1.12	2.88	20.0			2.80	7.20
9.0	1.98	5.04	1.26	3.24	21.0			2.94	7.56
10.0	2.20	5.60	1.40	3.60	22.0			3.08	7.92
11.0	2.42	6.16	1.54	3.96	23.0			3.22	8.28
12.0	2.64	6.72	1.68	4.32	24.0			3.36	8.64
13.0	2.86	7.28	1.82	4.68	25.0			3.50	9.00
14.0	3.08	7.84	1.96	5.04	26.0			3.64	9.36
15.0	3.30	8.40	2.10	5.40	27.0			3.78	9.72
16.0	3.52	8.96	2.24	5.76	28.0			3.92	10.08



"EXIT" SIGN ATTACHMENT DETAIL



NOTES

1. THE NEAR EDGE OF ALL MAIN LINE SIGNS, EXCEPT GORE INSTALLATIONS, SHALL BE LOCATED TWO FEET (2') BACK OF GUARD RAIL FACE. THIS DIMENSION SHALL BE DETERMINED BY ROADWAY TYPICAL SECTION & USED WHETHER OR NOT GUARD RAIL IS PRESENT.
   ON RAMPS THE NEAR EDGE OF SIGNS SHALL BE LOCATED TWO FEET (2') BACK OF GUARD RAIL FACE. THIS DIMENSION WILL BE DETERMINED AND USED AS FOR MAIN LINE ABOVE.
   ON APPROACHES THE NEAR EDGE OF SIGNS SHALL BE
   (A) TWO FOOT (2') BEHIND EXISTING GUARD RAIL
   (B) TWO FEET (2') FROM THE EDGE OF PAVED OR TRAVELED SHOULDER WITH A MINIMUM OF 6' FROM EDGE OF ROADWAY PAVEMENT.

2. POSTS PLACED IN CONCRETE MEDIANS SHALL BE INSTALLED BY DRIVING THROUGH A 6" SLEEVE OR CORE DRILLED HOLE. THE HOLE SHALL BE FILLED WITH ASPHALTIC CONCRETE AFTER THE POST IS IN THE PROPER POSITION.

3. HORIZONTAL BACK BRACING SHALL ALWAYS BE MOUNTED ON THE FRONT FLANGE OF THE SUPPORT EXCEPT WHERE SIGNS ARE MOUNTED BACK TO BACK. BACK BRACING SHALL NEVER EXTEND ABOVE TOP EDGE OF UPPERMOST SIGN PLATE AND SHALL BE ATTACHED TO SUPPORTS USING 5/16" GALVANIZED STEEL BOLTS.

4. SCREWS, NUTS, AND WASHERS FOR SIGN ERECTION SHALL BE ALUMINUM EXCEPT AS NOTED ABOVE. 5/16" TRUSS HEAD SLOTTED MACHINE SCREWS WITH HEX. NUTS PLAIN AND LOCKWASHERS SHALL BE USED. PLAIN WASHERS SHALL BE 5/16" WIDE", USED ON SIGN FACE ONLY

5. SIGN INSTALLATIONS SHALL BE PLACED SO THAT SUPPORTS ARE NOT PLACED IN DRAINAGE DITCHES.

6. HORIZONTAL CLEARANCES SHOWN PERTAIN TO NON-CURBED SECTIONS. SECTIONS WITH UNMOUNTABLE CURB SHALL HAVE A HORIZONTAL CLEARANCE OF 2'-0" MINIMUM FROM THE CURB FACE TO THE SIGN EDGE.

7. VERTICAL AND HORIZONTAL CLEARANCE BETWEEN SIGNS ON ONE ASSEMBLY SHALL BE A MAXIMUM OF 2" AND A MINIMUM OF 1".

8. GALVANIZED STEEL BEARING PLATES SHALL BE INCLUDED BETWEEN ALL SHEET ALUMINUM SIGNS ATTACHED TO VERTICAL SUPPORTS AT EACH SIGN BOLT LOCATION.

9. SOIL PLATES SHALL BE ATTACHED TO ALL 6 LB. BEAMS BETWEEN POSTS AS DETAILED ON THIS SHEET, EXCEPT WHERE BEAMS ARE PLACED IN CONCRETE MEDIANS AS COVERED IN NOTE 2.

BUREAU OF TRAFFIC
OHIO DEPARTMENT OF HIGHWAYS

TYPICAL PLACEMENT OF SIGNS — TPS-1

DATE: 9-27-67, 7-12-68, 5-13-69, 3-5-71, 12-21-71, 3-7-72

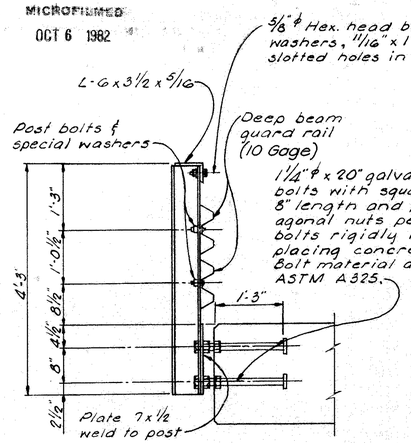
APPROVED _____
ENGINEER OF TRAFFIC

MICROFILMED
OCT 6 1982

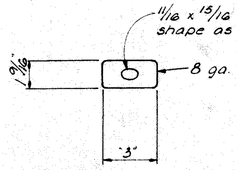
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

335
462

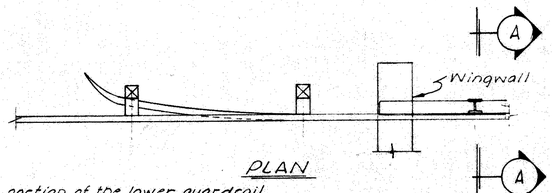
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



SECTION A-A

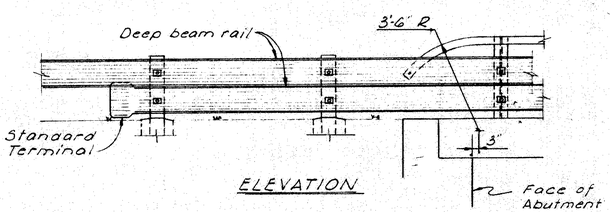


SPECIAL WASHER
Use under head of all post bolts.



PLAN

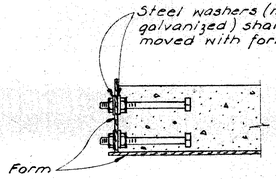
Note: That portion of the lower guardrail which projects beyond the bridge limits shall be included with the roadway railing for payment.



ELEVATION

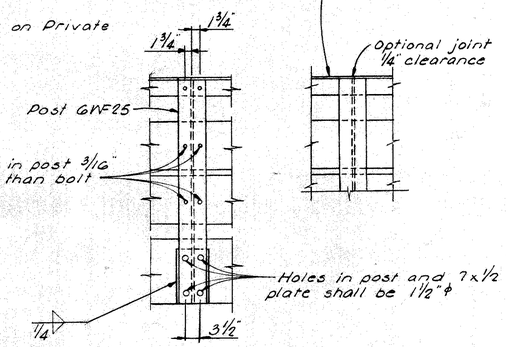
STANDARD BRIDGE RAILING
(Deep beam type)

Note: Lower rail to be omitted on Private Drive over Deep Run.

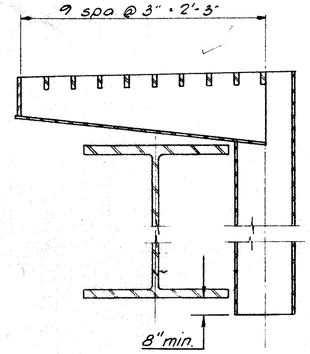


DETAIL B

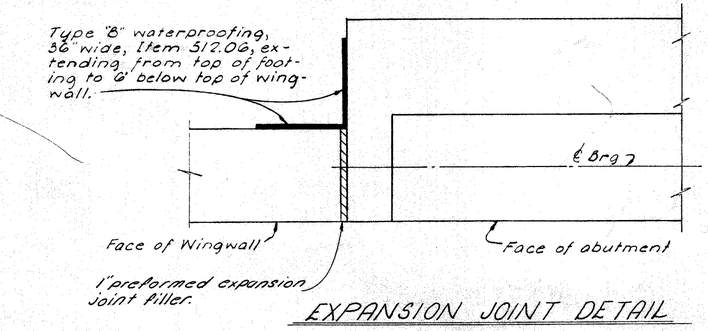
All material shall be galvanized as per Sec. 711.02 unless noted.



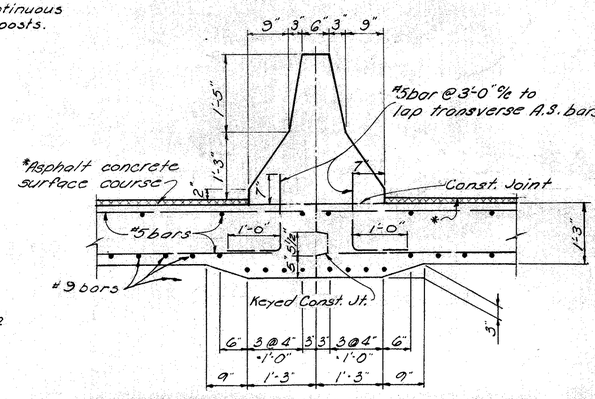
ELEVATION of RAILING POST



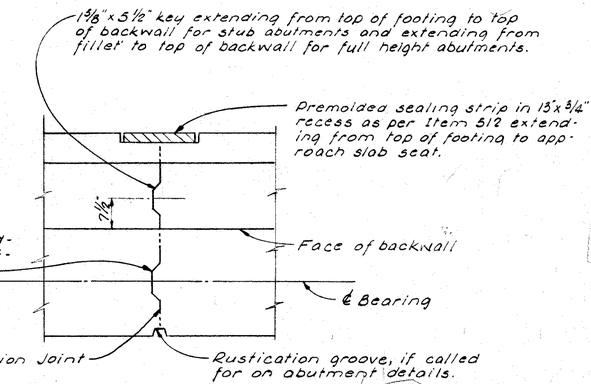
SCUPPER DETAIL
Note: For details not shown see SD-1-69.



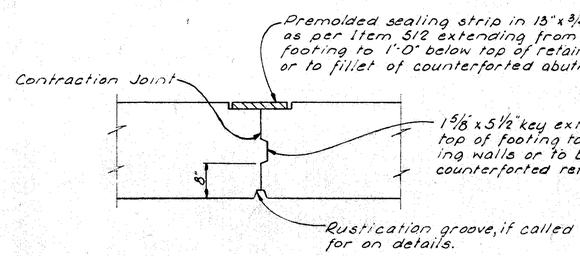
EXPANSION JOINT DETAIL



CONCRETE BARRIER on APPROACH SLAB
(BEL.-7-2619 & JEF.-7-0016)



ABUTMENT CONTRACTION JOINT DETAIL
(Reinforcing steel shall not extend through joint)



CONTRACTION JOINT DETAIL for RETAINING and COUNTERFORTED WALLS
(Reinforcing steel shall not extend through joint)

NOTES

*Asphalt Concrete Surface Course 2⅛" thick on BEL-7-2619, 1½" thick on JEF. 7-0016

For Railing Details see Common Details, Sheet 336

Refer to Special Details Sheet 24 rail post placement for barrier radii.

For notes and details not shown see Standard Drawing AS-1-72

Reinforcing steel shall not extend through construction joint.

1

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CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

COMMON DETAILS
BRIDGE

BELMONT-JEFFERSON COUNTIES

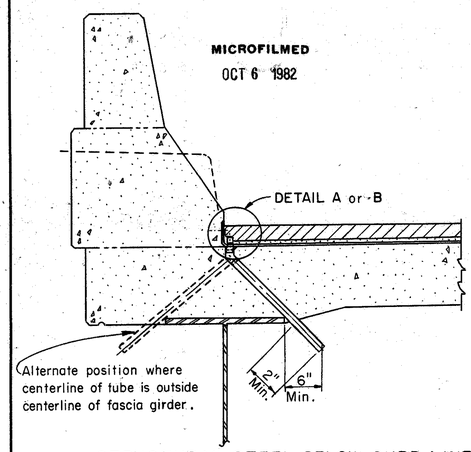
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
fwd	fwd		R.T.	JEV	2/17/69	

MICROFILMED
OCT 6 1982

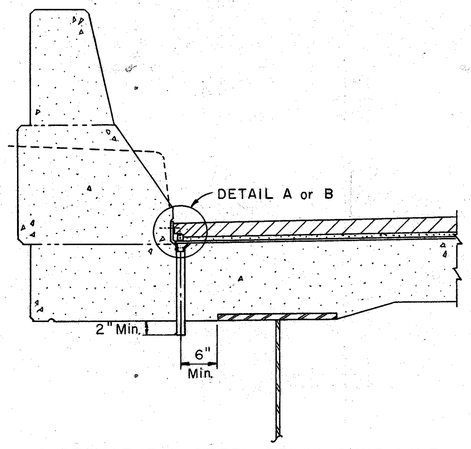
FHWA REGION	STATE	PROJECT	
5	OHIO		

335A
462

BELMONT- JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

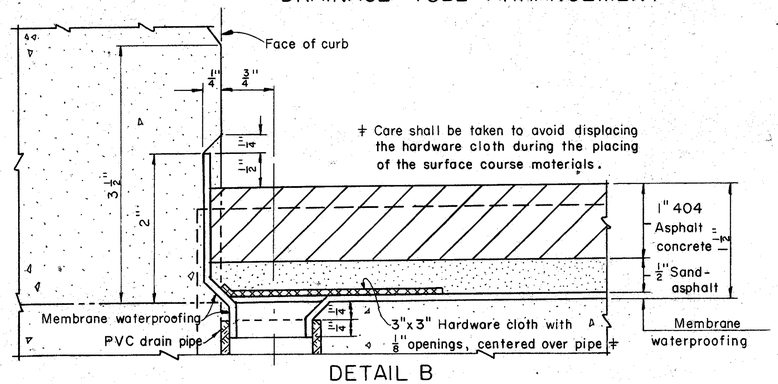


STRUCTURAL STEEL BELOW CURB LINE

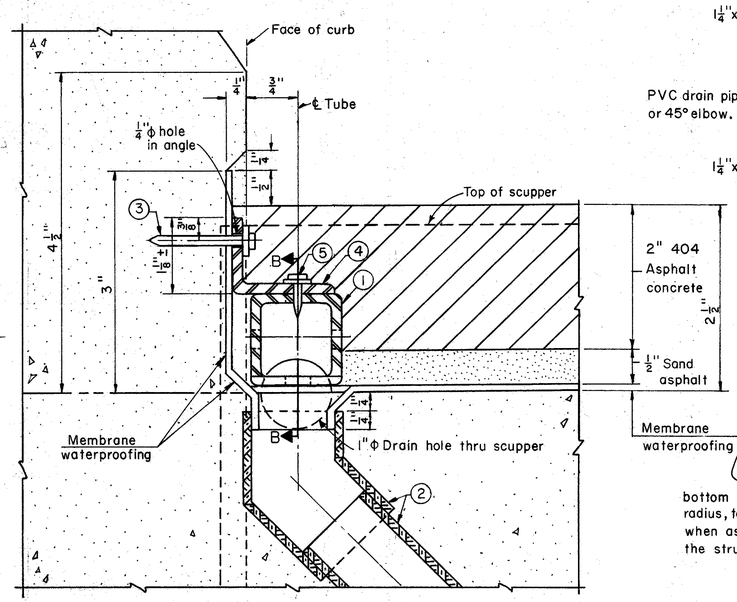


NO STRUCTURAL STEEL BELOW CURB LINE

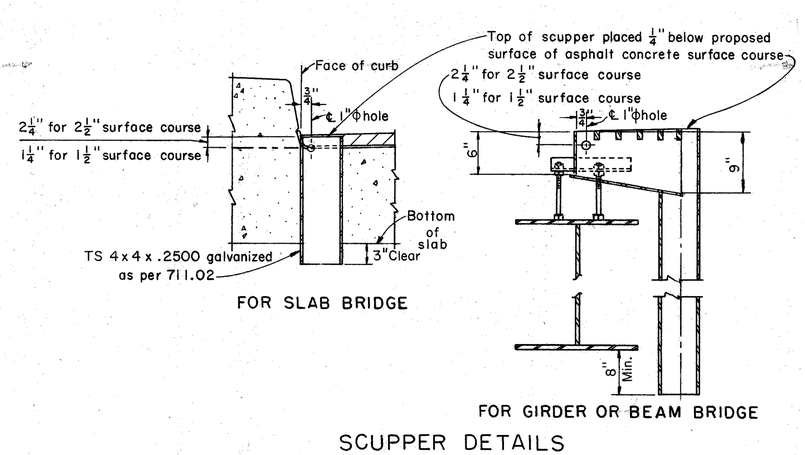
DRAINAGE TUBE ARRANGEMENT



DETAIL B
SUBDRAINAGE FOR 1½" SURFACE COURSE



DETAIL A
SUBDRAINAGE FOR 2½" SURFACE COURSE

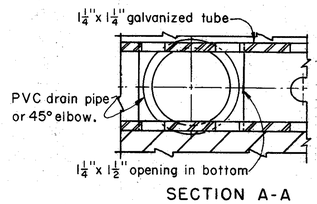


FOR SLAB BRIDGE

FOR GIRDER OR BEAM BRIDGE

SCUPPER DETAILS

(Scupper details conform to SD-1-69 except as noted)



SECTION A-A

SECTION B-B

SUBDRAINAGE FOR ASPHALT CONCRETE SURFACE COURSE

The subdrainage system shall consist of PVC pipes and fittings and structural tubes as specified on this sheet. The pipes shall be spaced at approximately six foot intervals with a pipe placed within one foot of each expansion joint, except that they shall be relocated or extended as necessary for any discharge to clear bridge seats, structural members such as beams, diaphragms and crossbracing by at least six (6) inches. Pipes shall not be placed over or within four (4) feet of a pavement or sidewalk, within ten (10) feet of the centerline of a railroad track or along curb lines where the deck configuration does not permit water to accumulate.

Where the plans specify a two and one half (2½) inch surface course, the subdrainage shall be as shown on Detail A. The structural tube may be placed in any convenient lengths using butt joints. The price bid per linear foot for this drainage system shall include all PVC pipe and fittings, structural tubes, and all labor necessary to complete the item. The quantity will be the actual length of structural tube required. Payment will be made at the contract price for: Item 518, Lin. Ft., Subdrainage for wearing course, as per plan.

Where the plans specify a one and one half (1½) inch surface course, the subdrainage shall be as shown in Detail B. The price bid for each drain shall include the PVC pipe and fitting, the hardware cloth and all necessary labor to complete the item. Payment will be made at the contract price for: Item 518, Ea., Subdrainage for wearing course, as per plan.

If no sand-asphalt is specified, the 404 shall be either 2½" placed in two 1¼" courses or 1½" placed in one course.

① 1¼"x1¼" galvanized, perforated, structural tube with $\frac{11}{32}$"±ϕ holes 1" on centers on all four sides as shown. Cut 1½"± x 1¼" opening in bottom, centered over each PVC drain pipe. The steel for the structural tube shall conform to the following:
PREGALVANIZED, ASTM A446, Grade A Steel, Galvanizing as per ASTM A525.
POSTGALVANIZED, ASTM A569 or A366, Galvanizing as per 711.02.

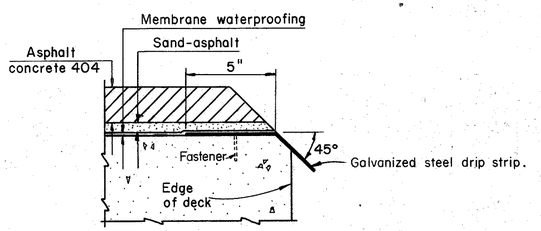
The minimum steel thickness shall be 0.105".
Any damaged galvanizing shall be repaired as per AASHO M36.

② 1" PVC DRAIN PIPE AND 45° ELBOW, SCHEDULE 40. Position accurately to match 1½"x1¼" openings in perforated tube. Place membrane to lap into the pipe, and seal the hole around the lip of the pipe. (This operation is important to the servicability of the membrane.) The drain pipe and elbow shall comply with the dimensions and markings of ASTM D1785 and ASTM D 2466, Type I and II respectively. The elbow shall be used only where structural steel is below curb line. Where the elbow is not adequate to provide clearance between the PVC pipe and the structural steel, the elbow shall be canted as required and cut on a line ¼" below and parallel with the deck surface. The solvent cement for the pipe and fittings shall conform to ASTM D2564.

③ 1¼"x$\frac{5}{32}$"x¼" flat head drive pin and washer.
Fastening of the structural tube by methods other than shown shall be subject to approval by the Engineer. (Driving pins into bridge deck is prohibited.)

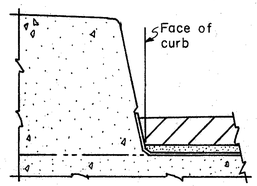
④ L 1½"x1½"x⅛", 3" long, clipped and galvanized, or bent galvanized steel plate 2½"x3"x0.105" thick. Attach to curb at approximately 10'-0"℅ except near joints, where the angle shall be placed within 6" of the end of each tube section.

⑤ ½"x⅛"x¼" flat head drive pin and washer driven thru angle and tube.



DRIP STRIP
BRIDGES WITHOUT CURBS

Galvanized Steel Drip Strip: Prior to applying deck membrane waterproofing a bent galvanized steel drip strip, 8"x0.105" shall be installed along the edges of the deck as shown. The strips shall be fastened at 3'-0"℅ maximum with power driven pins or # 10 galvanized expansion screws, subject to the approval of the Engineer. The strips shall be placed the full length of the deck. Where splices are required a 3" (min.) lap shall be used, with a fastener through the lap. Steel shall meet the requirements of ASTM A568 and galvanizing shall be in accordance with 711.02. Payment shall be at the contract price bid for Item Special, Sq. Ft., Galvanized steel drip strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.



SHAPE OF SIDEWALK CURB

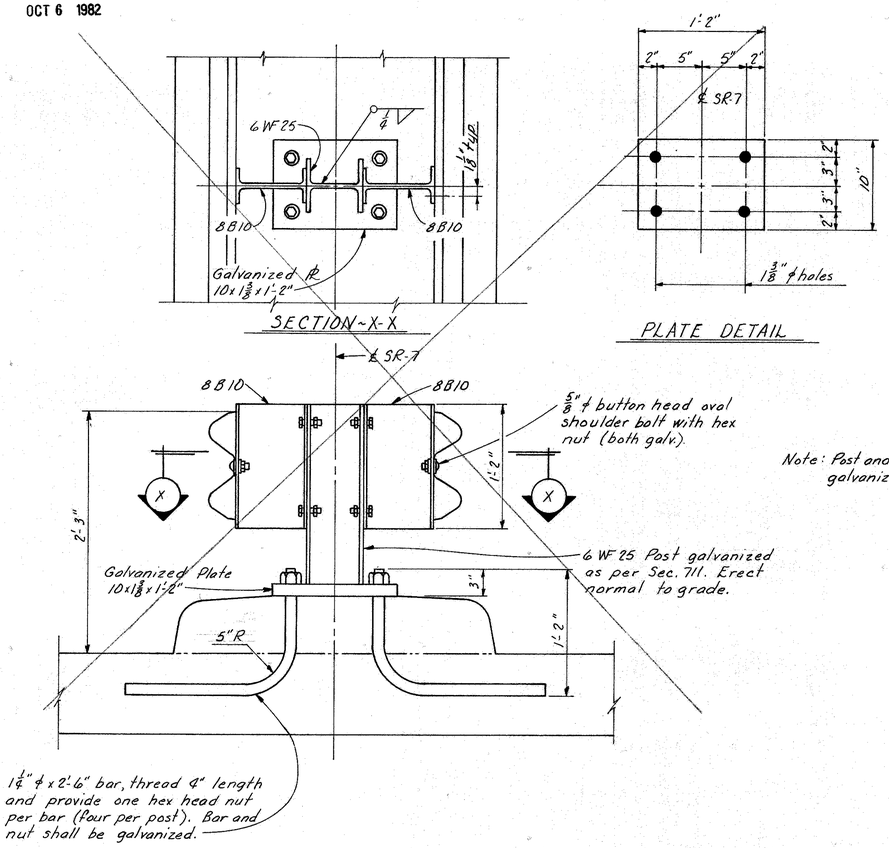
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF BRIDGES

DECK DRAINAGE DETAILS FOR BRIDGES WITH ASPHALT CONCRETE SURFACE COURSE

BELMONT - JEFFERSON COUNTIES

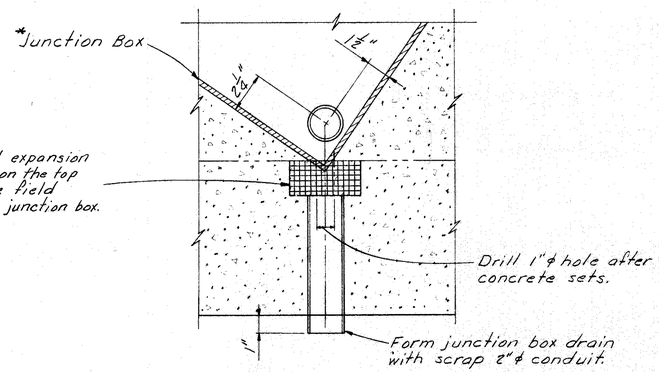
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DLM	GF JJ	——	CPD	WJJ	7-27-73	

MICROFILMED
OCT 6 1982

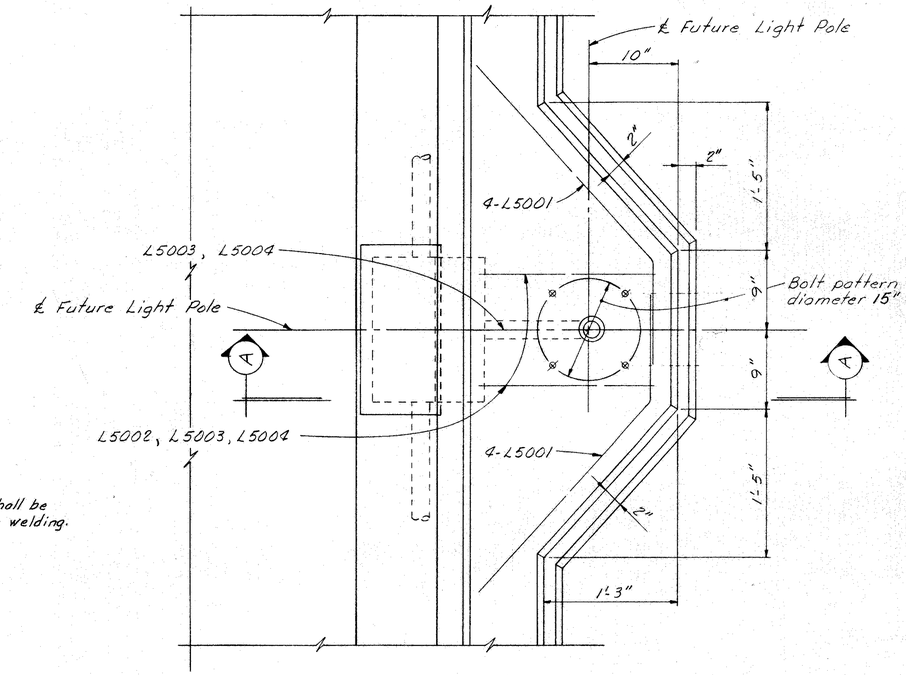


Note: Post and plate shall be galvanized after welding.

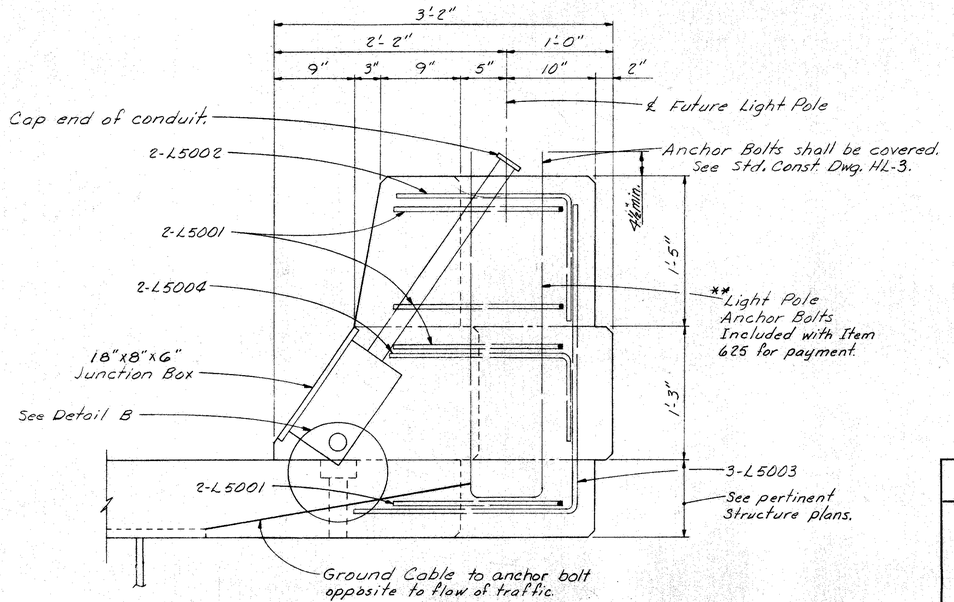
BARRIER GUARDRAIL DETAILS



DETAIL B



Note: See Lighting Plans for Light Pole anchor bolt material and size.



SECTION-A-A

TYPE "B" BRIDGE RACEWAY WITH JUNCTION BOX

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

336
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00

LIGHTING NOTES

Bridge Lighting - Item 625 includes the installation of all electrical equipment on the bridge and wingwall to the adjacent Roadway Pull Box. For additional details and notes see Highway Lighting Details and Notes and Standard Construction Drawing HL-4; and HL-5

Quantities - The reinforcing steel for light pole support are included with the bar List and are included with the structure quantities for payment. For detail listing of quantities, see General Lighting Summary, sheet 302.

Conduit - All conduit shall be rigid ferrous metal, as per Item 713.04

Expansion Fitting - Fittings shall be O-Z Company, Type "AX" or Crouse-Hinds, Type XJ or Appleton, Type XJ and shall be located so as to permit equal expansion or contraction from 60°F. Included with conduit for payment.

** Anchor Bolts - Apply light coat of red weather-resistant paint to projected portion of bolt

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CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

COMMON DETAILS

BRIDGE

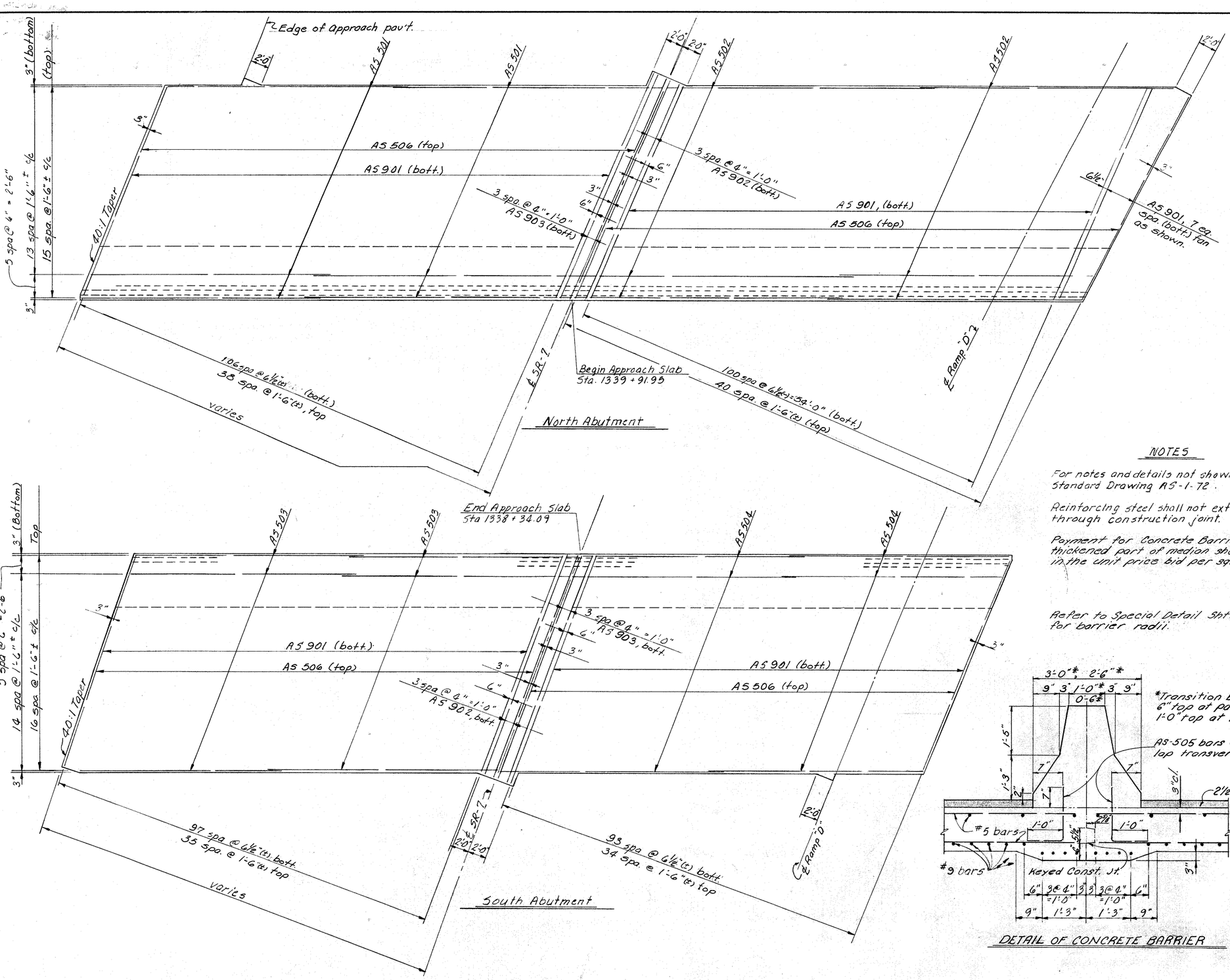
BELMONT - JEFFERSON COUNTIES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	DW		P.H.B.	JEV	10/14/70	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

337
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



Dim. "A"

REINFORCING STEEL LIST

Mark	Nº	Length	Dim."A"	Dim."A" Increment
AS501	70	31'-9"	—	—
AS502	70	32'-9"	—	—
AS503	74	29'-4"	—	—
AS504	74	28'-6"	—	—
AS901	408	25'-7"	24'-6"	—
AS902	2 series of 4	26'-1" to 25'-7"	25'-0" to 24'-6"	2"
AS903	2 series of 4	26'-10" to 26'-4"	25'-9" to 25'-3"	2"
~~AS804~~	~~1 series of 4~~	24'-9" to 25'-3"	23'-8" to 24'-2"	2"
~~AS805~~	~~1 series of 4~~	26'-2" to 26'-8"	25'-1" to 25'-7"	2"
AS505	40	2'-7"		
AS506	154	25'-7"		

NOTES

For notes and details not shown see Standard Drawing AS-1-72.

Reinforcing steel shall not extend through construction joint.

Payment for Concrete Barrier and thickened part of median shall be included in the unit price bid per sq. yd. of Approach Slab

Refer to Special Detail Sht. #24 for barrier radii.

A tack coat shall be applied to the approach slab at the rate of 0.10 gal. per sq. yd.

The jacking holes are not required when an asphalt surface course is used.

*Transition barrier from 2'-6" base and 6" top at pavement, to 3'-0" base and 1'-0" top at bridge abutment.

AS-505 bars @ 3'-0" ℄ to lap transverse A.S. bars.

DETAIL OF CONCRETE BARRIER

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CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

APPROACH SLAB DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	PHB		RT	cwd	10/14/10	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS

338
462

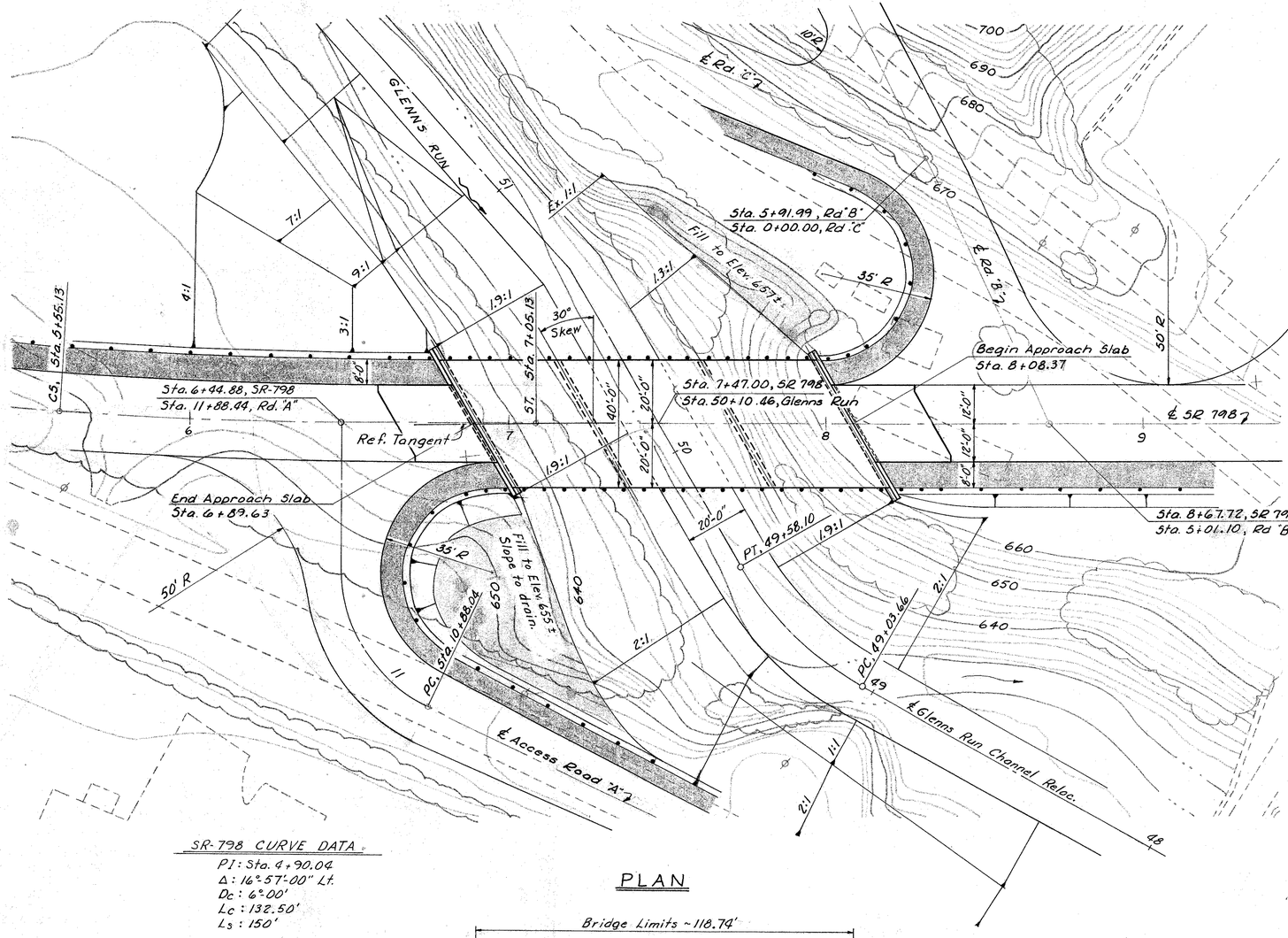
BELMONT- JEFFERSON COUNTIES
BEL-7- 23.74 / JEF-7- 0.00

PROPOSED STRUCTURE

TYPE: Continuous concrete slab with capped pile abutments and concrete 'T' type piers.
SPANS: 36'-0", 45'-0", 36'-0" c/c brgs. along ℄.
ROADWAY: 40'-0" f/f guardrail.
LOADING: H5 20-44
WEARING SURFACE: 2½" Asphalt concrete.
SKEW: 30°00'00" Rt. Fwd. with respect to Ref. Tangent.
ALIGNMENT: Tangent.
APPROACH SLABS: AS-1-67, 25'-0" long.
SUPERELEVATION: 3/16" per ft. W.B. Lanes
0" per ft. E.B. Lanes

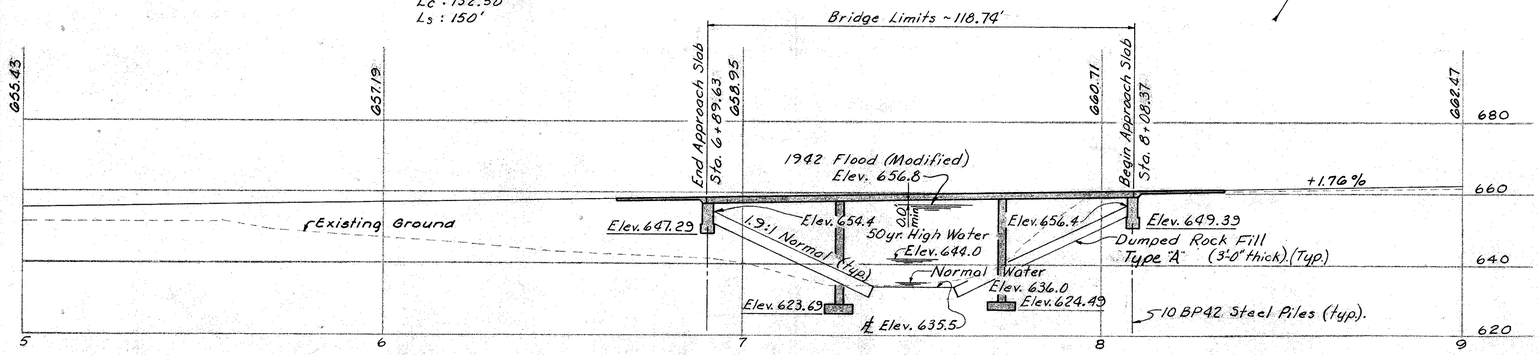
Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

Reference Tangent is the extension of the centerline from Sta. 9+00.0 back through the ST at Sta. 7+05.13.



PLAN

SR-798 CURVE DATA
PI: Sta. 4+90.04
Δ: 16°57'-00" Lt.
Dc: 6°00'
Lc: 132.50'
Ls: 150'



PROFILE ALONG ℄ SR-798

DRAINAGE INFORMATION

Drainage Area = 10.5 sq. mi.
Flood Discharge = Q_{50} = 4200 c.f.s.
50 yr. High Water Elev. = 644.0
Waterway Opening Below 644.0 = 300 sq. ft.

Q_{100} = 4730 c.f.s. V_{100} = 14.9 f.p.s.

Note:
All piles shall be 10BP42 steel piles.
Estimated average pay length are:
E. Abutment: 25'
W. Abutment: 25'

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CONSULTING ENGINEERS
COLUMBUS, OHIO

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SITE PLAN

BRIDGE Nº BEL-798-0527
SR-798 over GLENNS RUN
BELMONT COUNTY STA. 6+89.63 to STA. 8+08.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED 10-24-74
fwd	fwd	DW	DLM	JEV	10/30/67	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO. SHT.	DATE
APPROACH SLABS	AS-1-67	6-12-69 R
HIGHWAY LIGHTING	HL-5	9-6-73
	HL-7	9-6-73

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	/-/-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	1- 1-71

COMMON DETAIL REFERENCES

GUARD RAIL	SHEET 335
GALVANIZED STEEL DRIP STRIP	SHEET 335A

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1965, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.

EMBANKMENT CONSTRUCTION

THE EMBANKMENT AT THE WEST ABUTMENT SHALL BE CONSTRUCTED TO THE LEVEL OF SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENT. EXCAVATION SHALL THEN BE MADE FOR THE WEST ABUTMENT AND FOR PIER NO. 1

PILES shall be driven to refusal on bedrock or to 20 blows per inch for the last few inches of penetration. The design load is 35+ tons per pile for the abutment piles.

FOUNDATION BEARING PRESSURE

PIER FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 5.0 PER SQ.FT.

FOOTINGS

FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

	ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL
	503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP
	503	270	C.Y.	UNCLASSIFIED EXCAVATION INCLUDING ROCK	90	180		
	505	LUMP	SUM	TEST PILE				LUMP
	507	350	L.F.	STEEL PILES, HP10 x 42*	350			
	509	100121	LB	REINFORCING STEEL	6966	19388	73767	
	511	301	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE			301	
	511	163	C.Y.	CLASS C CONCRETE, PIERS ABOVE FOOTINGS		163		
	511	56	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	56			
	511	64	C.Y.	CLASS C CONCRETE, FOOTINGS	36	28		
	517	237.48	L.F.	RAILING (TWO DEEP BEAM RAILS WITH STEEL POSTS,			237.48	
				BOLTS AND HANDRAIL) *10 Gage*				
	518	35	C.Y.	POROUS BACKFILL	35			
	518	88	L.F.	6 INCH PERFORATED, HELICAL CMP, 707.01	88			
	518	32	L.F.	6 INCH NON-PERFORATED, HELICAL CMP, INCLUDING	32			
				SPECIALS, 707.01				
	808	301	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			301	
	625			*SEE SHEET 302 FOR LIGHTING SUMMARY.*				
	404	30	C.Y.	ASPHALT CONCRETE *(70-85 or AC20)*			30	
	SPEC	4	C.Y.	SAND ASPHALT			4	
**	SPEC	528	S.Y.	MEMBRANE WATERPROOFING, *sheet type*			528	
	SPEC	156	S.F.	GALVANIZED STEEL DRIP STRIP			156	

* HP10x42 piles formerly designated 10BP42

** *See Proposal Note*

APPROACH SLAB NOTES

The top slab rebars shall be 3" clear

A tack coat shall be applied to the approach slab at the rate of 0.10 gal. per sq. yd.

The jacking holes are not required when an asphalt surface course is used.

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CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. BEL-798-0527
SR-798 OVER GLENN'S RUN
BELMONT COUNTY STA. 6+89.63 TO STA. 8+08.37

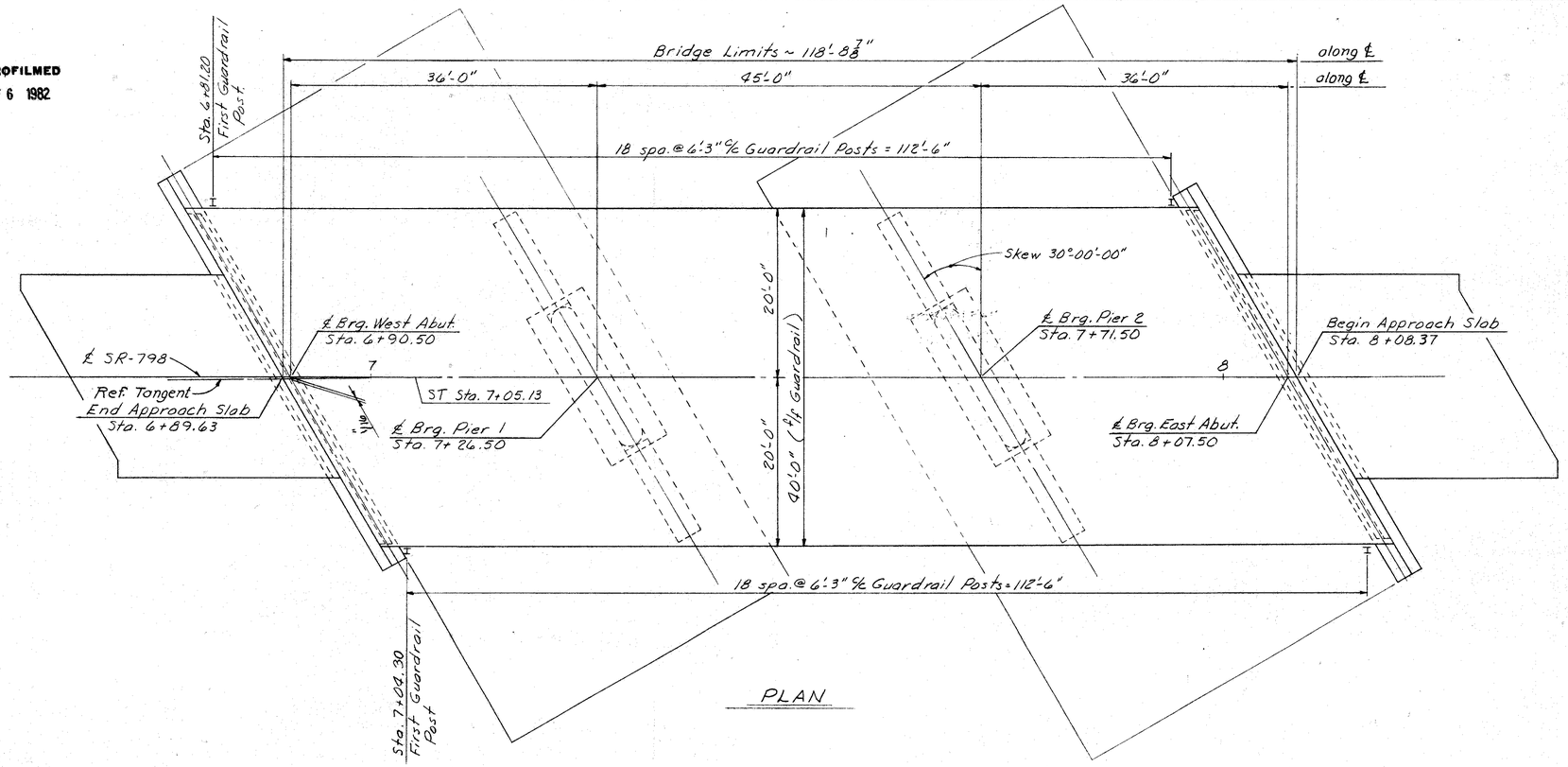
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
VB			WLS 1-10-69	J.E.V.	2/14/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

340
462

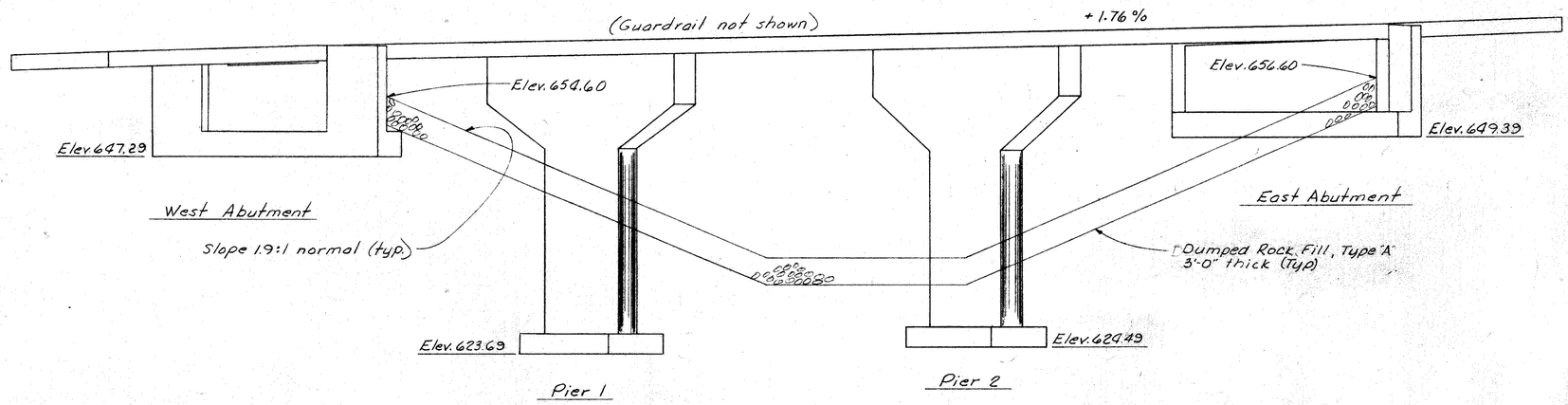
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



PLAN

NOTE

For dumped rock fill quantities see Highway Plans, Sheet 58.



ELEVATION
(Piles not shown.)

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GENERAL PLAN and ELEVATION

BRIDGE No. BEL-798-0527
SR-798 over GLENNS RUN
BELMONT COUNTY STA. 6+89.63 to STA. 8+08.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
VB	DW		WLS	JEY	2/14/69	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

341
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

TABLE of ELEVATIONS									
Locations	A	B	C	D	E	F	G	H	J
W. Abutment	647.29	656.37	656.54	656.97	657.07	658.98	658.89	658.46	658.15
E. Abutment	649.39	659.11	659.06	658.63	658.41	660.29	660.55	660.98	661.12

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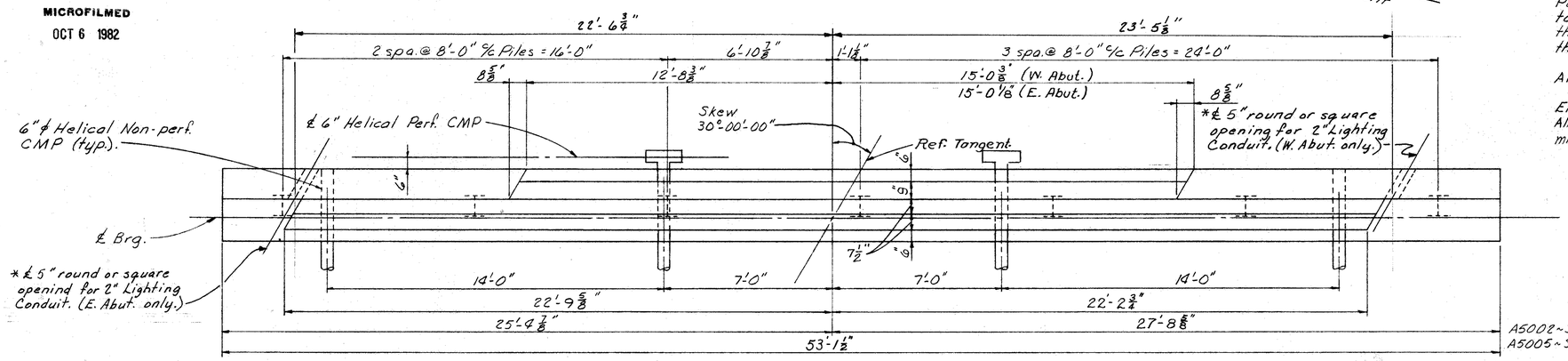
OCT 6 1982



PLAN

* For additional details of 2" Lighting Conduit and 5" opening see Std. Const. Dwg. HL-5.

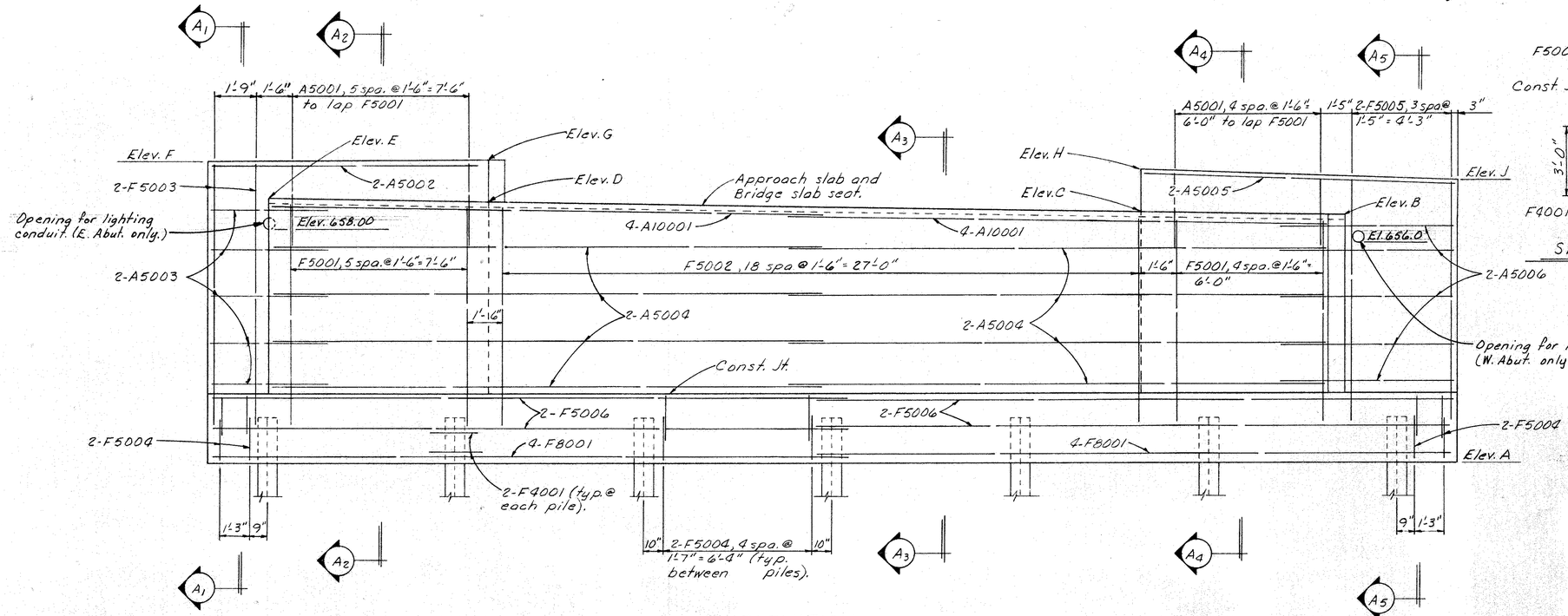
2" Lighting Conduit must be deflected horizontally as well as vertically after leaving slab to fit thru 5" opening.

NOTES

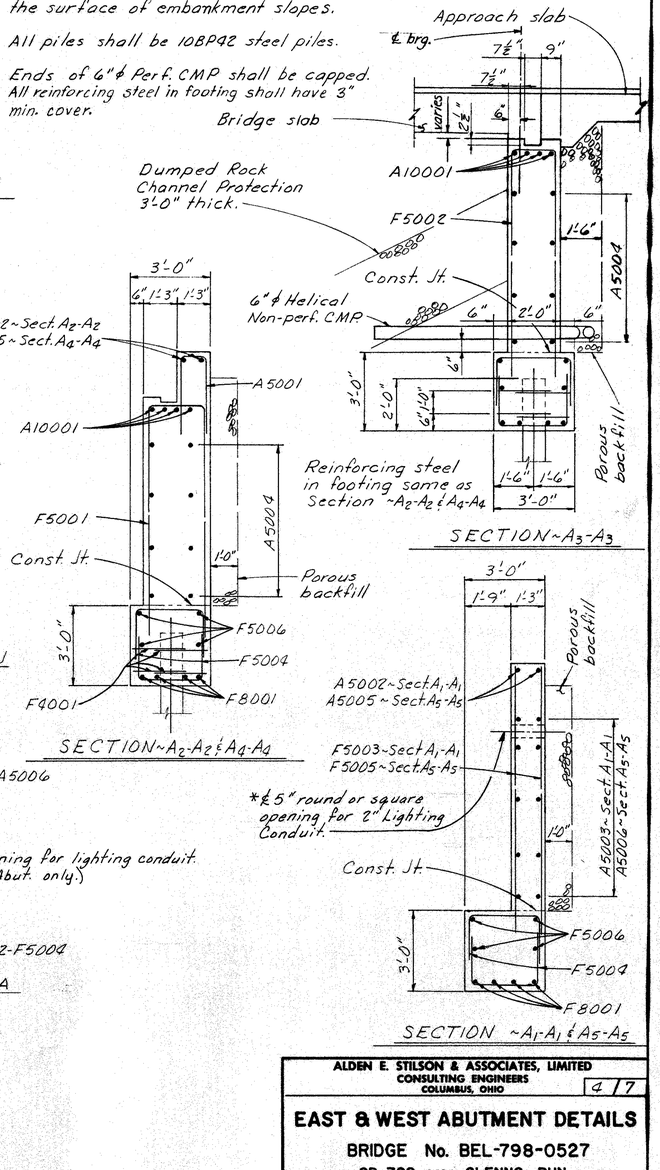
Porous backfill shall extend upwards to the subgrade or to the bottom of the approach slab and outward to the surface of embankment slopes.

All piles shall be 10BP42 steel piles.

Ends of 6" ϕ Perf. CMP shall be capped. All reinforcing steel in footing shall have 3" min. cover.



ELEVATION



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EAST & WEST ABUTMENT DETAILS

BRIDGE No. BEL-798-0527
SR-798 over GLENNS RUN
BELMONT COUNTY
STA. 6 + 89.63 to STA. 8 + 08.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
VB	DW		WLS	JEV	2/14/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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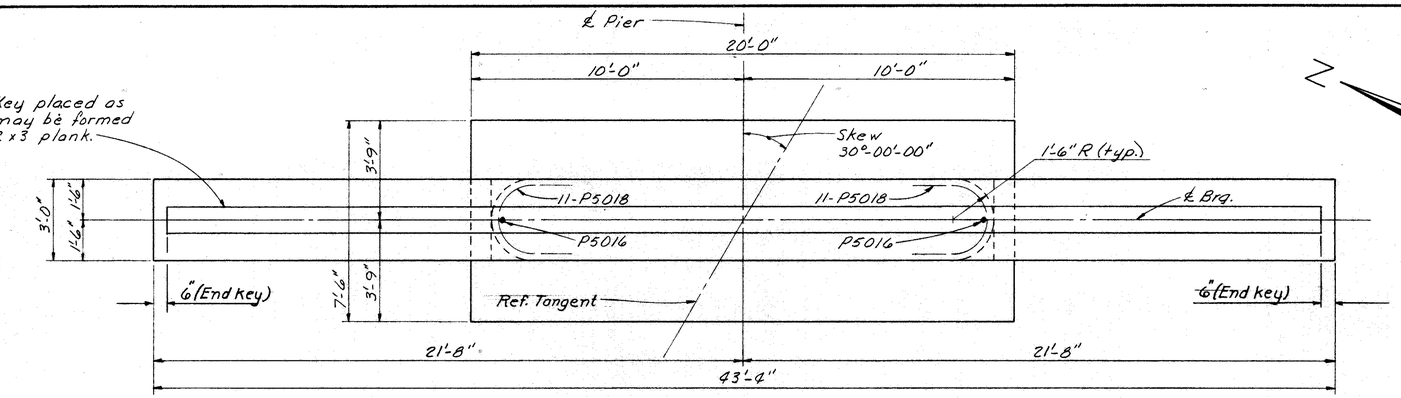
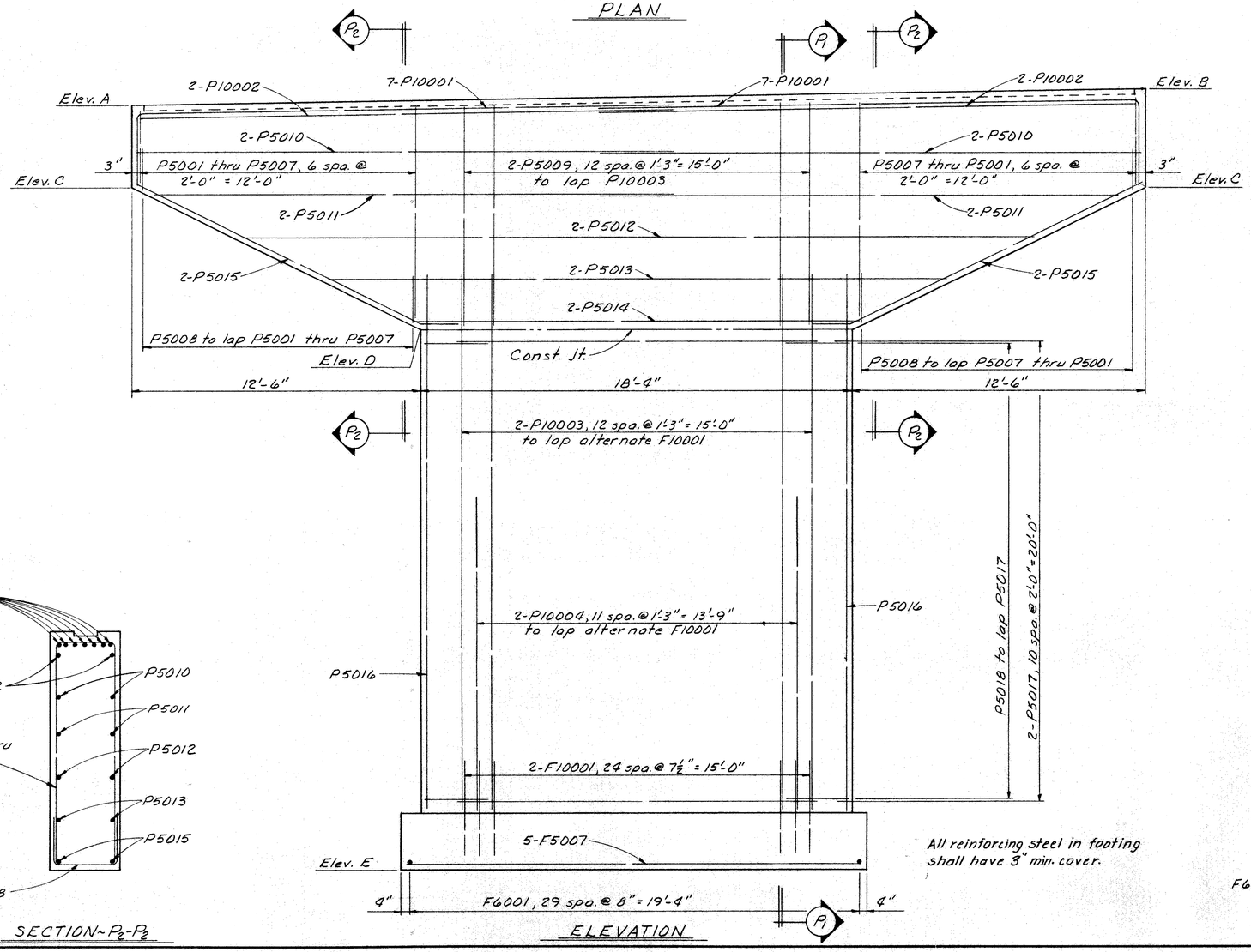
BELMONT- JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

Shear Key placed as shown may be formed with 12 x 3 plank.



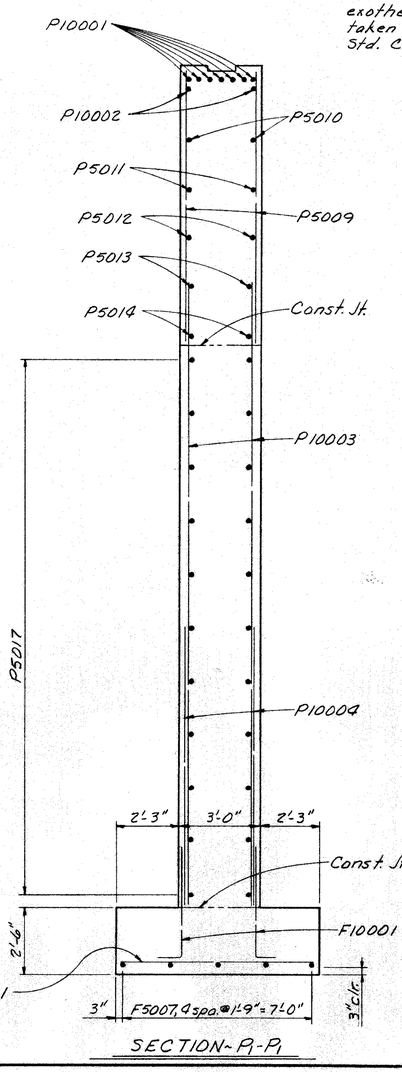
PLAN



All reinforcing steel in footing shall have 3" min. cover.

ELEVATION

SECTION ~ P2 - P2



SECTION ~ P1 - P1

CONDUIT GROUNDING NOTE

The steel conduit shall be grounded at either Pier with size 1/0 AWG bare copper cable exothermically welded to the conduit and taken down thru Pier and grounded as per Std. Const. Dwg. HL-7.

TABLE of ELEVATIONS		
Elev.	Pier 1	Pier 2
A	656.98	657.77
B	657.70	658.49
C	653.48	654.27
D	647.23	648.02
E	623.69	624.49

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PIER 1 & 2 DETAILS

BRIDGE No. BEL-798-0527
SR-798 over GLENNS RUN
BELMONT COUNTY STA. 6+89.63 to STA. 8+08.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
VB	DW		WLS	JEV	2/14/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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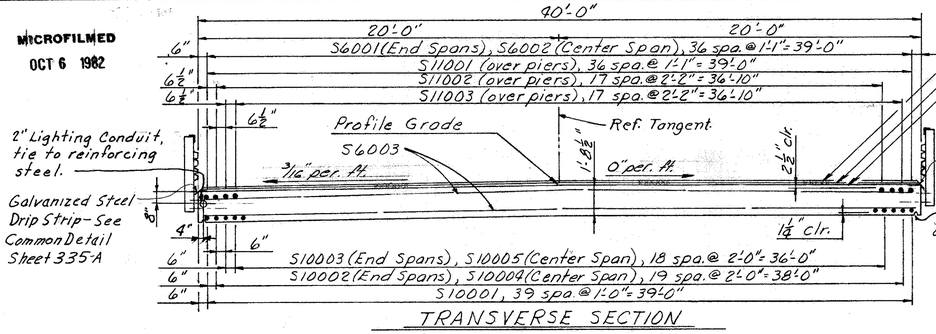
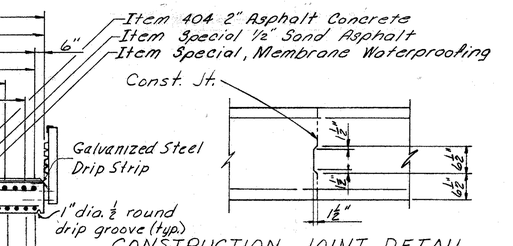
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

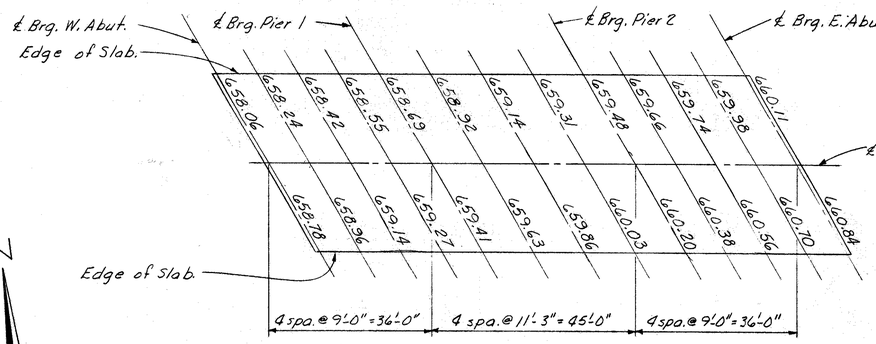


TRANSVERSE SECTION



CONSTRUCTION JOINT DETAIL

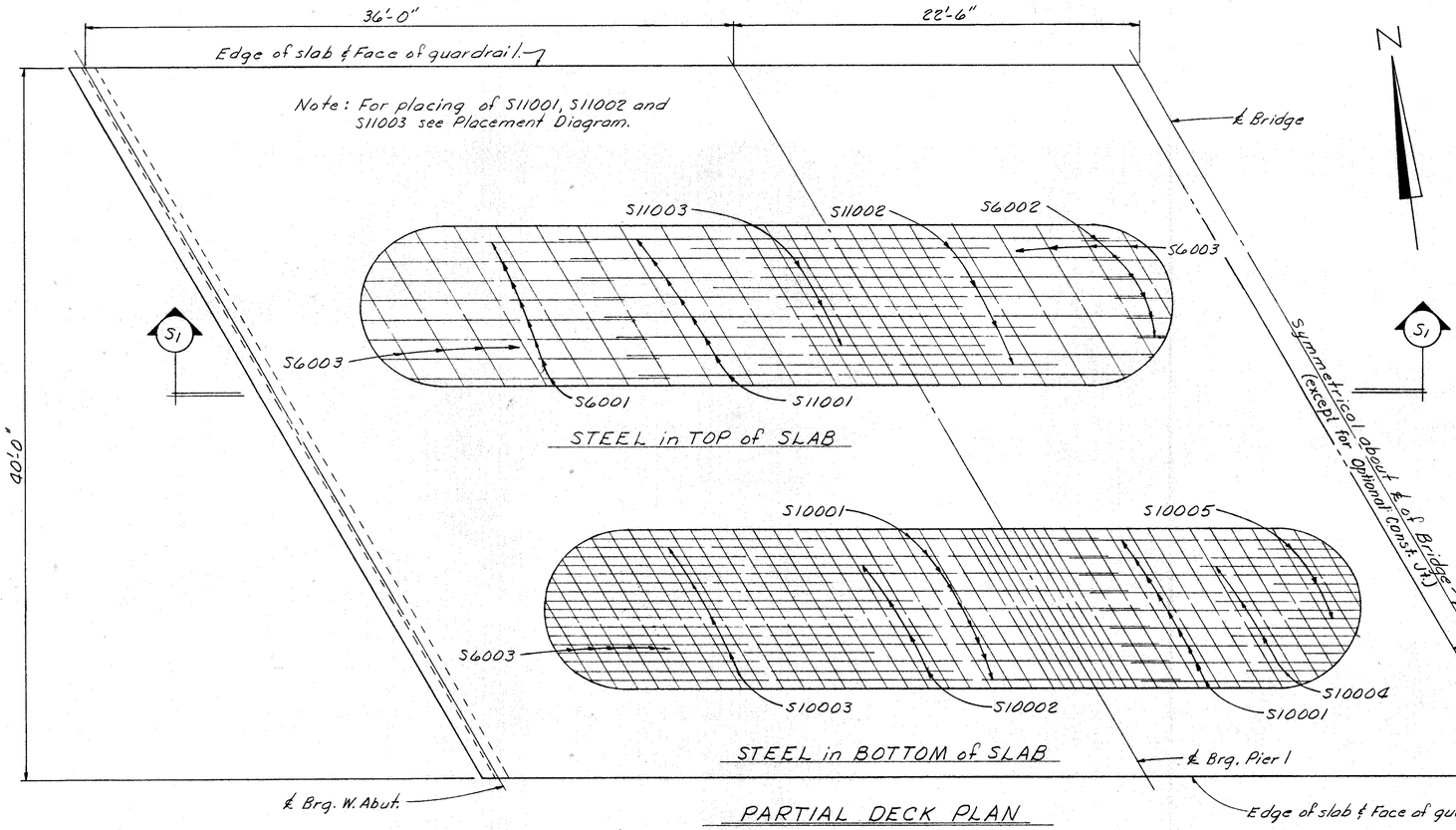
* Screed elevations are at top of the edge of slab before the concrete deck is placed. Proper allowance has been made for the dead load deflection due to the weight of the concrete. Allowance for the deflection of falsework members has not been included.



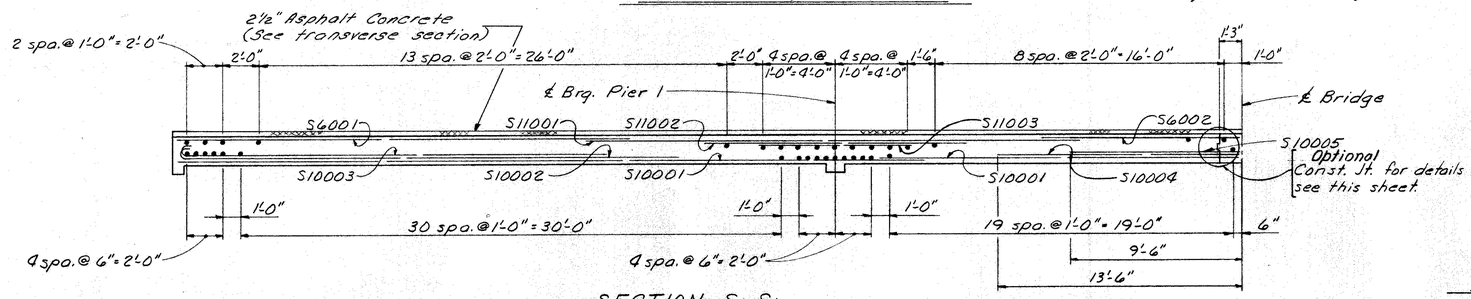
* SCREED ELEVATIONS

NOTES

DECK FINISHING: Concrete deck shall be in accordance with 451.09 and 451.12, except that the roadway surface shall be finished with a burlap drag to provide a uniform surface with a gritty texture.



PARTIAL DECK PLAN



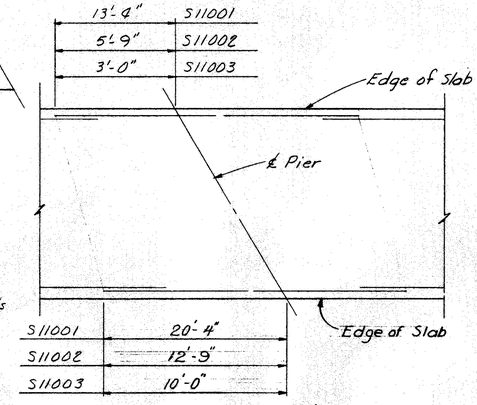
SECTION ~ S1-S1

Field bending of S6003 shall be included in Item 509 for payment.

Top longitudinal steel shall lap 2'-2" min.
Bottom longitudinal steel shall lap 3'-2" min.

Transverse reinforcing steel S6003 symmetrical about ℄ Bridge and shall be placed parallel to ℄ Abut. bearings.

For Guardrail attachment details, see Common Details on Sheet 335.



PLACEMENT DIAGRAM FOR S11001, S11002 & S11003

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SUPERSTRUCTURE DETAILS

BRIDGE No. BEL-798-0527
SR-798 over GLENNS RUN
BELMONT COUNTY STA. 6+89.63 to STA. 8+08.37

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
VB	DW		WLS	JEV	2/14/69	

MICROFILMED
OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
F 4001	56	5- 4	200	1		1-11	1- 9	1-11		
F 5001	22	18- 0	413	1		8- 1	2- 1	8- 1		
F 5002	38	16-11	670	1		7-10	1- 6	7-10		
F 5003	8	10- 1	85	ST						
F 5004	136	6- 5	910	1		2- 1	2- 6	2- 1		
F 5005	16	9- 3	155	ST						
F 5006	16	27- 2	453	ST						
F 8001	16	27- 8	1182	ST						
A 5001	22	6- 4	145	1		2-11	0- 9	2-11		
A 5002	4	11- 7	48	ST						
A 5003	20	5- 2	108	ST						
A 5004	32	23- 2	773	ST						
A 5005	4	12- 6	52	ST						
A 5006	20	6- 0	125	ST						
A10001	16	23-11	1647	ST						
				PIERS						
F 5007	10	19- 6	203	ST						
F 6001	60	7- 0	631	ST						
F10001	100	6- 4	2725	1	5- 4	1- 4				
P 5001	4	20-11		1		9- 3	2- 8	9- 3		1
THRU			428		VARY	LENGTH BY		2- 1		
					VARY	DIM. B BY		1- 0	1/ 2	
					VARY	DIM. D BY		1- 0	1/ 2	
P 5007	4	8- 5		1		3- 0	2- 8	3- 0		1
P 5008	28	6-11	202	1		2- 3	2- 8	2- 3		
P 5009	52	9- 6	515	ST						
P 5010	8	22- 4	186	ST						
P 5011	8	20-10	174	ST						
P 5012	4	33- 9	141	ST						
P 5013	4	26- 0	108	ST						
P 5014	4	19- 0	79	ST						
P 5015	8	15- 2	127	12	1- 7	12- 2		6- 1		
P 5016	4	23- 1	96	ST						
P 5017	44	15- 4	704	ST						
P 5018	44	7- 2	329	7	1- 7	1- 7	1- 3			
P10001	28	26- 0	3133	1	23- 4	3- 0				
P10002	8	23- 4	803	ST						
P10003	52	23- 6	5258	ST						
P10004	48	17- 2	3546	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				SUPERSTRUCTURE						
S 6001	74	25- 5	2825	ST						
S 6002	74	22- 8	2519	ST						
S 6003	400	24- 0	14419	ST						
S10001	120	41-11	21644	ST						
S10002	40	29-11	5149	11	28- 6					
S10003	38	24-11	4074	11	23- 6					
S10004	20	27- 0	2324	ST						
S10005	19	19- 0	1553	ST						
S11001	74	33- 8	13236	ST						
S11002	36	18- 6	3538	ST						
S11003	36	13- 0	2486	ST						
				REPLACEMENT STEEL						
RE 4001	1	5- 4		1		1-11	1- 9	1-11		
RE 5001	1	6- 7		ST						
RE 6001	2	6-10		ST						
RE 8001	1	7- 6		ST						
RE10001	3	8- 2		ST						
RE11001	1	8- 6		ST						

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

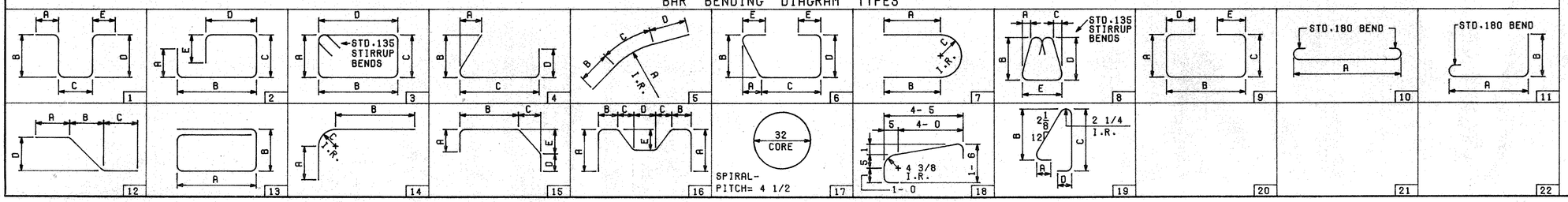
NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.
SPIRAL BARS SHALL NOT HAVE DEFORMATIONS BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. 1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



7 17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO. BEL-798-0527
SR-798 OVER GLENN'S RUN
STA. 6+89.63 TO
BELMONT COUNTY STA. 8+08.37

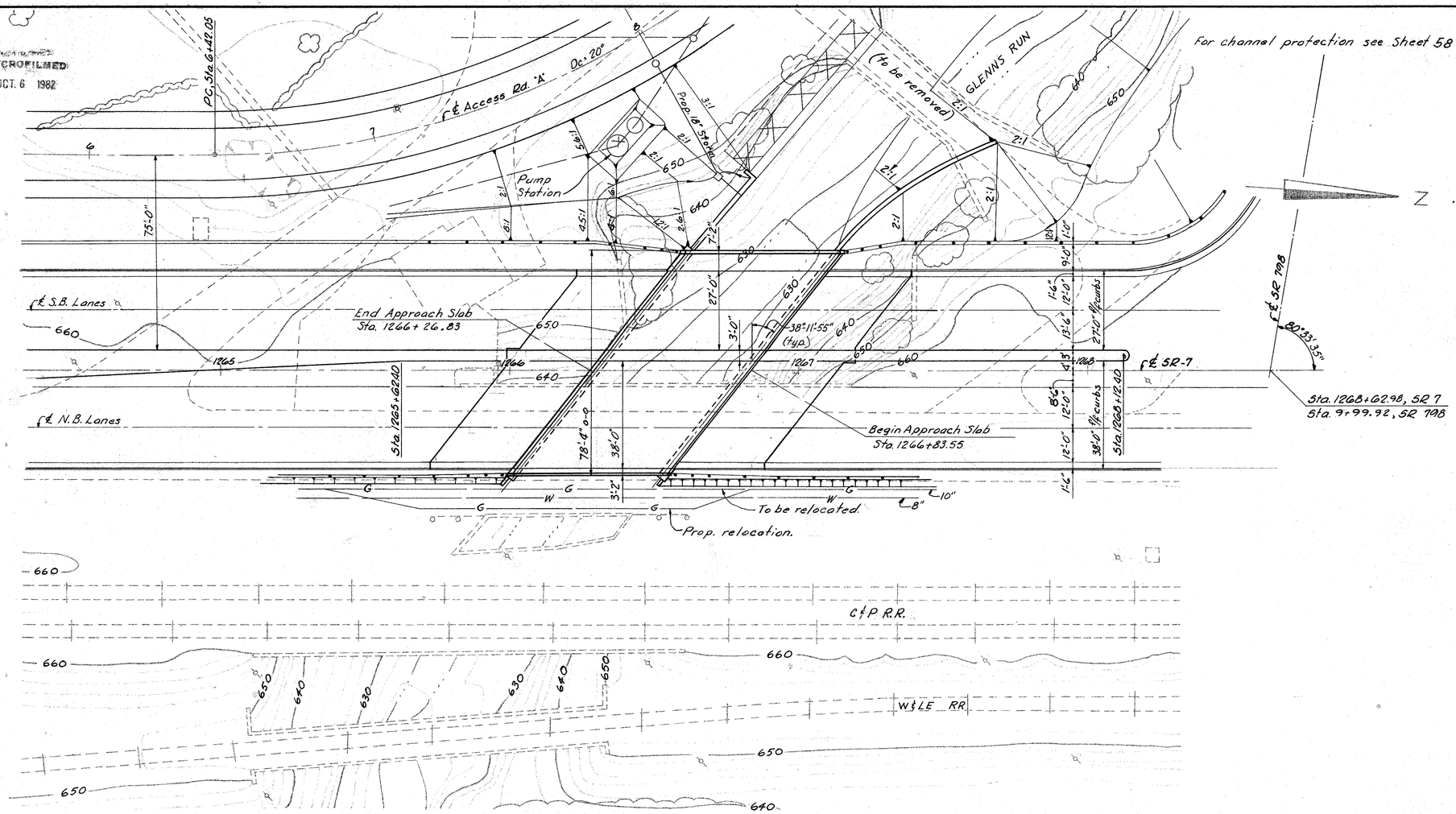
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
VB			WLS	J.E.V.	2/14/69	

MICROFILMED
OCT. 6 1982

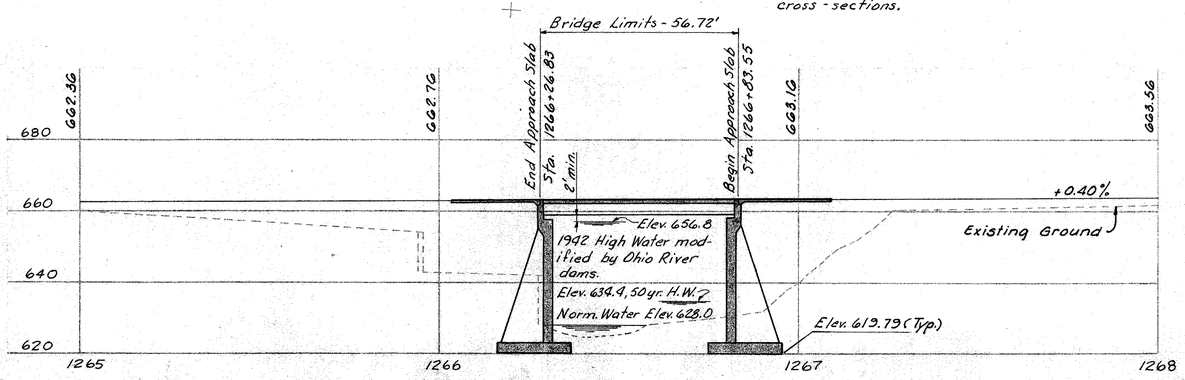
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS

345
462

BELMONT- JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.



EXISTING STRUCTURES

SR-7

TYPE: Simple span steel and reinforced concrete girder and floor beams with reinforced concrete deck and substructure.
SPAN: 48'-2" f/f abutments.
ROADWAY: 22'-8" c/c curbs 1'-3" safety curb and 6'-2" sidewalk. Concrete railing and end posts.
LOADING: H-15 (Plans dated April 1925).
WEARING SURFACE: Brick and asphaltic concrete.
ALIGNMENT: Tangent.
SKEW: 38°35' Left forward.
CONDITION: Good.

PENNSYLVANIA R.R. BRIDGE NO. 68

TYPE: Concrete Arch
SPAN: 50' ±
WIDTH: 36' ±
LOADING: Unknown.
ALIGNMENT: Tangent.
SKEW: 38°35' Left forward
CONDITION: Good.

STA. 1267+35, 100' LT.

TYPE: Simple span concrete deck with steel stringers and floor beams and cut stone abutments.
SPAN: 48'-6"
WIDTH: 16'-6" c/c of steel stringers.
LOADING: Unknown
ALIGNMENT: Tangent
SKEW: 0°
CONDITION: Poor

PROPOSED STRUCTURE

TYPE: Simple span steel beam with reinforced concrete slab and substructure.
SPAN: 51'-0" c/c brgs.
ROADWAY: 68'-0" f/f curb with 3'-0" raised median, 6'-0" sidewalk and 2'-0" safety curb with concrete parapets and Bridge Sidewalk Railing.
LOADING: HS 20-44
WEARING SURFACE: 2½" Asphalt concrete.
SKEW: 38°-11'-55" Left Forward.
ALIGNMENT: Tangent
APPROACH SLABS: 30'-0" long. See Common Details sheet # 335.

Existing SR-7 structure shall be used to maintain traffic during construction of the Southbound Lanes.

DRAINAGE INFORMATION

Drainage Area = 10.5 sq. mi
Flood Discharge = Q_{50} = 4200 c.f.s.
50 yr. High Water Elev. = 634.4
Waterway Opening Below 634.4 = 288 sq. ft.
v = 14.6 f.p.s.
Q_{100} = 4730 c.f.s. V_{100} = 14.9 f.p.s.
Note: Existing plans indicate a cemented sand and gravel foundation.

ALDEN E. STILSON & ASSOCIATES, LIMITED
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COLUMBUS, OHIO

1/18

SITE PLAN

BRIDGE Nº BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
fwd	fwd	DW	DLM	JEV	10/30/67	10-27-74

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

346
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
BRIDGE SIDEWALK RAILING	BR-2-67		10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72		6-30-72 R
HIGHWAY LIGHTING	HL-5		9-6-73
	HL-7		9-6-73

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1-1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	1- 1-71

COMMON DETAIL REFERENCES

CONTRACTION JOINTS	SHEET 335
EXPANSION JOINTS	SHEET 335
SUBDRAINAGE FOR WEARING COURSE	SHEET 335 A

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1965, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.

REMOVAL OF EXISTING STRUCTURES

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING SUPERSTRUCTURES (WITH THE EXCEPTION OF THE TWO STEEL GIRDERS ON THE SR-7 BRIDGE) AND PORTIONS OF THE EXISTING ABUTMENTS SHALL BE REMOVED IN ACCORDANCE WITH SECTION 202.03 AND AS INDICATED ON THE PLANS. SUITABLE WASTE MASONRY SHALL BE PLACED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER.

BACKWALL CONCRETE

IN ADDITION TO THE PROVISIONS OF 511.08, BACKWALL CONCRETE SHALL NOT BE PLACED UNTIL AFTER THE DECK CONCRETE IN THE SPAN ADJACENT TO THE BACKWALL HAS BEEN PLACED.

BEARING ANCHORS:

AT THE OPTION OF THE CONTRACTOR, BEARING ANCHORS (OR FORMED HOLES, LOCATED AND SUPPORTED BY TEMPLATES, MAY BE CAST IN PLACE.

APPROACH SLABS

SEE SHEET 339 FOR APPROACH SLAB NOTES.

CONSTRUCTION PROCEDURE

CONSTRUCTION OF THE PROPOSED STRUCTURE SHALL BE COMPLETED IN TWO STAGES TO ALLOW MAINTENANCE OF TRAFFIC. THE STEEL SHEET PILING AND BRACING SHALL BE PLACED IN ACCORDANCE WITH SECTION 503.03 AND AS INDICATED ON THE PLANS. THEN STAGE 1 CONSTRUCTION STARTED. UPON COMPLETION OF STAGE 1 CONSTRUCTION AND BACKFILLING, REMOVE INDICATED PORTIONS OF EXISTING STRUCTURE AND START STAGE 2 CONSTRUCTION. AFTER COMPLETION OF STAGE 2 CONSTRUCTION STEEL SHEET PILING AND BRACING OUTSIDE AREA OF FOOTING IS TO BE REMOVED.

EMBANKMENT CONSTRUCTION

BEFORE THE BACKWALL IS CONSTRUCTED THE EMBANKMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE WITH A 1 TO 1 SLOPE FROM THE BRIDGE SEAT TO THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENT.

FOUNDATION BEARING PRESSURE

ABUTMENT AND WINGWALL FOOTINGS FOUNDED AT EL. 620.00 ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 5 TONS PER SQUARE FOOT AND WINGWALL FOOTINGS FOUNDED AT EL. 627.00 AND EL. 631.00 FOR 2.5 TONS PER SQUARE FOOT.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED GAS UTILITY LINE SHALL BE BORNE BY THE OWNER. THE CONTRACTOR AND OWNER ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

MAINTENANCE OF TRAFFIC

TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 24'-0 SHALL BE MAINTAINED ON SR-7 AT ALL TIMES.

	ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	WALLS	SUPER	GENERAL			
	202	LUMP	SUM	EXISTING STRUCTURES REMOVED 2				LUMP			
	404	21	C.Y.	ASPHALT CONCRETE (70-85 or AC 20)			21				
	503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP			
	503	2265	C.Y.	UNCLASSIFIED EXCAVATION	1465	800					
	503	400	C.Y.	ROCK EXCAVATION	210	190					
	504	412	S.F.	STEEL SHEET PILING LEFT-IN-PLACE (MINIMUM SECTION		412					
				MODULUS OF 28 INCHES CUBED PER FOOT OF WALL)							
	509	256115	LB	REINFORCING STEEL	169732	54945	31438				
	510	123	L.F.	DOWEL HOLES	123						
	511	128	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE			128				
	511	627	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	627						
	511	243	C.Y.	CLASS C CONCRETE, WALLS		243					
	511	574	C.Y.	CLASS C CONCRETE, FOOTINGS	348	226					
	512	96	S.Y.	TYPE B WATERPROOFING	69	27					
	512	144	L.F.	PREMOLDED SEALING STRIP	88	56					
	513	139200	LB	STRUCTURAL STEEL			139200				
	514	139200	LB	FIELD PAINTING OF STRUCTURAL STEEL			139200				
	514	LUMP	SUM	CLEANING AND PAINTING EXISTING STRUCTURAL STEEL			LUMP				
				(ONE PRIME SPOT COAT AND TWO COMPLETE FIELD COATS)							
	516	283	S.F.	1 INCH PREFORMED EXPANSION JOINT FILLER	151	132					
	516	50	L.F.	JOINT SEALER, 705.11			50				
	517	111.72	L.F.	BRIDGE SIDEWALK RAILING			111.72				
	518	105	L.F.	SUBDRAINAGE FOR WEARING COURSE, AS PER PLAN			105				
	518	405	C.Y.	POROUS BACKFILL	280	125					
	625			SEE SHEET 302 FOR LIGHTING SUMMARY							
	808	128	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			128				
	SPEC	5	C.Y.	SAND ASPHALT			5				
*	SPEC	388	S.Y.	MEMBRANE WATERPROOFING *SHEET TYPE*			388				

* See Proposal Note

2/18

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CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. BEL-7-2389
SR-7 OVER GLENN'S RUN
STA.1266+26.83 TO
BELMONT COUNTY STA.1266+83.55

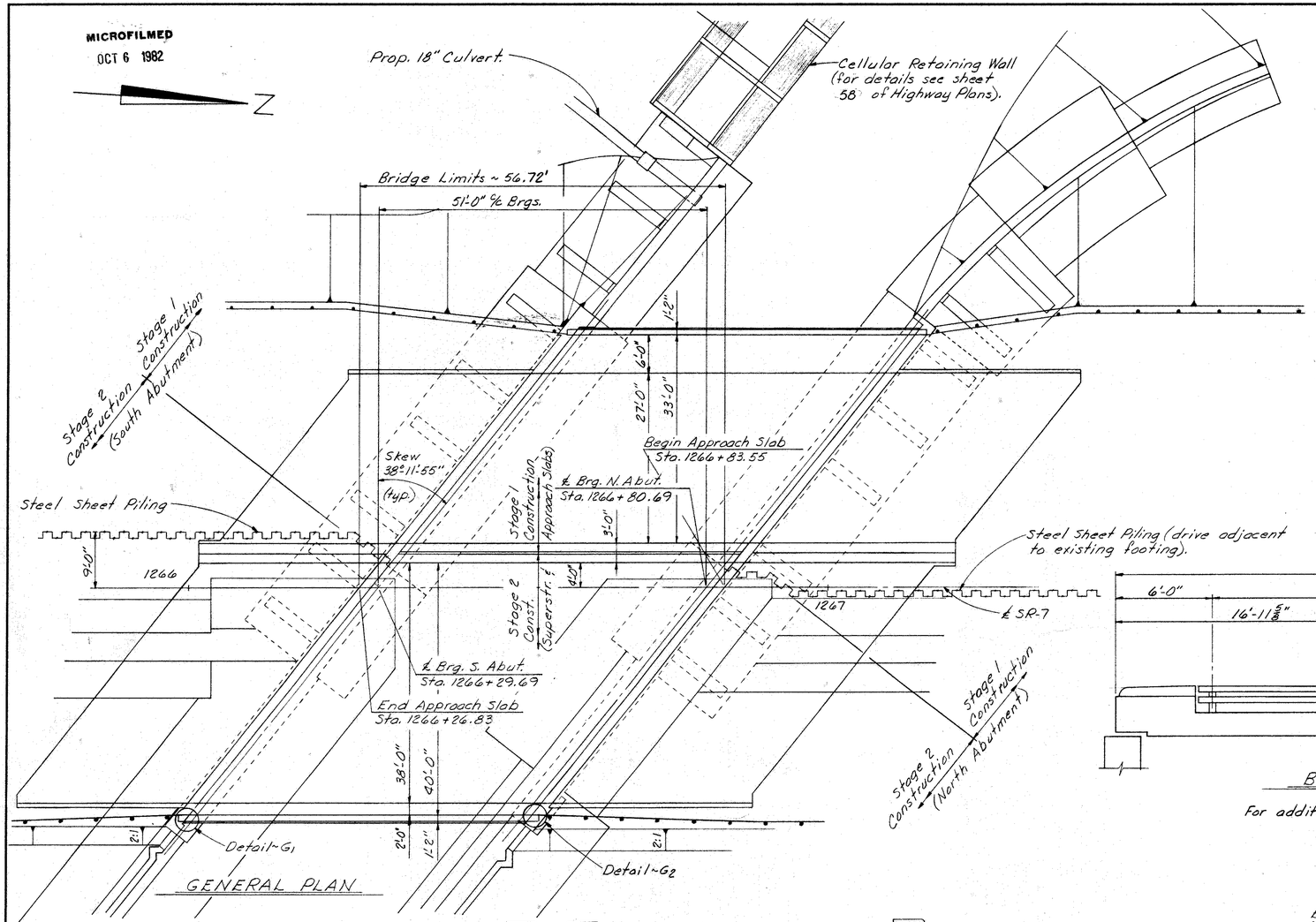
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			FWD 4/25/69	HBT	10-27-69	

MICROFILMED
OCT 6 1982

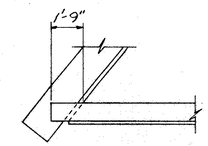
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

347
462

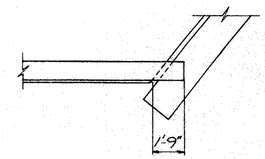
BELMONT- JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



GENERAL PLAN



DETAIL - G1



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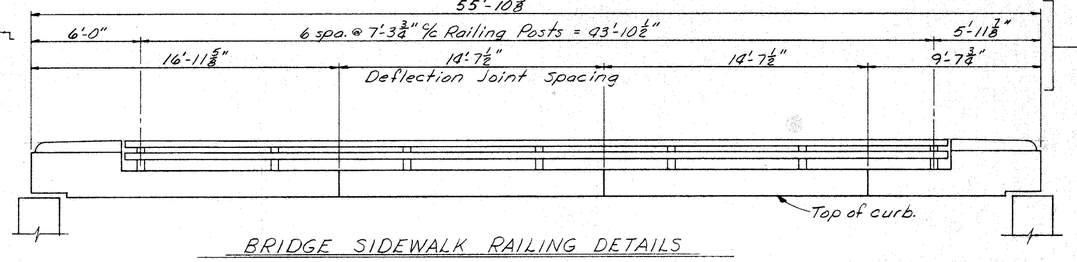
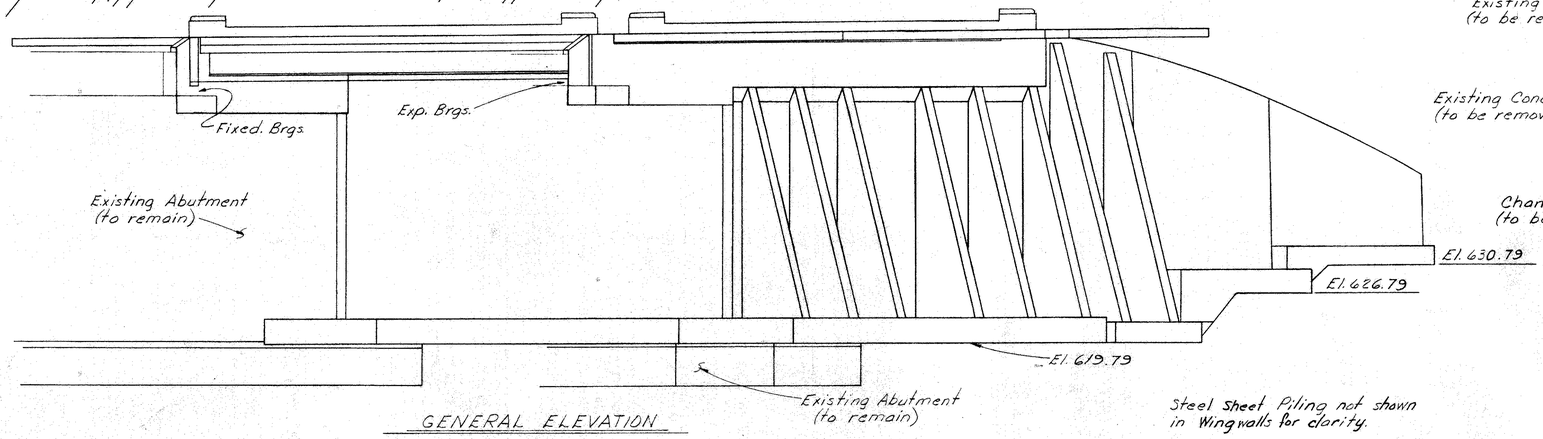


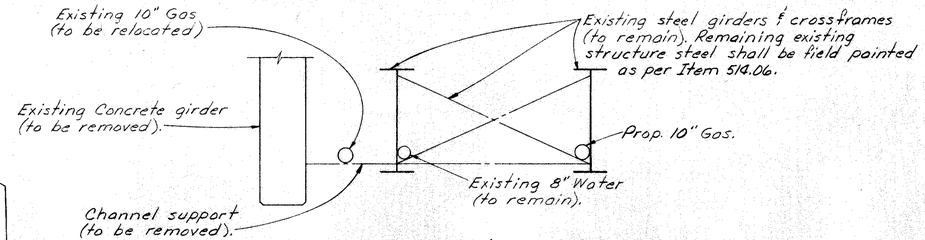
BRIDGE SIDEWALK RAILING DETAILS

For additional details see Std. Dwg. BR-2-67.
For reinforcing see sheets 12 & 14 | 18.



GENERAL ELEVATION

Steel Sheet Piling not shown in Wingwalls for clarity.



RELOCATION OF UTILITY LINES

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CONSULTING ENGINEERS
COLUMBUS, OHIO
3 / 18

GENERAL PLAN and ELEVATION
BRIDGE No. BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

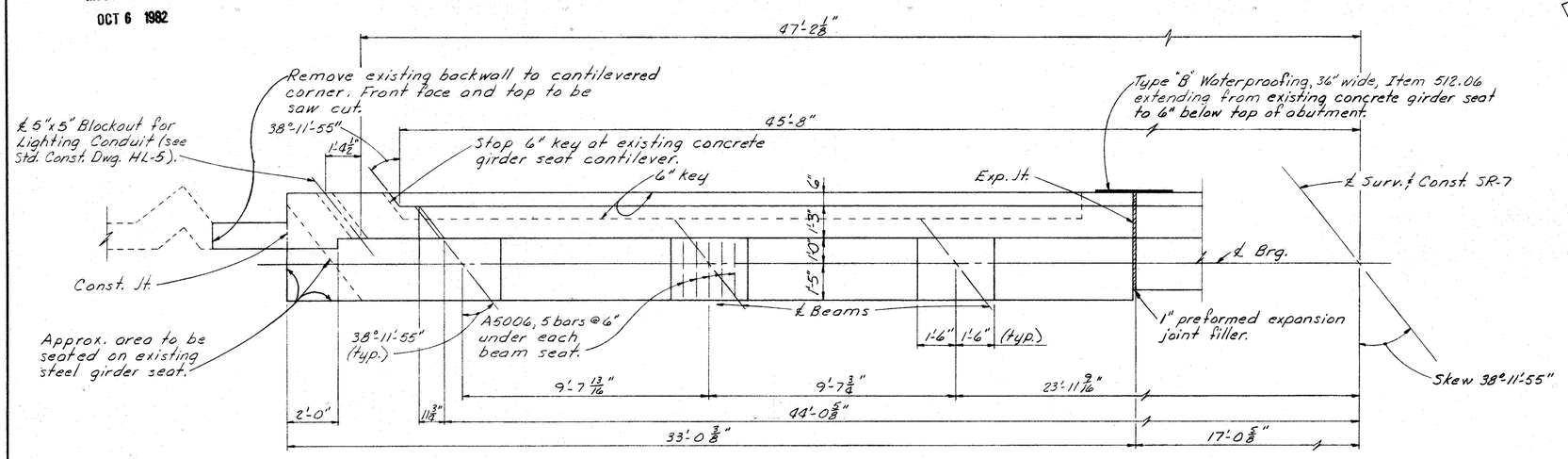
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		pwd	HDT	10/27/69	

MICROFILMED
OCT 6 1982

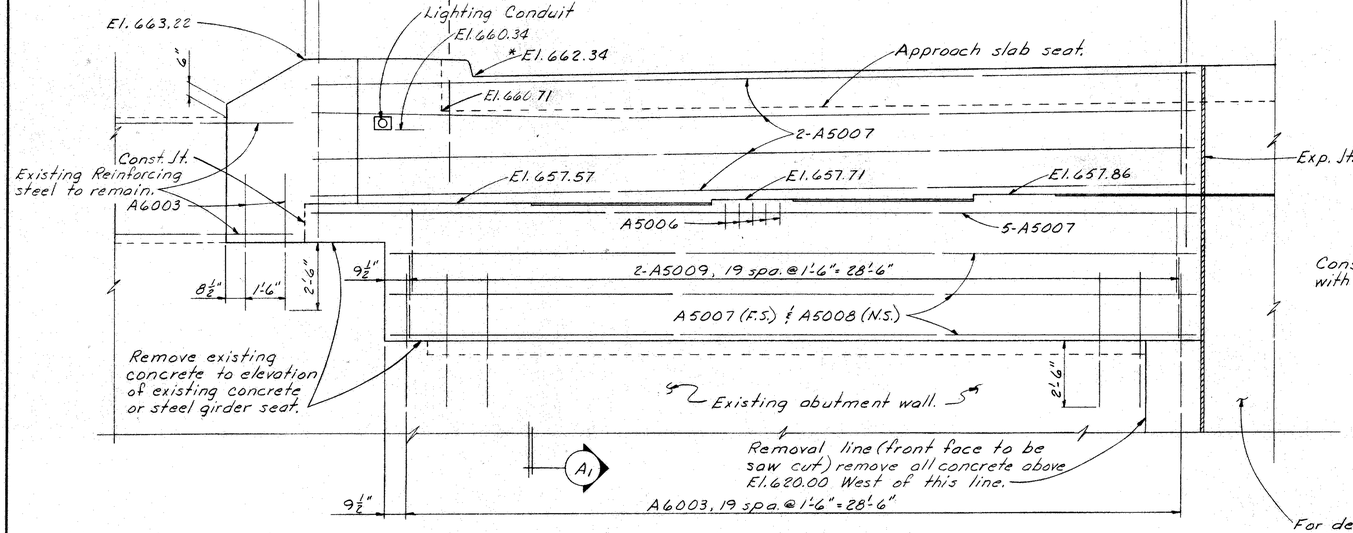
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

348 AC2

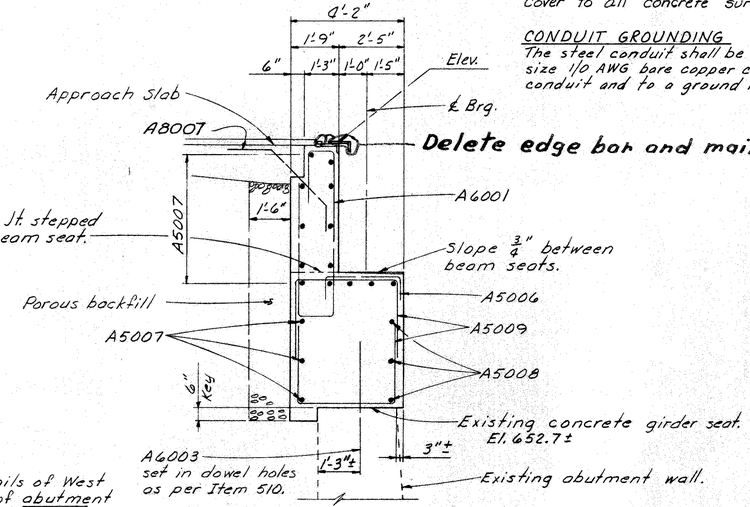
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PLAN



ELEVATION



SECTION ~ A_1-A_1

NOTES

Reinforcing steel location: N.S. indicates near side. F.S. indicates far side.

* Elevations marked with an asterisk are at the intersection of the roadway surface and face of backwall.

Top of backwall shall conform to roadway crown.

Porous backfill (East of removal lines) shall extend up to the subgrade and to the surface of the earth shoulders.

Shape of median and curbs on backwall shall conform to shape of median and curbs on superstructure.

For details of Contraction joints see Common Details sheet 335 except as shown.

Splices in No. 14, 11, 8 size reinforcing bars shall be made by an approved positive mechanical method designed to develop 125% of the specified yield strength of the bar.

Reinforcing bars shall be field cut when necessary.

For additional details see sheets 5 & 8 / 18

All reinforcing in footings shall have 3" minimum cover to all concrete surfaces.

CONDUIT GROUNDING
The steel conduit shall be grounded at South Abutment with size 1/0 AWG bare copper cable exothermically welded to the conduit and to a ground rod, Item 713.16. See Std. Dwg. HL-7

ALDEN E. STILSON & ASSOCIATES, LIMITED
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COLUMBUS, OHIO

4 / 18

SOUTH ABUTMENT DETAILS
BRIDGE No. BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

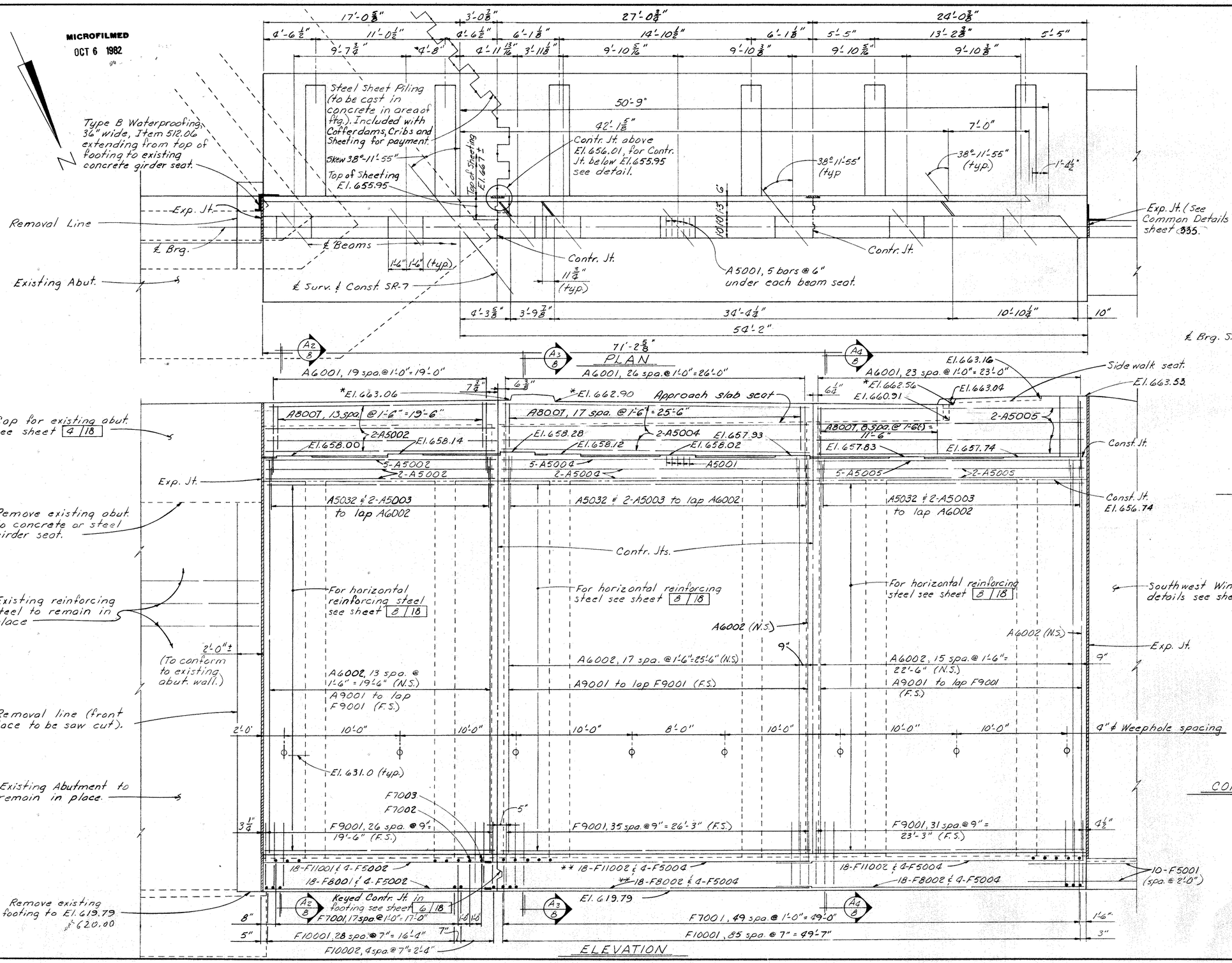
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		fwa	HBT	10/27/69	2-7-75

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

349
462

BELMONT-JEFFERSON COUNTIES
BEL.-7-23.74 / JEF-7-0.00

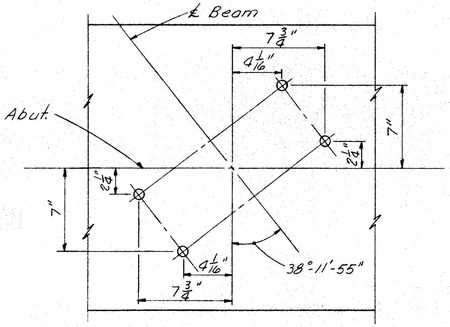


NOTES

Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

** These bars to be continuous thru Steel Sheet Piling by means of a mechanical splice at Sheeting.

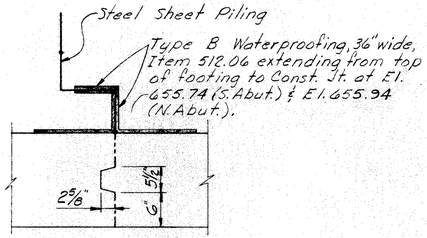
For additional notes and details see sheets 4 & 18



ANCHOR BOLT SETTING DETAIL

Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat at the South Abutment so as to avoid interference with drilling of anchor bolt holes.

℄ Southwest Wingwall for details see sheet 9/18



CONTRACTION JOINT DETAILS

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COLUMBUS, OHIO
5/18

SOUTH ABUTMENT DETAILS

BRIDGE No.BEL.-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

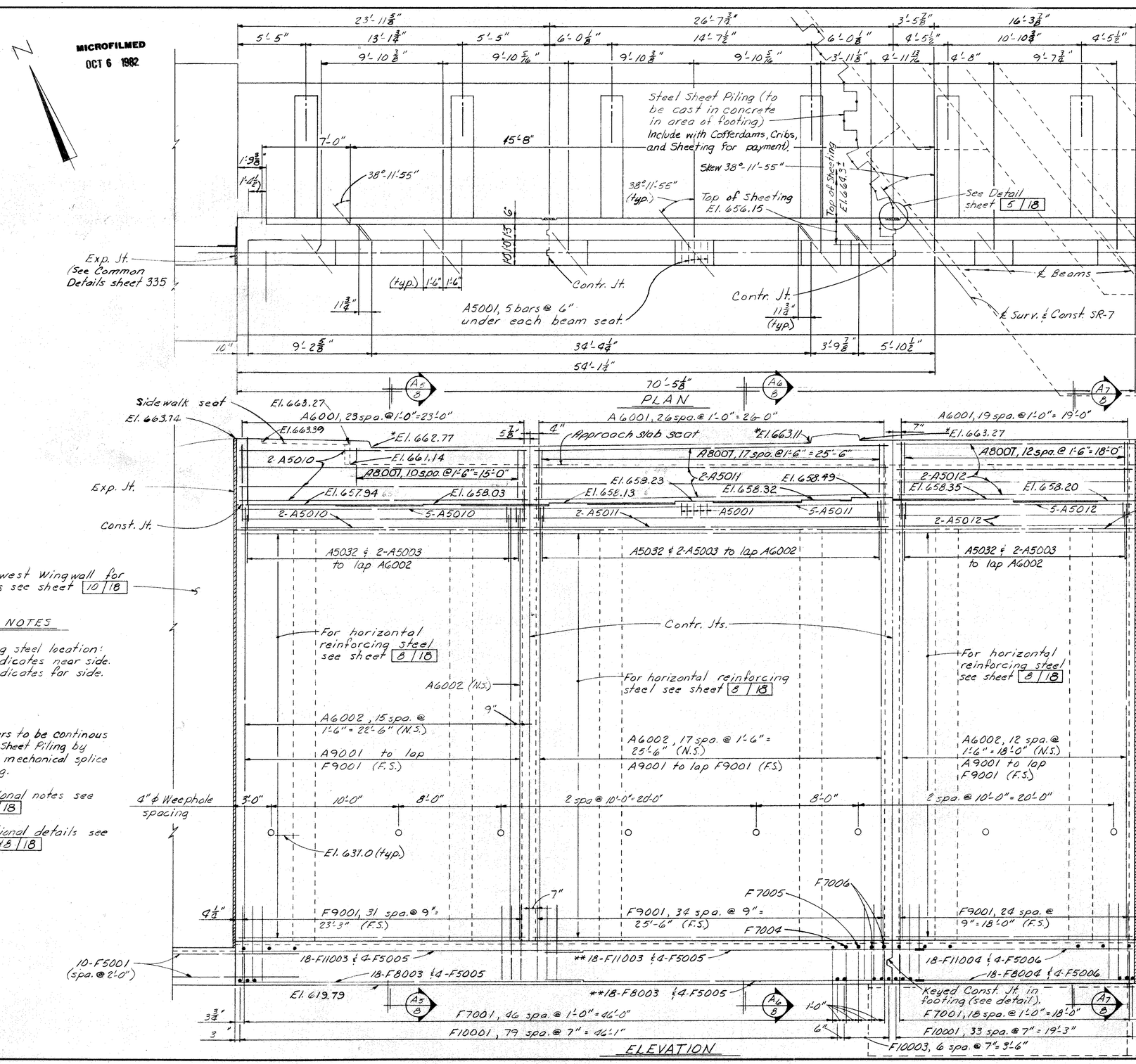
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		fwd	HBT	10/27/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

350
462

BELMONT-JEFFERSON COUNTIES
BEL.-7-23.74 / JEF-7-0.00



ELEVATION

NOTES

Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

** These bars to be continous thru Steel Sheet Piling by means of a mechanical splice at sheeting.

For additional notes see sheet 4 | 18

For additional details see sheets 7 & 8 | 18

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

6 | 18

NORTH ABUTMENT DETAILS

BRIDGE No. BEL.-7-2389

SR-7 over GLENN'S RUN

BELMONT COUNTY

STA. 1266+26.83 to STA. 1266+83.55

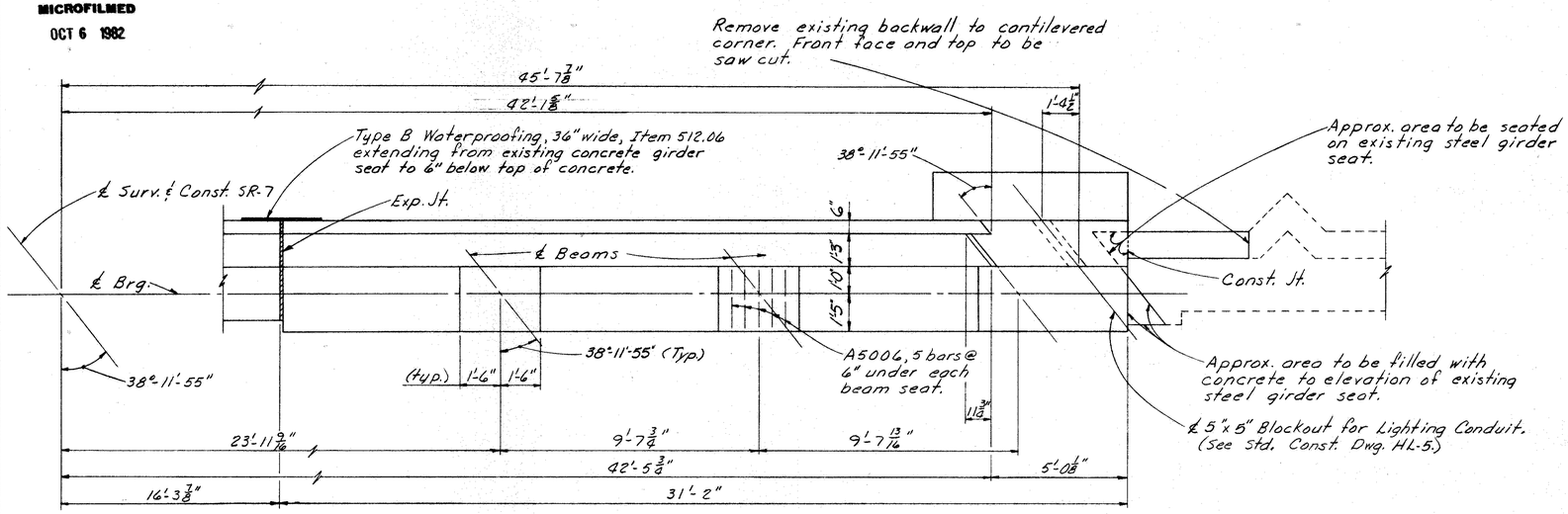
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		pwd	HBT	10/27/82	

MICROFILMED
OCT 6 1982

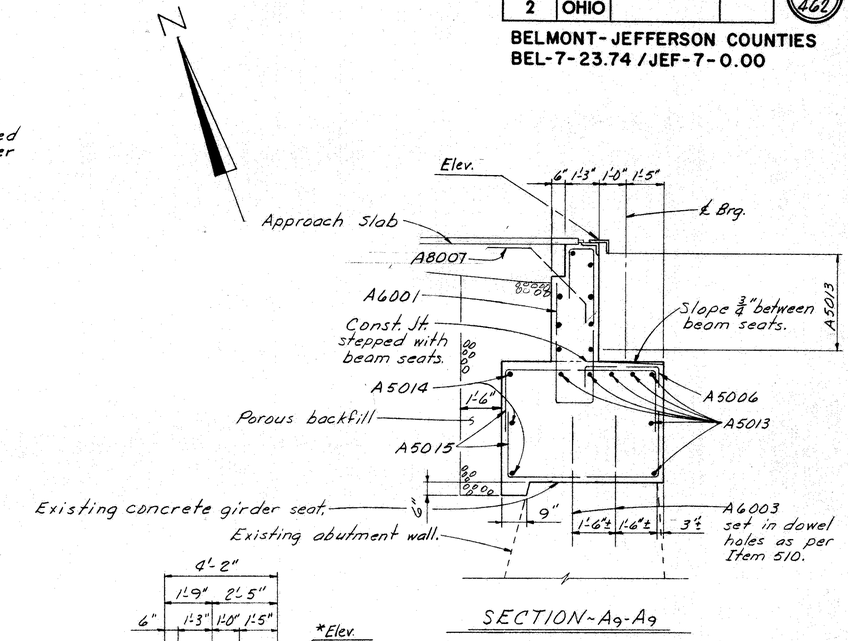
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

351
462

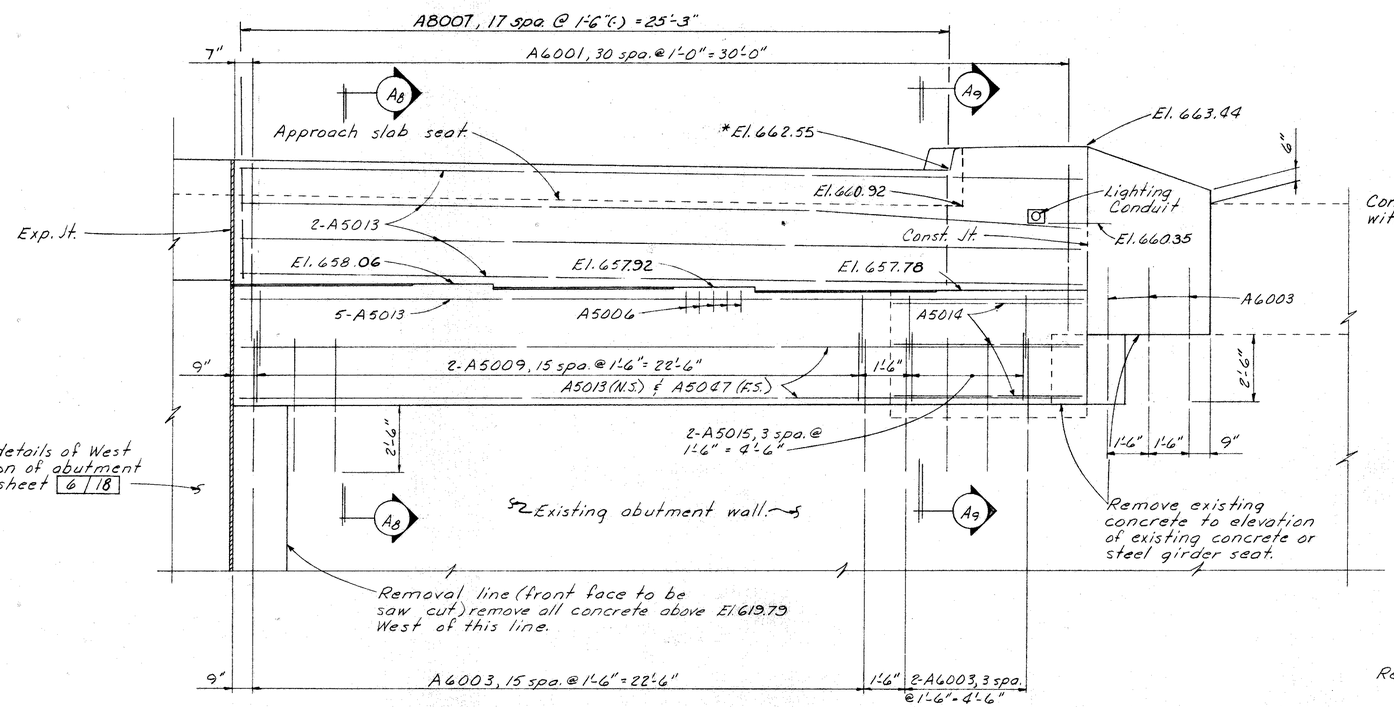
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



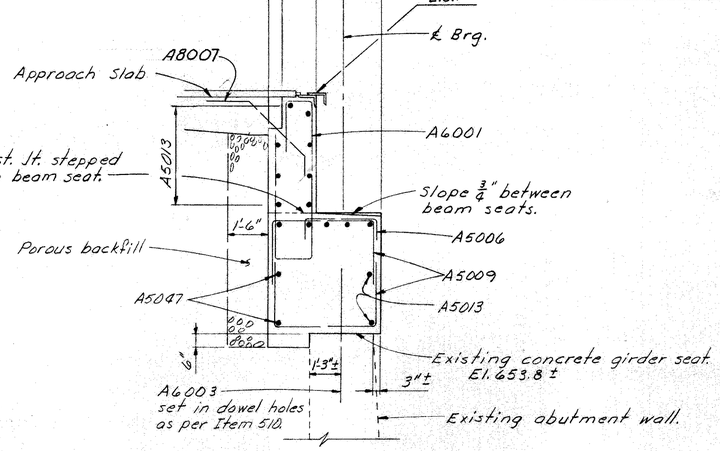
PLAN



SECTION-A9-A9



ELEVATION



SECTION-A8-A8

NOTES

Reinforcing steel location: N.S. indicates near side. F.S. indicates far side.

*** Elevations marked thus are at top of 2" edge bar.

For additional notes see sheet 4/18.

For additional details see sheets 6 & 8/18.

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

7/18

NORTH ABUTMENT DETAILS
BRIDGE No. BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

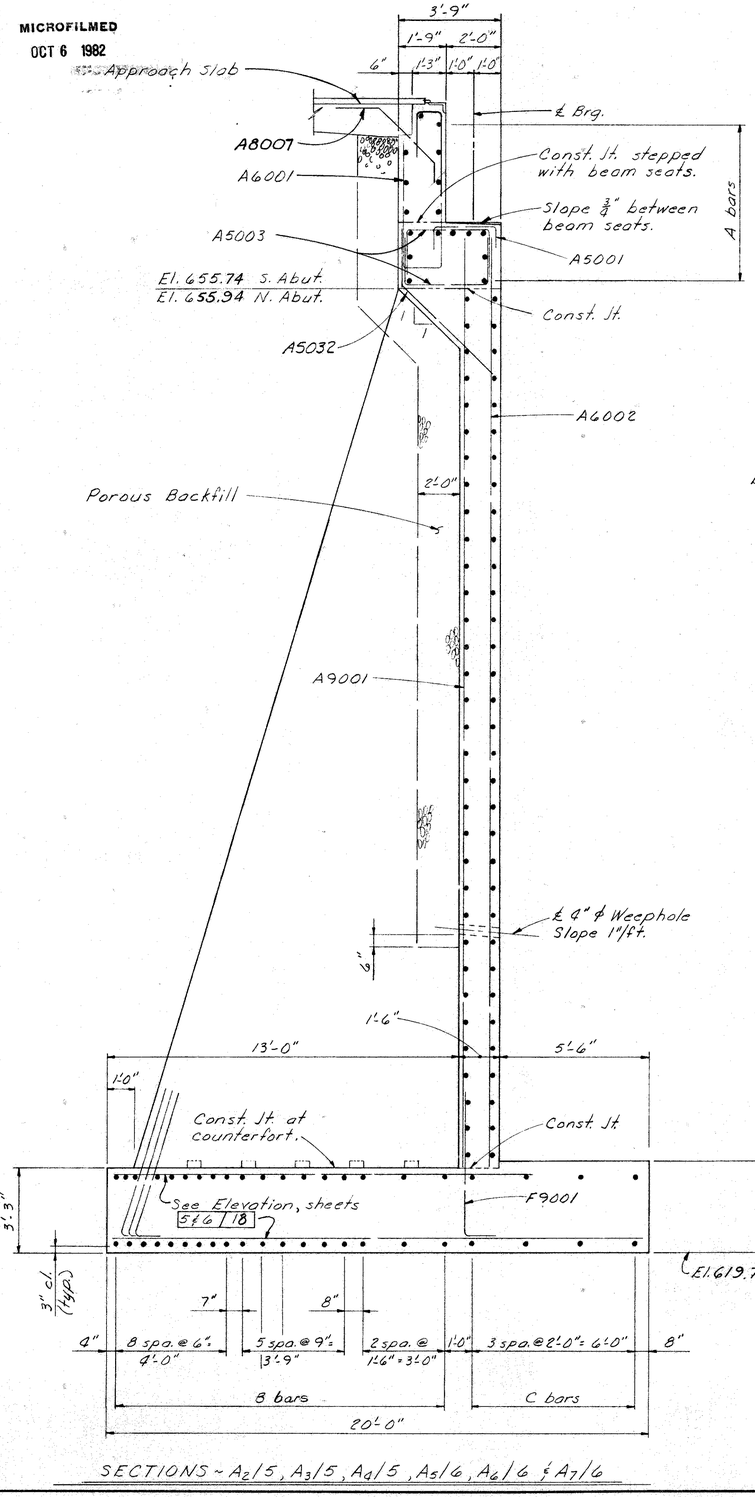
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		fwa	HBT	10/27/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

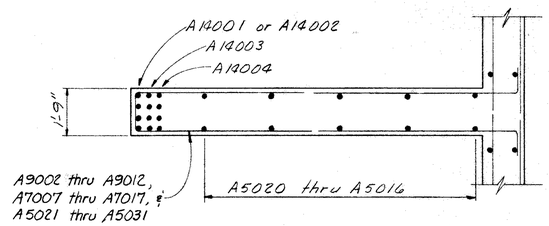
352 / 462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

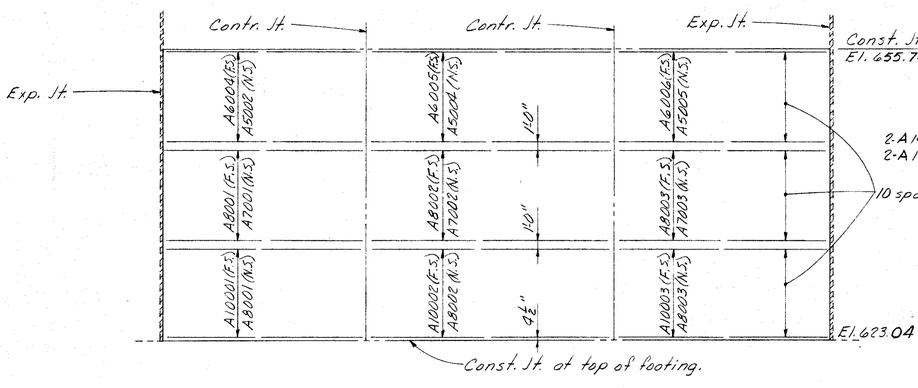


SECTIONS ~ $A_2/5$, $A_3/5$, $A_4/5$, $A_5/6$, $A_6/6$ & $A_7/6$

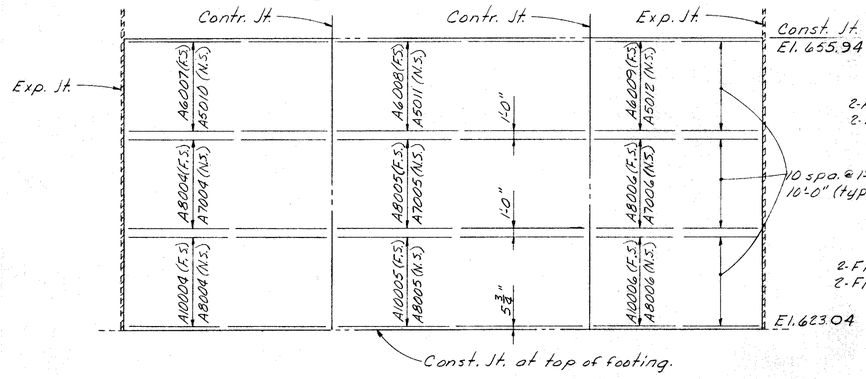
REINFORCING TABLE						
Reinforcing Bars	Sections					
	$A_2/5$	$A_3/5$	$A_4/5$	$A_5/6$	$A_6/6$	$A_7/6$
A	A5002	A5004	A5005	A5010	A5011	A5012
B (top)	F11001	F11002	F11002	F11003	F11003	F11004
B (bott.)	F8001	F8002	F8002	F8003	F8003	F8004
C	F5002	F5004	F5004	F5005	F5005	F5006



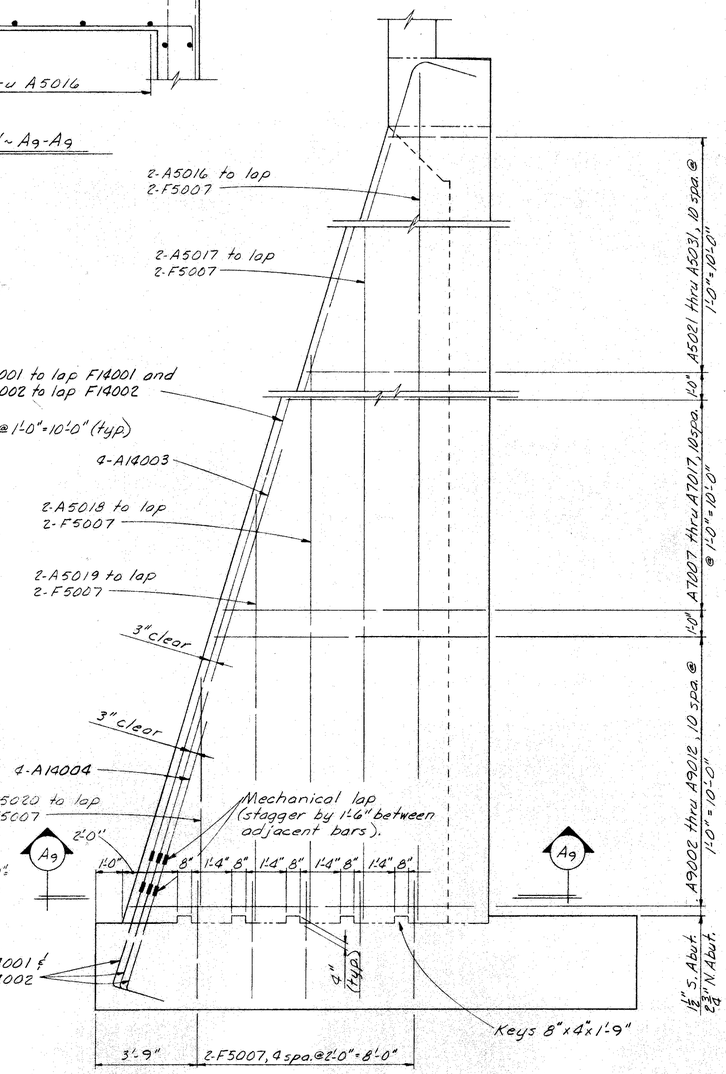
SECTION ~ A9-A9



ELEVATION ~ HORIZONTAL REINFORCING IN FACE SLAB ~ S. ABUT.



ELEVATION ~ HORIZONTAL REINFORCING IN FACE SLAB ~ N. ABUT.



COUNTERFORT DETAILS

NOTES

Reinforcing steel location: N.S. indicates near side. F.S. indicates far side.

For additional notes see sheet 4 / 18

For additional details see sheets 5 / 18 thru 7 / 18

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

8 / 18

ABUTMENT DETAILS
BRIDGE No. BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

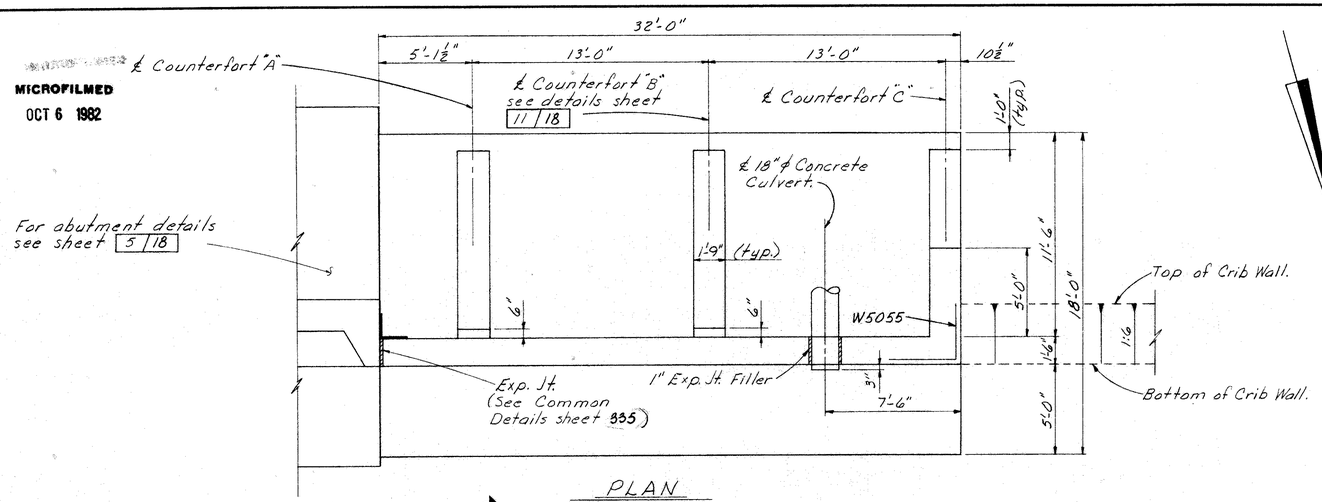
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		fwd	HBT	10/27/69	

MICROFILMED
OCT 6 1982

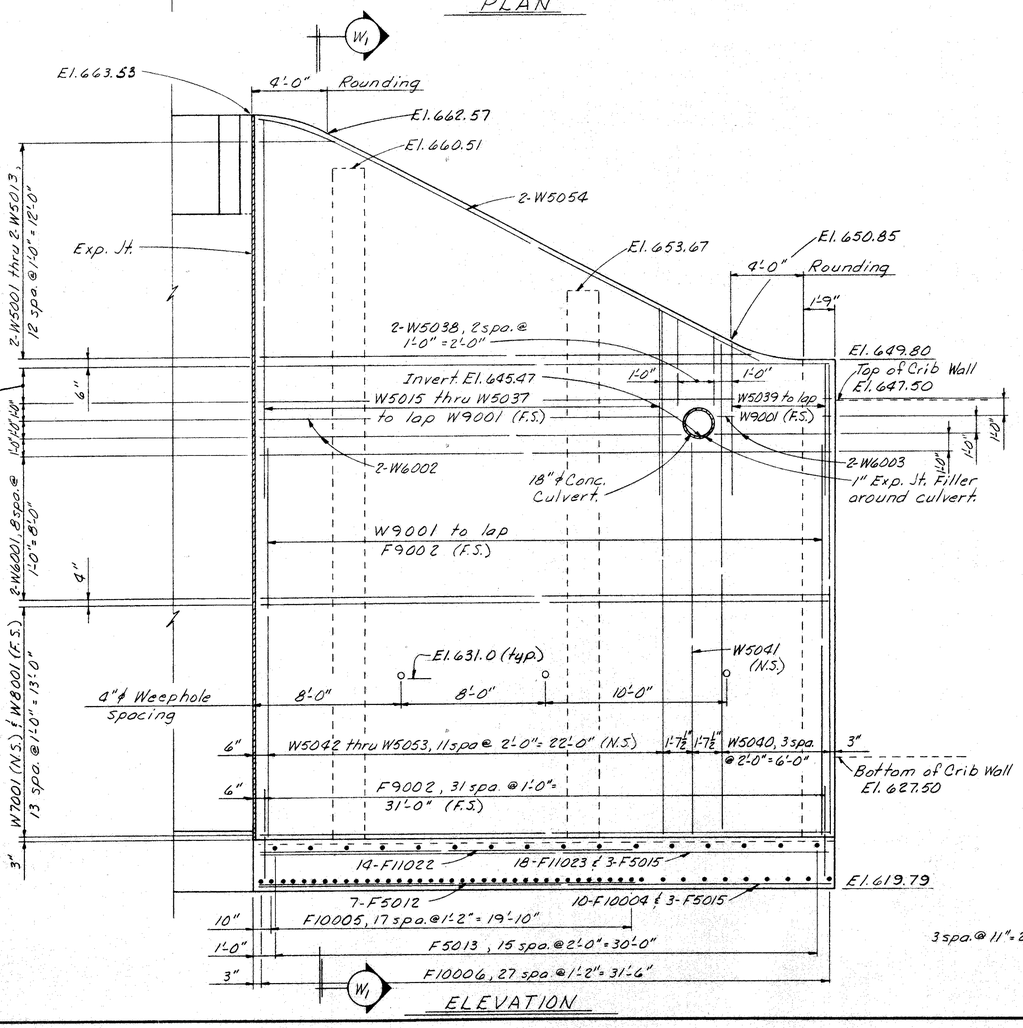
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

353/462

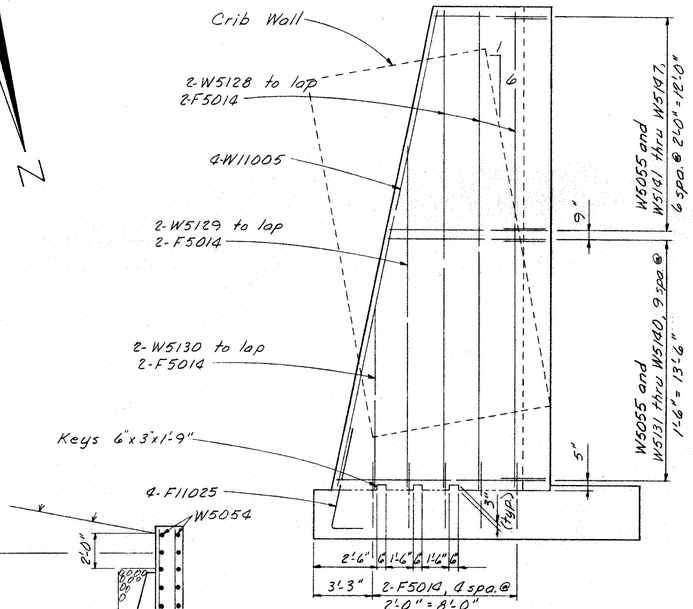
BELMONT-JEFFERSON COUNTIES
BEL.-7-23.74 / JEF-7-0.00



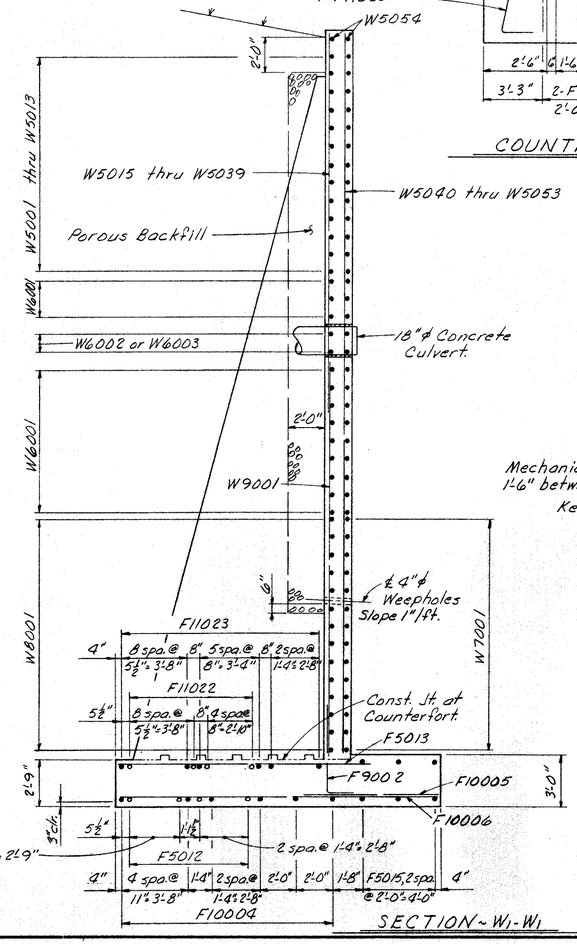
PLAN



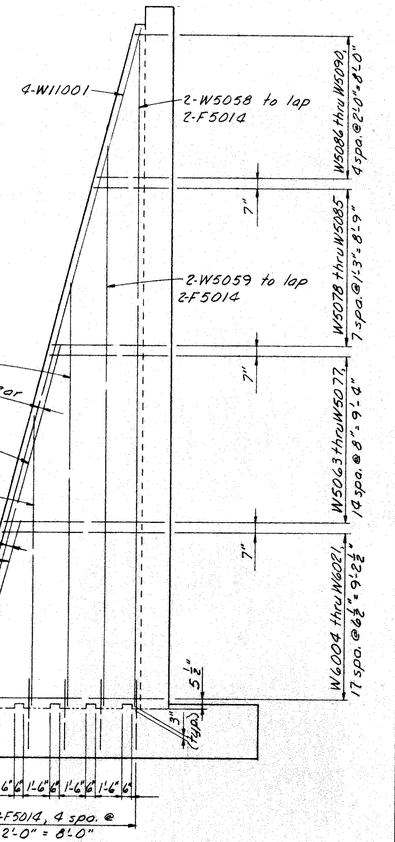
ELEVATION



COUNTERFORT "C" DETAILS



SECTION ~ W1 - W1



COUNTERFORT "A" DETAILS

NOTES

Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

For additional details see sheet 11/18.

For additional notes see sheet 4/18.

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

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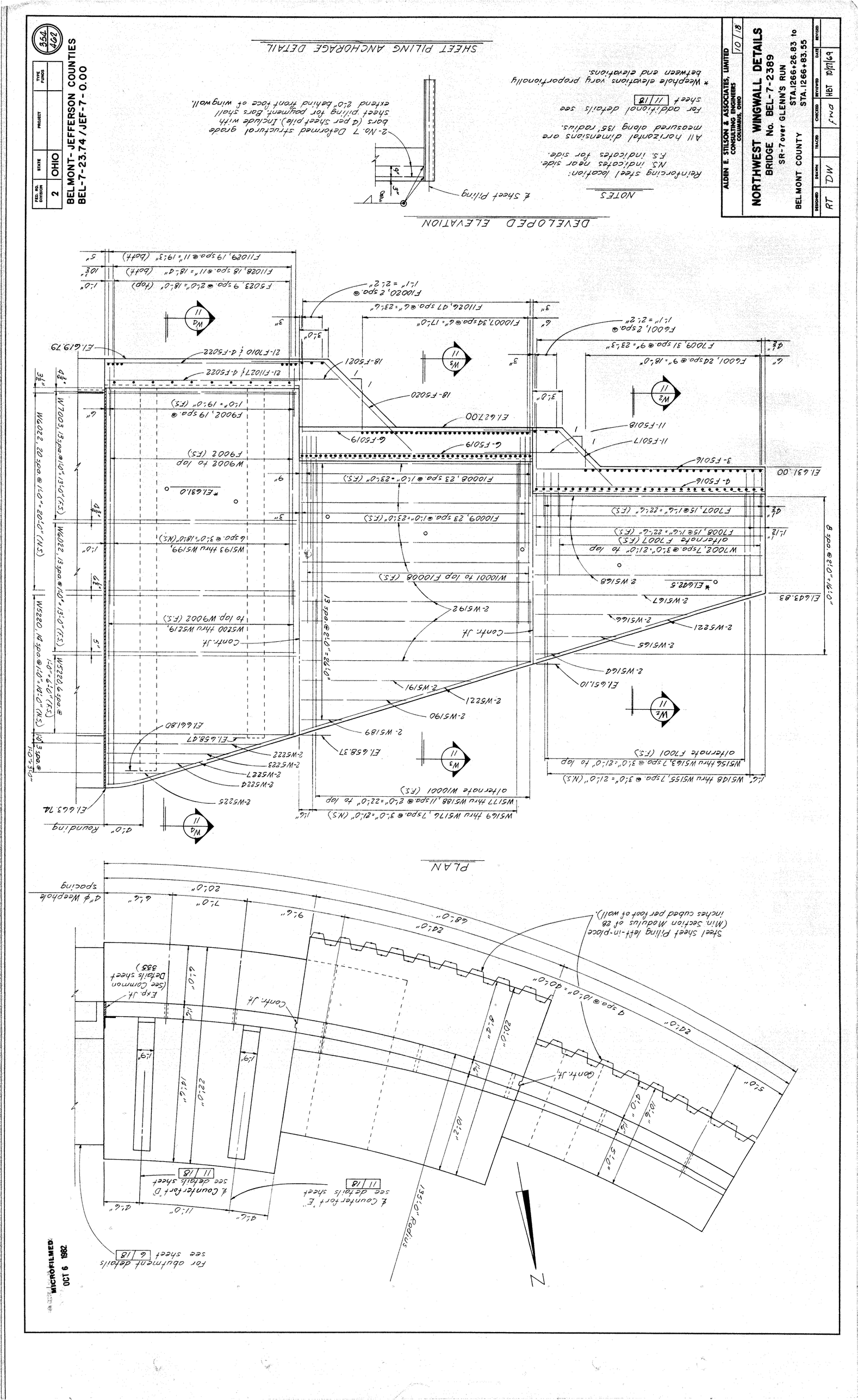
SOUTHWEST WINGWALL DETAILS

BRIDGE No.BEL.-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		fwd	HBT	10/27/69	

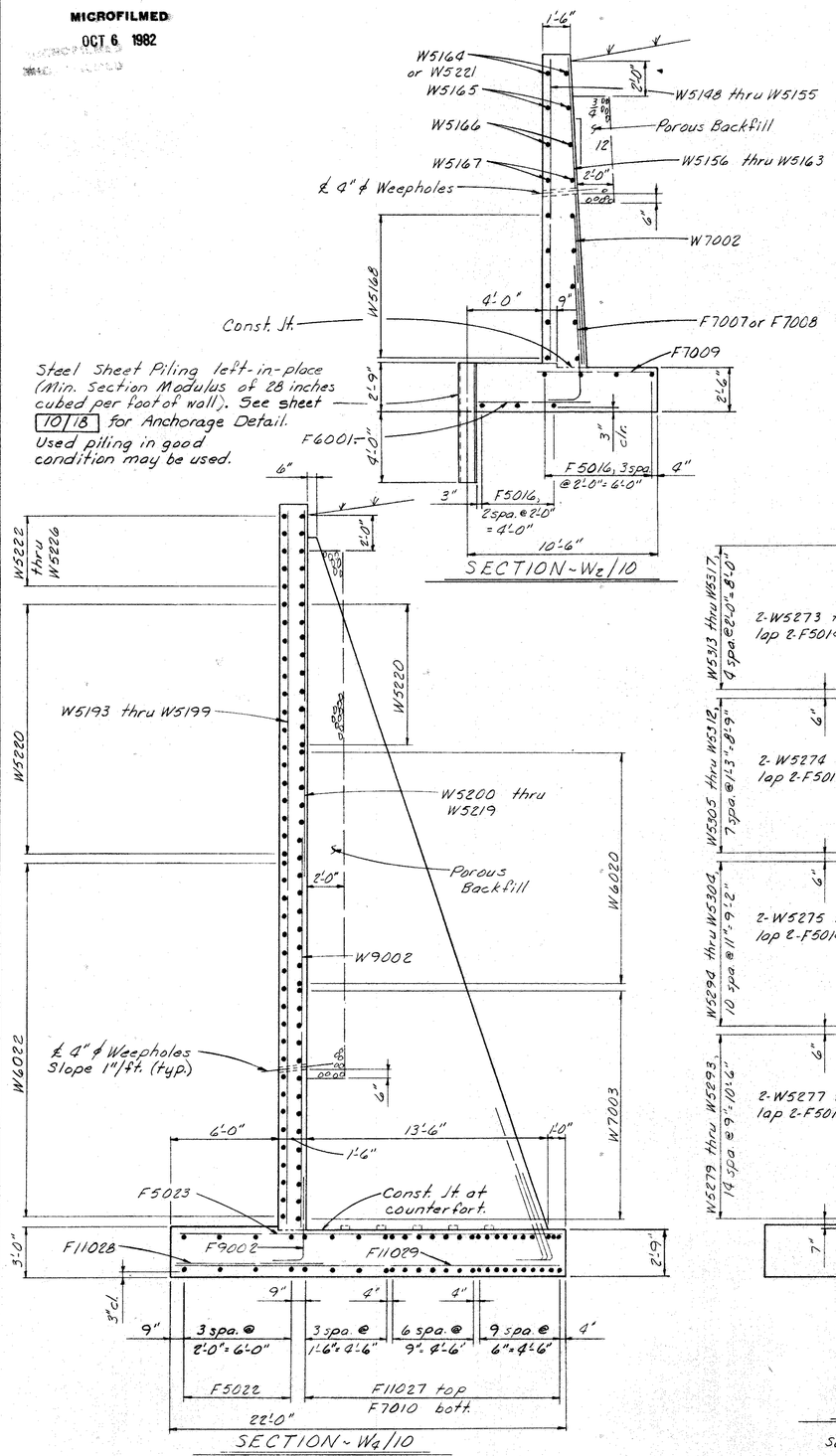

354
402
FED. RD. DIVISION 2
STATE OHIO
PROJECT
TYPE FUNDS
BELMONT- JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00
ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO
10/18
NORTHWEST WINGWALL DETAILS
BRIDGE No. BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to
STA. 1266+83.55
DESIGNED AT
DRAWN DW
CHECKED FWO
REVIEWED HBT
DATE 10/21/69
REVISED
SHEET PILING ANCHORAGE DETAIL
DEVELOPED ELEVATION
NOTES
Reinforcing steel location:
N5 indicates near side.
F5 indicates far side.
All horizontal dimensions are measured along 135' radius.
For additional details see sheet # 11 / 18
* Weephole elevations vary proportionally between end elevations.
2-No. 7 Deformed structural grade bars (4 per Sheet pile). Include with sheet piling for pavement bars shall extend 2'-0" behind front face of wingwall.
Sheet Piling
PLAN
Steel Sheet Piling left-in-place (Min. Section Modulus of 28 inches cubed per foot of wall).
Conft. Jt
Exp. Jt (See Common Details sheet 335)
4"ϕ Weephole spacing
Counterfort "E" see details sheet 11 / 18
Counterfort "D" see details sheet 11 / 18
135'-0" Radius
N
For ouantity details see sheet 6 / 18
Rounding
El. 643.74
El. 646.80
El. 658.47
El. 658.37
El. 651.10
El. 643.83
El. 631.00
El. 627.00
El. 619.79
W1
W2
W3
W4
MICROFILMED
OCT 6 1982

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

355
462

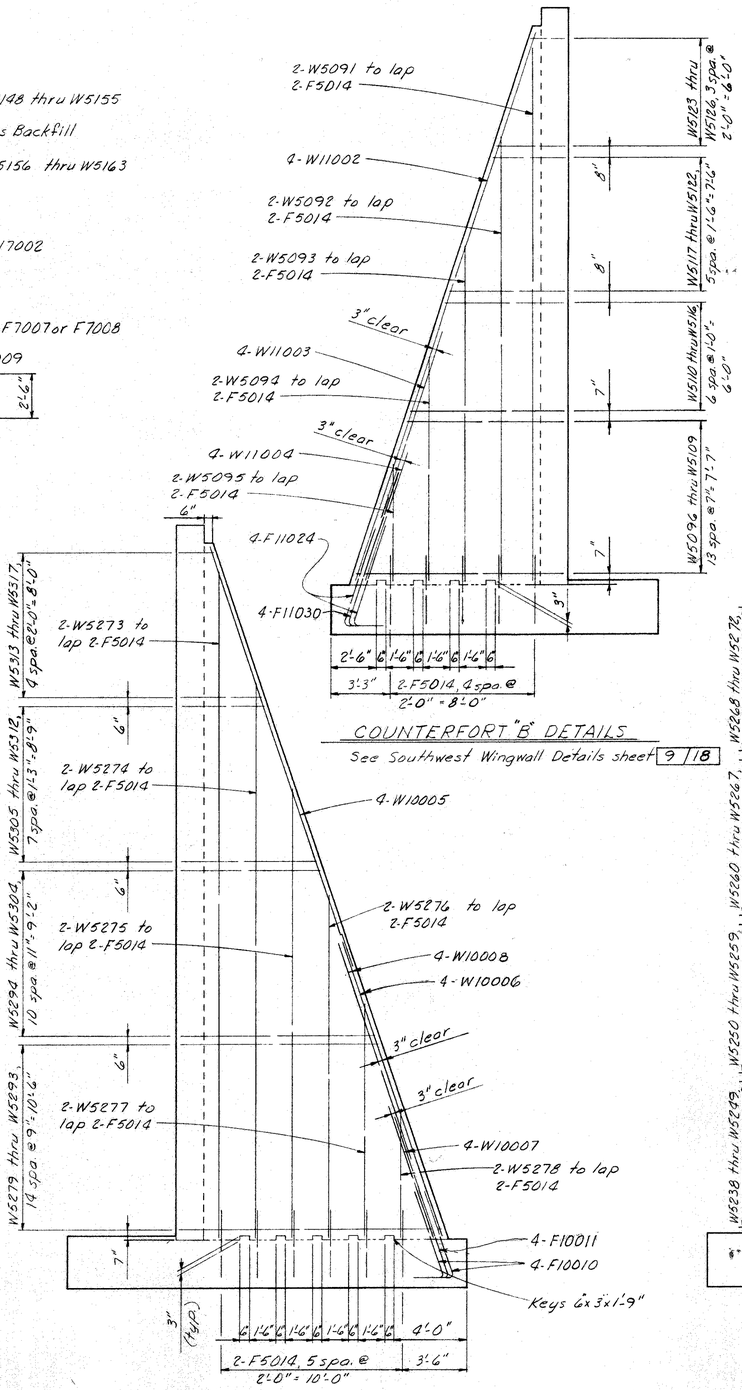
BELMONT- JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



Steel Sheet Piling left-in-place (Min. Section Modulus of 28 inches cubed per foot of wall). See sheet 10/18 for Anchorage Detail.
Used piling in good condition may be used.

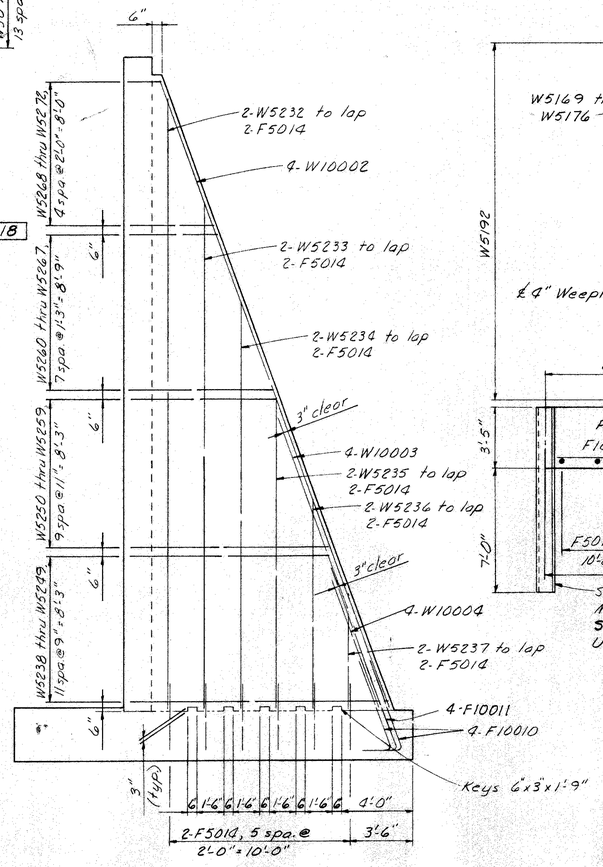
SECTION - W2/10

SECTION - W4/10



COUNTERFORT "B" DETAILS
See Southwest Wingwall Details sheet 9/18

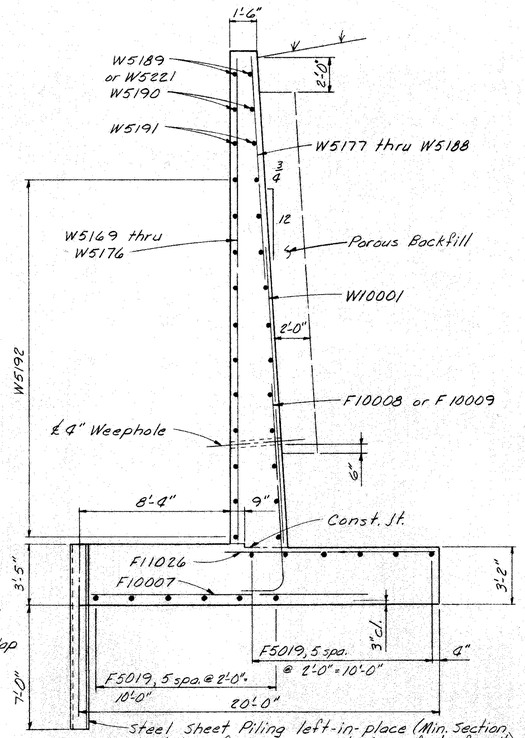
COUNTERFORT "D" DETAILS
See Northwest Wingwall Details sheet 10/18



COUNTERFORT "E" DETAILS
See Northwest Wingwall Details sheet 10/18

NOTES

For additional details see sheets 9&10/18



Steel Sheet Piling left-in-place (Min. Section Modulus of 28 inches cubed per foot of wall). See sheet 10/18 for Anchorage Detail.
Used piling in good condition may be used.

SECTION W3/10

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

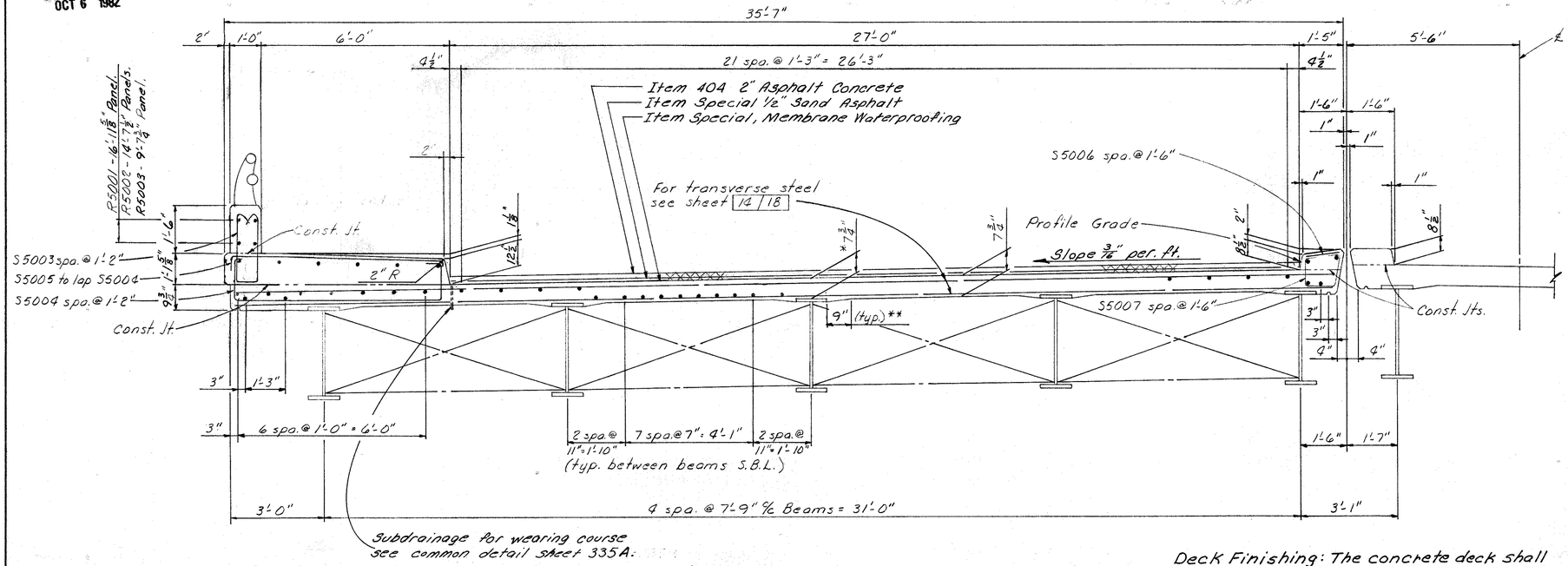
11/18

WINGWALL DETAILS
BRIDGE No. BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		pwd	HBT	10/27/69	10-26-74

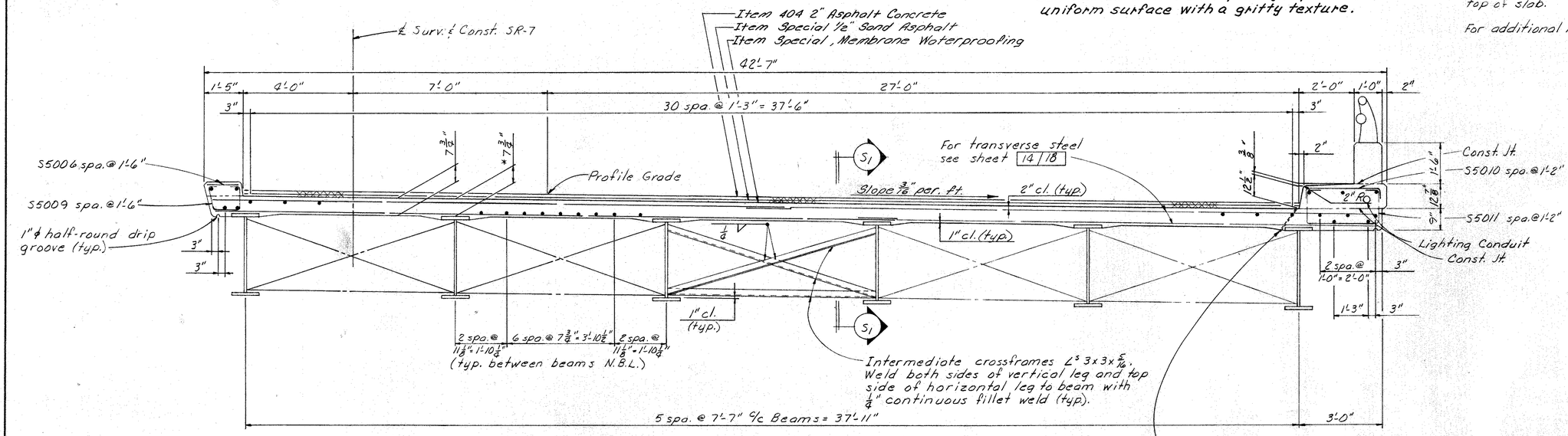
MICROFILMED
OCT 6 1982

All longitudinal reinforcing steel shall be S5001 or S5012 unless otherwise noted.



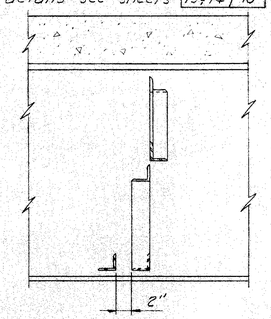
South Bound Lanes

Deck Finishing: The concrete deck shall be finished in accordance with 451.09 and 451.12, except that the roadway surface shall be finished with a burlap drag to provide a uniform surface with a gritty texture.



North Bound Lanes
(Parapet reinforcing not shown same as S.B.L.)
TRANSVERSE SECTION

Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.



SECTION~S1-S1

Notes

* The distance shown from the top of deck slab to top of beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it 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.

** A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

Lap S5001 and S5012 bars 1'-7" min.

Concrete parapets and end posts are included with Item 517 for payment.

Steel end dam at North Abutment shall conform to SD-1-69.

For details of steel end dam at South Abutment see sheet 15 18

End Dam: Provide a ¼" x 3" bar, welded to the main angle as shown on SD-1-69. Modify thickness of 2" bar to conform.

For Parapet End Post details see sheet 14 18

Lighting Conduit shall be placed 1" clear above const. jt. of top of slab.

For additional notes and details see sheets 13 14 18

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

356 462

BELMONT-JEFFERSON COUNTIES
BEL.-7-23.74 / JEF-7-0.00

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO
12 18

SUPERSTRUCTURE DETAILS
BRIDGE No. BEL.-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to STA. 1266+83.55

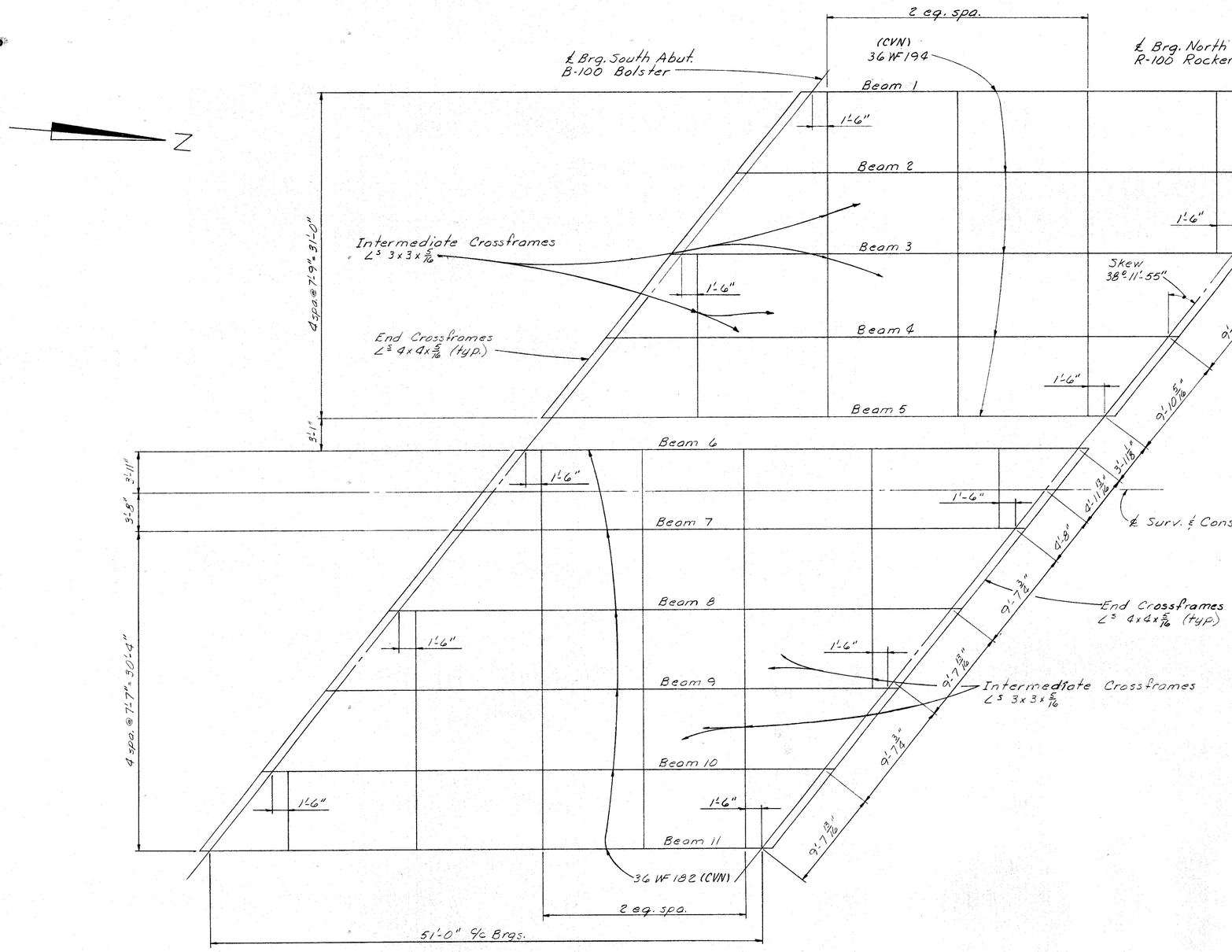
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		fwd	HBT	10/27/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

351
AG2

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



FRAMING PLAN

CHARPY TEST NOTES

All beams shall meet specified minimum notch toughness requirements.

* The fabricator shall submit to the Director a procedure designed for positive identification of material through all phases of fabrication. No material shall be fabricated until the Director has approved the procedure.

* Designated structural steel shapes and plates shall have a minimum longitudinal Charpy V-notch energy absorption value (CVN) of 15 ft. lb. at 40° F. Sampling and testing procedures shall be in accordance with ASTM A673. The (H) frequency of heat testing shall be used, and the test data shall be recorded on the Test Reports required by 501.07 of the Construction and Material Specifications.

* Note applies to all material which requires the Charpy Test.

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COLUMBUS, OHIO

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SUPERSTRUCTURE DETAILS
BRIDGE No. BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266+26.83 to
STA. 1266+83.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		rwa	HBT	10/27/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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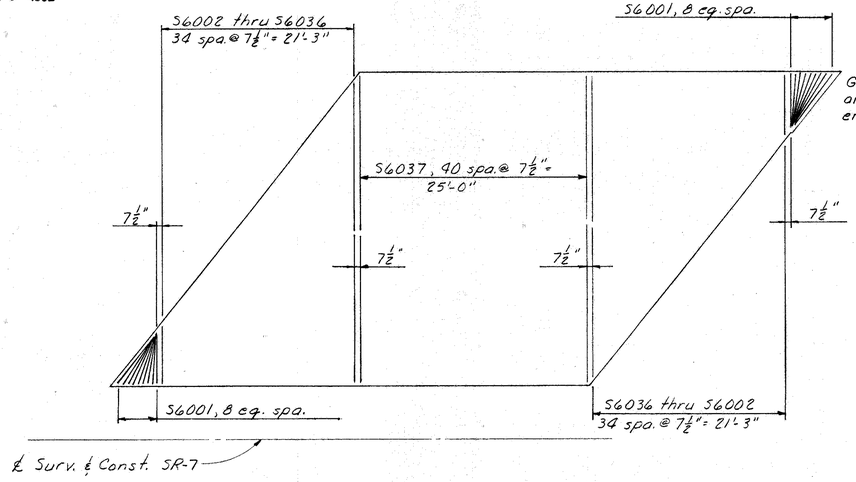
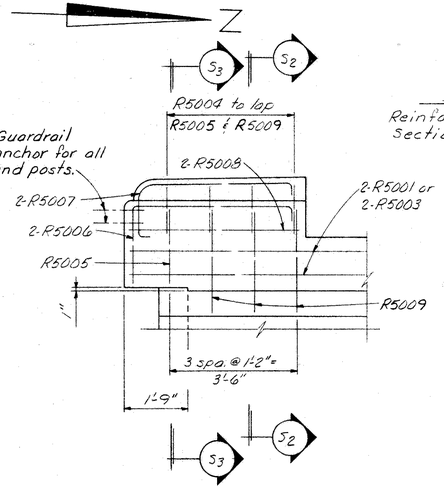
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 /JEF-7-0.00

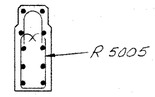


South Bound Lanes
(Top & Bottom)



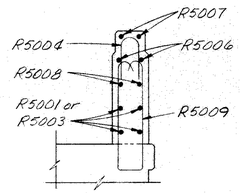
PARAPET END POST DETAILS

See Std. Dwg. BR-2-67 for additional details.



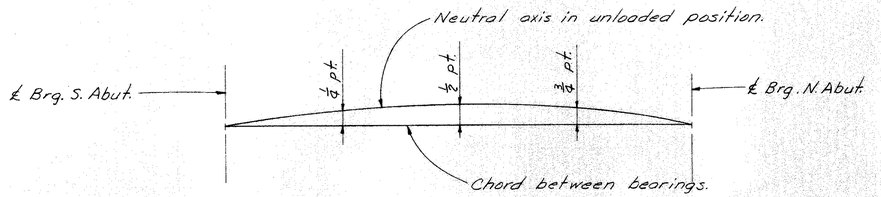
SECTION~S3-S3

Reinforcing not noted same as Section~S2-S2.

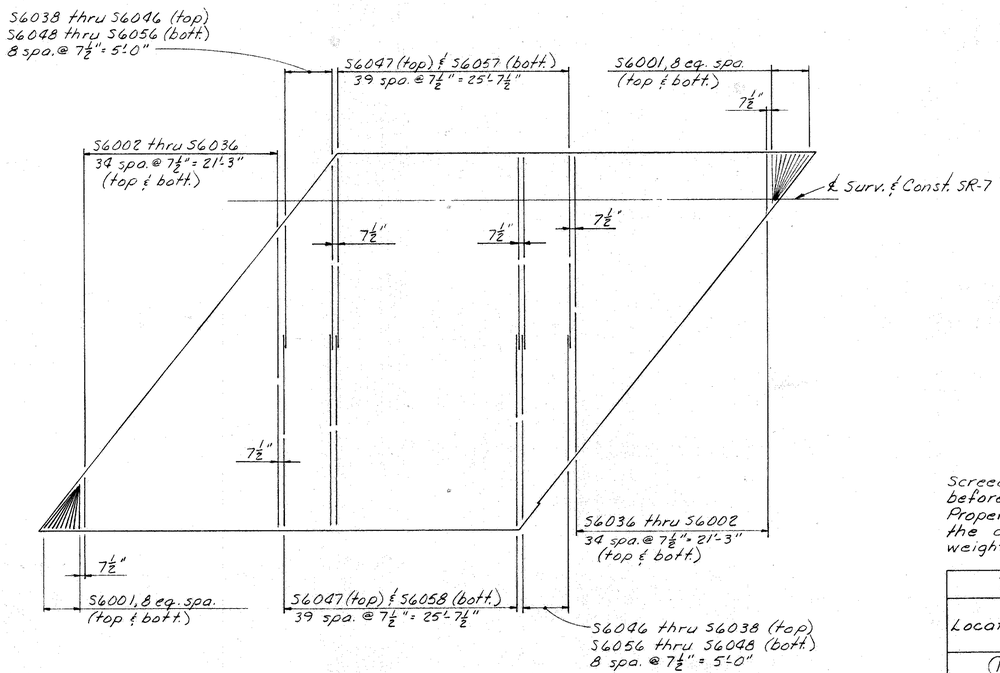


SECTION~S2-S2

SCREED LINE LOCATIONS



CAMBER DIAGRAM



North Bound Lanes

TRANSVERSE REINFORCING STEEL

Screed elevations are at top of slab before the concrete deck is placed. Proper allowance has been made for the dead load deflection due to the weight of the concrete.

TABLE of SCREED ELEVATIONS

Locations	Elevations			
	"A"	"B"	"C"	"D"
①	662.36	662.69	662.85	662.14
②	662.43	662.76	662.92	662.21
③	662.47	662.81	662.98	662.28
④	662.53	662.86	663.03	662.32
⑤	662.56	662.90	663.06	662.35

DEFLECTION and CAMBER

Beams	Camber Description	Points ¼	½	¾
1 thru 5	Defl. due to weight of steel.	1/16	1/16	1/16
	Defl. due to rem. Dead Load.	1/4	5/16	1/4
	Required shop camber.	5/16	3/8	5/16
6 thru 11	Defl. due to weight of steel.	1/16	1/8	1/16
	Defl. due to rem. Dead Load.	5/16	3/8	5/16
	Required shop camber.	3/8	1/2	3/8

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CONSULTING ENGINEERS
COLUMBUS, OHIO

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SUPERSTRUCTURE DETAILS

BRIDGE No. BEL-7-2389
SR-7over GLENN'S RUN
BELMONT COUNTY
STA.1266+26.83 to STA.1266+83.55

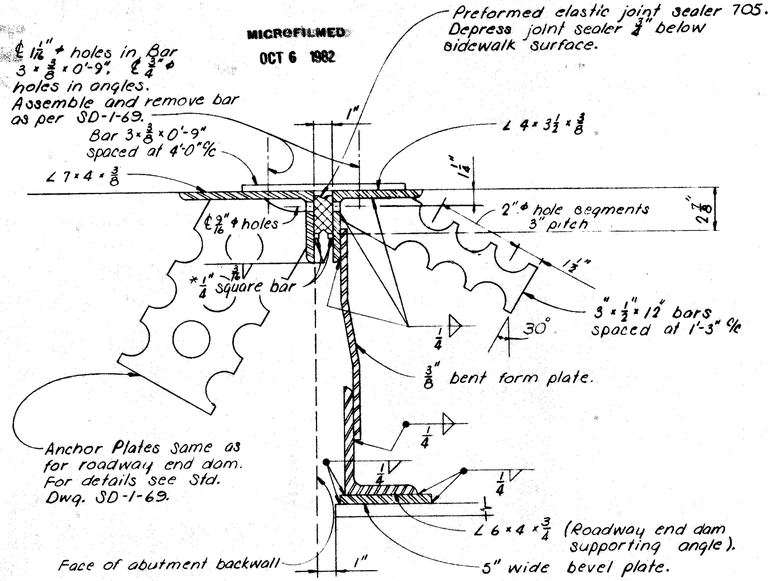
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	DW		pwd	HBT	10/27/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

359
462

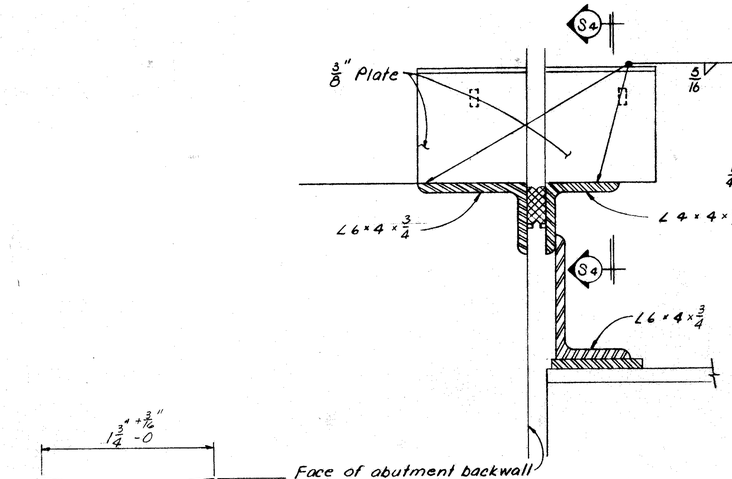
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



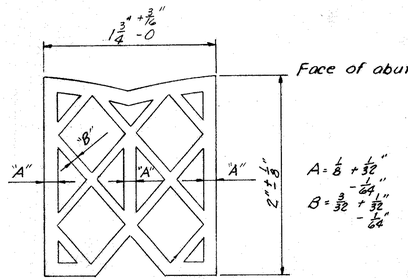
SECTION S5 - S5

SIDEWALK END DAM DETAILS
(at North Abut.) South

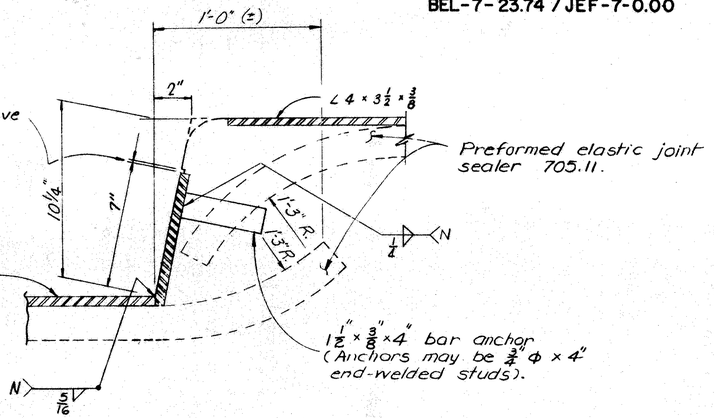
* 1/4" square bar to stop at pt. of curvature of preformed elastic joint sealer.



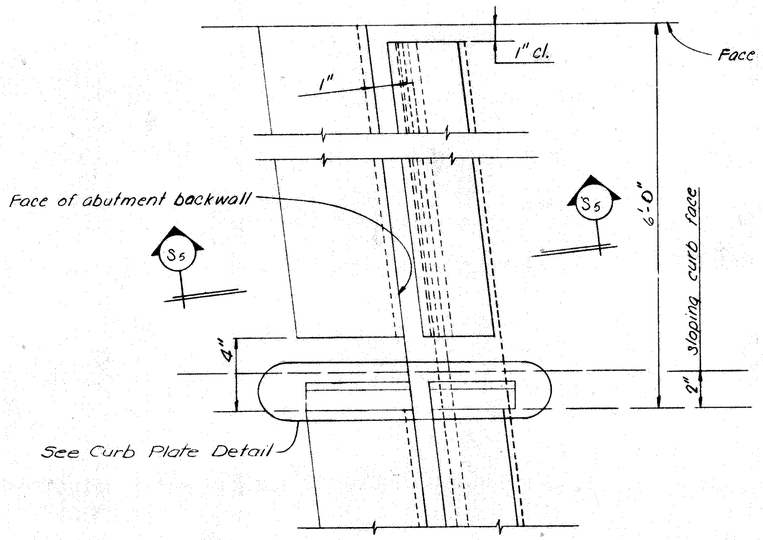
SECTION S6 - S6



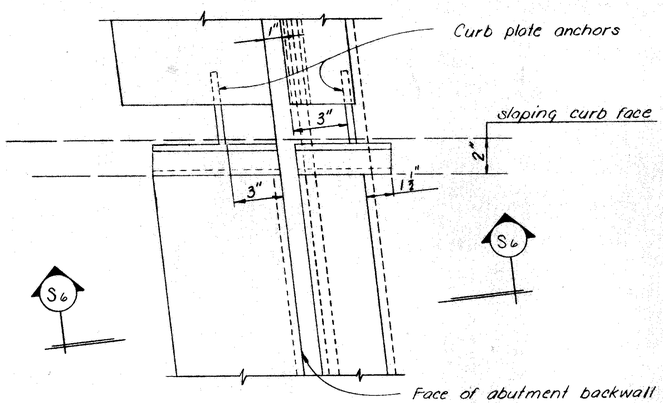
JOINT SEALER CROSS-SECTION



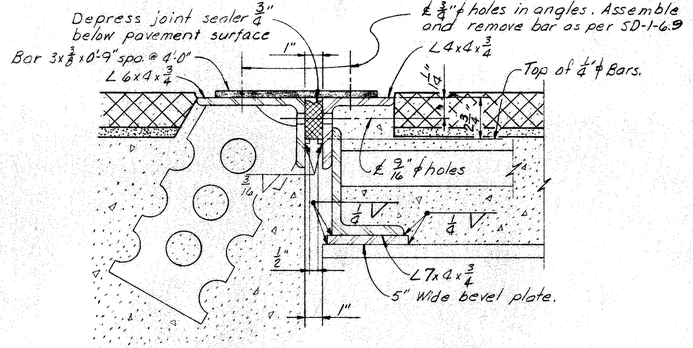
SECTION S4 - S4



PARTIAL DECK PLAN
(at North Abut.) South



CURB PLATE DETAIL



DECK JOINT DETAIL for
FIXED BEARING at ABUTMENT

For details of anchor bars, bevel plates, welding of angles and end crossframes, see Std. Dwg. SD-1-69.

Fill joint with a compressible performed elastic joint sealer 705.11

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

15/18

END FINISH DETAILS

BRIDGE No. BEL-7-2389
SR-7 over GLENN'S RUN
BELMONT COUNTY
STA. 1266 + 26.83 to STA. 1266 + 83.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT	G		fwd	HBT	10/27/69	2-7-75

MICROFILMED
OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
F 5001	40	10- 0	417	ST						
F 5002	8	19- 7	163	ST						
F 5004	16	27- 0	451	ST						
F 5005	16	26-10	448	ST						
F 5006	8	19- 3	161	ST						
F 5007	120	4- 7	574	ST						
F 7001	110	19- 8	4422	ST						
F 7002	1	17- 6	36	ST						
F 7003	1	16- 3	33	ST						
F 7004	1	13- 6	28	ST						
F 7005	1	12- 6	26	ST						
F 7006	2	10- 6	43	ST						
F 8001	18	18- 6	889	ST						
F 8002	36	28-10	2771	ST						
F 8003	36	26-10	2579	ST						
F 8004	18	19- 1	917	ST						
F 9001	187	8- 5	5351	1	2-10	5-10				
F10001	229	19- 6	19215	ST						
F10002	5	16- 4	351	ST						
F10003	7	10- 2	306	ST						
F11001	18	18- 6	1769	ST						
F11002	36	29- 6	5642	ST						
F11003	36	27- 9	5308	ST						
F11004	18	19- 1	1825	ST						
F14001	72	7- 7	4177	1	2- 6	5- 7				
F14002	72	6- 0	3305	1	2- 6	4- 0				
A 5001	80	4-11	410	1		1- 6	2- 2	1- 6		
A 5002	28	19- 9	577	ST						
A 5003	196	6- 4	1295	1		1- 7	3- 5	1- 7		
A 5004	28	26- 8	779	ST						
A 5005	28	23- 8	691	ST						
A 5006	30	5- 4	167	1		1- 6	2- 7	1- 6		
A 5007	16	32- 8	545	ST						3
A 5008	3	30- 0	94	ST						
A 5009	72	9- 9	732	1		3- 2	3- 8	3- 2		
A 5010	28	23- 7	689	ST						
A 5011	28	26- 4	769	ST						
A 5012	28	19- 5	567	ST						
A 5013	15	30-10	482	ST						3
A 5014	3	6- 8	21	ST						
A 5015	8	10- 8	89	1		2- 9	5- 5	2- 9		
A 5016	24	34- 6	864	ST						
A 5017	24	29- 0	726	ST						
A 5018	24	22- 3	557	ST						
A 5019	24	15- 6	388	ST						
A 5020	24	8- 8	217	ST						
A 5021	12	15- 9		1	1- 0	6- 5	1- 5	6- 5	1- 0	1
THRU			1755		VARY	LENGTH	BY	0- 7	1/ 4	
					VARY	DIM. B	BY	0- 3	5/ 8	
					VARY	DIM. D	BY	0- 3	5/ 8	
A 5031	12	9- 9		1	1- 0	3- 5	1- 5	3- 5	1- 0	1
A 5032	98	6- 5	656	12	4- 8	1- 3		1- 3		
A 6001	206	15- 1	4667	2	4- 8	1- 5	6- 0	0-11	2- 9	
A 6002	98	34- 6	5078	ST						
A 6003	49	4- 6	331	ST						
A 6004	11	19- 9	326	ST						
A 6005	11	26- 8	441	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS				(CONTINUED)		
A 6006	11	23- 8	391	ST						
A 6007	11	23- 7	390	ST						
A 6008	11	26- 4	435	ST						
A 6009	11	19- 5	321	ST						
A 7001	11	19- 9	444	ST						
A 7002	11	26- 8	600	ST						
A 7003	11	23- 8	532	ST						
A 7004	11	23- 7	530	ST						
A 7005	11	26- 4	592	ST						
A 7006	11	19- 5	437	ST						
A 7007	12	22- 0		1	1- 0	9- 8	1- 5	9- 8	1- 0	1
THRU			5126		VARY	LENGTH	BY	0- 7	1/ 4	
					VARY	DIM. B	BY	0- 3	5/ 8	
					VARY	DIM. D	BY	0- 3	5/ 8	
A 7017	12	16- 0		1	1- 0	6- 8	1- 5	6- 8	1- 0	1
A 8001	22	19- 9	1160	ST						
A 8002	22	26- 8	1566	ST						
A 8003	22	23- 8	1390	ST						
A 8004	22	23- 7	1385	ST						
A 8005	22	26- 4	1547	ST						
A 8006	22	19- 5	1141	ST						
A 8007	121	5- 8	1831	20	1- 1	1- 1	3- 9	0- 6	0- 6	
A 9001	187	34- 6	21935	ST						
A 9002	1	29- 2		1	1- 6	12-11	1- 5	12-11	1- 6	1
THRU			979		VARY	LENGTH	BY	0- 7	1/ 4	
					VARY	DIM. B	BY	0- 3	5/ 8	
					VARY	DIM. D	BY	0- 3	5/ 8	
A 9012	1	23- 2		1	1- 6	9-11	1- 5	9-11	1- 6	1
A10001	11	19- 9	935	ST						
A10002	11	26- 8	1262	ST						
A10003	11	23- 8	1120	ST						
A10004	11	23- 7	1116	ST						
A10005	11	26- 4	1246	ST						
A10006	11	19- 5	919	ST						
A14001	48	35- 3	12944	1	2- 1	33- 8				
A14002	48	36-10	13525	1	2- 1	35- 3				
A14003	48	16- 6	6059	ST						
A14004	48	7- 6	2754	ST						
				WALLS						
F 5012	7	17- 0	124	ST						
F 5013	16	17- 8	295	ST						
F 5014	54	4- 8	263	ST						
F 5015	6	31- 6	197	ST						
F 5016	7	22- 4	163	ST						3
F 5017	11	17- 5	200	12	8- 0	4-10	4-10			3
F 5018	11	10- 0	115	ST						3
F 5019	12	21-11	274	ST						3
F 5020	18	23- 5	440	12	8- 0	7-10	7-10			3
F 5021	18	10- 0	188	ST						3
F 5022	8	17- 5	145	ST						3
F 5023	10	21- 6	224	ST						
F 6001	25	6- 3	235	ST						
F 7007	16	6- 7	215	4	0- 4	4- 6	2- 3			
F 7008	16	9- 7	313	4	0- 6	7- 6	2- 3			
F 7009	25	6- 3	319	ST						
F 7010	21	17- 2	737	ST						3
F 9002	52	7- 7	1341	1	2-10	5- 0				

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				WALLS				(CONTINUED)		
F10004	10	31- 6	1355	ST						
F10005	18	7- 6	581	ST						
F10006	28	17- 6	2108	ST						
F10007	35	11- 6	1732	ST						
F10008	24	9- 0	929	4	0- 4	6- 2	3- 2			
F10009	24	14- 4	1480	4	0- 9	11- 6	3- 2			
F10010	16	8- 0	551	4	2- 0	5- 9	2- 6			
F10011	8	14- 0	482	4	4- 0	11- 9	2- 6			
F11022	14	21- 0	1562	ST						
F11023	18	31- 6	3012	ST						
F11024	12	8- 3	526	4	1- 8	6- 1	2- 6			
F11025	4	8- 3	175	4	1- 3	6- 1	2- 6			
F11026	48	12- 0	3060	ST						
F11027	21	17- 4	1934	ST						3
F11028	19	8- 3	833	ST						
F11029	20	21- 6	2285	ST						
F11030	4	14- 3	303	4	3- 4	12- 1	2- 6			
F14003	4	7- 6	229	4	2- 1	5- 7	2- 6			
F14004	4	5-11	181	4	1- 4	4- 1	2- 6			
W 5001	2	28- 0		ST						1
THRU			452		VARY	LENGTH	BY	1-10	5/ 8	
W 5013	2	5- 4		ST						1
W 5015	1	20- 0		ST						1
THRU			341		VARY	LENGTH	BY	0- 6	3/ 8	
W 5037	1	8- 5		ST						1
W 5038	6	4- 4	27	ST						
W 5039	6	6- 1	38	ST						
W 5040	4	26- 7	111	ST						
W 5041	1	22- 5	23	ST						
W 5042	1	40- 5		ST						1
THRU			438		VARY	LENGTH	BY	0-11	7/ 8	
W 5053	1	29- 6		ST						1
W 5054	2	29- 7	62	ST						3
W 5055	17	4- 6	80	1	3- 1	1- 7				
W 5058	2	37- 6	78	ST						
W 5059	2	30- 5	63	ST						
W 5060	2	22-11	48	ST						
W 5061	2	15- 4	32	ST						
W 5062	2	7-10	16	ST						
W 5063	1	20- 7		1	1- 0	8-10	1- 5	8-10	1- 0	1
THRU			284		VARY	LENGTH	BY	0- 4	1/ 8	
					VARY	DIM. B	BY	0- 2	1/ 8	
					VARY	DIM. D	BY	0- 2	1/ 8	
W 5077	1	15- 9		1	1- 0	6- 5	1- 5	6- 5	1- 0	1
W 5078	1	15- 5		1	1- 0	6- 3	1- 5	6- 3	1- 0	1
THRU			109		VARY	LENGTH	BY	0- 8		
					VARY	DIM. B	BY	0- 4		
					VARY	DIM. D	BY	0- 4		
W 5085	1	10- 9		1	1- 0	3-11	1- 5	3-11	1- 0	1
W 5086	1	10- 5		1	1- 0	3- 9	1- 5	3- 9	1- 0	1
THRU			43		VARY	LENGTH	BY	1- 0	1/ 2	
					VARY	DIM. B	BY	0- 6	1/ 4	
					VARY	DIM. D	BY	0- 6	1/ 4	
W 5090	1	6- 3		1	1- 0	1- 8	1- 5	1- 8	1- 0	1
W 5091	2	30- 8	64	ST						
W 5092	2	24-11	52	ST						
W 5093	2	18- 9	39	ST						
W 5094	2	12- 7	26	ST						
W 5095	2	6- 5	13	ST						
W 5096	1	25- 7		1	1- 0	11- 4	1- 5	11- 4	1- 0	1
THRU			338		VARY	LENGTH	BY	0- 4	1/ 2	
					VARY	DIM. B	BY	0- 2	1/ 4	
					VARY	DIM. D	BY	0- 2	1/ 4	
W 5109	1	20- 9		1	1- 0	8-11	1- 5	8-11	1- 0	1

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

360
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

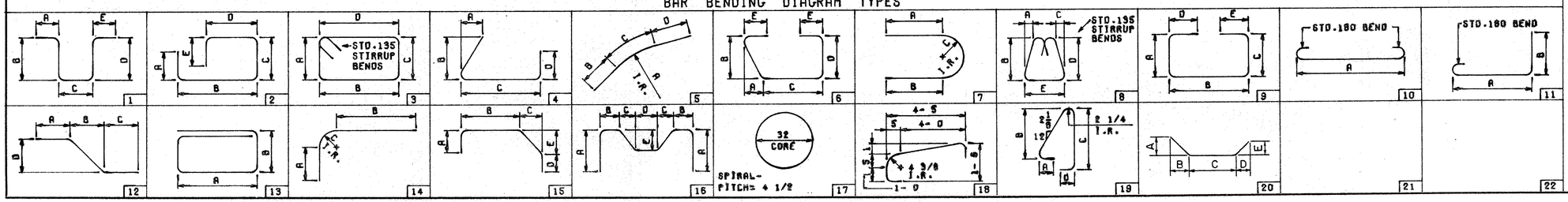
NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S). CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
   'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.
   SPIRAL BARS SHALL NOT HAVE DEFORMATIONS BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. 1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED. INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



16/18

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO. BEL-7-2389
SR-7 OVER GLENN'S RUN
STA.1266+26.83 TO
BELMONT COUNTY STA.1266+83.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			fwd	HBT	10-27-69	10-29-74

OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				WALLS				(CONTINUED)		
W 5110	1	20- 5		1	1- 0	8- 9	1- 5	8- 9	1- 0	1
THRU			135		VARY	LENGTH	BY	0- 7	5/ 8	
					VARY	DIM. B	BY	0- 3	7/ 8	
					VARY	DIM. D	BY	0- 3	7/ 8	
W 5116	1	16- 7		1	1- 0	6-10	1- 5	6-10	1- 0	1
W 5117	1	16- 1		1	1- 0	6- 7	1- 5	6- 7	1- 0	1
THRU			86		VARY	LENGTH	BY	0-11	5/ 8	
					VARY	DIM. B	BY	0- 5	3/ 4	
					VARY	DIM. D	BY	0- 5	3/ 4	
W 5122	1	11- 3		1	1- 0	4- 2	1- 5	4- 2	1- 0	1
W 5123	1	10- 9		1	1- 0	3-11	1- 5	3-11	1- 0	1
THRU			37		VARY	LENGTH	BY	1- 3	3/ 8	
					VARY	DIM. B	BY	0- 7	5/ 8	
					VARY	DIM. D	BY	0- 7	5/ 8	
W 5126	1	6-11		1	1- 0	2- 0	1- 5	2- 0	1- 0	1
W 5128	6	26-10	168	ST						
W 5129	2	20- 7	43	ST						
W 5130	2	10- 9	22	ST						
W 5131	1	25- 0		1	1- 0	11- 6	1- 5	11- 6		1
THRU			232		VARY	LENGTH	BY	0- 7	3/ 8	
					VARY	DIM. B	BY	0- 3	5/ 8	
					VARY	DIM. D	BY	0- 3	5/ 8	
W 5140	1	19- 6		1	1- 0	8- 9	1- 5	8- 9		1
W 5141	1	19- 2		1	1- 0	8- 7	1- 5	8- 7		1
THRU			122		VARY	LENGTH	BY	0- 9	5/ 8	
					VARY	DIM. B	BY	0- 4	7/ 8	
					VARY	DIM. D	BY	0- 4	7/ 8	
W 5147	1	14- 4		1	1- 0	6- 2	1- 5	6- 2		1
W 5148	1	10- 4		ST						1
THRU			113		VARY	LENGTH	BY	0-10	7/ 8	
W 5155	1	16- 8		ST						1
W 5156	1	10- 9		ST						1
THRU			116		VARY	LENGTH	BY	0-10	7/ 8	
W 5163	1	17- 1		ST						1
W 5164	2	2- 4	5	ST						3
W 5165	2	8-11	19	ST						3
W 5166	2	15- 7	33	ST						3
W 5167	2	22- 2	46	ST						3
W 5168	10	23- 8	247	ST						3
W 5169	1	20- 9		ST						1
THRU			200		VARY	LENGTH	BY	0-10	7/ 8	
W 5176	1	27- 1		ST						1
W 5177	1	3- 0		ST						1
THRU			79		VARY	LENGTH	BY	0- 7	1/ 4	
W 5188	1	9- 8		ST						1
W 5189	2	3-11	8	ST						3
W 5190	2	10- 8	22	ST						3
W 5191	2	17- 8	37	ST						3
W 5192	22	23- 8	543	ST						3
W 5193	1	35- 8		ST						1
THRU			279		VARY	LENGTH	BY	0-10	3/ 8	
W 5199	1	40-10		ST						1
W 5200	1	15- 1		ST						1
THRU			373		VARY	LENGTH	BY	0- 3	1/ 2	
W 5219	1	20- 8		ST						1
W 5220	22	19- 8	451	ST						3
W 5221	4	24-10	104	ST						3
W 5222	2	18- 8	39	ST						3
W 5223	2	15- 4	32	ST						3
W 5224	2	12- 0	25	ST						3
W 5225	2	8- 8	18	ST						3
W 5227	2	20- 6	43	ST						3
W 5232	2	33-10	71	ST						
W 5233	2	28- 4	59	ST						
W 5234	2	22-10	48	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				WALLS				(CONTINUED)		
W 5235	2	17- 4	36	ST						
W 5236	2	11-10	25	ST						
W 5237	2	6- 4	13	ST						
W 5238	1	32- 1		1	1- 0	14- 7	1- 5	14- 7	1- 0	1
THRU			364		VARY	LENGTH	BY	0- 6	1/ 2	
					VARY	DIM. B	BY	0- 3	1/ 4	
					VARY	DIM. D	BY	0- 3	1/ 4	
W 5249	1	26- 1		1	1- 0	11- 7	1- 5	11- 7	1- 0	1
W 5250	1	25- 7		1	1- 0	11- 4	1- 5	11- 4	1- 0	1
THRU			236		VARY	LENGTH	BY	0- 8		
					VARY	DIM. B	BY	0- 4		
					VARY	DIM. D	BY	0- 4		
W 5259	1	19- 7		1	1- 0	8- 4	1- 5	8- 4	1- 0	1
W 5260	1	19- 3		1	1- 0	8- 2	1- 5	8- 2	1- 0	1
THRU			134		VARY	LENGTH	BY	0-10	7/ 8	
					VARY	DIM. B	BY	0- 5	3/ 8	
					VARY	DIM. D	BY	0- 5	3/ 8	
W 5267	1	12-11		1	1- 0	5- 0	1- 5	5- 0	1- 0	1
W 5268	1	12- 7		1	1- 0	4-10	1- 5	4-10	1- 0	1
THRU			50		VARY	LENGTH	BY	1- 5	1/ 2	
					VARY	DIM. B	BY	0- 8	3/ 4	
					VARY	DIM. D	BY	0- 8	3/ 4	
W 5272	1	6- 9		1	1- 0	1-11	1- 5	1-11	1- 0	1
W 5273	2	36- 9	77	ST						
W 5274	2	30-11	64	ST						
W 5275	2	24-11	52	ST						
W 5276	2	18-11	39	ST						
W 5277	2	12-11	27	ST						
W 5278	2	6-11	14	ST						
W 5279	1	31- 7		1	1- 0	14- 4	1- 5	14- 4	1- 0	1
THRU			439		VARY	LENGTH	BY	0- 6		
					VARY	DIM. B	BY	0- 3		
					VARY	DIM. D	BY	0- 3		
W 5293	1	24- 7		1	1- 0	10-10	1- 5	10-10	1- 0	1
W 5294	1	24- 3		1	1- 0	10- 8	1- 5	10- 8	1- 0	1
THRU			244		VARY	LENGTH	BY	0- 7	1/ 4	
					VARY	DIM. B	BY	0- 3	5/ 8	
					VARY	DIM. D	BY	0- 3	5/ 8	
W 5304	1	18- 3		1	1- 0	7- 8	1- 5	7- 8	1- 0	1
W 5305	1	17-11		1	1- 0	7- 6	1- 5	7- 6	1- 0	1
THRU			125		VARY	LENGTH	BY	0-10		
					VARY	DIM. B	BY	0- 5		
					VARY	DIM. D	BY	0- 5		
W 5312	1	12- 1		1	1- 0	4- 7	1- 5	4- 7	1- 0	1
W 5313	1	11- 9		1	1- 0	4- 5	1- 5	4- 5	1- 0	1
THRU			47		VARY	LENGTH	BY	1- 4		
					VARY	DIM. B	BY	0- 8		
					VARY	DIM. D	BY	0- 8		
W 5317	1	6- 5		1	1- 0	1- 9	1- 5	1- 9	1- 0	1
W 6001	24	31- 8	1142	ST						
W 6002	4	22- 8	136	ST						
W 6003	4	6- 2	37	ST						
W 6004	1	25- 7		1	1- 0	11- 5	1- 5	11- 5	1- 0	1
THRU			626		VARY	LENGTH	BY	0- 3	3/ 8	
					VARY	DIM. B	BY	0- 1	3/ 4	
					VARY	DIM. D	BY	0- 1	3/ 4	
W 6021	1	20- 9		1	1- 0	9- 0	1- 5	9- 0	1- 0	1
W 6022	35	19- 8	1034	ST						3
W 7001	14	31- 8	906	ST						
W 7002	8	10- 1	165	ST						
W 7003	14	19- 8	563	ST						3
W 8001	14	31- 8	1184	ST						

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

361
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
   'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.
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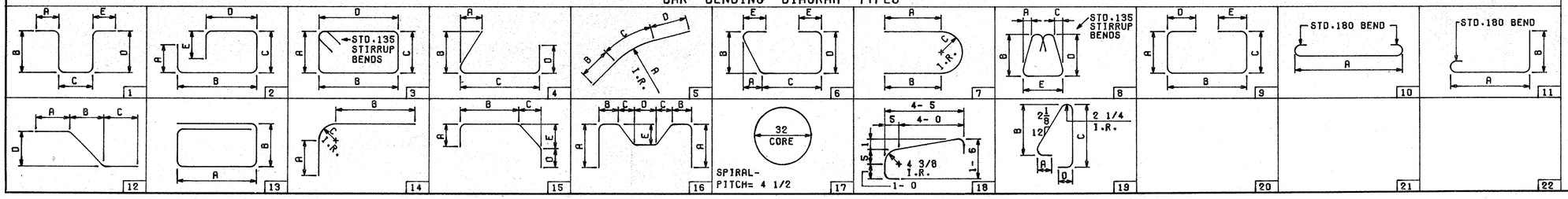
BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



17/18

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO. BEL-7-2389
SR-7 OVER GLENN'S RUN
STA.1266+26.83 TO
BELMONT COUNTY STA.1266+83.55

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			fwd	HBT	10-27-69	

MICROFILMED
OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				WALLS					(CONTINUED)	
W 9001	32	22- 5	2439	ST						
W 9002	20	22- 0	1496	ST						
W10001	24	19- 3	1988	ST						
W10002	4	37- 4	643	ST						
W10003	4	11- 0	189	ST						
W10004	4	8- 0	138	ST						
W10005	4	25- 9	443	ST						
W10006	4	18- 6	318	ST						
W10007	4	8- 6	146	ST						
W10008	4	12- 6	215	ST						
W11001	4	38-10	825	ST						
W11002	4	32- 1	682	ST						
W11003	4	10- 0	213	ST						
W11004	4	8- 6	181	ST						
W11005	4	27- 3	579	ST						
W14001	4	20- 6	627	ST						
W14002	4	10- 0	306	ST						
				SUPERSTRUCTURE						
S 5001	169	30- 0	5288	ST						
S 5003	74	5- 9	444	8		2- 2		2- 2	0- 8	
S 5004	46	10- 2	488	9	1- 6	6- 6	1- 4	0- 8	0- 8	
S 5005	46	7- 9	372	1		0- 8	6- 8	0- 8		
S 5006	72	1- 1	81	ST						
S 5007	36	3-10	153	6	0- 2	1- 2	0-10	1- 0	0- 8	
S 5009	36	3- 8	137	6	0- 2	1- 0	0-10	1- 0	0- 8	
S 5010	46	3- 7	172	1		0- 8	2- 6	0- 8		
S 5011	46	6- 0	288	9	1- 4	2- 6	1- 4	0- 8	0- 8	
S 5012	169	23-10	4201	ST						
S 6001	72	6- 2	667	ST						
S 6002	8	6- 9		ST						1
THRU			8516		VARY	LENGTH	BY	0- 9	1/ 2	
S 6036	8	33- 9		ST						1
S 6037	82	34-10	4290	ST						
S 6038	2	14-10		ST						1
THRU			489		VARY	LENGTH	BY	0- 9	3/ 4	
S 6046	2	21- 4		ST						1
S 6047	80	21-11	2634	ST						
S 6048	2	18- 9		ST						1
THRU			595		VARY	LENGTH	BY	0- 9	3/ 4	
S 6056	2	25- 3		ST						1
S 6057	40	25-10	1552	ST						
S 6058	40	18- 0	1081	ST						
				PARAPETS						
R 5001	8	16- 7		ST						2
R 5002	16	14- 2		ST						2
R 5003	8	9- 3		ST						2
R 5004	16	4- 5		7	1- 6	1- 6	0- 5			2
R 5005	4	5- 9		8		2- 2		2- 2	0- 8	2
R 5006	8	7- 2		9	2- 1	4- 8	0- 8			2
R 5007	8	6- 7		18		SEE BENDING DIAGRAM				2
R 5008	8	4- 8		ST						2
R 5009	12	7- 9		8		3- 2		3- 2	0- 8	2

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				REPLACEMENT STEEL						
RE 5001	2	6- 7		ST						
RE 6001	2	6-10		ST						
RE 7001	1	7- 2		ST						
RE 8001	1	7- 6		ST						
RE 9001	2	7-10		ST						
RE10001	2	8- 2		ST						
RE11001	2	8- 6		ST						
RE14001	3	2- 6		ST						

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

362
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
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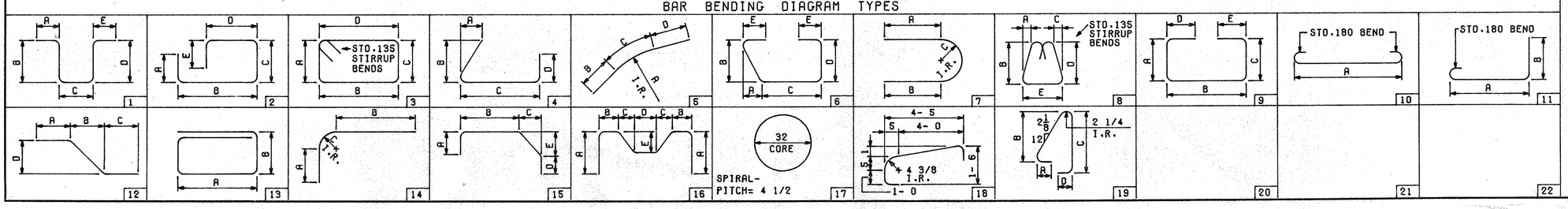
BAR BENDING DIAGRAM TYPES



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ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO. BEL-7-2389
SR-7 OVER GLENN'S RUN
STA.1266+26.83 TO
BELMONT COUNTY STA.1266+83.55

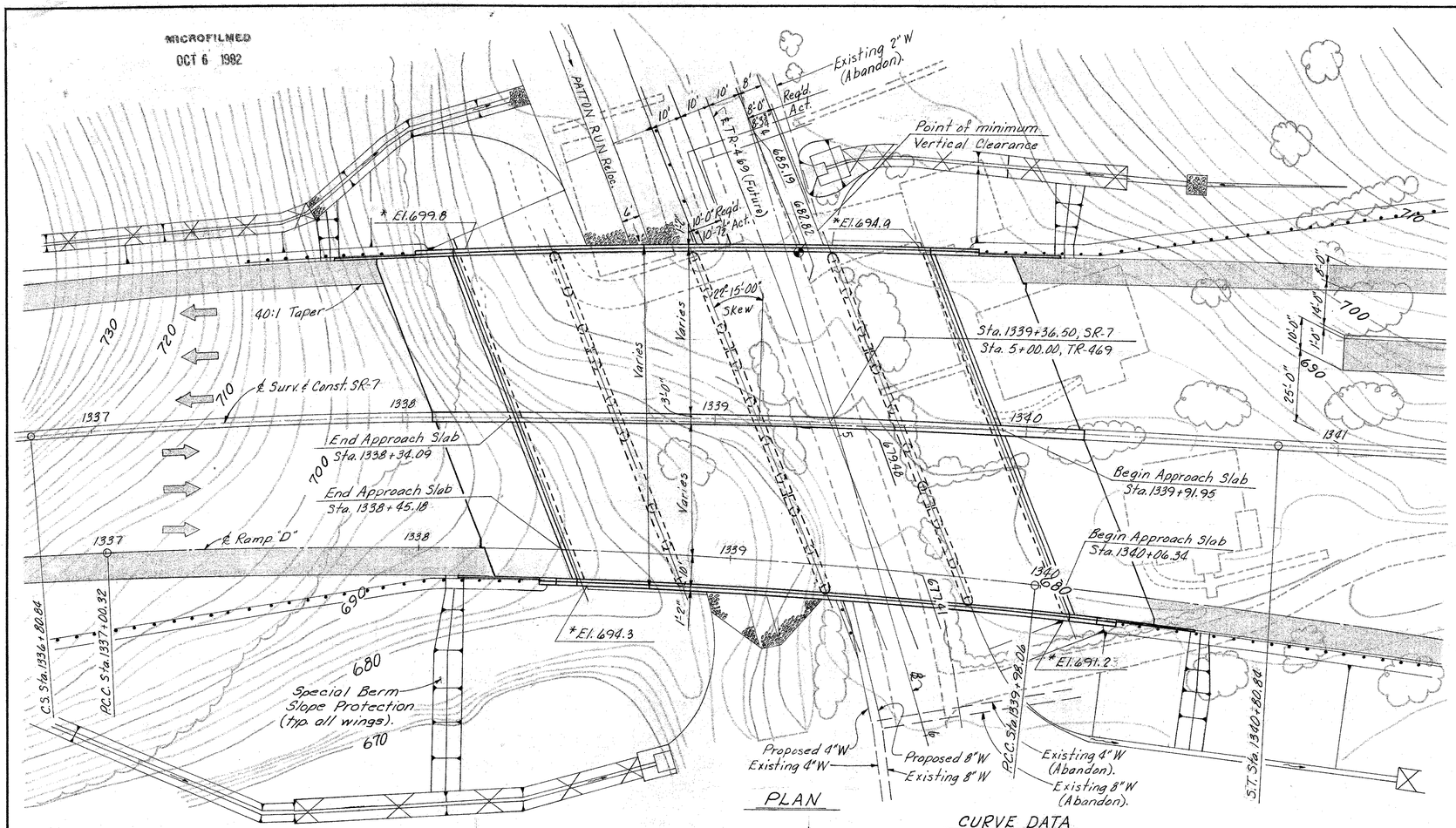
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			FWA	HBT	10-27-69	10-24-74

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

363
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PLAN

Reference Chord is a line between ℄ Brgs. at Abutments Sta. 1338+36.50 to Sta. 1339+89.50.

Horizontal clearances are based on future alignment.

Vertical clearance is based on present grades.

*Elevations marked with an asterisk are at top of slope at face of abutments. Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

CURVE DATA

SR-7

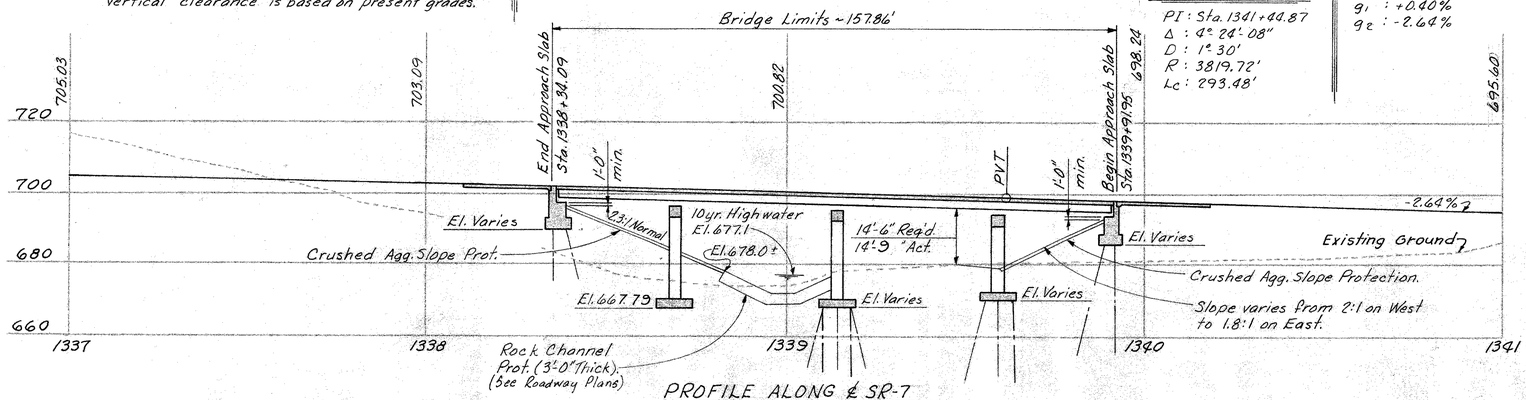
PI : Sta. 1335+39.12
Δ : 27° 59' 27"
D : 4° 00' 00"
R : 1432.39'
L_s : 400'

RAMP "D"

PI : Sta. 1338+69.49
Δ : 8° 55' 56"
D : 3° 00' 00"
R : 1909.86'
L_c : 297.74'

PI : Sta. 1341+44.87
Δ : 4° 24' 08"
D : 1° 30'
R : 3819.72'
L_c : 293.48'

PVI : Sta. 1335+09.21
V.C. : 900'
Elev. : 711.20
Corr. : 3.42'
P.G. : 707.78
g_1 : +0.40%
g_2 : -2.64%



PROFILE ALONG ℄ SR-7

PROPOSED STRUCTURE

TYPE : Continuous steel beam with reinforced concrete deck and substructure.
SPANS : 31'-6", 45'-0", 45'-0", 31'-6" ℄ brgs. along ℄ SR-7.
ROADWAY : 113'-0" average width f/f concrete barrier type parapet with 3'-0" barrier median.
LOADING : HS-20-44.
WEARING SURFACE : 2½" Asphalt concrete.
SKEW : 22° 15' 00" Rt. Fwd. with respect to Reference Chord.
ALIGNMENT : Spiral right.
APPROACH SLABS : 25'-0" long see sheet 337
SUPERELEVATION : Varies, see Transverse Section, sheet # 12/17 for superelevations.

EXISTING BRIDGE 100' East of ℄ SR-7

TYPE : Simple span with concrete abutments.
SPAN : 13'-0" f/f abutments.
WIDTH : 10'-0"
SKEW : None.
FLOOR : Railroad ties on log stringers.
CONDITION : Good.
WATERWAY OPENING : 60 sq. ft.

All piles shall be 10 BP 42 steel piles.
Estimated average pay lengths are:
Rear Abutment ~12'
Pier 2 ~18'
Pier 3 ~35'
Forward Abutment ~44'

DRAINAGE INFORMATION

Drainage Area = 0.85 sq. mi.
Flood Discharge = Q_{10} = 539 c.f.s.
10 yr. High water El. 677.1
Waterway Opening below 677.1 = 82 sq. ft.
Q_{100} = 910 c.f.s. V_{100} = 5.0 f.p.s.

1989 ADT = 21,760

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

SITE PLAN

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED 10-24-79
VB	VB		pwd	JEV	10/14/70	

MICROFILMED
OCT 6 1992

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

361
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
HIGHWAY LIGHTING	HL-4, HL-5, HL-7.		9-6-73

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1- 1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	1- 1-71

COMMON DETAIL REFERENCES

CONTRACTION JOINTS	SHEET	335
SCUPPERS	SHEET	335 #335A
LIGHT POLE SUPPORT	SHEET	336
SUBDRAINAGE FOR WEARING COURSE	*SHEET*	*335A*

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44

CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE

STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI

REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, A306, A499 OR A615.

EMBANKMENT CONSTRUCTION

THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS PRIOR TO ANY EXCAVATION AND PILE DRIVING AT THE ABUTMENTS. PIERS 1 AND 3.

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-
35 TONS PER PILE FOR THE NORTH ABUTMENT.

PILES

PILES SHALL BE DRIVEN WITH A HAMMER OF NOT LESS THAN 11,000 FT. LBS. PER BLOW TO FIRM CONTACT WITH BEDROCK. IF THE LENGTH OF PENETRATION IS APPROXIMATELY EQUAL TO THE DEPTH OF BEDROCK ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT, THE FIRM CONTACT SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN 507.05 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING-

LOCATION	PILE CAPACITY (TONS)	HAMMER ENERGY RATING (FT. LBS.)
S. ABUT.	68	11,000
	65	15,000 OR GREATER
PIER 2	54	11,000
	47	15,000 OR GREATER
PIER 3	42	11,000
	35	15,000 OR GREATER

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-
35 TONS PER PILE FOR THE SOUTH ABUTMENT
35 TONS PER PILE FOR PIERS 2 AND 3

FOUNDATION BEARING PRESSURE

PIER 1 FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 5 TONS PER SQ. FT.

FOOTINGS

PIER 1 FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK. IF NECESSARY, THE FOOTINGS SHOULD BE LOWERED. HOWEVER, IF THE LOW POINT OF THE SURFACE OF THE BEDROCK OCCURS 2 FEET OR MORE ABOVE PLAN ELEVATION, THE FOOTINGS MAY BE RAISED AFTER APPROVAL BY THE DIRECTOR, BUT TO AN ELEVATION NOT HIGHER THAN 676.00. STEPPING OF INDIVIDUAL FOOTINGS WILL NOT BE PERMITTED.

PILES shall be driven to refusal on bedrock or to 20 blows per inch for the last few inches of penetration. The design load is 35 tons per pile for the abutment piles and 35 tons per pile for the pier piles.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL			
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP			
503	1720	C.Y.	UNCLASSIFIED EXCAVATION INCLUDING ROCK	640	1080					
505	LUMP	SUM	TEST PILE				LUMP			
507	4730	L.F.	STEEL PILES, HP10x42	1970	2760					
509	274201	LB	REINFORCING STEEL	32635	*80669*	160997				
511	391	C.Y.	CLASS C CONCRETE, FOOTINGS	196	195					
511	271	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	271						
511	288	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		288					
511	575	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE			575				
512	50	L.F.	PREMOLDED SEALING STRIP	50						
513	323000	LB	STRUCTURAL STEEL			323000				
514	323000	LB	FIELD PAINTING OF STRUCTURAL STEEL			323000				
516	60	S.F.	1 INCH PREFORMED EXPANSION JOINT FILLER	60						
518	140	C.Y.	POROUS BACKFILL	140						
518	15	EA	SCUPPERS INCLUDING SUPPORTS			15				
518	234	L.F.	6 INCH PERFORATED, HELICAL CMP, 707.01	234						
518	90	L.F.	6 INCH NON-PERFORATED, HELICAL CMP, INCLUDING SPECIALS, 707.01	90						
518	455	L.F.	SUBDRAINAGE FOR WEARING COURSE, AS PER PLAN			455				
601	1160	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION				1160			
625			SEE SHEET 302 FOR LIGHTING SUMMARY							
808	575	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			575				
404	103	C.Y.	ASPHALT CONCRETE *(70-85 or AC 20)*			103				
SPEC	26	C.Y.	SAND ASPHALT			26				
** SPEC	1874	S.Y.	MEMBRANE WATERPROOFING *sheet type*			1874				

* HP10x42 piles formerly designated 10BP42

** *See Proposal Note*

2117

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA.1338+34.09 TO
BELMONT COUNTY STA.1339+91.95

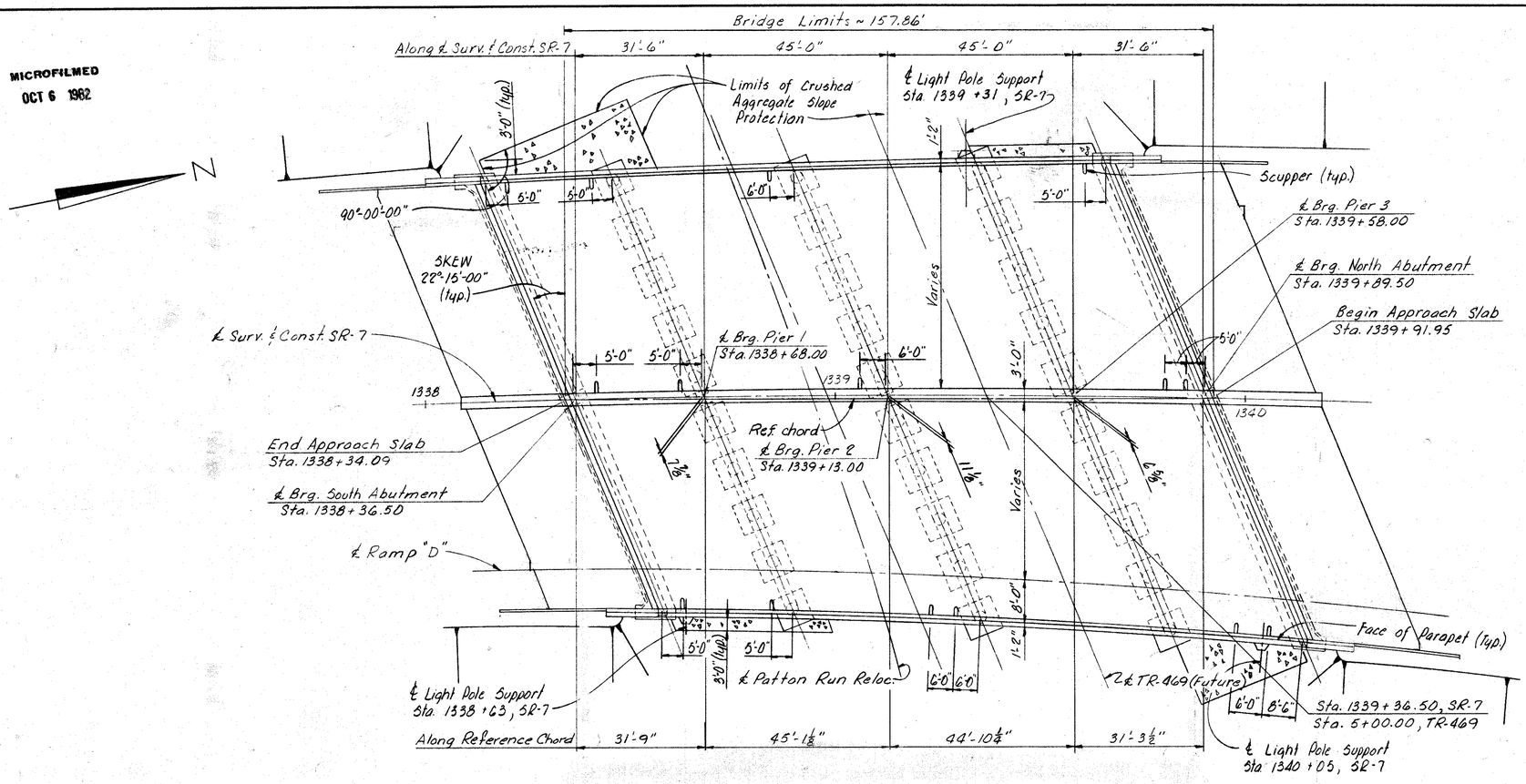
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB			RT 9-23-70	JEV	10/14/70	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

365
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



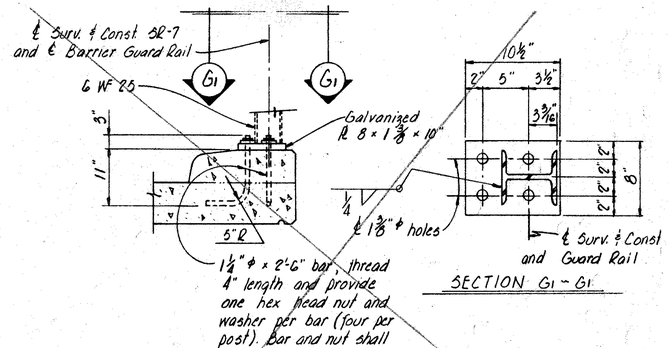
GENERAL PLAN

NOTES

For Parapet Deflection Joint Details see Std. Dwg. BR-1-67

For Scupper Details see Common Details, Sheet 336.

For Light Pole Support Details see Common Details Sheet 336 & Std. Dwg. HL-4

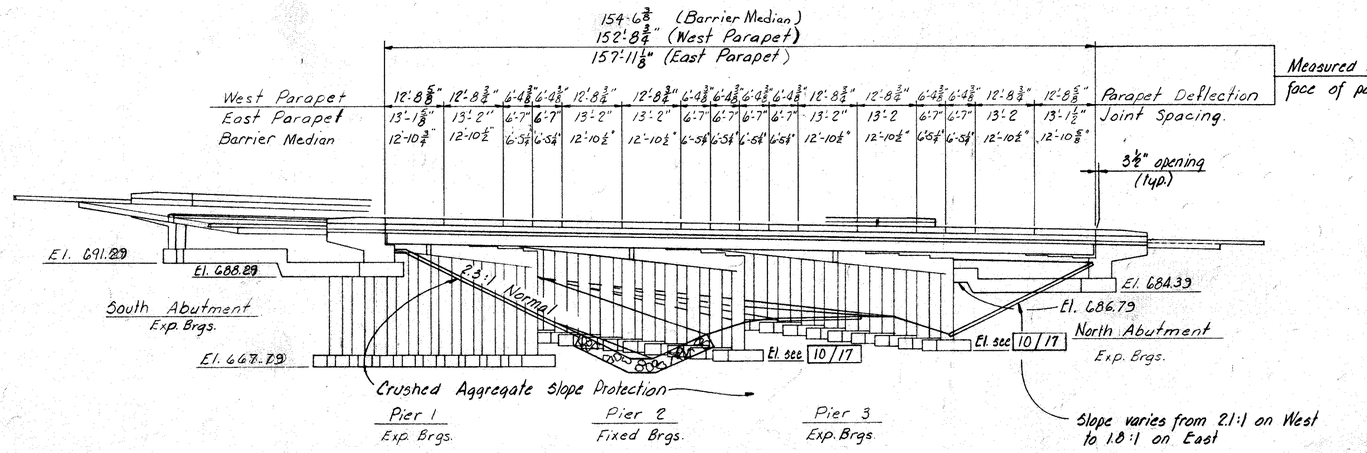


SECTION G1 - G1

GUARD RAIL ANCHOR MOUNTING DETAIL

All mounting components shall be included in Item 517 for payment.

* for details of post and deep beam rails see Common Details Sheet 336



GENERAL ELEVATION

(Piles not shown at Abutments & Piers #2 & #3)

3/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL PLAN AND ELEVATION

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

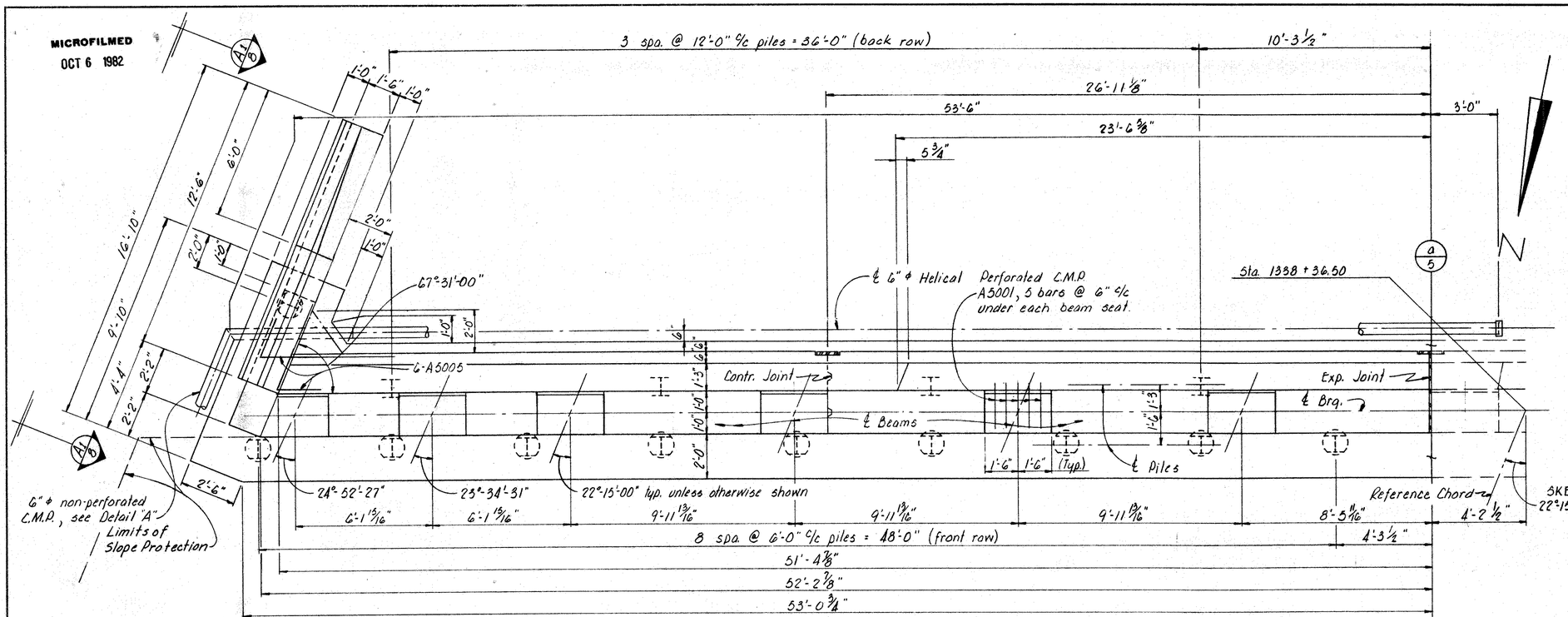
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	DW		RT	JEV	10/14/10	

MICROFILMED
OCT 6 1982

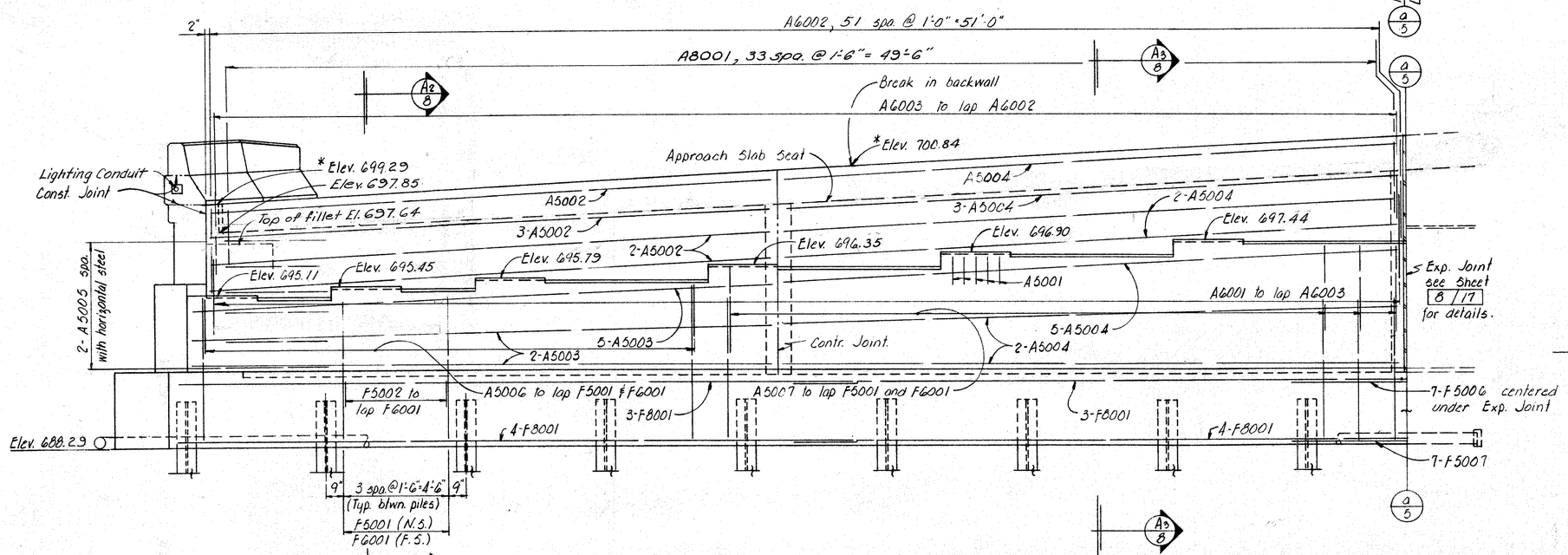
FED. RD. DIVISION	STATE	PROJECT	TYPE & FUNDS
2	OHIO		

366/462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PARTIAL PLAN



PARTIAL ELEVATION

NOTES

All piles shall be 10 BP 42 steel piles.
(1) indicates battered pile 1:4
I indicates vertical pile

Reinforcing steel location:
N.S. indicates near side
F.S. indicates far side

*Elevations marked with an asterisk are at top of 2" edge bar.

Porous backfill shall extend up to the plane of the subgrade and laterally to the ends of the wingwalls.

All reinforcing in footings shall have 3" min. cover.

Only that portion of the C.M.P. located in the porous backfill shall be perforated.

Top of backwall shall conform to roadway superelevation.

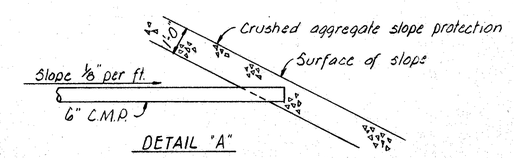
Shape of median on backwall shall conform to the shape of the median on superstructure.

The ends of the 6" ϕ helical C.M.P. located at the footing step shall be capped.

Quantities of concrete and reinforcing steel for railing shall be included with their appropriate Item for payment.

For contraction joint details see Common Details Sheet 335

For additional notes and details see sheet 5/17 and Sheet 8/17.



DETAIL "A"

TERMINATION OF 6" ϕ C.M.P. AT FRONT SLOPE

4/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SOUTH ABUTMENT DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO STA. 1339+91.95
BELMONT COUNTY

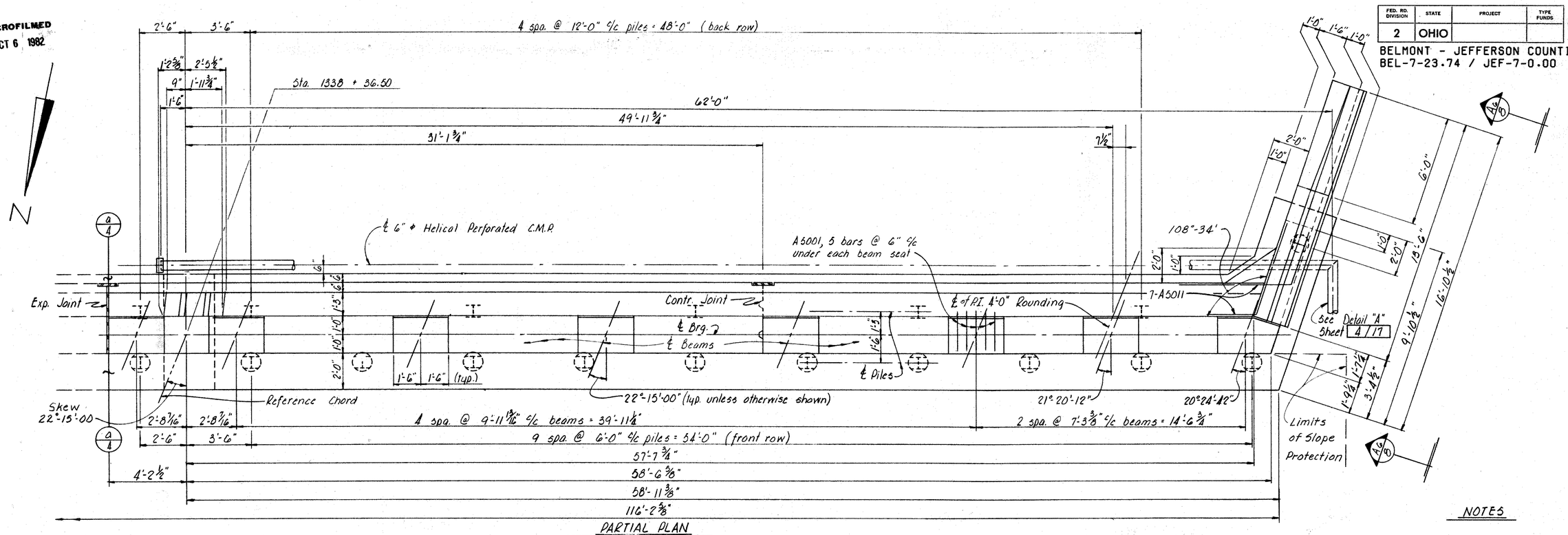
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	PG		RT	JEV	10/14/70	

MICROFILMED
OCT 6 1982

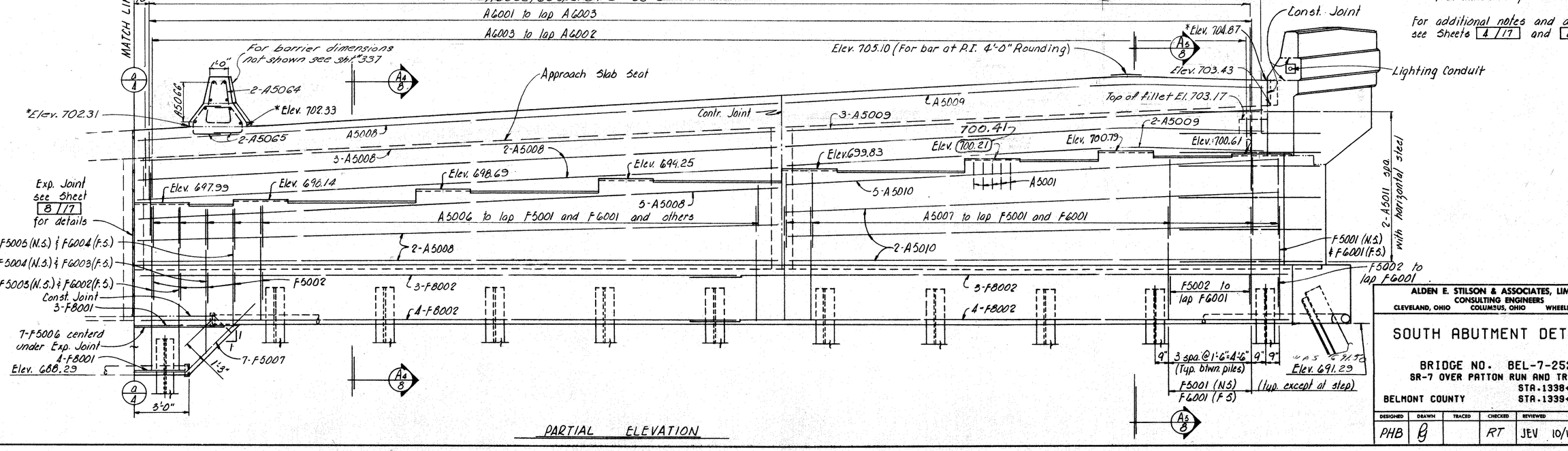
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

367
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PARTIAL PLAN



PARTIAL ELEVATION

NOTES

Reinforcing Steel Location:
N.S. indicates near side
F.S. indicates far side

For additional notes and details see Sheets 4/17 and 8/17.

5/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SOUTH ABUTMENT DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

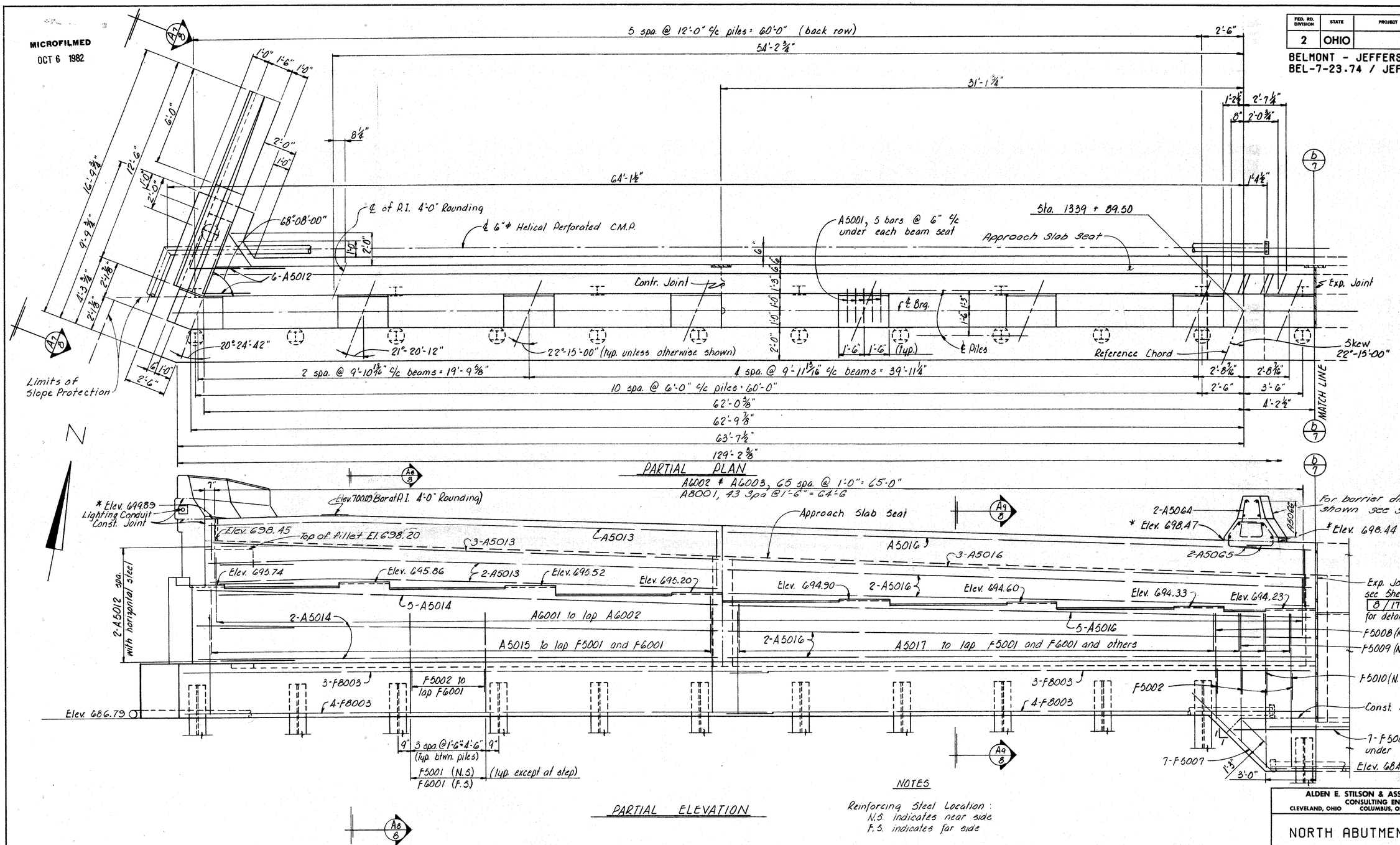
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB			RT	JEV	10/14/70	11-14-75

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

368
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



NOTES

Reinforcing Steel Location:
N.S. indicates near side
F.S. indicates far side

For additional notes and details see Sheets 4/17, 7/17 and 8/17.

6/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

NORTH ABUTMENT DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

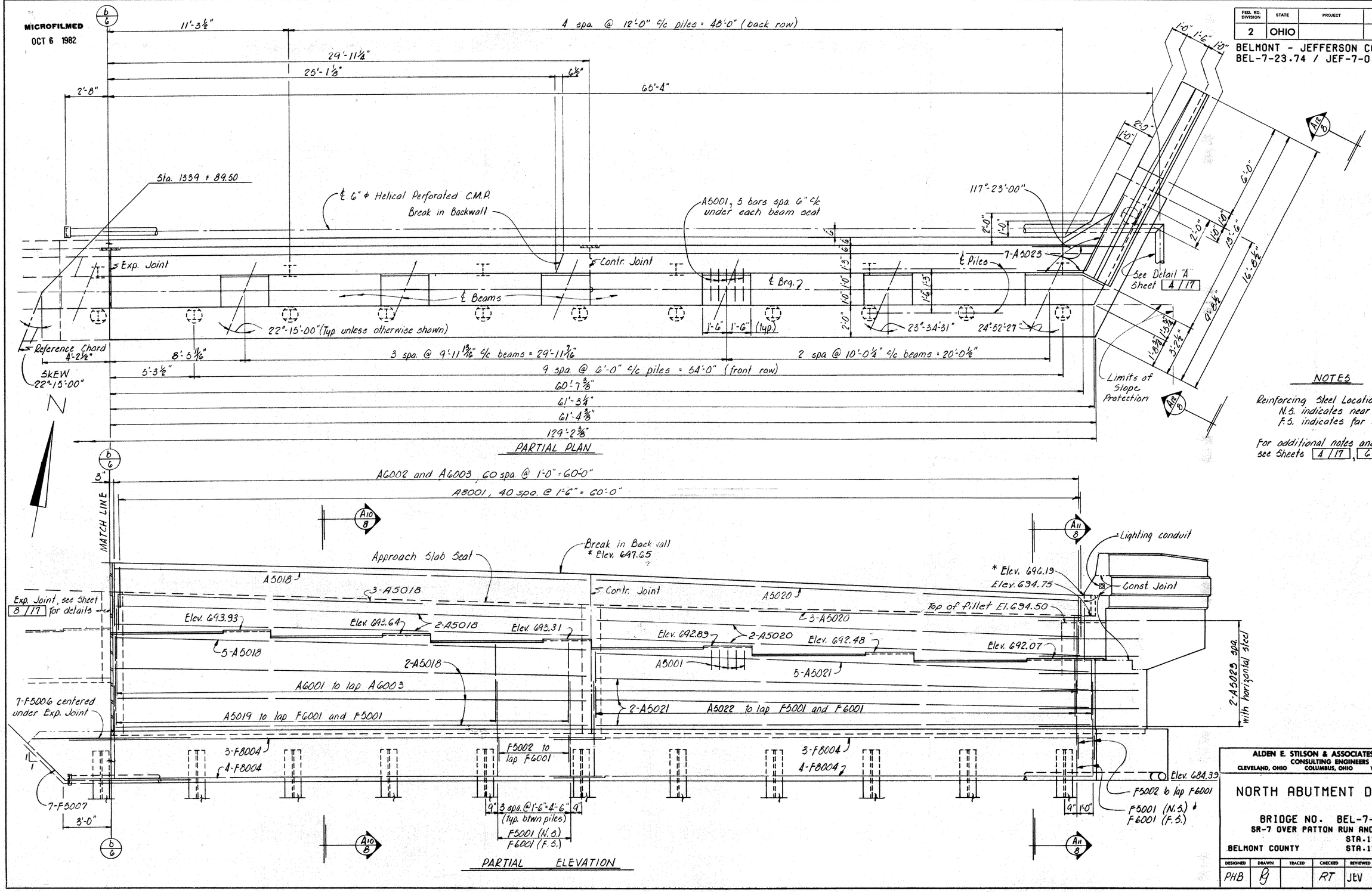
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	RJ		RT	JEV	10/14/10	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

369
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



NOTES

Reinforcing Steel Location:
N.S. indicates near side
F.S. indicates far side

For additional notes and details see Sheets 4/17, 6/17, 8/17

7/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

NORTH ABUTMENT DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

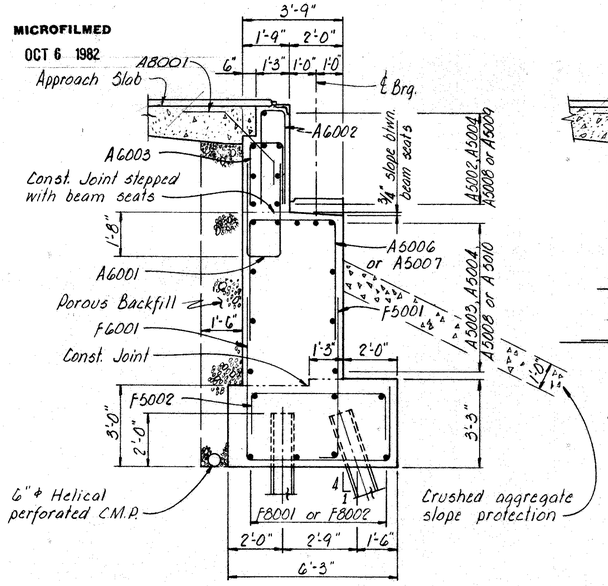
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB			RT	JEV	10/14/10	

MICROFILMED
OCT 6 1982

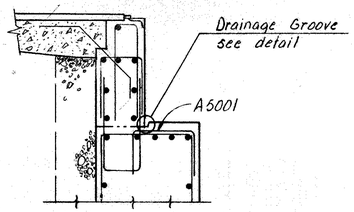
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

370
462

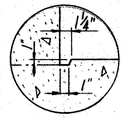
BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



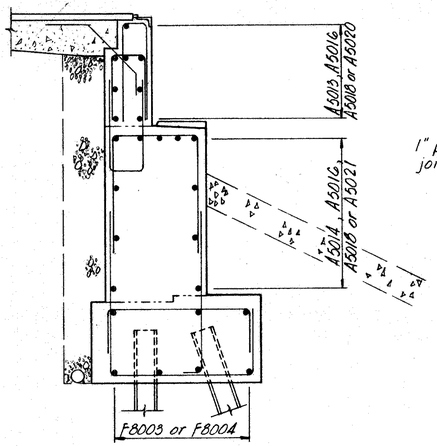
SECTIONS A3/4 - A3/4 and A1/5 - A4/5
(Between Beam Seats)



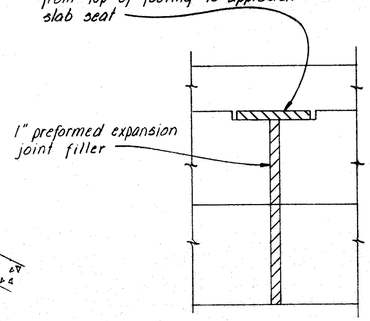
SECTIONS A2/4 - A2/4 , A5/5 - A5/5 , A6/6 - A8/6 and A11/7 - A11/7
(At Beam Seat)
Reinforcing and dimensions not shown or labled same as Sections A3/4 - A3/4 , A4/5 - A4/5 , A9/6 - A9/6 , A10/7 - A10/7



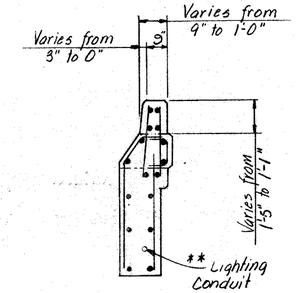
DRAINAGE GROOVE DETAIL
(Typ. at all beam seats)



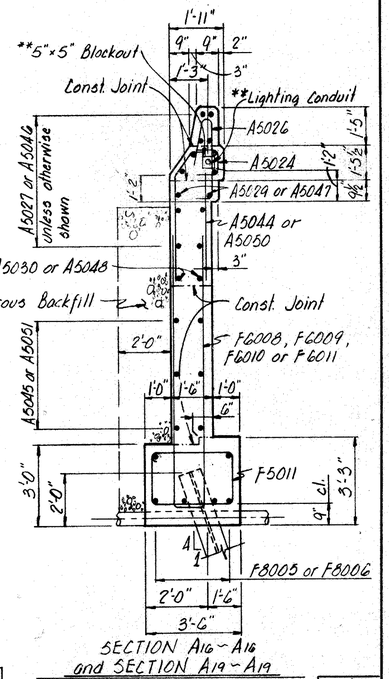
SECTIONS A9/6 - A9/6 and A10/7 - A10/7
(Between Beam Seats)
Reinforcing and dimensions not shown or labled same as Sections A3/4 - A3/4 & A4/5 - A4/5



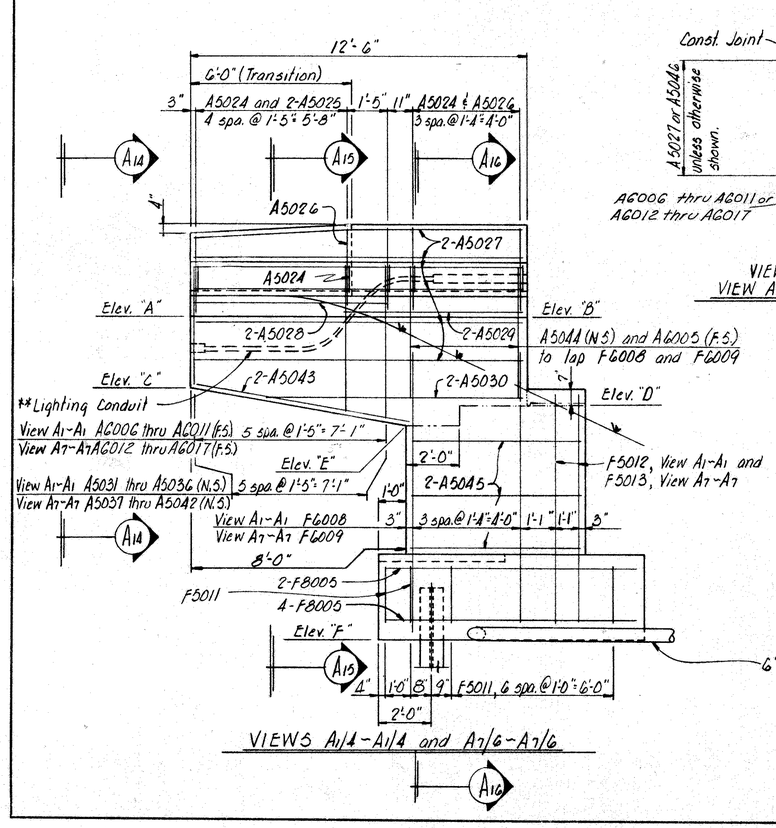
ABUTMENT EXPANSION JOINT DETAIL
(Reinforcing steel shall not extend through joint)

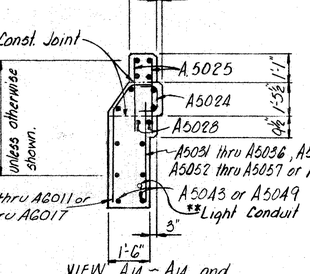


SECTION A15 - A15
and SECTION A18 - A18
Reinforcing and dimensions not shown or labled same as View A14 - A14 and View A17 - A17



SECTION A16 - A16
and SECTION A19 - A19





VIEW A14 - A14 and
VIEW A17 - A17 (Opposite hand)

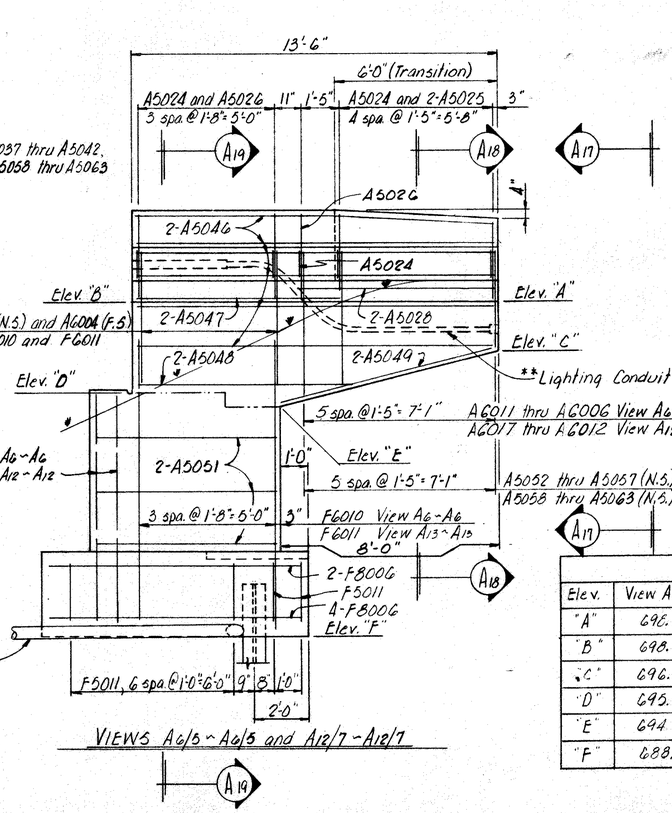


TABLE OF ELEVATIONS

Elev.	View A1-A1	View A6-A6	View A7-A7	View A12-A12
"A"	696.51	704.26	698.49	694.92
"B"	698.30	703.88	698.94	695.22
"C"	696.30	702.05	696.28	692.71
"D"	695.03	700.53	695.66	691.99
"E"	694.09	700.00	694.69	691.41
"F"	688.29	691.29	686.79	684.39

NOTES

Reinforcing steel Location:
N.S. indicates near side
F.S. indicates far side

** For additional details of lighting conduit and 5"x5" Blockout in wingwalls see Std. Dwg. HL-5.

For additional notes and details see Sheets 4 17 thru 7 17.

8 17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

ABUTMENT DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
STA. 1339+91.95
BELMONT COUNTY

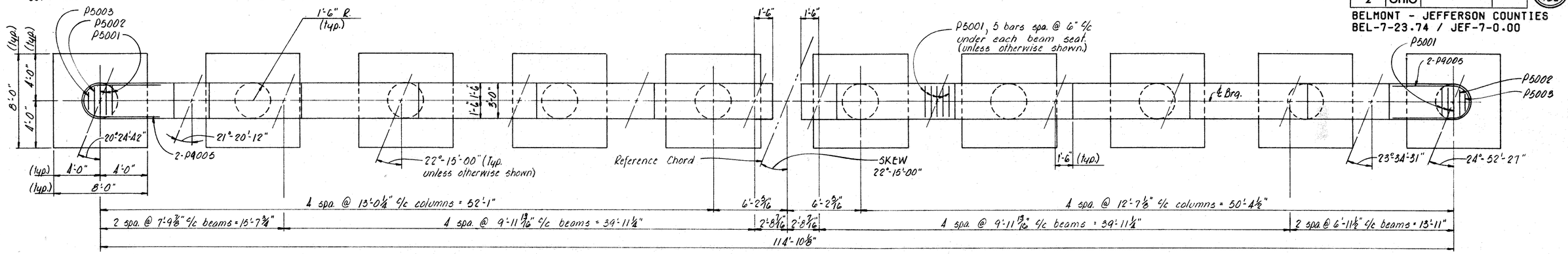
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	RJ		RT	JEV	10/14/70	

MICROFILMED
OCT 6 1982

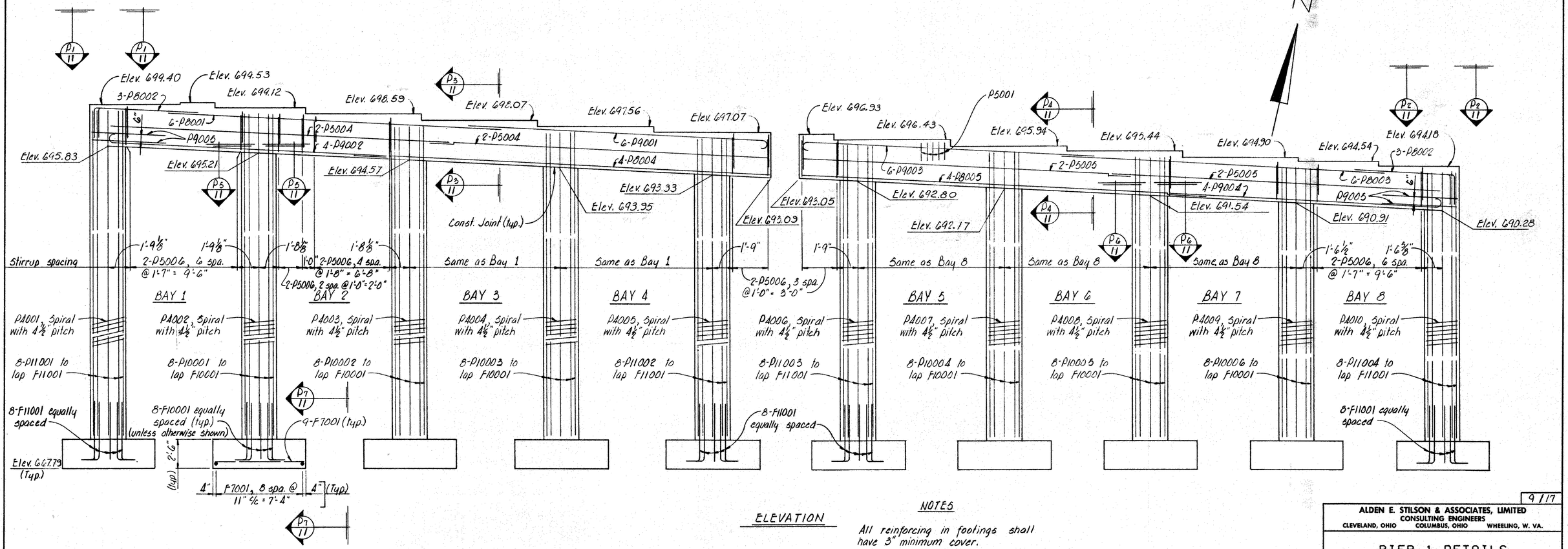
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

371
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PLAN



ELEVATION

N

NOTES

All reinforcing in footings shall have 3" minimum cover.

See General Plan for layout of Pier along Reference Chord.

For additional notes and details see Sheet 11/17.

9/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

PIER 1 DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

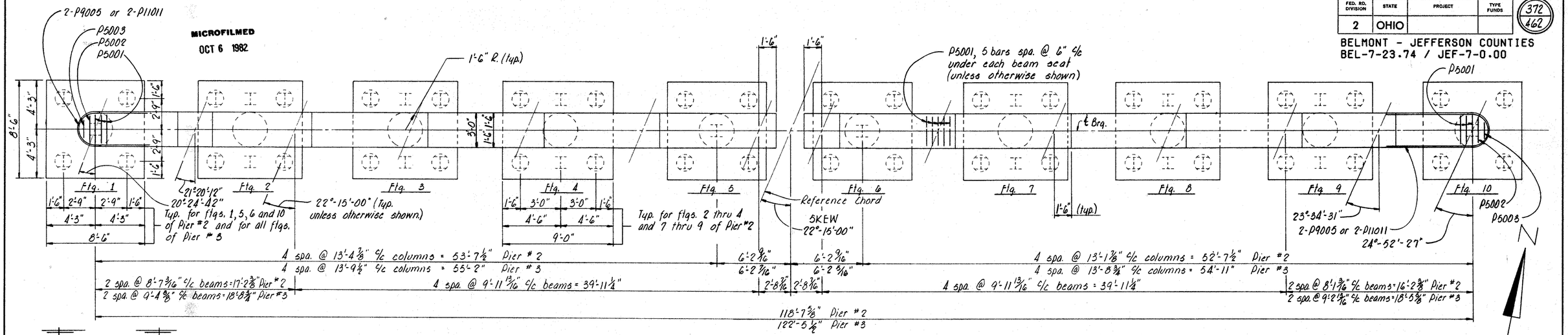
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	RJ		RT	JEV	10/14/70	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

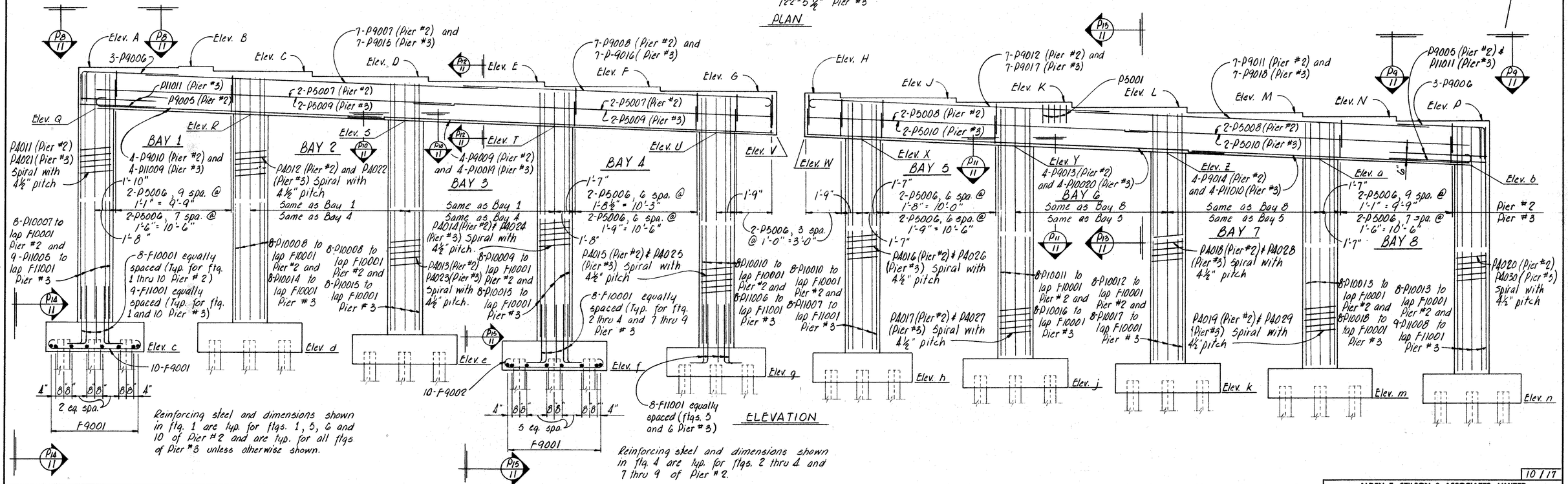
372
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

MICROFILMED
OCT 6 1982



PLAN



ELEVATION

Reinforcing steel and dimensions shown in flg. 1 are typ. for flgs. 1, 5, 6 and 10 of Pier #2 and are typ. for all flgs of Pier #3 unless otherwise shown.

Reinforcing steel and dimensions shown in flg. 4 are typ. for flgs. 2 thru 4 and 7 thru 9 of Pier #2.

TABLE OF ELEVATIONS

Elev.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
Pier 2	697.99	698.08	697.67	697.22	696.78	696.36	695.94	695.82	695.39	694.98	694.53	694.04	693.64	693.25	694.43	693.89	693.34	692.80
Pier 3	696.53	696.62	696.26	695.88	695.52	695.17	694.83	694.42	694.37	694.03	693.64	693.19	692.78	692.38	692.98	692.53	692.07	691.62

Elev.	U	V	W	X	Y	Z	a	b	c	d	e	f	g	h	j	k	m	n
Pier 2	692.26	692.05	692.00	691.78	691.20	690.62	690.03	689.45	673.29	672.79	672.29	671.79	671.29	670.79	670.29	669.79	669.29	668.79
Pier 3	691.17	691.01	690.94	690.75	690.22	689.69	689.16	688.63	676.29	675.64	674.99	674.34	673.69	673.09	672.59	672.09	671.59	671.09

NOTES

All reinforcing in footings shall have 3" minimum cover.

All piles shall be 10 BP 42 steel piles:
- ⋈ indicates battered pile 1:4
- I indicates vertical pile

Pier #2 pile batter shown, for Pier #3 pile batter see Sheet 11/17.

See General Plan for layout of Pier along Reference Chord.

For Anchor Bolt Details for Pier #2 only see Sheet 11/17.

For Superstructure grounding details at Pier #2 see Std. Dwg. HL-4.

For additional notes and details see Sheet 11/17.

10/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

PIER 2 AND 3 DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA.1338+34.09 TO
BELMONT COUNTY STA.1339+91.95

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	RJ		RT	JEV	10/14/70	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

373
462

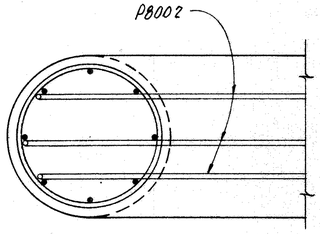
BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

All reinforcing in footings shall have 3" minimum cover.

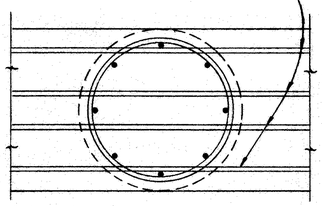
All piles shall be 10 BP 42 steel piles.
- ⊕ indicates battered pile 1:4
- ⊥ indicates vertical pile

For additional notes and details see Sheets 9/17 and 10/17

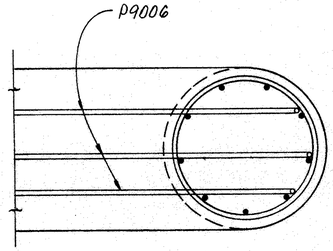


VIEW P1/9 - P1/9 and
VIEW P2/9 - P2/9, (Opposite hand)

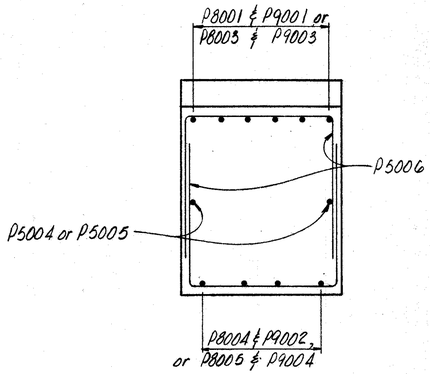
(Pier #1) P8004, P8005, P9002, P9004,
(Pier #2) P9004, P9010, P9013, P9014,
(Pier #3) P10019, P10020, P11009 or P11010



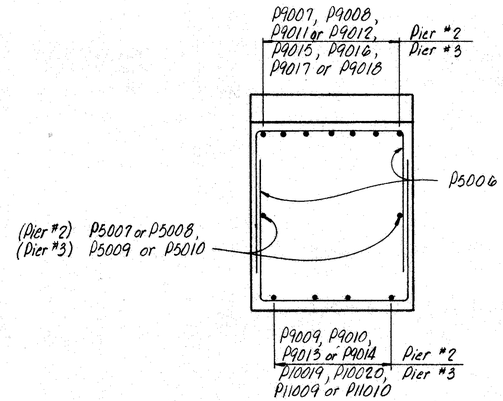
SECTIONS P5/9 - P5/9,
P6/9 - P6/9, P10/10 - P10/10, P11/10 - P11/10



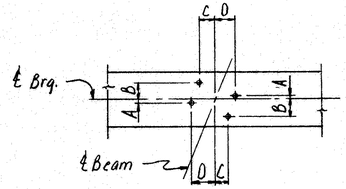
VIEW P9/10 - P9/10 and
VIEW P8/10 - P8/10 (Opposite hand)



SECTIONS P3/9 - P3/9 and P4/9 - P4/9



SECTIONS P12/10 - P12/10 and P13/10 - P13/10

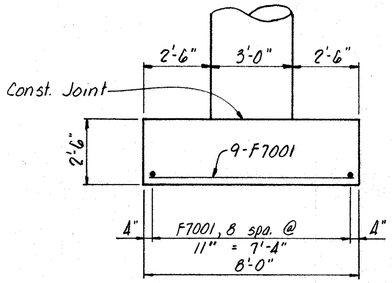


ANCHOR BOLT DETAIL

Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes at Pier #2.

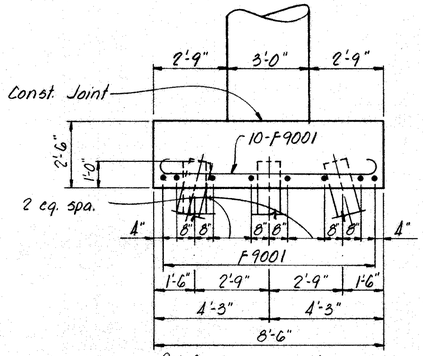
TABLE OF DIMENSIONS					
Beam	1	2	3 thru 12	13	14
Dim. A	5/8"	7/16"	5/16"	1/16"	-1/8"
Dim. B	6 7/8"	7"	7 1/8"	7 1/2"	7 7/16"
Dim. C	7 1/16"	6 15/16"	6 13/16"	6 5/8"	6 1/2"
Dim. D	9 13/16"	9 13/16"	9 7/8"	9 7/8"	9 13/16"

Minus (-) indicates dim. A is on opposite side of ℄ Brg. as shown.



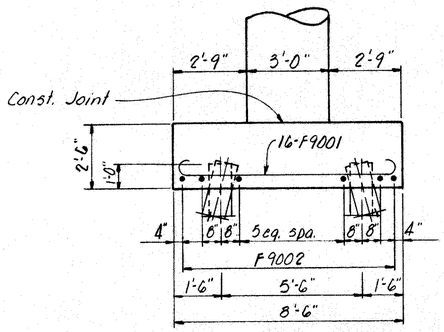
Reinforcing and dimensions shown typ. for all flgs. in Pier #1.

VIEW P7/9 - P7/9



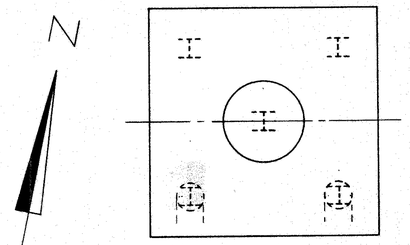
Reinforcing and dimensions shown typ. for flgs. 1 thru 10 Pier #3 and flgs. 1, 5, 6 and 10 Pier #2

VIEW P14/10 - P14/10



Reinforcing and dimensions shown typ. for flgs. 2 thru 4 and flgs. 7 thru 9 Pier #2.

VIEW P15/10 - P16/10



PILE BATTER PATTERN
(Typ. for all flgs. in Pier #3)

11/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

PIER DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
STA. 1339+91.95
BELMONT COUNTY

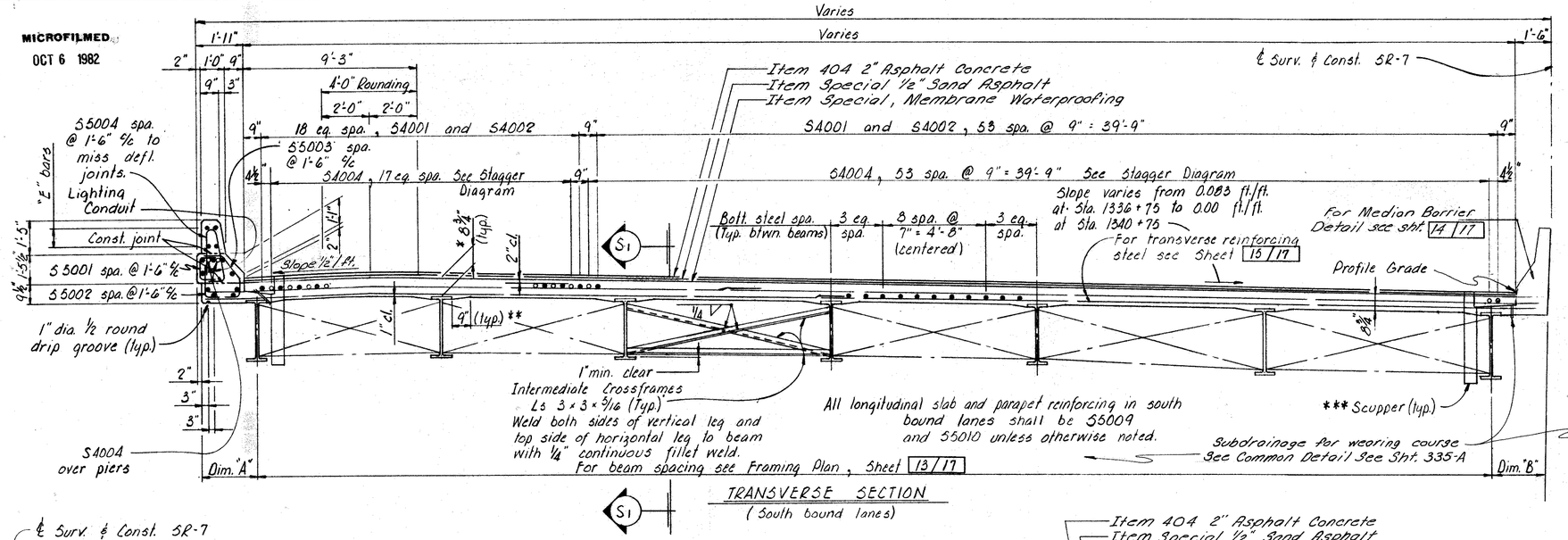
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	BJ		RT	JEV	10/14/10	

MICROFILMED
OCT 6 1982

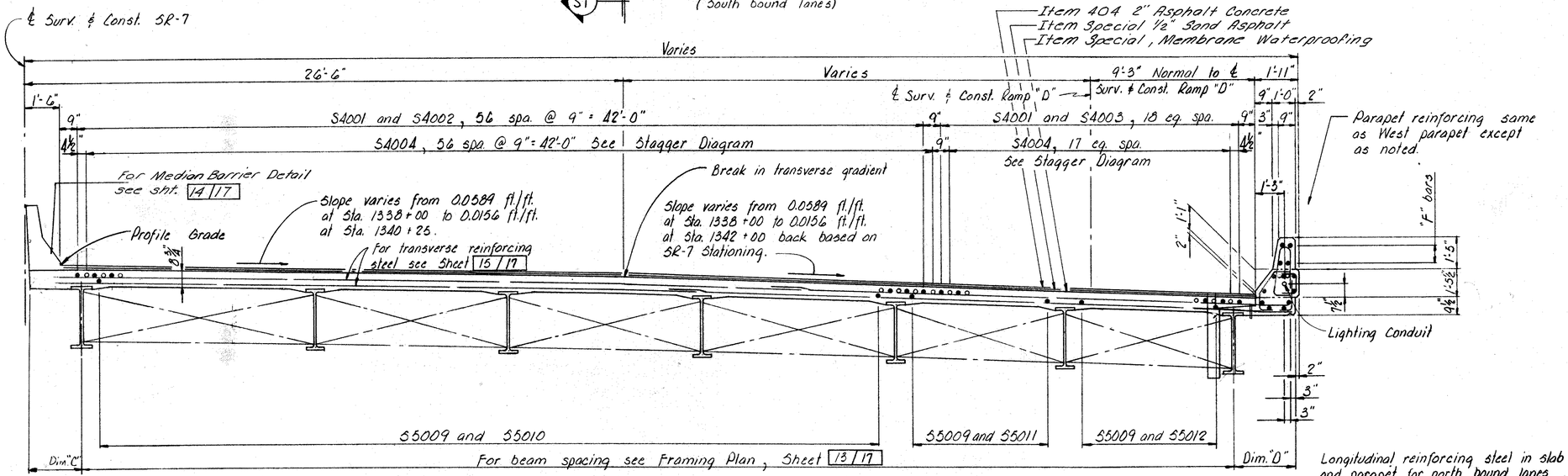
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

374
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



TRANSVERSE SECTION
(South bound lanes)



TRANSVERSE SECTION
(North bound lanes)
(For details not shown see S.B. lanes)

Longitudinal reinforcing steel in slab and parapet for north bound lanes shall be S5009 and S5012 unless otherwise shown.

* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it 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.

PREFORMED EXPANSION JOINT FILLER in the railing parapet defl. joints may be either ¼" gray sponge rubber or ⅜" gray cellular polyvinyl chloride (PVC) sponge.

** A HAUNCH WIDTH of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

Lap top longitudinal reinforcing 1'-3".

Lap bottom longitudinal reinforcing 1'-7".

*** Scupper - see Common Details, Sheet 335 & 335A

For additional notes and details see Sheet 13,14 & 15/17

For Guard Rail Anchor Mounting Detail see Sheet 3/17.

SLAB CANTILEVERS				
LOCATION	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
℄ Brg. South Abut.	1'-10¼"	2'-3¾"	2'-3¾"	2'-9"
.25 Point	2'-0½"	2'-1½"	2'-6⅛"	2'-5½"
.50 Point	2'-2⅝"	1'-11½"	2'-8"	2'-2⅜"
.75 Point	2'-4⅜"	1'-9¾"	2'-9⅝"	1'-11¾"
℄ Brg. Pier #1	2'-5¾"	1'-8¼"	2'-11"	1'-9½"
.25 Point	2'-7⅜"	1'-6¾"	3'-0½"	1'-7"
.50 Point	2'-8¼"	1'-5¾"	3'-1⅜"	1'-5⅜"
.75 Point	2'-8¾"	1'-5¼"	3'-1¾"	1'-4½"
℄ Brg. Pier #2	2'-8⅜"	1'-5¼"	3'-1¾"	1'-4⅜"
.25 Point	2'-8½"	1'-5⅝"	3'-1¼"	1'-5⅜"
.50 Point	2'-7⅞"	1'-6½"	3'-0⅜"	1'-7⅛"
.75 Point	2'-5¾"	1'-7⅝"	2'-11"	1'-9⅜"
℄ Brg. Pier #3	2'-3⅛"	1'-9¼"	2'-9⅜"	2'-1"
.25 Point	2'-2⅜"	1'-10½"	2'-8⅛"	2'-3¾"
.50 Point	2'-0¾"	2'-0"	2'-6⅝"	2'-7"
.75 Point	1'-10⅞"	2'-1½"	2'-5"	2'-10⅝"
℄ Brg. North Abut.	1'-9"	2'-3¼"	2'-3¼"	3'-2½"

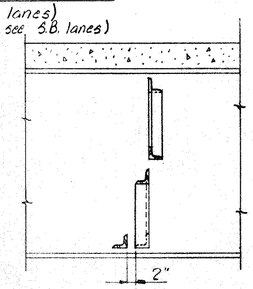
MEDIAN BARRIER "6" Bars		
Panel Length	12'-11½"	6'-5⅝"
8 "6" bars	S5016	S5006

WEST PARAPET "E" BARS		
Panel Length	12'-8"	6'-4⅜"
4 "E" bars	S5005	S5006

EAST PARAPET "F" BARS		
Panel Length	13'-1"	6'-7"
4 "F" bars	S5007	S5008

Charpy Notes
All beams, top moment plates, and field splice material shall meet specified minimum notch toughness requirements.

For Charpy Test Notes see sheet 357.



SECTION S1-S1

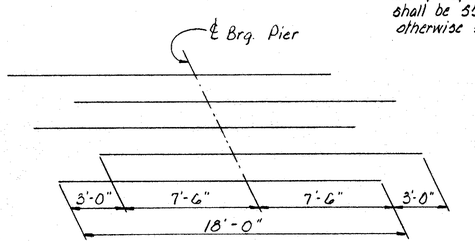


DIAGRAM SHOWING STAGGER of S4004 over PIERS

12/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

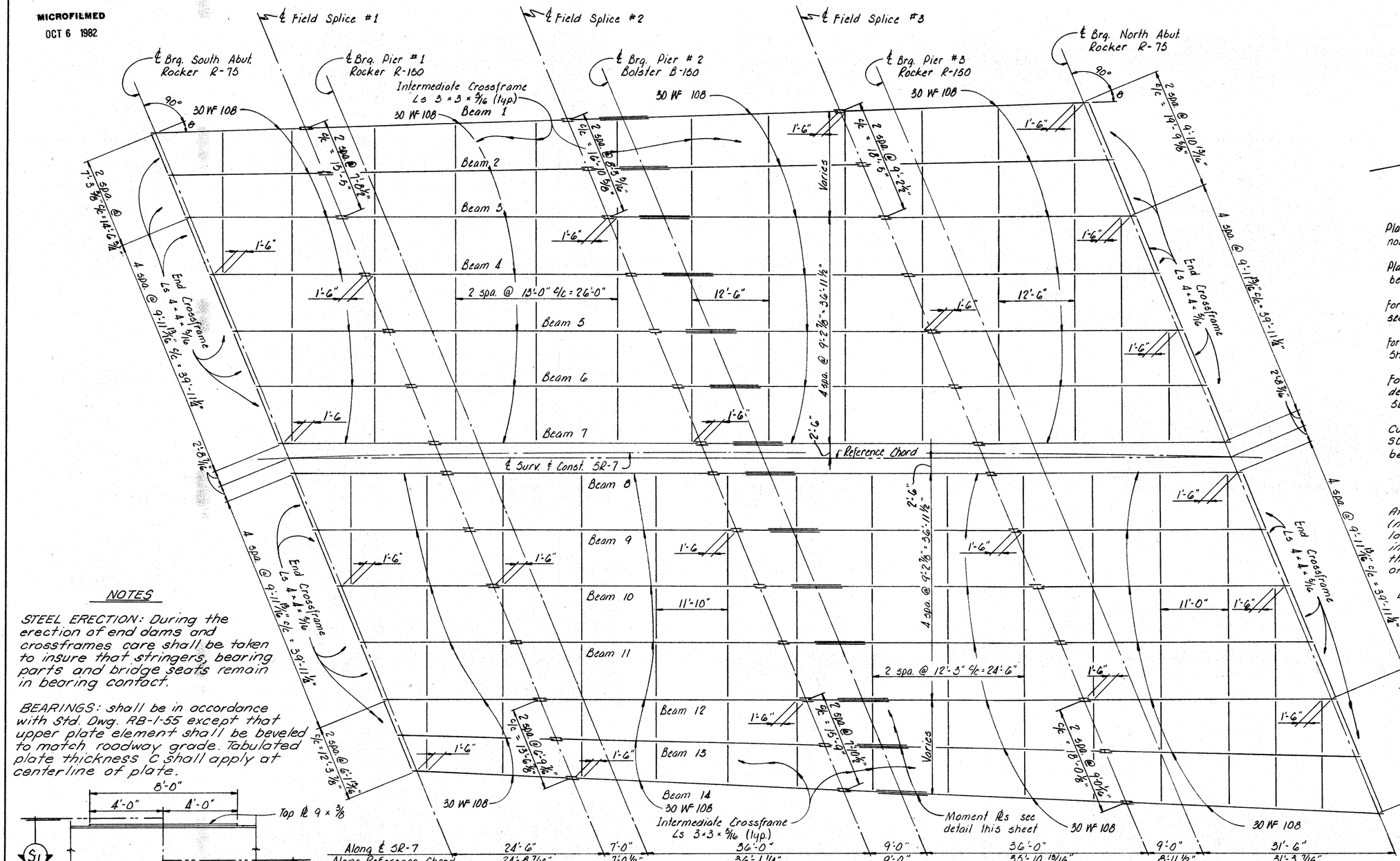
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	PJ		RT	JEV	10/14/70	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

375
462

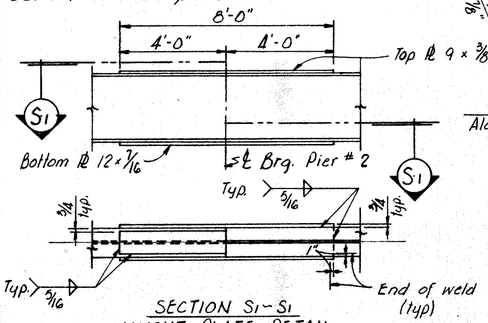
BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



NOTES

STEEL ERECTION: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

BEARINGS: shall be in accordance with Std. Dwg. RB-1-55 except that upper plate element shall be beveled to match roadway grade. Tabulated plate thickness C shall apply at centerline of plate.



SECTION S1-S1
MOMENT PLATE DETAIL

FRAMING PLAN

Beam	ϴ	Horiz. Beam Length ℄ Brg. South Abut. to Field Splice # 1	Horiz. Beam Length Field Splice #1 to ℄ Brg. Pier # 1	Horiz. Beam Length ℄ Brg. Pier # 1 to Field Splice # 2	Horiz. Beam Length Field Splice # 2 to ℄ Brg. Pier # 2	Horiz. Beam Length ℄ Brg. Pier # 2 to Field Splice # 3	Horiz. Beam Length Field Splice # 3 to ℄ Brg. Pier # 3	Horiz. Beam Length ℄ Brg. Pier # 3 to ℄ Brg North Abut.
1	20°-24'-42"	24'-4 3/4"	6'-11 7/16"	35'-7 13/16"	8'-10 3/8"	35'-5 1/2"	8'-10 13/16"	30'-10 13/16"
2	21°-20'-12"	24'-6 9/16"	7'-0"	35'-10 1/2"	8'-11 5/16"	35'-8 1/8"	8'-10 13/16"	31'-1 1/16"
3 thru 12	22°-15'-00"	24'-8 7/16"	7'-0 1/2"	36'-1 1/4"	9'-0"	35'-10 13/16"	8'-11 1/2"	31'-3 7/16"
13	23°-34'-31"	24'-11 3/8"	7'-1 5/16"	36'-5 1/2"	9'-1"	36'-3 1/16"	9'-0 1/2"	31'-7 1/8"
14	24°-52'-27"	25'-2 7/16"	7'-2 3/16"	36'-10"	9'-2 3/16"	36'-7 9/16"	9'-1 5/8"	31'-11"

NOTES

Place transverse ℄ of all bearing devices normal to ℄ beam which they support.

Place intermediate crossframes normal to beams 3 thru 12.

for end dam details see Std. Dwg. SD-1-69, Sheet No. 2

for end crossframe details see Std. Dwg. SD-1-69, Sheet No. 1

For field splices 1, 2 and 3 use splice details for 30 WF 108 as shown in Std. Dwg. SD-1-69, Sheet No. 4.

Curb plates shall be as shown on Std. Dwg. SD-1-69, sheet No. 2 except height shall be 3".

At the contractor's option, a portion (not to exceed 25%) of the upper longitudinal bars 34001 and 34002 in the deck slab may be placed beneath the upper transverse bars for support of the top mat.

DECK FINISHING: Concrete deck shall be in accordance with 451.09 and 451.12, except that the roadway surface shall be finished with a burlap drag to provide a uniform surface with a gritty texture.

END DAM: Provide a 3" bar, 1/4" minimum thickness, welded to main angle as shown on SD-1-69. When the roadway gradient at the end dam exceeds 2.0% the bar shall be beveled. Modify thickness of 2" bar to conform.

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ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

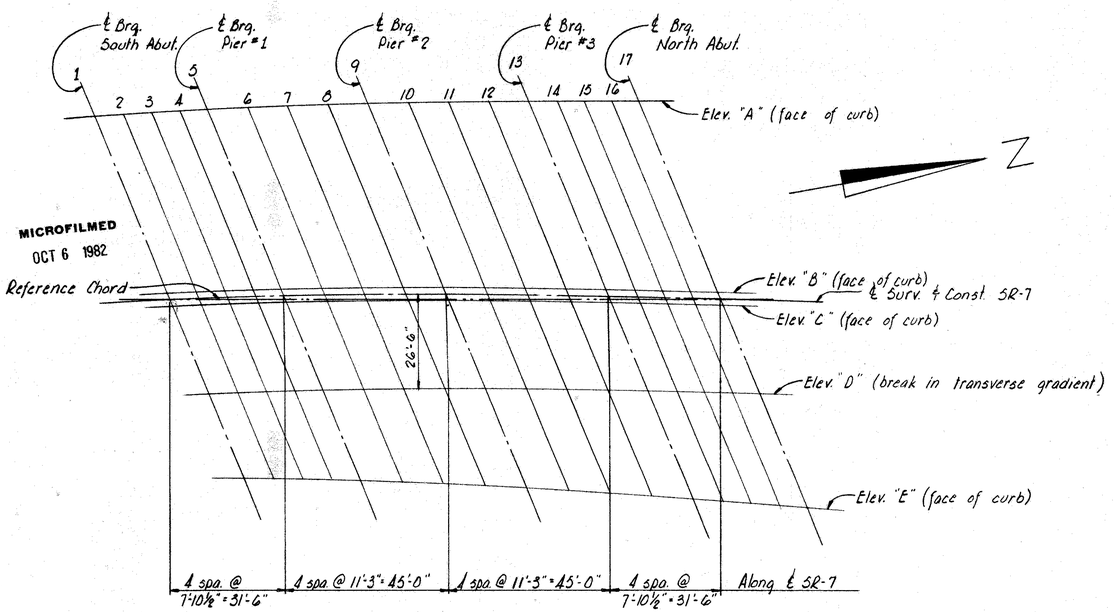
BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA.1338+34.09 TO
BELMONT COUNTY STA.1339+91.95

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	[illegible]		RT	JEV	10/14/70	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

376/462

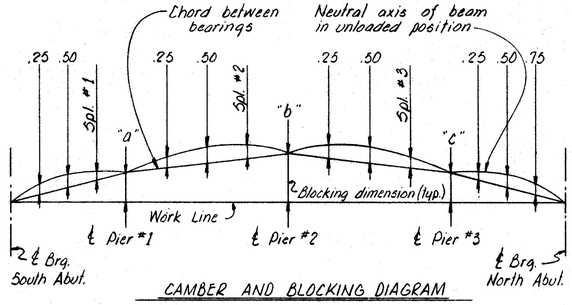
BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



SCREED PLAN

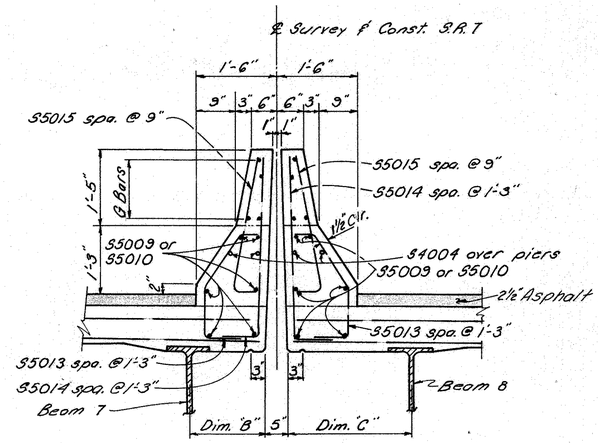
Screed elevations are at top of slab before the concrete deck is placed. Proper allowance has been made for the dead load deflection due to the weight of the concrete.

SCREED LINES					
Point	Elev. "A"	Elev. "B"	Elev. "C"	Elev. "D"	Elev. "E"
1	704.64	702.11	702.08	700.62	699.07
2	704.42	701.94	701.91	700.48	698.94
3	704.19	701.76	701.73	700.33	698.80
4	703.95	701.57	701.55	700.18	698.66
5	703.72	701.39	701.36	700.03	698.51
6	703.39	701.14	701.11	699.83	698.31
7	703.05	700.87	700.84	699.61	698.10
8	702.69	700.59	700.56	699.38	697.87
9	702.33	700.31	700.28	699.14	697.64
10	701.98	700.04	700.00	698.92	697.42
11	701.62	699.76	699.72	698.68	697.19
12	701.23	699.46	699.42	698.43	696.95
13	700.85	699.16	699.12	698.18	696.70
14	700.58	698.95	698.91	698.01	696.54
15	700.32	698.75	698.71	697.85	696.37
16	700.04	698.54	698.50	697.68	696.21
17	699.76	698.32	698.29	697.50	696.03



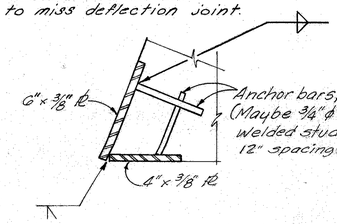
CAMBER AND BLOCKING DIAGRAM

DEFLECTION and CAMBER														
Beam No.	CAMBER DESCRIPTION	Span 1			Span 2			Span 3			Span 4		
		.25	.50	Spl. #1	.25	.50	Spl. #2	.25	.50	Spl. #3	.25	.50	.75
1	Defl. due to weight of steel	0	0	0	0	1/16	0	0	1/16	0	0	0	0
	Defl. due to remaining D.L.	1/16	1/16	0	1/8	3/16	1/16	1/8	3/16	1/16	0	1/16	1/16
	Adjustment reqd. for curvature	1/16	1/8	1/16	1/8	3/16	1/8	1/8	3/16	1/8	1/16	1/16	1/16
	Reqd. Shop Camber	1/8	3/16	1/16	1/4	7/16	3/16	1/4	7/16	3/16	1/16	1/8	1/8
2	Defl. due to weight of steel	0	0	0	0	1/16	0	0	1/16	0	0	0	0
	Defl. due to remaining D.L.	1/16	1/16	0	1/8	3/16	1/16	1/8	3/16	1/16	0	1/16	0
	Adjustment reqd. for curvature	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/8	1/16	0	1/16	0
	Reqd. Shop Camber	1/8	1/8	1/16	3/16	3/8	1/8	3/16	3/8	1/8	0	1/8	0
3 thru 12	Defl. due to weight of steel	0	0	0	0	1/16	0	0	1/16	0	0	0	0
	Defl. due to remaining D.L.	1/16	1/16	0	1/8	3/16	1/16	1/8	3/16	1/16	0	1/16	1/16
	Adjustment reqd. for curvature	0	0	0	0	1/16	0	1/16	1/8	1/16	0	0	0
	Reqd. Shop Camber	1/16	1/16	0	1/8	5/16	1/16	3/16	3/8	1/8	0	1/16	1/16
13 and 14	Defl. due to weight of steel	0	0	0	0	1/16	0	0	1/16	0	0	0	0
	Defl. due to remaining D.L.	1/16	1/16	0	1/8	3/16	1/16	1/8	3/16	1/16	0	1/16	1/16
	Adjustment reqd. for curvature	0	0	0	0	0	0	0	0	0	0	0	0
	Reqd. Shop Camber	1/16	1/16	0	1/8	1/4	1/16	1/8	1/4	1/16	.0	1/16	1/16

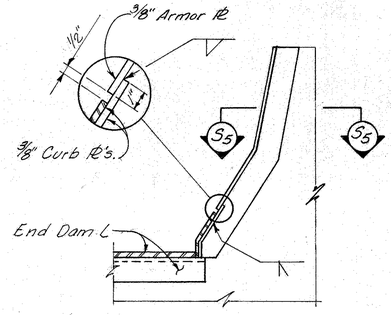


MEDIAN BARRIER DETAIL

All vertical steel to miss deflection joint.

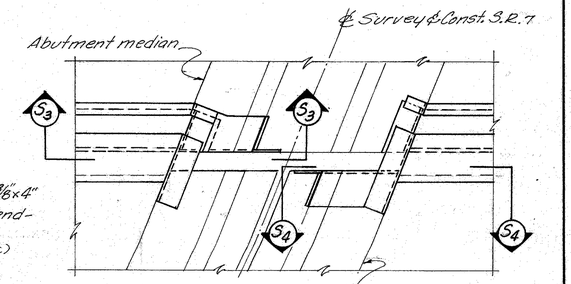


SECTION S5-S5



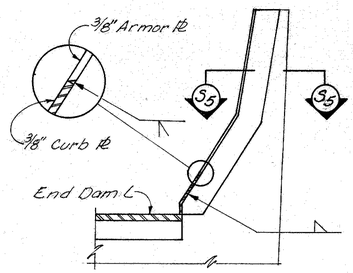
NOTE

For additional notes and details see sheets 12/17 13/17 and 15/17.



PLAN

Note: Modify Curb plates, as shown, to incorporate Median Barrier Armor. For details of Curb plates and end dam, see Std. Dwg. SD-1-69.



SECTION S3-S3

SECTION S4-S4

MEDIAN BARRIER ARMOR DETAILS

Note: Cost of armor to be included with Item 513, Structural Steel for payment.

BLOCKING DIMENSION			
Beam	"a"	"b"	"c"
1	1 5/16	2	1 1/4
2	1 5/16	1 5/16	1 3/16
3 thru 10	7/16	3/4	1/2
11 and 12	3/8	9/16	1/4
13	1/4	3/8	1/8
14	1/8	3/16	0

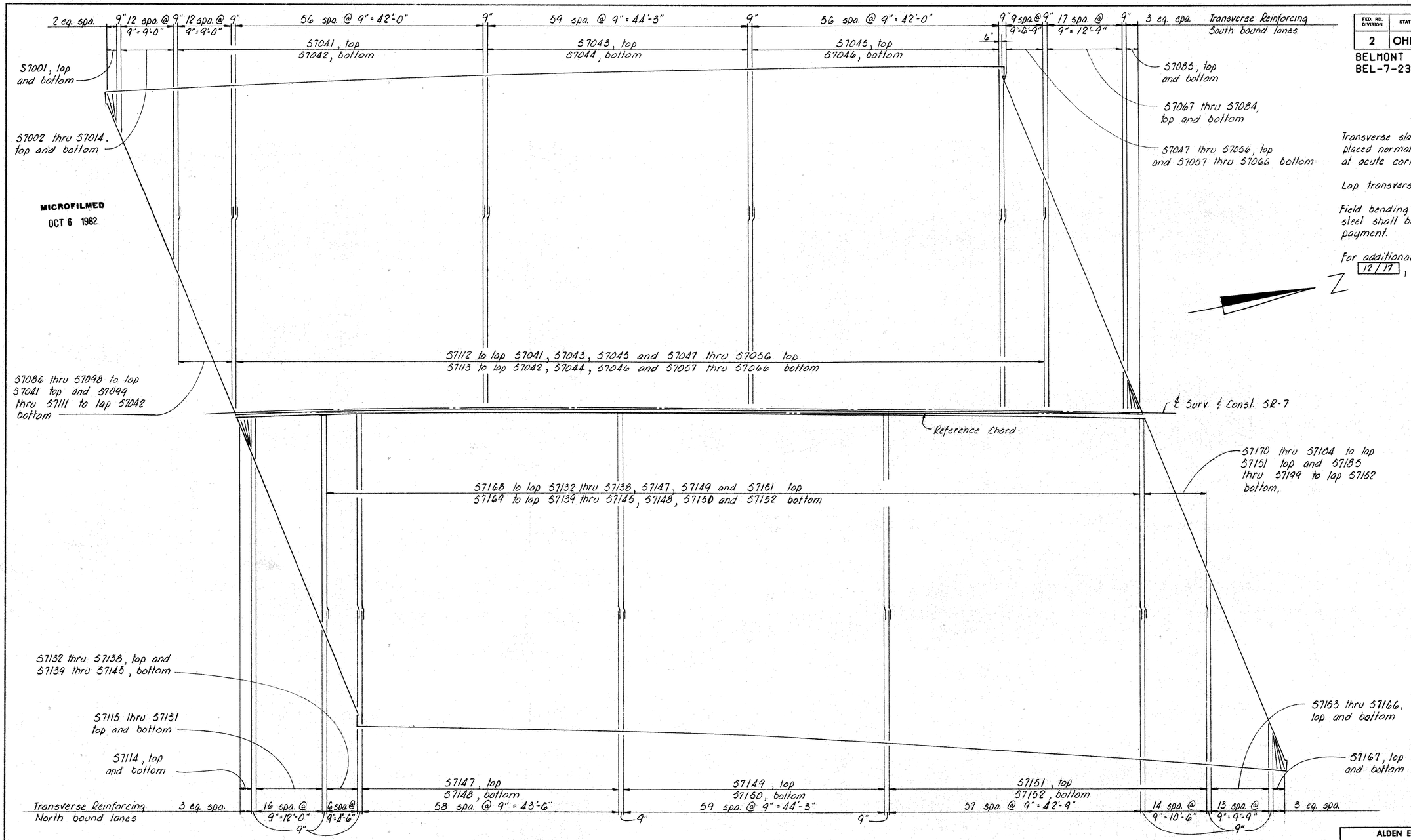
14/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA. 1338+34.09 TO
BELMONT COUNTY STA. 1339+91.95

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	B		RT	JEV	10/14/70	



TRANSVERSE SLAB REINFORCING

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

377 / 426

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

Transverse slab reinforcing steel shall be placed normal to Reference Chord except at acute corners of slab.

Lap transverse reinforcing steel 2'-2" min.

Field bending of transverse slab reinforcing steel shall be included in Item 509 for payment.

For additional notes and details see Sheets 12/17, 13/17 and 14/17

15/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA.1338+34.09 TO STA.1339+91.95
BELMONT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB	RJ		RT	JEV	10/14/70	

MICROFILMED
OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
F 5001	155	6-10	1105	1	0- 8	6- 4				
F 5002	163	8- 3	1403	1		1- 7	5- 4	1- 7		
F 5003	2	9- 8	20	1	0- 8	9- 2				
F 5004	1	8- 4	9	1	0- 8	7-10				
F 5005	1	6-10	7	1	0- 8	6- 4				
F 5006	14	10- 0	146	ST						
F 5007	14	13-10	202	6	4- 2	4- 2	8- 0			
F 5008	1	7- 6	8	1	0- 8	7- 0				
F 5009	1	8- 3	9	1	0- 8	7- 9				
F 5010	2	9- 9	20	1	0- 8	9- 3				
F 5011	36	10- 7	397	3	2- 0	3- 0	2- 0	3- 0		
F 5012	2	13- 9	29	1		6- 5	1- 2	6- 5		
F 5013	2	17- 5	36	1		8- 6	1- 2	8- 0		
F 5014	2	17- 9	37	1		8- 5	1- 2	8- 5		
F 5015	2	14- 5	30	1		6- 9	1- 2	6- 9		
F 6001	155	13-11	3240	1		6- 4	5- 4	2- 7		
F 6002	2	16- 9	50	1		9- 2	5- 4	2- 7		
F 6003	1	15- 5	23	1		7-10	5- 4	2- 7		
F 6004	1	13-11	21	1		6- 4	5- 4	2- 7		
F 6005	1	14- 7	22	1		7- 0	5- 4	2- 7		
F 6006	1	16- 1	24	1		7- 9	5- 4	3- 4		
F 6007	2	19- 1	57	1		9- 3	5- 4	4-10		
F 6008	4	16-10	101	1		8- 0	1- 2	8- 0		
F 6009	4	21- 0	126	1		10- 1	1- 2	10- 1		
F 6010	4	21-10	131	1		10- 6	1- 2	10- 6		
F 6011	4	18- 6	111	1		8-10	1- 2	8-10		
F 8001	14	29- 0	1084	ST						
F 8002	14	32- 7	1218	ST						
F 8003	14	34-11	1305	ST						
F 8004	14	33- 5	1249	ST						
F 8005	12	9- 3	296	ST						
F 8006	12	9- 2	294	ST						
A 5001	140	4-11	718	1		1- 6	2- 2	1- 6		
A 5002	8	24- 2	202	ST						
A 5003	9	24-11	234	ST						
A 5004	17	26- 6	470	ST						3
A 5005	12	6- 4	79	4	0- 7	1- 6	5- 0			
A 5006	38	9- 0	357	1		2-11	3- 5	2-11		
A 5007	39	11- 6	468	1		4- 2	3- 5	4- 2		
A 5008	17	35- 0	621	ST						
A 5009	8	26- 1	218	ST						3
A 5010	11	27- 0	310	ST						
A 5011	14	7- 6	110	12	6- 0	0- 6		1- 6		
A 5012	12	6- 4	79	4	0- 7	1- 6	5- 0			
A 5013	8	30- 5	254	ST						3
A 5014	9	31- 4	294	ST						
A 5015	21	10-10	237	1		3-10	3- 5	3-10		
A 5016	17	35- 0	621	ST						
A 5017	23	9- 2	220	1		3- 0	3- 5	3- 0		
A 5018	19	29- 7	586	ST						3
A 5019	20	12- 2	254	1		4- 6	3- 5	4- 6		
A 5020	8	30- 4	253	ST						
A 5021	11	31- 0	356	ST						
A 5022	22	9-10	226	1		3- 4	3- 5	3- 4		
A 5023	14	7- 7	111	12	6- 0	0- 9		1- 5		
A 5024	40	2- 3	94	1		0- 8	1- 2	0- 8		
A 5025	40	2-11	122	ST						
A 5026	20	6- 7	137	19		2- 7	3- 3	0- 8		
A 5027	24	12- 2	305	ST						3
A 5028	8	7- 3	60	ST						
A 5029	4	6- 6	27	ST						
A 5030	4	9- 6	40	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS				(CONTINUED)		
A 5031	1	3- 4		ST						1
THRU			27		VARY	LENGTH	BY	0- 4	5/ 8	
A 5036	1	5- 3		ST						1
A 5037	1	3- 4		ST						1
THRU			25		VARY	LENGTH	BY	0- 3	1/ 4	
A 5042	1	4- 8		ST						1
A 5043	4	8- 0	33	ST						
A 5044	8	4- 5	37	ST						
A 5045	12	6- 4	79	ST						
A 5046	24	13- 2	330	ST						3
A 5047	4	7- 6	31	ST						
A 5048	4	7-11	33	ST						
A 5049	4	8- 2	34	ST						
A 5050	8	4- 5	37	ST						
A 5051	12	6- 9	84	ST						
A 5052	1	3- 4		ST						1
THRU			26		VARY	LENGTH	BY	0- 3	3/ 4	
A 5057	1	4-11		ST						1
A 5058	1	3- 4		ST						1
THRU			24		VARY	LENGTH	BY	0- 2	3/ 8	
A 5063	1	4- 4		ST						1
A 5064	4	7- 6	29	8	0-4	2-5	0-4	2-5	1-6	
A 5065	8	4-5	40	15	1-9	0-11	0-11	1-0	0-9	
A 6001	240	8- 9	3155	1		3-10	1- 5	3-10		
A 6002	240	6-11	2495	1		3- 2	0-11	3- 2		
A 6003	240	6- 9	2433	1		2-10	1- 5	2-10		
A 6004	8	6- 0	72	15		4- 2	0-11	0- 9	0- 9	
A 6005	8	6- 0	72	15		4- 2	0-11	0- 9	0- 9	
A 5066	16	0-11	15	ST						
A 6006	2	5- 4		15		3- 6	0-11	0- 9	0- 9	
THRU			113		VARY	LENGTH	BY	0- 4	1/ 2	
A 6011	2	7- 2		15		5- 4	0-11	0- 9	0- 9	
A 6012	2	5- 3		15		3-5	0-11	0- 9	0- 9	
THRU			104		VARY	LENGTH	BY	0- 2	1/2	
A 6017	2	6- 3		15		4- 5	0-11	0- 9	0- 9	
A 8001	161	5- 8	2436	20	1- 1	1- 1	3- 9	0- 6	0- 6	
				PIERS						
F 7001	180	7- 6	2759	ST						
F 9001	376	10- 6	13423	10	8- 0					
F 9002	60	11- 0	2244	10	8- 6					
F10001	176	6- 6	4923	1	1- 5	5- 5				
F11001	66	7- 0	2455	1	1- 7	5- 9				
P 4001	1	25- 6	473	17	NO. TURNS= 71			NO. SPACERS= 4		6
P 4002	1	24-11	460	17	NO. TURNS= 69			NO. SPACERS= 4		6
P 4003	1	24- 3	453	17	NO. TURNS= 68			NO. SPACERS= 4		6
P 4004	1	23- 8	440	17	NO. TURNS= 66			NO. SPACERS= 4		6
P 4005	1	23- 0	427	17	NO. TURNS= 64			NO. SPACERS= 4		6
P 4006	1	22- 6	419	17	NO. TURNS= 63			NO. SPACERS= 4		6
P 4007	1	21-10	406	17	NO. TURNS= 61			NO. SPACERS= 4		6
P 4008	1	21- 3	399	17	NO. TURNS= 60			NO. SPACERS= 4		6
P 4009	1	20- 7	386	17	NO. TURNS= 58			NO. SPACERS= 4		6
P 4010	1	20- 0	373	17	NO. TURNS= 56			NO. SPACERS= 4		6
P 4011	1	18- 7	352	17	NO. TURNS= 53			NO. SPACERS= 4		6
P 4012	1	18- 7	352	17	NO. TURNS= 53			NO. SPACERS= 4		6
P 4013	1	18- 6	346	17	NO. TURNS= 52			NO. SPACERS= 4		6
P 4014	1	18- 6	346	17	NO. TURNS= 52			NO. SPACERS= 4		6

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				PIERS				(CONTINUED)		
P 4015	1	18- 5	346	17	NO. TURNS= 52			NO. SPACERS= 4		6
P 4016	1	18- 6	346	17	NO. TURNS= 52			NO. SPACERS= 4		6
P 4017	1	18- 5	346	17	NO. TURNS= 52			NO. SPACERS= 4		6
P 4018	1	18- 4	345	17	NO. TURNS= 52			NO. SPACERS= 4		6
P 4019	1	18- 3	345	17	NO. TURNS= 52			NO. SPACERS= 4		6
P 4020	1	18- 2	339	17	NO. TURNS= 51			NO. SPACERS= 4		6
P 4021	1	14- 2	271	17	NO. TURNS= 41			NO. SPACERS= 4		6
P 4022	1	14- 4	272	17	NO. TURNS= 41			NO. SPACERS= 4		6
P 4023	1	14- 7	278	17	NO. TURNS= 42			NO. SPACERS= 4		6
P 4024	1	14- 9	279	17	NO. TURNS= 42			NO. SPACERS= 4		6
P 4025	1	14-11	285	17	NO. TURNS= 43			NO. SPACERS= 4		6
P 4026	1	15- 2	286	17	NO. TURNS= 43			NO. SPACERS= 4		6
P 4027	1	15- 1	285	17	NO. TURNS= 43			NO. SPACERS= 4		6
P 4028	1	15- 1	285	17	NO. TURNS= 43			NO. SPACERS= 4		6
P 4029	1	15- 1	285	17	NO. TURNS= 43			NO. SPACERS= 4		6
P 4030	1	15- 0	285	17	NO. TURNS= 43			NO. SPACERS= 4		6
P 5001	198	5- 5	1119	1		1- 6	2- 8	1- 6		
P 5002	6	5- 1	32	1		1- 6	2- 4	1- 6		
P 5003	6	4- 5	28	1		1- 6	1- 8	1- 6		
P 5004	4	29- 2	122	ST						
P 5005	4	28- 4	118	ST						
P 5006	426	8- 9	3888	1		3- 2	2- 8	3- 2		
P 5007	4	30- 0	125	ST						
P 5008	4	29- 5	123	ST						
P 5009	4	30- 9	128	ST						
P 5010	4	30- 7	128	ST						
P 8001	6	29- 0	465	ST						
P 8002	6	12- 2	195	1	3- 2	9- 3				
P 8003	6	28- 0	449	ST						
P 8004	4	35- 7	380	ST						
P 8005	4	34- 9	371	ST						
P 9001	6	27- 3	556	11	26- 0					
P 9002	4	25- 3	343	11	24- 0					
P 9003	6	26- 7	542	11	25- 4					
P 9004	4	24- 9	337	11	23- 6					
P 9005	8	9- 9	265	7	2-10	2-10	1- 3			
P 9006	12	10- 9	439	1	3- 2	7-10				
P 9007	7	31- 4	746	ST						
P 9008	7	28- 6	678	11	27- 3					
P 9009	4	36- 8	499	ST						
P 9010	4	26- 0	354	11	24- 9					
P 9011	7	31- 2	742	ST						
P 9012	7	27- 9	660	11	26- 6					
P 9013	4	32- 6	442	ST						
P 9014	4	29- 1	396	11	27-10					
P 9015	7	32- 8	777	ST						
P 9016	7	28- 9	684	11	27- 6					
P 9017	7	28- 6	678	11	27- 3					
P 9018	7	32- 8	777	ST						
P10001	8	27-11	961	ST						
P10002	8	27- 3	938	ST						
P10003	8	26- 9	921	ST						
P10004	8	24-10	855	ST						
P10005	8	24- 3	835	ST						
P10006	8	23- 7	812	ST						
P10007	8	21- 8	746	ST						
P10008	16	21- 7	1486	ST						
P10009	8	21- 6	740	ST						
P10010	16	21- 5	1474	ST						
P10011	8	21- 5	737	ST						
P10012	8	21- 4	734	ST						

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

378
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

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3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
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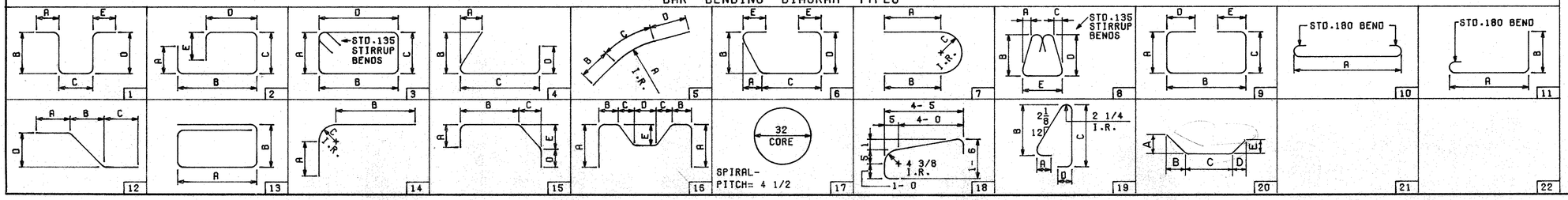
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

. 1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



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ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA.1338+34.09 TO
BELMONT COUNTY STA.1339+91.95

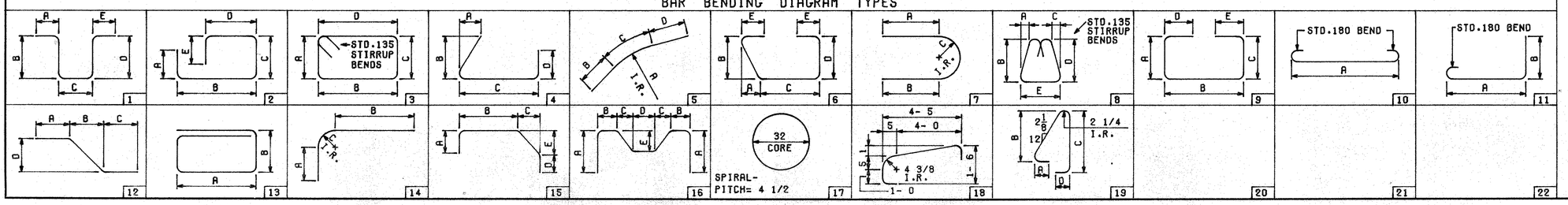
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB			RT	JEV	10/14/70	

MICROFILMED
OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				PIERS					(CONTINUED)	
P10013	16	21- 3	1463	ST						
P10014	8	17- 4	597	ST						
P10015	16	17- 7	1211	ST						
P10016	8	18- 1	623	ST						
P10017	8	18- 1	623	ST						
P10018	8	18- 1	623	ST						
P10019	4	37- 3	641	ST						
P10020	4	37- 6	645	ST						
P11001	8	28- 7	1215	ST						
P11002	8	26- 0	1105	ST						
P11003	8	25- 6	1084	ST						
P11004	8	23- 0	978	ST						
P11005	9	17- 3	825	ST						
P11006	8	17-11	762	ST						
P11007	8	18- 3	776	ST						
P11008	9	18- 0	861	ST						
P11009	4	27-10	592	11	26- 3					
P11010	4	27- 1	576	11	25- 6					
P11011	4	10-10	230	7	3- 6	3- 6	1- 2			
				SUPERSTRUCTURE						
S 4001	745	30- 0	14930	ST						
S 4002	130	10- 6	912	ST						
S 4003	19	14- 2	180	ST						
S 4004	465	18- 0	5591	ST						
S 5001	209	2- 3	490	1		0- 8	1- 2	0- 8		
S 5002	209	2- 5	526	1	0- 8	1-11				
S 5003	209	3- 5	744	15	0- 8	1- 0	0-11	0- 9	0- 9	
S 5004	209	5- 8	1235	19	0- 8	2- 7	2- 4			
S 5005	32	12- 4	412	ST						
S 5006	96	6- 0	601	ST						
S 5007	32	12- 9	426	ST						
S 5008	32	6- 3	209	ST						
S 5009	930	30- 0	29100	ST						
S 5010	151	12- 2	1916	ST						
S 5011	13	14- 0	190	ST						
S 5012	22	15-10	363	ST						
S 5013	250	2-10	739	15	0- 8	1- 0	0- 11	0- 4	0-8	
S 5014	250	3-10	1000	1	0- 8	3-4				
S 5015	420	2 -11	1278	4	0-5	2-6	0- 6			
S 5016	64	12- 7	840	ST						
S 7001	6	5- 0	61	ST						
S 7002	2	6- 9		ST						1
THRU			954		VARY	LENGTH	BY	1-10	3/ 8	
S 7014	2	29- 2		ST						1
S 7041	70	23- 0	3291	ST						3
S 7042	70	28- 0	4006	ST						3
S 7043	60	24- 0	2943	ST						3
S 7044	60	29- 0	3557	ST						3
S 7045	57	25- 3	2942	ST						3
S 7046	57	30- 3	3524	ST						3
S 7047	1	23- 6		ST						1
THRU			312		VARY	LENGTH	BY	1-10		
S 7056	1	7- 0		ST						1
S 7057	1	28- 3		ST						1
THRU			409		VARY	LENGTH	BY	1-10		
S 7066	1	11- 9		ST						1
S 7067	2	38- 2		ST						1
THRU			1659		VARY	LENGTH	BY	1-10		
S 7084	2	6-11		ST						1
S 7085	8	5-2	84	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				SUPERSTRUCTURE					(CONTINUED)	
S 7086	1	11- 0		ST						1
THRU			605		VARY	LENGTH	BY	1-11	1/ 2	
S 7098	1	34- 6		ST						1
S 7099	1	6- 0		ST						1
THRU			472		VARY	LENGTH	BY	1-11	1/ 2	
S 7111	1	29- 6		ST						1
S 7112	184	34- 11	13132	ST						
S 7113	184	29- 11	11252	ST						
S 7114	8	6 -5	105	ST						
S 7115	2	8 -1		ST						1
THRU			1578		VARY	LENGTH	BY	1-10		
S 7131	2	37- 4		ST						1
S 7132	1	6- 3		ST						1
THRU			168		VARY	LENGTH	BY	1-10		
S 7138	1	17- 3		ST						1
S 7139	1	11- 0		ST						1
THRU			236		VARY	LENGTH	BY	1-10		
S 7145	1	22- 0		ST						1
S 7147	59	21- 3	2563	ST						3
S 7148	59	26- 0	3135	ST						3
S 7149	60	23- 0	2821	ST						3
S 7150	60	28- 0	3434	ST						3
S 7151	73	25- 3	3768	ST						3
S 7152	73	30- 0	4476	ST						3
S 7153	2	31- 6		ST						1
THRU			1123		VARY	LENGTH	BY	1- 9	7/ 8	
S 7166	2	7- 9		ST						1
S 7167	8	6- 0	98	ST						
S 7168	184	36- 1	13571	ST						
S 7169	184	31- 1	11690	ST						
S 7170	1	35- 3		ST						1
THRU			663		VARY	LENGTH	BY	1-11	3/ 8	
S 7184	1	8- 0		ST						1
S 7185	1	30- 3		ST						1
THRU			510		VARY	LENGTH	BY	1-11	3/ 8	
S 7199	1	3- 0		ST						1
				LIGHT POLE SUPPORT						
L 5001	24	3- 2	79	6	0- 7	0- 7	2- 4			4
L 5002	6	2-11	18	1	1-10	1- 3				4
L 5003	9	5- 6	52	1	2-10	2-10				4
L 5004	9	2- 7	24	1	1- 8	1- 1				4
				REPLACEMENT STEEL FOR SPIRALS						
RE 4001	1	6- 3		5	1- 3 1/2			6- 3		
				REPLACEMENT STEEL						
RE 4002	2	6- 3		ST						
RE 5001	3	6- 7		ST						
RE 6001	1	6-10		ST						
RE 7001	6	7- 2		ST						
RE 8001	1	7- 6		ST						
RE 9001	2	7-10		ST						
RE10001	2	8- 2		ST						
RE11001	1	8- 6		ST						

BAR BENDING DIAGRAM TYPES



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

379
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

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17 / 17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO. BEL-7-2526
SR-7 OVER PATTON RUN AND TR-469
STA.1338+34.09 TO
BELMONT COUNTY STA.1339+91.95

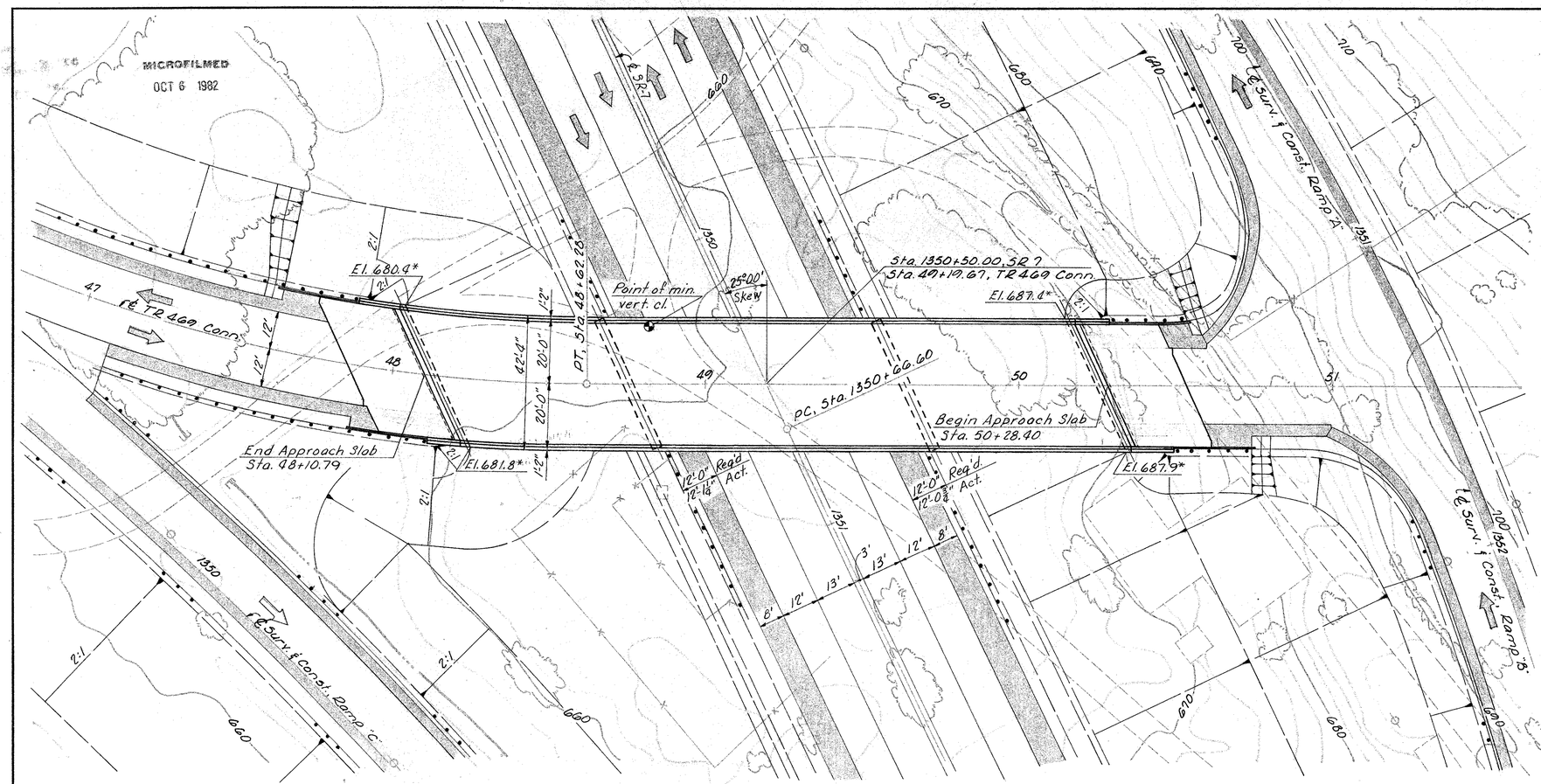
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
PHB			RT	J.E.V.	10/14/70	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

380
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



PLAN

TR 469 Conn. Curve Data

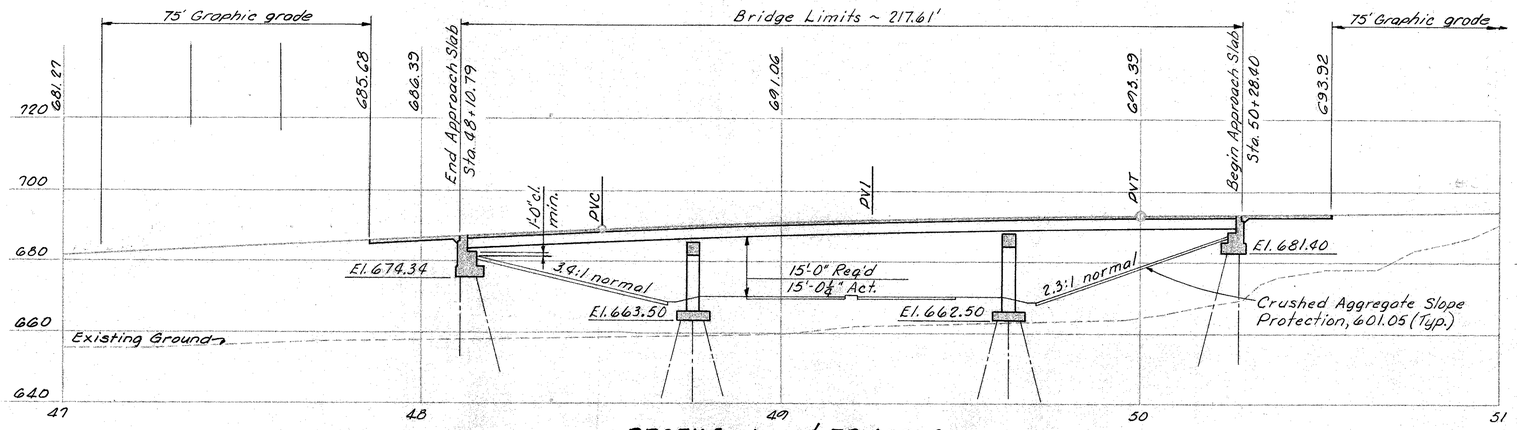
PI : Sta. 49+65.78
Δ : 50°46'01"
D_c : 12°00'
R : 477.46'
Lc : 423.05'
T : 226.55'

PVI : Sta. 49+25
VC : 150'
Elev: 692.64
Corr: -0.75'
P.G. : 691.89
g_1 : +5.00%, g_2 : +1.00%

SR-7 Curve Data

PI : Sta. 1355+52.77
Δ : 9°42'00"
D_c : 1°00'
R : 5729.58'
Lc : 970.01'
T : 486.17'

PVI : Sta. 1353+00
VC : 600'
Elev: 693.64
Corr : + 2.46'
P.G: 666.10
g_1 : -2.64%, g_2 : +0.64%



PROFILE along ℄ TR 469 Conn.

*Elevations marked with an asterisk are top of slope at face of abutment.

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

Wingwall lengths are based on a 2:1 slope from face of abutment.

Reference Tangent is the extension of the forward tangent from Sta. 48+62.28 back.

All piles shall be 10BP42 steel piles.
Estimated average pay lengths are:

East Abutment	50 feet
Pier 1	45 feet
Pier 2	23 feet
West Abutment	30 feet

Profile elevations and graphic grades provide for the inclusion of the 1½" asphalt concrete wearing course.

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure.
SPANS: 62'-0", 88'-6", 62'-0" c/c brg. along ℄ TR 469 Conn.
ROADWAY: 40'-0" f/f concrete barrier type parapet.
LOADING: HS 20-44
WEARING SURFACE: 1½" Asphalt concrete.
SKEW: 25°00'00" Rt. Fwd. with respect to Ref. Tan.
ALIGNMENT: Curve left and tangent
APPROACH SLABS: AS-1-72, 25'-0" long.
SUPERELEVATION: 0.016 ft. per ft.

1959 ADT ~ 4650

1 / 12

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

SITE PLAN

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
fwd	fwd		DLM	JEV	5/28/70	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

381
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2-2-59 R
APPROACH SLABS	AS-1-72		6-30 72 R
HIGHWAY LIGHTING	HL-4, HL-5, HL-7		9-6-73

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1-1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	1-1-71

COMMON DETAIL REFERENCES

SUBDRAINAGE FOR WEARING COURSE	SHEET 335A
SCUPPERS	SHEET 335 & 335A
LIGHT POLE SUPPORT	SHEET 336

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, A306, A499 OR A615.

APPROACH SLAB NOTES
see sheet 339

EMBANKMENT CONSTRUCTION

THE EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FROM STA. 46+00 TO THE EAST ABUTMENT AND FROM THE WEST ABUTMENT TO STA. 51+30 AT LEAST 30 DAYS PRIOR TO CONSTRUCTION OF ABUTMENTS. MAINLINE EMBANKMENT SHALL BE PLACED IN THE VICINITY OF THE BRIDGE PRIOR TO CONSTRUCTION OF PIERS.

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 35 TONS PER PILE FOR THE EAST ABUTMENT.

~~PILES~~

~~PILES SHALL BE DRIVEN TO FIRM CONTACT WITH BEDROCK FOR PIERS AND WEST ABUTMENT. IF THE LENGTH OF PENETRATION IS APPROXIMATELY EQUAL TO THE DEPTH OF BEDROCK ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT, THE FIRM CONTACT SHALL BE CONSIDERED AS ATTAINED WHEN THE CAPACITY ACCORDING TO THE FORMULA IN 507.05 IS NOT LESS THAN THE FOLLOWING VALUE FOR A PILE HAMMER OF THE INDICATED ENERGY RATING.~~

~~FOR PIER 1 PILES~~

~~39 TONS PER PILE USING AN 11,000 FT. LB. HAMMER~~
~~35 TONS PER PILE USING A 15,000 FT. LB. OR GREATER HAMMER~~

~~FOR PIER 2 PILES.~~

~~48 TONS PER PILE USING AN 11,000 FT. LB. HAMMER~~
~~43 TONS PER PILE USING A 15,000 FT. LB. OR GREATER HAMMER~~

~~FOR WEST ABUTMENT PILES.~~

~~43 TONS PER PILE USING AN 11,000 FT. LB. HAMMER~~
~~38 TONS PER PILE USING A 15,000 FT. LB. OR GREATER 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-~~
~~35 TONS PER PILE FOR THE PIERS AND WEST ABUTMENT.~~

PILES for the piers and West Abutment shall be driven to refusal on bedrock or to 20 blows per inch for the last few inches of penetration. The design load is 35 tons per pile for the abutment piles and 35 tons per pile for the pier piles.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL
404	25	C.Y.	ASPHALT CONCRETE (70-85 or AC 20)			25	
503	498	C.Y.	UNCLASSIFIED EXCAVATION	279	219		
505	LUMP	SUM	TEST PILE				LUMP
507	2940	L.F.	STEEL PILES, HP10x42	1040	1900		
509	117483	LB	REINFORCING STEEL	14823	19967	82693	
511	315	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE			315	
511	113	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	113			
511	73	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		73		
511	140	C.Y.	CLASS C CONCRETE, FOOTINGS	80	60		
513	284200	LB	STRUCTURAL STEEL			284200	
514	284200	LB	FIELD PAINTING OF STRUCTURAL STEEL			284200	
518	58	C.Y.	POROUS BACKFILL	58			
518	6	EA	SCUPPERS INCLUDING SUPPORTS			6	
518	80	L.F.	6 INCH PERFORATED, HELICAL CMP, 707.01	80			
518	102	L.F.	6 INCH NON-PERFORATED, HELICAL CMP, INCLUDING SPECIALS, 707.01	102			
518	48	EA	SUBDRAINAGE FOR WEARING COURSE, AS PER PLAN			48	
601	765	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION				765
625			SEE SHEET 302 FOR LIGHTING SUMMARY				
808	315	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			315	
SPEC	13	C.Y.	SAND ASPHALT			13	
** SPEC	924	S.Y.	MEMBRANE WATERPROOFING, sheet type			924	

* HP10x42 Steel piles formely designated 10BP42

** See Proposal Note

BACKWALL CONCRETE: In addition to the provisions of 511.08, backwall concrete shall not be placed until after the deck concrete in the span adjacent to the backwall has been placed.

BEARING ANCHORS: At the option of the Contractor, bearing anchors (or formed holes), located and supported by templates, may be cast in place.

2/12

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA.1350+50.00

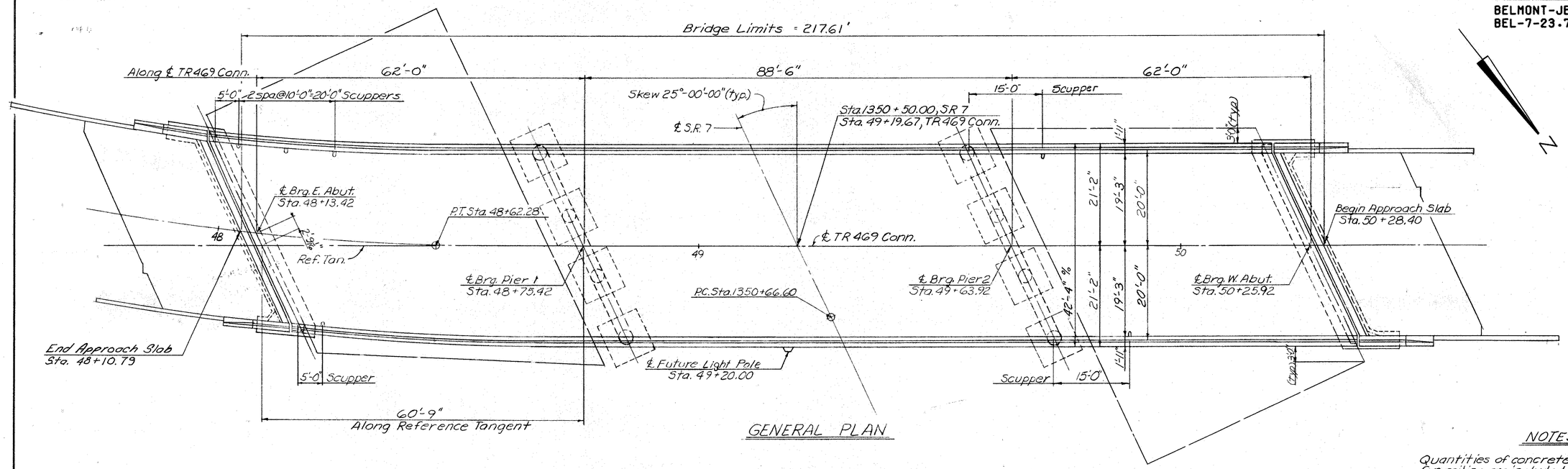
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FWA			VB 9/4/70	JEV	10/12/70	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

382
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



GENERAL PLAN

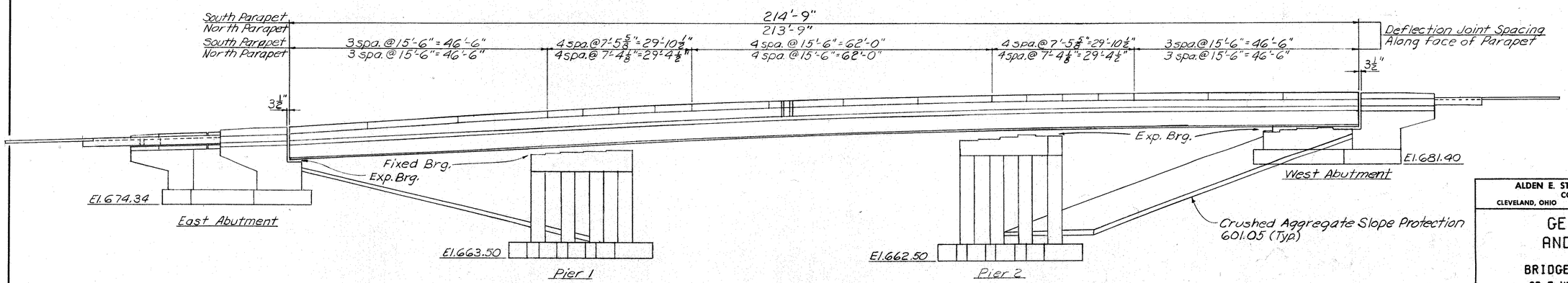
NOTES

Quantities of concrete and reinforcing steel for railing are included with their appropriate Items under either Abutments or Superstructure for payment.

For parapet deflection joint details see Standard Drawing BR-1-67.

For scupper details see Common Details, sheet 335.

For future light pole support details see Common Details, sheet 336 & Std. dwg. HL-4



GENERAL ELEVATION

3/12

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL PLAN AND ELEVATION

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA.1350+50.00

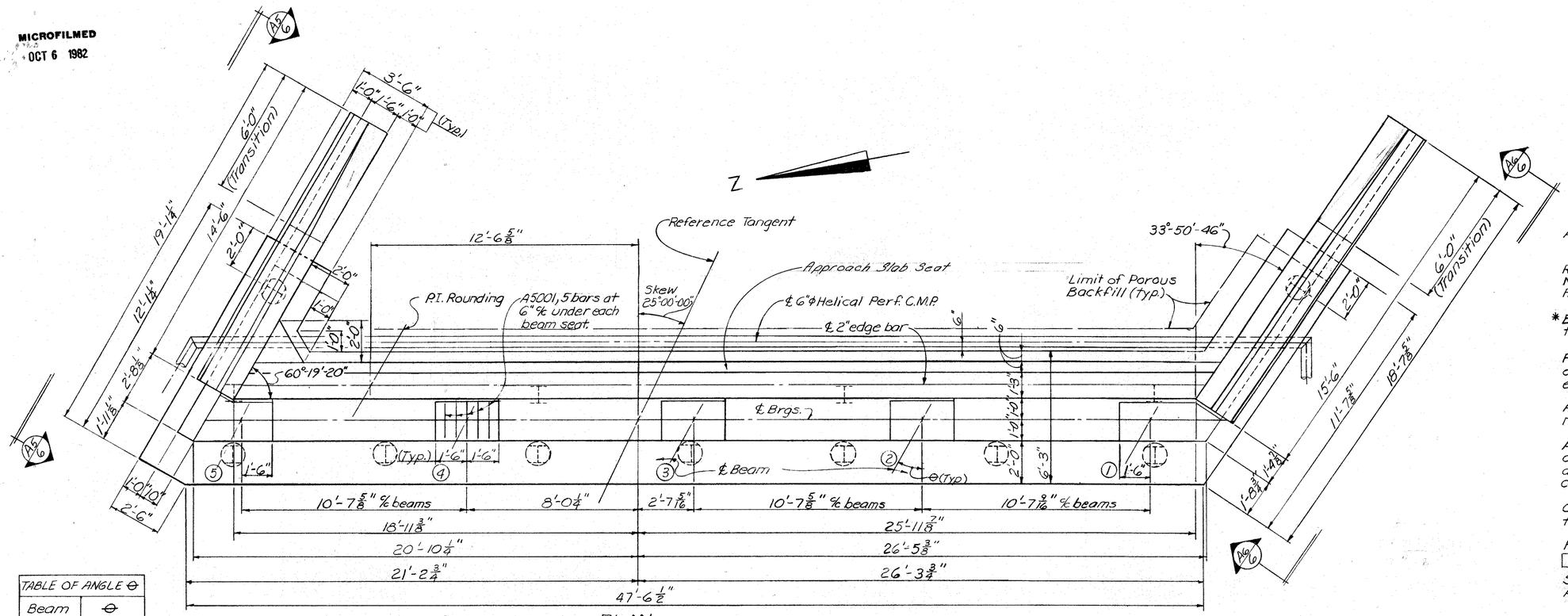
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FWD	JVA		VB	JEV	10/12/10	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

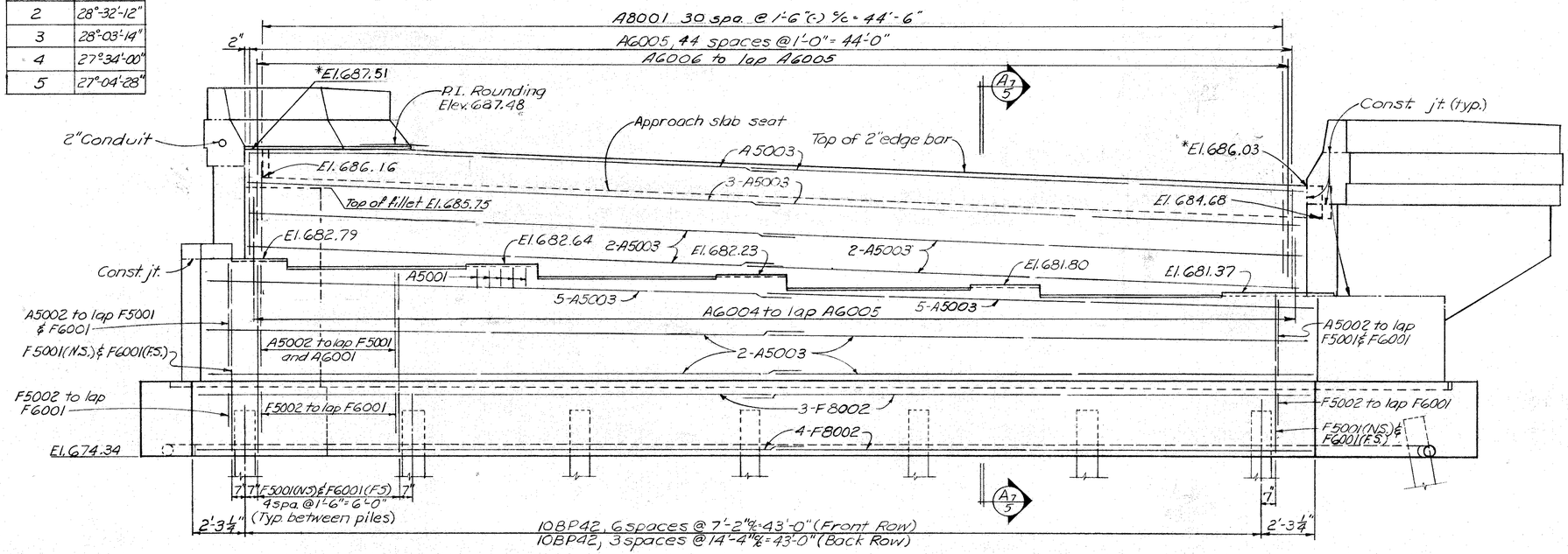
383
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



PLAN

TABLE OF ANGLE ϴ	
Beam	ϴ
1	29°00'-49"
2	28°-32'-12"
3	28°-03'-14"
4	27°34'-00"
5	27°-04'-28"



ELEVATION

NOTES

All piles shall be 10BP42 steel piles.
Ⓘ Indicates vertical piles.
Ⓑ Indicates battered piles. 1:4
Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

*Elevations marked with an asterisk are at top of 2" edge bar.

Porous backfill shall extend up to the plane of the subgrade and laterally to the ends of the wingwalls.

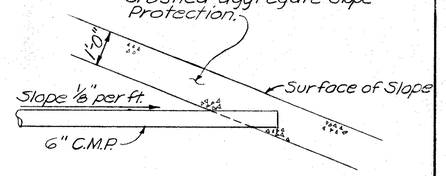
All reinforcing in footings shall have 3" minimum cover.

Adjustable type elbows meeting specification requirements for gage and coating are acceptable for making bends in corrugated metal pipe.

Only that portion of the C.M.P. located in the porous backfill shall be perforated.

For additional details see sheets 5/12 and 6/12

See General Plan for layout of East Abutment along Reference Tangent.



TERMINATION OF 6" C.M.P. AT FRONT SLOPE

4/12

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

EAST ABUTMENT DETAILS

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

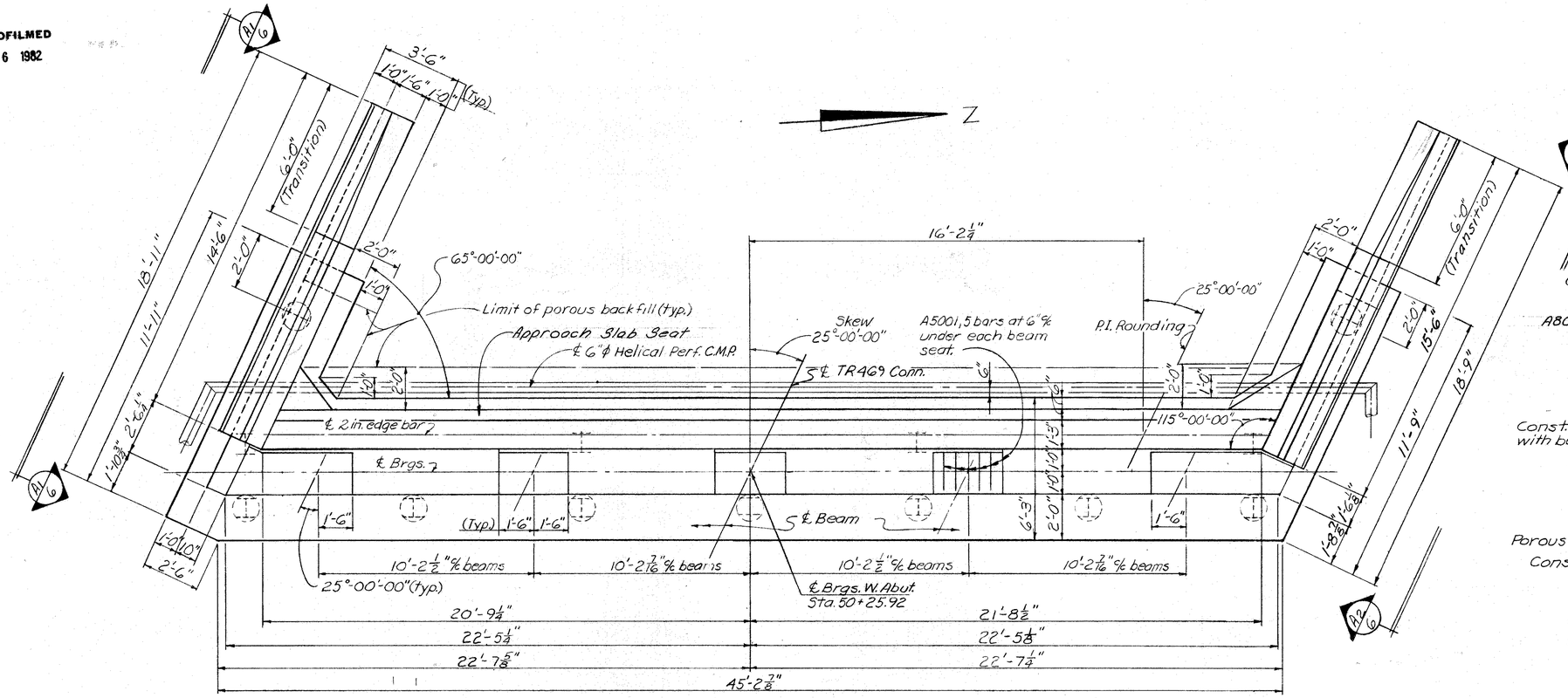
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FWD	JVA		VB	JEV	10/12/70	

MICROFILMED
OCT 6 1982

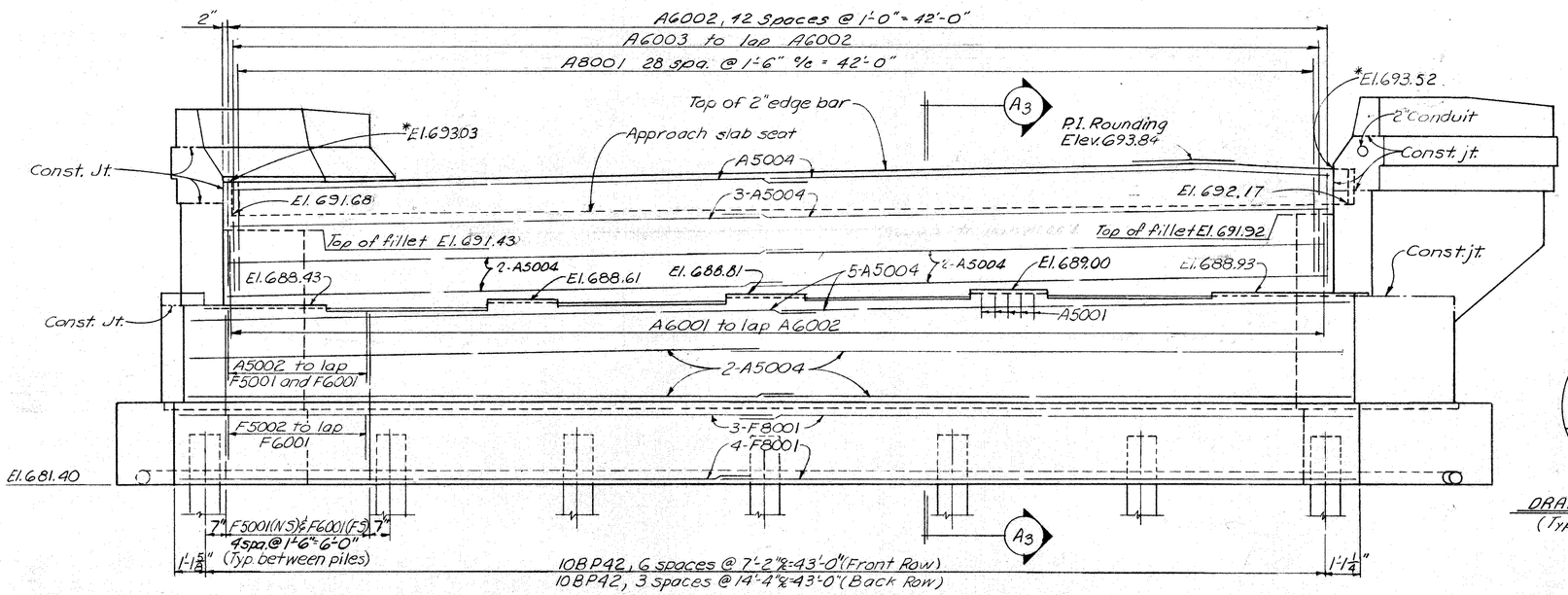
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

384/462

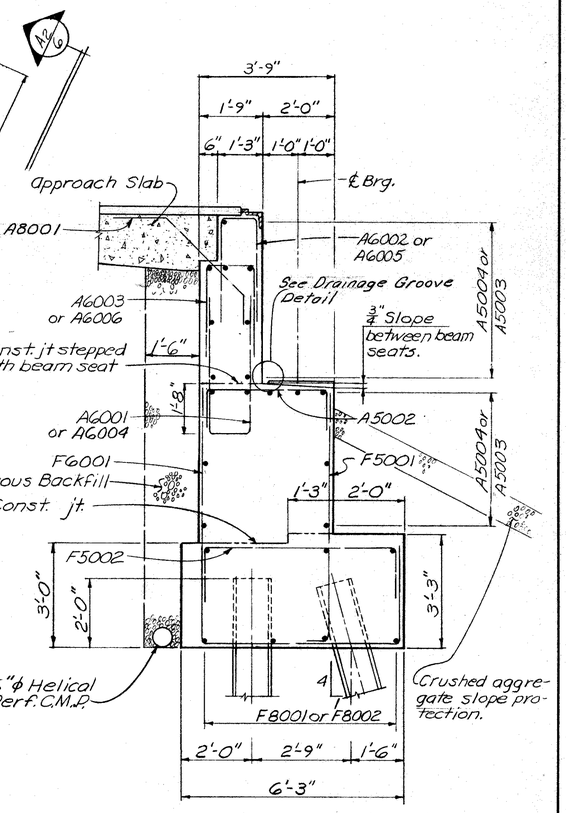
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



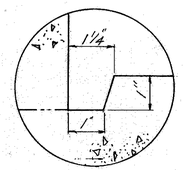
PLAN



ELEVATION



SECTION A_3-A_3 & $A_{7/4}$-$A_{7/4}$
(Between beam seats)



DRAINAGE GROOVE DETAIL
(Typ. of all beam seats)

NOTES

Reinforcing steel location:
N.S. indicates near side
F.S. indicates far side

For additional notes and details see sheets 4/12 and 6/12

* Elevations marked with an asterisk are at top of 2" edge bar.

5/12

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

WEST ABUTMENT DETAILS

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

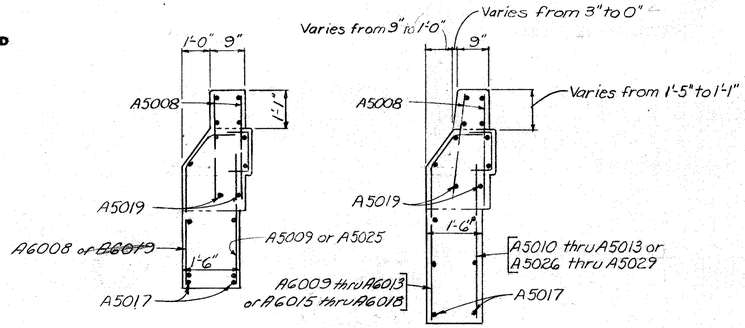
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
fwd	JVA		VB	JEV	10/12/10	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

385
462

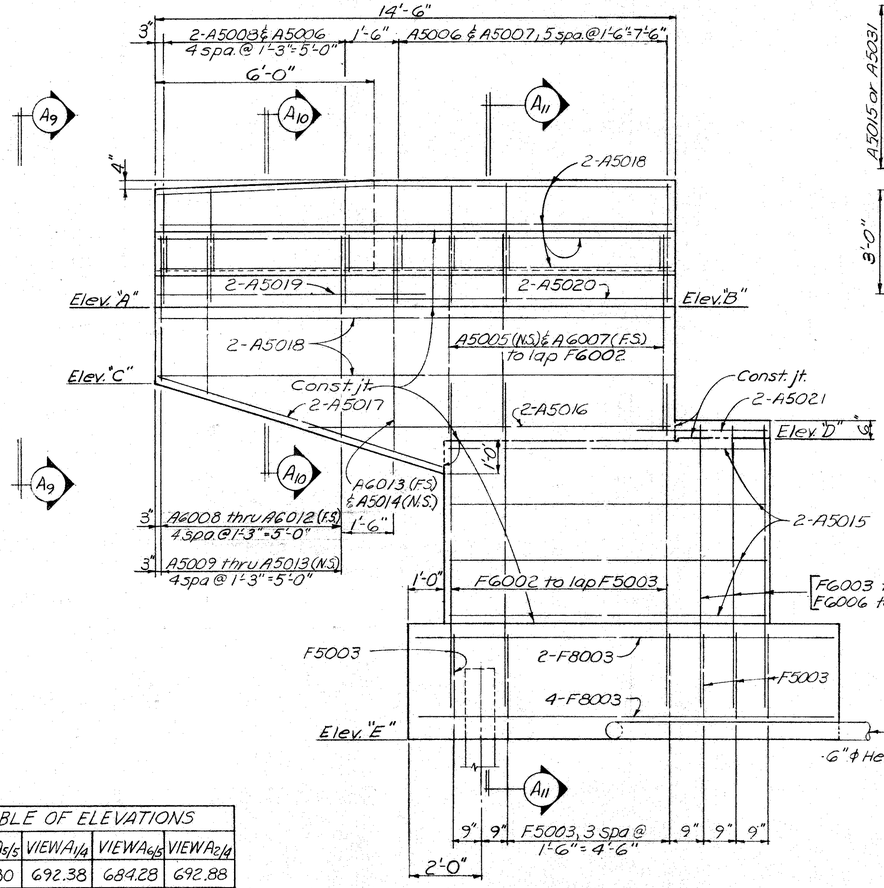
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



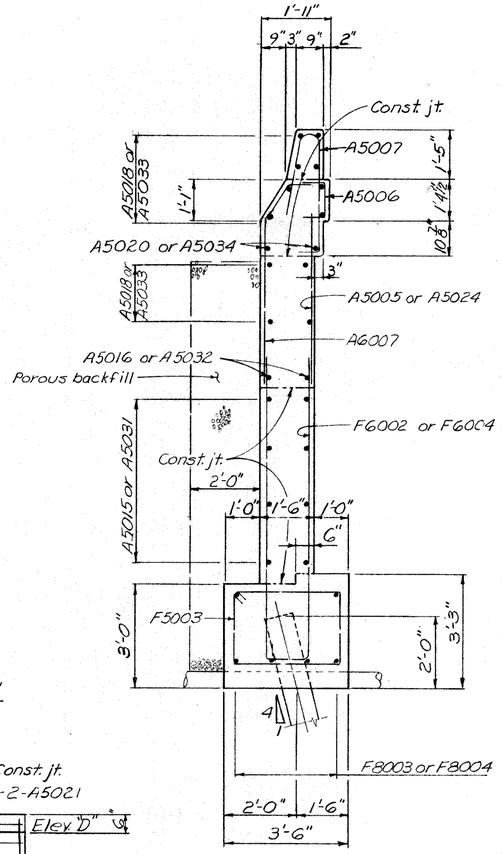
VIEW A_9-A_9 and
VIEW A_{12}-A_{12} (Opposite hand)

SECTION A_{10}-A_{10} and
SECTION A_{13}-A_{13}

(Reinforcing and dimensions not shown or labeled same as Sections A_{11}-A_{11} & A_{14}-A_{14})



VIEW $A_{1/4}$ - $A_{1/4}$
VIEW $A_{5/5}$ - $A_{5/5}$

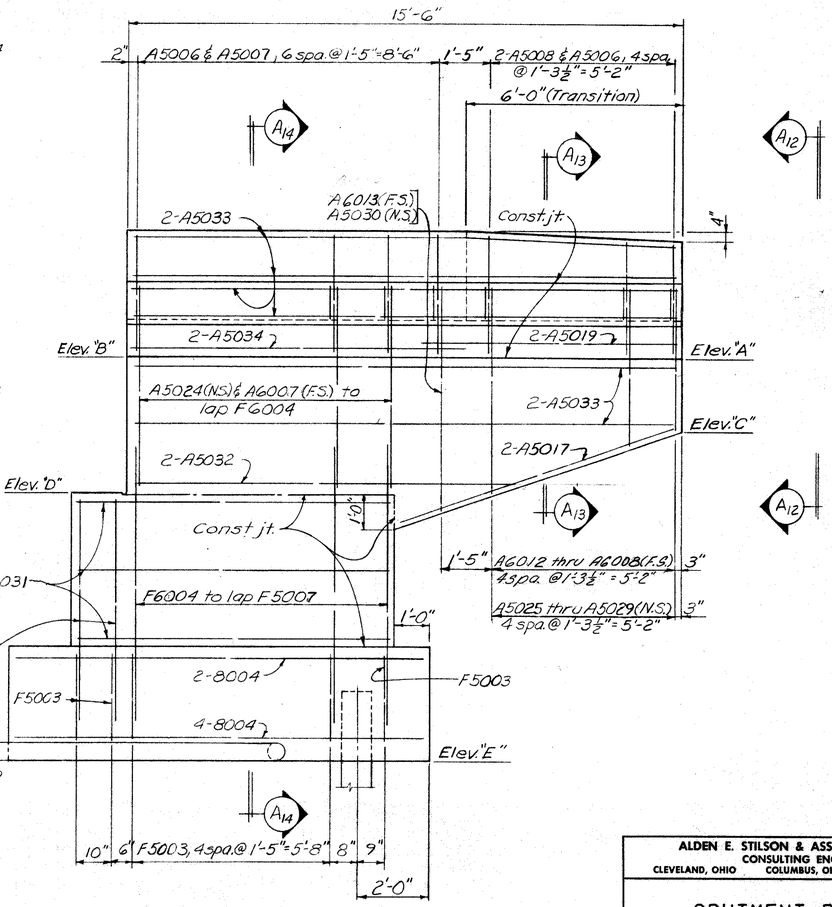


SECTION A_{11}-A_{11} & A_{14}-A_{14}

NOTES

Reinforcing steel location
F.S. indicates far side
N.S. indicates near side

For additional notes and details see sheet 4/12 & 5/12



VIEW $A_{2/4}$ - $A_{2/4}$
VIEW $A_{6/5}$ - $A_{6/5}$

TABLE OF ELEVATIONS

El.	VIEW $A_{5/5}$	VIEW $A_{1/4}$	VIEW $A_{6/5}$	VIEW $A_{2/4}$
A	685.80	692.38	684.28	692.88
B	686.53	692.23	685.06	692.73
C	683.71	690.29	682.19	690.79
D	682.79	688.43	681.37	688.93
E	674.34	681.40	674.34	681.40

6 1/12

ALDEN E. STILSON & ASSOCIATES, LIMITED
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CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

ABUTMENT DETAILS

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

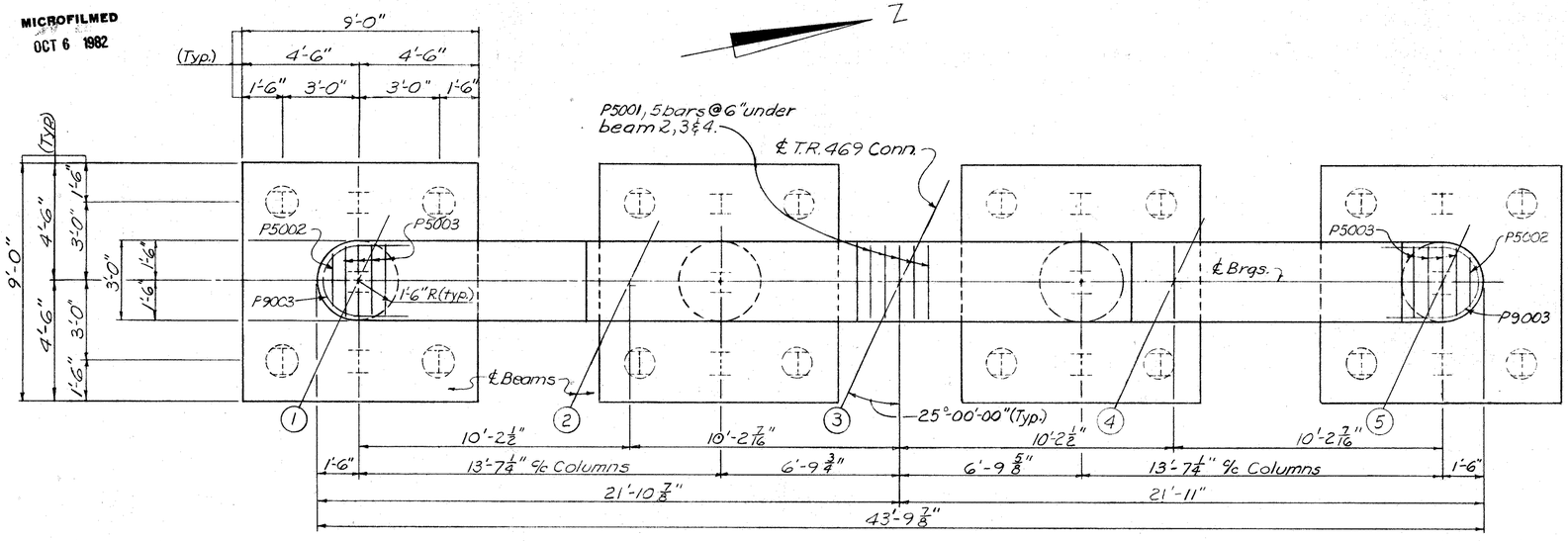
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FWD	JYA		VB	JEV	10/12/70	

MICROFILMED
OCT 6 1982

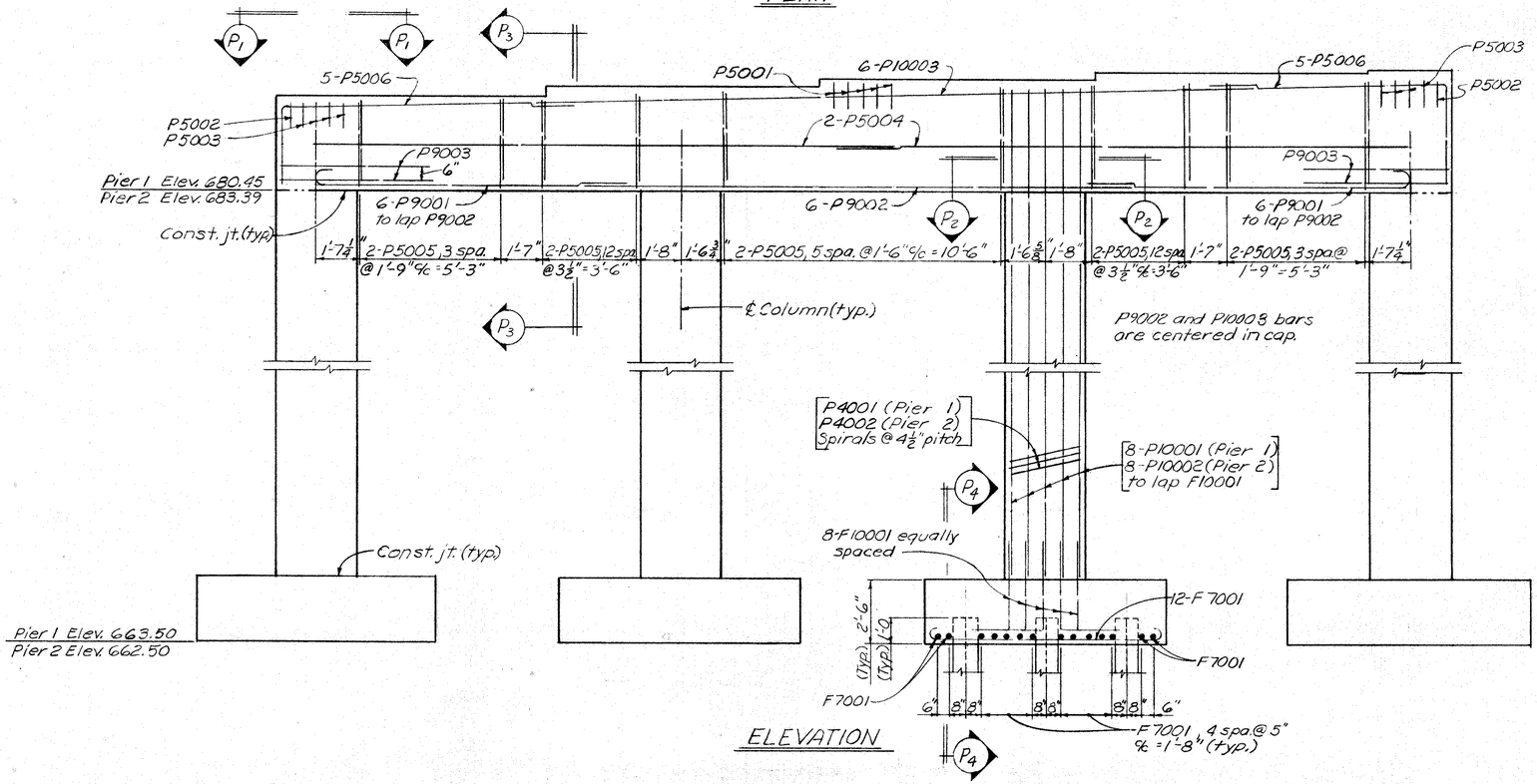
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

386/462

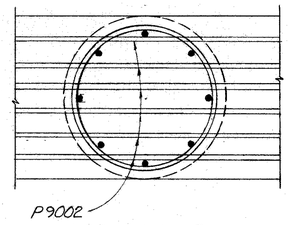
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



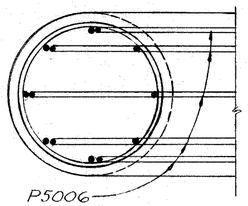
PLAN



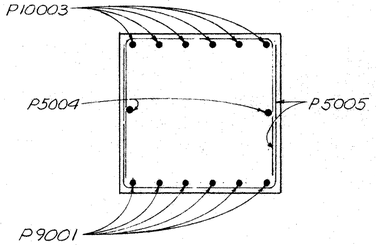
ELEVATION



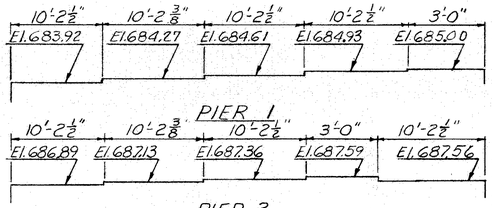
SECTION P_2-P_2



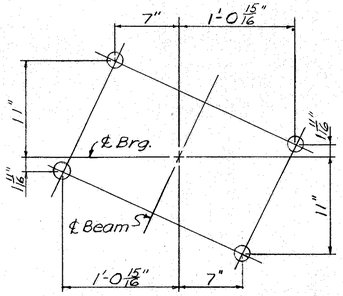
VIEW P_1-P_1



SECTION P_3-P_3



BEAM SEAT ELEVATIONS



ANCHOR BOLT LAYOUT
(At PIER 1 only)

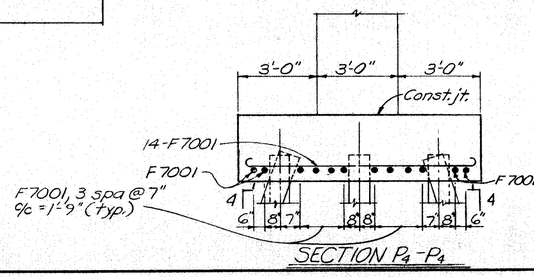
NOTES

All piles shall be 10BP42 steel piles.
⌶ indicates vertical piles
⌭ indicates battered piles 1:4

All reinforcing steel in footing shall have 3" minimum clearance.

Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat at PIER 1 so as to avoid interference with the drilling of anchor bolt holes.

For superstructure grounding details at Pier 1 see Std. Const. Dwg. HL-7.



SECTION P_4-P_4

7 1/2

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

PIER DETAILS

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FWD	JVA		VB	JEV	10/12/10	

MICROFILMED
OCT 6 1982

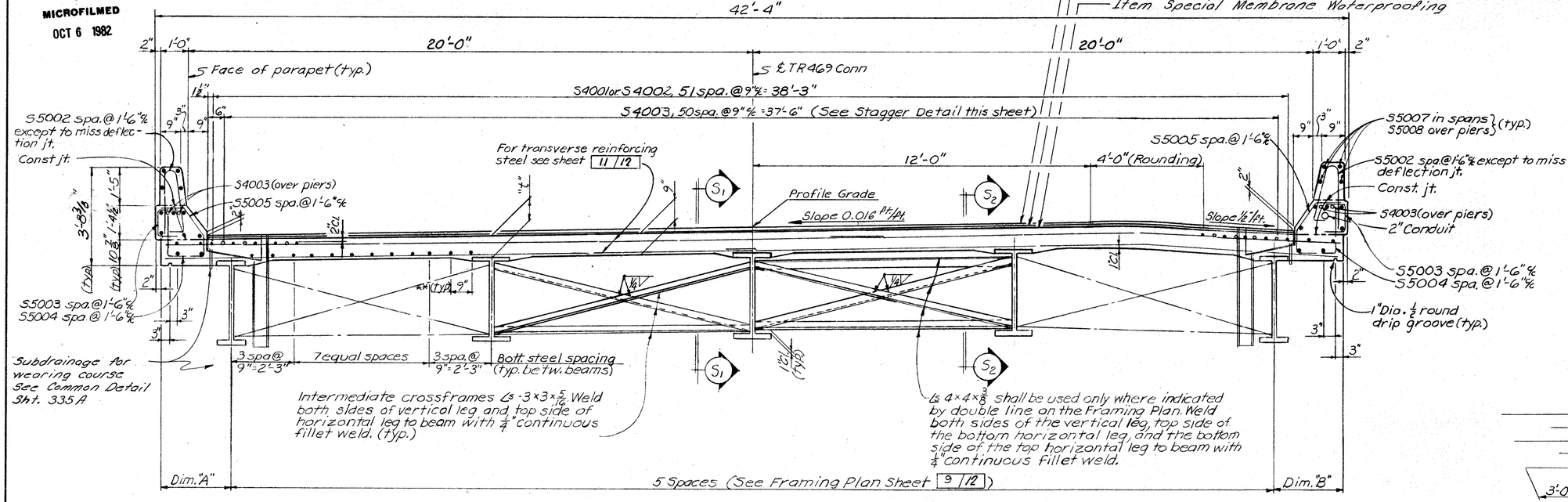
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

387
462

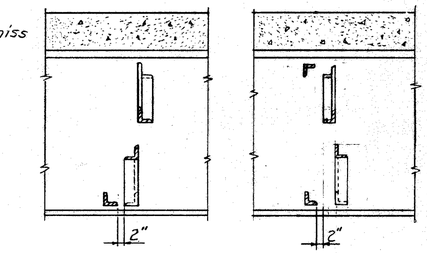
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00

All longitudinal steel shall be S5001 or S5006 unless otherwise shown.

Item 404 1" Asphalt Concrete
Item Special ½" Sand Asphalt
Item Special Membrane Waterproofing



TRANSVERSE SECTION



SECTION S_1-S_1 SECTION S_2-S_2

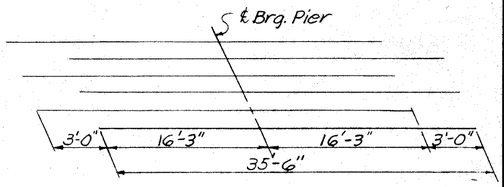


DIAGRAM SHOWING STAGGER OF S4003 BARS OVER PIERS 1 AND 2.

SLAB CANTILEVERS		
Location	Dim. "A"	Dim. "B"
℄ Brg. East Abutment	3'-0"	2'-6"
¼ Point	2'-4 3/32"	2'-11 1/4"
½ Point	2'-3 3/4"	2'-10 3/4"
¾ Point	2'-7 15/16"	2'-6"
℄ Brg. Pier 1	2'-6"	do
¼ Point	do	do
½ Point	do	do
¾ Point	do	do
℄ Brg. Pier 2	do	do
¼ Point	do	do
½ Point	do	do
¾ Point	do	do
℄ Brg. West Abutment	do	do

SLAB THICKNESS "t"	
Location	"t"
℄ Brg. East Abutment	9 3/16"
℄ Brg. Pier 1	9½"
℄ Brg. Pier 2	9 3/16"
℄ Brg. West Abutment	9 3/16"

End Dam: see sheet 375

Steel Erection: During the erection of end dams and crossframes care shall be taken to insure that stringers, bearing parts and bridge seats remain in bearing contact.

Bearings shall be in accordance with Std. Dwg. RB-1-55 except that upper plate element shall be beveled to match roadway grade. Tabulated plate thickness C shall apply at centerline of plate.

Charpy Test Notes
All beams, top moment plates, and field splice material shall meet specified minimum notch toughness requirements.

See sheet 357 for other Charpy Test Notes

NOTES

*The distance shown from the top of deck slab to top of steel beam is the design demension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it 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.

**A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less 9" in width.

For Scupper details see Common Details sheet 335 & 335A

Field bending of transverse slab steel shall be included in Item 509 for payment.

For additional notes and details see sheets 9/12 thru 11/12.

Lap top longtudinal steel 1'-3" min.
Lap bottom longtudinal steel 1'-7" min.

PREFORMED EXPANSION JOINT FILLER in the railing parapet deflection joints may be either ¼" gray sponge rubber or ¼" gray cellular polyvinyl chloride (PVC) sponge.

At the Contractor's option, a portion (not to exceed 25%) of the upper longitudinal bars (S4001 or S4002) in the deck slab may be placed beneath the upper transverse bars for support of the top mat.

DECK FINISHING: Concrete deck shall be in accordance with 451.09 and 451.12, except that the roadway surface shall be finished with a burlap drag to provide a uniform surface with a gritty texture.

8/12

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

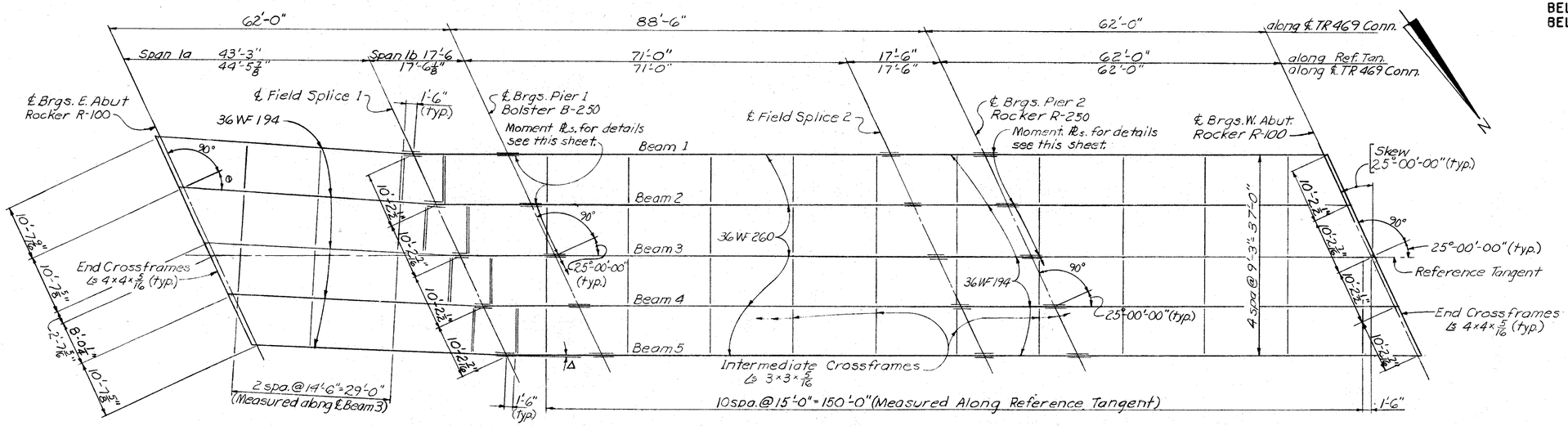
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JWD	JVA		VB	JEV	10/12/70	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

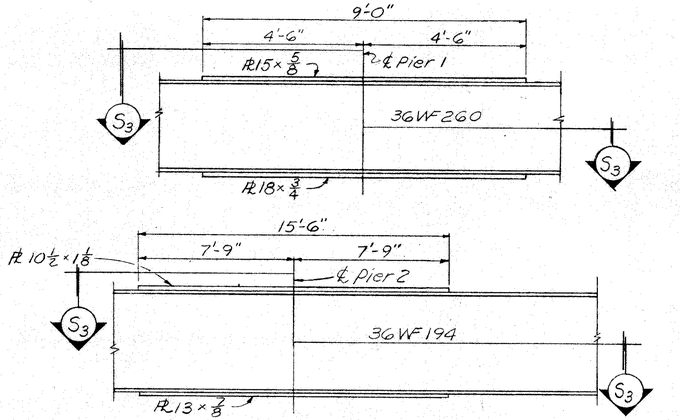
388
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



FRAMING PLAN

DEFLECTION AT SPLICES		
Beam	Splice 1 Δ	Splice 2 Δ
1	4°-00'-49"	0
2	3°-32'-12"	0
3	3°-03'-14"	0
4	2°-34'-00"	0
5	2°-04'-28"	0



SECTION S_3-S_3

MOMENT PLATE DETAILS

HORIZONTAL BEAM LENGTH	
Beam	Span 1a
1	44'-9⅞"
2	44'-7⅜"
3	44'-5"
4	44'-2⅝"
5	44'-0¼"

TABLE OF ANGLE Θ AT E. ABUT.	
Beam	Angle Θ
1	29°-00'-49"
2	28°-32'-12"
3	28°-03'-14"
4	27°-34'-00"
5	27°-04'-28"

NOTES

Crossframes indicated by double lines are 4-℄ 4×4×¾. See sheet 8 12 for details. These Crossframes shall placed immediately upon completion of all bolting of the adjacent field splices before stress is induced into these splices.

Place transverse ℄ of all bearing devices normal to ℄ beam which they support.

For end dam and end crossframe details see Std. Dwg. SD-1-69.

Intermediate crossframes are placed normal to Beam 3.

1"Φ high strength bolts in 1 1/16"Φ holes shall be used at all field splices. Bolt heads shall be placed on fascia side of beam 1 and 5 and on bottom surface of bottom flange.

For additional notes and details see sheets 8 12 10 12 & 11 12.

9 12

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

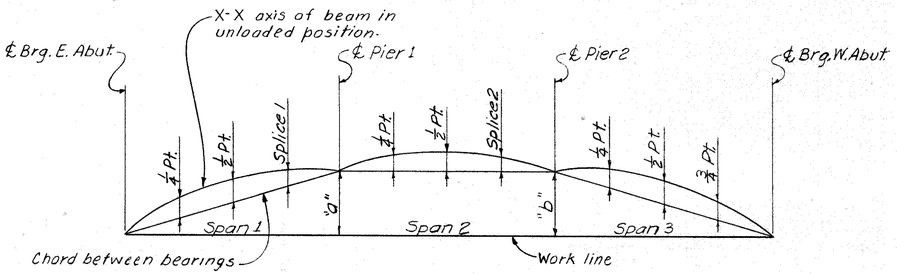
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
fwd	JVA		VB	JEV	10/12/10	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

389
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00

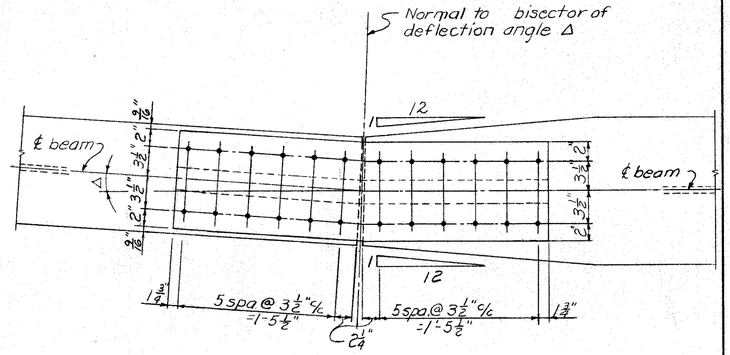


CAMBER AND BLOCKING DIAGRAM

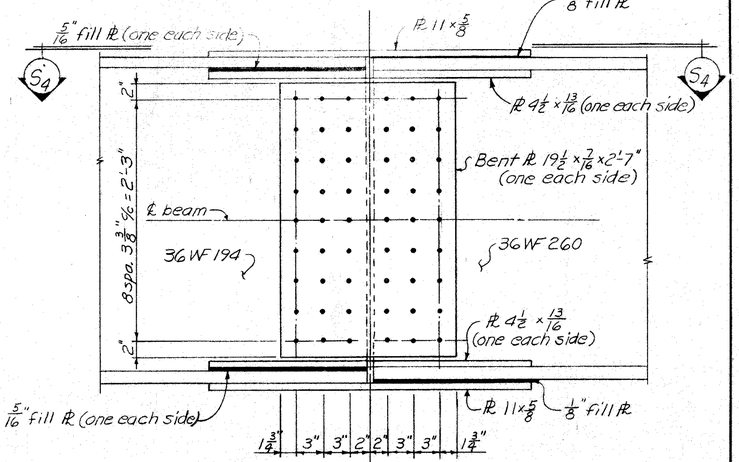
BLOCKING DIMENSIONS		
Beam	"a"	"b"
1	1'-1 7/16"	1'-2 1/16"
2	1'-1 1/4"	1'-1 13/16"
3	1'-1 1/16"	1'-1 1/2"
4	1'-0 15/16"	1'-1 1/4"
5	1'-0 3/4"	1'-0 7/8"

CAMBER AND DEFLECTION

Beam	Description	SPAN 1			SPAN 2			SPAN 3		
		1/4 Pt.	1/2 Pt.	Splice 1	1/4 Pt.	1/2 Pt.	Splice 2	1/4 Pt.	1/2 Pt.	3/4 Pt.
1	Def. due to weight of steel	0	0	0	1/8	3/16	1/8	0	1/16	0
	Def. due to Remaining D.L.	3/16	3/16	1/16	7/16	11/16	7/16	1/16	3/16	3/16
	Adj. required for Curvature	1/16	3/16	3/8	2 3/8	3 1/8	2	1	1 5/16	13/16
	REQUIRED SHOP CAMBER	1/4	3/8	7/16	2 5/16	4	2 9/16	1 1/16	1 9/16	1
2	Def. due to weight of steel	0	0	0	1/8	3/16	1/8	0	1/16	0
	Def. due to Remaining D.L.	1/4	1/4	1/16	9/16	7/8	9/16	1/16	1/4	1/4
	Adj. required for Curvature	1/8	5/16	9/16	2 3/8	3 1/8	2	1	1 1/8	5/8
	REQUIRED SHOP CAMBER	3/8	9/16	5/8	3 1/16	4 3/16	2 1/16	1 1/16	1 7/16	7/8
3	Def. due to weight of steel	0	0	0	1/8	3/16	1/8	0	1/16	0
	Def. due to Remaining D.L.	1/4	1/4	1/16	9/16	7/8	9/16	1/16	1/4	1/4
	Adj. required for Curvature	3/16	7/16	5/8	2 3/8	3 1/8	2	1/8	1	1/2
	REQUIRED SHOP CAMBER	7/16	11/16	11/16	3 1/16	4 3/16	2 11/16	15/16	1 5/16	3/4
4	Def. due to weight of steel	0	0	0	1/8	3/16	1/8	0	1/16	0
	Def. due to Remaining D.L.	1/4	1/4	1/16	9/16	7/8	9/16	1/16	1/4	1/4
	Adj. required for Curvature	1/4	9/16	5/8	2 3/8	3 1/8	2	13/16	1 3/16	3/8
	REQUIRED SHOP CAMBER	1/2	13/16	11/16	3 1/16	4 3/16	2 11/16	7/8	1 1/8	5/8
5	Def. due to weight of steel	0	0	0	1/8	3/16	1/8	0	1/16	0
	Def. due to Remaining D.L.	3/16	3/16	1/16	7/16	11/16	7/16	1/16	3/16	3/16
	Adj. required for Curvature	9/16	7/8	5/8	2 3/8	3 1/8	2	11/16	5/8	5/16
	REQUIRED SHOP CAMBER	3/4	1 1/16	11/16	2 15/16	4	2 9/16	3/4	7/8	1/2



VIEW S4-S4



FIELD SPLICE 1 DETAILS
(Field splice 2 opposite hand with deflection angle Δ = 0°-00'-00")

10112

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CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

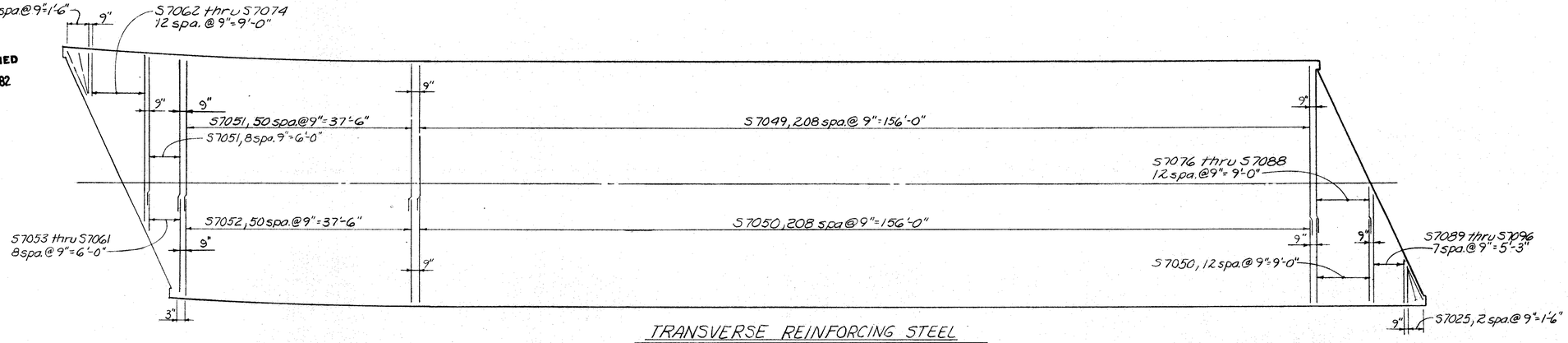
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FWD	JVA		VB	JEV	10/12/10	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNCS
2	OHIO		

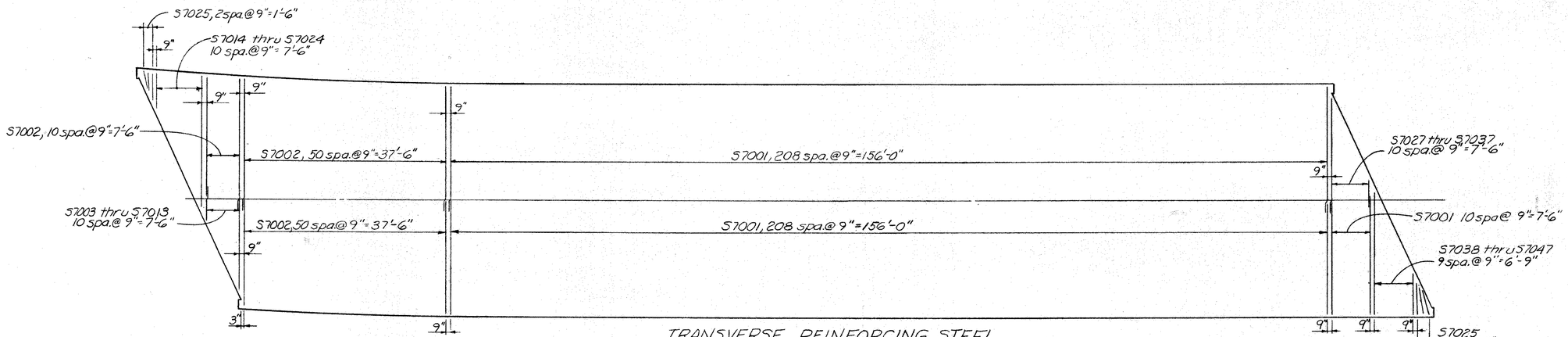
390
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00

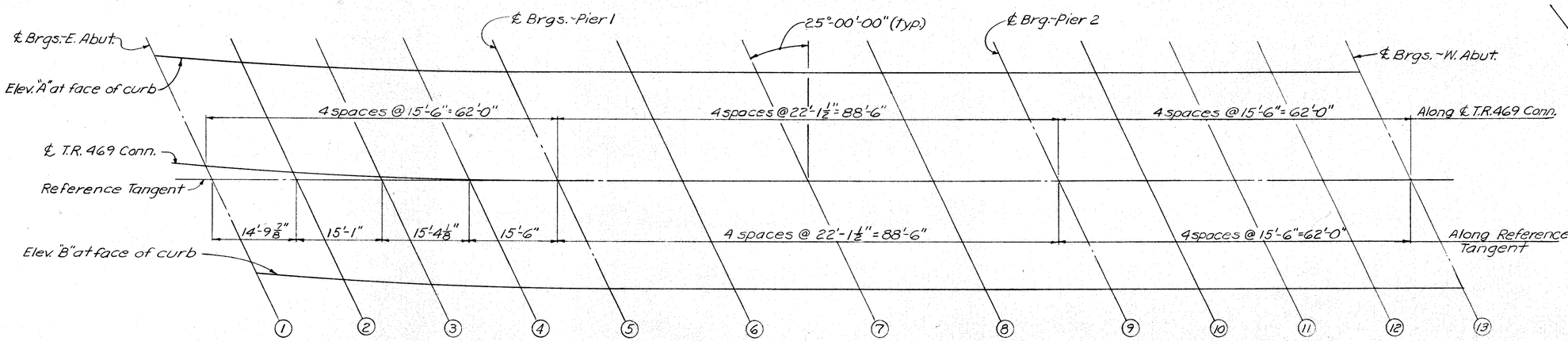
MICROFILMED
OCT 6 1982



TRANSVERSE REINFORCING STEEL
(Top)



TRANSVERSE REINFORCING STEEL
(Bottom)



SCREED PLAN

SCREED ELEVATIONS		
Line	Elev. "A"	Elev. "B"
1	686.03	687.50
2	686.86	688.25
3	687.68	688.98
4	688.49	689.68
5	689.25	690.34
6	690.23	691.21
7	691.06	691.94
8	691.72	692.50
9	692.24	692.91
10	692.56	693.15
11	692.81	693.33
12	692.99	693.48
13	693.13	693.62

Screed elevations are at top slab before the concrete deck is placed. Proper allowance has been made for dead load deflection due to weight of concrete.

11 1/12

NOTES

All transverse reinforcing steel shall be placed normal to Reference Tangent except at acute corners of slab.

For additional notes and details see sheets 8/12, 9/12 & 10/12.

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

SUPERSTRUCTURE DETAILS

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA. 1350+50.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FWA	JVA		VB	JEV	10/12/10	

MICROFILMED
OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
F 5001	62	7- 0	453	1		6- 6	0- 8			
F 5002	62	8- 3	533	1		1- 7	5- 4	1- 7		
F 5003	32	10- 7	353	3	2- 0	3- 0	2- 0	3- 0		
F 6001	62	14- 3	1327	1		6- 6	5- 4	2- 9		
F 6002	10	20- 0	300	1		9- 7	1- 2	9- 7		
F 6003	3	7- 1	32	ST						
F 6004	12	18- 6	333	1		8-10	1- 2	8-10		
F 6005	2	7- 1	21	ST						
F 6006	3	8- 6	38	ST						
F 6007	2	6- 7	20	ST						
F 8001	14	25- 0	934	ST						
F 8002	14	26- 0	972	ST						
F 8003	12	11- 5	366	ST						
F 8004	12	11- 1	355	ST						
A 5001	50	5- 1	265	1		1- 7	2- 2	1- 7		
A 5002	62	8-10	571	1		2-10	3- 5	2-10		
A 5003	34	24- 6	869	ST						
A 5004	34	23- 8	839	ST						
A 5005	10	5- 4	56	ST						
A 5006	46	2- 1	100	1		0- 8	1- 0	0- 8		
A 5007	26	6- 2	167	19		2- 5	3- 0	0- 8		
A 5008	20	2-10	59	ST						
A 5009	2	3- 6		ST						1
THRU			46		VARY	LENGTH	BY	0- 5	1/2	
A 5013	2	5- 4		ST						1
A 5014	2	6- 1	13	ST						
A 5015	16	8- 8	145	ST						
A 5016	4	10- 8	45	ST						
A 5017	8	7- 6	63	ST						
A 5018	24	14- 2	355	ST						
A 5019	8	7- 2	60	ST						
A 5020	4	8- 4	35	ST						
A 5021	4	4- 1	17	ST						
A 5024	12	5- 3	66	ST						
A 5025	2	5- 3		ST						1
THRU			46		VARY	LENGTH	BY	0- 5		
A 5029	2	3- 7		ST						1
A 5030	2	6- 3	13	ST						
A 5031	12	8- 6	106	ST						
A 5032	4	10- 2	42	ST						
A 5033	24	15- 2	380	ST						
A 5034	4	9- 4	39	ST						
A 6001	43	9- 5	608	1		4- 2	1- 5	4- 2		
A 6002	43	6- 3	404	1		2-10	0-11	2-10		
A 6003	43	6- 9	436	1		2-10	1- 5	2-10		
A 6004	45	9- 9	660	1		4- 4	1- 5	4- 4		
A 6005	45	6- 7	445	1		3- 0	0-11	3- 0		
A 6006	45	7- 1	479	1		3- 0	1- 5	3- 0		
A 6007	22	6- 4	209	15		4- 6	0-11	0- 9	0- 9	
A 6008	4	4-11		15		3- 0	0-11	0- 8	0- 9	1
THRU			170		VARY	LENGTH	BY	0- 4		
					VARY	DIM B	BY	0- 4		
A 6012	4	6- 6		15		4- 8	0-11	0- 8	0- 9	
A 6013		6-10	41	15		5- 0	0-11	0- 8	0- 9	
~~A 6014~~	~~2~~	~~6-10~~	~~21~~	~~15~~		~~5- 0~~	~~0-11~~	~~0- 8~~	~~0- 9~~	
~~A 6015~~	~~2~~	~~6- 6~~		~~15~~		~~4- 8~~	~~0-11~~	~~0- 8~~	~~0- 9~~	~~1~~
~~THRU~~			~~86~~		~~VARY~~	~~LENGTH~~	~~BY~~	~~0- 4~~		
					~~VARY~~	~~DIM B~~	~~BY~~	~~0- 4~~		
~~A 6019~~	~~2~~	~~4-11~~		~~15~~		~~3- 0~~	~~0-11~~	~~0- 8~~	~~0- 9~~	
A 8001	60	5- 6	881	20	1- 1	1- 1	3- 7	0- 6	0- 6	

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				PIERS						
F 7001	208	10- 2	4322	10	8- 6					
F10001	64	6- 7	1813	1	5- 3	1- 8				
P 4001	4	14- 6	1112	17	NO.TURNS= 42		NO.SPACERS= 16			6
P 4002	4	18- 4	1382	17	NO.TURNS= 52		NO.SPACERS= 16			6
P 5001	30	5- 7	175	1		1- 7	2- 8	1- 7		
P 5002	4	4- 7	19	1		1- 7	1- 8	1- 7		
P 5003	16	5- 3	88	1		1- 7	2- 4	1- 7		
P 5004	8	21- 3	177	ST						
P 5005	160	8- 9	1460	1		3- 2	2- 8	3- 2		
P 5006	20	11- 4	236	1	3- 2	8- 4				
P 9001	24	13- 4	1088	11	12- 1					
P 9002	12	22- 4	911	ST						
P 9003	8	9- 9	265	7	2-10	2-10	1- 3			
P10001	32	17- 6	2410	ST						
P10002	32	21- 4	2938	ST						
P10003	12	30- 5	1571	ST						
				SUPERSTRUCTURE						
S 4001	364	30- 0	7295	ST						
S 4002	52	12-11	449	ST						
S 4003	110	35- 6	2609	ST						
S 5001	462	30- 0	14456	ST						
S 5002	287	5- 4	1596	19	0- 8	2- 5	2- 2			
S 5003	287	2- 1	624	1	0- 8	1- 0	0- 8			
S 5004	287	2- 2	649	1	0- 8	1- 8				
S 5005	287	3- 3	973	15	0- 8	0-10	0-11	0- 9	0- 9	
S 5006	66	15- 3	1050	ST						
S 5007	80	15- 2	1266	ST						
S 5008	64	7- 0	467	ST						
S 7001	429	21-11	19218	ST						
S 7002	113	22- 4	5158	ST						
S 7003	1	3- 5		ST						1
THRU			249		VARY	LENGTH	BY	1- 6	3/ 8	
S 7013	1	18- 9		ST						1
S 7014	1	6-10		ST						1
THRU			324		VARY	LENGTH	BY	1- 6	1/ 4	
S 7024	1	22- 0		ST						1
S 7025	12	6- 0	147	ST						
S 7027	1	20- 0		ST						1
THRU			269		VARY	LENGTH	BY	1- 7	1/ 4	
S 7037	1	3-11		ST						1
S 7038	1	22- 1		ST						1
THRU			301		VARY	LENGTH	BY	1- 7	1/ 2	
S 7047	1	7- 5		ST						1
S 7049	209	26- 9	11427	ST						
S 7050	222	17- 2	7790	ST						
S 7051	60	26-11	3301	ST						
S 7052	51	17- 9	1850	ST						
S 7053	1	2- 3		ST						1
THRU			151		VARY	LENGTH	BY	1- 5	7/ 8	
S 7061	1	14- 2		ST						1
S 7062	1	6-10		ST						1
THRU			457		VARY	LENGTH	BY	1- 4	7/ 8	
S 7075	1	25- 1		ST						1

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				SUPERSTRUCTURE				(CONTINUED)		
S 7076	1	24- 9		ST						1
THRU			401		VARY	LENGTH	BY	1- 7	3/ 8	
S 7088	1	5- 5		ST						1
S 7089	1	18-10		ST						1
THRU			216		VARY	LENGTH	BY	1- 7	1/ 4	
S 7096	1	7- 7		ST						1
				REPLACEMENT STEEL FOR SPIRALS						
RE 4001	1	6- 3		5	1- 3 ½		6- 3			
				REPLACEMENT STEEL						
RE 4002	1	6- 3		ST						
RE 5001	2	6- 7		ST						
RE 6001	1	6-10		ST						
RE 7001	3	7- 2		ST						
RE 8001	1	7- 6		ST						
RE 9001	1	7-10		ST						
RE10001	1	8- 2		ST						
				LIGHT POLE SUPPORT						
L 5001	8	3- 2	26	6	0- 7	0- 7	2- 4			4
L 5002	2	2-11	6	1	1-10	1- 3				4
L 5003	3	5- 6	17	1	2-10	2-10				4
L 5004	3	3- 0	8	1	1- 8	1- 1				4

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

391
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00

NOTES

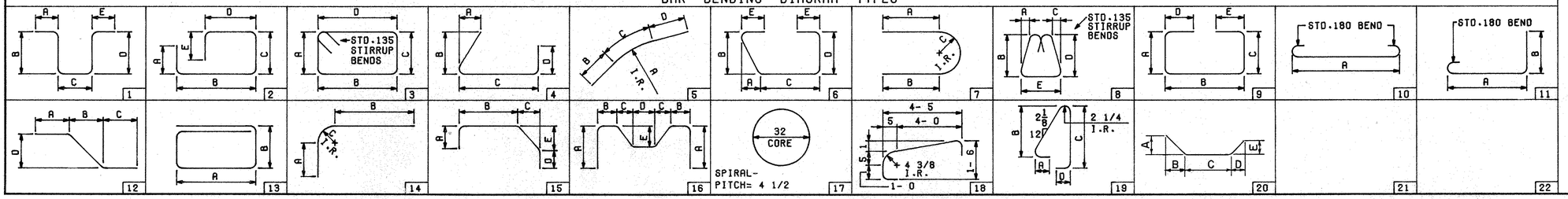
1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



12/12

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

REINFORCING STEEL LIST

BRIDGE NO. BEL-7-2549
SR-7 UNDER TR469 CONNECTOR
BELMONT COUNTY STA.1350+50.00

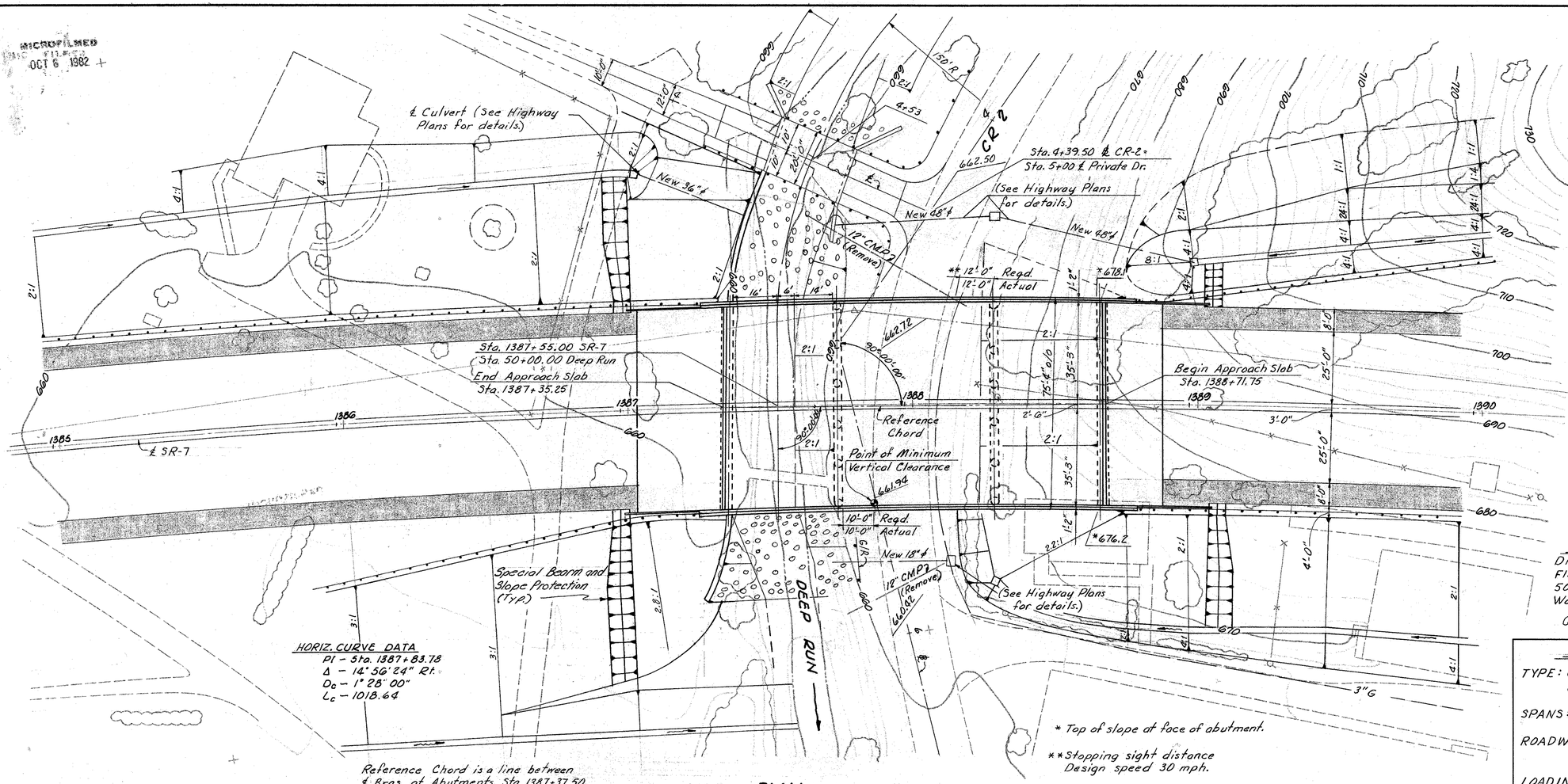
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
fmd			VB	JEV	10/12/10	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS

342
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



* Top of slope at face of abutment.

** Stopping sight distance Design speed 30 mph.

Reference Chord is a line between ℄ Brgs. at Abutments. Sta. 1387+37.50 to Sta. 1388+69.50.

Horizontal clearances are based on future alignment.

Vertical clearance is based on existing grade.

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

PLAN

N

EXISTING STRUCTURE

TYPE: Simple span footbridge with 6"x8" tie abutments.
SPAN: 26'-6" c/c abutments.
WIDTH: 2'-5" c/c handrails.
SKEW: 10° ± Rt. forward.
FLOOR: 2-10"x15" timbers.
CONDITION: Good
WATERWAY OPENING: 214 sq.ft.

DRAINAGE INFORMATION

Drainage Area = 3.84 sq. mi.
Flood Discharge = Q_{50} = 2040 c.f.s.
50 yr. High Water Elev. = 661.4
Waterway Opening Below 661.4 = 256 sq.ft.
Q_{100} = 2350 c.f.s. V_{100} = 11.8 f.p.s.

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure.

SPANS: 38'-6", 55'-0", 38'-6" c/c brg. along ℄ SR-7.

ROADWAY: 73'-0" c/c concrete barrier railing with 2'-6" barrier median.

LOADING: HS 20-44

WEARING SURFACE: 2½" Asphalt Concrete

SKEW: 0° with respect to reference chord.

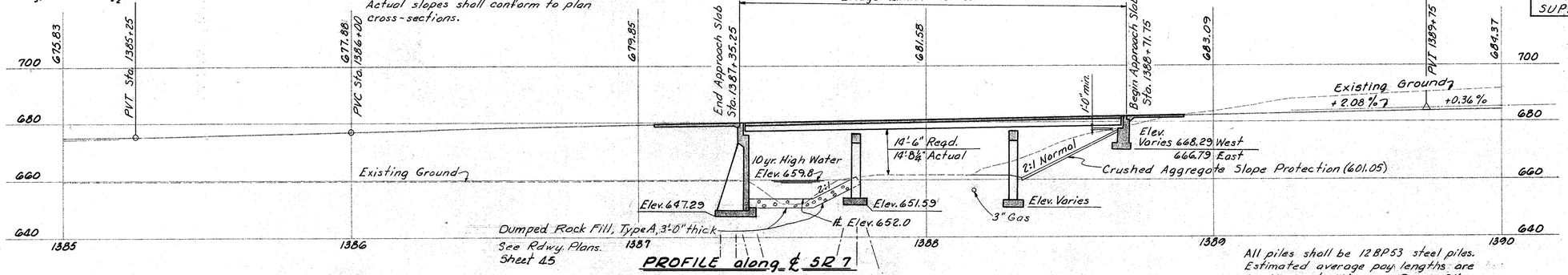
ALIGNMENT: 1°-28' Right.

APPROACH SLABS: 30'-0" Rear, 20'-0" Fwd. See Common Details sheet 335.

SUPERELEVATION: 0.036 ft/ft.

VERTICAL CURVE DATA
PVI - Sta. 1383+75
VC - 300'
Elev. - 673.20
Corr. - 0.90'
Pr. Gr. - 674.10
g_1 = -0.32%, g_2 = +2.08%

VERTICAL CURVE DATA
PVI - Sta. 1389+75
VC - 750'
Elev. - 685.68
Corr. - -1.61'
Pr. Gr. - 684.07
g_1 = +2.08%, g_2 = +0.36%



PROFILE along ℄ SR 7

All piles shall be 12 BP53 steel piles.
Estimated average pay lengths are
South Abut. - 32' Pier 1 - 21'

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO
1/17

SITE PLAN

BRIDGE Nº BEL-7-2619
SR-7 over DEEP RUN and CR-2
BELMONT COUNTY
STA. 1387+35.25 to STA. 1388+71.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DLM	DLM	DW	Fwd.	JEV	10/25/07	10-24-74

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

393
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
BOLTED SPLICES	SD-1-69	4	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	2	10-15-71 R
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72		6- 30-72

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1-1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	1- 1-71

COMMON DETAIL REFERENCES

CONTRACTION JOINTS	SHEET 335
EXPANSION JOINTS	SHEET 335
SCUPPERS	SHEET 335 & 335A
SUBDRAINGE FOR WEARING COURSE	SHEET 335 A

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1965, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI. SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, A306, A499 OR A615.

EMBANKMENT CONSTRUCTION

BEFORE THE SOUTH ABUTMENT BACKWALL IS CONSTRUCTED THE ENBANKMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE WITH A 1 TO 1 SLOPE FROM THE BRIDGE SEAT TO THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENT.

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK OR TO 20 BLOWS PER INCH FOR THE LAST FEW INCHES OF PENETRATION. THE DESIGN LOAD IS 40 TONS PER PILE FOR THE ABUTMENT AND WINGWALL PILES AND 40 TONS PER PILE FOR THE PIER PILES.

BACKWALL CONCRETE
SEE SHEET 346.

BEARING ANCHORS
SEE SHEET 346.

APPROACH SLAB DETAILS
SEE SHEET 339 FOR APPROACH SLAB NOTES.

FOUNDATION BEARING PRESSURE

PIER NO. 2 AND NORTH ABUTMENT FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 5 TONS PER SQUARE FOOT.

FOOTINGS

PIER NO. 2 AND NORTH ABUTMENT FOOTINGS SHOULD EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

MAINTENANCE OF TRAFFIC

TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 19'-0 AND A MINIMUM VERTICAL CLEARANCE OF 13'-6 SHALL BE MAINTAINED ON C.R. 2 AT ALL TIMES.

	ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	WALLS	PIERS	SUPER.	GENERAL
	202	LUMP	SUM	EXISTING STRUCTURE REMOVED					LUMP
	503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING					LUMP
	503	1210	C.Y.	UNCLASSIFIED EXCAVATION	550	320	340		
	503	105	C.Y.	ROCK EXCAVATION	100		5		
	505	LUMP	SUM	TEST PILE					LUMP
	507	5110	L.F.	STEEL PILES HP53x12*	3070	1280	760		
	509	177872	LB	REINFORCING STEEL	53614	14724	27985	81583	
	511	302	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE				302	
	511	115	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS			115		
	511	333	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	333				
	511	114	C.Y.	CLASS C CONCRETE, WALLS		114			
	511	347	C.Y.	CLASS C CONCRETE, FOOTINGS	182	97	68		
	512	22	S.Y.	TYPE B WATERPROOFING	18	4			
	512	99	L.F.	PREMOLDED SEALING STRIP	73	26			
	513	199700	LB	STRUCTURAL STEEL				199700	
	514	199700	LB	FIELD PAINTING OF STRUCTURAL STEEL				199700	
	516	198	S.F.	1 INCH PREFORMED EXPANSION JOINT FILLER	88	110			
	518	400	L.F.	SUBDRAINAGE FOR WEARING COURSE, as per plan				400	
	518	280	C.Y.	POROUS BACKFILL	195	85			
	518	57	L.F.	6 INCH PERFORATED, HELICAL CMP, 707.01	57				
	518	98	L.F.	6 INCH NON-PERFORATED, HELICAL CMP, INCLUDING SPECIALS, 707.01	98				
	518	10	EA	SCUPPERS INCLUDING SUPPORTS				10	
	518	54	L.F.	8 INCH PERFORATED CMP, INCLUDING SPECIALS, 707.01. BITUMINOUS COATED AS PER 707.04	54				
	601	335	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION					335
	808	302	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D				302	
	404	57	C.Y.	ASPHALT CONCRETE (70-85 or AC20)				57	
	SPEC	14	C.Y.	SAND ASPHALT				14	
**	SPEC	1023	S.Y.	MEMBRANE WATERPROOFING SHEET TYPE				1023	

* HP12x53 Steel Piles formerly designated 12BP53

** See Proposal Note

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CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. BEL-7-2619
SR-7 OVER DEEP RUN & CR-2
STA.1387+35.25 TO
BELMONT COUNTY STA.1388+71.25

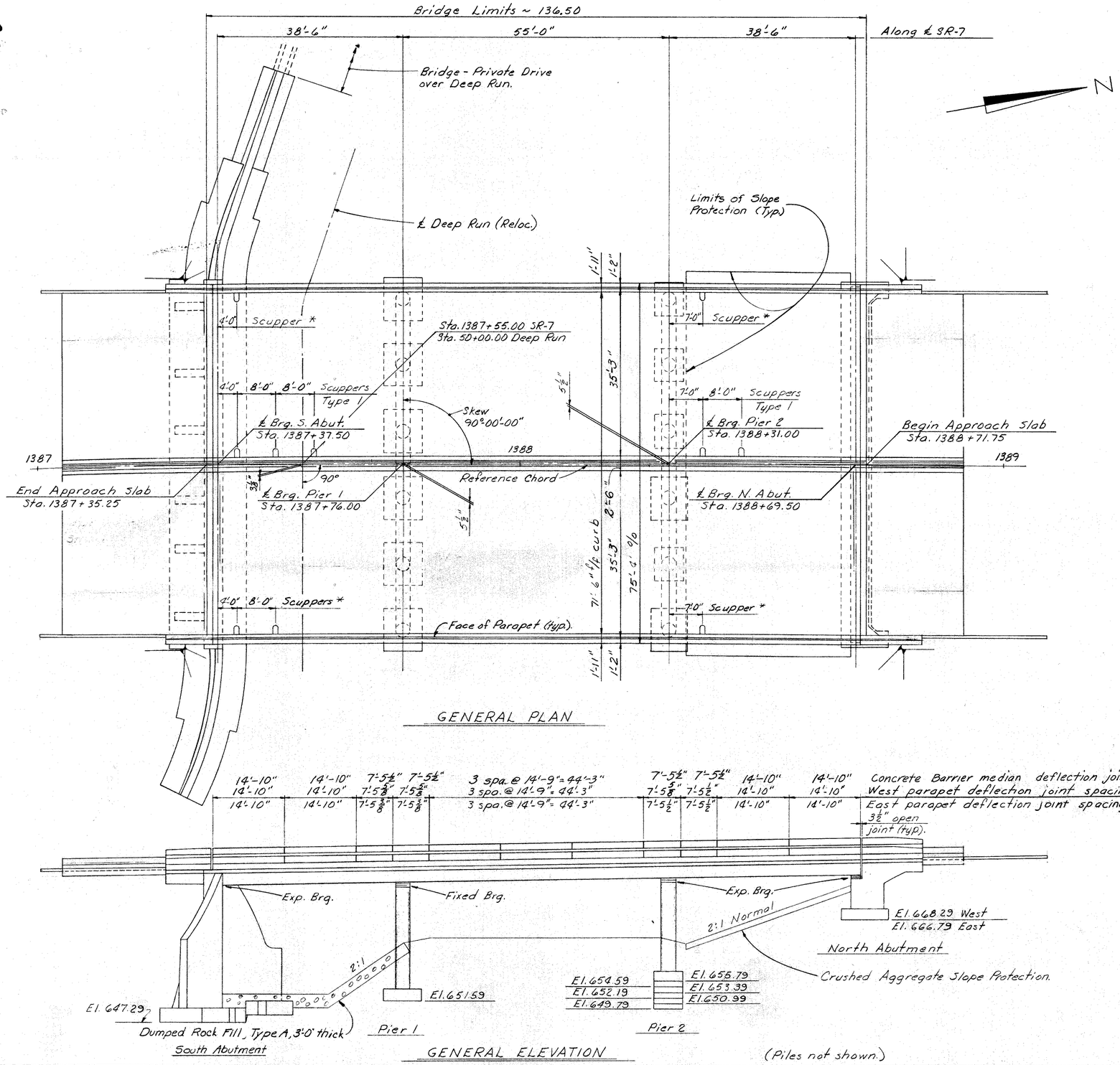
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			PHB 6-11-69	HBT	11-3-69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

394
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



GENERAL PLAN

GENERAL ELEVATION (Piles not shown.)

NOTES

* For scupper details see Common Details, sheet 935.

** Parapet Deflection Joint spacing is meosured along face of parapet.
Length of superstructure parapet:
West parapet ~ 133'-5⅜"
East parapet ~ 133'-4¾"
Length of concrete barrier median ~ 133'-5"
For Parapet Deflection Joint Details see Std. Dwg. BR-1-67.

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CONSULTING ENGINEERS
COLUMBUS, OHIO
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GENERAL PLAN and ELEVATION
BRIDGE No. BEL-7-2619
SR-7 over DEEP RUN and CR 2
BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

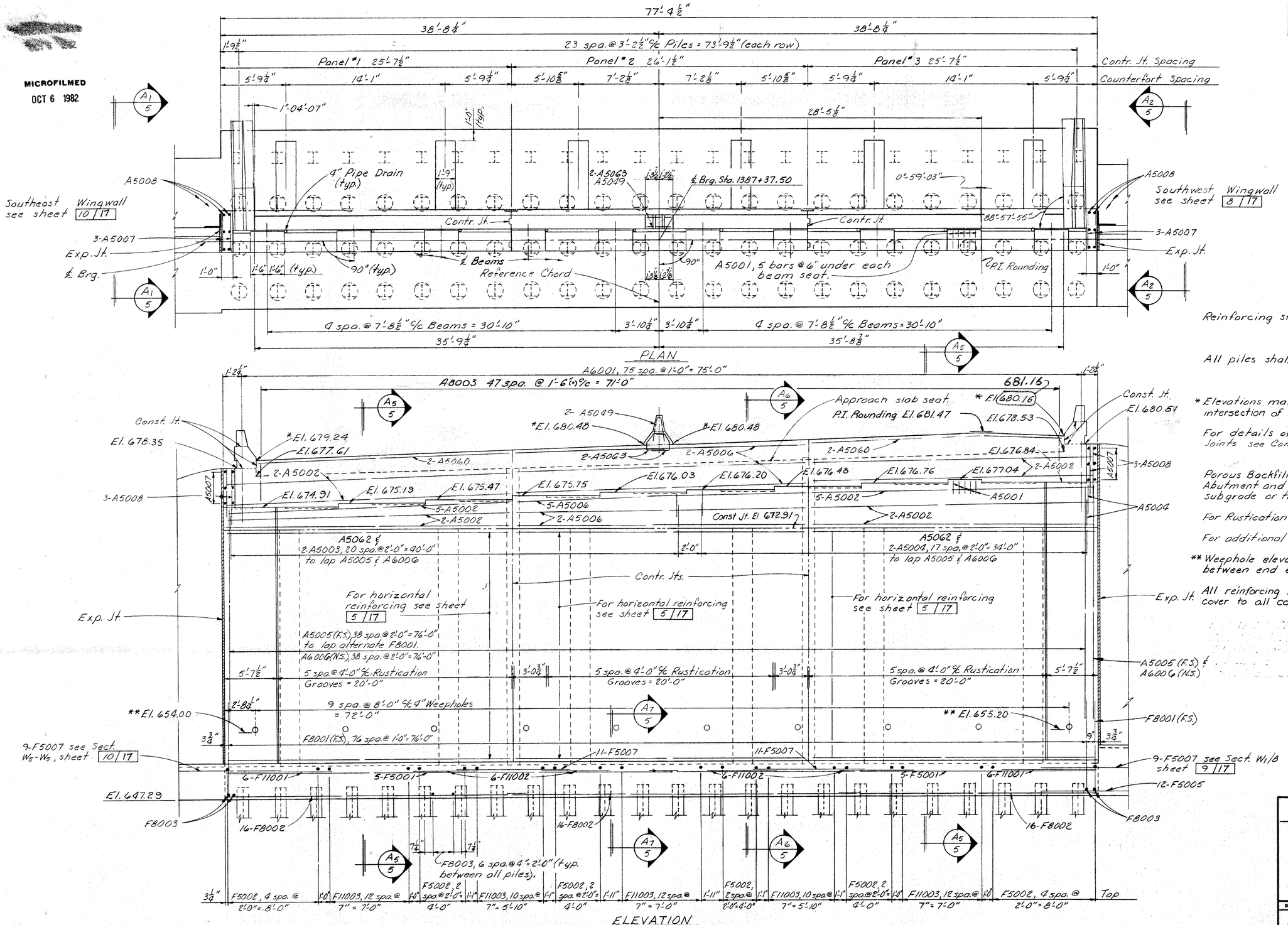
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	DW		PHB	HBT	11/3/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

345
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00





NOTES

Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

All piles shall be 12BP53 steel piles:
I ~ Vertical
⋔ ~ Batter 1:4

* Elevations marked with an asterisk are at the intersection of the roadway surface and face of backwall.

For details of Expansion Joints and Contraction Joints see Common Details sheet 335

Porous Backfill, 2'-0" thick, full length of South Abutment and wings, shall extend up to the subgrade or to the finished ground surface.

For Rustication Groove Details see sheet 9 | 17

For additional details see sheet 5 | 17

** Weephole elevations to vary proportionally between end elevations.

All reinforcing in footings shall have 3" minimum cover to all concrete surfaces.

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CONSULTING ENGINEERS
COLUMBUS, OHIO

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SOUTH ABUTMENT DETAILS

BRIDGE No. BEL-7-2619

SR-7 over DEEP RUN and CR 2

BELMONT COUNTY STA.1387 + 35.25 to STA.1388 + 71.75

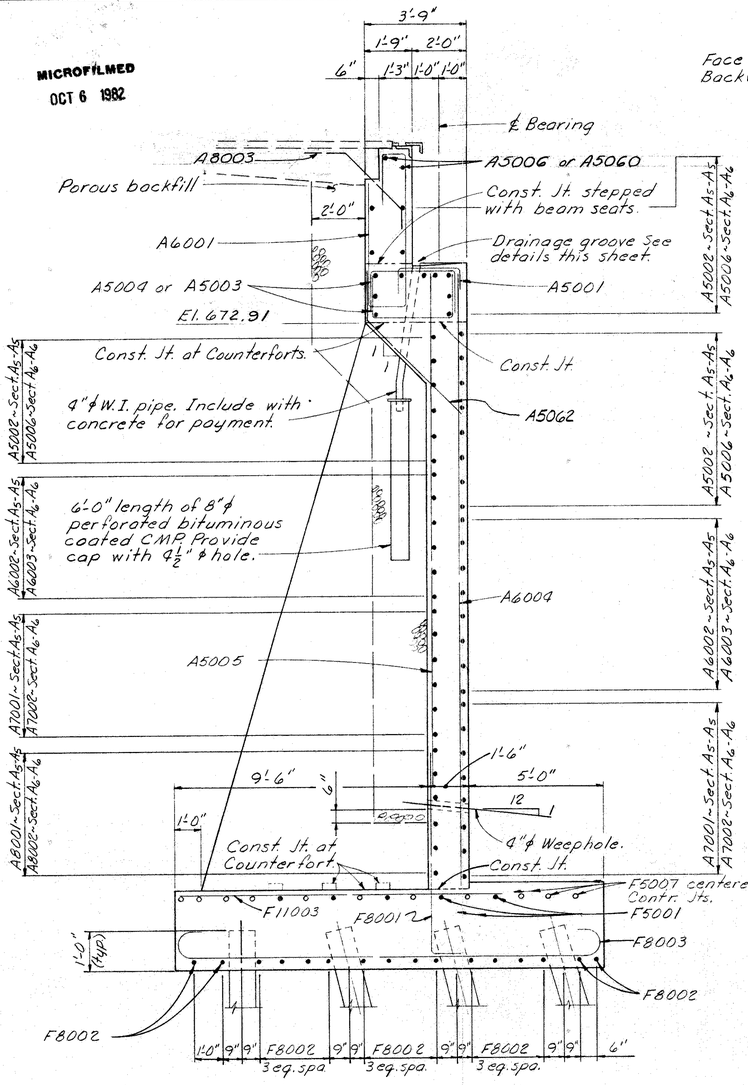
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	D.W.		P.H.B.	H.B.T.	11/3/69	10-21-75

MICROFILMED
OCT 6 1982

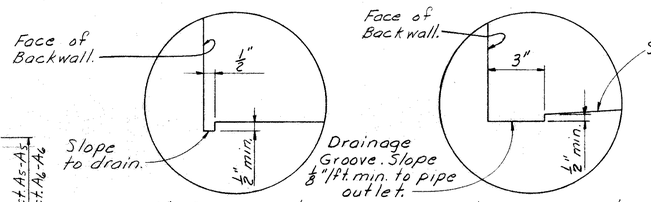
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

346
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

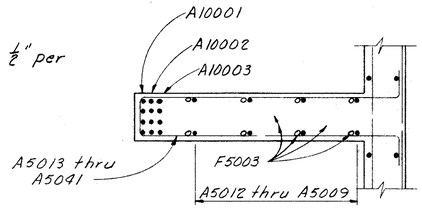


SECTIONS ~ A5/4 & A6/4

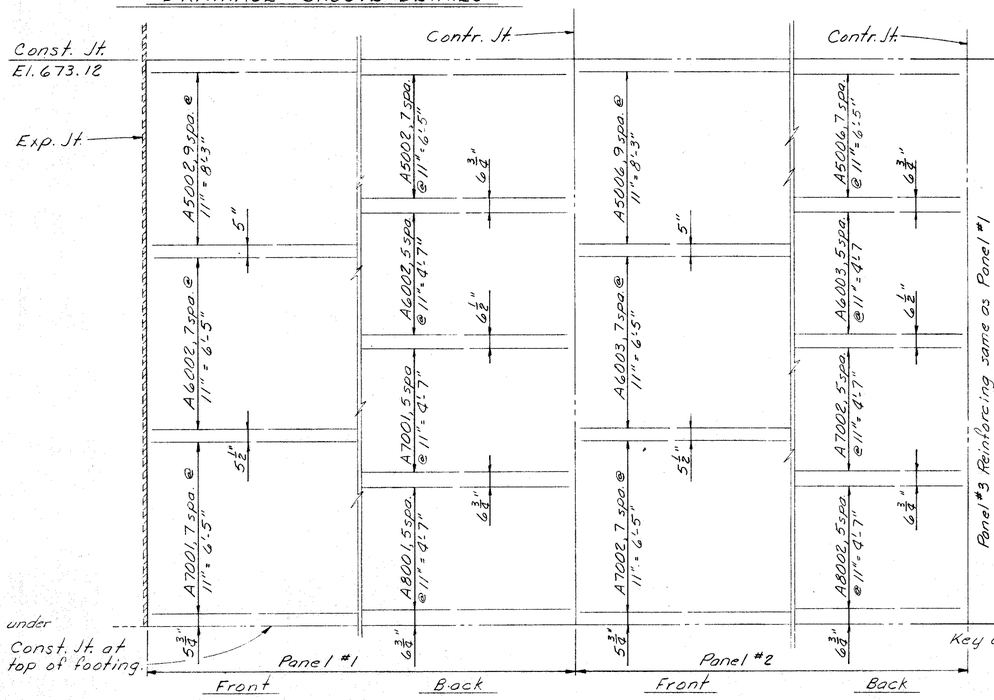


At Beam Seats — Between Beam Seats

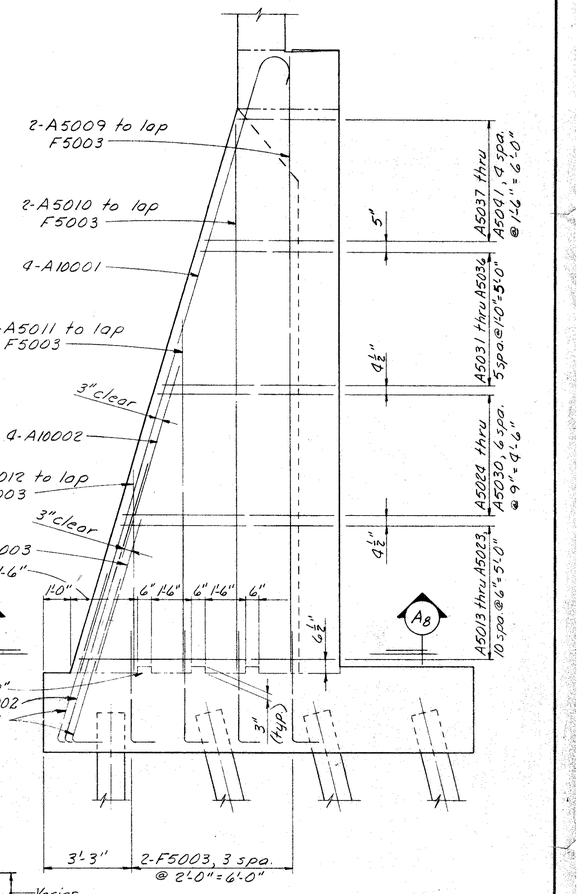
DRAINAGE GROOVE DETAILS



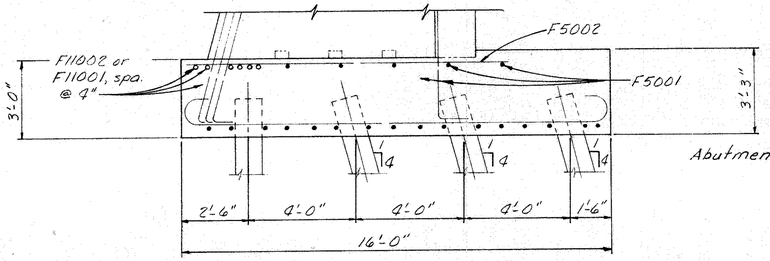
SECTION ~ A8-A8



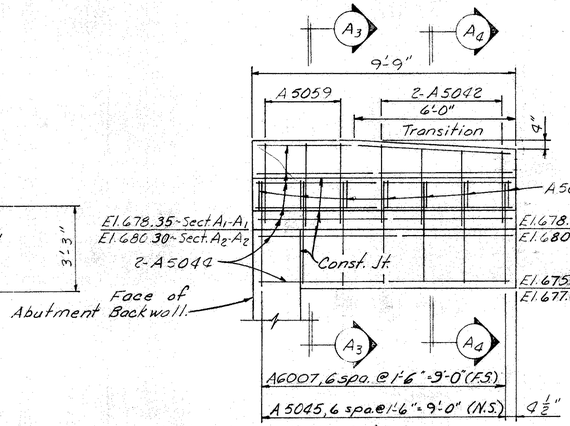
ELEVATION ~ HORIZONTAL REINFORCING IN FACE SLAB



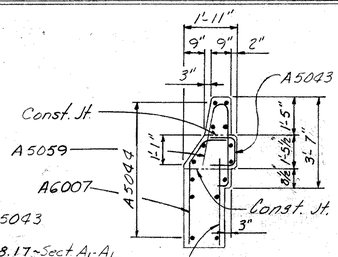
COUNTERFORT DETAILS



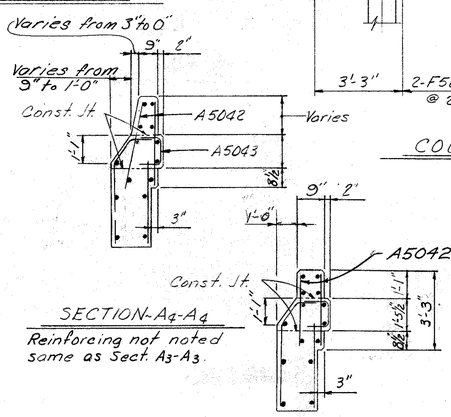
SECTION ~ A7/4



VIEW ~ A2/4 as shown
View ~ A1/4 opposite hand.



SECTION ~ A3-A3



SECTION ~ A4-A4
Reinforcing not noted same as Sect. A3-A3.

END VIEW
Reinforcing not noted same as Sect. A3-A3.

NOTE
Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

ALDEN E. STILSON & ASSOCIATES, LIMITED
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COLUMBUS, OHIO
5 / 17

SOUTH ABUTMENT DETAILS
BRIDGE No. BEL-7-2619
SR-7 over DEEP RUN and CR 2
BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

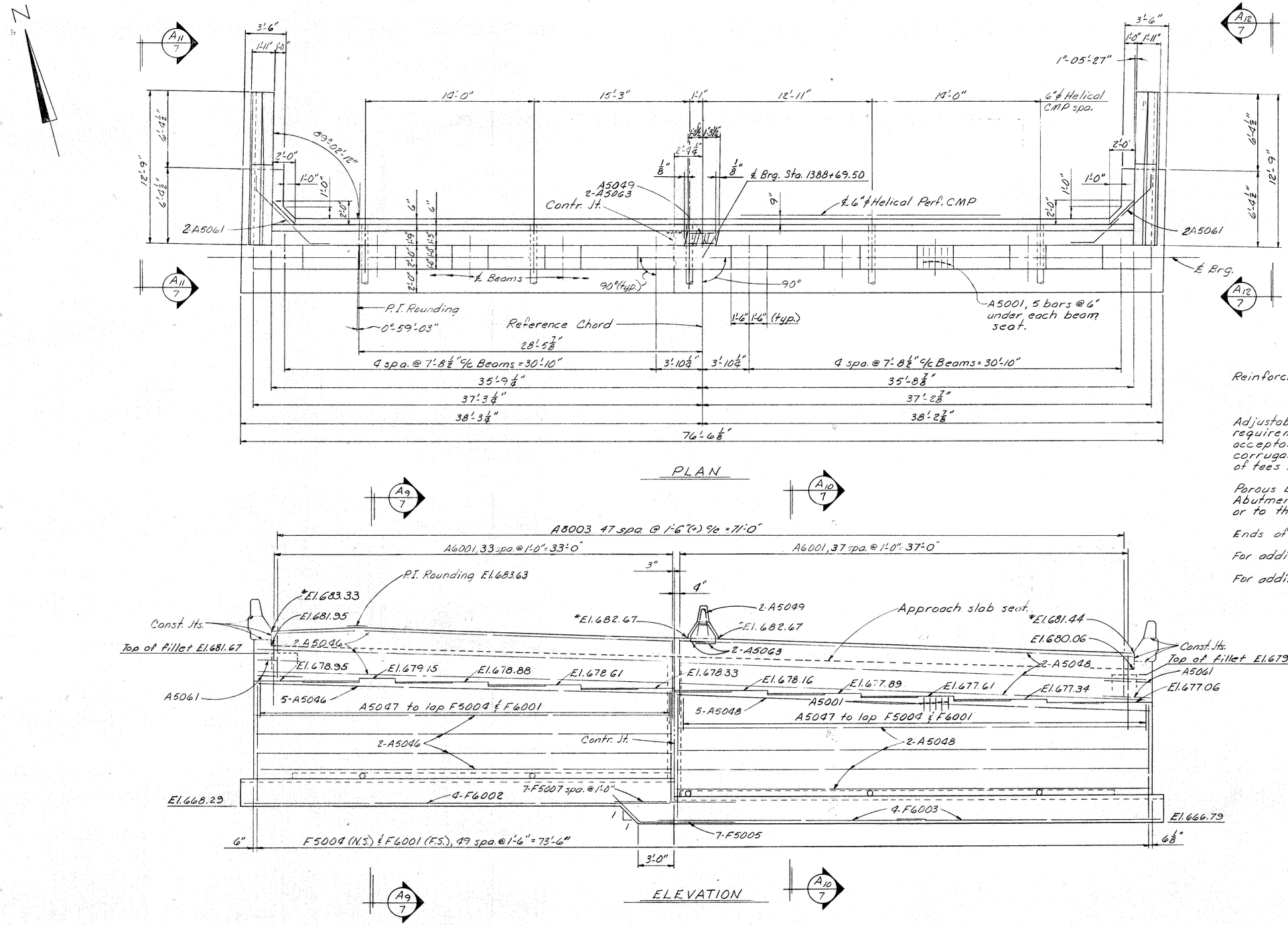
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	D.W.		PHB	HBT	11/3/69	10-24-74

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

397
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PLAN

ELEVATION

NOTES

Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

Adjustable type elbows meeting specification requirements for gage and coating are acceptable for making bends in perforated corrugated metal pipe. Elbows and the stem of tees need not be perforated.

Porous Backfill, 1'-6" thick, full length of North Abutment shall extend up to the subgrade or to the approach slab.

Ends of 6"ϕ Helical Perf. CMP shall be capped.

For additional notes see sheet 4 | 17.

For additional details see sheet 7 | 17.

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NORTH ABUTMENT DETAILS

BRIDGE No. BEL-7-2619

SR-7 over DEEP RUN and CR 2

BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

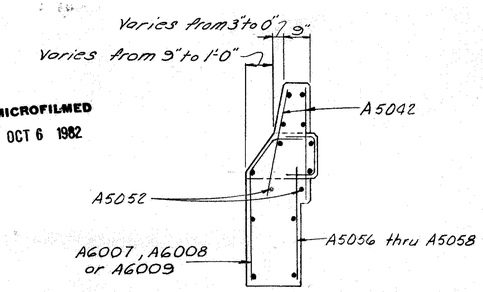
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	DW		PHB	HBT	11/3/69	

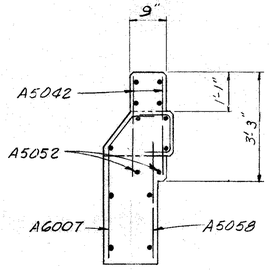
MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

398
462

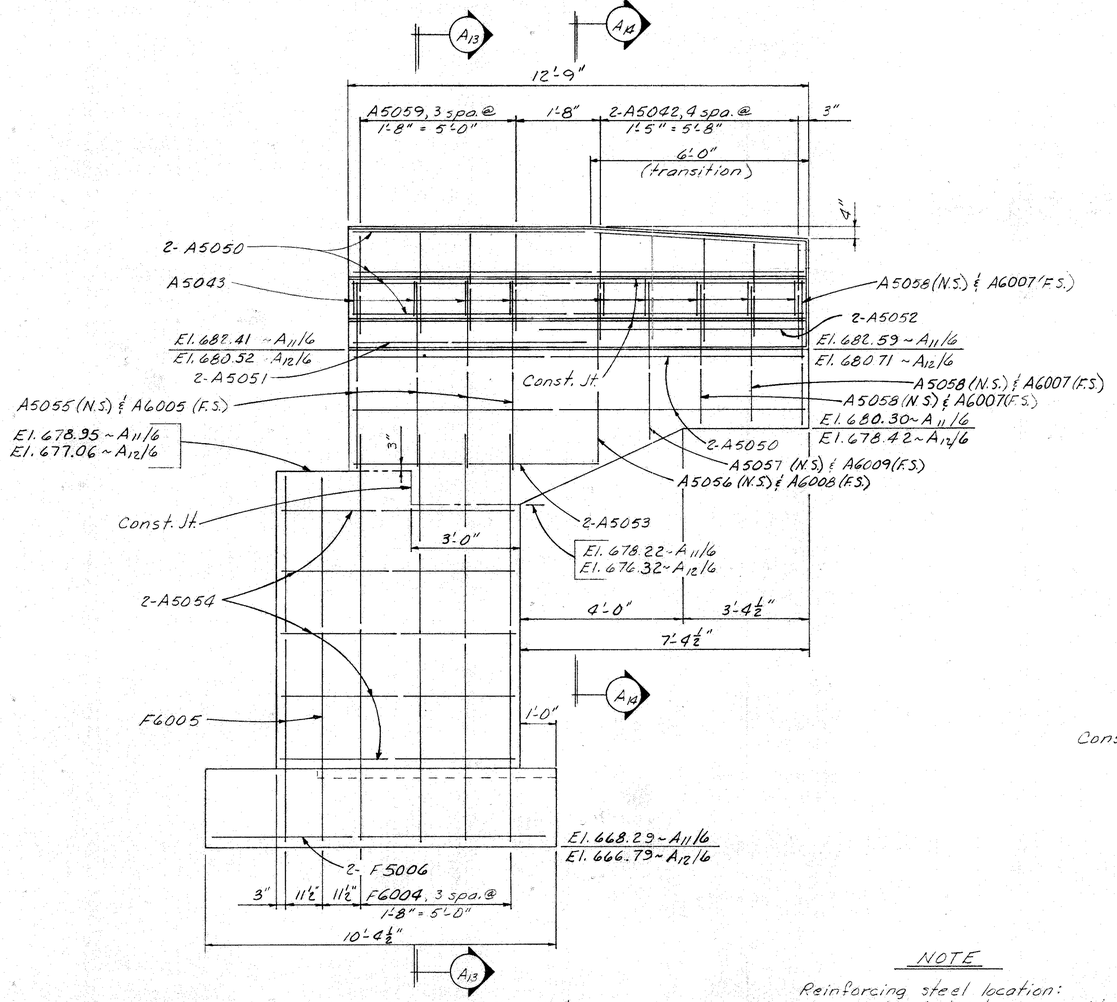
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 /JEF-7-0.00





SECTION~A_{14}-A_{14} END VIEW

(Reinforcing and dimensions not noted are same as Sect. A_{13}-A_{13}.)



VIEW ~ A_{12}/6

VIEW~A_{11}/6 opposite hand.

NOTE

Reinforcing steel location:
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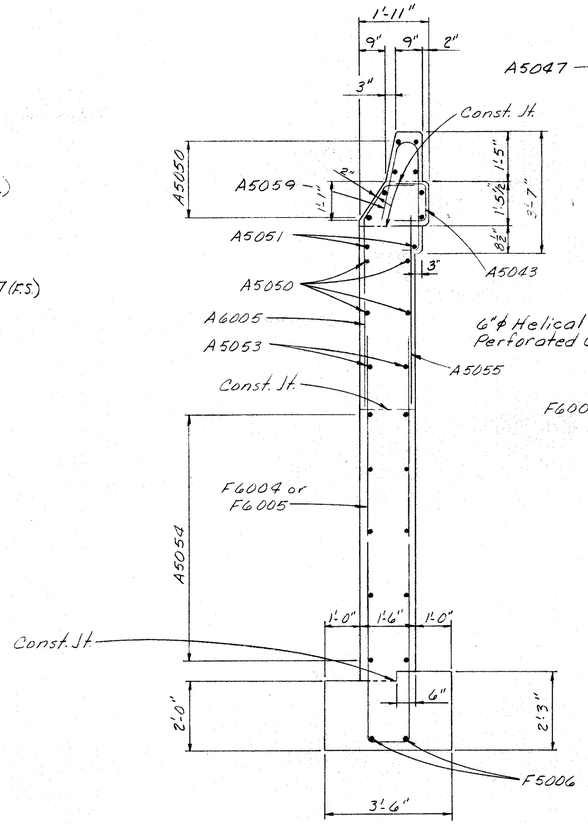
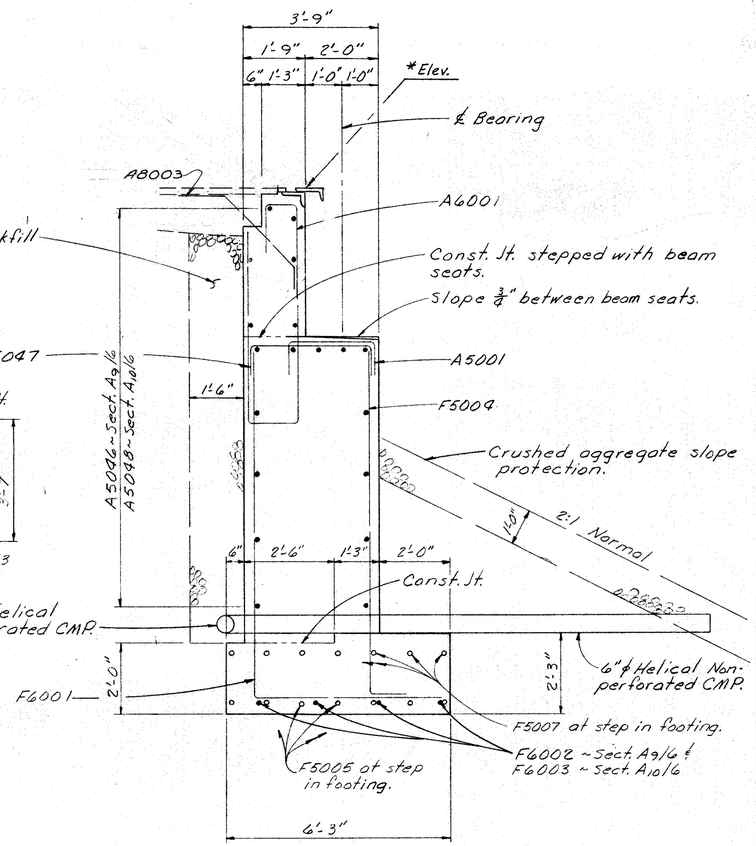
F.S. indicates far side.



SECTION~A_{13}-A_{13}



SECTIONS~A_9/6 & A_{10}/6

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COLUMBUS, OHIO

7/17

NORTH ABUTMENT DETAILS

BRIDGE No. BEL-7-2619

SR-7 over DEEP RUN and CR 2

BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

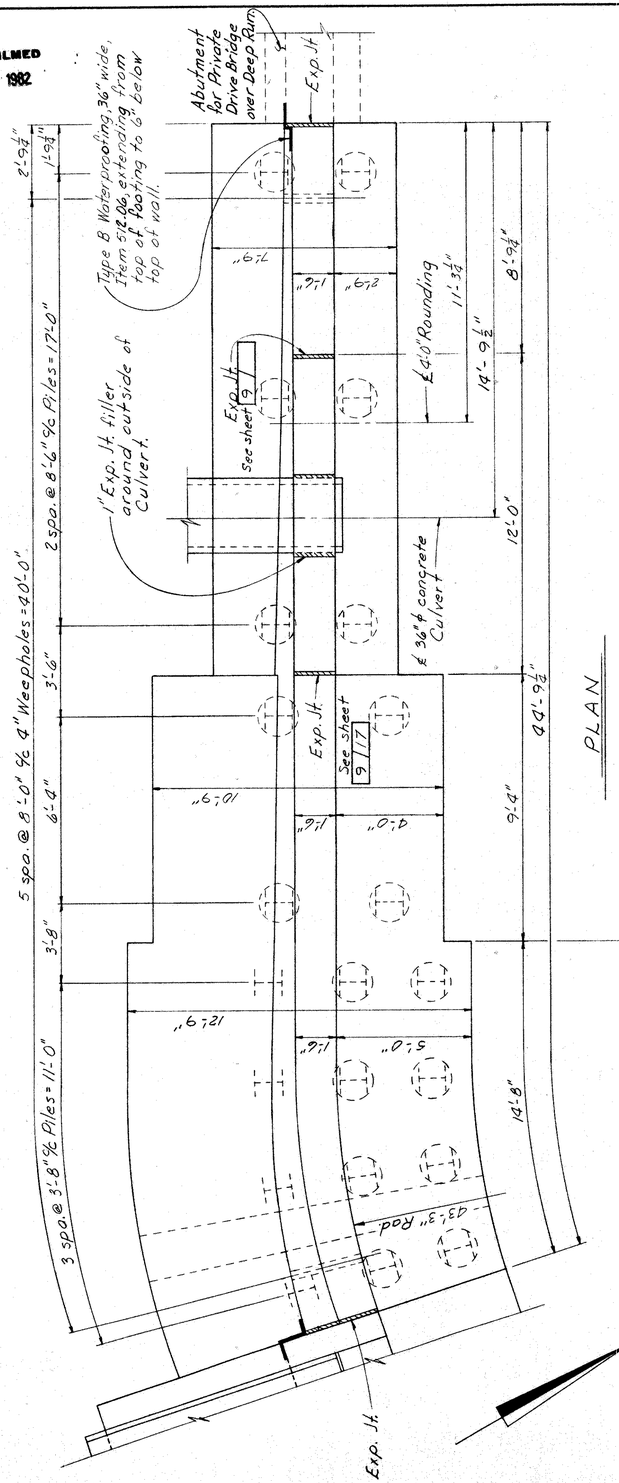
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	DW		PHB	HBT	11/3/69	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

399
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

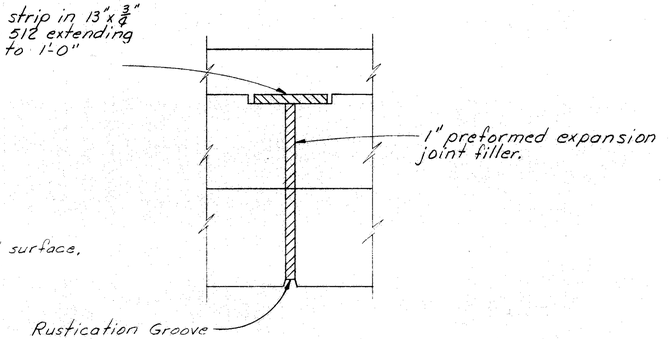

Abutment for Private Drive Bridge over Deep Run
Exp. Jt.
Type B Waterproofing, 36" wide, Item 512.06, extending from top of footing to 6" below top of wall.
1" Exp. Jt. filler around outside of Culvert.
Exp. Jt. See sheet 9
Exp. Jt.
See sheet 9/17
Exp. Jt.
2'-9½"
1'-9½"
5 spa. @ 8'-0" % 4" Weepholes = 40'-0"
3'-6"
2 spa. @ 8'-6" % Piles = 17'-0"
3'-6"
3'-8"
3 spa @ 3'-8" % Piles = 11'-0"
3'-8"
6'-7"
7'-1"
6'-7½"
6'-10½"
9'-4"
5'-7"
1'-7½"
1'-0"
5'-0"
1'-6"
1'-6"
6'-7½"
6'-7½"
6'-7½

MICROFILMED
OCT 6 1982

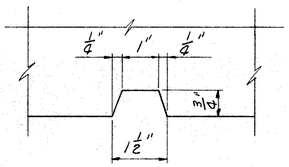
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

400
462

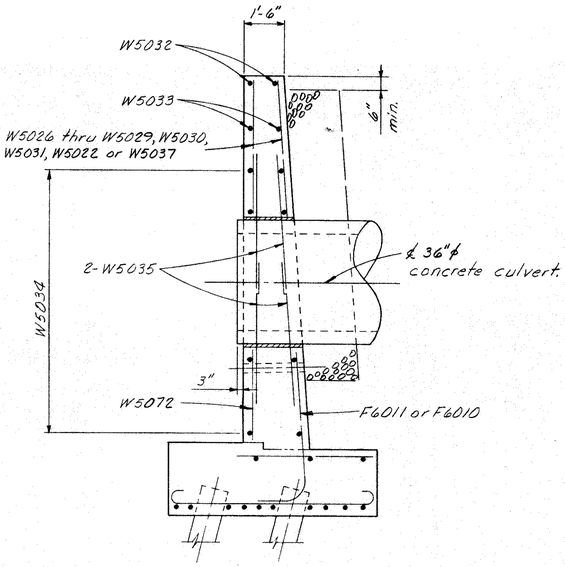
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



EXPANSION JOINT DETAIL

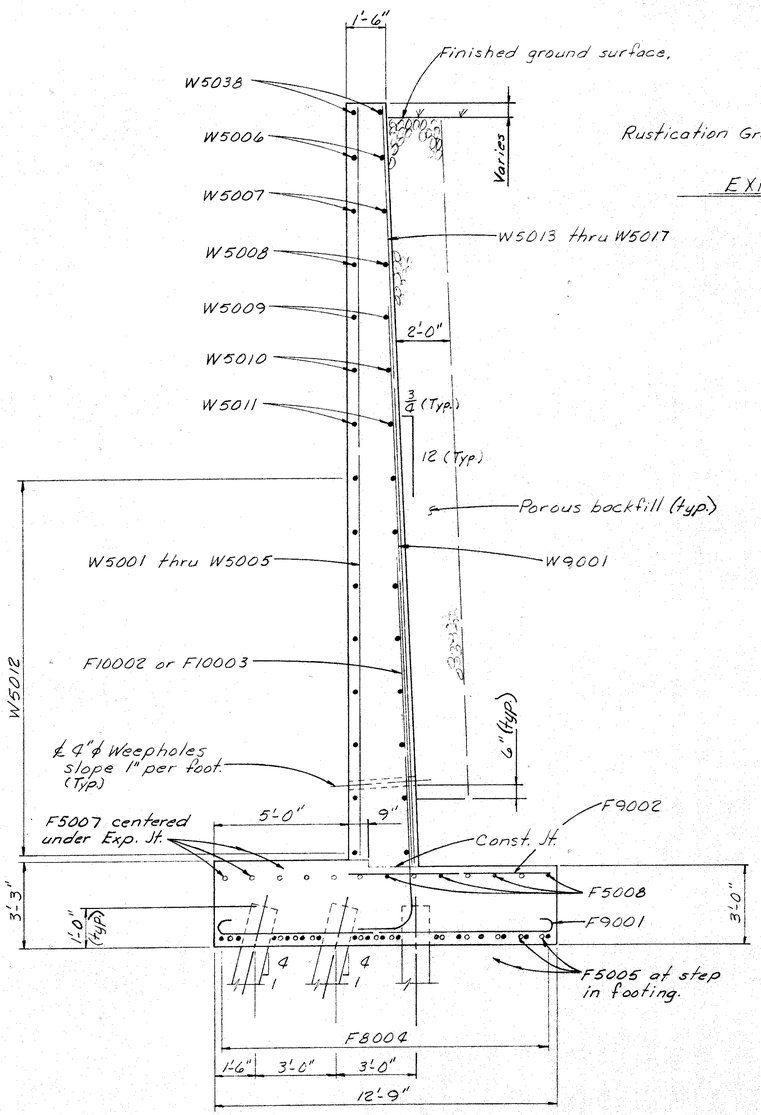


RUSTICATION GROOVE DETAIL

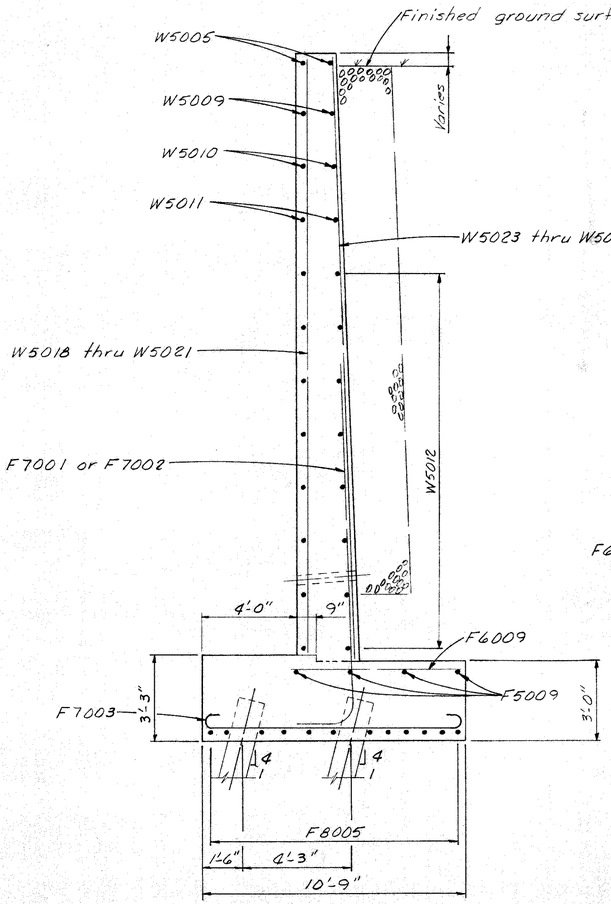


SECTION ~ W4/8

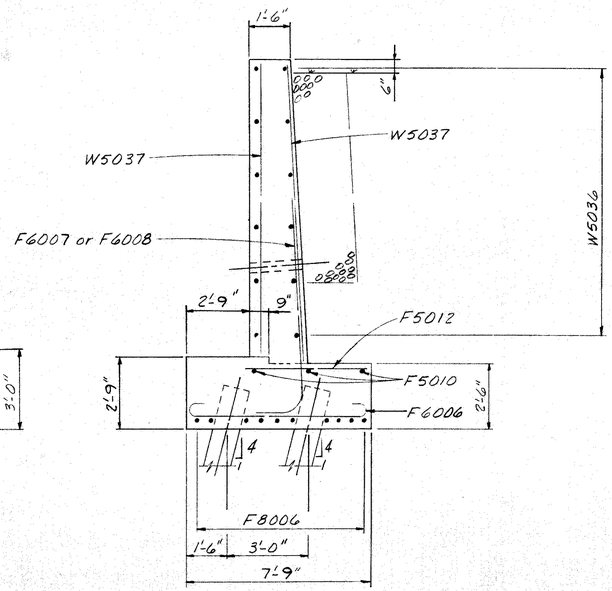
Reinforcing and dimensions not noted are same as Section ~ W3/8.



SECTION ~ W1/8



SECTION ~ W2/8



SECTION ~ W3/8

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO
9/17

SOUTHWEST WINGWALL DETAILS

BRIDGE No. BEL-7-2619

SR-7 over DEEP RUN and CR 2

BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

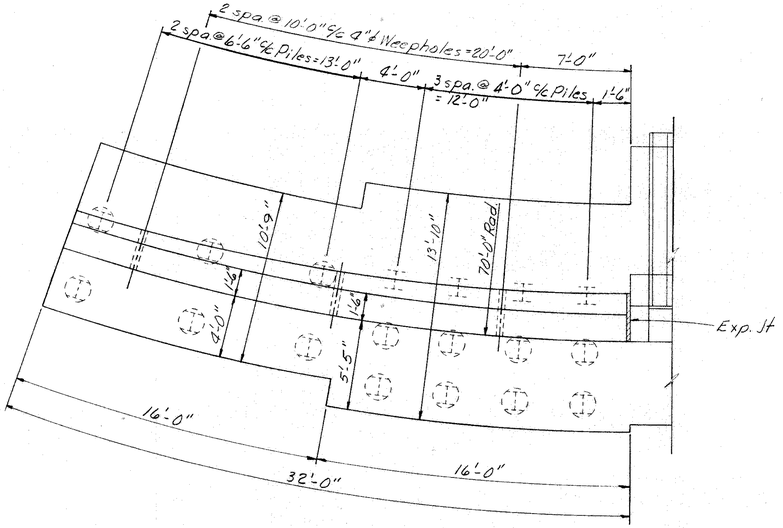
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	DW		PHB	HBT	11/3/69	

MICROFILMED
OCT 6 1982

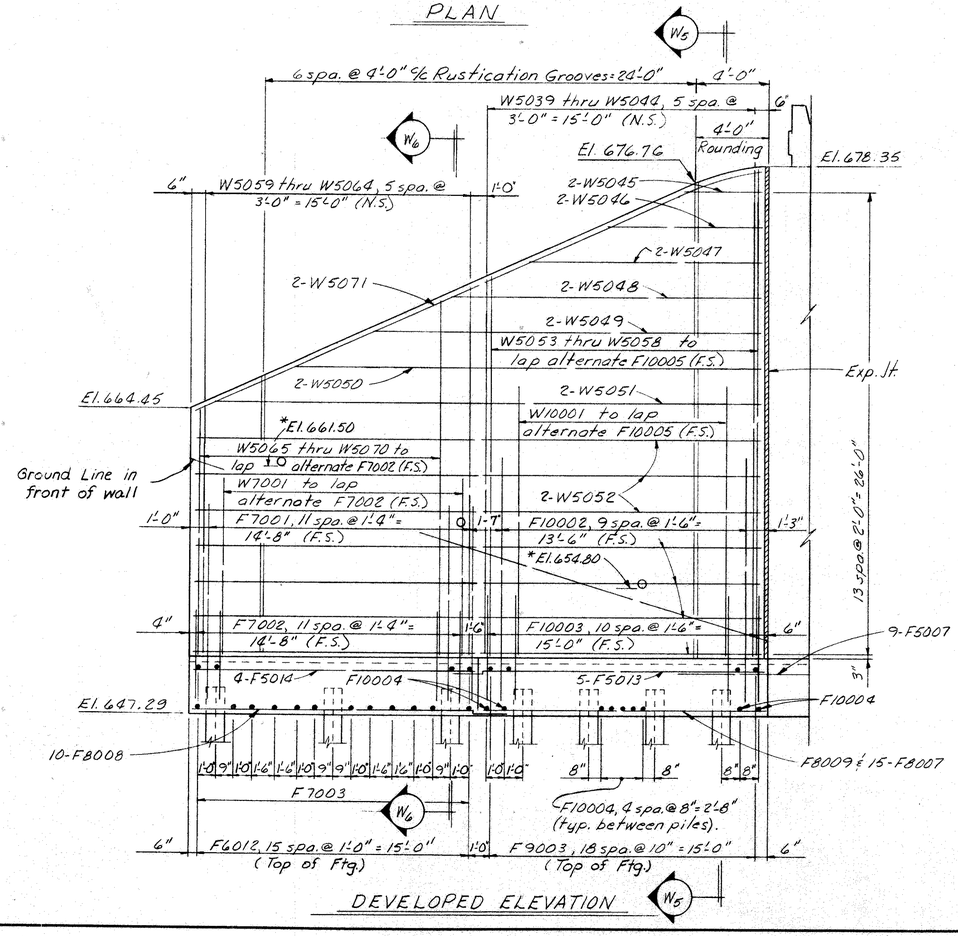
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

401
402

BELMONT-JEFFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PLAN



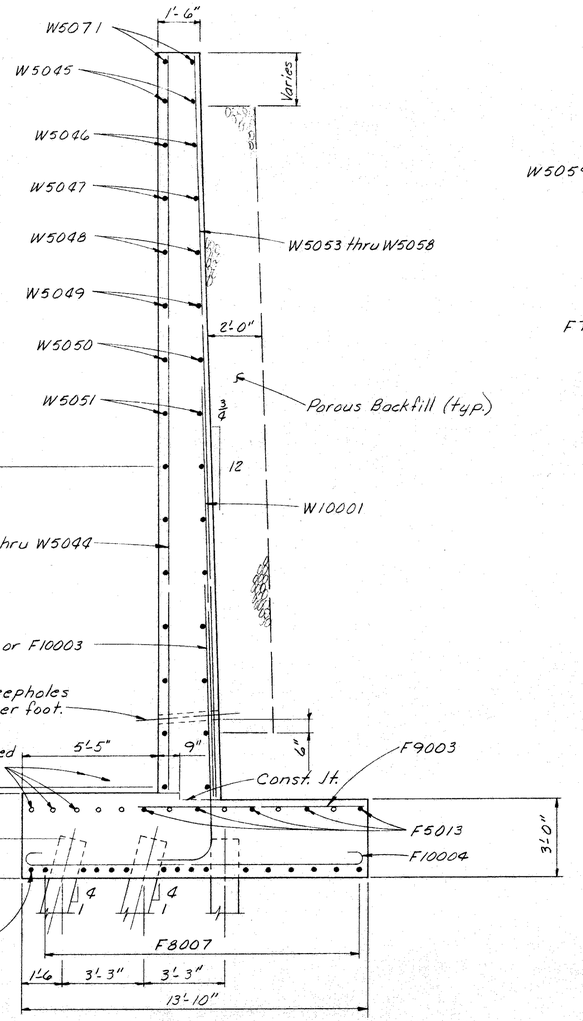
DEVELOPED ELEVATION

NOTES

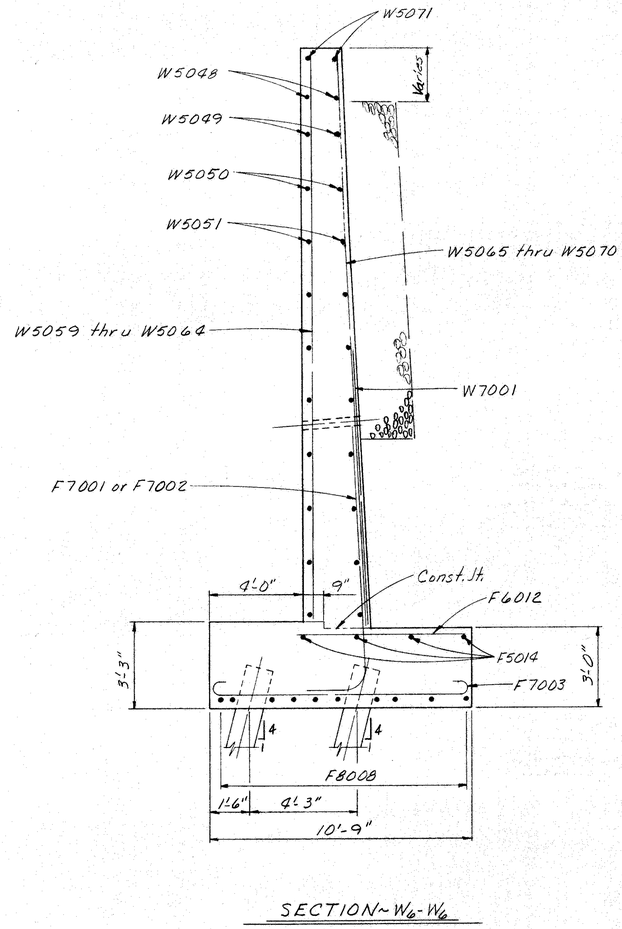
Reinforcing steel location: N.S. indicates near side. F.S. indicates far side.

All horizontal dimensions are measured along arc of 70'-0" radius.

For details of Rustication Grooves see sheet 9 | 17.



SECTION ~ W5 - W5



SECTION ~ W6 - W6

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

BRIDGE No. BEL-7-2619

SR-7 over DEEP RUN and CR 2

BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	DW		PHB	HBT	11/3/69	

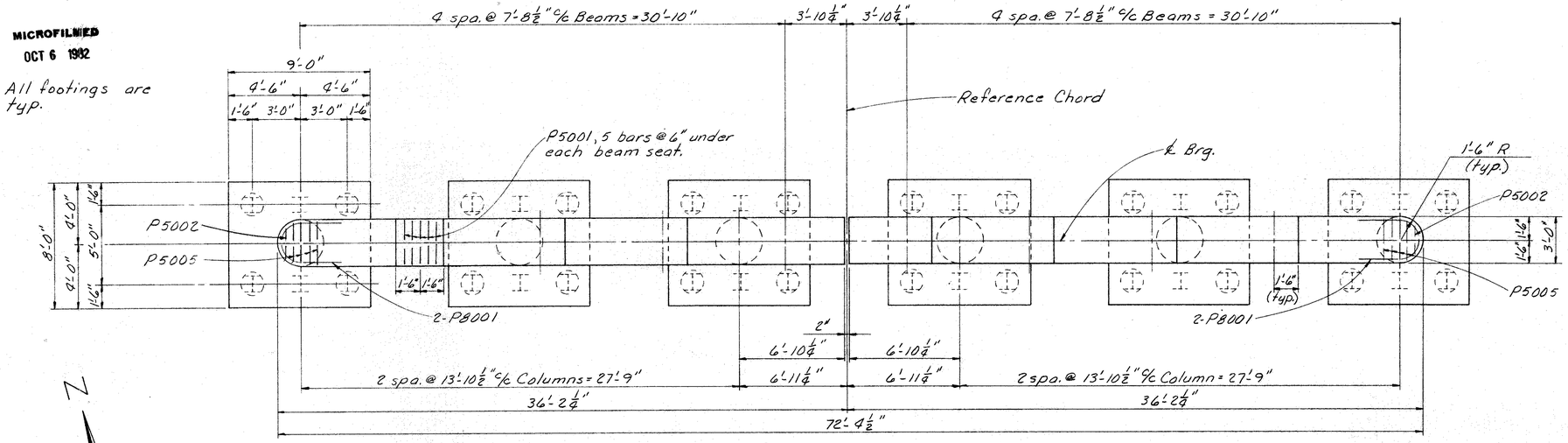
MICROFILMED
OCT 6 1992

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

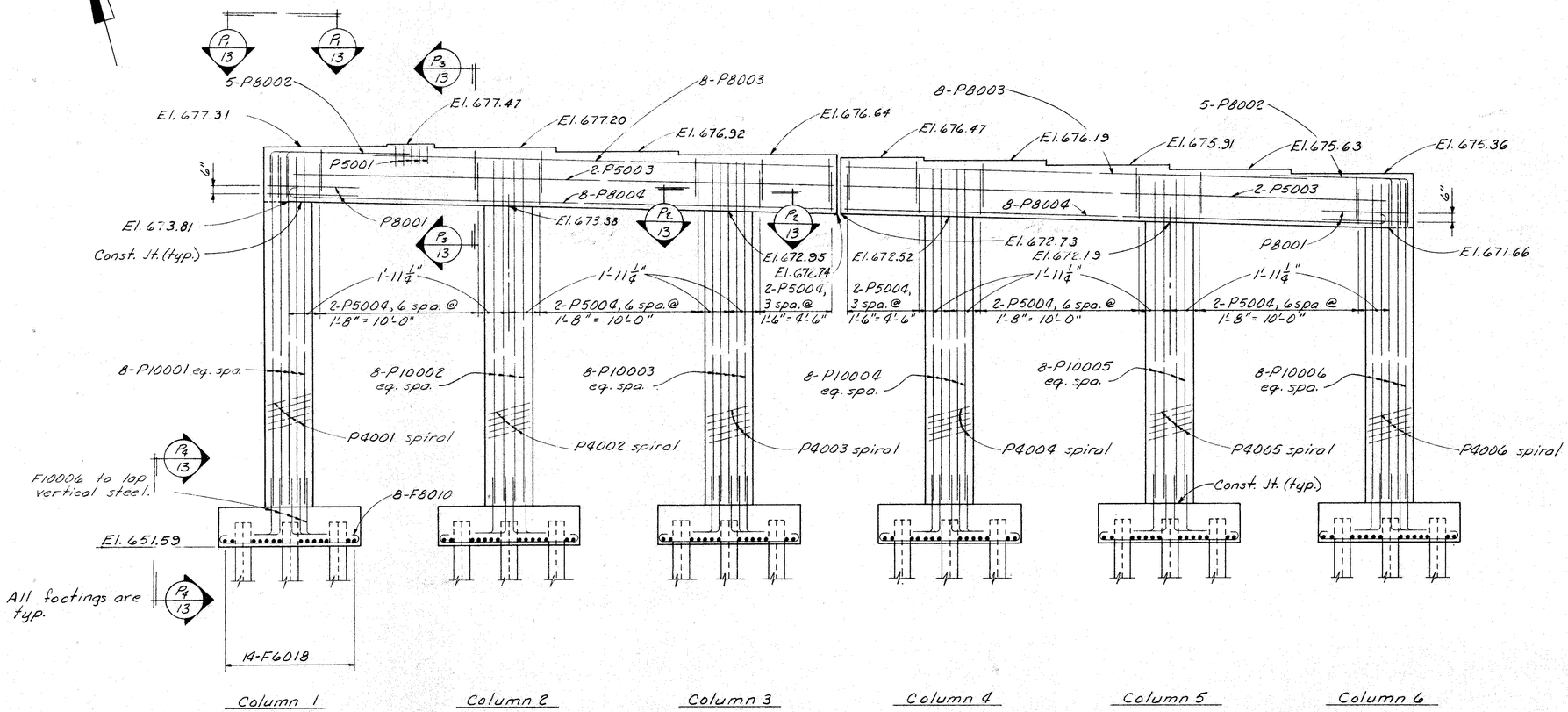
402
402

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

All footings are typ.



PLAN



ELEVATION

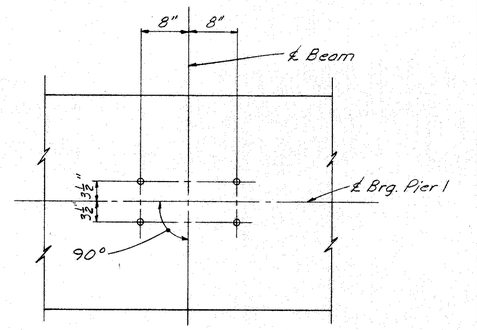
NOTES

All piles shall be 12 BP53 steel piles.
I Vertical
Batter 1:4

All spirals shall have 4½" pitch.

See General Plan for layout of pier along the reference chord.

All reinforcing in footings shall have 3" minimum cover to all concrete surfaces.



ANCHOR BOLT POSITION

Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.

ALDEN E. STILSON & ASSOCIATES, LIMITED
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COLUMBUS, OHIO

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PIER I DETAILS

BRIDGE No. BEL-7-2619

SR-7 over DEEP RUN and CR 2

BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

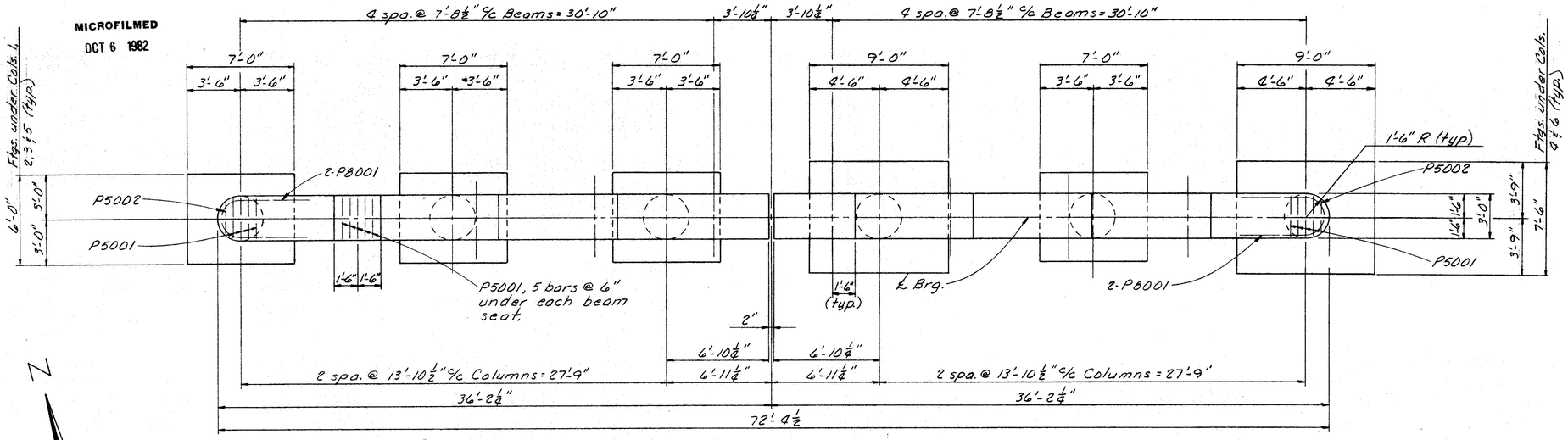
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	D W		PHB	HBT	11/3/69	

MICROFILMED
OCT 6 1982

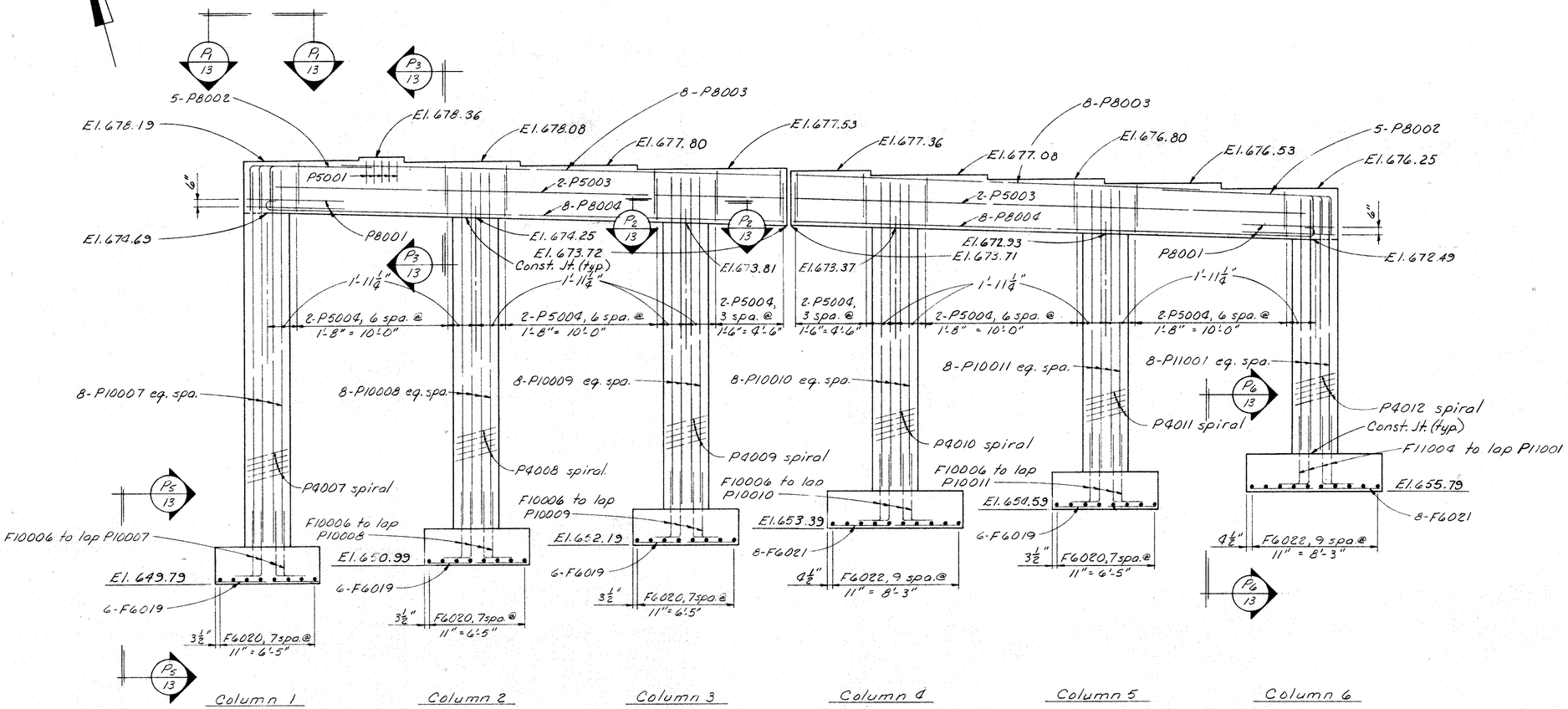
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

403
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PLAN



ELEVATION

NOTE

All spirals shall have 4½" pitch.

See General Plan for layout of pier along the reference chord.

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COLUMBUS, OHIO
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PIER 2 DETAILS

BRIDGE No. BEL-7-2619

SR-7 over DEEP RUN and CR 2

BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 31.75

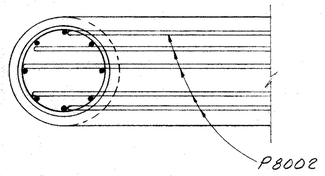
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
A.T.	D W		PHB	HBT	11/3/69	

MICROFILMED
OCT 6 1982

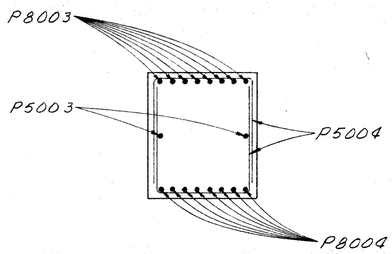
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

404
462

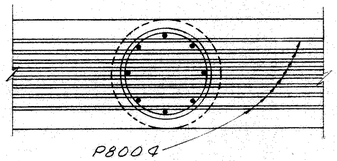
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



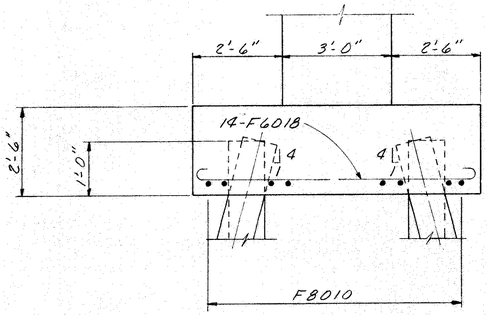
SECTION ~ P_1 / 11 & 12
(For columns 1 & 6)



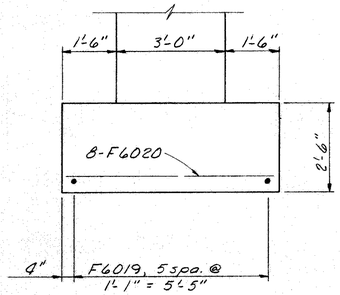
SECTION ~ P_3 / 11 & 12



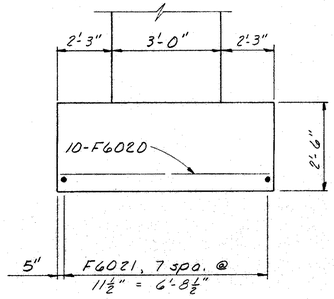
SECTION ~ P_2 / 11 & 12



SECTION ~ P_4 / 11
(For all columns Pier 1.)



SECTION ~ P_5 / 12
(For columns 1, 2, 3 & 5 Pier 2.)



SECTION ~ P_6 / 12
(For columns 4 & 6 Pier 2.)

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COLUMBUS, OHIO

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PIER DETAILS

BRIDGE No. BEL-7-2619

SR-7 over DEEP RUN and CR 2

BELMONT COUNTY STA.1387 + 35.25 to STA.1388 + 71.75

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	DW		PHB	HBT	11/3/69	

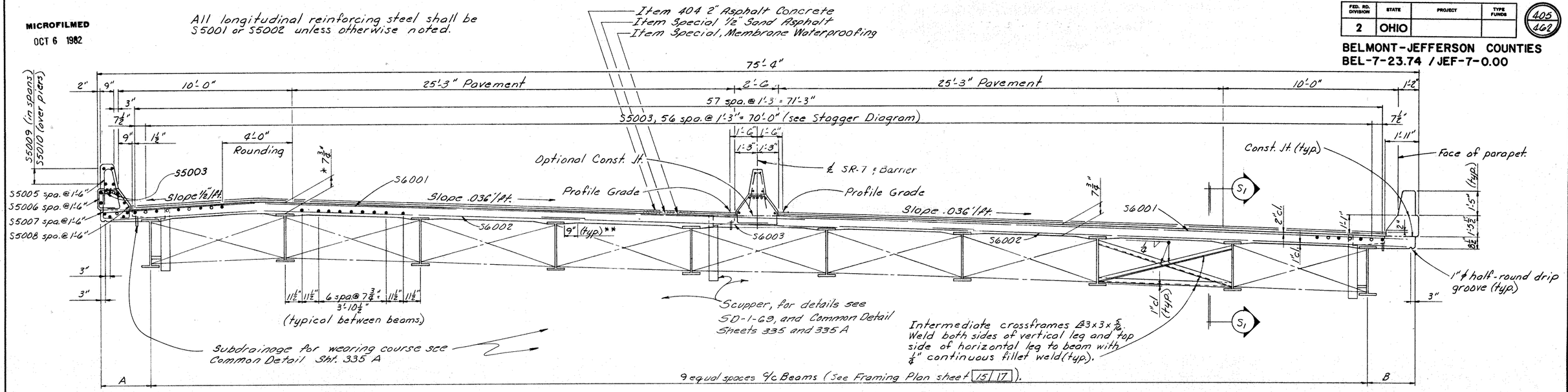
MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

405
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

All longitudinal reinforcing steel shall be S5001 or S5002 unless otherwise noted.



TRANSVERSE SECTION

(Parapet reinforcing steel typical for both sides.)

NOTES

Deck Finishing: See note on sheet 356.

Steel Erection: See note on sheet 356.

* The distance shown from the top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it 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.

** A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

Field Bending of transverse slab steel shall be included in Item 509 for payment.

Lap S5001 and S5002 bars 1'-7" min.

Longitudinal reinforcing steel shall be field cut as necessary to avoid interference with scuppers.

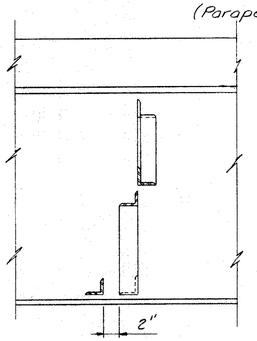
Concrete Parapet is included in Item 511 Class "C" Concrete, Superstructure for payment. Reinforcing steel in Concrete Parapet is included in Item 509 for payment.

Steel end dam and end crossframes shall conform to SD-1-69.

PREFORMED EXPANSION JOINT FILLER in the railing parapet deflection joints may be either ¼" gray sponge rubber or ¼" gray cellular polyvinyl chloride (PVC) sponge.

Transverse reinforcing steel ~ S6001, S6002 and S6003 shall be spaced at 7½" normal to the Reference Chord.

For additional notes and details see sheet 15|17.



SECTION ~ S1 - S1

Slab Cantilevers			
	Locations	A	B
Span 1	S. Abut.	2'-9 3/4"	2'-9 7/8"
	.25	2'-11 5/8"	2'-8"
	.50	3'-1 1/8"	2'-6 1/2"
	.75	3'-2 3/8"	2'-5 1/4"
Span 2	Pier 1	3'-3 1/4"	2'-4 1/4"
	Splice 1	3'-4"	2'-3 1/2"
	.50	3'-4 1/2"	2'-3"
	.75	3'-4 1/8"	2'-3 3/8"
Span 3	Pier 2	3'-3 1/4"	2'-4 1/4"
	Splice 2	3'-2 1/2"	2'-5"
	.50	3'-1 1/8"	2'-6 1/2"
	.75	2'-11 5/8"	2'-8"
	N. Abut.	2'-9 3/4"	2'-9 7/8"

CHARPY TEST NOTES

All beams and field splice material shall meet specified minimum notch toughness requirements.

See sheet 357 for other Charpy Test Notes.

END DAM: Provide a ¼" x 3" bar, welded to the main angle as shown on SD-1-69. Modify thickness of 2" bar to conform.

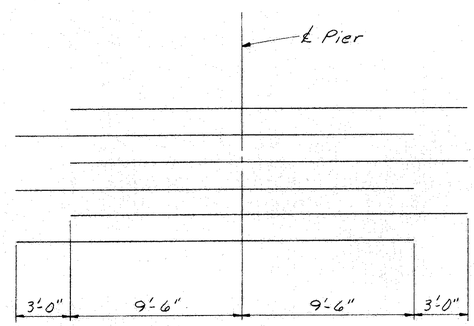
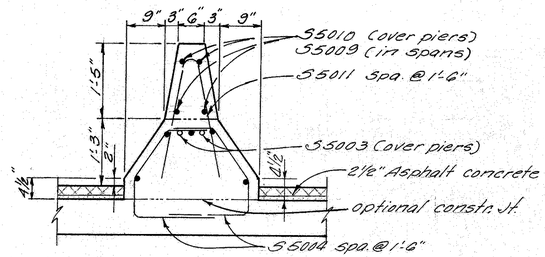


DIAGRAM SHOWING STAGGER of S5003 BARS over PIERS



BARRIER DETAIL

ALDEN E. STILSON & ASSOCIATES, LIMITED
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COLUMBUS, OHIO
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SUPERSTRUCTURE DETAILS

BRIDGE No. BEL-7-2619

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BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

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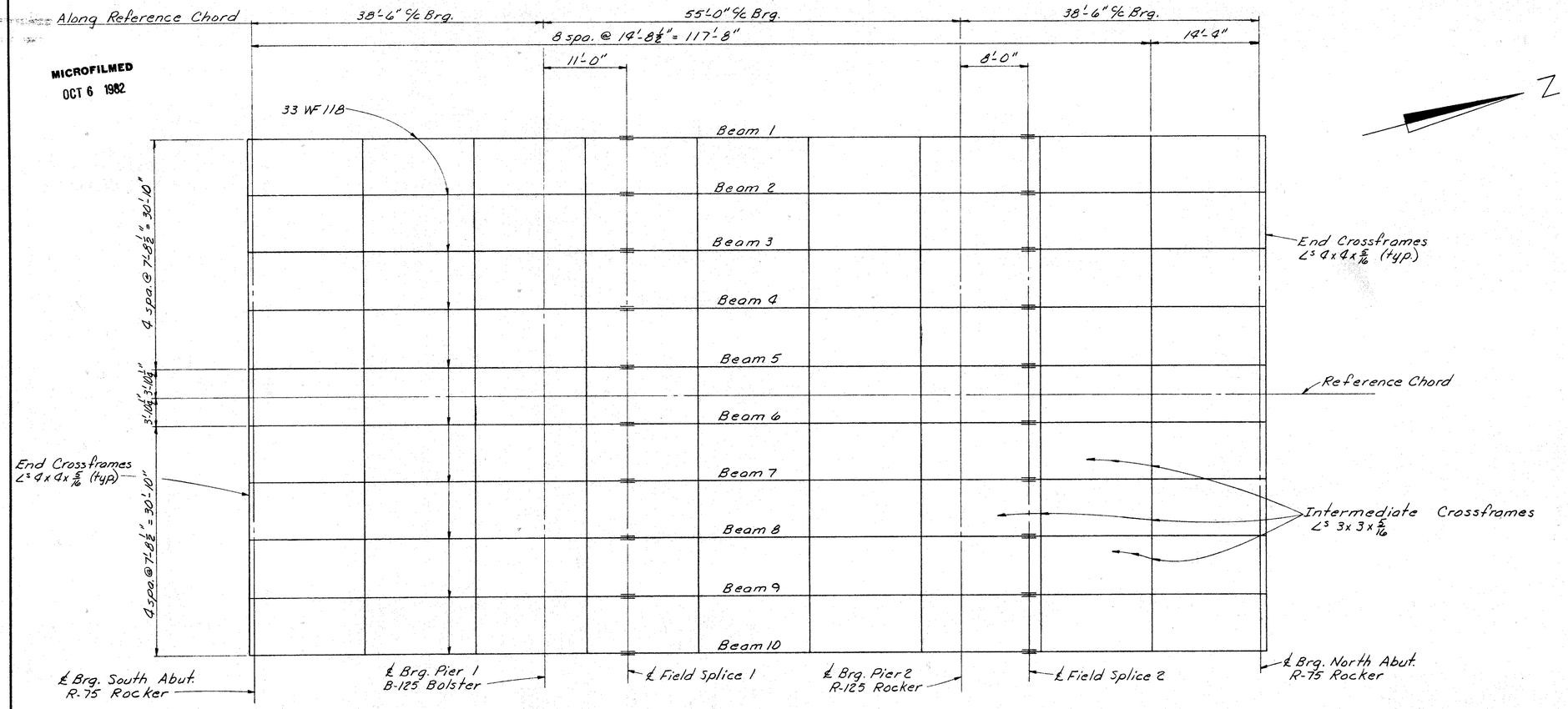
MICROFILMED
OCT 6 1982

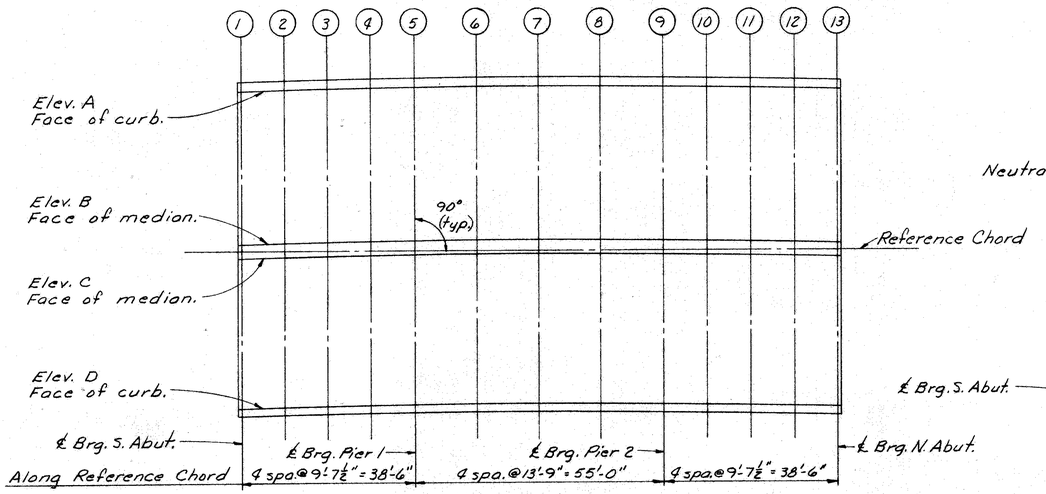
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

406
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



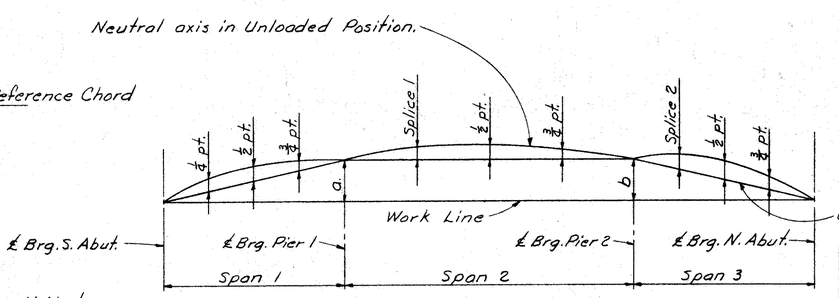
FRAMING PLAN



SCREED LINE LOCATIONS

Notes For Field Splice details see Std. Dwg. SD-1-69, Sheet 4.

Bearing devices under beams 1 and 10 shall be fabricated without 1/8" keeper plates.



CAMBER and BLOCKING DIAGRAM

Screed elevations are at top of slab before the concrete deck is placed. Proper allowance has been made for the dead load deflection due to the weight of the concrete.

TABLE of SCREED ELEVATIONS

Locations	Elevations			
	A	B	C	D
1	680.99	680.31	680.31	679.07
2	681.16	680.49	680.49	679.24
3	681.33	680.65	680.65	679.41
4	681.49	680.81	680.81	679.57
5	681.65	680.98	680.98	679.74
6	681.89	681.22	681.22	679.98
7	682.12	681.45	681.45	680.21
8	682.33	681.66	681.66	680.43
9	682.53	681.86	681.86	680.63
10	682.68	682.01	682.01	680.78
11	682.82	682.16	682.16	680.93
12	682.97	682.30	682.30	681.08
13	683.10	682.44	682.44	681.22

DEFLECTION and CAMBER

Beams	Camber Description	Span 1			Span 2			Span 3		
		¼	½	¾	Splice	½	¾	Splice	½	¾
1 & 10	Defl. due to weight of steel.	0	0	0	0	1/16	0	0	0	0
	Defl. due to rem. Dead Load.	1/16	1/16	0	1/8	1/8	1/8	0	1/16	1/16
	Adjust. due to curvature.	0	0	0	1/16	1/8	1/16	0	0	0
	Required shop camber.	1/16	1/16	0	3/16	7/16	3/16	0	1/16	1/16
2 thru 9	Defl. due to weight of steel.	0	0	0	0	1/16	0	0	0	0
	Defl. due to rem. Dead Load.	1/16	1/16	0	3/16	1/8	3/16	0	1/16	1/16
	Adjust. due to curvature.	0	0	0	1/16	1/16	1/16	0	0	0
	Required shop camber.	1/16	1/16	0	1/4	3/8	1/4	0	1/16	1/16

BLOCKING TABLE

Beams	Dimensions	
	a	b
1	¾	¾
2 thru 10	5/16	5/16

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SUPERSTRUCTURE DETAILS

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BELMONT COUNTY STA. 1387 + 35.25 to STA. 1388 + 71.75

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R.T.	D.W.		PHB	HBT	11/3/69	

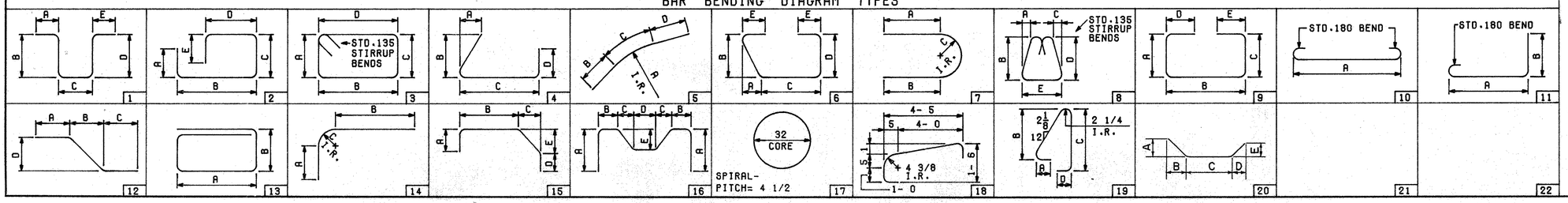
MICROFILMED
OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
F 5001	10	39- 4	410	ST						
F 5002	22	12- 0	275	ST						
F 5003	48	5- 2	259	1	1- 0	4- 4				
F 5004	50	10- 0	521	1	0- 8	9- 6				
F 5005	19	11- 5	226	12		2- 5	8- 0	2- 5		
F 5006	4	9-10	41	ST						
F 5007	47	10- 0	490	ST						
F 6001	50	14- 8	1101	1	5- 4	9- 6				
F 6002	4	36- 0	216	ST						
F 6003	8	22- 3	267	ST						
F 6004	8	24-10	298	1		12- 0	1- 2	12- 0		
F 6005	4	20- 6	123	1		9-10	1- 2	9-10		
F 8001	78	8- 2	1701	1	1- 2	7- 3				
F 8002	48	28- 4	3631	ST						
F 8003	165	17- 8	7783	10	15- 6					
F10001	48	6- 8	1377	4	1- 8	5-11	1- 0			
F10002	24	12- 8	1308	4	3- 4	11-11	1- 0			
F11001	12	9- 3	590	ST						
F11002	24	6- 4	808	ST						
F11003	61	12- 4	3997	ST						
A 5001	100	4-11	513	1		1- 6	2- 2	1- 6		
A 5002	62	25- 3	1633	ST						
A 5003	42	6- 4	277	1		1- 7	3- 5	1- 7		
A 5004	38	7- 6	297	1		2- 2	3- 5	2- 2		
A 5005	40	24- 2	1008	ST						
A 5006	33	25- 9	886	ST						
A 5007	12	3- 5	43	ST						
A 5008	12	4- 4	54	ST						
A 5009	12	24- 2	302	ST						
A 5010	12	22- 1	276	ST						
A 5011	12	14-11	187	ST						
A 5012	12	7- 8	96	ST						
A 5013	6	21-11		1	1- 0	9- 6	1- 5	9- 6	1- 0	1
THRU			1417		VARY	LENGTH	BY	0- 3	1/ 4	
					VARY	DIM. B	BY	0- 1	5/ 8	
					VARY	DIM. D	BY	0- 1	5/ 8	
A 5023	6	19- 3		1	1- 0	8- 2	1- 5	8- 2	1- 0	1
A 5024	6	19- 1		1	1- 0	8- 1	1- 5	8- 1	1- 0	1
THRU			778		VARY	LENGTH	BY	0- 5	3/ 8	
					VARY	DIM. B	BY	0- 2	5/ 8	
					VARY	DIM. D	BY	0- 2	5/ 8	
A 5030	6	16- 5		1	1- 0	6- 9	1- 5	6- 9	1- 0	1
A 5031	6	16- 3		1	1- 0	6- 8	1- 5	6- 8	1- 0	1
THRU			560		VARY	LENGTH	BY	0- 6	3/ 8	
					VARY	DIM. B	BY	0- 3	1/ 4	
					VARY	DIM. D	BY	0- 3	1/ 4	
A 5036	6	13- 7		1	1- 0	5- 4	1- 5	5- 4	1- 0	1
A 5037	6	13- 5		1	1- 0	5- 3	1- 5	5- 3	1- 0	1
THRU			365		VARY	LENGTH	BY	0-10	1/ 2	
					VARY	DIM. B	BY	0- 5	1/ 4	
					VARY	DIM. D	BY	0- 5	1/ 4	
A 5041	6	9-11		1	1- 0	3- 6	1- 5	3- 6	1- 0	1
A 5042	36	2-10	106	ST						
A 5043	32	2- 3	76	1		0- 8	1- 2	0- 8		
A 5044	28	9- 5	275	ST						3
A 5045	14	3- 5	49	ST						
A 5046	19	34- 7	685	ST						3
A 5047	50	9- 4	487	1		3- 1	3- 5	3- 1		
A 5048	19	39- 3	778	ST						
A 5049	4	4-11	20	4	2-5	1-1	2- 5			
A 5050	24	12- 5	311	ST						3

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS					(CONTINUED)	
A 5051	4	6- 9	28	ST						
A 5052	4	7- 3	30	ST						
A 5053	4	7- 0	29	ST						
A 5054	20	7- 0	146	ST						
A 5055	8	5- 4	44	ST						
A 5056	2	4- 7	9	ST						
A 5057	2	3-11	8	ST						
A 5058	6	3- 4	23	ST						
A 5059	14	6- 8	95	19		2- 7	3- 2	0- 8		
A 5060	4	22- 4	93	ST						
A 5061	6	9- 3	58	16			1- 0	6- 6	1- 0	3
A 5062	39	6- 5	261	12	4- 8	1- 3		1- 3		
A 5063	8	3-11	33	15	1-6	0-10	0-11	0-8	0-9	
A 6001	142	14- 4	3186	2	4- 3	1- 5	5- 7	0-11	2-10	
A 6002	28	25- 3	1062	ST						
A 6003	14	25- 9	541	ST						
A 6005	8	6- 5	77	15		4- 6	1- 0	0- 9	0- 9	
A 6006	40	24- 3	1457	ST						
A 6007	22	5- 1		15		3- 2	1- 0	0- 9	0- 9	
A 7001	28	25- 3	1445	ST						
A 7002	14	25- 9	737	ST						
A 6008	2	6- 4	19	15		4- 5	1- 0	0- 9	0- 9	
A 6009	2	5- 5	16	15		3- 8	1- 0	0- 9	0- 9	
A 8001	12	25- 3	809	ST						
A 8002	6	25- 9	413	ST						
A 8003	96	5- 8	1453	20	1- 1	1- 1	3- 9	0- 6	0- 6	
A10001	24	26- 7	2745	11	25- 2					
A10002	24	10- 1	1041	ST						
A10003	24	6-10	706	ST						
				WINGWALLS						
F 5008	4	16-10	70	ST						3
F 5009	4	10- 9	45	ST						
F 5010	3	22- 2	69	ST						
F 5012	21	4- 3	93	ST						
F 5013	5	17- 1	89	ST						3
F 5014	4	17- 8	74	ST						3
F 6006	18	8- 7	232	10	7- 3					
F 6007	3	6- 5	29	4	0- 4	4- 8	1-11			
F 6008	3	5-10	26	4	0- 3	4- 1	1-11			
F 6009	10	5-11	89	ST						
F 6010	4	8- 5	51	4	0- 5	6- 8	1-11			
F 6011	10	7- 9	116	4	0- 5	6- 0	1-11			
F 6012	16	5-11	142	ST						
F 7001	19	10-10	421	4	0- 7	8- 9	2- 3			
F 7002	19	7- 2	278	4	0- 4	5- 1	2- 3			
F 7003	23	11-11	560	10	10- 3					
F 8004	16	16- 4	698	ST						3
F 8005	12	11- 8	374	ST						
F 8006	10	23- 1	616	ST						
F 8007	15	19- 5	778	ST						3
F 8008	10	19- 2	512	ST						3

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				WINGWALLS					(CONTINUED)	
F 8009	1	16- 9	45	ST						3
F 9001	22	14- 9	1103	10	12- 3					
F 9002	15	7- 2	365	ST						
F 9003	19	7- 8	495	ST						
F10002	20	16-11	1456	4	0-10	13- 9	3- 6			
F10003	21	9- 3	836	4	0- 5	6- 1	3- 6			
F10004	19	16- 2	1322	10	13- 4					
W 5001	1	27-11		ST						1
THRU			131		VARY	LENGTH	BY	1- 4	3/ 4	
W 5005	1	22- 4		ST						1
W 5006	2	5- 0	10	ST						3
W 5007	2	8- 7	18	ST						3
W 5008	2	12- 2	25	ST						3
W 5009	2	15- 9	33	ST						3
W 5010	2	19- 4	40	ST						3
W 5011	2	22-11	48	ST						3
W 5012	16	23- 8	395	ST						3
W 5013	1	28- 0		ST						1
THRU			130		VARY	LENGTH	BY	1- 6	3/ 4	
W 5017	1	21- 9		ST						1
W 5018	1	20- 9		ST						1
THRU			77		VARY	LENGTH	BY	1- 6		
W 5021	1	16- 3		ST						1
W 5022	2	11- 9	25	ST						
W 5023	1	20- 2		ST						1
THRU			58		VARY	LENGTH	BY	1- 6		
W 5025	1	17- 2		ST						1
W 5026	2	16- 3	34	ST						
W 5027	2	15- 8	33	ST						
W 5028	2	15- 0	31	ST						
W 5029	2	14- 0	29	ST						
W 5030	2	5-10	12	ST						
W 5031	2	5- 0	10	ST						
W 5032	2	12- 0	25	ST						
W 5033	2	4- 9	10	ST						
W 5034	8	11- 8	97	ST						
W 5035	8	5- 9	48	ST						
W 5036	12	8- 4	104	ST						
W 5037	12	10-10	136	ST						
W 5038	2	26- 9	56	ST						3
W 5039	1	21- 5		ST						1
THRU			153		VARY	LENGTH	BY	1- 2	3/ 4	
W 5044	1	27- 7		ST						1
W 5045	2	3- 6	7	ST						
W 5046	2	7-10	16	ST						3
W 5047	2	12- 2	25	ST						3
W 5048	2	16- 6	34	ST						3
W 5049	2	20-10	43	ST						3
W 5050	2	25- 2	52	ST						3
W 5051	2	29- 6	62	ST						3
W 5052	14	30- 6	445	ST						3
W 5053	1	21- 8		ST						1
THRU			155		VARY	LENGTH	BY	1- 2	3/ 4	
W 5058	1	27-10		ST						1
W 5059	1	13- 9		ST						1
THRU			108		VARY	LENGTH	BY	1- 4	5/ 8	
W 5064	1	20- 8		ST						1
W 5065	1	14- 1		ST						1
THRU			107		VARY	LENGTH	BY	1- 2	3/ 4	
W 5070	1	20- 3		ST						1
W 5071	2	33-11	71	ST						3
W 5072	4	3- 8	15	ST						

BAR BENDING DIAGRAM TYPES



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

407
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

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BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

16/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO. BEL-7-2619
SR-7 OVER DEEP RUN & CR-2
STA.1387+35.25 TO
BELMONT COUNTY STA.1388+71.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			PHB	HBT	11-3-99	10-26-78

MICROFILMED
OCT 6 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				WINGWALLS					(CONTINUED)	
W 7001	10	10- 6	215	ST						
W 9001	5	14- 8	249	ST						
W10001	5	17- 1	368	ST						
				PIERS						
F 6018	84	8-10	1114	10	7- 6					
F 6019	24	6- 6	234	ST						
F 6020	32	5- 6	264	ST						
F 6021	16	8- 6	204	ST						
F 6022	20	7- 0	210	ST						
F 8010	48	10- 8	1367	10	8- 6					
F10006	88	6- 7	2493	1	1- 5	5- 6				
F11004	8	7- 2	305	1	1- 8	5-10				
P 4001	1	19- 9	372	17	NO.TURNS= 56		NO.SPACERS=	4		6
P 4002	1	19- 4	365	17	NO.TURNS= 55		NO.SPACERS=	4		6
P 4003	1	18-11	353	17	NO.TURNS= 53		NO.SPACERS=	4		6
P 4004	1	18- 6	346	17	NO.TURNS= 52		NO.SPACERS=	4		6
P 4005	1	18- 0	339	17	NO.TURNS= 51		NO.SPACERS=	4		6
P 4006	1	17- 7	332	17	NO.TURNS= 50		NO.SPACERS=	4		6
P 4007	1	22- 4	419	17	NO.TURNS= 63		NO.SPACERS=	4		6
P 4008	1	20- 9	386	17	NO.TURNS= 58		NO.SPACERS=	4		6
P 4009	1	19- 1	359	17	NO.TURNS= 54		NO.SPACERS=	4		6
P 4010	1	17- 6	332	17	NO.TURNS= 50		NO.SPACERS=	4		6
P 4011	1	15-10	299	17	NO.TURNS= 45		NO.SPACERS=	4		6
P 4012	1	14- 2	271	17	NO.TURNS= 41		NO.SPACERS=	4		6
P 5001	80	5- 5	452	9	1- 6	2- 8	1- 6			
P 5002	4	4- 5	18	9	1- 6	1- 8	1- 6			
P 5003	8	34- 5	287	ST						
P 5004	144	8- 9	1314	9	3- 2	2- 8	3- 2			
P 5005	16	5- 1	85	9	1- 6	2- 4	1- 6			
P 8001	8	8- 3	176	7	2- 6	2- 6	1- 0			
P 8002	20	8-11	476	1	3- 2	6- 0				
P 8003	32	32- 8	2791	ST						
P 8004	32	35- 6	3033	11	34- 5					
P10001	8	22- 8	780	ST						
P10002	8	22- 3	766	ST						
P10003	8	21- 8	746	ST						
P10004	8	21- 5	737	ST						
P10005	8	21- 0	723	ST						
P10006	8	20- 7	709	ST						
P10007	8	25- 4	872	ST						
P10008	8	23- 9	818	ST						
P10009	8	22- 1	760	ST						
P10010	8	20- 5	703	ST						
P10011	8	18- 9	645	ST						
P11001	8	17- 2	730	ST						
				SUPERSTRUCTURE						
S 5001	648	30- 0	20276	ST						
S 5002	162	19- 3	3253	ST						
S 5003	126	22- 0	2891	ST						
S 5004	180	4- 4	766	15	1-6	1- 0	0-11	0-8	0-9	
S 5005	180	5- 8	1064	19	0- 8	2- 7	2- 4			
S 5006	180	2- 1	391	1		0- 7	1- 2	0- 7		
S 5007	180	2- 1	391	1	0- 7	1- 8				

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				SUPERSTRUCTURE					(CONTINUED)	
S 5008	180	3- 2	594	15*	0- 7	0- 9	1- 0	0- 9	0- 9	
S 5009	84	14- 5	1263	ST						
S 5010	48	7- 1	355	ST						
S 5011	90	4-11	461	4	2-5	1-1	2-5			
S 6001	428	38- 4	24643	ST						3
S 6002	428	27- 2	17464	ST						3
S 6003	214	24- 2	7768	ST						
				REPLACEMENT STEEL FOR SPIRALS						
RE 4001	1	6- 3		5	1- 3½		6- 3			
				REPLACEMENT STEEL						
RE 5001	3	6- 7		ST						
RE 6001	4	6-10		ST						
RE 7001	1	7- 2		ST						
RE 8001	2	7- 6		ST						
RE 9001	1	7-10		ST						
RE10001	2	8- 2		ST						
RE11001	1	8- 6		ST						

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

408 462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

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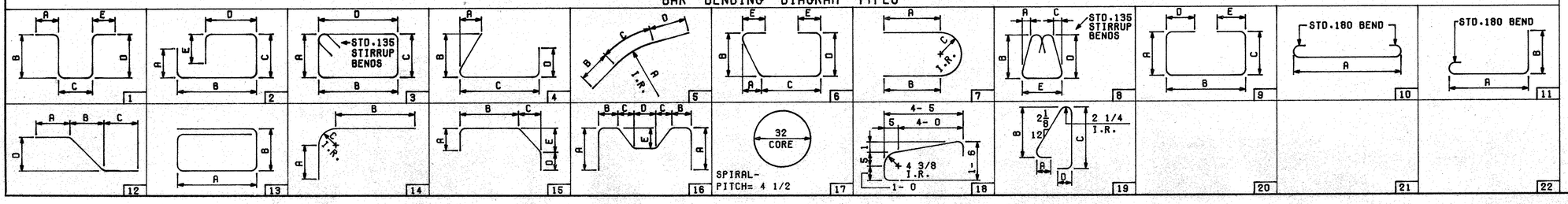
BAR BENDING DIAGRAM TYPES



17/17

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

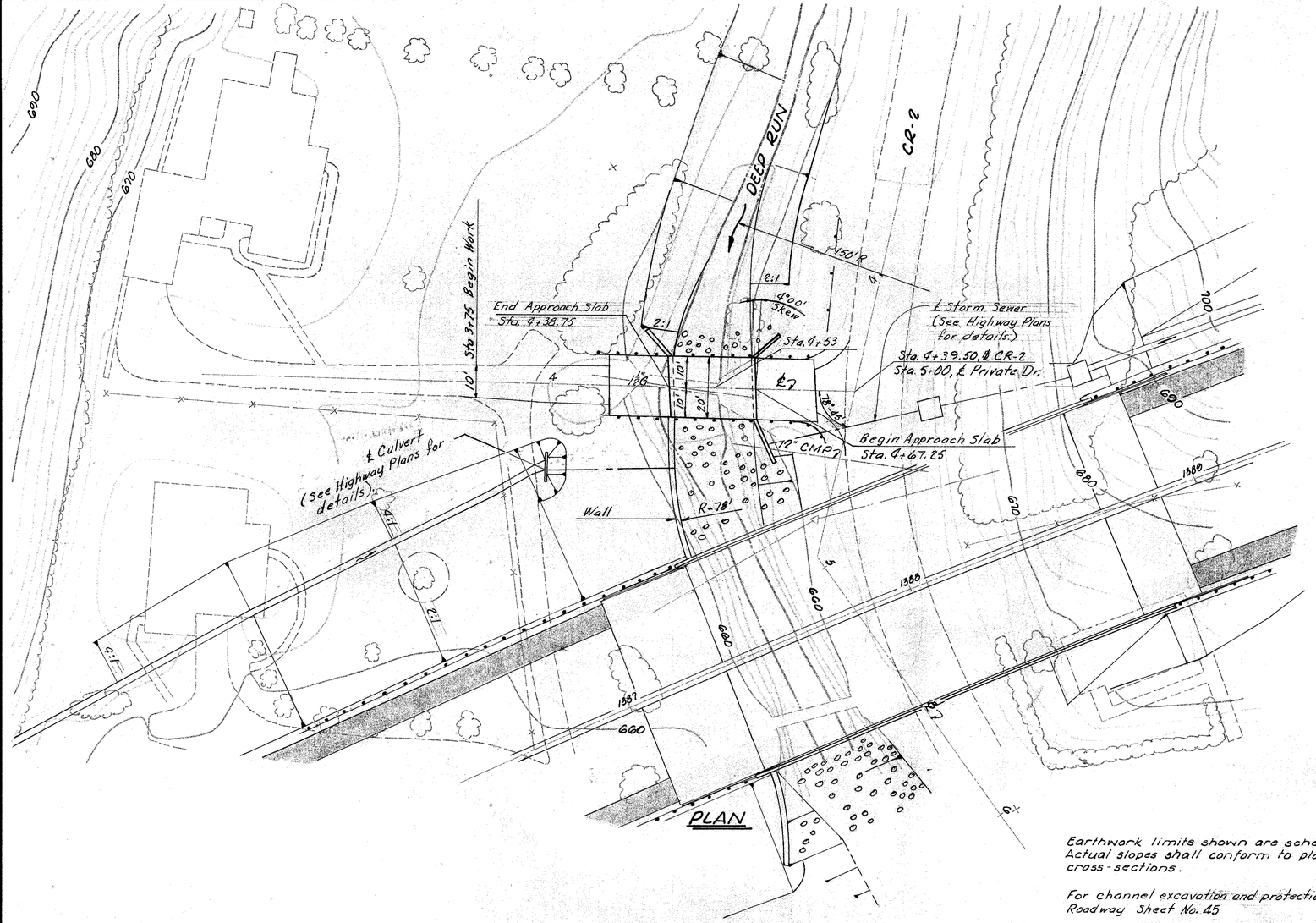
BRIDGE NO. BEL-7-2619
SR-7 OVER DEEP RUN & CR-2
STA.1387+35.25 TO
BELMONT COUNTY STA.1388+71.25

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			PHB	HBT	11-3-69	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS

404
462

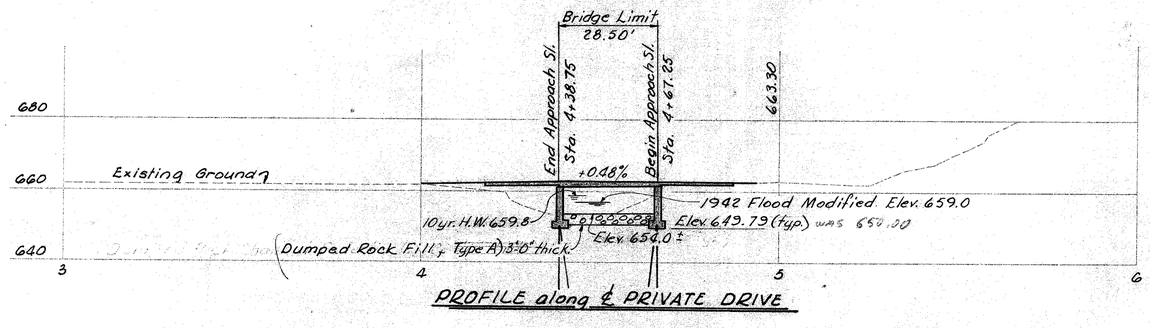
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



PLAN

Earthwork limits shown are schematic.
Actual slopes shall conform to plan cross-sections.

For channel excavation and protection see Roadway Sheet No. 45



PROFILE along ℄ PRIVATE DRIVE

PROPOSED STRUCTURE

TYPE: Single span reinforced concrete slab with reinforced concrete substructure.
SPAN: 26'-0" f/f abutments along ℄ Drive.
ROADWAY: 20'-0" f/f guardrail.
LOADING: HS20-44
WEARING SURFACE: 2½" Asphalt concrete.
SKEW: 4°00'00" Rt. Fwd.
ALIGNMENT: Tangent.
APPROACH SLABS: As I-72, 20' long.

EXISTING BRIDGES

Sta. 4+45 ℄, 45'-Rt.
TYPE: Simple span footbridge with concrete block abutments.
SPAN: 26'-6" t/p abutments.
WIDTH: 2'-8" t/p handrails.
SKEW: None.
FLOOR: 3"x5" planks on truck frame.
CONDITION: Good
WATERWAY OPENING: 208 sq.ft.

Sta. 5+50 ℄, 20' Rt.
TYPE: Simple span footbridge with 6"x8" tie abutments.
SPAN: 26'-6" t/p abutments.
WIDTH: 2'-5" t/p handrails.
SKEW: 10°± Rt. Fwd.
FLOOR: 2-10"x15" timbers.
CONDITION: Good
WATERWAY OPENING: 216 sq.ft.

DRAINAGE INFORMATION

Drainage Area = 3.84 sq. mi.
Q_{10} = 1450 c.f.s.
10 yr. Highwater = 659.5
Q_{25} = 1690 c.f.s.
25 yr. Highwater = 663
Waterway opening = 182 sq. ft.
Q_{100} = 2350 c.f.s. V_{100} = 11.8 f.p.s.

Note: All Piles shall be 10BP42 steel piles.
Estimated average pay length is:
N. Abutment = 20'
S. Abutment = 20'

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

1 / 9

SITE PLAN
BRIDGE
PRIVATE DRIVE over DEEP RUN
BELMONT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED 10-29-74
fwd	fwd	DW	DLM	JEV.	12/28/67	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

410
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

STANDARD DRAWING REFERENCE
AS-1-72 DATED 6-30-72

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D	808	1-1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	1-1-71

COMMON DETAIL REFERENCES

GUARD RAIL — SHEET 335
DRIP STRIP — SHEET 335A

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1965, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING -H10-44

CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE

REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.

REMOVAL OF EXISTING STRUCTURE

THE EXISTING ABUTMENTS SHALL BE PLACED AS BANK PROTECTION AS DIRECTED BY ENGINEER.

EMBANKMENT CONSTRUCTION

AFTER SOUTH ABUTMENT HAS BEEN BUILT.THE SOUTH EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF SUB-GRADE AFTER WHICH EXCAVATION SHALL BE MADE FOR THE NORTH ABUTMENT.

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 35 TONS PER PILE FOR THE ABUTMENTS AND WINGWALLS.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING AND INSTALLING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNERS. THE CONTRACTOR AND OWNERS ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

APPROACH SLAB DETAILS

SEE SHEET 339 FOR APPROACH SLAB NOTES.

	ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	WALLS	SUPER	GENERAL
	202	LUMP	SUM	EXISTING STRUCTURE REMOVED				LUMP
	404	4	C.Y.	ASPHALT CONCRETE (70-85 or AC 20)			4	
	503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING				LUMP
	503	94	C.Y.	UNCLASSIFIED EXCAVATION	40	54		
	505	LUMP	SUM	TEST PILE				LUMP
	507	300	L.F.	STEEL PILES. HP10x42 *	160	140		
	509	9805	LB	REINFORCING STEEL	2738	1488	5579	
	511	28	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE			28	
	511	25	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	25			
	511	32	C.Y.	CLASS C CONCRETE, FOOTINGS	17	15		
	511	19	C.Y.	CLASS C CONCRETE, WALLS		19		
	512	10	S.Y.	TYPE B WATERPROOFING	5	5		
	516	89	S.F.	1 INCH PREFORMED EXPANSION JOINT FILLER		89		
	517	57	L.F.	RAILING (DEEP BEAM RAIL WITH STEEL POSTS, BOLTS AND HANDRAIL)			57	
	518	31	C.Y.	POROUS BACKFILL	18	13		
	808	28	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE, TYPE A, B OR D			28	
	SPEC	1	C.Y.	SAND ASPHALT			1	
**	SPEC	62	S.Y.	MEMBRANE WATERPROOFING *SHEET TYPE*			62	
	SPEC	35	S.F.	GALVANIZED STEEL DRIP STRIP			35	

*formerly designated 10BP42
**See proposal note

2 19

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES

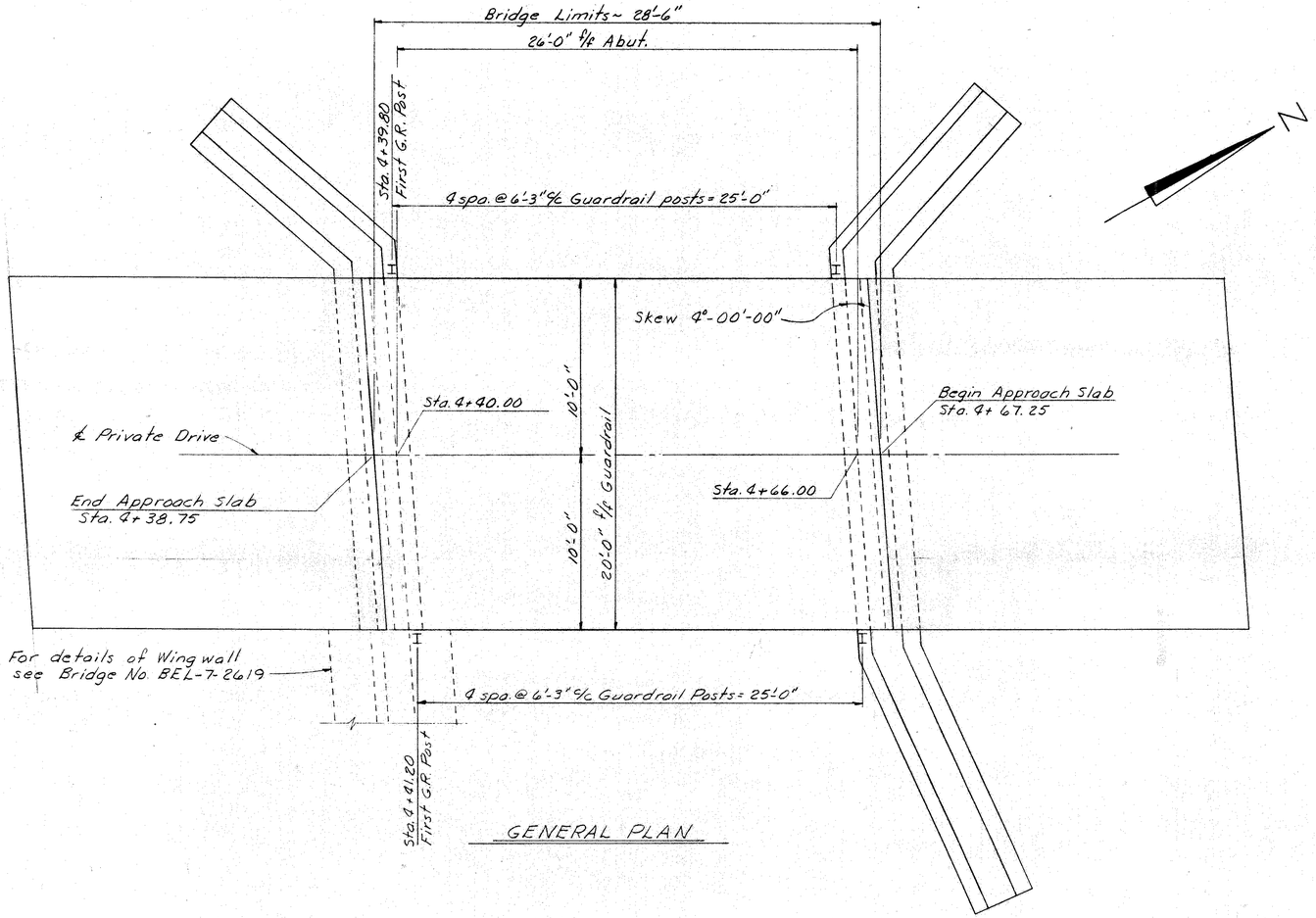
BRIDGE
PRIVATE DRIVE OVER DEEP RUN
BELMONT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DW			VB	11-5-68	fwd 3/17/69	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

411
462

BELMONT- JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00

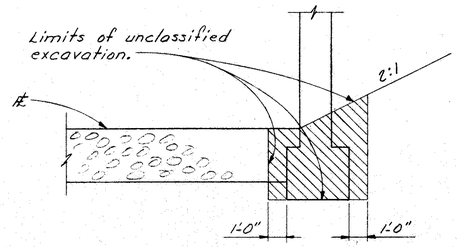


GENERAL PLAN

NOTES

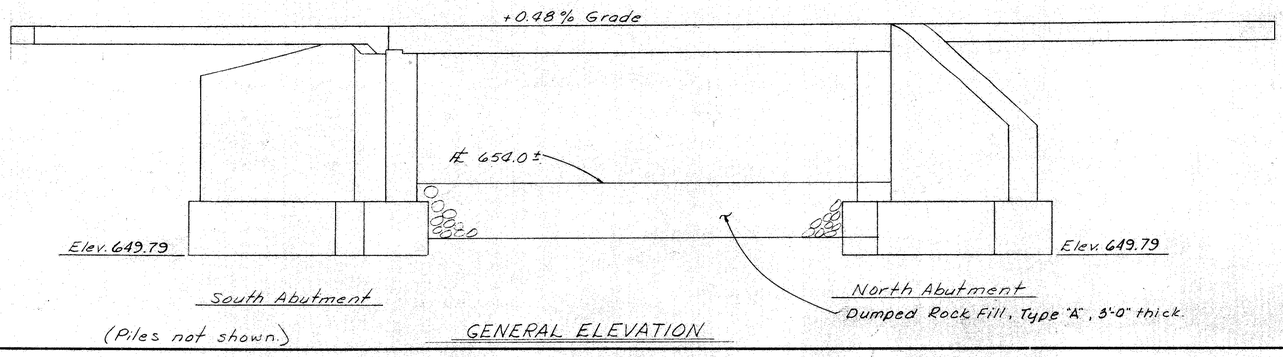
For Dumped Rock Fill quantities, see Highway Plans, Sheet 45.

For Guardrail details see Common Details sheet 335. Lower deep beam rail as shown on Common Details shall be omitted.



STRUCTURAL EXCAVATION
North Abutment

(Guardrail not shown.)



GENERAL ELEVATION

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

3/9

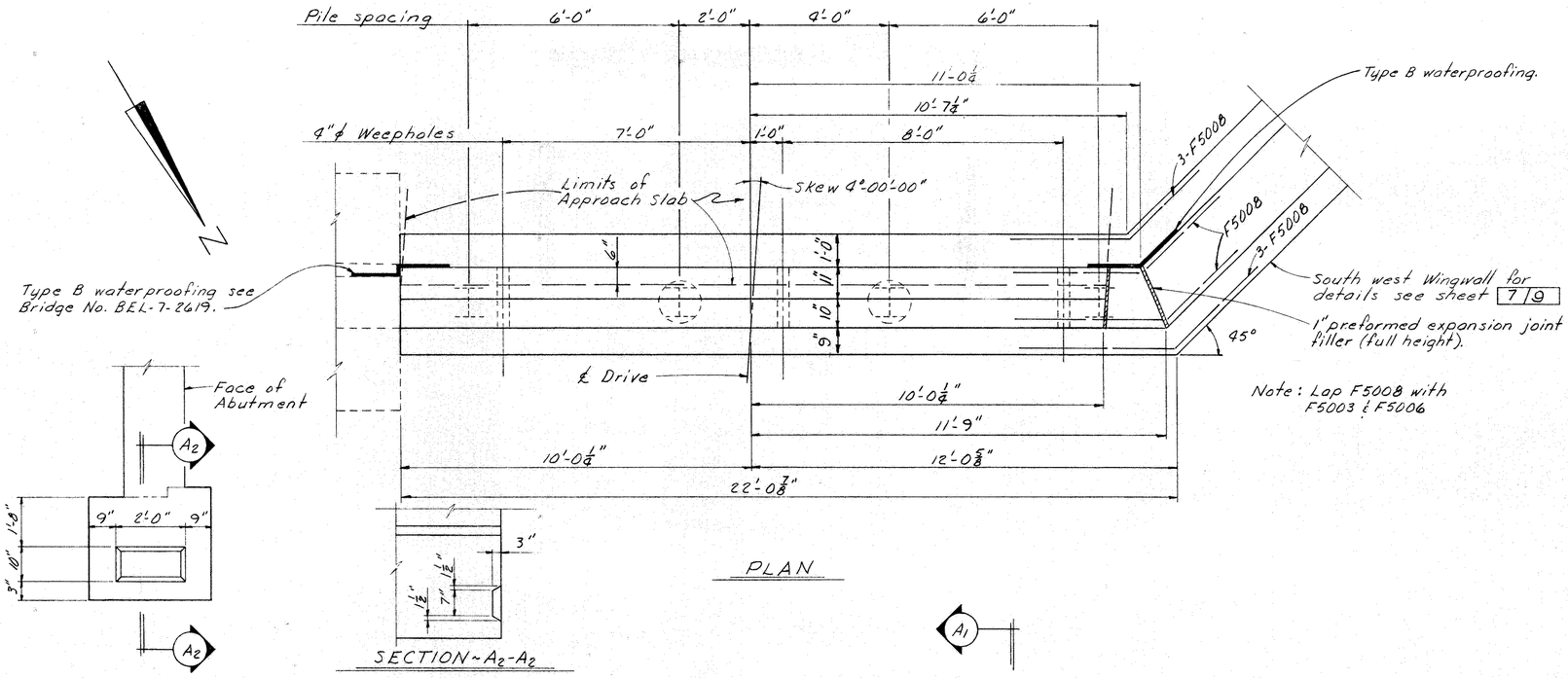
GENERAL PLAN and ELEVATION
BRIDGE
PRIVATE DRIVE over DEEP RUN
BELMONT COUNTY

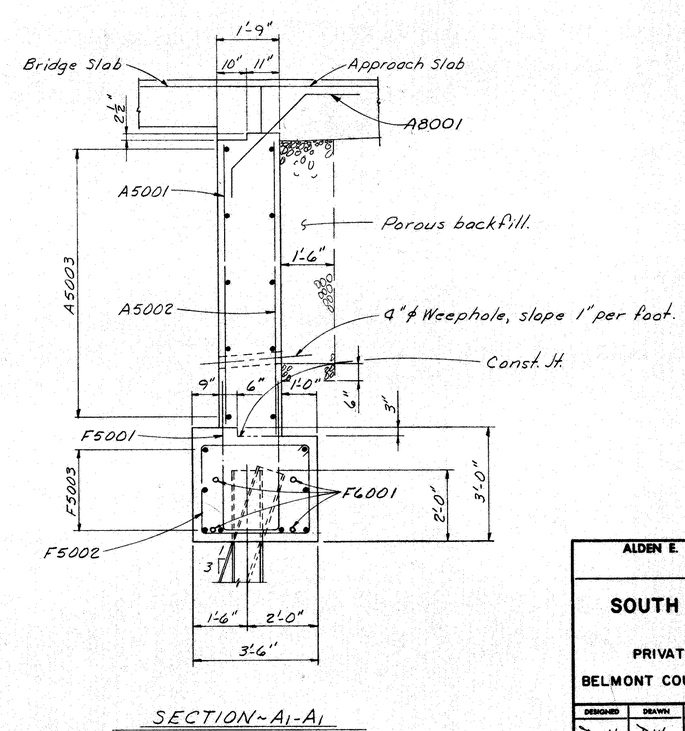
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DW	DW		VB	fwd	3/17/69	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

412/462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00





NOTES

* Elevations marked with an asterisk are at face of abutment.

All piles shall be 10BP42 steel piles: Vertical / Battered 1:3

Reinforcing steel location: N.S. ~ indicates near side. F.S. ~ indicates far side.

Weepholes shall be placed 6" above normal water.

Porous backfill shall extend from 6" below weepholes vertically to the elevation of the approach slab seat or the surface of the stabilized shoulders and outward 3'-0" beyond end weepholes in wingwalls. Excavation therefore, in excess of that required for construction of the footing, shall be considered as paid for in the bid price per cubic yard paid for porous backfill. Backfill shall not be placed higher than elevation 655.00 prior to placing deck slab.

For additional notes and details see sheets 5, 6 & 7/9

For Details of Type B waterproofing see Common Details sheet 335.

Sheeting shall be provided at the east corner of the South Abutment in order to maintain traffic on Private Drive during construction of Bridge No. BEL-7-2619. Cost included in item 503 for payment.

All reinforcing steel in footing shall have 3" minimum cover.

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

4/9

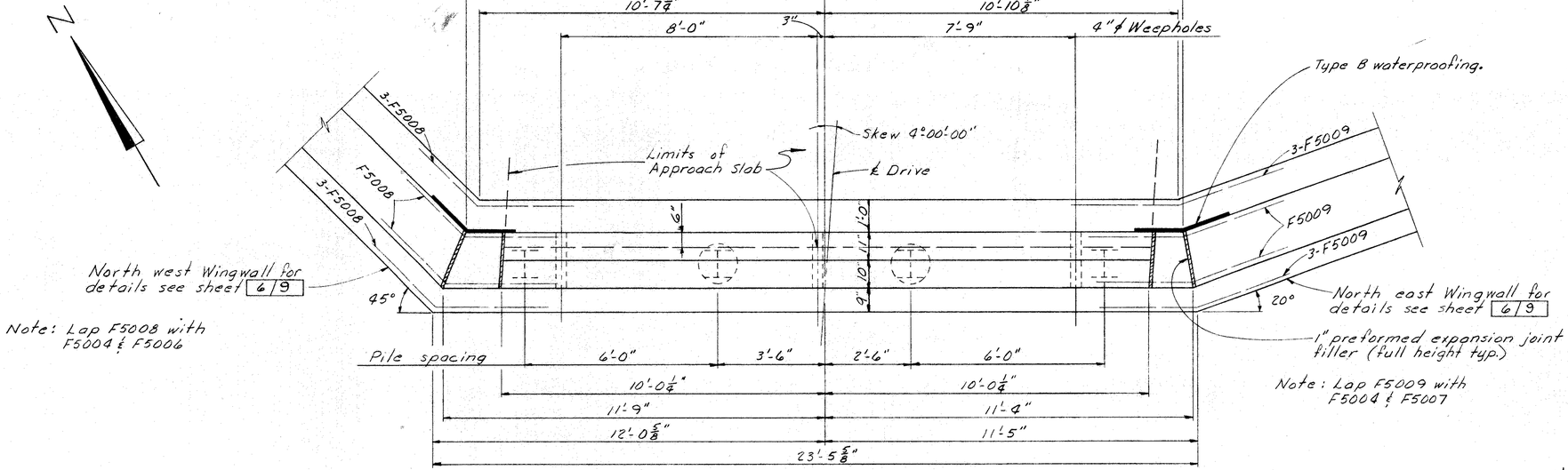
SOUTH ABUTMENT DETAILS
BRIDGE
PRIVATE DRIVE over DEEP RUN
BELMONT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DW	DW		VB	JWD	3/17/69	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

413
462

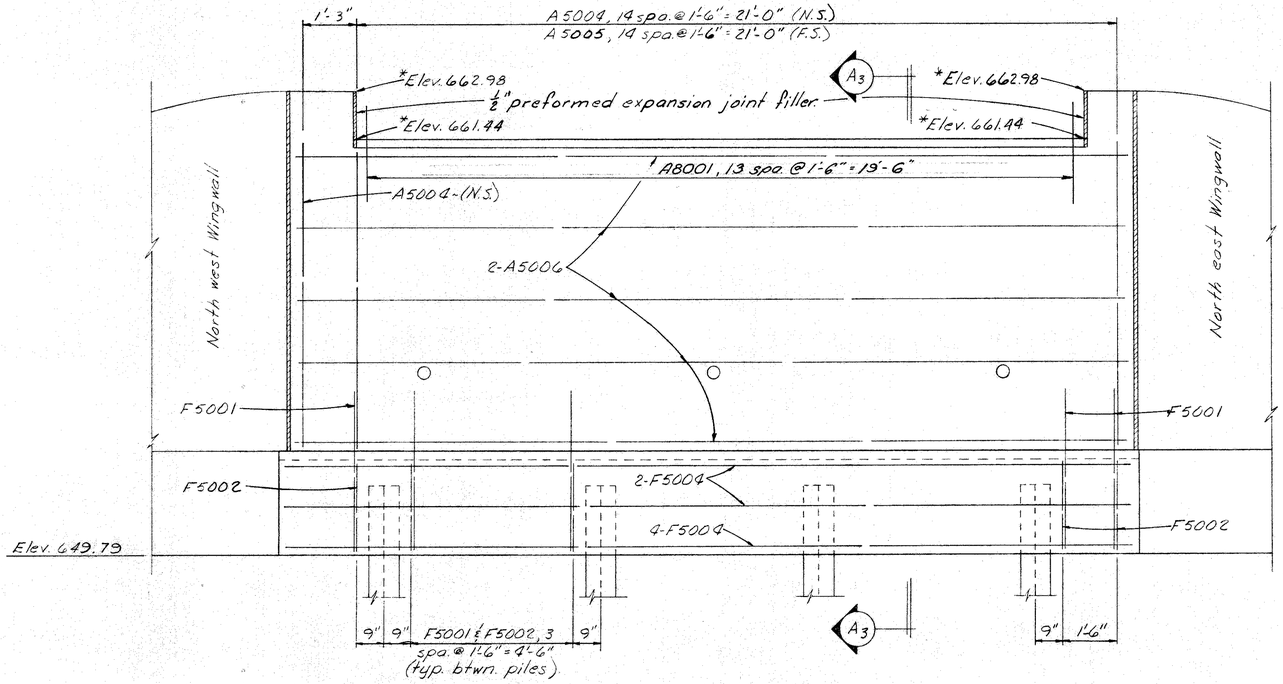
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



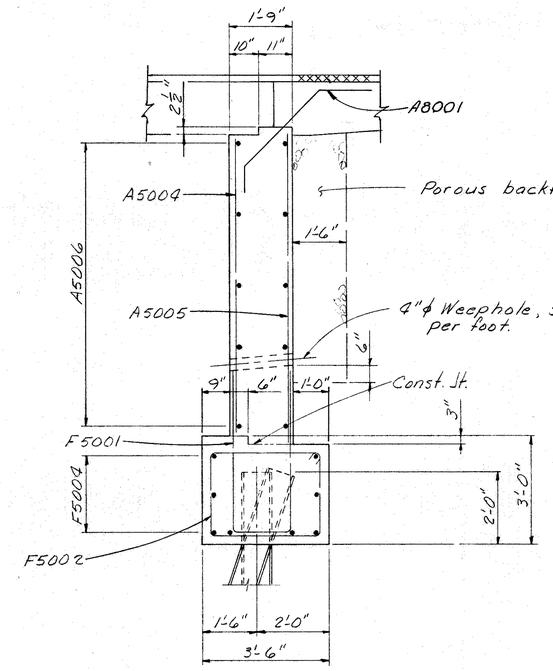
Note: Lap F5008 with F5004 & F5006

Note: Lap F5009 with F5004 & F5007

PLAN



ELEVATION



SECTION ~ A_3-A_3

NOTES

Reinforcing steel location:
N.S. ~ indicates near side.
F.S. ~ indicates far side.

For additional notes and details see sheets 4, 6 & 7/9

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO
5/9

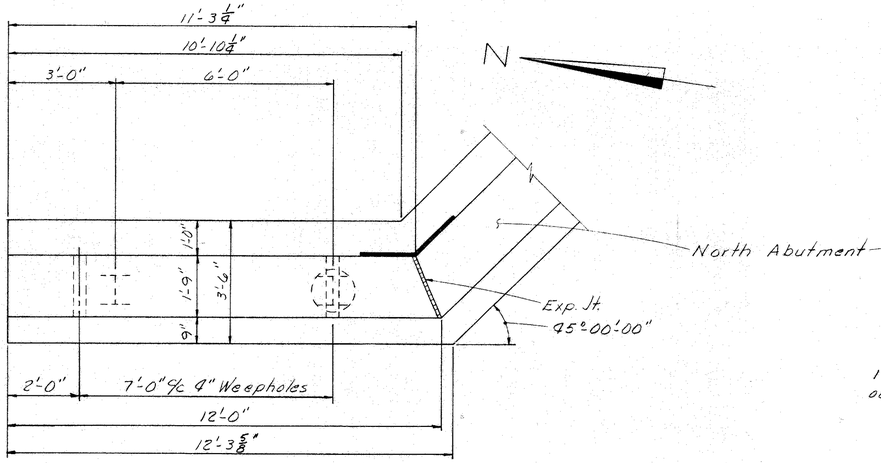
NORTH ABUTMENT DETAILS
BRIDGE
PRIVATE DRIVE over DEEP RUN
BELMONT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DW	DW		VB	pwd	3/17/60	

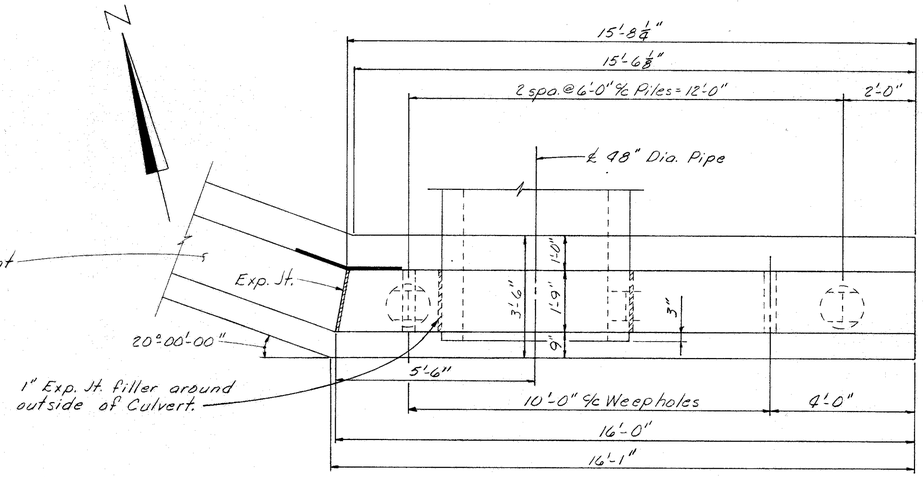
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

414
462

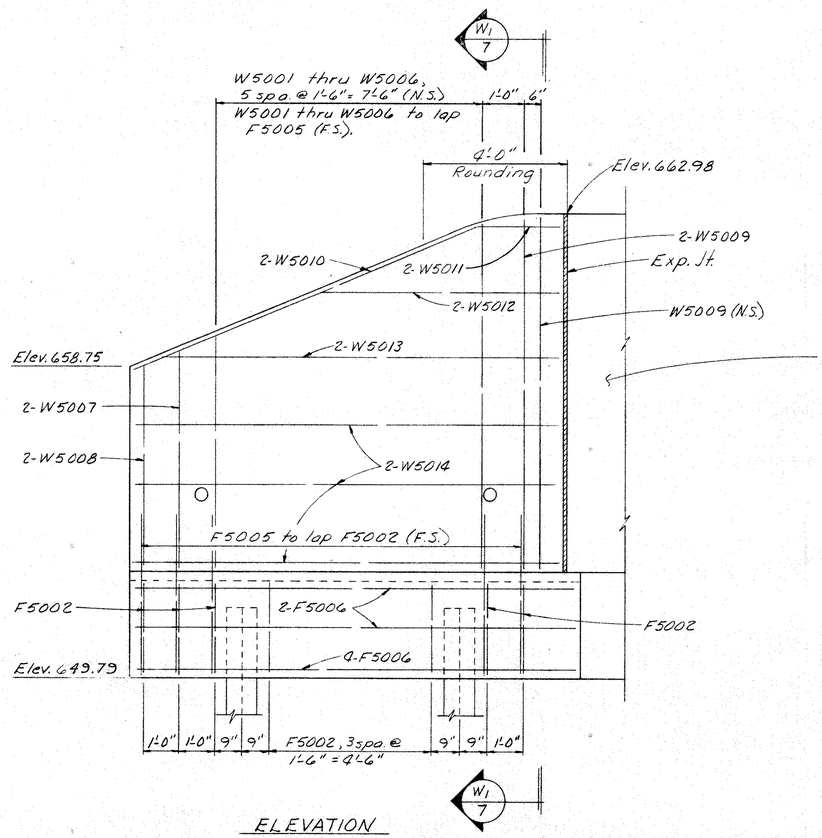
BELMONT- JEFFERSON COUNTIES
BEL-7-23.74/JEF-7-0.00



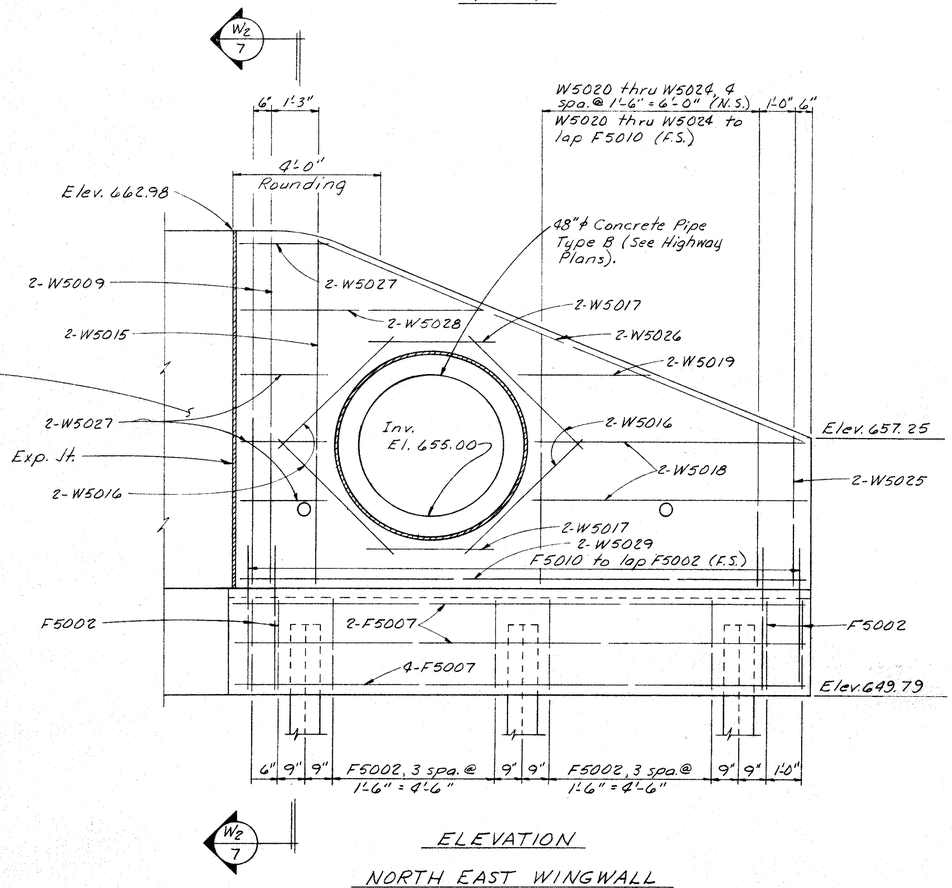
PLAN



PLAN



ELEVATION
NORTH WEST WINGWALL



ELEVATION
NORTH EAST WINGWALL

NOTES

Reinforcing steel location:
N.S. ~ indicates near side.
F.S. ~ indicates far side.

For additional notes and details see sheets 4, 5, 7, 9

All footing steel shall have 3" min. cover.

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

6/9

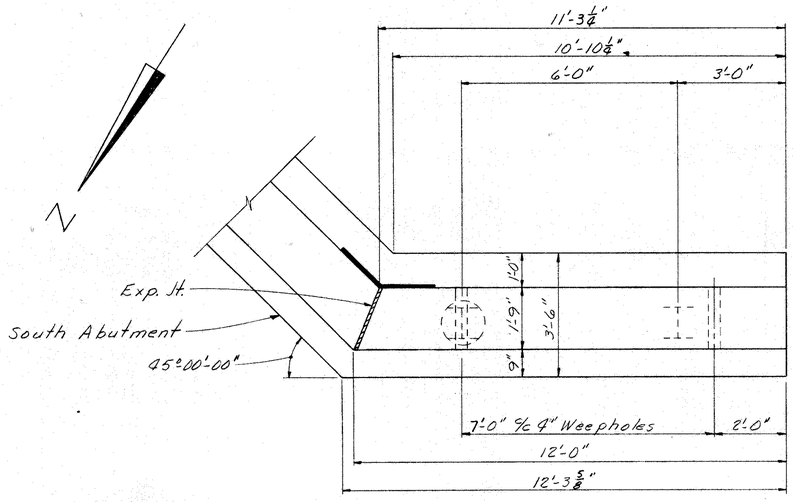
NORTH WINGWALL DETAILS
BRIDGE
PRIVATE DRIVE over DEEP RUN
BELMONT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DW	DW		VB	[illegible]	3/17/69	

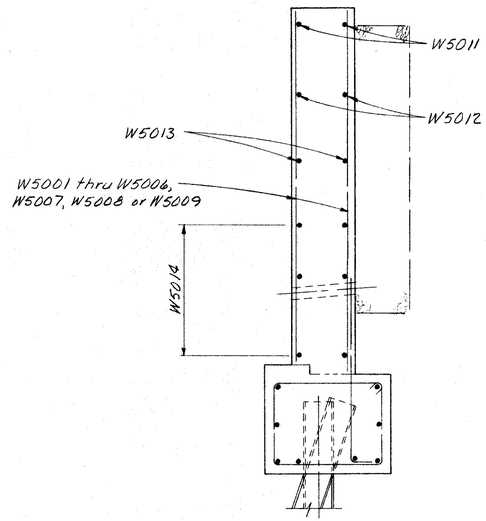
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

4.15
462

BELMONT- JEFFERSON COUNTIES
BEL- 7- 23.74/ JEF- 7- 0.00



PLAN



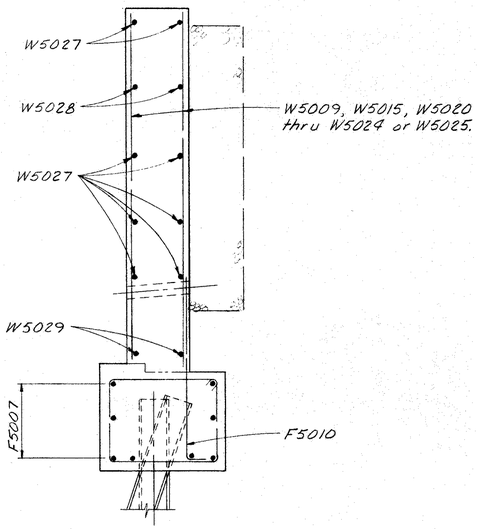
SECTION~W1/6

Same as Section W3-W3 unless otherwise shown.

NOTES

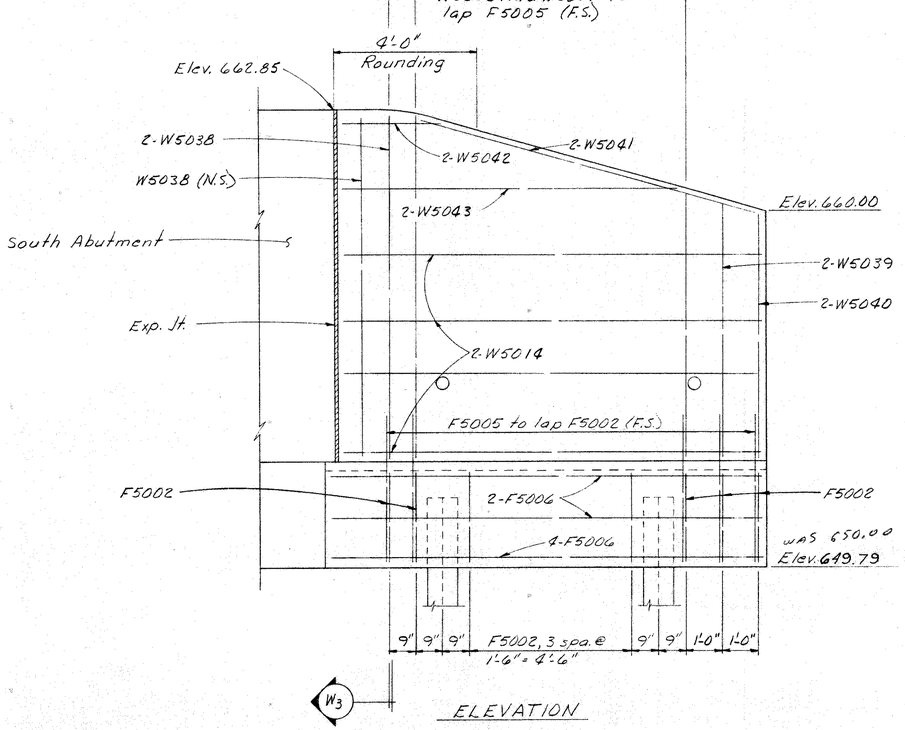
Reinforcing steel location:
N.S.~indicates near side.
F.S.~indicates far side.

For additional notes and details see sheets
4, 5, 6, 9



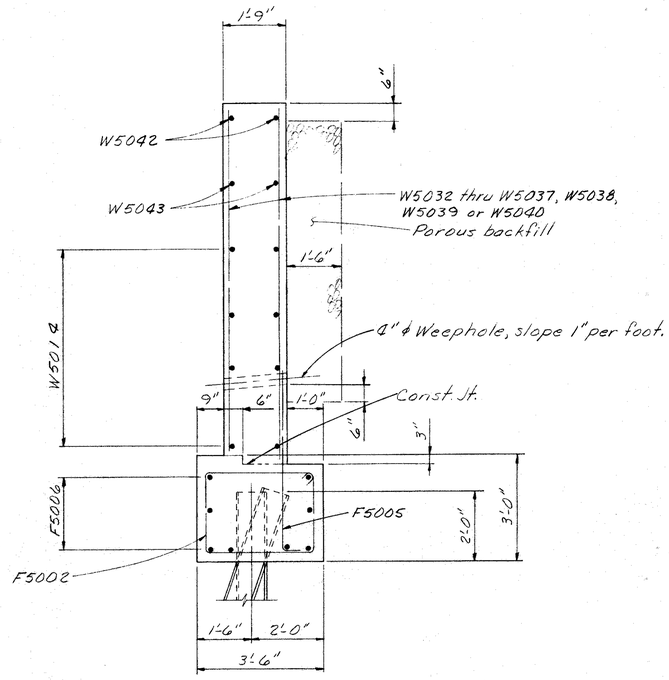
SECTION~W2/6

Same as Section~W3-W3 unless otherwise shown.



ELEVATION

SOUTH WEST WINGWALL



SECTION~W3-W3

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

7/9

SOUTH WINGWALL DETAILS
BRIDGE
PRIVATE DRIVE over DEEP RUN

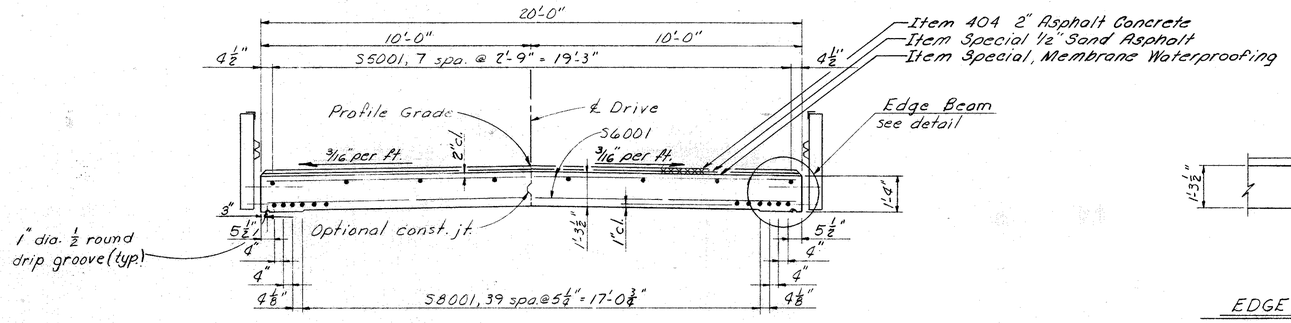
BELMONT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DW	DW		VB	pwd	3/17/69	

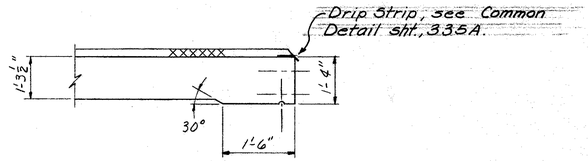
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

416
462

BELMONT- JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



TRANSVERSE SECTION



EDGE BEAM DETAIL

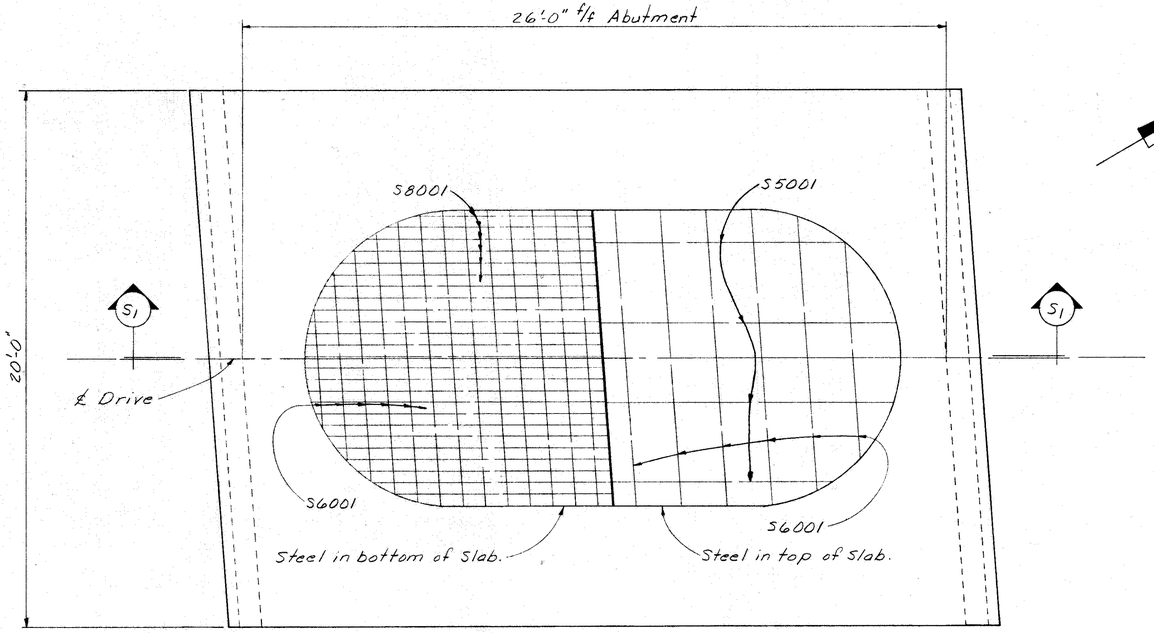
NOTES

Deflection at center of span is ⅜".

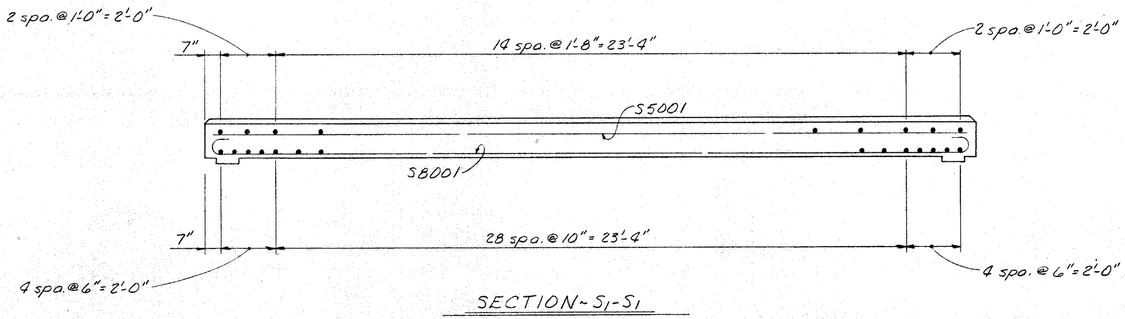
Transverse reinforcing steel shall be placed parallel to face of abutment.

For guardrail details see Common Details; sheet 335

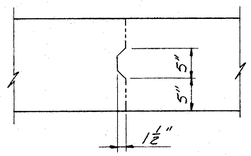
Deck Finishing Note see sheet 356.



DECK PLAN



SECTION - S1 - S1



OPTIONAL CONSTRUCTION JOINT

Note - All transverse steel S6001

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

8 / 9

SUPERSTRUCTURE DETAILS
BRIDGE
PRIVATE DRIVE over DEEP RUN
BELMONT COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DW	DW		VB	FWD	3/17/69	

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
A 5001	16	7-10	131	ST						
A 5002	15	8- 3	129	ST						
A 5003	10	20- 6	214	ST						
A 5004	16	8- 0	134	ST						
A 5005	15	8- 5	132	ST						
A 5006	10	21- 8	226	ST						
A 8001	28	5- 1	380	20	1- 1	1- 1	3- 2	0- 6	0- 6	
F 5001	30	9- 4	292	1		4- 1	1- 5	4- 1		
F 5002	60	11- 1	694	3	2- 3	3- 0	2- 3	3- 0		
F 5003	8	20- 1	168	ST						
F 5004	8	21- 4	178	ST						
F 6001	4	10- 0	60	ST						
				WINGWALLS						
W 5001	2	6- 6		ST						1
THRU			101		VARY LENGTH BY			0- 7	5/ 8	
W 5006	2	9- 8		ST						1
W 5007	2	6- 1	13	ST						
W 5008	2	5- 6	12	ST						
W 5009	7	9- 8	70	ST						
W 5010	2	10- 3	21	ST						
W 5011	2	2- 0	4	ST						
W 5012	2	6- 2	13	ST						
W 5013	2	10- 6	22	ST						
W 5014	14	10- 9	157	ST						
W 5015	2	9- 4	19	ST						
W 5016	8	4- 6	38	ST						
W 5017	4	3- 6	15	ST						
W 5018	4	7- 4	31	ST						
W 5019	2	4- 0	8	ST						
W 5020	2	7- 2		ST						1
THRU			62		VARY LENGTH BY			0- 7	3/ 4	
W 5024	2	4- 7		ST						1
W 5025	2	3-11	8	ST						
W 5026	2	14- 9	31	ST						
W 5027	8	2- 3	19	ST						
W 5028	2	6- 7	14	ST						
W 5029	2	15- 3	32	ST						
W 5032	2	9- 6		ST						1
THRU			107		VARY LENGTH BY			0- 5		
W 5037	2	7- 5		ST						1
W 5038	3	9- 6	30	ST						
W 5039	2	7- 0	15	ST						
W 5040	2	6- 8	14	ST						
W 5041	2	9-10	21	ST						
W 5042	2	2- 2	5	ST						
W 5043	2	8- 7	18	ST						
F 5005	18	4- 7	86	1	0- 8	4- 1				
F 5006	16	10- 6	175	ST						
F 5007	8	15- 2	127	ST						
F 5008	16	5- 9	96	12	2-11	2- 0		2- 0		
F 5009	8	5-11	49	12	2-11	2-10		1- 0		
F 5010	12	4- 5	55	1	0- 8	3-11				

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				SUPERSTRUCTURE						
S 5001	8	28- 0	234	ST						
S 6001	56	19- 6	1640	ST						3
S 8001	46	30- 2	3705	10	28- 0					
				REPLACEMENT STEEL						
RE 5001	1	6- 7		ST						
RE 6001	1	6-10		ST						
RE 8001	1	7- 6		ST						

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

417
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

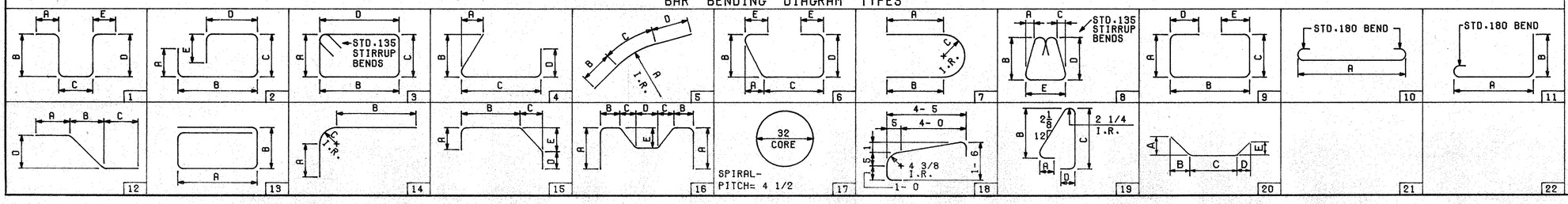
NOTES

1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.
SPIRAL BARS SHALL NOT HAVE DEFORMATIONS BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. 1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



9 19

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE
PRIVATE DRIVE OVER DEEP RUN
BELMONT COUNTY

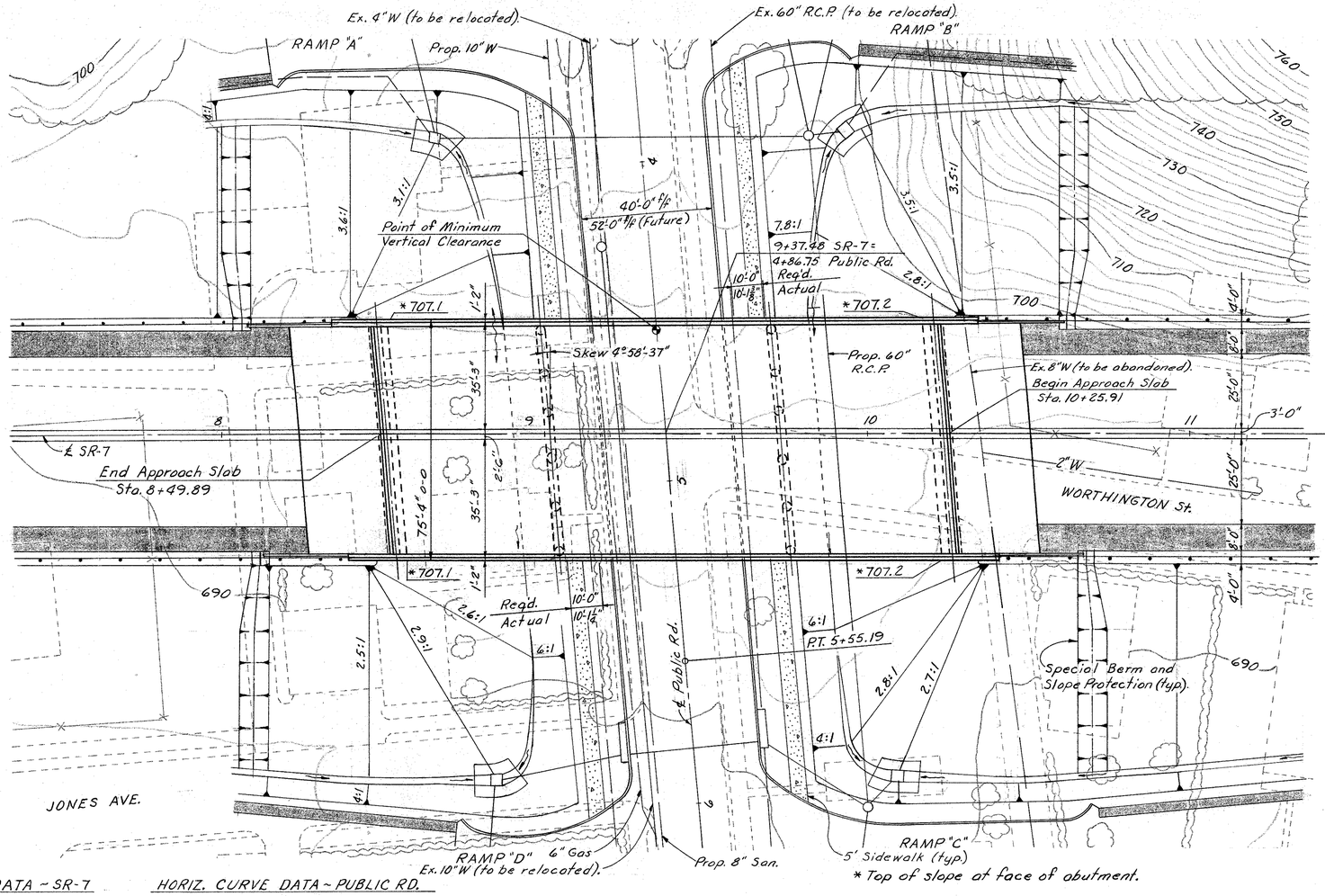
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DW			VB	fwd	3/17/09	

MICROFILMED
OCT 6, 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS

418
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



* Top of slope at face of abutment.

PLAN

Horizontal clearances shown to edge of future through lanes.

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure.

SPANS: 50'-0", 71'-6", 50'-0" ℄ brg. along ℄ SR-7.

ROADWAY: 73'-0" f/f concrete barrier railing with 2'-6" barrier median.

LOADING: HS20-44

WEARING SURFACE: 1½" Asphalt Concrete

SKEW: 4°58'-37" Right Forward.

ALIGNMENT: Tangent.

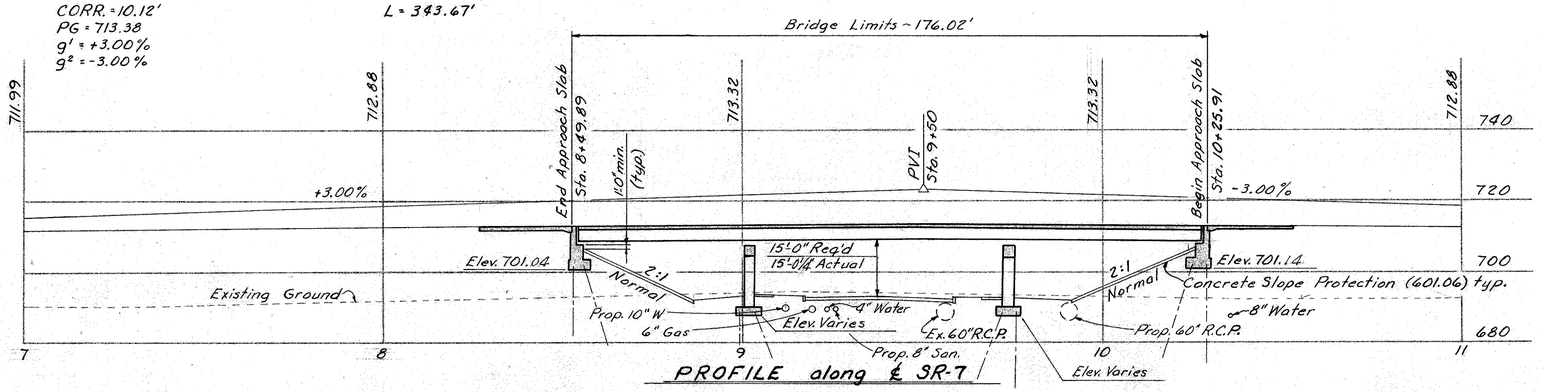
APPROACH SLABS: 25'-0" long, see Common Details sheet 835.

VERT. CURVE DATA ~ SR-7

PVI = 9+50
VC = 1350'
ELEV. = 723.50
CORR. = 10.12'
PG = 713.38
g^1 = +3.00%
g^2 = -3.00%

HORIZ. CURVE DATA ~ PUBLIC RD.

PI = 3+83.37
Δ = 1°43'-06"
D = 0°30'
L = 343.67'



PROFILE along ℄ SR-7

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

All piles shall be 12" ϕ Cast-In-Place reinforced concrete. Estimated average pay lengths are:
Abutments ~ 45'
Piers ~ 40'

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO
1/12

SITE PLAN
BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY
STA. 8+49.89 to STA. 10+25.91

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DLM	DLM	DW	rwd	JEV	10/25/67	

MICROFILMED
OCT 6 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

419
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

STANDARD DRAWING REFERENCES

DESCRIPTION	DWG. NO.	SHT.	DATE
END DAM AND END CROSSFRAME	SD-1-69	1-2	6-12-69
SCUPPERS	SD-1-69	3	6-12-69
BRIDGE ROADWAY RAILING	BR-1-67	1	10-15-71
ROCKERS AND BOLSTERS	RB-1-55		2- 2-59 R
APPROACH SLABS	AS-1-72		6- 30-72
HIGHWAY LIGHTING	HL-4, HL-5, HL-7,		9-6-73

(R INDICATES REVISED DATE)

SUPPLEMENTAL SPECIFICATION REFERENCES

DESCRIPTION	NO.	DATE
CHEMICAL ADMIXTURE FOR CONCRETE. TYPE A. B OR D	808	1-1-71
CONCRETE CURING AND PROTECTIVE MEMBRANE	836	1-1-71

COMMON DETAIL REFERENCES

CONTRACTION JOINTS	SHEET 335
SCUPPERS	SHEET 335
LIGHT POLE SUPPORT	SHEET 336
APPROACH SLAB MEDIAN	SHEET 335
SUBDRAINAGE FOR WEARING COURSE	SHEET 335A

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 'STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES' ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1965, INCLUDING THE OHIO 'SUPPLEMENT' TO THESE SPECIFICATIONS.

DESIGN DATA

DESIGN LOADING - HS20-44
CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20000 PSI
REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20000 PSI.
SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, A306, A499 OR A615.

EMBANKMENT CONSTRUCTION

THE EMBANKMENTS SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENTS. EXCAVATION SHALL THEN BE MADE FOR THE ABUTMENTS.

PILES

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF-
45 TONS PER PILE FOR THE ABUTMENTS AND WINGWALLS
45 TONS PER PILE FOR THE PIERS

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED GAS UTILITY LINE SHALL BE BORNE BY THE OWNER. THE CONTRACTOR AND OWNER ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

APPROACH SLAB DETAILS
SEE SHEET 339 FOR APPROACH SLAB NOTES.

BACKWALL CONCRETE
SEE SHEET 346.

BEARING ANCHORS
SEE SHEET 346.

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPER	GENERAL			
503	430	C.Y.	UNCLASSIFIED EXCAVATION	315	115					
404	38	C.Y.	Asphalt Concrete (70-85 or AC 20)			38				
505	LUMP	SUM	TEST PILE				LUMP			
507	3630	L.F.	12 INCH CAST-IN-PLACE REINFORCED CONCRETE PILES	1710	1920					
509	150541	LB	REINFORCING STEEL	19541	25323	105677				
511	387	C.Y.	CLASS C CONCRETE, SUPERSTRUCTURE			387				
511	102	C.Y.	CLASS C CONCRETE, PIER CAPS AND COLUMNS		102					
511	144	C.Y.	CLASS C CONCRETE, ABUTMENTS ABOVE FOOTINGS	144						
511	174	C.Y.	CLASS C CONCRETE, FOOTINGS	117	57					
512	16	L.F.	PREMOLDED SEALING STRIP	16						
513	310100	LB	STRUCTURAL STEEL				310100			
514	310100	LB	FIELD PAINTING OF STRUCTURAL STEEL				310100			
518	59	C.Y.	POROUS BACKFILL	59						
518	116	L.F.	6 INCH PERFORATED, HELICAL CMP, 707.01	116						
518	120	L.F.	6 INCH NON-PERFORATED, HELICAL CMP, INCLUDING SPECIALS, 707.01	120						
518	8	EA	SCUPPERS INCLUDING SUPPORTS			8				
518	58	EA	SUBDRAINAGE FOR WEARING COURSE, as per plan			58				
601	735	S.Y.	CONCRETE SLOPE PROTECTION				735			
625			SEE SHEET 302 FOR LIGHTING SUMMARY							
808	387	UNIT	CHEMICAL ADMIXTURE FOR CONCRETE. TYPE A. B OR D			387				
SPEC.	19	C.Y.	Sand Asphalt			19				
* SPEC.	1379	S.Y.	Membrane Waterproofing Sheet Type			1379				

*See Proposal Note

2/12

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. JEF-7-0016
SR-7 OVER PUBLIC ROAD
STA. 8+49.89 TO
JEFFERSON COUNTY STA. 10+25.91

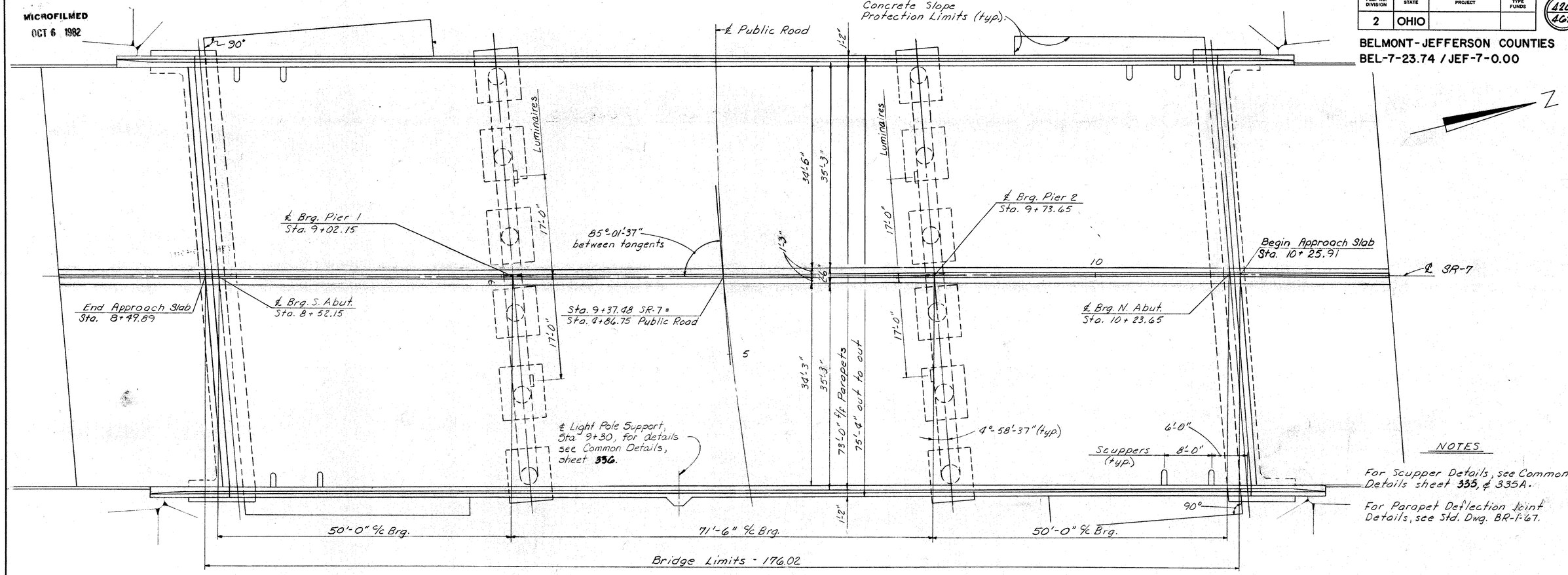
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			PHD 2-20-69	JEV	3/14/69	

MICROFILMED
OCT 6 1982

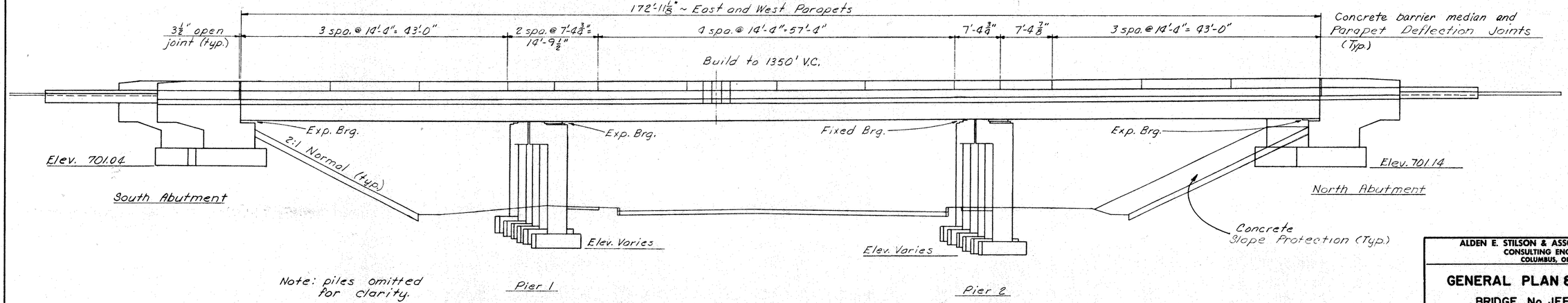
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

420
402

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



GENERAL PLAN



Note: piles omitted for clarity.

Pier 1

Pier 2

GENERAL ELEVATION

NOTES

For Scupper Details, see Common Details sheet 335, & 335A.

For Parapet Deflection Joint Details, see Std. Dwg. BR-1-67.

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

3/12

GENERAL PLAN & ELEVATION

BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8+49.89 to STA. 10+25.91

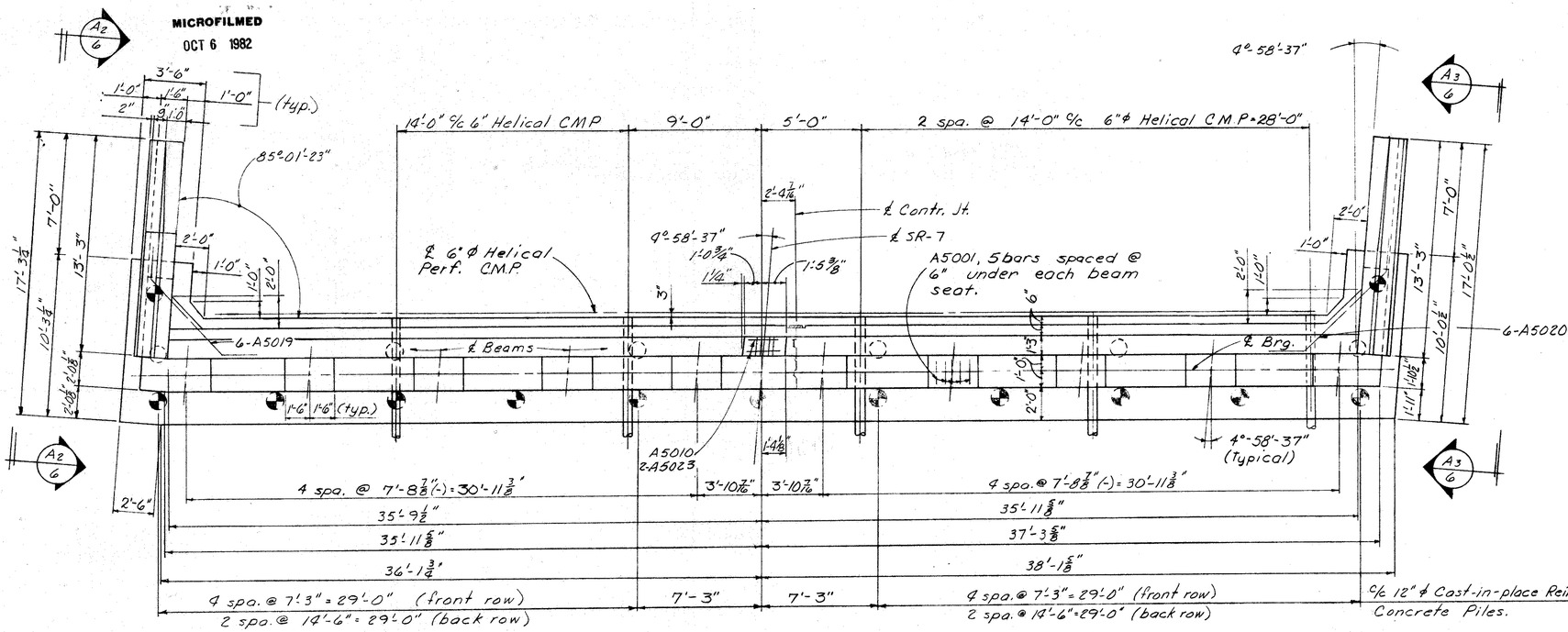
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

MICROFILMED
OCT 6 1982

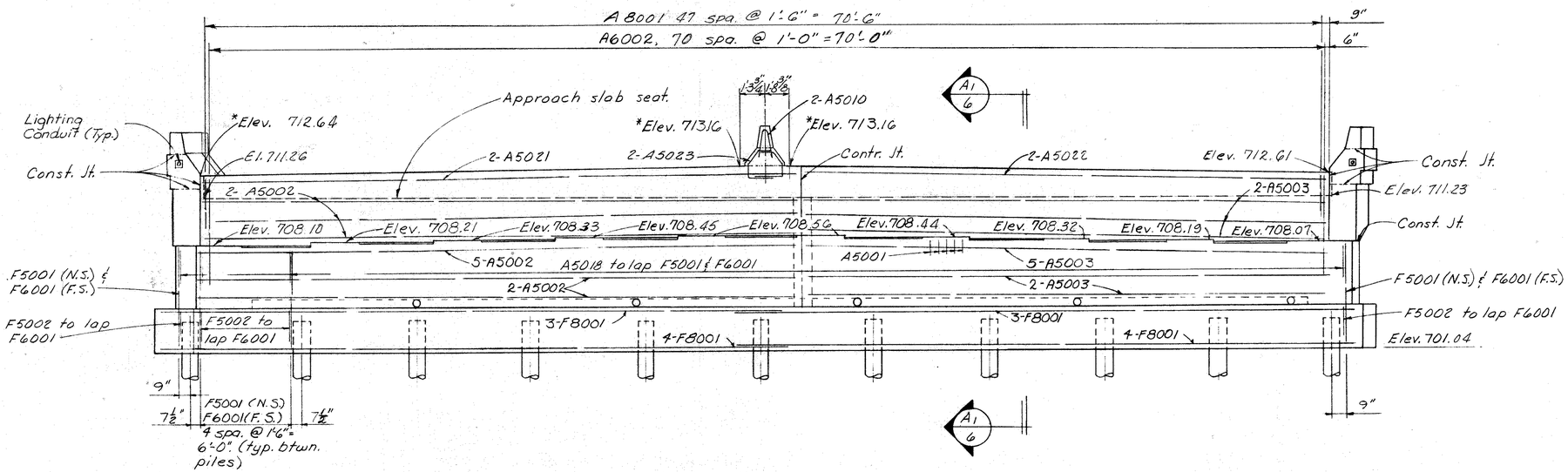
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

421
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PLAN



ELEVATION

NOTES

All piles shall be 12"ϕ Cast-in-place piles:
◌ indicates vertical.
◒ indicates battered 1:4.

Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

Top of backwall shall conform to the roadway crown.

* Elevations marked with an asterisk are at the intersection of the roadway surface and face of backwall.

Porous backfill, 1'-6" thick, shall be placed between inside faces of wingwalls and shall extend up to the subgrade or to the bottom of the approach slab.

Shape of barrier on backwall shall conform to shape of barrier on superstructure.

For Contraction Joint Details, see Common Details sheet 335.

Quantities of Concrete and Reinforcing Steel for Railing shall be included with their appropriate Item for payment.

Outside ends of the 6"ϕ Helical CMP shall be capped.

For additional details see sheet 6/12

Adjustable type elbows meeting specification requirements for gage and coating are acceptable for making bends in perforated corrugated metal pipe. Elbows and stem of tee need not be perforated.

All reinforcing in footings shall have 3" minimum cover to all concrete surfaces.

ALDEN E. STILSON & ASSOCIATES, LIMITED
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COLUMBUS, OHIO

4/12

SOUTH ABUTMENT DETAILS

BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8+49.89 to STA. 10+25.91

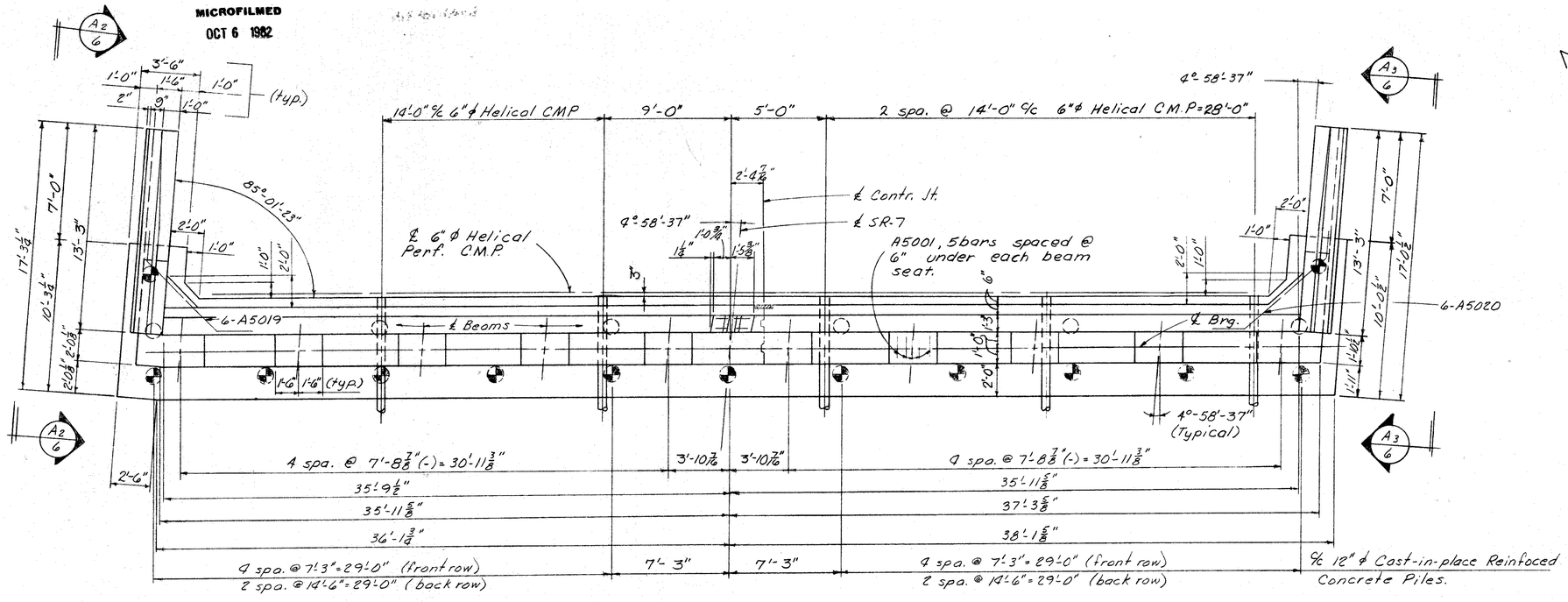
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

MICROFILMED
OCT 6 1982

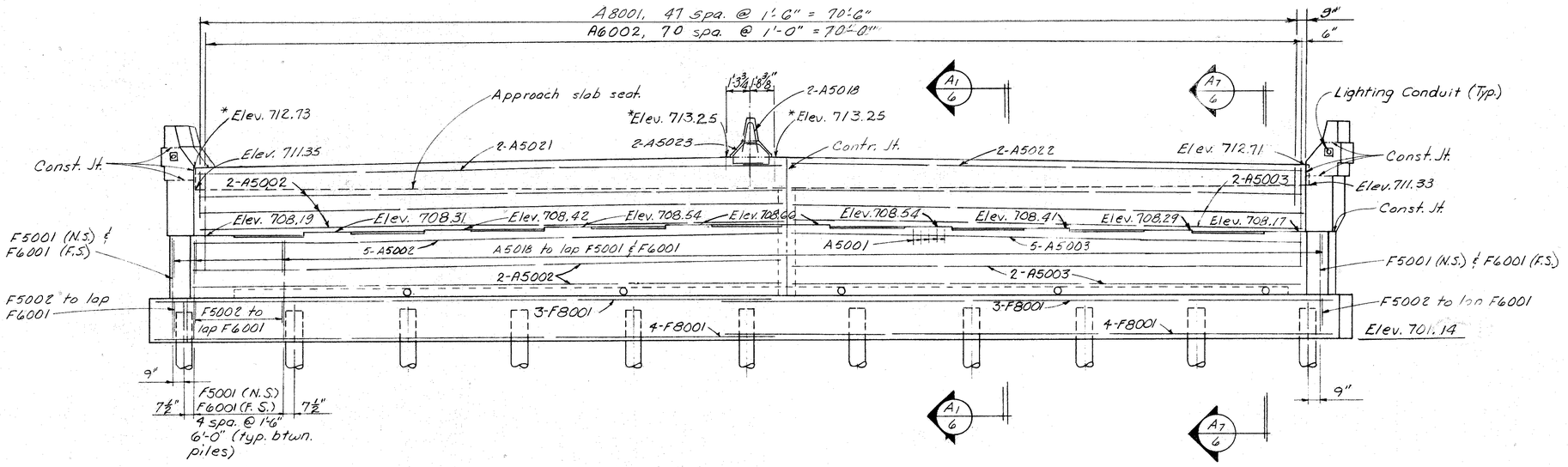
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

122
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



PLAN



ELEVATION

NOTES

Reinforcing steel location:
N.S. indicates near side.
F.S. indicates far side.

For additional notes and details see sheets 4 & 6 | 12

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

5 | 12

NORTH ABUTMENT DETAILS

BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8+49.89 to STA. 10+25.91

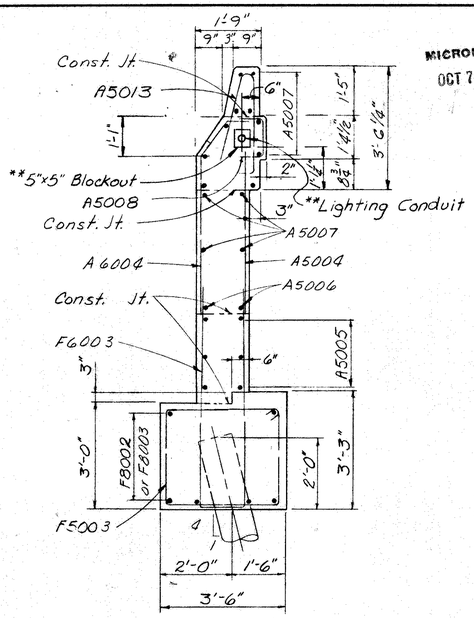
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

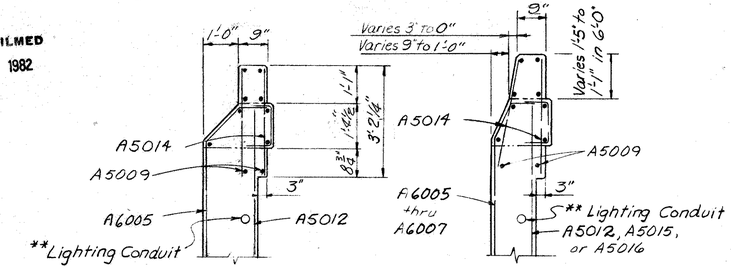
423
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

MICROFILMED
OCT 7 1982



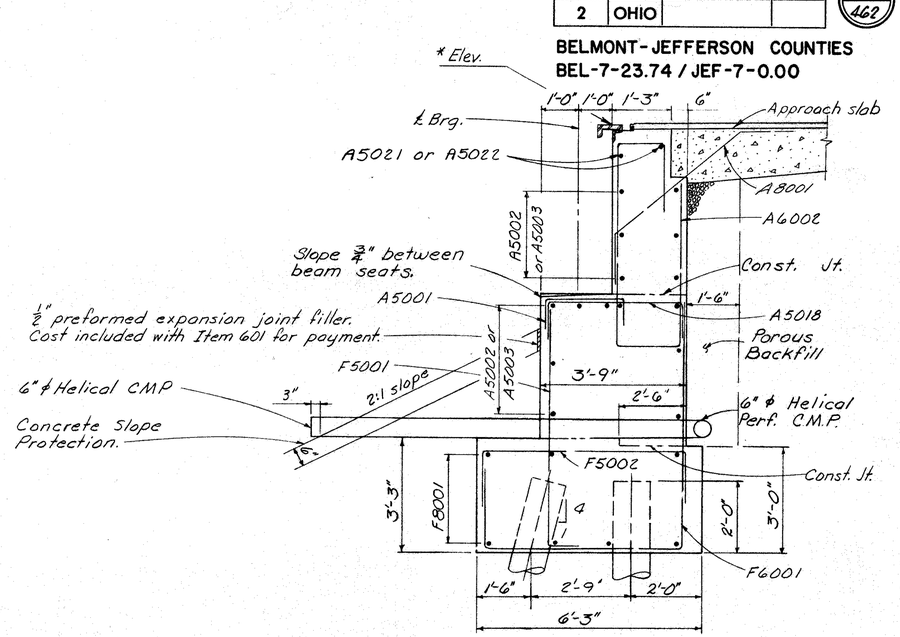
SECTION ~ A4 - A4



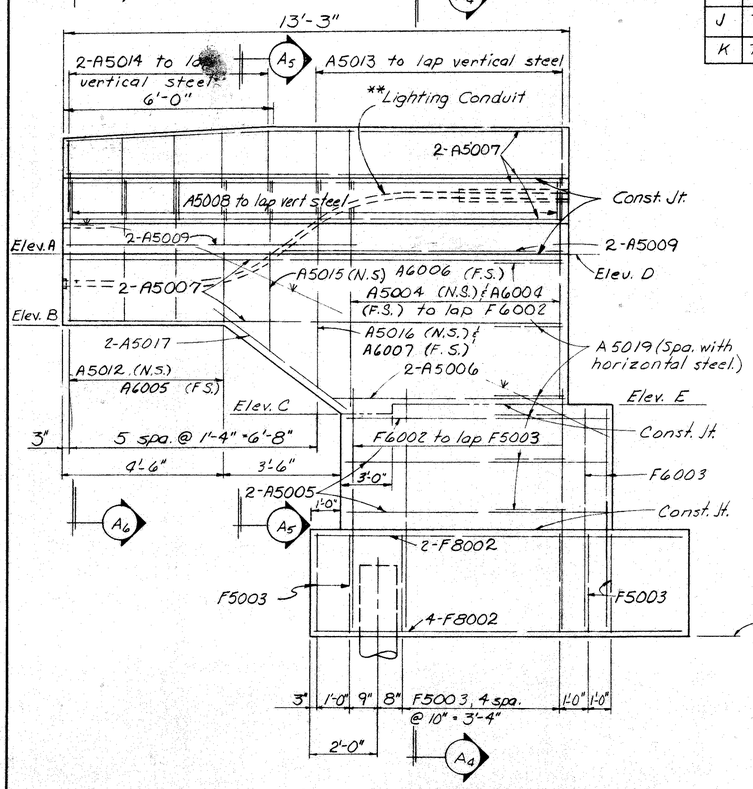
SECTION ~ A6 - A6
Same as section ~ A4 - A4 except as noted.

SECTION ~ A5 - A5
Same as section ~ A4 - A4 except as noted.

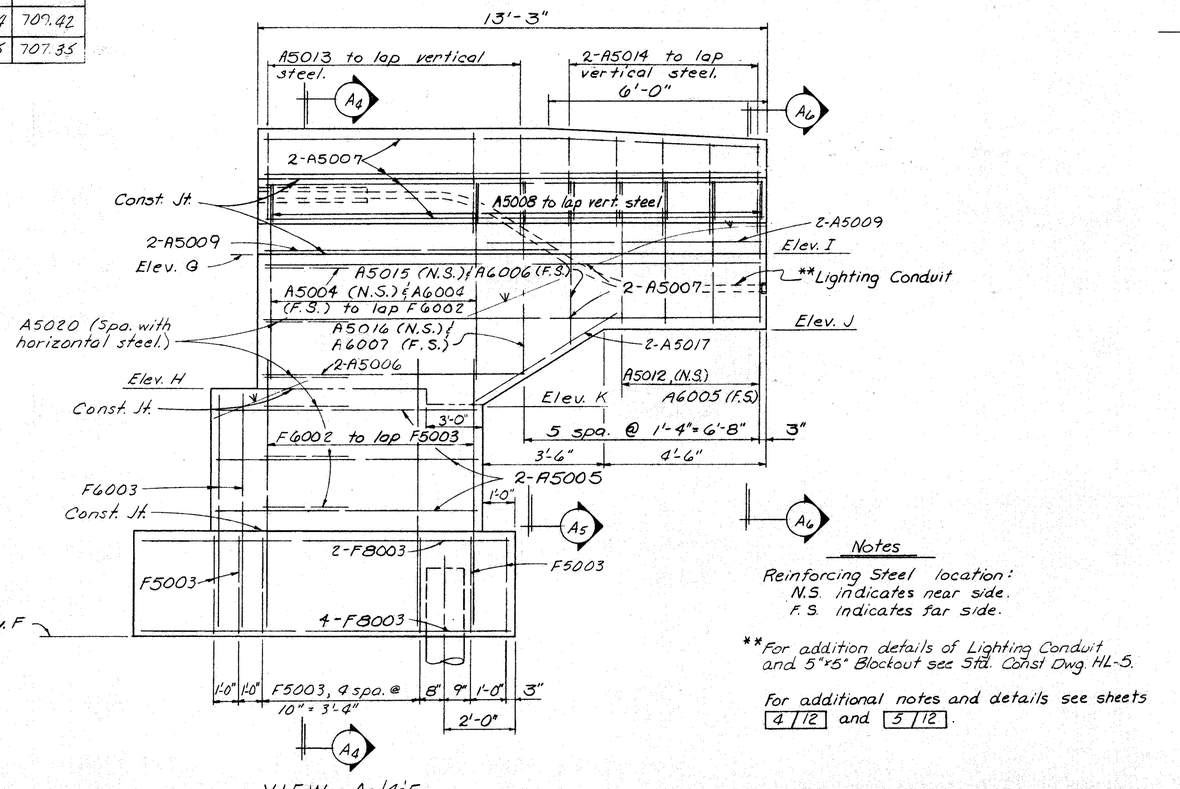
TABLE of ELEV.	N. Abut.	S. Abut.
A	711.83	711.72
B	709.56	709.45
C	707.47	707.38
D	711.88	711.79
E	708.19	708.10
F	701.14	701.04
G	711.86	711.76
H	708.17	708.07
I	711.81	711.69
J	709.54	709.42
K	707.45	707.35



SECTIONS ~ A1/4&5



VIEW ~ A2/4&5



VIEW ~ A3/4&5

Notes

Reinforcing Steel location:
N.S. indicates near side.
F.S. indicates far side.

** For addition details of Lighting Conduit and 5"x5" Blockout see Std. Const Dwg. HL-5.

For additional notes and details see sheets 4/12 and 5/12.

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6/12

ABUTMENT DETAILS

BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8+49.89 to STA. 10+25.91

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

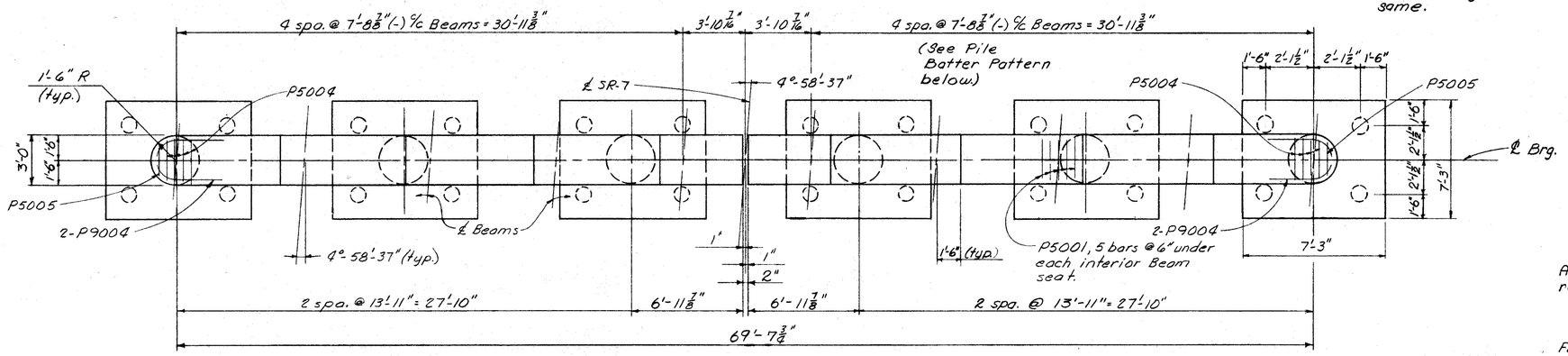
MICROFILMED
OCT 7 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

424
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTE:
All footing dimensions and pile spacing are the same.



PLAN

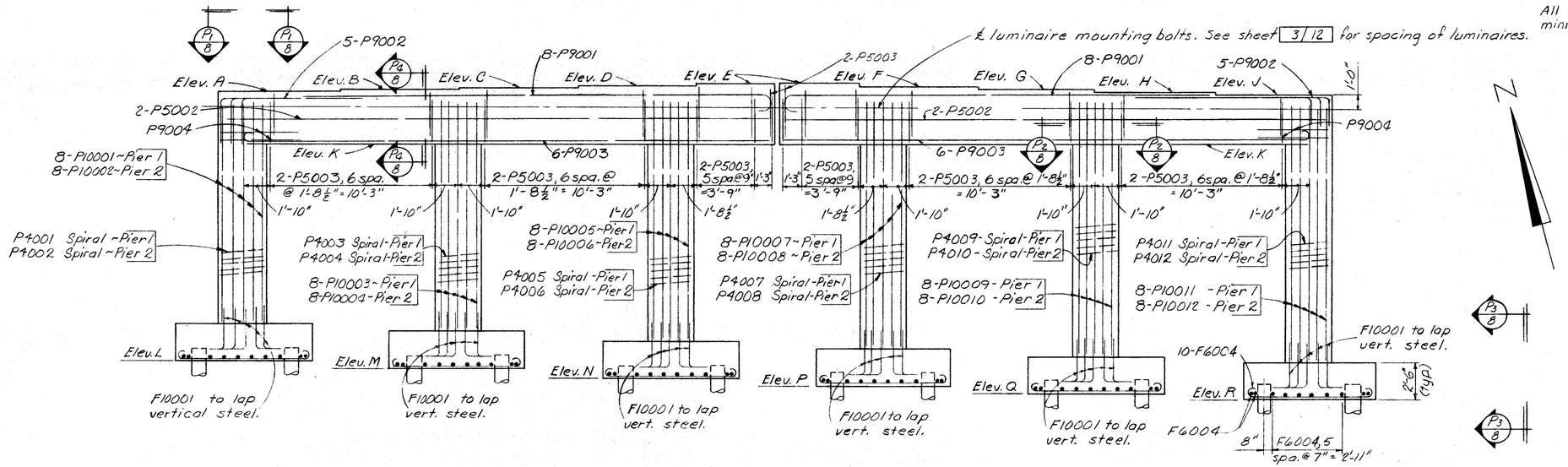
NOTES

All piles shall be 12" ϕ cast-in-place reinforced concrete.
○ indicates vertical piles.
◒ indicates battered piles 1:4.

For Superstructure grounding details at Pier 2 see Std. Const. Dwg. HL-7.

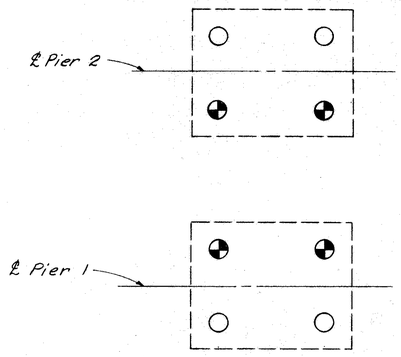
For luminaire mounting details see Underpass Lighting Details in Highway Plans, sheet 312, & Std. dwg. HL-6

All reinforcing in footings shall have 3" minimum cover to all concrete surfaces.



Reinforcing typ. for all footings.

ELEVATION



PILE BATTER PATTERN

Table of Elevations

	Elev. A	Elev. B	Elev. C	Elev. D	Elev. E	Elev. F	Elev. G	Elev. H	Elev. J	Elev. K	Elev. L	Elev. M	Elev. N	Elev. P	Elev. Q	Elev. R
Pier 1	707.91	708.03	708.15	708.27	708.40	708.28	708.28	708.04	707.92	704.41	689.83	689.29	688.75	688.24	687.72	687.27
Pier 2	707.96	708.08	708.20	708.32	708.44	708.31	708.19	708.07	707.95	704.45	689.56	689.02	688.49	687.98	687.50	687.08

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COLUMBUS, OHIO

7/12

PIER 1&2 DETAILS
BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8+49.89 to STA. 10+25.91

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

MICROFILMED
OCT 7 1982

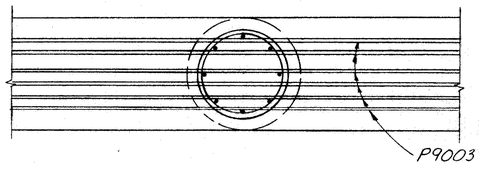
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

425/462

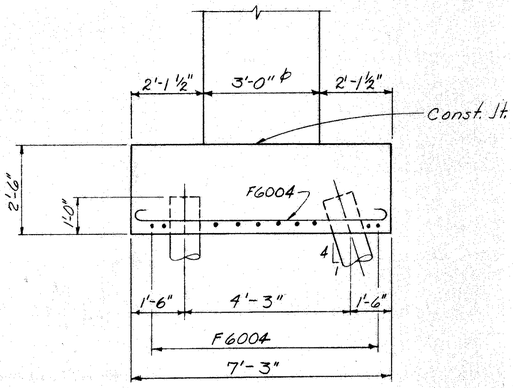
BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



VIEW P/7

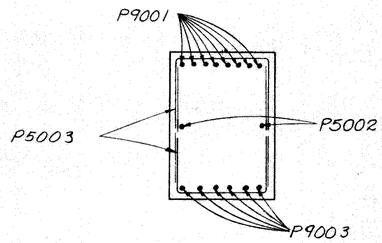


SECTION ~ P2/7

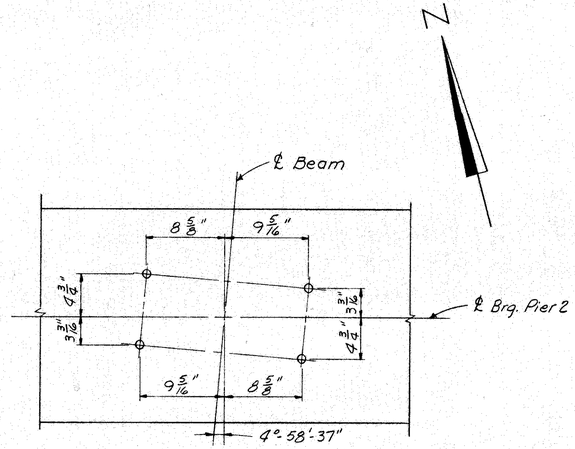


SECTION ~ P3/7

Pier 1 shown, Pier 2 opposite hand.



SECTION ~ P4/7



ANCHOR BOLT SETTING DETAIL
Pier 2

Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seats so as to avoid interference with the drilling of the anchor bolt holes in pier 2.

ALDEN E. STILSON & ASSOCIATES, LIMITED
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COLUMBUS, OHIO

8/12

PIER 1&2 DETAILS

BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8+49.89 to STA. 10+25.91

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

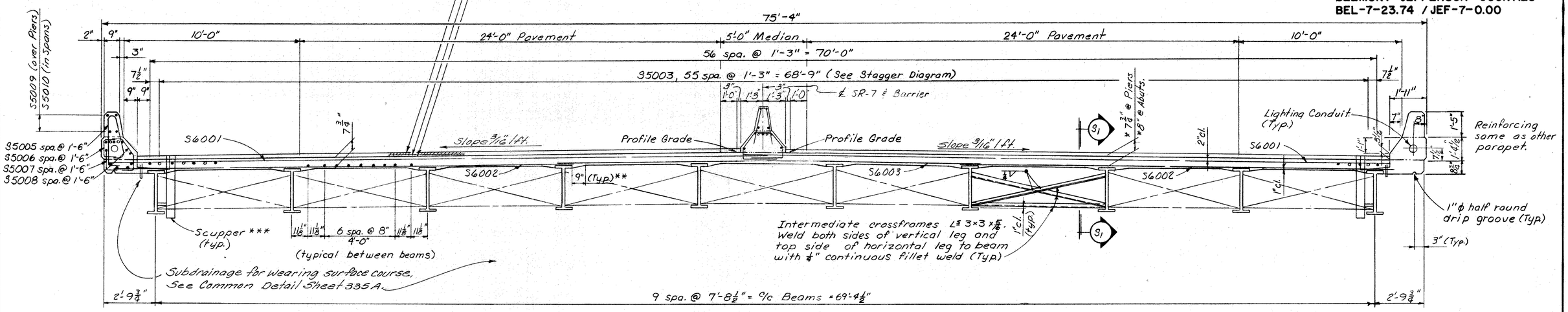
MICROFILMED
OCT 7 1982

All longitudinal reinforcing steel shall be 35001 and 35002 unless otherwise noted.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

226
262

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



TRANSVERSE SECTION

NOTES

* The distance shown from the top of the deck slab to top of beam is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it 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.

** A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall not be more than 1:4 for a haunch less than 9" in width.

Field bending of transverse slab steel shall be included in Item 509 for payment.

Lap 35001 and 35002 bars 1'-7".
Lap S6002 and S6003 bars 1'-11" min.

*** For Scupper details, see Common Details sheet 335 & 335A.

Transverse reinforcing shall be placed parallel to Abutments.

Transverse reinforcing shall be spaced @ 7½" % along ℄ SR-7.

Quantities for Concrete and Reinforcing Steel for Railing shall be included with their appropiate Item for payment.

For additional notes and details see sheets 10/12 and 11/12.

PREFORMED EXPANSION JOINT FILLER in the railing parapet deflection joints may be either ½" gray sponge rubber or ¼" gray cellular polyvinyl chloride (PVC) sponge.

Deck Finishing: See sheet 356.

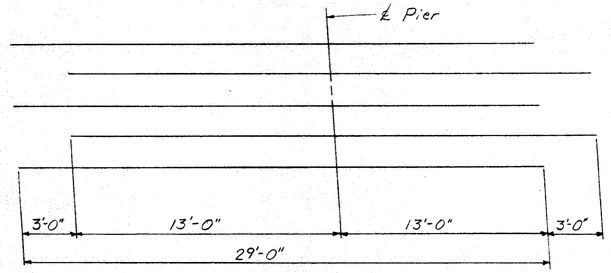
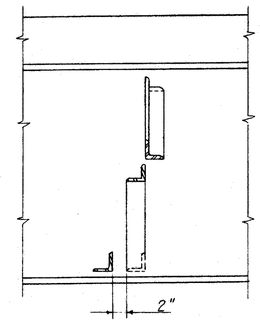


DIAGRAM SHOWING STAGGER of 35003 BARS over PIERS

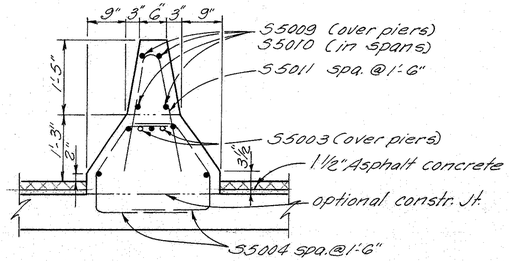
Steel Erection: See sheet 356.
End Dam: See sheet 405.

CHARPY TEST NOTES
All beams and field splice material shall meet specified minimum notch toughness requirements.

See sheet 357 for other Charpy Test Notes.



SECTION ~ S1 - S1



BARRIER DETAIL

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
COLUMBUS, OHIO
9/12

SUPERSTRUCTURE DETAILS

BRIDGE No. JEF-7-0016

SR-7 over PUBLIC ROAD

JEFFERSON COUNTY STA. 8 + 49.89 to STA. 10 + 25.91

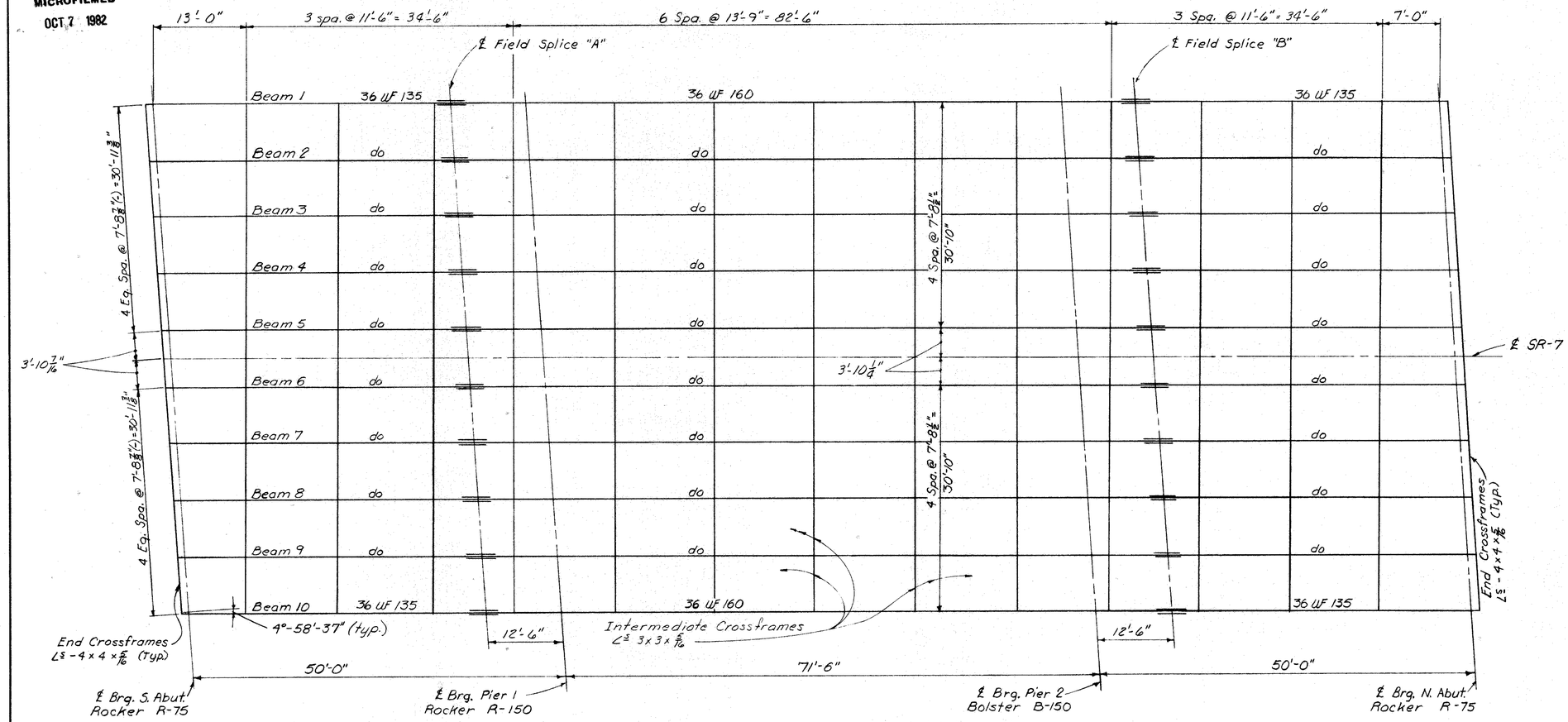
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

MICROFILMED
OCT 7 1982

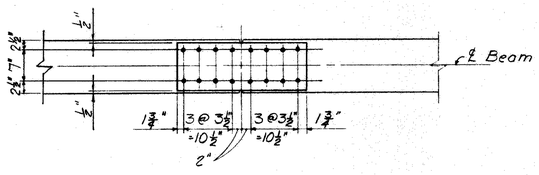
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

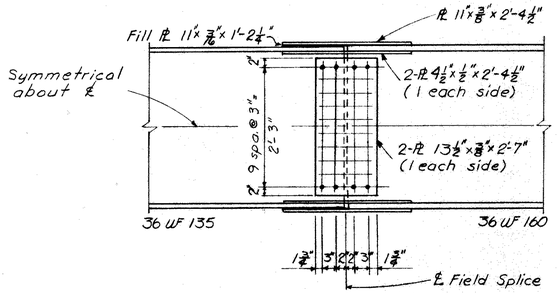
427
462

BELMONT - JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00



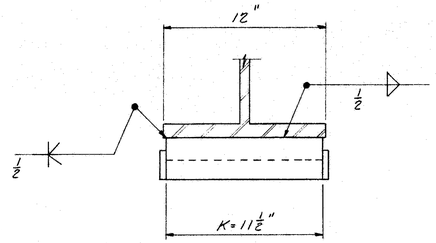
FRAMING PLAN





FIELD SPLICE DETAILS
(Field Splice "A" shown. Field Splice "B" oppsite hand.)

For notes and details not shown see Std. Dwg. SD-1-69



FLANGE TO BEARING UNIT CONNECTION DETAIL
(For Bolster B-150 and Rocker R-150.)

NOTES

Place bearing devices normal to ℄ beams at all substucture units.

Place intermediate crossframes normal to beams.

For additional notes and details see Sheets 9 | 12 and 11 | 12.

For End Crossframe details see Std. Dwg. SD-1-69. For end dam at abutments see Std. Dwg. SD-1-69.

Bearing devices under beams 1 and 10 shall be fabricated without ½" keeper plates.

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

10 | 12

SUPERSTRUCTURE DETAILS

BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8 + 49.89 to STA. 10 + 25.91

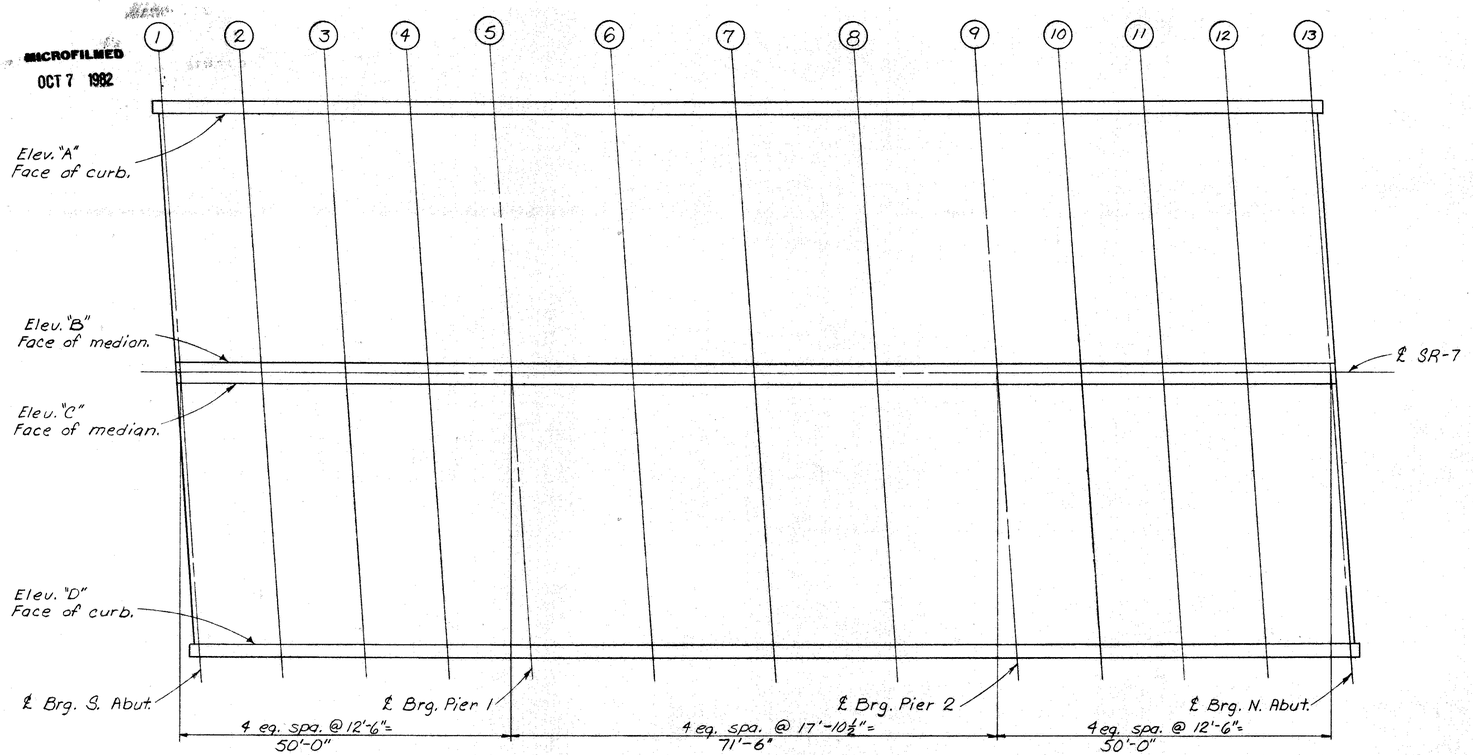
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

MICROFILMED
OCT 7 1982

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

428
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00





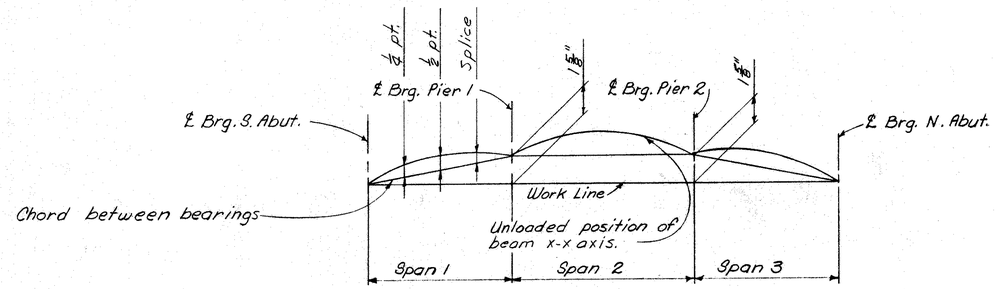
For additional notes and details see sheet 9 12 and 10 12

SCREED LINE LOCATIONS

Screed elevation are at top of slab before the concrete deck is placed. Proper allowance has been made for the dead load deflection due to the weight of the concrete.

Table of Screed Elevations				
Locations	Elevations			
	A	B	C	D
1	712.49	713.04	713.04	712.52
2	712.56	713.10	713.10	712.58
3	712.60	713.15	713.15	712.62
4	712.63	713.18	713.18	712.65
5	712.66	713.20	713.20	712.68
6	712.72	713.26	713.26	712.73
7	712.75	713.29	713.29	712.75
8	712.74	713.28	713.28	712.74
9	712.71	713.24	713.24	712.71
10	712.70	713.23	713.23	712.69
11	712.69	713.21	713.21	712.67
12	712.66	713.18	713.18	712.64
13	712.61	713.14	713.14	712.59

Deflection and Camber										
Beams	Camber Description	Span 1			Span 2			Span 3		
		¼ pt.	½ pt.	splice	¼ pt.	½ pt.	¾ pt.	splice	½ pt.	¾ pt.
1 & 10	Defl. due to weight of steel.	0	0	0	1/16	1/16	1/16	0	0	0
	Defl. due to rem. Dead Load.	1/8	1/8	1/16	1/4	3/8	1/4	1/16	1/8	1/8
	Adjust. due to curvature.	1/8	3/16	1/8	1/4	3/8	1/4	1/8	3/16	1/8
	Required shop camber.	1/4	5/16	3/16	9/16	13/16	9/16	3/16	5/16	1/4
2 thru 9	Defl. due to weight of steel.	0	0	0	1/16	1/16	1/16	0	0	0
	Defl. due to rem. Dead Load.	1/8	1/8	1/16	5/16	1/2	5/16	1/16	1/8	1/8
	Adjust. due to curvature.	1/8	3/16	1/8	1/4	3/8	1/4	1/8	3/16	1/8
	Required shop camber.	1/4	5/16	3/16	5/8	15/16	5/8	3/16	5/16	1/4



CAMBER and BLOCKING DIAGRAM

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

11 / 12

SUPERSTRUCTURE DETAILS

BRIDGE No. JEF-7-0016
SR-7 over PUBLIC ROAD
JEFFERSON COUNTY STA. 8 + 49.89 to STA. 10 + 25.91

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.	J.R.L.		PHB	JEV	3/14/69	

MICROFILMED
OCT 7 1982

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				ABUTMENTS						
F 5001	104	7- 0	759	1	0- 8	6- 6				
F 5002	104	8- 3	895	1		1- 7	5- 4	1- 7		
F 5003	36	11- 7	435	3	2- 6	3- 0	2- 6	3- 0		
F 6001	104	14- 1	2200	9	5- 4	6- 6		2- 7		
F 6002	24	18- 2	655	1		8- 8	1- 2	8- 8		
F 6003	8	13-10	166	1		6- 6	1- 2	6- 6		
F 8001	28	39-10	2978	ST						
F 8002	12	9- 9	312	ST						
F 8003	12	9- 6	304	ST						
A 5001	100	4-11	513	1		1- 6	2- 2	1- 6		
A 5002	30	39- 6	1236	ST						
A 5003	30	34- 7	1082	ST						
A 5004	24	4-10	121	ST						
A 5005	24	6-10	171	ST						
A 5006	8	5- 8	47	ST						
A 5007	48	12-11	647	ST						3
A 5008	48	2- 1	104	1		0- 8	1- 0	0- 8		
A 5009	16	7- 3	121	ST						
A 5010	4	4- 7	19	4	2-3	1-1	2-3			
A 5012	16	3- 4	56	ST						
A 5013	28	6- 1	178	19		2- 5	3- 0	0- 7		
A 5014	40	2- 8	111	ST						
A 5015	4	3- 9	16	ST						
A 5016	4	4- 5	18	ST						
A 5017	8	4- 0	33	ST						
A 5018	104	7- 4	795	1		2- 1	3- 5	2- 1		
A 5019	12	9- 3	116	16			1- 1	6- 2	1- 2	
A 5020	12	10- 0	125	16			1- 2	6-10	1- 1	
A 5021	4	38- 0	159	ST						
A 5022	4	33- 1	138	ST						
A 5023	8	3-10	32	15	1-6	0-9	0-11	0-8	0-9	
A 6002	142	15- 0	3199	2	4- 2	1- 5	5-11	0-11	3- 3	
A 6004	24	6- 4	228	15		0- 9	0- 9	4- 6	0-11	
A 6005	16	4-10	116	15		0- 9	0- 9	2-11	1- 0	
A 6006	4	5- 3	32	15		0- 9	0- 9	3- 4	1- 0	
A 6007	4	5-11	36	15		0- 9	0- 9	4- 0	1- 0	
A 8001	96	5- 5	1410	20	1- 1	1- 1	3- 7	0- 6	0- 6	
				PIERS						
F 6004	240	8- 1	2914	10	6- 9					
F10001	96	6- 7	2719	1	1- 5	5- 6				
P 4001	1	11-10	231	17	NO.TURNS= 35		NO.SPACERS= 4			6
P 4002	1	12- 3	238	17	NO.TURNS= 36		NO.SPACERS= 4			6
P 4003	1	12- 5	238	17	NO.TURNS= 36		NO.SPACERS= 4			6
P 4004	1	12- 8	245	17	NO.TURNS= 37		NO.SPACERS= 4			6
P 4005	1	12-11	245	17	NO.TURNS= 37		NO.SPACERS= 4			6
P 4006	1	13- 3	252	17	NO.TURNS= 38		NO.SPACERS= 4			6
P 4007	1	13- 5	258	17	NO.TURNS= 39		NO.SPACERS= 4			6
P 4008	1	13- 9	265	17	NO.TURNS= 40		NO.SPACERS= 4			6
P 4009	1	13-11	265	17	NO.TURNS= 40		NO.SPACERS= 4			6
P 4010	1	14- 3	272	17	NO.TURNS= 41		NO.SPACERS= 4			6
P 4011	1	14- 5	272	17	NO.TURNS= 41		NO.SPACERS= 4			6
P 4012	1	14- 8	279	17	NO.TURNS= 42		NO.SPACERS= 4			6
P 5001	80	5- 5	452	1		1- 6	2- 8	1- 6		
P 5002	8	34- 6	288	ST						

MARK	NUM.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	NOTE
				PIERS					(CONTINUED)	
P 5003	168	8- 9	1533	1		3- 2	2- 8	3- 2		
P 5004	16	5- 1	85	1		1- 6	2- 4	1- 6		
P 5005	4	4- 5	18	1		1- 6	1- 8	1- 6		
P 9001	32	34- 3	3726	11	33- 0					
P 9002	20	9- 3	629	1	3- 2	6- 4				
P 9003	24	35- 9	2917	11	34- 6					
P 9004	8	8-11	243	7	2-10	2-10	1- 0			
P10001	8	14-10	511	ST						
P10002	8	15- 3	525	ST						
P10003	8	15- 5	531	ST						
P10004	8	15- 8	539	ST						
P10005	8	15-11	548	ST						
P10006	8	16- 3	559	ST						
P10007	8	16- 5	565	ST						
P10008	8	16- 9	577	ST						
P10009	8	16-11	582	ST						
P10010	8	17- 3	594	ST						
P10011	8	17- 5	600	ST						
P10012	8	17- 8	608	ST						
				SUPERSTRUCTURE						
S 5001	805	30- 0	25188	ST						
S 5002	1761	30- 3	5080	ST						
S 5003	124	29- 0	3751	ST						
S 5004	232	3-10	928	15	1-6	0-9	0-11	0-8	0-9	
S 5005	232	6- 2	1492	19	0- 8	2- 5	3- 0			
S 5006	232	2- 1	504	1		0- 8	1- 0	0- 8		
S 5007	232	2- 2	524	1	0- 8	1- 8				
S 5008	232	3- 2	766	15	0- 8	0- 8	1- 0	0- 9	0- 9	
S 5009	48	7- 0	350	ST						
S 5010	120	14- 0	1752	ST						
S 5011	116	4-7	554	4	2-3	1-1	2-3			
S 6001	554	38- 5	31967	ST						
S 6002	554	26- 9	22259	ST						
S 6003	277	25- 3	10505	ST						3
				LIGHT POLE SUPPORT						
L 5001	8	3- 2	26	6	0- 7	0- 7	2- 4			4
L 5002	2	2-11	6	1	1-10	1- 3				4
L 5003	3	5- 6	17	1	2-10	2-10				4
L 5004	3	2- 7	8	1	1- 8	1- 1				4
				REPLACEMENT STEEL FOR SPIRALS						
RE 4001	1	6- 3		5	1- 3 ½		6- 3			
				REPLACEMENT STEEL						
RE 5001	3	6- 7		ST						
RE 6001	4	6-10		ST						
RE 7001	1	7- 2		ST						
RE 8001	1	7- 6		ST						
RE 9001	1	7-10		ST						
RE10001	1	8- 2		ST						

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

429
462

BELMONT-JEFFERSON COUNTIES
BEL-7-23.74 / JEF-7-0.00

NOTES

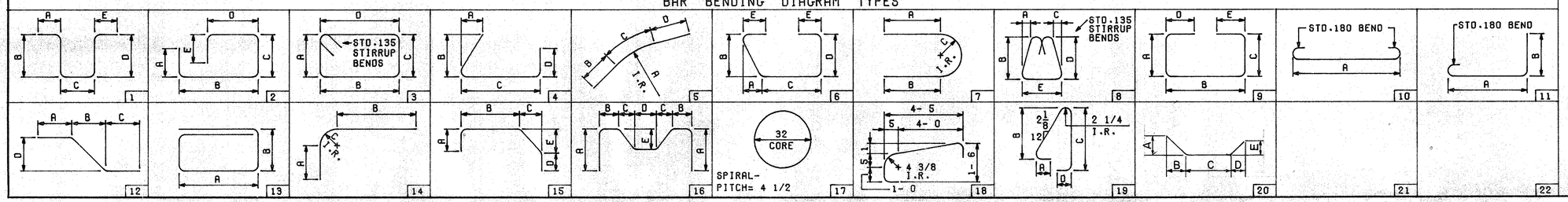
1. INDICATES SERIES BAR. EACH BAR VARIES FROM ADJACENT BAR(S) BY TABULATED AMOUNT(S), CALCULATED TO NEAREST 1/8 INCH. WEIGHT SHOWN IS FOR ENTIRE SERIES UTILIZING AVERAGE LENGTH.
2. BARS INCLUDED WITH ITEM 517, RAILING, FOR PAYMENT.
3. COST OF FIELD BENDING SHALL BE INCLUDED WITH ITEM 509.
4. LIGHT POLE SUPPORT BARS INCLUDED WITH ITEM 509 FOR PAYMENT.
5. END PREPARATION AND FIELD WELDING INCLUDED WITH ITEM 509.
6. 'LENGTH' SHOWN FOR SPIRAL BARS IS DISTANCE FROM TOP OF FOOTING TO BOTTOM OF PIER CAP.
'NO. TURNS' SHOWN IS 'LENGTH' DIVIDED BY PITCH, PLUS 3 TURNS (NUMBER OF CLOSED COILS), EXPRESSED AS NEAREST WHOLE NUMBER.

1 1/2 CLOSED COILS SHALL BE PROVIDED AT ENDS OF EACH SPIRAL UNIT. FOUR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 0.80 LB. PER LIN. FT. OF SPACER SHALL BE PROVIDED FOR EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG PERIPHERY OF COIL. WEIGHT OF SPACERS, AT 0.80 LB. PER LIN. FT. WILL BE PAID FOR AS REINFORCING STEEL AND IS INCLUDED IN TABULATED WEIGHT.

BAR SIZE DESIGNATION

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE FOUR DIGITS ARE USED, AND FIRST TWO DIGITS WHERE FIVE DIGITS ARE USED. INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, A7001 IS A NO. 7 SIZE BAR AND A10140 IS A NO. 10 SIZE.

BAR BENDING DIAGRAM TYPES



12/112

ALDEN E. STILSON & ASSOCIATES, LIMITED
CONSULTING ENGINEERS
CLEVELAND, OHIO COLUMBUS, OHIO WHEELING, W. VA.

REINFORCING STEEL LIST

BRIDGE NO. JEF-7-0016
SR-7 OVER PUBLIC ROAD
JEFFERSON COUNTY STA. 8+49.89 TO STA. 10+25.91

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RT			PHB	JEV	3/14/69	