UG-U 338 (2)

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

1 / 42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT.)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

GRADE CROSSING ELIMINATION
WITH THE PENNA. R.R. CO., THE B. & O. R.R. CO., AND THE W. & L.E. RY. CO.
ON MASSILLON—WOOSTER ROAD
S.H. 69 SEC. MASSILLON (PT.)
CITY OF MASSILLON
STARK COUNTY

CONVENTIONAL SIGNS

CORPORATION LINE
PROPERTY LINE
CENTER LINE
STEAM RAILROAD
PROPOSED STORM SEWER

INDEX OF SHEETS

LINE DATA

BEGIN WORK STA. 3+00
END WORK STA. 18+13
NO ADDITIONS OR DEDUCTIONS
NET LENGTH OF WORK 1513 LIN. FT. OR 0.286 MILE

BEGIN U-338 (2) STA. 3+00
END U-338 (2) STA. 9+35.90
NO ADDITIONS OR DEDUCTIONS
NET LENGTH U-338 (2) = 635.90 LIN. FT. OR 0.120 MILE

BEGIN UG-338 (2) STA. 9+35.90
END UG-338 (2) STA. 17+90.50
NO ADDITIONS OR DEDUCTIONS
NET LENGTH UG-338 (2) = 854.60 LIN. FT. OR 0.162 MILE

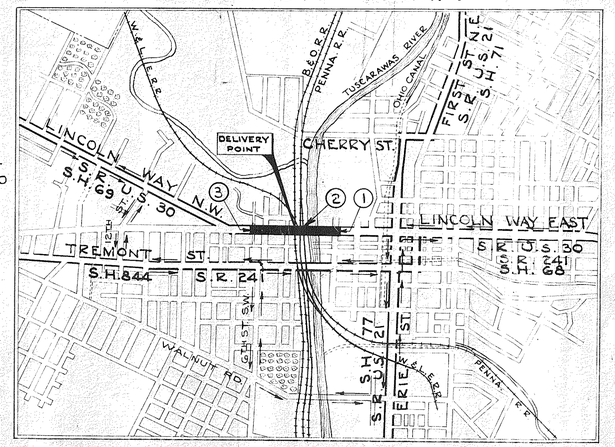
NET LENGTH UG-U 338 (2) = 1490.50' OR 0.282 MILE

(1) Begin Sta. 3+00 { U-338(2) / UG-U 338 (2)

(2) End U-338 (2) & Begin UG-338 (2) & Pier #4 Sta. 9+35.90

(3) End Sta 17+90.50 { UG-338(2) / UG-U 338 (2)

LOCATION PLAN



Scale of feet 0 1000 2000 3000 4000 5000 6000

AVERAGE HAUL 0.14 MILE
LOCATION OF GRADE CROSS. ELIMINATION
STATE HIGHWAYS
TEMPORARY ROUTES

SCALES

PLAN	1" = 20'	1" = 50'
PROFILE HORIZONTAL	1" = 20'	1" = 50'
PROFILE VERTICAL	1" = 5'	1" = 10'
CROSS SECTIONS	1" = 5'	

SUPPLEMENTAL SPECIFICATIONS

NUMBER		DATE
T-170.15		8-2-43
I-117		1-15-44
S-122		4-15-37
S-203		4-6-45
112	Rev.	11-6-46
177	Rev.	8-5-46
183	Rev.	5-1-45
178	Rev.	8-5-46

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

THE RIGHT OF WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway and that detours will be provided as indicated on the plans. See Sheet No 42

APPROVED J. P. McCormick
DATE 7-8-46 DIVISION DEPUTY DIRECTOR

APPROVED
DATE ____ CHIEF ENG'R. BUREAU OF MAINTENANCE

APPROVED Guy M. Elbin
DATE 6-26-46 CHIEF ENG'R. BUREAU OF BRIDGES & R.R. CROSS.

APPROVED
DATE ____ CHIEF ENG'R. BUREAU OF LOCATION & DESIGN

APPROVED Edison W. Eby
DATE 7-3-46 FIRST ASS'T. DIRECTOR & CHIEF ENGINEER

APPROVED Pearre T. Ford
DATE 7-3-46 DIRECTOR OF HIGHWAYS

Print
APPROVED FOR CITY OF MASSILLON Henry S. Urban
DATE 7-10-46 DIRECTOR OF PUBLIC SERVICE

Print
APPROVED FOR THE PENNA. R.R. CO. D.L. Sommerville
DATE 7-15-46 TITLE Chief Engineer

Print
APPROVED FOR THE B & O. R. R. CO. A.C. Clarke
DATE 7-22-46 TITLE Chief Engineer

Print
APPROVED FOR THE W & L. E. RY. CO. T.J. Williams
DATE 7-19-46 TITLE Special Engineer

Print
APPROVED FOR THE COUNTY OF STARK
DATE 7-12-46
Oliver Kuhn
Jacob J. Barthelmeh
Jacob F. Biddle
COMMISSIONERS

Print
APPROVED FOR THE MASSILLON CONSERVANCY DISTRICT
DATE 7-16-46
C.O. Finefrock
P.J. Bordner
Leonard Larson
DIRECTORS

STANDARD CONSTRUCTION DRAWINGS

STD. DRWG. NO.	DATE	STD. DRWG. NO.	DATE
I-1, 2, 3, 4 & 5	2-20-45		
I-8 C.B. Nº 1-3 & Nº 1-4	12-15-41		
I-8 C.B. Nº 3	12-15-41		
I-8 M.H. Nº 1	3-1-39		
I-12	7-1-42		
I-16 No. 8	3-10-42		
G-7.07	6-1-42		
B-T-71-R	8-24-44		
B-T-50-70-71E Nº 1	12-1-43		
AS-44-S Rev.	4-2-45		
CSB-15-40 1&2 Rev.	10-1-40		

RECOMMENDED FOR APPROVAL DATE

DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

APPROVED DATE

DIVISION ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

(PE 7-28)

FILE NO.	STARK COUNTY S.H. 69 SEC. MASSILLON (PT.)
	DATE OF LETTING _____ 194__
	CONTRACT Nº

TITLE SHEET

Field Book Nº's
431 & 432

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

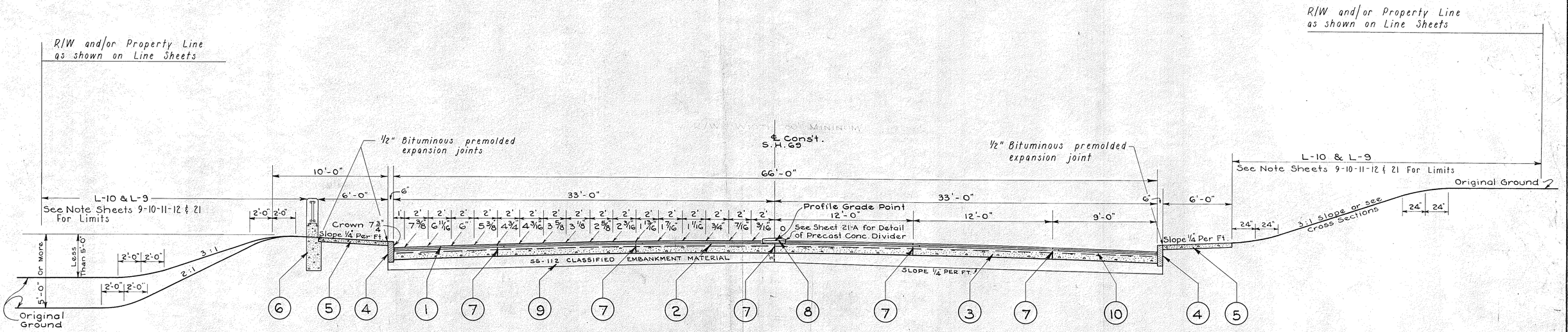
2
42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT.)

TYPICAL SECTION

TYPE T-35

SCALE 1/4" = 1'-0"



(1) ITEM T-35 1 1/4" ASPHALTIC CONCRETE SURFACE COURSE (TYPE "B")

(2) ITEM B-35 1 1/4" ASPHALTIC CONCRETE LEVELING COURSE

(3) ITEM B-71 8" REINFORCED PORTLAND CEMENT CONC. BASE COURSE

(4) ITEM I-11 6" x 20" STONE CURB

(5) ITEM I-13 4" CONCRETE SIDEWALK

(6) ITEM SPEC. METAL & CONCRETE SIDEWALK RAILING (See Sheet 20-A for Station Limits)

(7) STANDARD LONGITUDINAL JOINTS

(8) PRECAST CONC. TRAFFIC DIVIDER (TYPE G) DETAIL ON SHEET 21A

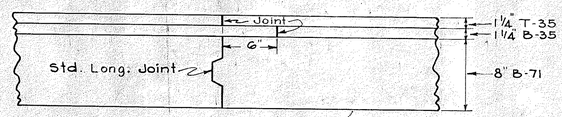
(9) ITEM SS-112 CLASSIFIED EMBANKMENT MATERIAL

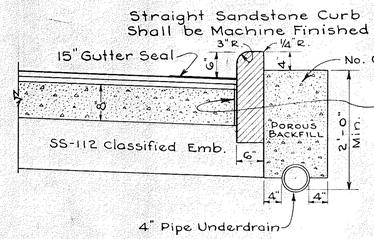
(10) ITEM T-30 BITUMINOUS PRIME COAT, SEC. M-5.5, M5-1 USING SAND COVER

STATION FROM	STATION TO	LIN. FT.	
3+0	4+75.91	175.91	U-338-(2)
13+60.38	17+03.91	343.53	UG-338-(2)
TOTAL		519.44	

FOR TRANSITIONS TO APPROACH SLABS ON BOTH ENDS OF BRIDGE SEE DETAILS ON SH. #19

METHOD OF LAPPING LONGITUDINAL JOINTS IN BITUMINOUS CONCRETE CONSTRUCTION





Pavement shall be placed full width as shown on the Typical Section. Any opening remaining between curb and pavement shall be filled with dry sand to within 2" of the surface of the B-71. The remaining space shall be filled with Bituminous Filler meeting the requirements of Sec. 5.5 F2. Sand shall meet the requirements of Sec. M-2.2. Payment for joint shall be included in unit price bid per lin ft. of curb.

DETAIL AT STONE CURB
SCALE 3/4" = 1'-0"

* Grading for Nº 6a Aggregate

100%	passing	3/4" opening
90 - 100	"	1/2" "
40 - 70	"	3/8" "
0 - 15	"	Nº 4 sieve
0 - 5	"	Nº 8 "

I.T.S. - 1942
W.L.B. - 1943
F.B.J. - 1945-46
H.H.P. - 1946

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

2-A
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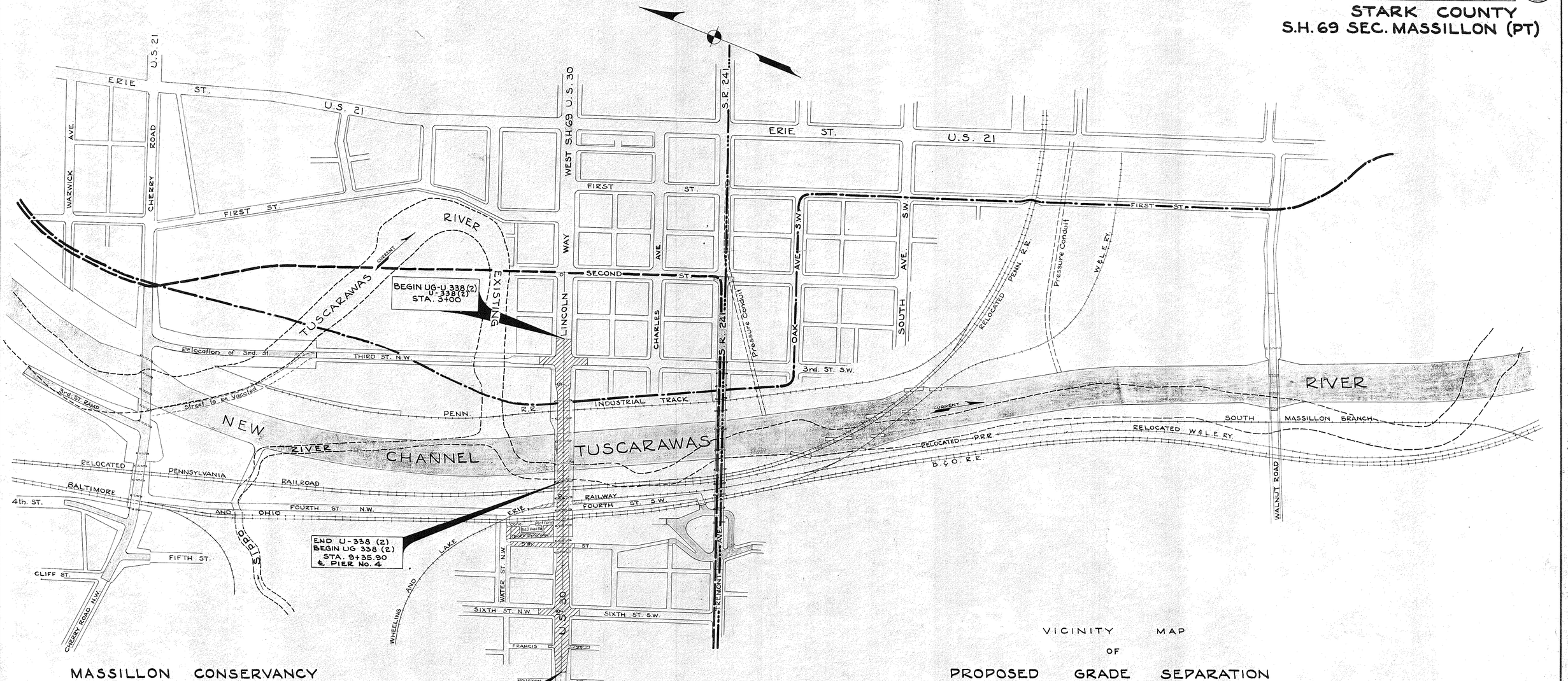
STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)



MASSILLON CONSERVANCY DISTRICT PROJECTS

PROPOSED LINCOLN WAY WEST VIADUCT AND APPROACHES — UG-U 338 (2)

BY OTHERS:
- PROPOSED CHANNEL TUSCARAWAS RIVER
- VIADUCTS AND STREET RELOCATIONS

FUTURE RELOCATIONS:
- PROPOSED TRUCK ROUTES — NORTH & SOUTH; EAST & WEST
- PROPOSED S.R. 241

VICINITY MAP
OF
PROPOSED GRADE SEPARATION
MASSILLON — STARK COUNTY — OHIO
ON
U.S. ROUTE 30 — S.H. 69
SHOWING
PARTIAL EXTENT OF PROJECTS INVOLVED
UNDER JURISDICTION OF
THE MASSILLON CONSERVANCY DISTRICT
SCALE — 1" = 200'

VICINITY MAP

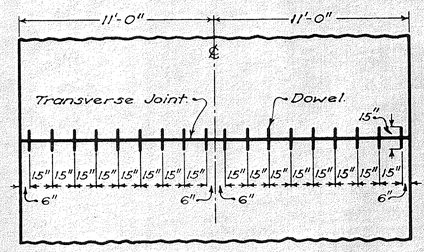
PAVEMENT JOINTS

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

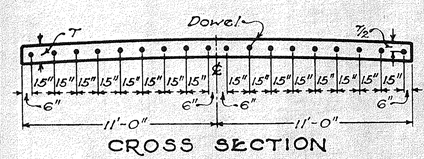
2-B 42

STARK COUNTY
S.H. 69 Sec. MASSILLON (Pt.)

DOWEL SPACING

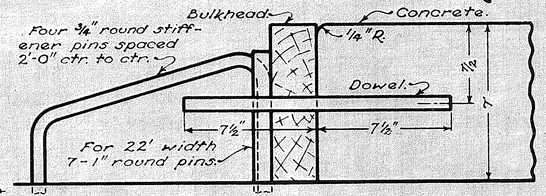


PLAN

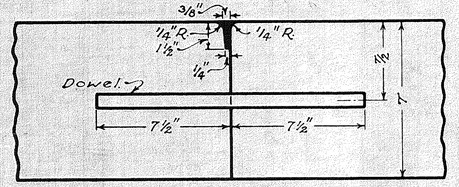


CROSS SECTION

CONSTRUCTION JOINT

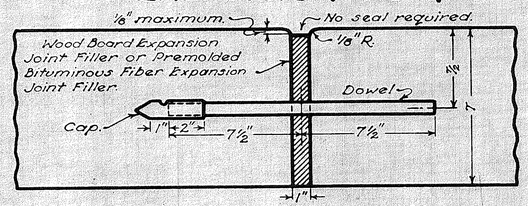


DETAIL OF BULKHEAD



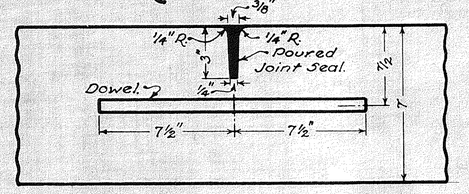
DETAIL OF JOINT

EXPANSION JOINT



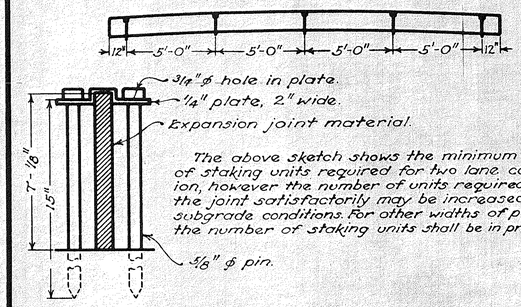
DETAIL OF JOINT

CONTRACTION JOINT



IMPRESSED JOINT

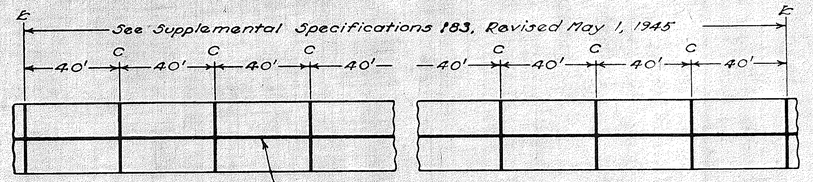
METHOD OF STAKING EXPANSION JOINT



The above sketch shows the minimum number of staking units required for two lane construction, however the number of units required to hold the joint satisfactorily may be increased due to subgrade conditions. For other widths of pavement the number of staking units shall be in proportion.

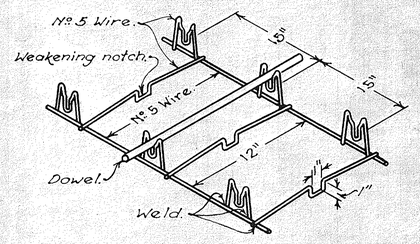
SUGGESTED STAKING UNIT

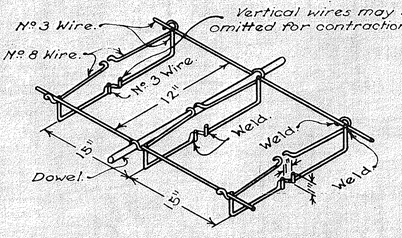
ARRANGEMENT OF TRANSVERSE JOINTS

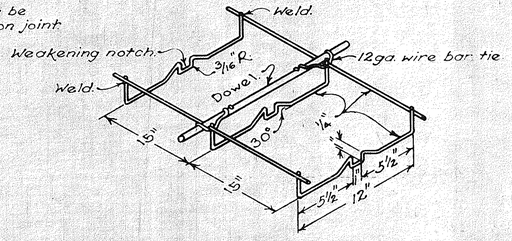


C = Contraction Joint.
E = Expansion Joint.

DOWEL SUPPORT UNITS







NOTES

GENERAL:- The types of expansion joint material shown are to be considered as alternates; the type used on any project being optional with the contractor.

The type of joint selected by the contractor and all operations and materials for installing the joints shall be approved by the engineer.

The spacing of expansion joints shall be according to Supplemental Specifications **183, Revised May 1, 1945.**

Joint arrangements at intersections shall be as shown on the plans or in accordance with working drawings to be furnished by the State.

Special care shall be exercised in edging joints that the width of the opening does not exceed that shown.

A positive method to maintain required alignment shall be used in connecting the expansion joints at longitudinal joints. The expansion joint material shall meet in a vertical joint. Longitudinal keys and keyways, where used, shall be omitted for the thickness of the expansion joint.

EXPANSION JOINTS:- Expansion joints shall be constructed of materials as shown herewith meeting the requirements of Supplemental Specifications 183, Revised May 1, 1945.

Expansion joint material shall be accurately and rigidly held in place by means approved by the engineer. A steel plate for holding joint material during installation will not be required.

The expansion joint material shall be shaped to fit the section of the pavement.

Dowel holes shall be punched in the filler material, and shall be 1 1/16 inch round holes to insure tight fitting dowels.

Each dowel bar shall be equipped with a neat fitting metal cap on one end.

Joints in monolithic curbs shall be constructed with the same type of filler material as used in the expansion joints.

DOWELS:- All dowels shall be ¾ inch round, smooth, straight bars, free from burring and flattening at ends. The entire dowel shall be thoroughly coated before placing in the pavement using either Bituminous Material, Sec M-5.4 SC-2, or heavier or an oil such as 600 W or equal.

Prior to placing all dowels shall be assembled in a unit which is to remain in place for construction, contraction and expansion joints. The length of the unit shall be not less than the distance between longitudinal joints and sufficient support shall be provided to hold the dowels accurately perpendicular to the joint. Expansion joint material shall be forced over the lower cross wires so as to fit snugly on the subgrade. The design of the dowel support unit may be as shown herewith or may be an approved equal and it shall be shop assembled.

When the lane width varies from 11 feet; the spacing of the dowels shall be 15 inches and the 6 inch end spaces shall be equally increased or decreased and shall be less than 10½ inches but not less than 3 inches.

CONSTRUCTION JOINTS:- A bulkhead shall be constructed to permit dowels to extend through the joint. Care shall be taken in removing bulkhead and placing adjacent concrete to see that the dowels are embedded in the concrete without being bent.

A groove for sealing shall be formed by impressing a device or bar into the newly deposited concrete placed after the removal of the bulkhead. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion or injury to the concrete. The groove thus formed shall be of the dimensions detailed. After the joint is formed it shall be protected from dirt or foreign matter until the filler is placed.

CONTRACTION JOINTS:- Impressed contraction joints shall be formed by impressing a device or bar into the newly deposited concrete before initial setting. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion or injury to the concrete. The groove thus formed shall be of the dimensions detailed. After the joint is formed it must be protected from dirt or foreign matter until the filler is placed.

POURED JOINT SEAL:- The bituminous material for filling impressed joints shall meet the requirements of Sec. M-5.6 F-1 of the General Specifications. The filler shall be handled in such a manner that it will be confined to the joint and in nowise mar the surface.

NOTE:- If wire units are not available another approved method for holding the dowels in place may be used.

5-1-'45

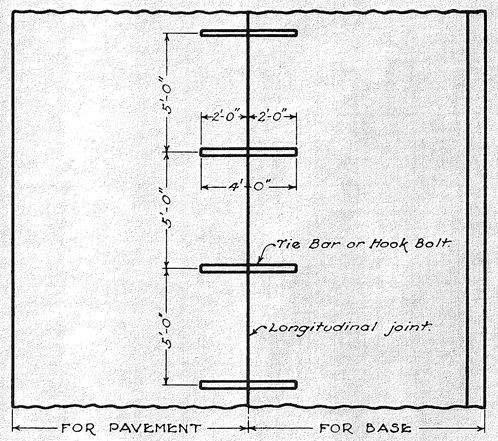
LONGITUDINAL JOINTS

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

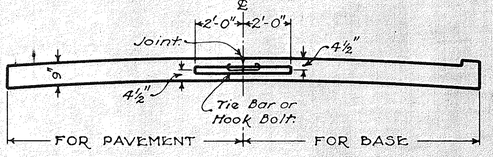
2-C
42

STARK COUNTY
S.H. 69 Sec. MASSILLON (Pt.)

TIE BAR OR HOOK BOLT SPACING

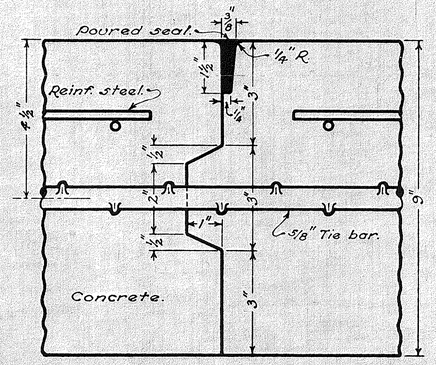


PLAN



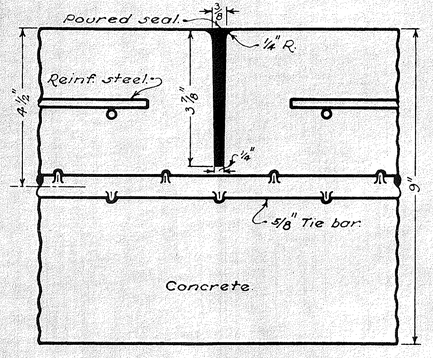
CROSS SECTION

KEY JOINT



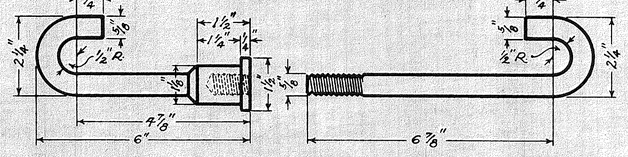
DETAIL OF JOINT

IMPRESSED JOINT



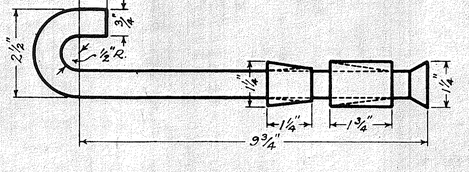
DETAIL OF JOINT

HOOK BOLT

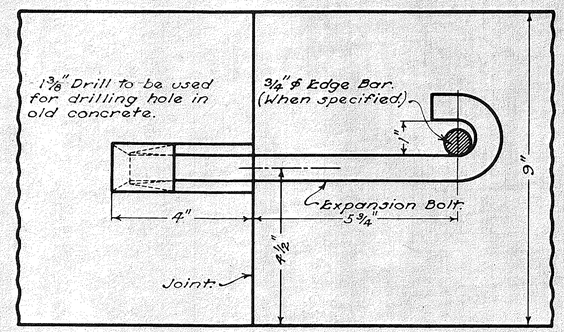


INSERT J BOLT

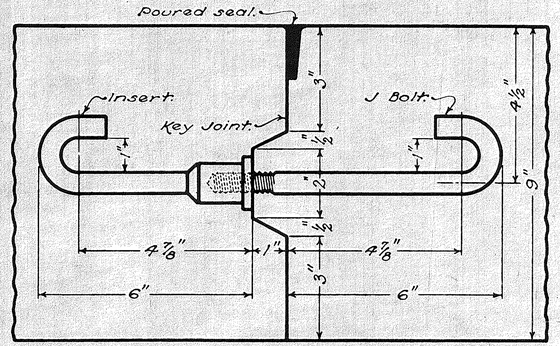
EXPANSION BOLT



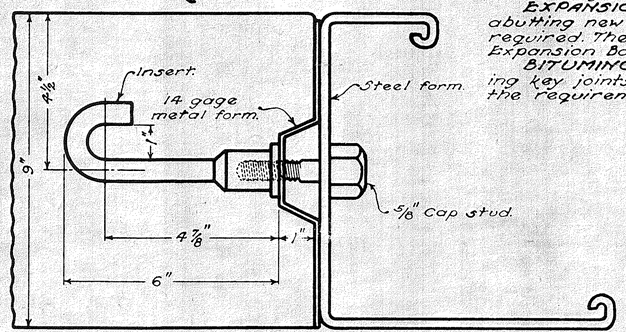
EXPANSION BOLT JOINT



HOOK BOLT AND KEY JOINT



ACCEPTABLE METHOD OF FORMING JOINT



NOTES

GENERAL:— Longitudinal joints shall be used when called for on the typical section, and shall be constructed as shown on this sheet.

Tie bars to be 5/8 inch round, deformed bars.

A satisfactory device shall be used to hold the tie bars in proper position.

The longitudinal joint between adjoining slabs poured in separate operations shall be a key joint with American hook bolts or equal, or billet steel (Sec. M-7.1) tie bars, unless otherwise shown on the plans.

If tie bars are bent no portion of the bend shall extend into the first slab poured.

Immediately prior to placing the second slab, bent tie bars shall be straightened by means of a pipe slipped over the free end of the bar.

Key joints used in part width construction shall be painted with two coats of bituminous material as per Sec. M-5.5 MS-3 before adjoining slabs are poured.

The joints shall be on the center line unless otherwise shown on the plans.

Special care shall be exercised in edging impressed joints that the width of the opening does not exceed that shown.

IMPRESSED JOINT:— This joint shall be formed by impressing a device or bar into the newly deposited concrete before initial setting. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion or injury to the concrete. The groove thus formed shall be of the dimensions as detailed. After the joint is formed it shall be protected from dirt and foreign matter until the filler is placed.

KEY JOINT:— This joint is designed for a 9 inch slab. When a greater or less thickness is used the joint shall be proportionally designed. Other deformations may be used if approved by the engineer.

A groove for sealing shall be formed by impressing a device or bar into the newly deposited concrete adjacent to the previously poured lane. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion or injury to the concrete. The groove thus formed shall be of the dimensions detailed.

Adjoining slabs adjacent to the longitudinal key joint shall be edged with a thin metal edger having a fourth inch radius. The depth of the vertical lip shall not exceed one-half inch.

After the joint is formed it shall be protected from dirt and foreign matter until the seal is placed.

EXPANSION BOLT JOINT:— This joint is designed for abutting new concrete construction to old when a tie is required. The tie is effected by the use of American Expansion Bolts or equal.

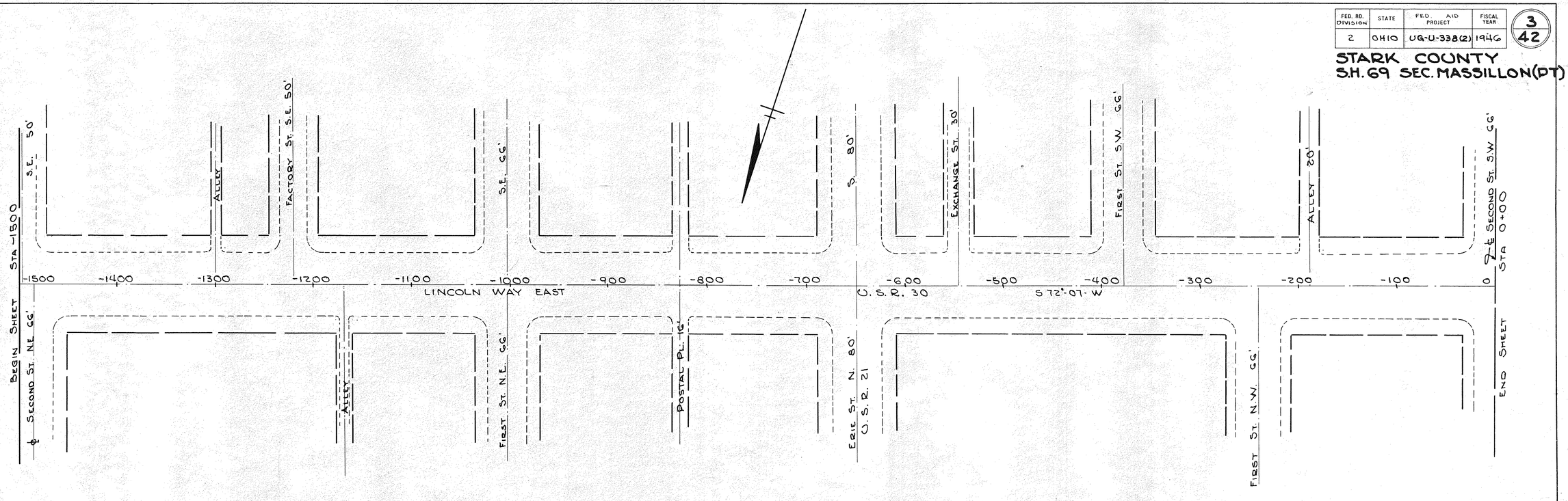
BITUMINOUS SEAL AND FILLER:— Material for sealing key joints and for filling impressed joints shall meet the requirements of Sec. 19-5.6 F-1.

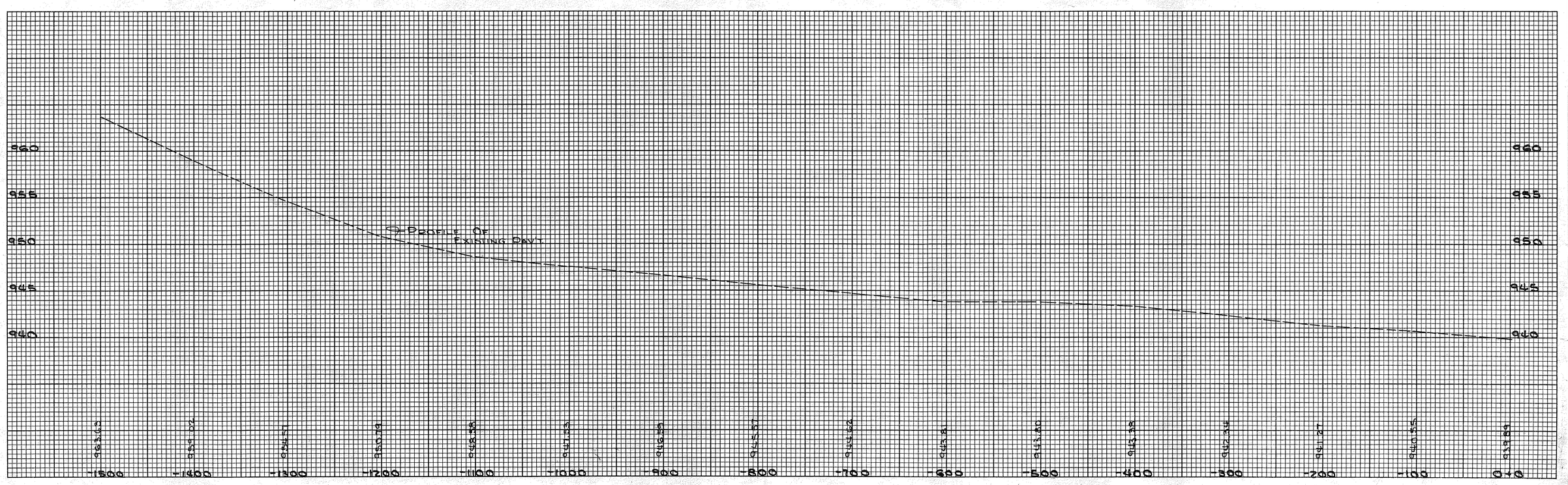
5-1-45

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

3
42

STARK COUNTY
S.H. 69 SEC. MASSILLON(PT)

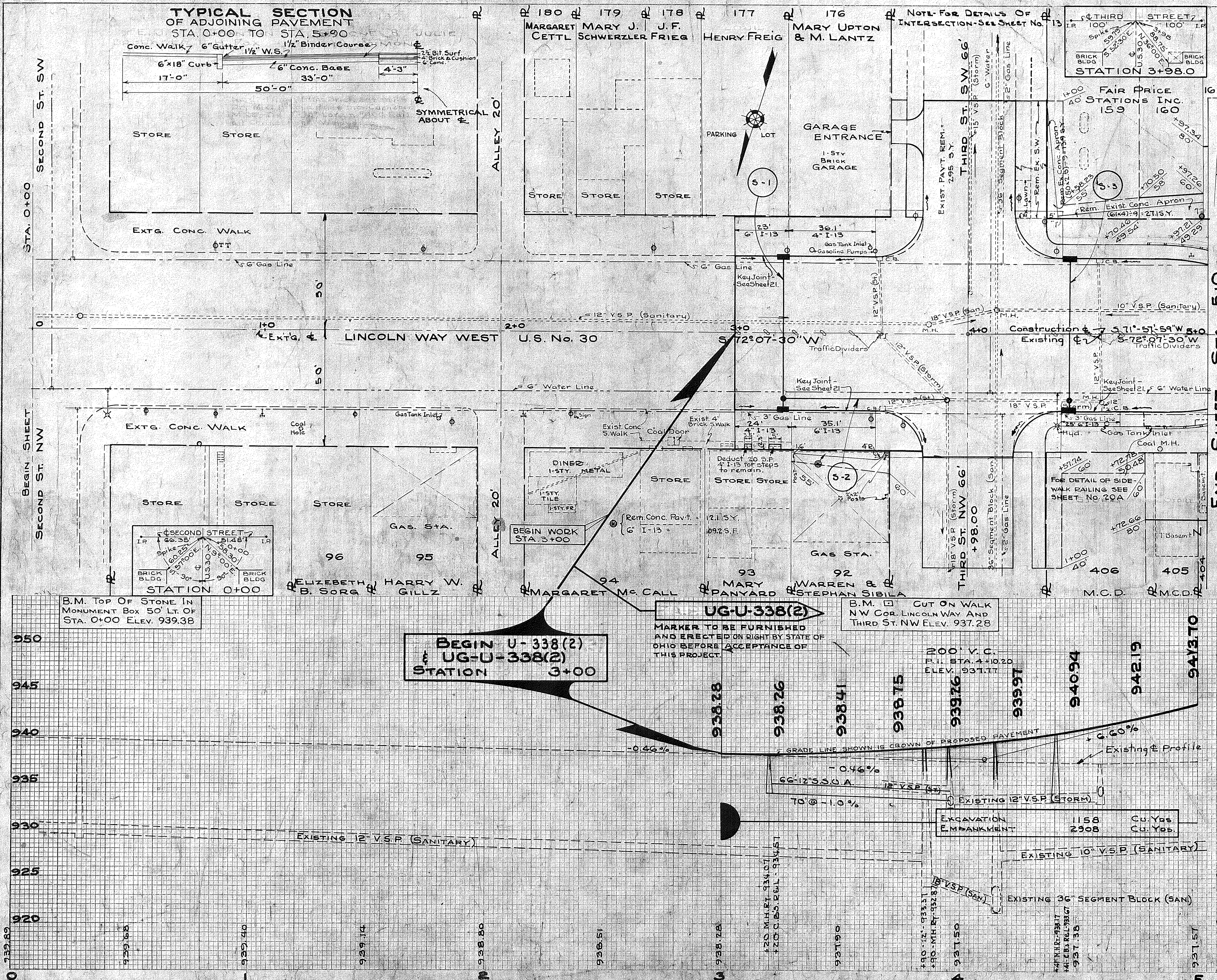




STA -1500 TO STA 0+00

Fed. Rd. Division	State	Fed. Aid Project	Fiscal Year	Sheet
2	OHIO	UG-U-338(2)	1946	4 / 42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)



Storm Sewers								
Mark	Station From	Station To	Side	Storm Sewer Under Appr. - Lin. Ft. 12"			Catch Basins No. 3 Each	Std. No. 1 Manholes Each
S-1	3+20		R&L	59			2	
S-2	3+20	3+90	R	66				1
S-3	4+41		R&L	59			2	1
Total				184			4	2

NOTE: ALL QUANTITIES THIS SHEET - U-338-(2)

Item I-13 Concrete Sidewalk; Item E-8 Removal & Disposal of Existing Sidewalk

Station From	Station To	Side	Length	Width	Item I-13 Concrete Sidewalk S.F. 4"	Item I-13 Concrete Sidewalk S.F. 6"	Removal & Disposal of Extg Sidewalk Sq. Ft.	
3+0	3+59.1	L	59.1	16.5' & 17.0'	595.7	391.0		
3+0	3+59.1	R	59.1	16.5' & 17.0'	376.0	596.7		
4+37.2	5+0	L	62.8	6	376.8			
4+36.79	5+0	R	63.2	6.0 & 6.5	229.2	162.5		
3+0	3+80	L		16.5			1209	
3+0	3+80	R		16.5			1209	
THIRD	ST. (N.W. & S.E.)		102	7			714	
4+18	4+60	L		16.5			640	
4+18	4+60	R		16.5			640	
THIRD	ST (S.W.)		51	6 & 14	(SHEET	13)	560	
3+24	3+63	R	39	2.8 aver		109.2		
Total					1577.7	1259.4	4972	

Traffic Dividers

Station From	Station To	Len. Ft.	Spacing Ft.	Prec. Conc. Type 6 Each
3+01	3+61	60	12	6
4+35	4+77	42	14	4
Total			[illegible]	10

Item E-8 Removal & Disposal of Existing Pavement & Stone Curb

Station From	Station To	Side	Length	Width	Removal & Disposal of Extg. Pav't. Sq. Yd.		Removal & Disposal of Extg Stone Curb Lin. Ft.
3+0	4+60	R&L	160	66	1173		180
THIRD	ST. N				80		50
THIRD	ST. S				308.9		152
3+24	3+63	R	39	2.8 aver.	12.1		
4+36	4+97	L	61	4.0 aver	27.1		
					1601.1		382

Item E-12 Pipe Removed and Stored; Item SS-122 Catch Basins and Manholes Abandoned

Station From	Station To	Side		Pipe Removed & Stored 15" & Under Lin. Ft.	Catch Basins Abandoned S-122 Each	Manholes Abandoned S-122 Each	
3+62	3+90	R&L		68	2		
4+54		R&L		64	2	1	
4+41	4+55	R		13			
3+62	3+90	R		25	1		
3+99		L				1	
Total				170	5	2	

Item I-11 6"x20" Stone Curb

Station From	Station To	Side	Item I-11 6"x20" Stone Curb Lin. Ft.
3+16	3+59.08	L	43.1
3+0	3+24	R	24.0
4+37.2	4+75.9	L	38.7
4+61.8	4+75.9	R	14.1
Total			119.9
See Sheet No. 19			

STA. 0+00 TO STA. 5+0

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

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42

STARK COUNTY
SH 69 SEC. MASSILLON (PT.)

EXISTING STRUCTURE
DATA: BRIDGE No. ST-30-63, 3 STONE ARCHES; 40' CLEAR SPAN x 32' WIDE EXTENDED TO SOUTH WITH STEEL PRATT TRUSS FOR ROADWAY WIDTH OF 46'-1" CURB TO CURB, 7'-6" PLANK WALK ON NORTH, 8' CONC. WALK ON SOUTH; STONE & CONC. ABUT'S & PIERS.

PROPOSED STRUCTURE
DATA: CONTIN. STEEL BEAM & GIRDER; CONC. FLOOR & SUBSTRUC; SPANS 80', 100', 100', 80' C TO C 8'2"65; ROADWAY 52' PLUS TWO 6' SIDEWALKS; LOADING S-20-40; SKEW 6°45' R.F. FOR E. ABUT, PIERS 1, 2, 3, 4, 5 & PROP. CHANNEL; 5°52' R.F. FOR W. ABUT, PIERS 6, 7, 8 & B & O RR TRACKS; SURFACE COURSE 2½" BITUMINOUS; APPROACH SLABS 15' LONG.

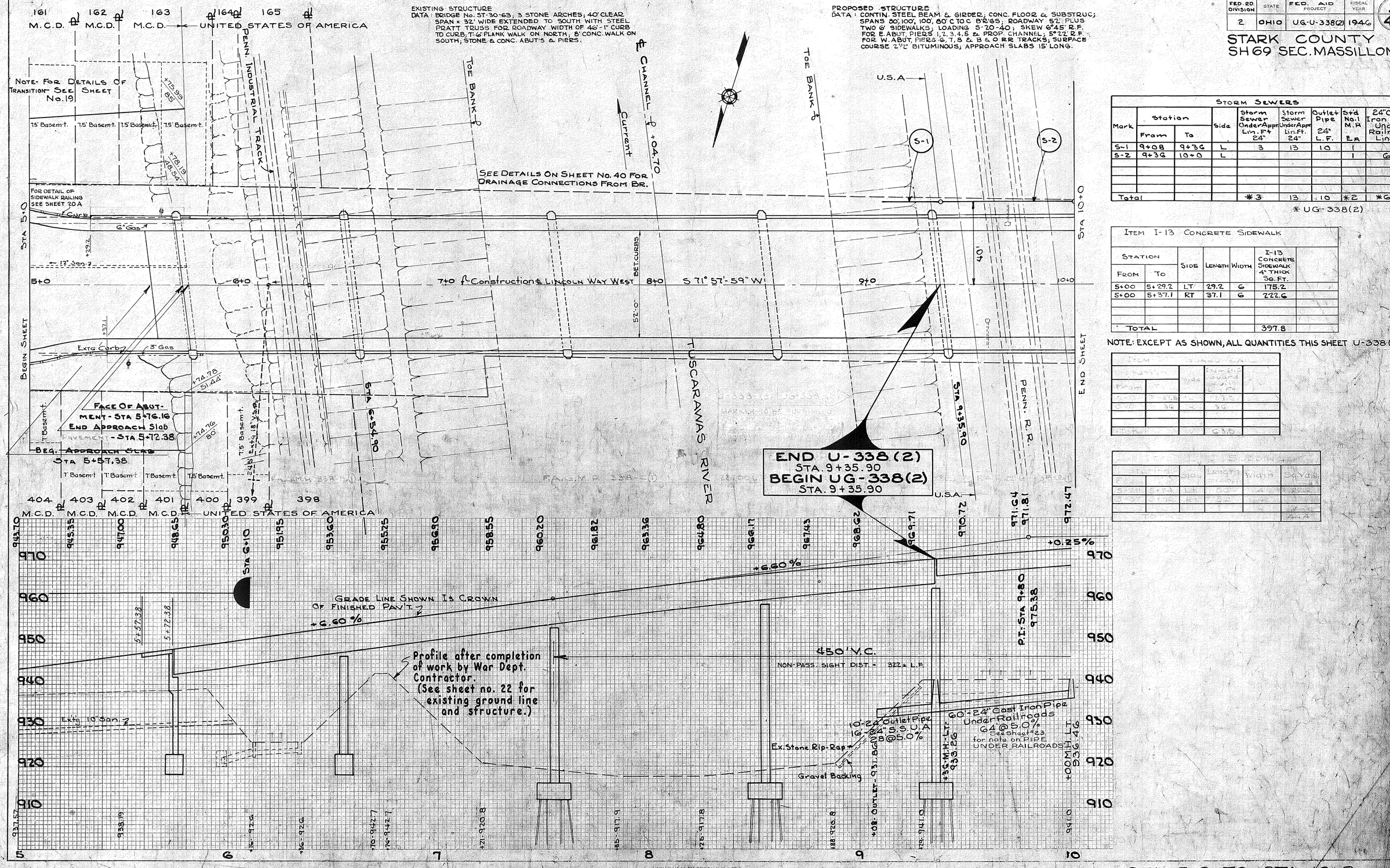
STORM SEWERS								
Mark	Station From	Station To	Side	Storm Sewer Under Appr. Lin. Ft. 24"	Storm Sewer Under App. Lin. Ft. 24"	Outlet Pipe 24" L.F.	Std No. 1 M.H. EA	24" Cast Iron Pipe Under Railroads Lin. Ft.
S-1	9+08	9+36	L	3	13	10	1	
S-2	9+36	10+0	L				1	60
Total				*3	13	10	*2	*60

*UG-338(2)

ITEM I-13 CONCRETE SIDEWALK

Station From	Station To	Side	Length	Width	I-13 Concrete Sidewalk 4" Thick Sq. Ft.	
5+00	5+29.2	LT	29.2	6	175.2	
5+00	5+37.1	RT	37.1	6	222.6	
TOTAL					397.8	

NOTE: EXCEPT AS SHOWN, ALL QUANTITIES THIS SHEET U-338(2)

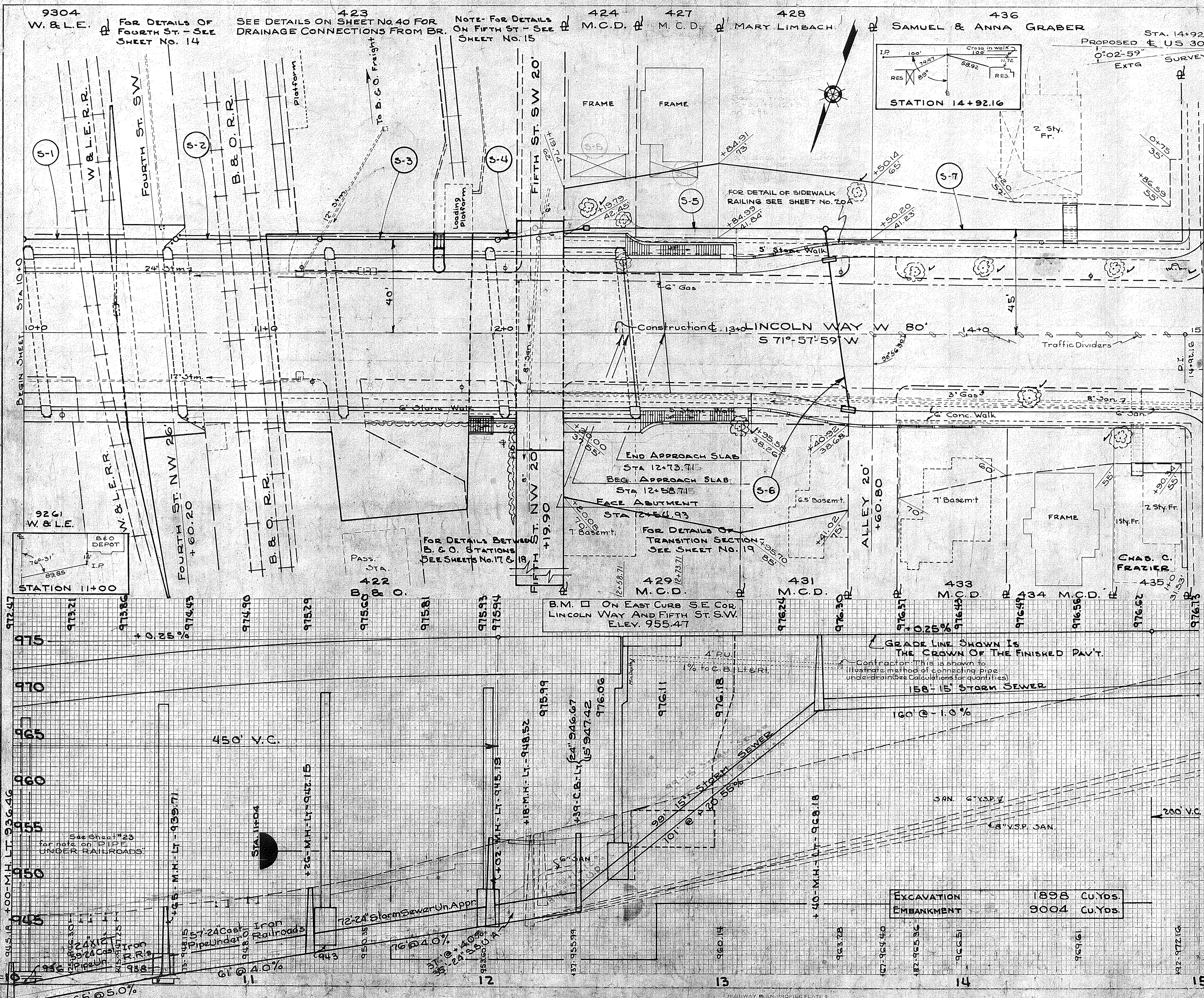


HIGHWAY PLAN-PROFILE PLATE 5
THE H. C. LEE CO. COLUMBUS, OHIO

STA. 5+0 TO STA. 10+0

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET
2	OHIO	UG-U-338(2)	1946	6/42

STARK COUNTY
SH 69 SEC. MASSILLON (PT)



W. & L.E.
FOR DETAILS OF FOURTH ST. - SEE SHEET NO. 14
SEE DETAILS ON SHEET NO. 40 FOR DRAINAGE CONNECTIONS FROM BR.
NOTE- FOR DETAILS ON FIFTH ST - SEE SHEET NO. 15
M.C.D.
MARY LIMBACH
SAMUEL & ANNA GRABER
STA. 14+92.16
PROPOSED ℄ US 30
EXTG SURVEY LINE EXT.
℄ US 30 PROP. & EXIST.
STATION 14+92.16
FOURTH ST. SW
FIFTH ST. SW 20'
LINCOLN WAY W 80'
S 71°-57'-59" W
FOR DETAIL OF SIDEWALK RAILING SEE SHEET No. 20
End Approach Slab Sta 12+73.71
Beg. Approach Slab Sta 12+58.71
Face Abutment Sta 12+54.93
FOR DETAILS OF TRANSITION SECTION SEE SHEET NO. 19
FOR DETAILS BETWEEN B. & O. STATIONS SEE SHEETS NO. 17 & 18
ALLEY 20'
CHAS. C. FRAZIER
STATION 11+00
B.M. ☐ ON EAST CURB S.E. COR. LINCOLN WAY AND FIFTH ST. S.W. ELEV. 955.47
GRADE LINE SHOWN IS THE CROWN OF THE FINISHED PAV'T.
Contractor: This is shown to illustrate method of connecting pipe underdrain (See Calculations for quantities)
450' V.C.
158' 15" Storm Sewer
160' @ -1.0%
99' 15" Storm Sewer
101' @ +0.55%
72'-24" Storm Sewer Un. Appr.
See Sheet 23 for note on "PIPE UNDER RAILROADS"
EXCAVATION 1898 CU. YDS.
EMBANKMENT 9004 CU. YDS.

Storm Sewer											
Mark	Station From	Station To	Side	24 Cast Iron Pipe Un. R.R. L.F.	Storm Sewer - L.F. 15"	Under Approaches 12"	Under Approaches 24"	Sto. No. 1 M.H. Each	Catch Basin Each I-3	Catch Basin Each No. 3	Pipe Spec. C.I.P.U.R.R. 24"x12"T Each
S-1	10+0	10+65	L	59				1			See Sh't. 14 1
S-2	10+65	11+26	L	57				1			
S-3	11+26	12+02	L				72	1			
S-4	12+02	12+39	L				35		1		
S-5	12+39	13+40	L		98			1			
S-6	13+40	13+50	R&L			74				2	
S-7	13+40	15+0	L		158						
Total				116	256	74	107	4	1	2	1

NOTE: ALL QUANTITIES THIS SHEET UG-338(2)

Item I-13 Concrete Sidewalk & Steps
Item E-8 Removal & Disposal of Existing Sidewalk & Steps

Station From	Station To	Side	Length	Width	I-13 Conc. Sidewalk-S.F. 4"		I-13 Conc. Steps Lin. Ft.	E-8 Sidewalk Sq. Ft.	E-8 Conc. Steps Lin. Ft.	Detail Sheet No.
14+75	14+94	L	19	5				95		
0+24S	0+53.4S	L						162		
14+43		L			132.8				96	20
13+00.8	14+85.1	L	184.3	6	1105.8					
14+75	14+94	R	19	6				114		
0+24N	1+0 N	R						400		
13+87.07	14+86.3	R	179.3	6	1075.7					
14+72		R			82.6		4.5	127.9	15	20
Total					2396.9		4.5	898.9	111	

Item I-11 6"x20" Stone Curb

Station From	Station To	Side	I-11 Lin. Ft.
13+60.4	14+85.1	L	124.7
13+60.4	14+86.4	R	126.0
See Sheet No. 19			
Total			250.7

Item E-9 Removal of Trees

Station	Side	Dist Out	Size	Kind
12+40	L	53'	12"	Elm
13+04	R	40'	10"	Ailanthus
13+53	L	60'	12"	Apple
13+78	L	29'	24"	Cotton'd.
14+06	L	29'	24"	"
14+61	L	28'	24"	"
14+87	L	29'	24"	" Stump
14+26	R	27'	18"	Maple
14+65	R	44'	20"	Chestnut
Total		9 Each		

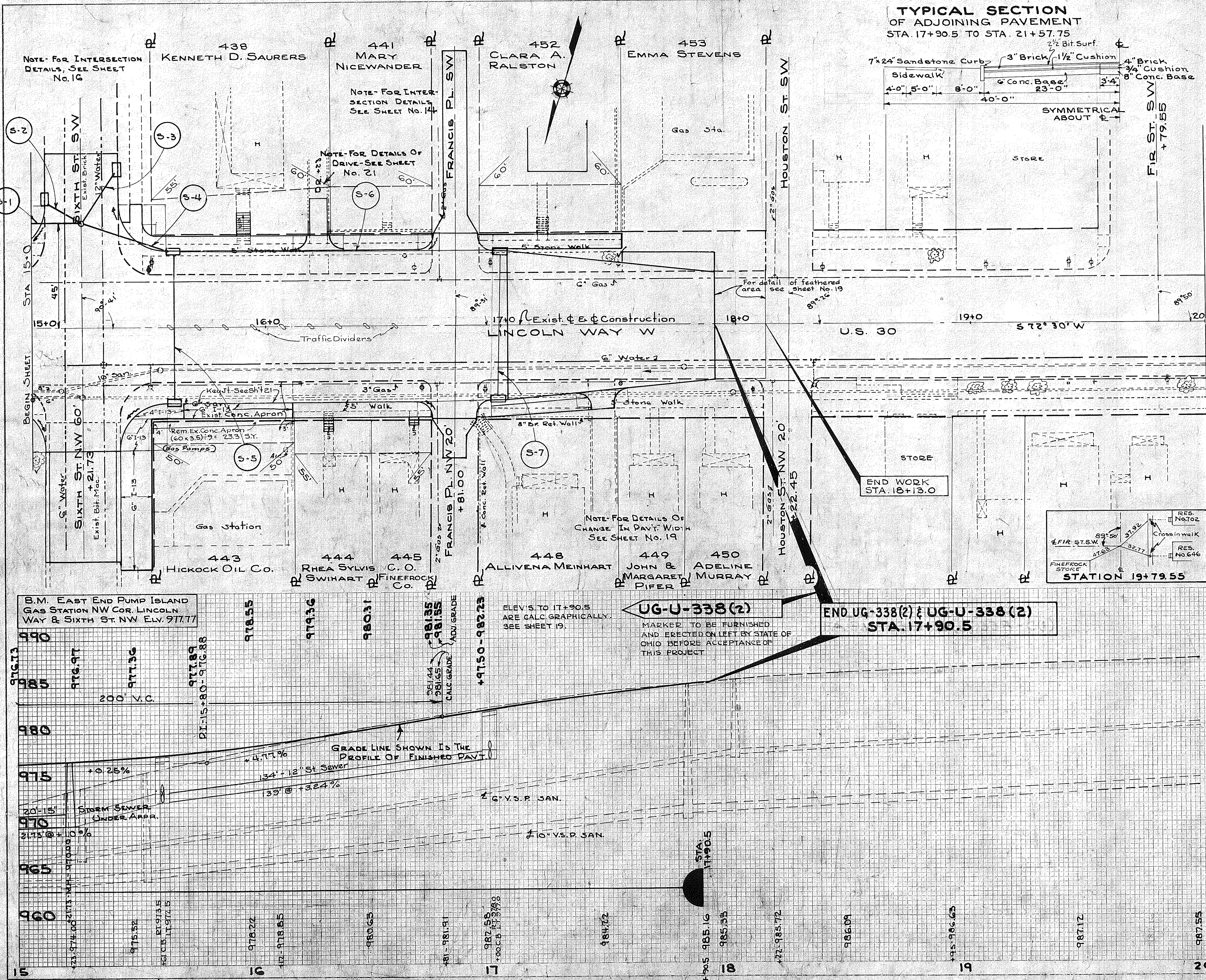
Traffic Dividers

Station From	Station To	Len. Ft.	Spacing	Prec. Concrete Type G Each
13+60	14+85	125	12.5	11
Total				11

STA. 10+0 TO STA. 15+0

FED. RD. DIVISION	STATE	FED. AID. PROJECT	FISCAL YEAR	SHEET
2	OHIO	UG-U-338(2)	1946	7 / 42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)



STORM SEWERS								
MARK	STATION FROM	STATION TO	SIDE	I-2 STORM SEWER UNDER APPR. 12"	I-2 STORM SEWER 15"	I-2 STORM SEWER 12"	STD. No. 1 M.H. EACH	CATCH BASINS EACH No. 3
S-6	15+61	17+0	L			134		
S-7	17+0		R&L	64				
S-1	15+0	15+22	L		20		1	
S-2	0+45S	0+55S	L	16				1
S-3	0+45S	0+68S	R	26				1
S-4	15+22	15+61	L	38				1
S-5	15+61		R&L	64				1
TOTAL				208	20	134	1	6

NOTE: ALL QUANTITIES THIS SHEET UG-338-(2)

ITEM I-13 CONCRETE SIDEWALK & STEPS
ITEM E-8 REMOVAL & DISPOSAL OF EXISTING SIDEWALK & STEPS

STATION FROM	STATION TO	SIDE	LENGTH	WIDTH	I-13 CONC. SIDEWALK-S.F. 4"	I-13 CONC. SIDEWALK-S.F. 6"	I-13 CONC. STEPS LIN. FT.	E-8 SIDEWALK S.F.	E-8 STEPS L.F.		DETAIL SHEET No.
0+24S	0+53S	R						175			
15+48	16+70.5	L	122.5	5				613			
15+90		L			38.7		63.3	80.2	40.2		20
15+57.1	16+12.25	L	55.1	6	330.6						
16+33.75	16+64.8	L	31.1	6	186.6						
16+91.5	17+52	L	60.5	5				302.5			
17+18		L	4.5	4	8			18			
16+11	16+70	R	59	5				295			
16+25		R			26.7		26.7	74	16		20
16+66		R			24.7		16	46			20
16+11	16+64.1	R	53.1	6	318.6						
16+91.5	17+38	R	46.5	5				232.5			
15+65	16+11	R	46	6.5		299.0					
TOTAL					933.9	299.0	106.0	1836.2	56.2		

ITEM E-8 REMOVAL & DISPOSAL OF EXISTING PAVEMENT AND STONE CURB

STATION FROM	STATION TO	SIDE	LENGTH	WIDTH	ITEM E-8 PAV'T. REM. S.Y.	E-8 S.Y.	E-8 S.Y.	E-8 STONE CURB-L.F. DISPOSAL	E-8 STONE CURB-L.F. REUSE
15+0	17+90.5	R&L	290.5	46	1484.8				
0+23N	0+41N	R&L			58.4			40	
0+41N	1+0N	R&L	120	1.5	20			72	148
0+40N	1+05N	L	65	13	94				
0+23S	0+75S	R&L			198			110	
15+53	16+67	R&L						228	
15+38	16+11	R	73	16	130				
FRANCIS PL. S					41			37	
FRANCIS PL. N					41			39	
16+95	17+90.5	R&L						63	128
17+52	17+90.5	L	38.5	8.5	36.4				
17+44		R	13	10	14.4				
15+52	16+12	R	60	3.5	23.3				
TOTAL					2141.3			589	176

TRAFFIC DIVIDERS				
Station From	Station To	Length Ft.	Spacing Ft.	Prec. Conc. Type 6 Each
15+59	16+55	96'	12'	9
Total				9

ITEM I-11 6"x20" STONE CURB - LIN. FT.

STATION FROM	STATION TO	SIDE	I-11 LIN. FT.
15+57.1	16+12.25	L	55.1
16+11	16+64.1	R	53.1
16+33.75	16+64.8	L	31.1
15+58.35	15+65	R	6.7
TOTAL			146.0

ITEM E9 REMOVAL OF TREES

STA	SIDE	DIST OUT	SIZE	KIND
15+01	R	56.5	17"	LINDEN
17+47	L	29	12"	MAPLE
TOTAL			2 EACH	

ITEM I-11 STONE CURB RESET

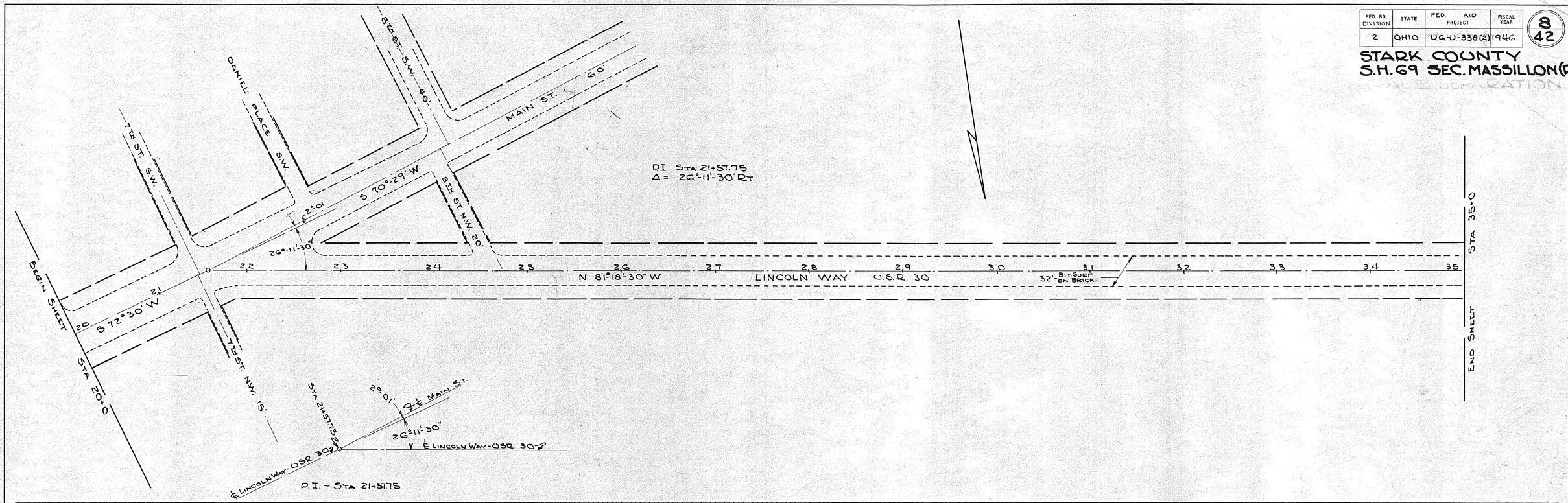
STATION FROM	STATION TO	SIDE	LIN. FEET
16+97.8	17+52.8	LT.	55
16+97.2	17+32	RT.	34.8
17+54	17+90.5	RT.	35.5
0+52N	1+0N	6TH ST.	48
TOTAL			173.3

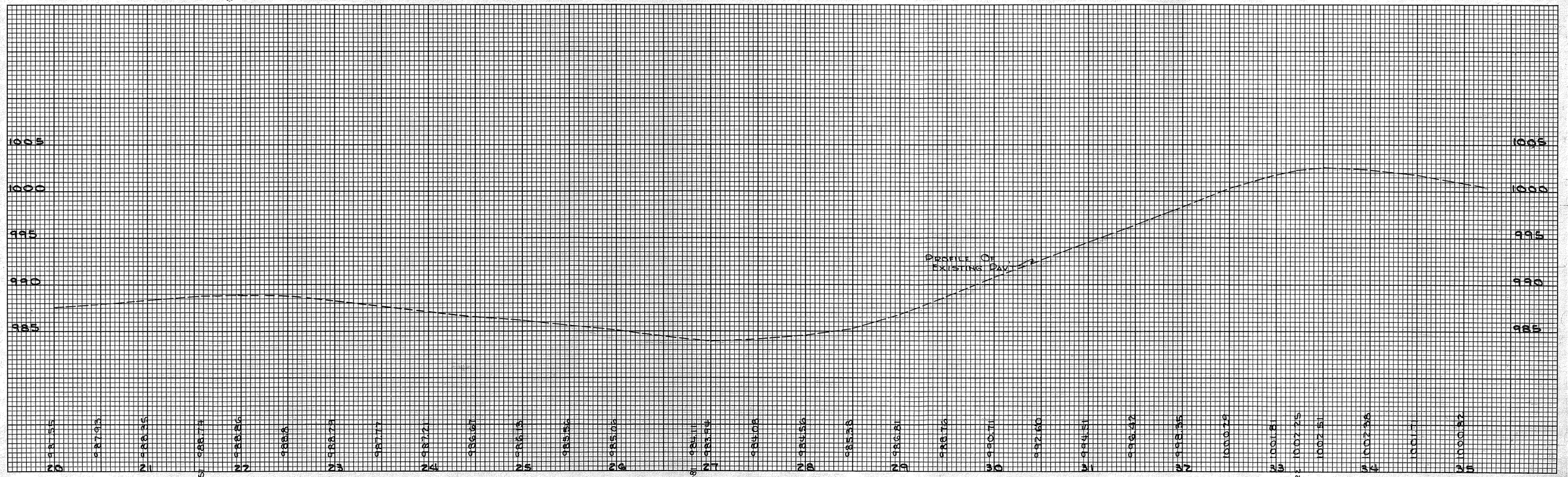
STA. 15+0 TO STA. 20+0

FED. RD. DIVISION	STATE	FED AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

8
42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)





FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR	
2	OHIO	UG-U-338(2)	1946	9 / 42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)

SS-112 Classified Embankment Material
EST. FOR SLOPE RETURN AHEAD
EMB (AHEAD) = 18 × 152/2 × 1/27 C.Y. = 51 C.Y.
F-790 (BACK)
F-440 (AHEAD)
EMB (AHEAD) = 17 × 162/2 × 1/27 C.Y. = 51 C.Y.
946.34
5+40
938.07
End Sidewalk Railing Sta. 5+29.22 Lt.
End Sidewalk Railing Sta. 5+37.10 Rt.
F-510
943.70
5+0
937.57
Beg. Basem't 5+00
Begin Sidewalk Railing Sta. 4+74.5 Lt.
Begin Sidewalk Railing Sta. 4+14.03 Rt.
Beg. Basem't 4+77
END PAV'T REMOVAL STA. 4+60
SODDING 1556 S.Y. U-338-(2)
U-338-(2) EXCAVATION 158 CU. YDS. EMBANKMENT 2908 CU. YDS.
NEW R/W
SLOPE EASEMENT
Filling Sta. Apron
F-287
940.34
4+50
937.38
THIRD ST. (EAST SIDE) SOUTH SHEET 13
+98 ℄ THIRD ST. N. & S. FROM 50' R & L SHEET 13
F-6
F-50
939.21
3+98
937.45
EX. R/W
F-11
C-24
938.41
3+50
937.90
BEG. PAV'T REMOVAL STA. 3+00
C-56
938.28
3+0
938.28
940
935
LIN. FT. | S.Y.
AHEAD | BACK
End Area | Cu. Yds.
Cut | Fill | Exc. | Emb.

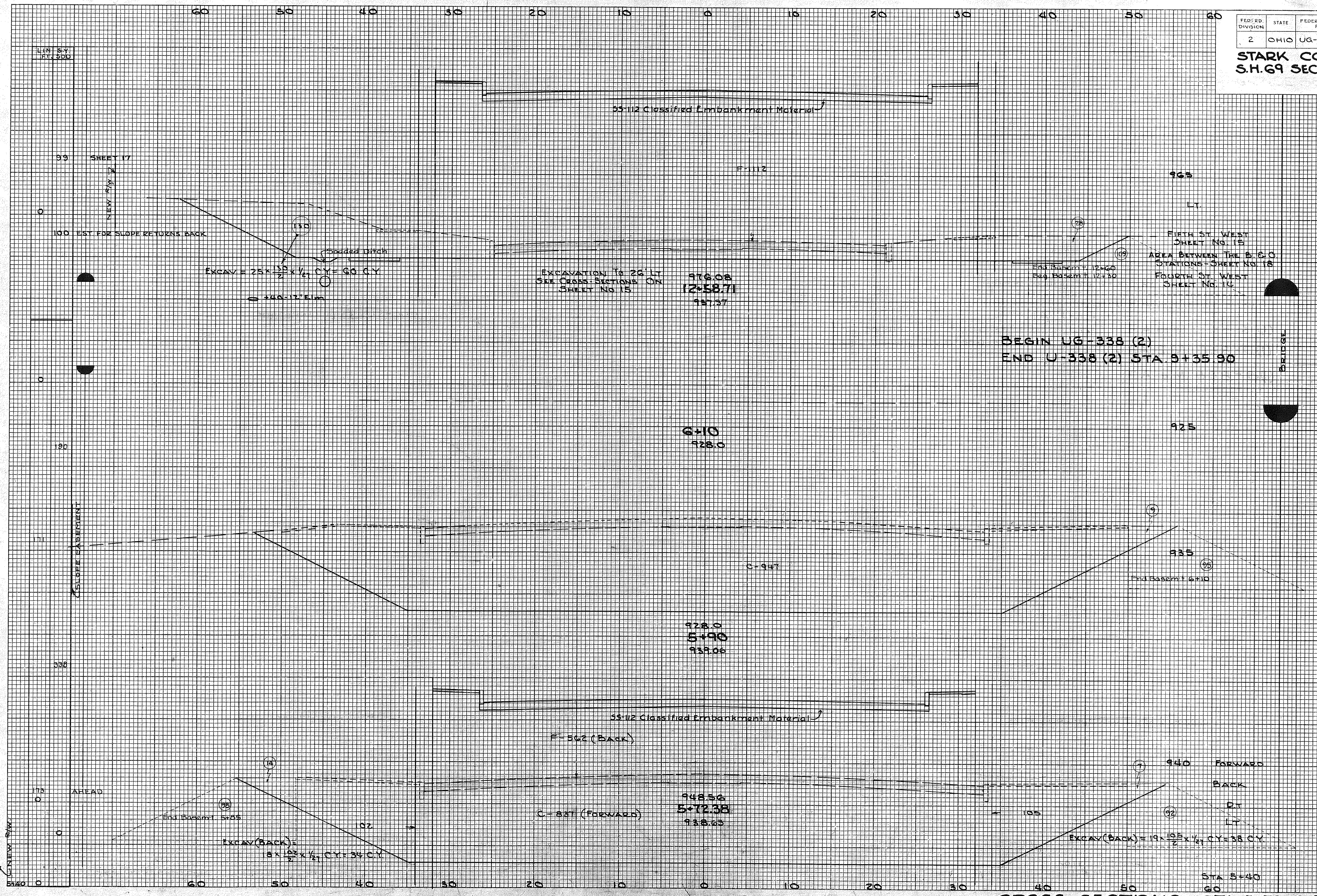
BEGIN UG-U-338(2) ℄
U-338(2)
STA. 3+00

NOTE: SEE SHEET No. 2 FOR BASEMENT EARTHWORK

CROSS-SECTIONS - STA 3+0 TO STA 5+50

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR	
2	OHIO	UG-U-338(2)	1946	10/42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)



SS-112 Classified Embankment Material
F-112
SHEET 17
NEW R/W
100 EST FOR SLOPE RETURNS BACK
Sodded Ditch
EXCAV = 25 × 130/2 × 1/27 C.Y. = 60 C.Y.
+40 - 12" Elm
EXCAVATION TO 26' LT
SEE CROSS-SECTIONS ON SHEET NO 15
976.08
12+58.71
937.37
965
LT.
FIFTH ST. WEST
SHEET NO. 15
AREA BETWEEN THE B. & O. STATIONS - SHEET NO 18
FOURTH ST. WEST
SHEET NO. 14
End Basem't 12+60
Beg. Basem't 12+30
BEGIN UG-338 (2)
END U-338 (2) STA. 9+35.90
BRIDGE
6+10
928.0
925
SLOPE EASEMENT
C-947
935
End Basem't 6+10
928.0
5+90
939.06
SS-112 Classified Embankment Material
F-562 (BACK)
AHEAD
End Basem't 5+85
C-837 (FORWARD)
948.56
5+72.38
938.63
EXCAV (BACK) = 18 × 102/2 × 1/27 C.Y. = 34 C.Y.
EXCAV (BACK) = 19 × 105/2 × 1/27 C.Y. = 38 C.Y.
940
FORWARD
BACK
RT
LT
STA 5+40

END AREA CUT	END AREA FILL	CU. YDS. EXC	CU. YDS. EMB
0	112		
		60	0
		309	72
		480	8
		25	0
0	0		
		356	0
947	0		
		582	0
837	0		
0	562		
		38	0
		34	0
			601
	440		

CROSS-SECTIONS - STA 5+72.38 TO STA 12+58.71

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR	
2	OHIO	UG-U-338(2)	1946	11 / 42

STARK COUNTY
S.H.69 SEC. MASSILLON (PT)

SS-112 Classified Embankment Material
97?.47
15+55
975.98
Pump Island
Slope Easement
Beg. Pav't Removal Sta. 15+00
15+21.73 Sixth St. N. & S. Sheet 16
+01-12" Linden
Sixth St. (East Side) North & South
Sixth St. (West Side) South
F-250
976.69
14+92.16
972.16
+87-24" Cottonwood
+61-18" Cottonwood
+05-20" Horse Chestnut
F-466
976.56
14+50
969.61
End Sidewalk Railing Sta. 14+02.47
Sodding 2583 S.Y. UG-338-(2)
+32-M.H.
+32-24" Cottonwood
+24-18" Maple
F-770
End Sidewalk Railing Sta. 13+64.21 Lt.
Begin Sidewalk Railing Sta. 13+00.81 Lt.
+06-24" Cottonwood
End Basem't 14+11
Beg. Basem't 13+83
976.43
14+0
966.51
+78-24" Cottonwood
UG-338-(2)
Excavation 1898 Cu.Yds.
Embankment 9004 Cu.Yds.
Stair Rail
Begin Sidewalk Railing Sta. 13+07.07 Rt.
+53-12" Apple
150 Est for slope returns back
F-1747 Back
F-974 Fwd
Emb (Back) = 30 x 284/2 x 1/27 C.Y. = 158 C.Y.
Emb (Back) = 32 x 425/2 x 1/27 C.Y. = 319 C.Y.
Sta 13+0 Forward Back
+04-10" Ailanthus
New R/W
End Basem't 13+50
Beg. Basem't 13+30
976.18
13+0
960.14
Sta 12+58.71
End Area Cut Fill
Cu. Yds. Exc Emb

CROSS SECTIONS STA. 13+00 TO STA. 15+55

PLATE 4 - CROSS SECTION
THE H. COLE CO., COLUMBUS, OHIO

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

12
42

STARK COUNTY
S.H.69 SEC. MASSILLON (PT)

END UG-338(2) & UG-U-338 (2)
STA. 17+90.5

End Pav't Removal
Sta. 17+90.5

LIN FT.	C.Y. SOD
13	
94	
26	
29	
142	
22	
161	
36	
156	
21	
102	
15+55	20

Sheet 19

55-112 Classified Embankment Material

C-50

17+90.5
985.16

R/W
EX.
R/W

SLOPE EASEMENT

C-20

C-10

55-112 Classified Embankment Material

C-18

C-34

+47-12" Maple

17+50
984.22

SLOPE EASEMENT

55-112 Classified Embankment Material

C-55

C-44

C-32

EX.
R/W

17+0
982.58

+60 M.H.

Removal Of Wall
To Be Included In E-1

SLOPE EASEMENT

55-112 Classified Embankment Material

C-85

C-57

C-21

C-13

980.31
16+50
980.68

SLOPE EASEMENT

55-112 Classified Embankment Material

C-48

F-1

C-8

C-10

F-1

F-1

978.55
16+0
978.22

+81 Francis Place - Rt. & Lt.
Sheet No. 14

+23 Drive-Lt

Extg. Conc. Drive At Gas Station

SLOPE EASEMENT

SLOPE EASEMENT

Sta. 15+55

	End Area		Cu. Yds.	
	Cut	Fill	Exc.	Emb.
	50	0		
			94	0
	76	0		
			191	0
	131	0		
			209	0
	112	0		
			160	0
	5	0		
	203	17		
	66	8		
			70	47
	18	48		

PLATE 4—CROSS SECTION.
THE H. COLE CO., COLUMBUS, OHIO

CROSS SECTIONS STA. 16+0 TO STA. 17+90.5

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OH10	UG-U-338(2)	1946

13
42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)

INTERSECTION DETAIL
S.H. 69 AND THIRD ST.
STATION 3+98.00
SCALE 1"=10'

Δ = 90°-14'-31"
R = 20'
T = 20.09'
E = 8.34'
L = 31.50'
A = 86.70°

Δ = 89°-45'-29"
R = 20'
T = 19.92'
E = 8.22'
L = 31.33'
A = 85.00°

E-8 S.Walk Rem.
455 + (17.5×6) = 560 S.F.
(Quan. to Line Sheet)

STA. 4+37.21
STA. 4+36.79
STA. 0+00 U.S. 30
STA. 4+00
STA. 1+0
STA. 0+52.85
STA. 0+53.15
STA. 0+52.94
STA. 0+53.06
STA. 3+59.08

Rem. Conc. 139 S.Y. Apron
455 S.F. 6" I-13 Conc.
Key Joint - See Sheet 21.7
4" I-13 Area = 181 sq.ft.
236 S.F. 4" I-13
138.5 L.F. I-11-7
Exist. Brick Pav't. on Gravel Base
6" Concrete Sidewalk Area = 300 Sq. Ft.
6" I-117 44.4 S.Y.
Exist. Bit. Pav't.
6" I-117 77.8 S.Y.
4" I-13 Area = 241.5 sq.ft.

THIRD STREET
Area = 302.0 Sq. Yds.
1¼" T-35 Surface and 1¼" B-35 Leveling Course
8" B-71 Base Course, T-30 Prime Coat.

Omit St. Curb 25 L.F.
15 L.F. I-11
Key Joint - See Sheet 21
205.6 L.F. I-11
L-10 6.1 S.Y.
L-10a 30.7 S.Y.
L-9
4" I-13
10'
160" 6" Walk
240 Sq. Ft. 4" Conc. Walk

T-30 Prime Coat
1¼" T-35 Surf. & 1¼" B-35 Leveling, 8" B-71 Base
Area = 103.3 Sq. Yds.

3 + 98.00
1¼" T-35 & 1¼" B-35 = 198.7 Sq. Yds.
2-3" B-35 Base = 202.6 Sq. Yds. (Aver)
1¼" I-19 = 203.9 Sq. Yds.

Note: All elevations shown along the curb line are gutter grades.

CURB
Δ = 89°-55'
R = = = 20'
T = = = 19.97'
E = = = 8.26'
L = = = 31.39'
A = 85.50°

TYPICAL SECTION - THIRD STREET NORTH
19'-0" 19'-0"
Crown 4¼" or as shown
3.3' 3.3'
1¼" T-35 Surface Course
1¼" B-35 Leveling Course
3" B-35 Base (2 Courses)
1¼" I-19 Insulation Course

METHOD OF LAPPING LONG. JOINTS IN BITUM. CONST.
1¼" T-35
1¼" B-35
3" B-35
3" B-35
1¼" Insul.
Δ = 90°-05'
R = 20'
T = 20.03'
E = 8.30'
L = 31.45'
A = 86.10°

TYPICAL SECTION - THIRD STREET SOUTH
6'-0" 8'-0" 19'-0" 19'-0" 8'-0" 6'-0"
4¼" Crown or as shown
For detail of curb see Typical Section Sheet No. 2.
For slope of Tree Lawn, see elevations on above plan.
B-71 8" Reinforced Concrete Base Course
B-35 1¼" Asphaltic Concrete Leveling Course
T-35 1¼" Asphaltic Concrete Surface Course
6"×20" Sandstone Curb
4" Curb Underdrain
4" Conc. Sidewalk

CENTER LINE PROFILE — THIRD STREET
30' V.C.
P.I. STA. 0+82
ELEV. 936.29
-4.63%
-2.42%
-4.70%
-1.40%
30' V.C.
P.I. STA. 0+70
ELEV. 936.82
1¼" T-35 Surface Course
1¼" B-35 Leveling Course
8" B-71 Base
T-30
Proposed 66' Pavement S.H. 69
Existing Pavement
3" B-35 Base Course
1¼" I-19 Insulation

	E.A. Cut	E.A. Fill	C.Y. Cut	C.Y. Fill
	0	42		
			28	39
	30	0		
	2	36		
			30	34
	30	0		
TOTAL	58		73	

937.77 0+50 S 937.07
935.85 1+00 S 935.85
937.76 0+50 N 937.07
936.4 1+00 N 936.4

ESTIMATED QUANTITIES - U-338(2)

I-13 - 6" Concrete Sidewalk	915	Sq. Ft.
I-11 - 6"×20" Sandstone Curb	161.6	Lin. Ft.
I-117 - 6" Side Approaches, Mailbox Turnouts & Berm Material	122.2	Sq. Yds.
I-13 - 4" Concrete Sidewalk	1321	Sq. Ft.
B-71 - 8" Reinforced Concrete Base Course	405.3	Sq. Yds.
T-35 - 1¼" Asphaltic Concrete Surface Course Type B	604.0	Sq. Yds.
B-35 - 1¼" Asphaltic Concrete Leveling Course	604.0	Sq. Yds.
B-35 - 3" Asphaltic Concrete Base Course (2 x 202.6)	405.2	Sq. Yds.
I-19 1¼" Insul. Course = 203.9 use	204	Sq. Yds.
T-30 Prime Coat, using sand cover	405.3	Sq. Yds.

INTERSECTION DETAILS — THIRD STREET

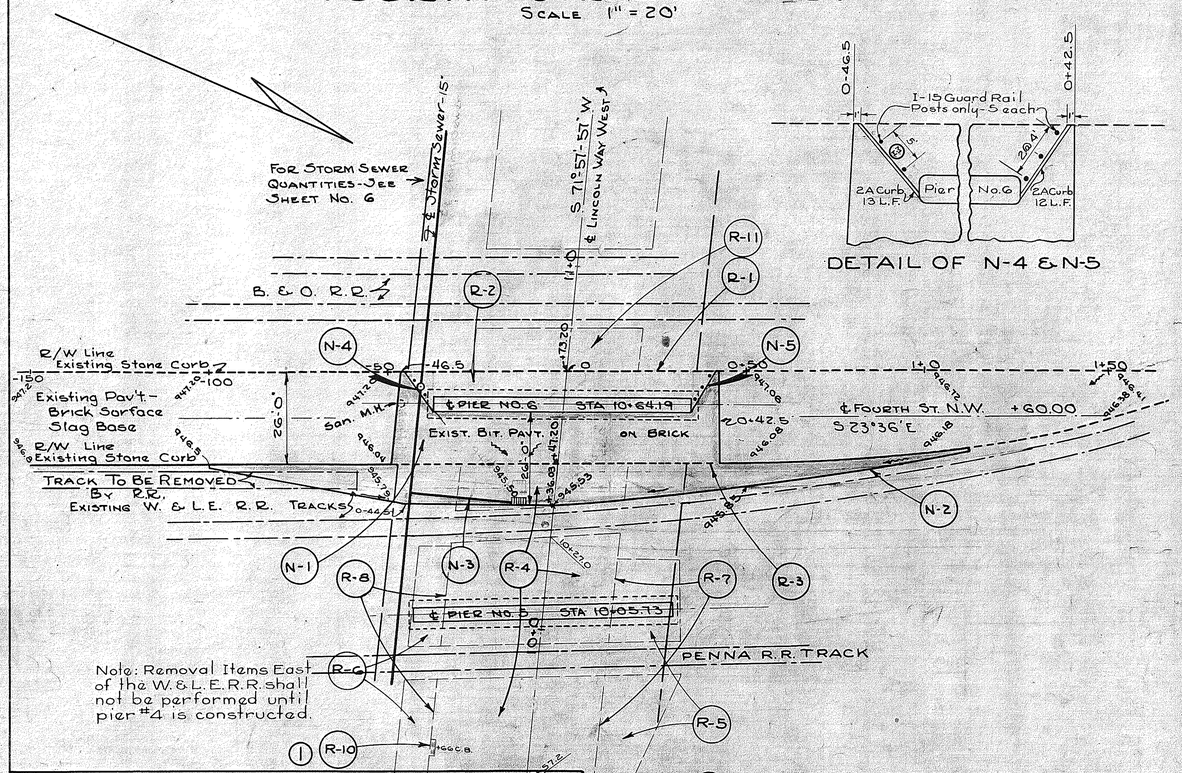
FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR	14 / 42
2	OHIO	UG-U-338(2)	1946	

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)

INTERSECTION DETAILS

FOURTH STREET - WEST

SCALE 1" = 20'



DETAIL OF N-4 & N-5

Note: Removal Items East of the W. & L. E. R.R. shall not be performed until pier #4 is constructed.

ITEM E-8 REMOVAL & DISPOSAL OF EXISTING PAVEMENT, CURB & SIDEWALK; S-122 CATCH BASINS ABANDONED

Mark	Station From	Station To	Side	Length	Width	Item E-8 Pav't. Removal Sq. Yds.	Item E-8 Curb Removal Lin. Ft.	Item E-8 Sidewalk Removal Sq. Ft.	S-122 C.B.'s Abandoned Each
R-1	-46.5	0+42.5	℄	89			89		
R-2	-47.5	0+42.5	R	90	26	260			
R-3	-100	1+12	R	212			212		
R-4	9+57.2	10+47.2	℄	90°-18'	46'	368			
R-5	9+57.2	10+23.8	R	Planimeter				1018	
R-6	9+57.2	10+21.6	L	64.4-9	9			499	
R-7	9+57.2	10+23.2	R	66-9			57		
R-8	9+57.2	10+22.2	L	65-9			56		
R-9	9+56		R						1
R-10	9+66		L						1
R-11	10+73.2	10+85.8	℄	12.6	46	64			
Total						692	414	1517	2

ITEM E-1 EXCAVATION UNCLASSIFIED
VOL = 301 x 1/12 Cu. Yds = 25 Cu. Yds.

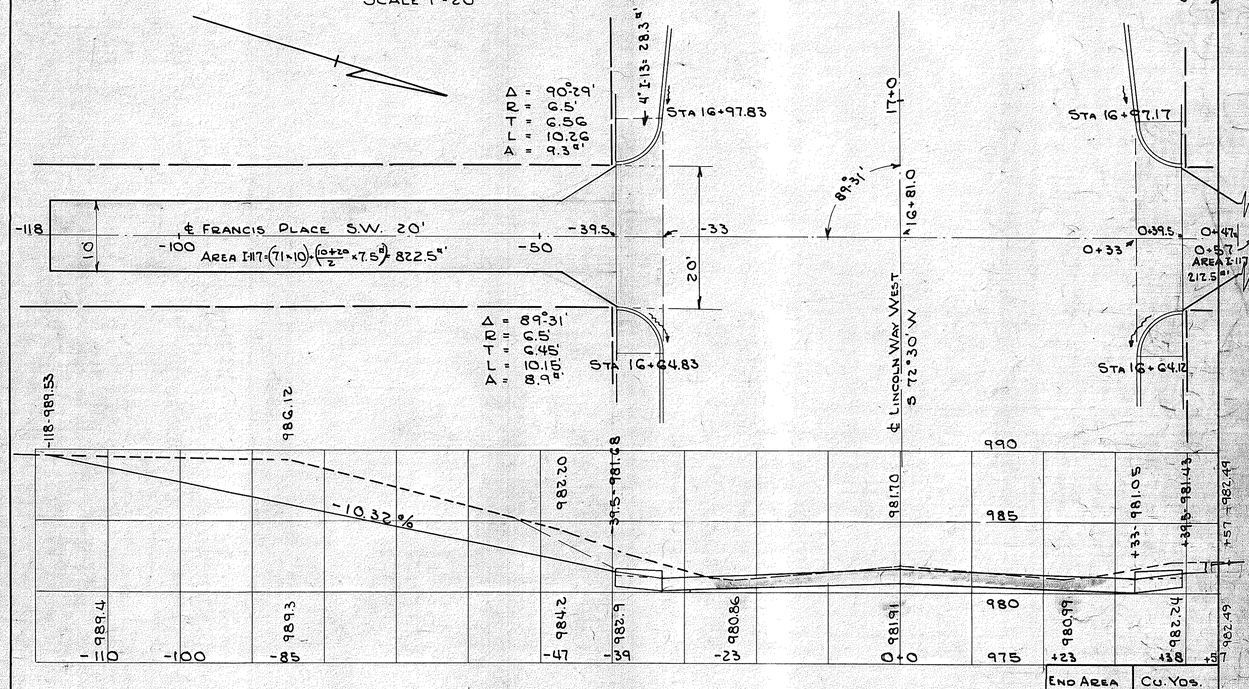
NOTE: All of these Quantities have been carried to the General Summary of Quantities for Structures over 20 Ft. Span on Sheet No. 26.

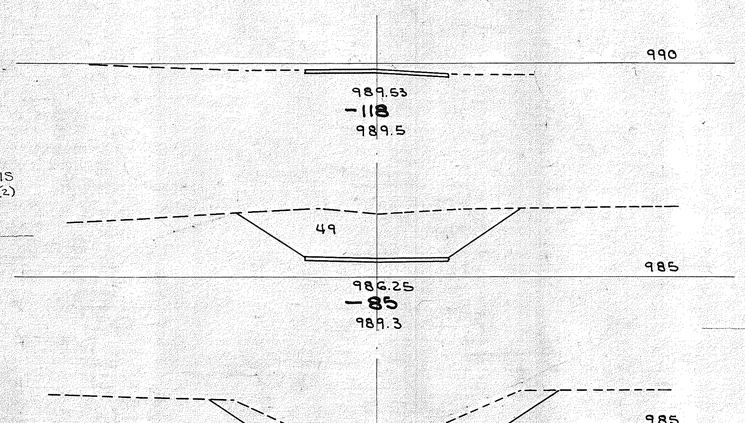
ITEM T-70 8" PORTLAND CEMENT CONCRETE PAVT.; ITEM I-12 CONCRETE CURB-TYPE 2-A
ITEM I-2 STORM SEWERS; I-15 Guard Rail Posts only.

Mark	Station From	Station To	Side	Length	Width	Item T-70 8" Thick Sq. Yds.	Item I-12 Type 2-A Lin. Ft.	Item I-12 12" Storm Sewer Under Appr. Lin. Ft.	Item I-8 Catch Basins No. 3 Each	Item I-15 Guard Rail Posts only compl. in pl. Each
N-1	-100	1+12	R	Planimeter		324				
N-2	-100	1+12	R				213	(No 3 C.B.	Subtracted	from this Quan.)
N-3	-13	-44	R					28	1	
N-4	-45.5	Pier	L				13			3
N-5	Pier	0+41.5	L				12			2
Total						324	238	28	1	5

FRANCIS PLACE - WEST

SCALE 1" = 20'





CROSS-SECTIONS
SCALE 1" = 5'

NOTE: ALL QUANTITIES ON THIS SHEET - U.G.-338(2)

ESTIMATED QUANTITIES - (2)

T-351½" Surface Course, Type B (130+9.3+8.9+130+9.3+8.9=266.4 sq. ft.) Or	29.6 S.Y.
B-351½" Leveling Course	29.6 S.Y.
B-718" Rein. Port. Cem. Conc. Base Course	29.6 S.Y.
I-11 6" x 20" Sandstone Curb (10.26+10.15+10.26+10.15)	41.0 L.F.
I-13 4" Concrete Sidewalk = 4 x 28.3 sq. ft. = 113.25 sq. Ft.	113.2 S.F.
I-117 6" Side Appr. Mail Box Turnouts & Berm Mat. (822.5+212.5=1035 sq. ft.) Or	115.0 S.Y.
T-30 Prime Coat, using sand cover	29.6 S.Y.

	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
STA -39.5	0	0		
			30	0
	49	0		
			65	0
	44	0		
			6	0
ESTIMATED FOR RETURNS ON BOTH SIDES			11	0
TOTAL			112	0

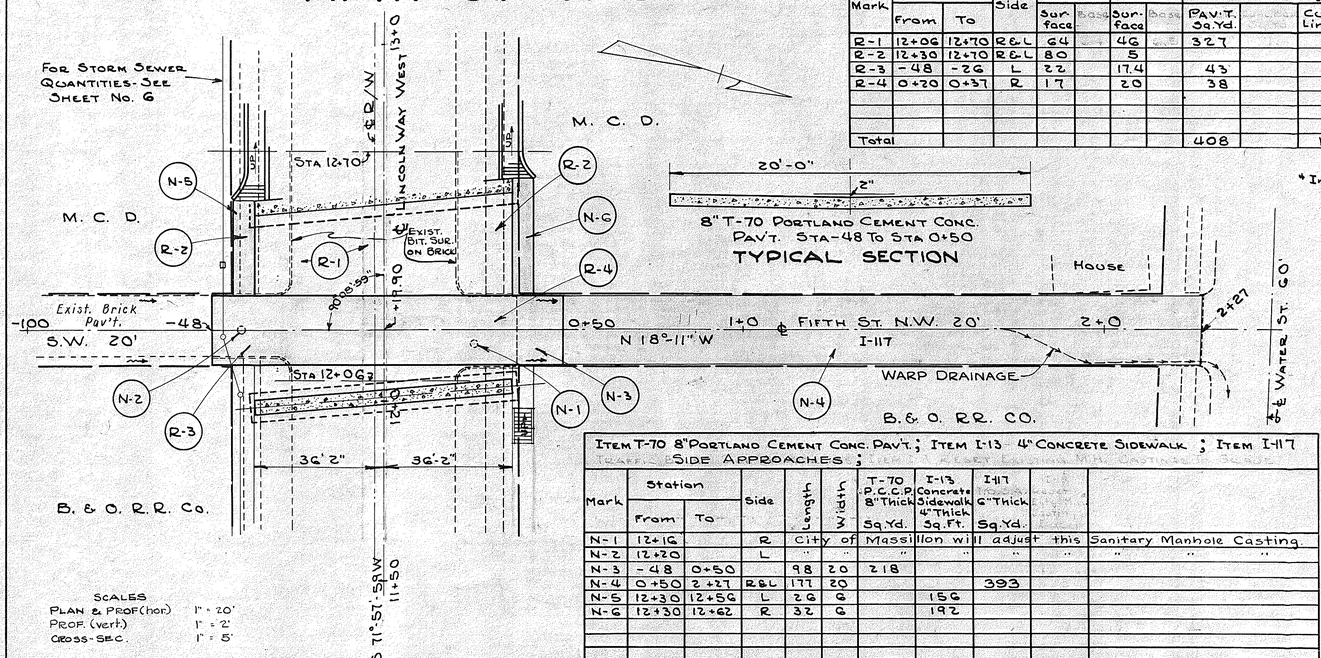
INTERSECTION DETAILS — FOURTH ST. - WEST; FRANCIS PLACE - WEST

INTERSECTION DETAILS— FIFTH ST. WEST

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

15
42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)



SCALES
PLAN & PROF (hor.) 1" = 20'
PROF. (vert.) 1" = 2'
CROSS-SEC. 1" = 5'

20'-0"
2"
8" T-70 PORTLAND CEMENT CONC. PAV'T. STA-48 TO STA 0+50
TYPICAL SECTION

ITEM E-8 REMOVAL & DISPOSAL OF EXISTING PAVEMENT CURB, SIDEWALK

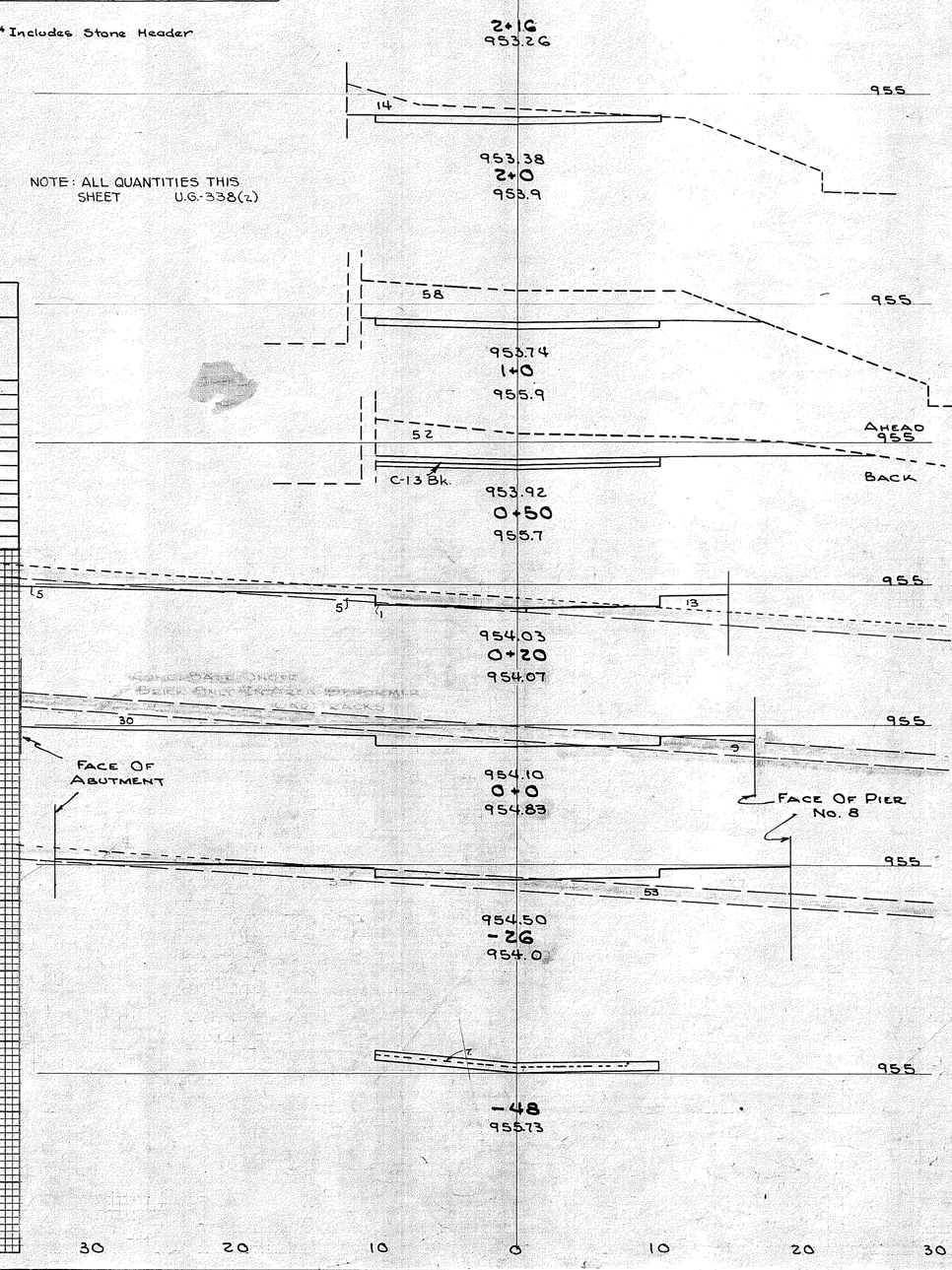
Mark	Station From	Station To	Side	Length Surface	Length Base	Width Surface	Width Base	Item E-8 Removal & Disposal Of Existing — PAV'T. Sq.Yd.	Curb Lin.Ft.	Sidewalk Sq.Ft.
R-1	12+06	12+70	R&L	64		46		327	75	
R-2	12+30	12+70	R&L	80		5				400
R-3	-48	-26	L	22		17.4		43	49	
R-4	0+20	0+37	R	17		20		38	59*	
Total								408	183	400

*Includes Stone Header

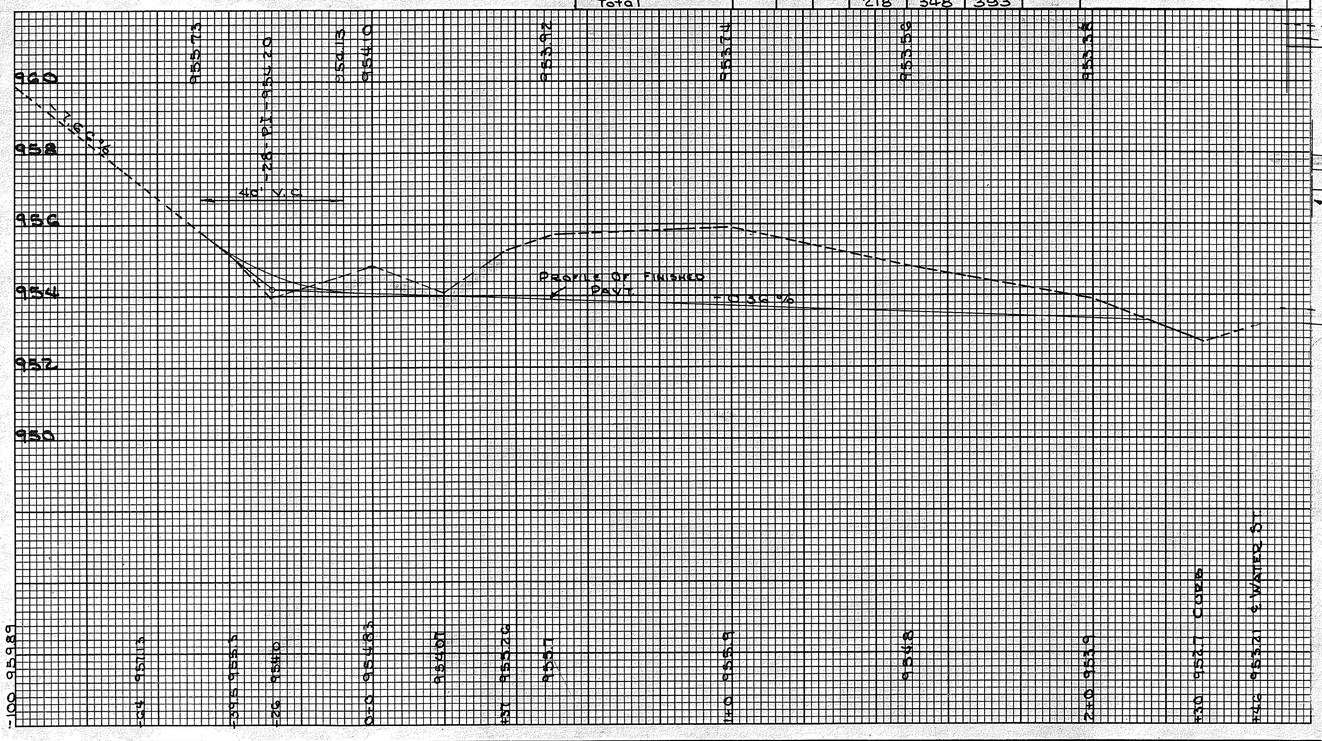
ITEM T-70 8" PORTLAND CEMENT CONC. PAV'T.; ITEM I-13 4" CONCRETE SIDEWALK; ITEM I-117 SIDE APPROACHES;

Mark	Station From	Station To	Side	Length	Width	T-70 P.C.C.P. 8" Thick Sq.Yd.	I-13 Concrete Sidewalk 4" Thick Sq.Ft.	I-117 6" Thick Sq.Yd.		
N-1	12+16		R	City of Massillon will adjust this Sanitary Manhole Casting.						
N-2	12+20		L	"	"	"	"	"	"	" " "
N-3	-48	0+50		98	20	218				
N-4	0+50	2+27	R&L	177	20			393		
N-5	12+30	12+56	L	26	6		156			
N-6	12+30	12+62	R	32	6		192			
Total						218	348	393		

NOTE: ALL QUANTITIES THIS SHEET U.G.-338(2)



	END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
	0	0		
			4	0
	14	0		
			133	0
	58	0		
			102	0
	52	0		
	65	0		
			39	10
			6	18
			13	10
	30	9		
			15	30
	0	53		
			3	22
	7	0		
TOTAL			308	172



INTERSECTION DETAILS— FIFTH STREET WEST

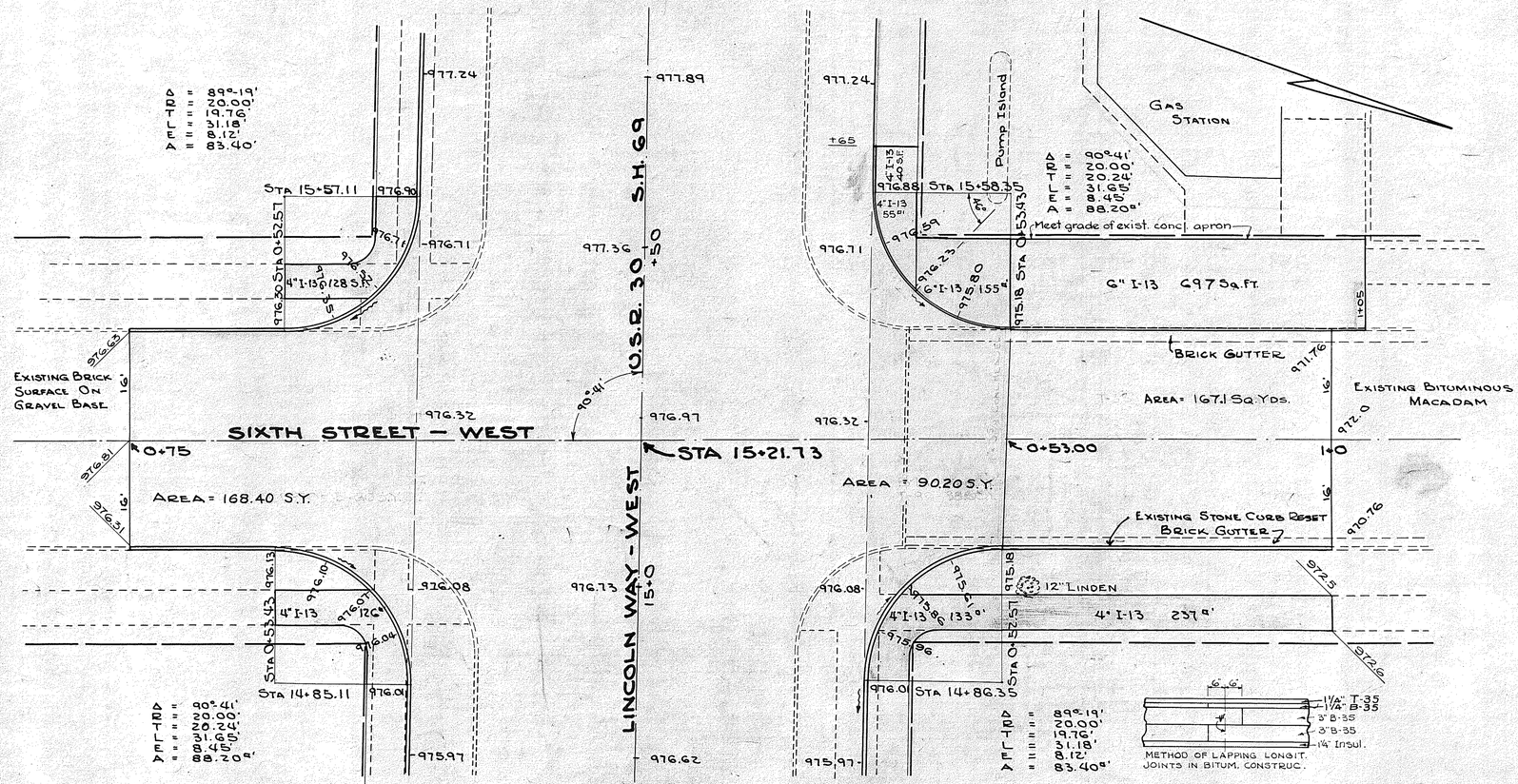
FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

16
42

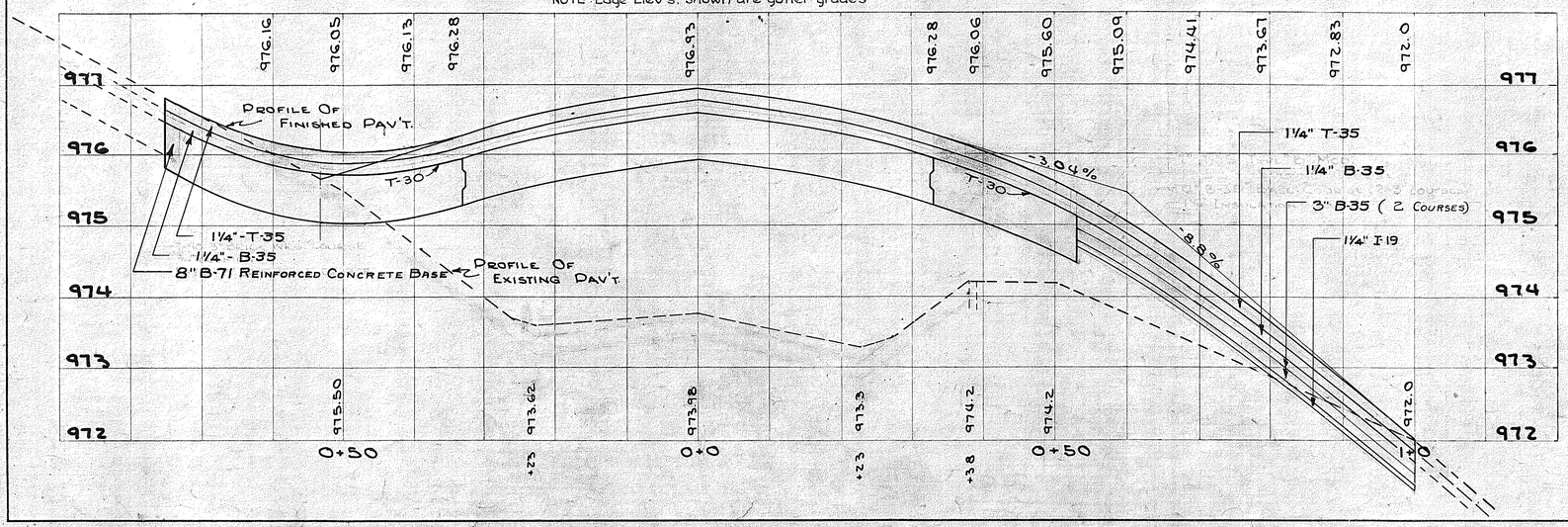
STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)

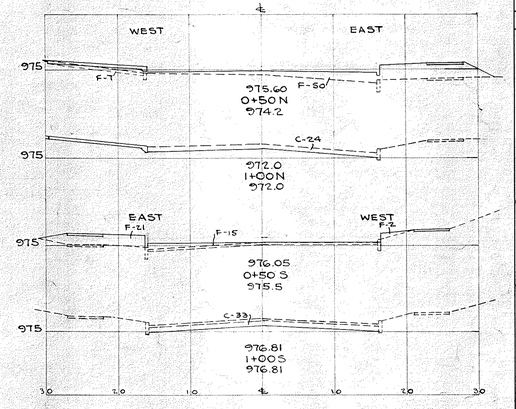
INTERSECTION DETAILS

SCALE 1"=10'

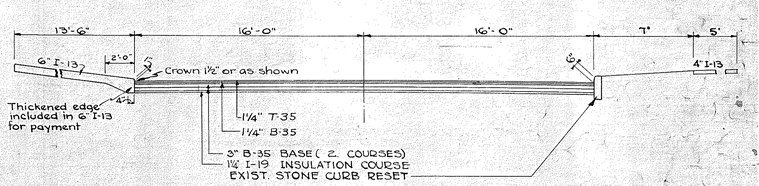


NOTE: Edge Elev's. shown are gutter grades





END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
0	57		
		22	53
24	0		
0	38		
		31	35
33	0		
TOTAL		53	88



TYPICAL SECTION - 6TH ST. NORTH

ESTIMATED QUANTITIES — UG-338-(2) TYPE T-30

I-11	6"x20" Sandstone Curb	169.7	Lin. Ft.
I-13	4" Concrete Sidewalk	719	Sq. Ft.
B-71	8" Reinforced Concrete Base	258.6	Sq. Yds
T-35	1¼" Asphaltic Concrete Surface Course Type B	425.7	Sq. Yds.
B-35	1¼" Asphaltic Concrete Leveling Course	425.7	Sq. Yds.
B-35	3" Asphaltic Concrete Base Course	334.2	Sq. Yds.
I-19	1¼" Insulation Course	167	Sq. Yds
I-11	Stone Curb Reset (See sheet 7)		
I-13	6" Concrete Sidewalk	85.2	Sq. Ft.
T-30	Prime Coat, using sand cover	258.6	Sq. Yd.

INTERSECTION DETAILS - SIXTH STREET

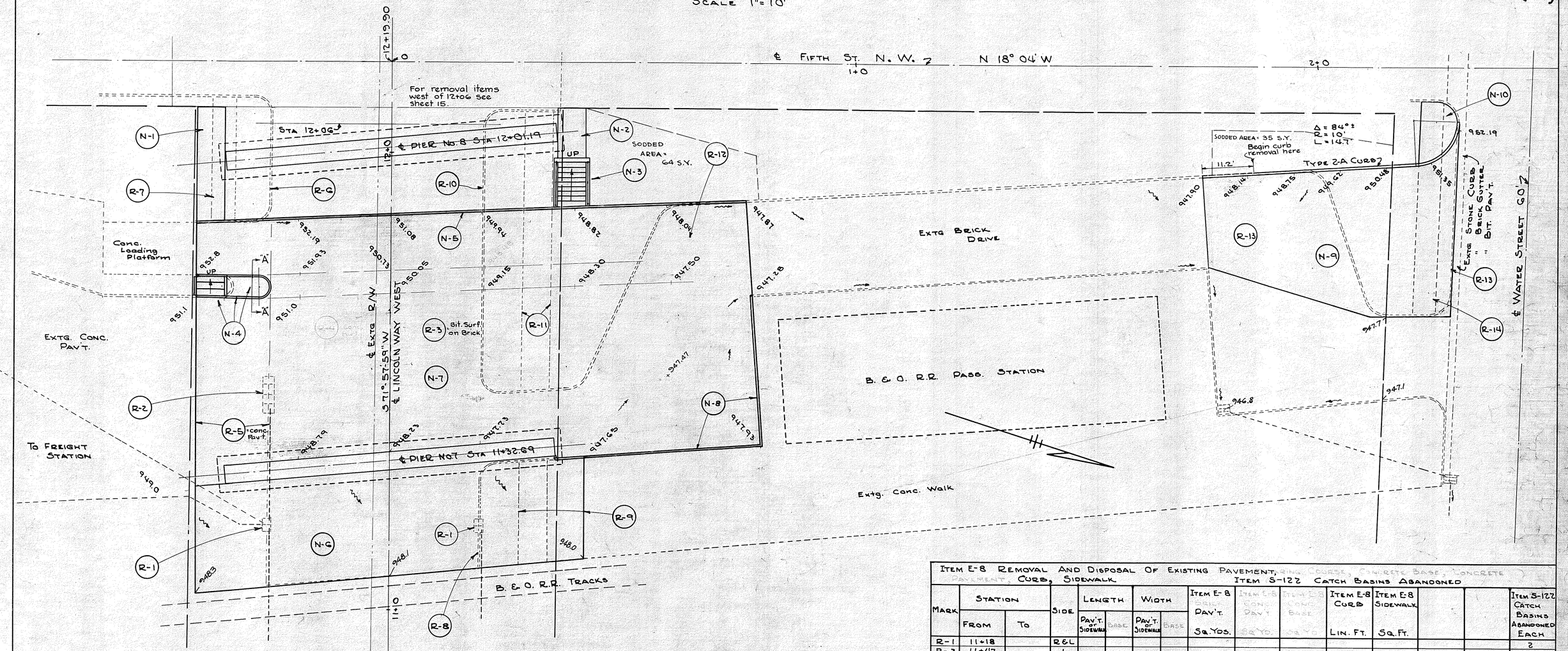
DETAILS OF AREA BETWEEN THE B. & O. R. R. FREIGHT AND THE PASSENGER STATIONS

SCALE 1"=10'

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

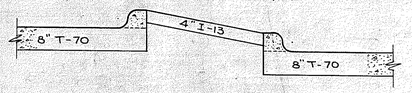
17
42

STARK COUNTY
S.H.69 SEC. MASSILLON(PT)



ITEM T-70 PORTLAND CEMENT CONCRETE PAVEMENT ; ITEM I-12 CONCRETE CURB-TYPE 2-A ; ITEM I-13 CONCRETE SIDEWALK ; ITEM I-13 CONCRETE STEPS

MARK	STATION FROM	STATION TO	SIDE	LENGTH PAV'T OR SIDEWALK	LENGTH	WIDTH PAV'T OR SIDEWALK	WIDTH	ITEM T-70 8" THICK SQ.YD.	ITEM I-12 CONC. CURB TYPE 2-A LIN. FT.	ITEM S-14 2½ PIPE RAILING LIN. FT.	ITEM I-13 SIDEWALK-SQ.FT. 4"	ITEM I-13 SIDEWALK-SQ.FT. 6"	ITEM I-13 CONC. STEPS LIN. FT.	DETAIL SHEET NO.
N-1	11+85	12+10	L	25		6					150			
2	11+99	12+10	R	11		6					66			
3	11+88	11+99	R							20			73.3	20
4	11+68	11+73	L	4		8			36		32		22.0	20
5	11+86		R&L						120					
6	11+07	11+30.7	R&L	23.7		84.5						2003		
7	11+34.7	11+86.5	R&L	*		*		720						
8	11+33	11+70	R						78					
9	PASS. STA. OR. - REAR			*		*		175	50					
10	WATER ST.										85			
TOTAL			* AREA BY PLANIMETER					895	284	20	333	2003	95.3	



SECTION "A A"

NOTE: ALL QUANTITIES ON THIS SHEET U.G.-338(2)

ITEM E-8 REMOVAL AND DISPOSAL OF EXISTING PAVEMENT, BRICK, CONCRETE, CONCRETE BASE, CONCRETE PAVEMENT, CURB, SIDEWALK
ITEM S-122 CATCH BASINS ABANDONED

MARK	STATION FROM	STATION TO	SIDE	LENGTH PAV'T OR SIDEWALK	LENGTH BASE	WIDTH PAV'T OR SIDEWALK	WIDTH BASE	ITEM E-8 BRICK PAV'T. SQ.YDS.	ITEM E-8 CONC. PAV'T SQ.YD.	ITEM E-8 CONC. BASE SQ.YD.	ITEM E-8 CURB LIN. FT.	ITEM E-8 SIDEWALK SQ.FT.			ITEM S-122 CATCH BASINS ABANDONED EACH
R-1	11+18		R&L												2
R-2	11+47		L												1
R-3	11+07	12+06		99		46		506							
R-4	(VOIDED)														
R-5	11+03	11+85	L	82		16	16	146			35				
R-6	11+85	12+06	L								36				
R-7	11+85	12+12	L	27		5						135			
R-8	11+09	11+29	R								35				
R-9	11+10	11+33	R	23		14						322			
R-10	11+51	12+06	R								55				
R-11	11+48	12+09	R	61		6						366			
R-12	PASS. STA. DRIVE							220			162				
R-13	PASS. STA. OR- REAR							85			104				
R-14	" . "			47		5						235			
TOTAL								957			427	1058			3

DETAILS OF AREA BETWEEN B. & O. R.R. FREIGHT & PASSENGER STATIONS

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

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STARK COUNTY
S.H. 69 SEC. MASSILLON(PT)

EARTHWORK QUANTITIES ON THIS SHEET U.G.-338(2)

Quantities Carried to Cross Section Sheet #10

END AREA CUT	END AREA FILL	CU. YDS. CUT	CU. YDS. FILL
22	0		
		11	2
12	7		
		58	3
109	0		
		84	0
BACK 119	0		
FORWARD 160	0		
		124	0
224	0		
		104	0
56	0		
		27	0
14	0		
0	0		
		4	2
1	5		
		20	1
78	0		
		48	0
52	0		
TOTAL		480	8

DETAILS OF AREA BETWEEN THE B. & O. R.R. FREIGHT & THE PASS. STATIONS

DETAILS OF TRANSITION SECTIONS

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	0410	UG-0-338(2)	1946

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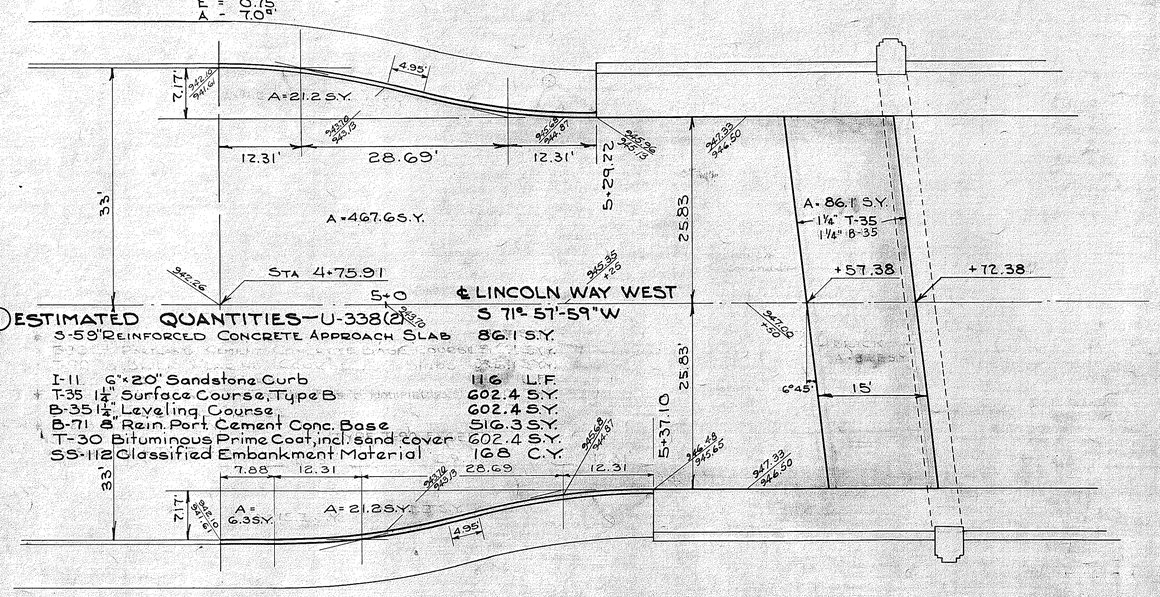
42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)

SCALE 1" = 10'

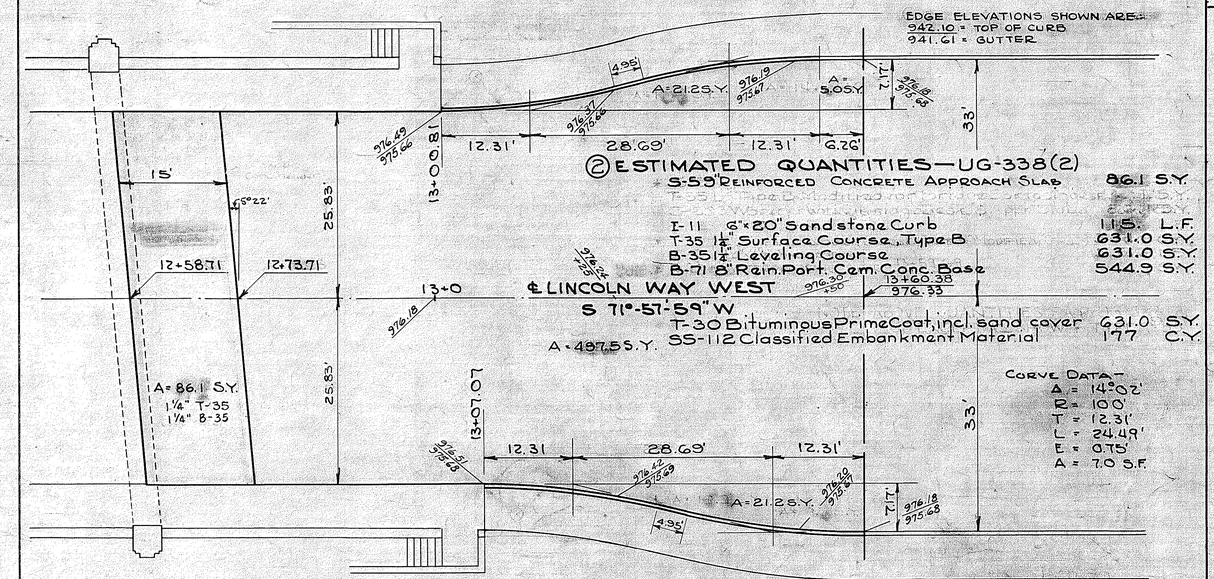
Curve Data—
Δ = 14°02'
R = 100'
T = 12.31'
L = 24.49'
E = 0.75'
A = 7.0 sq.



① ESTIMATED QUANTITIES—U-338(2)

S-59 Reinforced Concrete Approach Slab	86.1	S.Y.
I-11 6"×20" Sandstone Curb	116	L.F.
T-35 1¼" Surface Course, Type B	602.4	S.Y.
B-35 1¼" Leveling Course	602.4	S.Y.
B-71 8" Rein. Port Cement Conc. Base	516.3	S.Y.
T-30 Bituminous Prime Coat, incl. sand cover	602.4	S.Y.
SS-112 Classified Embankment Material	168	C.Y.

STA. 4+75.91 TO STA. 5+72.38

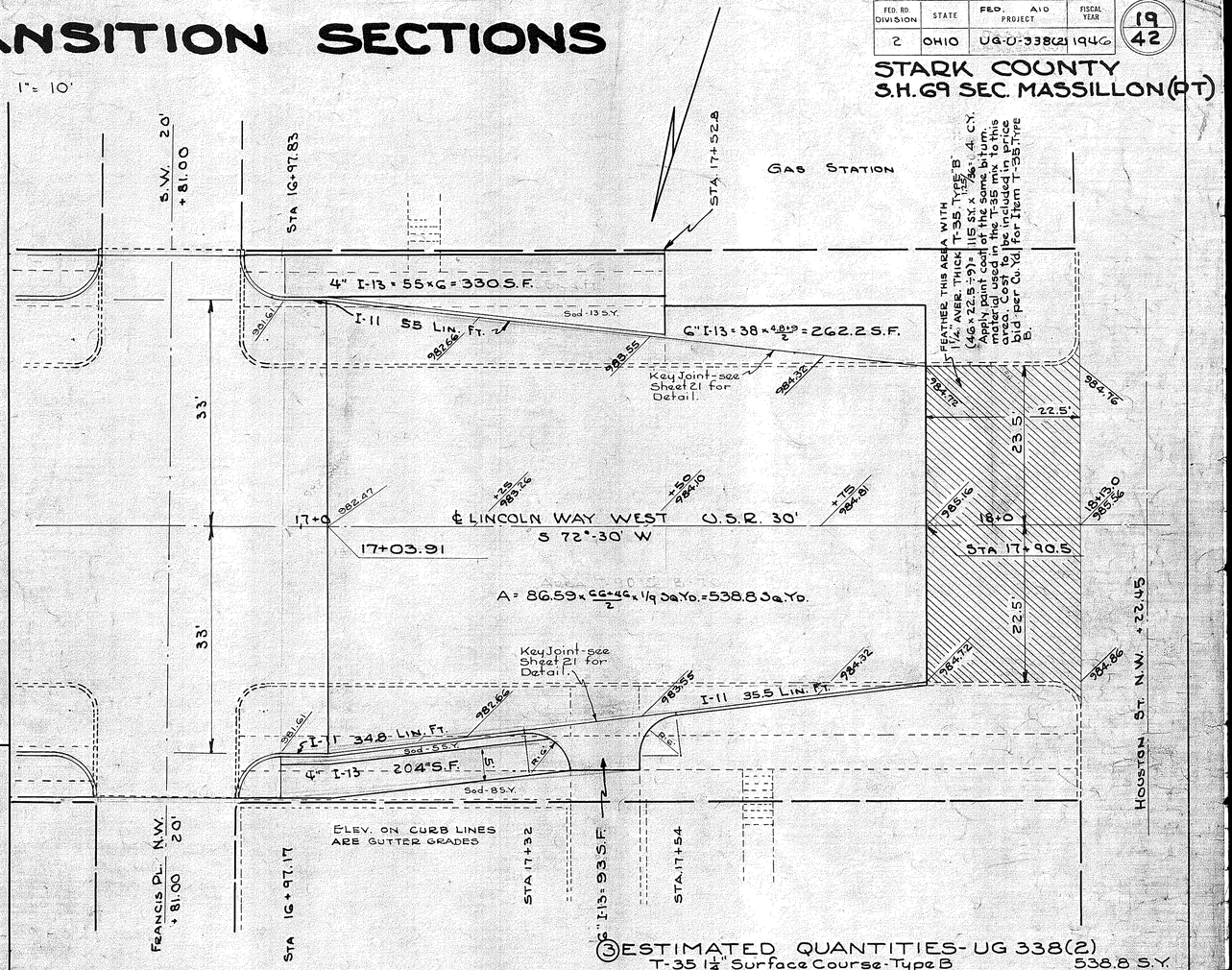


② ESTIMATED QUANTITIES—UG-338(2)

S-59 Reinforced Concrete Approach Slab	86.1	S.Y.
I-11 6"×20" Sandstone Curb	115.	L.F.
T-35 1¼" Surface Course, Type B	631.0	S.Y.
B-35 1¼" Leveling Course	631.0	S.Y.
B-71 8" Rein. Port. Cem. Conc. Base	544.9	S.Y.
T-30 Bituminous Prime Coat, incl. sand cover	631.0	S.Y.
SS-112 Classified Embankment Material	177	C.Y.

Curve Data—
Δ = 14°02'
R = 100'
T = 12.31'
L = 24.49'
E = 0.75'
A = 7.0 S.F.

STA. 12+58.71 TO STA 13+60.38



③ ESTIMATED QUANTITIES- UG 338(2)

T-35 1¼" Surface Course-Type B	538.8	S.Y.
B-35 1¼" Leveling Course	538.8	S.Y.
B-71 8" Rein. Pprt. Cem. Conc. Base	538.8	S.Y.
I-13 4" Concrete Sidewalk (330+204)	534.	S.F.
I-13 6" Concrete Sidewalk (262.2+93)	355.2	S.F.
I-11 Stone Curbs Reset (See Sheet 7)		
T-35 Extra C.Y. Surface Course, Type B	4.0	C.Y.
T-30 Bituminous Prime Coat, incl. sand cover	538.8	S.Y.
SS-112 Classified Embankment Material	142	C.Y.

TRANSITION SECTIONS

STEPS & SIDEWALKS

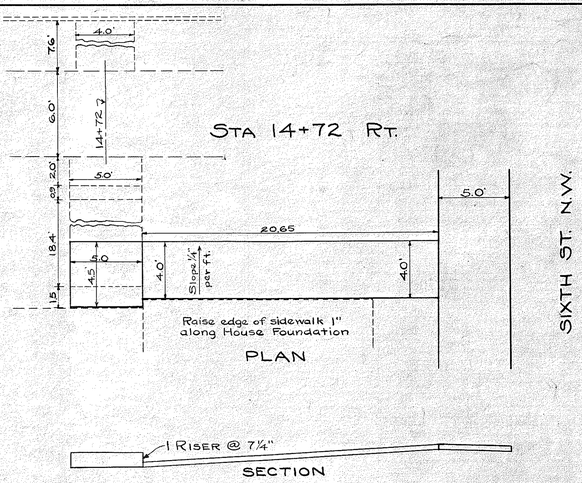
SCALE 1"=5'

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

20
42

STARK COUNTY
S.H. 69 SEC. MASSILLON(PT)

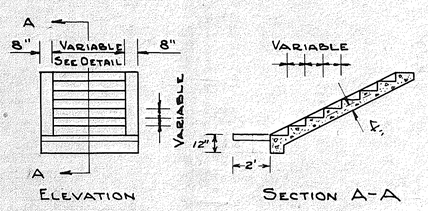
STA 14+72 RT.



ESTIMATED QUANTITIES. (To Line Sheet)
ITEM I-13 CONCRETE STEPS 4.5 LIN.FT.
ITEM I-13 CONCRETE SIDEWALK 4×20.65= 82.6 SQ.FT.
ITEM E-8 REMOVAL & DISPOSAL OF EXTG. STEPS 3×5 = 15 LIN.FT.
ITEM E-8 REMOVAL & DISPOSAL OF EXTG. SIDEWALK 5×19.5 = 97.5 SQ.FT.
& 4×7.6 = 30.4 SQ.FT. TOTAL= 127.9 SQ.FT.

NOTE: ALL QUANTITIES ON THIS SHEET U.G-338(2)

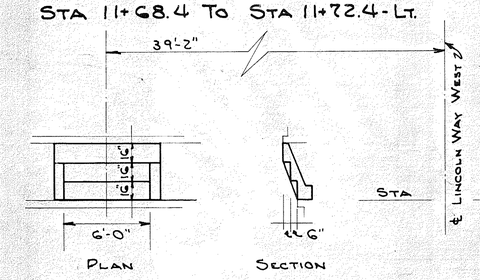
NOTE: QUANTITIES ON THIS SHEET CARRIED FORWARD TO APPROPRIATE LINE OR DETAIL SHEET.



DETAILS OF TYPICAL CONCRETE STEPS

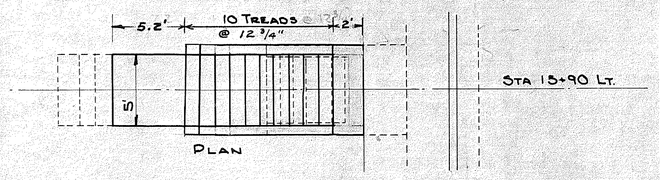
SCALE ¼"= 1'-0"

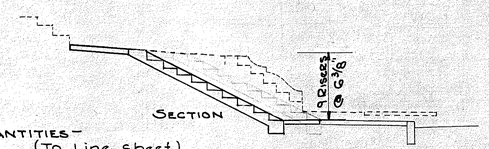
STA 11+68.4 TO STA 11+72.4 - LT.



ESTIMATED QUANTITIES (To Sheet 17)
ITEM I-13 CONCRETE STEPS = 7.33 × 3 LIN.FT. = 22 LIN.FT.

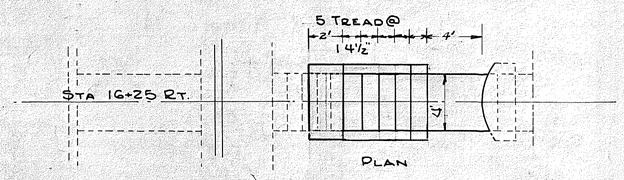
STA 15+90 - LT

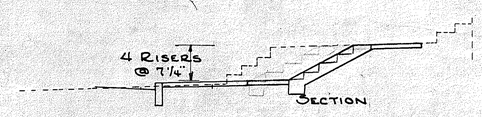




ESTIMATED QUANTITIES—
(To Line Sheet)
ITEM I-13 CONCRETE STEPS = 10×6.33 = 63.3 LIN.FT.
ITEM I-13 4" CONCRETE SIDEWALK = 5.2×5 + 2×6.33 = 38.7 SQ.FT.
ITEM E-8 REMOVAL & DISPOSAL OF EXTG. SIDEWALK = 10.75×5 + 4.2×6.3 = 80.2 SQ.FT.
ITEM E-8 REMOVAL & DISPOSAL OF EXTG. STEPS = 6×6.7 LIN.FT. = 40.2 LIN.FT.

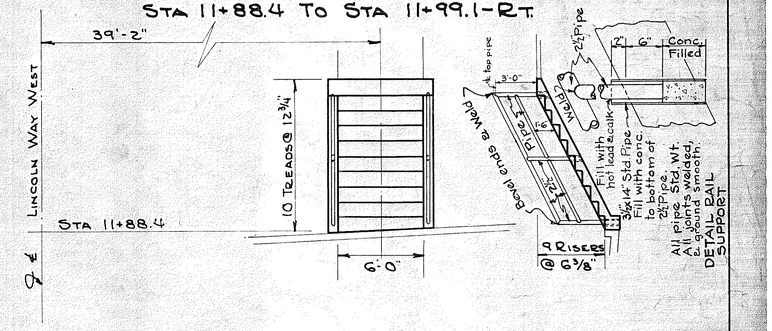
STA 16+25 - RT





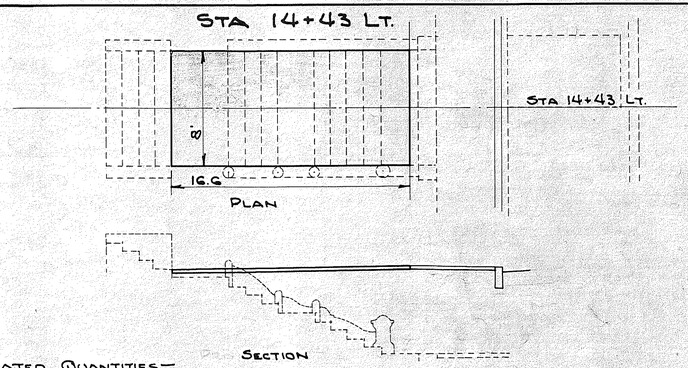
ESTIMATED QUANTITIES— (To Line Sheet)
ITEM I-13 CONCRETE STEPS = 5×5.33 LIN.FT. = 26.7 LIN.FT.
ITEM I-13 CONCRETE SIDEWALK = 4×4' + 3×5.33 = 26.66 SQ.FT.
ITEM E-8 REMOVAL & DISPOSAL OF EXTG. STEPS = 4×4 = 16 LIN.FT.
ITEM E-8 REMOVAL & DISPOSAL OF EXTG SIDEWALKS = 8.5×4 + 10×4 = 74 SQ.FT.

STA 11+88.4 TO STA 11+99.1 - RT.



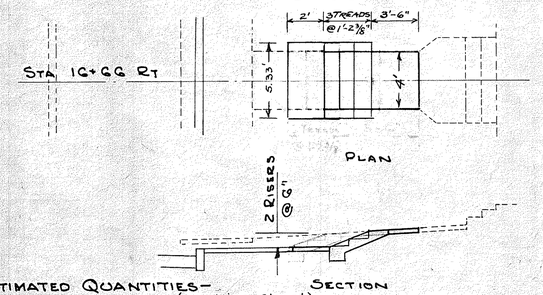
ESTIMATED QUANTITIES— (To Sheet 17)
ITEM I-13 CONCRETE STEPS = 10×7.33 LIN. FT. = 73.3 LIN. FT.
ITEM S-14 2½" PIPE RAILING = 20 LIN. FT.

STA 14+43 LT.



ESTIMATED QUANTITIES—
(To Line Sheet)
ITEM I-13 4" CONCRETE SIDEWALK = 16.6×8 = 132.8 SQ.FT.
ITEM E-8 REMOVAL & DISPOSAL OF STEPS = 10×9.6 = 96 LIN.FT.

STA 16+66 RT



ESTIMATED QUANTITIES—
(To Line Sheet)
ITEM I-13 CONCRETE STEPS = 3×5.33 = 16 LIN. FT.
ITEM I-13 4" CONCRETE SIDEWALK = 3.5×4 + 2×5.33 = 24.7 SQ. FT.
ITEM E-8 REMOVAL & DISPOSAL OF EXISTING WALK = 11.5×4 = 46 SQ.FT.

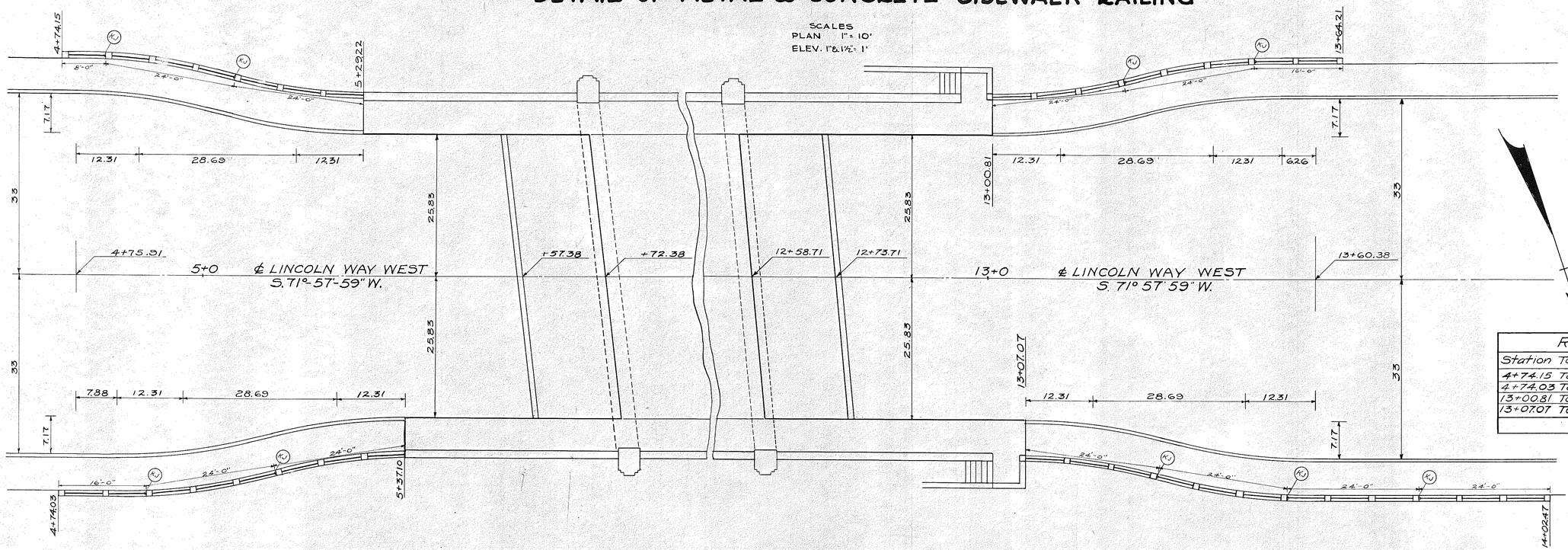
DETAIL OF METAL & CONCRETE SIDEWALK RAILING

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

20-A
42

STARK COUNTY
S.H. 69, SEC. MASSILLON (PT.)

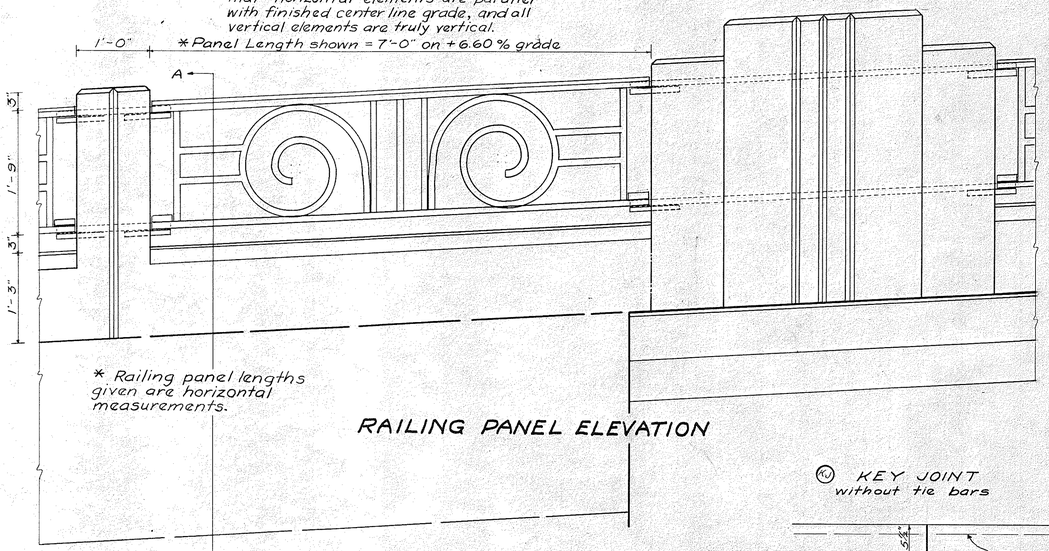
SCALES
PLAN 1" = 10'
ELEV. 1" & 1½" = 1'



RAILING PANELS				
Station To Station	Side	No Panels	Lin. Ft.	
4+74.15 To 5+29.55	Lt.	7	56	U-338(2)
4+74.03 To 5+37.1	Rt.	8	64	120 L.F.
13+00.81 To 13+64.21	Lt.	8	64	UG-338(2)
13+07.07 To 14+02.47	Rt.	12	96	160 L.F.
		35		

Railing panels shall be so constructed that "horizontal" elements are parallel with finished center line grade, and all vertical elements are truly vertical.

1'-0" * Panel Length shown = 7'-0" on +6.60 % grade

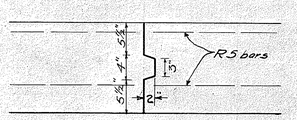


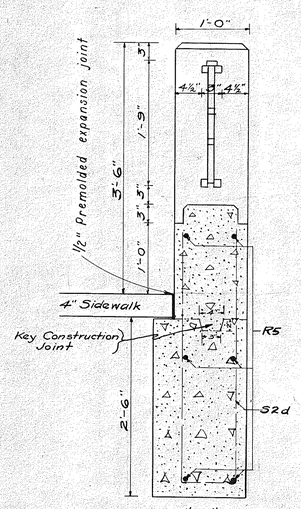
* Railing panel lengths given are horizontal measurements.

RAILING PANEL ELEVATION

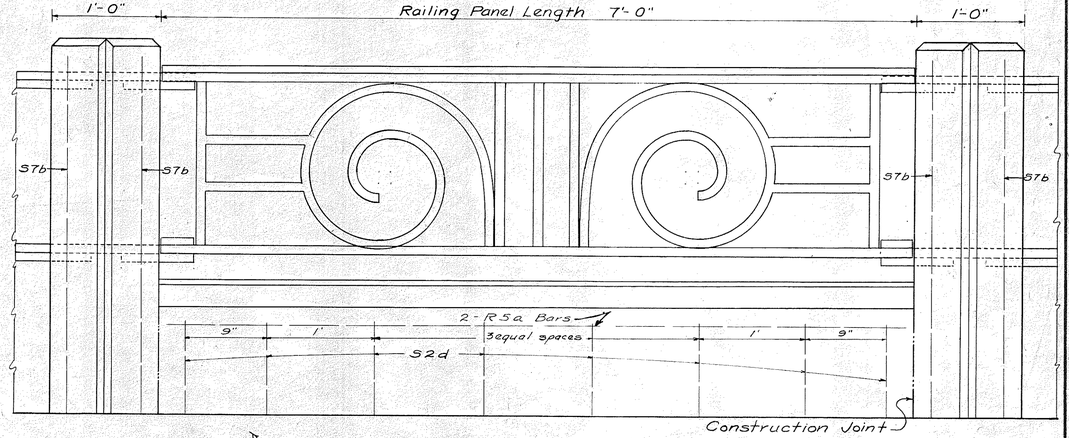
Note:- For fabrication details of Railing Panels, Railing Anchor Connections and other details not shown see Bridge Railing Details Sheet No. 37

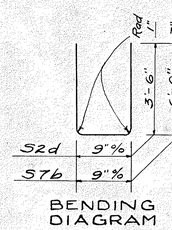
(K) KEY JOINT without tie bars





SECTION A-A





BENDING DIAGRAM

REINFORCING STEEL				
Mark	Size	No.	Length	Lbs.
R5a	¾" ϕ	30	6'-9"	304
R5b	¾" ϕ	16	23'-9"	571
R5c	¾" ϕ	4	7'-9"	47
R5d	¾" ϕ	4	15'-9"	95
S2d	½" ϕ	120	7'-6"	601
S7b	1" ϕ	30	12'-3"	982
		TOTAL		*2600

* U-338(2)

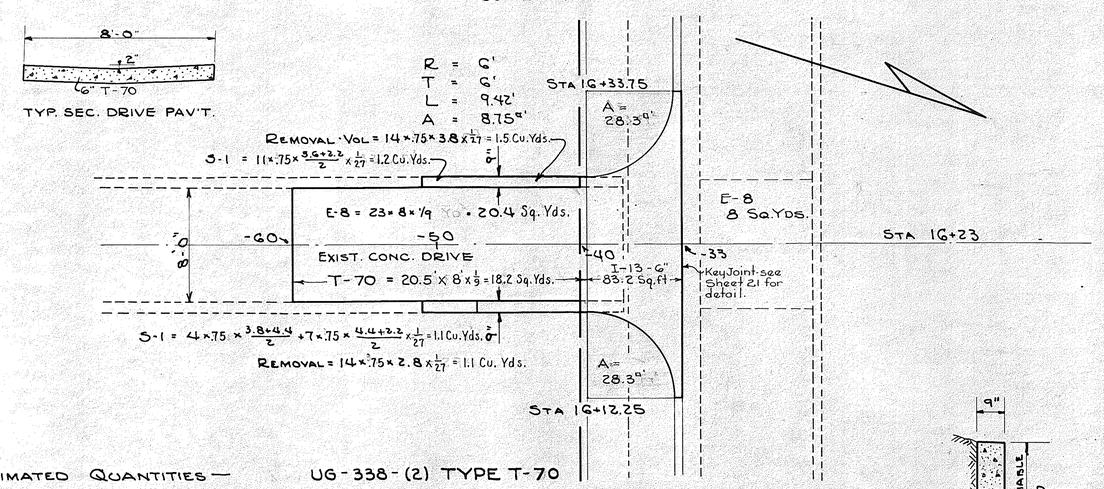
REINFORCING STEEL				
Mark	Size	No.	Length	Lbs.
R5a	¾ ϕ	40	6'-9"	406
R5b	¾ ϕ	24	23'-9"	857
R5d	¾ ϕ	4	15'-9"	95
S2d	½ ϕ	160	7'-6"	802
S7b	1 ϕ	40	12'-3"	1310
TOTAL				@3470

@ U.G-338(2)

Construction Joint at each end of all panels shall be painted with hot parafine to insure complete separation.

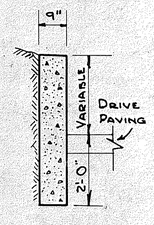
DRIVE - STA 16+23 LT

SCALE 1" = 5'



ESTIMATED QUANTITIES — UG-338-(2) TYPE T-70

ITEM	E-8	REMOVAL & DISPOSAL OF EXISTING PAV'T. = 20.4 + 8 =	28.4 Sq.Yds.
ITEM	S-22	REMOVAL OF PORTIONS OF EXISTING STRUCTURES = 1.1 + 1.5 =	2.6 Cu.Yds.
ITEM	T-70	6" PORTLAND CONC. CEMENT PAVE. = 18.2 Sq. Yds. Use	18 Sq. Yds.
ITEM	I-13	4" CONCRETE SIDEWALK 28.3 + 28.3 = 56.6 SQ.FT.	
ITEM	S-1	CONCRETE FOR STRUCTURES = 1.2 + 1.1 =	2.3 Cu.Yds.
ITEM	E-1	EXCAVATION (UNCLASSIFIED) = 5 Cu.Yds (ESTIMATED)	(To Cross Sections)
ITEM	I-13	6" CONCRETE SIDEWALK 83.2 SQ.FT.	



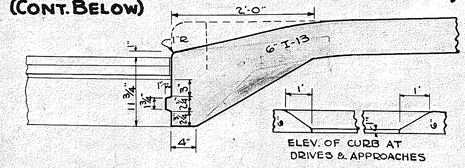
TYPICAL SECTION RETAINING WALL

ITEM I-4 4" PIPE UNDERDRAINS TO CONNECT CURB DRAINS ACROSS DRIVES AND APPROACHES

	STATION FROM	STATION TO	SIDE	LIN. FT.		
DRIVE	3+0	3+16	LT	16		
DRIVE	3+24	3+59	RT	35		
DRIVE	4+37	4+62	RT	25		
APPROACH	0+68 S	1+00 S	3RD ST	32	TOTAL	U-338(2)
APPROACH	15+65	16+11	RT	46	108	
DRIVE	16+23		LT	22		
FRANCIS PL.	16+81		LT	66		
DRIVE	17+44		RT	22	TOTAL	U.G-338(2)
APPROACH	17+52	17+90.5	LT	39	195	
GRAND TOTAL				303		

NOTE: POROUS BACKFILL TO BE SAME MATERIAL AND SAME DEPTH AS IN CURB DRAINS.

DETAIL OF KEY JOINT AT STA. 0+85 (3RD ST. S); STA. 15+65 TO 16+11 RT; STA. 16+23 LT; STA. 17+44 RT; STA. 17+52 TO 17+90.5 LT; (CONT. BELOW)



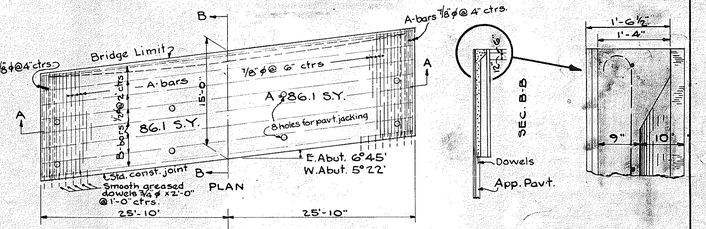
NOTE:
Thickened edge shall be paid for under Item I-13 6" Conc. Sidewalk and shall include necessary excavation, material, labor and equipment.

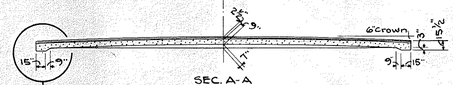
STA. 0+53 TO 1+0 (3RD ST. S); STA. 3+0 TO 3+16 LT; STA. 3+24 TO 3+59 RT; STA. 4+37 TO 4+62 RT.

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
2	OHIO	UG-U-338(2)	1946

21/42

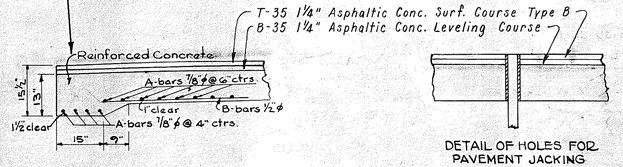
STARK COUNTY
S.H. 69 SEC. MASSILLON (PT.)





APPROACH SLAB AT EAST ABUTMENT
STA. 5+57.38 TO 5+72.38
APPROACH SLAB AT WEST ABUTMENT
STA. 12+58.71 TO 12+73.71

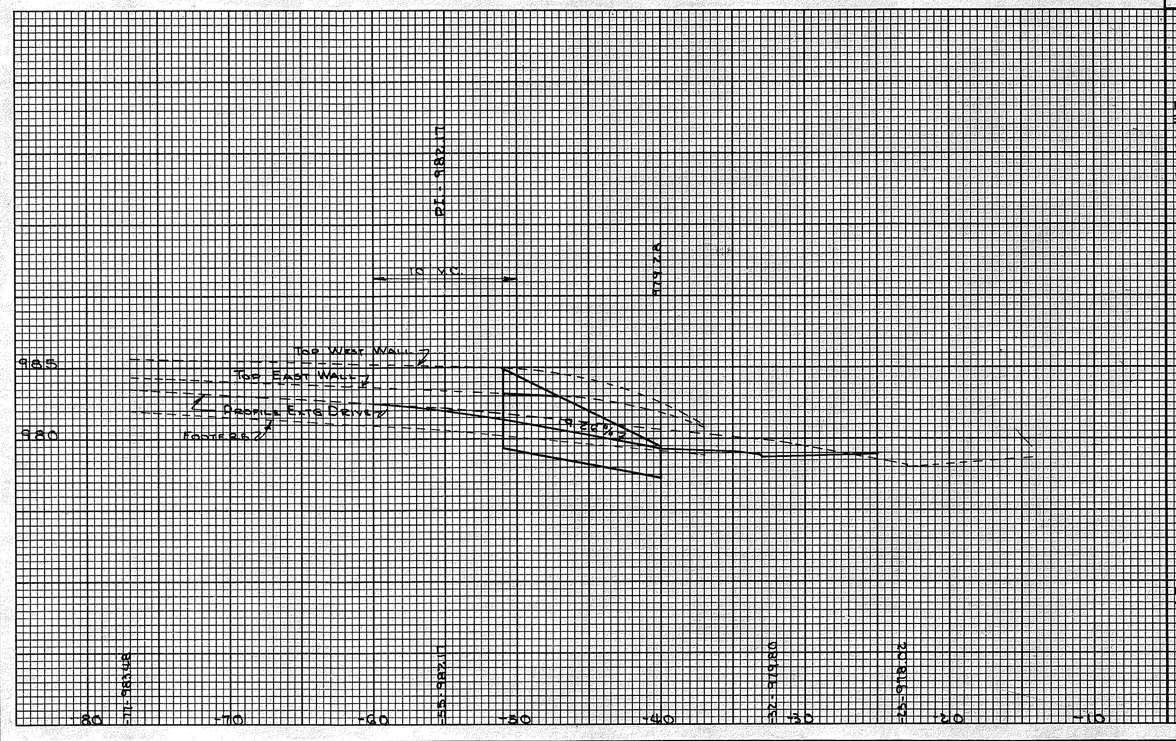
NOTE: For details not shown, refer to Std. Drwg. No. AS-44-S. T-35 for surface course included on sheet 19.



DETAIL OF HOLES FOR PAVEMENT JACKING

NOTE: QUANTITIES CARRIED TO SHEET 19

APPROACH SLABS
TWO REQUIRED = 172.2 S.Y.
Scale 1" = 10'



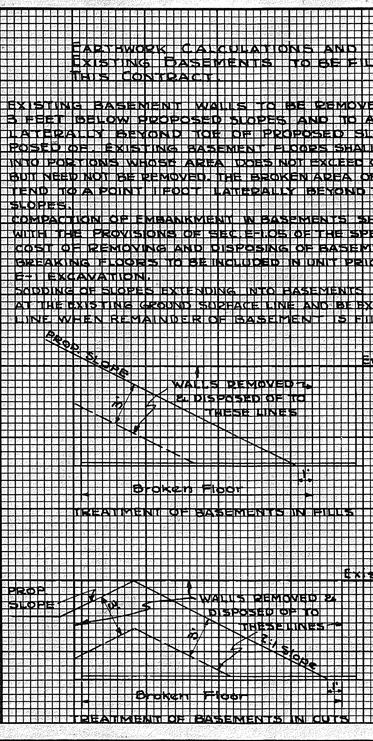
EARTHWORK CALCULATIONS AND NOTES FOR EXISTING BASEMENTS TO BE FILLED UNDER THIS CONTRACT.

EXISTING BASEMENT WALLS TO BE REMOVED TO A POINT 3 FEET BELOW PROPOSED SLOPES, AND TO A POINT 1 FOOT LATERALLY BEYOND TOE OF PROPOSED SLOPES AND DISPOSED OF. EXISTING BASEMENT FLOORS SHALL BE BROKEN UP INTO PORTIONS WHOSE AREA DOES NOT EXCEED ONE SQUARE FOOT, BUT NEED NOT BE REMOVED. THE BROKEN AREA OF FLOOR SHALL EXTEND TO A POINT 1 FOOT LATERALLY BEYOND TOE OF PROPOSED SLOPES.

COMPACTION OF EMBANKMENT IN BASEMENTS SHALL CONFORM WITH THE PROVISIONS OF SEC. E-105 OF THE SPECIFICATIONS.

COST OF REMOVING AND DISPOSING OF BASEMENT WALLS AND BREAKING FLOORS TO BE INCLUDED IN UNIT PRICE BID FOR ITEM E-1 EXCAVATION.

SODDING OF SLOPES EXTENDING INTO BASEMENTS SHALL TERMINATE AT THE EXISTING GROUND SURFACE LINE AND BE EXTENDED TO THE 10' LINE WHEN REMAINDER OF BASEMENT IS FILLED BY THE M.C.D.



	LEFT EMBANK E.A. C.Y.	LEFT DEDUCT FROM EXCAVATION SECT. E.A. C.Y.		RIGHT EMBANK E.A. C.Y.	RIGHT DEDUCT FROM EXCAVATION SECT. E.A. C.Y.
5+0	107		4+77	89	
	184			245	
5+40	151	0	5+40	174	0
	145	8		130	4
5+12.38	98	14	5+12.38	92	11
	46	5		6	5
5+85	98		5+30	95	9
				88	5
5+90	0	0	6+10		0
			6+15	95	
0+55.50 (U-338(2)) TOTAL	585	15	TOTAL	527	17
			12+30	109	78
				121	41
			12+60	169	78
			13+30	246	
				182	
			13+80	246	
			13+83	75	
				78	
			4+11	75	
			TOTAL	981	31

NOTE:
BASEMENTS SHOWN WITH DOTTED LINES ON CROSS SECTIONS AND WITH ENCIRCLED END AREAS, THUS (69)

RECAP:

	DEDUCT FROM EXCAVATION SECT.
EMBANK (U-338(2))	(U-338(2))
585 + 527 = 910 C.Y.*	31 + 17 = 25 C.Y.*
U.G-338(2) 581 C.Y.*	U.G-338(2) 48 C.Y.*

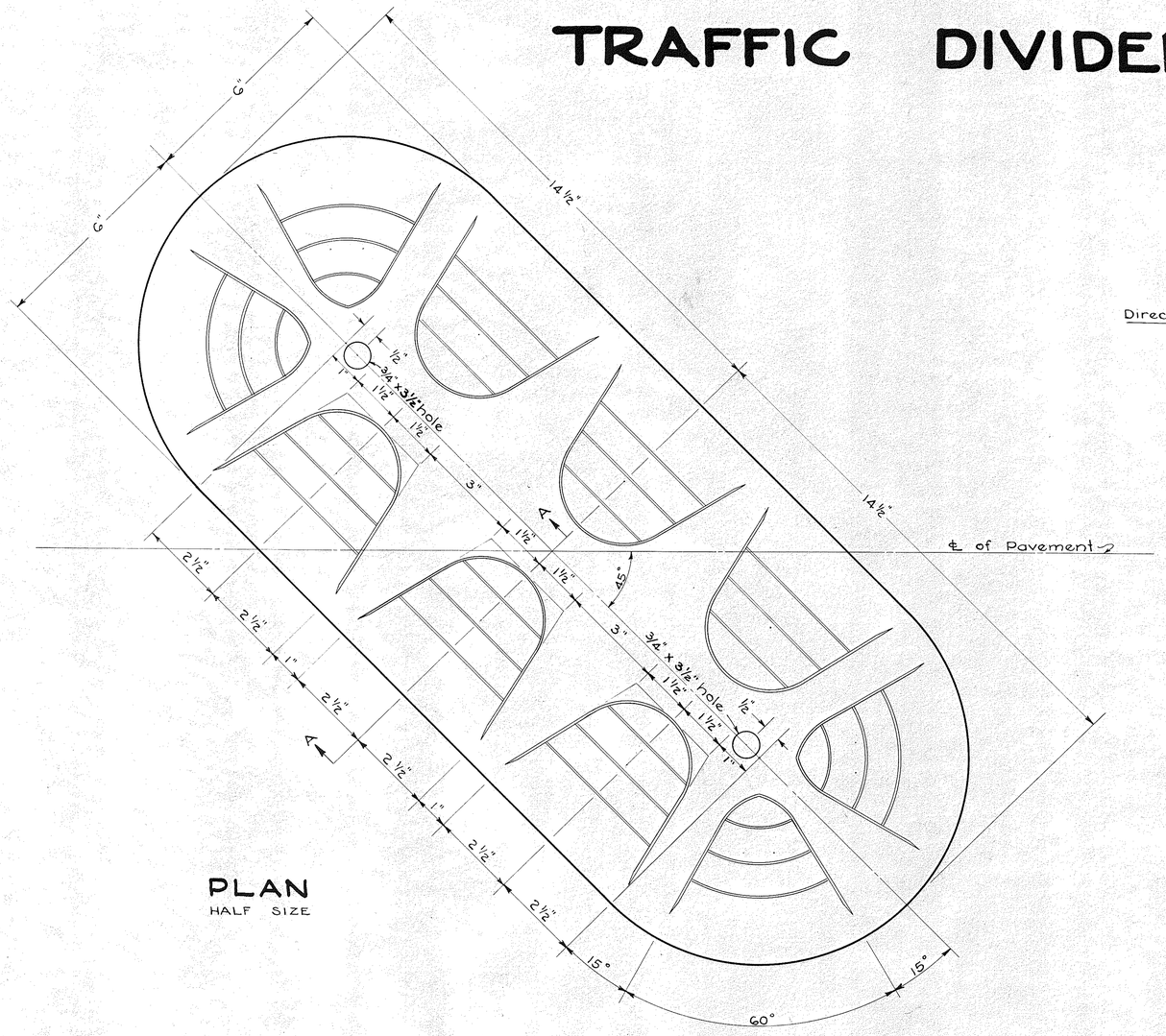
* COUNTED TO Earthwork Totals Sheet 22

DRIVE STA. 16+23 LT; APPROACH SLABS; DETAILS

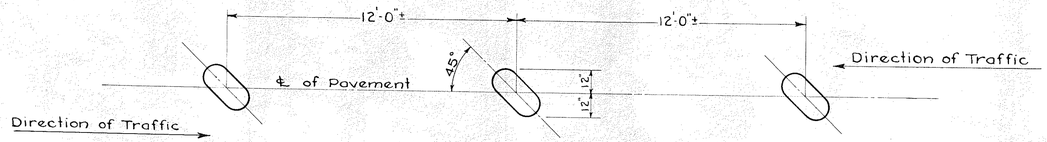
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	21A 42
2	OHIO	UG-U 338 (2)	1946	

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)

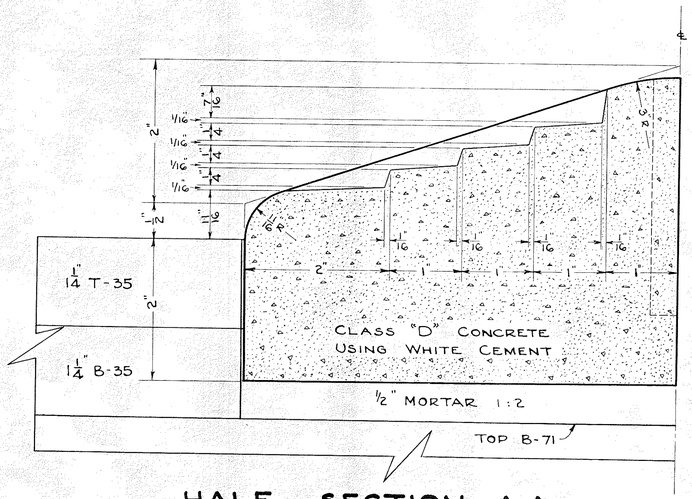
SPECIAL PRECAST CONCRETE TRAFFIC DIVIDERS ~ TYPE 6



PLAN
HALF SIZE



LOCATION PLAN



HALF SECTION A-A
FULL SIZE

Precast Concrete Traffic Dividers shall be manufactured in accordance with the following requirements:

The units shall be precast.

The cement shall be White Portland Cement, meeting the requirements of Sec. M-1.1 of Item M-1 adopted March 23, 1945. It shall, in addition, be manufactured to conform to the whiteness of Atlas or Medusa brands of White Portland Cement.

The fine and course aggregates shall, in addition to meeting the requirements of their respective Material Details, be of such a light color that a small specimen made with these aggregates and white Cement, and cured for three (3) days, shall be by visual inspection, as white as the specimen which is available for comparison at the laboratory.

The forms used shall be coated with a non-staining material which will permit their removal without adherence of the concrete. The concrete in the moulds shall be consolidated by vibratory methods.

After the Traffic Dividers are set in the pavement, the ¾" holes shall be filled to within ¾" of the surface with dry sand and sealed with Bituminous Material, Sec. M-5.1 A-1.

To facilitate finishing the B & T-35 pavement it is suggested that milled wood blocks the shape of the Precast Traffic Dividers, 1¼" thick and with sufficient draft to permit removal, be held accurately in place until both courses are compacted sufficiently to permit withdrawal of the blocks without damage to the B or T-35 pavement.

The Precast Dividers shall then be set and leveled on ½" of 1:2 mortar and the space around the Dividers carefully and completely filled with the same bituminous material used in the mix.

The unit price bid for each Precast Concrete Divider shall include all material and labor necessary for installation in place as shown.

DETAILS - PRECAST CONCRETE TRAFFIC DIVIDERS

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U338(2)	1946 1946

22
42

S.H. 69 - SEC. MASSILLON (PT.)
STARK COUNTY

E. Abut. and Piers 1, 2, 3, 4, 5 are skewed 6°-45', also Proposed Channel. West Abut. and Piers 6, 7, 8 are skewed 5°-22', also B.&O. tracks.

SOUNDINGS:

The estimated average piling lengths shown on these plans and used as a basis for the approximate estimate have been chosen as the result of a few rod soundings made at the site. This information is available to bidders, but the contractor shall assume responsibility for lengths of piling selected for driving.

(To be removed)
PRESENT STRUCTURE:- BR. Nº ST.-30-63
3-Stone Arches; 40'-0" Clear Span X 32'-0" Wide Extended to the South with Steel Pratt Truss for roadway width of 46'-1" curb to curb with 7'-6" Plank walk on North and 8'-0" Concrete walk on South. Stone and Concrete Piers and Abutments.

NOTE:
Fed. Aid Proj. U-338 (3) 1946 extends East of ℄ of Pier 4.
Fed. Aid Proj. UG-338(2) 1946 extends West of ℄ of Pier 4.

SITE PLAN (SHEET 1 OF 2)
GRADE CROSSING ELIMINATION AND
BR. Nº. ST.-30-63
OVER TUSCARAWAS RIVER AND
PENNA. R.R.; W&L.E.R.R. & B&O.R.R.
S.H. 69 - SEC.-MASSILLON (PT.)
STARK COUNTY
STATE OF OHIO
SCALE 1" = 20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
R.T. & E.H.	W.S.	RLK	RLK	C.L.A.	W.H. 6-8-43

BR. Nº ST-30-63 SITE PLAN

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	
2	OHIO	UG-U 338 (2)	1946 / 1946	23 / 42

S.H. 69 - SEC. MASSILLON (PT.)
STARK COUNTY

PROPOSED STRUCTURE

Type - Continuous steel beam and girder bridge with concrete floor and substructure.
Spans - Girder unit - 80', 100', 100', 80' c to c bearings
Beam unit 68'-10", 58'-5½", 68'-6", 68'-6" 55'-0" c. to c. bearings.
Roadway - 52' plus two 6'-0" sidewalks
Loading - S-20-40
Skew - 6°-45' for E. abut., piers 1,2,3,4,5 and proposed channel.
- 5°-22' R.F. for W. abut., piers 6,7,8, and B.&O. tracks.
Surface course - 2½" Bituminous.
Approach slabs - 15' long.

SITE PLAN (SHEET 2 OF 2)
GRADE CROSSING ELIMINATION AND
BR. Nº ST-30-63
OVER TUSCARAWAS RIVER AND
PENNA. R.R.; W.&L.E.R.R. & B.&O.R.R.
S.H. 69 - SEC. MASSILLON (PT.)
STARK COUNTY
STATE OF OHIO
SCALE 1" = 20' UG 338 (2)

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
RT. & E.H.	W.S.	RLK & D.H.O.	RLK	C.H.H.	[illegible]

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET
2	OHIO	UG-U 338-2	1946	24 / 42

STARK COUNTY
S.H. 69 SEC. Massillon (Pt.)

ESTIMATED QUANTITIES (U-338 (2) AND UG-338 (2))

Item	Description	E. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	W. Abut.	Superstruc.	General	Total
E-2	Cofferdams and pumping												Lump	Lump Sum
E-2	Excavation for structures, dry	1470	580			850	260	260	170	230	580			4,400 Cu. Yds.
E-2	Excavation for structures, wet	370	120	320	320	430								1,560 Cu. Yds.
S-1	Class "C" concrete, superstructure											1,020		1,020 Cu. Yds.
S-1	Class "E" concrete, walls	451	159	436	460	270	169	167	150	143	415			2,820 Cu. Yds.
S-1	Class "E" concrete, footings	260	95	153	153	143	89	89	89	89	200			1,360 Cu. Yds.
S-3	Type "B" waterproofing	50									50			100 Sq. Yds.
S-203	Waterproofing for bridge deck											3,950		3,950 Sq. Yds.
S-4	Reinforcing steel	44,380	16,640	15,800	16,540	22,880	11,900	11,900	11,000	10,530	37,500	267,700	270	467,040 Lbs.
S-7	Structural steel											1,625,000		1,625,000 Lbs.
S-8	Field painting of structural steel (3 coats)											1,625,000		1,625,000 Lbs.
S-9	Folded copper strip	46									40			86 Lin. Ft.
S-14	Bridge railing (steel panels with concrete posts).	77.5									79.9	1293.6		1451 Lin. Ft.
S-14	Pipe railing on stairways										180			180 Lin. Ft.
S-16	First test pile												Lump	Lump Sum
S-19	First test load												Lump	Lump Sum
S-19	Subsequent test load												Lump	Lump Sum
S-19	Reinforced concrete piling, 12" cast in place			1,800	1,400	4,100								7,300 Lin. Ft.
S-25	Bridge lighting system												Lump	Lump Sum
S-29	Porous backfill	180									180			360 Cu. Yds.
S-29	6" pipe, including fittings and supports, as per plan												230	230 Lin. Ft.
S-29	Cast iron scuppers (2 piece)											12		12 Units
T-35	Asphaltic concrete, Type, same as approaches.											273		273 Cu. Yds.
S-29	8" Galvanized corrugated metal pipe. Sec. M-6.4(a) b-3, b-4 or b-5												350	350 Lin. Ft.
S-24	Removal of existing structure, as per plan												Lump	Lump Sum

NOTE:- See Sheet No. 24A for division of estimated quantities for Federal Aid Projects U-338 (2) and UG-338 (2).

PAINTING OF STEEL RAILING AND LAMP STANDARDS:- Paint for shop coat shall meet the provisions of Sec. M-9.9, Sec. M-9.20 or Sec. M-9.21. The first field coat shall be the same as the shop coat. The second and third field coat shall be tinted to match color chart to be furnished by Chief Engineer of Bridges.

GENERAL NOTES

SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS S-203, dated 4/6/45, M-102.12 dated 8/2/43, AS-44-S dated 4/2/45, and CSB-15-40 sheets 1 & 2, revised 10/1/40, form part of this set of plans.

REMOVAL OF EXISTING STRUCTURE: See General Note on Sheet 24A for details of removal.

WELDING:- All welding shall be Class "A".

PAINTING OF STRUCTURAL STEEL Paint for shop coat shall meet the provisions of Sec. M-9.9, Sec. M-9.20, or Sec. M-9.21. The first field coat shall be the same as the shop coat. The second and third field coat shall be aluminum paint as per Sec. M-9.12.

FIELD OFFICE:- The contractor shall provide a field office for the exclusive use of engineers and inspectors, as described under "Structures (General)" in the Specifications. It shall have a floor area of at least 150 sq. ft. Payment shall be considered to be included in the contract price bid for the various items.

PILING shall be driven to a minimum bearing capacity of 35 tons.

VIBRATION:- All concrete shall be mechanically vibrated.

RIVETS shall be $\frac{7}{8}$"φ.

SLAB DRAINS:- Drains shall be placed through the roadway slabs as per Sec. S-29.07 and as shown on "Typical Half Cross Sections."

ERECTION NOTE Thoroughly pin, bolt, and rivet bottom flange splice at Pier 5. Next, the end of the beam at Pier 6 shall be raised and supported during the completion of the top flange splice at Pier 5. In like manner the end of the beam at Piers 7 and 8 shall be raised before completing the top flange splice at the preceding pier. Finally, the end of the beam at the West Abutment shall be raised before completing the top flange splice at Pier 8.

The erection procedure outlined above assumes that the contractor will elect to begin erection at Pier 4.

The contractor shall complete the construction of piers numbered 4 and 5 as promptly as possible after removal of necessary parts of the old structure. (See special clauses in the proposal relative to the contractors use of existing grade crossings and his obligations to protect railroad traffic.) It is anticipated that construction of a section of the improvement of the Penna. R.R. main tracks will be deferred pending their removal (by the War Departments contractor, following which that section and the entire improvement shall be completed as promptly as possible to restore traffic to Lincoln Way.

ERECTION NOTE continued:- See table below for amount of raising of beams at piers and abutment:

Beam Location	Pier 6	Pier 7	Pier 8	W. Abut.
Fascia Beams	$2\frac{3}{8}$"	$2\frac{3}{8}$"	$2\frac{1}{2}$"	$1\frac{3}{8}$"
Curb Beams	$1\frac{1}{2}$"	$1\frac{5}{8}$"	$1\frac{5}{8}$"	1"
Roadway Beams	$1\frac{1}{4}$"	$1\frac{3}{8}$"	$1\frac{3}{8}$"	$\frac{3}{4}$"

R.R. CONSTRUCTION CLEARANCES:- Minimum construction clearances shall be 18'-0" vertically above the top of main tracks of the B. & O. R.R. and W. & L.E. R.R., and 19'-0" above top of main track of the Penna. R.R., and 16'-0" above top of Penna. Co. service track, and 8'-0" horizontally from the center line of all tracks.

STEEL SHEET PILING:- Before excavating for pier footings for Piers 4 and 5, steel sheet piling shall be driven as sheeting for this excavation, and as the excavation progresses this sheeting shall be thoroughly braced in a manner satisfactory to the Chief Engineer of the Railroad Company, so as to absolutely guarantee the safety of rail traffic at all times. This sheeting shall be included with "Excavation for Structures" for payment.

UNIT STRESSES for concrete and steel design as per "Specifications for Design of Highway Structures" ~ July 1940.

PILING (Continued)
Because of the possibility of scour at Piers No. 2 and No. 3 the piles should preferably be driven to a minimum penetration of 20 ft. Drive rod tests indicate that the contractor may experience some difficulty in reaching a 20 ft. penetration at the north end of Pier No. 2 and under Pier No. 3.
Drive rod tests also indicate that for Pier No. 2 piling lengths may vary from 20 ft. at the north end to 32 ft. at the south.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GENERAL PLAN AND ELEVATION NOTES AND ESTIMATED QUANTITIES
BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND PENNA. R.R., W. & L.E. R.R., AND B. & O. R.R.
STARK COUNTY S.H. 69
SECTION MASSILLON (PT.) STA. 9+15.54
UG-U-338 (2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	J.E.P.	[illegible]	W.H.R.	6-8-43	12-15-44, 12-17-45, 6-25-46

3

FED. RD DIV. NO	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U 338(2)	1946

24A
42

STARK COUNTY
S. H. 69 SEC. Massillon (Pt.)

ESTIMATED QUANTITIES

FEDERAL AID PROJECT U-338(2)

ITEM	TOTAL	UNIT	DESCRIPTION	E. ABUT.	PIER 1	PIER 2	PIER 3	½ PIER 4	SUPERSTR.	GENERAL	SUB-TOTAL
E-2	Lump	Sum	Cofferdams and pumping								Lump
E-2	4,400	Cu. Yd.	Excavation for structures, dry	1,470	580			425			2,475
E-2	1,560	Cu. Yd.	Excavation for structures, wet	370	120	320	320	215			1,345
S-1	1,020	Cu. Yd.	Class "C" concrete, superstructure						540		
S-1	2,820	Cu. Yd.	Class "E" concrete, walls.	451	159	436	460	135			1,641
S-1	1,360	Cu. Yd.	Class "E" concrete, footings	260	95	153	153	71.5			732.5
S-3	100	Sq. Yd.	Type "B" waterproofing	50							50
S-203	3,950	Sq. Yd.	Waterproofing for bridge deck						2,090		2,090
S-4	467,040	Lb.	Reinforcing steel	44,380	16,640	15,800	16,540	11,440	142,000	140	246,940
S-7	1,625,000	Lb.	Structural steel						913,000		913,000
S-8	1,625,000	Lb.	Field painting of structural steel (3 coats)						913,000		913,000
S-9	86	Lin. Ft.	Folded copper strip	46							46
S-14	1,451	Lin. Ft.	Bridge railing (steel panels with concrete posts)	77.5					693.6		771.1
S-14	180	Lin. Ft.	Pipe railing on stairways								
S-16	Lump	Sum	First test pile							Lump	Lump
S-19	Lump	Sum	First test load							Lump	Lump
S-19	Lump	Sum	Subsequent test load							Lump	Lump
S-19	7,300	Lin. Ft.	Reinforced concrete piling, 12" cast in place.			1,800	1,400	2,050			5,250
S-25	Lump	Sum	Bridge lighting system							Lump	Lump
S-29	360	Cu. Yd.	Porous backfill	180							180
S-29	230	Lin. Ft.	6" pipe, including fittings and supports, as per plan							90	90
S-29	12	Unit	Cast iron scuppers (2 piece)						6		6
T-35	273	Cu. Yd.	Asphaltic concrete, Type same as approaches						145		145
S-29	350	Lin. Ft.	8" Galvanized corrugated metal pipe. Sec. M-6.4(a) b-3, b-4 or b-5.							120	120
S-24	Lump	Sum	Removal of existing structure, as per plan							Lump	Lump

FEDERAL AID PROJECT UG-338(2)

½ PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	W. ABUT.	SUPERSTR.	GENERAL	SUB-TOTAL
								Lump
425	260	260	170	230	580			1925
215								215
						480		480
135	169	167	150	143	415			1,179
71.5	89	89	89	89	200			627.5
					50			50
						1,860		1,860
11,440	11,900	11,900	11,000	10,530	37,500	125,700	130	220,100
						712,000		712,000
						712,000		712,000
					40			40
					79.9	600		679.9
					180			180
							Lump	Lump
							Lump	Lump
							Lump	Lump
2,050								2050
							Lump	Lump
					180			180
							140	140
						6		6
						128		128
							230	230
							Lump	Lump

See sheet (38) for P.R.R. force account work.
See sheet (41) for B&O.R.R. force account work.
See sheet (41) for W.&L.E.R.R. force account work.

REMOVAL OF EXISTING STRUCTURE:-
The contractor shall remove the existing stone arch bridge including stone masonry, fill etc., to spring line of arches and such portions of west abutment and east pier as necessary for construction of new piers, and the existing structural steel shall be removed to top of cylindrical steel piers.
The stone from old bridge shall be stock piled, for future use of the Government, between Fourth St. N.W. and toe of Penna. R.R. slope and between Water St. N.W. and Sippo Creek West. The steel from the old bridge shall become the property of the contractor, as part payment for its removal, and shall be removed from the site by him.

Wheeling & Lake Erie Railway Co. Force Account
- Construction Engineering
- Rearranging Tracks
- Temporary Bridge Warning Signs
- Signal Work
- Highway Crossing Gates

Pennsylvania R.R.Co. Force Account
- Construction Engineering
- Bridge Warnings, Permanent Work
- Bridge Warnings, Temporary Work
- T & T Lines, Temporary Work
- Removing Temporary Bridge Warnings

Baltimore & Ohio R.R.Co. Force Account
- Construction Engineering
- Rearranging Tracks
- Removing Structures
- Signals and Telegraph

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

ESTIMATED QUANTITIES
BRIDGE No. ST-30-63
OVER TUSCARAWAS RIVER AND PENNA. R.R., W.&L.E.R.R., AND B.&O.R.R.
STARK COUNTY S.H. 69
SEC. MASSILLON (Pt) STA 9+15.54
UG-U 338(2)

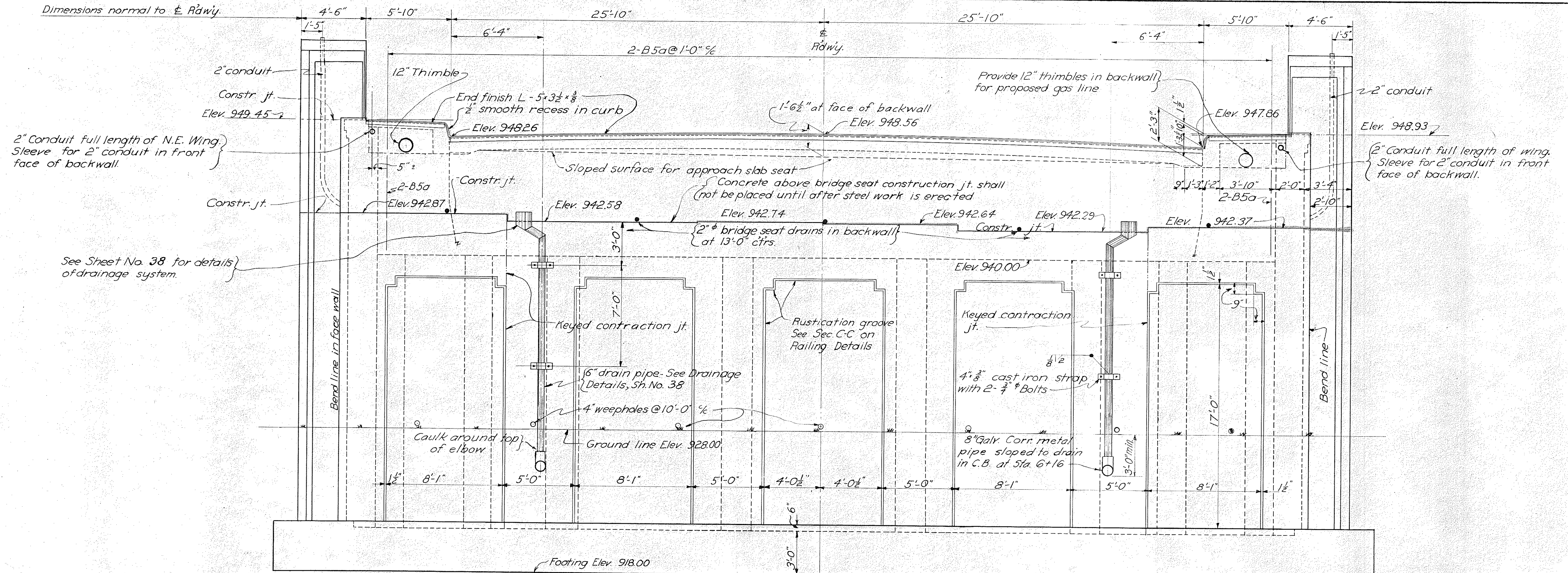
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	K.E.D.				6-25-46

3A

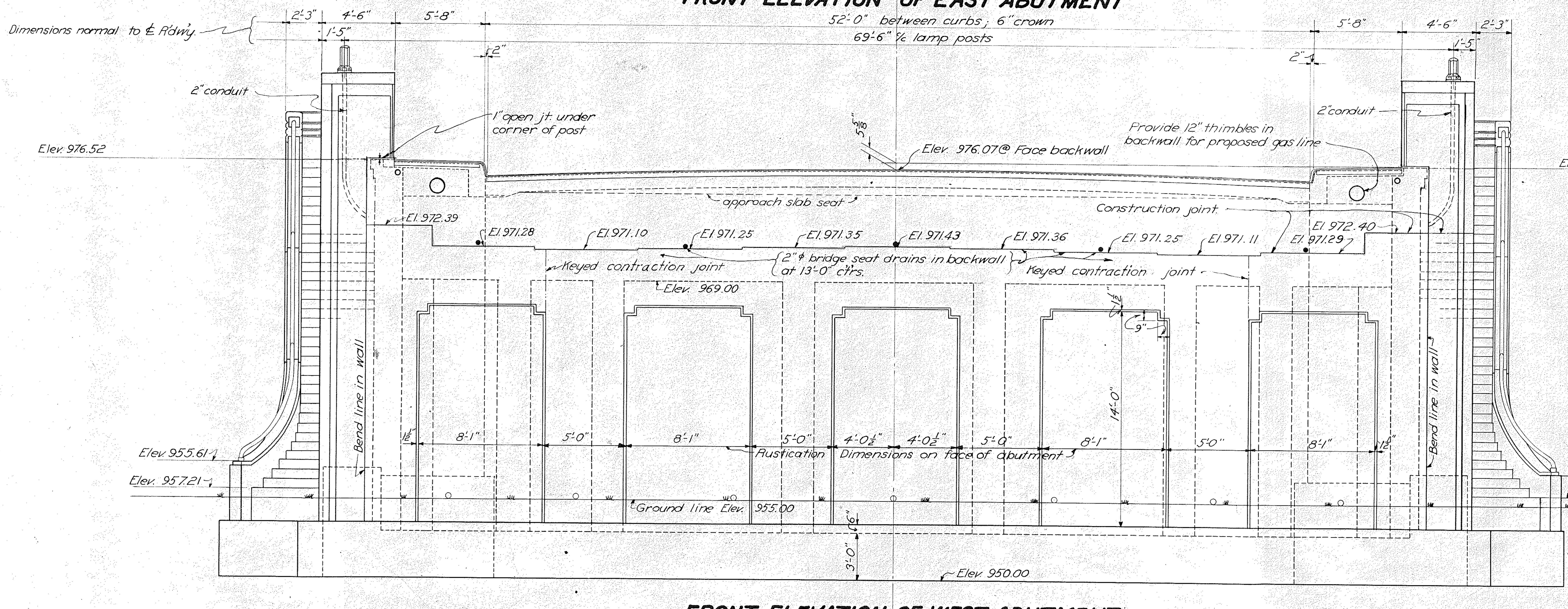
FED. RD. DIV. NO. 2
STATE OHIO
FED. AID PROJECT UG-U 338(2)
FISCAL YEAR 1946
25
42
STARK COUNTY
S.H. 69 SEC. MASSILLON (PT.)
PLAN
VIEW C-C
SECTION A-A
SECTION B-B
NORTH ELEVATION
South Elevation details are similar
SECTION E-E
SECTION F-F
SECTION D-D
DETAIL OF CONTRACTION JOINTS
12" ~ 24 OZ. FOLDED COPPER CONTRACTION STRIP ~
12"-24 oz. folded copper contraction strip.
1¼" holes @ 3" ctrs.
See Sheet No. 37 for details of Steel Railing Panels.
Railing anchors
Rust grooves on 8" approx. ctrs. see Sh. 37
Rustication grooves, see Sec. C-C, Sheet No. 37
2:1 Embankment slope
Keyed construction joint
End Approach Slab
Edge of footing
Curb Line
½" Prem. Exp. Jt. Filler
Constr. Jt. in sidewalk
Keyed construction joint
6" pipe drain
Flare 13-F5g in bottom of footing
Flare 15-F5g in bottom of footing
2½" Asphaltic concrete surface course, Item T-35, laid in two 1¼" courses.
See Std. drawing A3-44-S approach slab details not shown.
Top porous backfill
Type "B" waterproofing 36" wide.
1½"×1" Drainage groove full length of bridge seat, draining through 2" Ø drains in backwall. See Front Elev. for location of 2" Ø drains.
2'-0" porous backfill
4" weepholes
Center on contraction joints.
Elev. 944.25 for all wall counterforts.
Elev. 930.0 at end of wall. Slope to 928.0 at breastwall
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
EAST ABUTMENT PLAN
BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND PENNA. R.R., W.&L.E. RR. AND B.&O. R.R.
STARK CO. S.H. 69
SEC. MASSILLON (PT.) STA. 9+15.54
U-338(2)
DESIGNED K.E.B.
DRAWN K.E.B.
TRACED mue.
CHECKED H.H.R. E.E.D.
REVIEWED R.C.Q. W.H.R.
DATE 6-8-43
REVISED 12-15-44 12-17-45 6-25-46

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	
2	OHIO	UG-U 338(2)	1946	26 / 42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT.)



FRONT ELEVATION OF EAST ABUTMENT



FRONT ELEVATION OF WEST ABUTMENT

Normal to ℄ Roadway

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

ABUTMENT ELEVATIONS

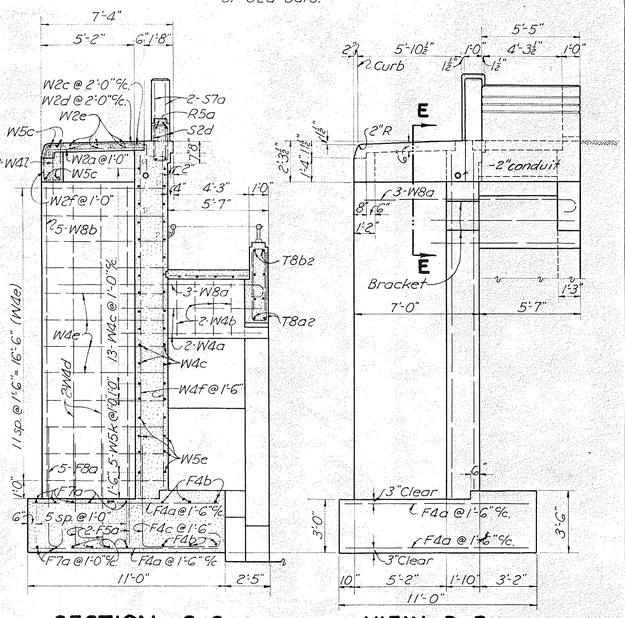
BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND
PENNA. RR., W. & L.E. RR. AND B.& O. RR.

STARK COUNTY SEC. MASSILLON (PT.) — UG-338 (2) — SH. 69 STA. 9+15.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	A	H.J.K.	W.H.B.	6-8-43	12-15-44 6-25-46

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	27
2	OHIO	UG-U 338(2)	1946	42

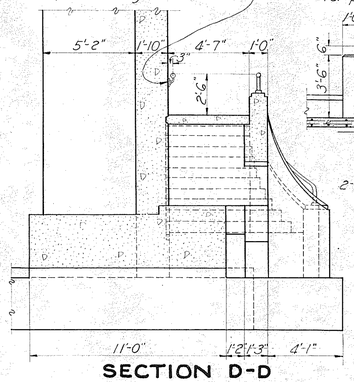
STARK COUNTY
S. H. 69 SEC. MASSILLON (Pr)



SECTION C-C

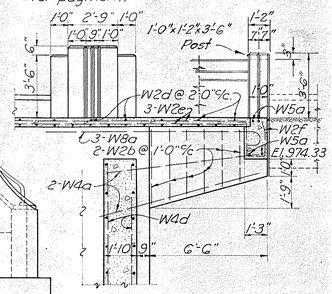
VIEW B-B

Hand rail brackets, malleable iron. Fasten to wall at 4'-0" %. with 2-⅞"ϕ expansion bolts with lead sleeves. Plug end of pipe rail with ½"ϕ Pl. welded in place and ground smooth.



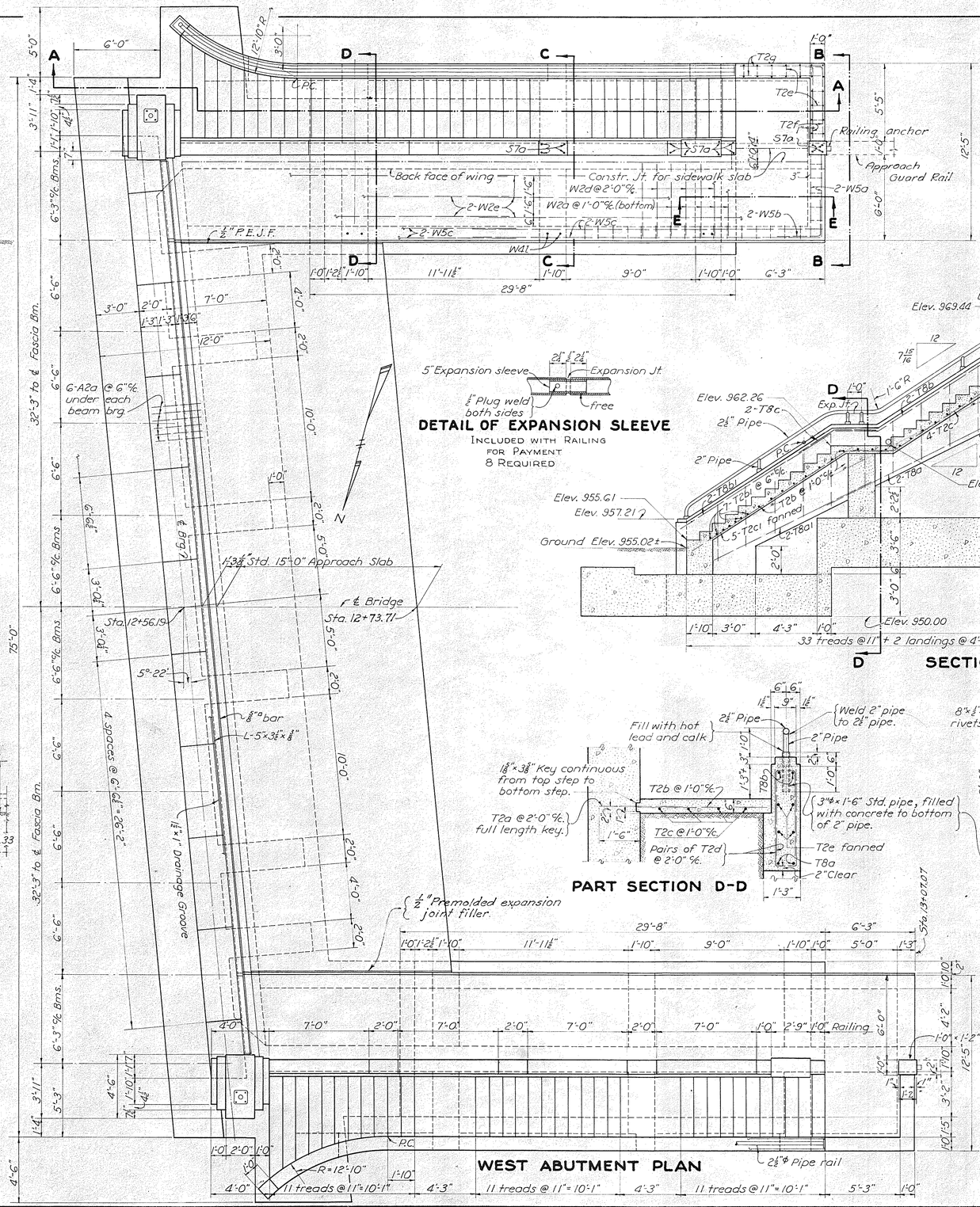
SECTION D-D

Top of all stairway brackets to be given one coat of Type "A" waterproofing. Included in concrete for payment.



SECTION E-E

Place 12"x12" openings through wing counterforts at top of footing with 2'-0" thickness of porous backfill extending from top of wing footing to bottom of sidewalk slab.



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

WEST ABUTMENT PLAN & STAIRWAY

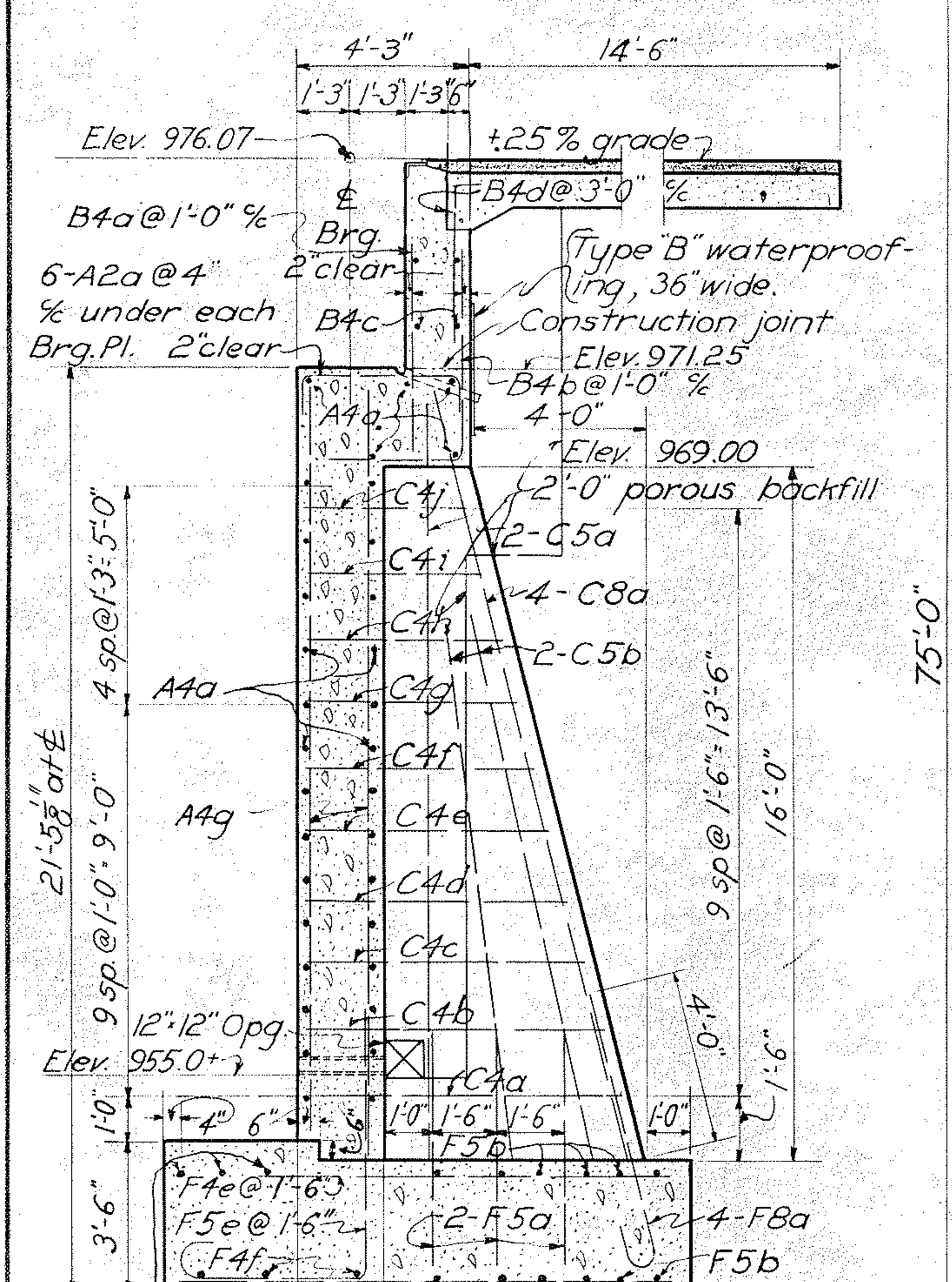
BRIDGE NO. ST-30-G3
OVER TUSCARAWAS RIVER AND
PENNA. R.R., W. & L.E. R.R. AND B.&O. R.R

STARK COUNTY — S.H. 69
SEC. MASSILLON (PT.) — STA. 9+15.54
UG-338(2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.C.D.	K.C.D.	G.S.	C.F.W.	W.H.C.	6-8-43	12-15-44 12-17-45 6-25-46

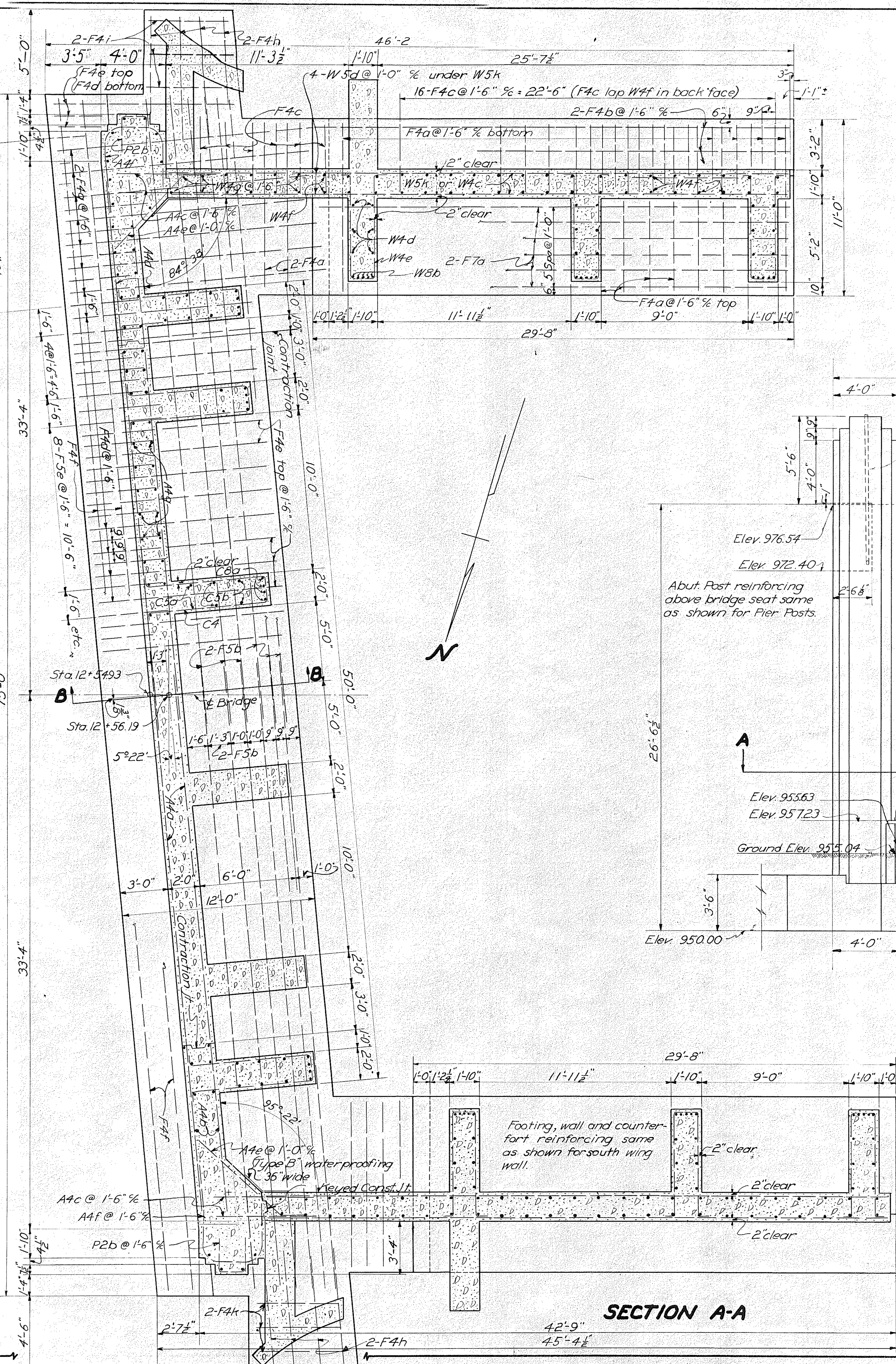
FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	28 / 42
2	OHIO	UG-U 338(2)	1946	

STARK COUNTY
S. H. 69 SEC. MASSILLON (PT.)

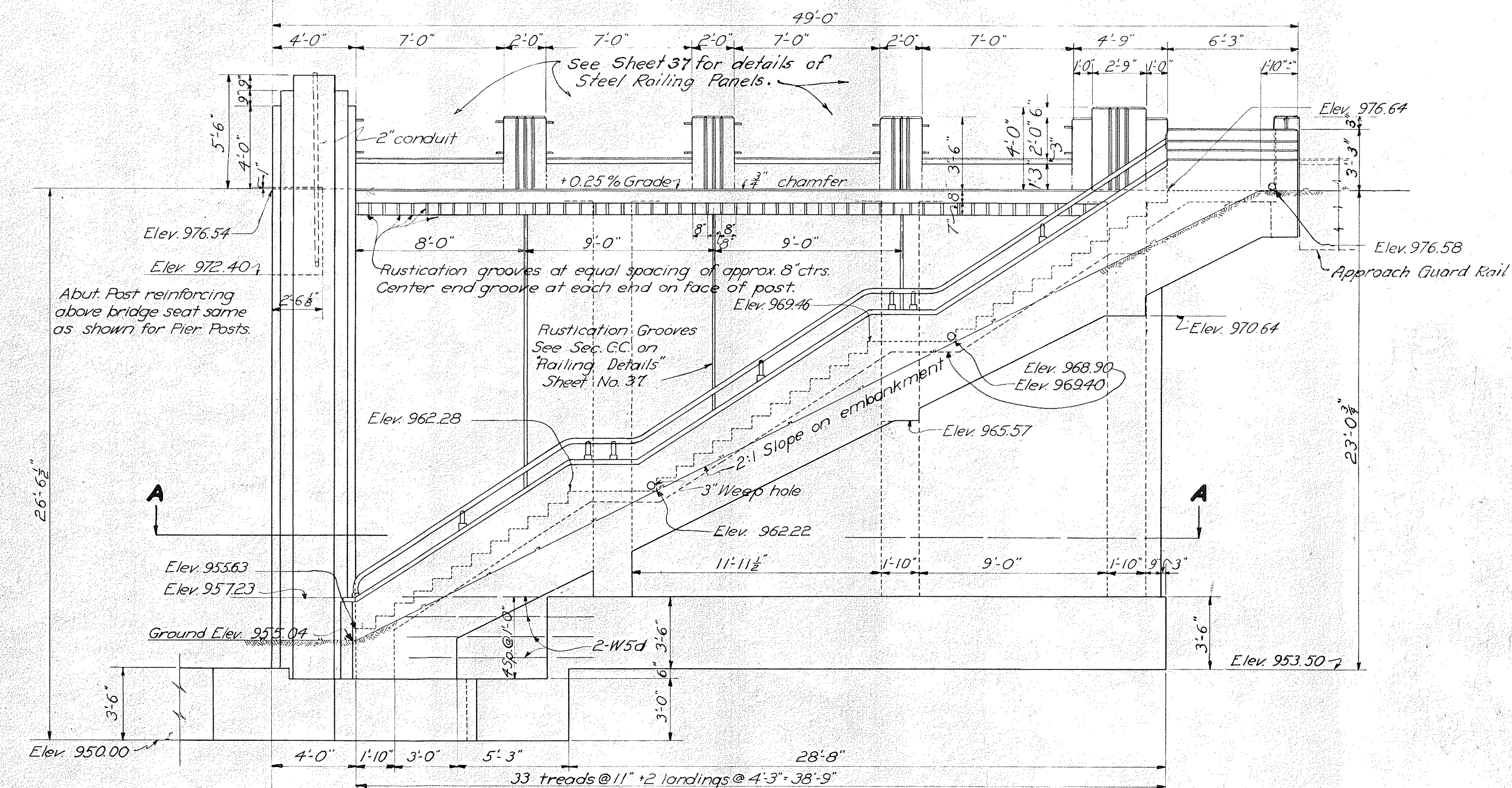


SECTION OF ABUTMENT AT B-B

F5c @ 1'-0" ℅ centered on each contraction joint.



SECTION A-A



NORTH ELEVATION OF WEST ABUTMENT

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

WEST ABUTMENT ELEVATION

BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND
PENNA. R.R., W.& L.E. RAILROAD AND B.&O. R.R.

STARK COUNTY SEC. MASSILLON (PT.) UG-338 (2) S.H. 69 STA. 9+15.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	R	CJW / E.C.D.	W.H.C.	6-8-45	12-15-44 / 12-17-45 / 6-25-46

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

PIER NO. 1

BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND PENNA. RR
W. & L.E. R.R. AND B.&O. R.R.

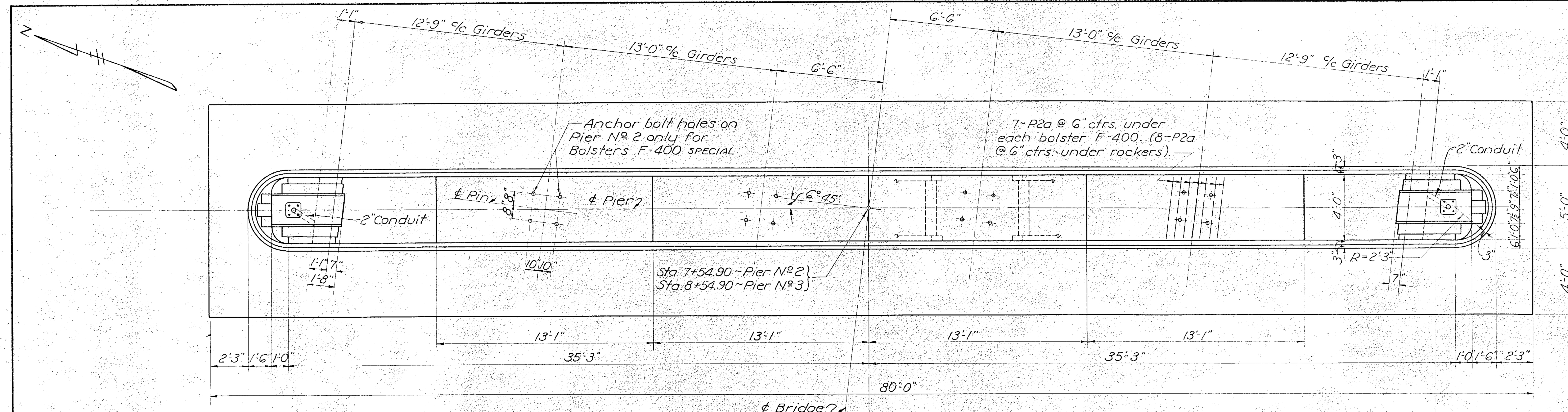
STARK CO. S.H. 69
SEC. MASSILLON (PT.) STA. 9+15.54

U-338 (2)

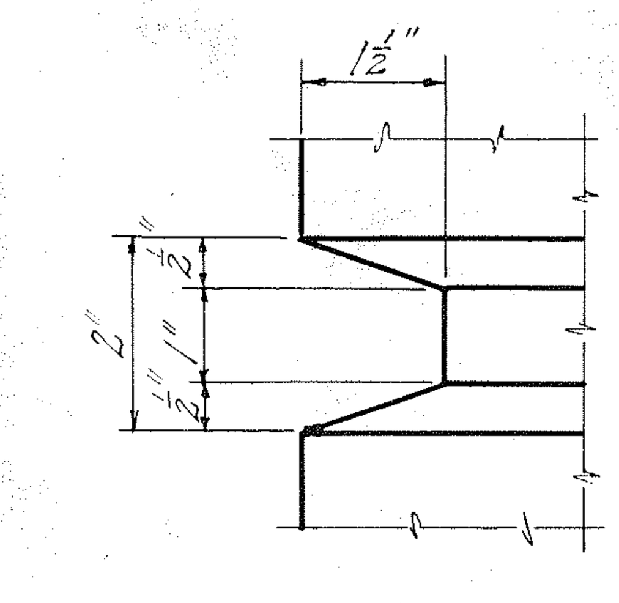
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	mwe.	H.S.K. / C.J.D.	W.H.C.	6-8-43	12-15-44 / 6-25-46

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	30 / 42
2	OHIO	UG-U 338(2)	1946	

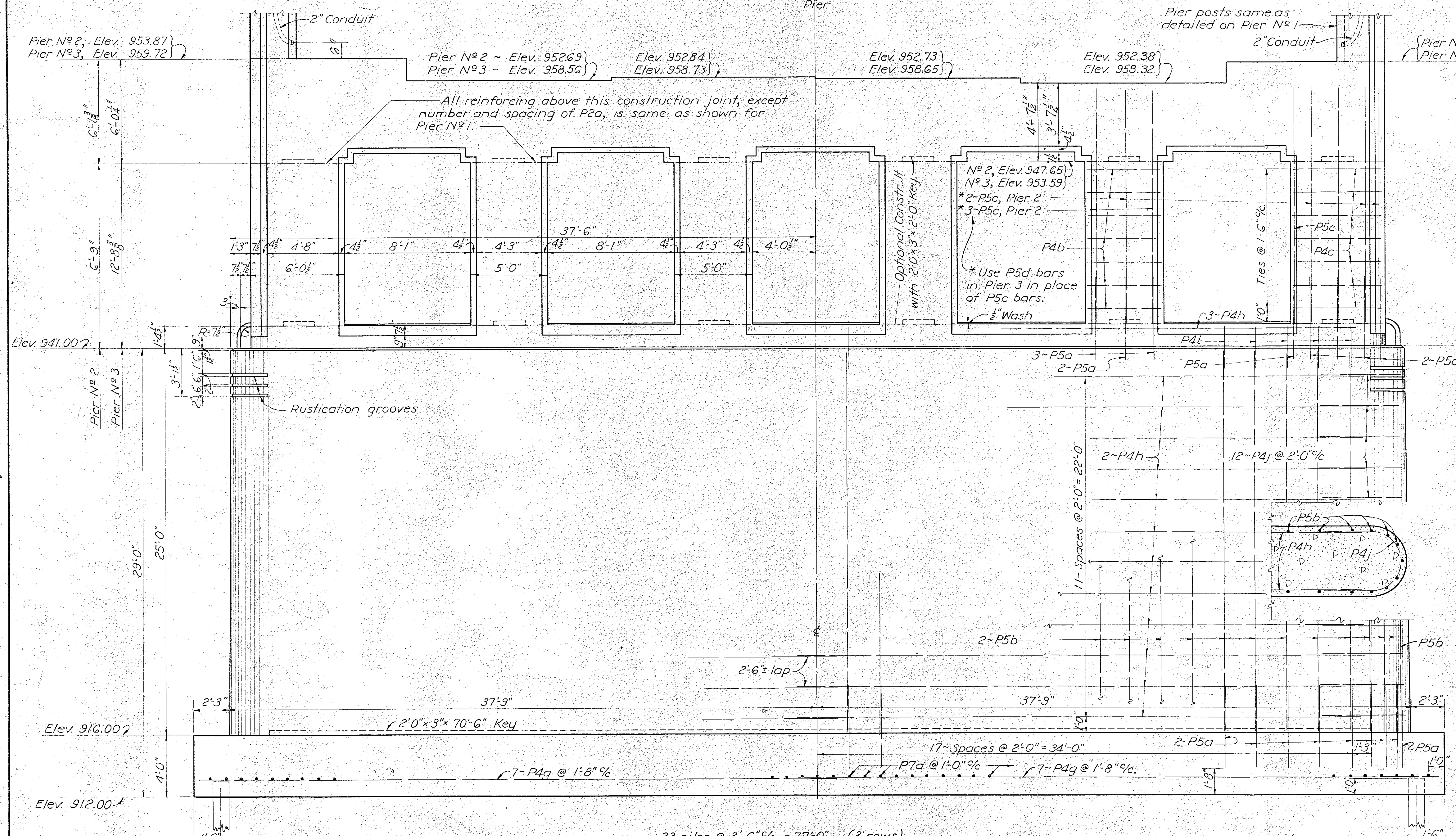
STARK COUNTY
S.H. 69 SEC. MASSILLON (PT)



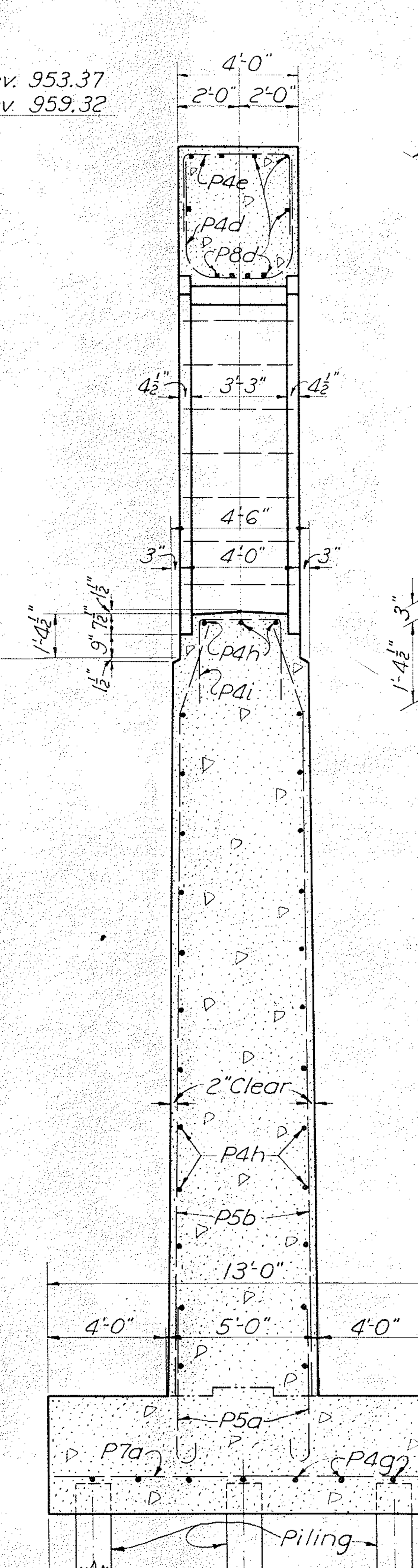
PLAN



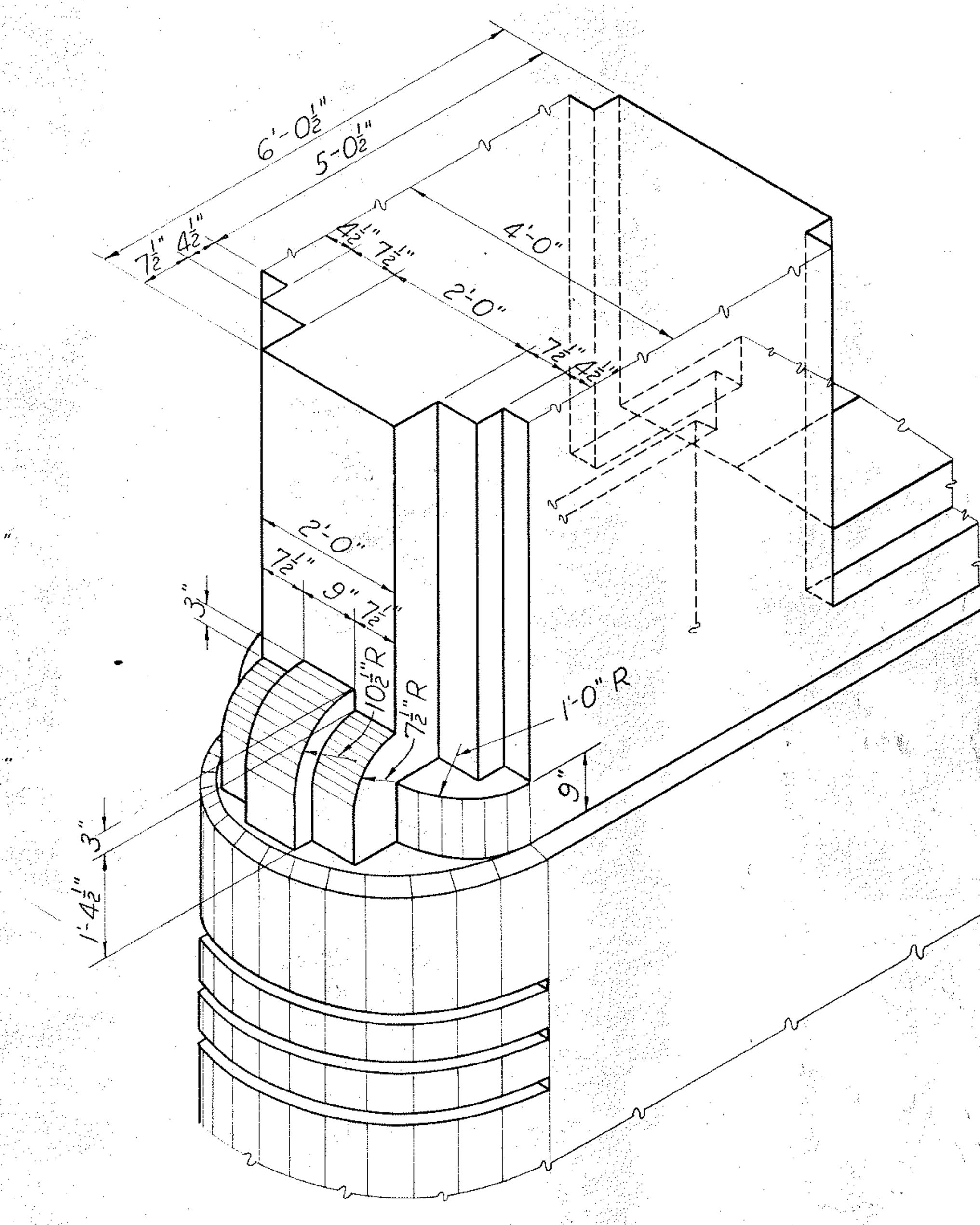
RUSTICATION GROOVE



WEST ELEVATION
(PIER No 3 SHOWN)



SECTION ON ℄



ISOMETRIC VIEW OF PIER NOSE ON PIERS No 2 AND No 3

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

PIERS No 2 AND No 3

BRIDGE No ST-30-63
OVER TUSCARAWAS RIVER AND
PENNA. R.R., W.&L.E. R.R. AND B.&O. R.R.

STARK COUNTY — S.H. 69
SEC. MASSILLON (PT.) — STA. 9+15.54

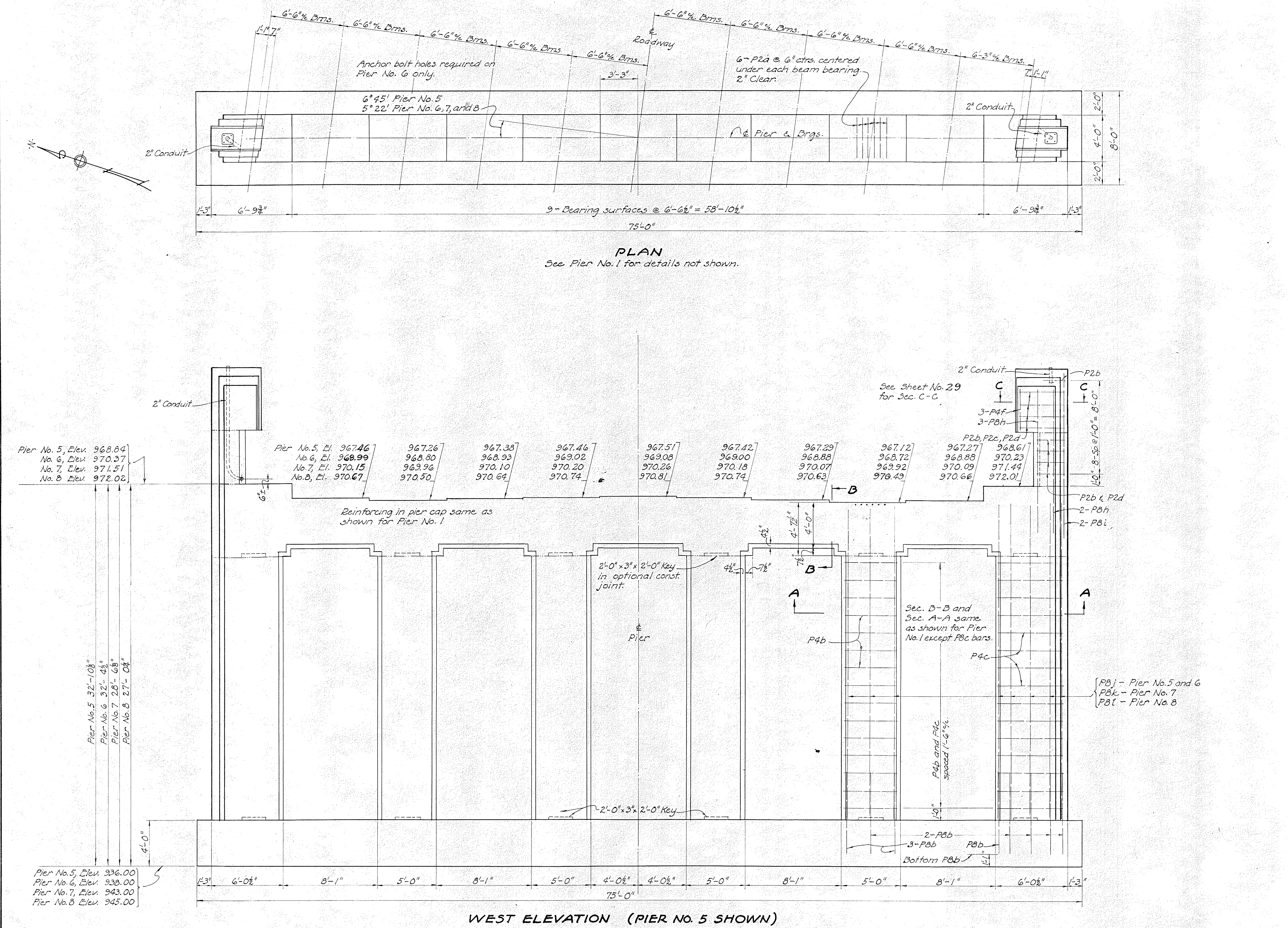
U-338 (2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.B.	K.E.B.	G.S	H.J.K.		W.H.B. 6-8-43	12-15-44 6-25-46


FED. RD. DIV. NO. 2
STATE OHIO
FED. AID PROJECT UG-U 338(2)
FISCAL YEAR 1946
31
42
STARK COUNTY
S. H. 69 SEC. MASSILLON (PT.)
PLAN
12'-9" ℄ Girders
13'-0" ℄ Girders
6'-6"
℄ Bridge
6- P2a @ 6" ctrs. under each girder bearing, 2" clear
℄ Girder Brgs.
℄ Pier
Sta. 9+35.90
℄ B'm Brgs.
See Pier No. 1 for Details of Pier Post
6- P2e @ 6" ctrs. under each beam bearing, 2" clear
75'-0" ℄ Footing
6'-3" ℄ Bms.
6'-6" ℄ Bms.
See Sheet No. 29 for details of Pylon
2" conduit
Elev. 964.25 Constr. Joint
P8d, P4d, P4e reinforcing in cap and in pier posts same as shown for Pier No. 1.
2'-0" x 3" x 2'-0" key
Construction jt. Elev. 958.52
Elev. 958.62
P4l @ 1'-0" ℄
2-P4m
27 sp. @ 1'-6" = 40'-6" (P4b & P4c)
2-P8g
3-P8g
Elev. 936.00
Elev. 936 — Optional Constr. Jt.
3" clear
8-P8a
4'-0" lap
P4k @ 2'-0" ℄
2-P8b
3-P8b
Piling
Elev. 912.00
36 Alternate spaces @ 2'-0" = 72'-0"
WEST ELEVATION
SECTION A-A
2" clear
SECTION B-B
4'-0" minimum
P2e
P4m
P4e
P4l @ 1'-0" ℄
Constr. joint
PILING PLAN
℄ Piling rows
18 Spaces @ 4'-0" = 72'-0"
END VIEW OF FOOTING
P8a @ 1'-8"
P4k
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
PIER NO. 4
BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER &
PENNA. R.R., W.&L.E. R.R. AND B.&O. R.R.
STARK COUNTY
SEC. MASSILLON (PT.)
U-338 (2)
UG-338 (2)
S.H. 69
STA. 9+15.54
DESIGNED K.E.S.
DRAWN K.E.S.
TRACED
CHECKED
REVIEWED
DATE 6-8-43
REVISED 12-15-44 6-25-46

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	32 / 42
2	OHIO	UG-U 338(2)	1946	

STARK COUNTY
S. H. 69 SEC. Massillon (Pt.)



WEST ELEVATION (PIER NO. 5 SHOWN)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

PIERS NO. 5, 6, 7, AND 8

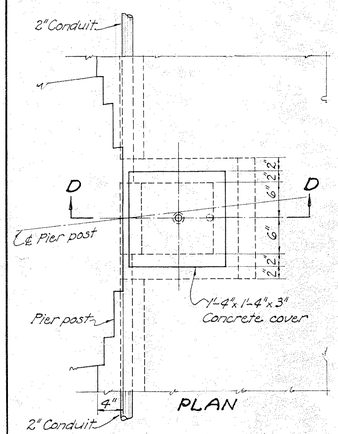
BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND
PENNA. R.R., W. & L.E. R.R., AND B. & O. R.R.

STARK COUNTY S. H. 69
SEC. MASSILLON (PT.) STA. 9+15.54
UG-338 (2)

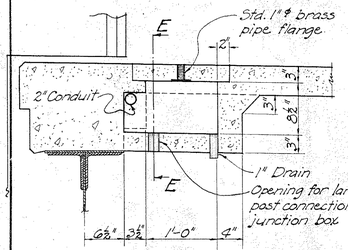
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	J.S.P.	C.S.D.	W.H.R.	6-8-43	12-15-44 6-25-46

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	33
2	OHIO	UG-0 338(2)	1946	42

STARK COUNTY
S. H. 69 SEC. Massillon (Pt.)

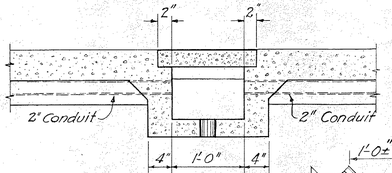


PLAN

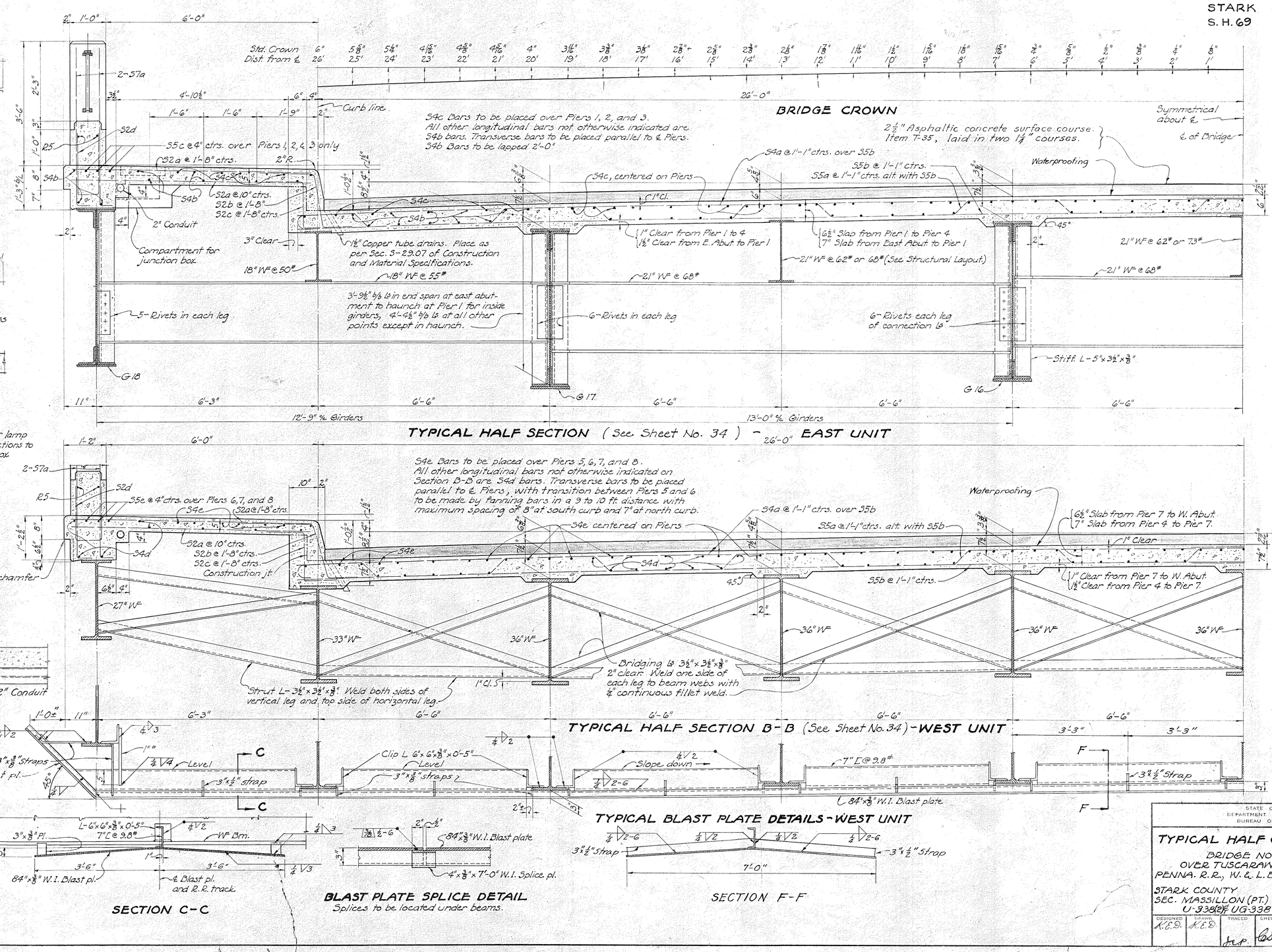


SECTION D-D

DETAIL OF COMPARTMENT FOR JUNCTION BOXES AT LAMPOSTS.
18 - Required.



SECTION E-E



TYPICAL HALF SECTION (See Sheet No. 34) - **EAST UNIT**

TYPICAL HALF SECTION B-B (See Sheet No. 34) - **WEST UNIT**

SECTION C-C

BLAST PLATE SPLICE DETAIL
Splices to be located under beams.

TYPICAL BLAST PLATE DETAILS - WEST UNIT

SECTION F-F

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

TYPICAL HALF CROSS-SECTIONS

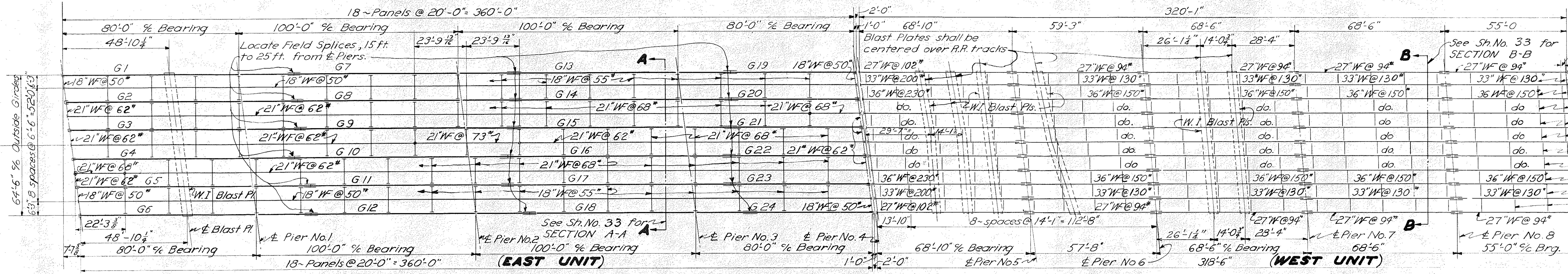
BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND PENNA. R.R., W. & L. E. R.R., AND B. & O. R.R.

STARK COUNTY — S. H. 69
SEC. MASSILLON (PT.) — STA. 9+15.54
U-338(2)E UG-338(2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	J.A.P.	C.D.D.	W.H.R.	6-8-43	12-15-44; 6-25-46

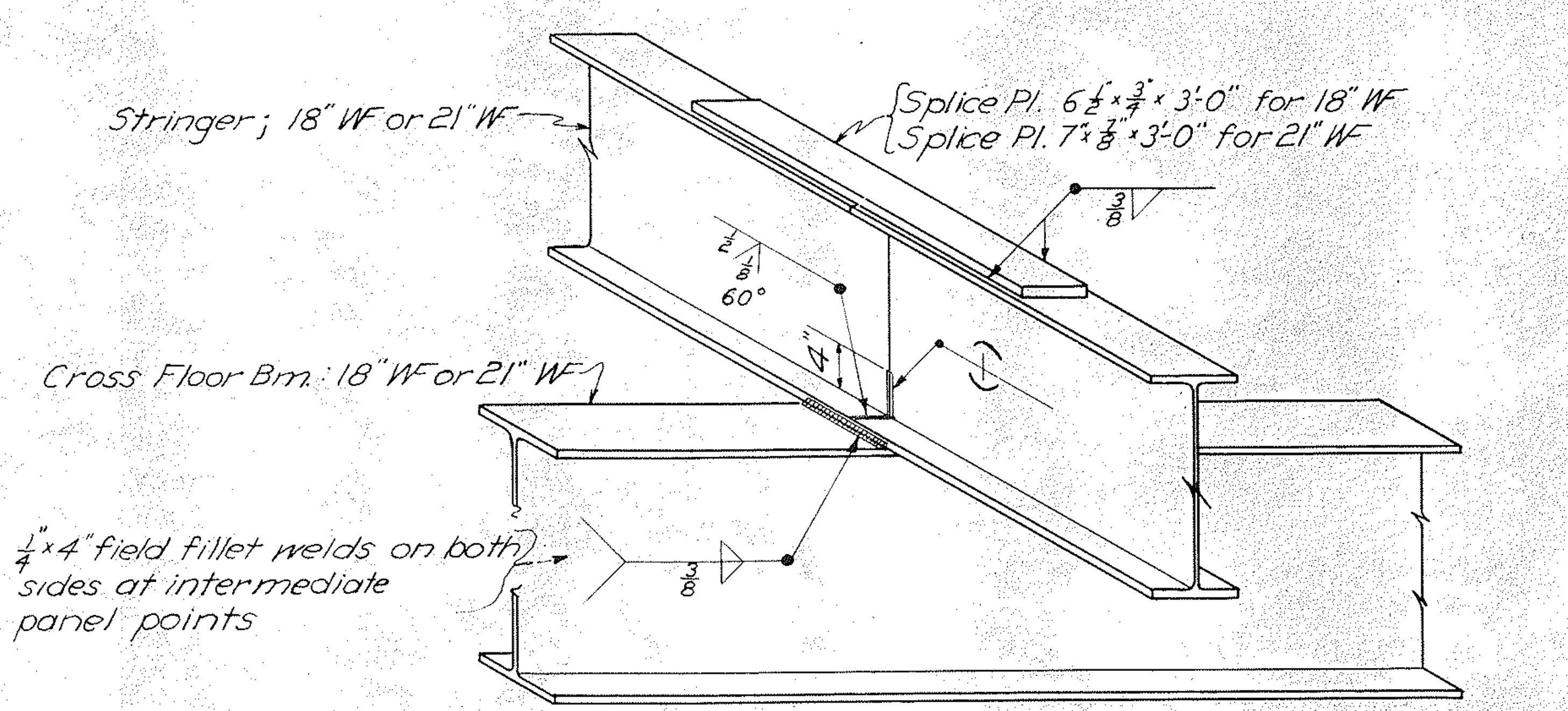
FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	OHIO	UG-U 338(2)	1946	34	42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT.)



STRUCTURAL LAYOUT (All dimensions are horizontal)

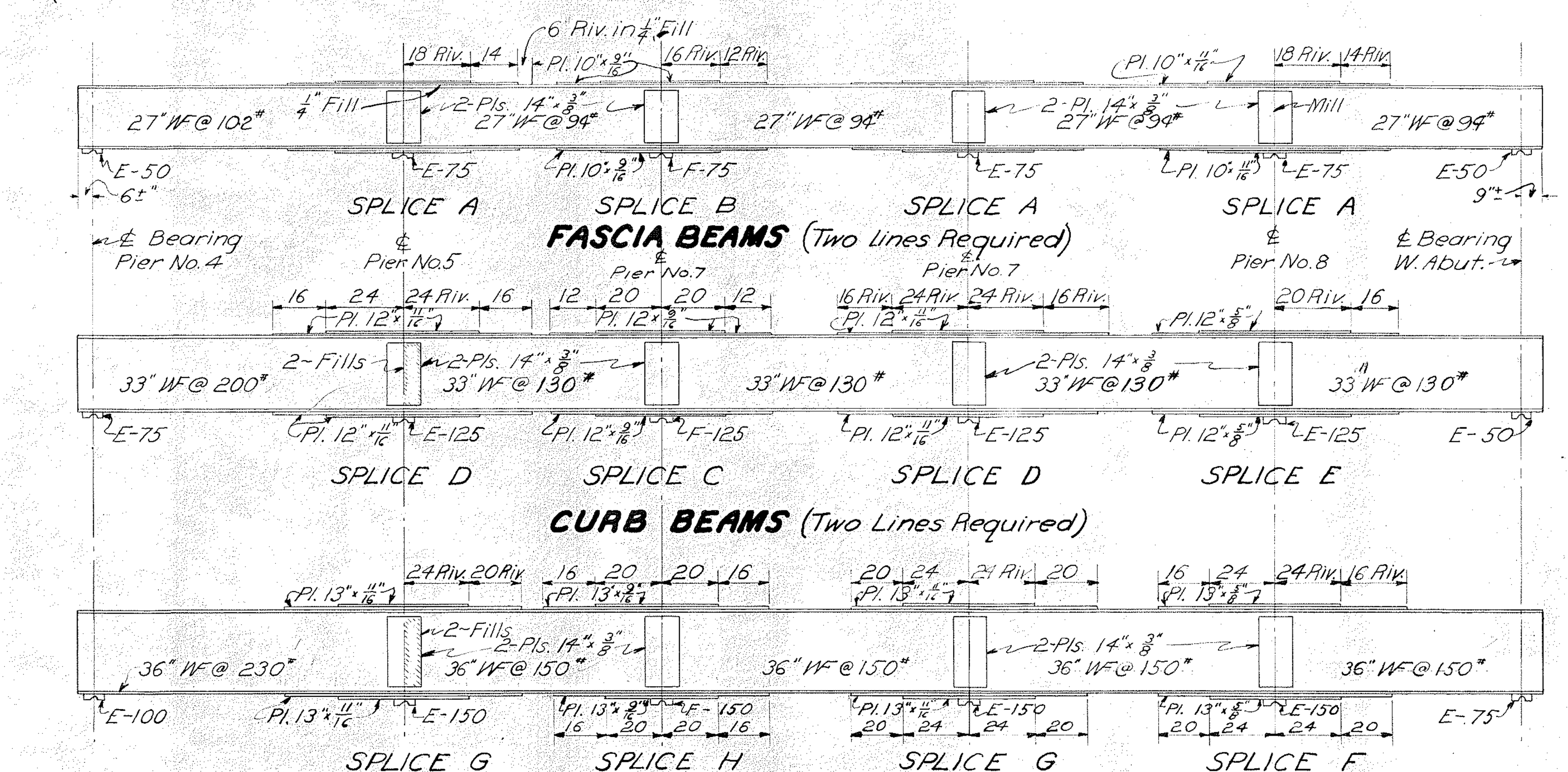
Shift bridging angles where necessary to avoid interference with blast plate connections and scuppers. See sheet No. 38 for location of scuppers.



Stringers may be fabricated in lengths between splices of two, but not more than three panel lengths.

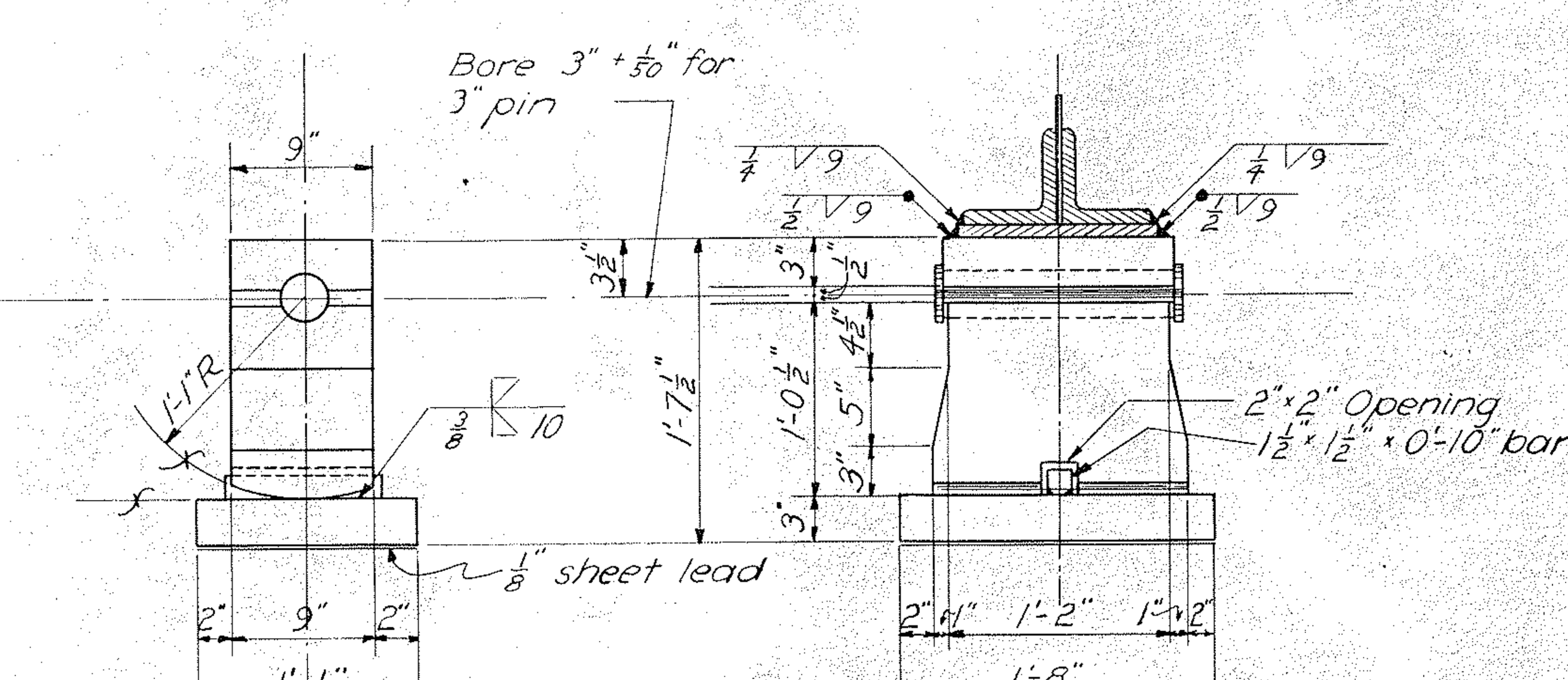
DETAILS OF WELDED STRINGER SPLICES

DEFLECTION & CAMBER (In inches)																							
LOCATION	OUTSIDE G.				INSIDE GIRD.				FASCIA BMS.					CURB BMS.					R'DW'Y BMS.				
SPAN	East Abut. to Pier 1	1-2	2-3	3-4	East Abut. to Pier 1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-W. Abut.	4-5	5-6	6-7	7-8	8-W. Abut.	4-5	5-6	6-7	7-8	8-W. Abut.
Deflection due to Weight of Steel.	3/16	3/16	3/16	3/16	1/8	1/8	1/8	1/8	1/4	0	1/8	1/8	1/8	1/8	0	1/16	1/16	1/16	1/8	0	1/16	1/16	1/16
Deflection due to Remain. D.L.	9/16	11/16	11/16	9/16	5/8	5/8	5/8	1/2	3/4	1/16	7/16	7/16	3/8	9/16	1/16	7/16	7/16	3/8	7/16	1/16	3/8	5/16	5/16
Camber Required for V.C.	0	0	2 1/8	1 3/8	0	0	2 1/8	1 3/8	1	3/4	1	1	0	1	3/4	1	1	0	1	3/4	1	1	0
Total Req'd Camber	3/4"	7/8"	3"	2 1/8"	3/4"	3/4"	2 7/8"	2"	2"	13/16"	1 9/16"	1 9/16"	1/2"	1 11/16	13/16	1 1/2"	1 1/2"	7/16"	1 9/16	13/16	1 7/16	1 3/8"	3/8"



See Drawing No. CSB-15-40 for details of splicing not shown on this drawing

SPLICING DETAILS FOR WEST UNIT

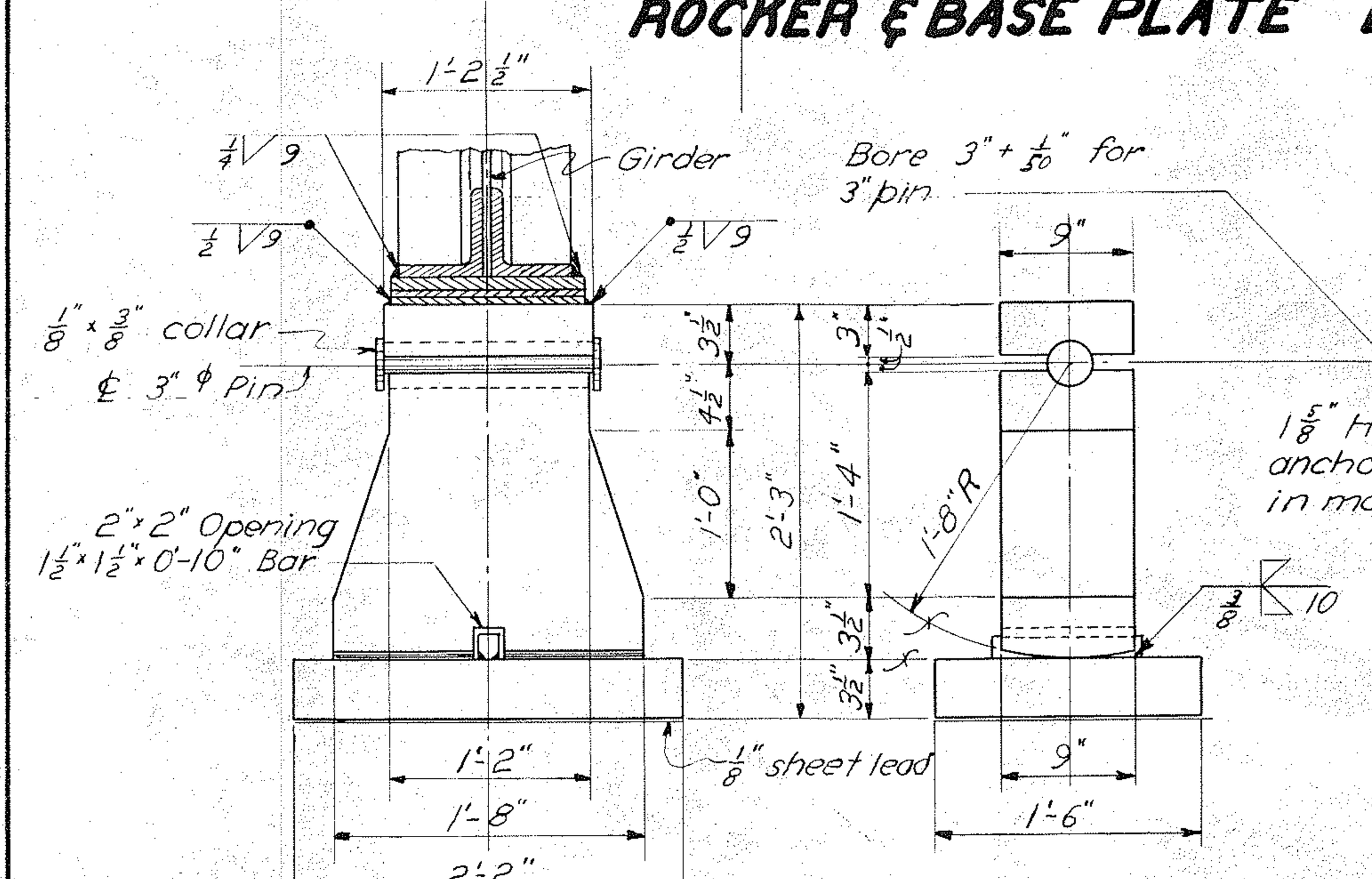


ROCKER & BASE PLATE E-220 (SPECIAL)

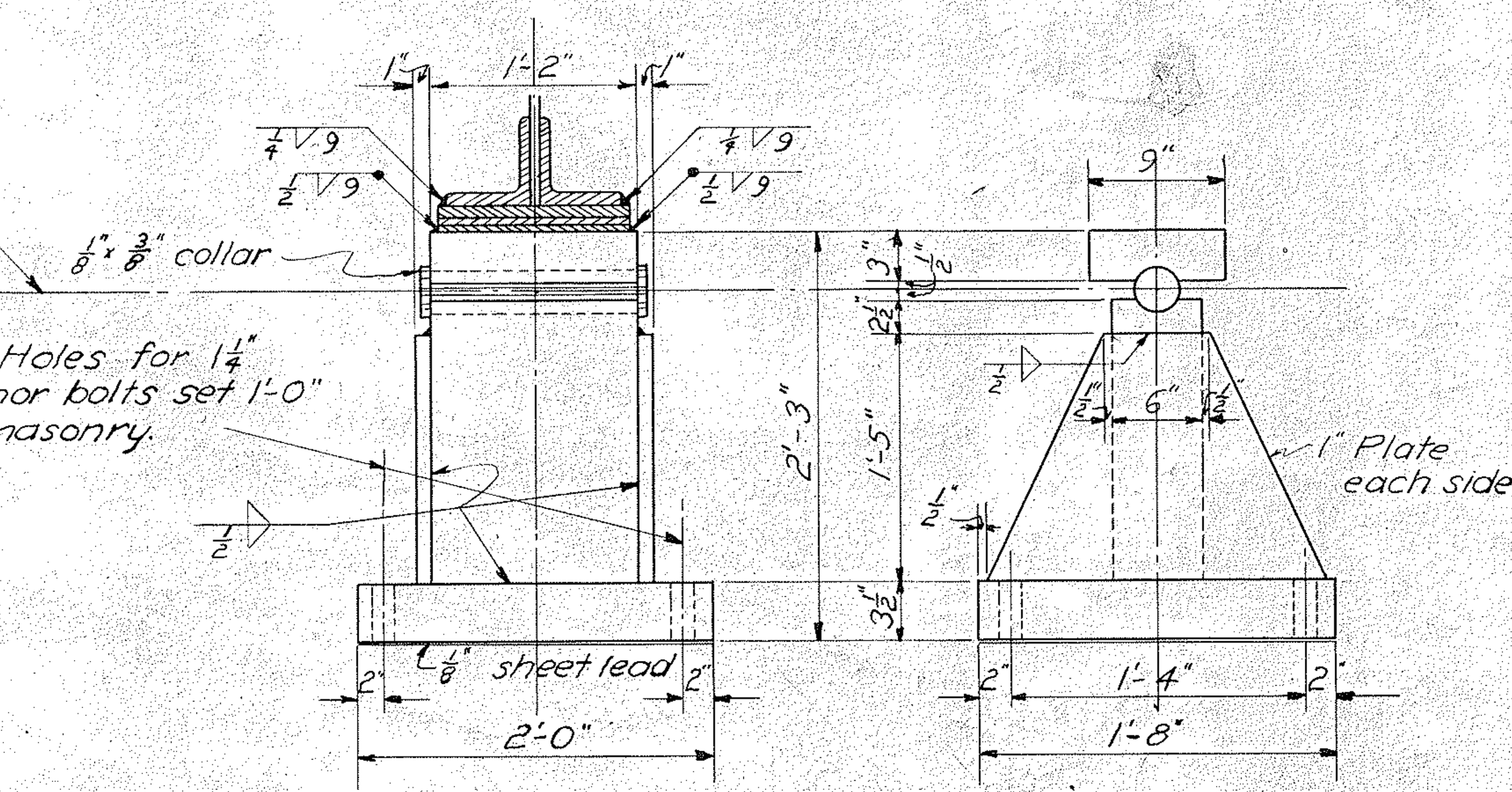
ROCKERS & BOLSTERS FOR WEST UNIT												
LOCATION	ROADWAY BEAMS				CURB BEAMS				FASCIA BEAMS			
	SIZE	DIMENSIONS M	DIMENSIONS L	No. REQ'D	SIZE	DIMENSIONS M	DIMENSIONS L	No. REQ'D	SIZE	DIMENSIONS M	DIMENSIONS L	No. REQ'D
Pier No. 4	E-100	17"	20"	7	E-75	16"	19"	2	E-50	10"	17"	2
Pier No. 5	E-150	12"	22"	7	E-125	12"	21"	2	E-75	10"	19"	2
Pier No. 6	F-150	12"	21"	7	F-125	12"	21"	2	F-75	10"	19"	2
Pier No. 7	E-150	12"	22"	7	E-125	12"	21"	2	E-75	10"	19"	2
Pier No. 8	E-150	12"	22"	7	E-125	12"	21"	2	E-75	10"	19"	2
West Abut.	E-75	12"	19"	7	E-50	12"	17"	2	E-50	10"	17"	2

Rivets shall be ⅞" ϕ

FOR ADDITIONAL NOTES, SEE SHEETS NO. 24, 33, 35, 36



ROCKER & BASE PLATE E-400 (SPECIAL)



BOLSTER F-400 (SPECIAL)

ROCKERS & BOLSTERS FOR EAST UNIT								
LOCATION	OUTSIDE GIRDERS				INSIDE GIRDERS			
	SIZE	DIMENSIONS M	DIMENSIONS L	No. REQ'D	SIZE	DIMENSIONS M	DIMENSIONS L	No. REQ'D
East Abut.	E-75	12"	19"	2	E-150	12"	23"	4
Pier No. 1	E-220 sp.			2	E-400 sp.			4
Pier No. 2	E-220 sp.			2	F-400 sp.			4
Pier No. 3	E-220 sp.			2	E-400 sp.			4
Pier No. 4	E-75	12"	19"	2	E-150	12"	23"	4

Additional details of E & F series of rockers and bolsters are as shown on drawing CSB-15-40, revised 10-1-40, except that the dimension M-⅛" on the drawing shall be changed to M-½".

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS

BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND
PENNA. R.R., W. & L.E. R.R. AND B. & O. R.R.

STARK COUNTY U-338(2) S.H. 69
SEC. MASSILLON (PT.) UG-338(2) STA. 9+15.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	R	C.S.D.	W.H.R.	6-8-43	2-7-45 Blast Pls. 6-25-46

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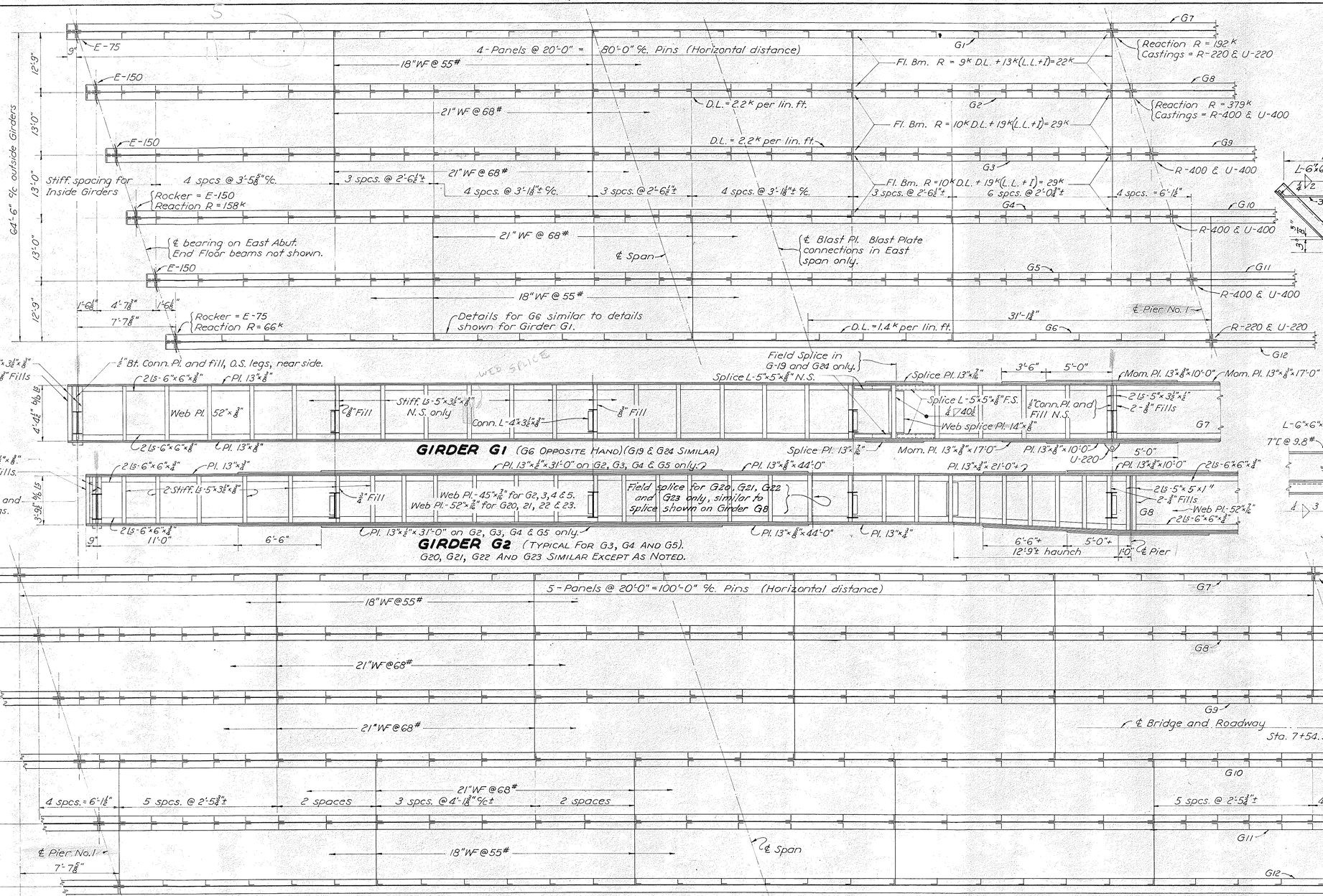
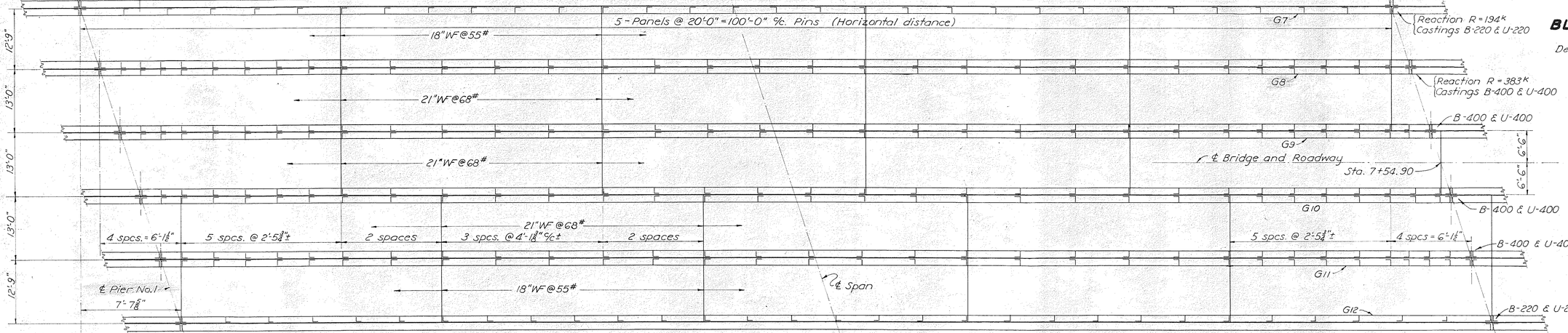
FED. RD. DIV NO.	STATE	FED. AID PROJECT	FISCAL YEAR	35 / 42
2	OHIO	UG-U 338(2)	1946	

STARK COUNTY
S. H. 69 SEC. MASSILLON (PT.)

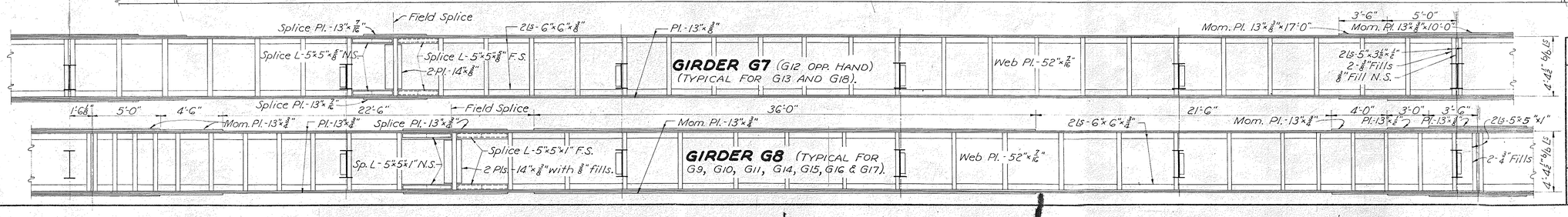


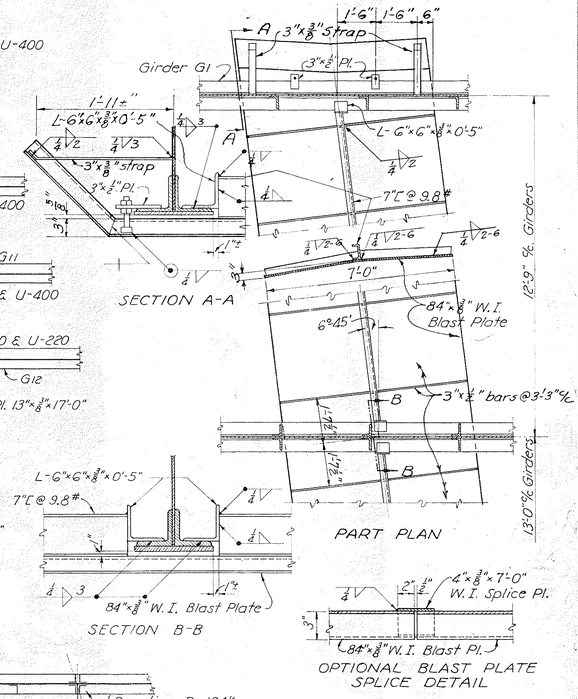


Rivets shall be 7/8" Φ.

Shop splices in web plates as needed.

Stiffner Ls and Splice Ls - 5" x 5" x 1" to be cut from Ls - 6" x 6" x 1".





BLAST PLATE DETAILS

See Sheet 33 for Blast Plate Details for Beam Spans.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GIRDER AND BLAST PLATE DETAILS

BRIDGE NO. ST.-30-63
OVER TUSCARAWAS RIVER AND PENNA R.R., W. & L.E. R.R. AND B. & O. R.R.

STARK COUNTY S.H. 69
SEC. MASSILLON (PT.) STA. 9+15.54
UG-338(2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.C.D.	K.C.D.	G.M.S.	G.S.S.	W.H.R.	6-8-43	C-25-46

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FED. RD. DIV. NO. 2 | STATE OHIO | FED. AID PROJECT UG-U 338(2) | FISCAL YEAR 1946 | 36/42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT.)

FOR ADDITIONAL NOTES SEE SHEETS NO. 24, 33, 34, 35

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

END FINISH DETAILS

BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND PENNA. R.R. W.&L.E. R.R. AND B.&O. R.R.
STARK COUNTY S.H. 69
SEC. MASSILLON (PT.) STA. 9+15.54
U-338(2) & UG-338(2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	mwe.	C.D.O.	W.H.K.	6-8-43	12-15-44 12-17-45 2-25-46

FED. RD. DIV NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U, 338(2)	1946

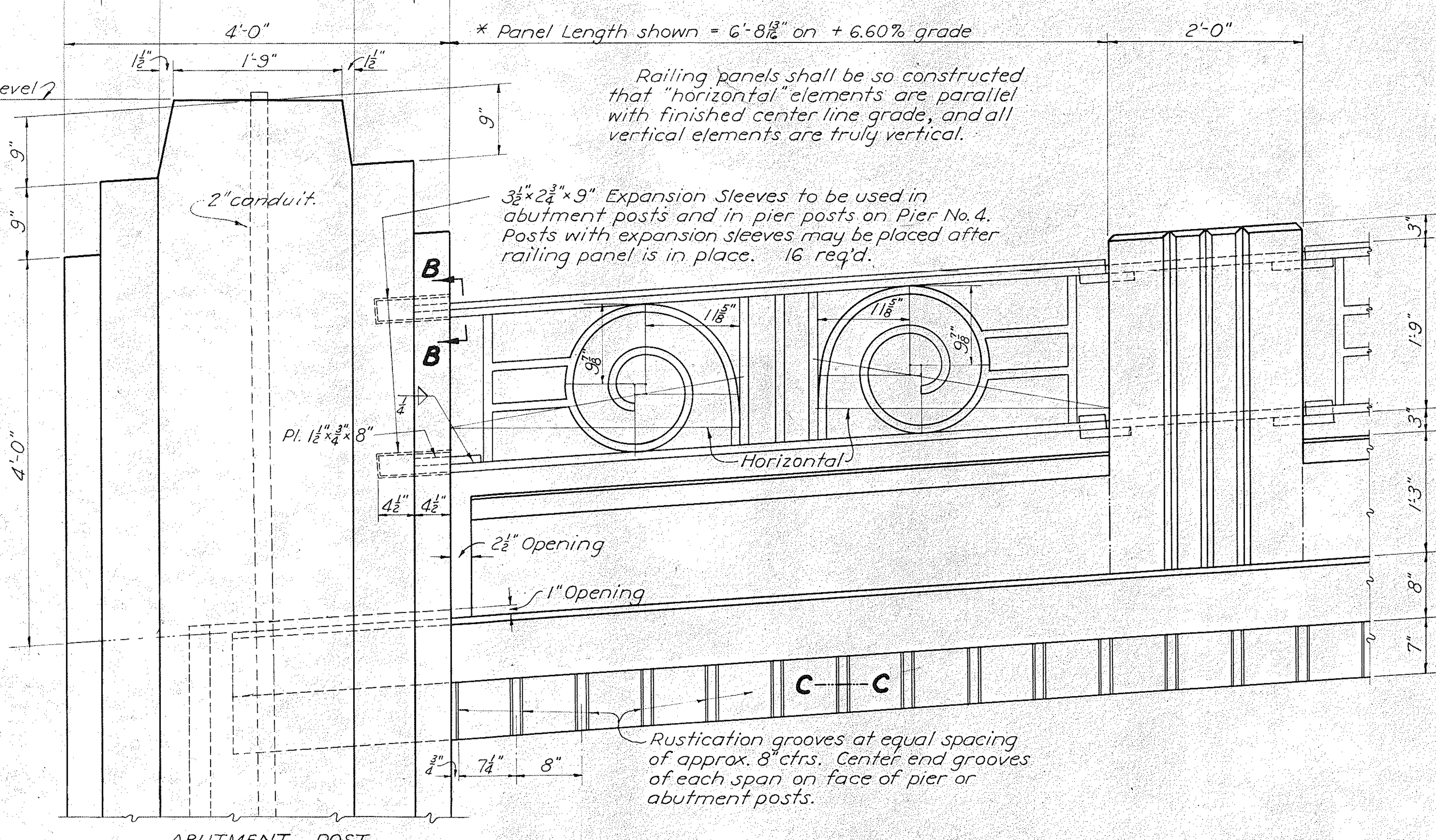
37 / 42

STARK COUNTY
S. H. 69 SEC. MASSILLON (PT)

PART RAILING PLAN

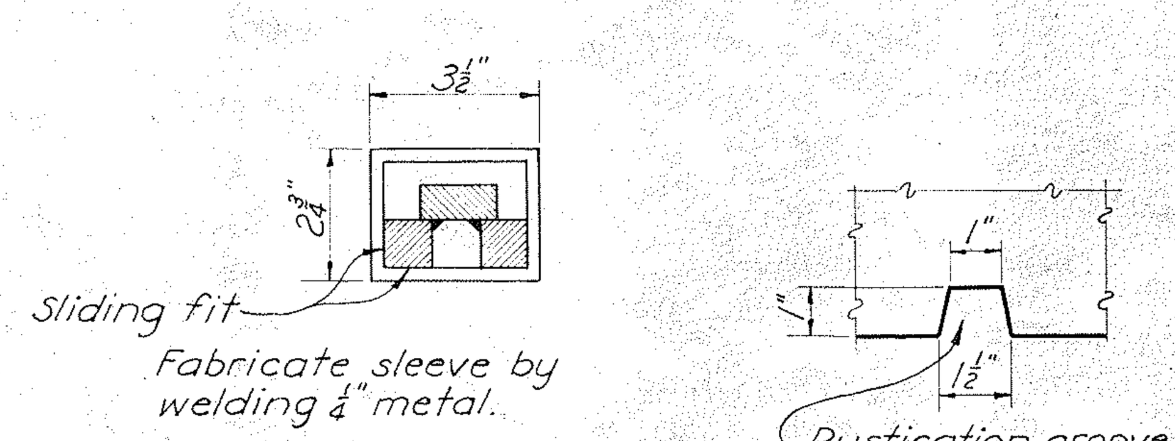
See Sheet No. 39 for location of conduits.

Pier and Abutment Posts included with wall concrete for payment.

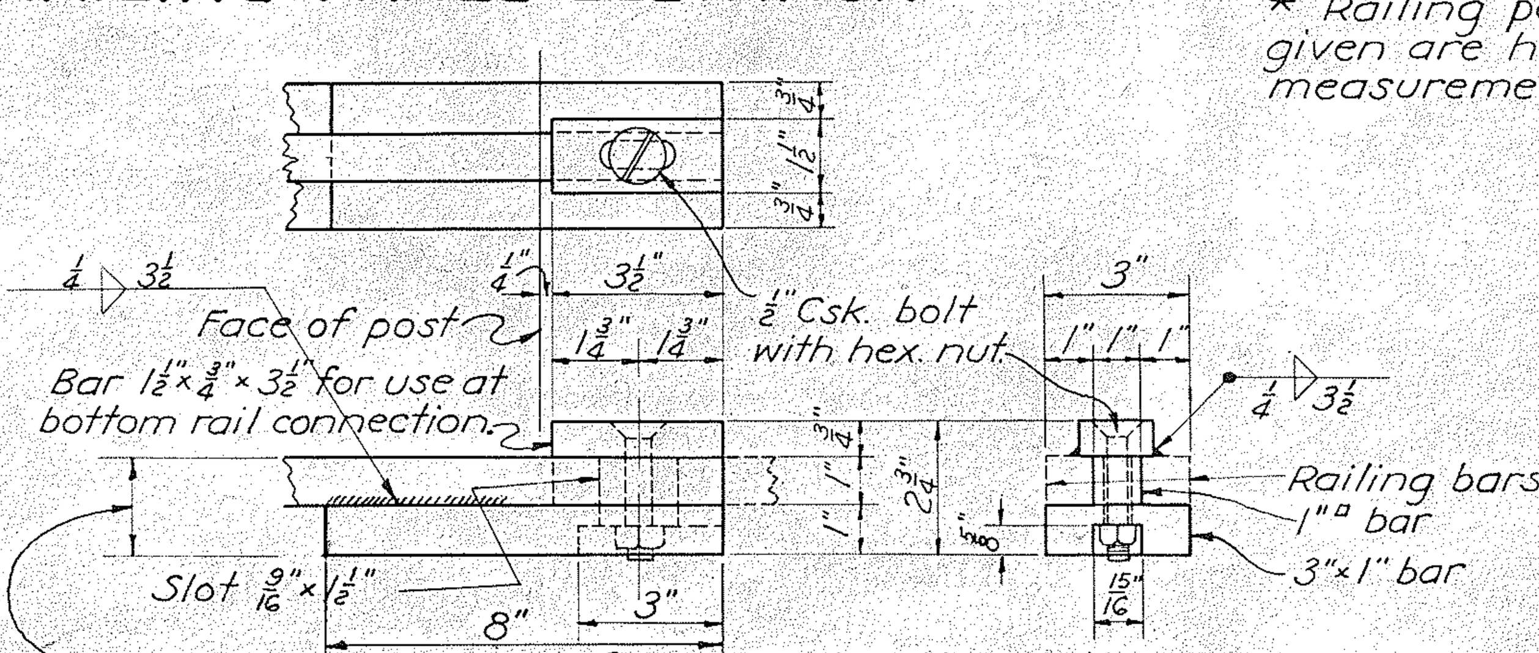


RAILING PANEL ELEVATION

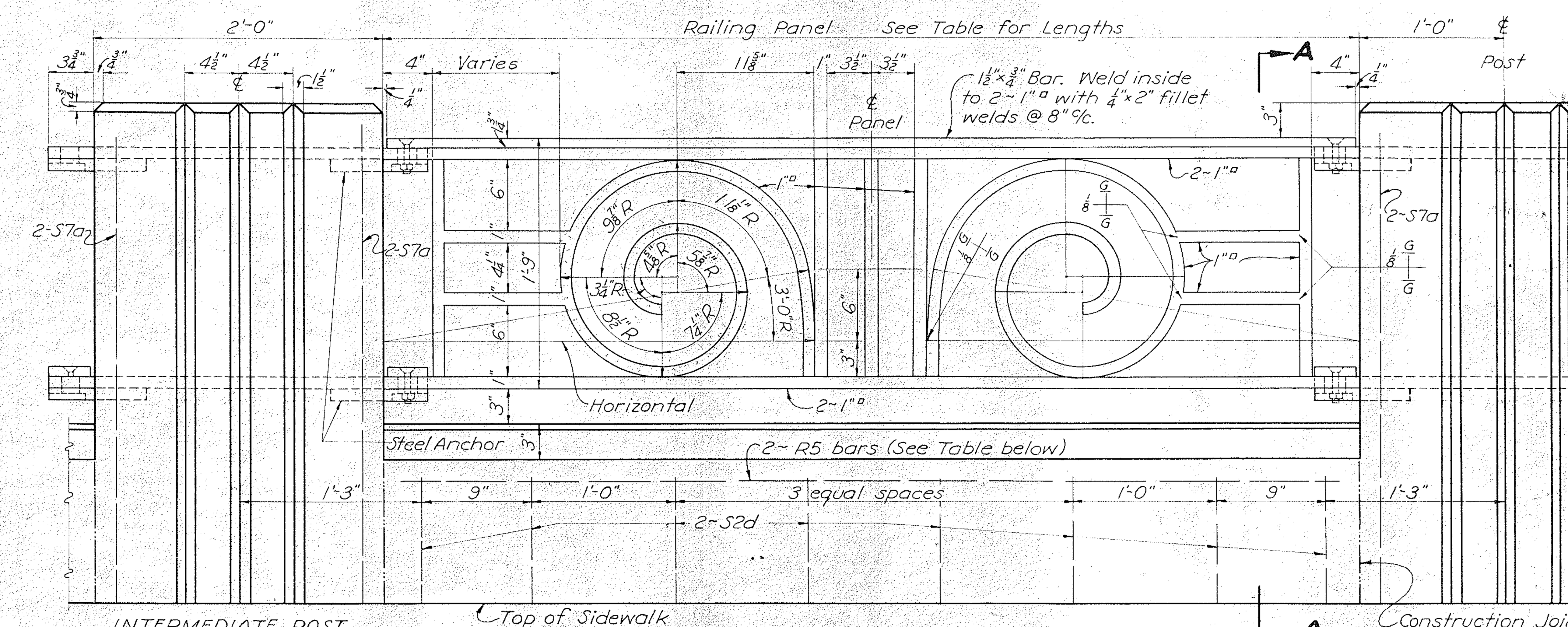
* Railing panel lengths given are horizontal measurements.



SEC. B-B   SEC. C-C



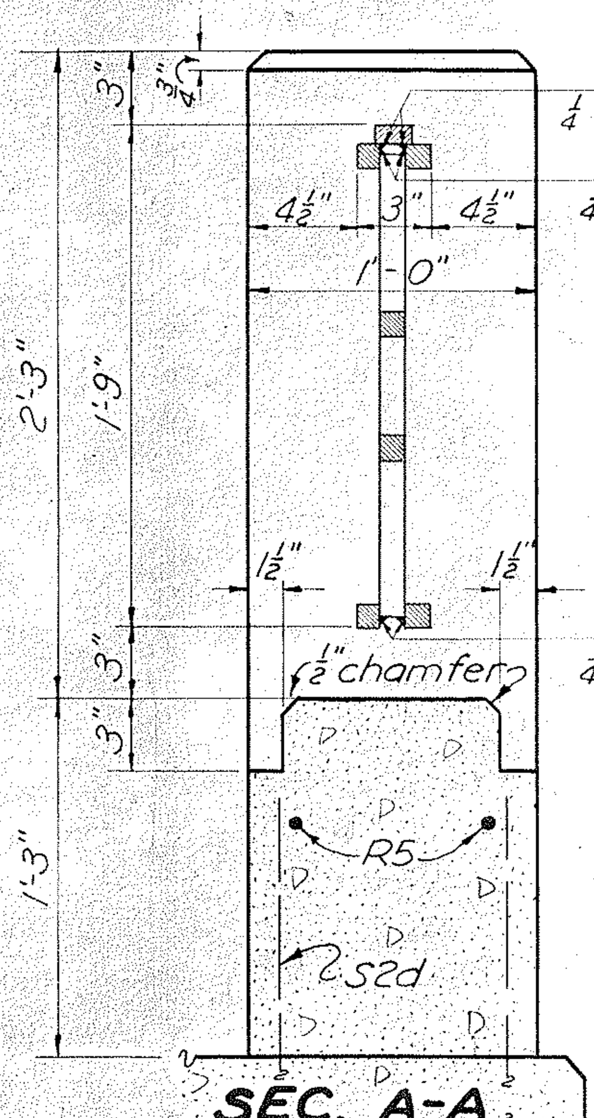
RAILING ANCHOR CONNECTION



TYPICAL RAILING DETAILS

Railing expansion sleeves, anchors and bolts shall be hot-dip galvanized.

* RAILING PANELS					
SPAN	NORTH SIDE		SOUTH SIDE		"R5" Bars
	Panel Length	No.	Panel Length	No.	
East Abut. - Pier No. 1	6'-8 13/16"	9	6'-9 3/16"	9	R5a
Pier No. 1 - Pier No. 2	6'-10⅞"	11	6'-10⅞"	11	R5a
Pier No. 2 - Pier No. 3	6'-10⅞"	11	6'-10⅞"	11	R5a
Pier No. 3 - Pier No. 4	6'-9¼"	9	6'-9¼"	9	R5a
Pier No. 4 - Pier No. 5	6'-5¾"	8	6'-5¾"	8	R5b
Pier No. 5 - Pier No. 6	5'-11⅜"	7	6'-2⅛"	7	R5c
Pier No. 6 - Pier No. 7	6'-3 11/16"	8	6'-3 11/16"	8	R5b
Pier No. 7 - Pier No. 8	6'-3 11/16"	8	6'-3 11/16"	8	R5b
Pier No. 8 - West Abut.	6'-11⅝"	6	6'-11 3/16"	6	R5a
West Abutment	7'-0"	4	7'-0"	4	R5a
East Abutment	7'-0"	4	7'-0"	4	R5a



SEC. A-A

Construction Joint, at each end of all panels, shall be painted with hot paraffine to insure complete separation.

Do not chamfer corners unless shown.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

RAILING DETAILS

BRIDGE NO. ST.-30-63
OVER TUSCARAWAS RIVER AND
PENNA. R.R., W.&L.E. R.R. AND B.&O. R.R.

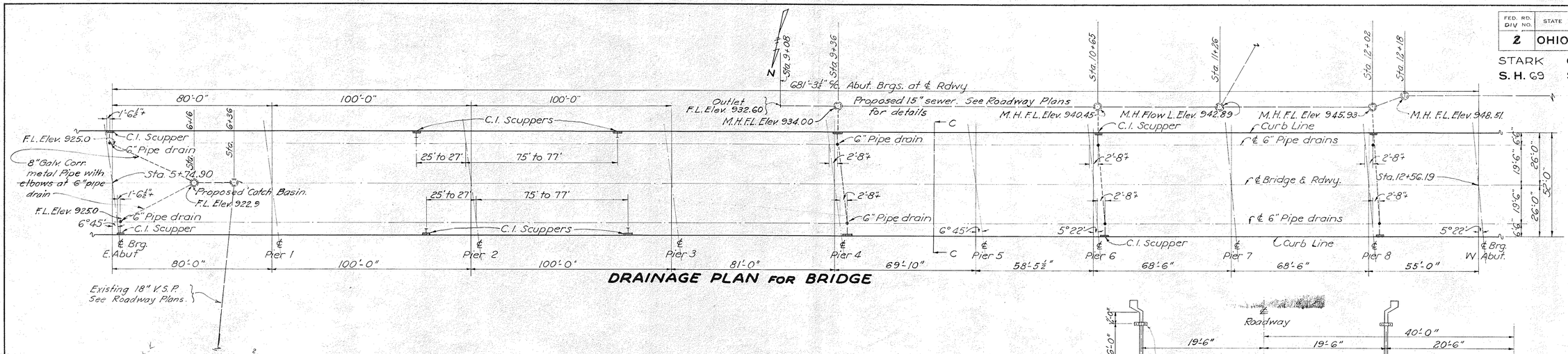
STARK COUNTY S.H. 69
SEC. MASSILLON (PT.) STA. 9+15.54
U-338(2) & UG-338(2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	GWS		W.H.R.	6-8-43	12-17-45 6-25-46

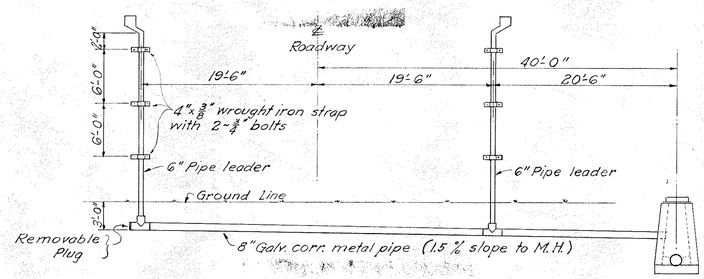
FED. RD. DIV NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U 338(2)	1946

38
42

STARK COUNTY
S.H. 69 SEC. MASSILLON (Pt)



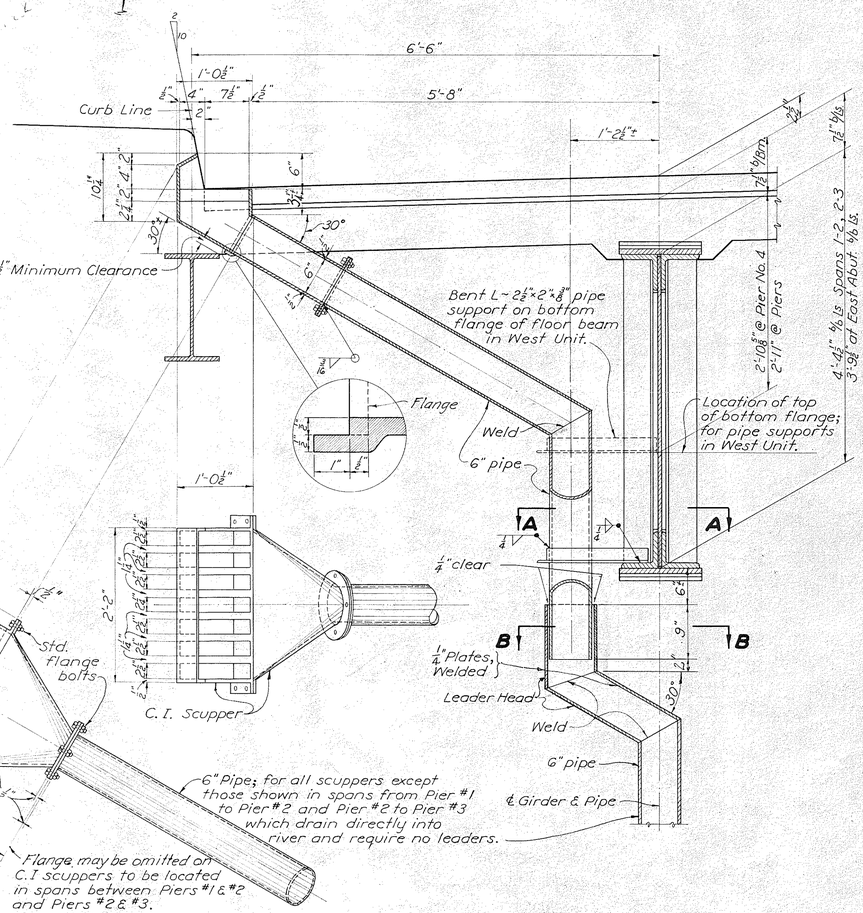
DRAINAGE PLAN FOR BRIDGE



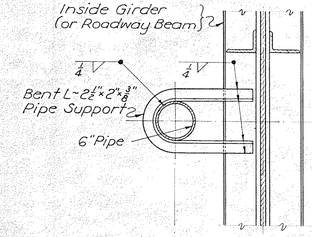
SECTION C-C

Typical drainage detail for Piers 4, 6, and 8.

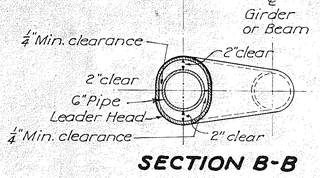
Pipe Specials and Pipe Supports included with pipe for payment.



C.I. SCUPPER AND DRAINAGE DETAILS



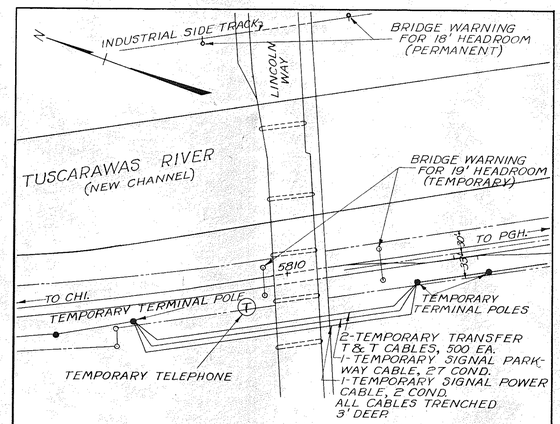
SECTION A-A



SECTION B-B

6" pipe shall be wrought iron pipe @ 18.97 #/' or copper-bearing steel pipe at 18.97 #/'.

Pipe, fittings and supports shall be galvanized.



PENNSYLVANIA RAILROAD
CENTRAL REGION EASTERN DIVISION
MASSILLON, O.
TEMPORARY T & S LINES AT LINCOLN WAY
SCALE - 1"=100' AUG. 12, 1943
OFFICE OF CHIEF ENGINEER CENTRAL REGION
PITTSBURGH, PA. REVISED FEB. 21, 1946

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DRAINAGE

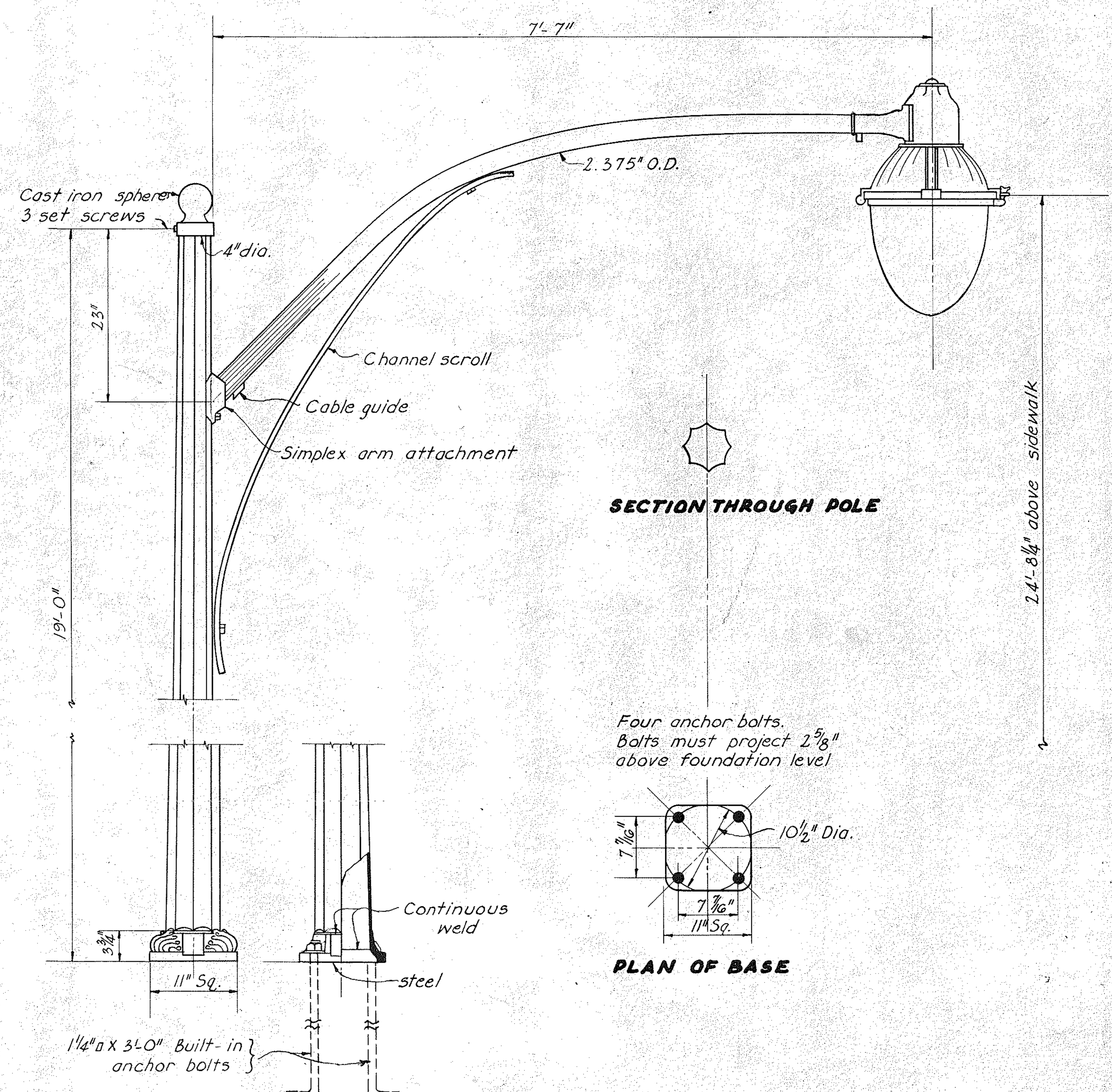
BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND PENNA. R.R., W. & L.E. R.R. & B. & O. R.R.
STARK COUNTY S.H. 69
SEC. MASSILLON (PT.) STA. 9+15.54
U338(2) & UG-338(2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	G.W.S.	[illegible]	K.E.D. W.H.C.	6-8-43	12-15-44 12-17-45 6-25-46

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	UG-U 338(2)	1946

STARK COUNTY
S.H. 69 SEC. MASSILLON(

CONDUIT DIAGRAM



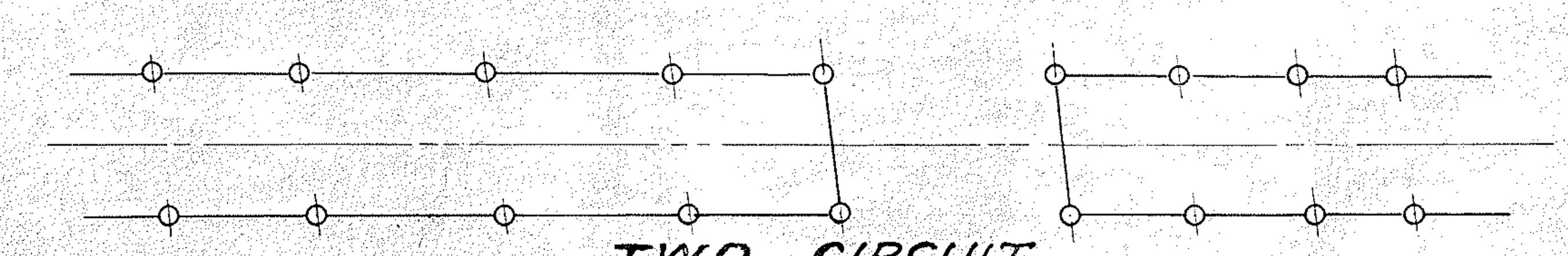
METAL LAMP STANDARD

SECTION THROUGH POLE

Four anchor bolts. Bolts must project 2⅝" above foundation level

7 7/16"
10½" Dia.
7 7/16"
11" Sq.

PLAN OF BASE



TWO CIRCUIT WIRING DIAGRAM

SYSTEM 60 cycle, 20 Amp. Primary 20 Amp. Secondary constant current series circuit. (Two circuits)

CONDUIT Two inch (2") diameter, full weight, (including pull boxes and expansion joints corresponding to all expansion joints in the structure).

CABLE No. 6 single conductor Telurium Parkway cable for 2500 Volts, 5/64 Versatal Insulation.

TRANSFORMER One 7½ KW. Type S.L. transformer with 20 amp. primary and 20 amp. secondary No. G.E. 72 x 319 including protective device and G.E. Type S.L. transformer cutout.

LIGHTING UNITS Union Metal lamp standard as shown on drawings with G.E. suspension luminaires, Form 1010 Cat. No. AGG4 with 2" heat insulated slip fitterhood and film cutout series receptacles.

LAMPS 10,000 lumen Mazda 20 amps. series type.

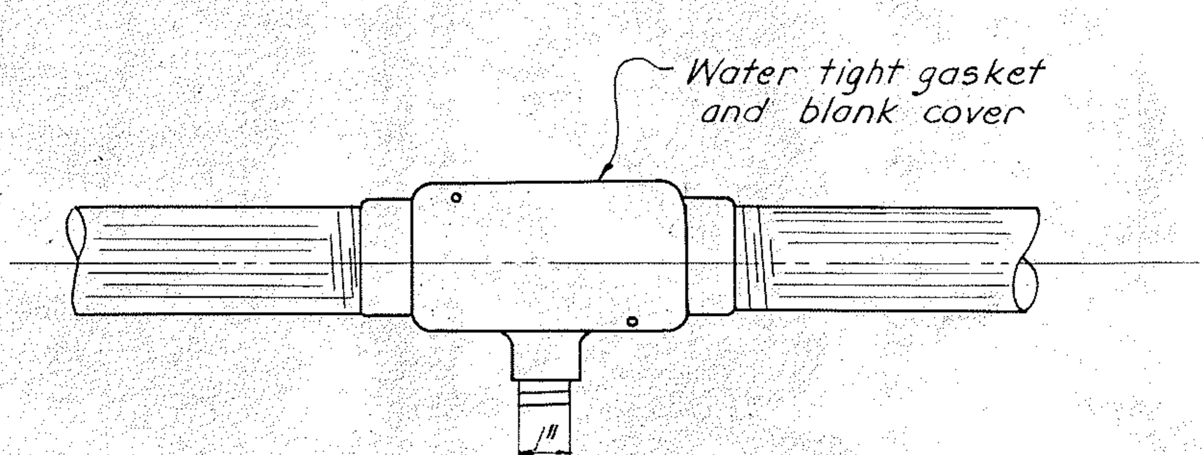
PAINTING same as railing.

POWER AND MAINTENANCE by City of Massillon, Ohio.

All exposed cable outside of junction boxes shall be protected by flexible conduit.

Where specific manufactures are specified, their equivalent will be acceptable.

City to furnish and connect their cables to points A and furnish and connect their conduit to bridge conduit at ends of wings.



CONDUIT DRAIN

If conduit does not drain naturally, insert tee fitting with reduced side outlet at low point of each run and provide suitable drain.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

LIGHTING SYSTEM

BRIDGE NO. ST-30-63
OVER TUSCARAWAS RIVER AND
PENNA. R.R. W.& L.E.R.R. AND B.& O.R.R.

STARK CO. S.H. 69
SEC. MASSILLON (PT.) STA. 9+15.54
U-338(2) & UG-338(2)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	m.w.e.	E.S.D.	A.G.Q. W.H.C.	6-8-45	1/9/45 6-25-46

18

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	40 / 42
2	OHIO	UG-U-338(2)	1946	

STARK COUNTY
S.H. 69 SEC. Massillon (Pt.)

SUPERSTRUCTURE

Mark	Size	No.	Length	Weight	Shape
S7a	1" ϕ	544	4'-6"	6,540	B
S5a	¾" ϕ	1258	29'-9"	56,210	B
b		1258	27'-9"	52,430	S
c		18	40'-0"	1,080	S
e	¾" ϕ	18	30'-0"	810	S
S4a	⅝" ϕ	1258	27'-9"	36,410	S
b		1110	38'-0"	43,990	S
c		120	40'-0"	5,010	S
d		999	37'-6"	39,070	S
e	⅝" ϕ	160	27'-6"	4,590	S
S2a	½" ϕ	2500	6'-6"	10,850	S
b		820	5'-3"	2,880	B
c		820	3'-0"	1,640	B
d	½" ϕ	1232	4'-0"	3,290	B
R5a	¾" ϕ	184	6'-6"	1,800	S
b		96	6'-0"	860	S
c	¾" ϕ	28	5'-9"	240	S

PIER NO. 1

Mark	Size	No.	Length	Weight	Shape
P8a	1" □	36	39'-0"	4,770	S
b		50	8'-0"	1,360	B
c		50	23'-3"	3,960	S
d		20	36'-9"	2,500	S
e		10	15'-0"	510	S
f	1" □	4	16'-6"	220	S
P4a	⅝" ϕ	74	8'-0"	620	S
b		52	17'-0"	920	B
c		26	19'-0"	520	B
d		52	9'-6"	520	B
e		52	6'-0"	330	B
f	⅝" ϕ	6	3'-6"	20	S
P2a	½" ϕ	48	5'-9"	180	B
b		24	5'-9"	90	B
c		8	7'-9"	40	B
d	½" ϕ	22	5'-3"	80	B

PIERS NO. 2 and 3

Mark	Size	No.	Length	Weight	Shape
P8d	1" □	40	36'-9"	5,000	S
e		20	15'-0"	1,020	S
f	1" □	8	16'-6"	450	S
P7a	1" ϕ	158	12'-6"	5,280	S
P5a	¾" ϕ	268	6'-0"	2,420	B
b		168	24'-9"	6,250	B
c		50	9'-6"	710	S {Pier No. 2 only}
d	¾" ϕ	50	15'-0"	1,130	S {Pier No. 3 only}
P4b	⅝" ϕ	{16-#2, 28-#3}	17'-0"	280	B
c		{8-#2, 14-#3}	19'-0"	160	B
d		104	9'-6"	1,030	B
e		104	6'-0"	650	B
f		12	3'-6"	40	S
P4g		28	41'-0"	1,200	S
h		108	35'-6"	4,000	S
i		70	8'-0"	590	B
j	⅝" ϕ	48	12'-3"	610	B
P2a	½" ϕ	84	5'-9"	320	B
b		48	5'-9"	190	B
c		16	7'-9"	80	B
d	½" ϕ	44	5'-3"	150	B

PIER NO. 4.

Mark	Size	No.	Length	Weight	Shape
P8a	1" □	32	39'-0"	4,240	S
b		50	8'-0"	1,360	B
d		20	36'-9"	2,500	S
e		10	15'-0"	510	S
f		4	16'-6"	220	S
g	1" □	50	40'-6"	7,920	S

(Concl. next column)

PIER NO. 4 (Concluded)

Mark	Size	No.	Length	Weight	Shape
P4b	⅝" ϕ	112	17'-0"	1,990	B
c		56	19'-0"	1,110	B
d		52	9'-6"	520	B
e		52	6'-0"	330	B
f		6	3'-6"	20	S
k		76	12'-6"	1,000	S
l		61	8'-3"	530	B
m	⅝" ϕ	4	35'-0"	150	S
P2a	½" ϕ	36	5'-9"	140	B
b		24	5'-9"	90	B
c		8	7'-9"	40	B
d		22	5'-3"	80	B
e	½" ϕ	66	3'-0"	130	B

PIERS NO. 5 and 6.

Mark	Size	No.	Length	Weight	Shape
P8b	1" □	100	8'-0"	2,720	B
d		40	36'-9"	5,000	S
h		20	12'-0"	820	S
i		8	13'-6"	370	S
j	1" □	100	26'-6"	9,010	S
P4b	⅝" ϕ	120	17'-0"	2,130	B
c		60	19'-0"	1,190	B
d		104	9'-6"	1,040	B
e		104	6'-0"	650	B
f	⅝" ϕ	12	3'-6"	40	S
P2a	½" ϕ	132	5'-9"	510	B
b		36	5'-9"	140	B
c		16	7'-9"	80	B
d	½" ϕ	32	5'-3"	100	B

PIER NO. 7.

Mark	Size	No.	Length	Weight	Shape
P8b	1" □	50	8'-0"	1,360	B
d		20	36'-9"	2,500	S
h		10	12'-0"	410	S
i		4	13'-6"	180	S
k	1" □	50	22'-6"	3,820	S
P4b	⅝" ϕ	52	17'-0"	920	B
c		26	19'-0"	520	B
d		52	9'-6"	520	B
e		52	6'-0"	330	B
f	⅝" ϕ	6	3'-6"	20	S
P2a	½" ϕ	66	5'-9"	250	B
b		18	5'-9"	70	B
c		8	7'-9"	40	B
d	½" ϕ	16	5'-3"	60	B

PIER NO. 8.

Mark	Size	No.	Length	Weight	Shape
P8b	1" □	50	8'-0"	1,360	B
d		20	36'-9"	2,500	S
h		10	12'-0"	410	S
i		4	13'-6"	180	S
l	1" □	50	21'-0"	3,570	S
P4b	⅝" ϕ	44	17'-0"	780	B
c		22	19'-0"	440	B
d		52	9'-6"	520	B
e		52	6'-0"	330	B
f	⅝" ϕ	6	3'-6"	20	S
P2a	½" ϕ	66	5'-9"	250	B
b		18	5'-9"	70	B
c		8	7'-9"	40	B
d	½" ϕ	16	5'-3"	60	B

WEST ABUTMENT

Mark	Size	No.	Length	Weight	Shape
A4a	⅝" ϕ	66	23'-0"	1,580	S
b		33	12'-0"	410	S
c		88	6'-0"	550	S
d		33	11'-0"	380	S
e		36	8'-6"	320	B
f		26	12'-0"	330	B
g	⅝" ϕ	100	17'-0"	1,770	S

(Contd next column.)

WEST ABUT. (Cont'd)

Mark	Size	No.	Length	Weight	Shape
A2a	½" ϕ	66	6'-0"	260	B
B4a	⅝" ϕ	70	6'-3"	460	S
b		70	8'-0"	580	B
c		12	24'-0"	300	S
d	⅝" ϕ	22	4'-0"	90	B
C8a	1" □	24	18'-0"	1,470	S
C5a	¾" ϕ	12	17'-6"	320	S
b	¾" ϕ	24	13'-0"	470	S
C4a	⅝" ϕ	6	16'-9"	100	B
b		6	16'-0"	100	B
c		6	15'-3"	100	B
d		6	14'-6"	90	B
e		6	13'-9"	90	B
f		6	13'-0"	80	B
g		6	12'-3"	80	B
h		6	11'-6"	70	B
i		6	10'-9"	70	B
j	⅝" ϕ	6	10'-0"	60	B
P8e	1" □	10	15'-0"	510	S
f	1" □	4	16'-6"	220	S
P4f	⅝" ϕ	6	3'-6"	20	S
P2b	½" ϕ	60	5'-9"	230	B
c		20	7'-9"	100	B
d1	½" ϕ	20	5'-9"	80	B
F8a	1" □	54	8'-0"	1,470	B
F7a	1" ϕ	24	29'-0"	1,860	S
F5a	¾" ϕ	72	6'-0"	650	B
b		24	39'-0"	1,410	S
c		6	10'-0"	90	S
e	¾" ϕ	48	10'-9"	780	B
F4a	⅝" ϕ	86	10'-6"	940	S
b		12	29'-0"	360	S
c		44	10'-9"	490	B
d		37	11'-6"	440	S
e		37	9'-6"	370	S
f		6	38'-6"	240	S
g		28	16'-0"	470	S
h		16	7'-6"	130	S
i		6	5'-0"	30	S
k	⅝" ϕ	6	6'-0"	40	S
T8a	1" □	4	20'-0"	270	S
a1		4	15'-9"	210	B
a2		4	23'-0"	310	S
b		4	19'-0"	260	B
b1		4	13'-0"	180	B
b2		4	19'-0"	260	B
c	1" □	4	6'-6"	90	B
T2a	½" ϕ	50	3'-0"	100	S
b		90	4'-6"	270	S
b*		14	6'-0"	60	S
c		8	19'-0"	100	B
c1		10	16'-0"	110	B
c2		8	20'-3"	110	B
d		88	7'-0"	410	B
e		20	10'-0"	130	B
f		16	5'-9"	60	B
g	½" ϕ	20	6'-6"	90	B
S7a	1" ϕ	48	4'-6"	580	B
S2d	½" ϕ	64	4'-0"	170	B

*Cut or bend in field to fit.

(Concl. next column.)

WEST ABUTMENT (Concluded)

Mark	Size	No.	Length	Weight	Shape
W8a	1" □	18	13'-0"	800	B
b	1" □	30	17'-6"	1,790	S
W5a	¾" ϕ	8	12'-0"	140	S
b		4	6'-0"	40	B
c		16	24'-6"	590	S
k	¾" ϕ	20	38'-0"	1,140	S
W4a	⅝" ϕ	24	8'-6"	210	S
b		32	5'-0"	170	B
c		52	38'-0"	2,060	S
d		36	17'-6"	660	S
e		72	15'-9"	1,180	B
f		76	19'-0"	1,510	S
g		24	23'-0"	580	S
l	⅝" ϕ	12	3'-0"	40	S
W2a	½" ϕ	90	5'-3"	320	S
b		24	7'-6"	120	B
c		46	2'-6"	80	B
d		46	5'-9"	180	B
e		24	24'-0"	390	S
f	½" ϕ	90	5'-3"	310	B
W5d	¾" ϕ	16	8'-6"	200	S
R5a	¾" ϕ	16	6'-6"	160	S

EAST ABUTMENT

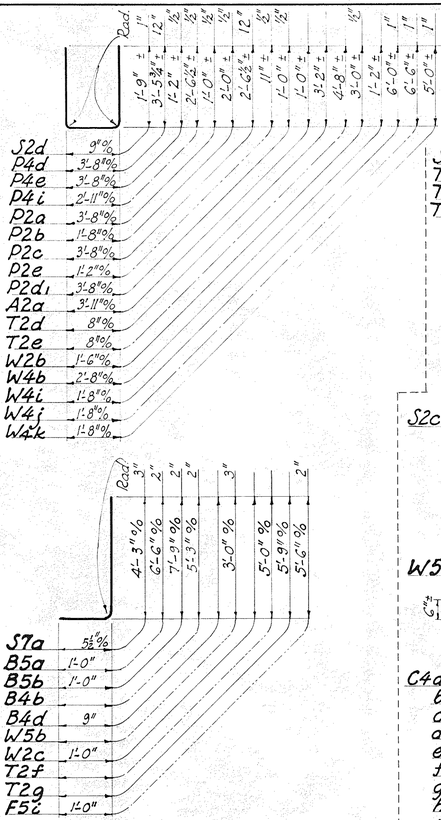
Mark	Size	No.	Length	Weight	Shape
S7a	1" ϕ	40	4'-6"	480	B
b		10	15'-0"	400	S
c	1" ϕ	4	16'-6"	180	S
S2d	½" ϕ	64	4'-0"	170	B
P4f	⅝" ϕ	6	3'-6"	20	S
P2b	½" ϕ	50	5'-9"	190	B
c		20	7'-9"	100	B
d1	½" ϕ	20	5'-9"	80	B
F8a	1" □	72	8'-0"	1,960	B
F5a	¾" ϕ	120	6'-0"	1,080	B
b		24	39'-0"	1,410	S
d		48	21'-6"	1,550	S
f		14	10'-0"	210	S
g		239	10'-0"	3,580	B
h		44	28'-0"	1,850	S
i	¾" ϕ	94	6'-3"	880	B
F4f	⅝" ϕ	4	38'-0"	160	S
j		8	22'-6"	190	S
l		8	26'-0"	220	S
m	⅝" ϕ	148	13'-0"	2,010	S
W8a	1" □	6	13'-0"	270	B
c		18	24'-6"	1,500	S
d	1" □	12	10'-0"	410	S
R5a	¾" ϕ	16	6'-6"	160	S
A4a	⅝" ϕ	84	23'-0"	2,020	S
b		42	12'-0"	530	S
c		92	6'-0"	580	S
d		42	11'-0"	480	S
e		36	8'-6"	320	B
f		28	12'-0"	350	B
h	⅝" ϕ	96	20'-0"	2,000	S
A2a	½" ϕ	66	6'-0"	260	B

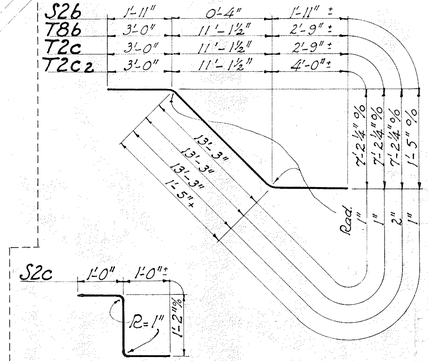
EAST ABUT. (Concluded)

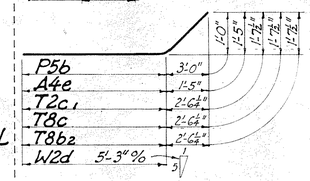
Mark	Size	No.	Length	Weight	Shape
B5a	¾" ϕ	64	7'-3"	700	B
b	¾" ϕ	64	8'-9"	840	B
B4c	⅝" ϕ	18	24'-0"	450	S
d	⅝" ϕ	22	4'-0"	90	B
C8b	1" □	24	22'-0"	1,800	S
c	1" □	18	13'-0"	800	S
C5c	¾" ϕ	12	9'-0"	160	S
d		12	12'-0"	220	S
e		12	16'-0"	290	S
f	¾" ϕ	12	19'-0"	340	S
C4k	⅝" ϕ	6	25'-0"	160	B
l		6	23'-9"	150	B
m		6	22'-6"	140	B
n		6	21'-3"	130	B
o		6	20'-0"	130	B
p		6	18'-9"	120	B
q		6	17'-6"	110	B
r		6	16'-3"	100	B
s		6	15'-0"	90	B
t		6	13'-9"	90	B
u		6	12'-6"	80	B
v		6	11'-3"	70	B
w	⅝" ϕ	6	10'-0"	60	B
W5e	¾" ϕ	16	22'-0"	530	S
f		8	8'-0"	100	B
g		12	14'-6"	260	S
h	¾" ϕ	36	23'-0"	1,240	S
W4a	⅝" ϕ	4	8'-6"	40	S
h		160	15'-0"	2,500	S
i		96	13'-6"	1,350	B
j		42	14'-6"	640	B
k		54	11'-6"	650	B
l		12	3'-0"	40	S
m	⅝" ϕ	92	32'-0"	3,070	S
W2a	½" ϕ	88	5'-3"	310	S
b		24	7'-6"	120	B
c		40	2'-6"	40	B
d		40	5'-9"	150	B
f		80	5'-3"	280	B
g	½" ϕ	24	21'-0"	340	S

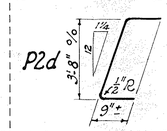
REPLACEMENT STEEL

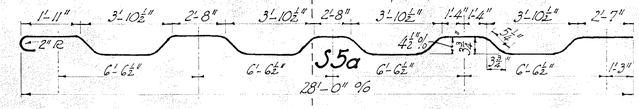
RE8	1" □	4	8'-0"	110	S
7	1" ϕ	1	8'-0"	20	S
5	¾" ϕ	7	7'-0"	70	S
4	⅝" ϕ	8	7'-0"	60	S
2	½" ϕ	3	6'-0"	10	S

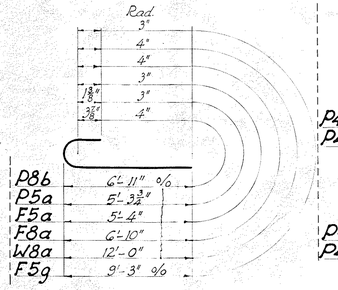


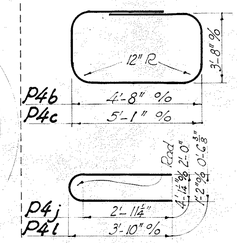


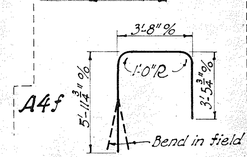












STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

REINFORCING STEEL

BRIDGE NO. ST-30-63
OVER
TUSCARAWAS RIVER
AND
THE PENNA RR., TW&LE RY. AND B&O RR
STARK CO. U338(2) & UG-338(2) S.H. 69
SEC. MASSILLON (PT) STA. 9+15.54

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	R.E.E.				12-17-45 6-25-46


Massillon - Stark County - Ohio : Valuation Section - OH 122.4 (S-30)
FED. RD. DIVISION 2
STATE OHIO
FED. AID PROJECT U-338(2) UG-338(2)
FISCAL YEAR 194
41
42
STARK COUNTY
S.H. 69 - SEC. MASSILLON (PT.)
P.R.R.
W.& L.E.
B.& O.
W.B.M.
E.B.M.
To Warwick
To Bridgeport
FOURTH ST. N.W.
FIFTH ST. N.W. 20'
FIFTH ST. S.W.
60' WATER AVE.
LINCOLN WAY
80'
Spiral a=1 2/3
Δ=2°42'
L=180'
O=0.70'
D=1°30'
Δ=4°45'30"
L=317.22'
Bituminous Macadam Crossing
Plank Crossing
Brick Paving
Frame Watch Tower to be Relocated at expense of Massillon Conservancy District
Signals and turnout to be installed, but not at State's expense
Crossings made of 15'x6.0' Removable Concrete Slabs
Track to be relocated by W.&L.E.
To be removed by W.&L.E.
To be paved by State's Contractor
Bituminous Macadam Platform
1 Story Brick Passenger Station
Brick Driveway
To be graded and paved by State Contractor
To be graded and paved by State's Contractor
Timber Platform
1 Story Frame Freight Station
Concrete Driveway
Edge Concrete Driveway
Siding
Concrete Retaining Wall
Concrete Ramp & Platform
Abutment
Baltimore & Ohio R.R. Co.
2 Sty. Frame Building
2 Sty. Fr. Dwelling
2 Sty. Frame Dwelling
2 Car Fr. Garage
WORK TO BE DONE BY B&O. and W.U. FORCES
AT EXPENSE OF OHIO DEPARTMENT OF HIGHWAYS
1. Relocate underground cable before construction and upon completion of bridge remove same.
2. Remove two sets of Crossing gates and flashing light attachments.
3. Remove two standard timber warning signs.
4. Remove two standard steel pipe flasher light warning signs, relay boxes and connections.
5. Relocate Home signal on W.&L.E. at new location.
6. Remove concrete slabs highway crossing in B&O. main tracks.
7. Ballast and resurface main tracks at crossing.
Survey - W.E.D.
Drawing - W.E.D.
Checked - J.A.M.
THE BALTIMORE & OHIO SYSTEM
THE BALTIMORE & OHIO RAILROAD CO.
WHEELING - DIV. - C.L.&W. BR. - MASSILLON, O.
WORK TO BE DONE BY R.R. FORCES
ACCOUNT PROPOSED GRADE SEPARATION SH-69
Scale: 1 in. = 20 ft. February, 25, 1944
Office of Regional Engineer Revised Feb. 19, 1946.
Pittsburgh, Pa.
14669
N.B.-209
File No. 5757

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OH10	UG-U-338(2)	1946

41-A
42

SUMMARY OF QUANTITIES

STARK COUNTY
S.H.69 SEC. MASSILLON (PT.)

ROADWAY AND PAVEMENT

FROM SHEET Nº	E-8 Rem & Disp. of Exist. Side-walk S.F.	E-8 Steps L.F.	E-8 Pave-ment S.Y.	E-8 Curb L.F.	E-8 Rem for Reuse Ex Stone Curb L.F.	E-9 Rem. of Trees & Stump Ea.	E-12 Pipe Rem & Stored 15 & Un. L.F.	I-2 Pipe for Storm Sewers 12" L.F.	15" L.F.	Under Appr. 12" L.F.	15" L.F.	24" L.F.	Outlet Pipe, 24" L.F.	Spec. 24 Cast Iron Pipe Under R.R. L.F.	I-4 4" Pipe Under-drain L.F.	I-5 Pipe Spec. Cast Iron Pipe Un. Rail'ds 24"X12"T Ea.	I-8 Man-holes Nº 1 Ea.	Catch Basins Nº 1-3 Ea.	Nº 3 Ea.	I-11 6"x20 Stone Curb L.F.	Stone Curb Reset L.F.	I-12 Type 2-A Conc. Curb L.F.	I-13 4" Conc. Side-walk S.F.	6" Conc. Side-walk S.F.	Conc. Steps L.F.	I-15 Wood Guard Rail Posts Ea.	I-19 1¼" Insul-ation Course S.Y.	I-117 6" Thick S.Y.	T-30 Bit. Prime Coat Sand Cov S.Y.	T-35 1¼" Surf. Course Type B S.Y.	Extra C.Y. Surf Cov Type B C.Y.	T-70 8" Conc Pav't S.Y.	T-70 6" Conc Pav't S.Y.	B-35 1¼" Level Course S.Y.	B-35 3" Base Course S.Y.	B-71 8" Rein. Conc. Base S.Y.	Spec. Prec. Conc. Tr. Div's. Type 6 Ea.	S-5 9" Rein. Conc. Appr. Slabs S.Y.	SS-112 Class Emb Mat. C.Y.	S-122 C.B. Aban-doned Ea.	S-122 M.H. Aban-doned Ea.	S-203 Water-proofg Br. Decks & Ap.Sl. S.Y.
U-338 (2)																																														
4	4972		1601.1	382			170			184		13	10				2		4	*119.9			1577.7	259.4																						10			5	2	
5																							397.8																										
13																				161.6			1321.0	915.0			204	122.2	405.3	604.0				604.0	405.2	405.3										
19 (1)																				*116.0									602.4	602.4				602.4		516.3		86.1	168			86.1
20-A																																														
21															108																														
TOTAL	4972		1601.1	382			170			184		13	10		108		2		4	397.5			3296.5	2174.4			204	122.2	1007.7	1206.4				1206.4	405.2	921.6	10	86.1	168	5	2	86.1
TO CALC.															108					397.5								122.2	1007.7	1206.4				1206.4	405.2	921.6			168			
TO GEN. SUM.	4972		1601	382			170			184		13	10		108		2		4	397.5			3297	2175			204										10	86		5	2	86
UG-338 (2)																																														
5												3		60					2																				11					
6	898.9	111.0				9			256	74		107		116			1		4	1	2	*250.7			2396.9		4.5											9					
7	1836.2	56.2	2141.3	589	176	2		134		208	20								1		6	*146.0	1733		9330	299.0	106.0																	
14 (1) Quantities included under Bridge Sheet No. 26																						41.0			113.2				115.0	29.6	29.6				29.6		29.6						
14 (2)																									348.0				393.0					218.0									
15	400.0		408.0	183																		169.7			719.0	852.0			167	258.6	425.7				425.7	334.2	258.6					
16																																		895.0							3		
17	1058.0		957.0	427																		*115.0		284	333.0	2003.0	95.3			631.0	631.0				631.0		544.9		86.1	177			86.1
19 (2)																									534.0	355.2				538.8	538.8	4.0			538.8		538.8			142			
19 (3)																																												
20-A																																			18.2								
21			28.4												195										56.6	83.2																	
TOTAL	4193.1	167.2	3534.7	1199	176	11		134	256	282	20	110		176	195		1		7	1	8	722.4	1733	284	5434.6	3592.4	205.8		167	508.0	1458.0	1625.1	4.0	1113.0	18.0	1625.1	334.2	1371.9	20	86.1	319	3		86.1
TO CALC.															195					722.4								508.0	1458.0	1625.1	4.0			1625.1	334.2	1371.9			319			
TO GEN. SUM.	4193	167	3535	1199	176	11		134	256	282	20	110		176			1		7	1	8		173	284	5435	3593	206		167					1113	18.0				20	86		3		86

* I-4 Pipe Underdrain back of this Curb

STRUCTURES

FROM SHEET Nº	S-1 Class C Conc. for Struct. C.Y.	S-4 Rein-Steel Lbs.		S-14 2½" Pipe Railing L.F.	S-22 Rem. of Port. of Exist. Struct. C.Y.	Spec. Met. & conc. Sidewalk Railing L.F.
U-338 (2)						
20-A		2600				120
TOTAL		2600				120
TO GEN. SUM.		2600				120
UG-338 (2)						
17				20		
20-A		3470				160
21	2.3				2.6	
TOTAL	2.3	3470		20	2.6	160
TO GEN. SUM.	2.3	3470		20	2.6	160

EARTHWORK

Station From	Station To	Excavation Cu.Yds.	Embankment Cu.Yds.	Embankment +15% Cu.Yds.
U-338 (2)				
3+00	6+10	1158	2908	3344
From Sheet 21		-25	+910	1047
TOTAL		1133	3818	4391
UG-338 (2)				
6+10	17+90.5	1898	9004	10355
From Sheet 21		-31	+381	438
TOTAL		1867	9385	10793

U-338 (2)
BORROW = 4391 − 1133 = 3258 C.Y.
ROADWAY EXCAVATION = 1133 C.Y.

UG-338 (2)
BORROW = 10793 − 1867 = 8926 C.Y.
ROADWAY EXCAVATION = 1867 C.Y.

CALCULATIONS

U-338(2)
T-35 Type B
1¼" Surface Course - Sta. 3+00 to Sta. 4+75.91 = 175.91 L.F.
175.91 × 66 ÷ 9 = 1290.01 S.Y.
From Rdw'y & Pav't. Table) = 1206.4 S.Y.
Total = 2496.41 S.Y.
To General Summary 2496.41 × 1.25 ÷ 36 = 86.68 C.Y. Use 87 C.Y.

B-35 Leveling
To General Summary (Same as T-35, Type B) = 86.68 C.Y. Use 87 C.Y.

B-35 Base
3" Base Course (From Rdw'y & Pav't Table) = 405.2 S.Y.
To General Summary = 405.2 × 3 ÷ 36 = 33.77 C.Y. Use 34 C.Y.

8" B-71
Area (From 1¼" T-35, Type B Calc) = 1290.01 S.Y.
From Rdw'y & Pav't Table = 921.6 S.Y.
To General Summary Total = 2211.61 S.Y. Use 2212 S.Y.

T-30
Area = 2211.61 S.Y. + 86.1 S.Y. = 2297.71 S.Y.
To General Summary = 2297.71 × 0.10 = 229.77 Gal. Use 230 Gal.

T-35, Type B, Mod. for Bridge Surfacing
2½" Area (From Rdw'y & Pav't Table = 86.1 S.Y.
To General Summary = 86.1 × 2.5 ÷ 36 = 5.98 C.Y. Use 6 C.Y.

I-11 Stone Curb
From Rdw'y & Pav't Table = 397.50 L.F.
Minus 4 No. 3 C.B. @ 6'-1" = 24.33 L.F.
To General Summary - Total = 373.17 L.F. Use 373 L.F.

I-4 Pipe Underdrain
* I-11 from Rdw'y & Pav't Table = 119.9 + 116.0 = 235.9 L.F.
I-4 from Rdw'y & Pav't Table = 1080 L.F.
To General Summary Total = 343.9 L.F. Use 344 L.F.

I-117
6" I-117 from Rdw'y & Pav't Table = 122.2 S.Y.
To General Summary = 122.2 × 6 ÷ 36 + 15% = 23.42 C.Y. Use 23 C.Y.

SS-112
Sta. 3+00 to Sta. 4+75.91 = 175.91 L.F.
175.91 (E.A. - 55.89 S.F.) ÷ 27 = 364.13 C.Y.
SS-112 from Rdw'y & Pav't Table = 168.00 C.Y.
To General Summary Total = 532.13 C.Y. Use 532 C.Y.

E-11 Water
Embankment (From Earthwork Table = 3818 C.Y.
SS-112 (Above) = 532 C.Y.
Embankments in Cuts = (75 × 70 × 8" ÷ 12") ÷ 27 = 130 C.Y.
Total = 4480 C.Y.
To Gen. Sum. = 4480 C.Y. × 5 (Gal) = 22,400 Gal. Use 22 M Gal.

L-10 Sodding
To General Summary (From Sheet 9) = 1556 S.Y.

L-9 Sodding
To Gen. Sum. = 1556 (Above) × 9 × 20 × 1/1000 = 280.08 lbs. Use 280 lbs.

UG-338 (2)
T-35 Type B
1¼" Surface Course - Sta. 13+60.38 to Sta. 17+03.91 = 343.53 L.F.
343.53 × 66 ÷ 9 = 2519.22 S.Y.
(From Rdw'y & Pav't Table) = 1625.1 S.Y.
Total = 4144.32 S.Y.
4144.32 × 1.25 ÷ 36 = 143.90 C.Y.
Extra T-35 from Summary Table = 4.00 C.Y.
To General Summary = 147.90 C.Y. Use 148 C.Y.

B-35 Leveling
To General Summary (from T-35, Type B) = 143.90 C.Y. Use 144 C.Y.

B-35 Base
3" Base Course (From Rdw'y & Pav't Table) = 334.2 S.Y.
To General Summary = 334.2 × 3 ÷ 36 = 27.85 C.Y. Use 28 C.Y.

8" B-71
Area (From 1¼" T-35 Type B Calc) = 2519.22 S.Y.
From Rdw'y & Pav't Table = 1371.9 S.Y.
To General Summary - Total = 3891.12 S.Y. Use 3891 S.Y.

T-30
Area = 3891.12 S.Y. + 86.1 S.Y. = 3977.22 S.Y.
To General Summary = 3977.22 × 0.10 = 397.72 Gal. Use 398 Gal.

T-35, Type B
2½" Area (From Rdw'y & Pav't Table) = 86.1 S.Y.
To General Summary = 86.1 × 2.5 ÷ 36 = 5.98 C.Y. Use 6 C.Y.

I-11 Stone Curb
From Rdw'y & Pav't Table = 722.4 L.F.
Minus 8 No. 3 C.B. @ 6'-1" = 48.67 L.F.
To General Summary - Total = 673.73 L.F. Use 674 L.F.

I-4 Pipe Underdrain
* I-11 from Rdw'y & Pav't Table = 250.7 + 146.0 + 1150 = 511.7 L.F.
I-4 from Rdw'y & Pav't Table = 1950 L.F.
To General Summary - Total = 706.7 L.F. Use 707 L.F.

I-117
6" I-117 from Rdw'y & Pav't Table = 508 S.Y.
To General Summary = 508 × 6 ÷ 36 + 15% = 97.37 C.Y. Use 97 C.Y.

SS-112
Sta. 13+60.38 to Sta. 17+03.91 = 343.53 L.F.
343.53 × (E.A. 55.89 S.F.) ÷ 27 = 711.11 C.Y.
SS-112 from Rdw'y & Pav't Table: 319 C.Y.
To General Summary - Total = 1030.11 C.Y. Use 1030 C.Y.

E-11 Water
Embankment (From Earthwork Table = 9385 C.Y.
SS-112 (Above) = 1030 C.Y.
Emb. in Cuts = (129 × 70 × 8" ÷ 12") ÷ 27 = 223 C.Y.
(86.59 × 60 Ave. × 8" ÷ 12") ÷ 27 = 128 C.Y.
Total = 10,766 C.Y.
To General Summary 10,766 C.Y. × 5 Gal. = 53,830 Gals. Use 54 M Gal.

L-10 Sodding
To General Summary (From Sheet 11) = 2583 S.Y.

L-9
To Gen. Sum. = 2583 (Above) × 9 × 20 × 1/1000 = 464.94 lbs. Use 465 lbs.

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR
2	OHIO	U-338-(3) UG-338-(2)	1946

42
42

STARK COUNTY
S.H. 69 SEC. MASSILLON (PT.)

GENERAL NOTES

TRAFFIC NOTE:-
The highway, between the west line of Third Street and the east line of Sixth Street, shall be closed to traffic until construction is completed.
Through traffic shall be detoured as indicated on sheet number 1, commercial vehicles using Walnut Road and passenger vehicles using Tremont Street and later Walnut Road.
The Contractor shall arrange his operations so that traffic inconvenience will be held to a minimum and access to abutting properties provided at all times from Station 3+00 to the west line of Third Street, and from the east line of Sixth Street to the end of the project. Methods of work procedure and traffic maintenance shall be submitted to the Engineer for approval.
Traffic shall be maintained at all times on Third Street North and South, and on Sixth Street North and South including access to abutting properties.
The length of one-way traffic zones shall be kept to a minimum consistent with the requirements of Sec. T-35.23 of the material specifications.
Access to the B & O.R.R. passenger and freight stations shall be maintained at all times from Water Street & Tremont St.
The item of Maintaining Traffic at the points indicated above shall include furnishing lights, signs, barricades and watchman necessary to secure the flow of traffic twenty four (24) hours daily in addition to the requirements of Sec. G-.07 of the material specifications.

UTILITY ADJUSTMENT:-
Removal and replacement, as necessary of the structures or facilities of all Public Utilities, including Water and Power Lines and other Public or City Utilities occupying the Highway or Streets, and coordinating such work with construction activities so as to avoid delays to the Contractor shall be performed by the Massillon Conservancy District or the City of Massillon in conformance with the specifications of the State of Ohio.

FINISHING CONCRETE BASE OR PAVEMENT:-
Hand finishing will be permitted as per Sec. B-70.191 or T-70.201 of the General Specifications

PLACING CONCRETE BASE:-
The concrete base shall be placed and finished in single lane widths of 9', 12', 12', 12', 12', 9' each as shown on typical section.

DISPOSAL OF WASTE MATERIAL:-
Any excavation which is unfit for incorporation in the improvement and which would appear unsightly, shall be covered with earth to a minimum of 18" and made to comform to the contour of the adjacent land if wasted within 300' of the right of way, without expense to the State, notwithstanding the written permission of the property owner to do otherwise.

SILT:-
Excavated material and borrow of which the grain size of 50% or more is between 0.074 m m and 0.005 m m (State Highway Testing Laboratory method of testing) shall be placed at least 3 feet below the pavement when used in embankment.

ITEM L-9 10-6-4 COMMERCIAL FERTILIZER & L-10 SODDING:-
Quantities for sodding Item L-10 are calculated for the soil areas to the right of way or slope easement lines as shown on the cross-sections, but shall not be performed unless the existing sod has been destroyed during construction. 10-6-4 Commercial fertilizer shall be applied at the rate of 20 lbs. per 1000 sq. ft. At the discretion of the Director the fertilizer formula may be modified or changed to meet available formulae.
ITEM L-10 SODDING:-
Areas to be sodded shall be loosened to a depth of 2" just prior to laying the sod. This work is to be included for payment in the price bid per sq.yd. of sodding. Fertilizer shall be applied to the areas to be sodded just prior to loosening operations, this work to be included in the unit price bid per pound for Commercial Fertilizer.
Time limitation on sodding may be waived at the discretion of the director. If the limitation is waived, a straw mulch 2" thick shall be placed on the sod immediately after laying and watering. The mulch shall be held in place by methods approved for E-305 seeding. The cost of this mulch shall be included in the price bid per sq.yd. of item L-10 sodding. Sod shall be well tamped to meet the grade shown on the cross-sections or in such a manner that proper drainage is not impeded. Excavation required in addition to tamping to allow the meeting of cross-section grades is to be included for payment in the price bid per sq.yd. of sodding.

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

FIELD HOUSE:-
The Contractor shall provide a suitable Field Office for the exclusive use of the Engineer and inspectors assigned to this project. This office shall have a minimun of 200 sq.ft of floor space and so arranged, equipped and lighted that the State Employees will have a convenient place for making the necessary records, etc. and have a safe place for storage of equipment, plans & necessary supplies. The Contractor shall have a telephone installed and maintained during construction of this project.
When the work is in progress during cold weather, the office shall be heated to a temperature of at least seventy (70°) degrees farenheit.
See section S-0.01(b) of the Construction and Material Specifications

PAVEMENT JOINTS:- Contraction and expansion joints will not be permitted in the construction of the reinforced concrete base course item B-71. Longitudinal joints in item B-71 shall be in accordance with SS-183 Revised May 1, 1945.
The provisions of Supplemental Specification no. 183 revised May 1, 1945 shall apply to the construction of the portland cement concrete pavement item T-70. The spacing of contraction joints in item T-70 shall be 20 feet.

ADDITIONAL NOTES:-
See sheets No. 21, & 21-A for additional general notes.
See sheets No. 4 & 7 for typical sections of existing pavement.
For proposed and existing bridge data see sheet No. 5.

SEALING:-
Vertical faces of new work, such as castings, curbs, etc. against which the new bituminous concrete is to be placed, shall be painted or sealed with bituminous material in accordance with Sec. E-10.02. The cost of such operations and material shall be included in the price bid for bituminous concrete.
PIPE UNDER RAILROADS:-
During construction of cast iron pipe under railroads, traffic must be maintained to the satisfaction of the railroads.
Before beginning installation of the section of pipe under the railroads, the Contractor shall submit for approval by the Chief Engineers of the affected railroads, a plan showing the proposed method of sheeting and shoring the excavation. If in the opinion of the Chief Engineers of the railroads, the proposed method of sheeting & shoring is such that supporting will be required for the track, such supporting will be done by railroad forces at the expense of the Contractor.

PRIME COAT INCLUDING SAND COVER:-
Bituminous Prime Coat, Section M-5.5 MS-1 shall be applied by distributor or by brooms at the rate of 0.10 gallon per square yard. After the bituminous material has been applied, all material not required to give a uniform coating to the surface shall be swept into all cracks and open joints before the sand cover is placed. Sand cover shall be uniformly spread at a rate of from 2 to 5 pounds per square yard. The sand shall be spread at such time and shall be in such condition that it will adhere to the bituminous material. Cost of sand cover shall be included in the price bid per gallon for bituminous material.

TREATMENT OF FEATHERED AREA:-
Where directed, the new surface course shall be feathered. The area upon which less than one (1) inch of surface course is to be placed shall be considered as the area to be feathered. A paint coat of the same bituminous material used in the mix shall be applied to this area before placing the bituminous concrete surface course. The cost of such operation and material shall be included in the price bid for bituminous concrete.

CASTINGS AND GRATES
The castings and grates on all catch basins and manholes abandoned shall be carefully removed by the Contractor and become the property of the City of Massillon

GUTTER SEAL
After placing and compacting the bituminous concrete surface course, the gutter surface shall be sealed with the same bituminous material contained in the mixture. Only enough material shall be applied to coat the surface for a distance of 15 inches from the curb or 24 inches wide from a "V" gutter. The material shall be applied by an approved method at a temperature of from 300° F. to 350° F. The cost of such operation and material shall be included in the price bid for bituminous concrete.
CONSERVANCY WORK
The War Department will let a contract for channel widening, removal of parts of the old structure not removed by this contract, track relocation and other work in accordance with the official plan of the Massillon Conservancy District. The Contractor shall co-ordinate his activities with the work of other contractors on the site.

GENERAL SUMMARY

ITEM Nº		U-338(2)	UG-338(2)	TOTAL QUANTITY	UNIT	DESCRIPTION
						ROADWAY
E-1		1133	1867	3000	CU.YDS.	ROADWAY EXCAVATION (UNCLASSIFIED)
E-4		3258	8926	12184	CU.YDS.	BORROW
E-8		4972	4193	9165	SQ.FT.	REMOVAL & DISPOSAL OF EXISTING SIDEWALK
E-8			167	167	LIN.FT.	REMOVAL & DISPOSAL OF EXISTING STEPS
E-8		1601	3535	5136	SQ.YDS	REMOVAL & DISPOSAL OF EXISTING PAVEMENT
E-8		382	1199	1581	LIN.FT.	REMOVAL & DISPOSAL OF EXISTING STONE CURB
E-8			176	176	LIN.FT.	REMOVAL FOR REUSE OF EXISTING STONE CURB
E-9			11	11	EACH	REMOVAL OF TREES AND STUMPS
E-11		22	54	76	M GAL.	WATER
E-12		170		170	LIN. FT.	(15" AND UNDER) PIPE REMOVED & STORED
SS-112		532	1030	1562	CU.YDS	CLASSIFIED EMBANKMENT MATERIAL
I-2			134	134	LIN.FT.	12" PIPE FOR STORM SEWERS
I-2			256	256	LIN.FT.	15" PIPE FOR STORM SEWERS
I-2		184	282	466	LIN. FT.	12" PIPE FOR STORM SEWERS UNDER APPROACHES
I-2			20	20	LIN.FT.	15" PIPE FOR STORM SEWERS UNDER APPROACHES
I-2		13	110	123	LIN. FT.	24" PIPE FOR STORM SEWERS UNDER APPROACHES
I-2		10		10	LIN. FT.	24" OUTLET PIPE FOR STORM SEWERS
I-2			180	180	LIN.FT.	24" CAST IRON PIPE UNDER RAILROADS
I-4		344	707	1051	LIN. FT.	4" PIPE UNDERDRAINS
I-5			1	1	EACH	24" PIPE SPECIALS FOR CAST IRON PIPE UNDER RAILROADS
I-8		2	6	8	EACH	STANDARD Nº 1 MANHOLES
I-8			1	1	EACH	STANDARD Nº 1-3 CATCH BASINS
I-8		4	8	12	EACH	STANDARD Nº 3 CATCH BASINS
I-13		3297	5435	8732	SQ. FT.	4" CONCRETE SIDEWALKS
I-13		2175	3593	5768	SQ. FT.	6" CONCRETE SIDEWALKS
I-13			206	206	LIN. FT.	CONCRETE STEPS 6", 6 3/8", 7 1/4" risers, 12 3/4", 14 1/2", 16" treads
I-117		23	97	120	CU. YDS	SIDE APPROACHES, MAIL BOX TURNOUTS & BERM MATERIAL
L-9		280	465	745	LBS.	10-6-4 COMMERCIAL FERTILIZER
L-10		1556	2583	4139	SQ.YDS	SODDING
S-122		5	3	8	EACH	CATCH BASINS ABANDONED
S-122		2		2	EACH	MANHOLES ABANDONED
						PAVEMENT
T-35		87	148	235	CU.YDS	ASPHALTIC CONCRETE SURFACE COURSE, TYPE B
T-70			1113	1113	SQ.YDS.	8" PORTLAND CEMENT CONCRETE PAVEMENT
B-35		87	144	231	CU.YDS.	ASPHALTIC CONCRETE LEVELING COURSE
B-35		34	28	62	CU. YDS	ASPHALTIC CONCRETE BASE COURSE
B-71		2212	3891	6103	SQ. YDS.	8" REINFORCED PORTLAND CEMENT CONCRETE BASE COURSE
T-70			18	18	SQ.YDS.	6" PORTLAND CEMENT CONCRETE PAVEMENT
T-30		230	398	628	Gallons	Bituminous Prime Coat, Sec. M-5.5, MS-1, Including Sand Cover
I-11		373	674	1047	LIN. FT.	6"x 20" STONE CURBS, AS PER PLAN
I 11			173	173	LIN. FT.	STONE CURBS RESET
I 12			284	284	LIN FT.	TYPE 2-A CONCRETE CURB
I-19		204	167	371	SQ.YDS.	1 1/4" INSULATION COURSE
SPEC.		10	20	30	EACH	PRECAST CONCRETE TRAFFIC DIVIDER, TYPE G as per plan
S-5		86	86	172	SQ.YDS.	9" REINFORCED CONCRETE APPROACH SLABS, AS PER PLAN
						STRUCTURES
S-1			2.3	2.3	CU. YDS	CLASS-C CONCRETE FOR STRUCTURES
S-4		2600	3470	6070	LBS.	REINFORCING STEEL
S-14			20	20	LIN. FT.	2 1/2" PIPE RAILING AS PER PLAN
S-22			2.6	2.6	CU. YDS	REMOVAL OF PORTIONS OF EXISTING STRUCTURE
S-14		120	160	280	LIN. FT.	METAL & CONCRETE SIDEWALK RAILING AS PER PLAN
						STRUCTURES OVER 20' SPAN
						FOR QUANTITIES IN BRIDGE - SEE SHEET Nos. 24 & 24A

RAILROAD FORCE ACCOUNTS

P.R.R.	See Sheet Nº 24A
B. & O. R.R.	See Sheet Nº 24A
W. & L.E.R.R.	See Sheet Nº 24A

GENERAL NOTES & SUMMARIES