E-5

E13

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842 (1)	POST WAR

1
85

CUYAHOGA COUNTY
CUY-283-(1.09-1.49)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
CUY. 283-(1.09-1.49)
CUYAHOGA COUNTY
CITY OF CLEVELAND

U-UG-842(1)
PART 4

FOR PART 2, SEE PLANS FOR
CUY.-2-(19.51-20.53), CUY-283-1.54
UI-329(7) PART 2

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

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the Highway except as noted in Traffic Note on Sheet Nº 6

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

Approved Louis R. Drasler
Date 11/7/50 Division Deputy Engineer

Approved
Date Chief Engineer, Bureau of Maintenance.

Approved Richard Ort
Date 11/12/50 Chief Engineer, Bureau of Bridges & R.R. Crossings.

Approved
Date 11/7/50 Chief Engineer, Bureau of Location & Design.

Approved
Date 11/13/50 First Ass't. Director & Chief Engineer.

Approved 11-13-50
Date 11/13/50 Director of Highways.

Print
Approved For The City of Cleveland
Date 11/16/50 Samuel F. David
Director of Public Service

Print
Approved E. A. Dougherty, Chief Engineer
Date 11/17/50 For New York Central Railroad Co.

CONVENTIONAL SIGNS

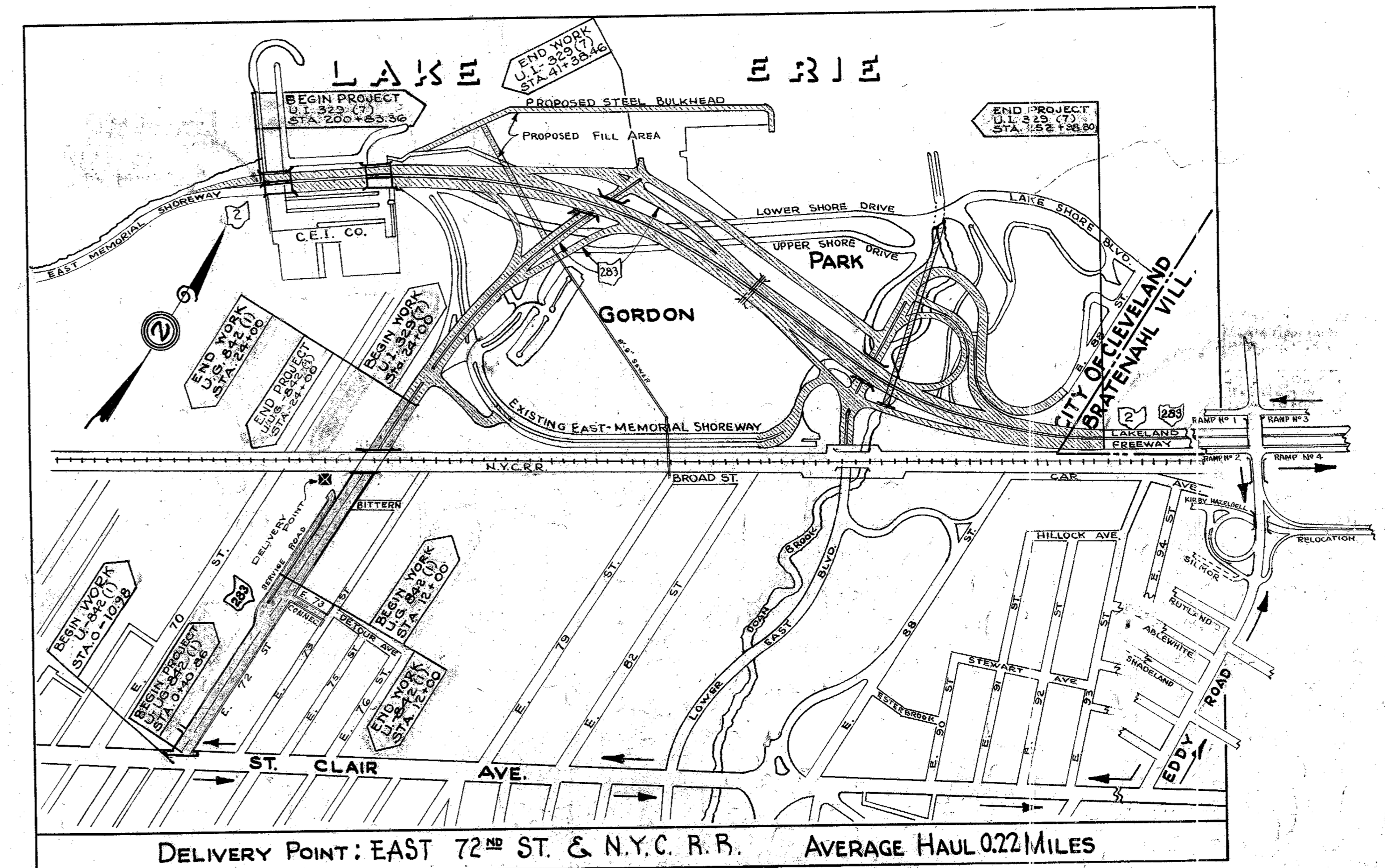
- City or Village Line
- Section Line
- Center Line
- Property Line
- Fence Line
- Pole Line
- Railroad
- Guard Rail

INDEX OF SHEETS

LINE DATA

Begin Project Station 0+40.86 U-UG-842 (1)
End Project Station 24+00 U-UG-842 (1)
No additions or deductions
Net Length of Project U-UG-842 (1) = 2359.14 Lin.Ft. or 0.446 Miles
Length of work Station 0-10.98 to Station 0+40.86 = 51.84 Lin.Ft.
E.73RD. St. Connection Sta. 0+42 to Sta. 2+91.37 = 249.37 Lin.Ft.
E.73RD. St. Sta. 9+74.05 to Sta. 17+28 = 753.95 Lin.Ft.
1055.16 Lin.Ft.

Total Length of Work U-UG-842 (1) = 2359.14 + 1055.16 = 3414.30 Lin.Ft. or 0.646 Miles PART 4
Total Length of Work U.I.-329 (7) = 18881.83 Lin.Ft. or 3.576 Miles PART 2
Total Length of Work PARTS 2 & 4 = 22296.13 Lin.Ft. or 4.222 Miles



LOCATION PLAN

SCALE IN FEET
0 275 550 1100 1650

SCALES

Plan	1" = 50'
Profile Vertical	1" = 5'
Profile Horizontal	1" = 50'
Cross Sections	1" = 10'

LEGEND

- Portion to be improved
- State Highways
- Other Roads
- Detour Roads

STANDARD		DRAWINGS	
T.J. Nº 1	7-1-50	I-8 M.H. Nº 1	5-1-47
T.J. Nº 2	7-1-50	I-8 M.H. Nº 2	5-1-47
T.J. Nº 3	7-1-50	G-8.07	2-7-50
L.J. Nº 1	7-1-50	B-T-50-70-71 EN Nº 1	10-1-47
L-3	4-1-50	L-1	4-1-50
L-3-A	4-1-50		
B-T-71 R	5-22-50		
I-1, 2, 3, 4, & 5	2-20-45		
I-8 C.B. I-2 A & B	12-15-41		

SUPPLEMENTAL		SPECIFICATIONS	
5	5-28-48	S-107	Rev. 4-13-50
31	6-13-49		
M-110.23	REV. 1-3-47		
T-110	REV. 8-3-36		
S-303	12-20-46		
T-171.19	REV. 7-31-50		
L-109.12	REV. 7-15-50		
M-103.12	REV. 1-20-50		
S-103	REV. 7-25-50		

CONSTRUCTION BUREAU
MAR 20 1956
GROUND PHOTOLAB

1149

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL:

DISTRICT ENGINEER DATE

APPROVED

DIVISION ENGINEER DATE

FILE Nº

DATE OF LETTING 195
CONTRACT Nº

Sheet Nº 9-A Revised 12-19-50 - G.W.S.
Rev. 11/17/50

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U-U.G.842 (1)	POSTWAR	2 / 85

CUYAHOGA COUNTY
CUY. -283-109-149

LOCATION PLAN

SCALE :- 1" = 200'

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	Postwar

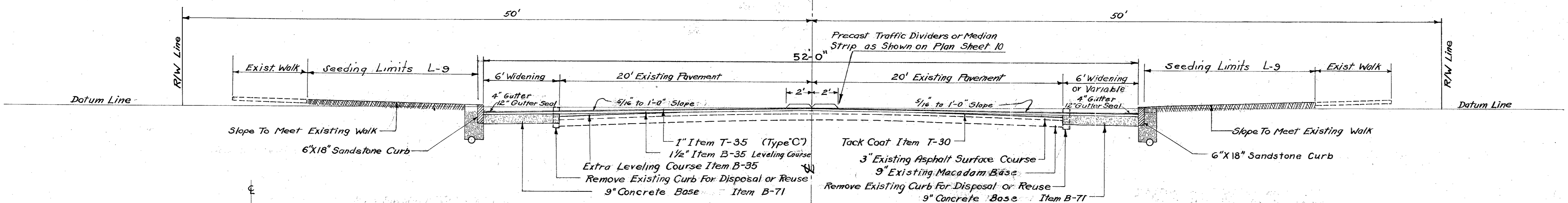
3 / 85

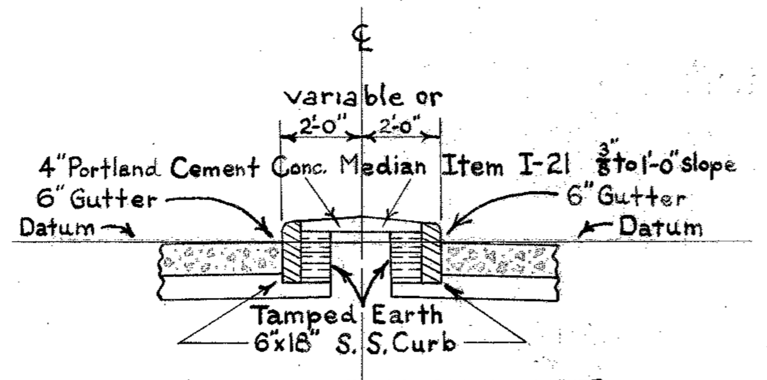
CUYAHOGA COUNTY
CUY. 283 - 1.09-1.49

TYPICAL SECTION

52'-0" TYPE T-35 ASPHALTIC CONC. SURFACE COURSE
2-6'-0" STRIPS-TYPE B-71 REIN. PORT. CEMENT CONC. PAVEMENT

SCALE - 1/4" = 1'





WHERE MEDIAN STRIP IS TO BE USED
(As Shown on Plan Sheets 10 & 11)

STA. 1+36.54 TO STA. 5+45

SEE EXTRA AREA SHEET 14

2-26' PAVEMENTS
TYPE T-71 REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

NOTE:
4' Median at Sta. 21+00 tapers into a 10' Median at Sta. 24+00

NOTE: For Curb & Curb Drain Details See Sheet # 5

STA. 21+00 TO STA. 24+00.00

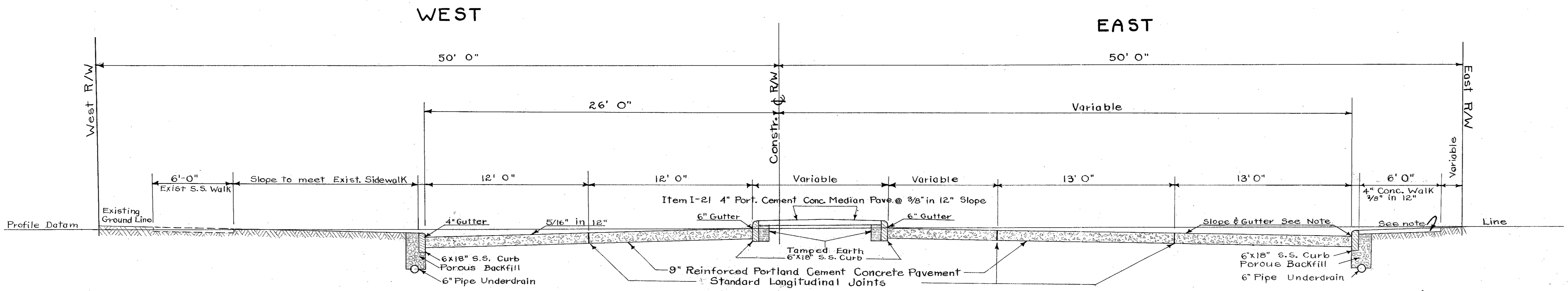
NORMAL SECTION

TYPICAL SECTION EAST 72nd ST.
STA. 1+36.54 To STA. 5+45 & STA. 21+00 To STA. 24+00

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U-UG-842(1)	POST WAR	4 / 85

CUYAHOGA COUNTY
CUY. 283 - 1.09 - 1.49

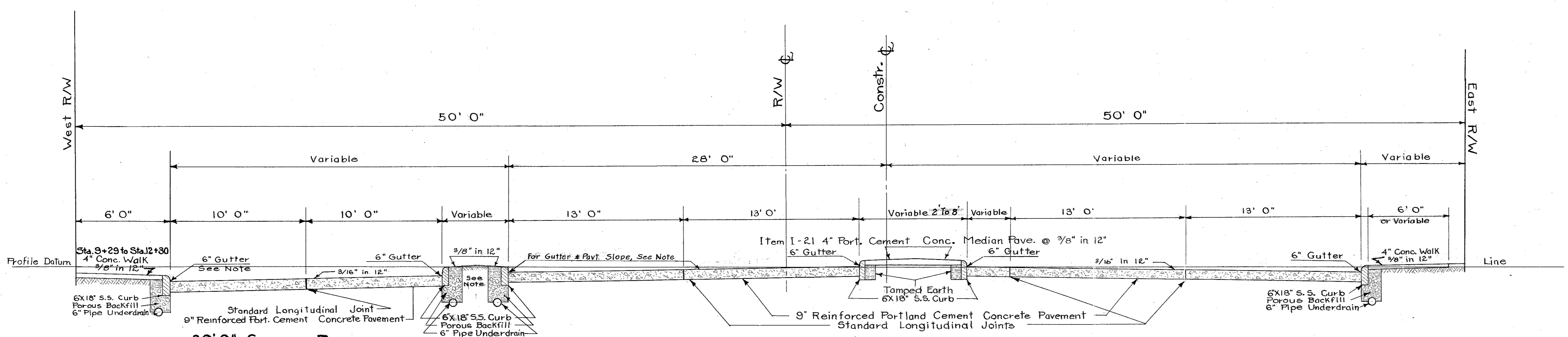
TYPICAL SECTION
TYPE T-71 REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
EXTRA AREA CONCRETE ROADWAYS



STA. 5+45 To STA. 8+70

SCALE 1/4" = 1'0"

East Side
Note: Sta. 7+90 End of Existing S.S. Walk & Beginning of New 4" Conc. Walk
Gutter Changes from 4" at Sta. 7+25 to 6" at 8+50.
Pave. Slope Merges From 5/16" in 12" at 4+50 to 3/16" in 12" at 8+50.



20'0" SERVICE ROAD
STA. 10+85.53 to Sta. 12+30

WEST SIDE
Note: Median Strip to Service Road begins at Sta. 10+85.53 (See Extra Area Sheet 15)
Gutter changes from 4" at 9+00 to 6" at 10+13.
Pavement Slope Merges From 5/16" in 12" At Sta. 9+00 To 3/16" in 12" at Sta 11+00

STA. 8+70 To STA. 12+30

SCALE 1/4" = 1'0"

NOTE: For Curb & Curb Drain Details See Sheet # 5

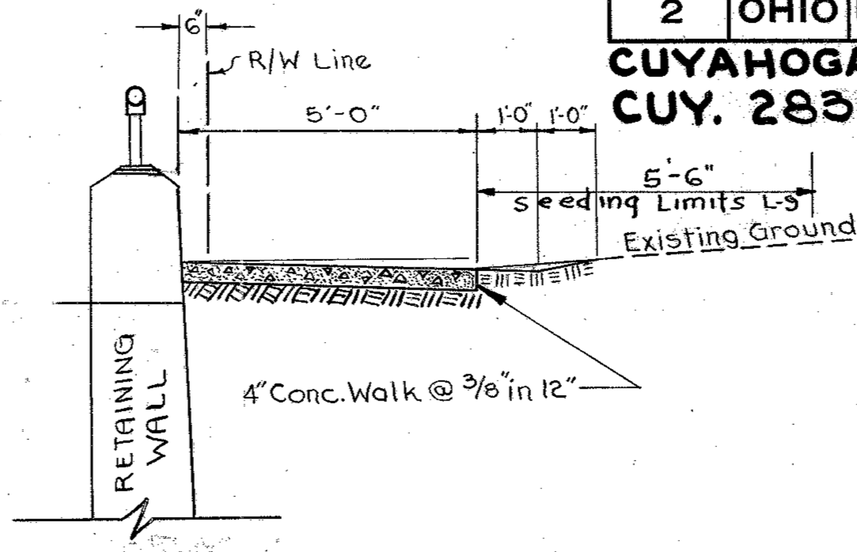
4

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U.-UG-842 (1)	POST WAR

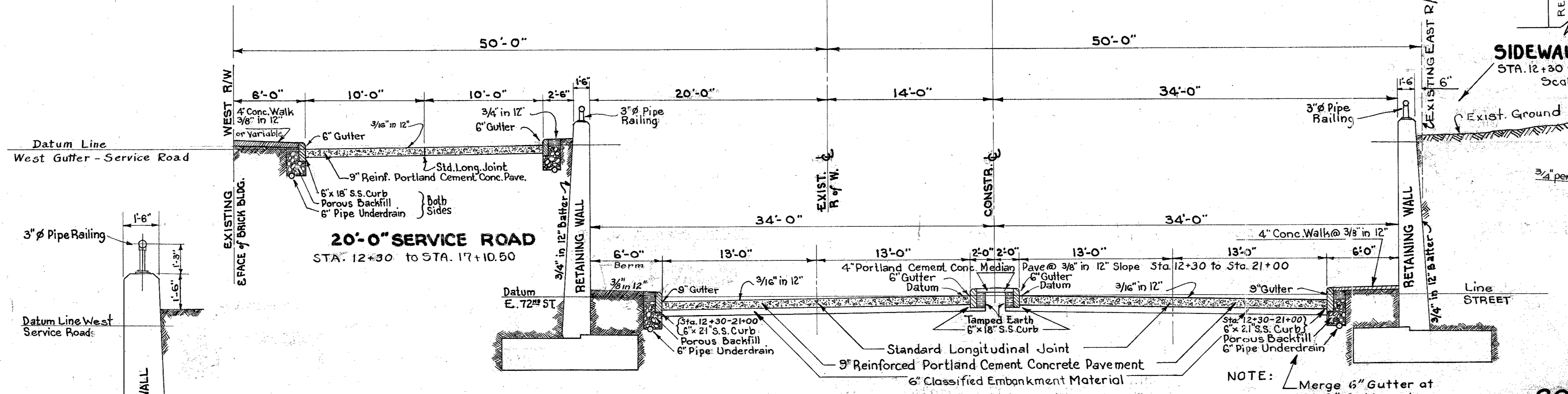
5
85

CUYAHOGA COUNTY
CUY. 283 - 1.09-1.49

TYPICAL SECTION
TYPE T-71 REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT.
ONE 20'-0", TWO 26'-0" CONCRETE ROADWAYS



SIDEWALK DETAIL
STA. 12+30 to STA. 13+90
Scale 3/8" = 1'-0"

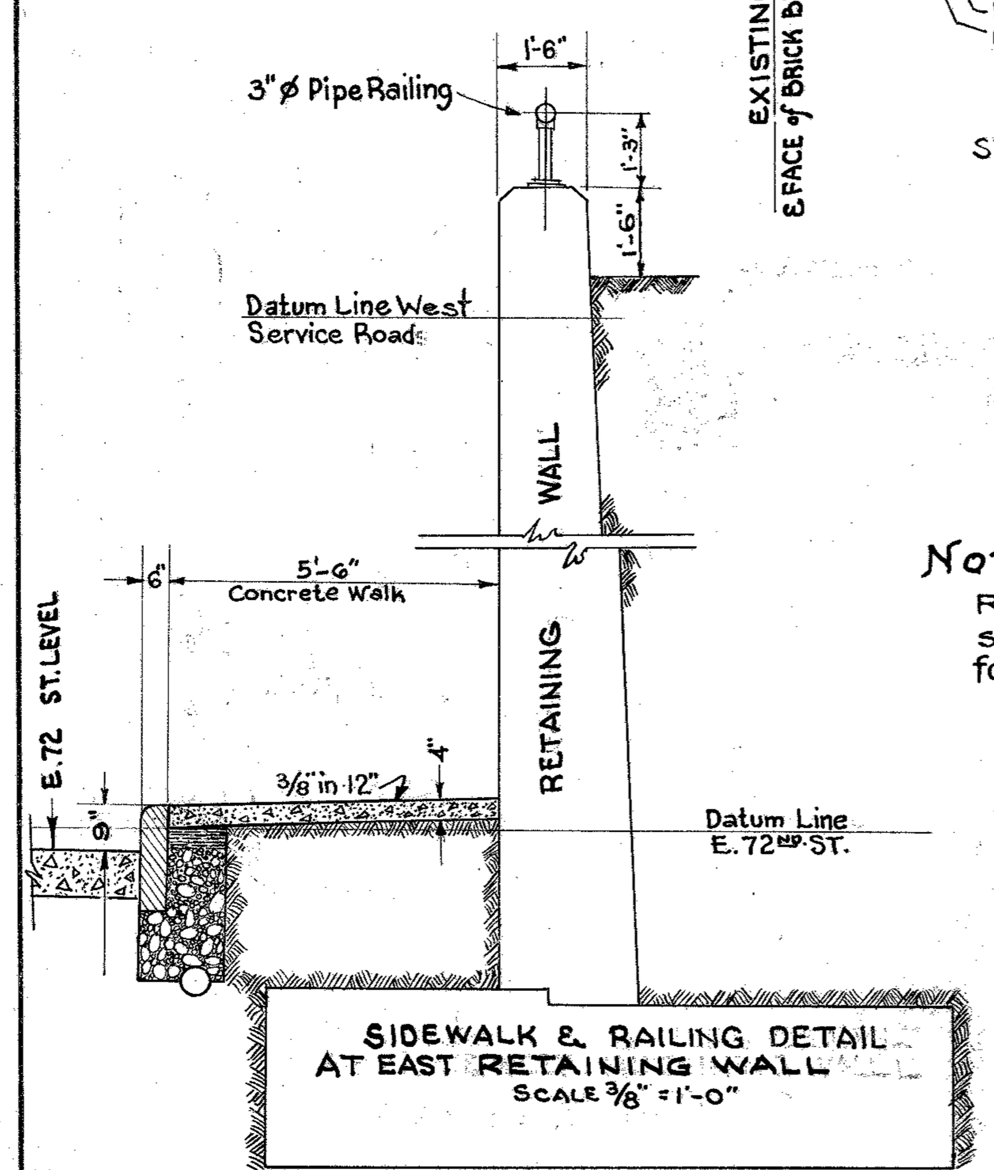


20'-0" SERVICE ROAD
STA. 12+30 to STA. 17+10.50

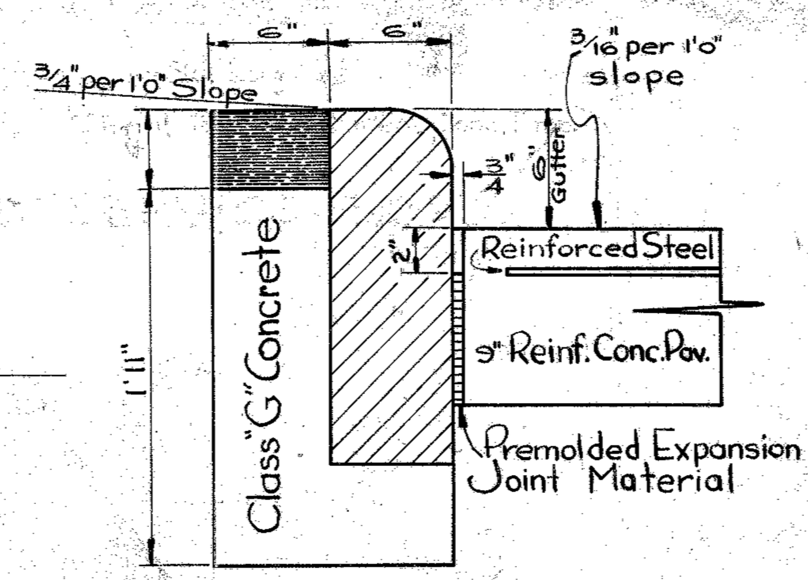
EAST 72ND STREET UNDERPASS
STA. 12+30 TO STA. 21+00
SCALE 3/16" = 1'0"

NOTE: Merge 6" Gutter at Sta. 12+25 to 9" Gutter at Sta. 12+75 (Both East & West Gutters)

Note
Retaining walls and footings as shown on this sheet are shown for illustration purposes only.

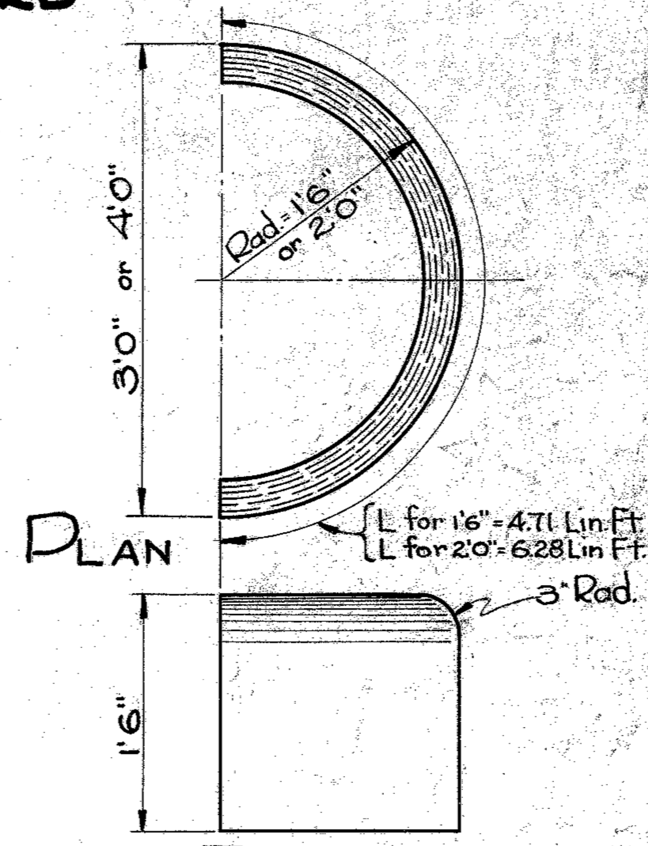


SIDEWALK & RAILING DETAIL AT EAST RETAINING WALL
SCALE 3/8" = 1'-0"



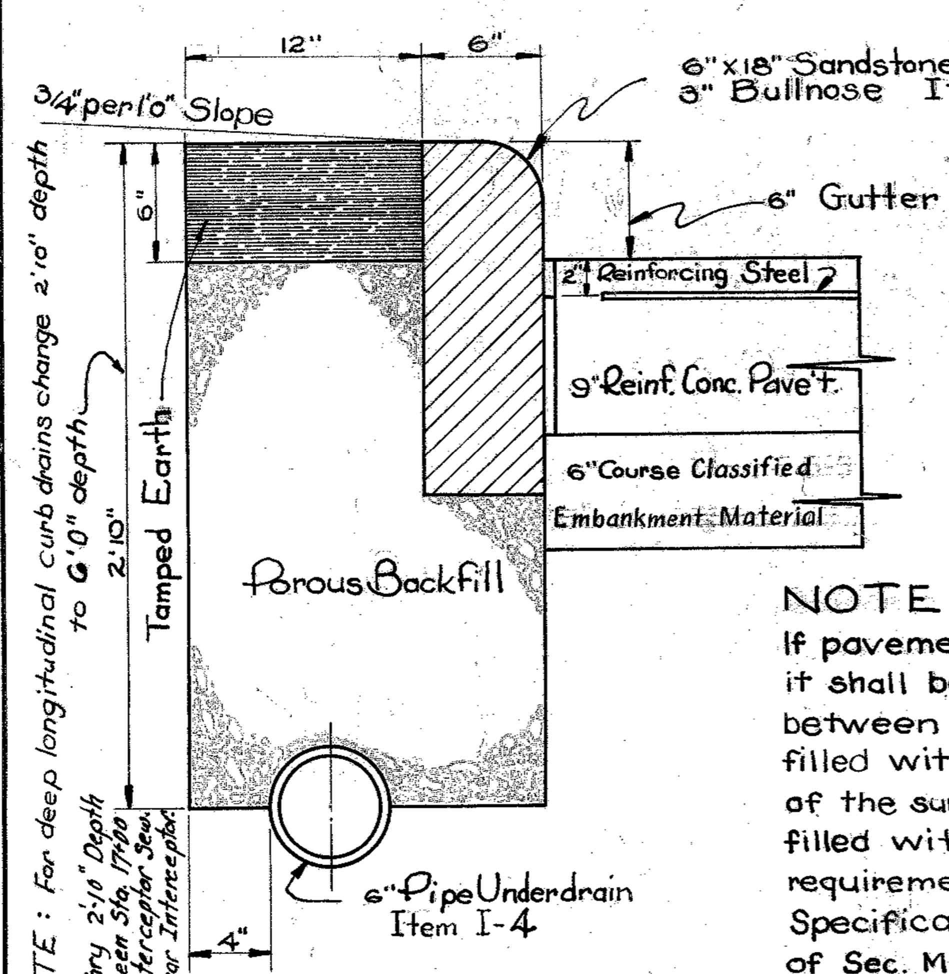
CONCRETE BASE & BACKING FOR RADIAL CURB
SCALE 1 1/2" = 1'0"

NOTE:
The three quarter (3/4") inch Premolded Joint Material shall meet the requirements of Sec. M 10.01 or Sec. M 10.05 of the Standard Specifications. It shall be placed in front of the Radial Curb and Bumper Blocks to within two (2) inches of the surface. The remaining space shall be filled with Bituminous filler meeting the requirements of Sec. M-5.6 f2 of the Standard Specifications. The cost of the joint & the cost of class "G" concrete are to be included in price bid per lineal ft. of curb.



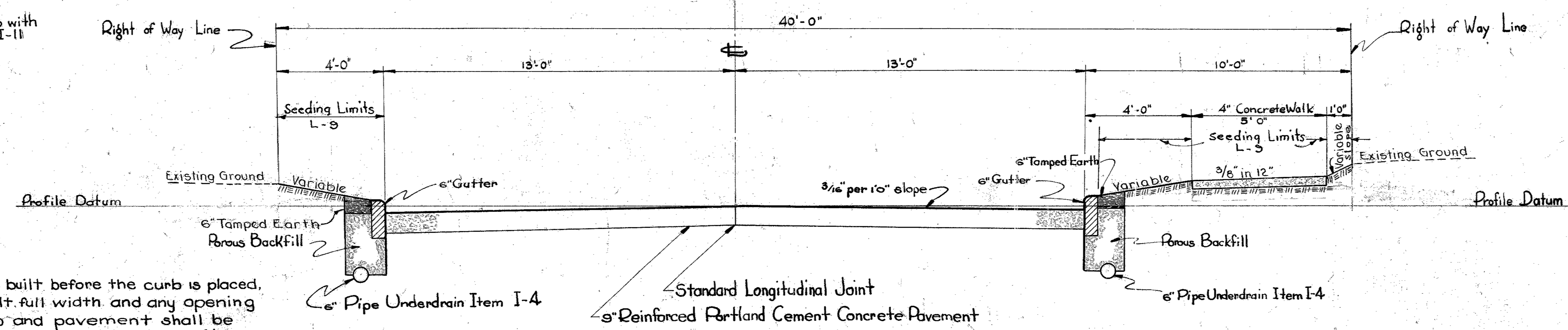
DETAIL OF BUMPER BLOCK
SCALE 1" = 1'0"

NOTE:
Bumper block to be of best quality Berea or Amherst gray sandstone or sandstone of equal quality. Price bid per lineal foot shall include the necessary cutting, dressing, and setting of same in accordance with Item I-11. Payment shall be made on the basis of lineal ft. of curb measured around the arc as shown on details.



CURB DETAIL
SCALE 1 1/2" = 1'0"

NOTE:
If pavement is built before the curb is placed, it shall be built full width and any opening between curb and pavement shall be filled with dry sand to within two (2) inches of the surface; the remaining space shall be filled with bituminous filler meeting the requirements of Sec. M-5.6 f-2 of the Standard Specification. Sand to meet the requirements of Sec. M-2.1. The cost of joint to be included in the price bid per lineal foot of curb.



EAST 73RD STREET CONNECTION
SCALE 3/8" = 1'0"

TYPICAL SECTIONS: EAST 73RD STREET CONNECTION & EAST 72ND STREET
STA. 12+30 TO STA. 21+00

GENERAL NOTES

LIMITED ACCESS
This improvement on East 72ND St., S.R. 283, between Sta. 12+30 and Sta. 24+00 has been declared a limited access highway or freeway by action of the Director of Highways, in accordance with the provisions of Sec. 1178-21, General Code of Ohio.

EARTHWORK
During excavation and embankment construction operations, the roadway section shall be maintained at all times in such shape that no concentration of water will take place and be discharged in a concentrated flow over the slopes.

The moisture content of all embankment material shall be less than optimum at the time of compaction. Embankment material placed on fill containing or exceeding optimum moisture, whether caused by rain or from the state of the material as it is received, shall be aerated by discing or other approved methods for full depth of the course to reduce the moisture content to below optimum at the time of compaction.

AGGREGATE NO. 6 & 6-A
The substitution of No. 46 aggregate will be permitted throughout the project where No. 6 or 6-A aggregate is specified.

B-71 BASE COURSE
Expansion and contraction joints will not be permitted in the B-71 base course.

FINISHING CONCRETE PAVEMENT
All concrete pavement shall be Ordinary Finish in accordance with Sec. T-71.212 except inaccessible portions so designated by the Engineer, which shall be hand finished in accordance with Sec. T-71.211

ABANDONED DRAINS
The contractor shall plug all existing drains which are abandoned. The contractor shall provide all material, labor and equipment to seal the drains in a manner satisfactory to the Engineer. All costs pertaining to this item of work shall be included in the price bid for Item E-1 Excavation.

All existing curb drains (where curb is to be removed) shall be removed or else suitable outlets provided as directed by the Engineer. All costs pertaining to this item of work shall be included in the price bid for Item E-8 Removal of Existing Curb.

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

BERMS AND SLOPES
Berms and slopes shall be finished in accordance with the typical sections except where otherwise shown in 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 sections.

TREE REMOVAL
Cost of removal of trees and stumps to be included in the unit price bid for Item E-1 Excavation.

COOPERATION WITH OTHER CONTRACTORS
Adjustments, relocations and revisions of existing utilities, construction of new utilities and the operations of other adjacent State Highway Contractors, will have to proceed concurrently with this construction. There fore, it is the contractors obligation to cooperate with other contractors or agencies carrying on their respective operations during the construction of this project so as not to interfere with their normal procedure.

SURPLUS EXCAVATION
All surplus excavation from this project such as roadway excavation, structures excavation, surplus sewer excavation, pavement removal etc. shall be hauled to project U.I. 329(7) and placed where directed by the engineer as embankment.

FIELD OFFICE
The Contractor shall provide a suitable "Field Office" in accordance with Section S-0.01 (b), having a minimum of 500 sq. ft. of floor space for this project.

The Contractor shall install and maintain a telephone, sink, running water, study work table and desks for the duration of the project.

L-9 AGRICULTURAL GROUND LIMESTONE
Agricultural ground limestone shall be used in connection with the seeding at the rate of one Hundred (100) pounds per one thousand sq. ft.

L-9 SEEDING TYPE "A"
Quantities for seeding are calculated for the soil areas between lines ten feet (10) outside the work limits as shown on the cross sections or to the right of way line if such line is less than ten feet from the work limits

All areas outside these limits where the vegetative growth has been injuriously disturbed or destroyed by the contractor shall be restored and seeded in accordance with the provisions of Item L-9 by the contractor at his own expense.

The seed mixture shall consist of the following types of grasses:

25% Kentucky Blue Grass (Poa pratensis)
20% Red Top (Agrostis alba)
10% Perennial Rye grass (Lolium perenne)
45% Chewings Fescue (Festuca rubra var. fullax)

The above mixture to be seeded at the rate of four pounds (4 lbs.) per 1000 sq. ft.

An approved power driven rotary mixing machine shall be used to incorporate the fertilizer seed and straw mulch in connection with the seeding of all areas with a slope of 3:1 or flatter. All other areas with slopes steeper than 3:1, shall be mulched in accordance with Section L-9.12 of the Specifications.

L-9 FERTILIZER (10-6-4)
Fertilizer shall be used in connection with all the seeding and shall be applied at the rate of twenty pounds (20 lbs.) per 1000 sq. ft.

JOINT DETAILS
For spacing and details of joints see standard drawings and supplemental specifications.

DESIGN SPEED
The design speed for East 72ND St., S.R. 283 is 45 miles per hour.

MANHOLES REBUILT
The work to be performed under this item shall consist of the removal of the corbelled portion of the structure to a minimum depth of 4 feet or as directed by the Engineer and then reconstructed to grade. All work to be in accordance with Item 1-8

SALVAGED CASTINGS
All existing Cleveland type manhole and curb inlet castings shall be carefully salvaged and reused where called for in the plans. Existing Park Drive type castings which are removed shall be stored on the site and the City of Cleveland will haul them away.

REMOVAL & DISPOSAL OF MANHOLES, CATCH BASINS, ETC.
Wherever existing manholes, catch basins, etc. are to be completely removed due to the depth of cut ranging from 3 ft. above flow line of existing structure to any depth below this point, they shall be removed under Item E-1 Roadway Excavation. The castings from these structures shall be carefully removed and used in accordance with the above note "Salvaged Castings"

REMOVAL OF EXISTING SEWERS IN EXCAVATION
Wherever existing sewers are encountered in excavation laying above subgrade or backslopes, removal of such shall be included in excavation. Cost of this removal to be included under Item E-1 Roadway Excavation.

SALVAGED CURB
All existing stone curb where called for in the plans to be removed for reuse shall be carefully removed and stored for reuse on this project. The amount of salvaged curb available for reuse was determined by actual measurements in the field less a factor of 5% for breakage and recutting.

REMOVAL & DISPOSAL OF EXISTING STRUCTURES
The cost of removal and disposal of all existing sidewalks, steps, walls and foundations shall be included in the cost of Item E-1 Roadway Excavation.

SANITARY SEWERS
All sanitary sewer items listed under City Sanitary Sewers are not a part of this contract and will be performed by the City of Cleveland. The contractor shall cooperate with the City of Cleveland in performing this work

CLASSIFIED EMBANKMENT COURSE
Sheet 8 calls for stockpiling 1358 cu. yds. of granular material (sand) to be obtained between Sta. 12+00 and Sta. 24+00 and to be used in constructing the classified embankment material course where specified on the plans. If the contractor elects, he may substitute granular material meeting the requirements of supplemental specifications No. 5 or a granular material with similar granular characteristics as that required to be stockpiled. In any event the payment for furnishing and placing classified embankment material shall be included in the unit price bid for Item E-1 Roadway Excavation.

TRAFFIC NOTE
Ingress and egress shall be provided at all times to property on both sides of E. 72ND ST. S.R. 283, between St. Clair Ave. and Sta. 12+30, Ingress and egress shall be provided at all times to property on the west side E. 72ND St. between Sta. 12+30 and Sta. 17+50 by maintaining a traffic lane a minimum of 10 ft in width, which shall be located between the limits of the west retaining wall excavation and the west right of way line. During construction of the west retaining wall in this area, the contractor shall exercise caution in the operation of this equipment in such a manner that he will not intefere with the operation and safety of traffic that uses the above mentioned traffic lane. Guard rail (or any other method acceptable to the engineer) shall be provided for traffic safety during period of construction.

The 10 ft. traffic lane shall be T-110 furnished and maintained by the contractor of sufficient thickness to provide a passable all weather surface.

Any cost involved in the method used for protecting traffic shall be included under Item T-110.

During paving operations of the Service Road only one half of the pavement shall be constructed at one time while traffic is maintaind on the other half.

ESTIMATED QUANTITIES

T-110	Traffic Compacted Surface Course	96 Cu. Yds.
M-10	Calcium Chloride	2 Tons
E-1	Roadway Excavation	65 Cu. Yds.

SUMMARY OF QUANTITIES

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842 (I)	POSTWAR

CUYAHOGA COUNTY
CUY.-283-1.09-1.49

STORM SEWERS

Break-down	Code Type	Sheet No.	Reference Numbers From	Reference Numbers To	Lin. Ft. I-2 Pipe 8"	12"	15"	18"	42"	Under Pavement 12"	15"	18"	36"	42"	I-8 Each Standard Manhole #1	Standard Manhole #2	Standard "I-2-A Catch Basin	Special Curb Inlets #1	#2	#4	Special Catch Basin #4	Manhole Rebuilt	Manhole Adjusted to Grade	C.B. Adjusted to Grade	E-12 Lin. Ft. Pipe Removed and Disposed of	I-16 Each Abandon Manhole	City Type Catch Basin	I-5 Each 12" Half Trap Pipe Special	* Castings Removed With Excavation M.H.	City C.B.	Park C.B.
U-842 (I)	Code Type 6201	10	1-S	6-S						16								4			1	4		1			2				
	TOTAL-6201									16								4			1	4		1			2				
	Code Type 7221	10	7-S	11-S						20					1			1	1	2		1	2				2				
		12	1-S	5-S						34	8	172			1						1		3		212		4				
		12	1-S	6-S		10				60											1		1								
		13	1-S	4-S						57			250	45	1						2						1				
	TOTAL-7221					10				171	8	172	250	45	3			1	1	2	4	1	6		212		7				
TOTAL-U-842 (I)						10				187	8	172	250	45	3			5	1	2	5	5	6	1	212		9				
UG-842 (I)	Code Type 7221	12	4-S	21-S	94	246	492	121	159	339		146		43	8			6		4					833	2			5	6	1
		12	2-S	8-S		229				44	16				2		1				2		4					1			
		13	5-S	7-S										693	1	1													2		
TOTAL-UG-842 (I)					94	475	492	121	159	383	16	146		736	11	1	1	6		4	2		4		833	2		1	*7	*6	*1
GRAND TOTAL					94	485	492	121	159	570	24	318	250	781	14	1	1	11	1	6	7	5	10	1	1045	2	9	1	*7	*6	*1

*NOT A PAY ITEM

CASTINGS SUMMARY

Standard Manhole #1 & #2 Castings (Special Frame & Cover)
- Total Std. #1 & #2 M.H. Castings Called For on Plans 15
- Total M.H.'s Abandoned 2
- Total M.H.'s Removed With E-1 Excavation 5
- Total M.H.'s Removed With I-2 Excavation 2
- Total Salvage Castings Available 9   -9
- Number of New Manhole Castings Required (Spec. Fr. & Cover) 6

Special Curb Inlet & Catch Basin #4 Castings (City Type)
- Total Spec. C.I. & C.B. #4 Castings Called For on Plans 13
- Total City Type C.B. Abandoned 11
- Total City Type C.B. Removed With E-1 Excavation 4
- Total Salvage City Type C.B. Castings Available 15
- Surplus City Type C.B. Castings 2

Park Style Catch Basin Castings
- Total Park Style Castings Available 1
- No Park Style Castings Required 0
- Surplus 1

EARTHWORK

Break-down	Code Type	Sheet No.	Location	Station From	Station To	E-1 Cu. Yds. Excavation	Embankment	Embankment + 18%
U-842 (I)	6201	10	E. 72 nd St.	0+0	5+45	334	44	52
			Private Driveways			84	-10	-12
	TOTAL 6201					418	34	40
	7221	10	E. 72 nd St.	5+45	12+00	1918	362	427
			Private Driveways			55	-4	-5
		13	E. 73 rd St. Conn.	0+42	2+78	617	42	50
	TOTAL 7221					2590	400	472
TOTAL U-842 (I)						3008	434	512
UG-842 (I)	7221	11	E. 72 nd St.	12+00	24+00	87,549	39	46
			Private Driveways			10		
		6	Service Road-For Temporary Pav't.			65		
			Deduct For C.E.I. Bridge			-2,070		
TOTAL UG-842 (I)						85,554	39	46
GRAND TOTAL						88,562	473	558

EARTHWORK CALCULATION

Excavation From C.E.I. Co. Duct Bridge — 2,070 Cu. Yds.
Pavement Removal Table 2808.8 x 12" ÷ 36 + 310.0 x 3" ÷ 36 — 962 Cu. Yds.
Excavation - From Earthwork Table — 88,562 Cu. Yds. = 91,594 Excav.
Embankment + 18% - From Earthwork Table — 558 Cu. Yds.
Classified Embankment Material + 18% (Stockpiled) — 1358 " "
Total Embankment — 1916 Cu. Yds.   -1,916 Emb. + 18%
Net Earthwork Available For Embankment as shown on Sheet 13 of UI-329(7) PART 2 = 89,678 Cu. Yds.

E-11 WATER

Code Type 6201 — 34 Cu. Yds. x 5 = .170 M. Gals. — Use 1 M. Gals.
Code Type 7221 — 400 Cu. Yds. x 5 = 2.000 M. Gals. — Use 2 M. Gals.
TOTAL U-842 (I) = 3 M. Gals.
Code Type 7221 — 39 Cu. Yds. x 5 = .195 M. Gals.
Code Type 7221 SS-5 - 1151 Cu. Yds. x 5 = 5.755 M. Gals.
TOTAL UG-842 (I) — 5.950 M. Gals. — Use 6 M. Gals.
GRAND TOTAL — 9 M. Gals.

PIPE UNDERDRAINS (CURB)

Break-down	Code Type	Sheet No.	Reference Number	I-4 Lin. Ft. 6" Pipe	6" Pipe Outlets	6" Pipe Deep Longitudinal Drains	I-5 Each Pipe Specials 6"-45° Bends	6"-"V" Branches
U-842 (I)	6201	10	1-F To 2-F	998				
	TOTAL 6201			998				
	7221	10	3-F To 4-F	902				
		11	1-F To 2-F	202				
		12	1-F To 2-F	308	30		1	
		13	1-F To 2-F	472	54		2	1
	TOTAL 7221			1884	84		3	1
TOTAL U-842 (I)				2882	84		3	1
UG-842 (I)	7221	11	3-F To 8-F	2342		592		
		12	3-F To 4-F	1014	2		1	
	TOTAL UG-842 (I)			3356	2	592	1	
GRAND TOTAL				6238	86	592	4	1

TOTAL 6" PIPE SPECIALS - 5

MONUMENT BOXES

CODE TYPE 7221

Sheet No.	Reference Number	I-8 Each Monument Boxes Type "B"
10	1-M	1
11	1-M	1
13	1-M To 2-M	2
TOTAL-U-842 (I)		4
11	2-M To 4-M	3
TOTAL UG-842 (I)		3
GRAND TOTAL		7

CURB REMOVAL

Break-down	Code Type	Sheet No.	E-8 Lin. Ft. Removal & Disposal of Existing Curb	Removal for Reuse of Existing Curb
U-842 (I)	6201	10	888.7	230.0
		TOTAL 6201	888.7	230.0
	7221	10	827.0	285.0
		12	110.0	90.0
		13	12.0	64.0
		TOTAL 7221	949.0	439.0
	TOT. U-842 (I)		1837.7	669.0
UG-842 (I)	7221	12	1262.2	1479.0
		TOTAL UG-842 (I)	1262.2	1479.0
GRAND TOTAL			3099.9	2148.0

PAVEMENT REMOVAL & REPLACEMENT

Break-down	Code Type	Sheet No.	Reference Number	E-8 Existing Pavement Removed and Disposed of Sq. Yds.	E-8 Removal & Disposal of Existing Wearing Course Sq. Yds.	T-70 9" Portland Cement Concrete Pavement Sq. Yds.
U-842 (I)	6201	14			310.0	
	TOTAL 6201				310.0	
	7221	13	1-R To 3-R	135.2		25.4
	TOTAL 7221			135.2		25.4
TOTAL U-842 (I)				135.2	310.0	25.4
UG-842 (I)	7221	13	4-R	520.3		520.3
		11	1-R	2153.3		
	TOTAL UG-842 (I)			2673.6		520.3
GRAND TOTAL				2808.8	310.0	545.7

SIDEWALKS

Break-down	Code Type	Sheet No.	Reference Number	I-13 Sq. Ft. 4" Concrete Sidewalk
U-842 (I)	6201	10	1-W	260.0
	TOTAL 6201			260.0
	7221	10	2-W To 3-W	1378.5
		11	1-W To 3-W	1866.5
		13	1-W	545.0
		For Adjustment of Private Walks		200.0
	TOTAL 7221			3990.0
TOTAL U-842 (I)				4250.0
UG-842 (I)	7221	11	4-W To 11-W	12,250.0
		12	1-W	2,735.6
		For Adjustment of Private Walks		100.0
TOTAL UG-842 (I)				15,085.6
GRAND TOTAL				19,335.6

PRIVATE DRIVEWAYS

Break-down	Code Type	Sheet No.	Reference Number	E-1 Cu. Yds. Embankment Deduction	Excavation	T-70 Sq. Yds. 6" Concrete Pavement	I-17 Cu. Yds. Aggregate
U-842 (I)	6201	10	1-A To 10-A	10	84	465.8	
	TOTAL 6201			10	84	465.8	
	7221	10	11-A To 17-A	4	33	175.9	
		11	1-A To 2-A		7	32.4	
		13	1-A		15	78.4	
	TOTAL 7221			4	55	286.7	
TOTAL U-842 (I)				14	139	752.5	
UG-842 (I)	7221	11	3-A		7	16.0	1.9
		12	1-A		3	9.8	
TOTAL UG-842 (I)					10	25.8	1.9
GRAND TOTAL				14	149	778.3	1.9

CONCRETE TRAFFIC DIVIDERS

Break-down	Code Type	Sheet No.	Special Each
U-842 (I)	6201	10	24
	TOTAL 6201		24
	7221	10	27
	TOTAL 7221		27
TOTAL U-842 (I)			51
GRAND TOTAL			51

ROADSIDE IMPROVEMENT

Break-down	Code Type	Location	Station From	Station To	L-9 Sq. Yds. Seeding	L-9 Tons Commercial Fertilizer	L-9 Tons Agricultural Ground Limestone
U-842 (I)	6201	E. 72nd St.	0+00	5+45	1330	0.120	0.598
	TOTAL 6201				1330	0.120	0.598
	7221	E. 72nd St.	5+45	12+00	1644	0.148	0.740
		E. 73rd Conn.	0+42	2+78	198	0.018	0.089
	TOTAL 7221				1842	0.166	0.829
TOTAL U-842 (I)					3172	0.286	1.427
UG-842 (I)	7221	E. 72nd St.	12+00	24+00	8561	0.770	3.853
	TOTAL UG-842 (I)				8561	0.770	3.853
GRAND TOTAL					11,733	1.056	5.280

STREET LIGHTING CONDUIT - 7221

Sheet No.	Reference No.	S-25 Lin. Ft. TYPE "A"
11	1-L To 2-L	118
TOTAL UG-842 (I)		118

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U-UG-842(1)	Postwar	8 / 85

CUYAHOGA COUNTY
CUY-283-1.09-1.49

CALCULATIONS

U-842 (1) CODE TYPE 6201

B-71 9" REINFORCED PORTLAND CEMENT CONCRETE BASE

Sta. 1+36.54 to Sta. 4+50 = 313.46 Lin. Ft.
313.46 x 6x2 ÷ 9 = 417.95 Sq. Yds.
Extra Area Sheet Nº 14 382.82 Sq. Yds.
Total B-71 9" 800.77 Sq. Yds. Use 801 Sq. Yds.

T-35 ASPHALTIC CONCRETE SURFACE COURSE

Sta. 1+36.54 to Sta. 4+50 = 313.46 Lin. Ft.
313.46 x 52 ÷ 9 x $\frac{1}{36}$ = 50.30 Cu. Yds.
Extra Area Sheet Nº 14 44.29 Cu. Yds.
Total T-35 94.59 Cu. Yds. Use 95 Cu. Yds.

B-35 ASPHALTIC CONCRETE LEVELING COURSE

(313.46 x 52 ÷ 9) x 1.5 ÷ 36 = 75.46 Cu. Yds.
Extra Area Sheet Nº 14 66.45 Cu. Yds.
Extra Leveling Sta. 1+36.54 to Sta. 4+50 (Est.) = 48.42 Cu. Yds.
Extra Leveling Sheet Nº 14 38.88 Cu. Yds.
Total B-35 229.21 Cu. Yds. Use 229 Cu. Yds.

T-30 BITUMINOUS TACK COAT

(313.46 x 52 ÷ 9) x .10 = 181.11 Gal.
Extra Area Sheet Nº 14 157.86 Gal.
Total T-30 338.97 Gal. Use 339 Gal.

I-11 6"x18" SANDSTONE CURB

Sta. 1+36.54 to Sta. 4+50 = 313.46 Lin. Ft. New
313.46 x 2 = 626.92 Lin. Ft.
Extra Area Re-cap Table Sheet Nº 14 521.86 Lin. Ft.
Gross Length of Curb 1148.78 Lin. Ft.

DEDUCTIONS

Spec. C.I. Nº 1 4 x 7.92' = 31.68 Lin. Ft.
Spec. C.B. Nº 4 1 x 2.0' = 2.00 Lin. Ft.
For Mercer Court 20.00 Lin. Ft.
Total Deductions 53.68 Lin. Ft.

Gross Length of Curb 1148.78 Lin. Ft.
Deductions 53.68 Lin. Ft.
NET LENGTH 6"x18" CURB (NEW) 1095.10 Lin. Ft. Use 1095 Lin. Ft.

I-21 4" PORTLAND CEMENT CONCRETE MEDIAN

Extra Area Sheet Nº 14 = 8.33 Sq. Yds. Use 8 Sq. Yds.

UG-842 (1) CODE TYPE 7221 - CONTINUED

6" CLASSIFIED EMBANKMENT MATERIAL (TO BE OBTAINED ON PROJECT & STOCKPILED)

E. 72ND. Sta. 12+30 to 21+00 870' x 2 x 26' x .5' ÷ 27 = 837.77 Cu. Yds.
870' x 2 x 1.5' x .25' ÷ 27 = 24.16 Cu. Yds.
Sta. 21+00 to 24+00 300' x 2 x 26' x .5' ÷ 27 = 288.88 Cu. Yds.
1150.81 Cu. Yds. + 18% = 1357.95 Cu. Yds.
Use 1358.0 Cu. Yds.

U-842 (1) CODE TYPE 7221

T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

Extra Area Sheet Nº 14 408.44 Sq. Yds.
Extra Area Sheet Nº 15 5107.10 Sq. Yds.
Sta. 11+00 to Sta. 12+00 (Service Road) = 100 Lin. Ft.
100 x 20 ÷ 9 = 222.22 Sq. Yds.
Total T-71 9" 5737.76 Sq. Yds. Use 5738 Sq. Yds.

I-11 6"x18" SANDSTONE CURB NEW

Extra Area Re-cap Table Sheet Nº 14 307.07 Lin. Ft.
Extra Area Re-cap Table Sheet Nº 15 1780.08 Lin. Ft.
Gross Length of Curb 2087.15 Lin. Ft.

DEDUCTIONS

Spec. C.I. Nº 1 1 x 7.92' = 7.92 Lin. Ft.
Spec. C.I. Nº 2 1 x 7.58' = 7.58 Lin. Ft.
Spec. C.B. Nº 4 2 x 2.0 = 4.00 Lin. Ft.
Total Deductions 19.50 Lin. Ft.

Gross Length of Curb = 2087.15 Lin. Ft.
Deductions 19.50 Lin. Ft.
NET LENGTH 6"x18" CURB (NEW) 2067.65 Lin. Ft. Use 2068 Lin. Ft.

I-11 SALVAGED CURB RESET

Sta. 11+00 to Sta. 12+00 (Service Road) = 100 Lin. Ft.
100 x 2 200.00 Lin. Ft.
Extra Area Re-cap Table Sheet Nº 15 588.39 Lin. Ft.
Gross Length of Curb 788.39 Lin. Ft.

DEDUCTIONS

Spec. C.B. Nº 4 4 x 2.0' = 8.0 Lin. Ft.

Gross Length of Curb 788.39 Lin. Ft.
Deduction 8.00 Lin. Ft.
NET LENGTH SALVAGED CURB RESET 780.39 Lin. Ft. Use 780 Lin. Ft.

T-70 9" PORTLAND CEMENT CONCRETE PAVEMENT

Replacement for Sewer Trench See Sheet Nº 7 = 25.4 Sq. Yds. Use 25 Sq. Yds.

I-21 4" PORTLAND CEMENT CONCRETE MEDIAN

Extra Area Sheet Nº 14 = 55.55 Sq. Yds.
" " " " 15 = 147.22 " "
202.77 Sq. Yds. Use 203 Sq. Yds.

SUMMARY OF CURB CALCULATIONS U-UG-842 (1)

Total Existing Curb Removed for Re-use = 2148 Lin. Ft.
Less 5% for Breakage and Cutting = 108 Lin. Ft.
Net Existing Curb Available for Re-use 2040 Lin. Ft.
Total Salvaged Curb Reset = 1822 Lin. Ft.

UG-842 (1) CODE TYPE 7221

T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

Extra Area Sheet Nº 15 525.54 Sq. Yds.
Sta. 12+69.84 to Sta. 24+00 = 1130.16 Lin. Ft.
1130.16 x 52 ÷ 9 6529.81 Sq. Yds.
Sta. 12+00 to Sta. 17+00 (Service Road) = 500 Lin. Ft.
500 x 20 ÷ 9 = 1111.11 Sq. Yds.
Total T-71 9" 8166.46 Sq. Yds.
Use 8166 Sq. Yds.

I-11 6"x18" SANDSTONE CURB NEW

Sta. 12+69.84 to Sta. 24+00 (Median) 1130.16 x 2 = 2260.32 Lin. Ft.
Sta. 21+00 to Sta. 24+00 = 300 x 2 600.00 Lin. Ft.
Extra Area Re-cap Table Sheet Nº 15 183.30 Lin. Ft.
Gross Length of Curb 3043.62 Lin. Ft.

DEDUCTIONS

Spec. C.I. Nº 1 5 x 7.92 = 39.60 Lin. Ft.

Gross Length of Curb 3043.62 Lin. Ft.
Deductions 39.60
NET LENGTH 6"x18" CURB (NEW) 3004.02 Lin. Ft. Use 3004 Lin. Ft.

I-11 6"x21" SANDSTONE CURB NEW

Sta. 12+69.84 to Sta. 21+00 = 830.16 x 2 1660.32 Lin. Ft.
Extra Area Re-cap Table Sheet Nº 15 79.02 Lin. Ft.
Gross Length of Curb 1739.34 Lin. Ft.

DEDUCTIONS

Spec. C.I. Nº 1 1 x 7.92' = 7.92 Lin. Ft.
Spec. C.B. Nº 4 4 x 2.00' = 8.00 Lin. Ft.
Total Deductions 15.92 Lin. Ft.

Gross Length of Curb 1739.34 Lin. Ft.
Deductions 15.92 Lin. Ft.
NET LENGTH 6"x21" CURB (NEW) 1723.42 Lin. Ft. Use 1723 Lin. Ft.

I-11 SALVAGED CURB RESET

Sta. 12+00 to Sta. 17+00 (Service Road) = 500 x 2 = 1000.00 Lin. Ft.
Extra Area Re-cap Table Sheet Nº 15 45.91 Lin. Ft.
Gross Length of Curb 1045.91 Lin. Ft.

DEDUCTIONS

Spec. C.B. Nº 4 2 x 2.0' = 4.00 Lin. Ft.

Gross Length of Curb 1045.91 Lin. Ft.
Deductions 4.00 Lin. Ft.
NET LENGTH SALVAGED CURB RESET 1041.91 Lin. Ft. Use 1042 Lin. Ft.

T-70 9" PORTLAND CEMENT CONCRETE PAVEMENT

Replacement for Sewer Trench See Sheet Nº 7 = 520.3 Sq. Yds. Use 520 Sq. Yds.

I-21 4" PORTLAND CEMENT CONCRETE MEDIAN

Sta. 12+69.84 to Sta. 21+00 = 830.16 x 3 ÷ 9 = 276.72 Sq. Yds.
Extra Area Sheet Nº 15 12.55 Sq. Yds.
Total I-21 289.27 Sq. Yds. Use 289 Sq. Yds.

T-110 TRAFFIC COMPACTED SURFACE COURSE

Temporary Traffic Lane Sheet Nº 6 96 Cu. Yds.

M-10 CALCIUM CHLORIDE

Temporary Traffic Lane Sheet Nº 6 2 Tons

CONTINUE ELSEWHERE ON THIS SHEET.

GENERAL SUMMARY

FOR COMBINED GENERAL SUMMARY, PARTS 2 AND 4
See Sheet Nº 9-A

PART-4

ITEM NO.	QUANTITIES U-842(1) CODE TYPE 6201	U-842(1) CODE TYPE 7221	U-842(1) TOTAL	UG-842(1) CODE TYPE 7221	GRAND TOTAL U-UG-842(1)	UNIT	DESCRIPTION
							ROADWAY
E-1	418	2590	3008	85,554	88562	Cu.Yds.	Roadway Excavation
E-8		135	135	2674	2809	Sq.Yds.	Removal and Disposal of Existing Pavement
E-8	310		310		310	Sq.Yds.	Removal and Disposal of Existing Wearing Course
E-8	889	949	1838	1262	3100	Lin.Ft.	Removal and Disposal of Existing Curb
E-8	230	439	669	1479	2148	Lin.Ft.	Removal for Re-use of Existing Curb
E-11	1	2	3	6	9	M. Gal.	Water
E-12		212	212	833	1045	Lin.Ft.	Pipe Removed and Disposed of
I-8		4	4	3	7	Each	Monument Boxes Type "B" as per plan
I-13	260	3990	4250	15,086	19,336	Sq.Ft.	Concrete Sidewalks 4" Thick
I-17				2	2	Cu.Yds.	Side Approaches, Mail Box Turnouts and Berm Material
L-9	1330	1842	3172	8561	11,733	Sq.Yds.	Seeding and Protecting Type "A" as per plan
L-9	0.12	0.17	0.29	0.77	1.06	Tons	Commercial Fertilizer (10-6-4)
L-9	0.60	0.83	1.43	3.85	5.28	Tons	Agricultural Ground Limestone
T-110				96	96	Cu.Yds.	Traffic Compacted Surface Course
M-10				2	2	Tons	Calcium Chloride
S-25				118	118	Lin.Ft.	Street Lighting Conduit Type "A" as per plan
							DRAINAGE
I-2				94	94	Lin.Ft.	8" Pipe for Storm Sewers
I-2		10	10	475	485	Lin.Ft.	12" Pipe for Storm Sewers
I-2				492	492	Lin.Ft.	15" Pipe for Storm Sewers
I-2				121	121	Lin.Ft.	18" Pipe for Storm Sewers
I-2				159	159	Lin.Ft.	42" Pipe for Storm Sewers
I-2	16	171	187	383	570	Lin.Ft.	12" Pipe for Storm Sewers Under Pavement
I-2		8	8	16	24	Lin.Ft.	15" Pipe for Storm Sewers Under Pavement
I-2		172	172	146	318	Lin.Ft.	18" Pipe for Storm Sewers Under Pavement
I-2		250	250		250	Lin.Ft.	36" Pipe for Storm Sewers Under Pavement
I-2		45	45	736	781	Lin.Ft.	42" Pipe for Storm Sewers Under Pavement
I-4	998	1884	2882	3356	6238	Lin.Ft.	6" Pipe Underdrains (Curb)
I-4		84	84	2	86	Lin.Ft.	6" Pipe Outlets for Underdrains
I-4				592	592	Lin.Ft.	6" Pipe for Deep Longitudinal Underdrains
I-5		4	4	1	5	Each	6" Pipe Specials for Underdrains
I-5				1	1	Each	12" Pipe Specials for Storm Sewers
I-8				6	6	Each	Standard Manhole No. 1, Special Frame and Cover, as per plan
I-8		3	3	5	8	Each	Standard Manhole No. 1 Using Salvaged Frame and Cover
I-8				1	1	Each	Standard Manhole No. 2 Special Frame and Cover, as per plan
I-8	4	1	5	6	11	Each	Special Curb Inlet No. 1, as per plan
I-8		1	1		1	Each	Special Curb Inlet No. 2, as per plan
I-8		2	2	4	6	Each	Special Curb Inlet No. 4 Using Salvaged Frame & Cover, as per plan
I-8	1	4	5	2	7	Each	Special Catch Basin No. 4 Using Salvaged Frame & Cover, as per plan
I-8				1	1	Each	Standard Catch Basin No. 1-2-A
I-8		6	6	4	10	Each	Manholes Adjusted to Grade
I-8	4	1	5		5	Each	Manholes Rebuilt
I-8	1		1		1	Each	Catch Basins Adjusted to Grade
I-16				2	2	Each	Manholes Abandoned
I-16	2	7	9		9	Each	Catch Basins Abandoned, City Type

PART-4

ITEM NO.	QUANTITIES U-842(1) CODE TYPE 6201	U-842(1) CODE TYPE 7221	U-842(1) TOTAL	UG-842(1) CODE TYPE 7221	GRAND TOTAL U-UG-842(1)	UNIT	DESCRIPTION
							PAVEMENT
T-30	339		339		339	Gal.	Bituminous Tack Coat Sec. M-5.5 MS-2 or SS-1
T-35	95		95		95	Cu.Yds.	Asphaltic Concrete Surface Course Type "A" or "C" (70-80)
B-35	229		229		229	Cu.Yds.	Asphaltic Concrete Leveling Course (70-80)
T-70	466	287	753	26	779	Sq.Yds.	6" Portland Cement Concrete Pavement
T-70		25	25	520	545	Sq.Yds.	9" Portland Cement Concrete Pavement
T-71		5738	5738	8166	13,904	Sq.Yds.	9" Reinforced Portland Cement Concrete Pavement
B-71	801		801		801	Sq.Yds.	9" Reinforced Portland Cement Concrete Base Course
I-21	8	203	211	289	500	Sq.Yds.	4" Portland Cement Concrete Median Pavement
Special	24	27	51		51	Each	Precast Concrete Traffic Dividers, as per plan
I-11	1095	2068	3163	3004	6167	Lin.Ft.	6"x18" Sandstone Curb
I-11				1723	1723	Lin.Ft.	6"x21" Sandstone Curb
I-11		780	780	1042	1822	Lin.Ft.	Sandstone Curb Reset
RETAINING WALLS							For Summary of Quantities See Sheet No. 42
STRUCTURES OVER 20FT. SPAN							For Summary of Quantities See Sheet No.'s 64 and 72

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U.-UG-842-1	Postwar	9-A / 85

CUYAHOGA COUNTY
CUY-283-1.09-1.49

COMBINED GENERAL SUMMARY

UI-329(7) PART 2 & U-UG-842(1) PART 4

FOR PART 2, SEE PLANS FOR CUY-2-(19.51-20.53), CUY-283-1.54

ITEM Nº	TOTAL UI-329(7) PART 2	TOTAL U-UG.842(1) PART 4	COMBINED TOTAL	UNIT	DRAINAGE
I-16	32		32	Each	Catch Basins Abandoned, Park Type.
I-16	26	9	35	Each	Catch Basins, Abandoned, City Type.
I-16	1		1	Each	Catch Basins Abandoned, M.H. Cover Type
I-16	1		1	Each	Catch Basins Abandoned, Stone Cover
I-16	1		1	Each	Catch Basins Abandoned, No Cover
I-16	9		9	Each	Catch Basins Abandoned, Standard Nº 1-2A
I-16	23	2	25	Each	Manholes Abandoned
I-16	6		6	Each	Drain Inlets Abandoned
I-16	9		9	Each	Special Curb Inlets No. 1 Abandoned
I-10	24		24	Sq. Yds.	Rip Rap Type "A"
S-1	1.7		1.7	Cu. Yds.	Concrete For Structures Class "E"
I-8	43	6	49	Each	Standard Manhole Nº1 Special Frame & Cover as per Plan
I-8	42	8	50	Each	Standard Manhole Nº1 Using Salvaged Frame & Cover
I-8	1	1	2	Each	Standard Manhole Nº 2 Special Frame & Cover as per Plan
I-8	84	11	95	Each	Special Curb Inlet Nº 1 as per Plan
I-8	3		3	Each	Special Curb Inlet Nº1 as per Plan Using Salvaged Castings
I-8	13	1	14	Each	Special Curb Inlet Nº 2 as per Plan
I-8	39	6	45	Each	Special Curb Inlet Nº4 as per Plan Using Salvaged Frame & Cover
I-8		7	7	Each	Special Catch Basin Nº4 as per Plan Using Salvaged Frame & Cover
I-8		1	1	Each	Standard Catch Basin Nº 1-2A
I-8	4		4	Each	Standard Catch Basin Nº 1-2A Using Salvaged Castings
I-8	9	10	19	Each	Manholes Adjusted to Grade
I-8	3	5	8	Each	Manholes Rebuilt
I-8		1	1	Each	Catch Basins Adjusted to Grade
I-5	56	5	61	Each	6" Pipe Specials for Underdrains
I-5	5	1	6	Each	12" Pipe Specials for Storm Sewers
I-2		94	94	Lin. Ft.	8" Pipe for Storm Sewers
I-2	6,803	485	7288	Lin. Ft.	12" Pipe for Storm Sewers
I-2	1539	492	2031	Lin. Ft.	15" Pipe for Storm Sewers
I-2	863	121	984	Lin. Ft.	18" Pipe for Storm Sewers
I-2	1246		1246	Lin. Ft.	21" Pipe for Storm Sewers
I-2	106		106	Lin. Ft.	24" Pipe for Storm Sewers
I-2	371		371	Lin. Ft.	27" Pipe for Storm Sewers
I-2	160		160	Lin. Ft.	30" Pipe for Storm Sewers
I-2	995	159	1154	Lin. Ft.	42" Pipe for Storm Sewers
I-2	70		70	Lin. Ft.	36" Pipe for Storm Sewers
I-2	284		284	Lin. Ft.	10" Pipe for Storm Sewers Under Pavement
I-2	2,844	570	3414	Lin. Ft.	12" Pipe for Storm Sewers Under Pavement
I-2	325	24	349	Lin. Ft.	15" Pipe for Storm Sewers Under Pavement
I-2	252	318	570	Lin. Ft.	18" Pipe for Storm Sewers Under Pavement
I-2	608		608	Lin. Ft.	21" Pipe for Storm Sewers Under Pavement
I-2	34		34	Lin. Ft.	30" Pipe for Storm Sewers Under Pavement
I-2	34	250	284	Lin. Ft.	36" Pipe for Storm Sewers Under Pavement
I-2	80	781	861	Lin. Ft.	42" Pipe for Storm Sewers Under Pavement
I-2	28		28	Lin. Ft.	21" Pipe for Storm Sewers Sec. M-6.4 (d)
I-4	49,543	6,238	55781	Lin. Ft.	6" Pipe Underdrains for Curb
I-4	796	86	882	Lin. Ft.	6" Pipe Outlets for Underdrains
I-4		592	592	Lin. Ft.	6" Pipe for Deep Longitudinal Underdrains
I-4	552		552	Lin. Ft.	6" Pipe Underdrains for Herringbone
I-4	72		72	Lin. Ft.	12" Pipe Outlets for Herringbone Underdrains
I-5	4		4	Each	12" Pipe Specials for Underdrains (Herringbone)

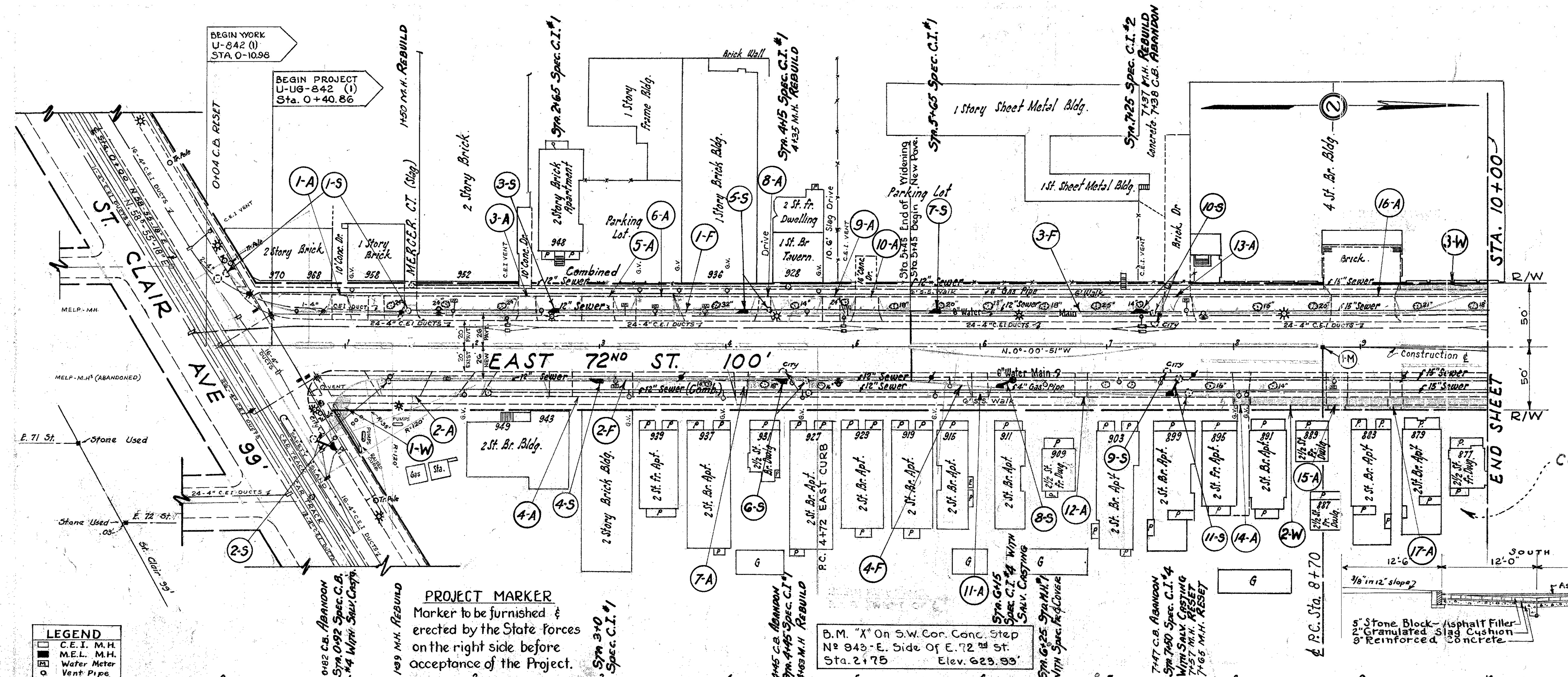
ITEM Nº	TOTAL U.I.329(7) PART 2	TOTAL U-U.G 842(1) PART 4	COMBINED TOTAL	UNIT	ROADWAY
E-1	563,396	88,562	651,958	Cu. Yds.	Roadway Excavation
E-4	115,576		115,576	Cu. Yds.	Borrow
E-8	9,672	2809	12,481	Sq. Yds.	Removal & Disposal of Existing Pavement
E-8		310	310	Sq. Yds.	Removal & Disposal of Existing Wearing Course
E-8	4,499	3,100	7,599	Lin. Ft.	Removal & Disposal of Existing Curb
E-8	16,118	2,148	18,266	Lin. Ft.	Removal for Re-use of Existing Curb
E-11	2,719	9	2,728	M-Gal.	Water
E-12	2,251	1,045	3,296	Lin. Ft.	Pipe Removed & Disposed Of
I-8	10		10	Each	Monument Boxes Type "A" as per Plan
I-8	5	7	12	Each	Monument Boxes Type "B" as per Plan
I-8	2		2	Each	Monument Boxes Adjusted To Grade
I-13	84,640	19,336	~~103,033~~ 103,976	Sq. Ft.	4" Concrete Sidewalks
I-17	18	2	20	Cu. Yds.	Side Approaches, Mail Box Turnouts & Berm Material
L-9	257,307	11,733	269,040	Sq. Yds.	Seeding & Protecting Type "A" as per Plan
L-9	23.16	1.06	24.22	Tons	Commercial Fertilizer (10-6-4)
L-9	115.79	5.28	121.07	Tons	Agricultural Ground Limestone
S-25	1199	118	1317	Lin. Ft.	Street Lighting Conduit Type "A" as per Plan
S-25	298		298	Lin. Ft.	Street Lighting Conduit Type "B" as per Plan
T-110		96	96	Cu. Yds.	Traffic Compacted Surface Course
M-10		2	2	Tons.	Calcium Chloride
I-15	837.5		837.5	Lin. Ft.	Guard Rail, Flexible Steel Plate Tension Type Std. Strength or Steel Beam Type (Shallow)
S-24	Lump Sum		Lump Sum	Lump Sum	Removal of Existing Structures (Stone Ret. Walls & Posts)

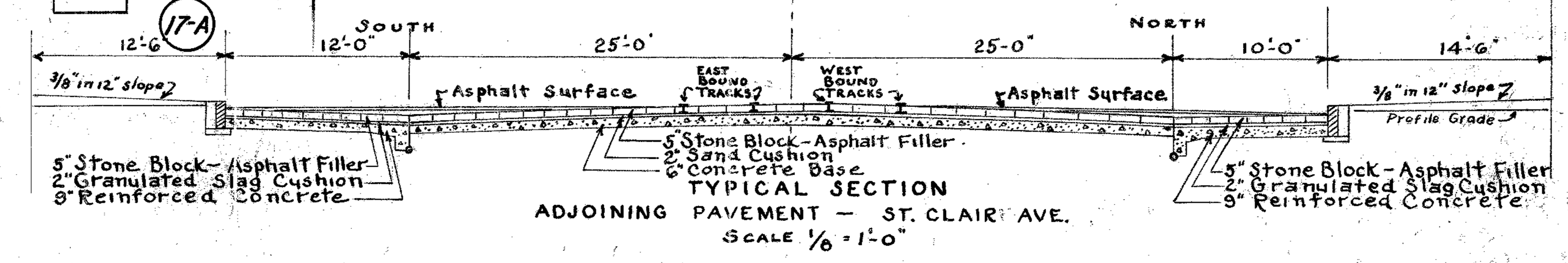
ITEM Nº	TOTAL U.I.329(7) PART 2	TOTAL U-UG 842(1) PART 4	COMBINED TOTAL	UNIT	PAVEMENT
T-30	91	339	430	Gals	Bituminous Tack Coat Sec. M-55 MS-2 or SS-1
T-35	160	95	255	Cu. Yds.	Asphaltic Concrete Surface Course, Type "A" or "C" (70-80)
B-35		229	229	Cu. Yds	Asphaltic Concrete Leveling Course (70-80)
T-70		779	779	Sq. Yds.	6" Portland Cement Concrete Pavement
T-70		545	545	Sq. Yds.	9" Portland Cement Concrete Pavement
T-71	105,079	13,904	118,983	Sq. Yds.	9" Reinforced Portland Cement Concrete Pavement
B-71		801	801	Sq. Yds.	9" Reinforced Portland Cement Concrete Base Course
I-7	910		910	Sq. Yds.	9" Reinforced Concrete Approach Slab
I-21	68	500	568	Sq. Yds.	4" Portland Cement Concrete Median Pavement
I-11	33,314	6,167	39,481	Lin. Ft.	6"x18" Sandstone Curb
I-11		1723	1723	Lin. Ft.	6"x21" Sandstone Curb
I-11	17,206	1822	19,028	Lin. Ft.	Sandstone Curb Reset
Special		51	51	Each	Precast Concrete Traffic Dividers as per Plan
Special	2320		2320	Sq. Yds.	5" Granulated Slag Base Course, Grade "B" (S.S. M-103.12)

Retaining Walls, Bridge Nº CU-283-15 ~ For Summary of Quantities see Sheet Nº 42 of Part 4.
Structures over 20 Ft. Span, Bridge Nº CU-283-15 ~ For Summary of Quantities see Sheets Nº 64 & 72 of Part 4.
Structures over 20 Ft. Span, Bridge Nº CU-2-200 ~ For Summary of Quantities (Pedestrian Overpass) see Sheet Nº 183 of Part 2.
Railroad Force Account Work ~ See Sheet Nº 85 of Part 4.

Revised 12-19-50

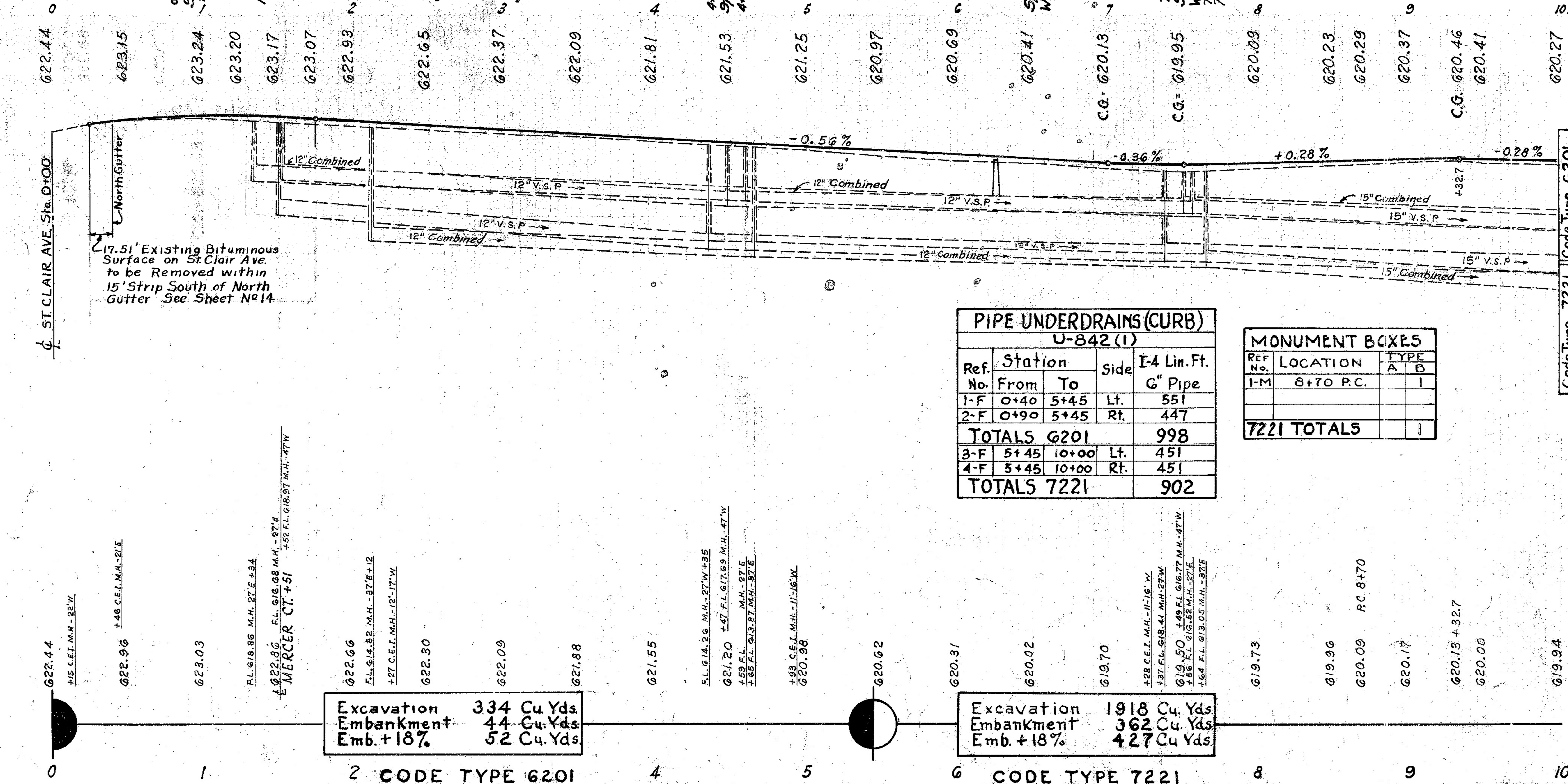
CUYAHOGA COUNTY
CUY. 283-1.09-1.49





U-842 (1) CURB REMOVAL ITEM E-8		
Location	Removal & Disposal of Existing Curb Lin. Ft.	Removal for Reuse of Existing Curb Lin. Ft.
St. Clair-E. 72 Intersection to E. 72nd St. Sta. 5+44	888.7	230.0
TOTALS CODE 6201	888.7	230.0
E. 72nd ST. STA. 5+44 to 10+00	827.0	285.0
TOTALS CODE 7221	827.0	285.0

U-842 (1) PRIVATE DRIVEWAYS						
	Item No.	Side L or R	Station	E-1 (cu. yds.) Embankment Deduction	E-1 (cu. yds.) Excavation	6" Concrete Pavement T-70 sq. yds.
Code Type 6201	1-A	L	0+95	0.7	4.0	24.0
	2-A	R	1+67		26.5	122.3
	3-A	L	2+43.6	0.8	4.5	27.0
	4-A	R	2+93.5	3.0	17.8	106.5
	5-A	L	2+99.2	1.2	7.3	43.5
	6-A	L	3+44	1.4	8.3	49.5
	7-A	R	4+11	0.4	2.5	15.0
	8-A	L	4+30.8	0.6	3.3	19.5
	9-A	L	4+83.2	0.8	4.5	27.0
	10-A	L	5+11.1	0.9	5.3	31.5
	TOTALS			10.	84.	465.8
Code Type 7221	11-A	R	5+99.9	0.4	2.1	12.4
	12-A	R	6+80.5		0.8	3.9
	13-A	L	7+55.7	1.1	6.4	38.3
	14-A	R	8+06.8		2.0	8.7
	15-A	R	8+80.8		5.2	20.3
	16-A	L	9+02.2	2.3	13.5	81.0
	17-A	R	9+27.1		2.6	11.3
	TOTALS			4.	33.	175.9



STORM SEWERS ~ U-842 (1)																	
	Ref. No.	Location From	Location To	Side	I-2 Pipe 12" Under Pavt. Lin. Ft.	I-16 City Type Catch Basins Abandon Each		I-8 Each Special Curb Inlet #1	I-8 Each Special Curb Inlet #2	I-8 Each Special Curb Inlet #4	I-8 Each Standard #1 Man Hole	I-8 Each Special Catch Basin #4	I-8 Each Manhole Adjusted To Grade	I-8 Each Man Hole Re-Built		I-8 Each C.B. Adjusted To Grade	Location of Structure
Code Type 6201	1-S	0+04	1+50	Lt.										1		1	0+04, 1+50
	2-S	0+75	1+39	Rt.	16	1						1		1			0+82, 0+92, 1+39
	3-S	2+65		Lt.				1									2+65
	4-S	3+00		Rt.				1									3+00
	5-S	4+15	4+35	Lt.				1						1			4+15, 4+35
	6-S	4+45	4+63	Rt.		1		1						1			4+45, 4+45, 4+63
	TOTALS				16	2		4				1		4		1	
Code Type 7221	7-S	5+65		Lt.				1									5+65
	8-S	6+15	6+25	Rt.	8					1	1						6+15, 6+25
	9-S	7+47		Rt.		1											7+47
	10-S	7+25	7+38	Lt.		1			1					1			7+25, 7+37, 7+38
	11-S	7+50	7+75	Rt.	12					1			2				7+50, 7+57, 7+65
	TOTALS				20	2		1	1	2	1		2	1			

PIPE UNDERDRAINS (CURB) U-842 (1)				
Ref. No.	Station From	Station To	Side	I-4 Lin. Ft. 6" Pipe
1-F	0+40	5+45	Lt.	551
2-F	0+90	5+45	Rt.	447
TOTALS 6201				998
3-F	5+45	10+00	Lt.	451
4-F	5+45	10+00	Rt.	451
TOTALS 7221				902

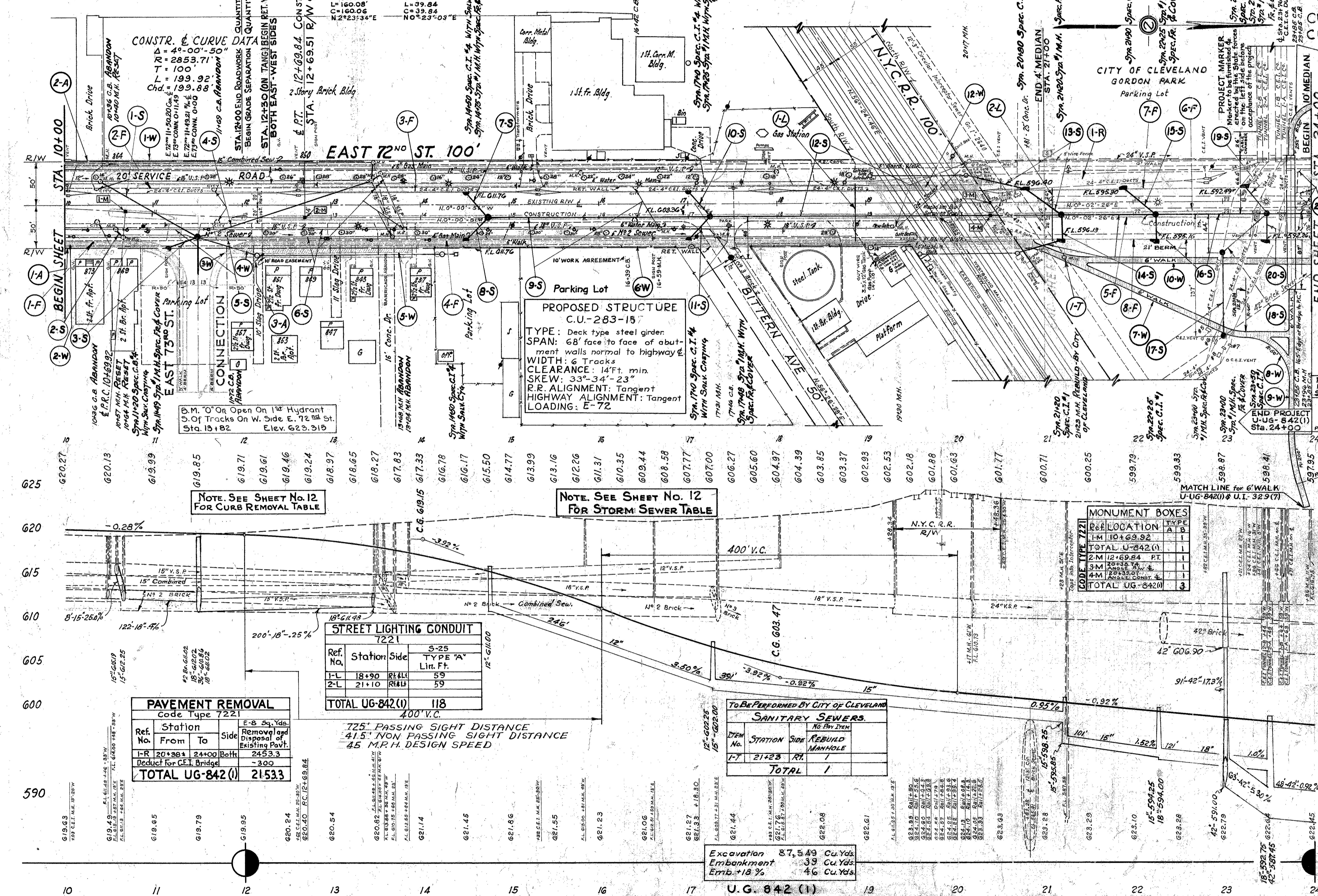
MONUMENT BOXES			
Ref No.	LOCATION	TYPE A	TYPE B
1-M	8+70 P.C.		1
7221 TOTALS			1

CONCRETE TRAFFIC DIVIDERS			
Station From	Station To	Side	No.
1+05	1+35	L&R	4
1+68	1+88	L&R	3
2+18	2+38	L&R	3
2+58	2+78	L&R	4
3+18	3+28	L&R	2
3+78	4+18	L&R	5
4+44	4+64	L&R	3
TOTAL-CODE 6201			24
7+74	8+70	R	16
9+34	9+94	R	11
TOTAL-CODE 7221			27

SIDEWALK U-842(1)					
STATION	Reference	Side	ITEM I-13 4" Concrete Sidewalk Square Feet 5.5' Wide	6' Wide	10' Wide
E. 72 ST. STA. 0+90 to STA. 1+05	1-W	R			260.0
TOTAL CODE 6201					260.0
E. 72 ST. STA. 7+90 to STA. 10+00	2-W	R		988.0	
E. 72 ST. STA. 9+29 to STA. 10+00	3-W	L	390.5		
TOTALS CODE 7221			390.5	988.0	

PLAN & PROFILE EAST 72ND ST. STA. 0+00 to STA. 10+00

CUYAHOGA COUNTY
CUY. 283-1.09-1.49



PROPOSED STRUCTURE
C.U.-283-15
TYPE: Deck type steel girder.
SPAN: 68' face to face of abutment walls normal to highway ℄
WIDTH: 6 Tracks
CLEARANCE: 14 Ft. min.
SKEW: 33°-34'-23"
R.R. ALIGNMENT: Tangent
HIGHWAY ALIGNMENT: Tangent
LOADING: E-72

PROPOSED C.E.I. co. DUCT STRUCTURE
CU-283-16 NOT A PART OF THIS CONTRACT
Type: Steel Girder - Concrete Deck
Span: 27.5'-78.0'-36.0'-12.0' ℄ Bearing
Width: 9.0', Clearance-14.0' Min., Skew-None

SIDEWALK

Station	Ref.	Side	ITEM I-13 4" Conc. Sidewalk Sq. Ft. 5' Wide	5.5' Wide	6' Wide
U-842(1)					
E. 72nd ST. STA. 10+00 to STA. 12+00	1-W	L		913.0	
E. 72nd ST. STA. 10+00 to STA. 11+34	2-W	R			828.0
E. 72nd ST. STA. 11+79 to STA. 12+00	3-W	R			125.5
TOTALS CODE 7221				913.0	953.5
U.G.-842(1)					
E. 72nd ST. STA. 12+00 to STA. 12+30	4-W	R			142.0
E. 72nd ST. STA. 12+30 to STA. 13+90	5-W	R	800.0		
E. 72nd ST. STA. 12+30 to STA. 20+64	6-W	R		4587	
E. 72nd ST. STA. 20+64 to STA. 23+74	7-W	R			2014.0
E. 72nd ST. STA. 23+25 to STA. 23+74	8-W	R			315.0
E. 72nd ST. STA. 23+74 to STA. 24+00	9-W	R			1587.0
E. 72nd ST. STA. 21+10 to STA. 24+00	10-W	R			1690.0
E. 72nd ST. STA. 23+74 to STA. 24+00	11-W	L			433.0
E. 72nd ST. STA. 19+04 to STA. 20+28	12-W	L		682	
TOTALS CODE 7221			800	5269	6181

TYPICAL SECTION OF ADJOINING PAVEMENT
Section Same as For Section Between Sta. 21+00 To Sta. 24+00 See Sheet #3

MONUMENT BOXES (CODE TYPE 7221)

Ref.	LOCATION	TYPE A	TYPE B
1-M	10+69.92		1
TOTAL U-842(1)			1
2-M	12+69.84 P.T.		1
3-M	20+38.74 ANGLE R/W ℄		1
4-M	20+39.07 ANGLE CONST. ℄		1
TOTAL UG-842(1)			3

U-842(1) PRIVATE DRIVEWAYS Code Type 7221

Item No.	Side L or R	Station	Excavation E-1 cu. yds.	6" Concrete Pavement T-70 sq. yds.	Aggregate I-17 cu. yds.
1-A	R	10+02.3	1.8	11.6	
2-A	L	10+29.4	4.4	20.8	
Totals-U-842(1)			7.	32.4	
U.G.-842(1)					
3-A	R	12+18.2	6.8	16.0	1.9
Totals-U.G.-842(1)			7.	16.0	1.9

PIPE UNDERDRAINS (CURB) 7221

Ref. No.	Station From	Station To	Side	I-4 Lin. Ft. 6" Pipe	6" Pipe Deep Longitudinal Drains
1-F	10+00	10+87	Rt.	87	
2-F	10+85	12+00	Lt.	115	
TOTALS U-842(1)				202	
3-F	12+00	20+80	Lt.	876	
4-F	12+00	21+20	Rt.	916	
5-F	21+00	24+00	Rt.	300	
6-F	22+50	24+00	Lt.	150	
7-F	20+80	24+00	Lt.		316
8-F	21+20	24+00	Rt.		276
TOTALS UG-842(1)				2342	592

STREET LIGHTING CONDUIT 7221

Ref. No.	Station	Side	S-25 TYPE "A" Lin. Ft.
1-L	18+90	Rt.&Lt.	59
2-L	21+10	Rt.&Lt.	59
TOTAL UG-842(1)			118

PAVEMENT REMOVAL Code Type 7221

Ref. No.	Station From	Station To	Side	E-8 Sq. Yds. Removal and Disposal of Existing Pavt.
1-R	20+38±	24+00	Both	2453.3
Deduct for C.E.I. Bridge				-300
TOTAL UG-842(1)				2153.3

To Be Performed By City of Cleveland

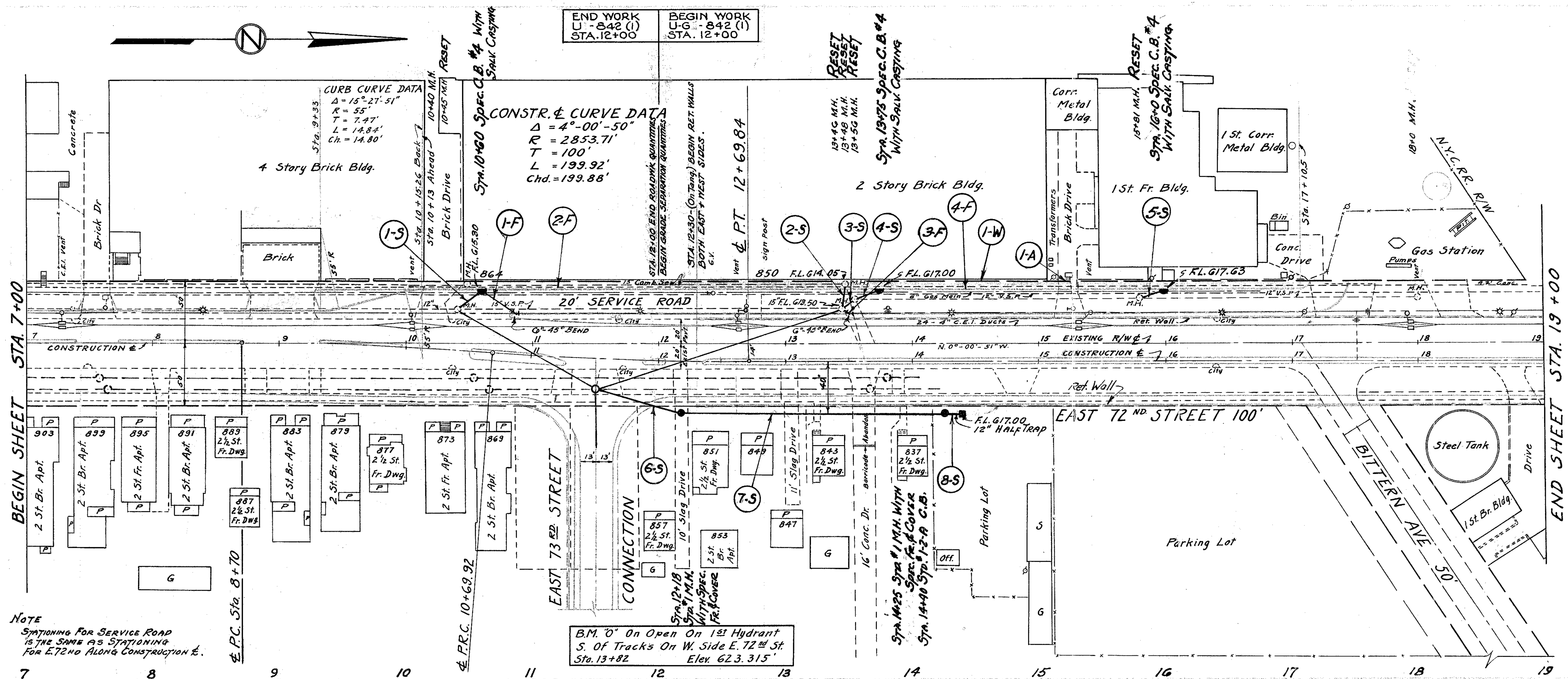
SANITARY SEWERS

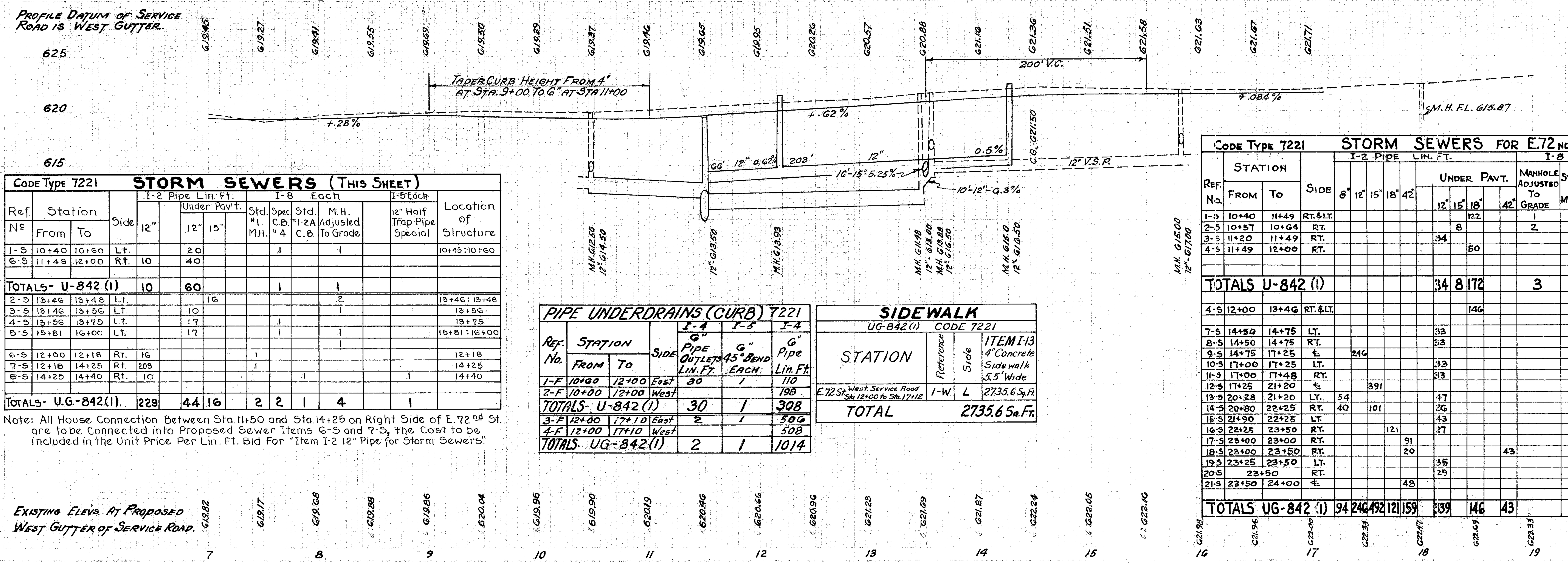
Item No.	Station	Side	No Pay Item Rebuild Manhole
1-T	21+23	Rt.	1
Total			1

Excavation	87,549	Cu. Yds.
Embankment	39	Cu. Yds.
Emb. +18%	46	Cu. Yds.

NOTE: All Elevations & Distances are from Construction ℄

PLAN & PROFILE EAST 72ND ST. STA. 10+00 to STA. 24+00





CODE 7221 CURB REMOVAL ITEM E-8 FOR E.72ND ST. SHEET NO. 11		
Location	Removal & Disposal of Existing Curb Lin. Ft.	Removal for Reuse of Existing Curb Lin. Ft.
U-842(I)		
E.72nd ST. STA 10+00 to 12+00	110.0	90.0
TOTALS	110.0	90.0
U.G.-842(I)		
E.72nd ST. STA.12+00 to N.Y.C. R.R.	1,152.6	267.0
E.72nd ST. N.Y.C.R.R. to STA.24+00	109.6	1212.0
TOTALS	1,262.2	1479.0

STORM SEWERS CONTINUED FOR E.72ND ST.-SHEET NO. 11 CODE 7221							
Ref. No.	Station From	Station To	Side	I-16 Abandoned Ea. Catch Basin City	I-16 Abandoned Ea. Catch Basin Park	I-16 Abandoned Ea. Man-Hole	E-12 Lin. Ft. Pipe Removed and Disposed of
1-S	10+36	10+40	Lt.	1			6
2-S	10+36	10+57	Rt.	1			18
4-S	11+69	11+72	Rt.&Lt.	2			
5-S	10+57	12+00	Rt.				188
TOTALS U-842(I)				4			212
6-S	12+00	15+50	Rt.&Lt.			2	833
9-S	16+39	16+59	Rt.&Lt.	* *		*	
11-S	17+31	17+46	Rt.		*	*	
12-S	19+30	20+17	Rt.&Lt.			* *	
21-S	23+85	23+96	Rt.&Lt.	* * * *		*	
TOTALS UG-842(I)						2	833

* Denotes: To Be Removed with E-1 Excavation.

U.G.-842(I) PRIVATE DRIVEWAYS				
Item No.	Side L or R	Station	Excavation E-1 cu. yds.	6" Concrete Pavement T-70 sq. yds.
1-A	L	15+23	2.5	9.8
TOTALS 7221			3.	9.8

Code Type 7221 STORM SEWERS (This Sheet)														
Ref. Nº	Station From	Station To	Side	I-2 Pipe Lin. Ft. 12"		Under Pav't. 12"	Under Pav't. 15"		I-8 Each Std. #1 M.H.	Spec. C.B. #4	Std. #1-2A C.B.	M.H. Adjusted To Grade		I-5 Each 12" Half Trap Pipe Special	Location of Structure
1-S	10+40	10+60	Lt.			20				1		1			10+45:10+60
6-S	11+49	12+00	Rt.	10		40									
TOTALS- U-842 (I)				10		60				1		1			
2-S	13+46	13+48	Lt.				16					2			13+46:13+48
3-S	13+46	13+56	Lt.			10						1			13+56
4-S	13+56	13+75	Lt.			17				1					13+75
5-S	15+81	16+00	Lt.			17				1		1			15+81:16+00
												1			
6-S	12+00	12+18	Rt.	16					1						12+18
7-S	12+18	14+25	Rt.	203					1						14+25
8-S	14+25	14+40	Rt.	10							1			1	14+40
TOTALS- U.G.-842(I)				229		44	16		2	2	1	4		1	

Note: All House Connection Between Sta. 11+50 and Sta. 14+25 on Right Side of E.72nd St. are to be Connected into Proposed Sewer Items 6-S and 7-S, the Cost to be included in the Unit Price Per Lin. Ft. Bid For "Item I-2 12" Pipe for Storm Sewers".

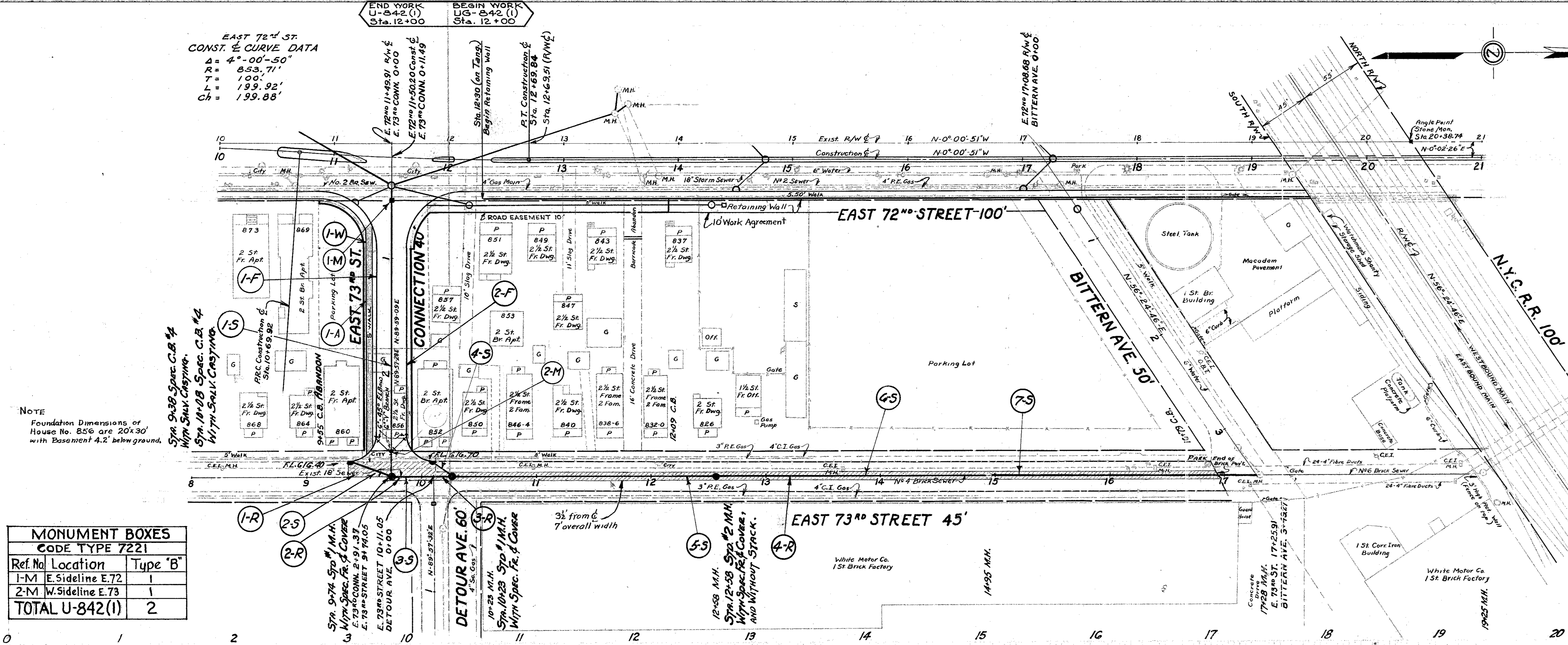
PIPE UNDERDRAINS (CURB) 7221						
Ref. No.	Station From	Station To	Side	I-4 6" Pipe Outlets Lin. Ft.	I-5 6" 45° Bend Each	I-4 6" Pipe Lin. Ft.
1-F	10+60	12+00	East	30	1	110
2-F	10+00	12+00	West			198
TOTALS- U-842 (I)				30	1	308
3-F	12+00	17+10	East	2	1	506
4-F	12+00	17+10	West			508
TOTALS- UG-842(I)				2	1	1014

SIDEWALK UG-842(I) CODE 7221			
Station	Reference	Side	ITEM I-13 4" Concrete Sidewalk 5.5' Wide
E.72 St. West Service Road Sta. 12+00 to Sta. 17+12	1-W	L	2735.6 Sq. Ft.
TOTAL			2735.6 Sq. Ft.

Code Type 7221 STORM SEWERS FOR E.72ND ST. SHEET NO. 11																					
Ref. No.	Station From	Station To	Side	I-2 Pipe Lin. Ft. 8"	12"	15"	18"	42"		Under Pavt. 12"	Under Pavt. 15"	Under Pavt. 18"		Under Pavt. 42"	I-8 Each Manhole Adjusted To Grade	Standard #1 Manhole	Special Curb Inlet #1	Special Curb Inlet #4	Special Catch Basin #4		Location of Structure
1-S	10+40	11+49	Rt.&Lt.									122			1	1					10+40:11+49
2-S	10+57	10+64	Rt.								8				2						10+57:10+64
3-S	11+20	11+49	Rt.							34									1		11+20
4-S	11+49	12+00	Rt.									50									
TOTALS U-842 (I)										34	8	172			3	1			1		
4-S	12+00	13+46	Rt.&Lt.									146									
7-S	14+50	14+75	Lt.							33								1			14+50
8-S	14+50	14+75	Rt.							33								1			14+50
9-S	14+75	17+25	℄		246											1					14+75
10-S	17+00	17+25	Lt.							33								1			17+0
11-S	17+00	17+48	Rt.							33						1		1			17+00:17+48
12-S	17+25	21+20	℄			391										1					17+25
13-S	20+28	21+20	Lt.	54						47							1				20+80
14-S	20+80	22+25	Rt.	40		101				26						1	1				21+20:21+20
15-S	21+90	22+25	Lt.							43							1				21+90
16-S	22+25	23+50	Rt.				121			27						1	1				22+25:22+25
17-S	23+00	23+00	Rt.					91								1					23+00
18-S	23+00	23+50	Rt.					20						43		1					23+00
19-S	23+25	23+50	Lt.							35							1				23+25
20-S	23+50		Rt.							29							1				23+50
21-S	23+50	24+00	℄					48								1					23+50
TOTALS UG-842 (I)				94	246	492	121	159		339		146		43		8	6	4			

PLAN & PROFILE WEST SERVICE ROAD STA. 9+33 TO STA. 17+45.50

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

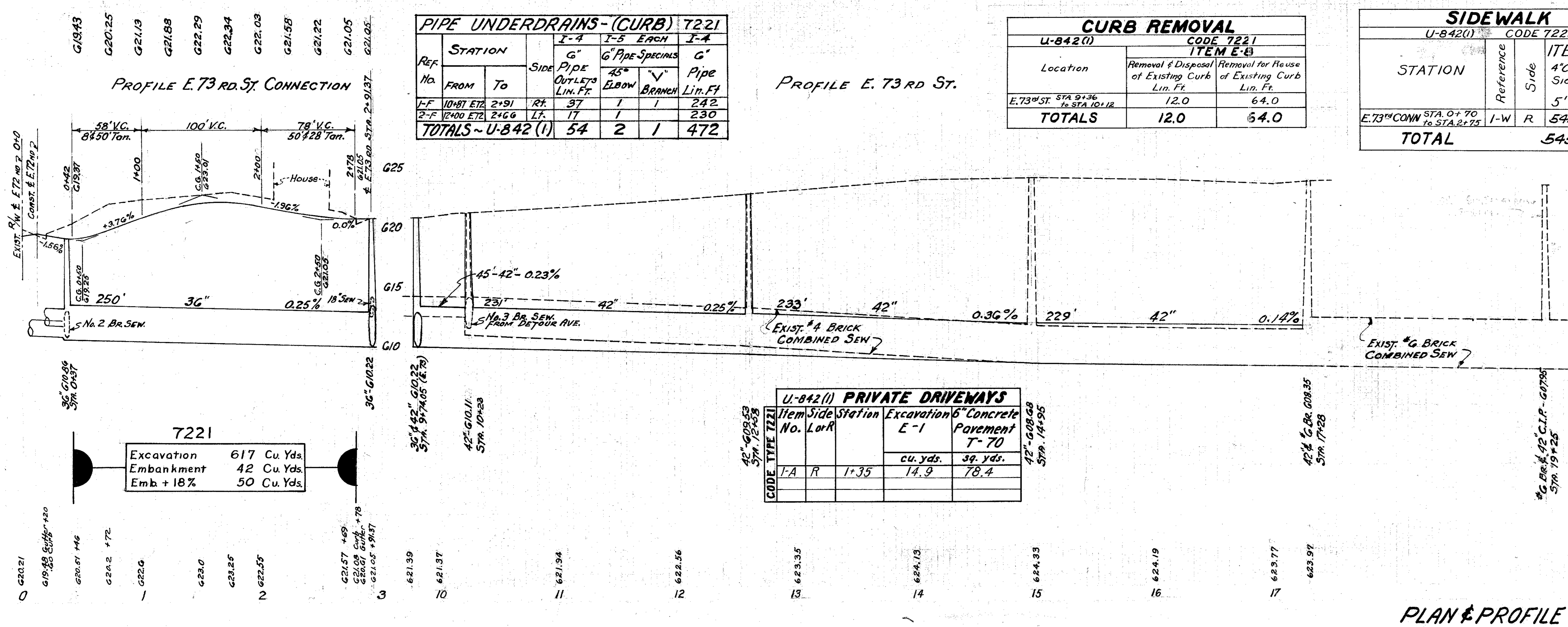


MONUMENT BOXES		
CODE TYPE 7221		
Ref. No.	Location	Type "B"
1-M	E. Sideline E.72	1
2-M	W. Sideline E.73	1
TOTAL U-842(1)		2

PAVT. REMOVAL & REPLAC'NT

CODE TYPE 7221

Ref. No.	Station From	Station To	Width	Item E-8 Exist. Pavt. Removed & Disposed Sq. Yds.	Item T-70 9" Port. Cem. Conc. Pavt. Sq. Yds.
1-R	9+36	10+12	13'	109.8	See Extra Area
2-R	9+70.5	10+12	3.5'	16.1	16.1
3-R	10+12	10+24	7'	9.3	9.3
Totals U-842(1)				135.2	25.4
4-R	10+24	16+93	7'	520.3	520.3
Totals UG-842 (1)				520.3	520.3



PIPE UNDERDRAINS - (CURB) 7221							
Ref. No.	Station From	Station To	Side	I-4 6" Pipe Outlets Lin. Ft.	I-5 Each 6" Pipe Specials 45° Elbow	I-5 Each 6" Pipe Specials "V" Branch	I-4 6" Pipe Lin. Ft.
1-F	10+87 E.72	2+91	Rt.	37	1	1	242
2-F	12+00 E.72	2+66	Lt.	17	1		230
TOTALS ~ U-842 (1)				54	2	1	472

CURB REMOVAL

U-842(1)	CODE 7221 ITEM E-8	
Location	Removal & Disposal of Existing Curb Lin. Ft.	Removal for Reuse of Existing Curb Lin. Ft.
E.73rd ST. STA 9+36 to STA 10+12	12.0	64.0
TOTALS	12.0	64.0

SIDEWALK

U-842(1) CODE 7221			
STATION	Reference	Side	ITEM I-13 4" Concrete Sidewalk 5' Wide
E.73rd CONN STA. 0+70 to STA. 2+75	1-W	R	545.0 Sq. Ft.
TOTAL			545.0 Sq. Ft.

7221		
Excavation	617	Cu. Yds.
Embankment	42	Cu. Yds.
Emb. + 18%	50	Cu. Yds.

U-842(1) PRIVATE DRIVEWAYS				
CODE TYPE 7221 Item No.	Side L or R	Station	Excavation E-1 cu. yds.	6" Concrete Pavement T-70 sq. yds.
1-A	R	1+35	14.9	78.4

NOTE. THE REMOVAL OF EXISTING SEWER BETWEEN STA. 9+74 TO STA. 17+28 AND THE REMOVAL OF EXISTING MANHOLES AT STATIONS 10+28 AND 12+58 ARE TO BE INCLUDED IN UNIT PRICE PER LIN. FT BID FOR "ITEM I-2 42" PIPE FOR STORM SEWERS UNDER PAVEMENT."

STORM SEWERS CODE TYPE 7221

Ref. No.	Station From	Station To	Side	I-2 Pipe Lin. Ft. Under Pavt. 12"	36"	42"	I-8 Each Std. #1 M.H.	Std. #2 M.H.	Spec C.B. #4	I-16 Each Abandon C.B. City Type	Location of Structure
1-S	0+37 E.73 Conn.	2+91.37 E.73 Conn.	℄		250						
2-S	9+38	9+74	Lt.	40					1	1	9+38: 9+55
3-S	9+74	10+23	℄			45	1				9+74
4-S	10+08	10+23	Lt.	17					1		10+08
TOTALS ~ U-842(1)				57	250	45	1		2	1	
5-S	10+23	12+58	℄			231	1				10+23
6-S	12+58	14+95	℄			233		1			12+58
7-S	14+95	17+28	℄			229					
TOTAL ~ UG-842(1)						693	1	1			

NOTE. ALL PIPE CONNECTIONS INTO EXISTING SEWER IN E.73RD ST. BETWEEN STA. 9+74 AND STA. 17+28 ARE TO BE CONNECTED INTO NEW SEWER, THE COST TO BE INCLUDED IN UNIT PRICE PER LIN. FT. BID FOR "ITEM I-2 42" PIPE FOR STORM SEWERS UNDER PAVEMENT."

PLAN & PROFILE E.73RD CONNECTION & E.73RD STREET.

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U.-UG-842(1)	Postwar

14 / 85

CUYAHOGA COUNTY
CUY. - 283 - 1.09 - 1.49

CODE No 6201 | CODE No 7221

CURB RE-CAP

U-842(1)	Code Type	Straight or Radial	ITEM I-11 New LIN. FT.	ITEM I-11 Salvaged LIN. FT
	6201	6"×18"	432.47	
		2' Radius	12.56	
		5' Radius	15.71	
		35' Radius	61.12	
		Totals	521.86	
	7221	6"×18"	301.00	
		2' Radius	6.07	
		Totals	307.07	

EXTRA AREA QUANTITIES U-842(1)

Location	ITEM B-35		ITEM T-35	ITEM B-71	ITEM T-71	ITEM I-11 NEW				ITEM E-8	ITEM T-30	ITEM I-21
	Extra Asphaltic Concrete Leveling Course	Asph. Conc. Leveling Course 1½"	Asph. Conc. Surface Course 1"	Reinf. Port. Cement Conc. Base Course 9"	Reinf. Port. Cement Conc. Pavt. 9"	6"×18" Sandstone Curb	Sandstone Bumper Block 2' Rad.	6"×18" 5' Radial S.S. Curb	6"×18" 35' Radial S.S. Curb	Removal & Disposal of Existing Wearing Course	Bituminous Tack Coat (0.1 gal/sq.yd.)	4" Portland Cement Concrete Median
	CU. YDS.	CU. YDS	CU. YDS.	SQ. YDS.	SQ. YDS.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. YDS.	GAL.	SQ. YDS.
ST. CLAIR - E. 72ND ST. INTERSECTION to 1+36.54	18.12	42.88	28.56	234.74		242.47	12.56		61.12	310.0	101.83	8.33
Sta. 4+50 to Sta. 5+45	20.76	23.29	15.55	141.39		190.00					55.36	
MERCER COURT		.28	.18	6.69				15.71			.67	
Totals Code 6201	38.88	66.45	44.29	382.82		432.47	12.56	15.71	61.12	310	157.86	8.33
Sta. 5+45 to Sta. 6+20					408.44	301.00	6.07					55.55
Totals Code 7221					408.44	301.00	6.07					55.55

E. 72ND ST. EXTRA AREA

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U.-U.G.-842(1)	Postwar

CUYAHOGA COUNTY
CUY.-283-1.09-1.49

END WORK U.-842(1) STA.12+00 | BEGIN WORK U.G.-842(1) STA.12+00

⑥ ⑦ BULLNOSE CURB DATA
R = 1.00'
Δ = 180°-00'
L = 3.14'

SERVICE ROAD WEST CURB DATA
R = 55.00'
Δ = 15°-27'-51"
T = 7.47'
L = 14.84'
Ch = 14.80'

EAST 72ND ST. ℄ CURVE DATA
R = 2853.71'
T = 100.00'
Δ = 4°-00'-50"
L = 199.92'
Ch = 199.84'

MEDIAN EAST CURB DATA - P.C. to P.T.
R = 1229.46'
Δ = 4°-00'-50"
T = 43.08'
L = 86.13'
Ch = 86.11'

E. 72ND ST. E. CURB DATA (P.C. to P.T.)
R = 3434.35'
Δ = 3°-09'-08"
T = 100.00'
L = 199.95'
Ch = 199.92'

⑤ BULLNOSE CURB DATA
R = 1.00'
Δ = 172°-01'-37"
L = 3.00'

④ MEDIAN EAST CURB DATA - P.C.C. to BULLNOSE
R = 763.94'
D = 7°-30'
Δ = 11°-57'-20"
T = 79.99'
L = 159.41'
Ch = 159.12'

EAST 72ND ST. ℄ CURVE DATA
R = 2853.71'
T = 100.00'
Δ = 4°-00'-50"
L = 199.92'
Ch = 199.88'

⑧ ⑩ BULLNOSE CURB DATA
R = 1.00'
Δ = 180°-00'
L = 3.14'

⑨ MEDIAN WEST CURB DATA (Sta 9+33 to 9+96)
R = 2855.71'
Δ = 1°-15'-53"
L = 63.04'

⑪ MEDIAN EAST CURB DATA (9+33 to 9+96)
R = 2853.71'
Δ = 1°-15'-53"
L = 63.00'

E. 72ND ST. E. CURB DATA
R = 3450.38'
Δ = 0°-49-49"
T = 25.00'
L = 50.00'
Ch = 50.00'
Ext. = .045'

⑫ BULLNOSE CURB DATA
R = 4.00'
Δ = 180°-00'
L = 12.57'

⑬ MEDIAN WEST CURB DATA P.R.C.
R = 2851.71'
Δ = 0°-39'-39"
L = 32.89'
T = 16.45'
Ch = 32.89'

⑭ MEDIAN WEST CURB DATA - P.R.C. to BULLNOSE
R = 48.00'
Δ = 24°-48'-42"
T = 10.60'
L = 20.78'
Ch = 20.62'

⑮ BULLNOSE CURB DATA
R = 1.50'
Δ = 153°-24'-01"
L = 4.02'

⑯ MEDIAN EAST CURB DATA - BULLNOSE to P.C.
R = 1229.46'
Δ = 2°-26'-56"
T = 26.28'
L = 52.55'
Ch = 52.55'

E. 73RD ST. CONNECTION CURB DATA
R = 50'
Δ = 90°
T = 50'
L = 78.54'
Ch = 70.71
STA. 0+92.00

E. 73RD ST. CONNECTION CURB DATA
R = 50'
Δ = 90°
T = 50'
L = 78.54'
Ch = 70.71'
STA. 0+92.00

⑳ BULLNOSE CURB DATA
R = 1.50'
Δ = 158°-17'-37"
L = 4.14'

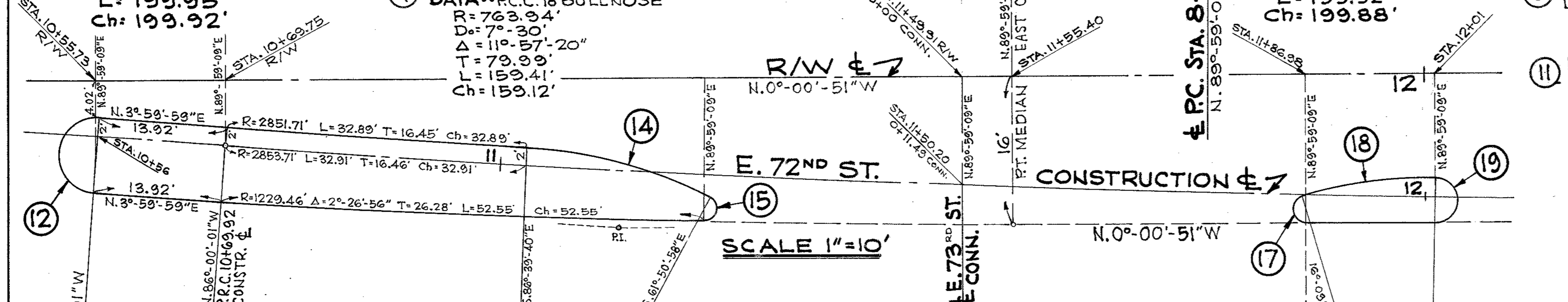
㉑ MEDIAN CURB DATA - BULLNOSE to P.R.C.
R = 18.00'
Δ = 22°-19'-50"
T = 3.55'
L = 7.02'
Ch = 6.97'

⑰ BULLNOSE CURB DATA
R = 1.50'
Δ = 153°-51'-00"
L = 4.03'

㉒ MEDIAN CURB DATA - P.R.C to P.T.
R = 2851.71'
Δ = 0° 37'-27"
T = 15.53'
L = 31.06'
Ch = 31.06'

⑱ MEDIAN CURB DATA - BULLNOSE to P.C.C.
R = 48.00'
Δ = 17°-31'-31"
T = 7.40'
L = 14.68'
Ch = 14.62'

⑲ BULLNOSE CURB DATA at P.C.C.
R = 2.41'
Δ = 178°-37'-29"
L = 7.51'
Ch = 4.82'



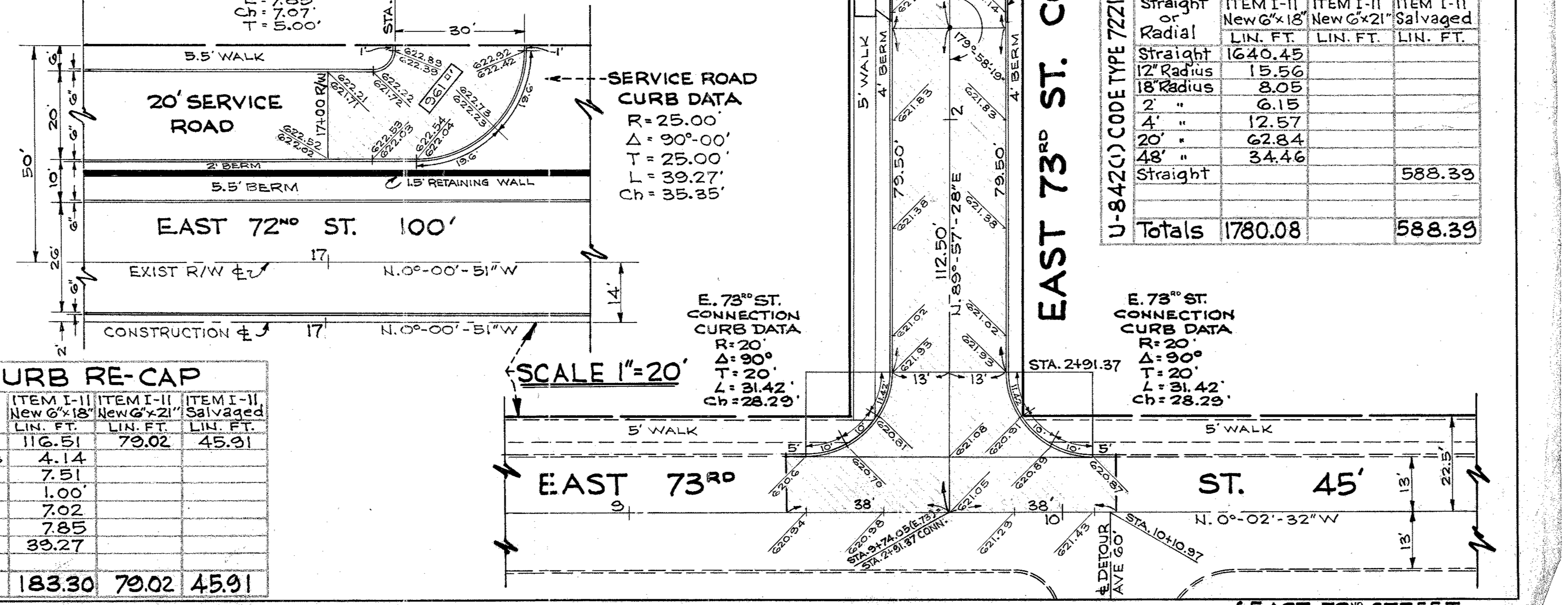
T-71 SERVICE ROAD & E.73RD CONN.
T-71 E. 72ND ST. U-842(1)
T-71 E. 72ND ST. UG-842(1)

SERVICE ROAD CURB DATA
R = 5.00'
Δ = 90°-00'
L = 7.85'
Ch = 7.07'
T = 5.00'

SERVICE ROAD CURB DATA
R = 25.00'
Δ = 90°-00'
T = 25.00'
L = 39.27'
Ch = 35.35'

E. 73RD ST. CONNECTION CURB DATA
R = 20'
Δ = 90°
T = 20'
L = 31.42'
Ch = 28.29'

E. 73RD ST. CONNECTION CURB DATA
R = 20'
Δ = 90°
T = 20'
L = 31.42'
Ch = 28.29'



EXTRA AREA QUANTITIES U-842(1)

Location	ITEM T-71	ITEM I-11 (NEW)							ITEM I-11	ITEM I-21
	Reinf. Port. Cement Concrete Pavement 9"	6"x18" Sandstone Curb	Sandstone Bumper Block 1' Rad.	Sandstone Bumper Block 1.5' Rad.	Sandstone Bumper Block 2' Rad.	Sandstone Bumper Block 4' Rad.	6"x18" 20' Radial Sandstone Curb	6"x18" 48' Radial Sandstone Curb	Salvaged 6"x18" S.S. Curb Reset	4" Port. Cement Concrete Median
	SQ. YDS.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. YDS.
STA. 6+20 to 12+00	3884.11	894.42			6.15					
ISLANDS		663.78	15.56	8.05		12.57		34.46		147.22
E.73RD ST. CONN.	930.90						62.84		486.92	
SERVICE ROAD 9+33 to 11+00	292.09	82.25							101.47	
Totals Code 7221	5107.10	1640.45	15.56	8.05	6.15	12.57	62.84	34.46	588.39	147.22

EXTRA AREA QUANTITIES UG-842(1)

Location	ITEM T-71	ITEM I-11 (NEW)								ITEM I-11	ITEM I-21
	Reinf. Port. Cement Concrete Pavement 9"	6"x18" Sandstone Curb	6"x21" Sandstone Curb	Sandstone Bumper Block 1.5' Rad.	Sandstone Bumper Block 2.41' Rad.	6"x18" 48' Radial Sandstone Curb	6"x18" 18' Radial Sandstone Curb	6"x18" 5' Radial Sandstone Curb	6"x18" 25' Radial Sandstone Curb	Salvaged 6"x18" S.S. Curb Reset	4" Port. Cement Concrete Median
	SQ. YDS.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. YDS.
EAST 72ND ST. STA. 12+00 to 12+69.87	417.11	116.51	79.02	4.14	7.51	1.0	7.02				
ISLANDS											12.55
E.73 ST CONNECTION 12+00 to 12+12.91	1.65									12.91	
SERVICE ROAD 17+00 to 17+45	106.78							7.85	39.27	33.00	
Totals Code 7221	525.54	116.51	79.02	4.14	7.51	1.0	7.02	7.85	39.27	45.91	12.55

CURB RE-CAP
UG-842(1) 7221

Straight or Radial	ITEM I-11 New 6"x18"	ITEM I-11 New 6"x21"	ITEM I-11 Salvaged
	LIN. FT.	LIN. FT.	LIN. FT.
Straight	116.51	79.02	45.91
18" Radius	4.14		
2.41' "	7.51		
48' "	1.00		
18' "	7.02		
5' "	7.85		
25' "	39.27		
Totals	183.30	79.02	45.91

CURB RE-CAP
U-842(1) CODE TYPE 7221

Straight or Radial	ITEM I-11 New 6"x18"	ITEM I-11 New 6"x21"	ITEM I-11 Salvaged
	LIN. FT.	LIN. FT.	LIN. FT.
Straight	1640.45		
12" Radius	15.56		
18" Radius	8.05		
2' "	6.15		
4' "	12.57		
20' "	62.84		
48' "	34.46		
Straight			588.39
Totals	1780.08		588.39

EXTRA AREAS { EAST 72ND STREET, 20' SERVICE ROAD, EAST 73RD ST. CONNECTION

C# - 8
BB-8 #12
FED. RD. DIVISION 2
STATE OHIO
FEDERAL AID PROJECT U-UG-842(1)
TYPE FUNDS Postwar
16 / 85
CUYAHOGA COUNTY
CUY.-283-1.09-1.49
EAST 72nd ST. 100'
N-0°-00'-51"W.
Exist R/W ℄
Match Line Sta. 6+00
6' S.S. Walk
6' Widening
Macadam Pavement
2 Story Brick Bldg. Stores Down Offices Up
#7121-23
1 Story Brick Bldg Dressler Machine Products Co.
#958
Concrete Drive
Mercer Ct. N.E. (Slag)
2 Story Brick Bldg. The Continental Lithograph Corp.
#952
2 Story Brick 4 Suite Apartment
#948
Parking Lot
1 Story Brick Bldg. The Proof Machine & Foundry Co.
#936
1 Story Brick Gordon Bar
#928
Slag Drive
Conc. Apron
Wm. J. Gordon Estate Sub'd. Vol. 28, Pg. 2
6' Wire Mesh Fence
Concrete Apron
Slag Apron
Conc. Apron
R=120'
R=35'
See Detail "A"
NEW R/W
4" Dia. Steel Light Pole on Conc. Base - Sohio Sign Above
4" Steel Light Pole 18" Conc. Base
Dia. Valves for Gas Tanks Underground
Conc. Islands Gas Pumps
Parcel-1
66
The Congregational Union of Cleveland, Ohio
SOHIO
Sheet Metal Gas Station
Sheet Metal Shed
198.96'
173.11'
147.27'
120.89'
#949
2 Story Brick Bldg.
The Glathar Lighting Co.
American Sewing Machine Co.
#943
2 Story Brick Bldg. The Buckeye Ribbon & Carbon Co. (Shipping Dept.)
#939
2 Story Frame 4 Suites Apartment
#937
2 Story Brick Apartment
#931
2½ Story Brick Dwelling
#927
2 Story Brick Apartment
#923
2 Story Brick Apartment
#919
2 Story Brick Apartment
#915
2 Story Brick Apartment
67
68
69
70
71
72
73
74
75
76
Wm. J. Gordon Estate Sub'd. Vol. 28, Pg. 2
4 Car Brick Garage
3 Car Brick Garage
ST. CLAIR AVE 99.
N.58°-54'-21"E.
Safety Island
C.T.S. West Bound Tracks
C.T.S. East Bound Tracks
Begin Brick - End Granite Block
Concrete Apron
6' Conc. Walk
Ⓐ & Ⓒ CURB DATA
Δ = 10° 30' 50"
R = 120'
T = 11.04'
L = 22.02'
Ch = 21.99'
Ⓑ CURB DATA
Δ = 100° 03' 08"
R = 35'
T = 41.75'
L = 61.12'
Ch = 53.64'
Ⓓ R/W DATA
Δ = 41° 55' 21"
R = 23.50'
T = 9.00'
L = 17.20'
Ch = 16.81'
N.79°-03'-02"W.
DETAIL "A"
E. 72nd St.
ST. CLAIR AVE.
Sta. 0+00 (E. 72nd St.)
Sta. 0+00 (St. Clair Ave)
R/W
.0003 AC
N 20° 34' 49" W
N 31° 05' 39" W
N 79° 28' 19" E
N 89° 59' 09" E
Scale :- 1" = 20'
UTILITIES INVOLVED :-
The Cleveland Electric Illuminating Co.
The Ohio Bell Telephone Co.
The East Ohio Gas Co.
City of Cleveland - Water Department.
EAST 73rd ST. 45'
E. 72nd ST. RIGHT OF WAY

E. 72ND ST. RIGHT OF WAY

FED. RD. DIVISION 2 | STATE OHIO | FEDERAL AID PROJECT U.-UG.-842 (1) | TYPE FUNDS Postwar | 18 85
CUYAHOGA COUNTY
CUY.- 283 - 1.09 - 1.49
UTILITIES INVOLVED :-
The Cleveland Electric Illuminating Co.
The Ohio Bell Telephone Co.
The East Ohio Gas Co.
City of Cleveland - Water Department.
Scale :- 1" = 20'
Wm. J. GORDON ESTATE SUB'D VOL. 28, PG. 2
Bowman Products Co. 2 Story Brick Bldg.
Bowman Products Co. Shipping Room 1 Story Frame
BARSIC SERVICE STATION
Steel Gas Station
Gas Pumps
Concrete Driveway
Conc. Platform
Brick Pavement
Conc. Pav't.
6'-0" Wire Mesh Fence
Entrance to B.P.Co. 3 Steps in R/W
#850
21.5' x 3.28' Encroachment
Exist. R/W
5.5' Walk
6' Sandstone Sidewalk
20' SERVICE ROAD
Brick Apron
1.5' Retaining Wall
5.5' Berm
EAST 72nd ST. 100'
℄ P.T. Sta. 12+69.84
N. 0°-00'-51" W.
EXIST. R/W ℄
CONSTRUCTION ℄
Match Line Sta. 12+50
Match Line Sta. 18+00
10' Work Agreement
Road Easement N. 0°-00'-51" W.
Parcel-4-A
Mary Ellen O'Bell
Slag Driveway (Abandon)
Anton Mohorich
Parcel-5
Parcel-6
The White Motor Co.
Concrete Driveway
1 Story Concrete Block Decking
Wm. J. GORDON ESTATE SUB'D VOL. 18, PG. 2
BITTERN AVE. 50'
Block "B"
56°-26'-10" ALLOTMENT
1 Story Brick Bldg.
Adolphina Wilke
Mary Miarka
2½ Story Frame Dwelling
2½ Story-2 Family Frame Dwelling
2 Car Frame Garage
3 Car Frame Garage
Kool Driveway Co. 1½ Story Frame Dwelling -Office-
1 Story Corrugated Iron Garage
W. J. GORDON REALTY CO'S. SUB'D. No 1 VOL. 30, PG. 17
EAST 73RD ST. 45'
E. 72ND ST. RIGHT OF WAY

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	Postwar

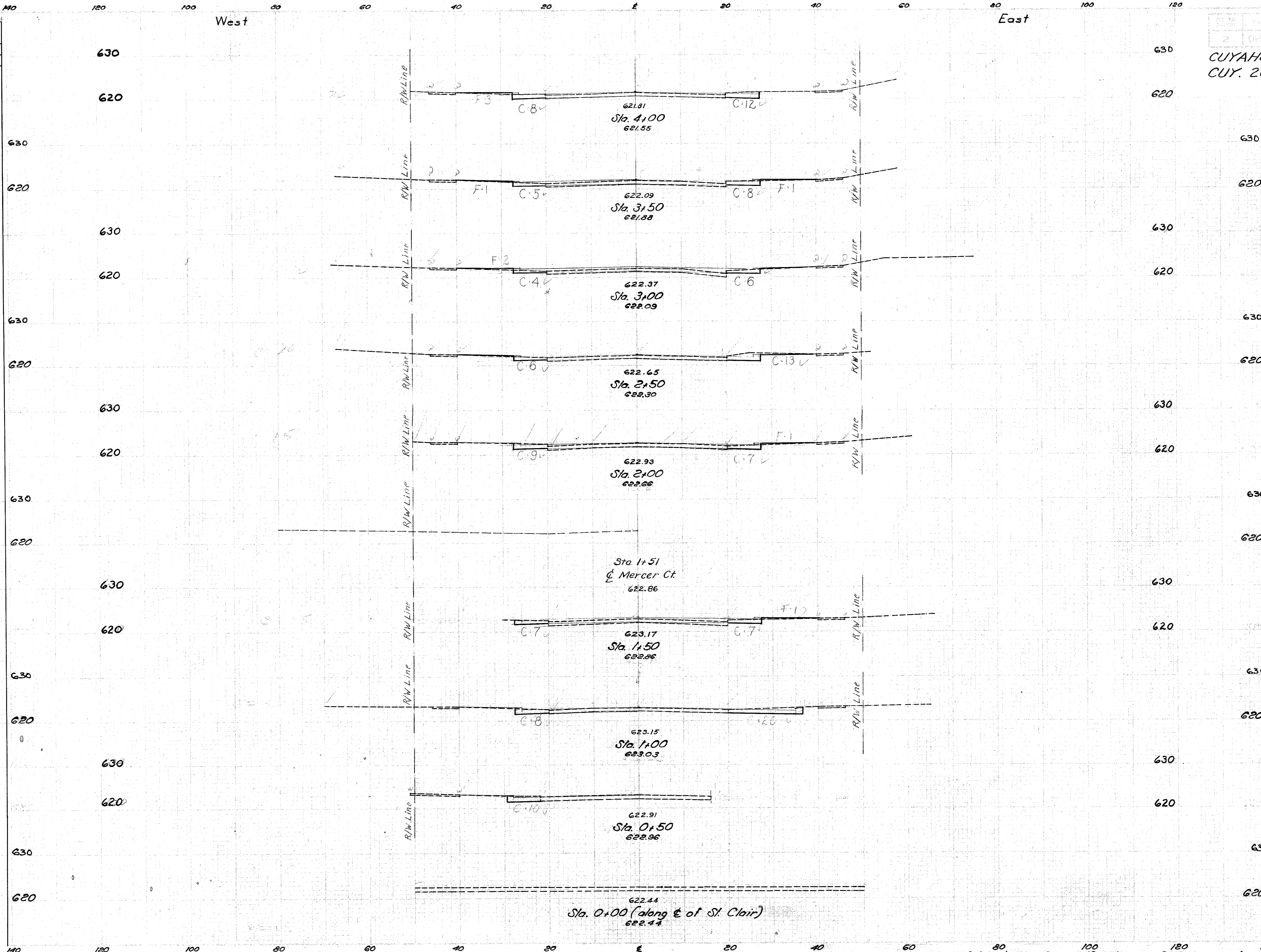
19
85

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

E. 72ND ST. RIGHT OF WAY

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding	
Width Lin. Ft.	Area Sq. Yds.
24	
	138
26	
	144
26	
	144
26	
	144
26	
	144
26	
	106
12	
	64
11	
	31
0	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
20	3		
		30	5
13	2		
		21	4
10	2		
		27	2
19	0		
		32	1
16	1		
		28	2
14	1		
		39	1
28	0		
		35	0
10	0		
		9	0
0	0		

U-842(1)

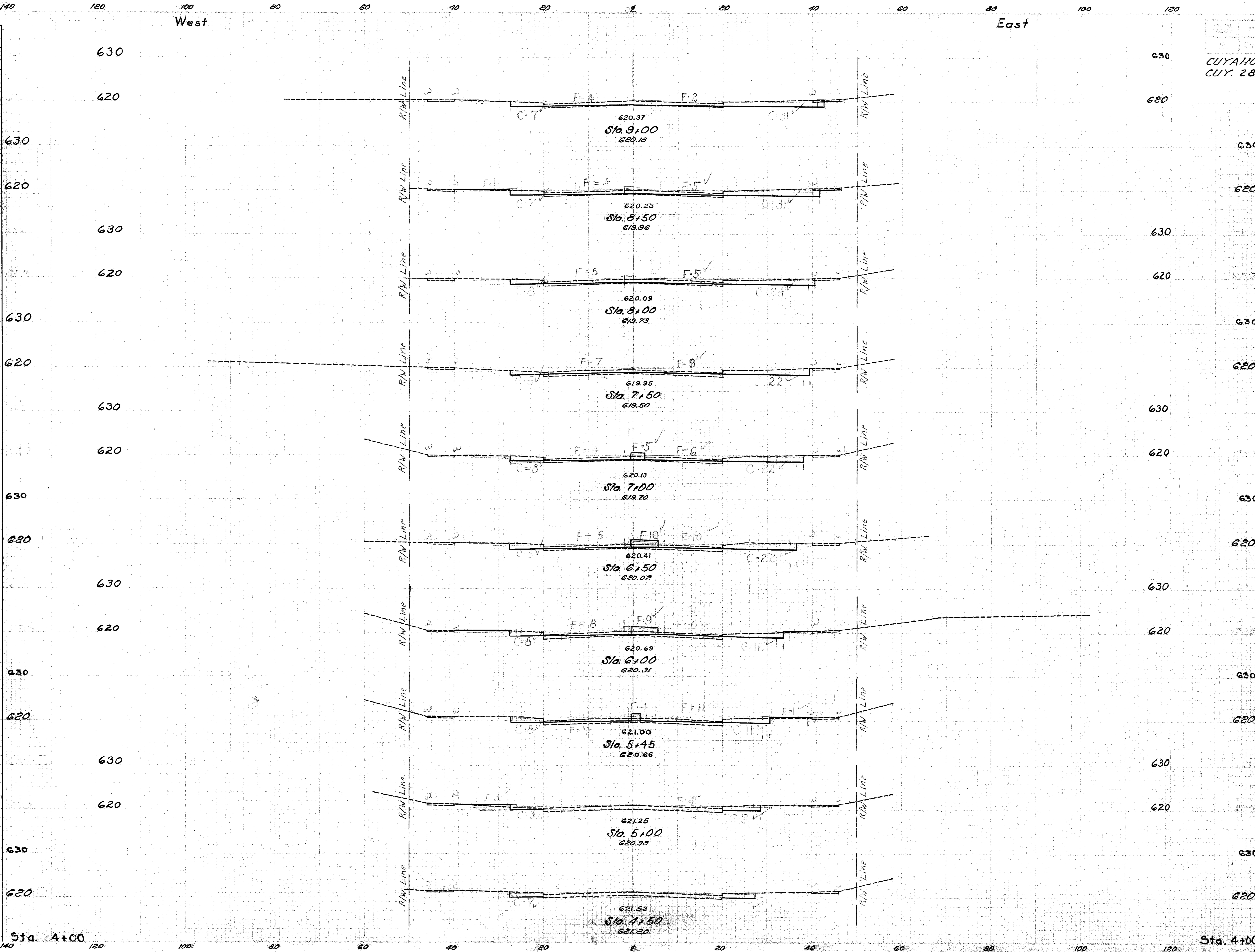
Excavation 334 Cu. Yds.
Embankment 44 Cu. Yds.
Emb. +18% 52 Cu. Yds.

CODE TYPE 6201

E. 72nd St. Cross Sections Sta. 0+00 to Sta. 4+00

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding Width Lin. Ft.	Seeding Area Sq. Yds.
19	
	100
20	
	106
18	
	100
18	
	117
24	
	144
28	
	156
28	
	150
26	
	144
26	
	138
24	
	133
24	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
78	6		
		144	15
78	10		
		139	19
72	10		
		130	24
68	16		
		128	29
70	15		
		130	37
70	25		
		120	48
60	27		
		123	54
59	25		
		58	23
12	3		
		24	3
14	0		
		31	3
20	3		

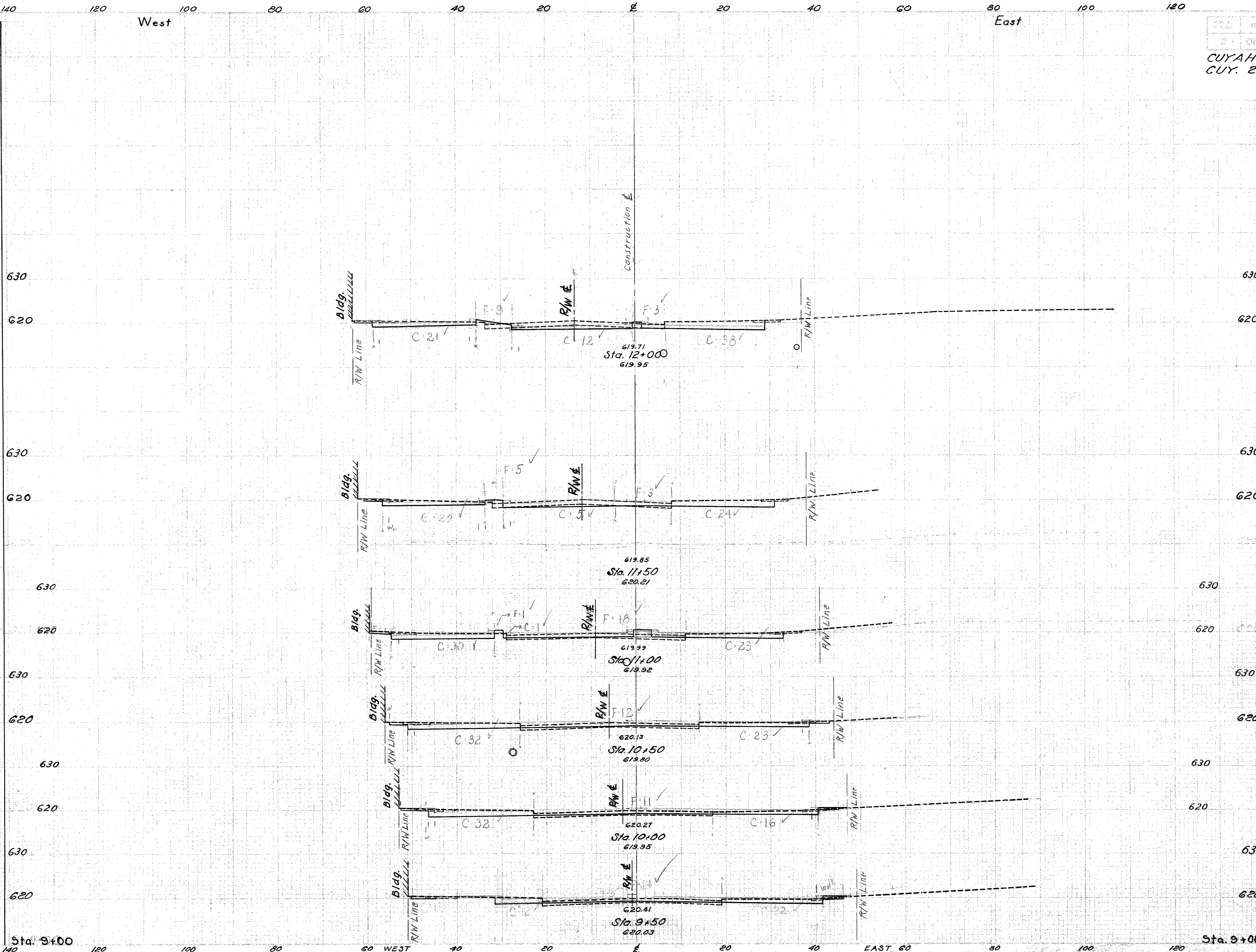
U-842(I)
Excavation 1918 Cu. Yds.
Embankment 362 Cu. Yds.
Emb.+18% 427 Cu. Yds.
CODE TYPE 7221

E. 72nd St. Cross Sections Sta. 4+50 to Sta. 9+00

FEDERAL AID
2 OHIO U-UG-842(1) Postwar
22
85

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding	
Width Lin. Ft.	Area Sq. Yds.
38	
	178
26	
	150
27	
	117
15	
	89
17	
	117
24	
	120
19	



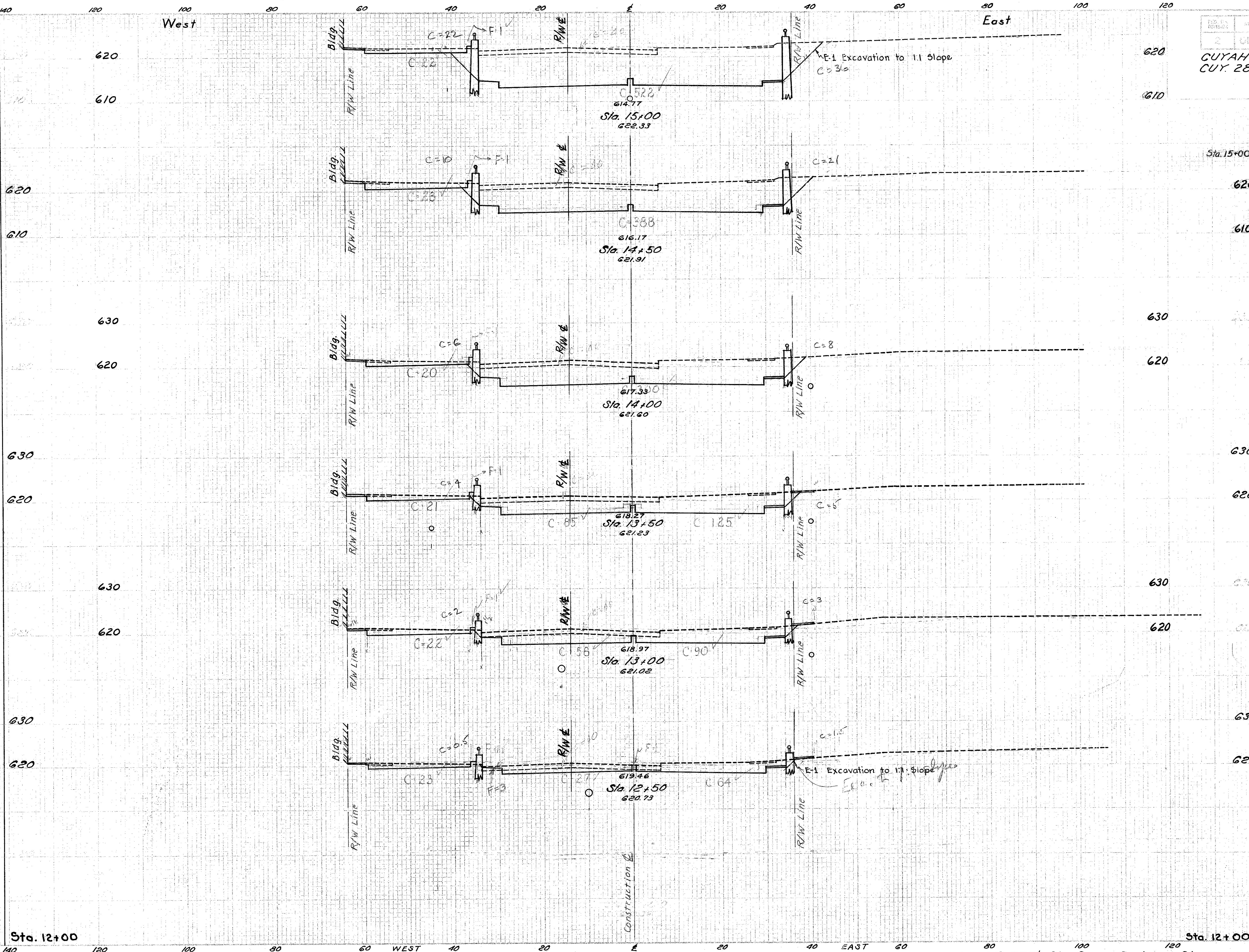
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
111	12		
		193	19
97	8		
		177	25
94	19		
		175	29
95	12		
		170	21
88	11		
		149	23
73	14		
		140	19
78	6		

E. 72nd St. Cross Sections Sta. 9+50 to Sta. 12+00

Fed. Rd. Div.	State	Federal Aid	Sheet
2	Ohio	U-UG-842(1) Postwar	23 / 85

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding Width Lin. Ft.	Seeding Area Sq. Yds.
17	
	94
17	
	94
17	
	83
12	
	67
12	
	67
12	
	139
38	

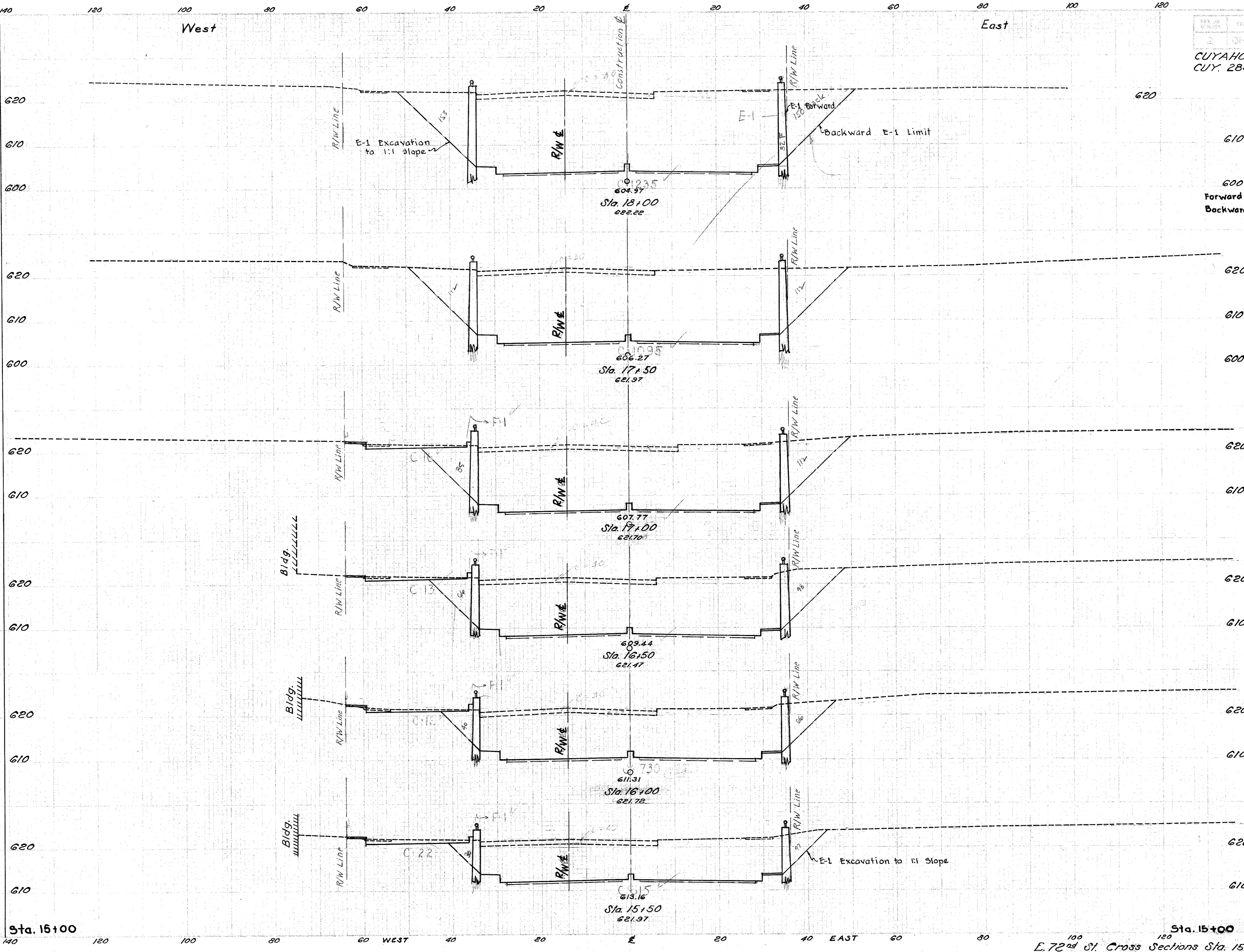


Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Sta. 15+00	642	1		
			1045	2
	487	1		
			797	2
	374	1		
			606	2
	280	1		
			458	2
	215	1		
			344	6
	156	5		
			247	16
Sta. 12+00	111	12		

E. 72nd St. Cross Sections Sta. 12+50 to Sta. 15+00

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding Width Lin. Ft.	Seeding Area Sq. Yds.
34	189
34	144
17	94
17	94
17	94
17	94
17	

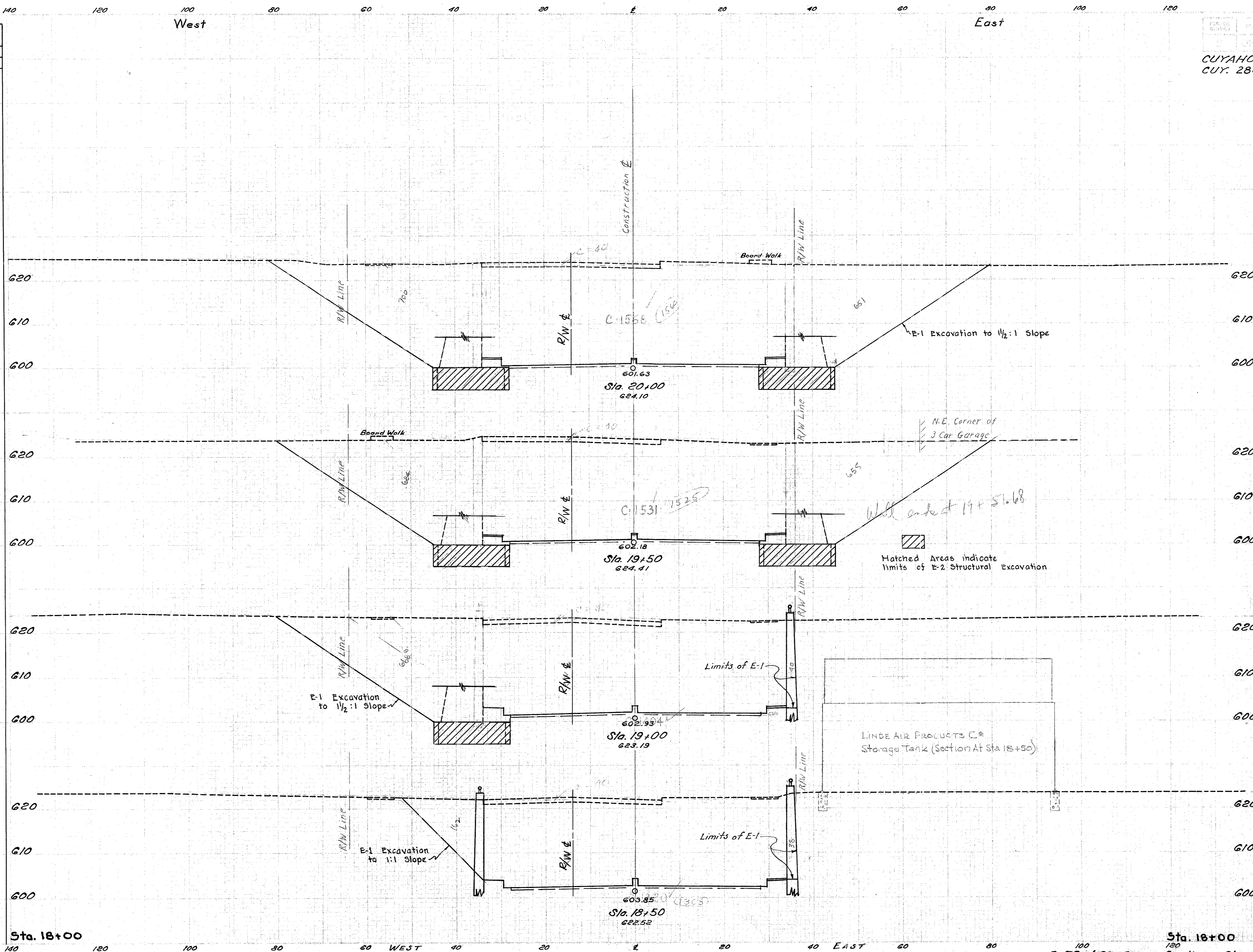


	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Forward	1460	0		
Backward	1578	0		
			2720	0
	1359	0		
			2400	1
	1233	1		
			2141	2
	1079	1		
			1822	2
	888	1		
			1520	2
	754	1		
			1293	2
Sta. 15+00	642	1		

E. 72nd St. Cross Sections Sta. 15+50 to Sta. 18+00

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding	
Width Lin. Ft.	Area Sq. Yds.
0	
	0
0	
	33
12	
	128
34	
	189
34	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
2959	0		
		5435	0
2910	0		
		4685	0
2150	0		
		3435	0
1560	0		
		2797	0
1460	0		

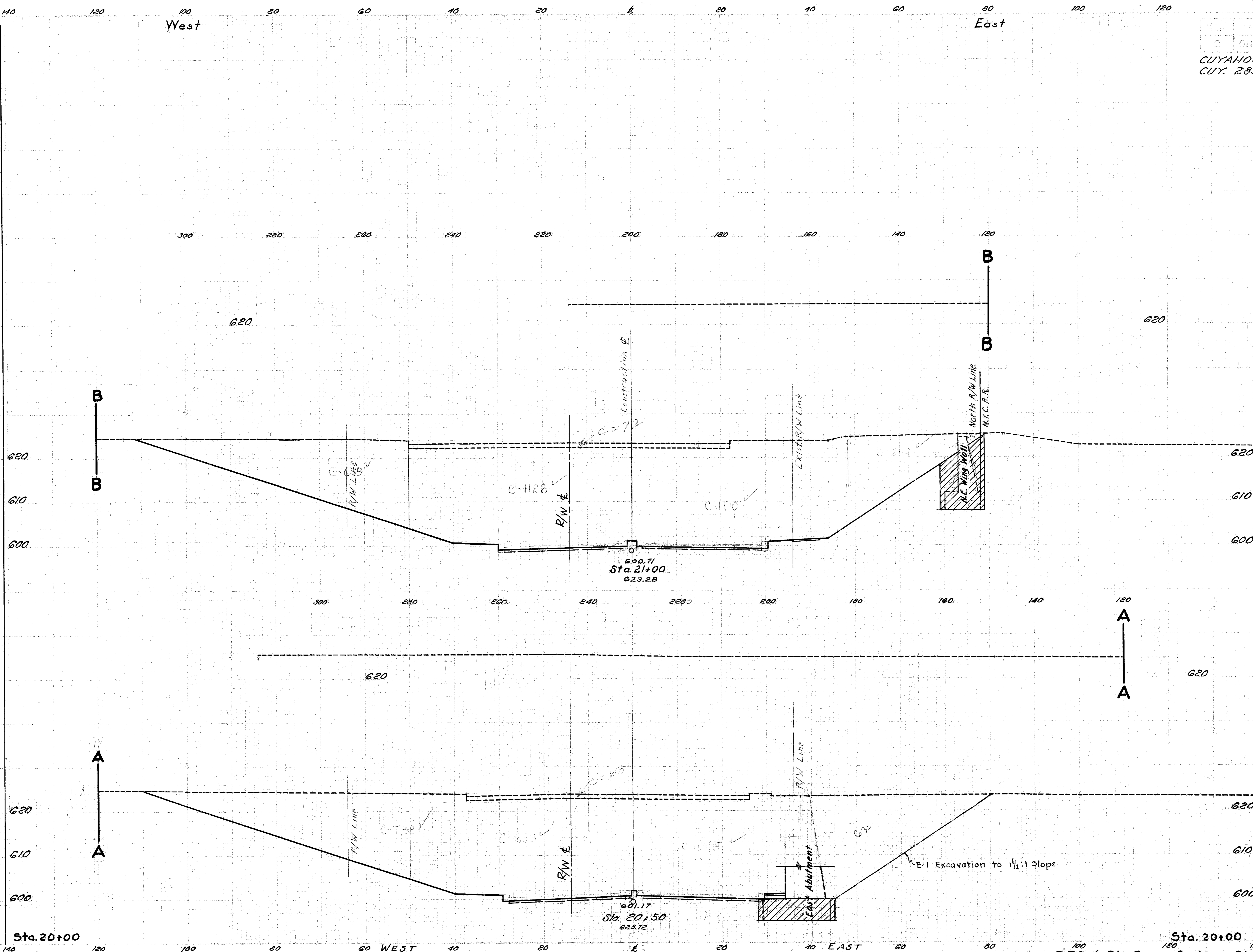
UG-842(I)

Excavation	87,549	Cu. Yds.
Embankment	39	Cu. Yds.
Emb. +18%	46	Cu. Yds.

CODE 7221

E. 72nd St. Cross Sections Sta. 18+50 to Sta. 20+00

Seeding	
Width	Area
Lin. Ft.	Sq. Yds.
132	
	603
85	
	236
0	

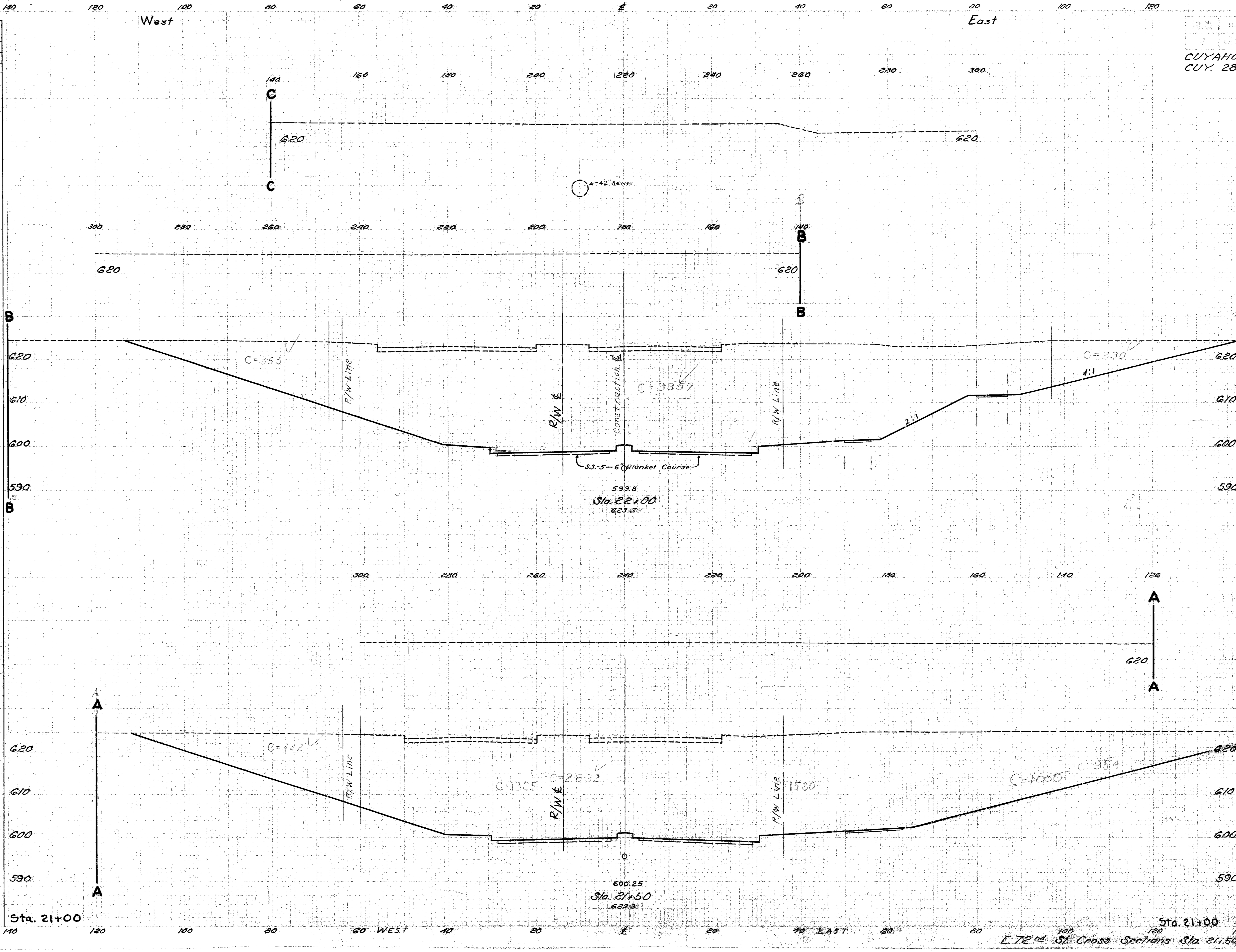


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
3138	0		
		5854	0
3184	0		
		5688	0
2959	0		

E. 72nd St. Cross Sections Sta. 20+50 to Sta. 21+00

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding	
Width Lin. Ft.	Area Sq. Yds.
196	
	1114
205	
	936
132	

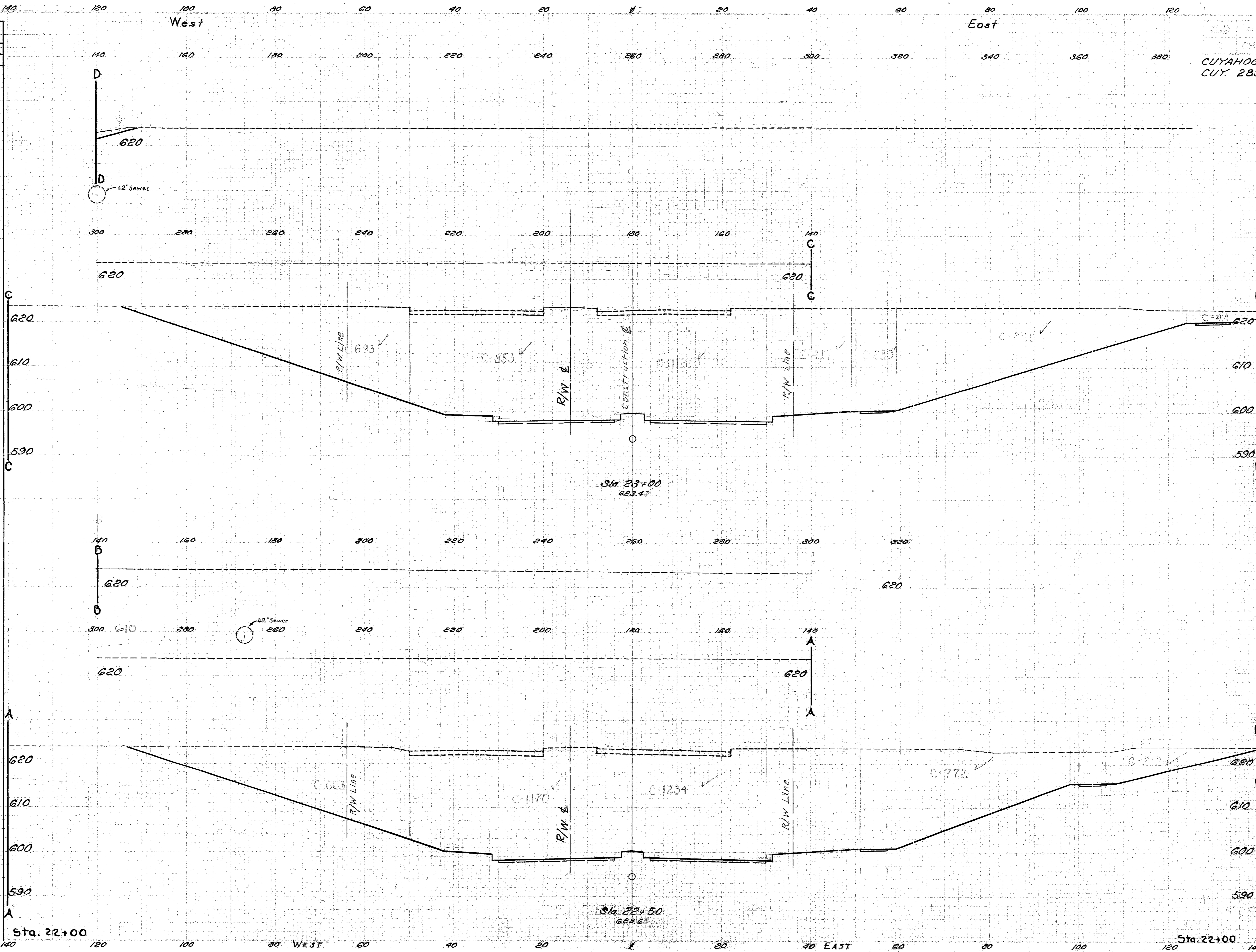


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
3940	0		
		7576	0
4241	0		
		6833	0
3138	0		

E. 72nd St. Cross Sections Sta. 21+50 to Sta. 22+00

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding	
Width Lin. Ft.	Area Sq. Yds.
207	
	1119
196	
	1089
196	



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
4236	0		
		7674	0
4051	0		
		7400	0
3940	0		

E. 72nd St. Cross Sections Sta. 22+50 to Sta. 23+00

FED. RD. DIV. NO.	STATE	FEDERAL AID	SHEET NO. / TOTAL SHEETS
2	OHIO	U-UG-842(1) Postwar	29 / 85

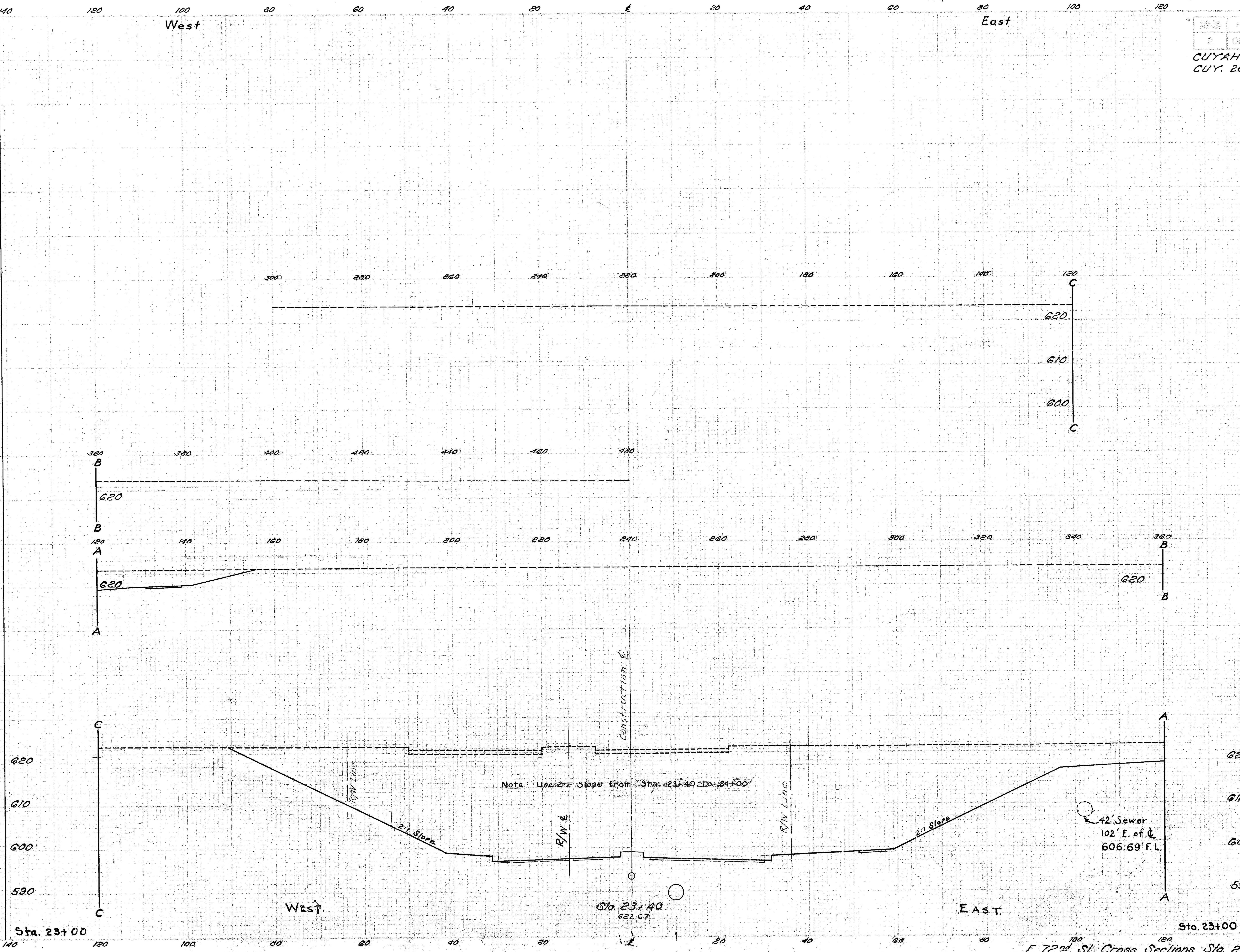
CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding

Width Lin. Ft.	Area Sq. Yds.
155	
	804
207	

End Area / Cu. Yds.

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
3889	0		
		6018	0
4236	0		

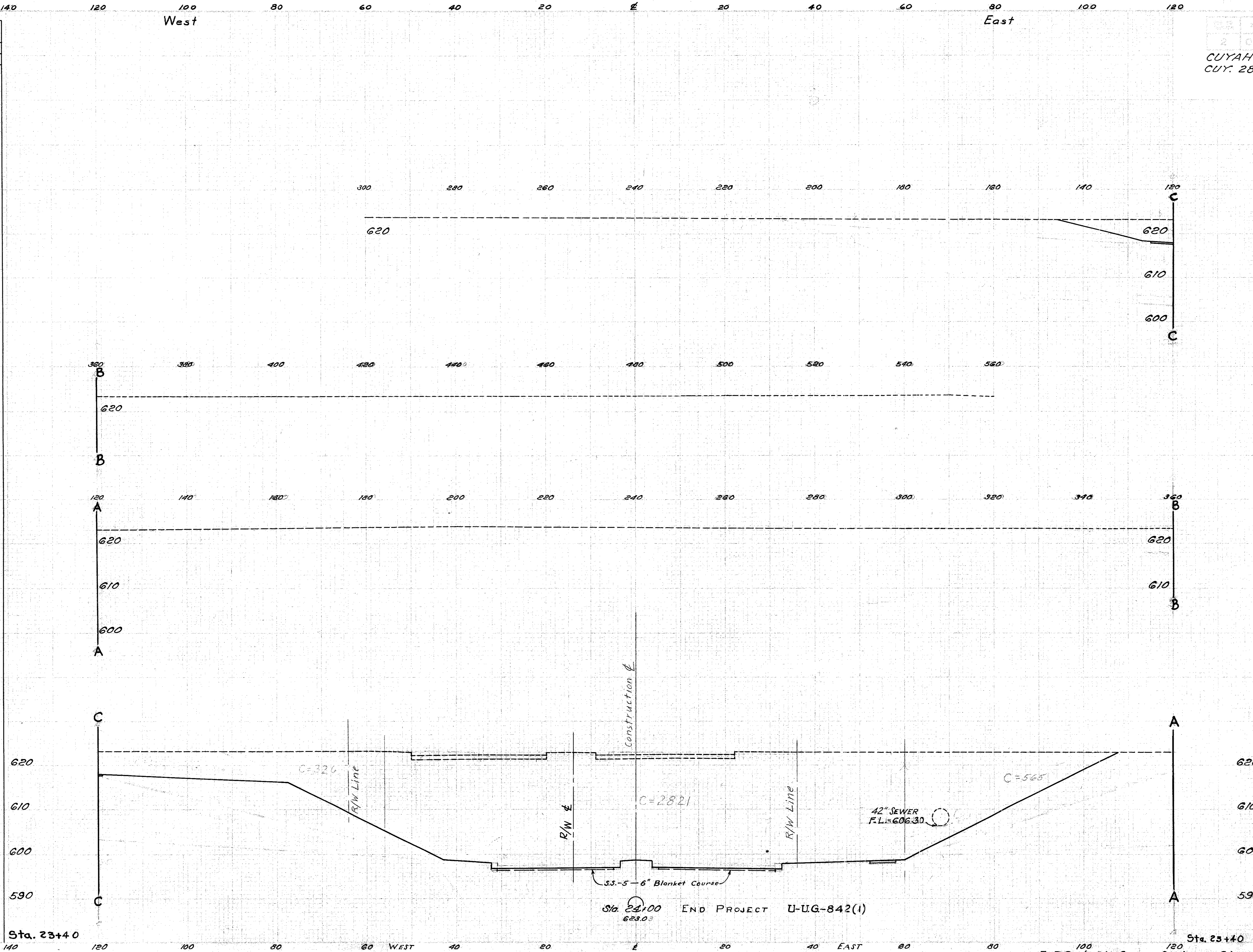


E. 72nd St. Cross Sections Sta. 23+40

FEDERAL AID U-UG-842(1) Postwar 30 85
CUYAHOGA COUNTY
CUY. 283-1.09-1.49

Seeding	
Width Lin. Ft.	Area Sq. Yds.
162	
	1057
155	

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
3996	0		
		8761	0
3888	0		



E. 72nd St. Cross Section Sta. 24+00

FEDERAL AID

2 U-UG-842(1) POSTWAR 31 85

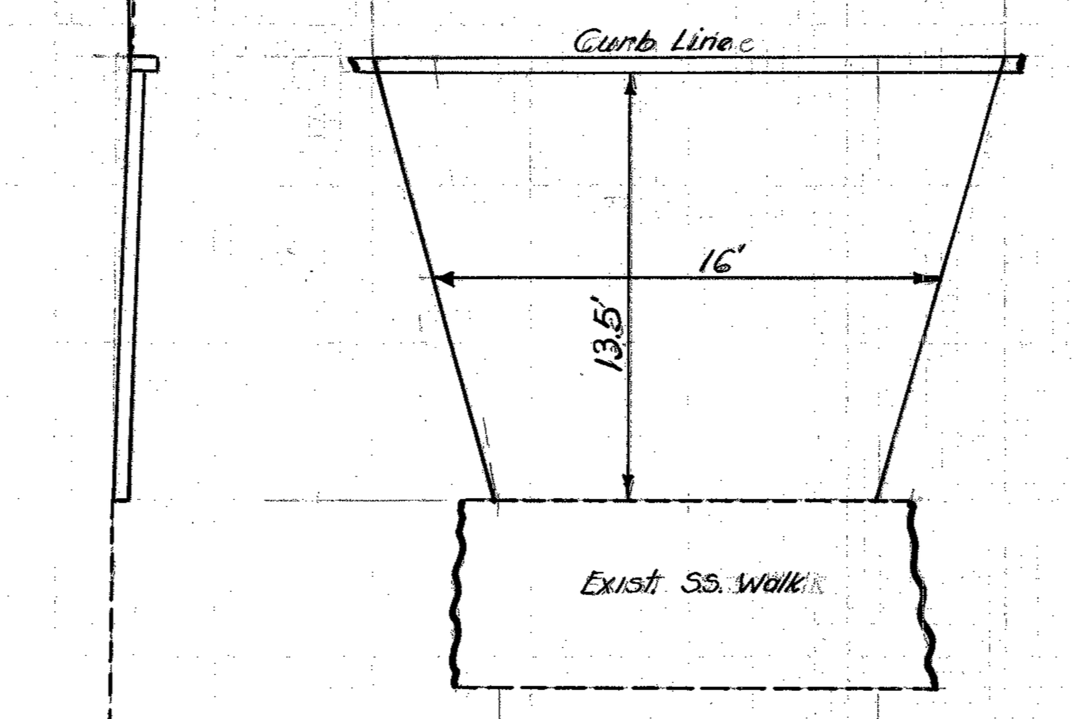
CUYAHOGA COUNTY
CUY- 283- 1.09-1.49

CROSS-SECTIONS - EAST 73RD ST. CONNECTION

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

1-A
EAST 72nd STREET
PRIVATE DRIVE
PLAN SHEET No. 10 Sta. 0+95 West Side
Scale 1"=5'
U-842 (1)

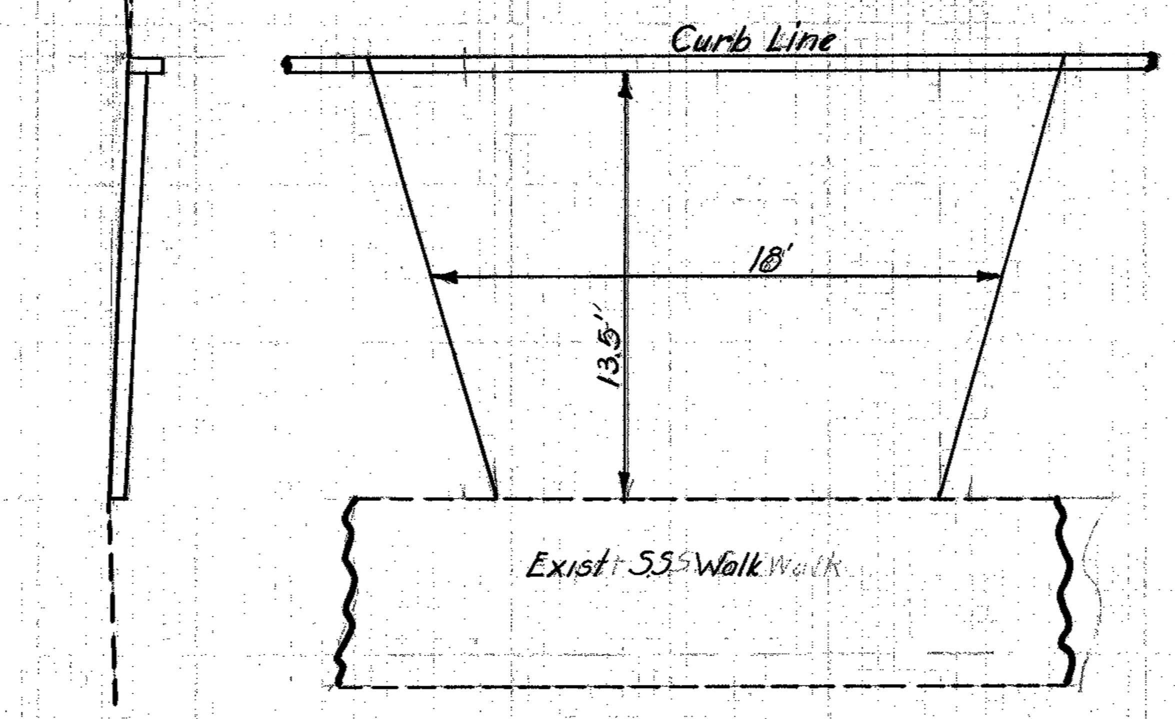
625 620 Exist. Gutter Line 20' to ℄



Embankment Deduction	0.7	Cu. Yds.
Excavation	4.0	Cu. Yds.
Concrete	24.0	Sq. Yds.

3-A
EAST 72nd STREET
PRIVATE DRIVE
PLAN SHEET No. 10 Sta. 2+43.6 West Side
Scale 1"=5'
U-842 (1)

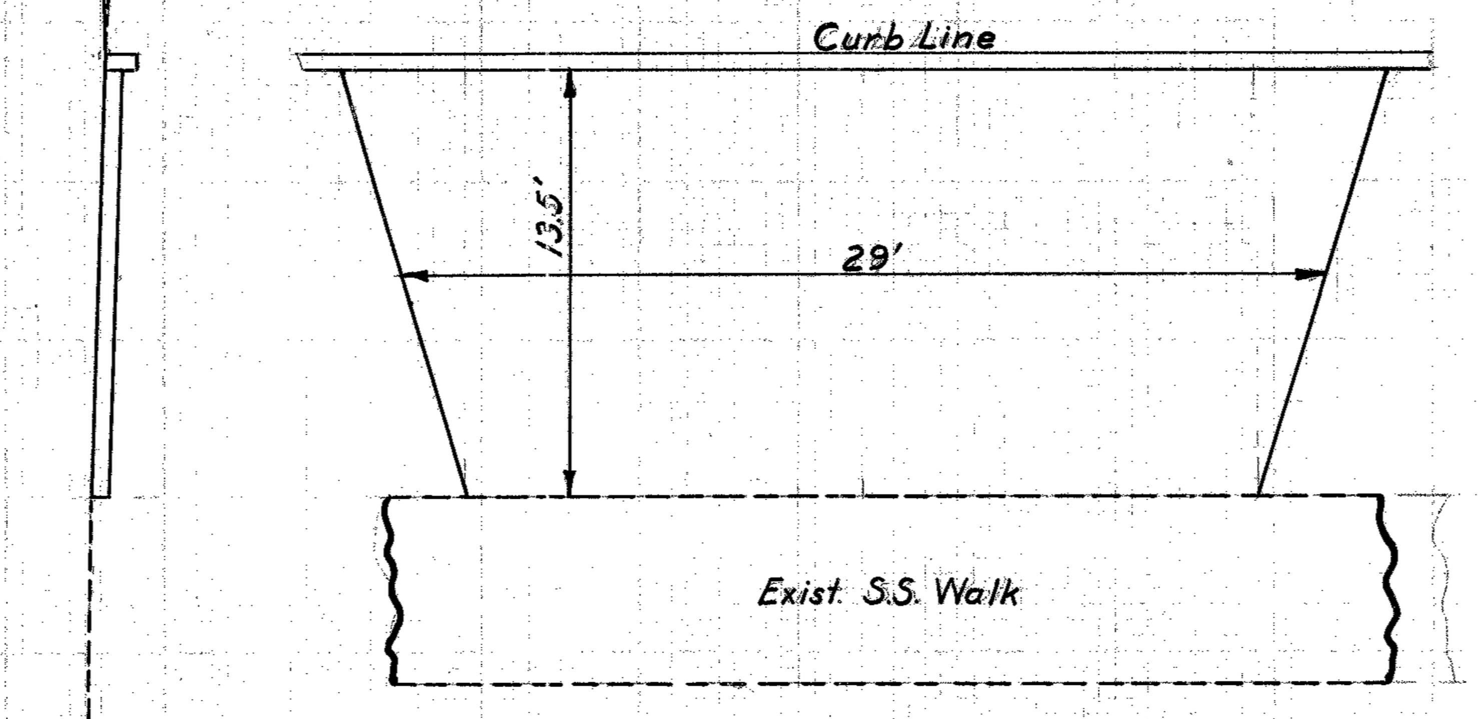
625 620 Exist. Gutter Line 20' to ℄



Embankment Deduction	0.8	Cu. Yds.
Excavation	4.5	Cu. Yds.
Concrete	27.0	Sq. Yds.

5-A
EAST 72nd STREET
PRIVATE DRIVE
PLAN SHEET No. 10 Sta. 2+99.2 West Side
Scale 1"=5'
U-842 (1)

625 620 Exist. Gutter Line 20' to ℄

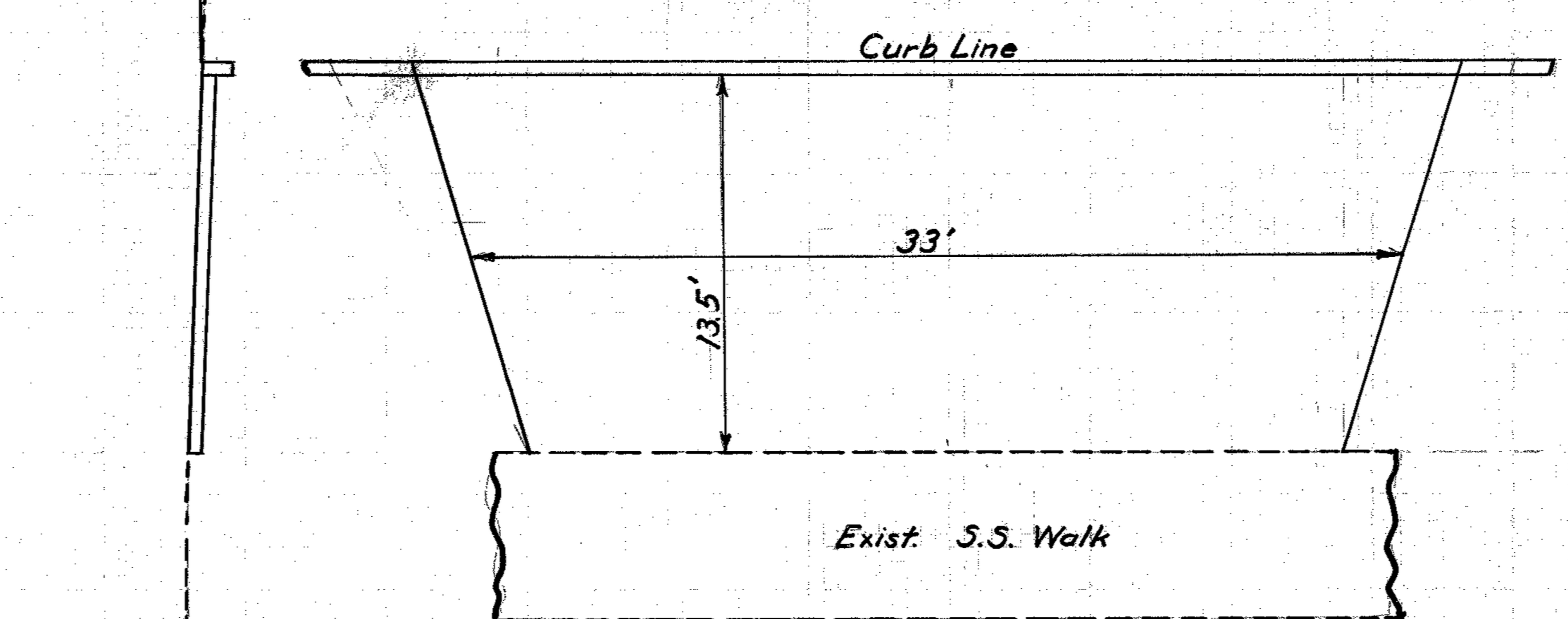


Embankment Deduction	1.2	Cu. Yds.
Excavation	7.3	Cu. Yds.
Concrete	43.5	Sq. Yds.

NOTE-
Driveway Stations Shown Are To Middle Of New Concrete Aprons At Sidewalk Edge.

6-A
EAST 72nd STREET
PRIVATE DRIVE
PLAN SHEET No. 10 Sta. 3+44 West Side
Scale 1"=5'
U-842 (1)

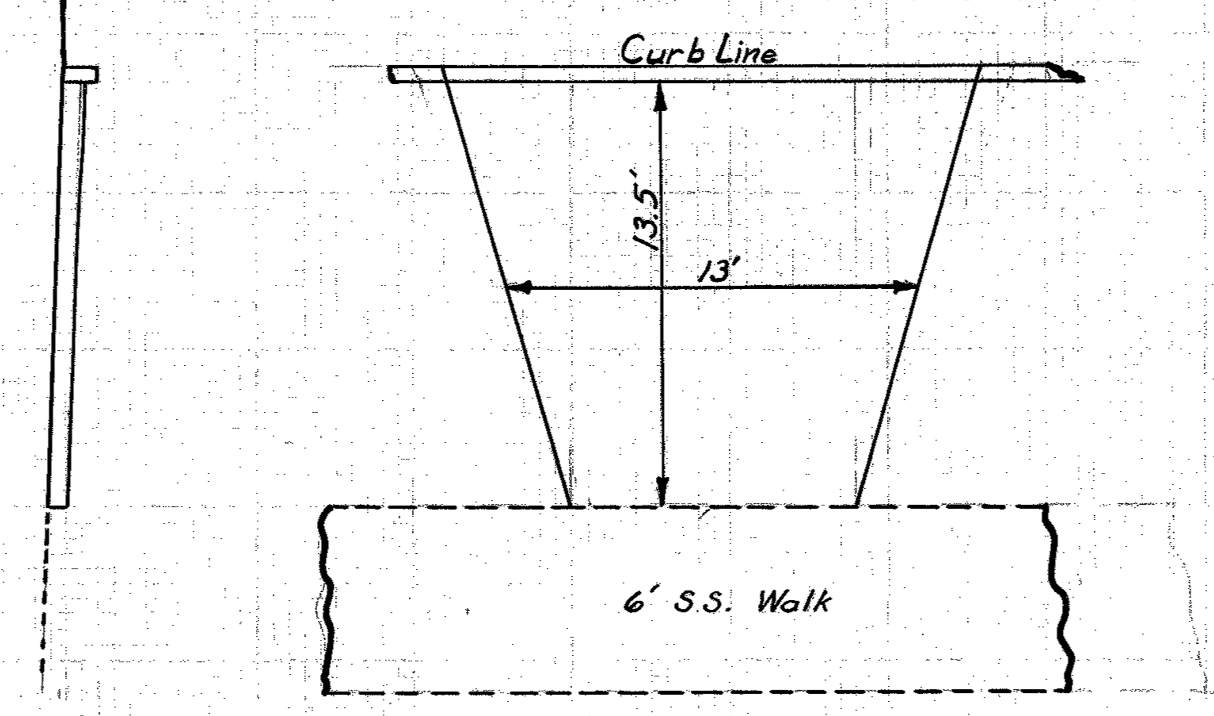
625 620 Exist. Curb Line 20' to ℄



Embankment Deduction	1.4	Cu. Yds.
Excavation	8.3	Cu. Yds.
Concrete	49.5	Sq. Yds.

8-A
EAST 72nd STREET
PRIVATE DRIVE
PLAN SHEET No. 10 Sta. 4+30.8 West Side
Scale 1"=5'
U-842 (1)

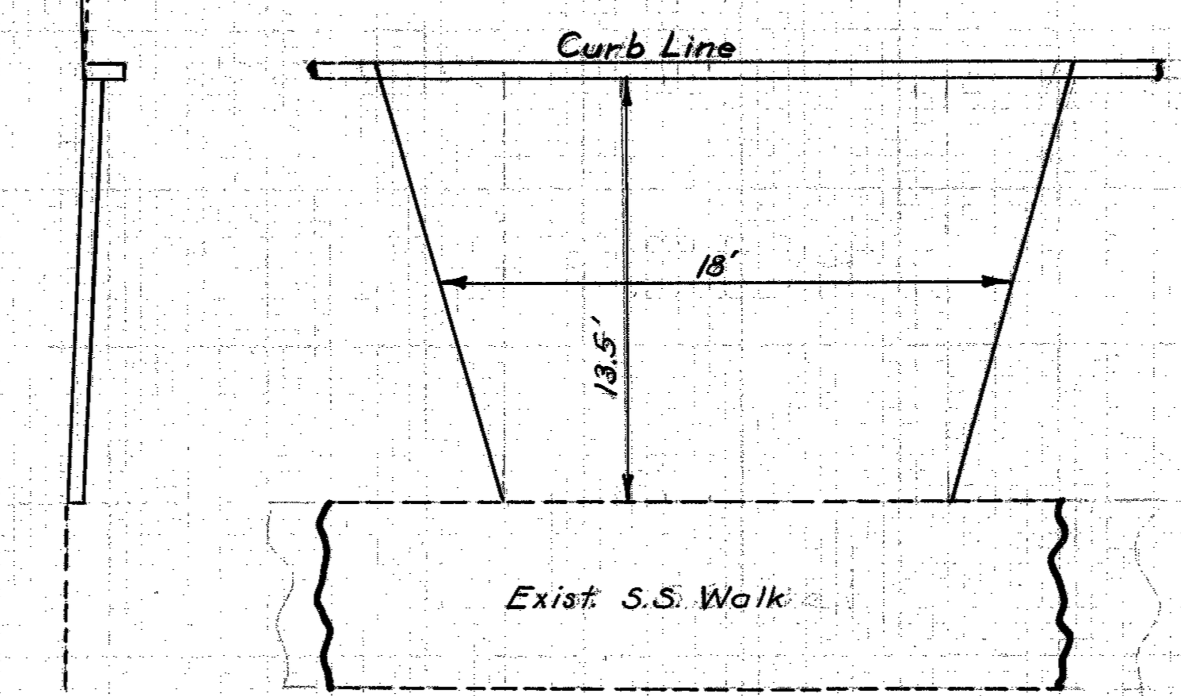
625 620 Exist. Curb Line 20' to ℄



Embankment Deduction	0.6	Cu. Yds.
Excavation	3.3	Cu. Yds.
Concrete	19.5	Sq. Yds.

9-A
EAST 72nd STREET
PRIVATE DRIVE
PLAN SHEET No. 10 Sta. 4+83.2 West Side
Scale 1"=5'
U-842 (1)

625 620 Exist. Curb Line 20' to ℄



Embankment Deduction	0.8	Cu. Yds.
Excavation	4.5	Cu. Yds.
Concrete	27.0	Sq. Yds.

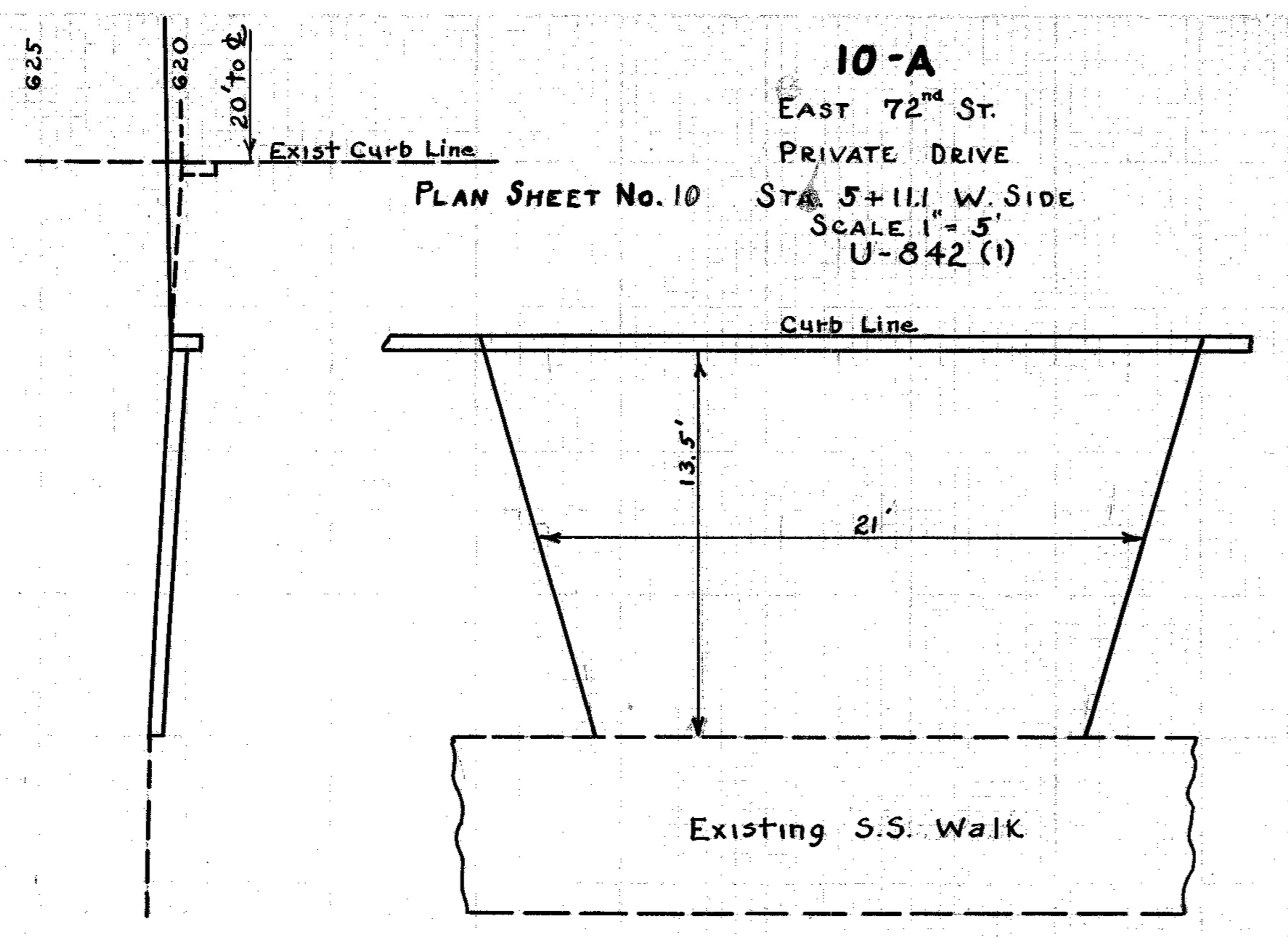
PRIVATE DRIVEWAY DETAILS

		Federal Aid	
2	OHIO	U-UG-842(1) Postwar	33 / 85

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

10-A

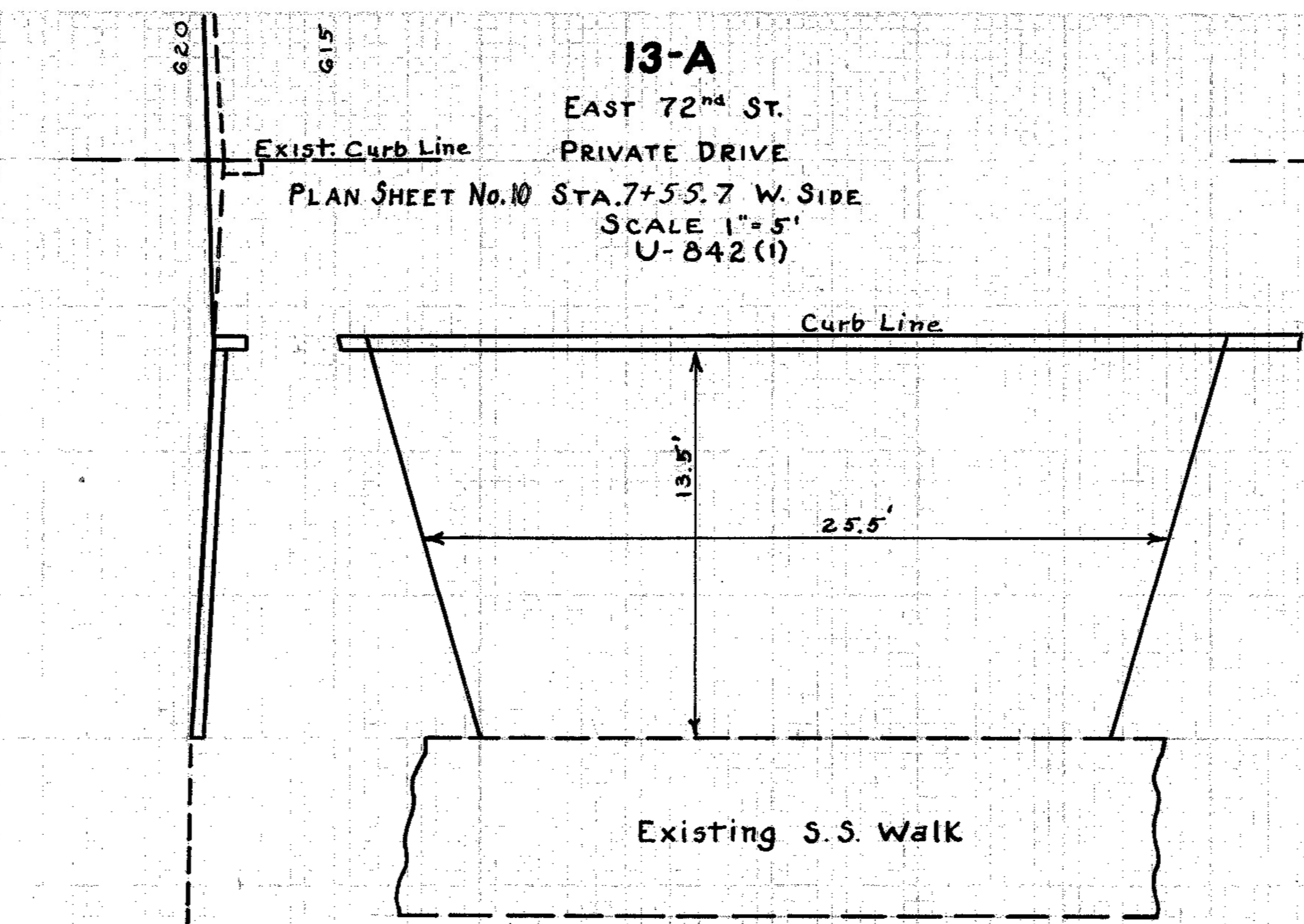
EAST 72nd ST.
PRIVATE DRIVE
PLAN SHEET No. 10 STA. 5+11.1 W. SIDE
SCALE 1" = 5'
U-842 (1)



Embankment Deduction 0.9 Cu. Yds.
Excavation 5.3 Cu. Yds.
Concrete 31.5 Sq. Yds.

13-A

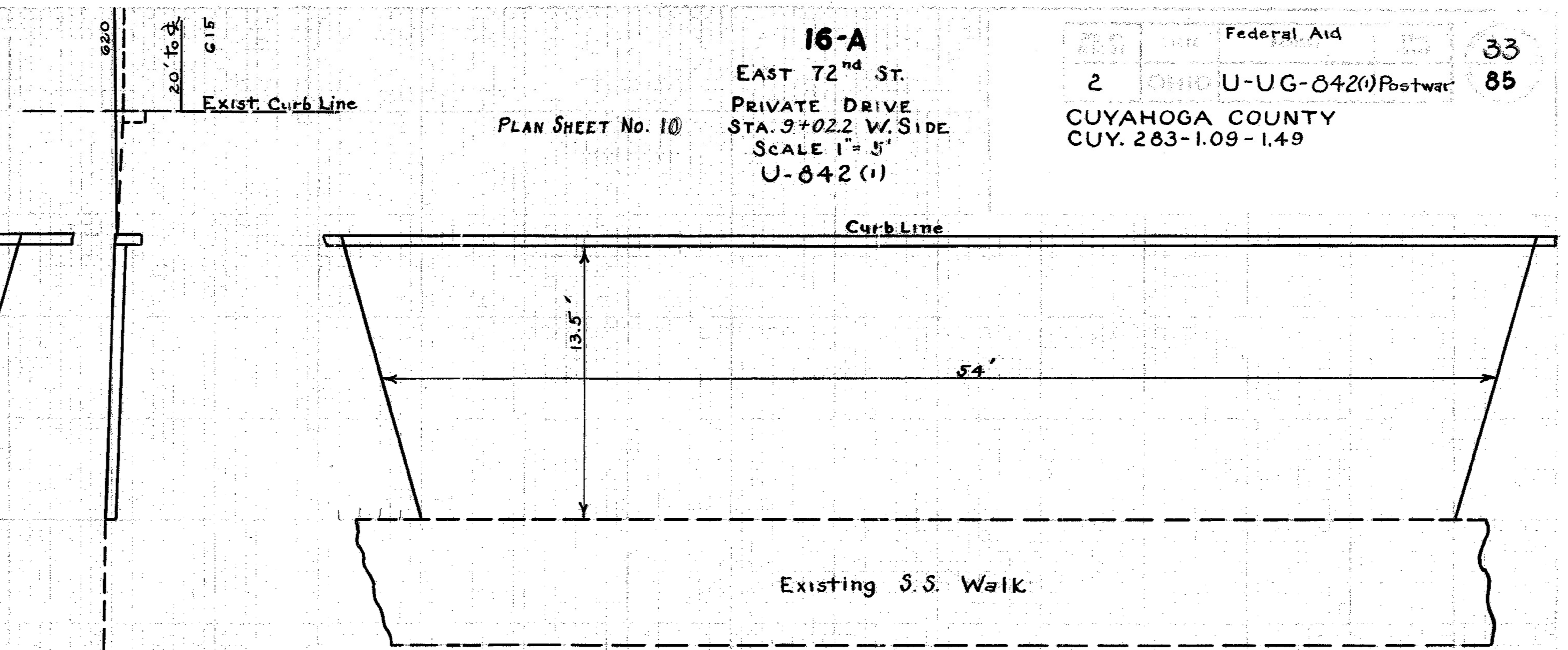
EAST 72nd ST.
PRIVATE DRIVE
PLAN SHEET No. 10 STA. 7+55.7 W. SIDE
SCALE 1" = 5'
U-842 (1)



Embankment Deduction 1.1 Cu. Yds.
Excavation 6.4 Cu. Yds.
Concrete 38.3 Sq. Yds.

16-A

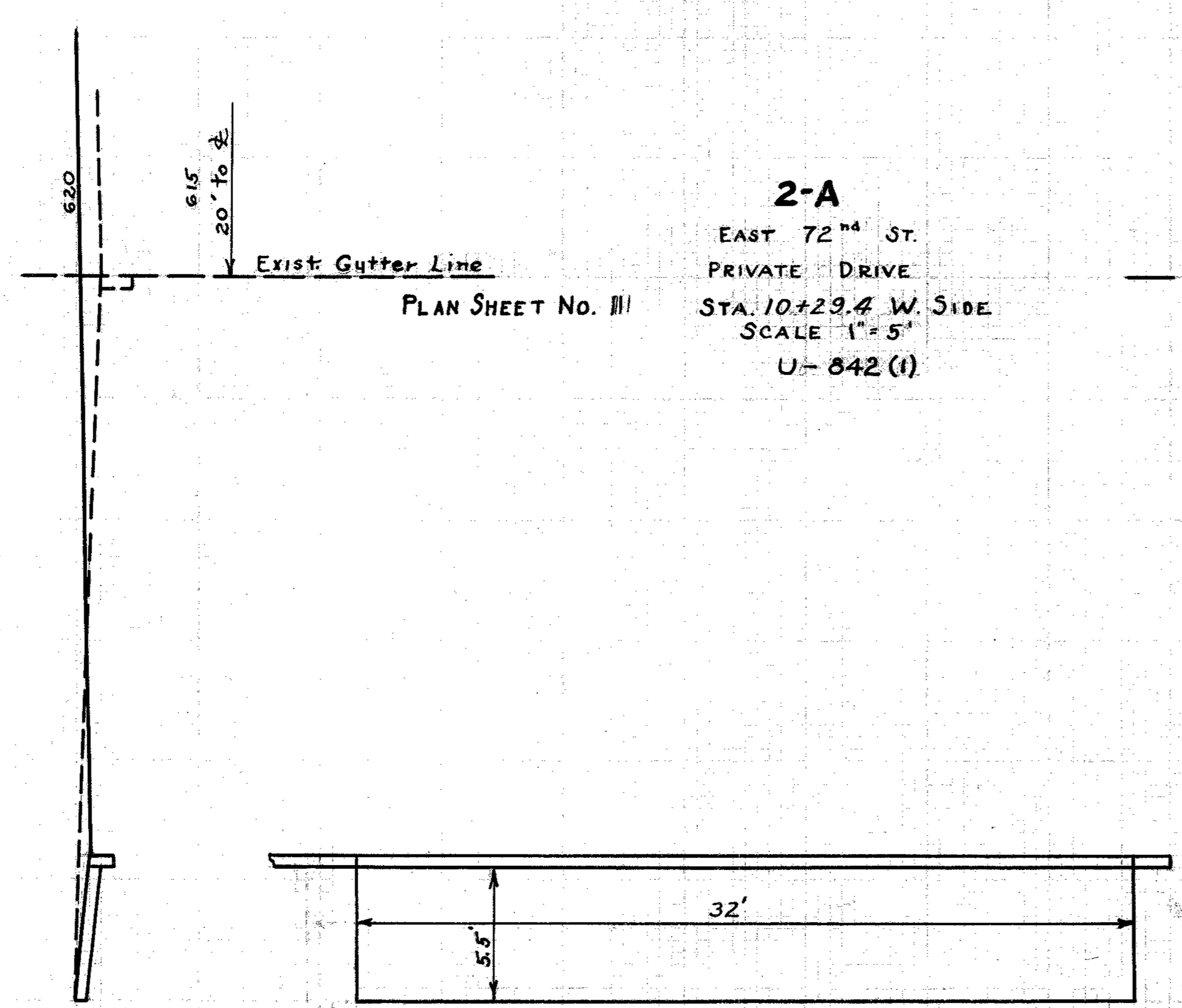
EAST 72nd ST.
PRIVATE DRIVE
PLAN SHEET No. 10 STA. 9+02.2 W. SIDE
SCALE 1" = 5'
U-842 (1)



Embankment Deduction 2.3 Cu. Yds.
Excavation 13.5 Cu. Yds.
Concrete 81.0 Sq. Yds.

2-A

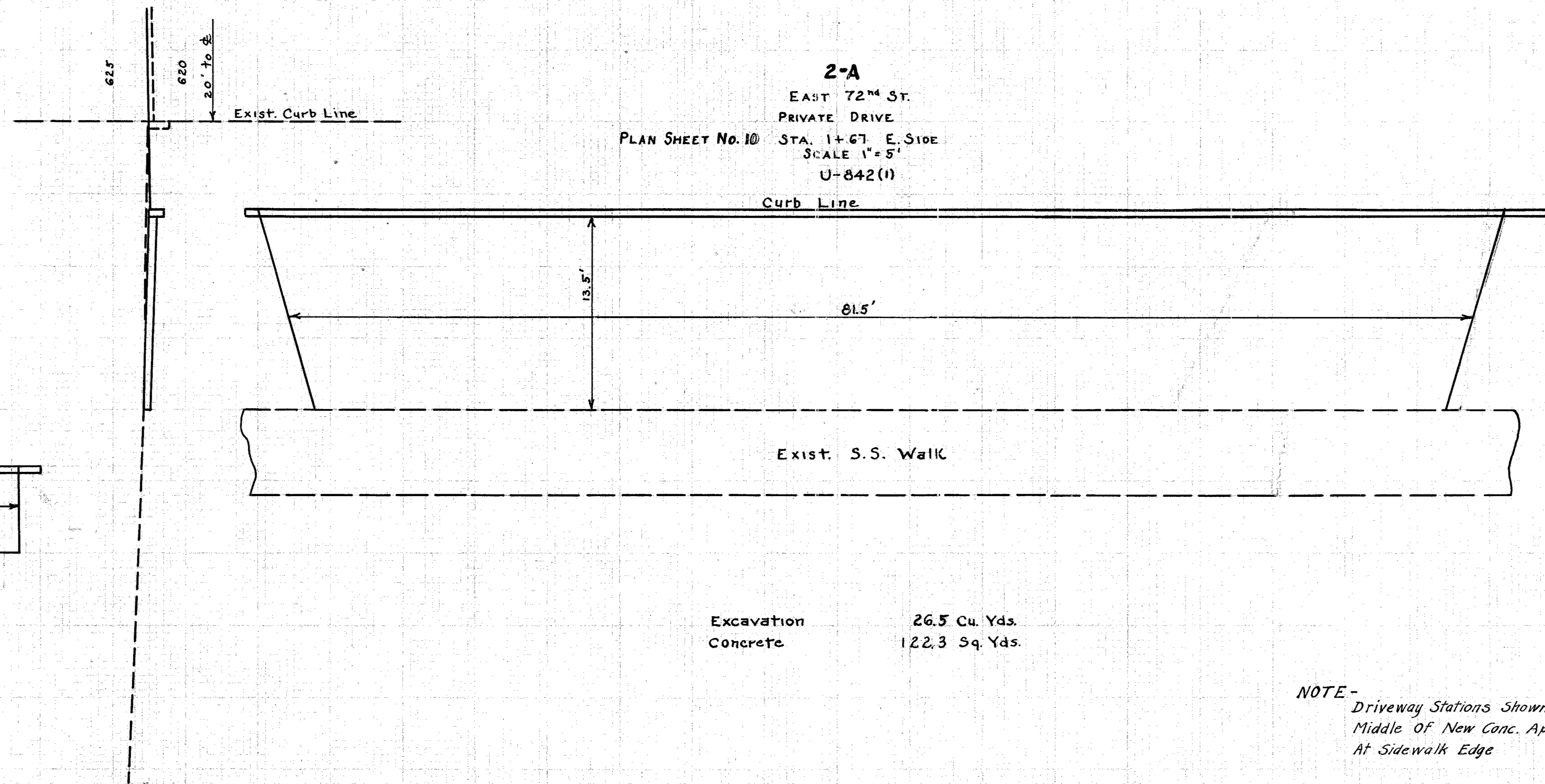
EAST 72nd ST.
PRIVATE DRIVE
PLAN SHEET No. 11 STA. 10+29.4 W. SIDE
SCALE 1" = 5'
U-842 (1)



Excavation 4.4 Cu. Yds.
Concrete 20.8 Sq. Yds.

2-A

EAST 72nd ST.
PRIVATE DRIVE
PLAN SHEET No. 10 STA. 1+67 E. SIDE
SCALE 1" = 5'
U-842 (1)



Excavation 26.5 Cu. Yds.
Concrete 122.3 Sq. Yds.

NOTE- Driveway Stations Shown Are To Middle Of New Conc. Aprons At Sidewalk Edge

PRIVATE DRIVEWAY DETAILS

4-A
East 72nd St.
Private Drive
Plan Sheet No. 10 Sta. 2+93.5 E. Side
Scale 1" = 5'
U-842 (1)

Embankment Deduction	3.0	Cu. Yds.
Excavation	17.8	Cu. Yds.
Concrete	106.5	Sq. Yds.

7-A
East 72nd St.
Private Drive
Plan Sheet No. 10 Sta. 4+11 E. Side
Scale 1" = 5'
U-842 (1)

Embankment Deduction	0.4	Cu. Yds.
Excavation	2.5	Cu. Yds.
Concrete	15.0	Sq. Yds.

11-A
East 72nd St.
Private Drive
Sta. 5+99.9 E. Side
Scale 1" = 5'
U-842 (1)
Plan Sheet No. 10

Embankment Deduction	0.4	Cu. Yds.
Excavation	2.1	Cu. Yds.
Concrete	12.4	Sq. Yds.

12-A
East 72nd St.
Private Drive
Sta. 6+80.5 E. Side
Scale 1" = 5'
U-842 (1)
Plan Sheet No. 10

Excavation	0.8	Cu. Yds.
Concrete	3.9	Sq. Yds.

14-A
East 72nd St.
Private Drive
Sta. 8+06.8 E. Side
Scale 1" = 5'
U-842 (1)
Plan Sheet No. 10

Excavation	2.0	Cu. Yds.
Concrete	8.7	Sq. Yds.

15-A
East 72nd St.
Private Drive
Sta. 8+80.8 E. Side
Scale 1" = 5'
U-842 (1)
Plan Sheet No. 10

Excavation	5.2	Cu. Yds.
Concrete	20.3	Sq. Ft.

NOTE–
Driveway Stations Shown Are To Middle Of New Conc. Aprons At Sidewalk Edge

PRIVATE DRIVEWAY DETAILS

Federal Aid

2 U-UG-842(1) Postwar 35 85

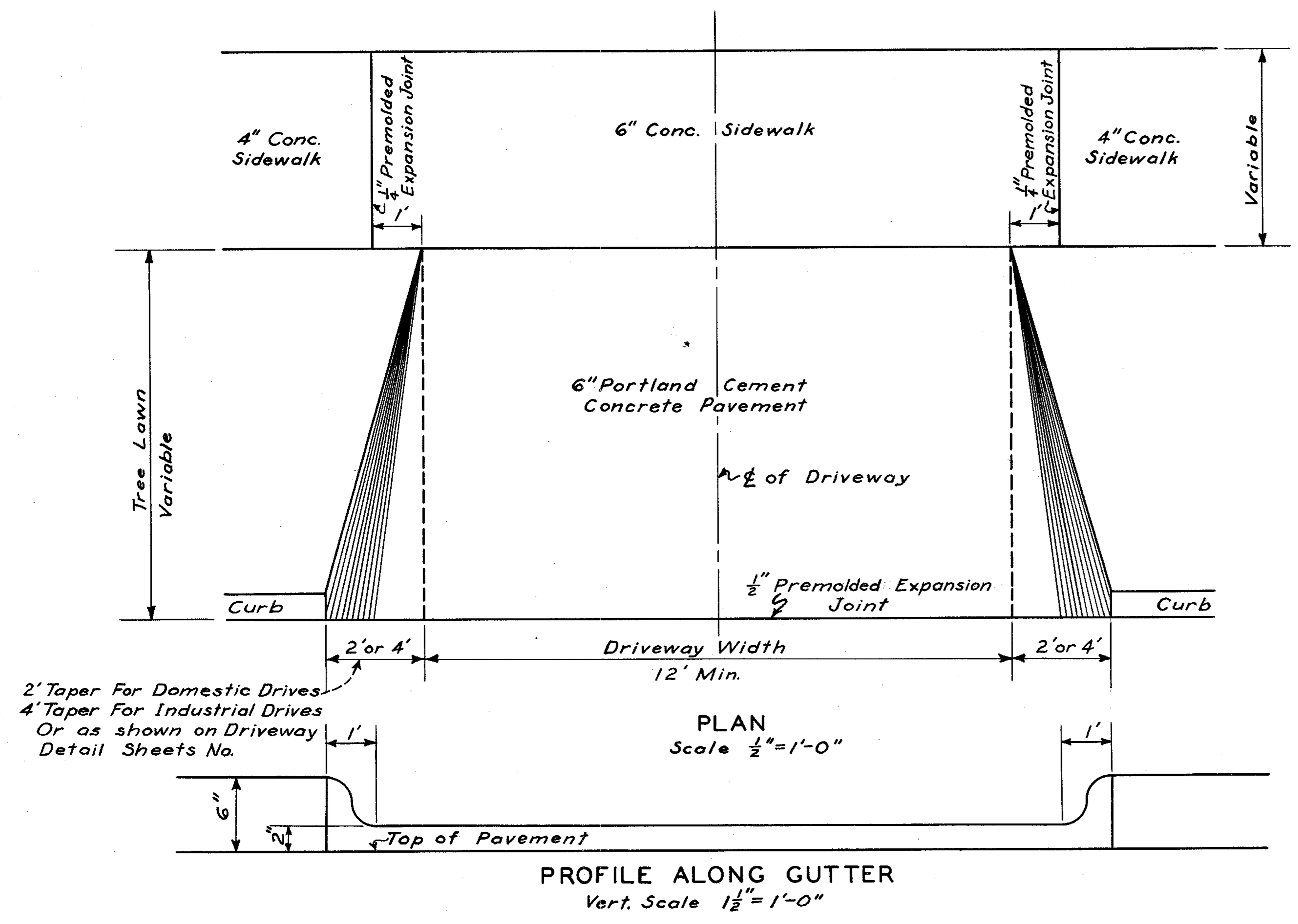
CUYAHOGA COUNTY
CUY. 283-1.09-1.49

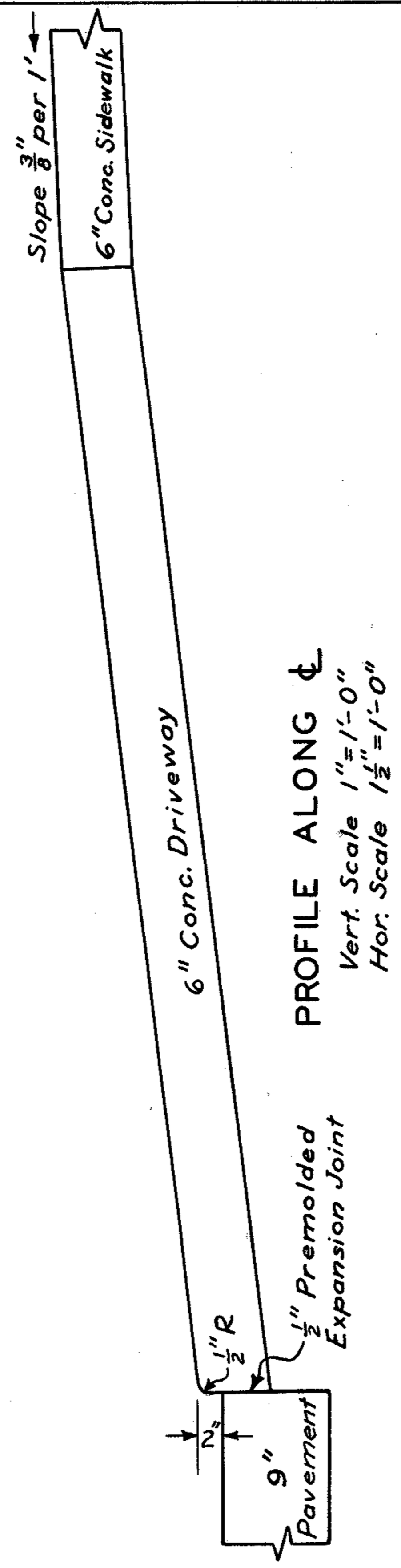
NOTE- *Driveway Stations Shown Are To Middle Of New Concrete Aprons At Sidewalk Edge.*

PRIVATE DRIVEWAY DETAILS

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	POST-WAR

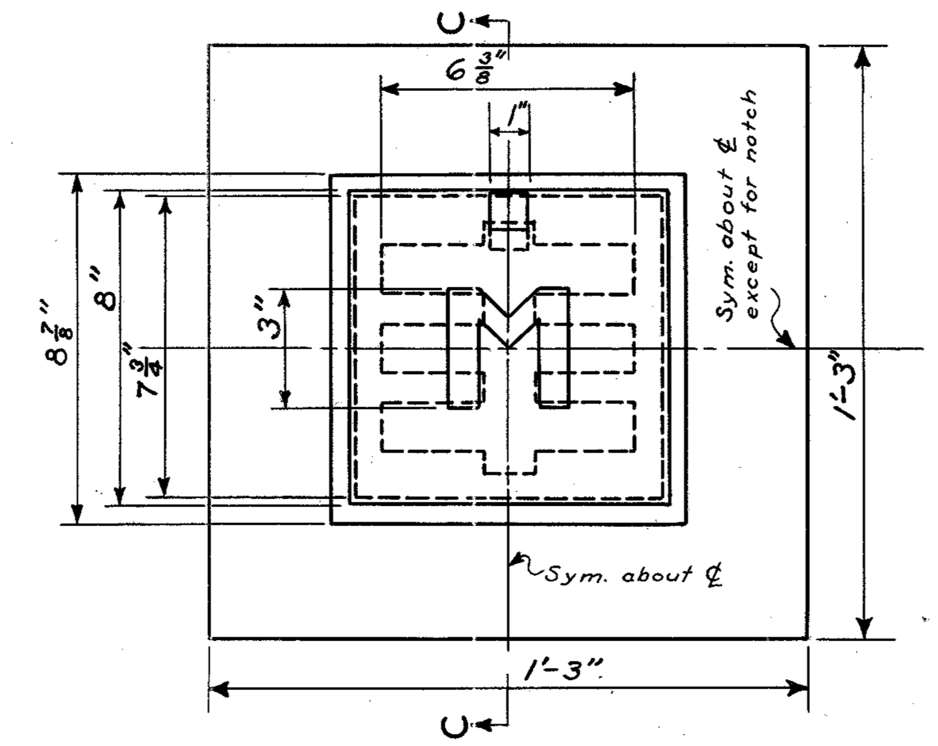
CUYAHOGA COUNTY
CUY. 283-1.09-1.49

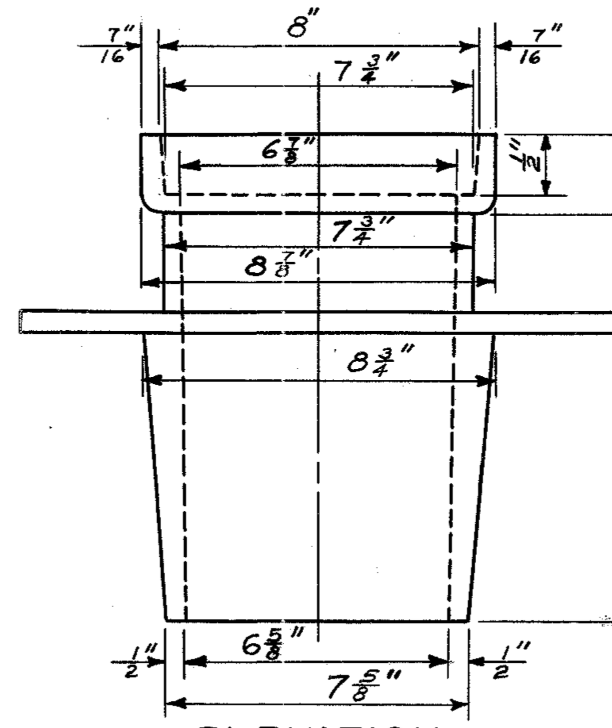


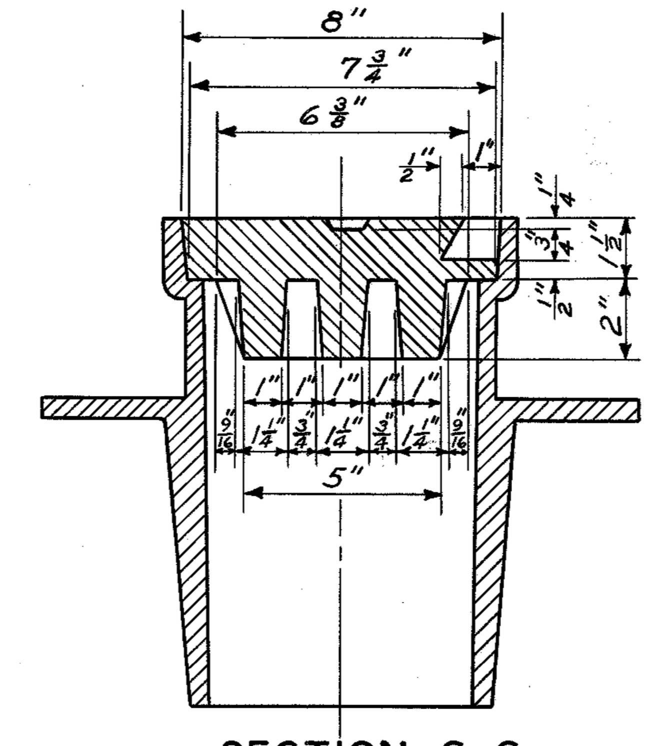


DETAIL OF DRIVEWAY APPROACH

MONUMENT BOX TYPE B PAVED AREAS

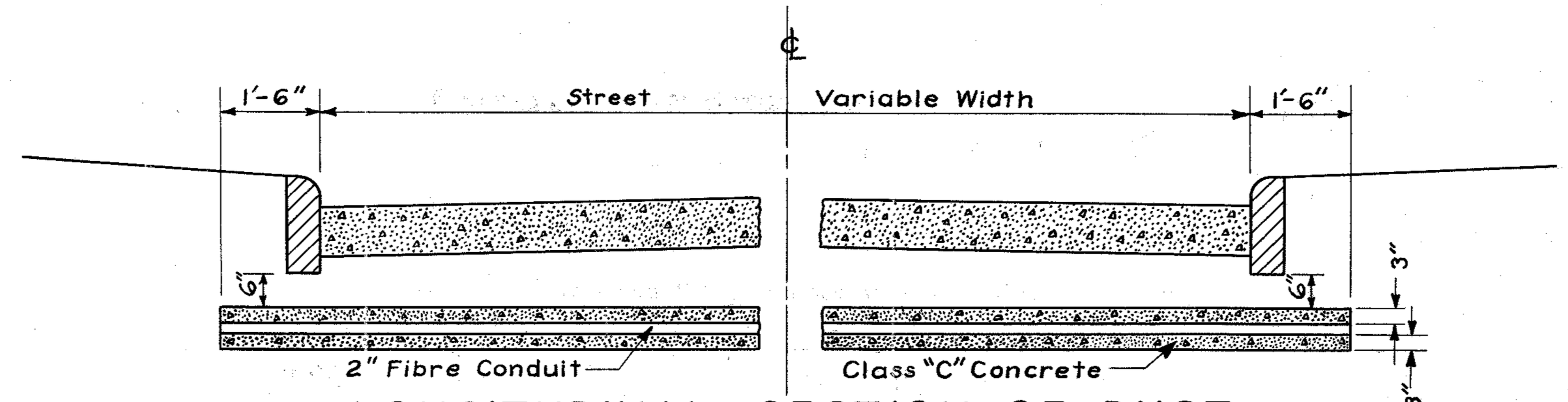






MONUMENT FRAME & COVER C.I.

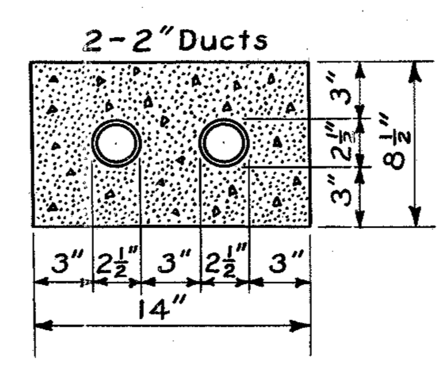
Scale 3"=1'-0"



LONGITUDINAL SECTION OF DUCT

Scale 1/2"=1'-0"

NOTE:
Fibre Conduit to meet the specifications of Standard Fibre Conduit with Harrington Joint Couplings or their equal. Conduit shall be laid in Class "C" Concrete having coarse aggregate of No. 4 size. The ends of the Conduit shall be plugged or capped in a manner satisfactory to the Engineer, the cost of which shall be included in the unit price bid per lineal foot of Street Lighting Conduit.



TYPE A
CONDUIT SECTION

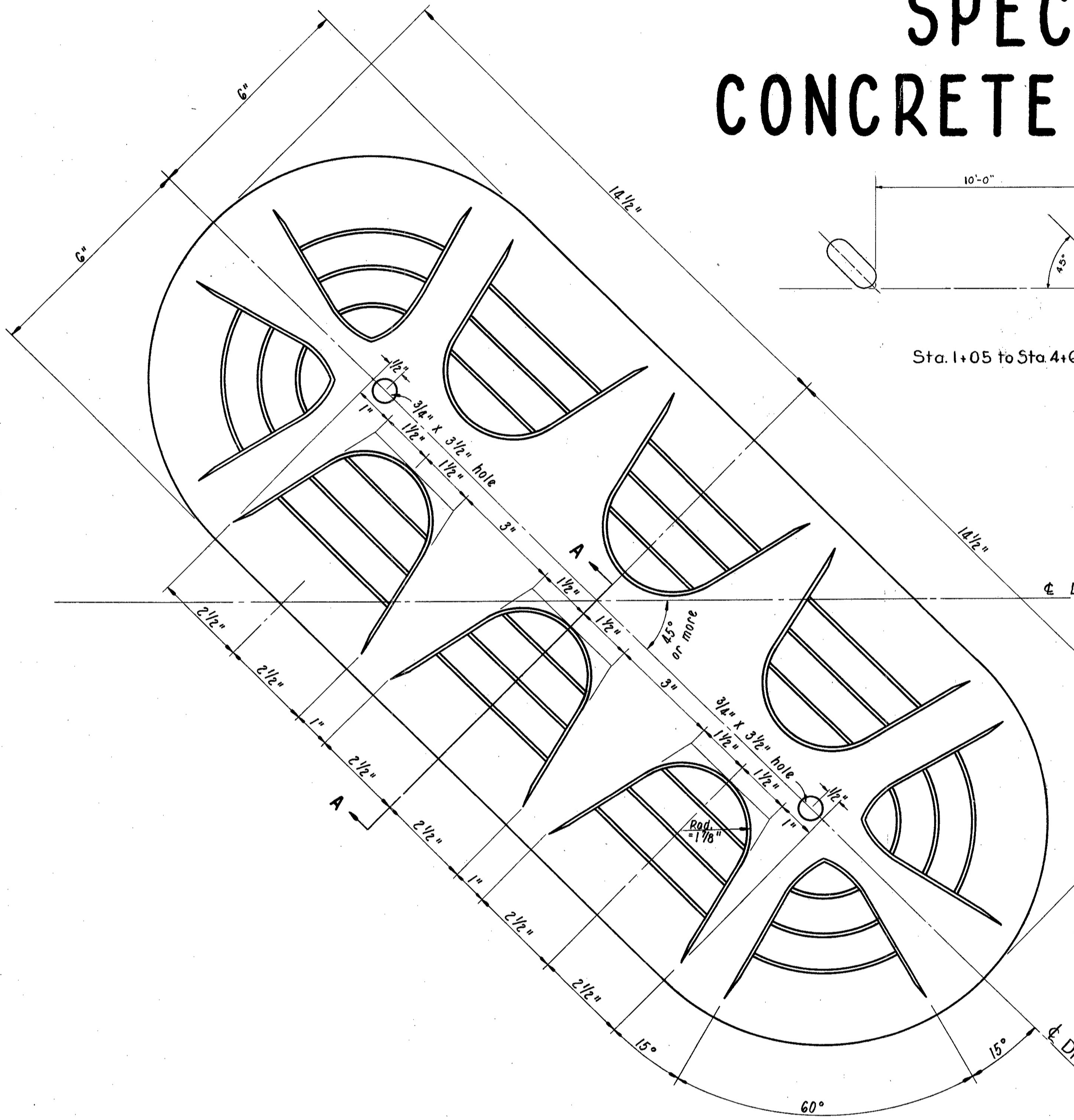
Scale 1 1/2"=1'-0"

STREET LIGHTING CONDUIT
INSTALLATION OF CROSSOVER DUCTS

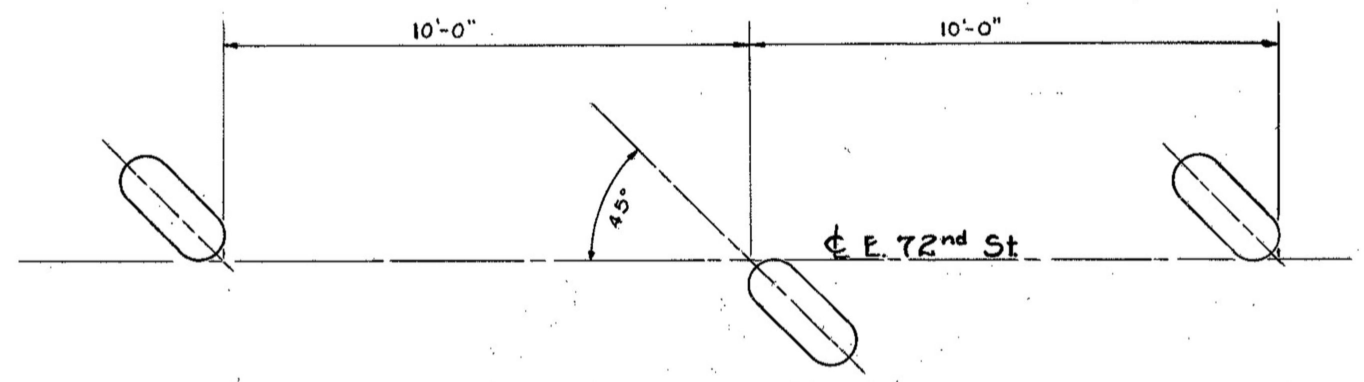
FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	FISCAL YEAR	37
2	OHIO	U-UG-842 (1)	POSTWAR	85

CUYAHOGA COUNTY
CUY. 283-1.09-1.49

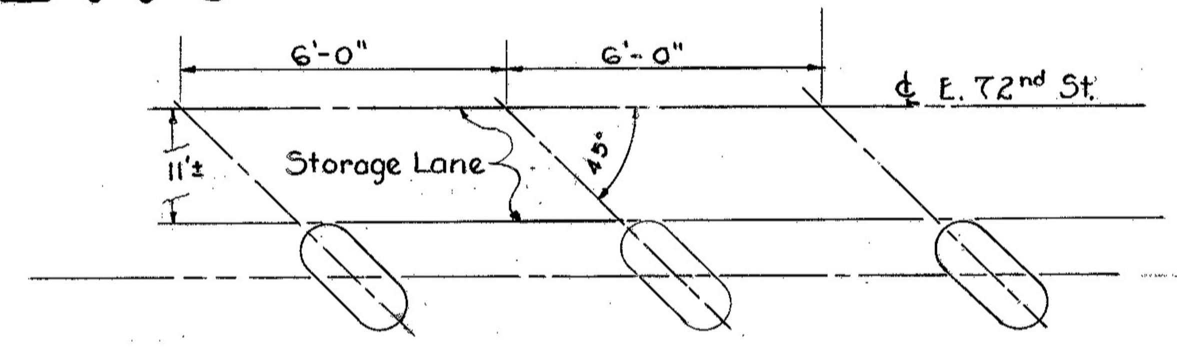
SPECIAL PRECAST CONCRETE TRAFFIC DIVIDERS



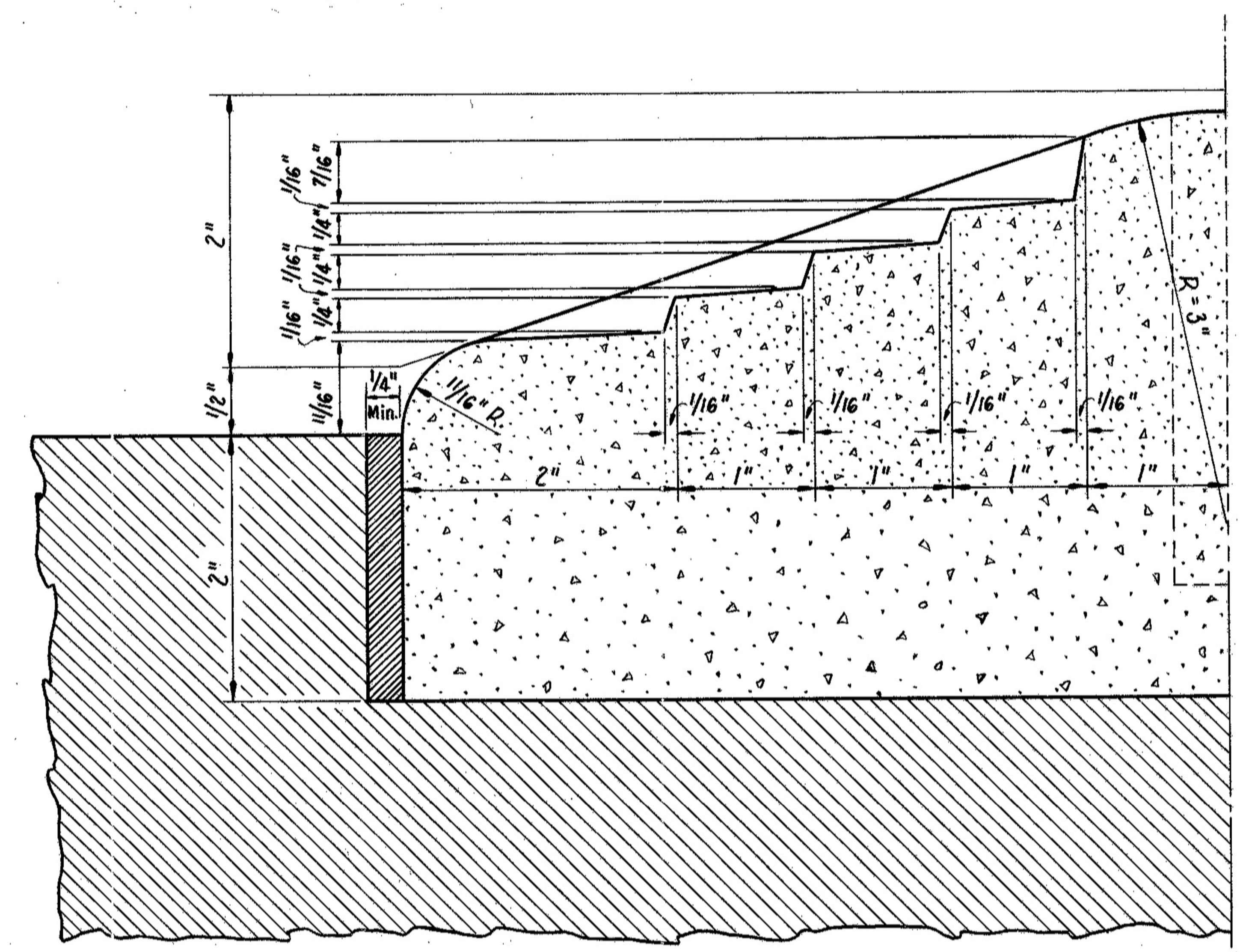
PLAN
Scale - Half Size



Sta. 1+05 to Sta. 4+64 As Shown On Plan Sheet



Sta. 7+74 to Sta. 8+70 & Sta. 9+34 to Sta. 9+94 As Shown On Plan Sheet



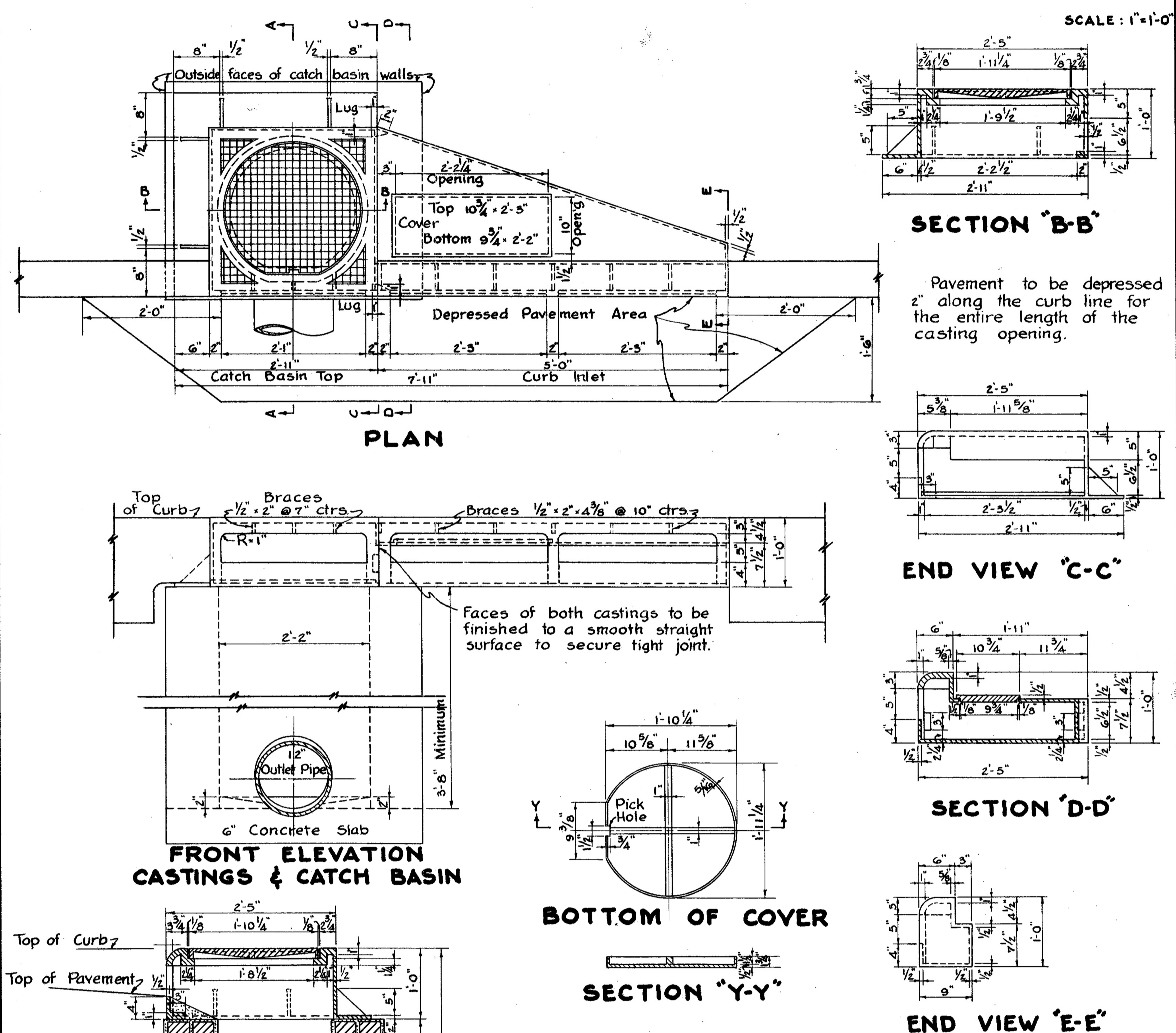
SECTION A-A
Scale - Full Size

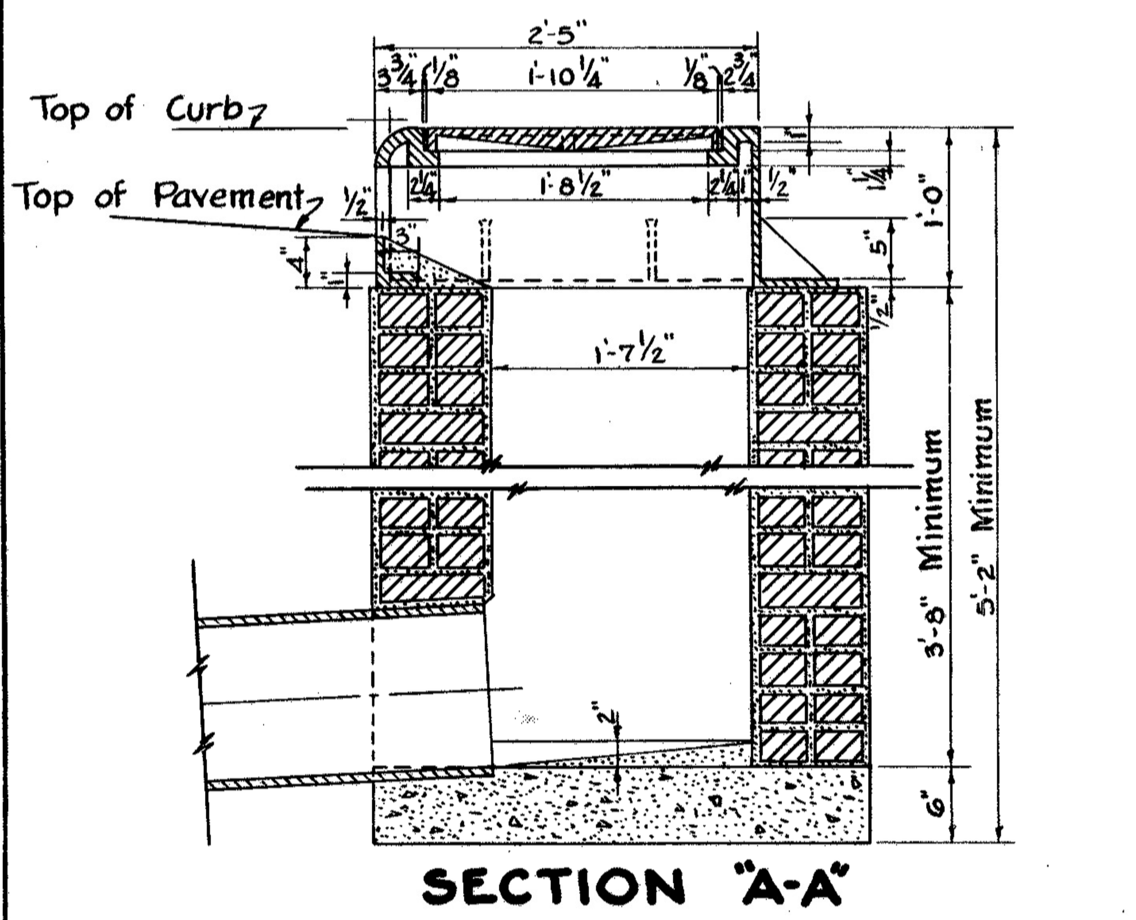
WHEN PLACED IN BITUMINOUS CONCRETE:
The dividers shall not be placed until the bituminous concrete surface has been completed. The opening remaining between the bituminous concrete and the traffic dividers shall be filled with the same type bituminous material used in the mix, care being exercised to keep the traffic divider free of any material tending to deface them.

WHEN PLACED IN PORTLAND CEMENT CONCRETE:
Openings into which the traffic dividers are to be set shall be formed by a method acceptable to the Engineer at the time the concrete pavement is placed. The opening remaining between the concrete pavement and the traffic dividers shall be filled with 1:2 cement mortar or Sec. M-5.1 bituminous material.

SPECIAL CURB INLET No 1

SCALE: 1" = 1'-0"





NOTES:

WALLS - Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar ½" thick.
Concrete sidewalls, where used in place of brick, shall be made 6" thick of Class "C" concrete.

OUTLET - The outlet shall be of the size shown on the Plans and may be constructed in any side.

BOTTOM - Bottom shall be built as per plan of Class "C" concrete.

CASTINGS - Castings may be made in accordance with details shown herewith, or may be of similar design but of equal weight.
All castings to be in accordance with Sec. M-7.8 of the Material Details.
Cover seat surfaces to be finished to smooth rounded edges.

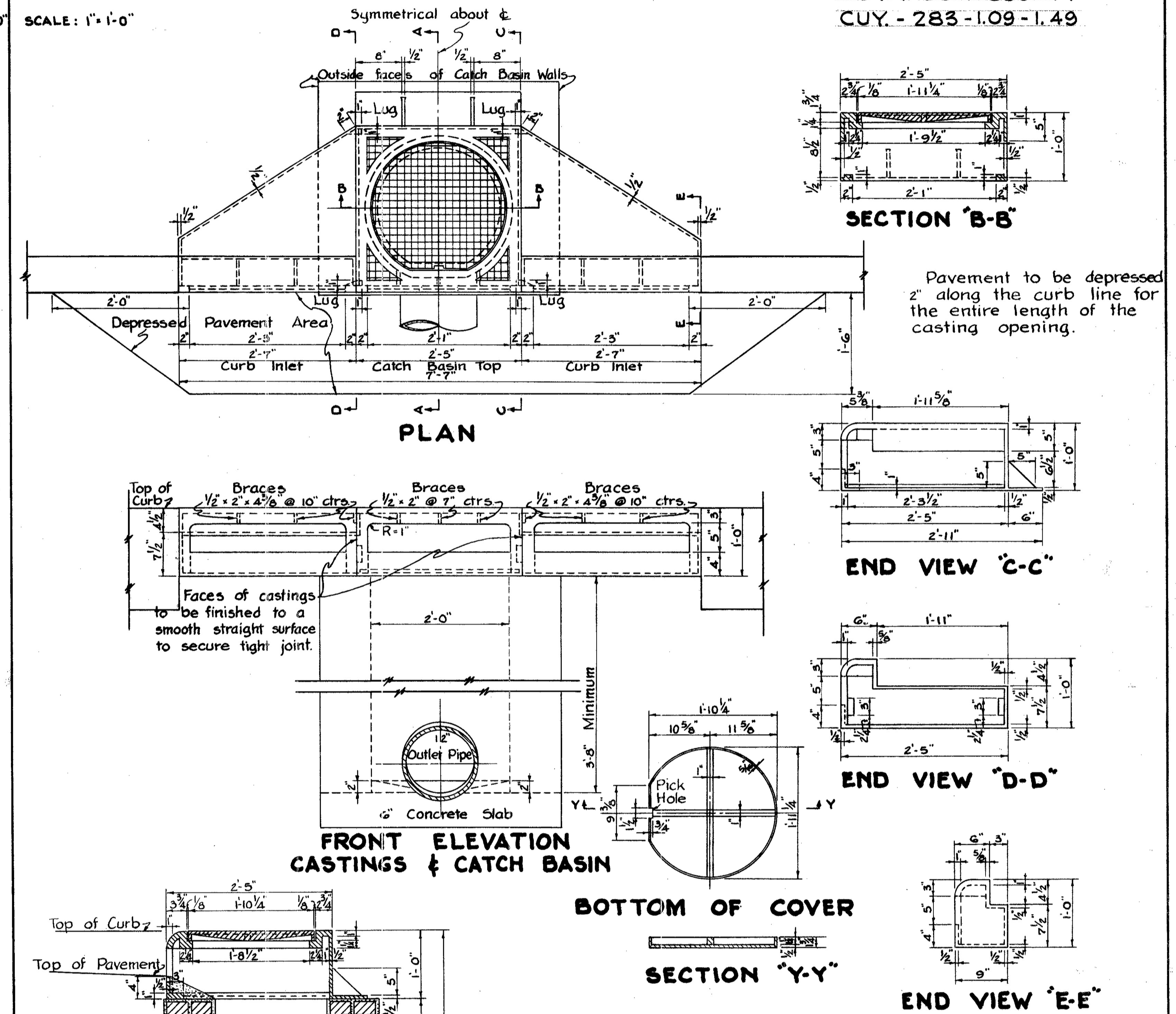
WEIGHTS

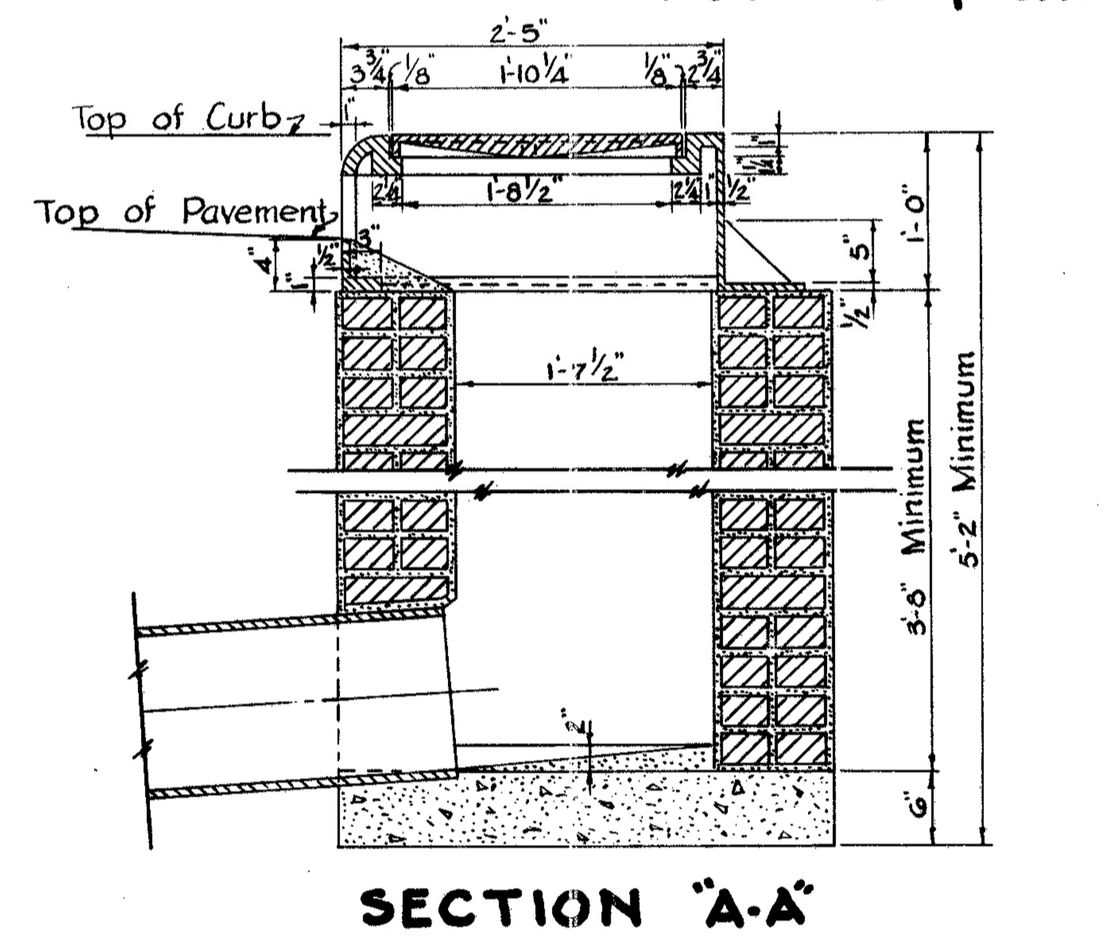
Catch Basin Cover	65 lbs.
Catch Basin Frame	600 lbs.
Curb Inlet Frame & Cover	635 lbs.

METHOD OF ORDERING CURB INLETS:
Face down-grade. The inlets that are located in the left curb are LEFT CURB INLETS. Those located in the right curb are RIGHT CURB INLETS.

SPECIAL CURB INLET No 2

SCALE: 1" = 1'-0"





NOTES:

WALLS - Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar ½" thick.
Concrete sidewalls, where used in place of brick, shall be made 6" thick of Class "C" concrete.

OUTLET - The outlet shall be of the size shown on the Plans and may be constructed in any side.

BOTTOM - Bottom shall be built as per plan of Class "C" concrete.

CASTINGS - Castings may be made in accordance with details shown herewith, or may be of similar design but equal weight.
All castings to be in accordance with Sec. M-7.8 of the Material Details.
Cover seat surfaces to be finished to smooth rounded edges.

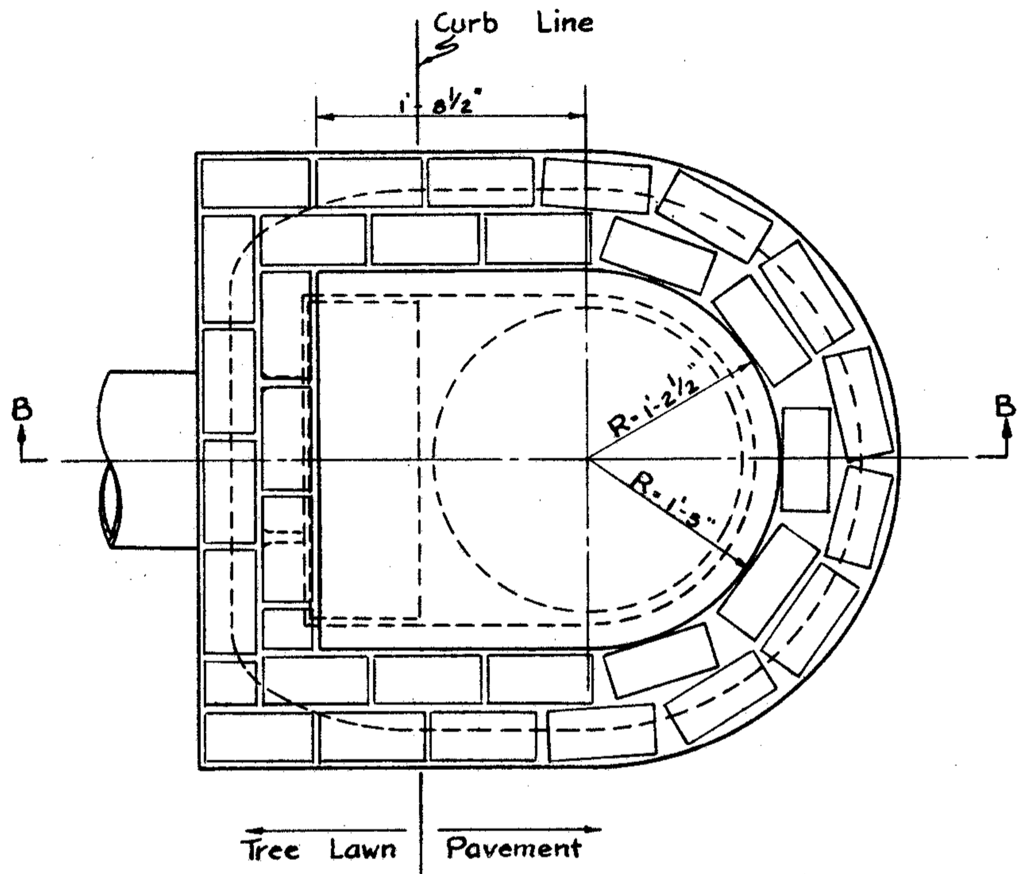
WEIGHTS

Catch Basin Cover	65 lbs.
Catch Basin Frame	555 lbs.
Curb Inlet Frame	550 lbs. Each

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-U.G-842(1)	Postwar

CUYAHOGA COUNTY
CUY. -283-1.09-1.49

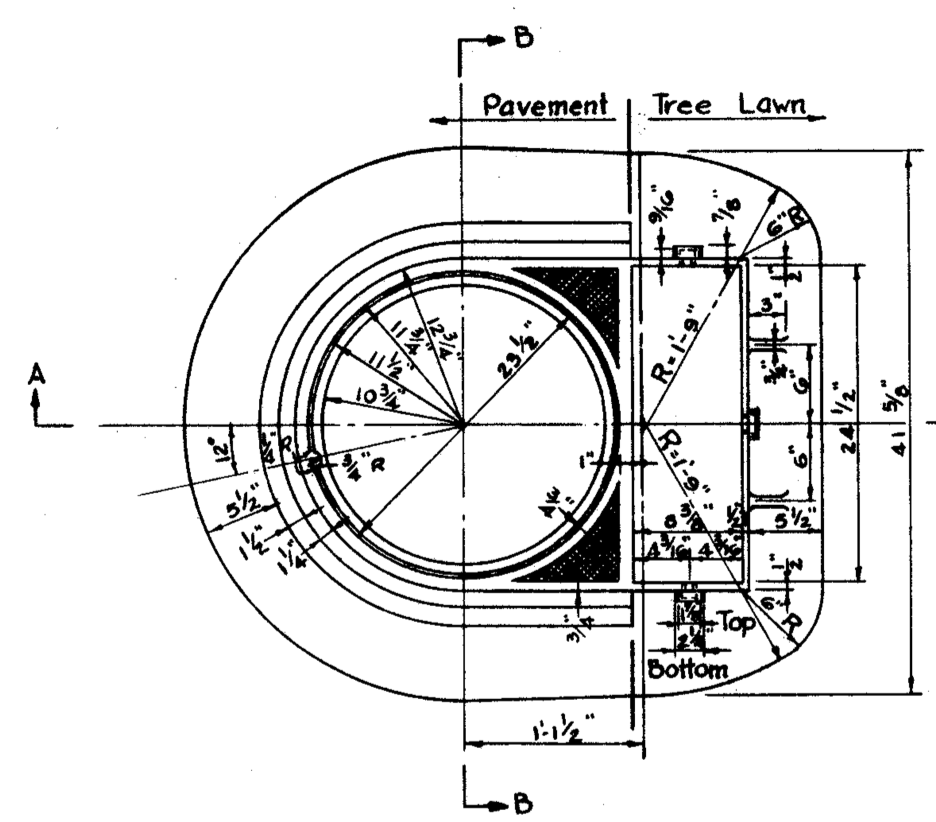
SPECIAL CURB INLET Nº 4



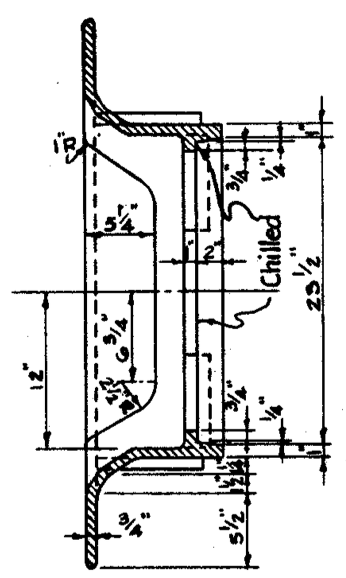
PLAN INLET BASIN
VIEW "A-A"

Scale: 1" = 1'-0"

Position of casting shown in dashed lines.

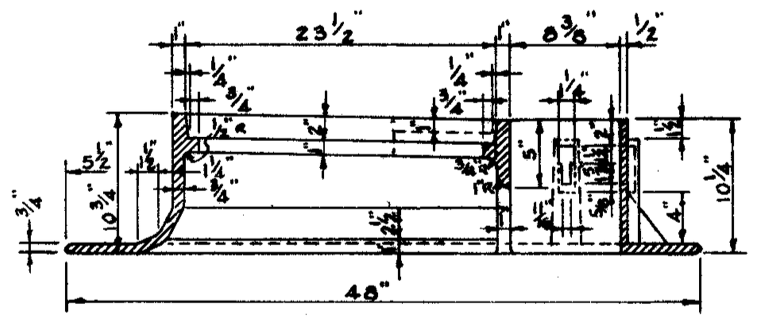


PLAN FRAME (CAST IRON)

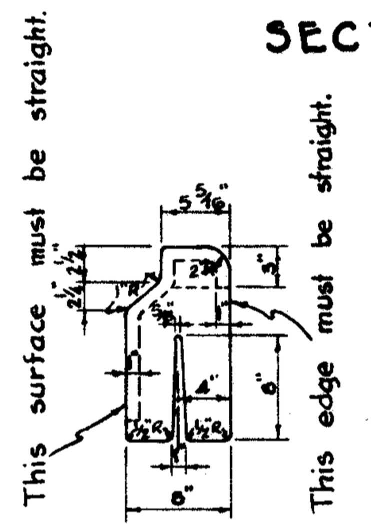


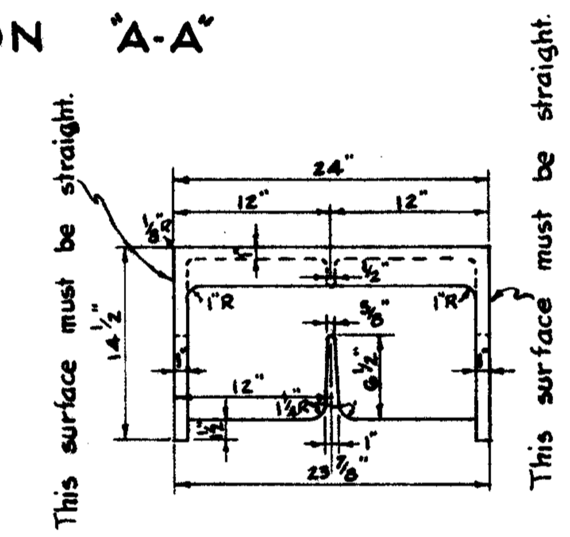
SECTION "B-B"

Note:
Cover seat surface to be chilled & chipped or ground to smooth round regular edge.



SECTION "A-A"



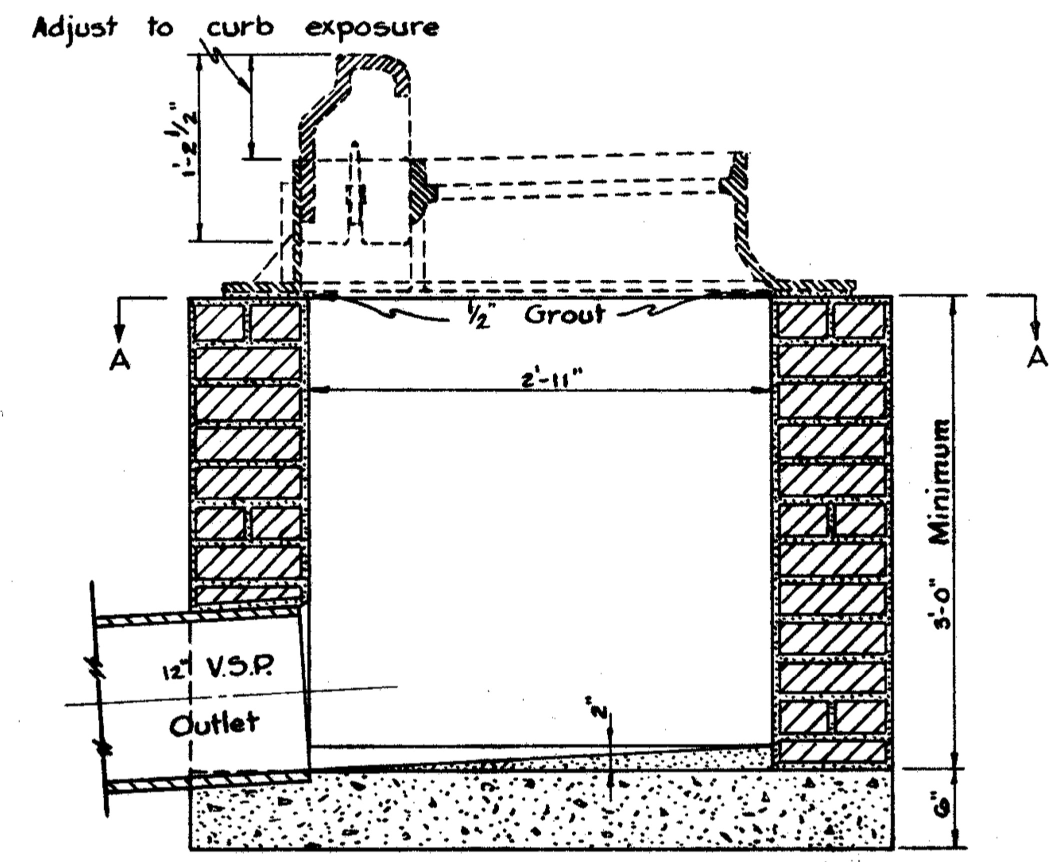


END VIEW FRONT ELEVATION

CURB BOX

CITY STANDARD CATCH BASIN FRAME AND CAST IRON CURB BOX

Scale: 1" = 1'-0"



SECTION "B-B"

NOTES:

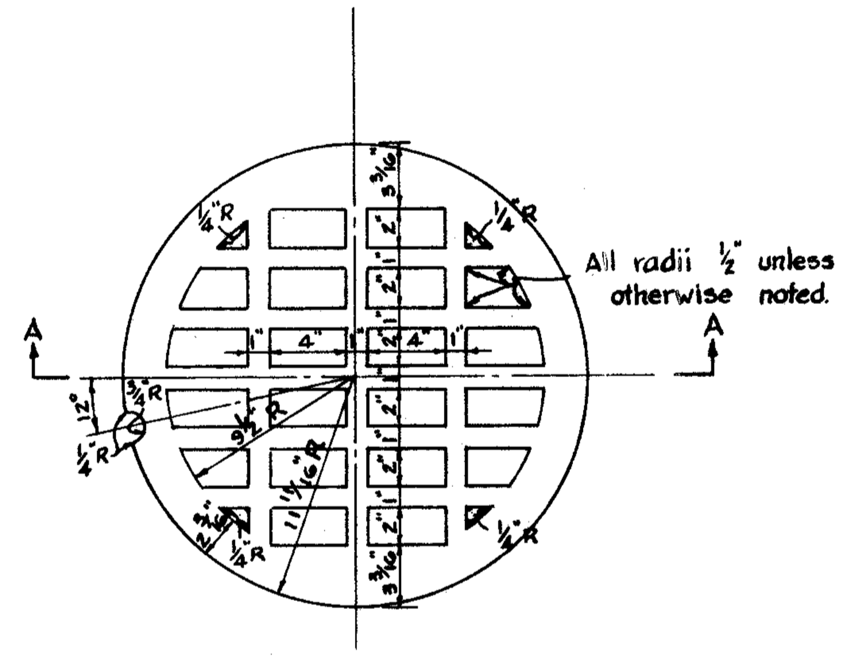
BRICK WALLS:
Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar ½" thick. Concrete sidewalls, where used in place of brick, shall be made 6" thick of Class "C" concrete.

OUTLET:
The outlet shall be of the size shown on the Plans and may be constructed in any side.

BOTTOM:
The bottom shall be built as per Plan, of Class "C" concrete, or of 2 courses of brick, set in mortar.

CASTING:
Casting to be in accordance with Section M-7.8 of the Material Details.

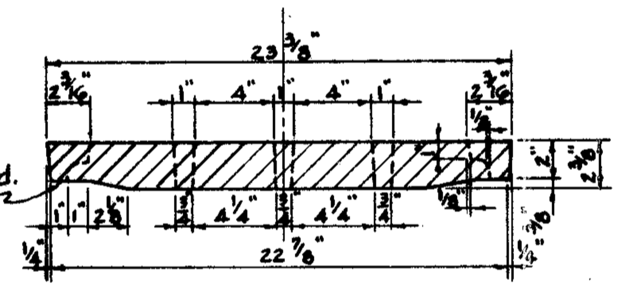
SPECIAL CATCH BASIN Nº 4



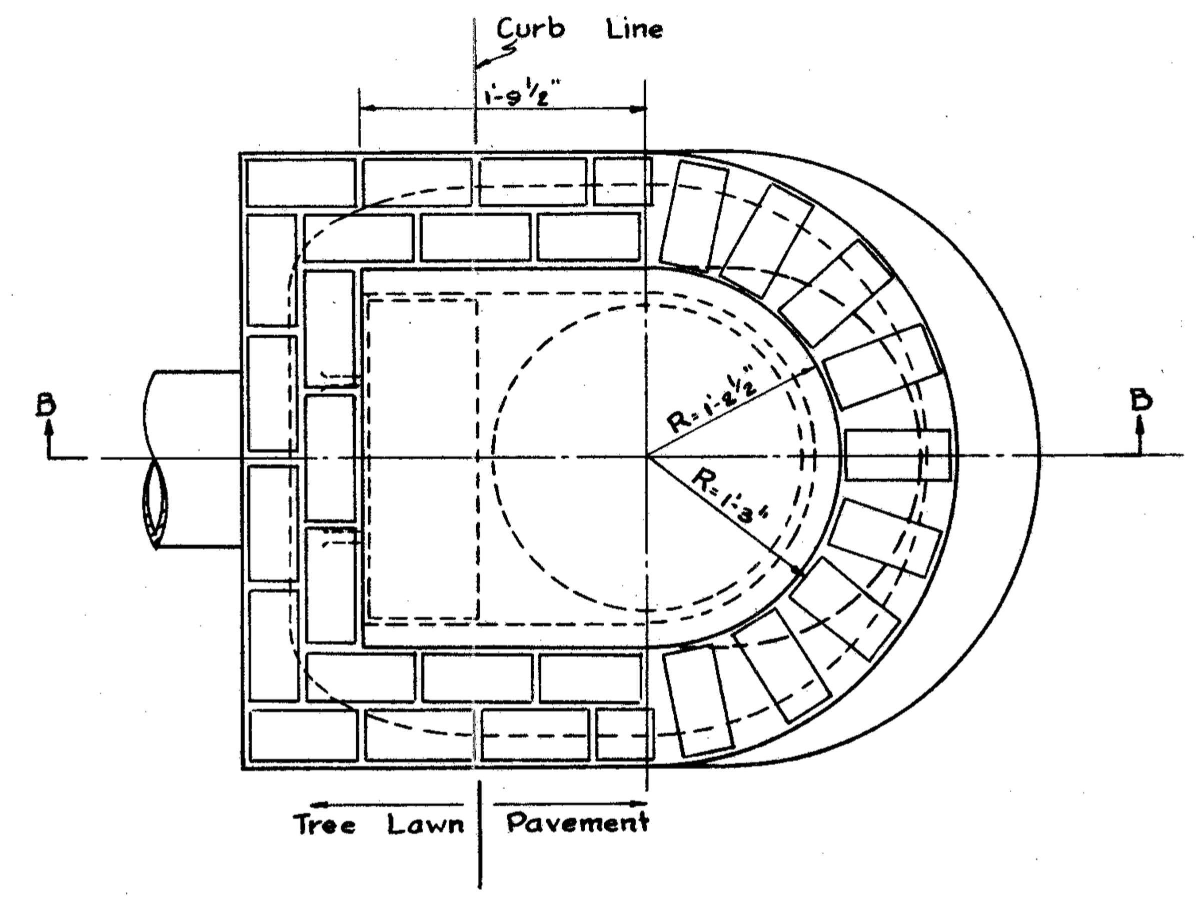
PLAN
CITY STANDARD CAST IRON CATCH BASIN COVER

Scale: 1½" = 1'-0"

This surface shall be smooth, straight & chilled.



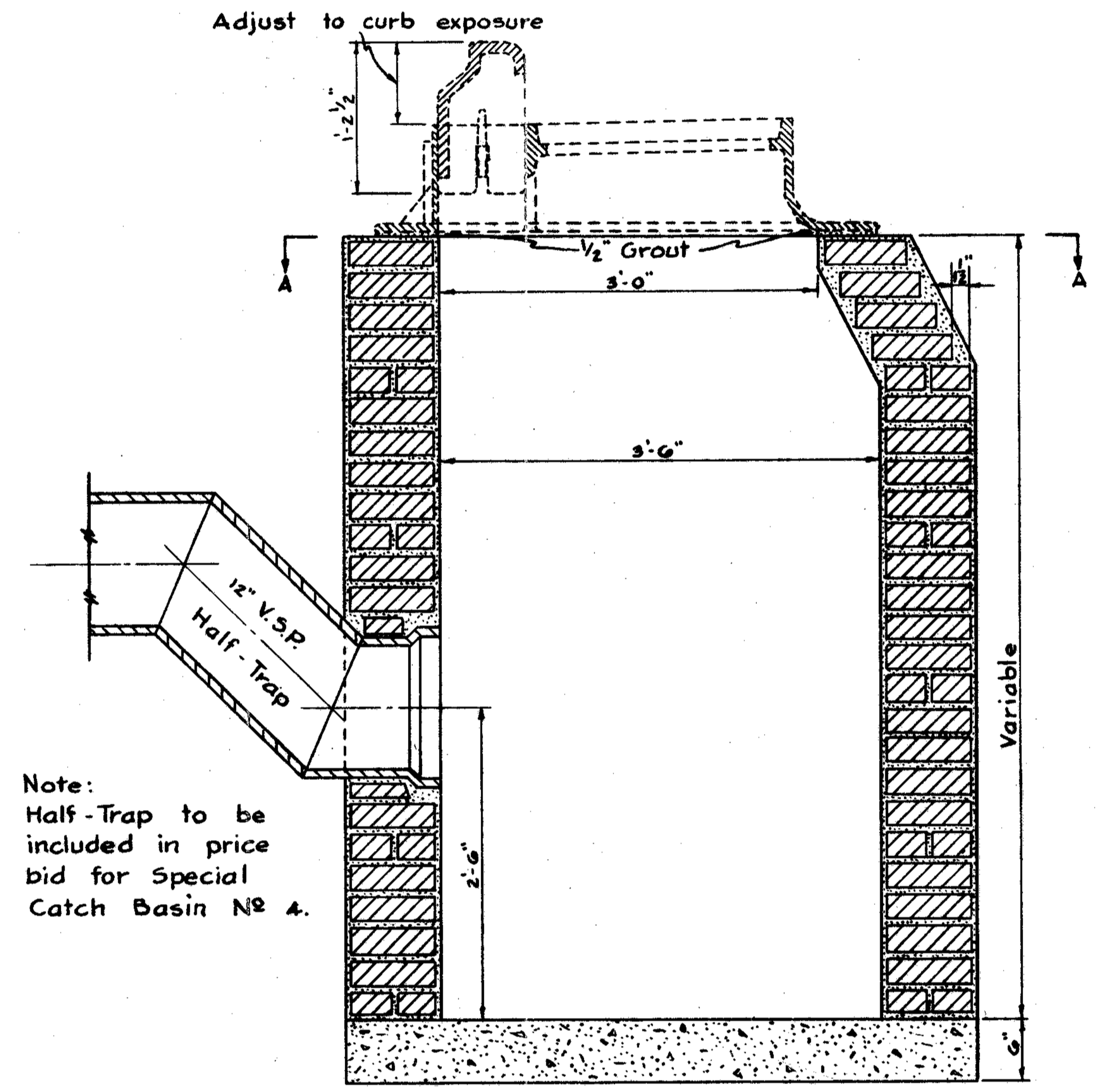
SECTION "A-A"



PLAN CATCH BASIN
VIEW "A-A"

Scale: 1" = 1'-0"

Position of casting shown in dashed lines.



Note:
Half-Trap to be included in price bid for Special Catch Basin Nº 4.

SECTION "B-B"

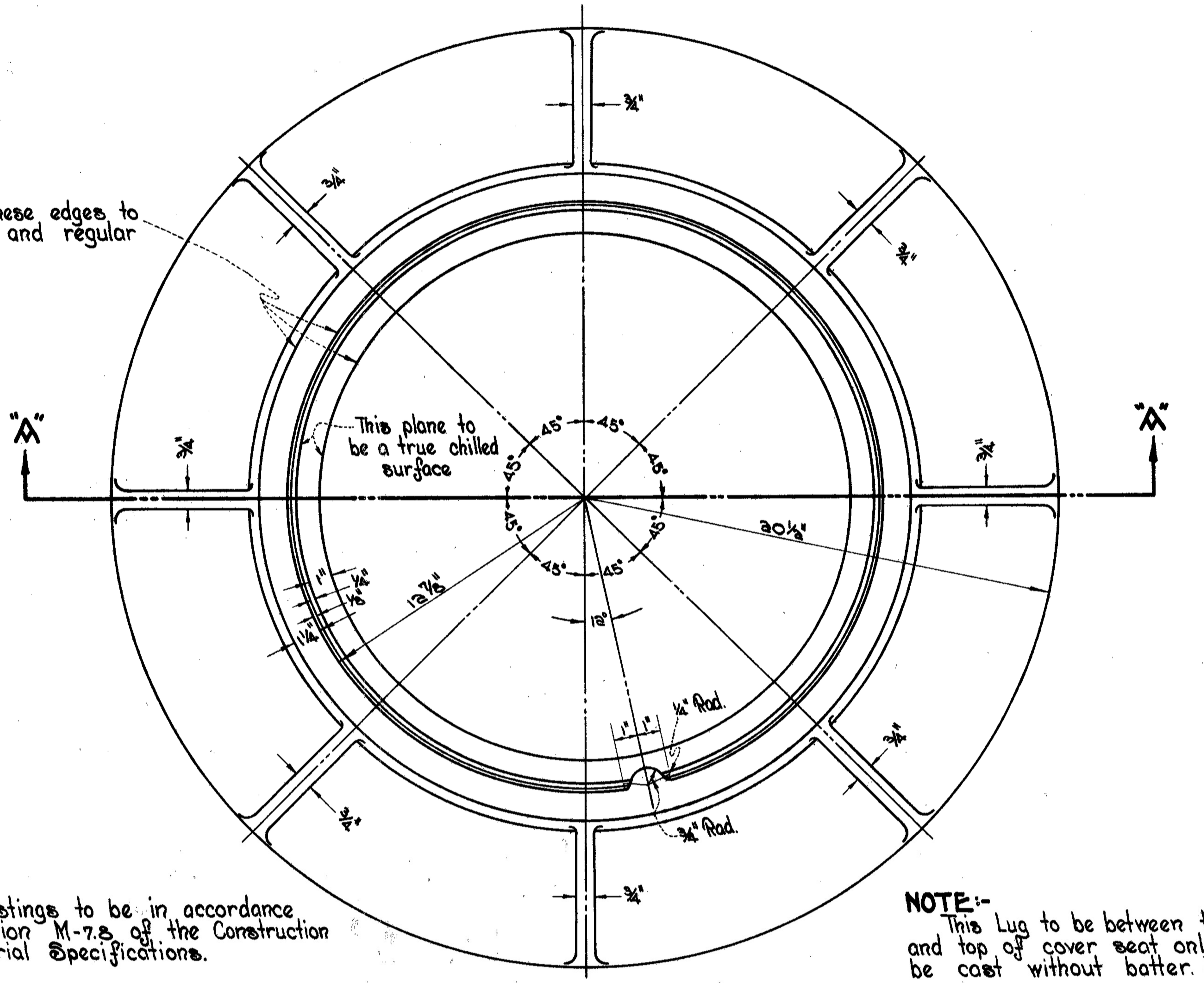
FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-U.G-842(1)	Post War

Cuyahoga County
Cuy.-283-1.09-1.49

SPECIAL MANHOLE FRAME

STANDARD CITY TYPE

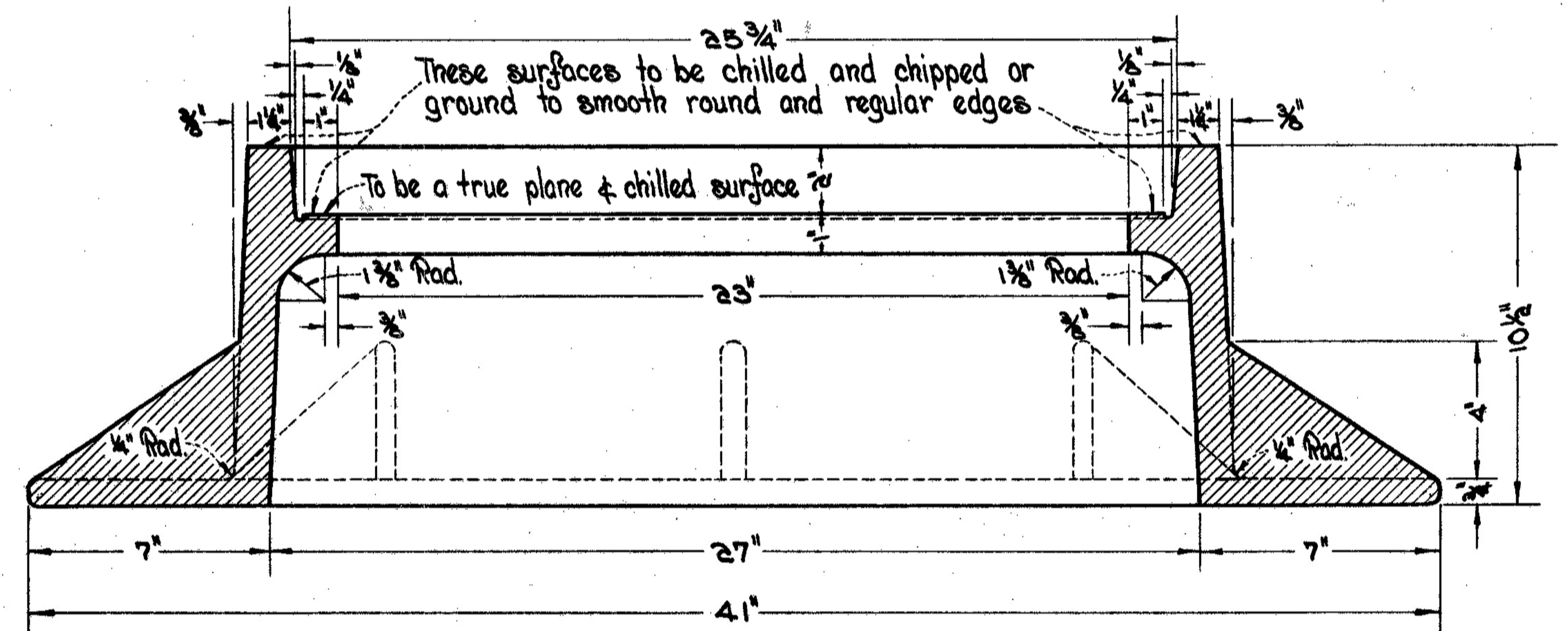
Scale 3" = 1'-0"



NOTE:- All castings to be in accordance with Section M-7.3 of the Construction and Material Specifications.

NOTE:- This Lug to be between top of frame and top of cover seat only and shall be cast without batter.

PLAN



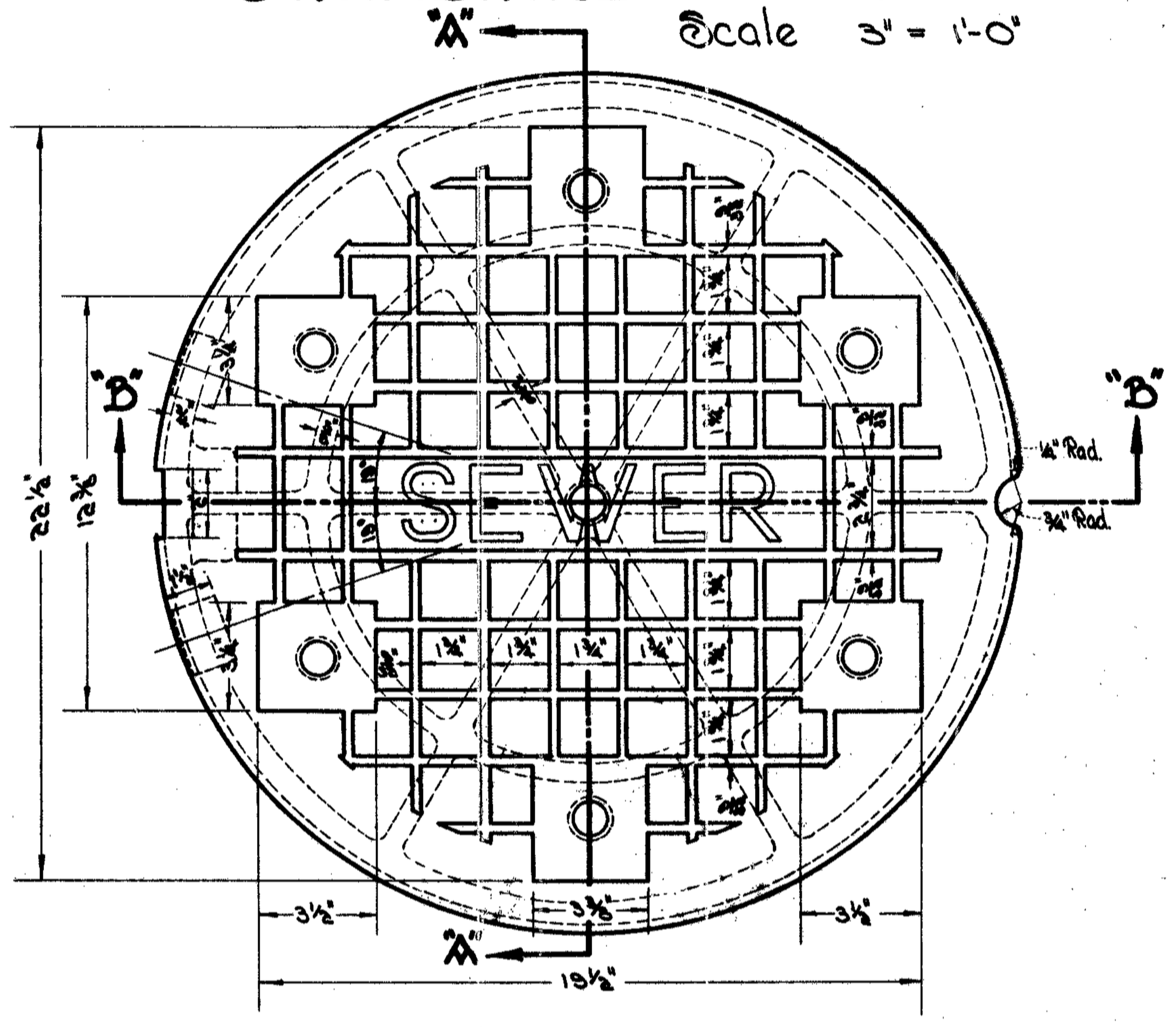
SECTION "A-A"

Weight of Frame 355 lbs.

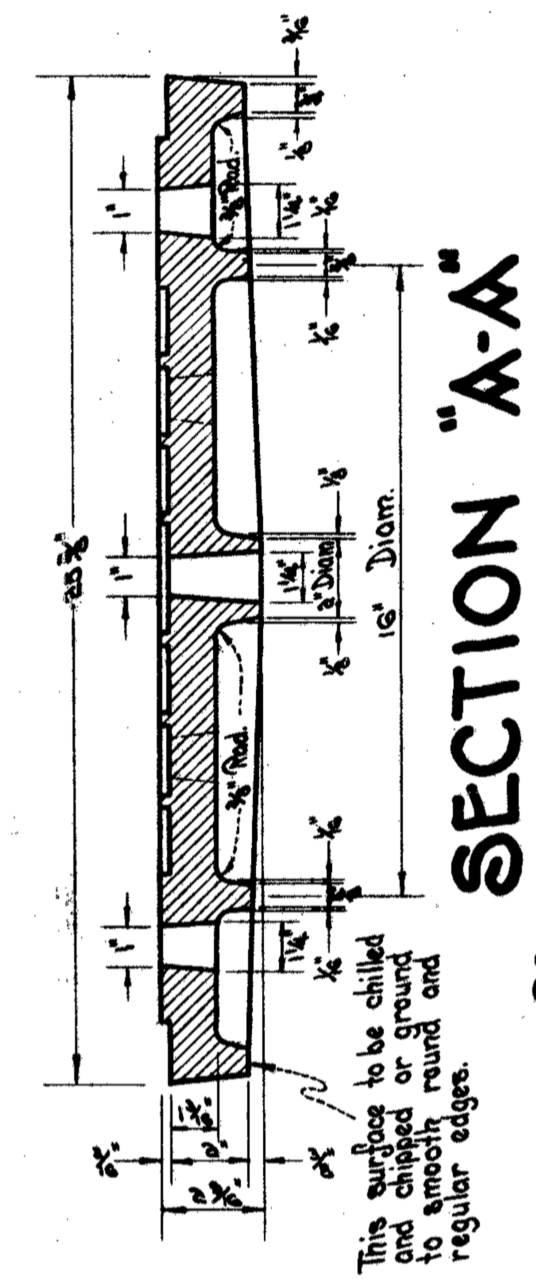
SPECIAL COVER

STANDARD CITY TYPE

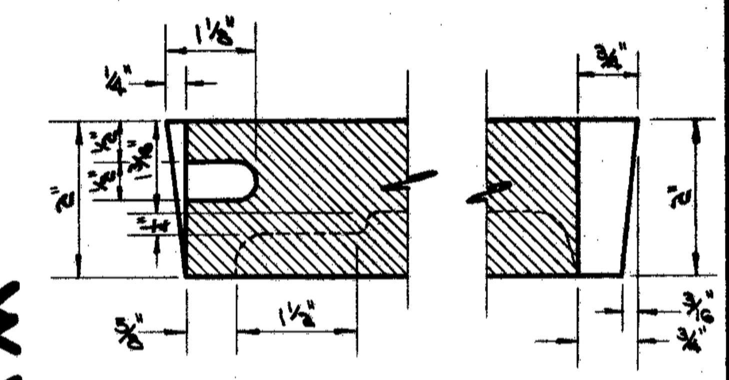
Scale 3" = 1'-0"



PLAN

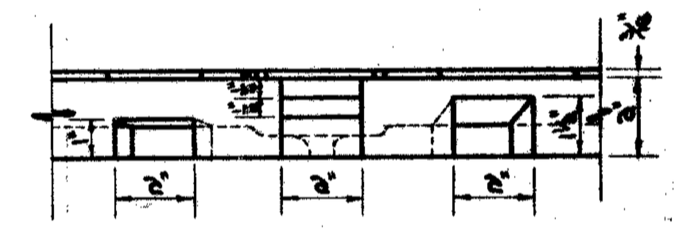


SECTION "A-A"



PART SECTION "B-B"

Scale ½" = 1"



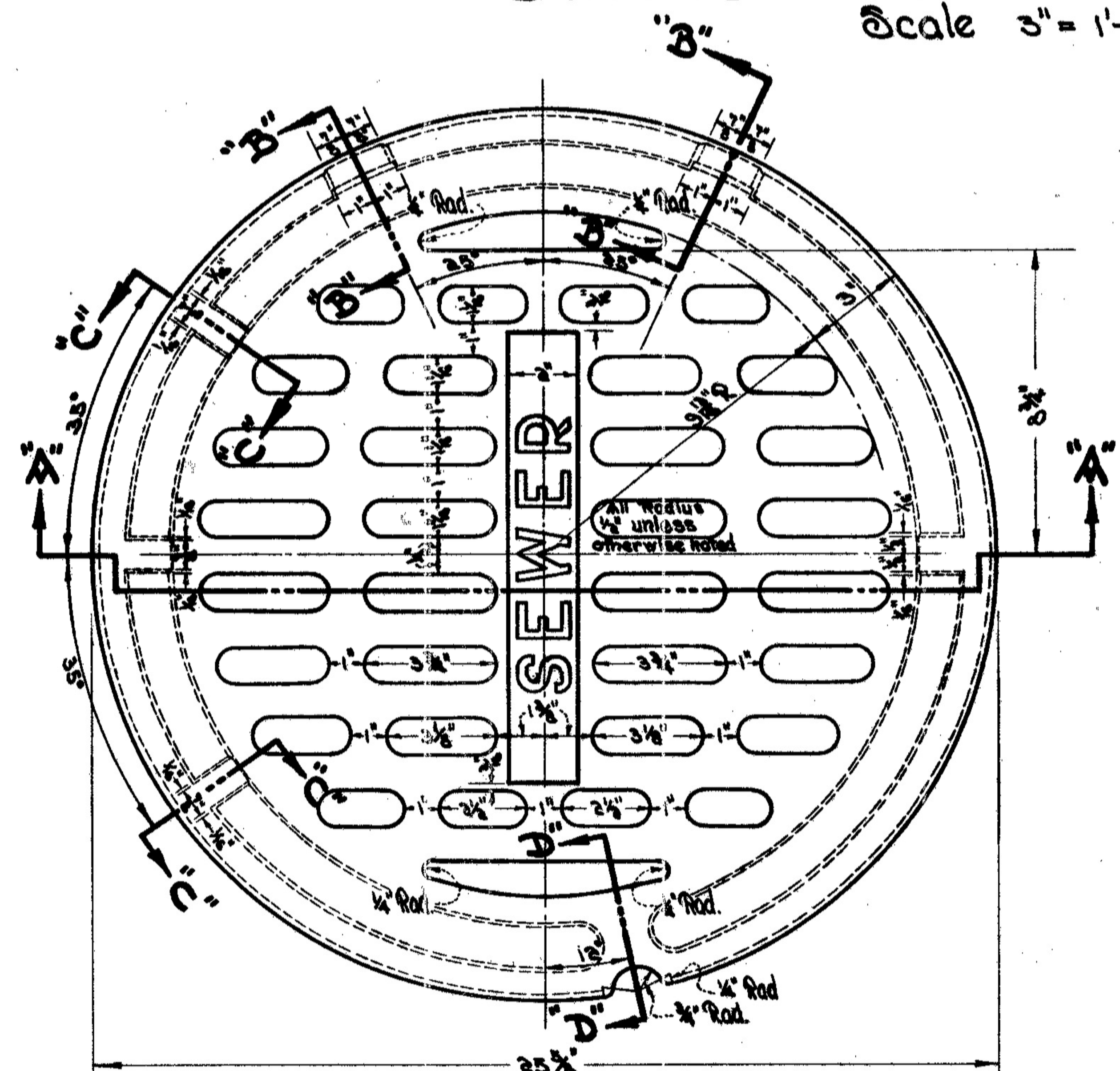
SIDE ELEVATION OF NOTCHES

Weight of Cover 135 lbs.

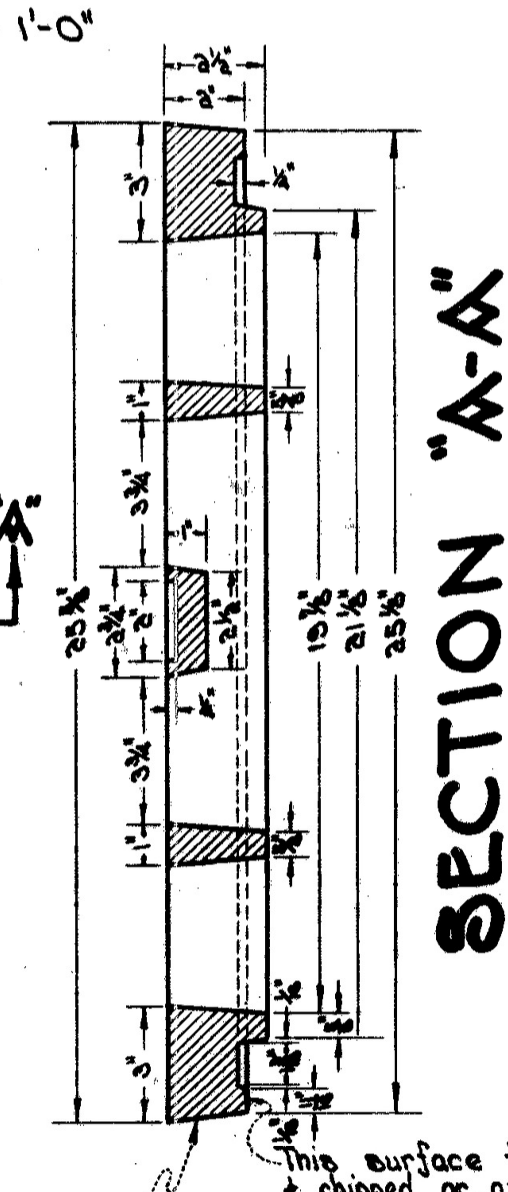
SPECIAL GRATED COVER

STANDARD CITY TYPE

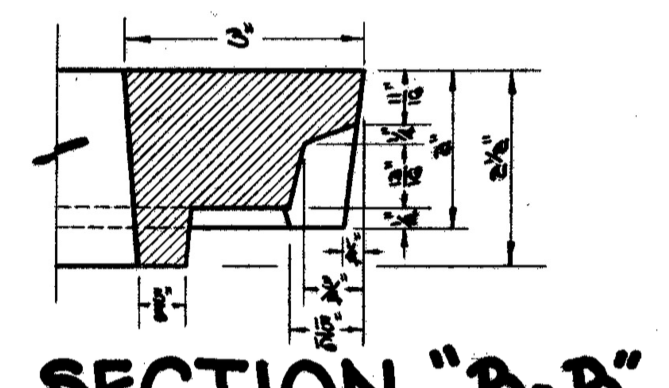
Scale 3" = 1'-0"



PLAN

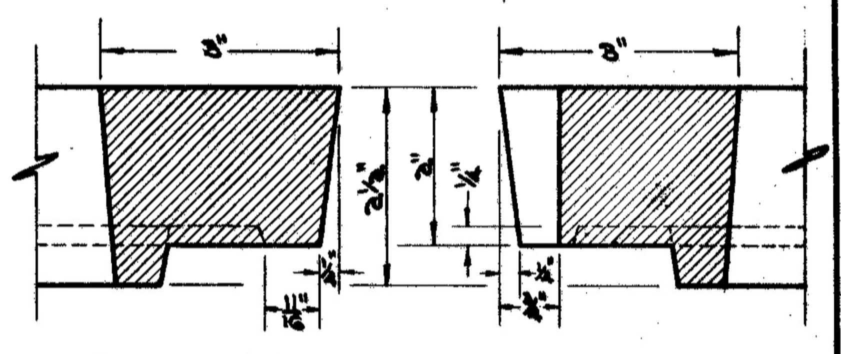


SECTION "A-A"



SECTION "B-B"

Scale ½" = 1"



"C-C" "D-D"

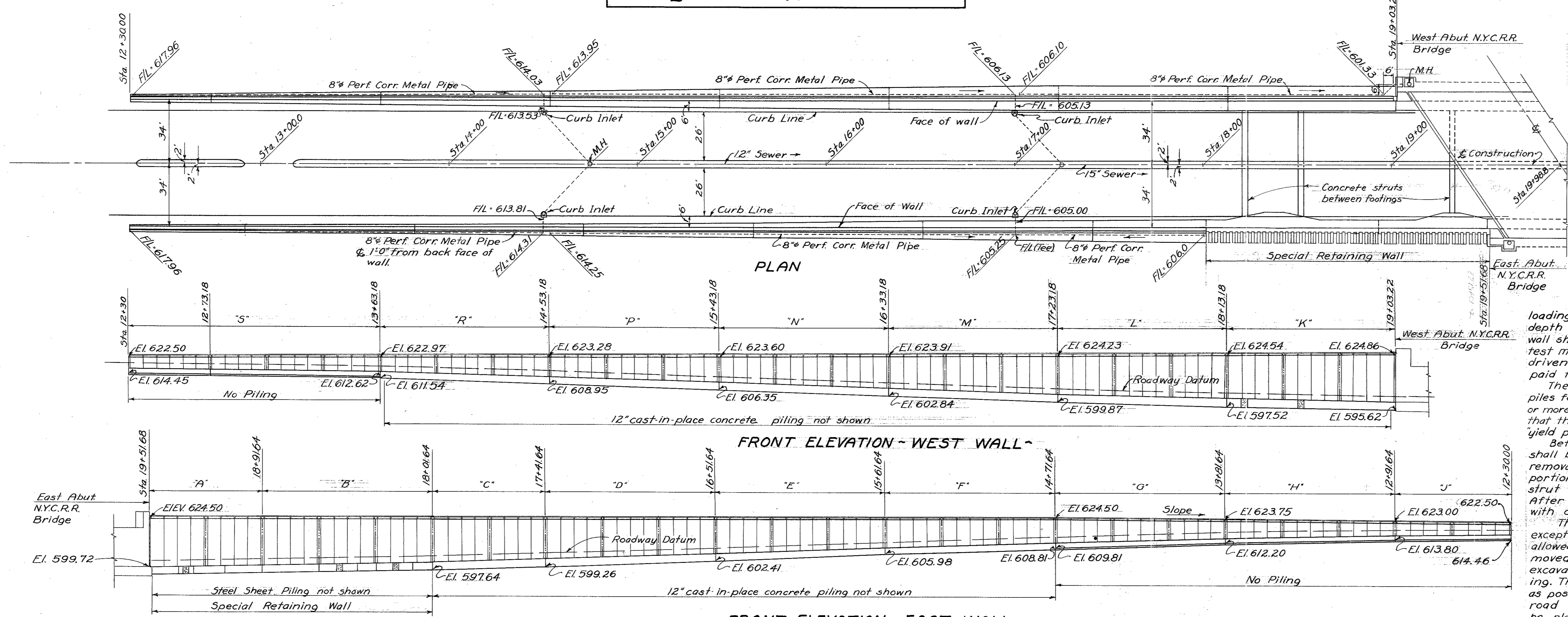
Scale ½" = 1"


E13
E-5
PROPOSED STRUCTURE
TYPE: Deck type steel girder
SPAN: 68' f/f of abutment walls normal to highway ℄
WIDTH: 6 Tracks
CLEARANCE: 14 Ft. min.
SKEW: 33°34'23"
R.R. ALIGNMENT: Tangent
HIGHWAY ALIGNMENT: Tangent
FED. RD. DIVISION 2
STATE OHIO
PROJECT U-UG842(1)
TYPE FUNDS Postwar
41
85
CUYAHOGA COUNTY
CUY - 283 - (1.09, 1.49)
In Cleveland
The City of Cleveland - Gordon Park
BOWMAN PRODUCTS CO.
BARSIC SERVICE STA.
NEW YORK
EAST 72ND ST.
Critical Point 'A'
Sta. 19+37.76
Construction ℄
N. 0°-00'-51" W.
Exist. R/W ℄
N. 0°-00'-51" W.
Skew 33°-34'-23"
N. 0°-02'-26" E.
Automatic Flasher Lights & Short Arm Gate
CENTRAL R.R.
BITTERN AVE 50'
WHITE MOTOR CO. PARKING LOT
Steel Tank
LINDE AIR PRODUCTS CO.
CITY OF CLEVELAND
GORDON PARK
N.Y.C.R.R. TRACKS
Elevations on Top of Rails
Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site.
This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division Office, but the State assumes no responsibility for the accuracy thereof.
Steel Plate Tank
LINDE AIR PRODUCTS CO.
Steel Plate Storage Tank
Centered on Concrete Wall
59' Dia. Concrete Wall
Estimated average length of cast-in-place reinforced concrete piles under retaining walls = 37'.
N.Y.C.R.R. R/W
Proposed top of all rails Elev. 624.65 (min) on an element normal to tracks through Critical Point 'A'.
Sta. 19+82.35
400' V.C.
-3.92%
-.92%
14'-0" Min. Cl. at Point 'A'
Proposed Grade
STATE OF OHIO
DEPARTMENT OF HIGHWAY
BUREAU OF BRIDGES
SITE PLAN
Bridge No CU-283-15
SECTION CUY-283-1.09-1.49
EAST 72ND ST. UNDERPASS AT N.Y.C.R.R.
S.H.
Scale 1" = 20'
CUYAHOGA COUNTY
TOPOGRAPHY
PROPOSED WORK
Survey
Drawn By
Design
Drawn By
Checked
Revised
Date

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	U-UG-842(1)	Post War	42 / 85

Cuyahoga County
CUY-283-(1.09-1.49)

NOTE: ADD 0.35' TO ALL STATIONS OF RETAINING WALLS ONLY, DUE TO A 0.35' CHANGE IN THE ℄ ALIGNMENT.



FRONT ELEVATION - EAST WALL

ESTIMATED QUANTITIES								
ITEM	TOTAL	UNIT	DESCRIPTION	E. WALL	W. WALL	GENERAL	AS BUILT	
E-2	Lump	Sum	Cofferdams, cribs and sheeting			Lump Sum		
E-2	5012	Cu. Yds.	Unclassified Excavation	2222	2790			
S-1	55	Cu. Yds.	Class "E" Concrete, Struts			55		
S-1	1707	Cu. Yds.	Class "E" Concrete, Footers	787	920			
S-1	1664	Cu. Yds.	Class "E" Concrete, Walls	903	761			
S-303	567	Lin. Ft.	Waterproofing, Premolded Sealing Strip	277	290			
S-4	115212	Lbs.	Reinforcing Steel	53634	54606	6972		
S-7	~~36000~~	Lbs.	Structural Steel	~~36000~~			C-1, +2400 C-22, -362	38,038
S-9	471	Sq. Ft.	1" Bituminous Premolded Exp. Joint Filler, Footings	223	248			
S-9	105	Sq. Ft.	½" Bituminous Premolded Exp. Joint Filler, Footings	46	59			
S-9	476	Sq. Ft.	1" Premolded Cork Exp. Joint Filler, Walls	276	200			
S-9	159	Sq. Ft.	½" Premolded Cork Exp. Joint Filler, Walls	80	79			
S-9	52	Lin. Ft.	Folded Copper Strip 24 oz. × 1'-3" wide	27	25			
S-14	1395	Lin. Ft.	Railing, steel pipe	722	673			
S-16	Lump	Sum	First Test Pile 12"φ Cast-in-Place Concrete			Lump Sum		
S-16	Lump	Sum	First Test Pile (Steel Sheet Piles)	Lump Sum				
S-17	Lump	Sum	First Test Load 12"φ Cast-in-Place Concrete			Lump Sum		
S-17	Lump	Sum	First Test Load (Steel Sheet Piles)	Lump Sum				
S-17	~~3~~	each	Subsequent Test Load, (Steel Sheet Piles)	Lump Sum			C-22, -1	2
S-18	~~15490~~	Lin. Ft.	12"φ Cast-in-Place reinforced concrete piling.	~~7268~~	~~8222~~		C-2, -7750 C-9, +493.4	8233.4
S-18	~~6000~~	Lin. Ft.	Steel Sheet Piling, DP-2 or M.116 or equivalent	~~6000~~			C-22, +291.4	6291.4
S-17	1	each	Subsequent Test Load, (12"φ Cast-in-Place Concrete Piles)			1		
S-29	1290	Lin. Ft.	8"φ Perforated Corr. Metal Pipe (including specials)	591	699			
S-29	143	Lin. Ft.	4"φ Steel Pipe (including specials)	143				
S-29	911	Cu. Yds.	Porous Backfill	411	503			
AB S-18	~~7750~~	Lin. Ft.	12" □ Precast reinforced concrete piling				C-2, 7750 C-6, -176.5	7573.5

GENERAL NOTES

REFERENCE shall be made to Supplemental Specification S-303, dated 12-20-46.

STRUCTURE EXCAVATION: Quantity of structural excavation for retaining walls and struts to be paid for shall consist of the necessary excavation below the roadway excavation limits as shown on roadway cross sections, sheets 23 to 25 inclusive and in accordance with Sections E-2.08 of the Specifications, except that the allowance of excavation beyond the edge of a footing will not apply behind the steel sheet piling of the special wall section.

WELDING shall be Class "A".

PILING: 12"φ Cast-in-place reinforced concrete piling shall be driven to a minimum bearing capacity of 35 Tons.

PROCEDURE FOR SPECIAL RETAINING WALL: The proposed retaining wall on the east side of the highway, from Sta. 18+01.64 to Sta. 19+51.68, is of a special design which is intended to prevent or minimize movement of the retained earth and settlement of the industrial structures east of the wall.

The sheet piling for this wall shall be driven before any excavation for the wall or highway is made and shall progressively be provided with structural steel walers and cofferdam struts, spaced as shown on the plans, as the excavation proceeds. The excavation for and construction of this retaining wall shall be completed before any excavation is done for the adjacent highway. In addition to the steel sheet piling at the back of the wall (to be left in place) there shall also be a line of steel sheet piling near the toe of the footing (to be removed) equipped with walers, against which the cofferdam struts will react.

This front sheet piling and its walers and the cofferdam struts will be considered as paid for in the lump sum Item E-2, Cofferdams, Cribs and Sheeting. The rear sheet piling will be paid for per linear foot considering each sheet as a pile, as per Item S-18, and its walers, anchor bars, and expansion plates and bolts as structural steel, Item S-7, per pound.

The excavation for this wall shall be made for partial lengths and partial depths only and the walers placed in short lengths and the cofferdam struts installed as soon as possible, to reduce the risk of movement of the earth retained by the rear sheet piling. Before the installation of each strut is completed, force shall be exerted by jacking against the walers near the strut, and steel wedges shall be inserted at one end of each strut to force the sheeting tightly against the retained earth. When the installation of a strut and its wedges has been completed, the connection between the strut, wedges, waler and sheet piling shall be sufficiently welded to avoid displacement.

The rear sheet piling (and its walers) will be left in place to serve as tensile reinforcing for the wall and as tensile piling for the foundation.

The computed maximum tensile stress in these rear sheet piles is 6 tons per sheet pile. Since these sheet piles are to be driven before the excavation is made and will penetrate through considerable over-burden, the following test-loaded test pile procedure shall be followed to determine the depth to which the rear sheet piles shall be driven:

GENERAL NOTES (Cont.)

A test pile, consisting of two interlocked and separately driven sheet piles, shall be driven at a location west of and near the toe of the proposed footing, through a depth of earth similar to that along the back of the wall, using the same type and substantially the contemplated length of sheet pile to be used for the service sheet piles at the back of the wall, and the same pile hammer. These sheet piles shall be driven to a depth of 20 ft. below the proposed bottom of the footing and the rate of penetration recorded. After being driven, this two-sheet test pile shall be exposed on all sides above the elevation of the bottom of the footing by a well-like excavation. A pull-out test load shall be applied after at least 7 days have elapsed subsequent to the driving. The load shall be applied as specified for customary test-loading in Item S-17 except that the time-elapse intervals shall be doubled. The loading shall be carried to a magnitude of 4 R for the sum of the two sheet piles unless the "yield point" is reached at a lesser tonnage. The "R" value shall be considered as 12 tons. One or more subsequent test loads may be ordered by the Engineer. For a subsequent test load the depth to which the pile shall be driven may be more or less than for the first. From these test loading indications the Engineer will determine the depth to which the service sheet piles at the back of the wall shall be driven. The sheet piles used for such a test may, if in good condition after extraction, be re-driven as service piles at the back of the wall and paid for as such.

The capacity of the cast-in-place concrete bearing piles for this wall will be checked by test loading one or more piles in the manner specified in Item S-17 except that the maximum load applied shall be 3 R unless the "yield point" is reached at a lesser tonnage.

Before the wall concrete is placed, a suitable form shall be placed around each cofferdam strut to permit removal of the strut or a form shall be placed for a portion of the thickness of the wall to permit the strut to be burned off back of the face of the wall. After removal of the strut, the opening shall be filled with concrete.

The reinforced concrete struts under the roadway, except the strut at Station 19+31.00, shall be placed and allowed to set before the cofferdam struts are removed and before the roadway excavation is made. The excavation for these struts shall be made by trenching. The strut at Station 19+31.00 shall be placed as soon as possible after the temporary trestles of the railroad bridge have been removed. These struts shall be placed on undisturbed earth, or if the earth is disturbed, it shall be thoroughly compacted.

The cofferdam struts and the temporary front line of sheet piling may be removed after all the concrete in the special retaining wall, in the concrete struts (except the strut at Station 19+31.00) and in the west wall adjacent to the struts has been placed and has set the required length of time. The roadway excavation may then be made.

The contractor shall submit detail plans of his proposed cofferdam construction and a schedule of his proposed operations at and adjacent to this special wall to the Director for approval by the Bureau of Bridges, at least 15 days before any work at the location of this wall is begun.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

PLAN & ELEVATIONS NOTES & ESTIMATED QUANTITIES RETAINING WALLS BRIDGE NO. CU-283-15

Cuyahoga County
Sec. CUY-283-1.09-1.49 UG-842(1)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.C.R.	S.C.R.	M.P.B.	C.F.B.	W.H.G.	11-10-50	

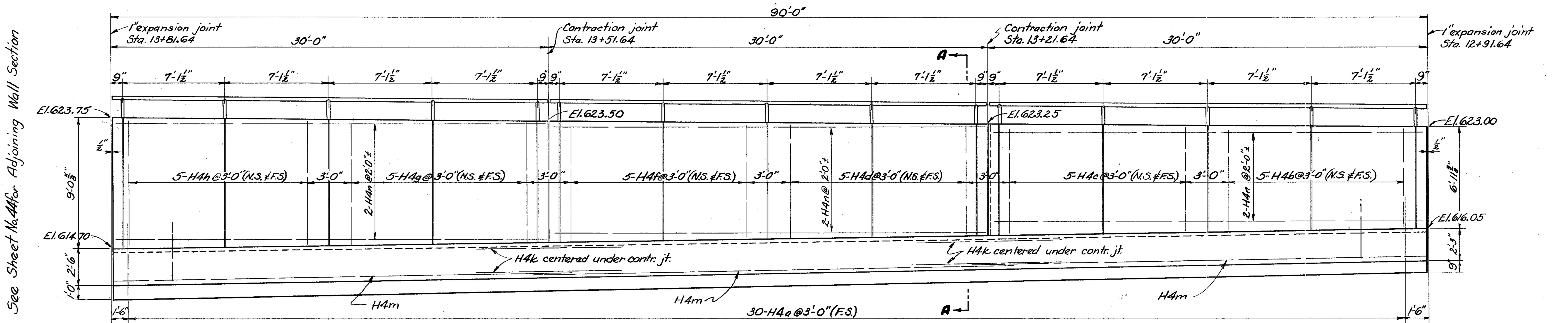
AB Revised As-Built JWP 5-21-54

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	U-UG 842(1)	Post War

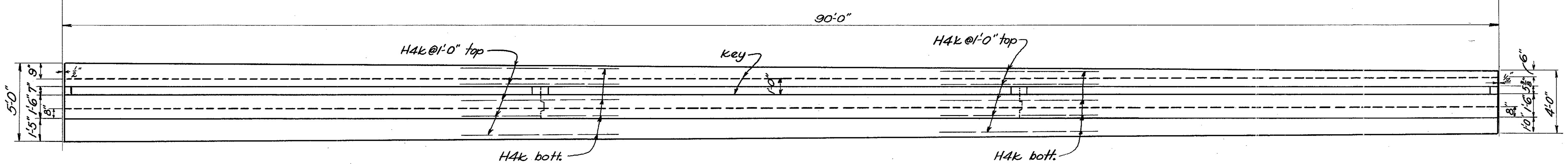
43 / 85

Cuyahoga County
CUY-283-(1.09-1.49)

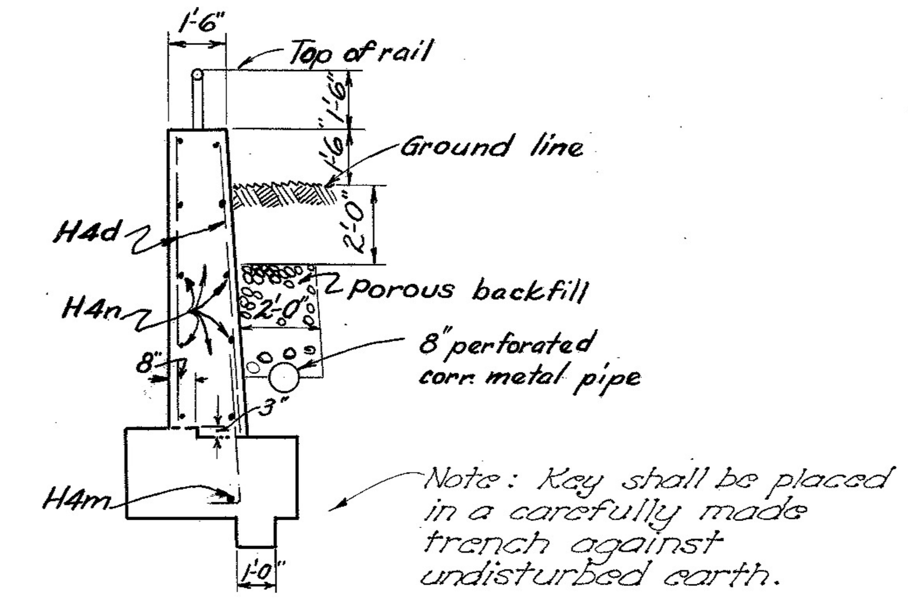
See Sheet No. 44 for Adjoining Wall Section

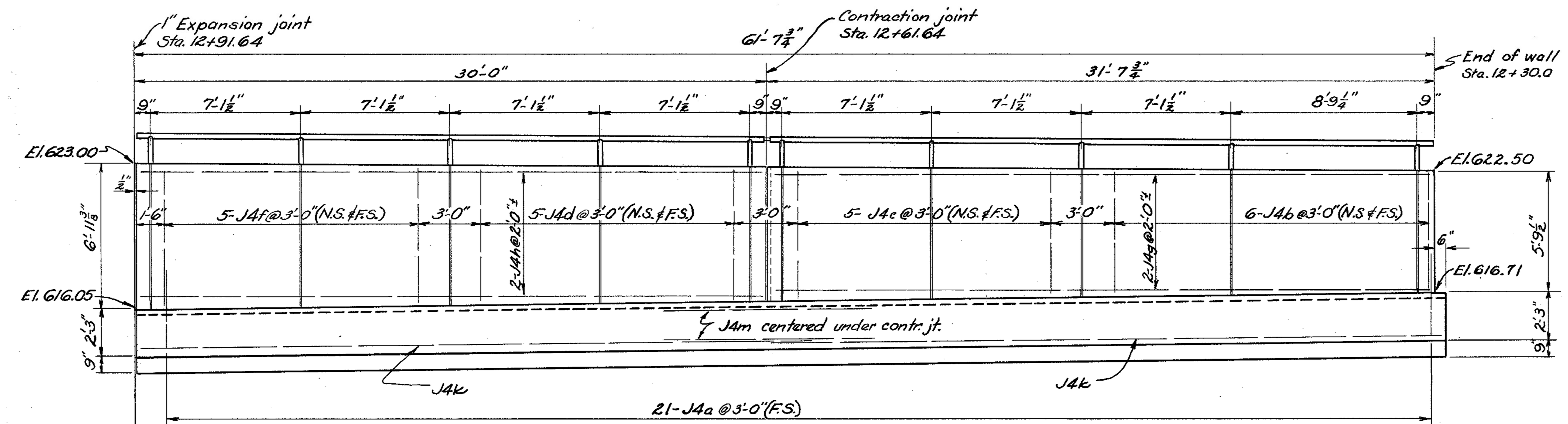


ELEVATION
STA. 12+91.64 TO STA. 13+81.64

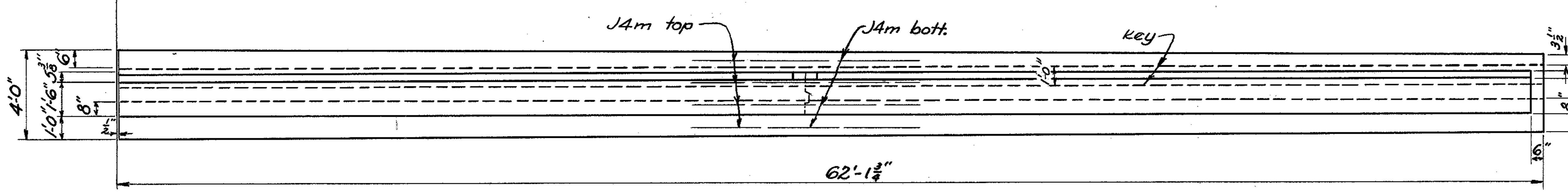


PLAN
STA. 12+91.64 TO STA. 13+81.64

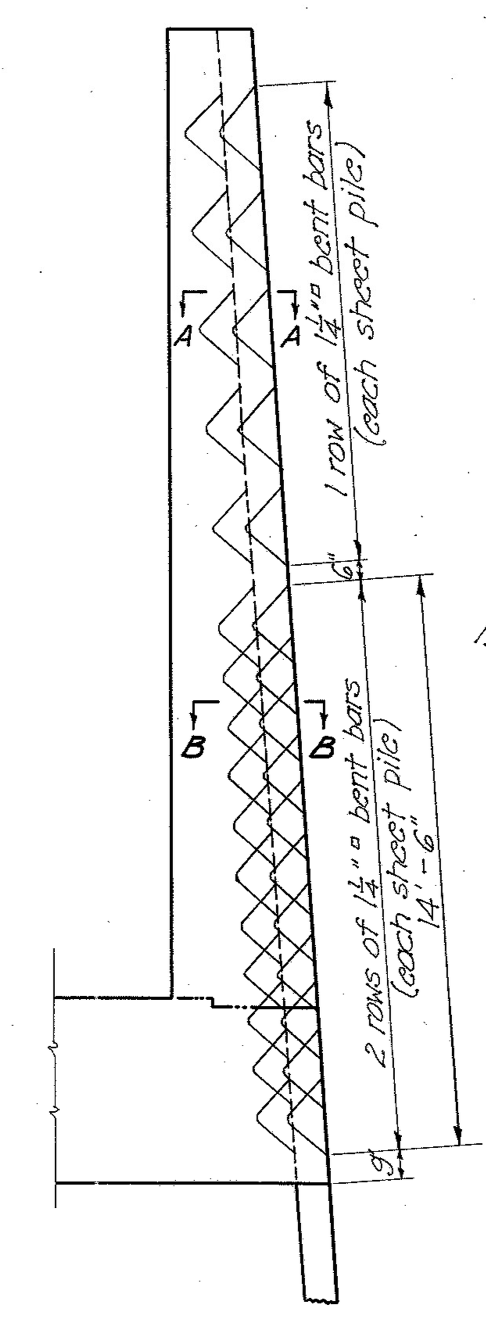


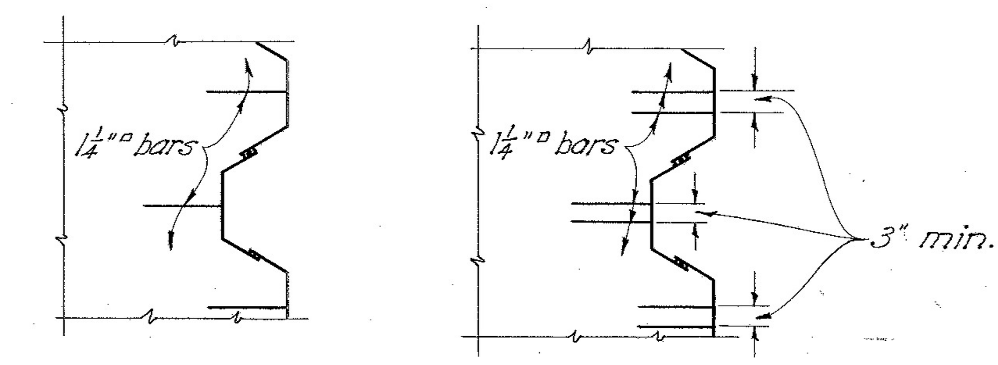


ELEVATION
STA. 12+30.0 TO STA. 12+91.64

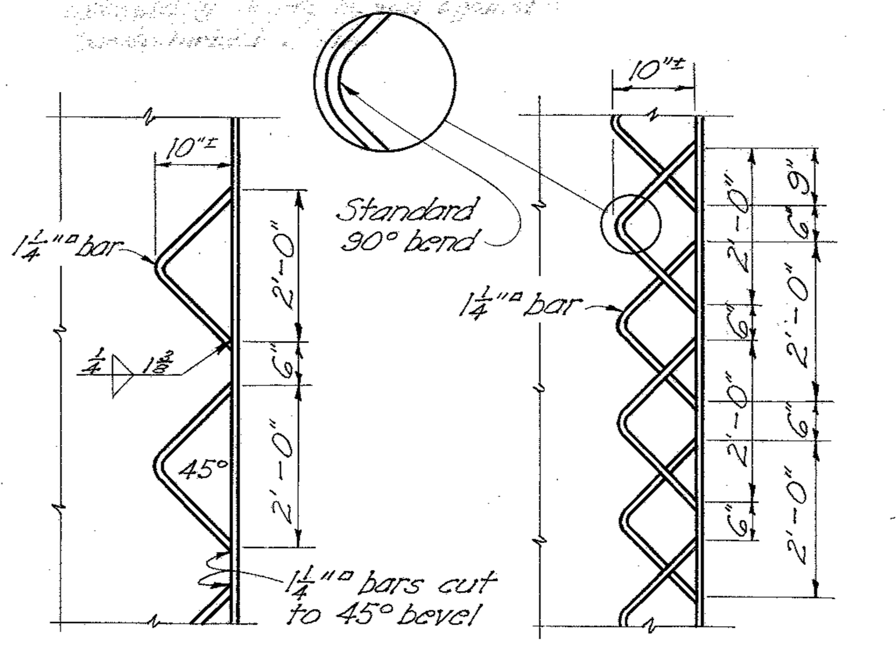


PLAN
STA. 12+30.0 TO STA. 12+91.64





SECTION A-A SECTION B-B



SINGLE ROW (1 1/4" ⌀ bars) DOUBLE ROW (1 1/4" ⌀ bars)

1 1/4" ⌀ reinforcing steel, structural grade, included with structural steel for payment.

REVISED ANCHORAGE OF STEEL SHEET PILING TO CONCRETE
See Sections A-A and E-E, Sheet No. 50.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DETAILS OF EAST RETAINING WALL
STA. 12+30.0 TO STA. 13+81.64
BR. NO. CU-283-15

UG-842(1)
CUYAHOGA CO. SECT. CUY-283-1.09 to 1.49

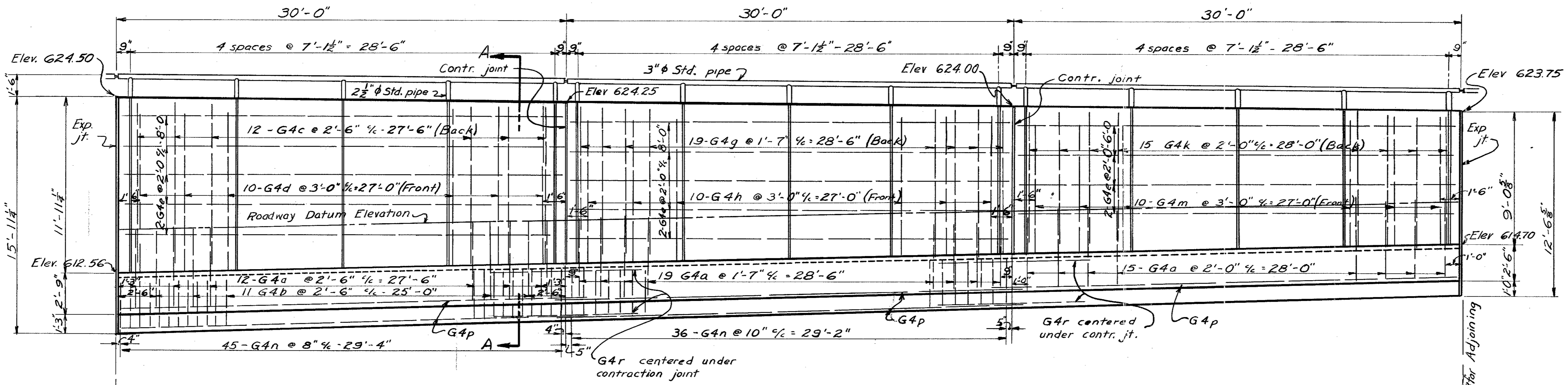
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.C.P.	M.J.W.	HVL	C.F.B.		11-10-50	

Revised As-Built 5-24-54

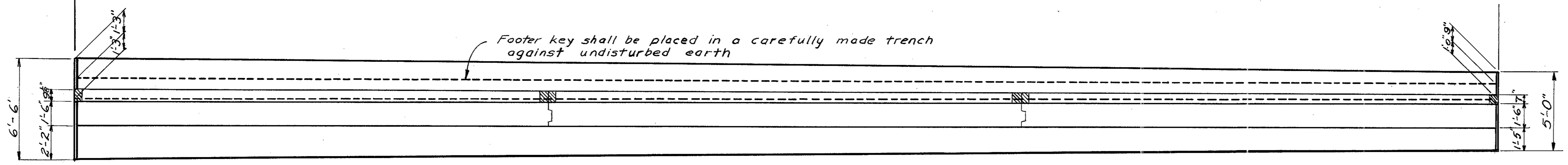
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	U-UG 842(1)	Post War

44
85

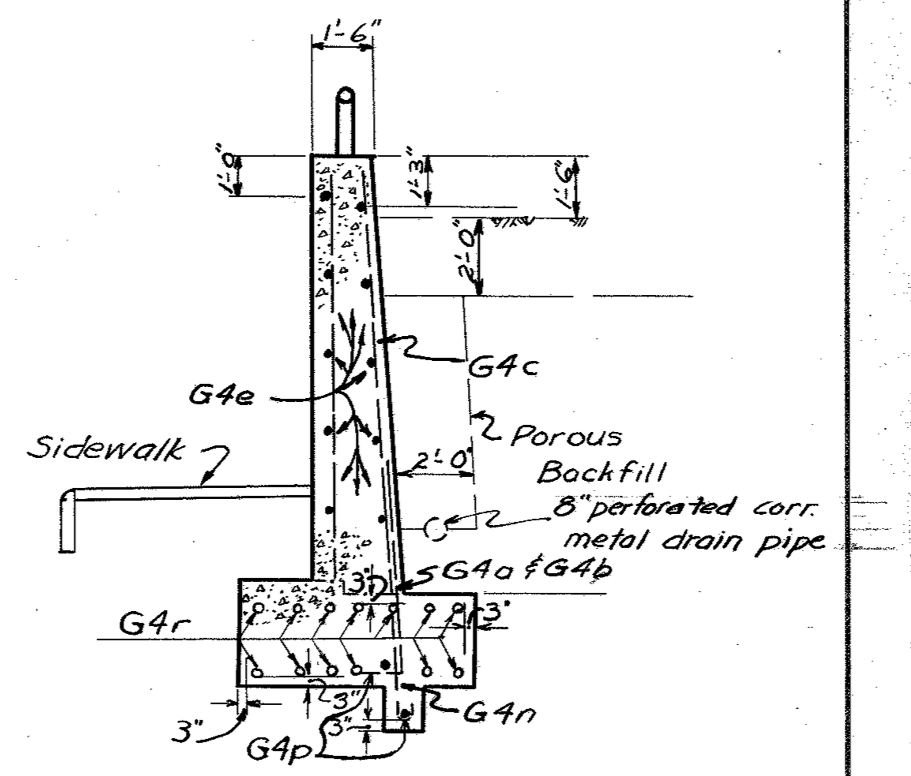
Cuyahoga County
CUY-283-(1.09-1.49)



ELEVATION (EAST WALL)
STA 13+81.64 to STA. 14+71.64



PLAN (EAST WALL)
STA 13+81.64 to STA 14+71.64



SECTION A-A

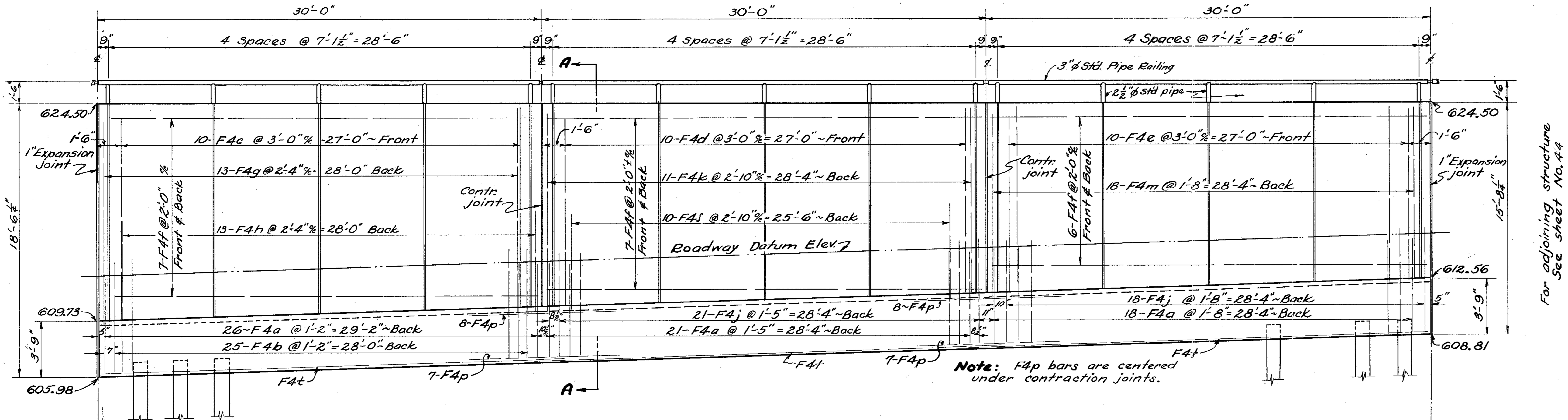
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DETAILS OF
EAST RETAINING WALL
STA. 13+81.64 to STA 14+71.64
BRIDGE NO. CU 283-15
Cuyahoga County UG-842(1) Sec. CUY 283-(1.09-1.49)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.J.S.	E.J.S.	E.H.P.	C.F.B.	W.H.R.	11-10-50	

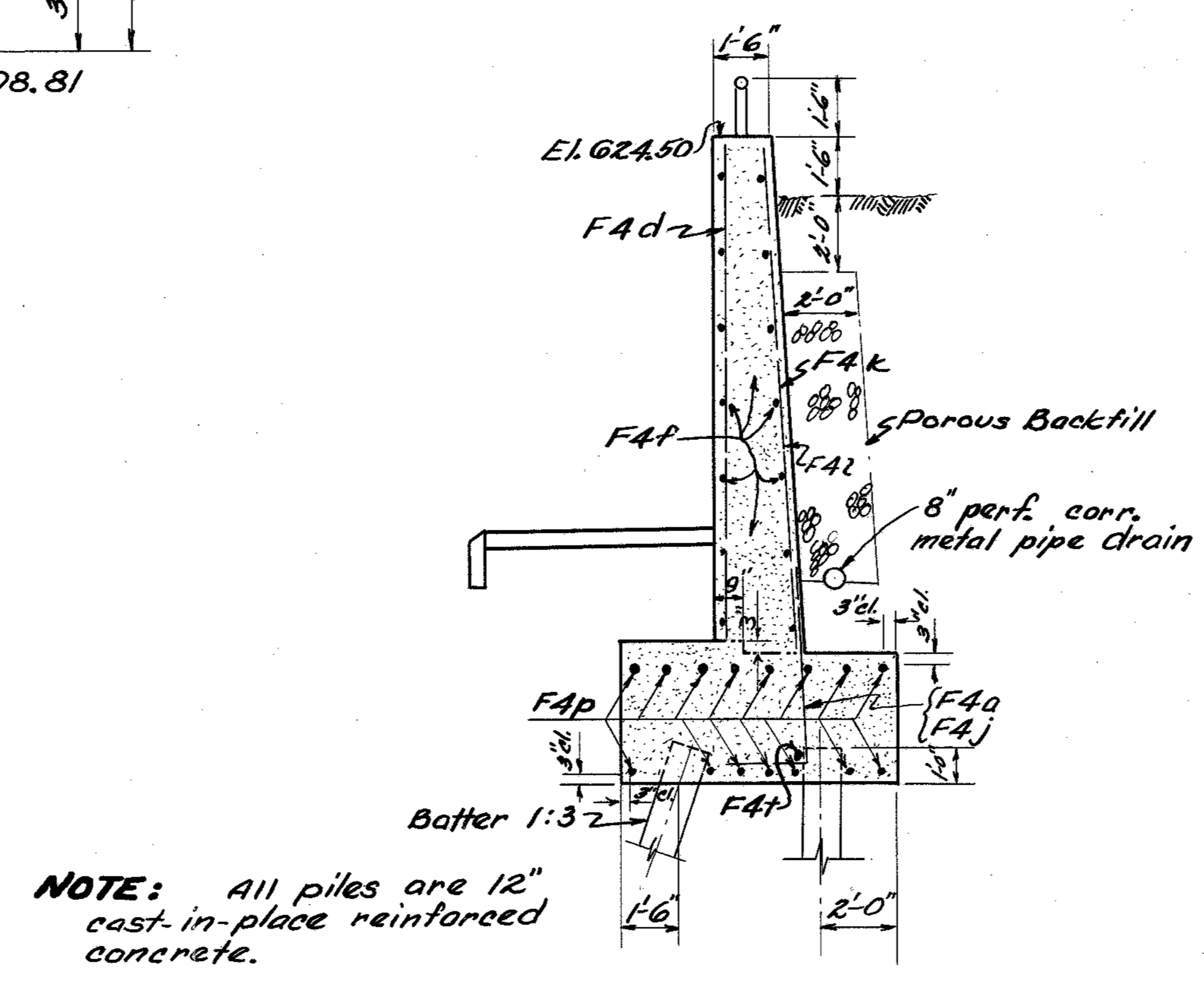
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	U-UG 842(1)	Post War	45 / 85

Cuyahoga County
CUY-283-(1.09-1.49)

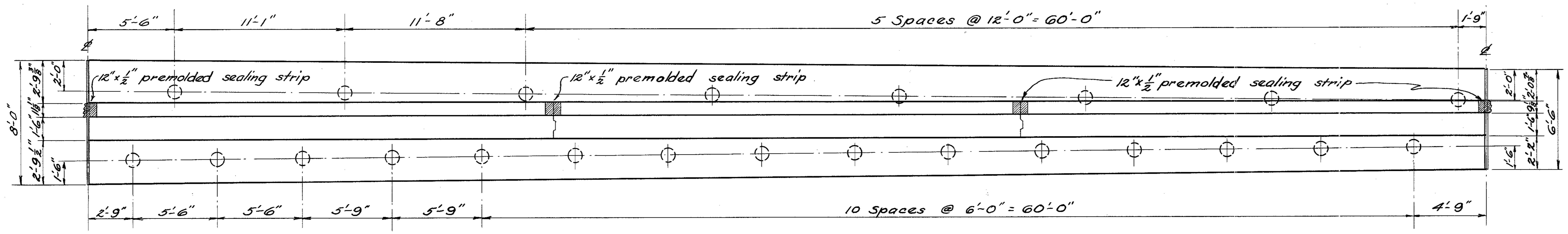


ELEVATION (EAST WALL)

STA. 15+61.64 TO STA. 14+71.64



SECTION A-A



PLAN (EAST WALL)

STA. 15+61.64 TO STA. 14+71.64

See sheet 51 for typical joint details.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DETAILS OF EAST RETAINING WALL

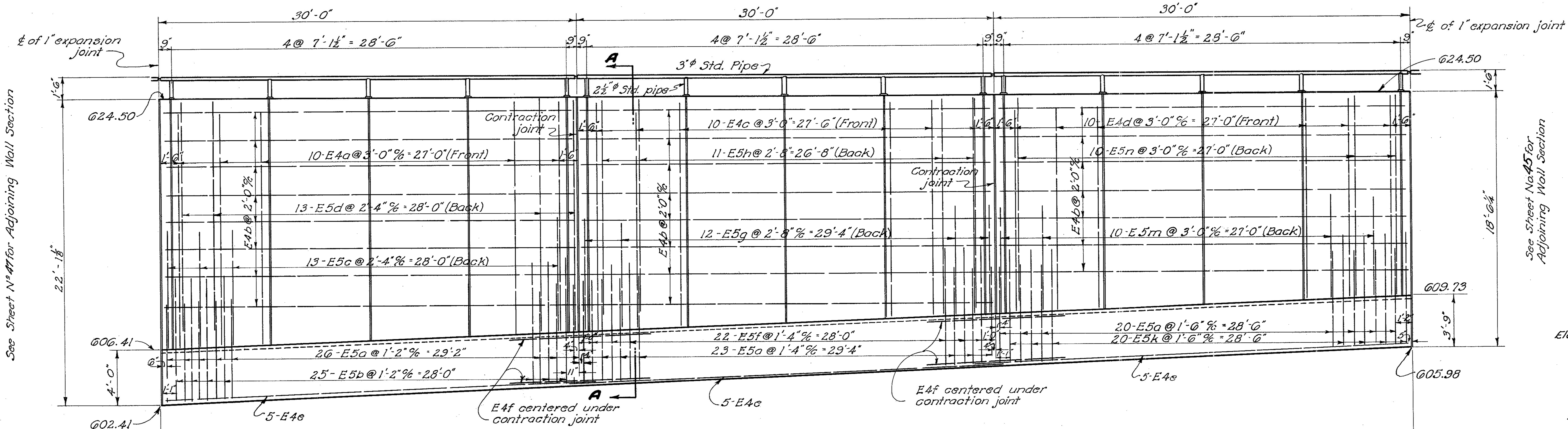
STA 14+71.64 & STA 15+61.64
BRIDGE NO. CU-283-15

CUYAHOGA COUNTY SEC. 283-(1.09-1.49)
UG-842(1)

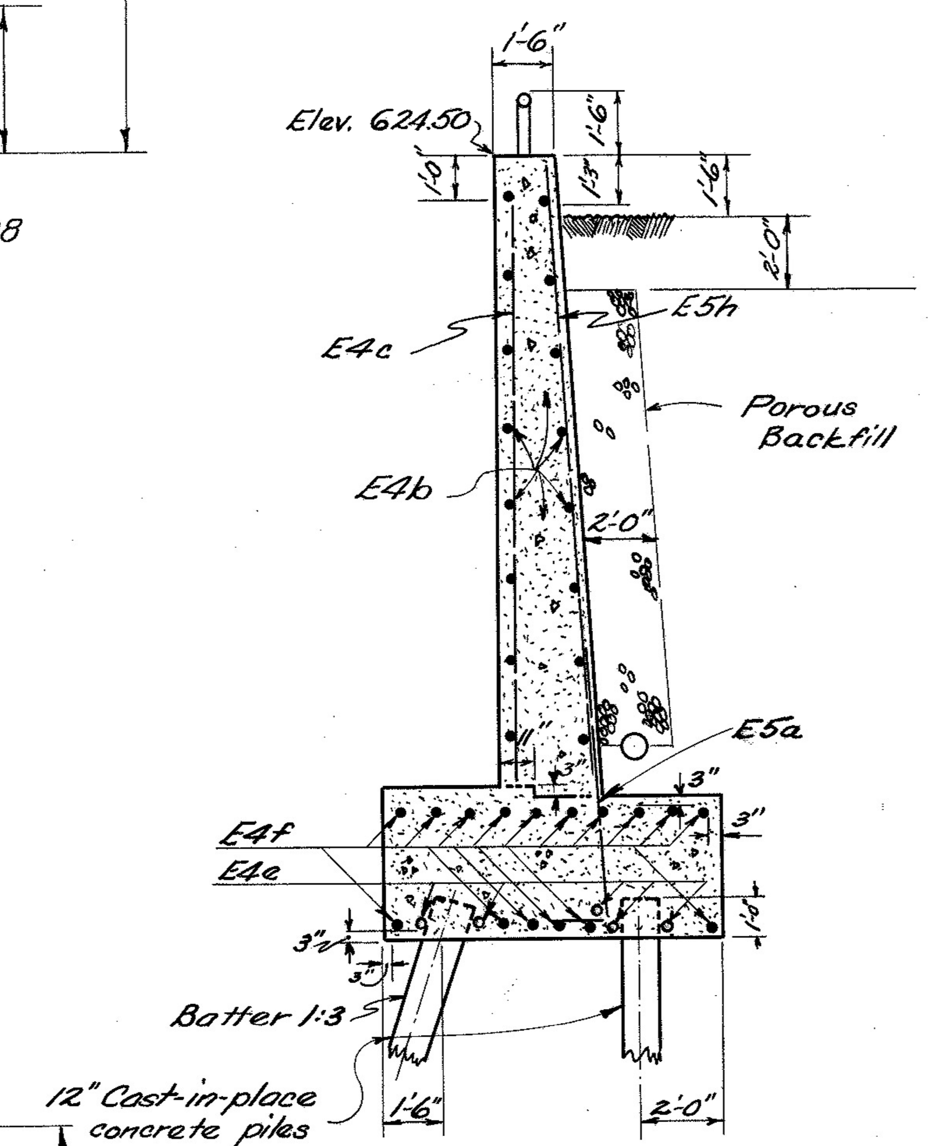
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RBP	RBP	HVL	DWG	W+C	11-10-50	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	46/85
2	OHIO	U-UG 842(1)	Post War	

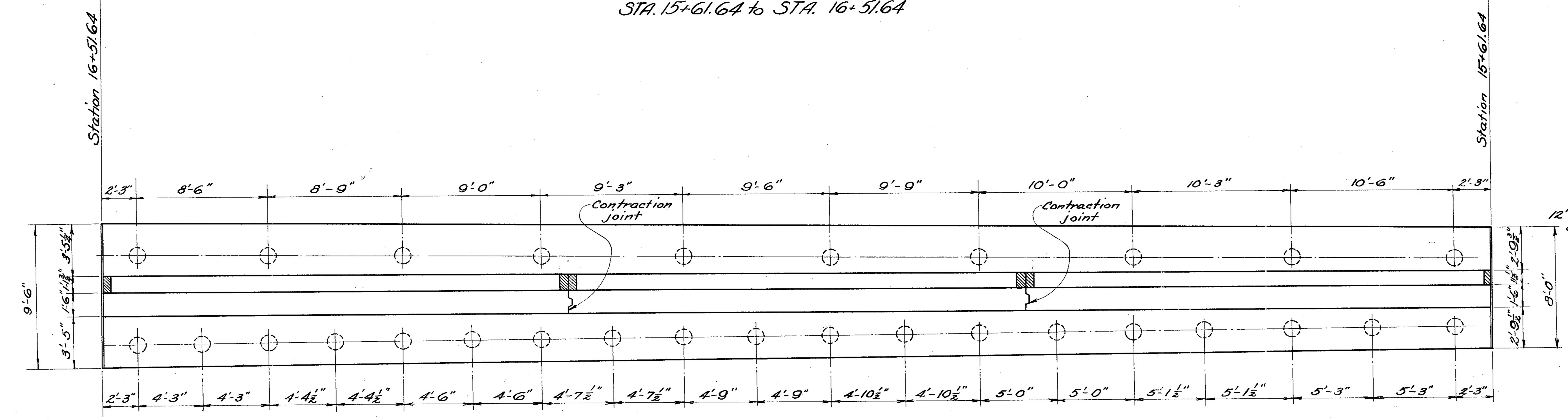
Cuyahoga County
CUY-283-(1.09-1.49)



ELEVATION - EAST WALL
STA. 15+61.64 to STA. 16+51.64



SECTION A-A



PLAN - EAST WALL
STA. 15+61.64 to STA. 16+51.64

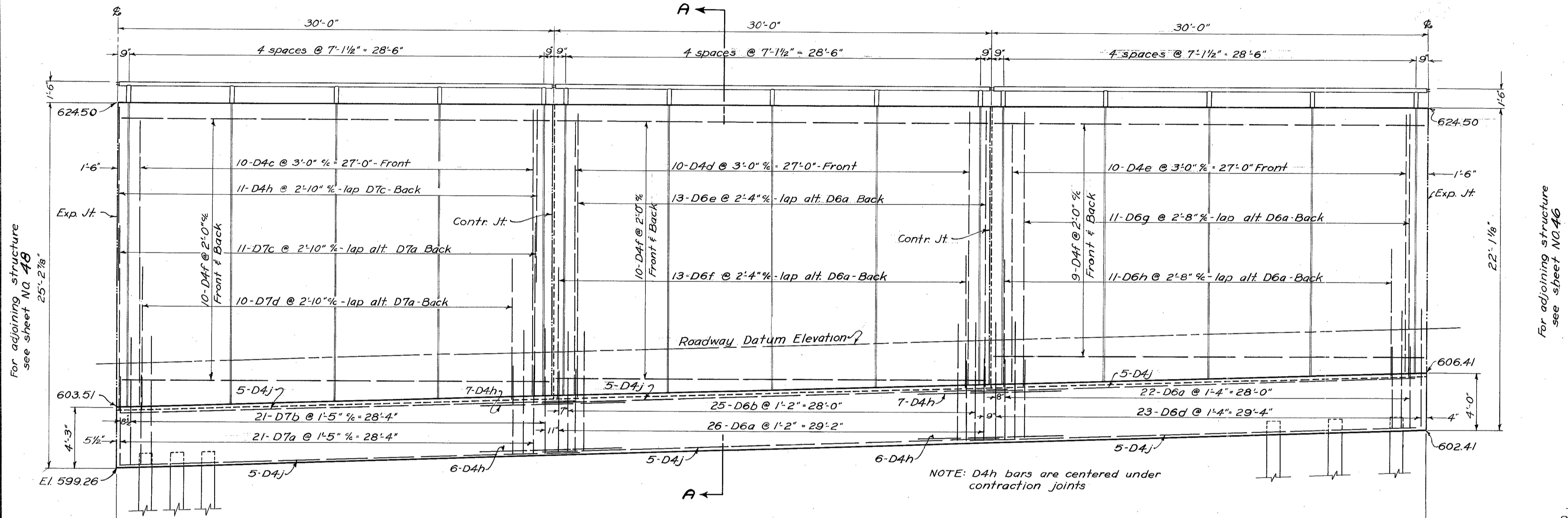
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DETAILS OF EAST RETAINING WALL
Sta. 15+61.64 to Sta 16+51.64
Bridge No. Cu-283-15
Cuyahoga County Sec. CUY-283-1.09-1.49
UG-842(1)

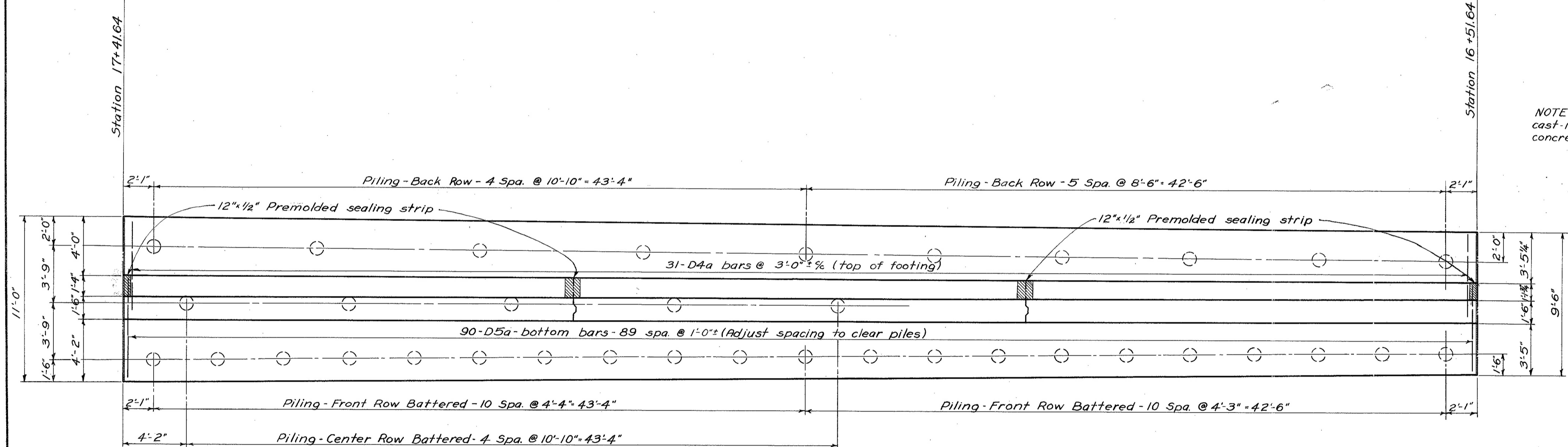
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.J.S.	E.J.S.	HWL	C.R.	WHC	11-10-50	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	U-UG 842(1)	Post War	47/85

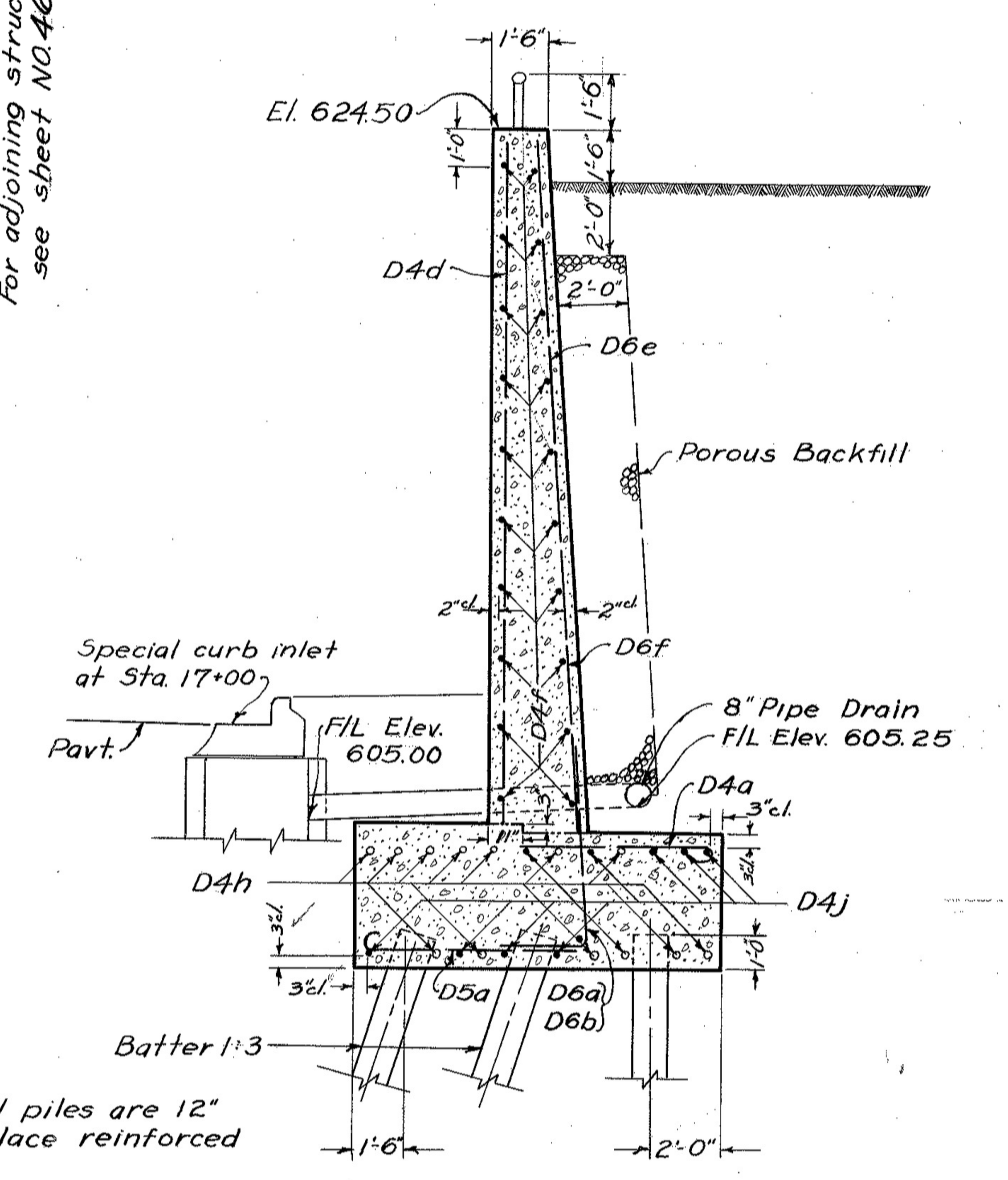
Cuyahoga County
CUY-283-(1.09-1.49)



ELEVATION (EAST WALL)
Sta. 17+41.64 to 16+51.64



PLAN (EAST WALL)
Sta. 17+41.64 to 16+51.64



NOTE: All piles are 12" cast-in-place reinforced concrete.

SECTION A-A
at Sta. 17+00

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

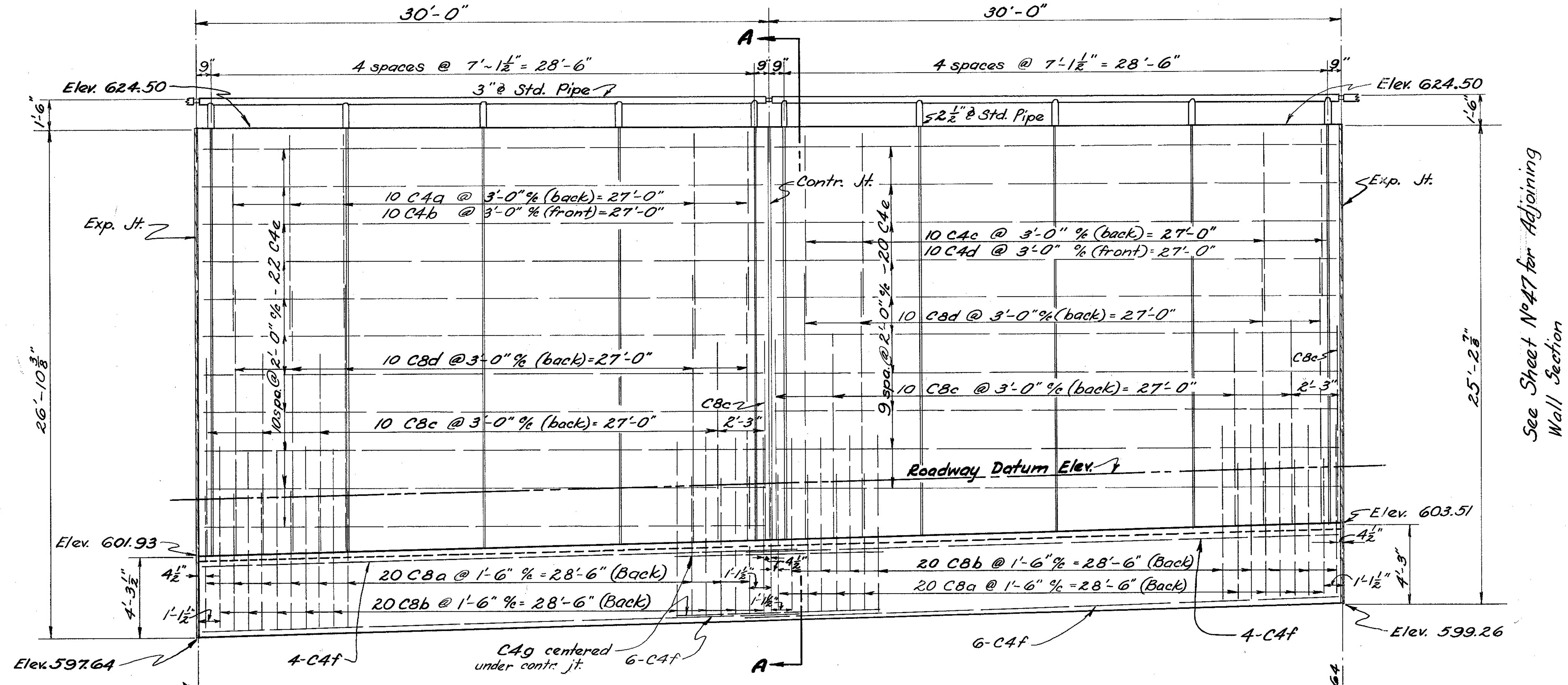
DETAILS OF
EAST RETAINING WALL
Sta. 16+51.64 to Sta. 17+41.64
BRIDGE NO. ~ CU-283-15

Cuyahoga County
Sec. CUY-283-(1.09-1.49) UG-842(1)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.P.	R.B.P.	M.P.B.	C.F.B.	W.H.C.	11-10-50	

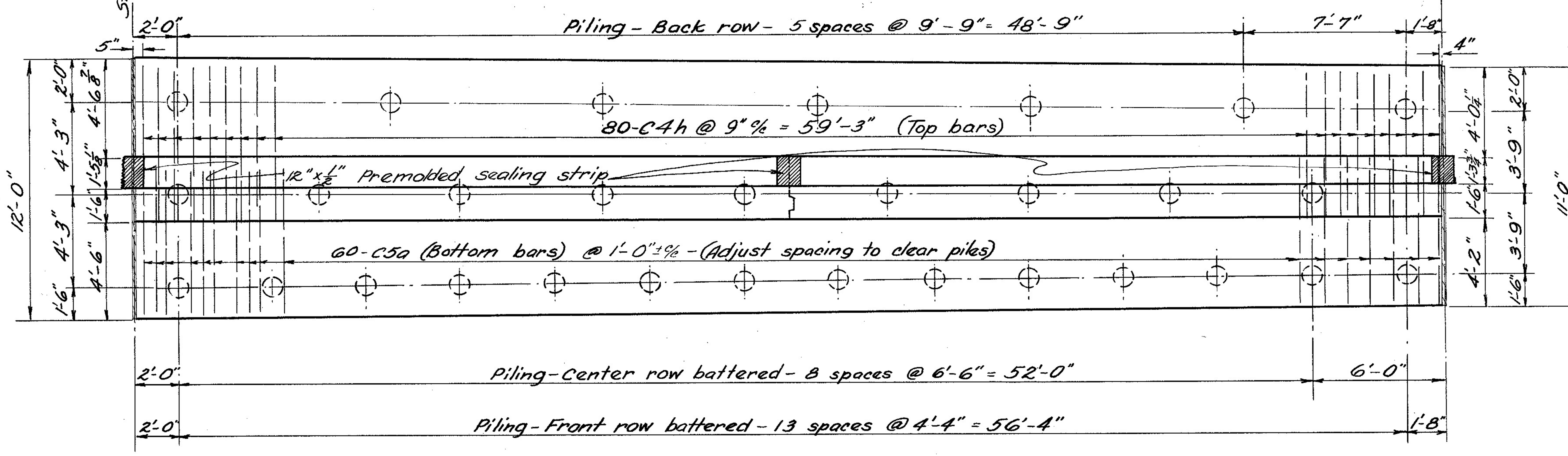
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	U-UG 842(1)	Post War	48 / 85

Cuyahoga County
CUY-283-(1.09-1.49)



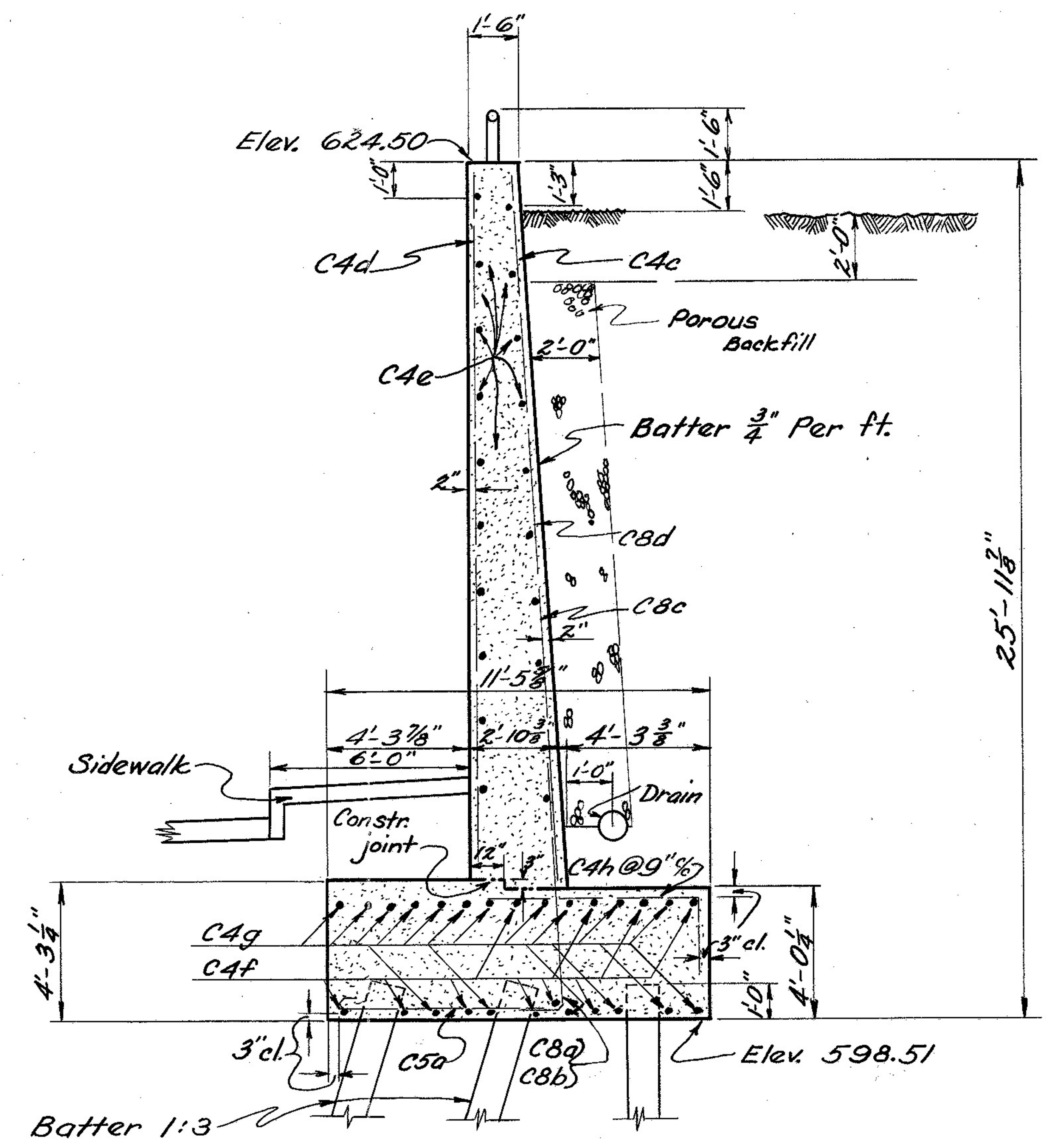
ELEVATION EAST WALL

STA. 17+41.64 to STA. 18+01.64



PLAN EAST WALL

STA. 17+41.64 to STA. 18+01.64



SECTION A-A

at STA. 17+70.00

See sheet #51 for typical joint details

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DETAILS OF EAST RETAINING WALL

STA. 17+41.64 & STA. 18+01.64

Bridge No. CU 283-15

Cuyahoga County Sec. CUY 283-1.09 UG-842(1)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.J.S.	E.J.S.	HVL	DWB	[illegible] WHC	11-10-50	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	Post War

49
85

CUYAHOGA COUNTY
CUY-283-(1.09-1.49)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DETAILS of EAST RETAINING WALL
Sta. 18+01.64 to Sta. 18+91.64
BRIDGE No CU-283-15

CUYAHOGA COUNTY
SEC. CUY-283-(1.09-1.49) UG-842 (1)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
Sims	Sims	D.J.M.	C.F.B.	WHR	11-18-50	

FED. RD. DIVISION 2 | STATE OHIO | PROJECT U-UG-842(1) | TYPE FUNDS Post War
50/85
Cuyahoga County
CUY-283-(1.09-1.49)
60'-0½"
30'-0½"
30'-0"
Elev. 624.50
4 spa. @ 7'-1½" = 28'-6"
3"ø Std. pipe
2½"ø Std. pipe
20-A4b @ 3'-0" c/c (Front) = 57'-0"
A4a @ 2'-0" c/c (Front)
29'-9⅞"
28'-7½"
Roadway Datum
½" Cork expansion joint filler
1" exp. jt.
A7b @ 8" c/c
Conc. Strut
A4f
A4g
4-A4e
Elev. 594.72
Elev. 595.88
ELEVATION
See Sheet No. 67 of R.R. BRIDGE PLANS FOR ADJOINING STRUCTURE
Sta. 19+51.68 Face of abut.
Sta. 18+91.64 See Sheet No. 49 for adjoining wall section.
88-A7b @ 8" c/c = 58'-8"
A0a to A0a23 (lap A7b)
12 spa. A0a23 (lap A7b)
A0a23 to A0a (lap A7b)
29 spa. A7a (lap A7b)
15'-4"
8'-0"
15'-4"
19'-4"
A4e
A0a
A0a23
A4g
A4f
A7a
19'-2⅛"
37'-10⅜"
14 spa. @ 3'-0" c/c (Front row) = 42'-0"
4 spa. @ 3'-6" c/c (Front row) = 14'-0"
7 spa. @ 5'-0" c/c (back row) = 35'-0"
3 spa. @ 7'-0" c/c (back row) = 21'-0"
1'-9½"
15'-0"
8'-0"
15'-0"
20'-3"
Concrete strut shall extend under roadway to West Abutment footing of R.R. Structure
℄ Strut Sta. 19+31.00
PLAN
Elev. 624.50
Ground Line
8" WF 17# waler. Struts spaced 10'-0" c/c max.
A4b @ 3'-0" c/c
A4a @ 2'-0" c/c
2" clear
Weld walers to face of each forward-projecting sheet pile, using ¼" fillet weld, a length of 4" at top and 4" at bottom of waler. (Walers shall remain in place.)
10" WF 39# waler. Struts spaced 10'-0" c/c max.
4" ø Std. pipe at porous drains extending through curb
Rdwy Datum Elev.
½" above gutter grade
10" WF 21# waler. Struts spaced 5'-0" c/c max.
8'-1"
Conc. Strut
Constr. jt.
A4g
A4f
A4e
A0a23
A7b
1¼" □ bent bars.
DP-2, or M116 sheet piling or equivalent. (Estimated total length each pile 60'.)
SECTION A-A
4" Std. pipe thru wall at porous drains.
1¼" □ bent bar
Bore 15" ø hole down to 6" ± below 4" Std. pipe at 10'-0" ± c/c. Encase if necessary. Fill hole with porous backfill to within 2'-0" of ground line and impervious material above this porous backfill. Encasement, if used, shall be removed. (Excavation of 15" ø hole included with item S-29 porous backfill for payment.)
DP-2, or M116 sheet piling or equivalent
SECTION E-E
1¼" □ bar (bent as shown) to extend up to within 2'-0" of top of wall. (Included with structural steel for payment.)
1½" □ bent bars to be discontinuous at walers and at 4" ø Std. pipe
Note: For As-Built Revisions to Sections A-A and E-E, See Sheet No. 43.
3'-0"
A4h @ 2'-0" c/c
A9a
SECTION DD (Concrete Strut)
Folded copper strip - 24 oz.
Edge of bridge abut. footer
A4b
A4c @ 2'-0" c/c
A4d @ 2'-0" c/c
½" cork expansion joint filler
Face of Abut.
Face of wall
Station 19+51.68 end of abut.
30'-0"
SECTION B-B
¾"ø x 1½" bolts @ 18" c/c in top 28'-0" of sheeting; ¾"ø x 1½" bolts @ 12" c/c in bottom 4'-0" of sheeting. Remove bolts above bottom of footing before placing concrete.
9" x ⅜" ℞ full length of pile (Incl. with Structural Steel for payment)
1" opening in SP6a pile.
SP6a sheet pile or equivalent, cut down middle.
Tack weld nuts
12" x ½" waterproofing sealing strip placed after bolts are removed
1" cork expansion joint filler, in wall
SECTION C-C
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS
DETAILS of EAST RETAINING WALL
Sta. 18+91.64 to Sta. 19+51.68
BRIDGE NO. CU-283-15
Cuyahoga County
Sec. CUY-283-(1.09-1.49) UG-842(1)
DESIGNED Sims | DRAWN Sims | TRACED HVL | CHECKED CFB. | REVIEWED KHC | DATE 11-10-50 | REVISED
Revised As-Built 5-24-54

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	Post War

51
85

Cuyahoga County
CUY-283-(1.09-1.49)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

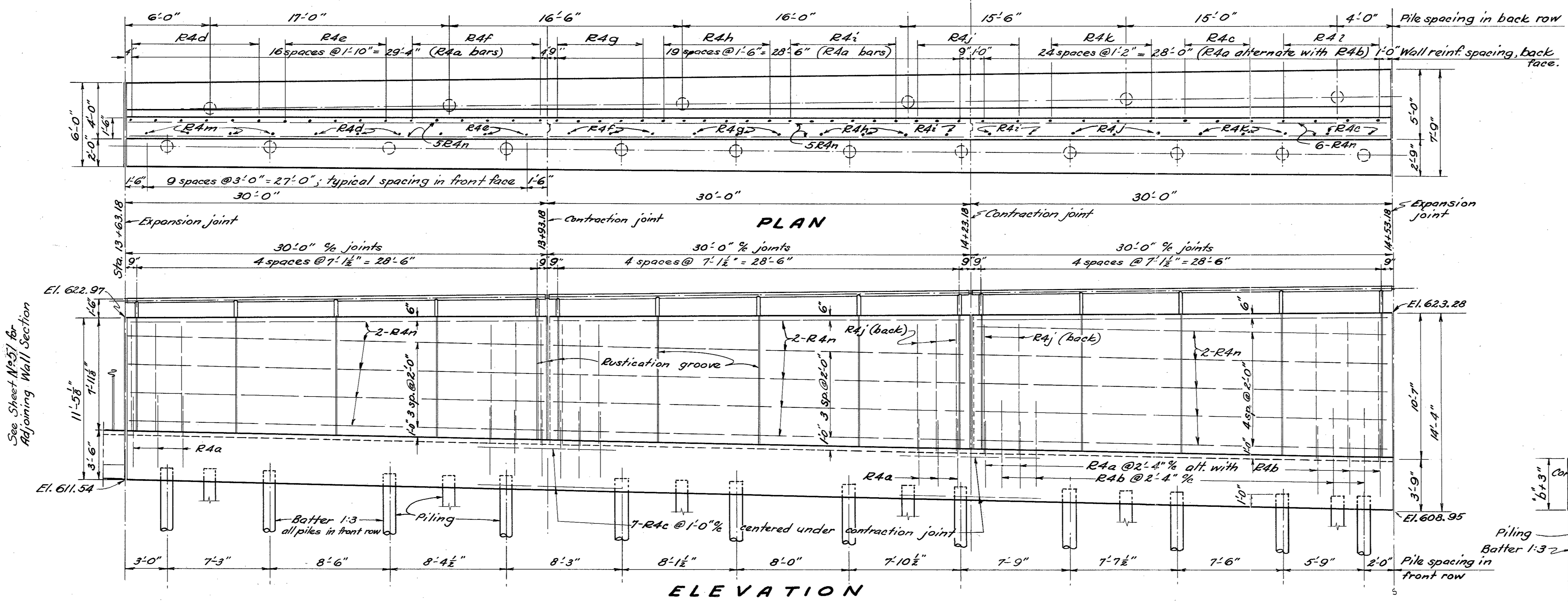
DETAILS OF
WEST RETAINING WALL
STA. 12+30.00 TO STA. 13+63.18
BRIDGE NO. CU-283-15

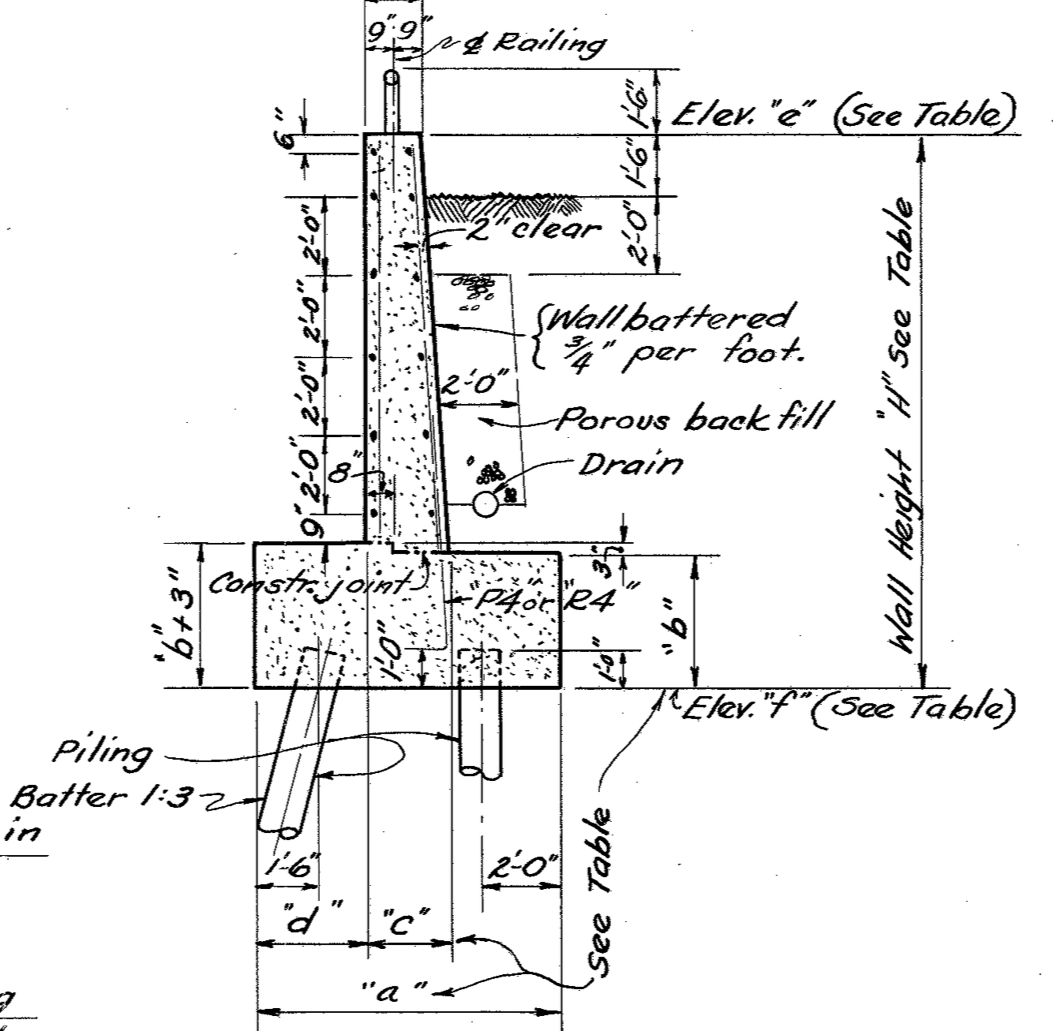
CUYAHOGA COUNTY
SEC. CUY-283-1.09-1.49 UG-842(1)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.E.D.	K.E.D.	MPB	C.F.B.	WHC	11-10-50	11-15-50

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	U-UG 842(1)	Post War	52 / 85

Cuyahoga County
CUY-283-(1.09-1.49)

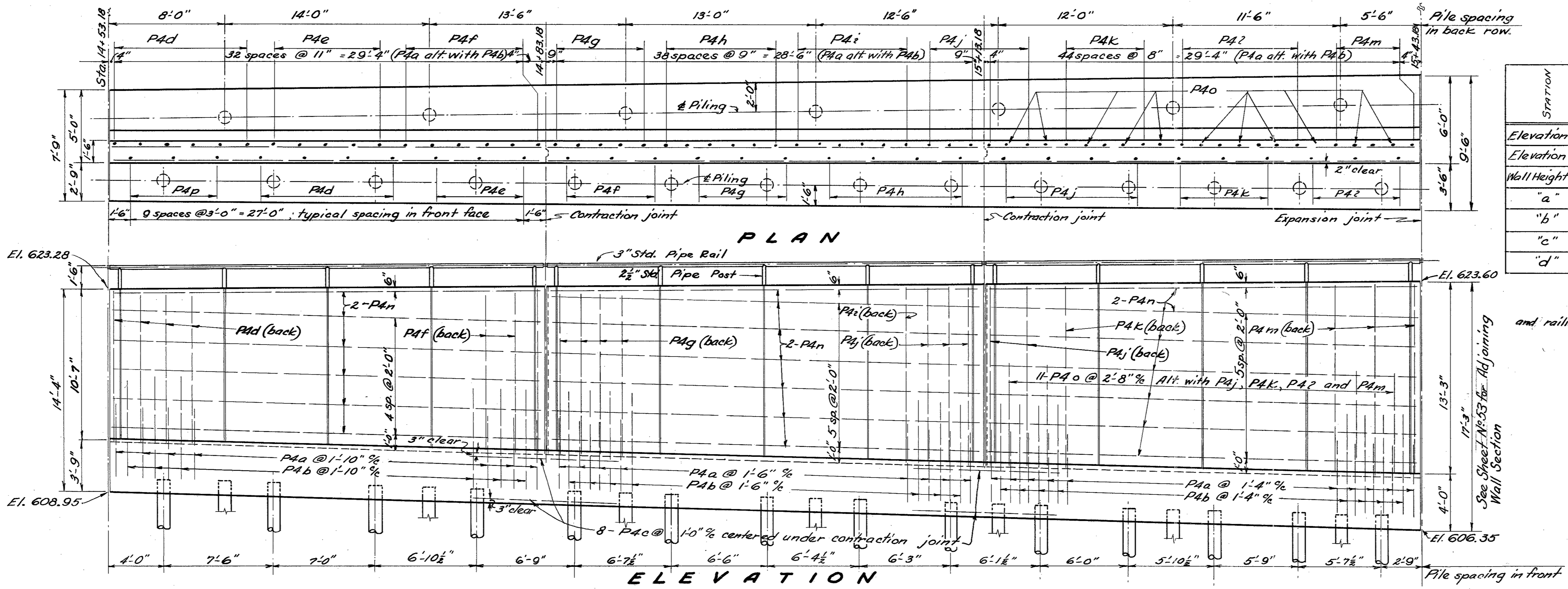




TYPICAL SECTION

STATION	13+63.18	13+93.18	14+23.18	14+53.18	14+83.18	15+13.18	15+43.18
Elevation "e"	622.97	623.07	623.18	623.28	623.39	623.49	623.60
Elevation "f"	611.54	610.68	609.81	608.95	608.08	607.21	606.35
Wall Height "H"	11'-5 1/8"	12'-4 3/4"	13'-4 1/2"	14'-4"	15'-3 3/4"	16'-3 3/8"	17'-3"
"a"	6'-0"	6'-7"	7'-2"	7'-9"	8'-4"	8'-11"	9'-6"
"b"	3'-3"	3'-4"	3'-5"	3'-6"	3'-7"	3'-8"	3'-9"
"c"	2'-0 1/8"	2'-0 3/4"	2'-1 1/2"	2'-2 1/8"	2'-2 3/4"	2'-3 1/2"	2'-4 1/8"
"d"	2'-0"	2'-3"	2'-6"	2'-9"	3'-0"	3'-3"	3'-6"

Contraction joints, expansion joints and railing details are shown on sheet No. 51.



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

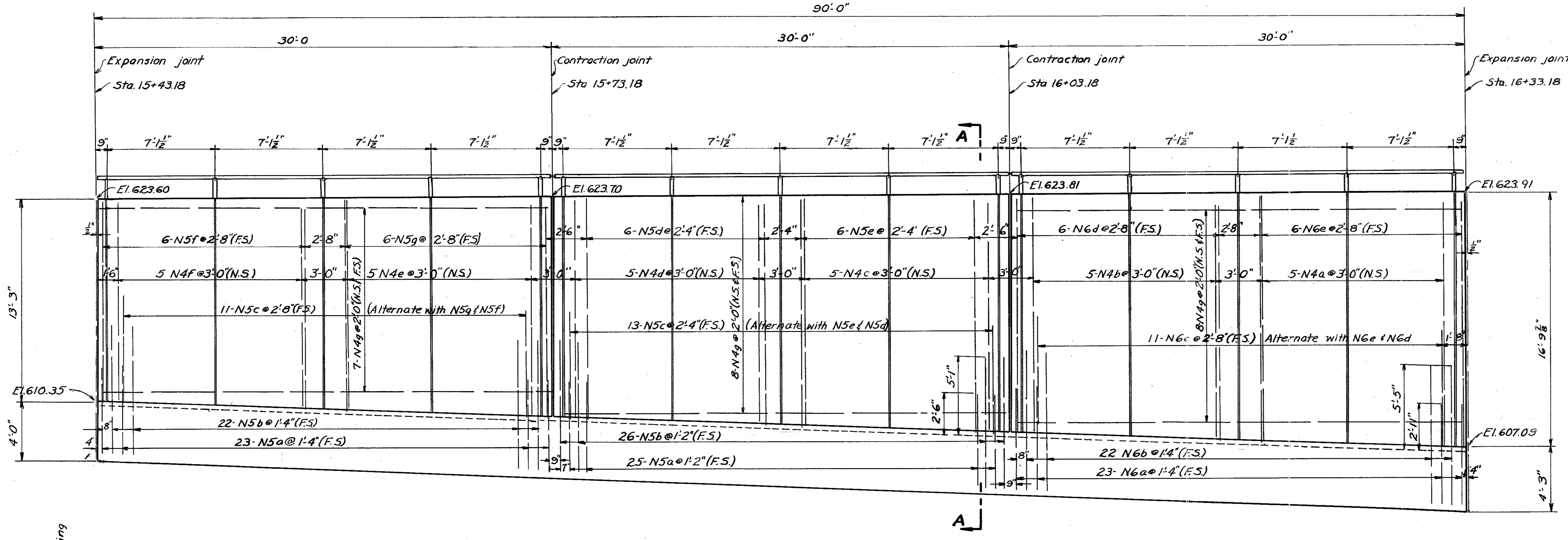
DETAILS OF WEST RETAINING WALL
STA. 13+63.18 TO STA. 15+43.18
BRIDGE NO. CU-283-15

CUYAHOGA COUNTY
SEC. CUY-283-1.09-1.49
UG-842(1)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.W.P. K.E.D.	K.E.D.	HVL	C.F.B.	G.J.F. WHR	11-10-50	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	U-UG 842(1)	Post War

Cuyahoga County
CUY-283-(1.09-1.49)

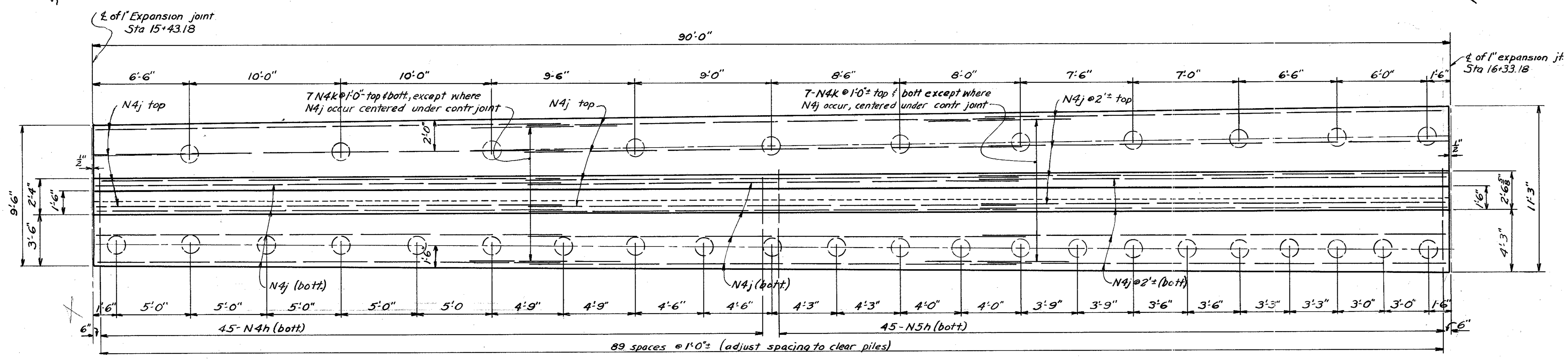


ELEVATION

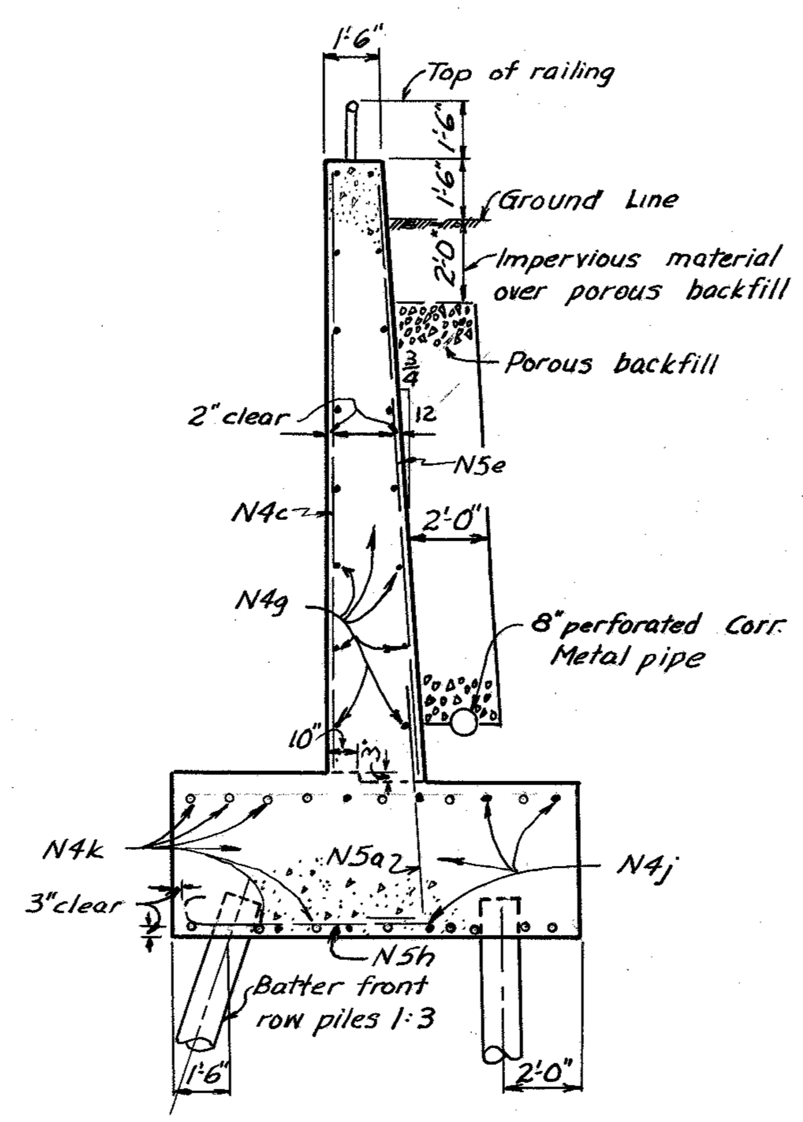
Piling and footing reinforcing not shown

See Sheet No.52 for Adjoining Wall Section

See Sheet No.54 for Adjoining Wall Section



PLAN



SECTION A-A

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

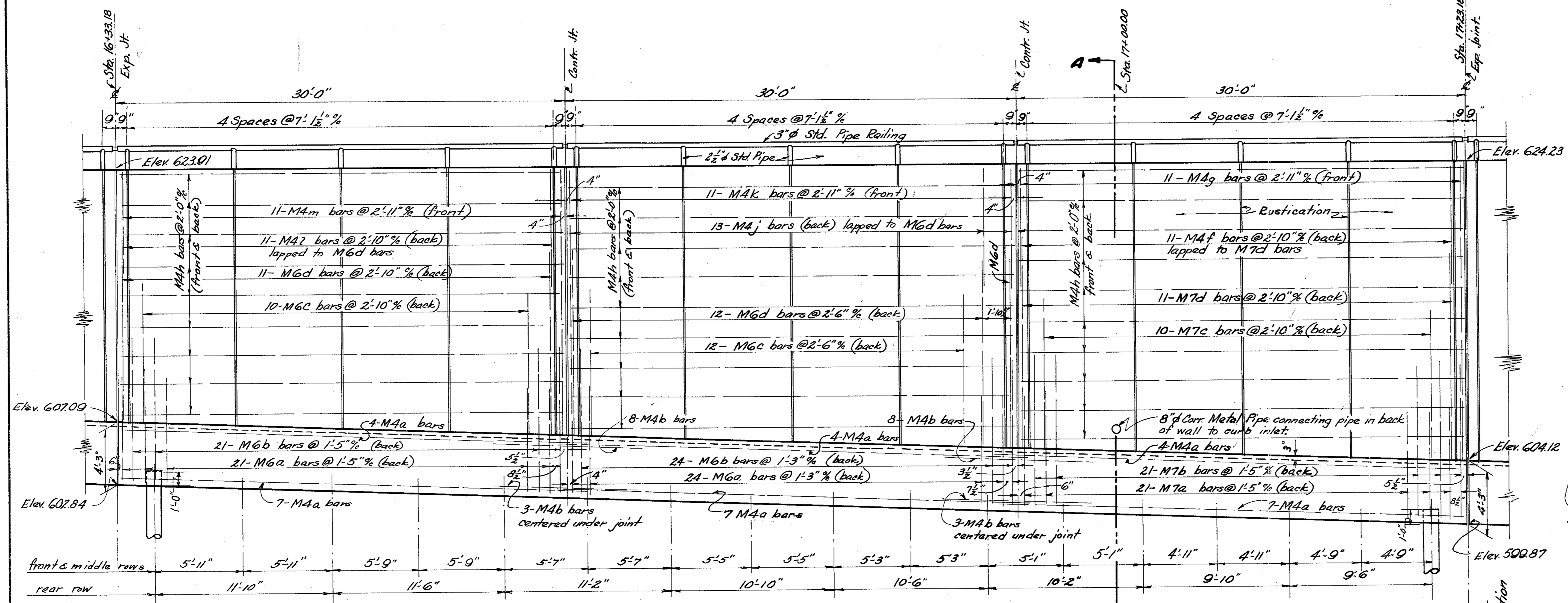
DETAILS OF WEST RETAINING WALL
STA. 15+43.18
TO
STA. 16+33.18
BR CU-283-15

CUYAHOGA CO. UG-842(1) SECT. CUY-283-1.09 to 1.49

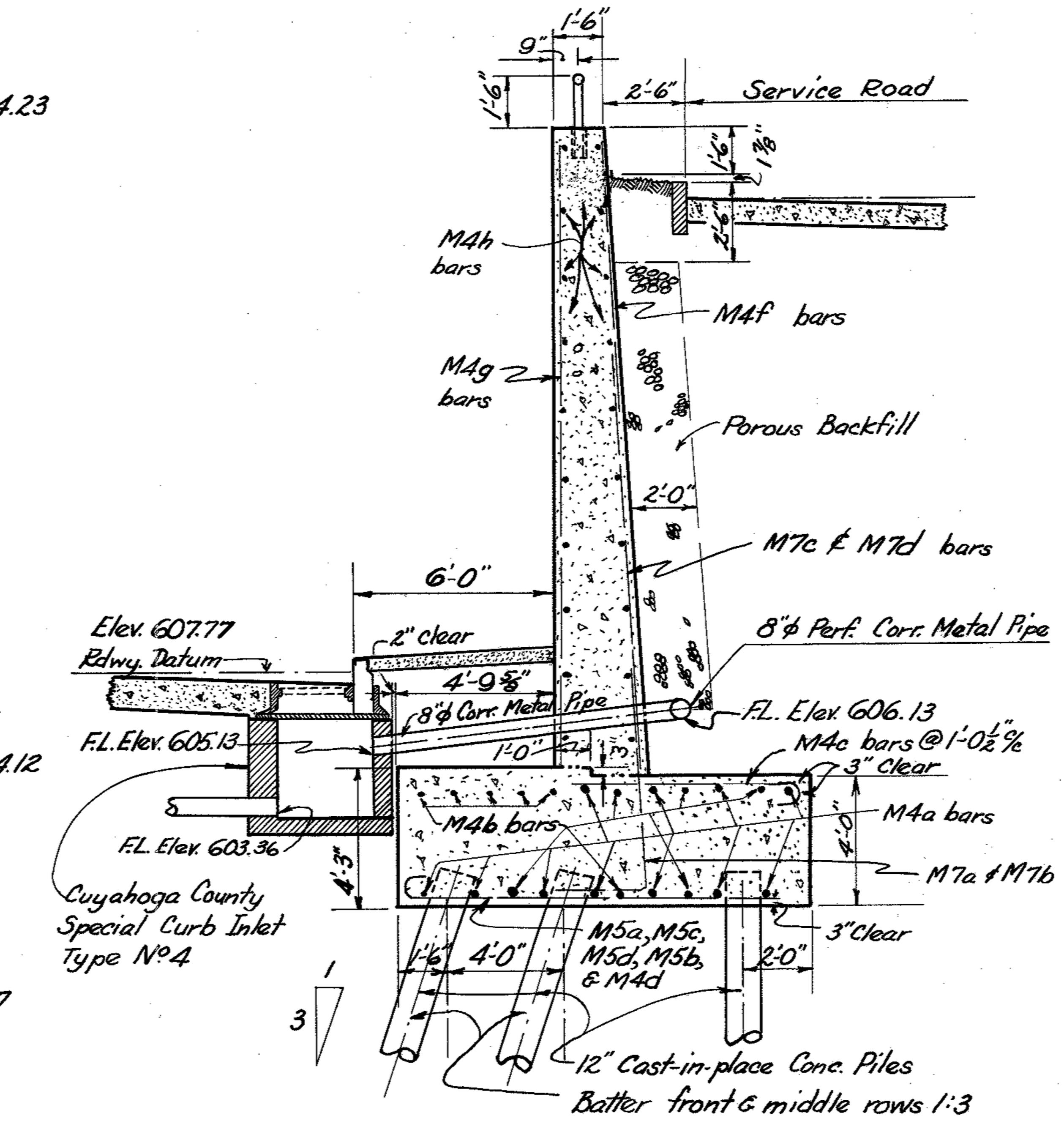
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.C.P.	M.J.W.	E.W.P.	C.R.		11-10-50	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	
2	OHIO	U-UG 842(1)	Post War	54 / 85

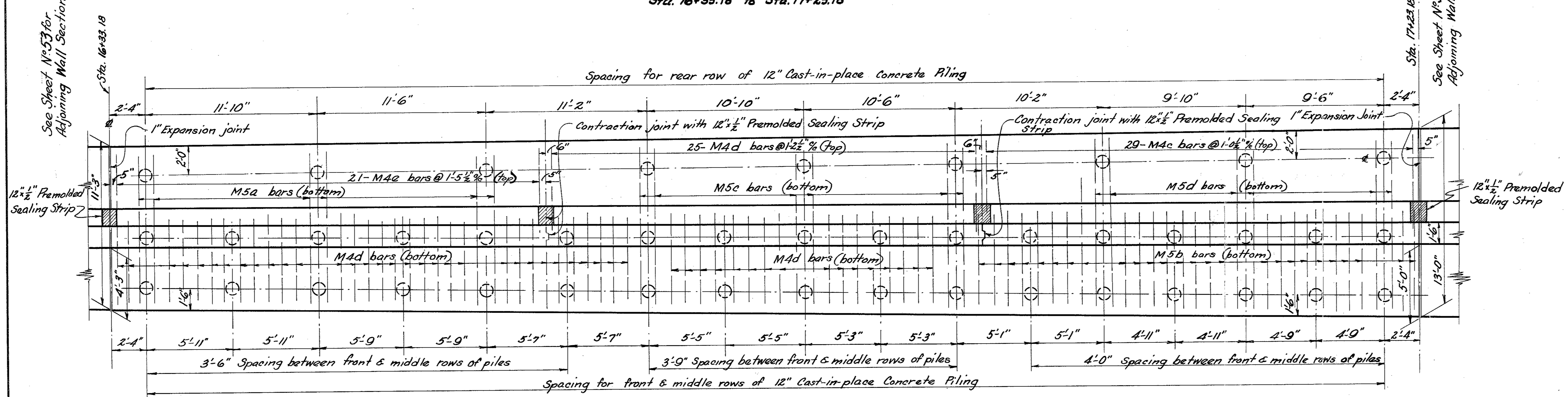
Cuyahoga County
CUY-283-(1.09-1.49)



ELEVATION - WEST WALL
Sta. 16+33.18 to Sta. 17+23.18



SECTION A-A
at Sta. 17+00.00



PLAN
Sta. 16+33.18 to Sta. 17+23.18

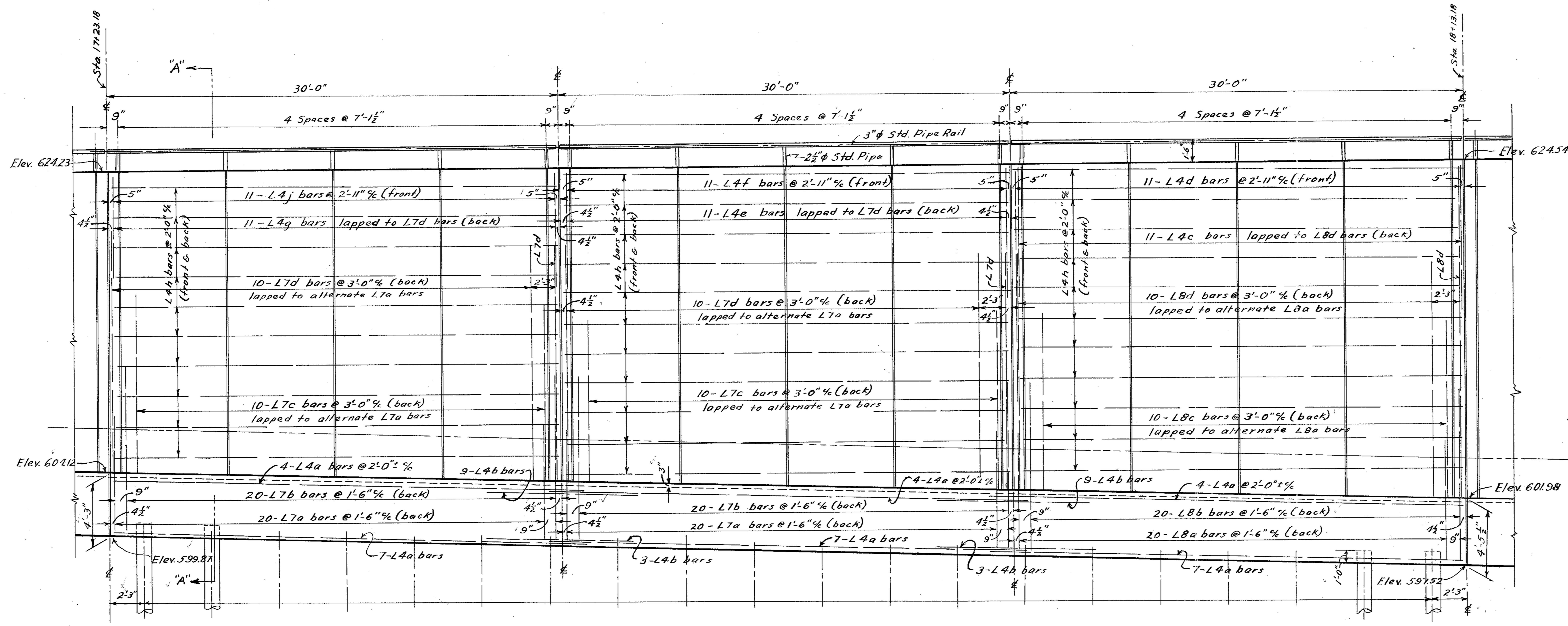
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DETAILS of WEST RETAINING WALL
Sta. 16+33.18 to Sta. 17+23.18
BRIDGE No Cu-283-15
Cuyahoga County Sec. CUY-283-1.09-1.49
UG-842(1)

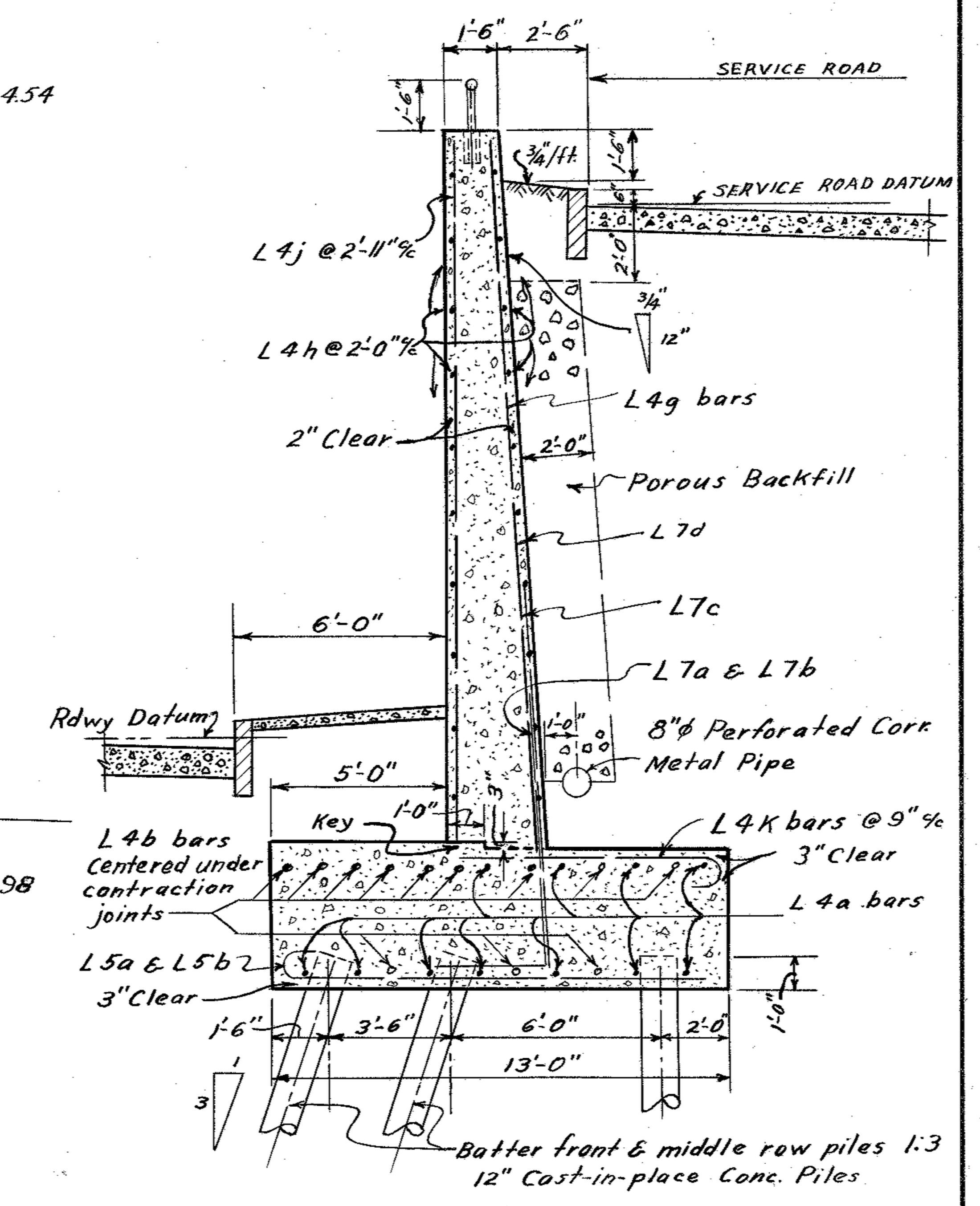
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.C.P.	G.C.P.	HVL	D.W.S.	A.J.H. W.H.C.	11-10-50	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	U-UG 842(1)	Post War

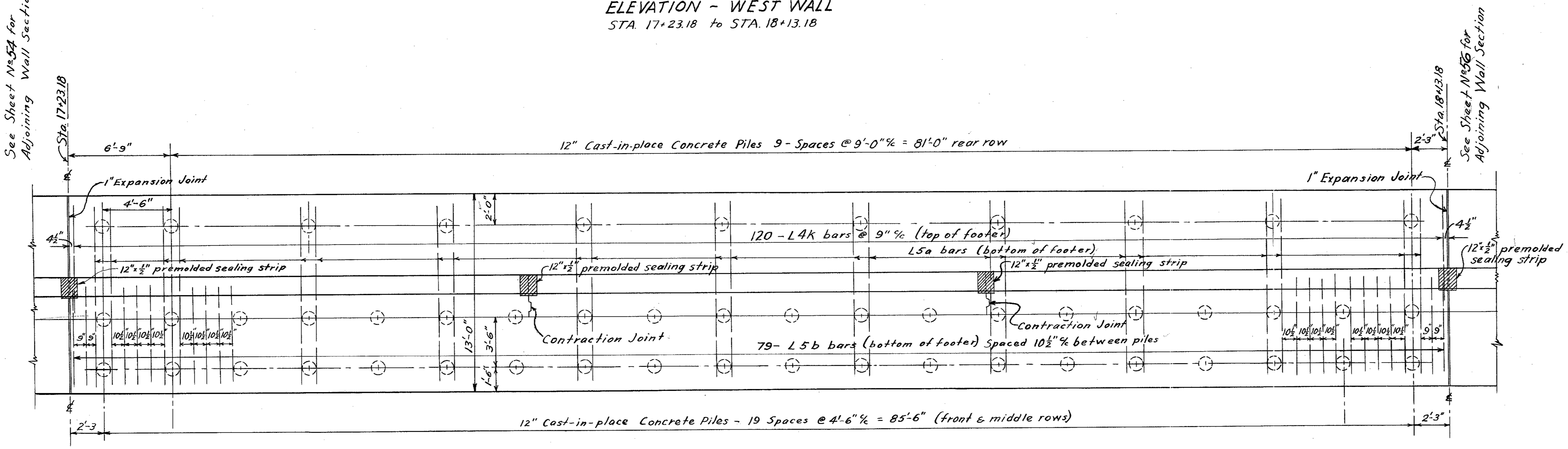
Cuyahoga County
CUY-283-(1.09-1.49)



ELEVATION - WEST WALL
STA. 17+23.18 to STA. 18+13.18



SECTION "A-A"
STA. 17+30.00



PLAN
Sta. 17+23.18 to Sta. 18+13.18

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

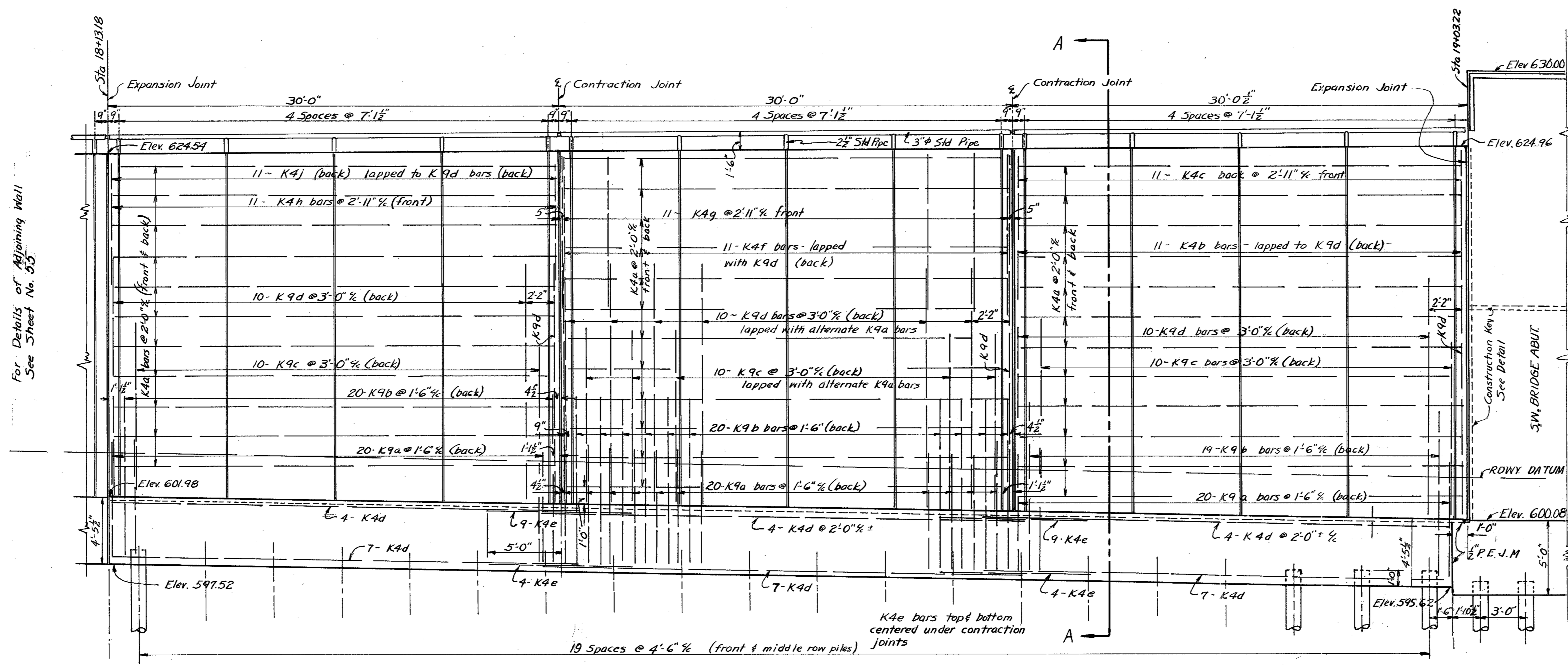
DETAILS OF WEST RETAINING WALL
BETWEEN STA 17+23.18 & STA 18+13.18
BRIDGE No CU-283-15
Cuyahoga County Sec. CUY-283-1.09-1.49
UG-842(1)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.C.P.	S.C.P.	gms.	D.W.G.	A.J.K. / W.H.R.	11-10-50	

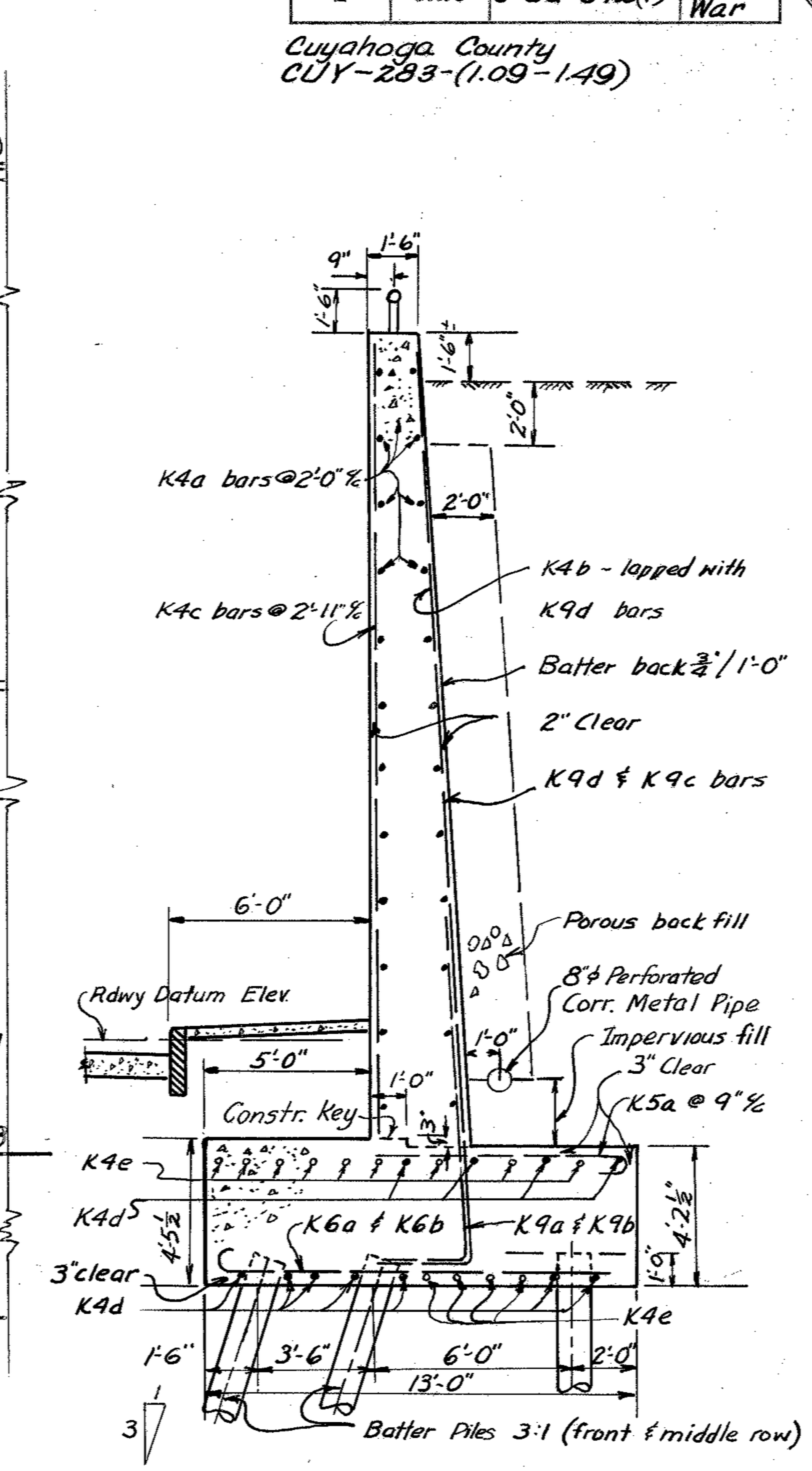
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	Post War

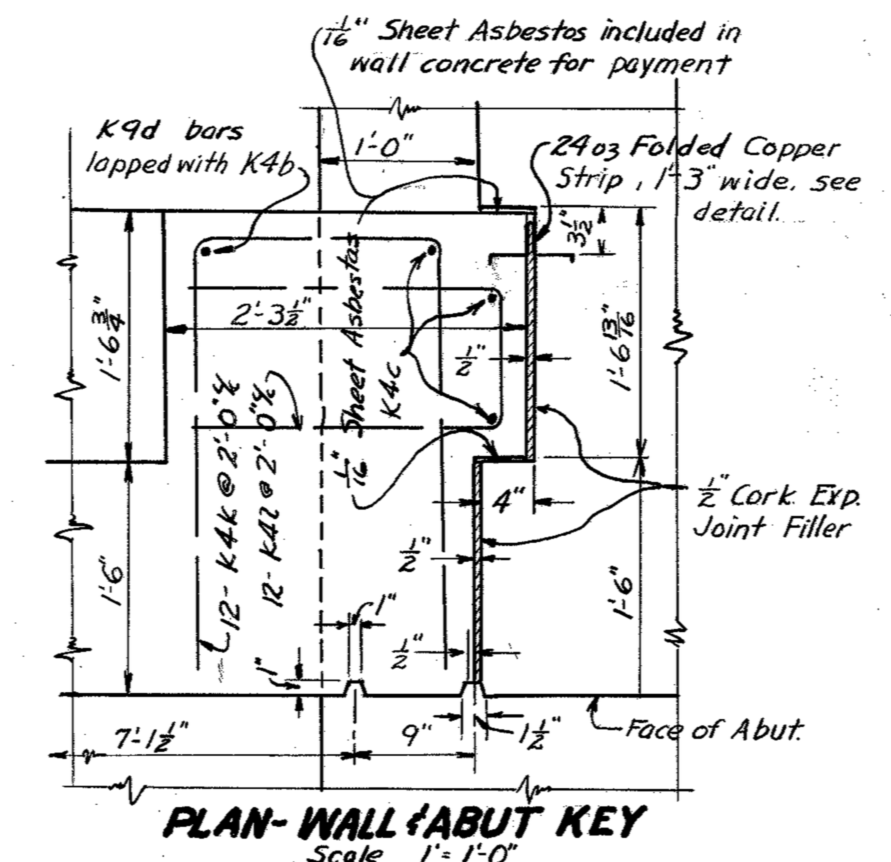
56
85

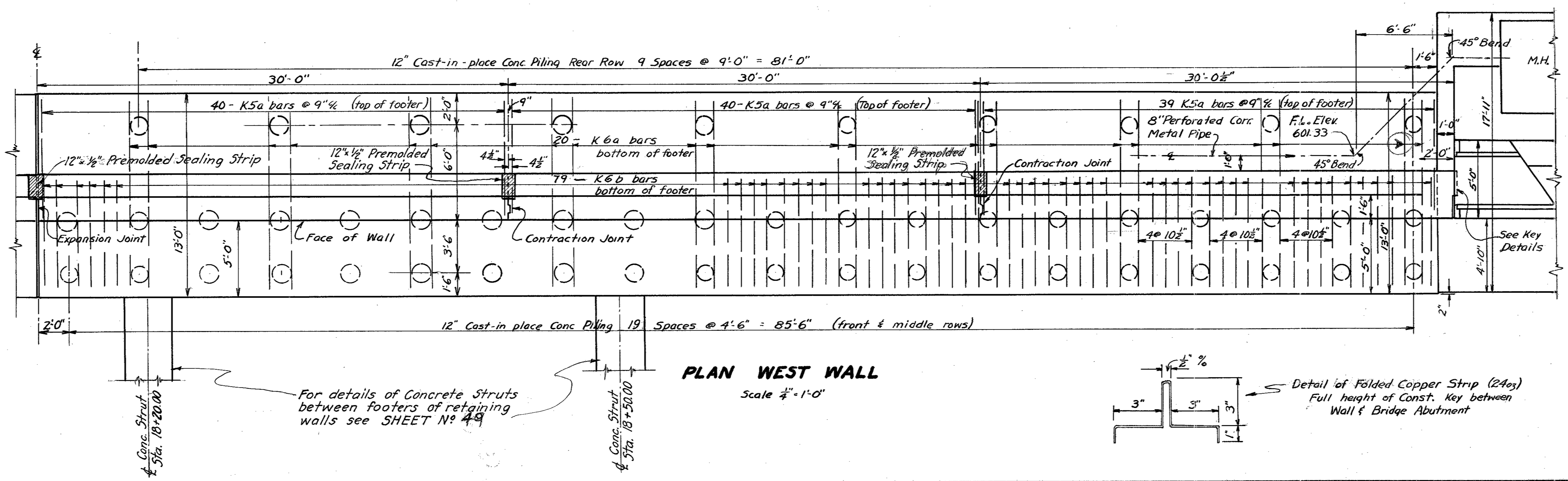
Cuyahoga County
CUY-283-(1.09-1.49)



Note: Retaining Wall Footer Section is identical between Sta 17+23.18 & 19+02.18







Detail of Folded Copper Strip (24 oz) Full height of Const. Key between Wall & Bridge Abutment

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

DETAILS OF WEST RETAINING WALL
STA. 18+13.18 to STA 19+03.22

BRIDGE Nº CU-283-15
CUYAHOGA COUNTY SEC CUY-283-1.09-1.49
UG-842(1)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.C.P.	S.C.P.	E.H.P.	C.F.B.	W.H.G.	11-10-50	

REINFORCING STEEL LIST

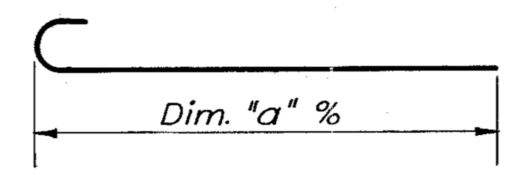
Mark	Size	No.	Length	Weight	Shp.	Dim."a"
A0a	1¼"□	2	9'-1"	97	Bt.	7'-8"
$A0a_{1}$	1¼"□	2	9'-2"	97	Bt.	7'-9"
$A0a_{2}$	1¼"□	2	9'-4"	99	Bt.	7'-11"
$A0a_{3}$	1¼"□	2	9'-5"	100	Bt.	8'-0"
$A0a_{4}$	1¼"□	2	9'-7"	102	Bt.	8'-2"
$A0a_{5}$	1¼"□	2	9'-8"	103	Bt.	8'-3"
$A0a_{6}$	1¼"□	2	9'-10"	104	Bt.	8'-5"
$A0a_{7}$	1¼"□	2	9'-11"	105	Bt.	8'-6"
$A0a_{8}$	1¼"□	2	10'-1"	107	Bt.	8'-8"
$A0a_{9}$	1¼"□	2	10'-2"	108	Bt.	8'-9"
$A0a_{10}$	1¼"□	2	10'-4"	110	Bt.	8'-11"
$A0a_{11}$	1¼"□	2	10'-5"	111	Bt.	9'-0"
$A0a_{12}$	1¼"□	2	10'-7"	112	Bt.	9'-2"
$A0a_{13}$	1¼"□	2	10'-8"	113	Bt.	9'-3"
$A0a_{14}$	1¼"□	2	10'-10"	115	Bt.	9'-5"
$A0a_{15}$	1¼"□	2	10'-11"	116	Bt.	9'-6"
$A0a_{16}$	1¼"□	2	11'-1"	118	Bt.	9'-8"
$A0a_{17}$	1¼"□	2	11'-3"	119	Bt.	9'-10"
$A0a_{18}$	1¼"□	2	11'-5"	121	Bt.	10'-0"
$A0a_{19}$	1¼"□	2	11'-7"	123	Bt.	10'-2"
$A0a_{20}$	1¼"□	2	11'-9"	125	Bt.	10'-4"
$A0a_{21}$	1¼"□	2	11'-11"	126	Bt.	10'-6"
$A0a_{22}$	1¼"□	2	12'-1"	128	Bt.	10'-8"
$A0a_{23}$	1¼"□	13	12'-3"	846	Bt.	10'-10"
A9a	1⅛"□	24	29'-0"	2995	Str.	
						Dim. "a"
A7a	1"φ	30	8'-7"	688	Bt.	7'-6"
A7b	1"φ	89	9'-11"	2357	Bt.	
A4a	⅝"φ	24	30'-10"	772	Str.	
A4b	⅝"φ	24	23'-11"	599	Str.	
A4c	⅝"φ	12	4'-6"	56	Bt.	
A4d	⅝"φ	12	6'-4"	79	Bt.	
A4e	⅝"φ	8	30'-3"	252	Str.	
A4f	⅝"φ	1	23'-0"	24	Str.	
A4g	⅝"φ	1	8'-0"	8	Str.	
A4h	⅝"φ	56	7'-0"	409	Bt.	
						Dim. "a"
B0a	1¼"□	2	10'-8"	113	Bt.	9'-3"
$B0a_{1}$	1¼"□	2	10'-9"	114	Bt.	9'-4"
$B0a_{2}$	1¼"□	2	10'-10"	115	Bt.	9'-5"
$B0a_{3}$	1¼"□	2	11'-0"	117	Bt.	9'-7"
$B0a_{4}$	1¼"□	2	11'-1"	118	Bt.	9'-8"
$B0a_{5}$	1¼"□	2	11'-2"	119	Bt.	9'-9"
$B0a_{6}$	1¼"□	2	11'-3"	120	Bt.	9'-10"
$B0a_{7}$	1¼"□	2	11'-4"	120	Bt.	9'-11"
$B0a_{8}$	1¼"□	2	11'-5"	121	Bt.	10'-0"
$B0a_{9}$	1¼"□	2	11'-7"	123	Bt.	10'-2"
$B0a_{10}$	1¼"□	2	11'-8"	124	Bt.	10'-3"
$B0a_{11}$	1¼"□	2	11'-9"	125	Bt.	10'-4"
$B0a_{12}$	1¼"□	2	11'-10"	126	Bt.	10'-5"
$B0a_{13}$	1¼"□	2	11'-11"	127	Bt.	10'-6"
$B0a_{14}$	1¼"□	2	12'-0"	128	Bt.	10'-7"
$B0a_{15}$	1¼"□	2	12'-1"	128	Bt.	10'-8"
$B0a_{16}$	1¼"□	2	12'-3"	130	Bt.	10'-10"
$B0a_{17}$	1¼"□	2	12'-4"	131	Bt.	10'-11"
$B0a_{18}$	1¼"□	2	12'-5"	132	Bt.	11'-0"
$B0a_{19}$	1¼"□	2	12'-6"	133	Bt.	11'-1"
$B0a_{20}$	1¼"□	2	12'-7"	134	Bt.	11'-2"
$B0a_{21}$	1¼"□	21	12'-8"	1413	Bt.	11'-3"
B9a	1⅛"□	24	29'-0"	2995	Str.	
B7a	1"φ	44	8'-3"	969	Bt.	7'-2"
$B7a_{1}$	1"φ	2	8'-4"	45	Bt.	7'-3"
$B7a_{2}$	1"φ	2	8'-5"	45	Bt.	7'-4"
$B7a_{3}$	1"φ	2	8'-7"	46	Bt.	7'-6"
$B7a_{4}$	1"φ	2	8'-8"	46	Bt.	7'-7"
$B7a_{5}$	1"φ	2	8'-9"	47	Bt.	7'-8"
$B7a_{6}$	1"φ	2	8'-10"	47	Bt.	7'-9"
$B7a_{7}$	1"φ	2	8'-11"	48	Bt.	7'-10"
$B7a_{8}$	1"φ	2	9'-0"	48	Bt.	7'-11"
$B7a_{9}$	1"φ	2	9'-2"	49	Bt.	8'-1"
$B7a_{10}$	1"φ	2	9'-3"	49	Bt.	8'-2"
$B7a_{11}$	1"φ	2	9'-4"	50	Bt.	8'-3"
$B7a_{12}$	1"φ	2	9'-6"	51	Bt.	8'-5"
$B7a_{13}$	1"φ	2	9'-7"	51	Bt.	8'-6"
$B7a_{14}$	1"φ	2	9'-8"	52	Bt.	8'-7"

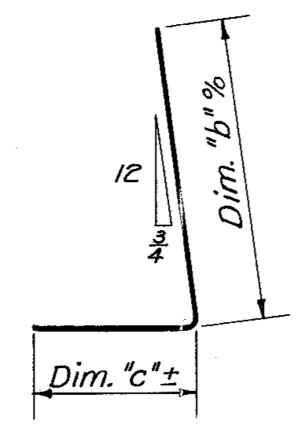
Mark	Size	No.	Length	Weight	Shp.	Dim."a"
$B7a_{15}$	1"φ	2	9'-9"	52	Bt.	8'-8"
$B7a_{16}$	1"φ	2	9'-10"	52	Bt.	8'-9"
$B7a_{17}$	1"φ	1	10'-0"	27	Bt.	8'-11"
B7b	1"φ	152	9'-10"	3992	Bt.	
B7c	1"φ	13	8'-1"	281	Bt.	7'-0"
B4a	⅝"φ	46	31'-3"	1499	Str.	
B4b	⅝"φ	15	22'-4"	350	Str.	
B4c	⅝"φ	15	23'-3"	364	Str.	
B4d	⅝"φ	1	32'-0"	33	Str.	
B4e	⅝"φ	1	10'-0"	10	Str.	
B4f	⅝"φ	56	7'-0"	409	Bt.	
C8a	1"□	40	8'-9"	1190	Bt.	
C8b	1"□	40	11'-9"	1598	Bt.	
C8c	1"□	22	10'-6"	785	Str.	
C8d	1"□	20	14'-3"	969	Str.	
						Dim."a"
C5a	¾"φ	60	7'-6"	676	Bt.	6'-10"
C4a	⅝"φ	10	10'-3"	107	Str.	
C4b	⅝"φ	10	21'-6"	224	Str.	
C4c	⅝"φ	10	9'-6"	99	Str.	
C4d	⅝"φ	10	20'-9"	216	Str.	
C4e	⅝"φ	42	29'-6"	1292	Str.	
C4f	⅝"φ	20	30'-9"	641	Str.	
C4g	⅝"φ	17	10'-0"	177	Str.	Dim. "a"
C4h	⅝"φ	80	7'-0"	584	Bt.	6'-5"
D7a	1"φ	21	8'-6"	477	Bt.	
D7b	1"φ	21	11'-2"	626	Bt.	
D7c	1"φ	11	13'-4"	391	Str.	
D7d	1"φ	10	9'-8"	258	Str.	
D6a	⅞"φ	48	7'-11"	777	Bt.	
D6b	⅞"φ	25	10'-8"	545	Bt.	
D6d	⅞"φ	23	10'-5"	490	Bt.	
D6e	⅞"φ	13	19'-0"	505	Str.	
D6f	⅞"φ	13	9'-2"	244	Str.	
D6g	⅞"φ	11	18'-1"	407	Str.	
D6h	⅞"φ	11	8'-9"	197	Str.	
						Dim."a"
D5a	¾"φ	90	7'-2"	969	Bt.	6'-6"
D4a	⅝"φ	31	6'-4"	205	Bt.	5'-9"
D4c	⅝"φ	10	19'-9"	206	Str.	
D4d	⅝"φ	10	18'-10"	196	Str.	
D4e	⅝"φ	10	17'-10"	186	Str.	
D4f	⅝"φ	58	29'-6"	1785	Str.	
D4h	⅝"φ	37	10'-0"	386	Str.	
D4j	⅝"φ	30	31'-3"	978	Str.	
E5a	¾"φ	69	7'-1"	734	Bt.	
E5b	¾"φ	25	9'-9"	366	Bt.	
E5c	¾"φ	13	8'-3"	161	Str.	
E5d	¾"φ	13	17'-0"	332	Str.	
E5f	¾"φ	22	9'-5"	311	Bt.	
E5g	¾"φ	12	7'-10"	141	Str.	
E5h	¾"φ	11	15'-10"	262	Str.	
E5k	¾"φ	20	9'-0"	270	Bt.	
E5m	¾"φ	10	7'-5"	111	Str.	
E5n	¾"φ	10	14'-9"	222	Str.	
E4a	⅝"φ	10	16'-9"	175	Str.	
E4b	⅝"φ	46	29'-6"	1415	Str.	
E4c	⅝"φ	10	15'-7"	163	Str.	
E4d	⅝"φ	10	14'-6"	151	Str.	
E4e	⅝"φ	15	31'-3"	489	Str.	
E4f	⅝"φ	32	10'-0"	334	Str.	
F4a	⅝"φ	65	6'-5"	435	Bt.	
F4b	⅝"φ	25	8'-5"	219	Bt.	
F4c	⅝"φ	10	13'-7"	142	Str.	
F4d	⅝"φ	10	12'-8"	132	Str.	
F4e	⅝"φ	10	11'-8"	122	Str.	
F4f	⅝"φ	40	29'-6"	1231	Str.	
F4g	⅝"φ	13	13'-10"	188	Str.	

Mark	Size	No.	Length	Weight	Shp.	Dim."a"
F4h	⅝"φ	13	6'-11"	94	Str.	
F4j	⅝"φ	39	8'-0"	325	Bt.	
F4k	⅝"φ	11	12'-11"	148	Str.	
F4l	⅝"φ	10	6'-6"	68	Str.	
F4m	⅝"φ	18	11'-11"	224	Str.	
F4p	⅝"φ	30	10'-0"	313	Str.	
F4t	⅝"φ	3	31'-3"	98	Str.	
G4a	⅝"φ	46	5'-1"	244	Bt.	
G4b	⅝"φ	11	6'-5"	74	Bt.	
G4c	⅝"φ	12	11'-0"	138	Str.	
G4d	⅝"φ	10	10'-9"	112	Str.	
G4e	⅝"φ	28	29'-6"	862	Str.	
G4g	⅝"φ	19	10'-0"	198	Str.	
G4h	⅝"φ	10	9'-9"	102	Str.	
G4k	⅝"φ	15	9'-0"	141	Str.	
G4m	⅝"φ	10	8'-9"	91	Str.	Dim."a"
G4n	⅝"φ	81	3'-8"	310	Bt.	3'-1"
G4p	⅝"φ	5	31'-3"	163	Str.	
G4r	⅝"φ	24	10'-0"	250	Str.	
H4a	⅝"φ	30	5'-0"	156	Bt.	
H4b	⅝"φ	10	6'-10"	71	Str.	
H4c	⅝"φ	10	7'-2"	75	Str.	
H4d	⅝"φ	10	7'-6"	78	Str.	
H4f	⅝"φ	10	7'-11"	83	Str.	
H4g	⅝"φ	10	8'-3"	86	Str.	
H4h	⅝"φ	10	8'-7"	90	Str.	
H4k	⅝"φ	18	10'-0"	188	Str.	
H4m	⅝"φ	3	31'-3"	98	Str.	
H4n	⅝"φ	28	29'-8"	866	Str.	
J4a	⅝"φ	21	5'-0"	110	Bt.	
J4b	⅝"φ	12	5'-8"	71	Str.	
J4c	⅝"φ	10	6'-0"	63	Str.	
J4d	⅝"φ	10	6'-3"	65	Str.	
J4f	⅝"φ	10	6'-7"	69	Str.	
J4g	⅝"φ	6	31'-4"	196	Str.	
J4h	⅝"φ	8	29'-8"	248	Str.	
J4k	⅝"φ	2	32'-0"	67	Str.	
J4m	⅝"φ	7	10'-0"	73	Str.	
K9a	1⅛"□	60	9'-6"	2452	Bt.	
K9b	1⅛"□	59	10'-9"	2729	Bt.	
K9c	1⅛"□	30	10'-0"	1291	Str.	
K9d	1⅛"□	33	16'-0"	2272	Str.	
						Dim."a"
K6a	⅞"φ	20	13'-4"	546	Bt.	12'-6"
K6b	⅞"φ	79	8'-7"	1388	Bt.	7'-9"
K5a	¾"φ	119	7'-10"	1400	Bt.	7'-2"
K4a	⅝"φ	70	29'-6"	2155	Str.	
K4b	⅝"φ	11	11'-0"	126	Str.	
K4c	⅝"φ	14	23'-9"	348	Str.	
K4d	⅝"φ	33	31'-0"	1067	Str.	
K4e	⅝"φ	26	10'-0"	271	Str.	
K4f	⅝"φ	11	10'-0"	115	Str.	
K4g	⅝"φ	11	23'-3"	267	Str.	
K4h	⅝"φ	11	22'-3"	255	Str.	
K4j	⅝"φ	11	9'-0"	104	Str.	
K4k	⅝"φ	12	6'-9"	85	Bt.	
K4l	⅝"φ	12	4'-6"	56	Bt.	
L8a	1"□	20	9'-0"	612	Bt.	
L8b	1"□	20	10'-9"	731	Bt.	
L8c	1"□	10	9'-6"	323	Str.	
L8d	1"□	11	14'-0"	524	Str.	
L7a	1"φ	40	9'-0"	961	Bt.	
L7b	1"φ	40	10'-9"	1148	Bt.	
L7c	1"φ	20	9'-3"	494	Str.	
L7d	1"φ	22	13'-6"	793	Str.	
						Dim "a"
L5a	¾"φ	22	13'-2"	435	Bt.	12'-6"
L5b	¾"φ	79	8'-5"	1000	Bt.	7'-9"

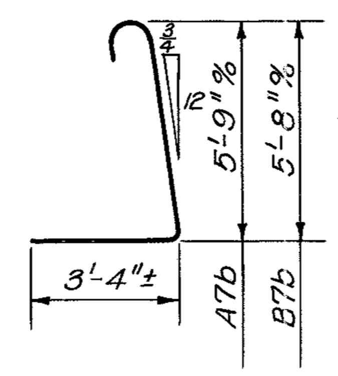
Mark	Size	No.	Length	Weight	Shp.	Dim."a"
L4a	⅝"φ	33	31'-3"	1075	Str.	
L4b	⅝"φ	24	10'-0"	250	Str.	
L4c	⅝"φ	11	10'-9"	123	Str.	
L4d	⅝"φ	11	21'-6"	246	Str.	
L4e	⅝"φ	11	10'-6"	120	Str.	
L4f	⅝"φ	11	20'-8"	237	Str.	
L4g	⅝"φ	11	9'-6"	109	Str.	
L4h	⅝"φ	64	29'-6"	1969	Str.	
L4j	⅝"φ	11	19'-10"	227	Str.	Dim. "a"
L4k	⅝"φ	120	8'-1"	1012	Bt.	7'-6"
M7a	1"φ	21	8'-11"	499	Bt.	
M7b	1"φ	21	11'-2"	625	Bt.	
M7c	1"φ	10	9'-9"	260	Str.	
M7d	1"φ	11	13'-3"	390	Str.	
M6a	⅞"φ	45	8'-8"	797	Bt.	
M6b	⅞"φ	45	10'-8"	981	Bt.	
M6c	⅞"φ	22	8'-9"	394	Str.	
M6d	⅞"φ	24	11'-9"	576	Str.	
						Dim. "a"
M5a	¾"φ	6	11'-5"	104	Bt.	10'-9"
M5b	¾"φ	26	7'-11"	309	Bt.	7'-3"
M5c	¾"φ	6	12'-2"	110	Bt.	11'-6"
M5d	¾"φ	6	12'-8"	114	Bt.	12'-0"
M4a	⅝"φ	33	31'-3"	1075	Str.	
M4b	⅝"φ	22	10'-0"	229	Str.	Dim. "a"
M4c	⅝"φ	29	7'-5"	224	Bt.	6'-10"
M4d	⅝"φ	73	7'-3"	552	Bt.	6'-8"
M4e	⅝"φ	21	6'-11"	151	Bt.	6'-4"
M4f	⅝"φ	11	9'-0"	103	Str.	
M4g	⅝"φ	11	18'-9"	215	Str.	
M4h	⅝"φ	56	29'-6"	1723	Str.	
M4j	⅝"φ	13	9'-0"	122	Str.	
M4k	⅝"φ	11	17'-9"	203	Str.	
M4l	⅝"φ	11	8'-3"	95	Str.	
M4m	⅝"φ	11	16'-9"	192	Str.	
N6a	⅞"φ	23	7'-11"	372	Bt.	
N6b	⅞"φ	22	10'-5"	468	Bt.	
N6c	⅞"φ	11	7'-9"	174	Str.	
N6d	⅞"φ	6	15'-9"	193	Str.	
N6e	⅞"φ	6	16'-4"	200	Str.	
N5a	¾"φ	48	7'-2"	516	Bt.	
N5b	¾"φ	48	9'-9"	703	Bt.	
N5c	¾"φ	24	7'-3"	261	Str.	
N5d	¾"φ	6	14'-7"	131	Str.	
N5e	¾"φ	6	15'-2"	137	Str.	
N5f	¾"φ	6	13'-4"	120	Str.	
N5g	¾"φ	6	14'-0"	126	Str.	Dim. "a"
N5h	¾"φ	45	7'-1"	479	Bt.	6'-5"
N4a	⅝"φ	5	16'-1"	84	Str.	
N4b	⅝"φ	5	15'-6"	81	Str.	
N4c	⅝"φ	5	14'-11"	78	Str.	
N4d	⅝"φ	5	14'-4"	75	Str.	
N4e	⅝"φ	5	13'-9"	72	Str.	
N4f	⅝"φ	5	13'-1"	68	Str.	
N4g	⅝"φ	46	29'-8"	1423	Str.	Dim. "a"
N4h	⅝"φ	45	6'-4"	297	Bt.	5'-9"
N4j	⅝"φ	24	31'-3"	782	Str.	
N4k	⅝"φ	28	10'-0"	292	Str.	
P4a	⅝"φ	60	6'-0"	376	Bt.	
P4b	⅝"φ	57	8'-0"	475	Bt.	
P4c	⅝"φ	32	10'-0"	334	Str.	
P4d	⅝"φ	9	10'-6"	99	Str.	
P4e	⅝"φ	8	10'-9"	90	Str.	
P4f	⅝"φ	9	11'-0"	103	Str.	
P4g	⅝"φ	8	11'-3"	94	Str.	
P4h	⅝"φ	10	11'-6"	120	Str.	
P4i	⅝"φ	6	11'-9"	74	Str.	
P4j	⅝"φ	9	12'-0"	113	Str.	
P4k	⅝"φ	6	12'-3"	77	Str.	
P4l	⅝"φ	7	12'-6"	91	Str.	

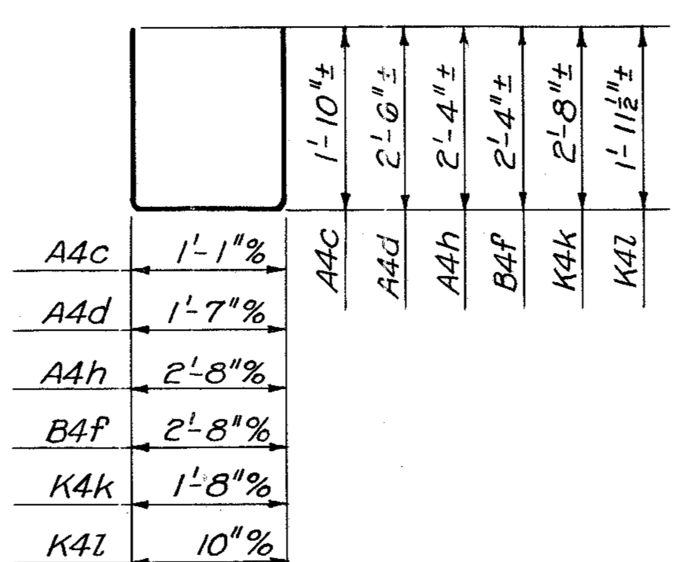
Mark	Size	No.	Length	Weight	Shp.
P4m	⅝"φ	3	12'-9"	40	Str.
P4n	⅝"φ	40	29'-6"	1230	Str.
P4o	⅝"φ	11	7'-0"	80	Str.
P4p	⅝"φ	3	10'-3"	32	Str.
R4a	⅝"φ	50	5'-9"	300	Bt.
R4b	⅝"φ	12	7'-3"	91	Bt.
R4c	⅝"φ	33	10'-0"	345	Str.
R4d	⅝"φ	9	8'-0"	75	Str.
R4e	⅝"φ	8	8'-3"	69	Str.
R4f	⅝"φ	9	8'-6"	80	Str.
R4g	⅝"φ	8	8'-9"	73	Str.
R4h	⅝"φ	9	9'-0"	85	Str.
R4i	⅝"φ	9	9'-3"	87	Str.
R4j	⅝"φ	8	9'-6"	79	Str.
R4k	⅝"φ	7	9'-9"	71	Str.
R4l	⅝"φ	4	10'-3"	43	Str.
R4m	⅝"φ	4	7'-9"	32	Str.
R4n	⅝"φ	32	29'-6"	985	Str.
S4a	⅝"φ	20	10'-0"	209	Str.
S4b	⅝"φ	52	5'-0"	272	Bt.
S4c	⅝"φ	5	5'-6"	29	Str.
S4d	⅝"φ	10	5'-9"	60	Str.
S4e	⅝"φ	10	6'-0"	63	Str.
S4f	⅝"φ	10	6'-3"	65	Str.
S4g	⅝"φ	10	6'-6"	68	Str.
S4h	⅝"φ	10	6'-9"	70	Str.
S4i	⅝"φ	11	7'-0"	80	Str.
S4j	⅝"φ	11	7'-3"	83	Str.
S4k	⅝"φ	12	7'-6"	94	Str.
S4l	⅝"φ	8	7'-9"	65	Str.
S4m	⅝"φ	24	29'-6"	738	Str.
S4n	⅝"φ	16	22'-6"	376	Str.
REPLACEMENT STEEL					
RE0	1¼"□	1	8'-2"	43	Str.
RE9	1⅛"□	1	7'-9"	33	Str.
RE8	1"□	1	7'-4"	25	Str.
RE7	1"φ	1	7'-4"	20	Str.
RE6	⅞"φ	1	6'-11"	14	Str.
RE5	¾"φ	1	6'-6"	10	Str.
RE4	⅝"φ	3	6'-1"	19	Str.





Mark	Dim."b"	Dim."c"
C8a	7'-4"	1'-8"
C8b	10'-4"	1'-8"
D7a	7'-1"	1'-8"
D7b	9'-9"	1'-8"
D6a	6'-7"	1'-6"
D6b	9'-4"	1'-6"
D6d	9'-1"	1'-6"
E5a	6'-0"	1'-3"
E5b	8'-8"	1'-3"
E5f	8'-4"	1'-3"
E5k	7'-11"	1'-3"
F4a	5'-6"	1'-1"
F4b	7'-6"	1'-1"
F4j	7'-1"	1'-1"
G4a	4'-2"	1'-1"
G4b	5'-6"	1'-1"
H4a	4'-1"	1'-0¾"
J4a	4'-1"	1'-0¾"
K9a	7'-9"	1'-11"
K9b	9'-0"	1'-11"
L8a	7'-6"	1'-8"
L8b	9'-3"	1'-8"
L7a	7'-6"	1'-8"
L7b	9'-3"	1'-8"
M7a	7'-3"	1'-11"
M7b	9'-6"	1'-11"
M6a	7'-0"	1'-11"
M6b	9'-0"	1'-11"
N6a	6'-7"	1'-6"
N6b	9'-1"	1'-6"
N5a	6'-1"	1'-3"
N5b	8'-8"	1'-3"
P4a	5'-1"	1'-0¾"
P4b	7'-1"	1'-0¾"
R4a	4'-10"	1'-0¾"
R4b	6'-4"	1'-0¾"
S4b	4'-1"	1'-0¾"





STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

REINFORCING STEEL LIST FOR RETAINING WALLS

BRIDGE NO. CU-283-15

CUYAHOGA COUNTY UG-842(1)
SEC. CUY-283-(1.09-1.49)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
		N.E.Y.	C.F.B.	a.j.t. W.H.C.	11-10-50	

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	58
2	OHIO	U-UG-842(1)	POST WAR	85

CUYAHOGA COUNTY
CUY-283-(1.09,1.49)

SPECIFICATIONS: STEEL DESIGN - A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES, 1950. LIVE LOAD - E 72.
MASONRY DESIGN - OHIO STATE DEPT. OF HIGHWAYS SPECIFICATIONS FOR DESIGN OF HIGHWAY STRUCTURES, 1946.
ALLOWABLE LOAD ON POURED IN PLACE CONCRETE PILES - 35 TONS.
MATERIALS AND CONSTRUCTION - OHIO STATE DEPT. OF HIGHWAYS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, JAN. 1, 1949.

ALIGNMENT : TRACK - TANGENT
HIGHWAY - TANGENT
GRADE : TRACK - 0.24% (TRACKS #1, 2, 3 AND 4) DOWN TO EAST.
HIGHWAY - VERTICAL CURVE.

NOTE: - TWO EARTH AUGER BORINGS MADE AT THE SITE OF THE PROPOSED ABUTMENTS SHOWED THE SOIL TO BE "GREY SILT WITH SMALL PERCENT OF CLAY"

Correct Geo. E. Robinson
Engineer of Structures
Approved E. A. Dougherty
Chief Engineer

STATE OF OHIO G.E. ROBINSON 13668 REGISTERED PROFESSIONAL ENGINEER

Drawn P.B.		Checked A.C.R.
REVISIONS		
Date	BY	
10-30-50	State	Exp. Jt. at N. Wings
11-10-50	State	℄ Constr. & ℄ W.B.M. Sta.
11-10-50	State	Ret. Wall Strut added

BRIDGE NO. CU-283-15 UG-842 (1)

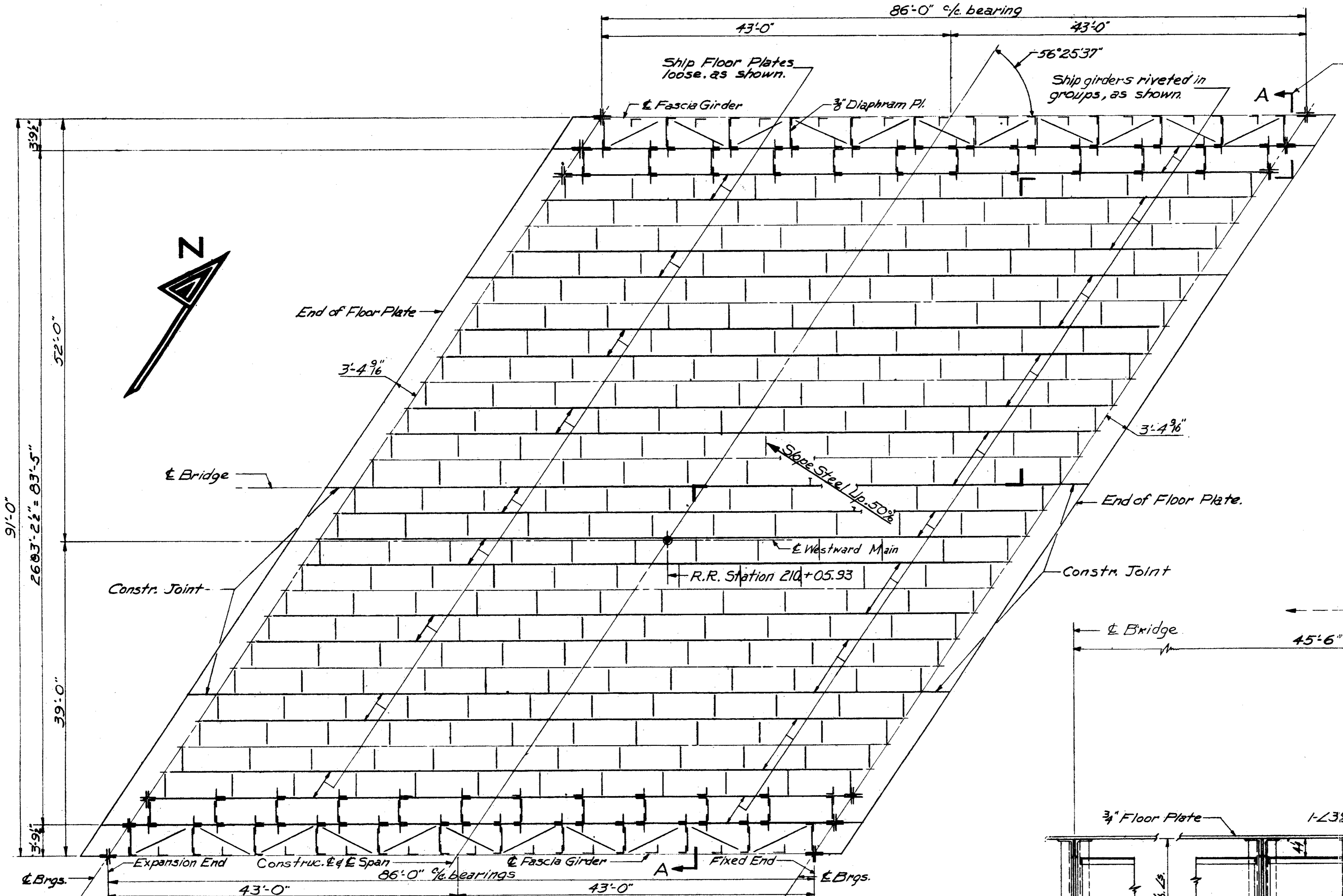
N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
GENERAL PLAN OF BRIDGE

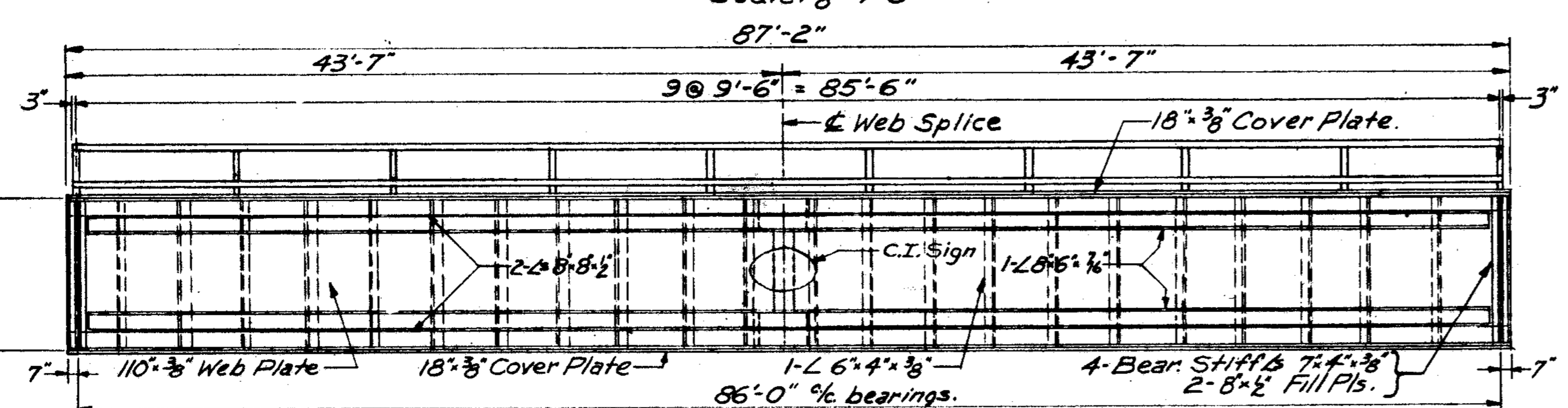
N.Y.C.R.R.-West	Cleveland Division		Plan No. 4626
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-1

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	59 / 85
2	OHIO	U-UG-842(1)	POST WAR	

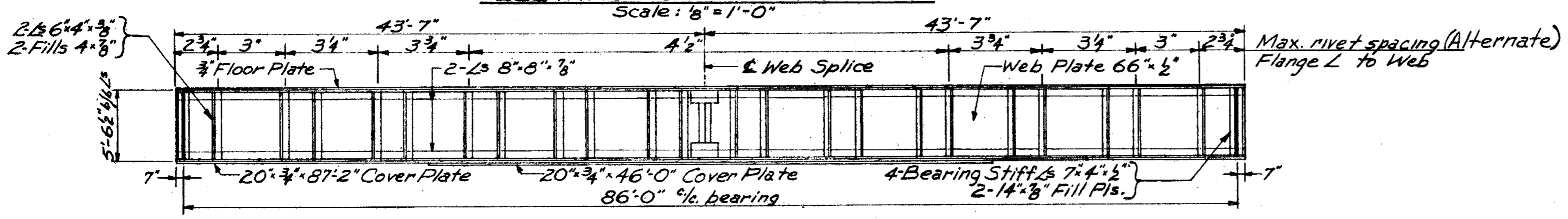
CUYAHOGA COUNTY
CUY-283-(1.09, 1.49)



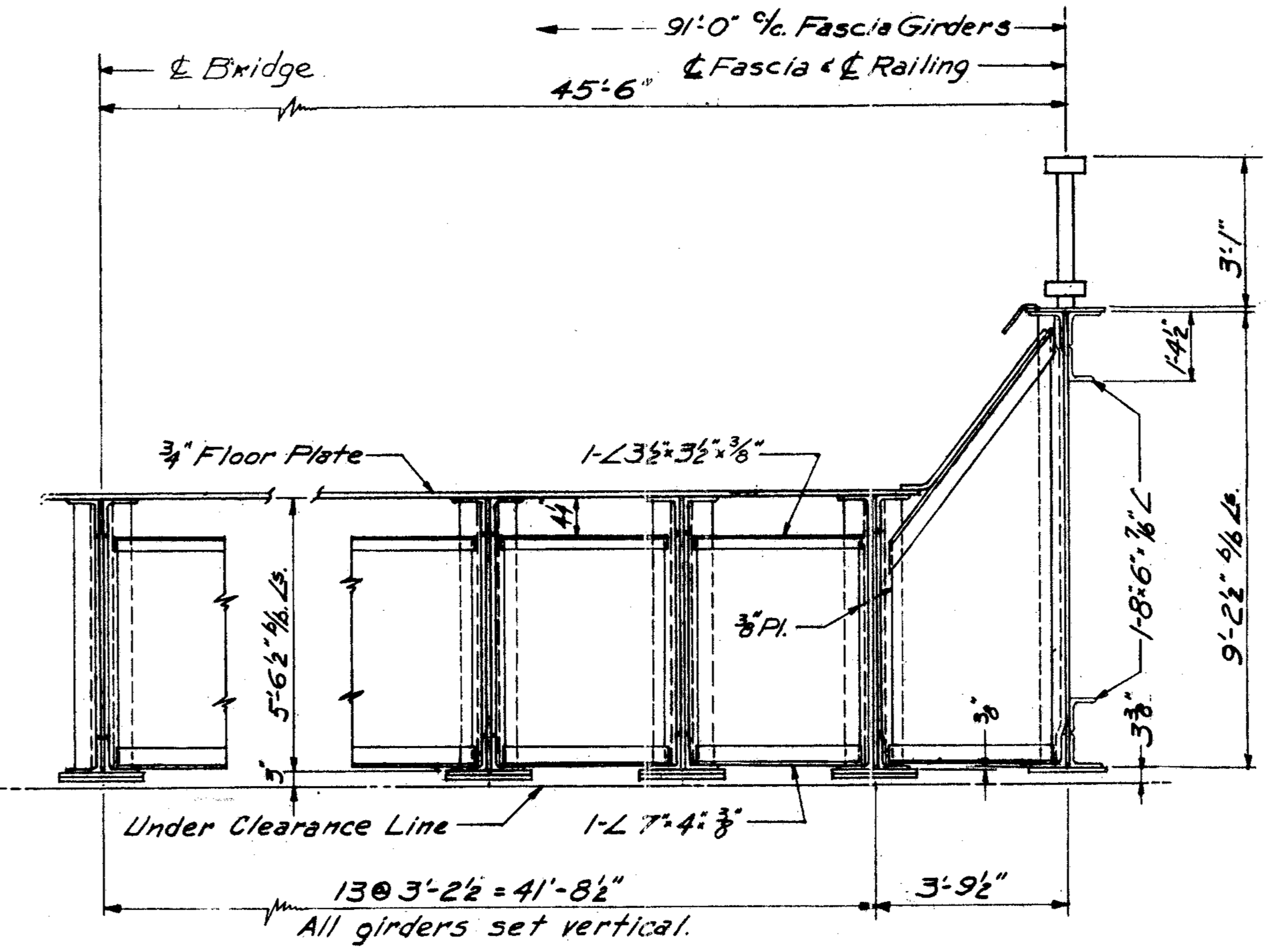
FLOOR PLAN
Scale: 1/8" = 1'-0"



ELEVATION OF FASCIA GIRDER
Scale: 1/8" = 1'-0"



ELEVATION OF TRACK GIRDER
Scale: 1/8" = 1'-0"



HALF SECTION OF SUPERSTRUCTURE
Scale: 3/8" = 1'-0"

DESIGN DATA

E-72 LOADING — SPECIFICATIONS-AREA-1946

DEAD LOAD:

Track & Ballast	215 #/□'
Prot. Coat & Waterproofing	56 #/□'
Steel	184 #/□'
Total:	455 #/□'

Total per Girder: 455 #/□' × 3.21' = 1460 #/L.F.

	SHEAR	MOMENT
Dead Load	63 K	1350 'K
*Live Load	117 K	2190 'K
Impact: 56.1%	66 K	1230 'K
Total:	246 K	4770 'K

*Lateral Distribution: 13'-0"

SECTION OF TRACK GIRDER; SPAN: 86'-0" c/c Brgs.

1-Web Plate 66"×1/2"	Gross I.	129,800 in.^{4}
4-Ls 8"×8"×7/8"	Gross S.M.	3,770 in.^{3}
Floor Plate 38"×3/4"	Net I.	109,860 in.^{4}
1-Bott. Cov. Pl. 20"×3/4"× Full L'g'th.	Net S.M.	3,200 in.^{3}
1-Bott. Cov. Pl. 20"×3/4"×46'-0"		

$\frac{\text{Depth}}{\text{Span}} = \frac{1}{15.00}$

STRESSES:

	ACTUAL	ALLOWABLE
Flange Compression	15,200 #/□"	18,000 #/□"
Flange Tension	17,900 #/□"	18,000 #/□"
Web Shear (Gross)	7,450 #/□"	11,000 #/□"

GENERAL NOTES - SUPERSTRUCTURE

Specifications - State of Ohio, Department of Highways, Construction and Material Specifications, Jan. 1, 1949 and revisions thereof.
Rivets - 7/8" φ
Open Holes - 15/16" φ unless noted.
Alignment, Track - Tangent
Grade, Track - -0.240 % down to East (Main Tracks.) Set steel to grade as shown, 0.50% up from East abutment.
Anchor Bolts - Anchor bolts to be set in preformed holes and then fixed, after steel is erected, with Embeco cement grout or equal, completely filling the holes. See "Erection Note" on plan # 4629. (Sh. #61)
Welding - All welding shall be "Class A" in accordance with the Ohio State Specifications.
Shop Paint - One coat of red lead as per Ohio State Specifications. Surfaces to be in contact with concrete or waterproofing are not to be painted.
Field Paint - Two coats of aluminum paint as per Ohio State Specifications.

Correct: Geo. E. Robinson — Engineer of Structures
Approved: [signature] — Chief Engineer

STATE OF OHIO — G.E. ROBINSON — 13666 — REGISTERED PROFESSIONAL ENGINEER

Drawn: H.F.G.		Checked ACR
REVISIONS		
Date	By	

BRIDGE No. CU-283-15 — UG-842 (1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12 3/4 — ERIE DIVISION — STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
STEEL PLAN

N.Y.C.R.R.-West	Cleveland Division		Plan No. 4627
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-2

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	POST WAR

60 / 85

CUYAHOGA COUNTY
CUY-283-1.09, 1.49

Correct Geo. E. Robinson — Engineer of Structures
Approved E. A. Dougherty — Chief Engineer

Drawn K.F.G.		Checked A.C.R.
REVISIONS		
Date	BY	

STATE OF OHIO — G.E. ROBINSON — REGISTERED PROFESSIONAL ENGINEER

BRIDGE NO. CU-283-15 — UG-842(1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24

GRADE SEPARATION

E. 72nd. STREET, CLEVELAND, OHIO

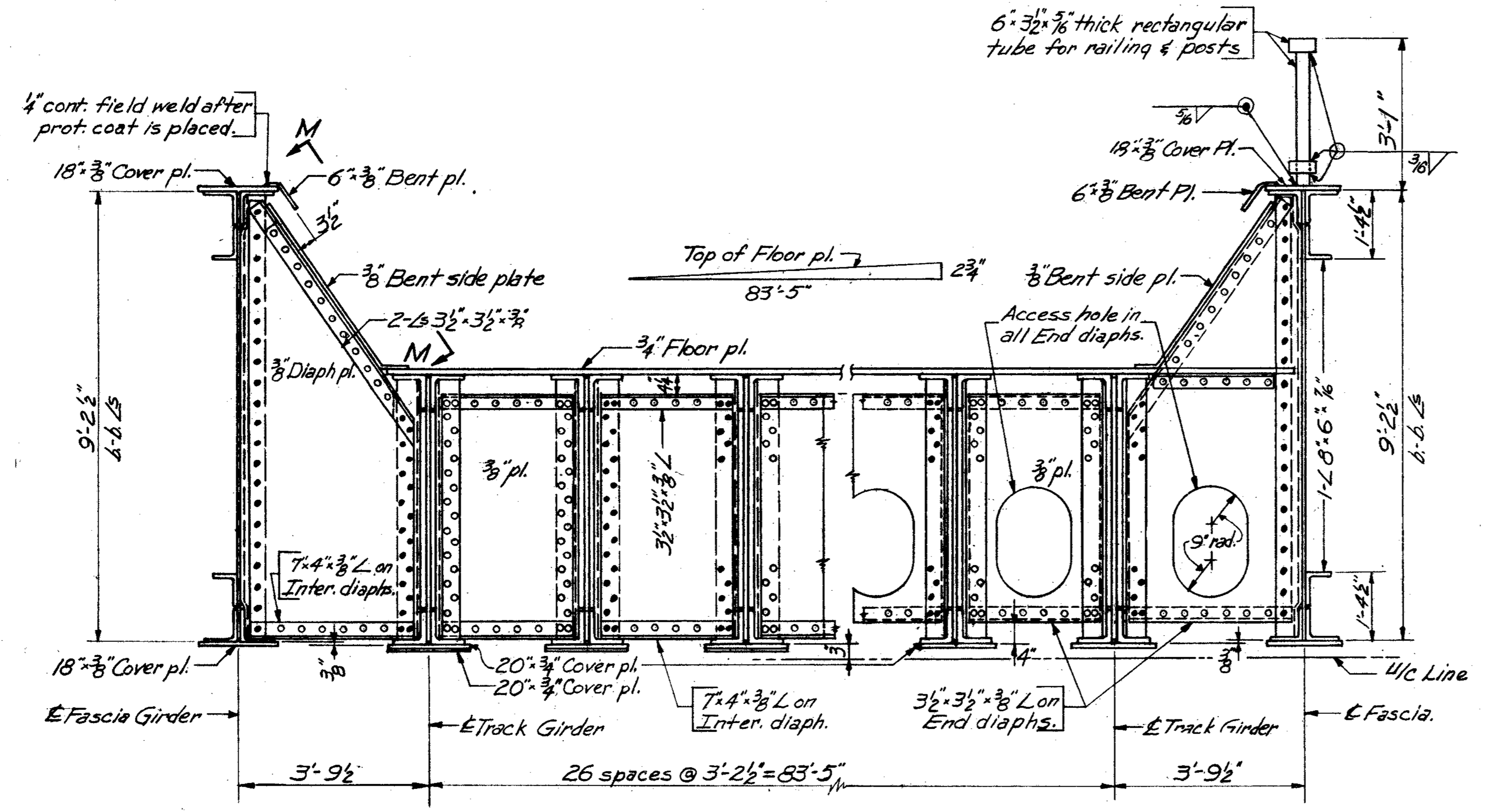
STEEL DETAILS

N.Y.C.R.R.-West	Cleveland Division	Plan No. 4628
Scale: Shown	Aug. 15, 1950 Val. Sec. 204-A	File No. 168-3

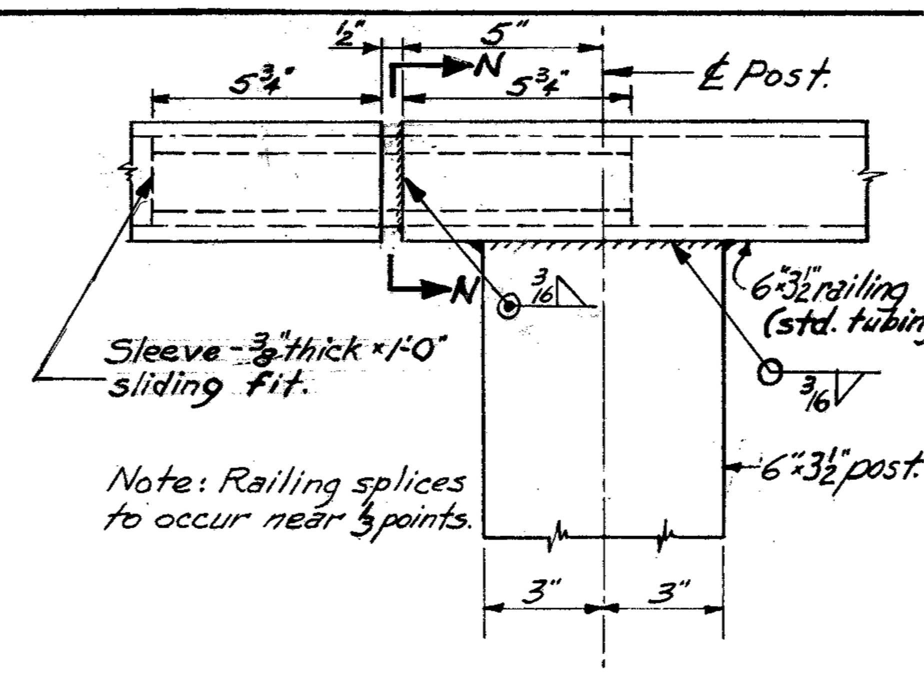
FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	POST WAR

61/85

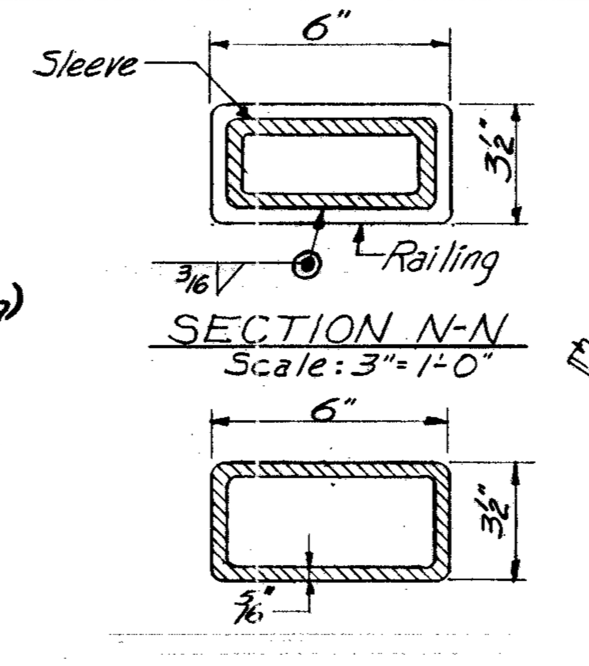
CUYAHOGA COUNTY
CUY-283-1.09, 1.49



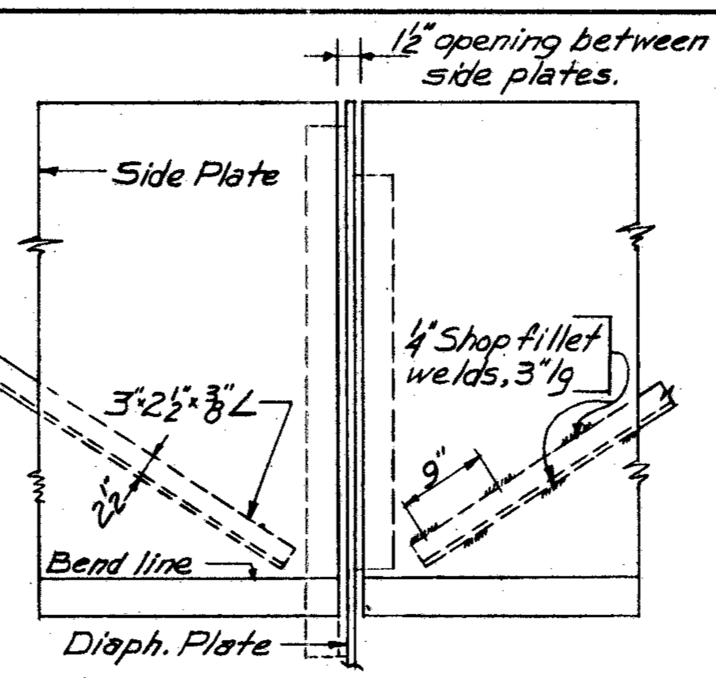
SECTION A-A
For location see Sheet #4627
Scale: ½" = 1'-0"



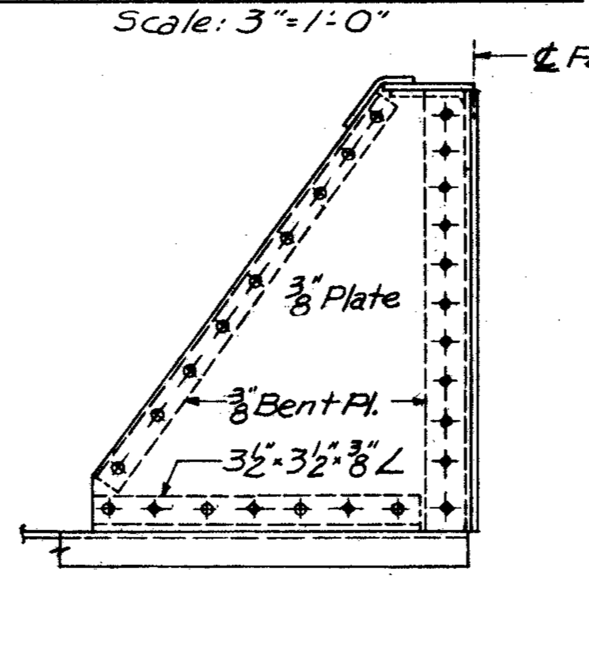
RAILING JOINT DETAIL
Scale: 3" = 1'-0"



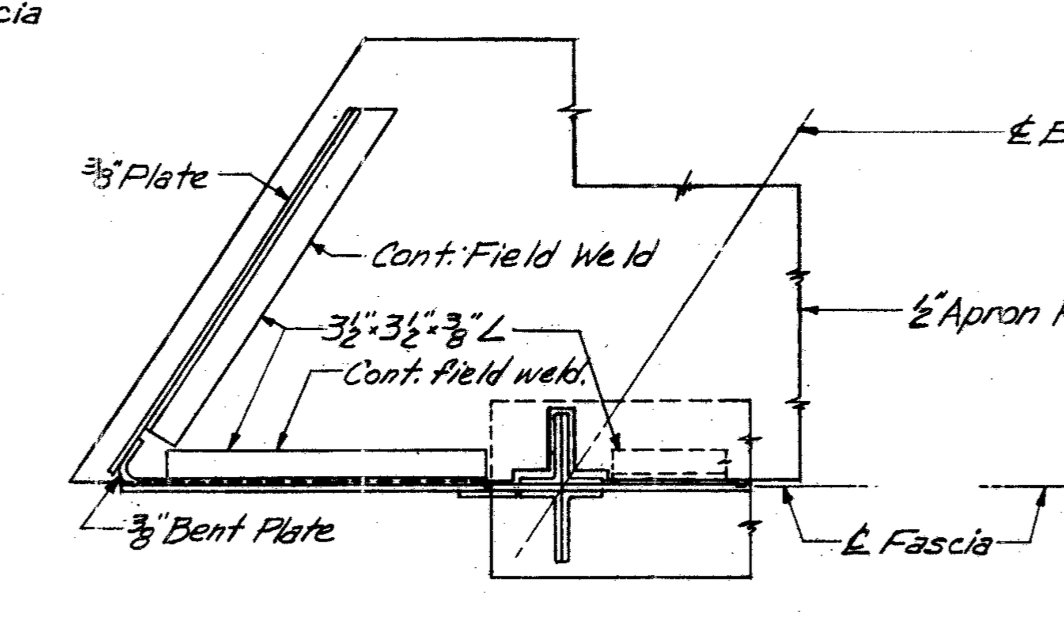
RAILING & POST SECTION
Scale: 3" = 1'-0"



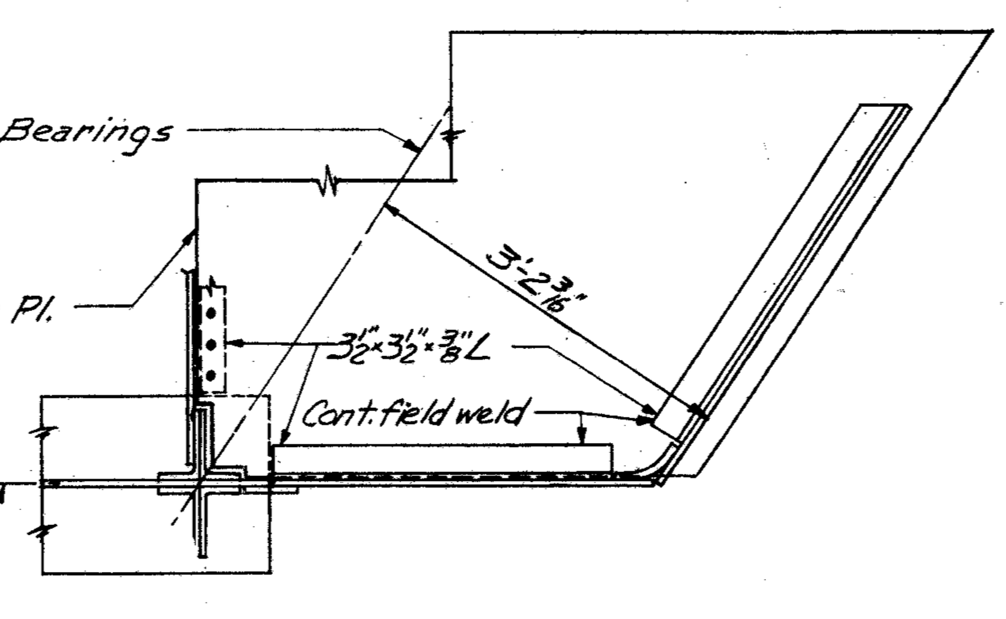
SECTION M-M
Scale: ¾" = 1'-0"



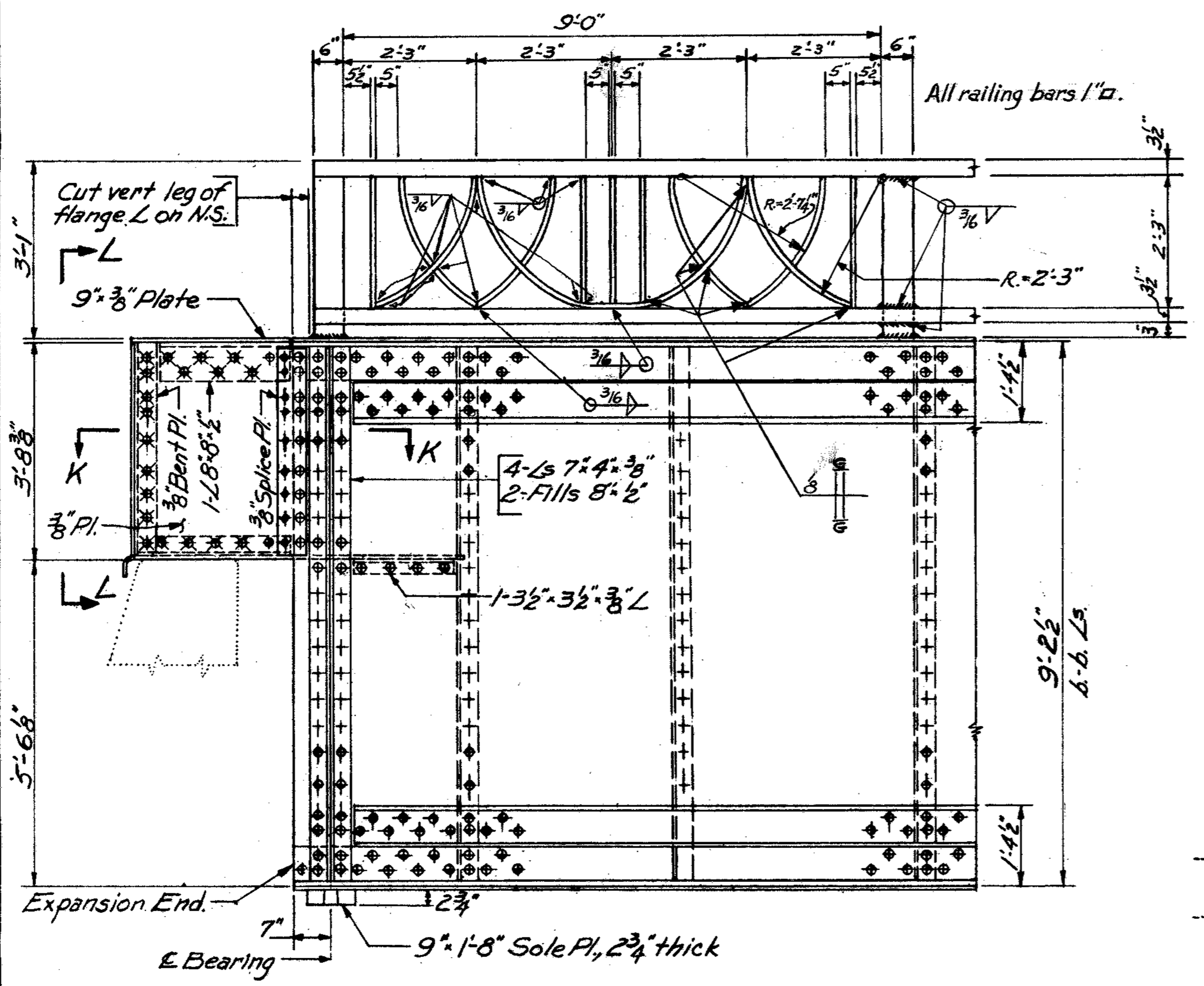
SECTION L-L
Scale: ¾" = 1'-0"



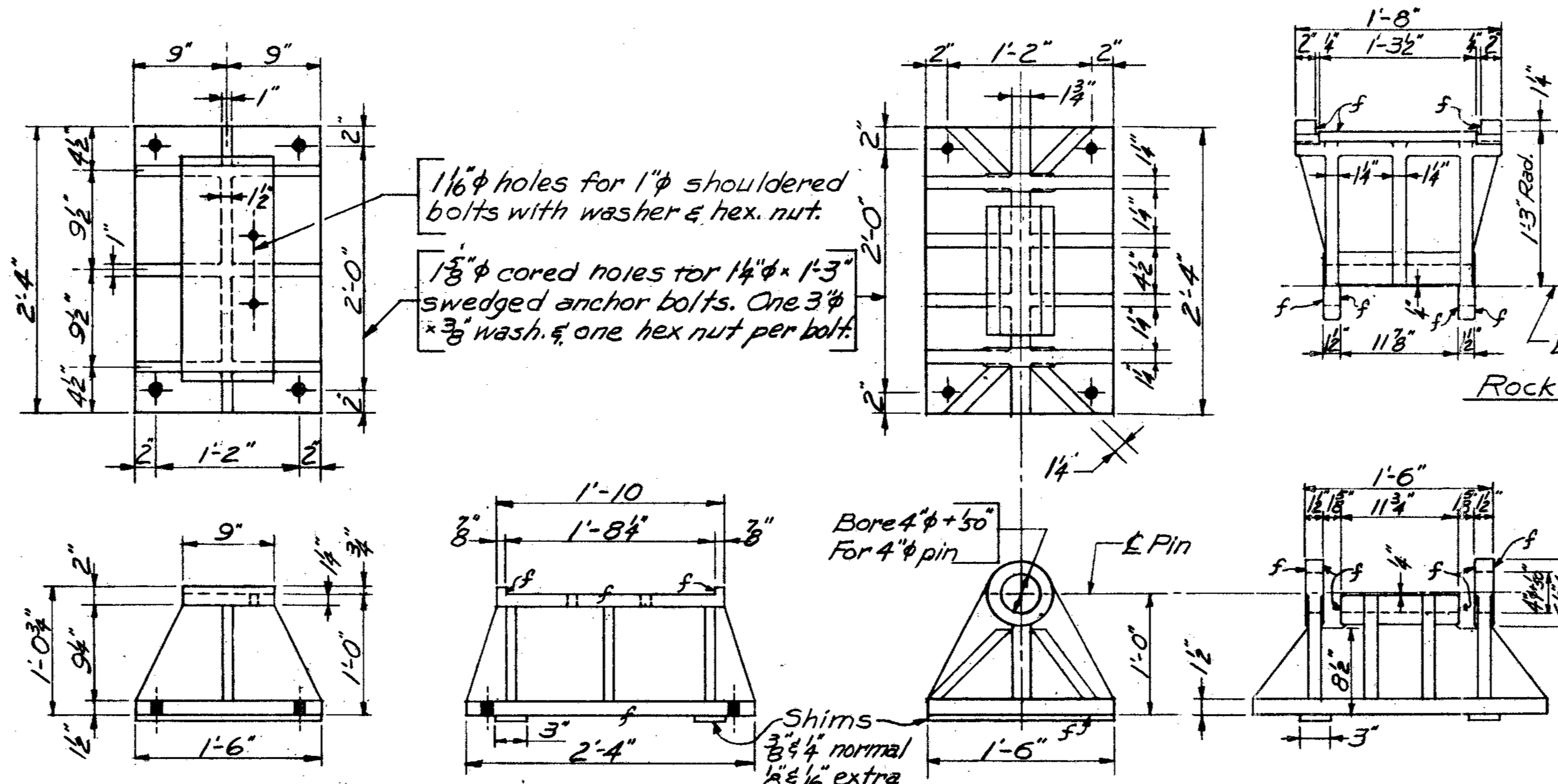
SECTION K-K (S.W. Corner)
Scale: ¾" = 1'-0"



S.E. CORNER
Scale: ¾" = 1'-0"

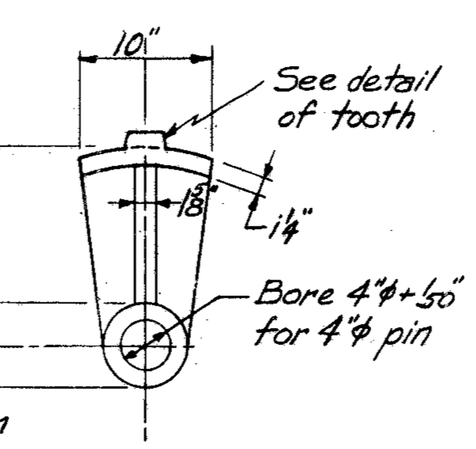


ELEVATION OF FASCIA GIRDER
Scale: ½" = 1'-0"

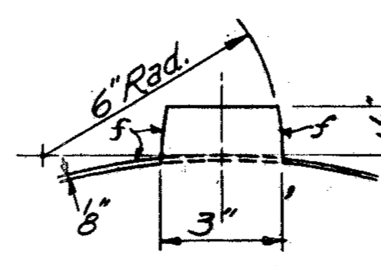


FIXED END CASTING
Cast Steel - 29 Req'd.
Scale: 1" = 1'-0"

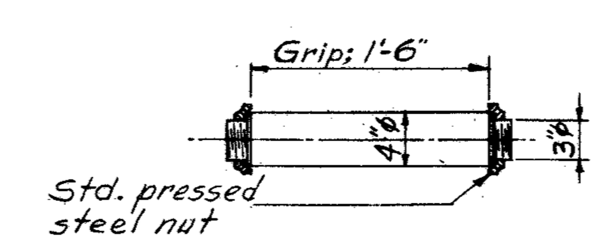
EXP. END CASTING
Cast Steel - 29 Req'd.
Scale: 1" = 1'-0"



Rocker



Detail of Tooth
Scale: 3" = 1'-0"



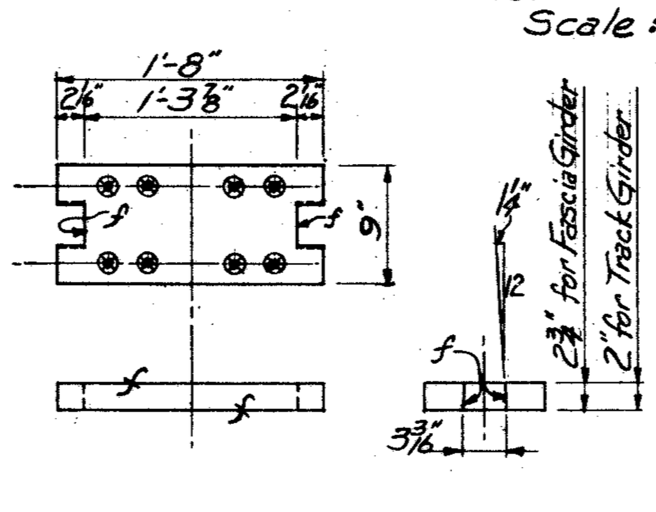
STEEL PIN
Scale: 1" = 1'-0" 29 Req'd.

FABRICATOR: Show this note on shop plan.

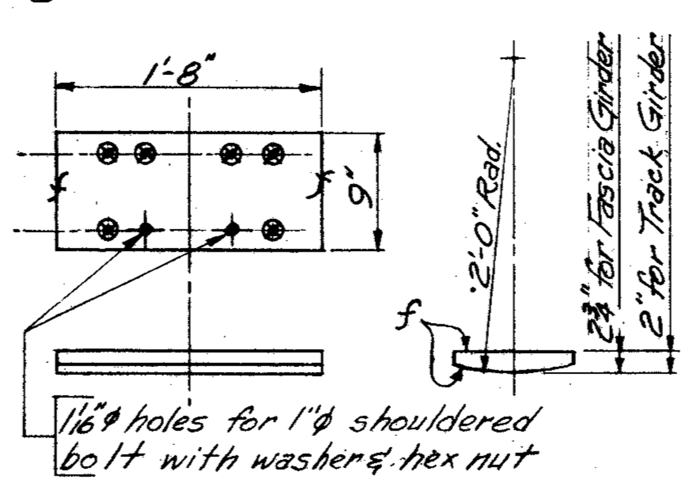
ERECTION NOTE

The castings shall be set level on shims with top of shim at elev. 615.19 on East abutment and 614.30 on West abutment, and blocked accurately in position. After the steel has been erected the shims shall be adjusted if necessary and the castings shall be fixed in position by properly ramming in rust joint iron grout. Slope the outside surfaces at 45° and after thorough oxidation, paint the surface with asphalt paint.

Cost to be included in the unit price bid for erection of structural steel.



SOLE PL.-EXP. END
Scale: 1" = 1'-0"
For Track Girders: 27 Req'd.
For Fascia Girders: 2 Req'd.



SOLE PL.-FIXED END
Scale: 1" = 1'-0"
For Track Girder: 27 Req'd.
For Fascia Girder: 2 Req'd.

STATE OF OHIO
C.E. ROBINSON
13666
REGISTERED PROFESSIONAL ENGINEER

Correct Geo. E. Robinson
Engineer of Structures
Approved E. U. Dougherty
Chief Engineer

Drawn K.F.G.		Checked A.C.R.
	REVISIONS	
Date	By	

BRIDGE NO. CU-283-15 UG-842(1)

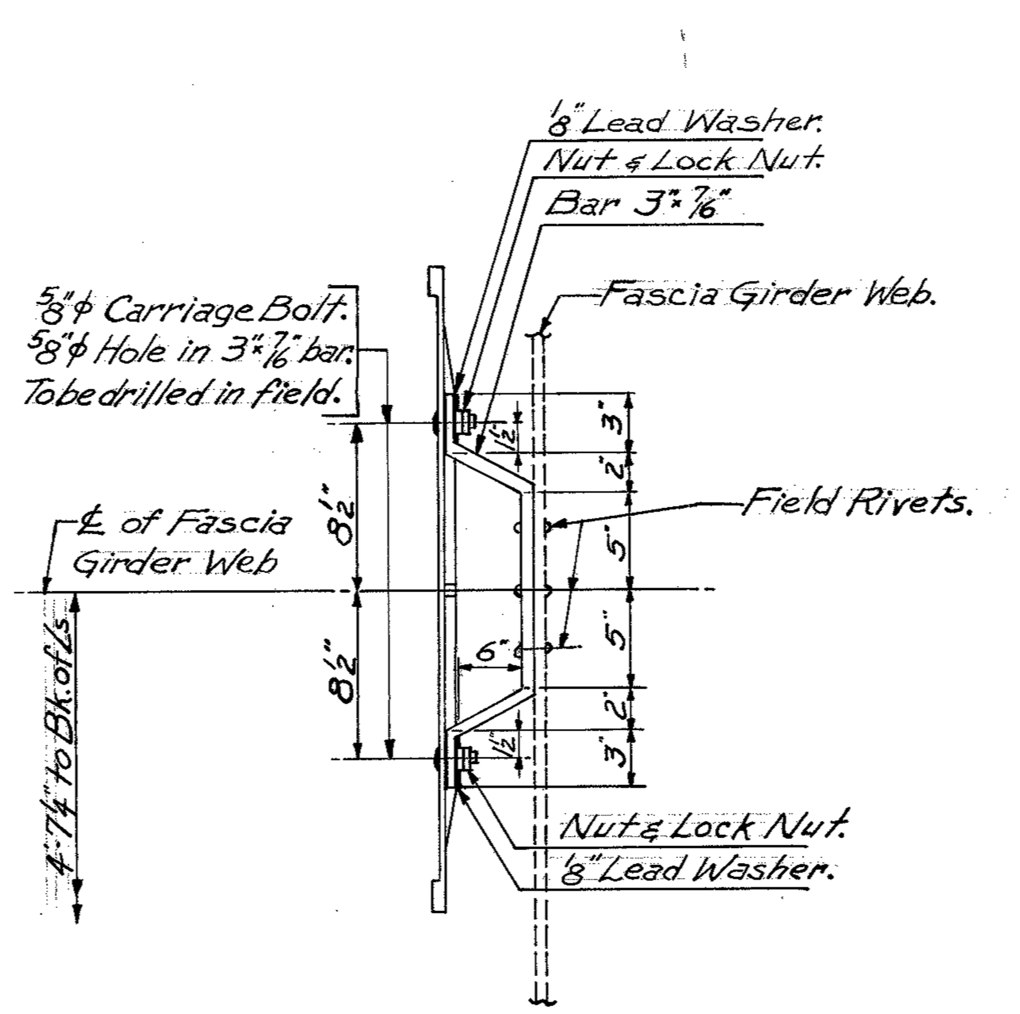
N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
STEEL DETAILS

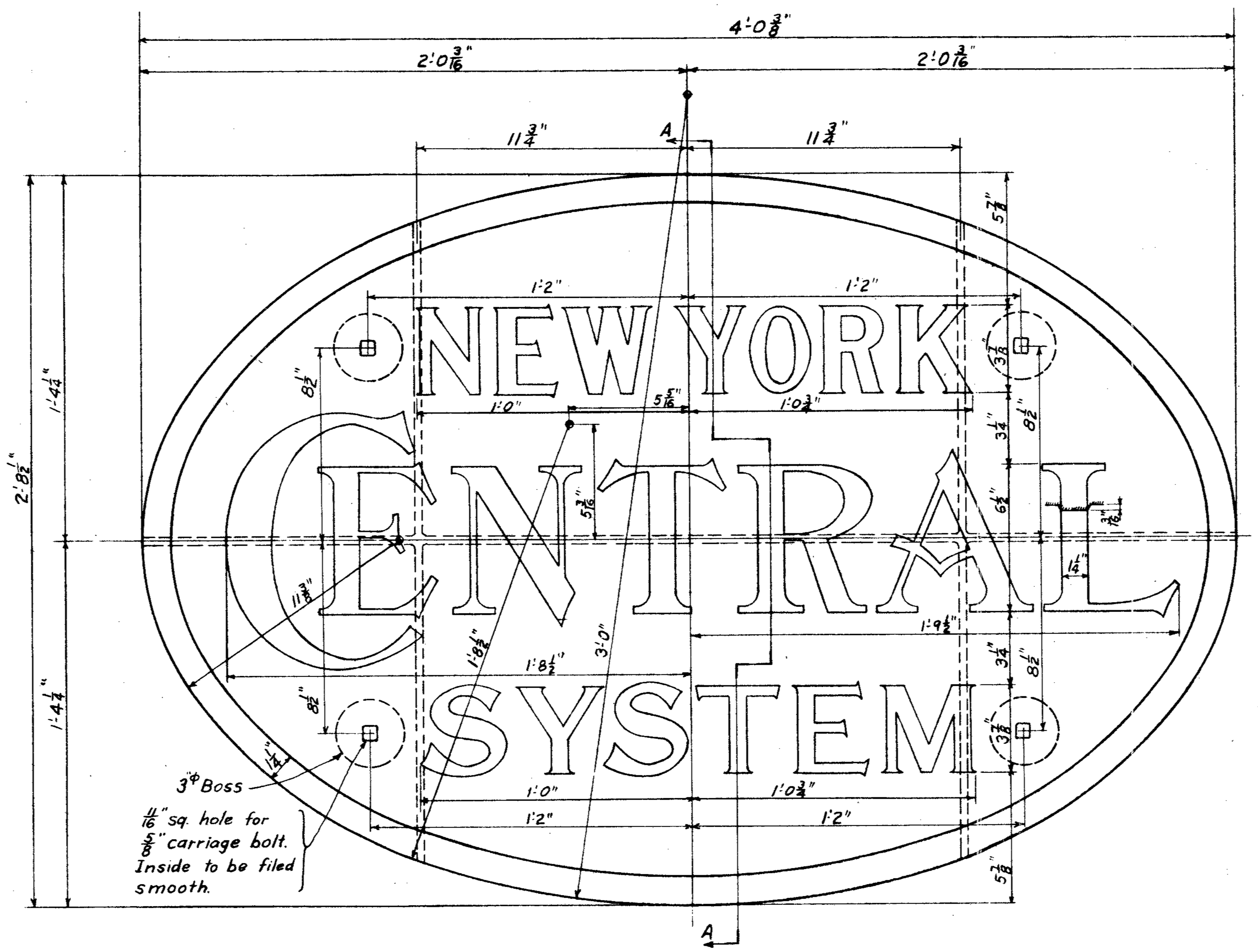
N.Y. C.R.R.-West	Cleveland Division	Plan No. 4629
Scale: Shown	Aug. 15, 1950 Val. Sec. 204-A	File No. 168-4

FED.RD DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	62/85
2	OHIO	U-UG-842(1)	POST WAR	

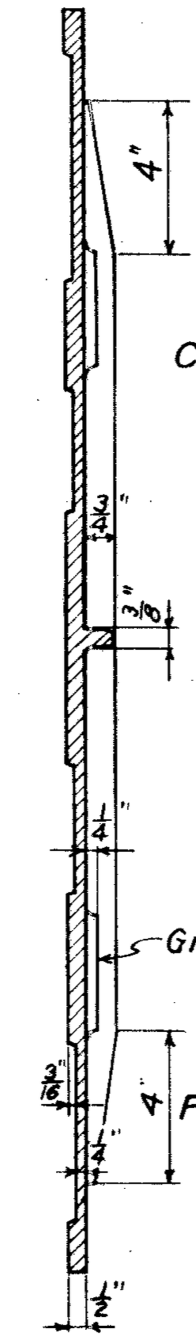
CUYAHOGA COUNTY
CUY-283-1.09, 1.49



DETAIL OF CAST IRON SIGN CONN.
Scale: 1 1/2" = 1'-0"



DETAIL OF SIGN
Scale 3" = 1'-0"



Sect. A-A

CAST IRON - shall be made of the following composition:

Silicon 2.25 % to 2.75 %
Phosphorus 0.50 % to 0.75 %
Chromium - not less than 0.75 %
Nickel " " " 0.75 %

The casting shall be free from pit holes and the surface of the border and of the letters shall be smoothly finished.

FINISH: First; thoroughly remove all scale and rust.
Second; paint entire casting with two coats of red lead.
Third; paint back with one coat of pure linseed oil carbon black paint.
Fourth; paint letters, border and edges with two coats of white enamel paint.
Fifth; paint face except for letters, border and edges with two coats of black enamel paint, then sift on black smalt.

Approx. weight of one cast iron sign = 104 lbs.
2 - required.

BRIDGE NO. CU-283-15 UG-842(1)

Correct Geo. E. Robinson, Engineer of Structures
Approved E. A. Dougherty, Chief Engineer

Drawn	Traced MJP	Checked
REVISIONS		
Date	By	

N.Y.C. System	Office of Chief Engineer	Chicago, Ill

BR. NO. 12 3/4. ERIE DIVISION STA. 210+10.24

GRADE SEPARATION

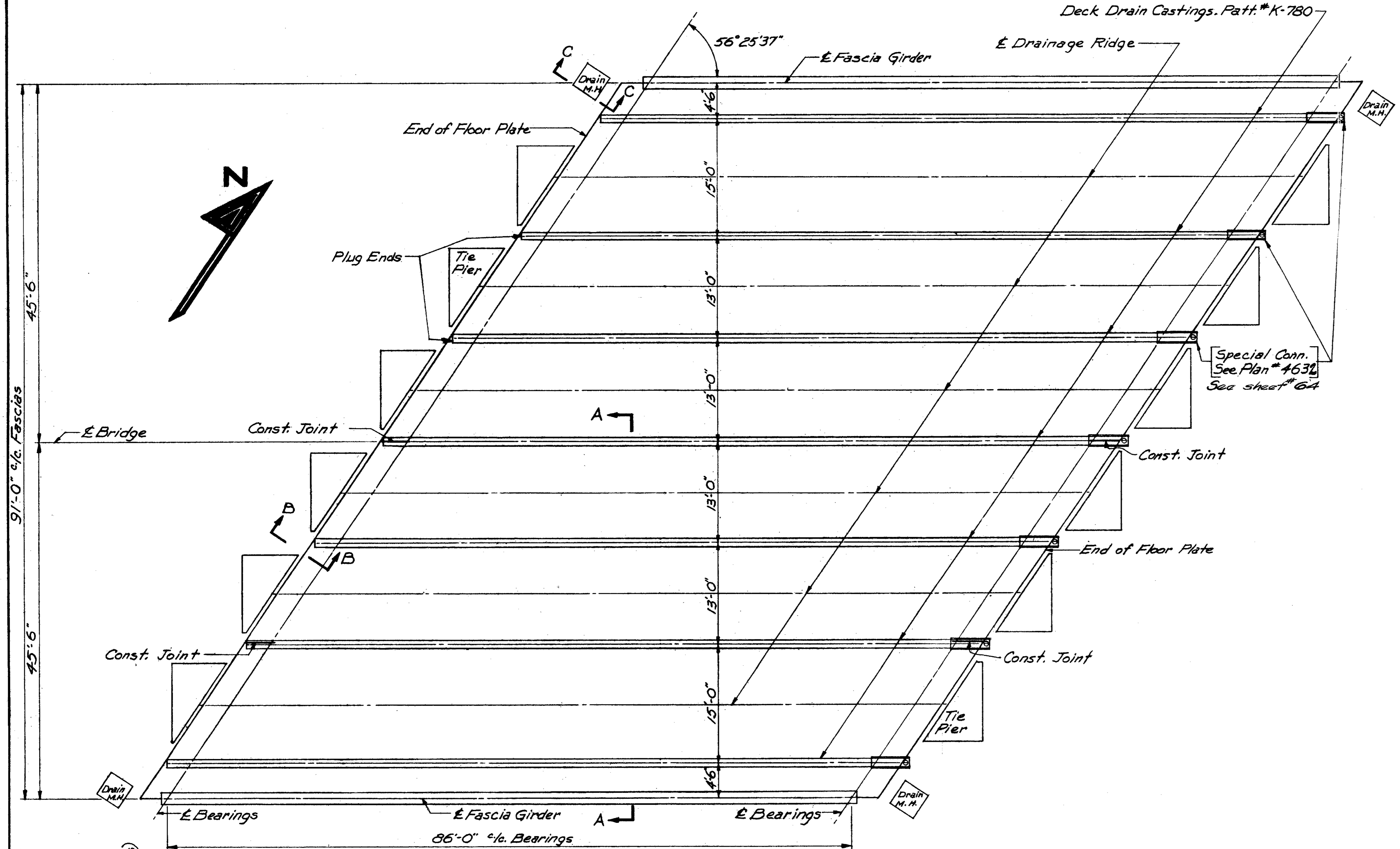
E. 72nd. STREET, CLEVELAND OHIO

SIGN PLAN

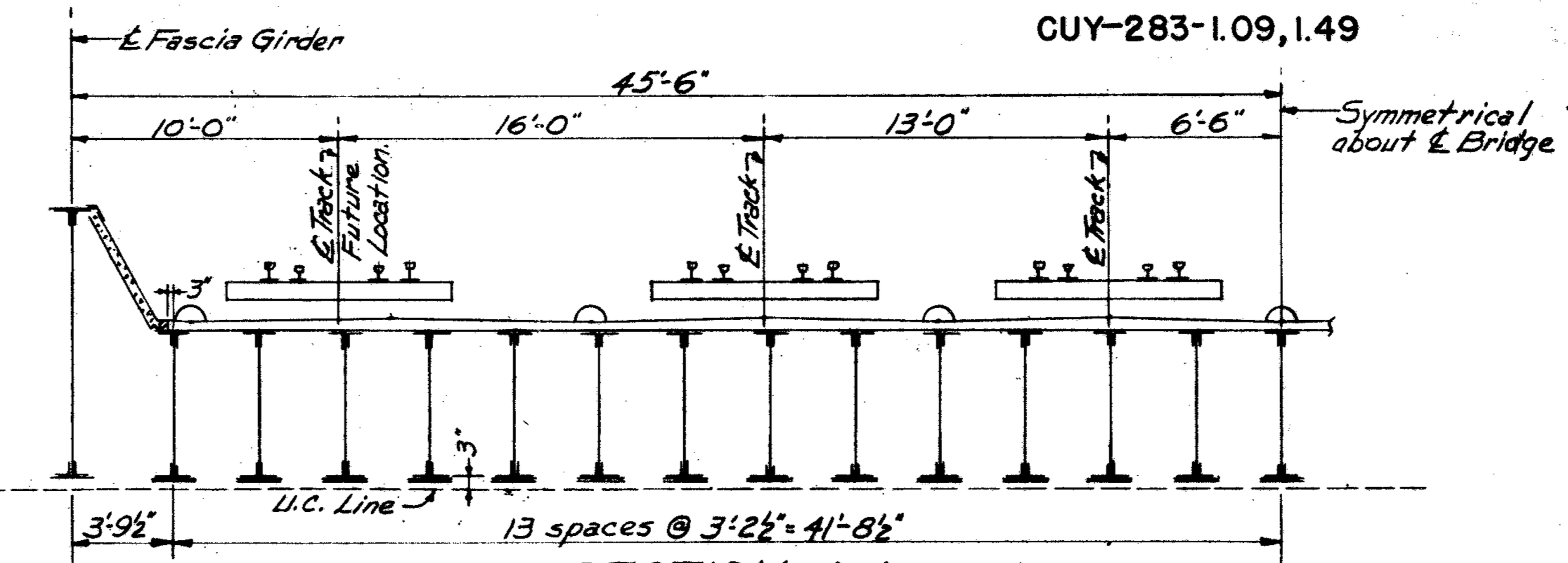
N.Y.C. R.R. West	Cleveland Division		Plan No. 4630
Scale: 3" = 1'-0"	Aug. 15, 1950	Vol. Sec. 204-A	File No. 168-5

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	63 / 85
2	OHIO	U-UG-842(1)	POST WAR	

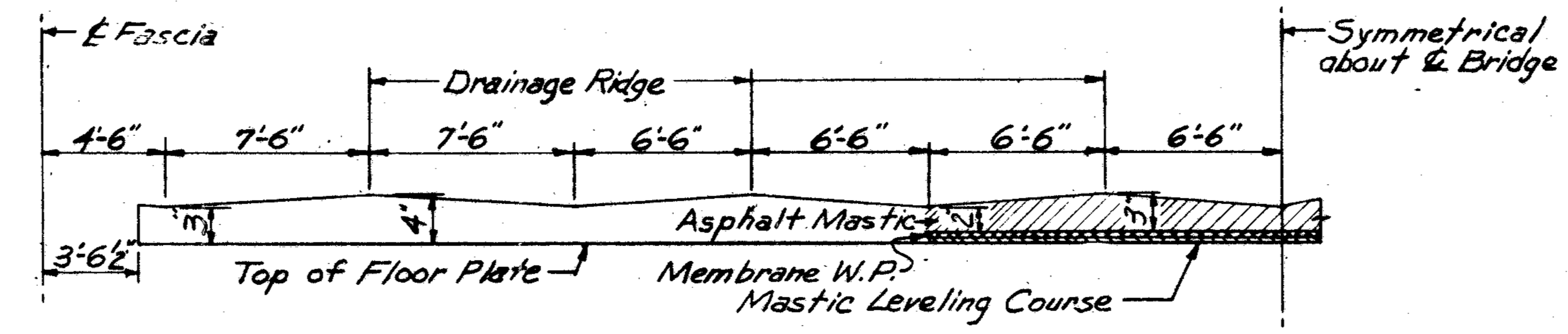
CUYAHOGA COUNTY
CUY-283-1.09, 1.49



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

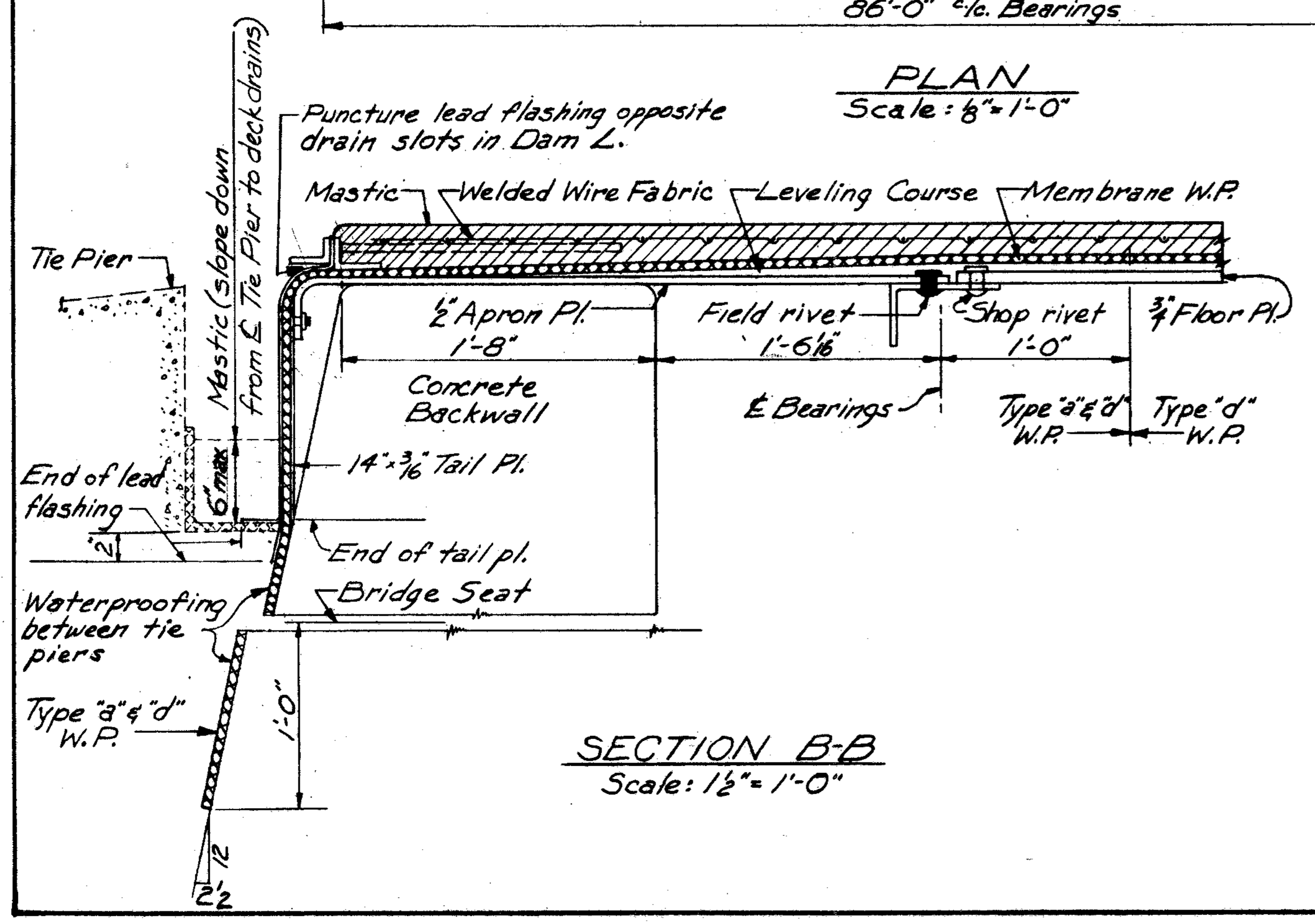


SECTION A-A
Scale: 3/16" = 1'-0"

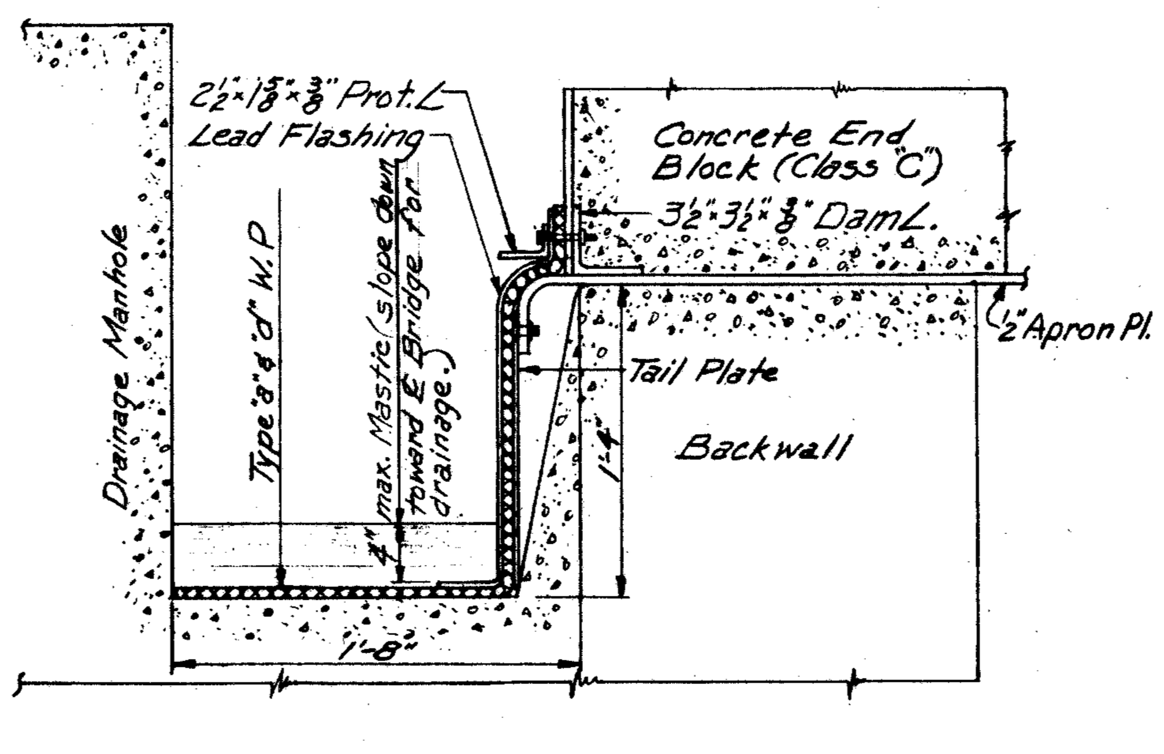


DECK DRAINAGE
Scale: Hor. 3/16" = 1'-0"; Vert. 1" = 1'-0"

NOTE: Mastic leveling course included in Item S-103, asphalt mastic, type "a" for payment.



SECTION B-B
Scale: 1½" = 1'-0"



SECTION C-C
Scale: 1½" = 1'-0"

Correct Geo. E. Robinson
Engineer of Structures
Approved
Chief Engineer

Drawn KFG		Checked ACR
REVISIONS		
Date	By	
10-30-50	State	Mastic leveling course note added

BRIDGE NO. CU-283-15 UG-842(1)

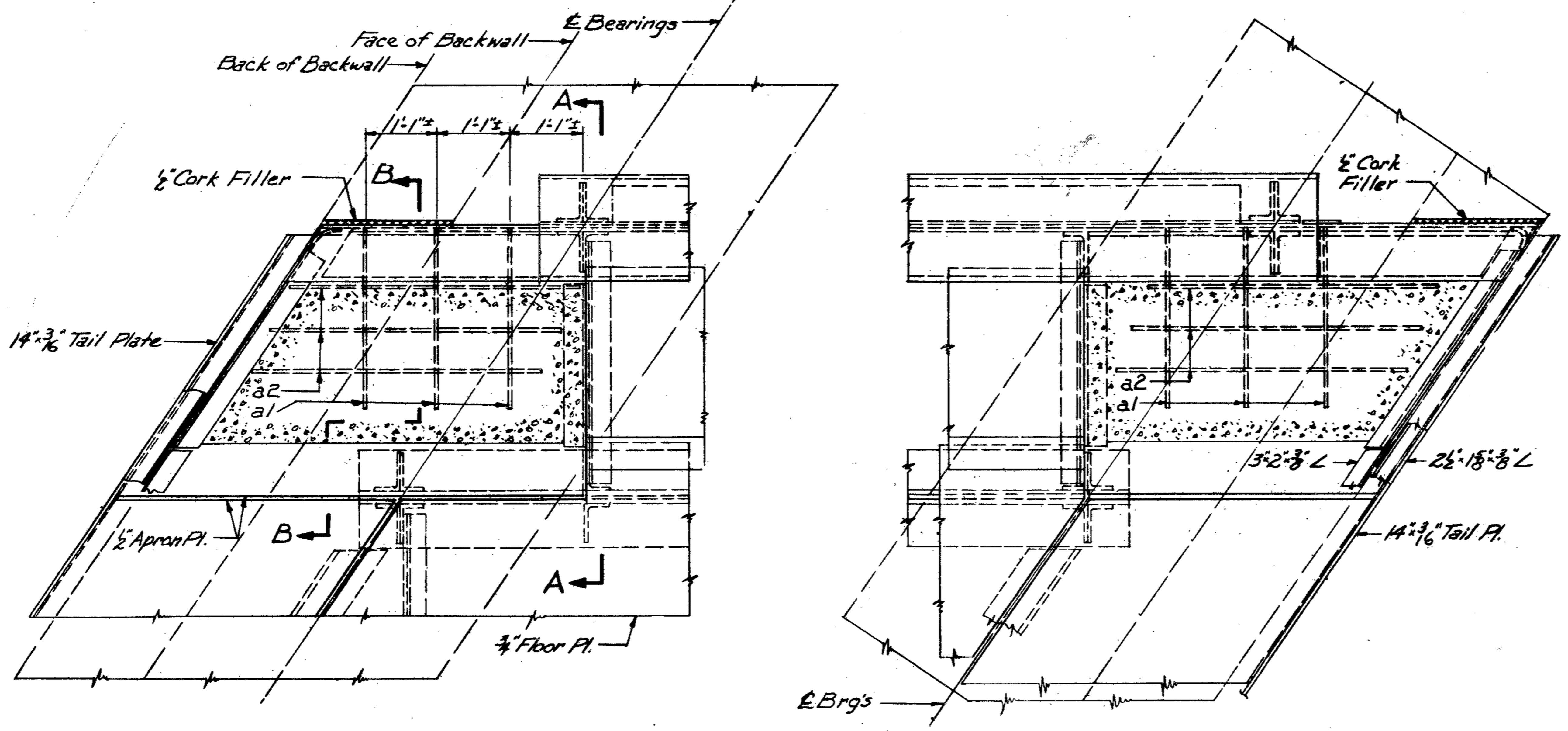
N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
SOLID FLOOR PLAN

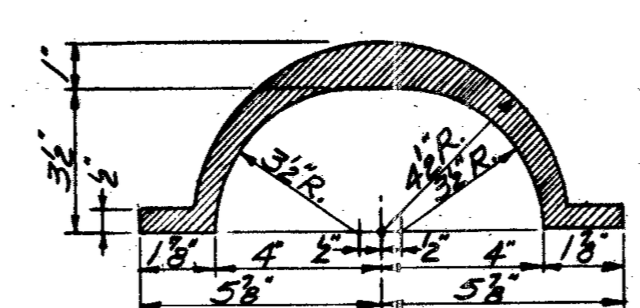
N.Y.C.R.R.-West	Cleveland Division		Plan No. 4631
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-6

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	64/85
2	OHIO	U-UG-842(1)	POST WAR	

CUYAHOGA COUNTY
CUY-283-1.09, 1.49

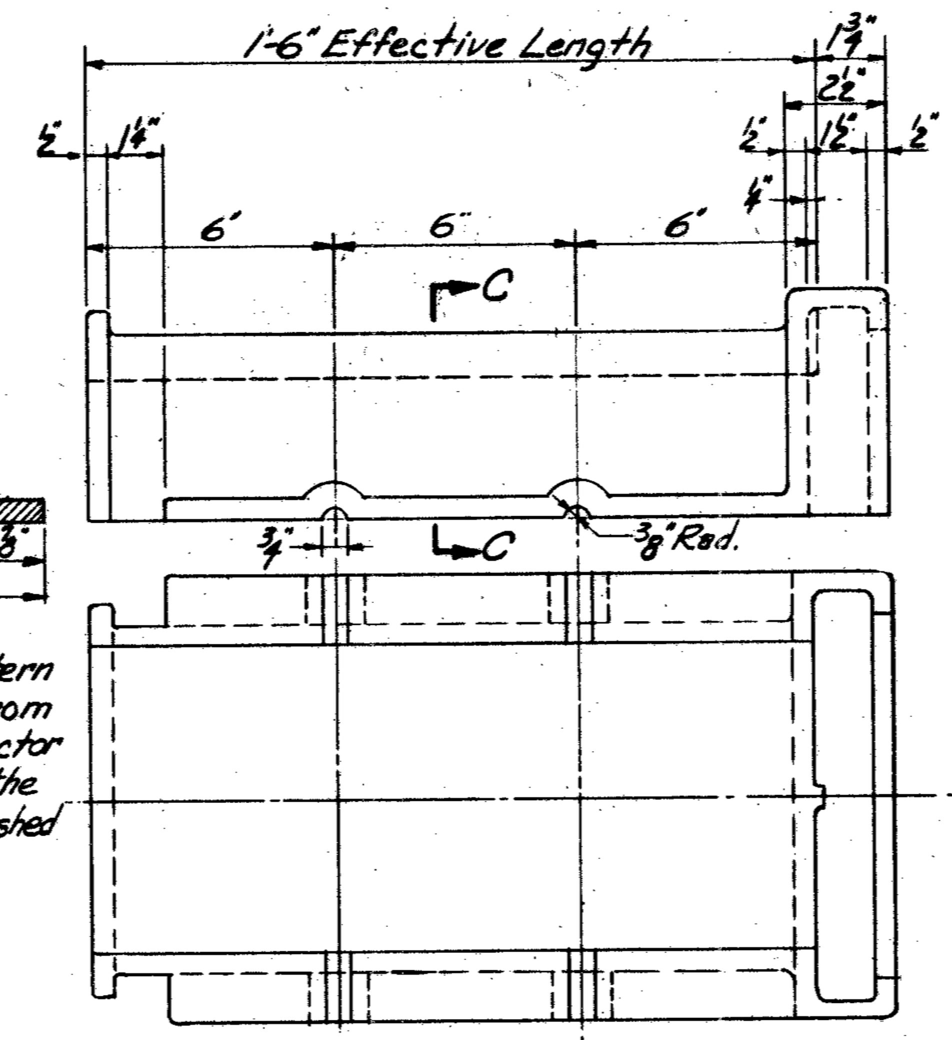


PLAN-CONCRETE END BLOCKS
Scale: ¾"=1'-0"



SECTION C-C

Note: Drain casting pattern K-780 may be obtained from the R.R. Co. by the Contractor & should be returned to the R.R. Co. by him when finished with its use.



DRAIN CASTING-PATT.# K-780
Material: Cast Iron
Approx. Wt.: 56#. Approx. No. Required: 450
Scale: 3"=1'-0"

Item	As Built	
1			
2			
3			
4	S-103	C-12, +175 +32	1082 s.y
5	S-4	C-13, -2730 +2642	2642 #
6	S-9	C-12, -400	3150 #
7			
8			
9			
10	S-8	C-14, -24,120	1,575,880#
11	S-1	C-14, +2.3	5.3 c.y.
12			
13			
14			
15			
16	S-1	C-22, +30	1555 c.y
17			
18			
19	S-9	C-12, +765	2815 #
20			
21	S-18	C-10, -2230.2	13,609.8 L.Ft.
22			
23			
24			
25			
26	S-107	C-22, +373	17,373 #
27	E-2	C-3, -4095	455 s.f.
28			
29	E-2	C-14, -1051	1149 c.y.
30			
31			
32			
33			
34	Special	C-17 +16,416	16,416 #

ESTIMATED QUANTITIES-SUPERSTRUCTURE

AB	Item	Description	Total
1	S-103	Prot. Conc., class B	98 s.y.
2	S-103	Asphalt Mastic, Type "a"	875 s.y.
3	S-103	Membrane Waterproofing, Type "a"	207 s.y.
4	S-103	Membrane Waterproofing Type "d"	~~875 s.y.~~
5	S-4	Welded Wire Fabric ~~(4×4 Spa. #10×#10)~~ 6×6 spa. #8×#8	~~2730#~~
6	S-9	Sheet Lead, 7.5#/sq.ft.	~~3550#~~
7	S-9	½" Cork Exp. Joint Filler	3 s.y.
8	S-14	Steel Railing	172 Lin.ft.
9	S-107	Structural Steel	1600,000#
10	S-8	Field Painting of Structural St.	~~1600000#~~
11	S-1	Concrete, Class "C" Superstr.	~~3 c.y.~~
12	S-4	Reinforcing Steel	145 #
13	S-29	Deck Drain Castings	675 ft.
14	S-29	Deck Drain, Special Conn.	7

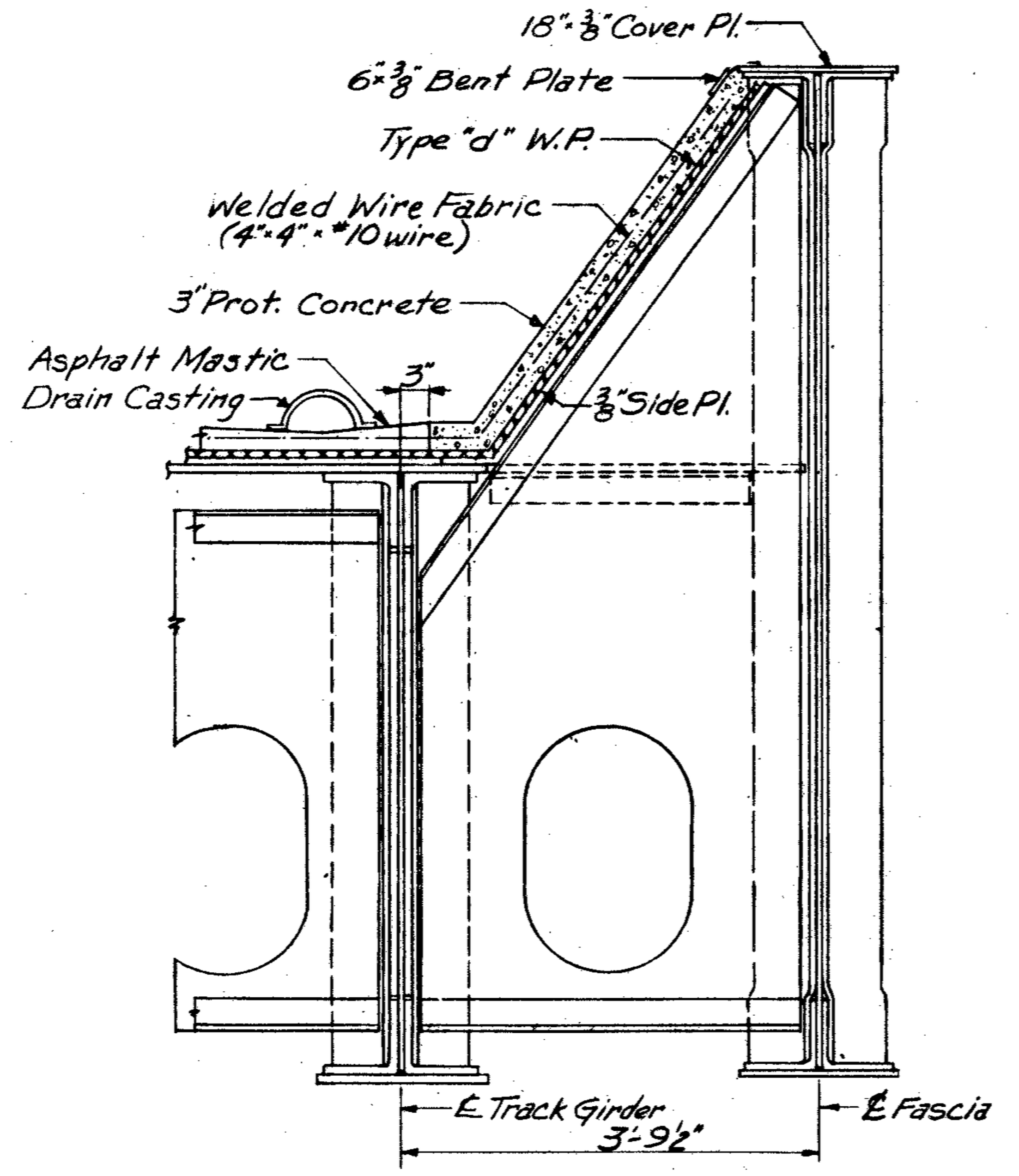
CODE X631

REINFORCING BAR LIST

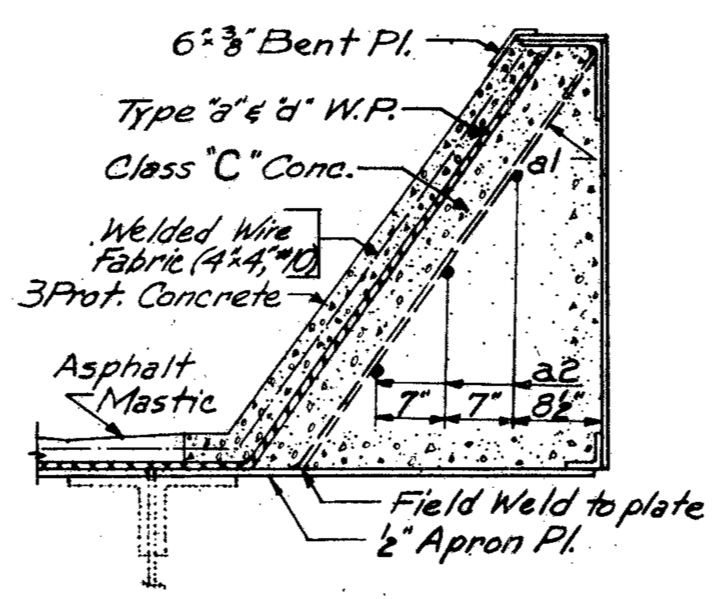
No.	Mark	Size	Length
12	a1	½"φ	4'-3"
12	a2	½"φ	4'-0"

ESTIMATED QUANTITIES - SUBSTRUCTURE

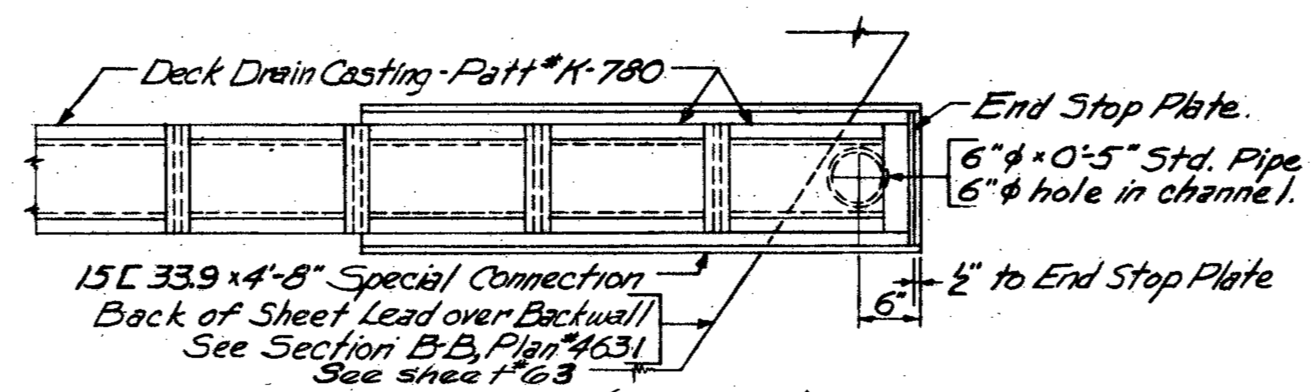
AB	Item	Description	W.Abut.	E.Abut.	N.E.Wing	N.W.Wing	Total
15	S-1	Concrete, Class E, Footings	365 c.y.	365 c.y.	64 c.y.	49 c.y.	843 c.y.
16	S-1	Concrete, Class E, Abut. Walls	755 c.y.	770 c.y.			~~1525 c.y.~~
17	S-1	Concrete, Class E, Wing Walls			92 c.y.	64 c.y.	156 c.y.
18	S-4	Reinforcing Steel	20,000#	19,700#	5550#	3850#	49100#
19	S-9	Sheet Lead, 7.5#/sq. ft.	625#	625#	200#	200#	~~1665#~~
20	S-9	½" Cork Exp. Joint Filler	44 s.y.	40 s.y.	8 s.y.	8 s.y.	100 s.y.
21	S-18	14" Cast-in-Place Reinf. Conc. Piling	6885 Lin.ft.	6885 Lin.ft.	1260 Lin.ft.	810 Lin.ft.	~~15840 Lin.ft.~~
22	S-29	Porous Backfill	160 c.y.	160 c.y.	40 c.y.	30 c.y.	390 c.y.
23	S-29	8" φ Cast Iron Pipe	18 Lin.ft.	14 Lin.ft.			32 Lin.ft.
24	S-29	8" φ Perf. Extra-Strength Vitrified Pipe	104 Lin.ft.	104 Lin. ft.	43 Lin.ft.	35 Lin.ft.	286 Lin.ft.
25	S-29	8" φ Extra-Strength Vitrified Pipe		150 Lin.ft.			150 Lin.ft.
26	S-107	Steel Tie Backs			11,700#	5,300#	~~17,000#~~
27	E-2	Steel Sheet Piling, left in place			4550 S.F.		~~4550 S.F.~~
28	S-3	Waterproofing, Type "A"	2900 S.F.	2900 S.F.	650 S.F.	500 S.F.	6950 S.F.
29	E-2	Excavtion for Struct. (Unclassed)	920 c.y.	920 c.y.	210 c.y.	150 c.y.	~~2200 c.y.~~
30	S-14	W.I. Pipe Railing			45 Lin.ft.	42 Lin.ft.	87 Lin.ft.
31	I-8	Cast Iron Manhole Light Frame and					
		Cover	2 ea.	2 ea.			4 ea.
32	E-2	Cofferdams, Sheeting and Pumping					Lump Sum
33	S-16	First Test Pile					Lump Sum
34	Special	Sheet piling, MP-115					16,416#



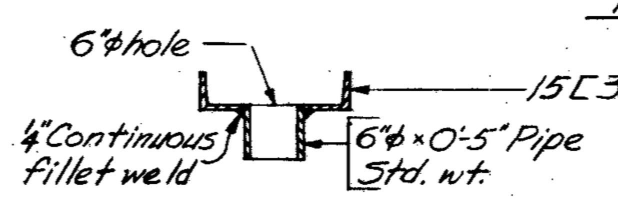
SECTION A-A
Scale: ¾"=1'-0"



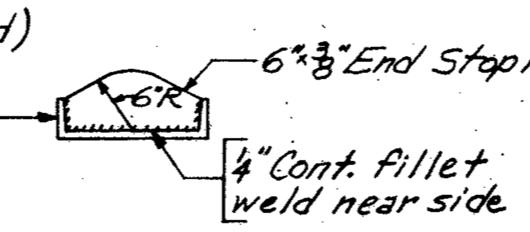
SECTION B-B
Scale: ¾"=1'-0"



PLAN (East End)



SECTION THRU HOLE



END VIEW

DETAILS OF SPECIAL CONNECTION (East End)
Scale: ¾"=1'-0"

REPLACEMENT BARS

MARK	No.	SIZE	LENGTH	SHAPE
RE8	1	1" ◻	7'-4"	Str.
RE7	1	1"φ	7'-4"	Str.
RE6	1	7/8"φ	6'-11"	Str.
RE5	1	3/4"φ	6'-6"	Str.
RE4	1	5/8"φ	6'-1"	Str.
RE2	1	1/2"φ	5'-8"	Str.

Correct Geo. E. Robinson
Engineer of Structures
Approved E. A. Dougherty
Chief Engineer

Drawn K.F.G.		Checked A.C.R.
REVISIONS		
Date	BY	
10-30-50	State	Test Bars added - Est. Quan's.
5-24-54	State	As-Built revisions

STATE OF OHIO C.E. [illegible] REGISTERED PROFESSIONAL ENGINEER

BRIDGE NO. CU-283-15 UG-842(1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR.NO. 12¾ ERIE DIVISION STA. 210+10.24

GRADE SEPARATION

E. 72nd. STREET, CLEVELAND, OHIO

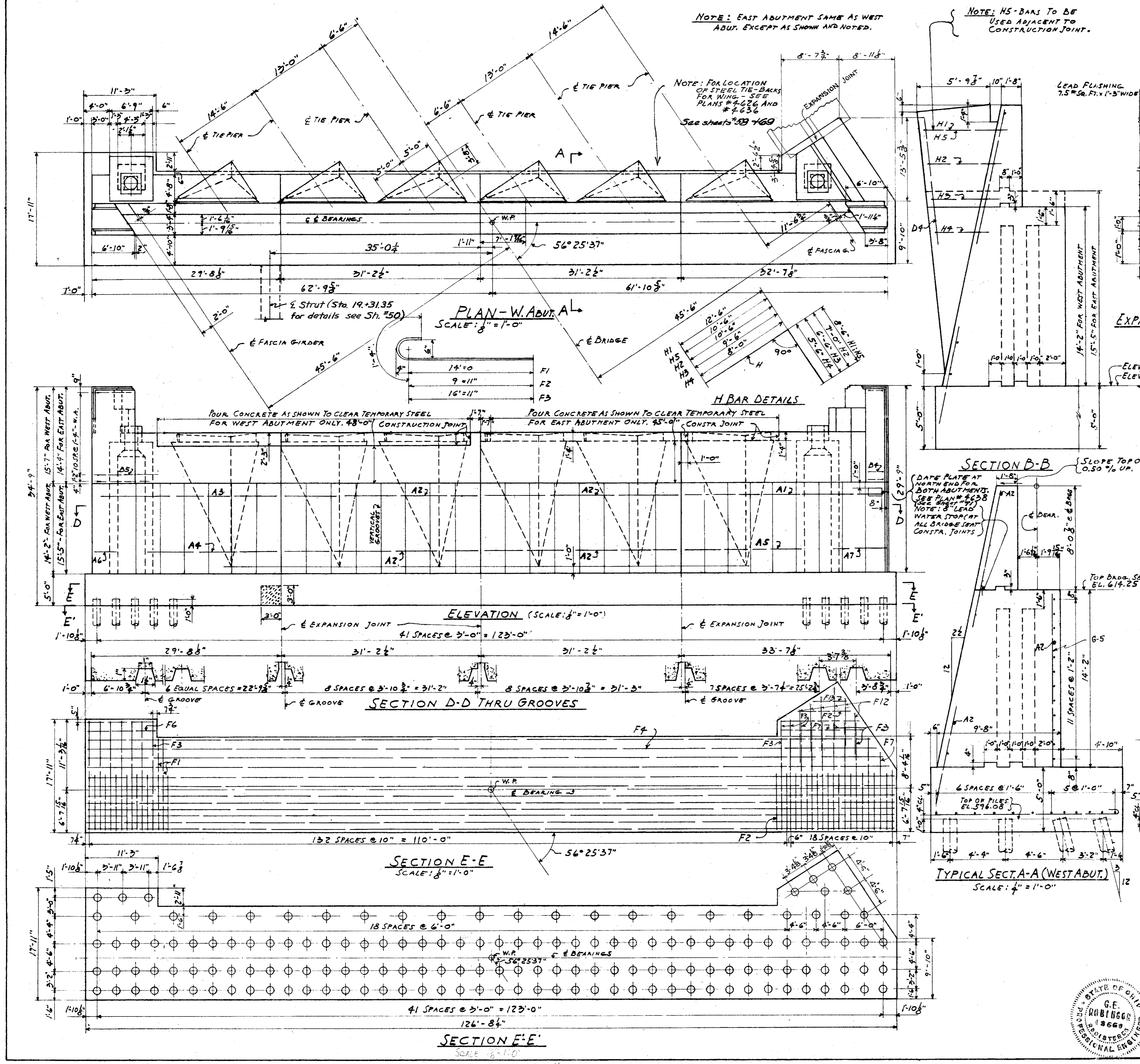
SOLID FLOOR DETAILS

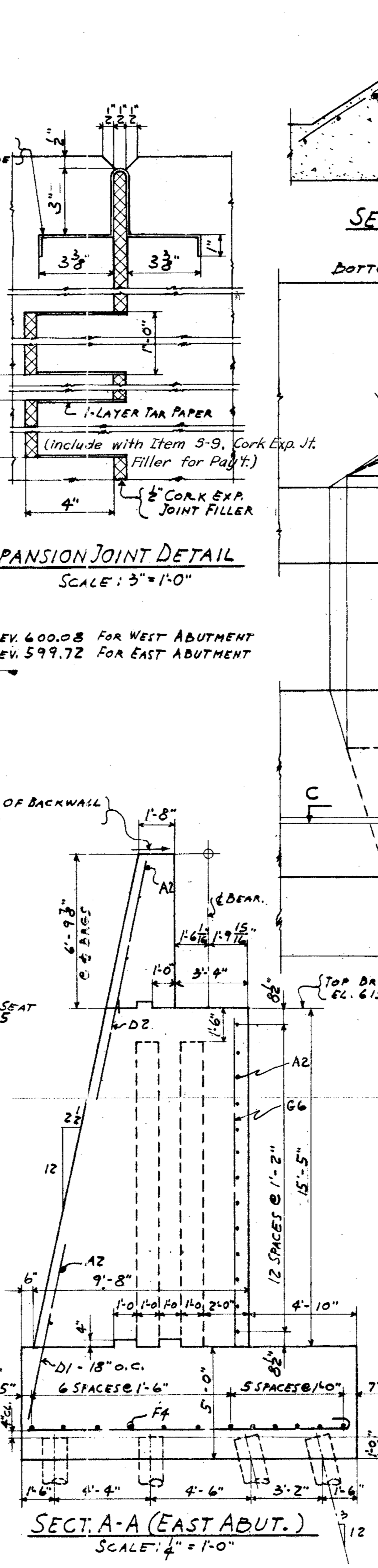
N.Y.C.R.R.-West	Cleveland Division		Plan No. 4632
Scale: Shown	Aug. 15, 1950	Val.Sec. 204-A	File No. 168-7

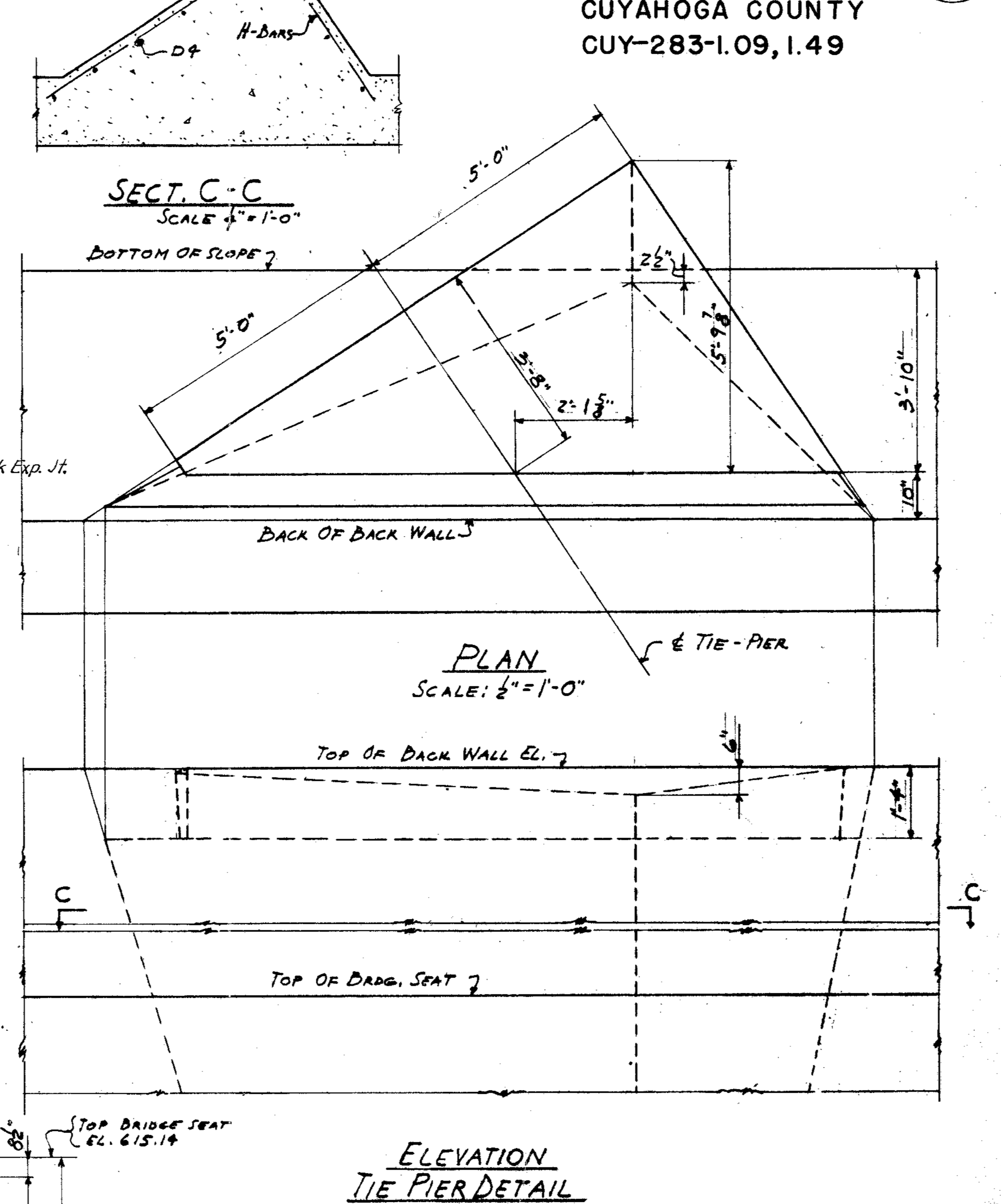
Revised As-Built 5-24-54 J.V.B.

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	POST WAR

CUYAHOGA COUNTY
CUY-283-1.09, 1.49







NOTES

For General Notes see Plan # 4634 A (#67)
For Estimated Quantities see Plan # 4632 (#64)

Contractor was directed to leave portion of sheet piling in place, used around east abutment footing, as it was believed that the removal of this sheet piling would affect the Bents #11 of the temporary bridge "A" and Bents #12 of the temporary bridge "B" which were only on sills.
Piling in Bents 11 and 12, trestles A and B, was driven to refusal without reaching the desired penetration. Mud sills and additional supports were placed. To protect these bents it was necessary to leave in place the portions of cofferdam of east abutment located between abutment footing and bents described, to conform with railroad requirements. (As-Built revision, Change Order #17)

Correct: Geo. E. Robinson, Engineer of Structures
Approved: E. A. Dougherty, Chief Engineer

Drawn P.B.		Checked A.C.R.
REVISIONS		
Date	By	
11-10-50	State	Ret. Wall Strut added
5-24-54	State	As-Built Revisions

STATE OF OHIO G.E. ROBINSON 3668 REGISTERED PROFESSIONAL ENGINEER

BRIDGE NO. CU-283-15 UG-842(1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12 3/4 ERIE DIVISION STA. 210+10.24

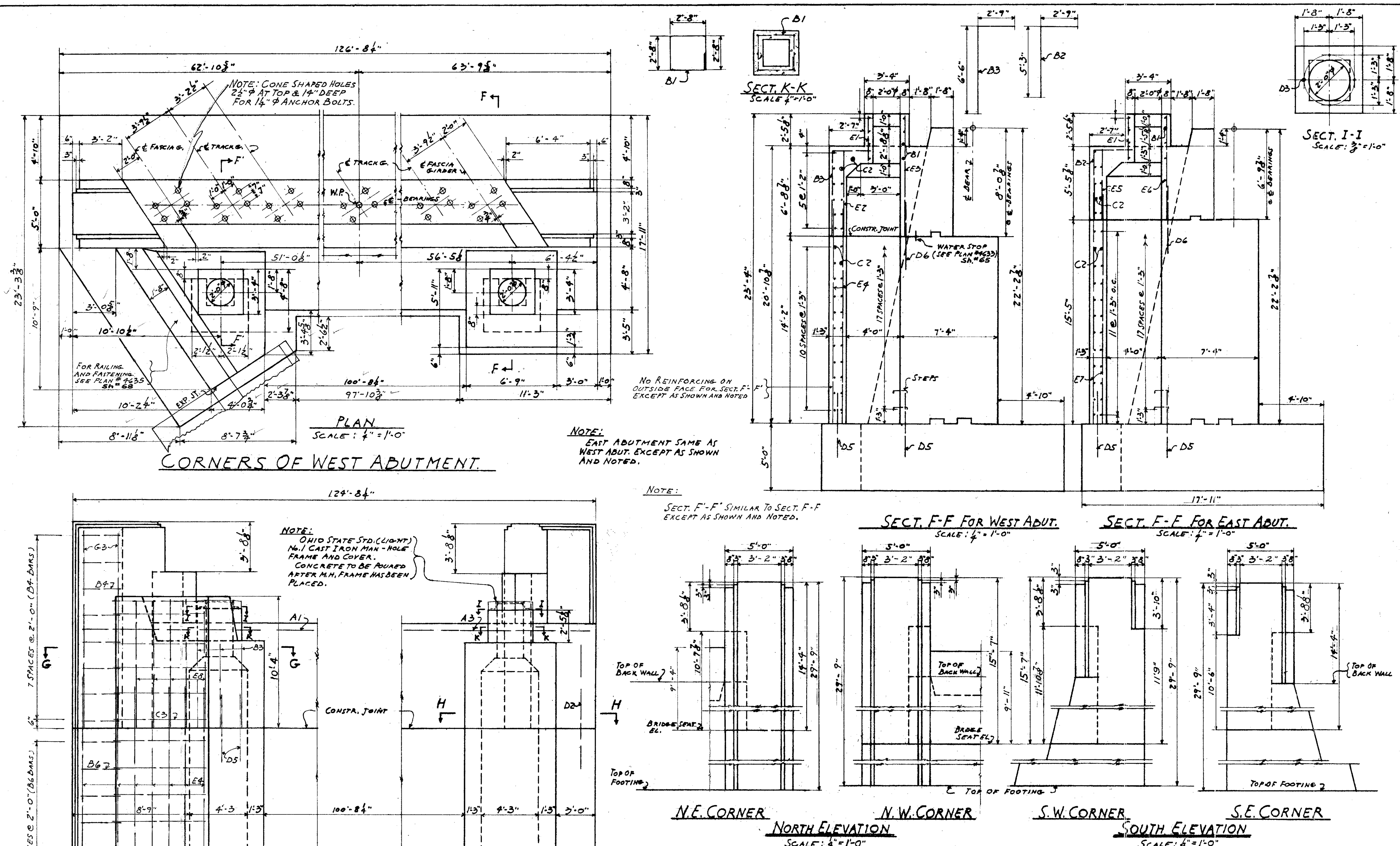
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
ABUTMENT PLAN

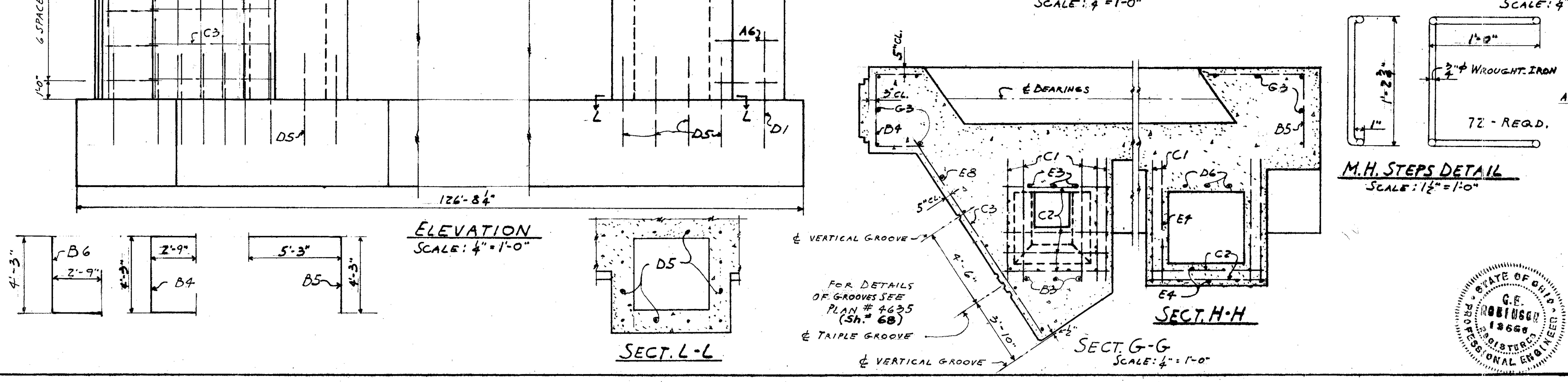
N.Y.C.R.R.-West	Cleveland Division		Plan No. 4633
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-8

Revised As-Built 5-24-54 J.V.P.

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	66 / 85
2	OHIO	U-UG-842(1)	POST WAR	

CUYAHOGA COUNTY
CUY-283-1.09, 1.49





REINFORCEMENT BAR LIST

MARK	NUMBER OF BARS W. ABUT.	NUMBER OF BARS E. ABUT.	NUMBER OF BARS TOTAL	SIZE	LENGTH	DESCRIP.	LOCATION	REMARKS
A1	13	14	27	5/8 φ	31'-0"	STR.	ABUTMENT	
A2	30	32	62	5/8 φ	30'-6"	"	"	
A3	13	14	27	5/8 φ	28'-0"	"	"	
A4	2	2	4	5/8 φ	19'-6"	"	"	
A5	2	2	4	5/8 φ	18'-0"	"	"	
A6	2	2	4	5/8 φ	3'-6"	"	"	
A7	2	2	4	5/8 φ	8'-0"	"	"	
B1	8	8	16	5/8 φ	12'-0"	BENT	M. H.	
B2		6	6	5/8 φ	8'-0"	"	"	
B3	6		6	5/8 φ	9'-3"	"	"	
B4	8		8	5/8 φ	9'-9"	"	N. WEST CORNER BLOCK	
B5	12		12	5/8 φ	9'-6"	"	S. WEST CORNER BLOCK	
C1	68	68	136	5/8 φ	7'-1"	STR.	M.H	
C2	53	66	119	5/8 φ	6'-3"	"	"	
C3	13		13	5/8 φ	13'-3"	"	N. WEST CORNER BLOCK	
D1	73	73	146	3/4 φ	8'-0"	STR.	ABUTMENT	
D2	16	16	32	3/4 φ	11'-0"	"	"	
D3	8	8	16	3/4 φ	0'-9"	"	M.H.	
D4	54	54	108	3/4 φ	10'-0"	"	"	
D5	30	24	54	3/4 φ	5'-0"	"	"	
D6	6	6	12	3/4 φ	5'-0"	"	"	
E8	5		5	5/8 φ	9'-9"	"	N. W. CORNER	
E1	10	10	20	5/8 φ	3'-3"	STR.	M.H.	
E2	35		35	5/8 φ	6'-6"	"	"	
E3	6		6	5/8 φ	5'-0"	"	"	
E4	43		43	5/8 φ	16'-3"	"	"	
E5		35	35	5/8 φ	5'-3"	"	"	
E6		6	6	5/8 φ	5'-0"	"	"	
E7		54	54	5/8 φ	17'-6"	"	"	
F1	66	66	132	1"	15'-4"	BENT	FOOTING	
F2	78	78	158	1"	11'-3"	"	"	
F3	15	9	24	1"	18'-3"	"	"	
F4	48	48	96	7/8 φ	34'-6"	STR.	"	
F5		2	2	7/8 φ	7'-0"	"	"	
F6	2		2	7/8 φ	10'-6"	"	"	
G3	10		10	5/8 φ	15'-0"	"	CORNER BLOCK	
G4		10	10	5/8 φ	14'-0"	"	N. E. CORNER BLOCK	
H1	3	3	6	5/8 φ	21'-0"	BENT	TIE PIERS	
H2	6	6	12	5/8 φ	17'-6"	"	"	
H3	6	6	12	5/8 φ	16'-0"	"	"	
H4	6	6	12	5/8 φ	13'-6"	"	"	
H5	3	3	6	5/8 φ	19'-0"	"	"	TOP BAR AT CUT TIE PIER

see Plan #4634-A (Sh. # 67) for remainder of bar list.

NOTE: W.I. manhole steps include with Item "S-107, Structural Steel" for payment.

Correct Geo. E. Robinson
Engineer of Structures

Approved E. A. Dougherty
Chief Engineer

Drawn P.B.		Checked A.C.R.
REVISIONS		
Date	By	
10-30-50	State	Pylon Dim. - W.I. Step note.

STATE OF OHIO G.E. ROBINSON 13660 REGISTERED PROFESSIONAL ENGINEER

BRIDGE No. CU-283-15 UG-842 (1)

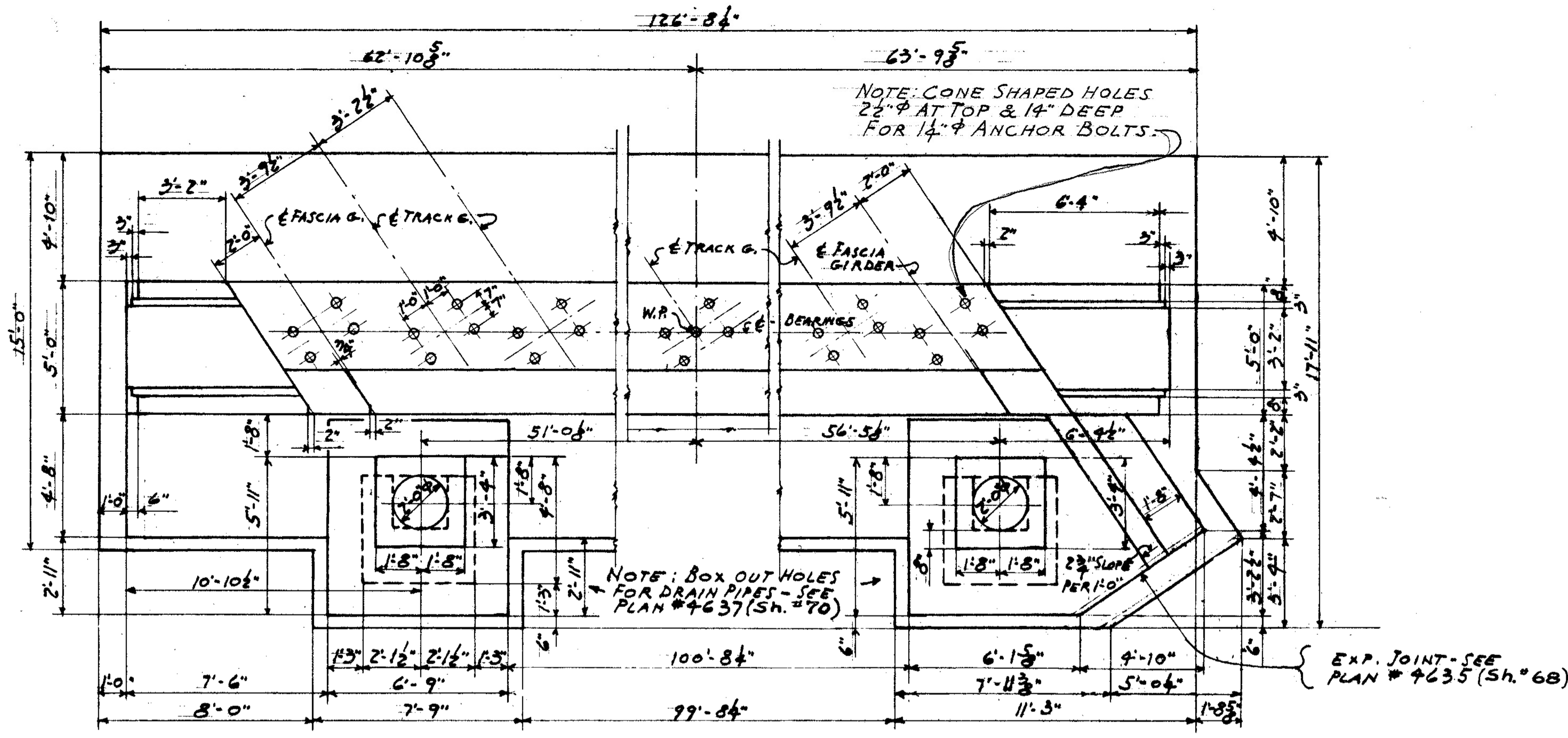
N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR.NO. 12 3/4 ERIE DIVISION STA. 210+10.24

GRADE SEPARATION
E.72nd. STREET, CLEVELAND, OHIO
ABUTMENT DETAILS

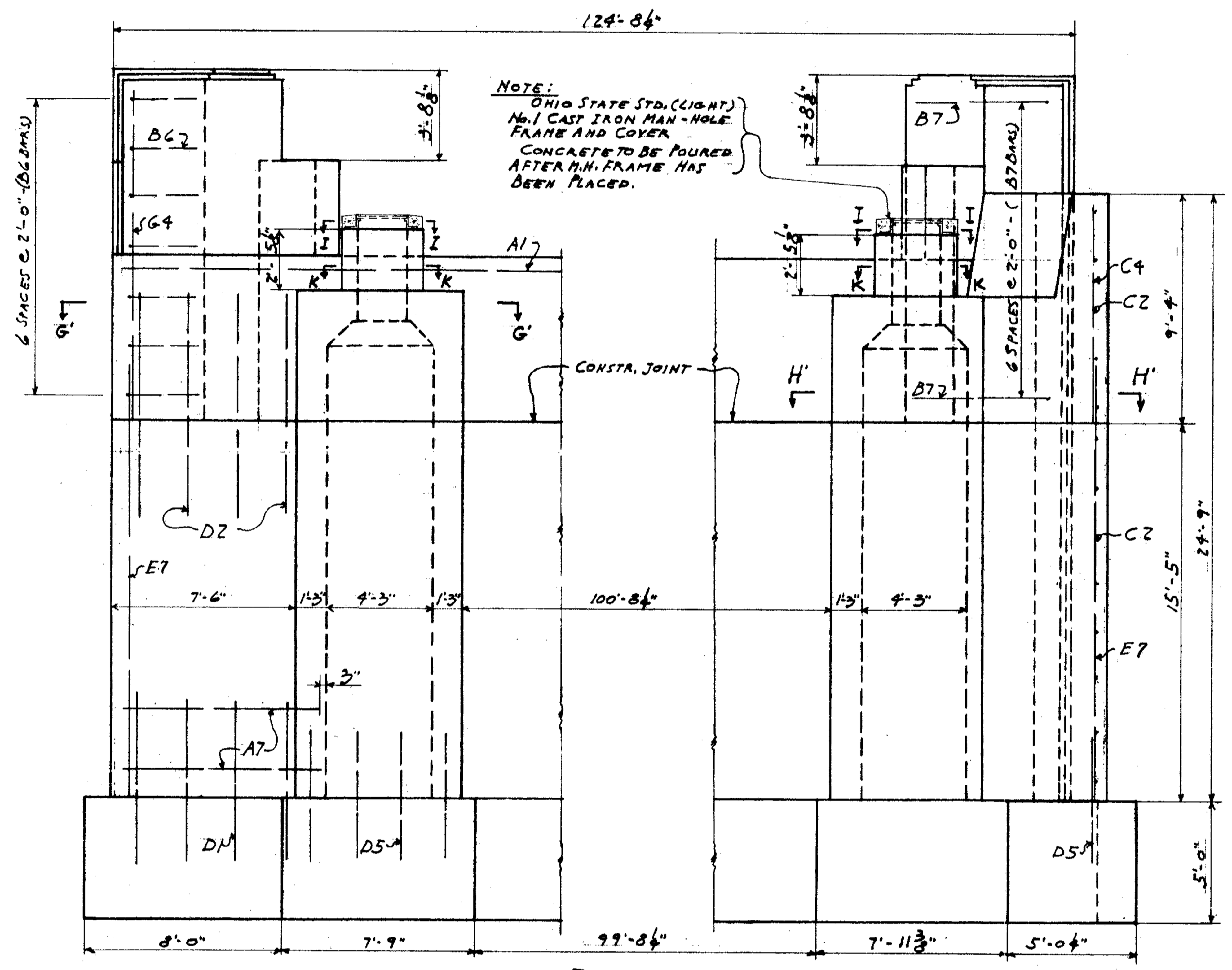
N.Y.C.R.R.-West	Cleveland Division		Plan No. 4634
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-9

CUYAHOGA COUNTY
CUY-283-1.09.149

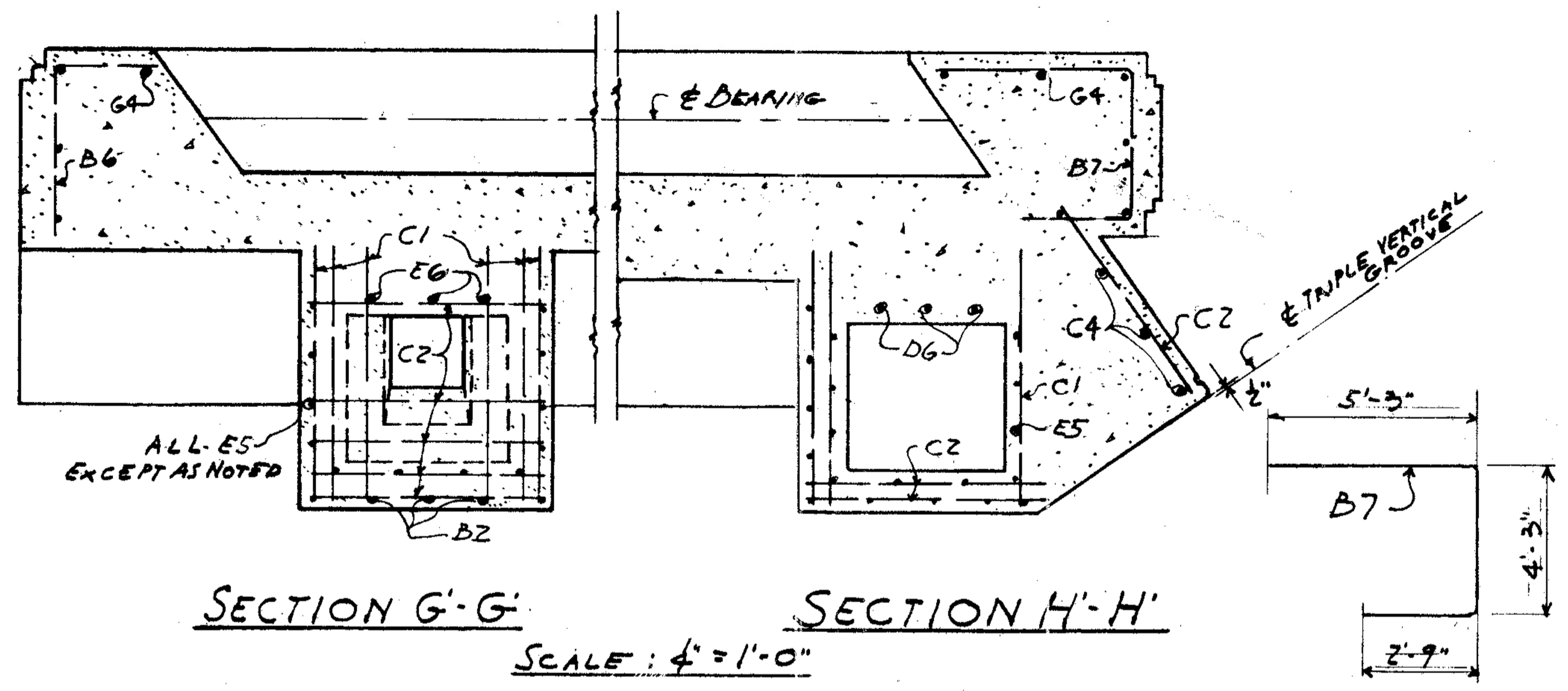


PLAN
SCALE: ¼" = 1'-0"

CORNERS OF EAST ABUTMENT.



ELEVATION
SCALE: ¼" = 1'-0"

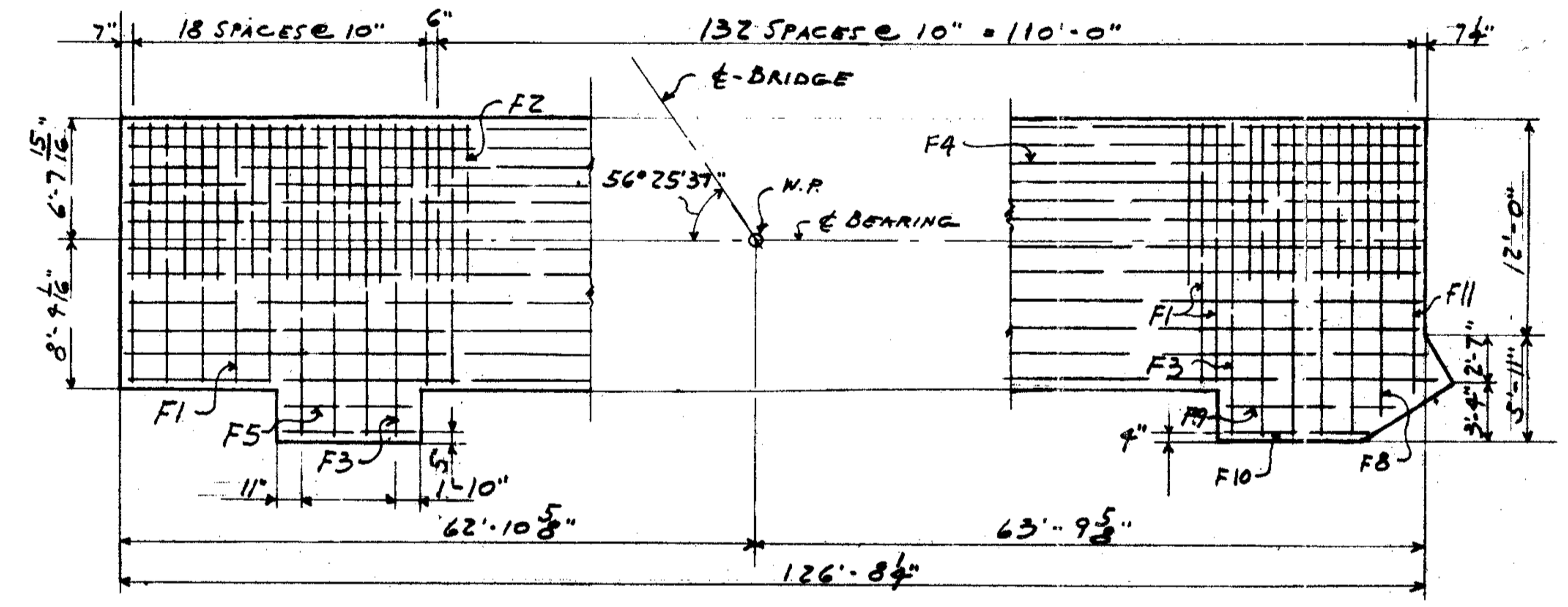


SECTION G-G SECTION H'-H'
SCALE: ¼" = 1'-0"

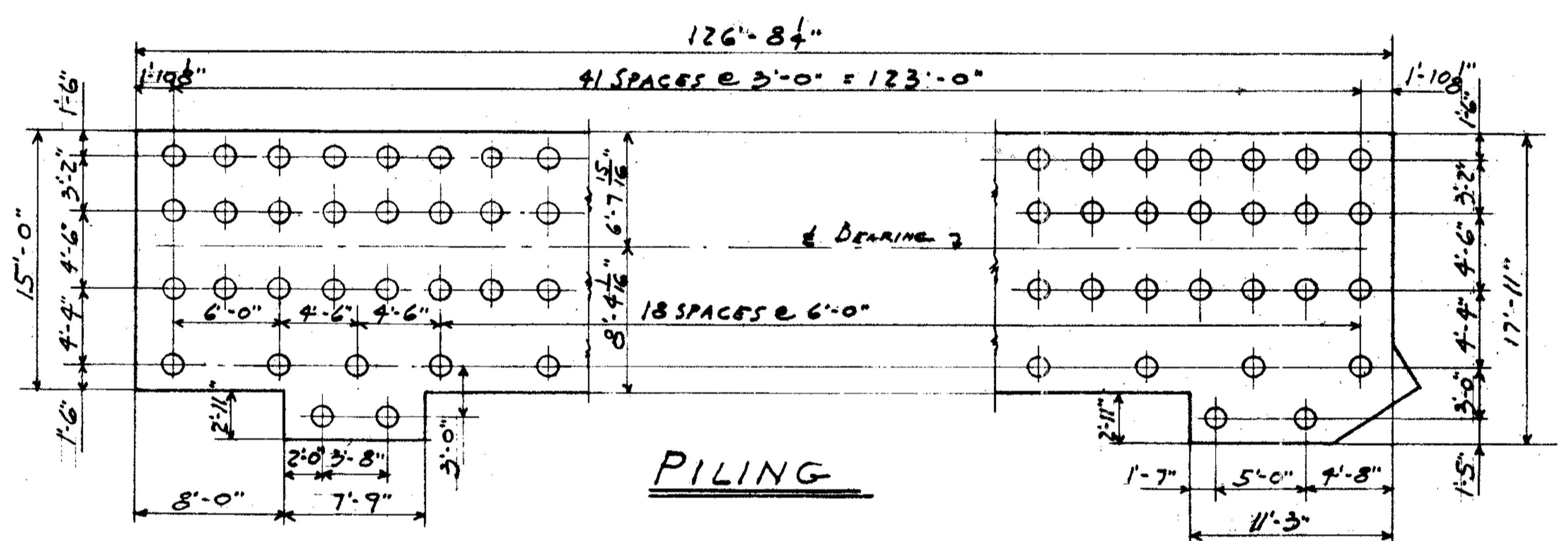
REINFORCEMENT BAR LIST

MARK	NUMBER OF BARS W. ABUT.	NUMBER OF BARS E. ABUT.	NUMBER OF BARS TOTAL	SIZE	LENGTH	DESCRIP.	LOCATION	REMARKS
B6		7	7	⅝Φ	7-0"	BENT.	N.W. & S.E. CORN.	
B7		7	7	⅝Φ	12'-0"	"	N.E. CORNER	
C4		3	3	⅝Φ	9'-0"	STR.		
F7	2		2	⅞Φ	12'-0"	STR.	FT. W. ABUT.	
F8		1	1	⅞Φ	16'-0"	STR.	FT. E. ABUT.	
F9		1	1	⅞Φ	9'-0"	STR.	FT. EAST ABUT.	
F10		1	1	⅞Φ	7'-6"	STR.	FT. E. ABUT.	
F11		1	1	⅞Φ	15'-0"	STR.	FT. E. ABUT.	
F12	6		6	⅞Φ	8'-0"	STR.	FT. W. ABUT.	
G5	58		58	⅝Φ	14'-0"	STR.	WEST ABUT.	
G6		58	58	⅝Φ	15-3"	"	EAST ABUT.	
F13	1		1	⅞Φ	2'-6"	"	FT. W. ABUT.	

Total Wt. = 39,700#



REINFORCING



PILING

S.E. CORNER N.E. CORNER

FOOTING OF EAST ABUTMENT
SCALE: ⅛" = 1'-0"

GENERAL NOTES - MASONRY

SPECIFICATIONS - STATE OF OHIO, DEPARTMENT OF HIGHWAYS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, JAN. 1, 1949 AND REVISIONS THEREOF.

CONCRETE - ALL CONCRETE TO BE CLASS "E". IF ADDITIONAL CONSTRUCTION JOINTS ARE APPROVED BY THE ENGINEER THEY SHALL BE PROTECTED BY LEAD WATERSTOPS IN THE SAME MANNER AS SHOWN FOR EXPANSION JOINTS. ALL EXPOSED HORIZONTAL SURFACES OF EXPANSION JOINTS TO BE SEALED WITH SELF HEALING BRIDGE CEMENT.

REINFORCING STEEL - ALL REINFORCING BARS TO BE STRUCTURAL GRADE AND OF A DEFORMED TYPE.

DAMPPROOFING - DAMPPROOFING TO BE TYPE "A" WATERPROOFING AND TO BE APPLIED TO THE BACKS OF ABUTMENTS AND WINGS ABOVE FOOTINGS.

SURFACE FINISH OF CONCRETE: FORM LINER SHALL BE USED ON ALL EXPOSED SURFACES OF ABUTMENTS AND WINGS. THESE SURFACES SHALL BE GROUT CLEANED ACCORDING TO ITEM S-1.22. THE RUBBING OF ANY CONCRETE SURFACE WILL NOT BE PERMITTED.

BEARING PILES - ALL BEARING PILES TO BE CAST IN PLACE CONCRETE PILES WITH A BUTT. DIAMETER OF AT LEAST 14 INCHES AND SHALL BE TAPERED AND FLUTED WITH A MIN. THICKNESS OF 7 GAGE. THE CASING SHALL BE LEFT IN PLACE. PILES TO HAVE A MINIMUM CAPACITY OF 35 TONS. ESTIMATED PILING LENGTH 45 FEET.

TIE-BACKS - STEEL TIE RODS, INCLUDING TURNBUCKLES, NUTS, PLATE WASHERS AND CHANNEL FRAMES SHALL BE PLACED AS SHOWN. THE RODS AND TURNBUCKLES SHALL BE WRAPPED IN THREE PLY ASPHALT WATERPROOFING MEMBRANE AS PER A.R.E.A. SPECS. THE CHANNEL FRAMES SHALL BE GIVEN A HEAVY COAT OF NO-OX-ID "A SPECIAL" OR EQUAL.

EXCAVATIONS AND SHEETING FOR TIE BACKS - EXCAVATION SHALL BE KEPT TO A MINIMUM SO THAT SHEETING WILL BEAR AGAINST UNDISTURBED EARTH. STEEL SHEET PILING SHALL BE COATED JUST BEFORE DRIVING WITH A HEAVY COAT OF NO-OX-ID "A SPECIAL" OR EQUAL.

EXCAVATION FOR, AND PROTECTIVE COVERINGS ON STEEL TIE BACKS SHALL BE INCLUDED WITH ITEM S-107, "STEEL TIE BACKS" FOR PAYMENT.

STRUCTURAL EXCAVATION - See Sheets No. 25 and 26 for Cross-Sections.

Correct Geo. E. Robinson
Engineer of Structures
Approved [signature]
Chief Engineer

Drawn P.B		Checked A.G.R.
REVISIONS		
Date	BY	
10-30-50	State	Rev. Bearing Piles & Tie Back notes.

STATE OF OHIO G.E. ROBINSON 6660 REGISTERED PROFESSIONAL ENGINEER

BRIDGE No. CU-283-15 UG-842 (1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

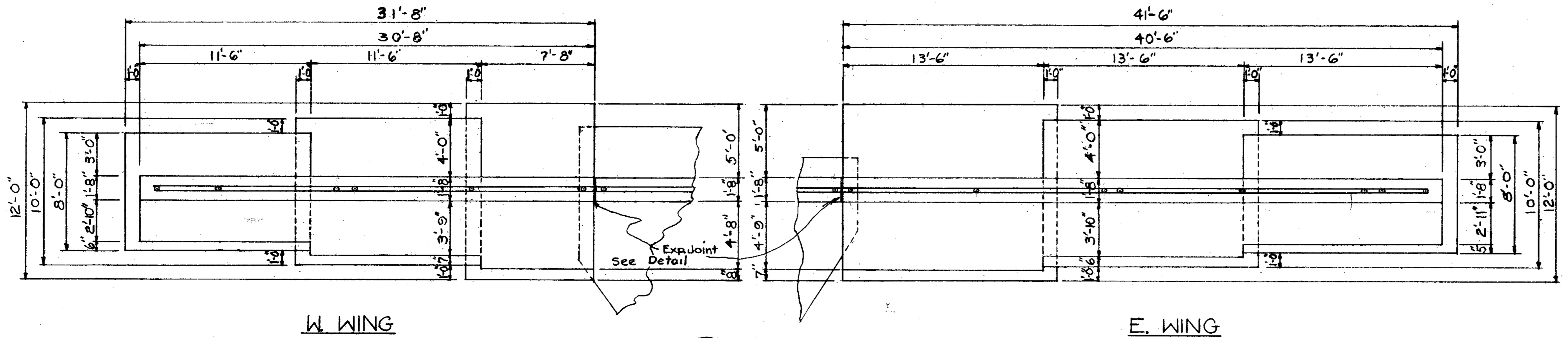
BR.NO. 12¾ ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
ABUTMENT DETAILS

N.Y.C.R.R.-West	Cleveland Division		Plan No. 4634A
Scale: Shown	Aug.15,1950	Val.Sec.204-A	File No. 168-9A

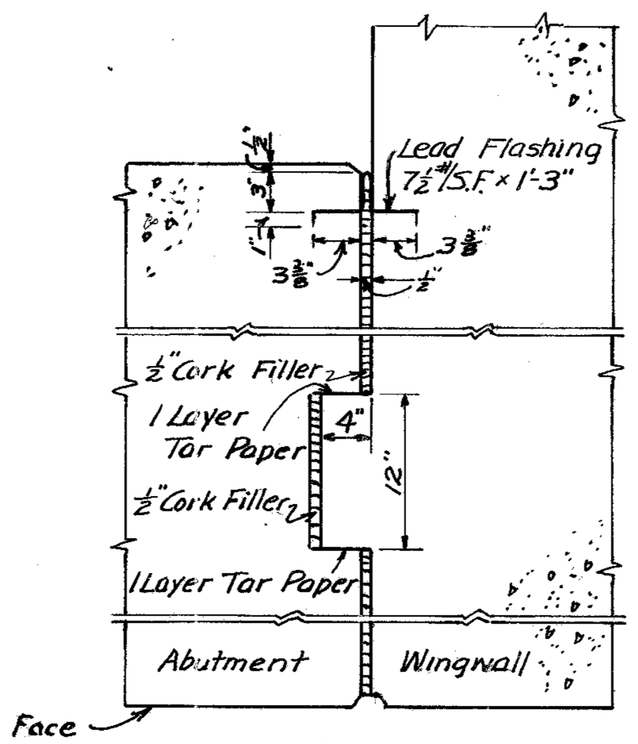
FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842-(1)	POST WAR

68
85

CUYAHOGA COUNTY
CUY-283-1.09, 1.49

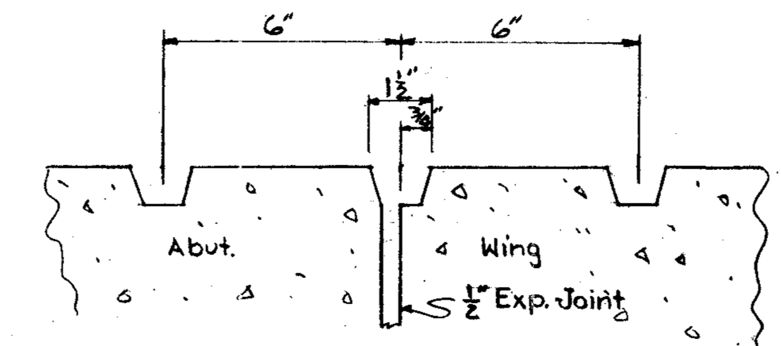


PLAN
Scale: $\frac{3}{16}$"=1'-0"



DETAIL EXPANSION JOINT
ABUTMENT & WINGWALL
Scale: 1"-1'-0"

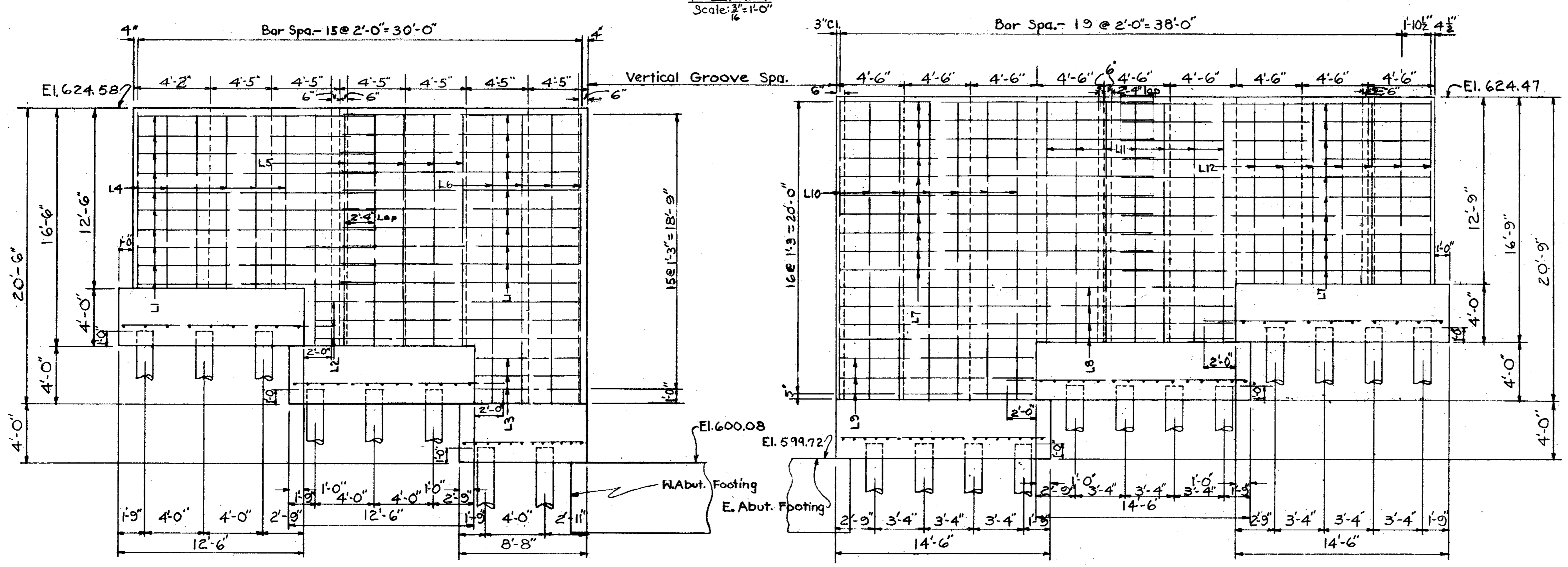
NOTE: Tar Paper included with Item S-9, $\frac{1}{2}$" Cork Exp Jt Filler for payment.



DETAIL EXPANSION JOINT
IN TRIPLE GROOVE

REINFORCING BAR LIST

MARK	NO.	SIZE	LENGTH	DESCRIPTION	LOCATION
L1	20	5/8" ϕ	16'-3	Straight	W. Wing - Front Face
L2	3	5/8" ϕ	18'-6"	"	" " "
L3	3	5/8" ϕ	7'-0"	"	" " "
L4	6	5/8" ϕ	12'-0"	"	" " "
L5	6	5/8" ϕ	16'-0"	"	" " "
L6	4	5/8" ϕ	20'-0"	"	" " "
L7	20	5/8" ϕ	21'-3"	"	E. Wing - Front Face
L8	4	5/8" ϕ	26'-6"	"	" " "
L9	3	5/8" ϕ	13'-0"	"	" " "
L10	7	5/8" ϕ	20'-6"	"	" " "
L11	7	5/8" ϕ	16'-6"	"	" " "
L12	7	5/8" ϕ	12'-6"	"	" " "
M1	31	1" ϕ	12'-2"	Hook 1 End	E. & W. Footing
M2	28	1" ϕ	10'-2"	" "	" "
M3	19	1" ϕ	8'-2"	" "	" "
M4	16	1" ϕ	14'-3"	Straight	West "
M5	16	1" ϕ	14'-0"	"	E. "
N1	52	7/8" ϕ	6'-0"	"	E. & W. - Dowels
N2	9	7/8" ϕ	7'-0"	"	" - Rear Face
N3	8	7/8" ϕ	9'-0"	"	" " "
N4	9	7/8" ϕ	11'-0"	"	" " "
N5	11	7/8" ϕ	12'-0"	"	" " "
N6	9	7/8" ϕ	15'-0"	"	" " "
N7	11	7/8" ϕ	19'-0"	"	" " "
N8	5	7/8" ϕ	13'-0"	"	East " "
N9	12	7/8" ϕ	21'-6"	"	" " "
N10	2	7/8" ϕ	26'-6"	"	" " "
N11	12	7/8" ϕ	16'-9"	"	West Rear Face
N12	2	7/8" ϕ	18'-6"	"	" " "
M6	16	1" ϕ	16'-3"	"	East Footing
M7	16	1" ϕ	8'-0"	"	West "
				Total Wt. = 9400#	

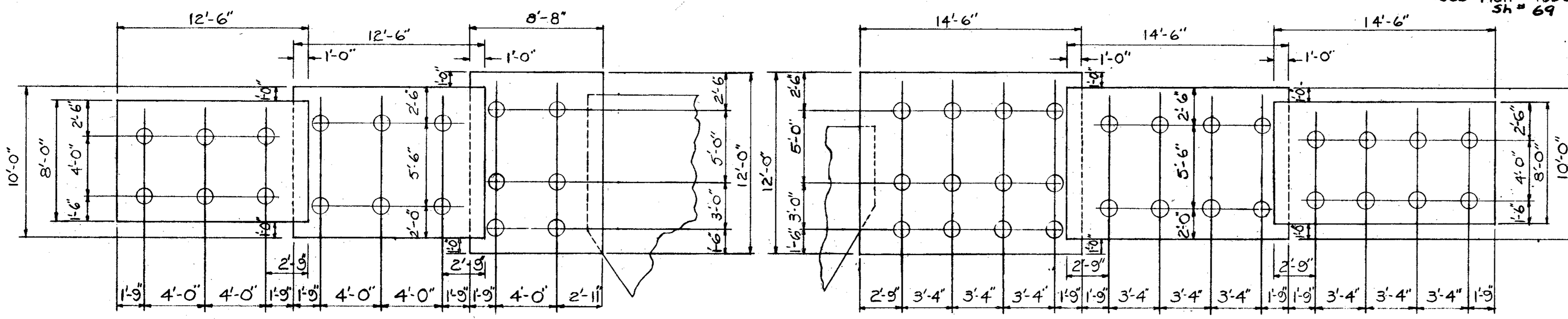


W. WING - FRONT FACE BARS

E. WING - FRONT FACE BARS

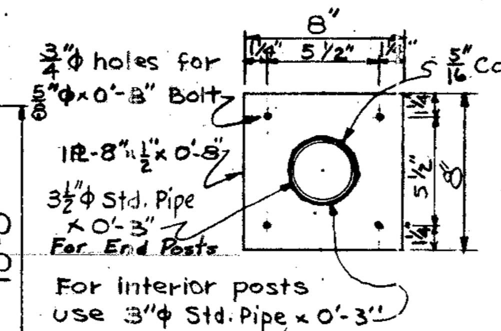
ELEVATION
Scale: $\frac{3}{16}$"-1'-0"

Note: Railing not shown on elevation see Plan # 4636 & this plan. Sh # 69

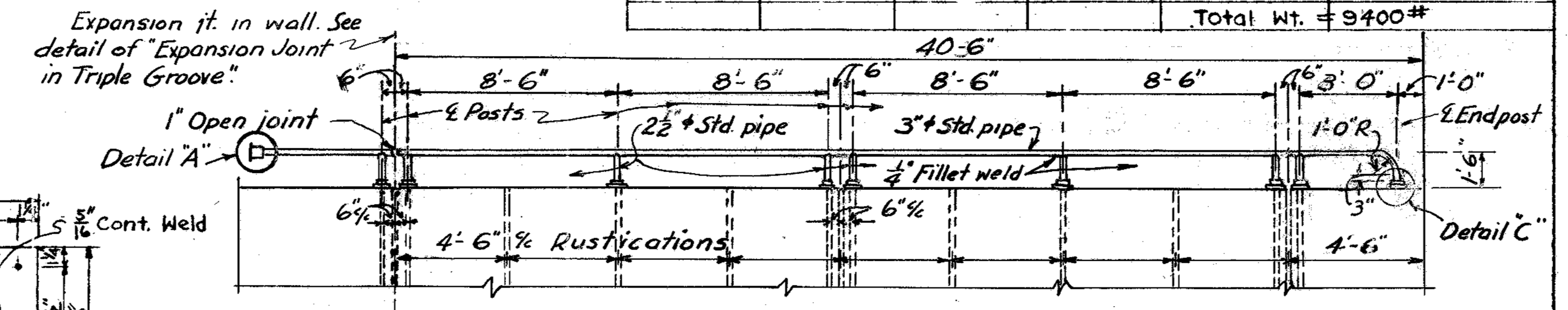


WEST FOOTING

EAST FOOTING

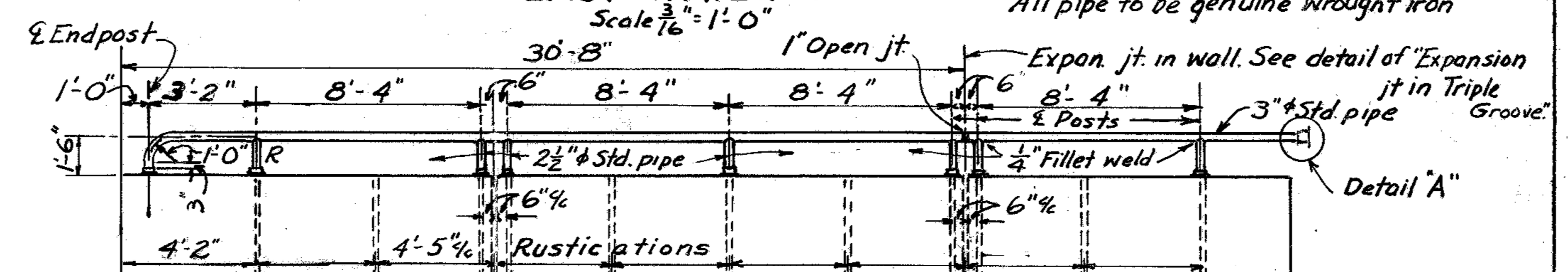


DETAIL C
Scale: $1\frac{1}{2}$"=1'-0"



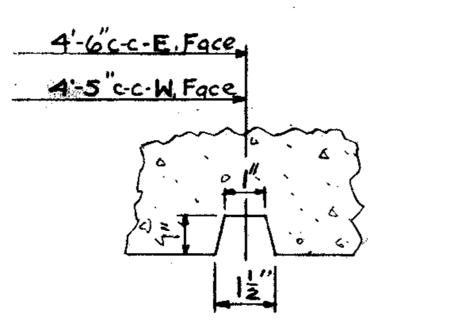
EAST RAILING
Scale $\frac{3}{16}$"=1'-0"

Note: All pipe to be genuine wrought iron



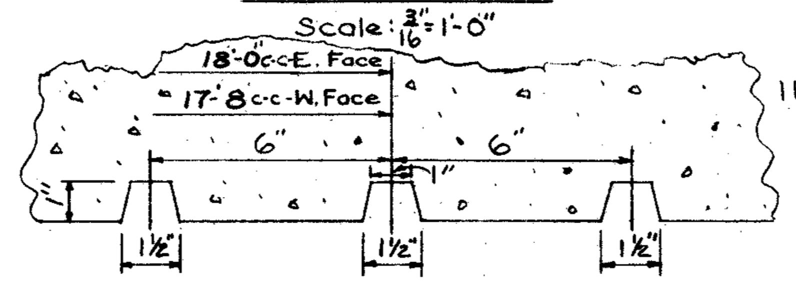
WEST RAILING
Scale $\frac{3}{16}$"=1'-0"

Note: Elevations are shown looking from rear of wall.

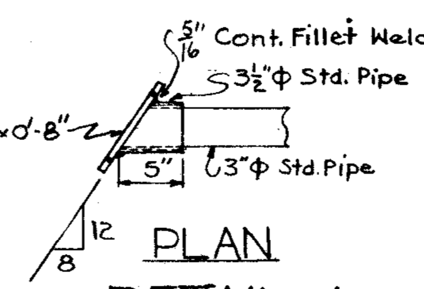


SINGLE GROOVE
Scale: 3"=1'-0"

PILE PLAN
Scale: $\frac{3}{16}$"=1'-0"



TRIPLE GROOVE
Scale: 3"=1'-0"



PLAN
DETAIL A
Scale: 1"=1'-0"

Note: Plate-8" x $\frac{1}{2}$" x 0'-8" same as detail C.

Correct Geo. E. Robinson
Engineer of Structures

Approved
Chief Engineer

Drawn H.E.L.		Checked	
REVISIONS			
Date	BY		
10-27-50	State	Spacing of rustications & railing posts	
10-27-50	State	Expansion Jt detail added.	
10-27-50	State	Railing Sleeve deleted.	

STATE OF OHIO G. E. ROBINSON REGISTERED PROFESSIONAL ENGINEER

BRIDGE No. CU-283-15 UG-842 (1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12$\frac{3}{4}$ ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
WINGWALL PLAN

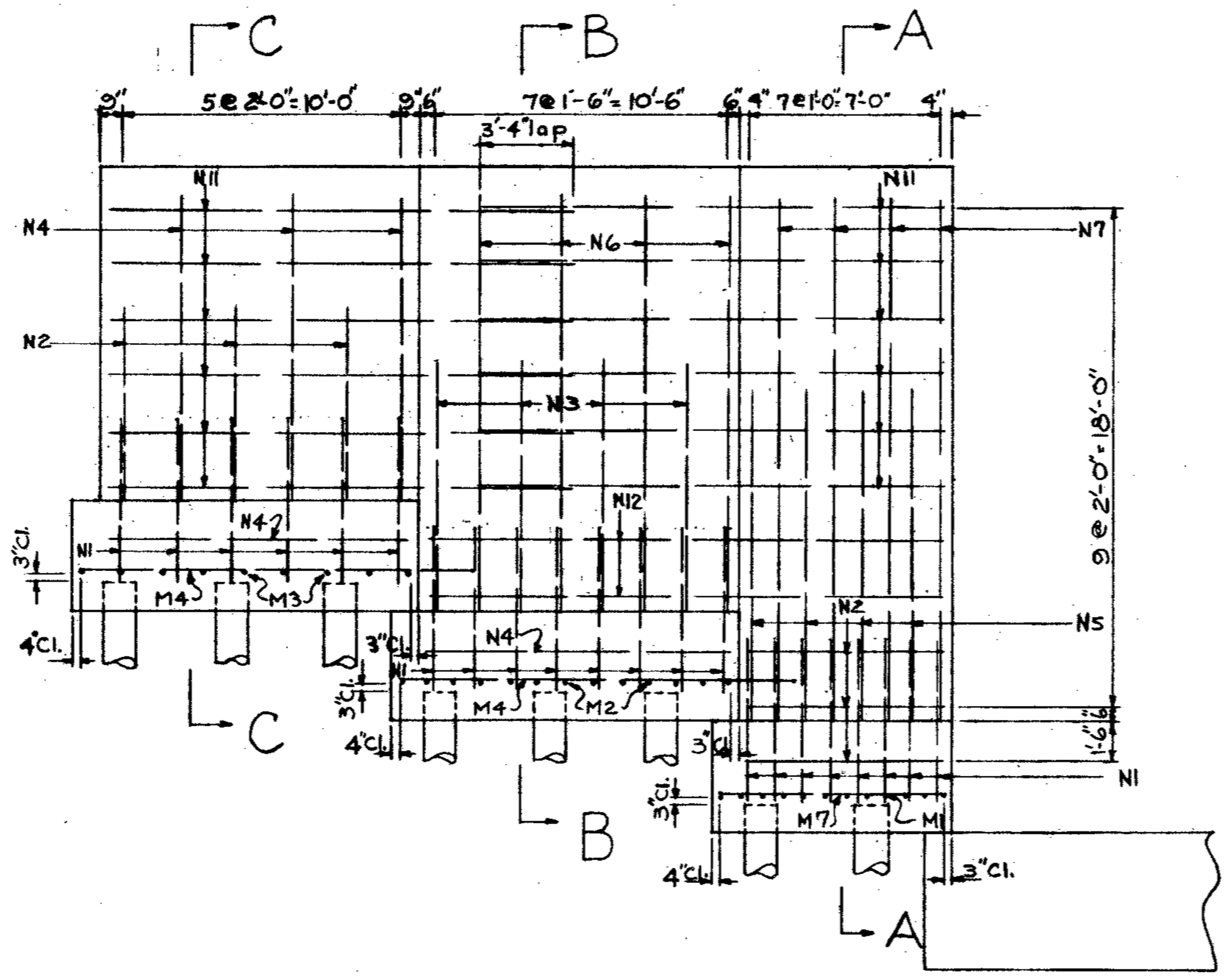
N.Y.C.R.R.-West	Cleveland Division	Plan No. 4635
Scale: Shown	Aug. 15, 1950 Val. Sec. 204-A	File No. 168-10

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842-(1)	POST WAR

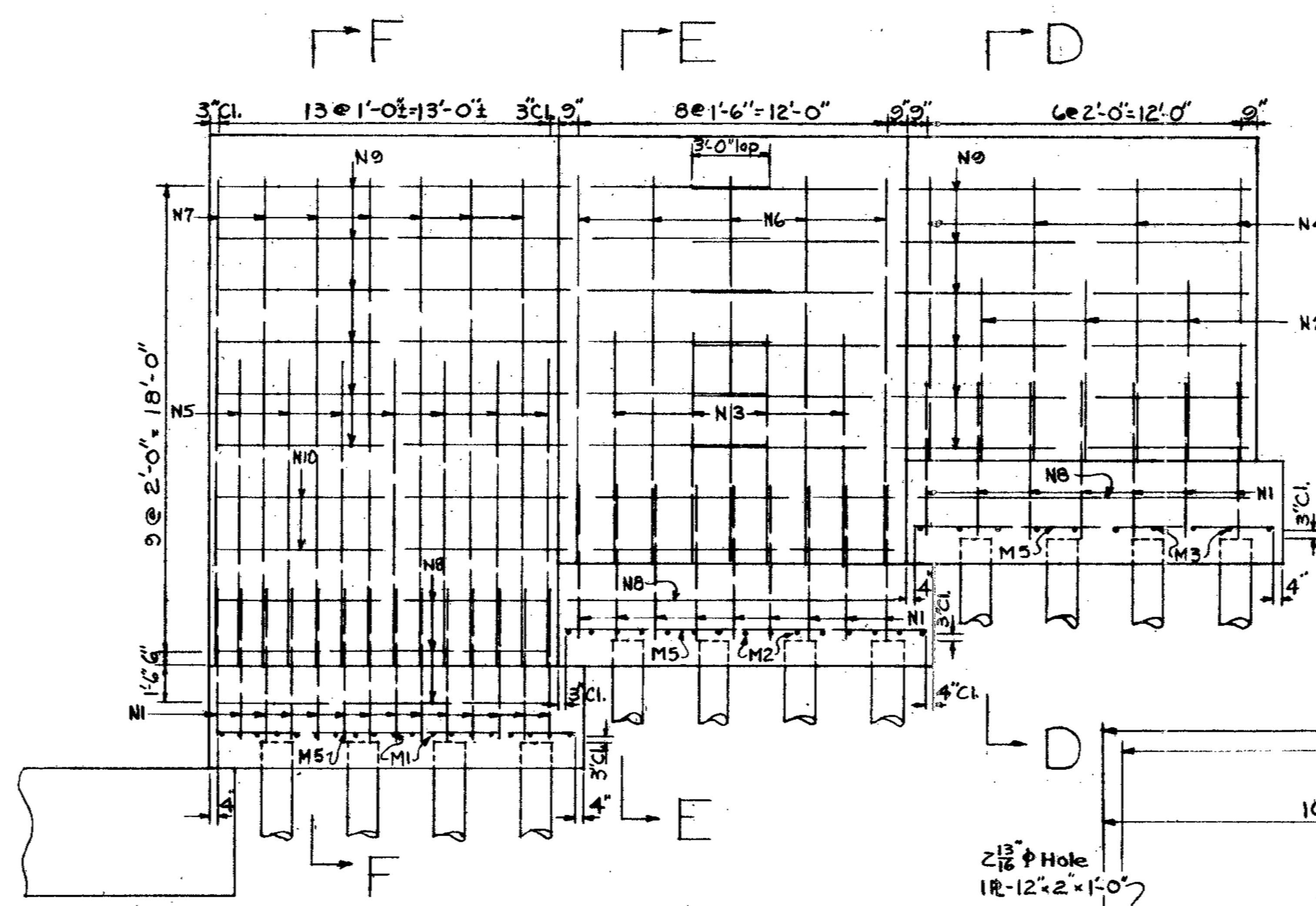
69
85

CUYAHOGA COUNTY
CUY-283-1.09, 1.49

ELEVATION
Scale: $\frac{3}{16}$" = 1'-0"



W. WING - REAR FACE BARS



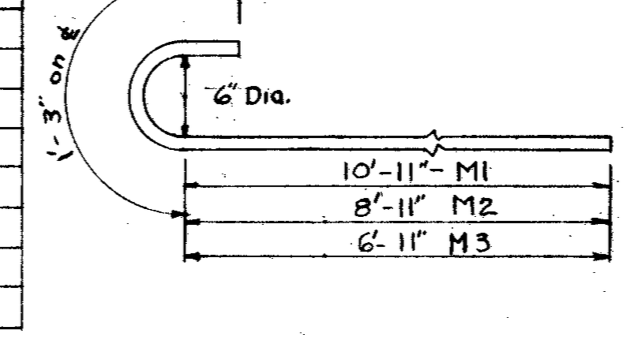
E. WING - REAR FACE BARS

Note:
Elevations are shown looking from rear of walls.

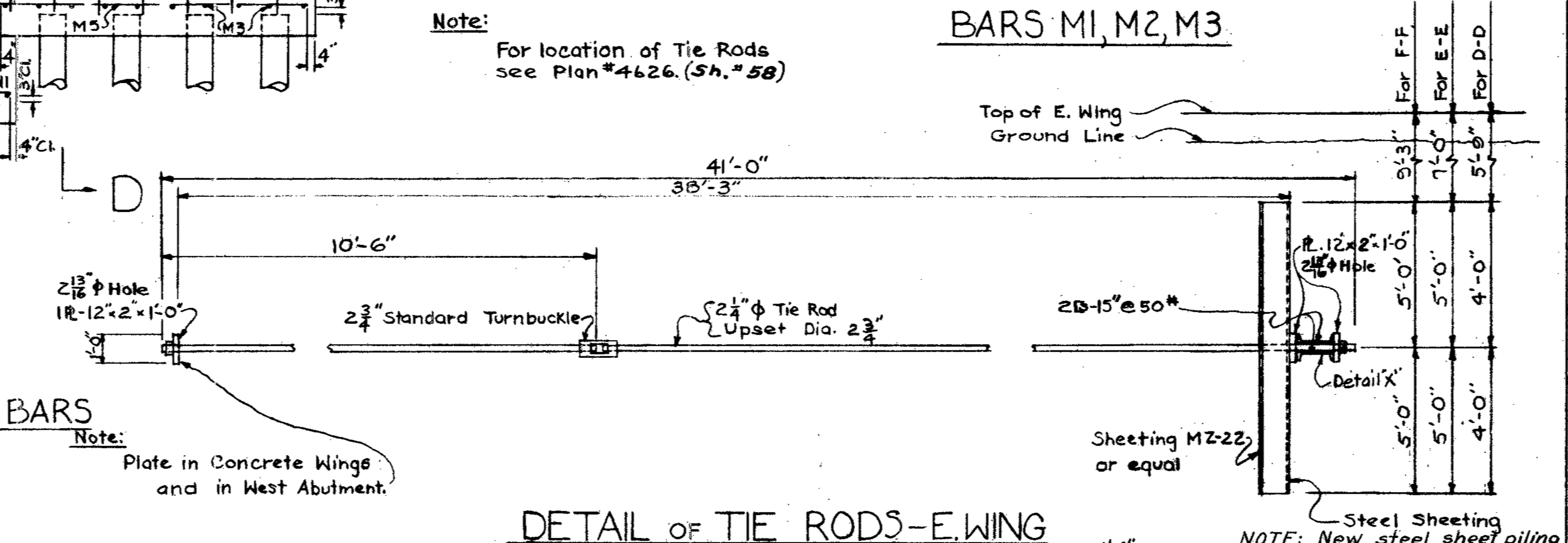
TIE ROD LIST

MARK	NO.	SIZE		LENGTH	LOCATION
A	1	2¼"φ	10'-6"	7'-4"	W. Wing
B	1	2¼"φ	10'-6"	11'-9"	"
C	1	2¼"φ	10'-6"	15'-9"	"
D	1	2¼"φ	10'-6"	20'-0"	"
E	1	2¼"φ	10'-6"	24'-3"	"
F	1	2¼"φ	10'-6"	28'-6"	"
G	1	2¼"φ	10'-6"	32'-9"	"
H	1	2¼"φ	10'-6"	37'-0"	"
J	9	2¼"φ	10'-6"	30'-3"	E. Wing

Note:
For location of Tie Rods see Plan #4626. (Sh. #58)



BARS M1, M2, M3



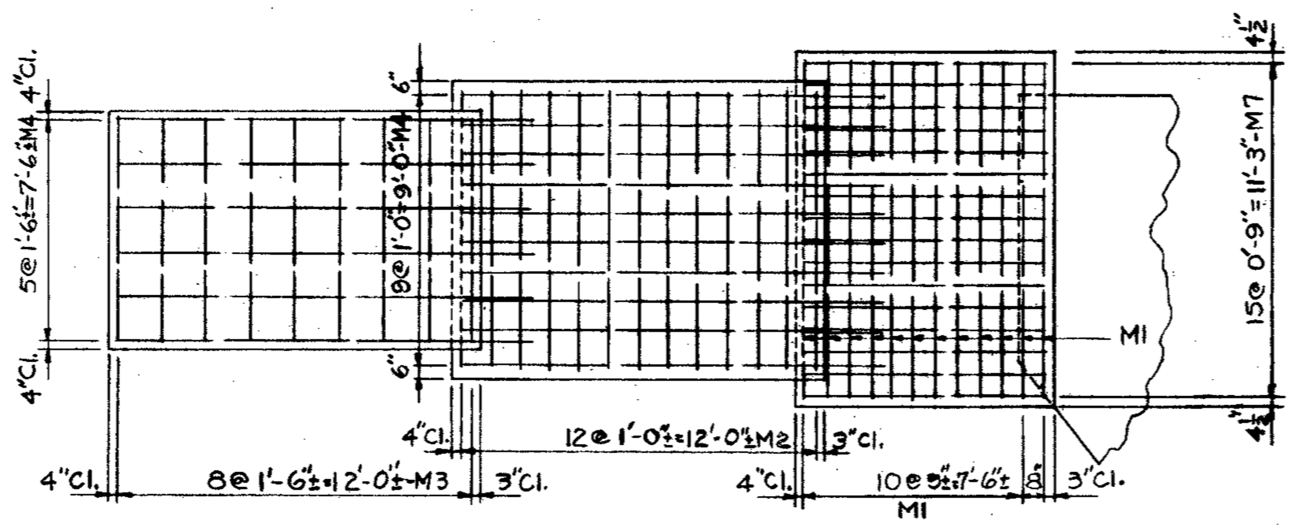
Note:
Plate in Concrete Wings and in West Abutment.

DETAIL OF TIE RODS - E. WING
Scale: ¼" = 1'-0"

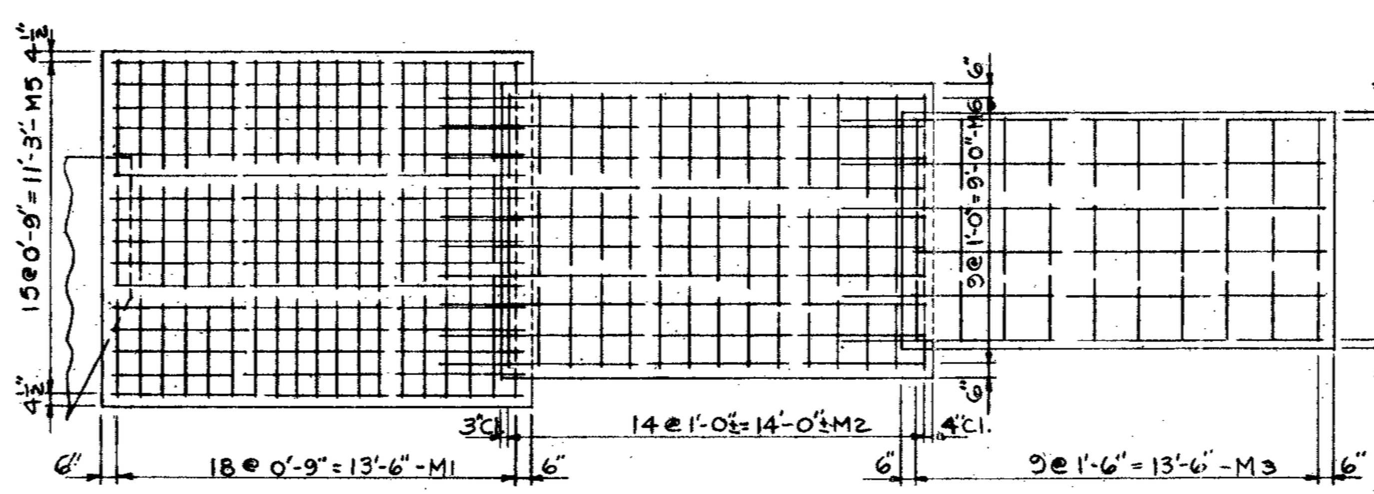
NOTE: New steel sheet piling shall be used.

Note:
For plan of sheeting, channels and location of Detail "X" See Plan #4626. (Sh. #58)

FOOTING PLAN
Scale: $\frac{3}{16}$" = 1'-0"



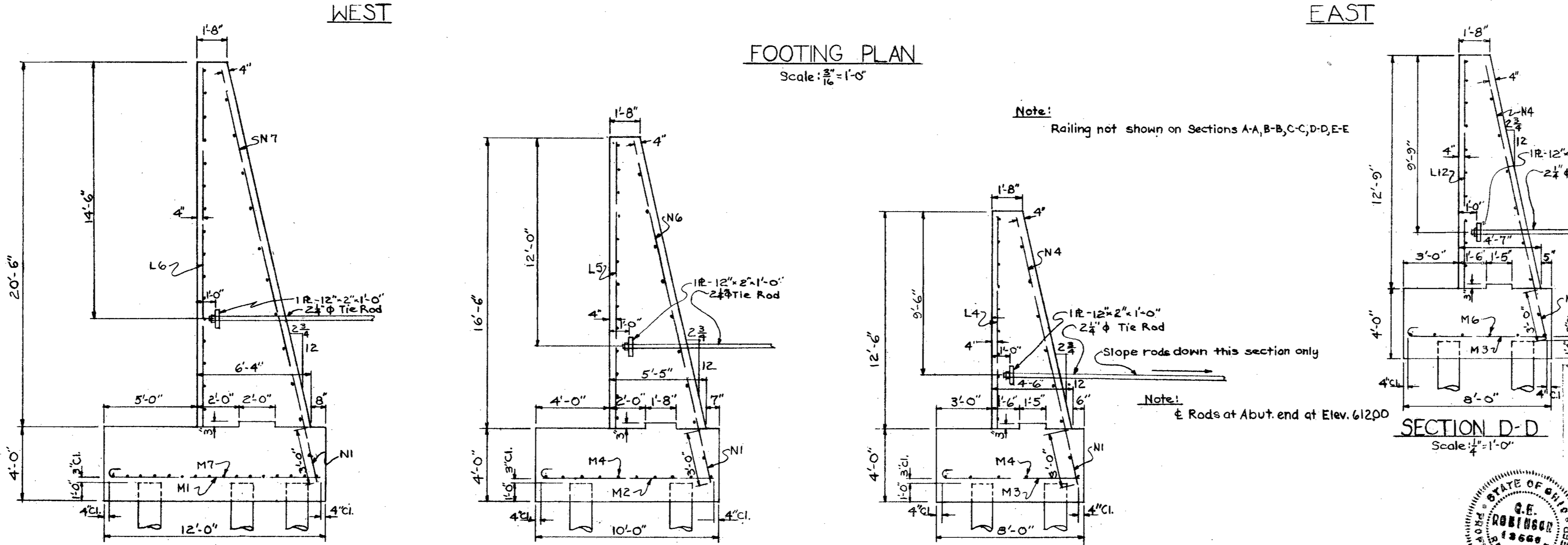
WEST



EAST

Note:
Railing not shown on Sections A-A, B-B, C-C, D-D, E-E

Note:
¢ Rods at Abut. end at Elev. 612.00

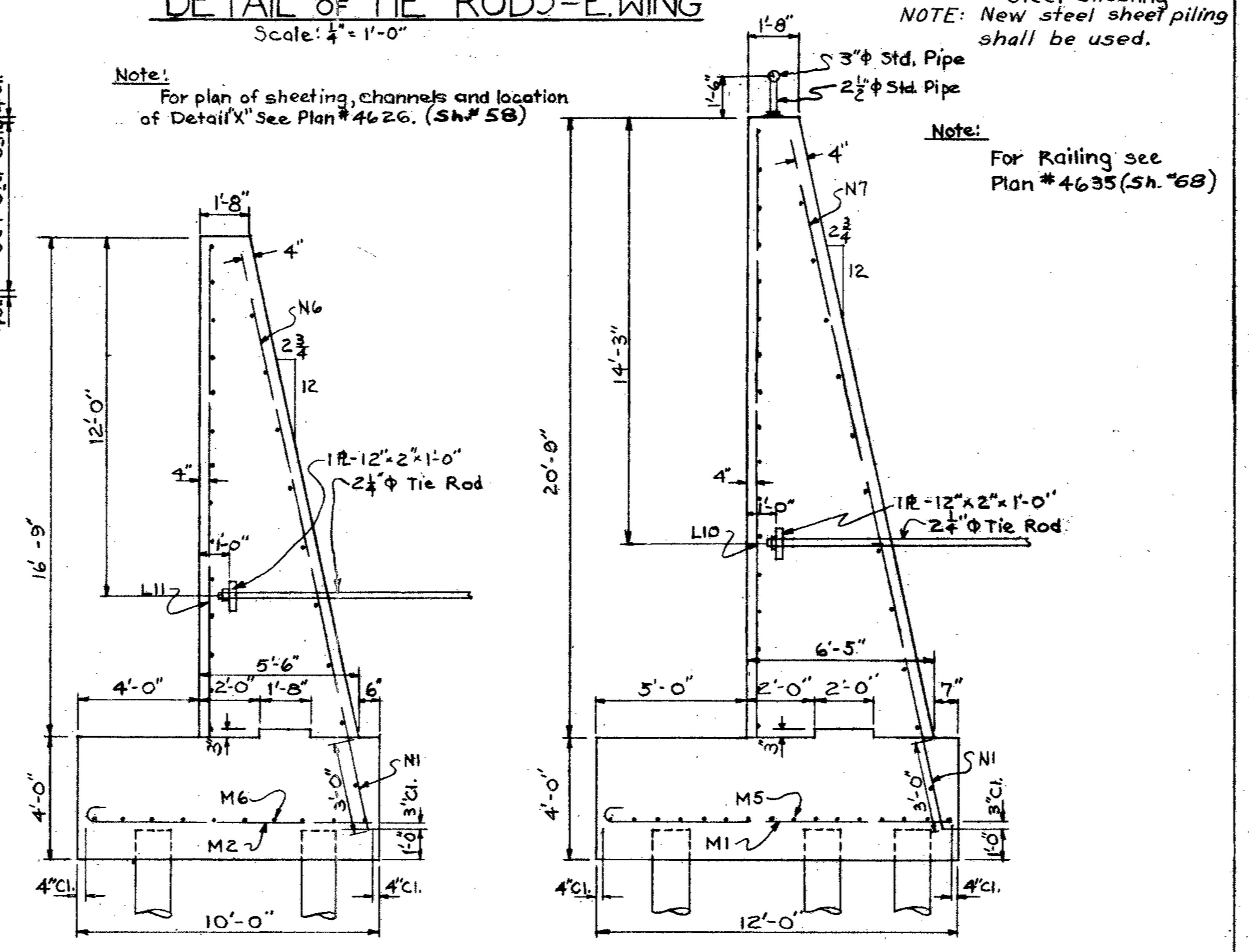


SECTION A-A
Scale: ¼" = 1'-0"

SECTION B-B
Scale: ¼" = 1'-0"

SECTION C-C
Scale: ¼" = 1'-0"

SECTION D-D
Scale: ¼" = 1'-0"



SECTION E-E
Scale: ¼" = 1'-0"

SECTION F-F
Scale: ¼" = 1'-0"

Note:
For Railing see Plan #4635 (Sh. #68)

BRIDGE No. CU-283-15
UG-842 (1)

Note:
For General Notes see Plan #4634-A (Sh. #67)

Correct Geo. E. Robinson
Engineer of Structures

Approved [signature]
Chief Engineer

Drawn H.E.L.		Checked A&R
REVISIONS		
Date	BY	
10-30-50	State	New Steel Sheet Piling note.

STATE OF OHIO
G.E. ROBINSON
13666
REGISTERED PROFESSIONAL ENGINEER

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24

GRADE SEPARATION

E. 72nd. STREET, CLEVELAND, OHIO

WINGWALL DETAILS

N.Y.C.R.R.-West	Cleveland Division		Plan No. 4636
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-11

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	POST WAR

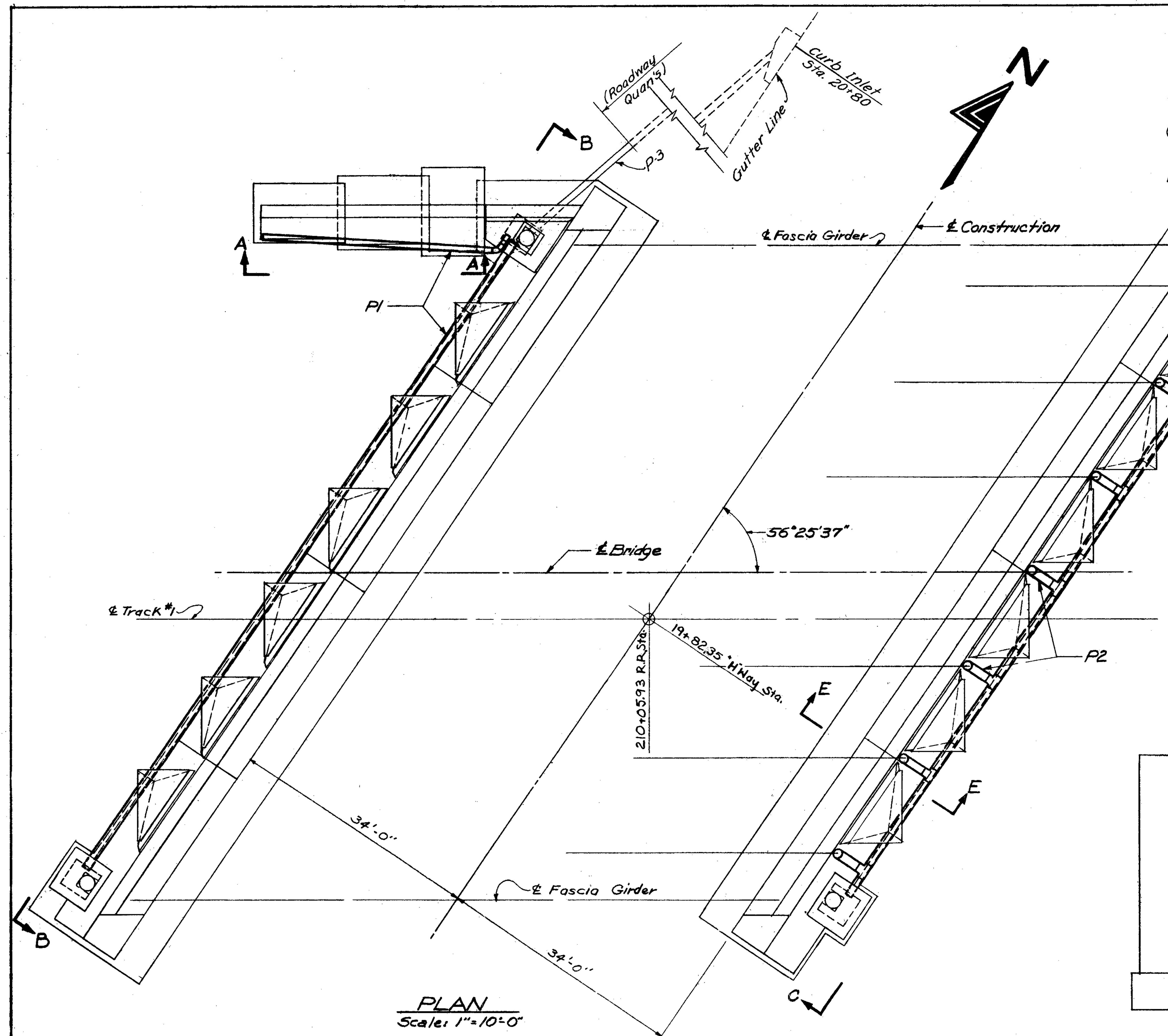
70
85

CUYAHOGA COUNTY
CUY-283-1.09, 1.49

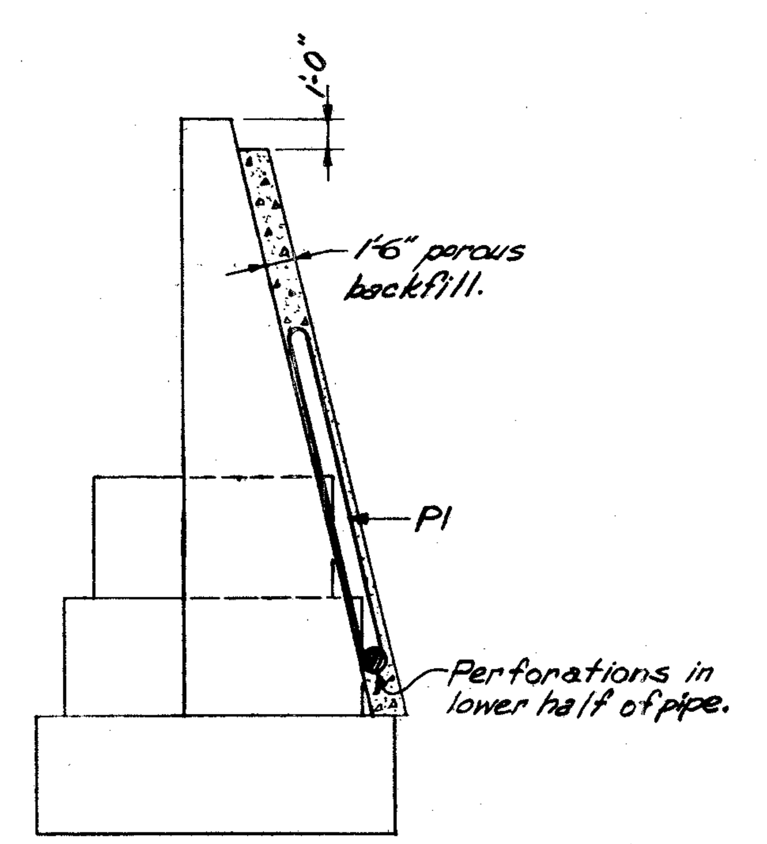
Reference No.	Kind of Drainage Pipe	Specification
P1	8"ϕ Perf. E.S. Vitrified Sewer Pipe *	Sec. M-6.8(b)
P2	8"ϕ E.S. Vitrified Sewer Pipe	Sec. M-6.8(b)
P3	8"ϕ Cast Iron (through abutment)	* *

* See Proposal Note.

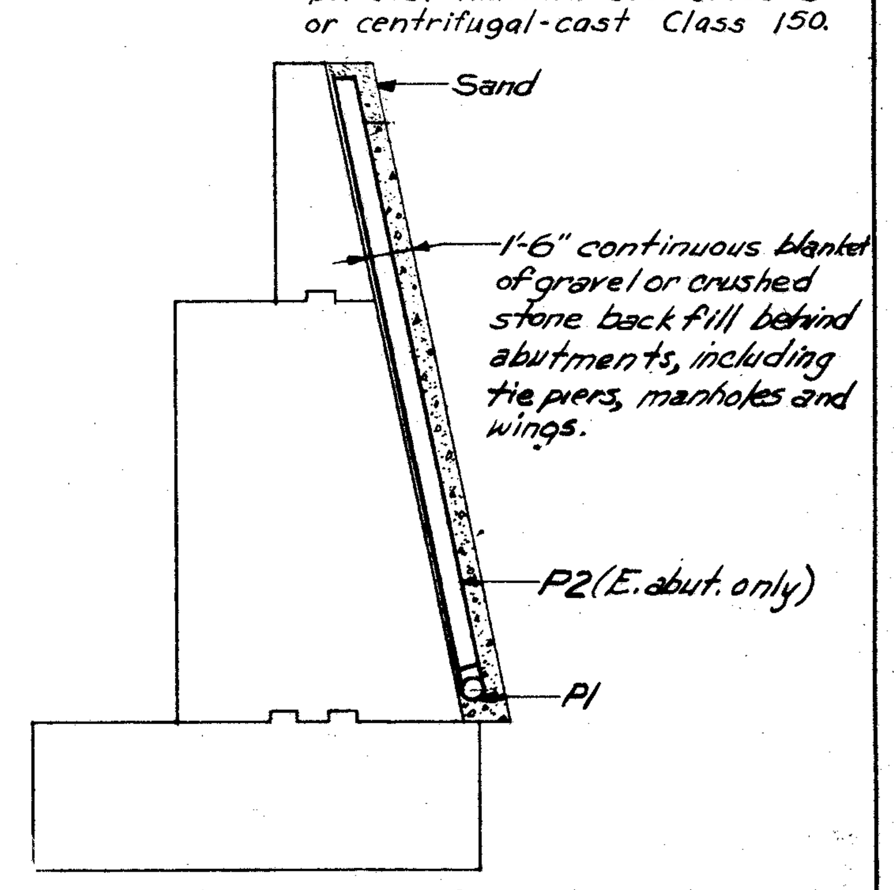
** Cast Iron Pipe shall be either pit-cast A.W.W.A. Std. Class "B" or centrifugal-cast Class 150.



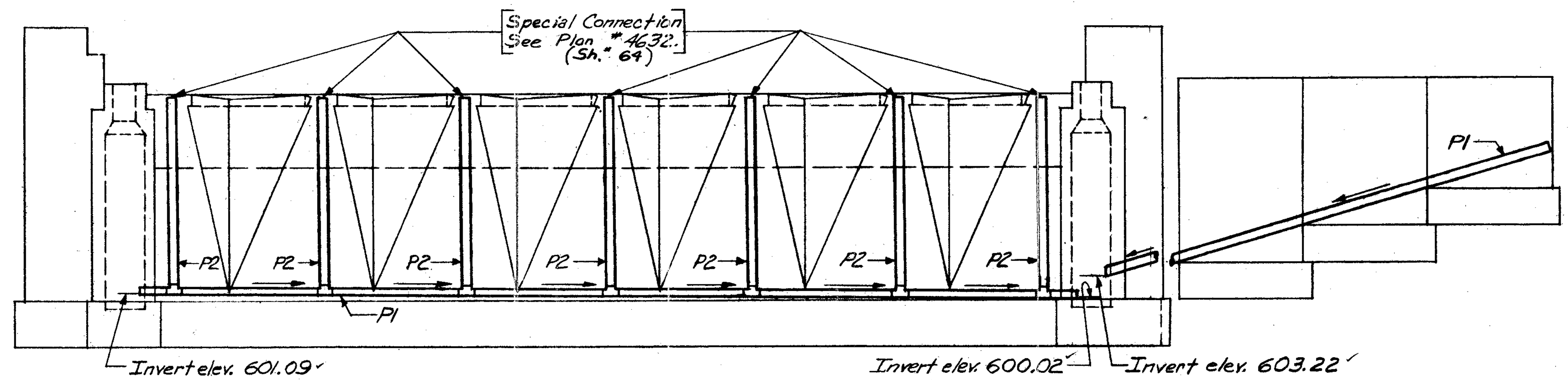
PLAN
Scale: 1" = 10'-0"



SECTION D-D (Typ. for Wings)
Scale: 3/16" = 1'-0"

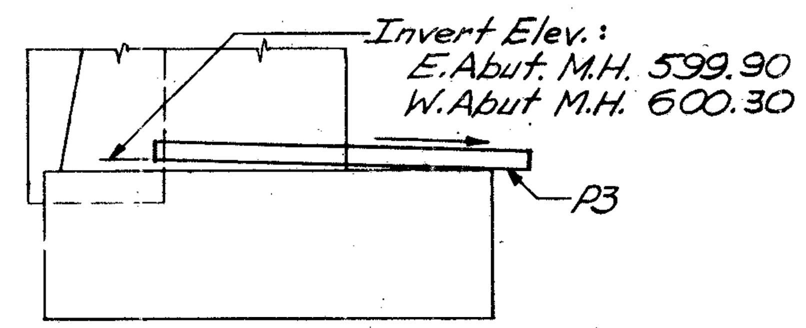


SECTION E-E (Typ. for Abutments)
Scale: 3/16" = 1'-0"

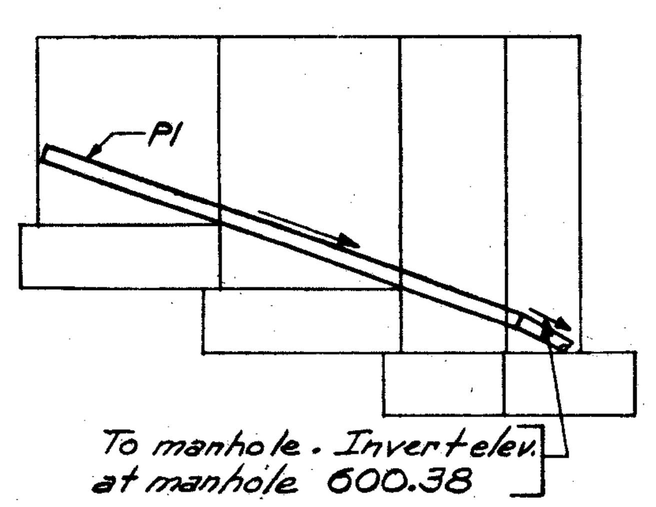


SECTION C-C
Scale: 1" = 10'-0"

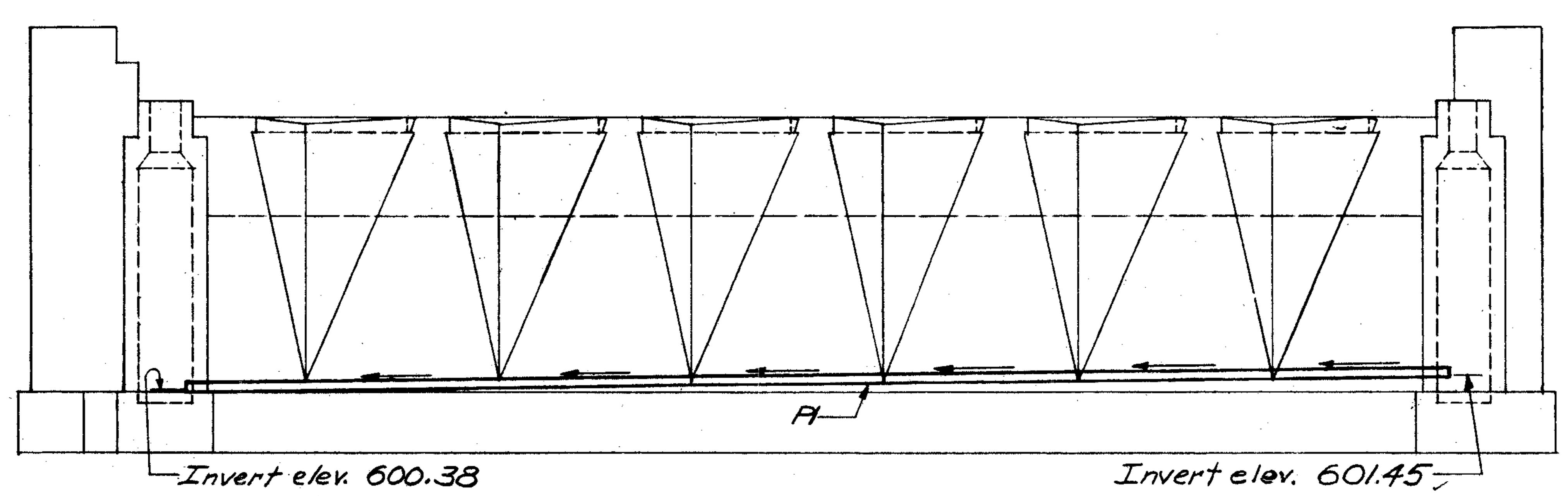
NOTES:
P1 pipe on abutments to slope down 1/8" per foot in direction of arrows. (Also P3)
For Estimated Quantities see Plan # 4632. (Sh. # 64)



SECTION F-F (Typical.)
Scale: 3/16" = 1'-0"



VIEW A-A
Scale: 1" = 10'-0"



VIEW B-B
Scale: 1" = 10'-0"

Correct Geo. E. Robinson
Engineer of Structures
Approved G. R. Dougherty
Chief Engineer

Drawn K. F. G		Checked A.C.R.
REVISIONS		
Date	By	
10-30-50	State	Outlet Pipes - C.I. Pipe Specif.
11-10-50	State	℄ Constr. H'W.B.M. Sta.

STATE OF OHIO G.E. ROBINSON 13660 REGISTERED PROFESSIONAL ENGINEER

BRIDGE No. CU-283-15 UG-842 (1)

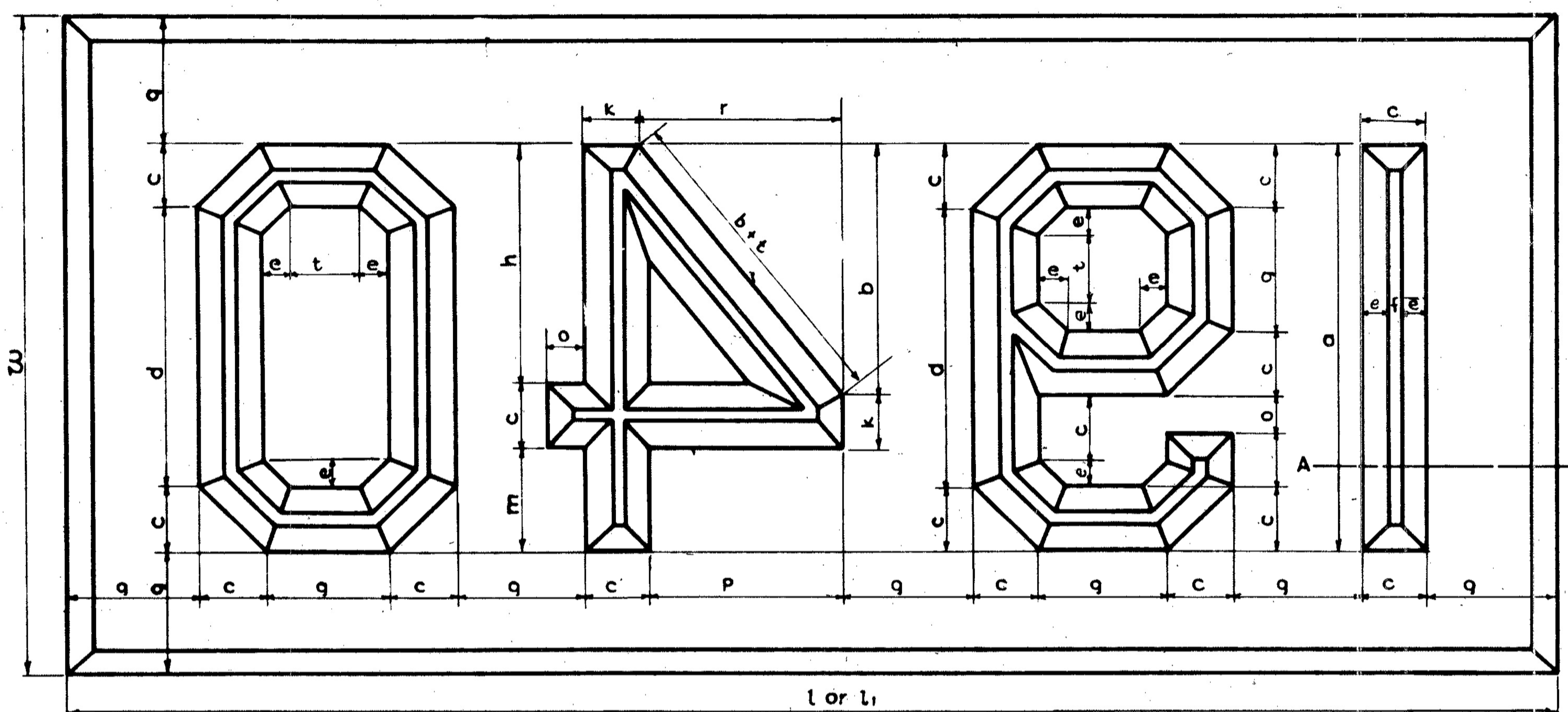
N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12 3/4 ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
SUBSTRUCTURE DRAINAGE PLAN

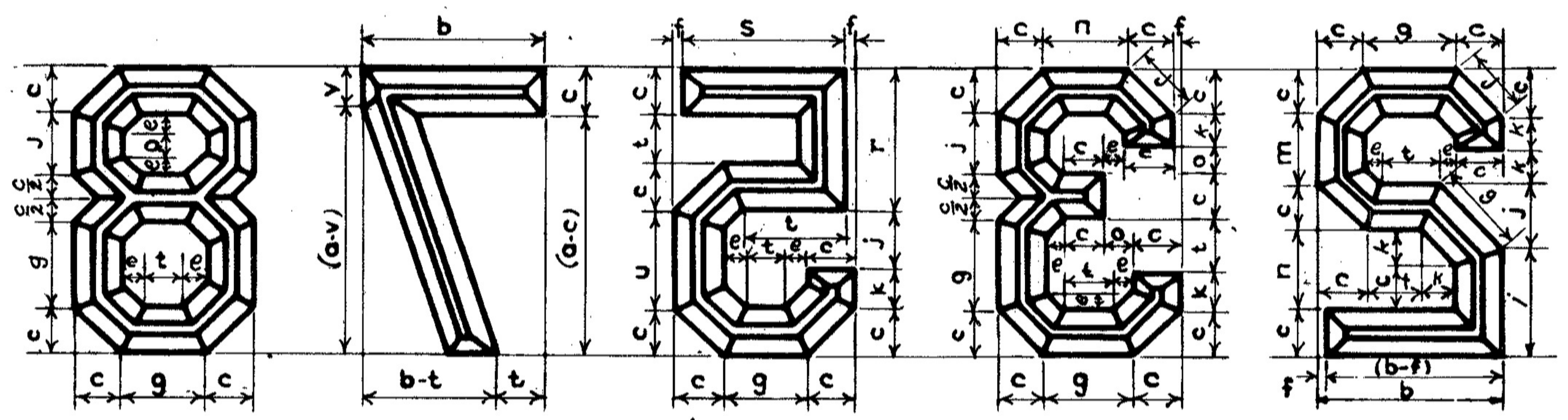
N.Y. C.R.R.-West	Cleveland Division		Plan No. 4637
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-12

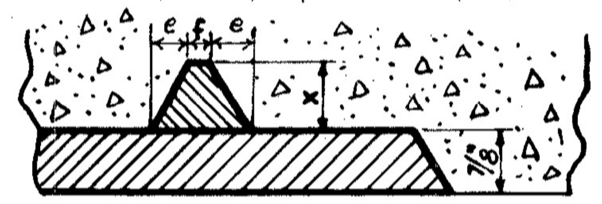
FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U-UG-842(1)	POST WAR	71/85

CUYAHOGA COUNTY
CUY-283-1.09,1.49



"l" used 1940-60 except 1941 and 1951 when "l1" is used.





SECTION A-A

DIMENSIONS FOR VARIOUS SIZES OF LETTERS																							
a	b	c	d	e	f	g	h	i	j	k	m	n	o	p	r	s	t	u	v	x	l	l1	w
8"	5"	1¼"	5½"	½"	¼"	2½"	4¾"	3"	1¾"	1"	2"	2¼"	¾"	3¾"	4"	4½"	1½"	2¾"	7/8"	7/8"	28¾"	25"	13"

STANDARD DATE PLATE FORM
Incidental to concrete.

FINAL REPORT ON MASONRY AS BUILT

Station and plus at center of Bridge ____________
A.F.E. No. ________ *Built by* ____________
Work started ____________ *Work completed* ________

ACTUAL QUANTITIES

DESCRIPTION	West Abut.	Pier	East Abut.					TOTAL quant.
Grading, Cubic Yards								
Dry Earth Excavated, Cu. Yd.								
Wet Earth Excavated, Cu. Yd.								
Dry Rock Excavated, Cu. Yd.								
Wet Rock Excavated, Cu. Yd.								
Foundation Piling, Lin. Ft.								
Cofferdam Timber, Ft. B.M.								
Steel Sheet Piling left in, Tons								
Steel Sheet Piling removed, Tons								
Puddle Dam Material, Cu. Yd.								
Reinforcing Bars, Lbs.								
Grade Concrete, Cu. Yd.								
Grade Concrete, Cu. Yd.								
Grade Concrete, Cu. Yd.								
Waterproofing, Sq. Ft.								
Source, Size, Kind, Stone								
Source, Size, Kind, Sand								
Brand of Cement								
Lead Waterstops								
Elevation B/R								
Elevation Top of Br. Seat								
Elevation Top of Footing								
Elevation Bottom of Footing								
Character of Foundation								

Bench mark used in construction; Location ____________
____________ *; Elevation* ______ *; Sea Level Datum* ______
Bench mark established on Structure; Elevation ______ *; Sea Level Datum* ______
Remarks; ____________

I hereby certify that the above information is correct, and that on this print ***ALL*** *deviations from the plans are correctly shown.*
____________ *Title* ____________
(Place) ____________ *Date* ____________

The above information and the changes shown on this print have been recorded on the original drawings this date. ____________

Checked by ____________ *Draftsman* ____________

Correct *Geo. E. Robinson*
Engineer of Structures
Approved *E. L. Dougherty*
Chief Engineer

Drawn	Checked
REVISIONS	

Date	By	

BRIDGE No. CU-283-15 *UG-842 (1)*

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. ST., CLEVELAND, OHIO
DATE PLATE PLAN

N.Y.C.R.R.--West	Cleveland Division		Plan No. 4638
Scale:	Aug. 15, 1950	Val. Sec. 204A	File No. 168-13

3

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U-UG-842(1)	POST WAR	72/85

CUYAHOGA COUNTY
CUY-283-1.09, 1.49

PLAN

Scale ⅛" = 1 ft.

BILL OF TIMBER (NET)

No. of Pcs	Size	Length	Remarks	F.B.M.
60		25'-0"	Piles	
24		35'-0"	"	
156		45'-0"	"	
26	8"×16"	12'-0"	Stringers - Surfaced as shown on plans	
50	8"×16"	24'-0"	" " " " " "	
6	8"×16"	7'-3"	" " " " " "	
4	8"×16"	11'-0"	" " " " " "	
6	8"×16"	20'-8"	" " " " " "	
6	8"×16"	8'-8"	" " " " " "	
6	8"×16"	10'-5"	" " " " " "	
4	8"×16"	12'-7"	" " " " " "	
3	8"×16"	11'-2"	" " " " " "	
4	8"×16"	9'-4"	" " " " " "	
3	8"×16"	7'-10"	" " " " " "	
4	8"×16"	24'-7"	" " " " " "	
4	8"×16"	21'-4"	" " " " " "	
1	8"×16"	23'-2"	" " " " " "	
1	8"×16"	19'-10"	" " " " " "	
2	8"×16"	10'-7"	" " " " " "	
4	8"×16"	23'-0"	" " " " " "	
2	8"×16"	20'-7"	" " " " " "	
2	8"×16"	9'-2"	" " " " " "	
2	8"×16"	7'-4"	" " " " " "	
2	8"×16"	5'-10"	" " " " " "	
2	8"×16"	17'-4"	" " " " " "	
10	8"×16"	20'-0"	" " " " " "	
16	14"×14"	14'-0"	Caps (Double Bents) - S2S to 13½"	
8	14"×14"	12'-0"	" " " - S2S to 13½"	
28	14"×14"	12'-0"	" (Single Bents) - S2S to 13½"	
8	14"×14"	10'-0"	" " " - S2S to 13½"	
24	12"×12"	12'-0"	Blocking - S2S to 11½"	
8	12"×14"	12'-0"	" - S2S to 13¾"	
2	12"×14"	12'-0"	" - S2S to 13½"	
2	12"×14"	12'-0"	" - S2S to 11½"	
2	8"×12"	12'-0"	" For Bents 5 & 6 Temp. Bridge "A" - S2S to 7	
63	5"×8"	20'-0"	Guard Timber - S4S	

BILL OF TIMBER (NET) CONT.

No. of Pcs	Size	Length	Remarks	F.B.M.
72	14"×14"	5'-0"	Blocking -S2S to 13½"	
32	14"×14"	6'-0"	" -S2S to 13½"	
18	2"×8"	12'-0"	Backwall -S4S	
89	4"×6"	4'-0"	Railing (Posts) -S4S	
89	2"×6"	4'-6"	" (Brace) -S4S	
53	2"×6"	16'-0"	" (Walkway Railing) -S4S	
51	2"×6"	1'-0"	" (Splice) -S4S	
260	2"×8"	16'-0"	Walk Floor Plank -S4S	
13	2"×6"	16'-0"	" " " -S4S	
2	5"×8"	16'-0"	Longitudinal Runner -S4S	
10	5"×8"	14'-0"	" " -S4S	
2	5"×8"	10'-0"	" " -S4S	
6	5"×8"	2'-0"	" " -S4S	
36	3"×10"	10'-0"	Transverse Bracing -S4S	
20	3"×10"	12'-0"	" " -S4S	
60	3"×10"	14'-0"	" " -S4S	
106	3"×10"	16'-0"	" " -S4S	
16	3"×10"	20'-0"	" " -S4S	
4	3"×10"	20'-0"	Longitudinal " -S4S	
2	3"×10"	18'-0"	" " -S4S	
42	3"×10"	16'-0"	" " -S4S	
24	3"×10"	14'-0"	" " -S4S	
83	8"×8"	16'-0"	Ties -S2S to 7¾"	
3	8"×8"	13'-0"	" -S2S to 7¾"	
80	8"×8"	12'-3"	" -S2S to 7¾"	
383	8"×8"	10'-0"	" -S2S to 7¾"	
7	8"×8"	17'-0"	" -S2S to 7¾"	
7	8"×8"	11'-0"	" -S2S to 7¾"	
			Total FBM	113,300

BILL OF HARDWARE (NET)

No.	Size	Length	Kind	Location	Wt.
240	¾"φ	26"	B.H. Drift Bolt	Cap to Pile	
308	¾"φ	26"	" " " "	Stringer to Cap	
208	¾"φ	24"	" " " "	Blocking to Cap	
104	¾"φ	20"	" " " "	Blocking to Blocking-Low	
32	¾"φ	20"	" " " "	" " " Middle	
8	¾"φ	14"	" " " "	" " " Upper	
258	¾"φ	16"	" " " "	Ties to Stringer	
312	¾"φ	27"	Bolts Sq. Hd. & Nut	Stringer Chord Bolts	
1020	¾"	10"	"Seal tight" Lag Screws	Guard Timber to Ties	
114	¾"	16"	Lewis "Sealtight" Hook Bolts	Ties to Steel	
96	⅞"	8"	Lag Screws	Steel to Blocking	
356	⅜"φ	8"	Carriage Bolts & Nuts	Railing to Post	
204	⅜"φ	4"	" " "	Railing Splice	
178	½"φ	12"	Bolts Sq. Hd. & Nut	Post to Tie	
178	½"φ	9"	" " " "	Brace to Tie	
178	½"φ	6½"	" " " "	Brace to Post	
928	¾"φ	22"	" " " "	Bracing Various	
248	¾"φ	25"	" " " "	" "	
24	¾"φ	24"	" " " "	" Runner	
24	¾"φ	13"	" " " "	Runner Splice	
36	¾"φ	9"	" " " "	" "	
1270	Single Curve Teco timber connector for ¾" bolt			Various	
96	Flat Teco		" " "	"	
*1134	¾"φ		Ogee Washers	Lag Srews & Hook Bolts	
3144	¾"φ		" "	Various	
560	⅜"φ		Cut Washers	Post & Railing	
1068	½"φ		" "	" & Brace	
3000	20d		Common Wire Nails	Walk to Ties, BKwll. to Pile	
				Total Wt.	14,900

* Note: These OG Washers to be used if commercial Lag Screws and N.Y.C. standard Hook Bolts are used.

SECOND STAGE
BILL OF TIMBER (Net)

No. of Pcs.	Size	Length	Remarks	FBM
2	12"×12"	10'-0"	Blocking on Tie Pier. Rough.	480
2	8"×12"	10'-0"	"	

BILL OF HARDWARE

No. of Pcs.	Size	Length	Remarks	Wt.
8	¾"φ	16"	Button Head Drift. Blocking	
20	¾"φ	12"	" Ballast Stop	
2	N.Y.C.R.R. 127# Rail Supports-Complete			

Note:- Bill of Timber & Hardware is for One Track (2nd Stage)

General Notes:
Timber, piling and hardware to be in accordance with "Proposal Note, Temporary Railroad Trestles for the New York Central Railroad".
Grade of tracks for Temporary Bridges A & B is -0.24% toward Collinwood. Track for Temporary Bridge C is on a vertical curve; see Plan #4641 (Sh. #74)
The alignment for all Temporary Bridge tracks, is tangent.
Any excavation around Bents other than shown must be accompanied by additional bracing on the bents.
Where Teco Grid Connectors & Lewis "Sealtight" Products are called for an approved equal may substituted.

⊗ The State of Ohio does not assume responsibility for any variations in estimated quantities listed in the table below. The contractor shall be paid at his lump sum bid price for "Temporary Railroad Trestles for the New York Central Railroad" regardless of any variation in quantities.

⊗ TOTAL ESTIMATED QUANTITIES (TEMP. BRS.)

Structural Steel	112,000 Lbs.
Piles	9360 L.F.
Timber	113.3 MBM.
Hardware	14900 Lbs.

ESTIMATED QUANTITIES

Item	Description	Total Quantity
Special	Temporary Railroad Trestles for New York Central Railroad	Lump Sum

BRIDGE No. CU-283-15 UG-842 (1)

Correct Geo. E. Robinson
Engineer of Structures
Approved E. A. Dougherty
Chief Engineer

Drawn L.J.C.		Checked F.J.F.
REVISIONS		
Date	By	
10-30-50	State	Note Est. Quan's added
11-10-50	State	℄ Constr. & W.B.M. Sta.

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24

GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
TEMPORARY BRIDGES - GENERAL PLAN

N.Y.C.R.R.-West	Cleveland Division		Plan No. 4639
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-14

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U-UG-842(1)	POST WAR	73/85

CUYAHOGA COUNTY
CUY-283-1.09, 1.49

See Plan 4643X

Note:
Edge of Tie to be flush with end of all outside Beams.

TIE PLAN

Scale 1/8"=1'-0"

All Ties are 8"×8" surfaced to 7¾" deep.
Ties on Steel Spans are spaced 1'-0" ctrs.±
" " Timber " " " 1'-2"±ctrs. except as noted on Bridge "C"

Note!-
See Plan No4643 Sh. No. 76 for details of this portion

TIES REQUIRED

Temp. Bridge "A"	Temp. Bridge "B"	Temp. Bridge "C"
146-8"×8"×10'-0".	146-8"×8"×10'-0".	91-8"×8"×10'-0".
44-8"×8"×16'-0".	42-8"×8"×12'-3".	3-8"×8"×13'-0".
		39-8"×8"×16'-0".
		7-8"×8"×17'-0".
		7-8"×8"×11'-0".
		38-8"×8"×12'-3".

Correct Geo. E. Robinson
Engineer of Structures
Approved E. A. Dougherty
Chief Engineer

Drawn H.E.L.		Checked F.J.F.
REVISIONS		
Date	By	
11-10-50	State	& Constr. & W.B.M. Sta.

STATE OF OHIO G.E. ROBINSON REGISTERED PROFESSIONAL ENGINEER

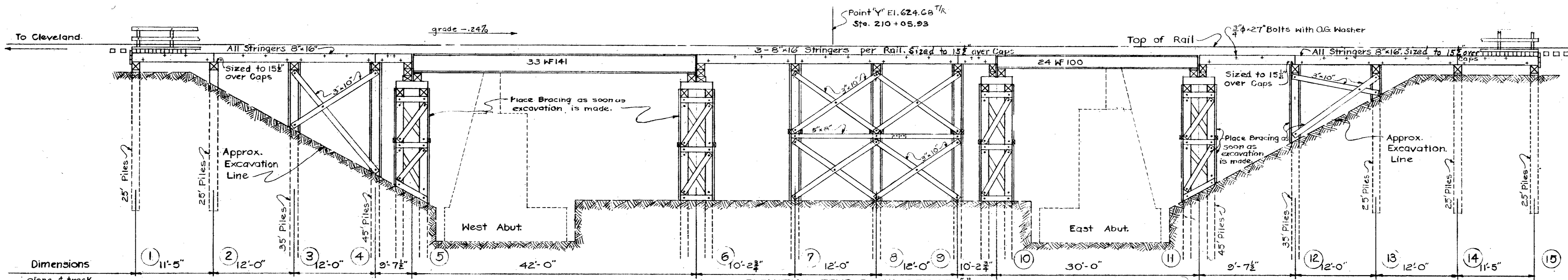
BRIDGE No. CU-283-15 UG-842 (1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.	
BR.NO.12¾ ERIE DIVISION STA. 210+10.24			
GRADE SEPARATION			
E.72nd. STREET, CLEVELAND, OHIO			
TEMPORARY BRIDGES-PILE PLAN & TIE PLAN			
N.Y.C.R.R.-West	Cleveland Division	Plan No. 4640	
Scale: Shown	Aug.15,1950	Val.Sec.204-A	File No.168-15

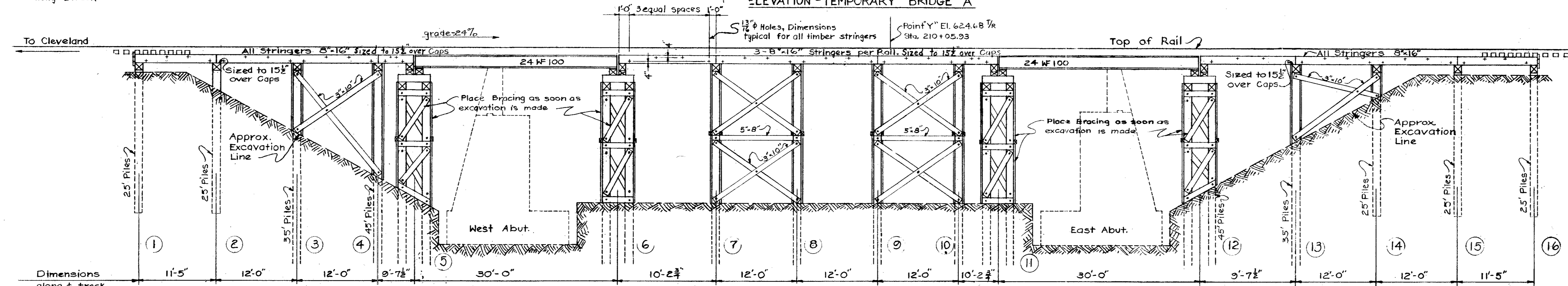
FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	POST WAR

74 / 85

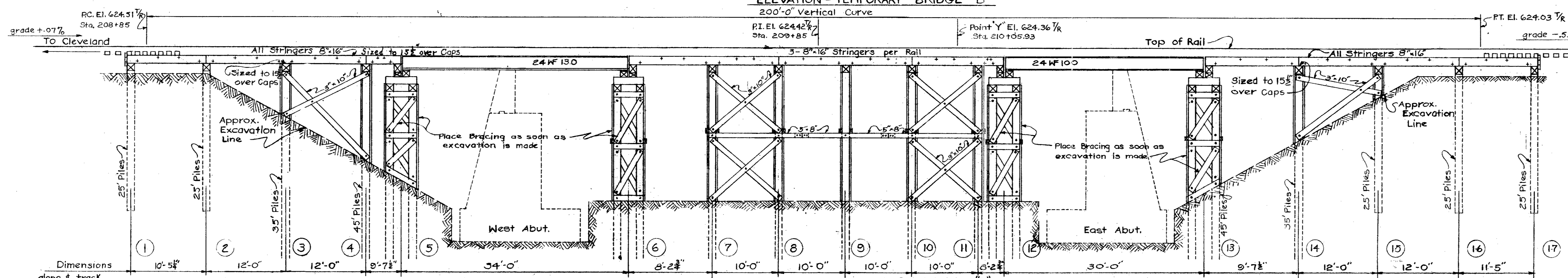
CUYAHOGA COUNTY
CUY-283-1.09, 1.49



ELEVATION - TEMPORARY BRIDGE "A"



ELEVATION - TEMPORARY BRIDGE "B"



ELEVATION - TEMPORARY BRIDGE "C"

Note: For details of cross bracing for double bents see Plan # 4642 (Sh. # 75)

Correct Geo. E. Robinson
Engineer of Structures

Approved
Chief Engineer

Drawn H.E.L.		Checked F.J.F.
REVISIONS		
Date	BY	

STATE OF OHIO G.E. ROBINSON REGISTERED PROFESSIONAL ENGINEER

BRIDGE No. CU-283-15 UG-842 (1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd STREET, CLEVELAND, OHIO
TEMPORARY BRIDGES - ELEVATIONS

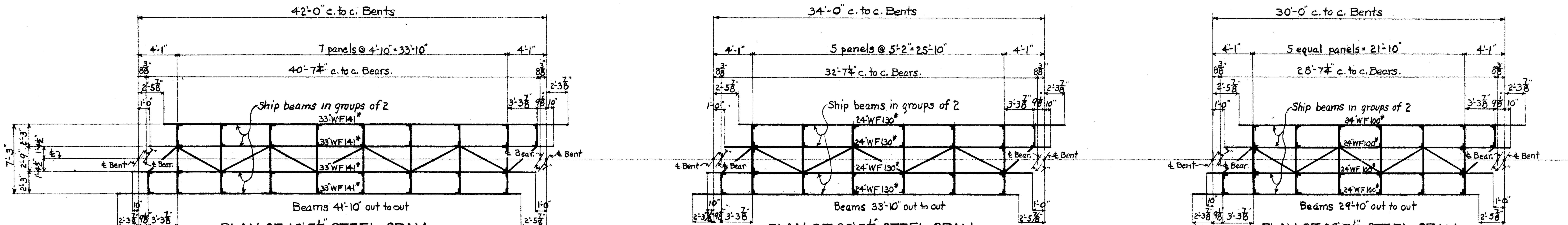
N.Y.C.R.R.-West		Cleveland Division	Plan No. 4641
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-16


FED.RD. DIVISION 2
STATE OHIO
FEDERAL AID PROJECT U-UG-842(1)
TYPE FUNDS POST WAR
75
85
CUYAHOGA COUNTY
CUY-283-1.09, 1.49
DETAILS OF BENT (6) (11) Temp. Bridge B
Scale 1/4"=1'-0"
Top not shown same as Bent (5) Temp. Bridge B
DETAILS OF BENTS (7), (8), (9) + (10) Temp. Bridge B
Scale 1/4"=1'-0"
DETAILS OF BENTS (3), (4), (12) + (13) Temp. Bridge A
" " " (3) (4) (13) + (14) " " B
" " " (3) (4) (14) + (15) " " C
Scale 1/4"=1'-0"
PLAN
TYPICAL DETAILS OF HORIZ. BRACING
Scale 1/4"=1'-0"
DETAILS OF BENT (10) Temp. Bridge A
" " " (6) + (12) " " C
Parts not shown same as Bent (6) Temp. Bridge A
Scale 1/4"=1'-0"
DETAILS OF BENTS (7), (8) + (9) Temp. Bridge A
" " " (7) (8) (9) (10) + (11) " " C
Parts not shown same as Bent (7) Temp Bridge B
Scale 1/4"=1'-0"
DETAILS OF BENT (5) Temp. Bridge A
Scale 1/4"=1'-0"
DETAILS OF BENTS (11) Temp. Bridge A
" " " (5) + (12) " " B
" " " (13) + (5) " " C
Parts not shown same as Bent (5) Temp. Bridge A except for Bent (5) Temp. Br. C
Scale 1/4"=1'-0"
Top not shown same as Bent (5) Temp. Bridge B
DETAILS OF BENT (5) Temp. Bridge C
Parts not shown and noted same as Bent (5) Temp. Br. B
Scale 1/4"=1'-0"
DETAILS OF BENT (6) Temp. Bridge A
Scale 1/4"=1'-0"
TOP VIEW
ELEV.
END VIEW
Correct Geo. E. Robinson Engineer of Structures
Approved Chief Engineer
Drawn L.J.C.
Checked F.J.F.
REVISIONS
Date
BY
STATE OF OHIO G.E. ROBINSON PROFESSIONAL ENGINEER
BRIDGE No. CU-283-15
UG-842 (1)
N.Y.C. System
Office of Chief Engineer
Chicago, Ill.
BR. NO. 12 3/4 ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
TEMPORARY BRIDGES - TIMBER DETAILS
N.Y.C.R.R.-West
Cleveland Division
Plan No. 4642
Scale: Shown
Aug. 15, 1950
Val. Sec. 204-A
File No. 168-17


FED.RD. DIVISION 2
STATE OHIO
FEDERAL AID PROJECT U-UG-842(1)
TYPE FUNDS POST WAR
76
85
CUYAHOGA COUNTY
CUY-283-1.09, 1.49
Outside face of Backwall Tie Pier
℄ Track 7
Ballast Stop. Track Ties continuous.
Point "X"
PLAN
Scale ¼"=1'-0"
SECT. F-F
Scale ¼"=1'-0"
Rail Supports
LOCATION PLAN
Scale 1"=50'-0"
N.Y.C.RR. 127# Rail Support. Furnished, placed and removed by R.R. Co.
9'-0" clear span (Max)
127# Running Rail
Ballast Stop - 12" wide blocking (4-¾"×16" Button Hd. Drifts
Install Cribbing (Track Ties) if necessary, to protect Roadbed
SECT. E-E
Scale ¼"=1'-0"
Track Tie Ballast Stop with 2-¾"×12" Drifts per tie
Track Tie
Membrane waterproofing
Wire mesh
Ballast
Timber box for protection of membrane waterproofing. Furnishing, erecting and removal is incidental to Type A and C waterproofing. Timber required for box is not included in bill of material.
¾" Floor plate
End of Mastic
End of Mopping
DETAIL AT POINT X
Scale ½"=1'-0"
Additional Blocking or Bracing may be added as directed by the Engineer.
RAIL SUPPORTS & BALLAST STOPS
TYPICAL DETAILS
Not more than 2 Planks butted per Tie.
2"×8" Planks spiked to Ties with 20d Nails.
Open Joints
Railing Post
Variable at No.8 Turnout
WALKWAY DETAILS
Scale ½"=1'-0"
¾"×10" Sealtight Lag Screw (or approved equal)
Butt Joint
GUARD TIMBER SPLICE
Scale ½"=1'-0"
⅝"×8" Carriage Bolts Cut Washers
⅝"×4" Carriage Bolts - cut washs.
4"×6"×4'-0" Post 1" Gain in Post
2"×6" Brace
2"×6"×1'-0" Splice block Stagger Splices
½"ϕ×12" Bolts - cut washs.
RAILING DETAILS
Scale ½"=1'-0"
Cap 14"×14"×12'-0"
8"×16" Stringers
℄ Track
¾"×27" bolt - OG Washs.
PLAN
BACKWALL DETAILS
Scale ⅜"=1'-0"
Nail 3-2"×8"×12'-0" to Tie & Strgs. with 20d Nails
¾"×16" BH Drift bolt
¾"×26" Button Head Drift Bolt
DETAIL OF RAILING POST
Scale ¾"=1'-0"
DETAIL OF BRACE
Scale ¾"=1'-0"
STRUCT. STEEL BUTTON HEAD DRIFT BOLT
No scale
¾"×16" Button Head Drift Bolt, Ties to Stringers. In every long Tie and all end Ties in all bridges and as shown on detail of West end. (See detail on this plan.)
Lewis "Sealtight" Hook Bolts ¾"×1'-4" with Sealtight Washernut every long tie and last long tie on the steel spans. Lewis "Sealtight" Lag Screws ¾"×10" for short ties. N.Y.C.R.R. Standard Hook Bolts EC C-4 Type A and commercial Lag Screws, with OG Washs., may be used.
Note: Cut long ties on this line and remove Walk to permit erection of Superstructure.
Lag screws every Tie
6-2"×8" Plank
4-2"×8" Plank, laid with open joints. 20d Nails.
5"×8" Guard Timber
127# Guard Rail
127# Running Rail
8"×8" Ties sized to 7¾"
Post - 4"×6"×4'-0"
Brace 2"×6"×4'-6"
Stringers 8"×16"
Strgs. sized to 15¼" over Caps
¾"×26" Drift Bolt
Cap 14"×14"×12'-0" sized to 13½"
¾"×26" Button head drift bolt
25'-8" ℄ Superstructure Joints
Joint in Superstructure
SECT. X-X (See Plan No. 4639)
Scale ⅜"=1'-0"
See sheet 72
Bent 1
Bent 2
Bent 3
℄ Trk. for Temp. Br. A
℄ Trk. for Temp. Br. B
℄ Trk. for Temp. Br. C
℄ Trk. 7 for No. 8 Turnout
End of long Ties for Bridge "C"
¾"×10" Lag screws
5"×8" Guard Timber
¾"×16" BH Drift Bolt
Walk Plank 4-2"×8"
Walk Plank 6-2"×8"
4"×6" Railing Post
Note: Cut Walk Plank to clear Switch Stand
Top of Slope
Point of Switch for No.8 Turnout
For Tie spacing for No. 8 Turnout see N.Y.C. Std. Plan EC, E-8.
All Ties 8"×8". Length of Turnout Ties as shown on this Plan.
PLAN OF DECK AT WEST END OF TEMP. BRIDGES.
Scale ⅜"=1'-0"
BRIDGE NO. CU-283-15
UG-842(1)
Correct Geo. E. Robinson Engineer of Structures
Approved Chief Engineer
Drawn L.J.C.
Checked F.J.F.
REVISIONS
Date
By
N.Y.C. System
Office of Chief Engineer
Chicago, Ill.
BR. NO. 12¾
ERIE DIVISION
STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
TEMPORARY BRIDGES - TIMBER DETAILS
N.Y.C.R.R.-West
Cleveland Division
Plan No. 4643
Scale: Shown
Aug. 15, 1950
Val. Sec. 204-A
File No. 168-18

FED.RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-UG-842(1)	POST WAR

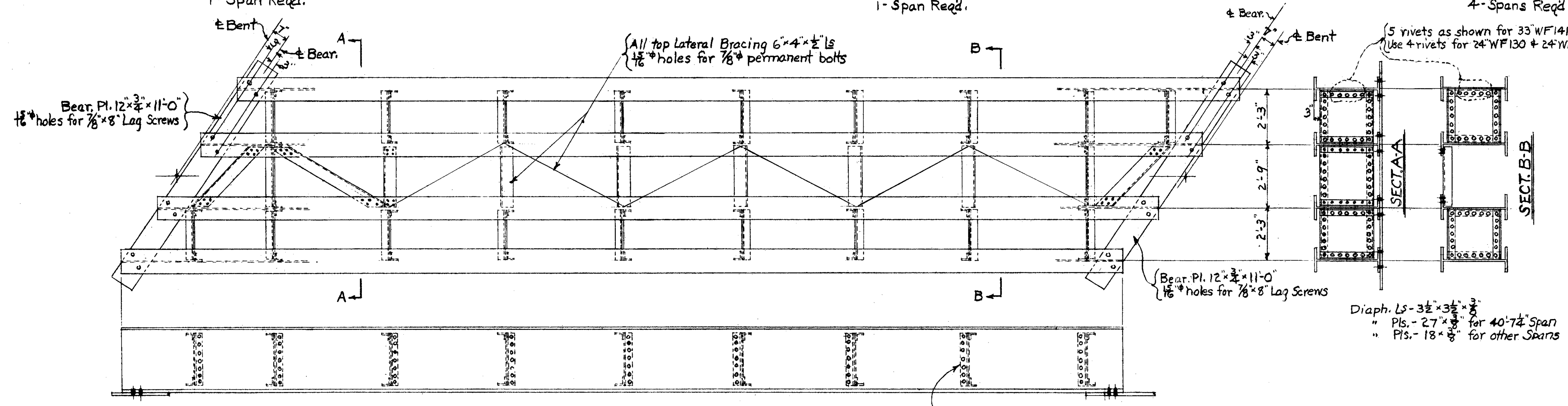
CUYAHOGA COUNTY
CUY-283-1.09, 1.49



PLAN OF 40'-7¼" STEEL SPAN
Scale 3/16" = 1'-0"
1-Span Req'd.

PLAN OF 32'-7¼" STEEL SPAN
Scale 3/16" = 1'-0"
1-Span Req'd.

PLAN OF 28'-7¼" STEEL SPAN
Scale 3/16" = 1'-0"
4-Spans Req'd.



TYPICAL DETAILS FOR ALL SPANS
Scale 3/8" = 1'-0"

Struct. Steel Notes

Material and workmanship to conform to A.R.E.A. Spec's. for Steel Railway Bridges, 1950, except that second hand steel may be used if in good condition and satisfactory to the Engineer.
Paint: None
Rivets: 7/8"φ
Open Holes: 15/16"φ

Correct Geo. E. Robinson
Engineer of Structures
Approved
Chief Engineer

Drawn L.J.C.		Checked F.J.F.
REVISIONS		
Date	BY	

STATE OF OHIO G.E. ROBINSON 13666 REGISTERED PROFESSIONAL ENGINEER

BRIDGE NO. CU-283-15 UG-842(1)

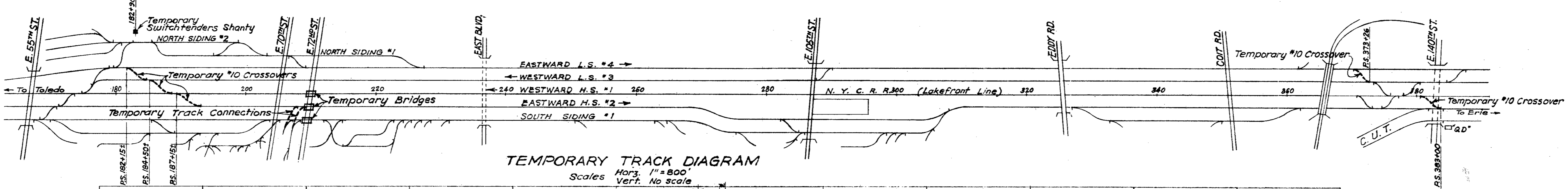
N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

BR. NO. 12¾ ERIE DIVISION STA. 210+10.24
GRADE SEPARATION
E. 72nd. STREET, CLEVELAND, OHIO
TEMPORARY BRIDGES - STEEL DETAILS

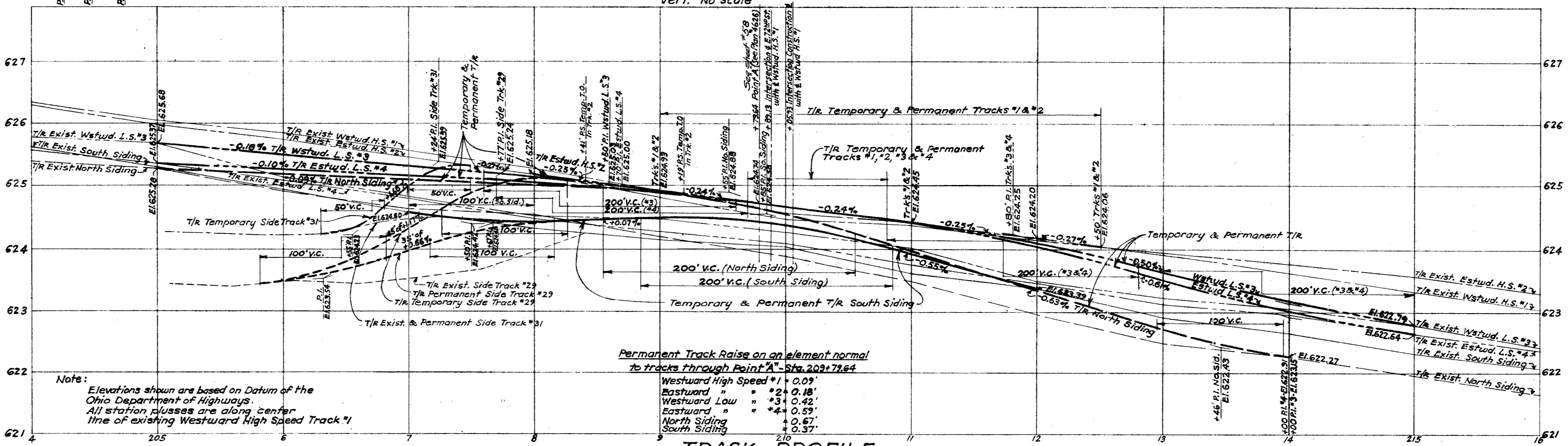
N.Y.C.R.R.-West	Cleveland Division		Plan No. 4644
Scale: Shown	Aug. 15, 1950	Val. Sec. 204-A	File No. 168-19

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	78/85
2	OHIO	U-U.G.-842 (1)	POST WAR	

CUYAHOGA COUNTY
CUY-283-1.09, 1.49



TEMPORARY TRACK DIAGRAM
Scales Horz. 1" = 800' Vert. No scale

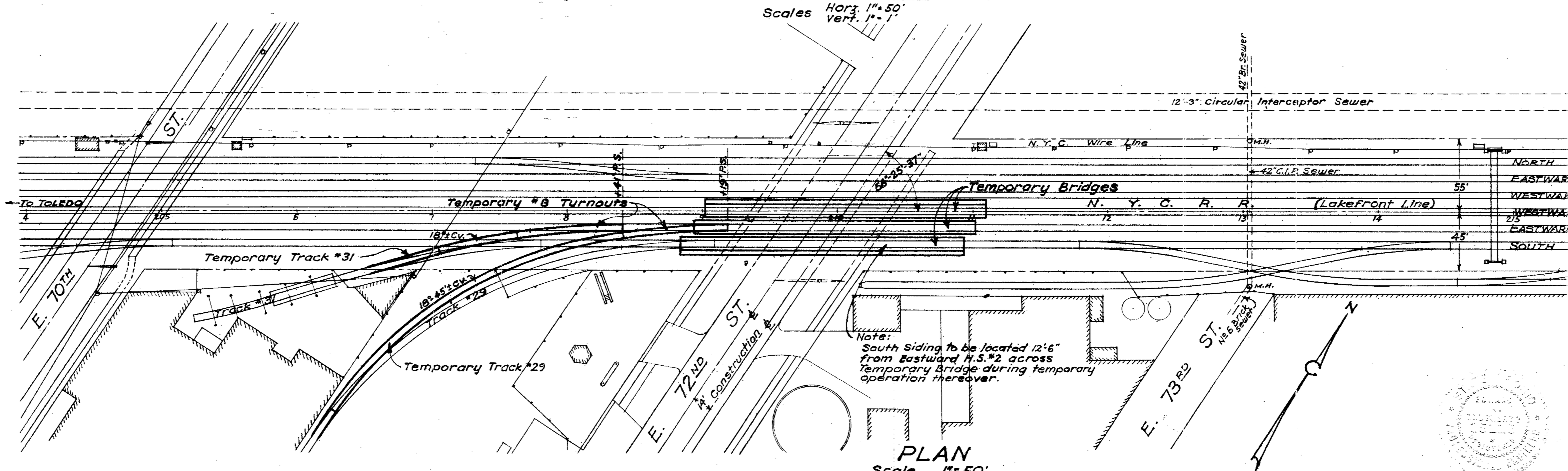


Permanent Track Raise on an element normal to tracks through Point "A" - Sta. 209+79.64

Westward High Speed #1		+ 0.09'
Eastward " " #2		+ 0.18'
Westward Low " #3		+ 0.42'
Eastward " " #4		+ 0.59'
North Siding		+ 0.67'
South Siding		+ 0.37'

Note:
Elevations shown are based on Datum of the Ohio Department of Highways.
All station plusses are along center line of existing Westward High Speed Track #1

TRACK PROFILE
Scales Horz. 1" = 50' Vert. 1" = 1'



Note:
South Siding to be located 12'-6" from Eastward H.S. #2 across Temporary Bridge during temporary operation thereover.

PLAN
Scale 1" = 50'

Correct: A. M. [signature] Engineer of Construction
Approved: E. A. Dougherty Chief Engineer

Drawn: S.W.R.	Traced: H.R.C.	Checked: C.J.B.
REVISIONS		
Date	By	Description

BRIDGE NO. CU-283-15 UG-842(1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

Bridge No. 12¾ Erie Division Sta. 210+10.24
GRADE SEPARATION
E. 72ND STREET
CLEVELAND, OHIO
TRACK PLAN AND PROFILE

N.Y.C.R.R. West	Cleveland Division	Plan No. 4645	
Scale: As shown	Aug. 28, 1950	Val. Sec. 204-A	File No. 168-20

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-U.G.-842(1)	POST WAR

CUYAHOGA COUNTY
CUY-283-1.09, 1.49

METHOD OF PROCEDURE

THE NEW YORK CENTRAL RAILROAD COMPANY WILL:

1. Furnish all materials for, install and maintain 2 temporary #10 crossovers, west of E. 140th Street, in the vicinity of Station 375 as shown on Plan #4645. Furnish all materials for, install and maintain necessary temporary signalling and interlocking for the 2 temporary #10 crossovers near E. 140th Street as shown on Plan #S-E 180-3. Furnish all materials for, install and maintain 3 temporary #10 crossovers and temporary switchtenders shanty, including telephone therein, east of E. 55th Street in the vicinity of Station 185 as shown on Plan #4645. (See sheet #78)

2. Remove existing grade crossing at E. 72ND Street between outside ends of ties of outside tracks, and all other grade crossing facilities. Furnish all materials for and raise and maintain all existing tracks to final grade. Furnish all materials for, install and maintain temporary sidewalk for pedestrian use within the overall limits of the tracks, and provide watchman protection therefor during construction operations.

3. Detour Eastward H.S. #2 traffic over Eastward L.S. #4. Furnish all materials for, install and maintain 2 temporary #8 turnouts in Eastward H.S. #2 just west of E. 72nd Street and construct and maintain temporary connections for tracks #29 and #31 as shown on Pl. #4645 (#78); removing or relocating such portions of existing tracks #29 and #31. as is necessary; detour South Siding traffic over Eastward H.S. #2 track. Remove portion of South Siding across E. 72nd Street. Furnish all materials for and lay rail and fastenings on South Siding temporary bridge adjusting South Siding alignment east and west of temporary bridge to conform to 12'-6" centers with Eastward H.S. #2, restoring connections of tracks #29 and #31 with South Siding. Furnish all materials for and make and maintain the necessary temporary changes in communication and signal and signal facilities; temporary underground communication and signal cables to be carried across E. 72nd Street on South Siding temporary bridge. Restore South Siding traffic. Maintain temporary bridge for South Siding.

4. Continue Eastward H.S. #2 traffic over Eastward L.S. #4. Remove portion of Eastward H.S. #2 across E. 72nd Street to permit construction of temporary bridge for Eastward H.S. #2. Furnish all materials for and lay rail and fastenings on Eastward H.S. #2 temporary bridge. Restore Eastward H.S. #2 traffic. Maintain temporary bridge.

5. Detour Westward H.S. #1 over Westward L.S. #3. Remove portion of Westward H.S. #1 across E. 72nd Street to permit construction of temporary bridge for Westward H.S. #1. Furnish all materials for and lay rail and fastenings on Westward H.S. #1 temporary bridge. Restore Westward H.S. #1 traffic. Maintain temporary bridge.

6. Detour Westward L.S. #3 over Westward H.S. #1 and Eastward L.S. #4, thru three temporary #10 crossovers east of E. 55th Street, over Eastward H.S. #2. See Temporary Track Diagram on Pl. #4645 (#78). Remove portions of North Siding, Eastward L.S. #4 and Westward L.S. #3 tracks across E. 72nd Street to permit excavation of subway site. At this time all N.Y.C. traffic will be in operation over the three temporary bridges. Provide the temporary rail supports for use over the backwalls for Westward L.S. #3 track. Furnish the necessary material and restore North Siding and Eastward L.S. #4 tracks on permanent superstructure and Westward L.S. #3 track on permanent superstructure and temporary rail supports.

7. Restore North Siding, Eastward L.S. #4 and Westward L.S. #3 traffic on permanent superstructure. Detour Eastward H.S. #2 over Eastward L.S. #4 and thru 2 temporary #10 crossovers west of E. 140th Street. Detour Westward H.S. #1 over Westward L.S. #3. Remove rail and fastenings on temporary bridges for Westward H.S. #1 and Eastward H.S. #2 tracks. Remove rail supports for Westward L.S. #3 track. Restore Westward H.S. #1 traffic over permanent superstructure and continue Eastward H.S. #2 traffic over Eastward L.S. #4 track.

8. Reinstall and maintain 2 temporary #8 turnouts in Eastward H.S. #2 just west of E. 72nd Street and construct and maintain temporary connections for tracks #29 and #31, removing or relocating such portions of existing tracks #29 and #31 as is necessary; detour South Siding traffic over Eastward H.S. #2 track. Remove rail and fastenings on temporary bridge for South Siding.

9. Furnish all materials for and install the permanent communication and signal lines and signal facilities in their permanent locations.

10. Remove the temporary underground communication and signal cables and the connecting cables from the temporary South Siding bridge.

11. Furnish the necessary material and restore South Siding on permanent superstructure adjusting South Siding alignment east and west of the permanent bridge to conform to the original track alignment. Remove the 2 temporary #8 turnouts in Eastward H.S. #2 just west of E. 72nd Street and restore connections of tracks #29 and #31 with South Siding. Remove rail supports for Eastward H.S. #2 track.

12. Restore all tracks to normal operation. Remove the 3 temporary crossovers and temporary switchtenders shanty including telephone therein located east of E. 55th Street and the 2 temporary crossovers west of E. 140th Street. At the end of this step all N.Y.C. traffic will be in operation over the permanent structure.

14. Remove temporary sidewalk for pedestrian use, within overall limits of tracks, after project is completed and opened for use.

THE CONTRACTOR SHALL:

3. Furnish all materials for and construct temporary bridge for South Siding. Center line of temporary bridge to be 12'-6" south of center line of Eastward H.S. #2 track.

4. Furnish all materials for and construct temporary bridge for Eastward H.S. #2 in existing location.

5. Furnish all materials for and construct temporary bridge for Westward H.S. #1 in Existing location.

6. Excavate subway site, furnishing and applying the necessary bracing to the temporary bridges as excavation progresses. Furnish all materials for and construct all masonry except portion of backwalls under temporary bridges. Furnish all materials for and costruct permanent superstructure for the 3 northerly tracks and backfill abutments ready for ballast. Install temporary rail supports provided by the Railroad Company for Westward L.S. #3 track.

7. Remove temporary bridges for Westward H.S. #1 and Eastward H.S. #2 tracks. Furnish all materials for and complete backwalls and construct permanent superstructure for Westward H.S. #1 and Eastward H.S. #2 tracks and back fill abutments ready for ballast. Install temporary rail supports provided by the Railroad Company for Eastward H.S. #2 track.

10. Remove temporary bridge for South Siding. Furnish all materials for and complete backwalls and construct permanent superstructure for South Siding on original alignment and backfill abutments ready for ballast. Furnish all materials for and construct the retaining walls south of the permanent Railroad bridge structure, the portions adjoining the Railroad structure to be completed before Step 11.

13. Furnish the materials for, construct and complete all highway work including paving, drainage, etc.

THE CITY OF CLEVELAND WILL:

1. Provide and maintain the necessary temporary highway detours, on existing City streets; (the placing of necessary route marking thereon to be done by the State.) Furnish all materials for, and temporarily remove and replace or cause to be removed and replaced the facilities of all public utilities including its water, sewer, power lines, etc., occupying E. 72nd Street, prior to the construction of the temporary bridges.

13. Furnish all materials for, install or cause to be installed any new water lines or other public utilities deemed necessary by it. Furnish all materials for, install or relocate or cause to be installed or relocated any street lighting deemed necessary by it.

Correct: [illegible]
Engineer of Construction

Approved: E. A. Dougherty
Chief Engineer

Drawn: S.W.R.-H.R.C.	Traced: H.R.C.	Checked: K.O.
REVISIONS		
Date	By	Description

BRIDGE NO. CU-283-15 UG-842(1)

N.Y.C. System	Office of Chief Engineer	Chicago, Ill.

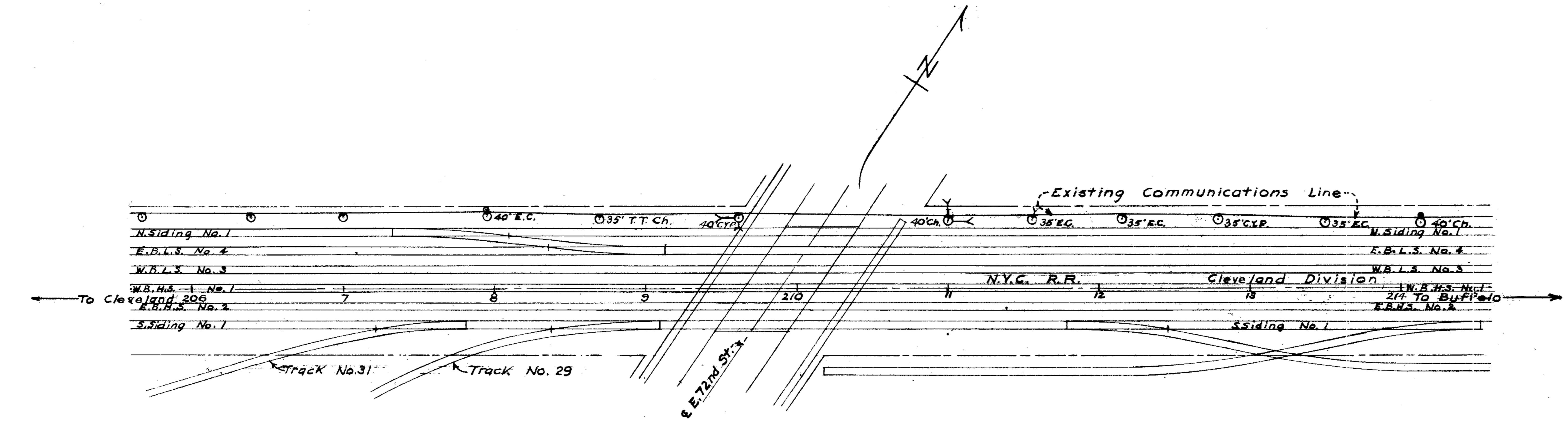
Bridge Nº $12\frac{3}{4}$ Erie Division Sta. 210+10.24

GRADE SEPARATION
E. 72ND STREET
CLEVELAND, OHIO
METHOD OF PROCEDURE

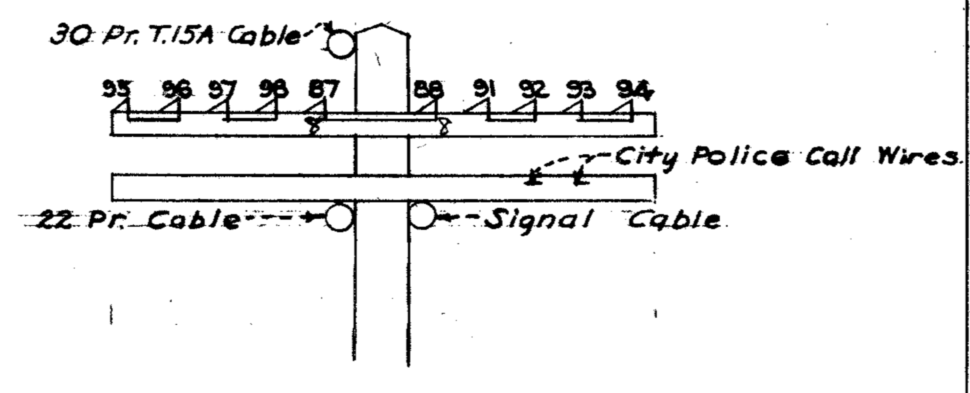
N.Y.C.R.R. West	Cleveland Division	Plan Nº 4646
Aug. 30, 1950	Val. Sec. 204-A	File Nº 168-21

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U-UG-842 (1)	POST-WAR	80 / 85

CUYAHOGA COUNTY
CUY-283-(1.09, 1.49)



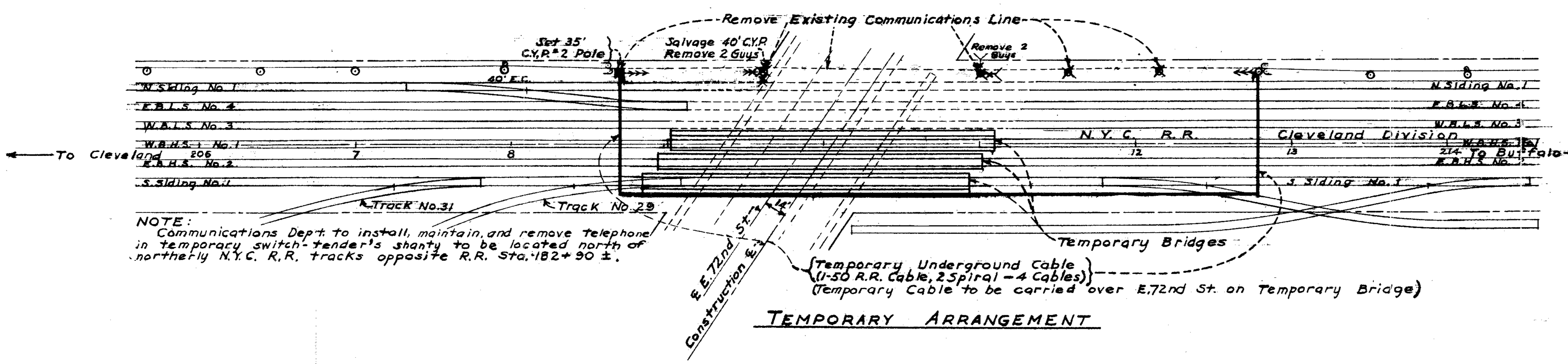
EXISTING ARRANGEMENT



EXISTING ARRANGEMENT
Looking West

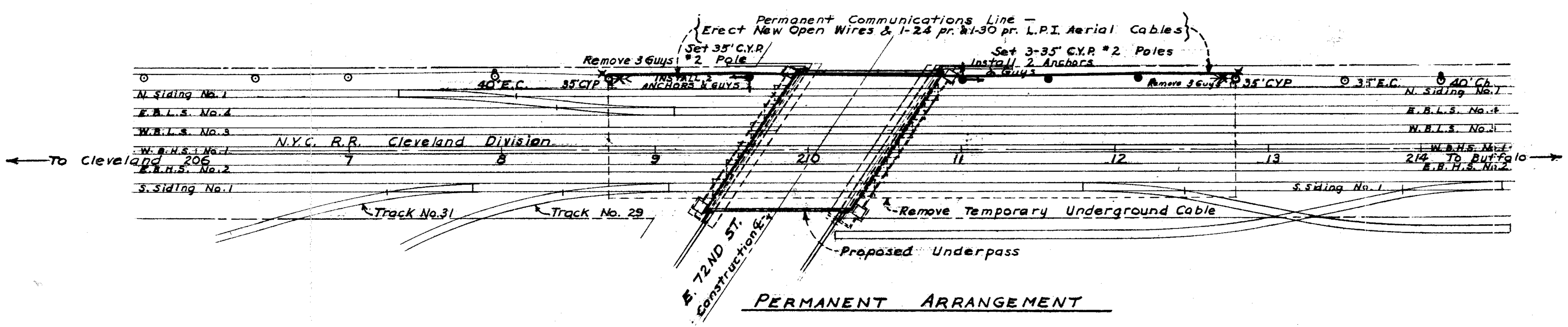
LEGEND

- ○ Existing Pole
- ● New pole to replace another
- Pole to remove; not defective
- Pole to replace in existing location account defective top and butt
- Existing pole with stub reinforcement
- Existing Anchor and Guy
- Remove existing anchor and guy
- Proposed Anchor and Guy



TEMPORARY ARRANGEMENT

All labor and furnishing of materials in connection with the Communication Line Changes shown on this sheet and called for in the estimate will be performed by the N.Y.C. Railroad force account.



PERMANENT ARRANGEMENT

NOTE

POLE DIAGRAM for PERMANENT ARRANGEMENT same as for EXISTING ARRANGEMENT

UG-842 (1)

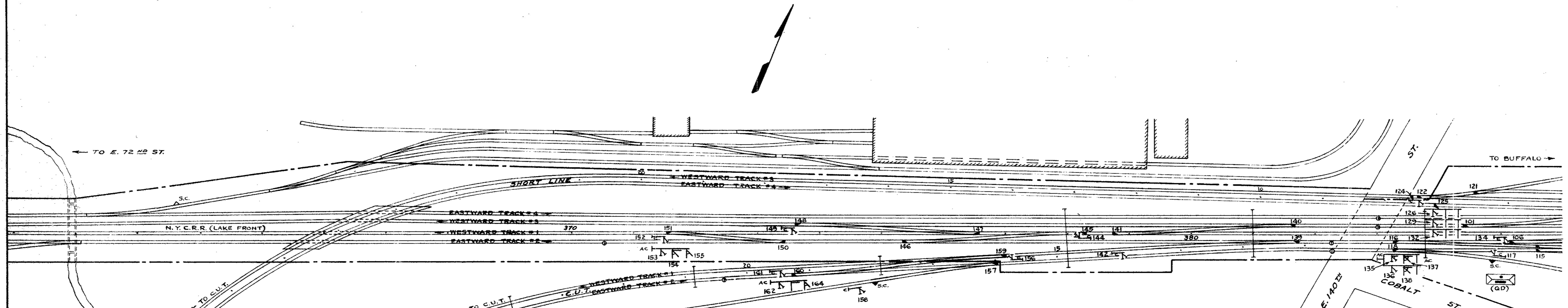
N.Y.C. System	Office of Chief Engineer	Chicago, Ill.
Bridge No. 12¾	Erie Division	Sta. 210+10.24

GRADE SEPARATION
E. 72ND STREET
CLEVELAND, OHIO
COMMUNICATION LINE CHANGES

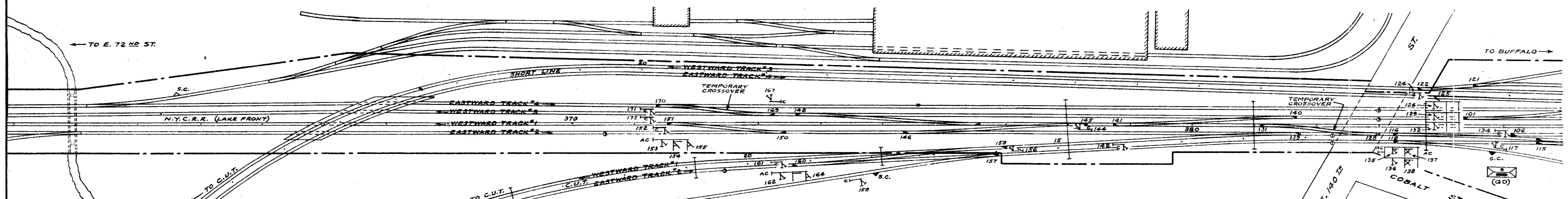
N.Y.C. R.R. West	Cleveland Division	Plan No. 4647	
Scale: 1" = 50'	Aug. 31, 1950	Val. Sec. 204-A	File No. 168-22

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	81/85
2	OHIO	U-U.G.-842(1)	POST-WAR	

CUYAHOGA COUNTY
CUY-283-(1.09, 1.49)



PRESENT AND FINAL ARRANGEMENT



ARRANGEMENT DURING CONSTRUCTION PERIOD

SIGNAL DEPARTMENT WORK
INTERLOCK TEMPORARY CROSSOVERS.

FOR CHANGES AT E.55TH ST. SEE PLAN S-E180-7 (SH.# 85)
FOR CHANGES AT E.72ND ST. SEE PLANS S-E180-4, 5 & 6 (SH.# 82, 83, & 84)

UG-842 (1)

SCALE: 1 IN. = 100 FT.

N. Y. C. R. R. WEST OF BUFFALO SIGNAL DEPT. CLEVELAND, O.

PROPOSED GRADE SEPARATION AT E.72ND ST.

CHANGES AT "QD" INTERLOCKING

CLEVELAND, O.

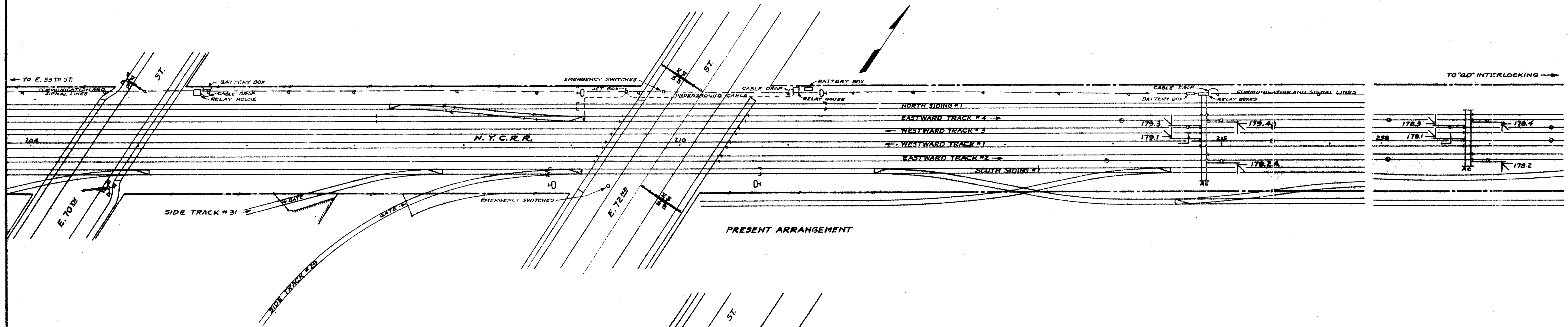
SEPT. 11, 1950.

REVISION NO.

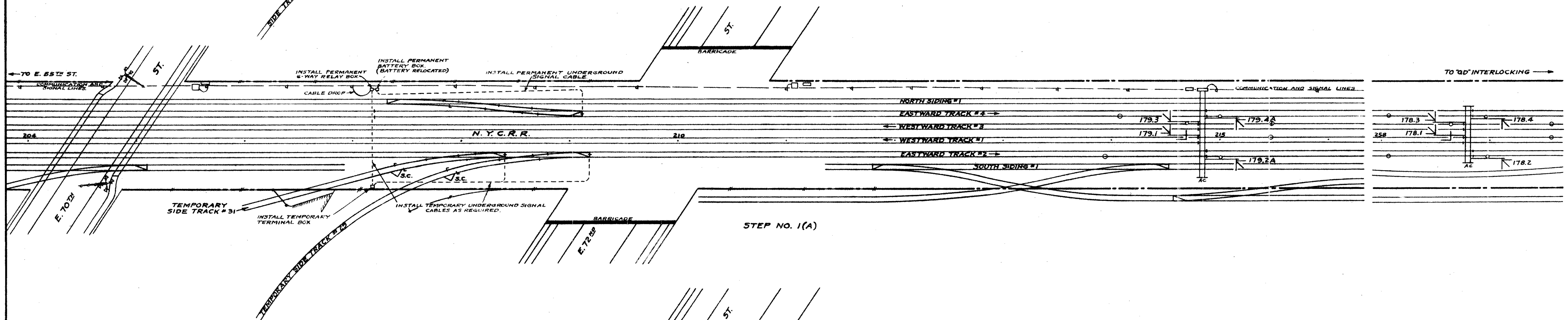
S-E180-3

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	
2	OHIO	U-U.G-842(1)	POST-WAR	82/85

CUYAHOGA COUNTY
CUY-283-(1.09, 1.49)



PRESENT ARRANGEMENT



STEP NO. 1(A)

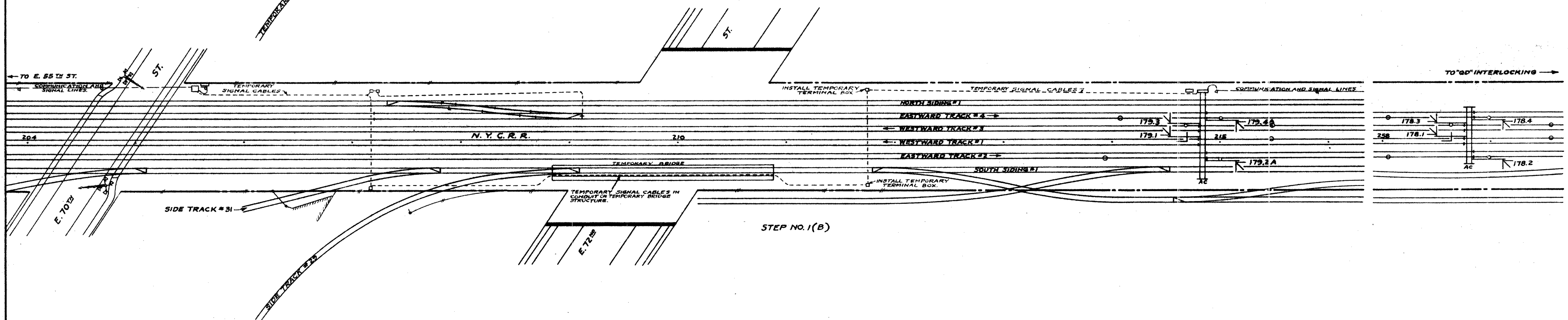
DETOUR EASTWARD THROUGH TRAFFIC FROM NO. 2 TRACK TO NO. 4 TRACK BETWEEN E. 55TH ST. AND "QD" INTERLOCKING.

INSTALL TEMPORARY TURNOUTS FOR SIDE TRACKS NOS. 29 AND 31 IN EASTWARD TRACK NO. 2.

SIGNAL DEPARTMENT WORK

RELOCATE BATTERY AND CABLES TO PERMANENT LOCATION FOR THE SIGNAL PROTECTION ON CROSSOVER, NORTH SIDING NO. 1 TO EASTWARD TRACK NO. 4, STATION 207+

INSTALL SWITCH CONNECTED DERAILS AND SIGNAL PROTECTION FOR SIDE TRACKS NOS. 29 AND 31.



STEP NO. 1(B)

CONSTRUCT TEMPORARY BRIDGE FOR SOUTH SIDING NO. 1.
RESTORE SOUTH SIDING NO. 1 TRAFFIC.

SIGNAL DEPARTMENT WORK

INSTALL TEMPORARY SIGNAL CABLES AND CONDUITS ON SOUTH SIDE OF TRACKS BETWEEN STATIONS 206+ AND 215+ AS MAY BE NECESSARY TO KEEP IN CLEAR OF BRIDGE CONSTRUCTION. REMOVE PRESENT AERIAL CABLES BETWEEN THESE LOCATIONS.

REMOVE SWITCH CONNECTED DERAILS AND SIGNAL PROTECTION FROM SIDE TRACKS NOS. 29 AND 31.

FOR CHANGES AT E. 55TH ST. SEE PLAN S-E180-7 (SH. # 85)
FOR CHANGES AT "QD" INTERLOCKING SEE PLAN S-E180-3 (SH. # 81)

UG-842 (1)

SCALE: 1 IN. = 50 FT.

N. Y. C. R. R. WEST OF BUFFALO. SIGNAL DEPT. CLEVELAND, O.

PROPOSED GRADE SEPARATION AT E. 72ND ST.

CHANGES AT E. 72ND ST.

CLEVELAND, O.

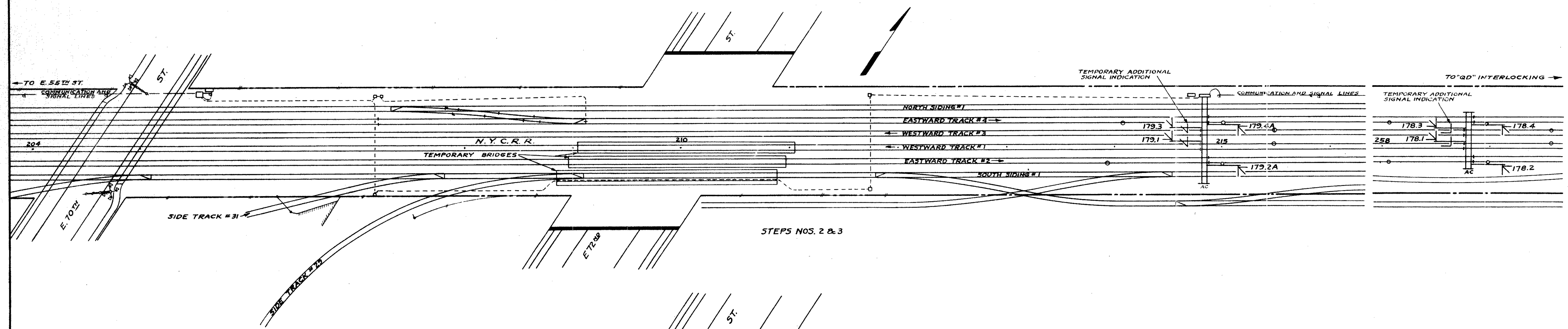
SEPT. 11, 1950.

REVISION NO.

S-E180-4

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS
2	OHIO	U-U.G.-842 (1)	POST-WAR

CUYAHOGA COUNTY
CUY-283-(1.09, 1.49)

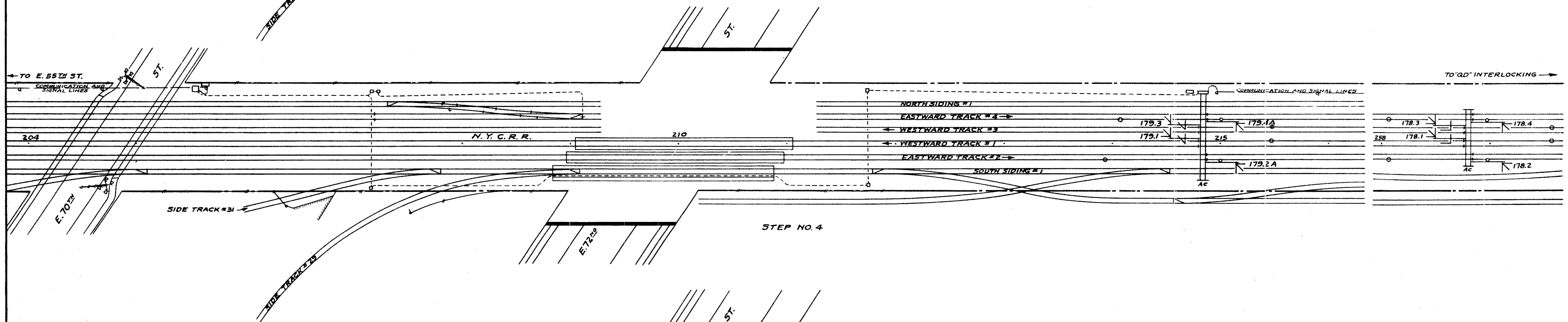


STEPS NOS. 2 & 3

CONTINUE DETOUR EASTWARD HIGH SPEED NO. 2 OVER EASTWARD LOW SPEED NO. 4.
CONSTRUCT TEMPORARY BRIDGE FOR TRACK NO. 2.
RESTORE EASTWARD HIGH SPEED NO. 2 TRAFFIC.
DETOUR WESTWARD HIGH SPEED NO. 1 TRAFFIC OVER WESTWARD LOW SPEED NO. 3 BETWEEN "QD" INTERLOCKING AND E. 55TH ST.
CONSTRUCT TEMPORARY BRIDGE FOR TRACK NO. 1.
RESTORE WESTWARD HIGH SPEED NO. 1 TRAFFIC.

SIGNAL DEPARTMENT WORK

PROVIDE SIGNAL INDICATIONS FOR SPEEDS PERMITTED.
BOND TRACKS AS REQUIRED.

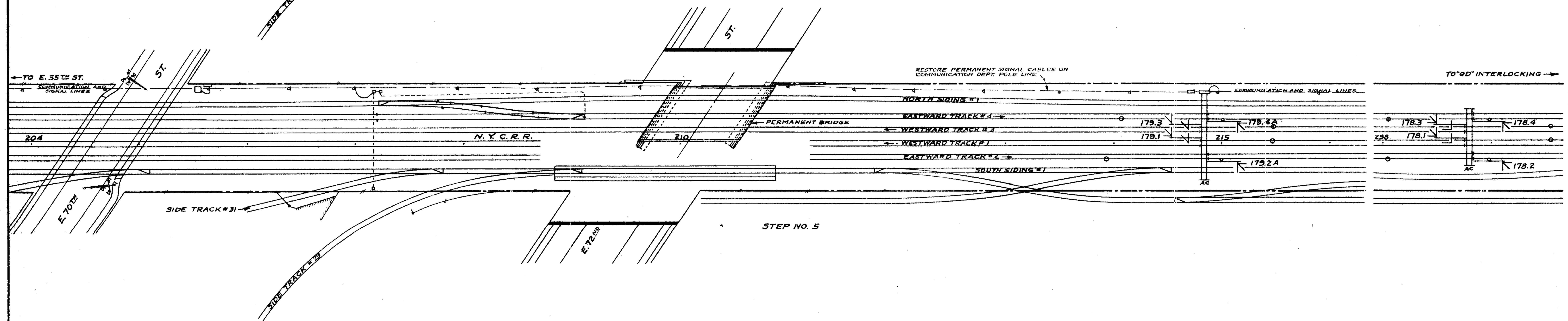


STEP NO. 4

OPERATE WESTWARD LOW SPEED NO. 3 TRAFFIC OVER WESTWARD HIGH SPEED NO. 1 BETWEEN "QD" INTERLOCKING AND E. 55TH ST.
DETOUR EASTWARD LOW SPEED NO. 4 TRAFFIC THROUGH THE THREE TEMPORARY CROSSOVERS EAST OF E. 55TH ST. TO EASTWARD HIGH SPEED NO. 2.
TAKE UP NORTH SIDING NO. 1, EASTWARD LOW SPEED NO. 4 AND WESTWARD LOW SPEED NO. 3 ACROSS SUBWAY SITE AND CONSTRUCT PERMANENT BRIDGE FOR THE THREE NORTH TRACKS.

SIGNAL DEPARTMENT WORK

PROVIDE SIGNAL INDICATIONS FOR SPEEDS PERMITTED.



STEP NO. 5

OPERATE EASTWARD HIGH SPEED NO. 2 TRAFFIC OVER EASTWARD LOW SPEED NO. 4 BETWEEN E. 55TH ST. AND "QD" INTERLOCKING ON PERMANENT BRIDGE.
OPERATE WESTWARD HIGH SPEED NO. 1 TRAFFIC OVER WESTWARD LOW SPEED NO. 3 ON PERMANENT BRIDGE.
RESTORE TRAFFIC ON NORTH SIDING NO. 1.
CONSTRUCT PERMANENT BRIDGES FOR NO. 1 AND NO. 2 MAINS.
RESTORE TRAFFIC OVER NO. 1 MAIN.
CONTINUE EASTWARD HIGH SPEED NO. 2 TRAFFIC OVER EASTWARD LOW SPEED NO. 4.

SIGNAL DEPARTMENT WORK

RESTORE PERMANENT AERIAL CABLES BETWEEN STATIONS 206+ AND 215+
REMOVE TEMPORARY CABLES AND CONDUITS.
BOND TRACKS AS REQUIRED.
PROVIDE SIGNAL INDICATIONS FOR SPEEDS PERMITTED.

FOR CHANGES AT E. 55TH ST. SEE PLAN S-E180-7 (SH. #85)
FOR CHANGES AT "QD" INTERLOCKING SEE PLAN S-E180-3 (SH. #81)

UG-842 (1)

SCALE: 1 IN. = 50 FT.

N. Y. C. R. R. WEST OF BUFFALO. SIGNAL DEPT. CLEVELAND, O.

PROPOSED GRADE SEPARATION AT E. 72ND ST.

CHANGES AT E. 72ND ST.

CLEVELAND, O.

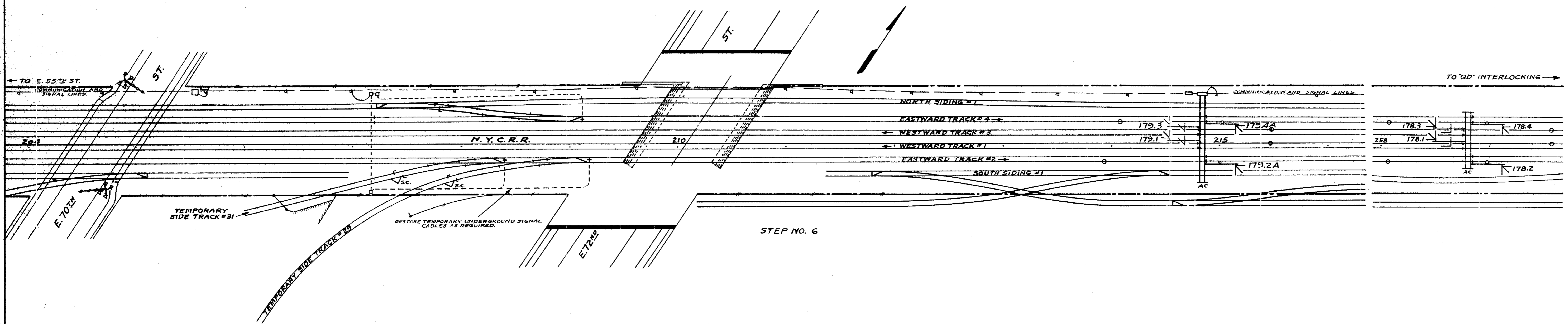
SEPT. 11, 1950.

REVISION NO.

S-E180-5

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	84/85
2	OHIO	U-U.G.-842(1)	POST-WAR	

CUYAHOGA COUNTY
CUY-283-(1.09, 1.49)



STEP NO. 6

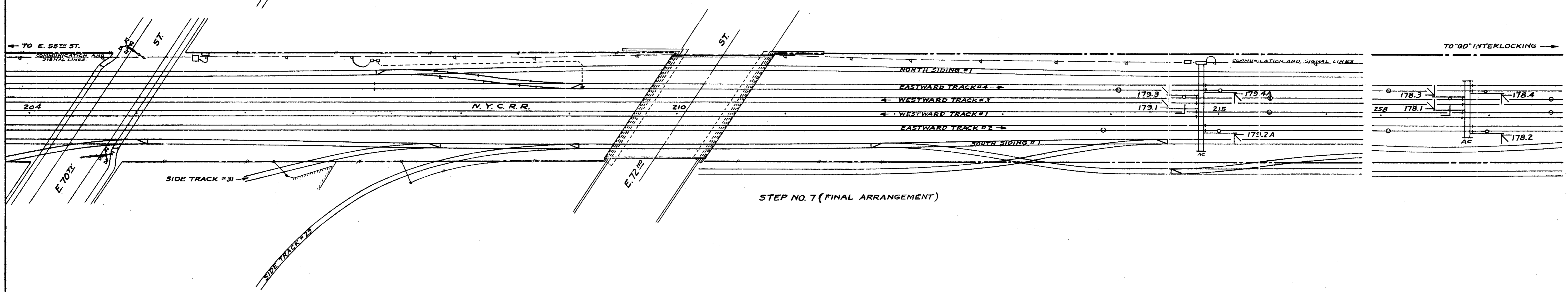
STEP NO. 6

RECONNECT SIDE TRACKS NOS. 29 AND 31 TO EASTWARD TRACK NO. 2.

CONSTRUCT PERMANENT BRIDGE FOR SOUTH SIDING NO. 1.

SIGNAL DEPARTMENT WORK

RESTORE SWITCH CONNECTED DERAILS AND SIGNAL PROTECTION FOR SIDE TRACKS 29 AND 31.



STEP NO. 7 (FINAL ARRANGEMENT)

STEP NO. 7 (FINAL ARRANGEMENT)

RESTORE ALL TRAFFIC TO ORIGINAL LOCATIONS.

SIGNAL DEPARTMENT WORK

REMOVE SWITCH CONNECTED DERAILS AND SIGNAL PROTECTION FROM SIDE TRACKS NOS. 29 AND 31.

REMOVE TEMPORARY SIGNAL FACILITIES.

BOND TRACKS AS REQUIRED.

FOR CHANGES AT E. 55TH ST. SEE PLAN S-E180-7 (SH. #85)
FOR CHANGES AT "QD" INTERLOCKING SEE PLAN S-E180-3 (SH. #81)

UG-842 (1)

SCALE: 1 IN. = 50 FT.

N. Y. C. R. R. WEST OF BUFFALO SIGNAL DEPT. CLEVELAND, O.

PROPOSED GRADE SEPARATION AT E. 72ND ST.

CHANGES AT E. 72ND ST.

CLEVELAND, O.

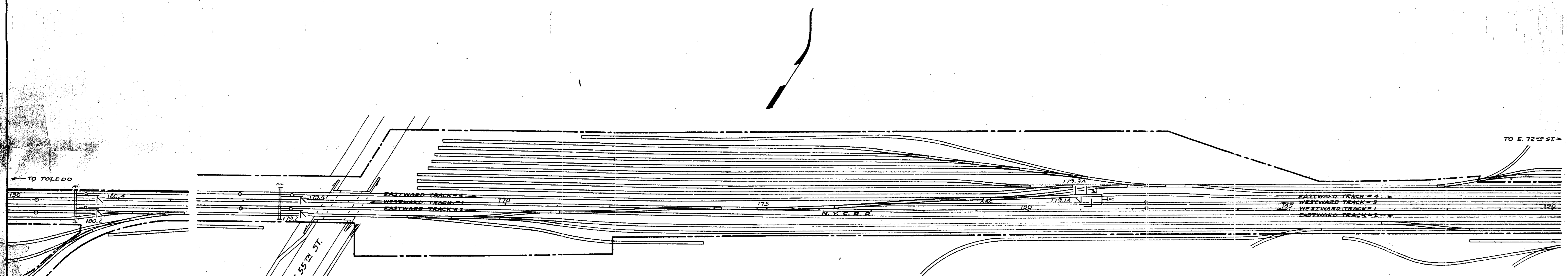
SEPT. 11, 1950.

REVISION NO.

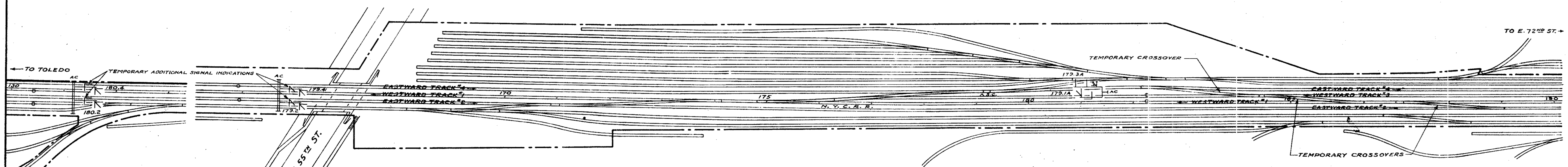
S-E180-6

FED. RD. DIVISION	STATE	FEDERAL AID PROJECT	TYPE FUNDS	85 / 85
2	OHIO	U-U.G.842(1)	POST-WAR	

CUYAHOGA COUNTY
CUY-283-(1.09, 1.49)



PRESENT AND FINAL ARRANGEMENT



ARRANGEMENT DURING CONSTRUCTION PERIOD

SIGNAL DEPARTMENT WORK

INSTALL SIGNAL PROTECTION FOR TEMPORARY CROSSOVERS.
PROVIDE SIGNAL INDICATIONS FOR SPEEDS PERMITTED.

NEW YORK CENTRAL FORCE ACCOUNT WORK	
Preliminary Engineering	Lump Sum
Construction Engineering	Lump Sum
Trackwork (See Sh. No. 78)	Lump Sum
Maintain Temorary Bridges	Lump Sum
Protection of Railroad Traffic	Lump Sum
Communication Line Changes (See Sheet No. 80)	Lump Sum
Signal and Signal Line Changes (See Sheets No. 81-85)	Lump Sum
Incidental Items	Lump Sum
Accounting	Lump Sum
Insurance	Lump Sum

All labor and furnishing of materials in connection with the Signal and Signal Line Changes as shown on Sheets No. 81-85 and called for in the Estimate will be performed by the N.Y.C. Railroad force account.

FOR CHANGES AT E. 72ND ST. SEE PLANS S-E180-4, 5 & 6 (SH.# 82, 83 & 84)
FOR CHANGES AT "QD" INTERLOCKING SEE PLAN S-E180-3 (SH.# 81)

UG-842 (1)

SCALE: 1 IN. = 100 FT.

N. Y. C. R. R. WEST OF BUFFALO SIGNAL DEPT. CLEVELAND, O.

PROPOSED GRADE SEPARATION AT E. 72ND ST.

CHANGES AT E. 55TH ST.

CLEVELAND, O.

SEPT. 11, 1950.

REVISION NO.

S-E180-7