



CUY-90-14.90

PID 77332/85531

APPENDIX EX-12

Willow Innerbelt Freeway Part 7-B (CUY-42-18.77)
(Reference Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

Innerbelt Bridge
Construction Contract Group 1 (CCG1)

E1-D

0-17

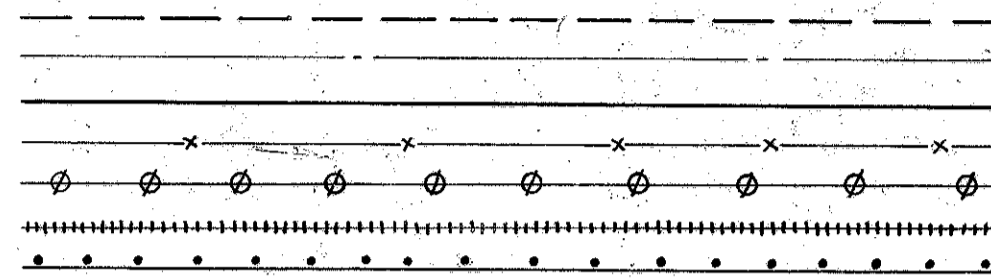
PART 7-B

NOTE

Since the Construction Plans for PART 7-B, PART 7-A and PART 7-C are now Combined into ONE CONTRACT and PROJECT; the General Notes and Traffic Maintenance Notes of each of the aforesaid PARTS, shall apply in the general execution and completion of this COMBINED PROJECT.

CONVENTIONAL SIGNS

SECTION LINE
CENTER LINE
PROPERTY LINE
FENCE LINE
POLE LINE
RAILROAD
GUARD RAIL



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LINE DATA
(See Part 7-A)

STATE OF OHIO

DEPARTMENT OF HIGHWAYS

CUY-42-18.77

CUYAHOGA COUNTY

CITY of CLEVELAND

PART "7-B"

I-1057(11) (OLD)
I-71-5(8)248

CUY-90-16.14 ±
LIMITED ACCESS

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	I-71-5(8)248	

1
80

CUYAHOGA COUNTY
CUY-42-18.77

PART 7-B

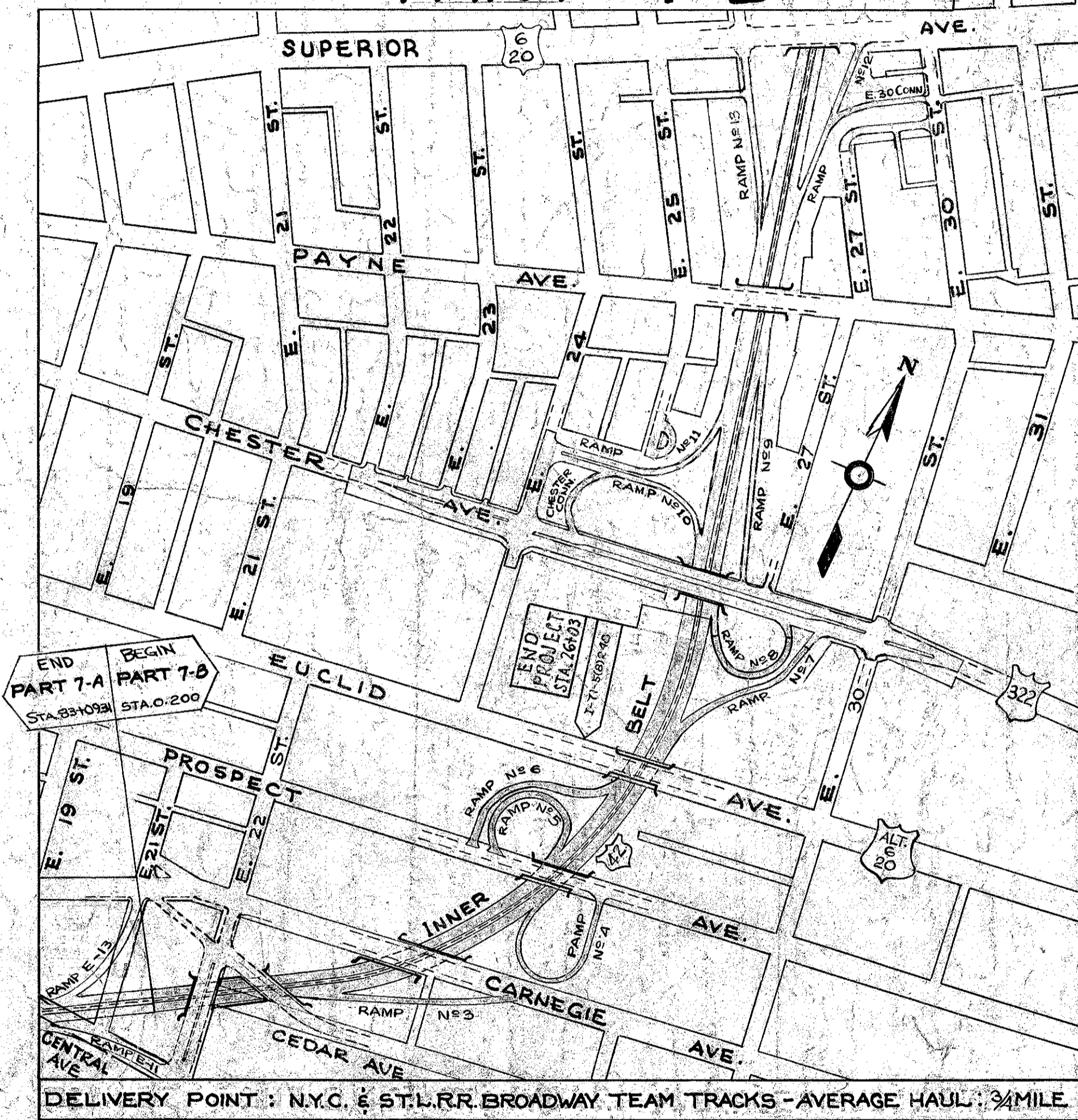
This improvement is especially designed for through traffic and has been declared a Limited Access highway or freeway by action of the Director of Highways in accordance with the provisions of Section 5511.02 of the Revised Code of Ohio.

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 not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

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

For Part 6, see plans for CUY-42-18.29.
For Part 7-A, see plans for CUY-21-15.32; CUY-42-18.42.



LOCATION PLAN

SCALE IN FEET
1" = 400'

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER HIGHWAYS

SCALES

PLAN 1" = 50'
PROFILE HOR. 1" = 50'
PROFILE VER. 1" = 10'

STANDARD DRAWINGS			
RI-1	7-15-58	I-8CB22A	B-3-2-59
		I-8M.H.N#1	I-26-59
T-35	1-2-56	I-8CB#6	I-26-59
BT507071E	N#1 10-1-47	I-8M.H.N#2	I-26-59
BT.71R	3-2-53		
T.J.	5-1-56	I-14G	I-22-52
L.J.N#1	7-1-55	I-15N#1	5-21-59
I-1234#5	4-24-58	I-15N#2A	5-1-59

STANDARD DRAWINGS			
I-15N#6	7-1-59	AS-1-54	Rev.12-1-54
I-21-23	8-1-56	RB-1-55	2-2-59
L-1	4-1-50	F-3	9-1-59
L-3	4-1-50	R.W-45	9-18-47
L-3-A	4-1-50		
F-1	9-1-59		
T-8M.H.N#1A	7-26-59		

SUPPLEMENTAL SPECIFICATIONS			
B-219 R	3-12-59		
SS-18R	6-15-59		
M-206.14	7-15-49		

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED: _____

DIVISION _____ ENGINEER _____ DATE _____

FILE NO. CUY-42-18.77
CUYAHOGA COUNTY CITY OF CLEVELAND
DATE OF LETTING _____ 19____
CONTRACT NO. _____

0005-2B

LOCATION & FENCE PLAN

SCALE: 1" = 200'

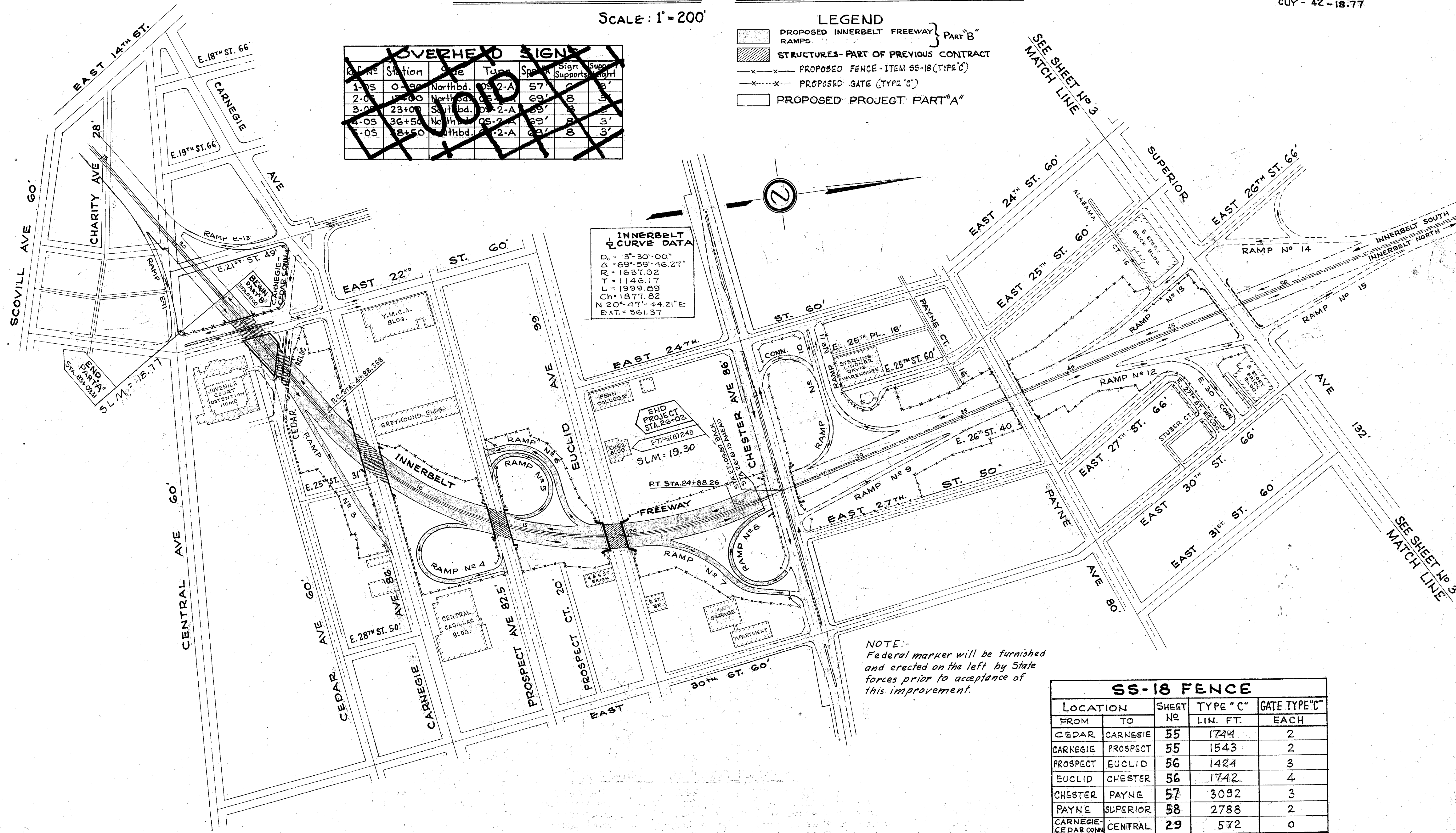
- LEGEND**
- PROPOSED INNERBELT FREEWAY } PART "B"
 - RAMP
 - STRUCTURES - PART OF PREVIOUS CONTRACT
 - PROPOSED FENCE - ITEM SS-18 (TYPE "C")
 - PROPOSED GATE (TYPE "C")
 - PROPOSED PROJECT PART "A"

~~OVERHEAD SIGNS~~

Line Station	Side	Type	Span	Sign Supports	Support Height
1-05	0+90	Northbd.	OS-2-A	57'	8'
2-05	17+00	Northbd.	OS-2-A	69'	8'
3-05	23+00	Southbd.	OS-2-A	69'	8'
4-05	36+50	Northbd.	OS-2-A	69'	8'
5-05	43+50	Southbd.	OS-2-A	69'	8'

INNERBELT CURVE DATA

D = 3°-30'-00"
 $\Delta = 69^{\circ}-59'-46.27"$
R = 1637.02
T = 1146.17
L = 1999.89
Ch = 1877.82
N 20°-47'-44.21" E
EXT = 361.37



NOTE:-
Federal marker will be furnished and erected on the left by State forces prior to acceptance of this improvement.

SS-18 FENCE

LOCATION		SHEET NO	TYPE "C" LIN. FT.	GATE TYPE "C" EACH
FROM	TO			
CEDAR	CARNEGIE	55	1744	2
CARNEGIE	PROSPECT	55	1543	2
PROSPECT	EUCLID	56	1424	3
EUCLID	CHESTER	56	1742	4
CHESTER	PAYNE	57	3092	3
PAYNE	SUPERIOR	58	2788	2
CARNEGIE-CEDAR CONN.	CENTRAL	29	572	0
TOTAL			12,905	16

FENCING PLAN

Scale: 1" = 200'

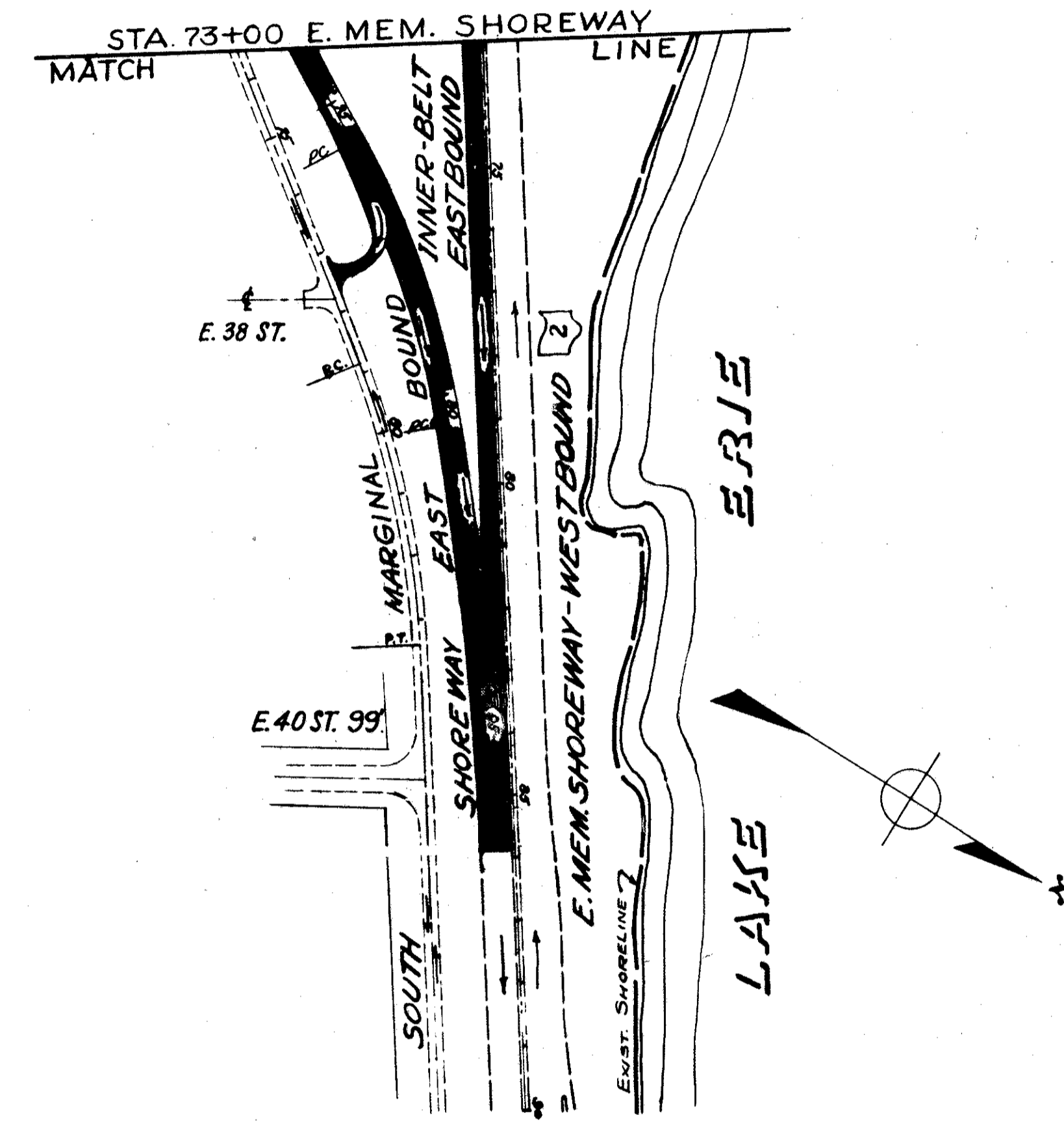
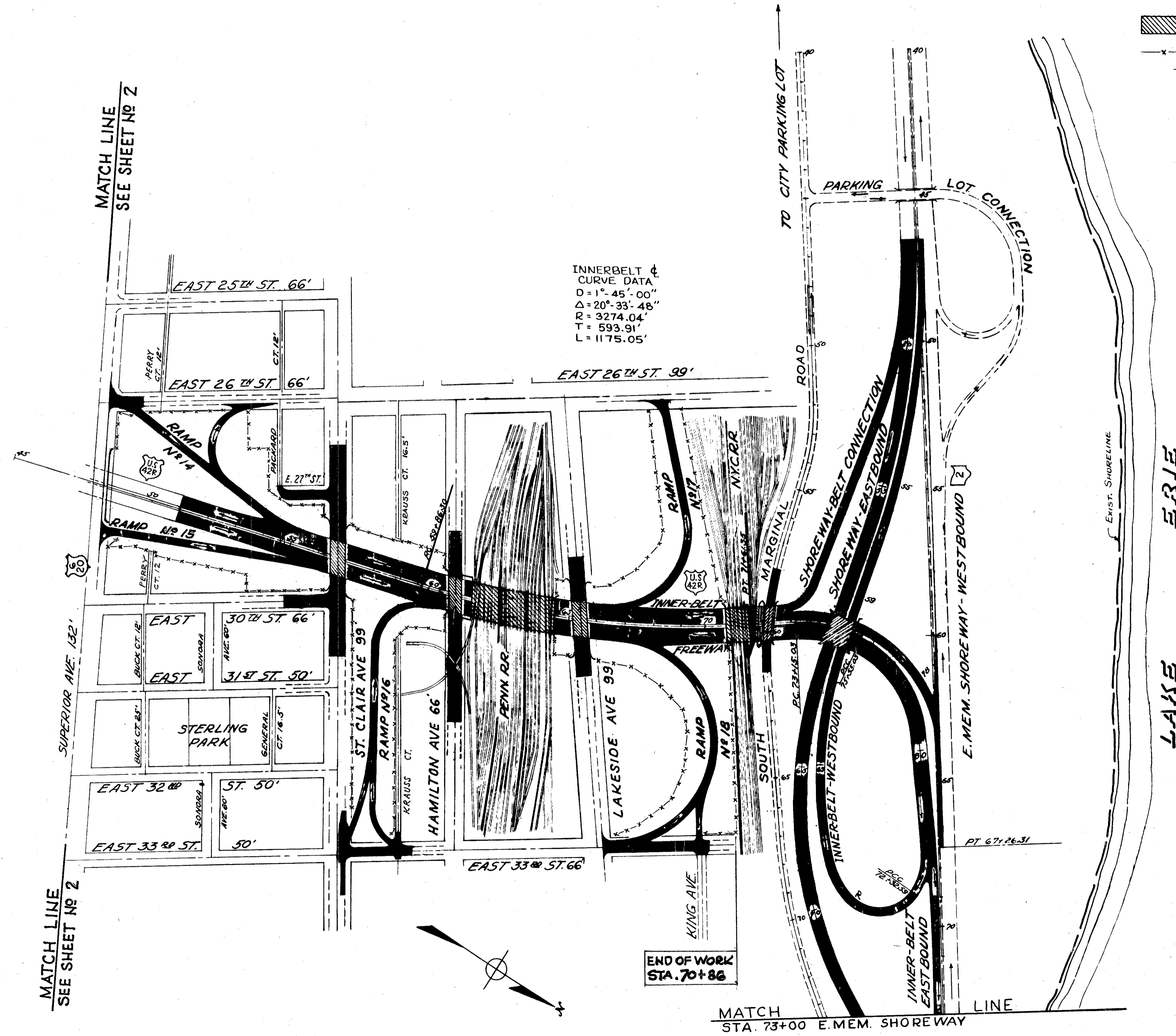
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

3
80

CUY. 42-18.77
CUYAHOGA COUNTY

LEGEND

- INNER-BELT FREEWAY, RAMPS & SHOREWAY INTER-CHANGE
- STRUCTURES
- PROPOSED FENCE - ITEM SS-18 (TYPE C)
- PROPOSED GATE (TYPE C)



SS-18 FENCE				
LOCATION		SHEET NO.	TYPE "C" LIN. FT.	GATE TYPE "C" EACH
FROM	TO			
SUPERIOR	ST. CLAIR	59-61	1881	2
ST. CLAIR	HAMILTON	62-63	1986	3
HAMILTON	LAKESIDE	64	248	—
LAKESIDE	N.Y.C.R.R.	64	3129	—
TOTAL			7244	5

TYPICAL SECTION

TYPE T-71 REINFORCED CONCRETE PAVEMENT

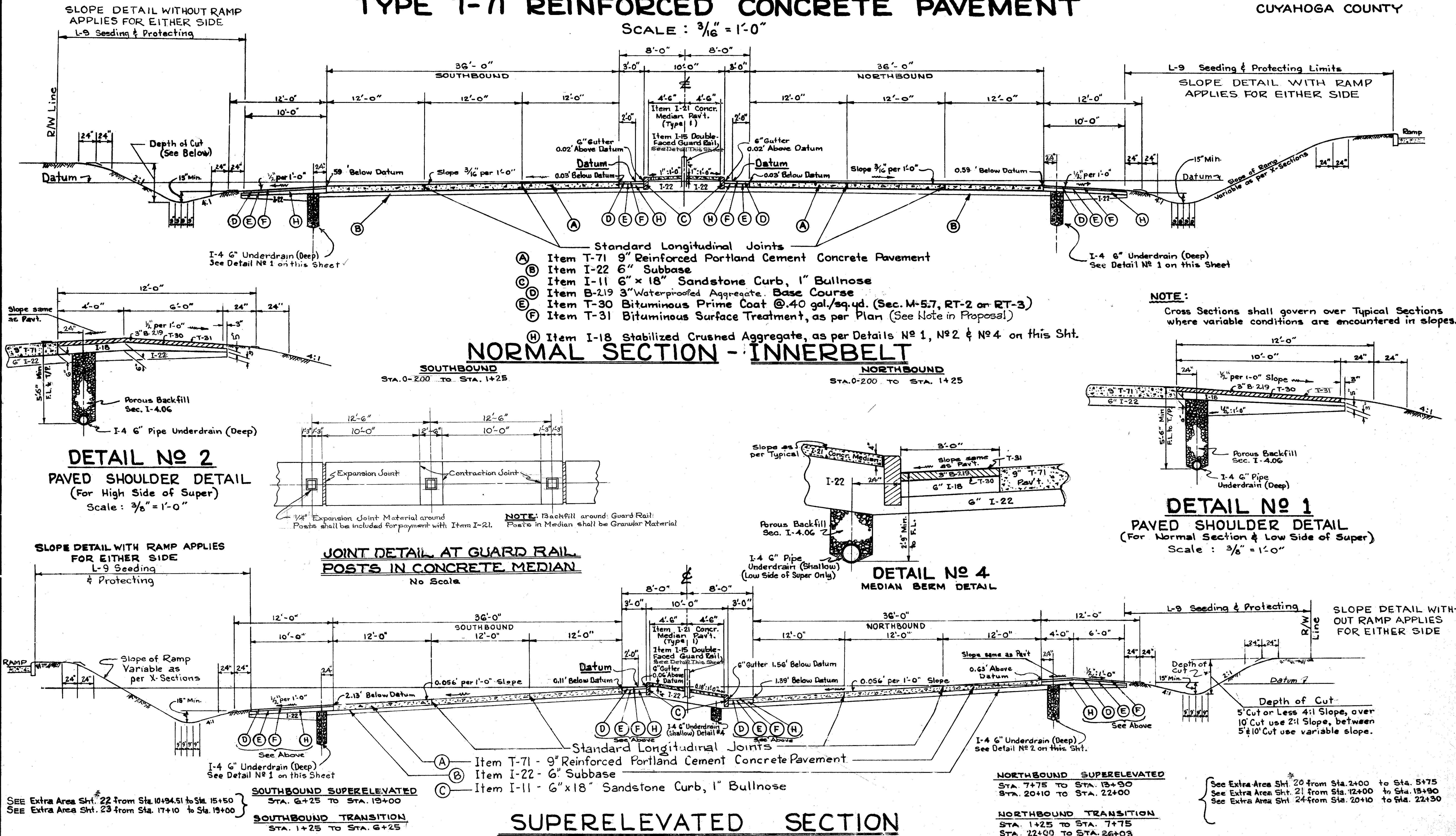
DESIGN SPEED
50 M.P.H.

PER. NO. DIVISION	STATE	PROJECT
2	OHIO	

4
80

CUY - 42 - 18.77
CUYAHOGA COUNTY

SCALE: 3/8" = 1'-0"

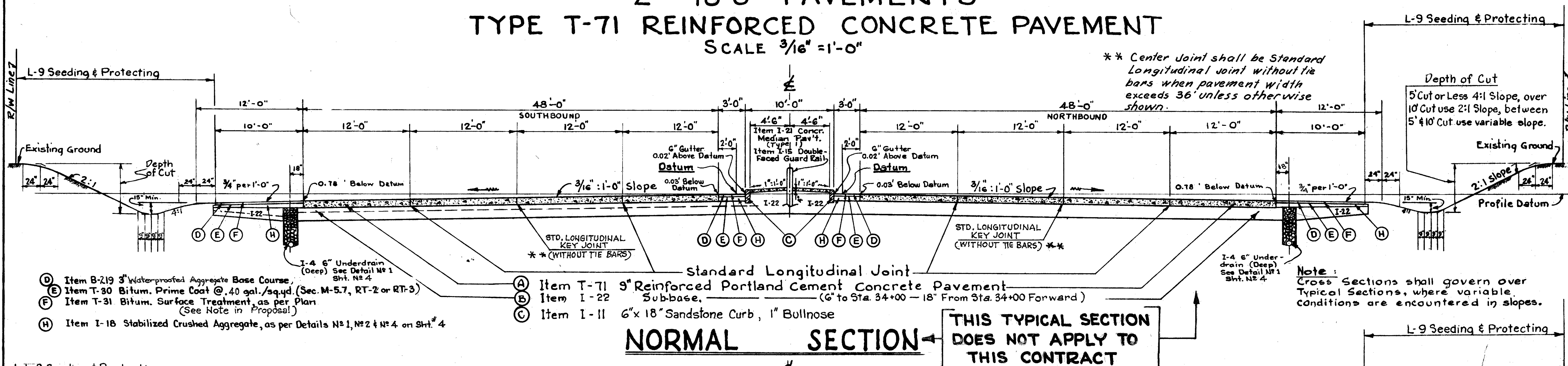


TYPICAL SECTIONS

2 - 48'-0" PAVEMENTS

TYPE T-71 REINFORCED CONCRETE PAVEMENT

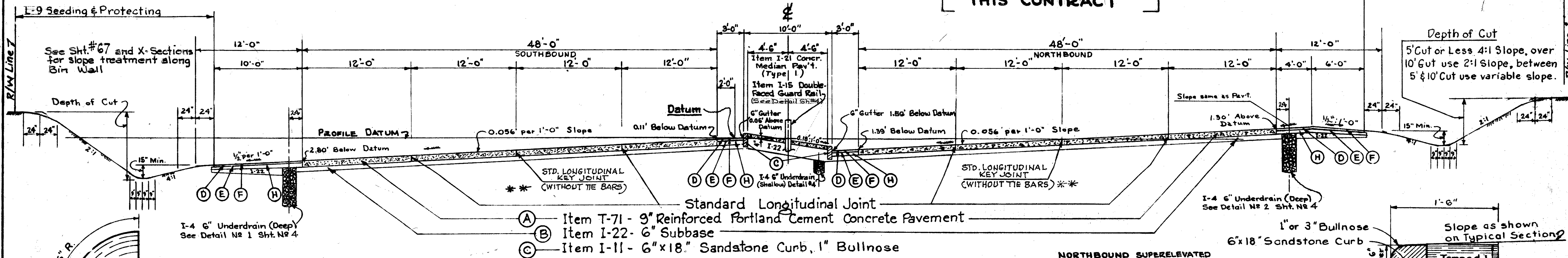
SCALE 3/16" = 1'-0"



- (D) Item B-219 3" Water-proofed Aggregate Base Course
- (E) Item T-30 Bitum. Prime Coat @ .40 gal./sqyd. (Sec. M-5.7, RT-2 or RT-3)
- (F) Item T-31 Bitum. Surface Treatment, as per Plan (See Note in Proposal)
- (H) Item I-18 Stabilized Crushed Aggregate, as per Details N#1, N#2 & N#4 on Sht. # 4

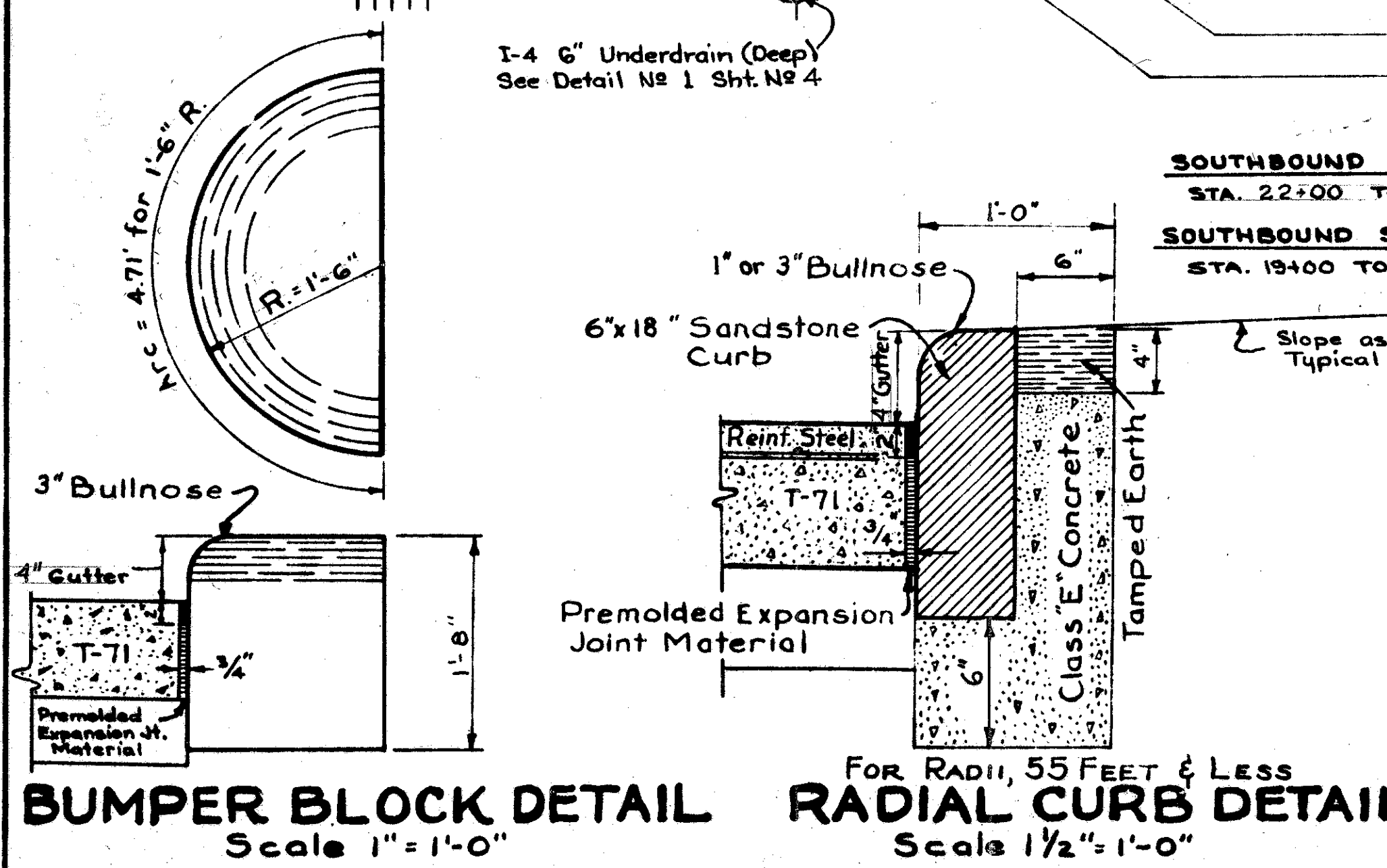
- (A) Item T-71 9" Reinforced Portland Cement Concrete Pavement
- (B) Item I-22 6" Subbase. (6" to Sta. 34+00 - 18" From Sta. 34+00 Forward)
- (C) Item I-11 6" x 18" Sandstone Curb, 1" Bullnose

Note:
Cross Sections shall govern over Typical Sections, where variable conditions are encountered in slopes.



- (A) Item T-71 9" Reinforced Portland Cement Concrete Pavement
- (B) Item I-22 6" Subbase
- (C) Item I-11 6" x 18" Sandstone Curb, 1" Bullnose

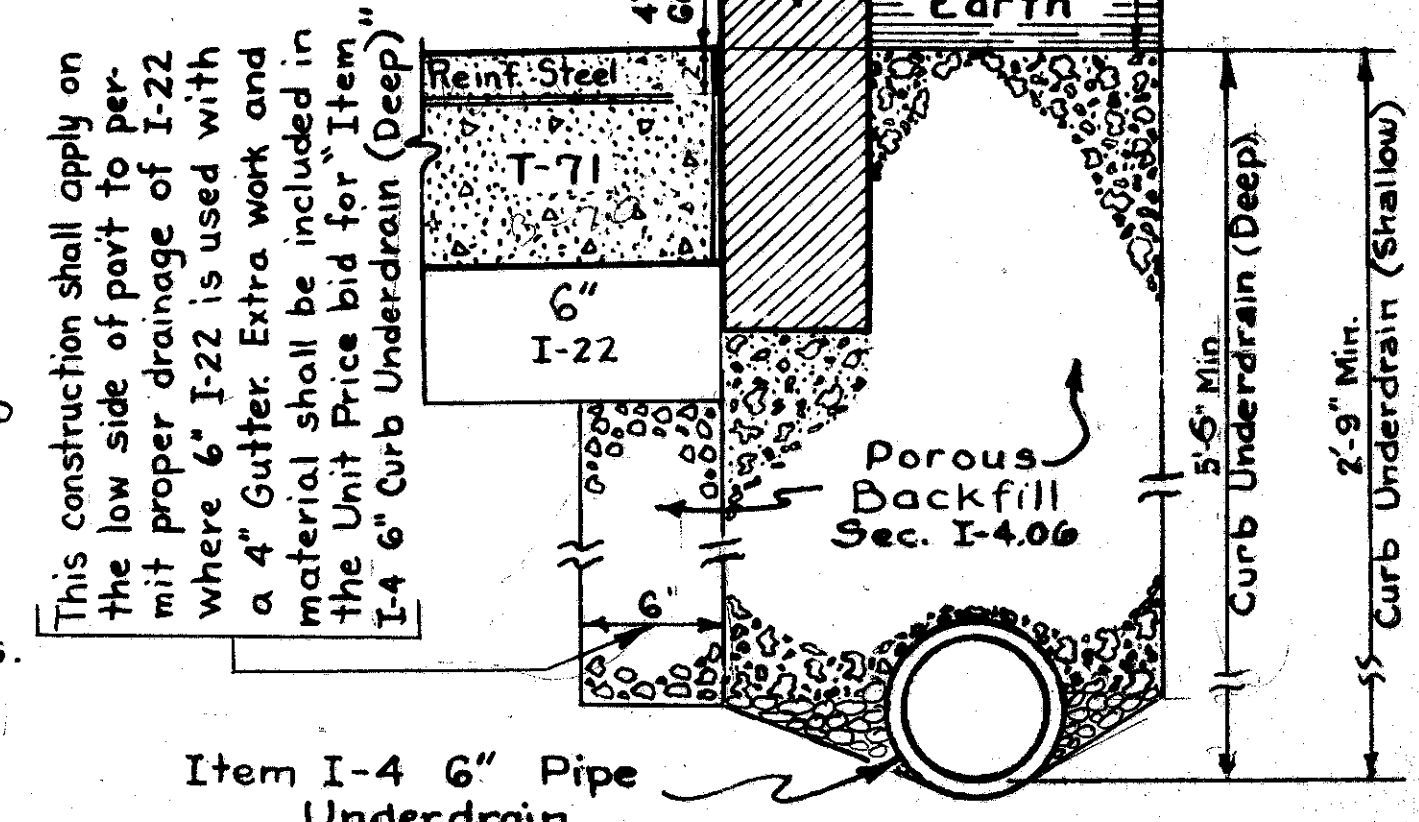
SUPERELEVATED SECTION



NOTE:
Bumper block sandstone shall meet the requirements of Sec. I-11.02 of the Construction and Material Specifications.

NOTE:
The three quarter (3/4) inch Premolded Joint Material shall meet the requirements of Section M-10.02 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 F 2 of the Standard Specifications. The cost of the Joint & the cost of class "E" concrete to be included in price bid per lineal foot of curb.

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 Specifications. 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.



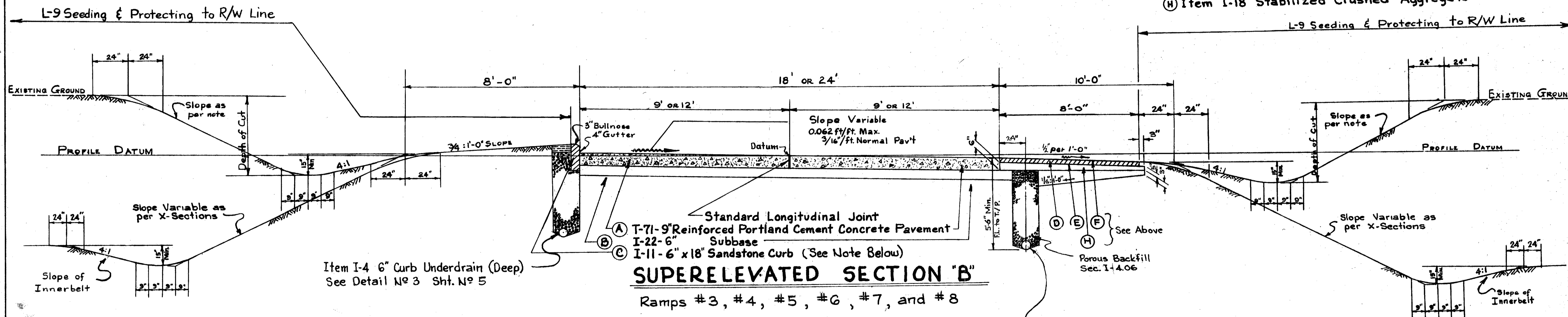
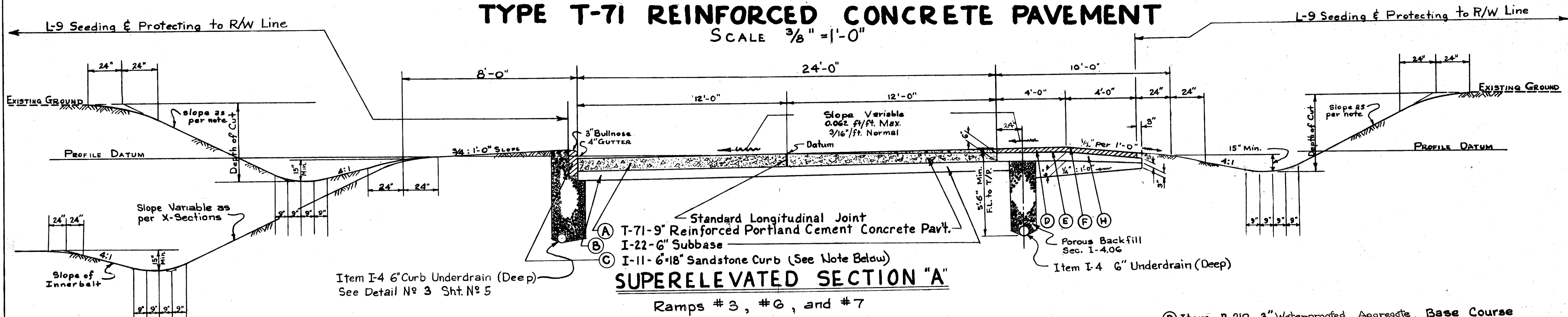
TYPICAL SECTIONS 18' & 24' PAVEMENTS TYPE T-71 REINFORCED CONCRETE PAVEMENT

SCALE $\frac{3}{8}'' = 1'-0''$

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

6
80

CUYAHOGA COUNTY
CUY-42-18.77



- (D) Item B-219 3" Water-proofed Aggregate Base Course
- (E) Item T-30 Bitumin. Prime Coat @ .40 gal/sq.yd. (Sec. M-5.7, RT-2 or RT-3)
- (F) Item T-31 Bituminous Surface Treatment, as per Plan (See Note in Proposal)
- (H) Item I-18 Stabilized Crushed Aggregate

NOTE:
5' Cut or Less 4:1 Slope
Over 10' Cut use 2:1 Slope
Between 5' & 10' Cut, use Variable Slope
Cross Sections shall govern over Typical Sections, where variable conditions are encountered in slopes.
Mountable Curb to be on left side of Ramp in direction of travel

GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		7 80

CUYAHOGA COUNTY
CUY-42-18.77

DESIGN SPEED

The design speed for the Innerbelt Freeway Section CUY-42-18.77 is 50 miles per hour.

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 the plans.

CO-OPERATION WITH OTHER CONTRACTORS (COMBINED PROJECT)

Adjustments, relocations, and revisions of existing utilities and construction of new utilities will have to proceed concurrently with this construction. Therefore, it is the Contractor's obligation to cooperate with the other contractors or agencies carrying on their respective operations during the construction of this Project, so as not to interfere with their normal procedure.

BERMS AND SLOPES (COMBINED PROJECT)

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.

RIGHT OF WAY

For limits of Right of Way required see sheet numbers 28 to 31.

Parcel numbers used on this project begin with Parcel N^o 1 and end with Parcel N^o 212 as shown on the Right of Way Sheets mentioned above. Wherever Section CUY-42R-18.81 is mentioned in the description of these Parcels it shall be considered to read Section CUY-42-18.77.

UNDERGROUND UTILITIES

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

EXPANSION JOINTS (COMBINED PROJECT)

Although specific locations of certain expansion joints have been detailed on this Plan, no waiver of the specifications is intended and expansion joints shall be provided at all major structures as required by Standard Construction Drawing T.J.

CONSTRUCTION LAYOUT STAKES (COMBINED PROJ.)

See note in proposal for work included in this lump sum pay item.

EARTHWORK

A calculated Excavation Quantity has been added to the Earthwork Table to compensate for variation in median and berm treatment between the cross sections and the typical sections. Construction shall conform to the typical sections as now drawn.

During the 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.

JOINT DETAIL

For spacing and detail of Joints see Standard Drawings and Extra Area Sheet Numbers 20 to 25.

SEEDING QUANTITIES

Quantities for Seeding are calculated for the soil areas between R/W Limits as shown on R/W Sheets 28 thru 31 inclusive of the Plans.

GRADING OF RAMP LOOPS AND MERGERS

Cross-sections cover proposed grading of ramp loops and mergers with the freeway, however, detailed contour maps of these areas are available at the Division 12 Planning Office.

SURVEY DATA

For centerline data of existing streets from Central Avenue to Superior Avenue, see Detailed Map N^o I-3 [adjusted & Survey Data] on File in Division Office.

ITEM I-15, GUARD RAIL, STEEL BEAM TYPE (DEEP)

Where normal post depth cannot, by reason of interference with proposed structure footings, be obtained for this item, the posts shall be shortened as required and the bottom ends thereof rigidly attached to the structure footings as per footing anchor detail shown on standard drawing I-15 N^o 6. Payment for furnishing and placing this special attachment is included in the Unit price bid for this Item.

STANDARD PAVED GUTTERS TYPE #1 MODIFIED

Standard Paved Gutter Type #1 is Modified in the Bottom Width Dimension. Use 1'-6" instead of 2'-0" as shown in the standard.

MANHOLE FRAME AND COVER CASTINGS

The Castings for Manholes shall be the Special Frame and Cover as per City of Cleveland standard as detailed in the Plans.

REMOVAL OF TREES AND STUMPS

The number of trees indicated for removal (shown on Sh# 8) is approximate and the State of Ohio reserves the right to order removal of additional trees or stumps. Payment for the removal of these additional trees and stumps is included in the lump sum bid for removal of trees and stumps, Item E-9.

REMOVAL OF EXISTING SEWERS AND SEWER APPURTENANCES IN EXCAVATION

Where Existing Sewers and Sewer Appurtenances are encountered in excavation laying above subgrade or Backslopes, removal of such items shall be included in excavation. Cost of this removal to be included in Item E-1; "Roadway Excavation."

ABANDONED SEWERS AND DRAINS

The Contractor shall plug or bulkhead all existing sewers and drains which were or are to be abandoned encountered on the project. The Contractor shall provide all materials, labor and equipment to seal the sewers and 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; "Roadway Excavation" or as noted in the Plans. Satisfactory sealing shall consist of constructing an 8" thick brick masonry bulkhead or equivalent inside the Sewer or Drain.

EXCAVATION AT STRUCTURES

For Estimating Excavation Quantities it has been assumed that the backfill at the Abutments, Piers and Retaining Walls has been completed to the top of backfill line as shown on the Cross Sections for the Structures at E. 22nd St, Cedar Ave., Carnegie Ave., Prospect Ave., Euclid Ave. and the Retaining Walls between E. 22nd St. and Cedar Ave. Structures. The Excavation from the top of backfill line to the bottom of subgrade line at these Structures shall be measured and paid for as Item E-1 "Roadway Excavation." The removal of Temporary Catch Basins installed to drain these Structure Areas shall be paid for as Item I-16 "Catch Basins Abandoned."

In the event that some of the work is non-performed on the Previous Contract (CUY-42-18.77 "Structures on Contract") and the backfill is not completed to the top of backfill line as shown on the Cross Sections, the Excavation Quantities shall be adjusted in accordance with the new conditions and the removal of Temporary Catch Basins shall be non-performed.

Suitable Material, stockpiled within the R/W Limits as part of the Previous Contract, shall be available for embankment. Cost of excavation and placing of this stockpiled material as embankment shall be measured and paid for as Item E-1 "Roadway Excavation." An Estimated Quantity of this Stockpiled Material has been taken from the Previous Contract Plans and entered as "Excavation" in the Earthwork Table Sheet N^o 8.

NON-RIGID PAVEMENT REMOVAL (COMBINED PROJECT)

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

STANDARD N^o 2 MANHOLES (COMBINED PROJECT)

All standard N^o 2 manholes on this Project shall be built with drop pipes as shown on Standard Construction Drawing I-8 M.H. 11/82, unless otherwise directed by the Engineer.

L-9 AGRICULTURAL LIMING MATERIALS

Agricultural Liming Materials shall be used in connection with Seeding and Sodding at the rate of 100 Pounds Per 1,000 Sq. Ft.

L-9 SEEDING AND PROTECTING

The seed mix for all areas is as follows:

30 Per Cent Kentucky Blue Grass
30 Per Cent Kentucky, 31 Fescue
20 Per Cent Creeping Red Fescue
15 Per Cent Red Top
5 Per Cent White Dutch Clover

Seed to be applied at the rate of 3 Pounds Per 1000 Sq. Ft.

TRAFFIC

The Contractor, at all times, must cooperate with the City of Cleveland Traffic Engineering and Parking Divisions in the performance of his work, and shall present one week in advance a proposed work schedule, including time estimates to the Project Engineer, and secure written approval of same before any work is undertaken that would disrupt normal flow of traffic.

Ramp # 8 Construction

The Construction of Ramp # 8 shall be started immediately after the Contract is awarded and shall proceed as one continuous operation. Ramp # 8 shall be completed and safely opened to Traffic within a period not to exceed 90 days after the Contract is executed.

SUGGESTED CONSTRUCTION PROCEDURE FOR COMBINED PROJECT SEE NOTE ON SHEET N^o 7 OF PART 7-A

FILLING BASEMENTS OUTSIDE NORMAL WORK LIMITS (COMBINED PROJ.)

In addition to the general removal requirements of Sec. E-1.03(C), all basements or portions thereof within the right-of-way on this project but beyond the normal slope lines shall be filled to surrounding ground elevation as directed by the Engineer. Prior to filling within this area, the basement floors and walls shall be broken up or removed as provided under Sec. E-1.03(C) and all house drains not removed shall be plugged as provided elsewhere in these notes. Where basements extend beyond the right-of-way line, but are within slope easement or work agreement lines, they shall be filled to the elevation of the surrounding ground as directed by the Engineer but the requirements of Sec. E-1.03(C) for removals below the proposed finished surface shall be waived for the portions extending beyond the right-of-way line. Payment for all of the above, except plugging, shall be included in the unit price bid for Roadway Excavation, Item E-1.

PLACING SOD IN DITCHES (COMBINED PROJECT)

All sod placed in ditches shall be laid with the long edges of the strips perpendicular to the flow line of the ditch. Successive strips shall be neatly matched and all joints staggered or broken. The sod shall be staked securely with stakes placed on maximum two (2) ft. centers in rows not more than two (2) feet apart. Stakes in adjacent rows shall be staggered. The stakes shall be wood from 1/2" x 3/4" x 12" to 1" x 1" x 24", as required to hold the sod and shall be driven flush with the top of the sod.

FLARED APPROACH SLABS (COMBINED PROJECT)

Place additional A-bars in flared areas by maintaining the standard spacing along the wide end of the slab and tapering the bars in toward the bridge as directed by the Engineer.

FOR ADDITIONAL NOTES SEE SHEET 7 OF PART 7-A AND SHEET 10 OF PART 6

SUMMARY OF QUANTITIES

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

8
80

CUYAHOGA COUNTY
CUY.-42-18.77

EARTHWORK					
LOCATION	STATION		EXCAVATION	EMBANKMENT	EMBANKMENT +22%
	FROM	TO	CU. YDS.	CU. YDS.	CU. YDS.
INNERBELT	0+200	10+00	145,183		
NORTH & SOUTH BOUND	10+00	20+00	225,467		
	20+00	26+03	144,211		
RAMP # 3	5+50	9+50	10,043		
BIN WALL EXCAVATION	25+00	26+35	1,234		
BIN WALL BACKFILL	20+00	26+35		5,275	6,436
REVISION OF TYPICAL SECTIONS			3,365		
EXCAVATION DEDUCTIONS FOR BASEMENTS			-14,901		
EMBANKMENT ADDITIONS FOR BASEMENTS				5,143	6,274
TOTAL STOCKPILED MATERIAL			57,353		
TOTAL -			571,955	10,418	12,710

* BASEMENT QUANTITIES CALCULATED FROM FIELD MEASUREMENTS
** STA. 25+00 TO STA. 26+35 NOT INCLUDED IN CROSS SECTIONS.

EARTHWORK RECAP		
ITEM	AVAILABLE EMBANKMENT	REQUIRED EMBANKMENT +22%
	CU. YDS.	CU. YDS.
TOTAL EARTHWORK	571,955	12,710
STRUC. EXCAVATION-BIN WALL SH.*65	8,435	
STRUC. EXCAVATION-CONC. WALL SH.*67	160	
TOTAL EMBANKMENT AVAILABLE	580,550	
TOTAL REQUIRED EMBANKMENT+22%		12,710
TOTAL (SURPLUS EXCAVATION PART "B")	567,840	

L-9 ROADSIDE IMPROVEMENT			
LOCATION	STATION		SEEDING & PROTECTING SQ. YDS.
	FROM	TO	
INNERBELT	0+200	26+03	46,187
RAMP # 3	5+50	9+50	3,275
SLOPE DISTURBED AT BIN WALL	25+00	26+35	699
ADDITIONAL AREAS(STA. 0-200 to CEDAR RELOC.) *			4,936
ADDITIONAL AREAS(CEDAR RELOC. to CARNEGIE AVE.) *			5,295
ADDITIONAL AREAS(CARNEGIE AVE. to PROSPECT) *			800
ADDITIONAL AREAS(PROSPECT AVE. to EUCLID AVE.) *			2,750
ADDITIONAL AREAS(EUCLID AVE. to STA. 26+03) *			1,845
TOTAL -			65,787

* ADDITIONAL AREAS CALCULATED FROM TOP OF SLOPE TO RIGHT OF WAY LINE.

STOCKPILED EMBANKMENT MATERIAL	
AVAILABLE FROM	STOCKPILED MATERIAL CU. YDS.
E. 22 ND ST. CEDAR AVE. STRUCTURE	20,800
CARNEGIE AVE. STRUCTURE	14,227
PROSPECT AVE. STRUCTURE	9,526
EUCLID AVE. STRUCTURE	12,800
TOTAL	57,353

E-9 TREE REMOVAL				
LOCATION		12" - 18"	OVER 18"	TOTAL
FROM	TO			
CEDAR RELOC.	CARNEGIE	4		4
	PROSPECT		3	3
PROSPECT	EUCLID	2		2
EUCLID	CHESTER	2	1	3
TOTAL ~				12

CALCULATIONS

T-71 9" REINFORCED CONCRETE PAVEMENT

Innerbelt Northbound	Sta. 0-200 to Sta. 13+90 = 1604.32 Lin. Ft.
"	Sta. 20+10 to Sta. 26+03 = 600.60 " "
Innerbelt Southbound	Sta. 0-200 to Sta. 19+00 = 2077.58 " "
	<u>4282.50 Lin. Ft. x 36+9 = 17130 Sq. Yd.</u>
Innerbelt Northbound	Sta. 13+90 to Sta. 20+10 = 632.12 Lin. Ft.
Innerbelt Southbound	Sta. 19+00 to Sta. 26+03 = 691.50 " "
	<u>1323.62 Lin. Ft. x 48+9 = 7059 " "</u>
Ramp No 3	Sta. 3+34.38 to Sta. 8+30 = 495.62 Lin. Ft.
Ramp No 6	Sta. 1+65.25 to Sta. 6+50 = 484.75 " "
Ramp No 7	Sta. 2+23.36 to Sta. 7+27 = 503.64 " "
	<u>1484.01 Lin. Ft. x 24+9 = 3957 " "</u>
Ramp No 4	Sta. 1+83.15 to Sta. 7+933 = 610.16 Lin. Ft.
Ramp No 5	Sta. 1+14.71 to Sta. 6+17.80 = 503.09 " "
Ramp No 8	Sta. 1+47.61 to Sta. 6+70.13 = 522.52 " "
	<u>1635.77 Lin. Ft. x 18+9 = 3272 " "</u>
	31,418 SQ.YD.

I-22 SUBBASE

Innerbelt & Ramps (See Total T-71 This Sheet) = 31418.00 Sq. Yd. x $\frac{6}{36}$ = 5236 Cu. Yd.

UNDER PAVED BERMS:

Innerbelt Northbound	Sta. 0-200 to Sta. 2+00 = 400.00 Lin. Ft.
Innerbelt Southbound	Sta. 0-200 to Sta. 10+94.51 = 1276.37 " "
	Sta. 15+50 to Sta. 17+10 = 155.21 " "
	Sta. 19+00 to Sta. 26+00 = 678.08 " "
	<u>TOTAL LOW SIDE 2509.66 Lin. Ft. x 4.26 ÷ 27 = 396 " "</u>
Innerbelt Northbound	Sta. 5+75 to Sta. 12+00 = 643.71 Lin. Ft.
	Sta. 13+90 to Sta. 20+10 = 643.10 " "
	Sta. 22+30 to Sta. 25+00 = 277.73 " "
	<u>TOTAL HIGH SIDE 1564.54 Lin. Ft. x 3.59 ÷ 27 = 208 " "</u>
Ramp No 3	Sta. 3+34.38 to Sta. 8+30 = 497.94 Lin. Ft.
Ramp No 4	Sta. 1+83.15 to Sta. 7+933 = 566.58 " "
Ramp No 5	Sta. 1+14.71 to Sta. 6+17.80 = 452.69 " "
Ramp No 6	Sta. 1+65.25 to Sta. 6+50 = 499.22 " "
Ramp No 7	Sta. 2+23.36 to Sta. 7+27 = 506.61 " "
Ramp No 8	Sta. 1+47.61 to Sta. 6+70.13 = 477.17 " "
	<u>3000.21 Lin. Ft. x 2.95 ÷ 27 = 328 " "</u>
Innerbelt (Median & Median Berms)	Sta. 0-200 to Sta. 26+00 = 2800.00 Lin. Ft. x 16.0 ÷ 27 = 1659 " "
	<u>7827 CU.YD.</u>

I-18 STABILIZED CRUSHED AGGREGATE

See "I-22 UNDER PAVED BERMS" for stationing: (Completed to Sta. 26+03 Adjacent Project)

Innerbelt	(2512.66 Lin. Ft. x 4.70 ÷ 27) + (1564.54 Lin. Ft. x 4.87 ÷ 27) = 719 Cu. Yd.
Innerbelt (Median Berms)	= 2803.00 Lin. Ft. x 3.00 ÷ 27 = 311 " "
Ramps	= 3000.21 Lin. Ft. x 3.78 ÷ 27 = 420 " "
	1450 CU.YD.

B-219 3" WATERPROOFED AGG. BASE COURSE

See "I-22 UNDER PAVED BERMS" for stationing: (Completed to Sta. 26+03 Adjacent Project)

Innerbelt	2512.66 + 1564.54 = 4077.20 Lin. Ft. x 10 ÷ 9 = 4530 Sq. Yd.
Innerbelt (Median Berms)	= 2803.00 Lin. Ft. x 6 ÷ 9 = 1869 " "
Ramps	= 3000.21 Lin. Ft. x 8 ÷ 9 = 2667 " "
	<u>9066 Sq. Yd.</u>
Extra Area Sh. Nos 20 to 25 (456 + 217 + 512 + 223 + 262 + 52) =	1722 Sq. Yd.
	10788 SQ.YDS. = 899 CU.YDS.

T-30 BITUMINOUS PRIME COAT @ 0.40 GAL/SQ.YD.

Total Area B-219 Waterproofed Agg. Base Course = 10788 Sq. Yd. x 0.40 = **4315 GAL.**

T-31 BITUMINOUS SURFACE TREATMENT

Bituminous Material, as per plan, @ 0.25 Gal/Sq. Yd. of B-219 = 10788 Sq. Yd. x 0.25 = **2697 GAL.**
 No. 6 Aggregate @ 0.008 Cu. Yd./Sq. Yd. of B-219 = 10788 " " x 0.008 = **86 CU.YD.**

I-11 6" x 18" SANDSTONE CURB, 1" RADIUS BULLNOSE

Innerbelt (Median)	Sta. 0-200 to Sta. 26+03 = 2803 Lin. Ft. x 2 = 5606.00 Lin. Ft.
Curb Inlet Deduction:	7 @ 7.92' = -55 " "
	5551 LIN.FT.

I-11 6" x 18" SANDSTONE CURB, 3" RADIUS BULLNOSE

Ramp No 3	Sta. 3+34.38 to Sta. 8+30 = 493.88 Lin. Ft.
Ramp No 4	Sta. 1+83.15 to Sta. 7+93.31 = 640.33 " "
Ramp No 5	Sta. 1+14.71 to Sta. 6+17.80 = 537.97 " "
Ramp No 6	Sta. 1+65.25 to Sta. 6+50 = 473.89 " "
Ramp No 7	Sta. 2+23.36 to Sta. 7+27 = 501.36 " "
Ramp No 8	Sta. 1+47.61 to Sta. 6+70.13 = 553.93 " "
	<u>Gross Total = 3201.36 Lin. Ft.</u>
	<u>Curb Inlet Deduction: 5 @ 7' & 1 @ 2' = -37.00 " "</u>
	3164.36 LIN.FT.

I-11 6" x 18" SANDSTONE CURB REQUIRED-1" RADIUS BULLNOSE (see total this sht.)	5551.00 Lin. Ft.
I-11 6" x 18" SANDSTONE CURB REQUIRED-3" RADIUS BULLNOSE (see total this sht.)	3164.36 " "
	8715.36 LIN.FT.

I-21 4" CONCRETE MEDIAN PAVEMENT (TYPE 1)

Innerbelt Sta. 0-200 to Sta. 26+03 = 2803 Lin. Ft. x 9 ÷ 9 = **2803 SQ.YD.**

E-1 COMPACTED SUBGRADE

T-71 9" Reinforced Concrete Pavement (sheet No 10)	= 34467 Sq. Yd.
B-219 3" Waterproofed Agg. Base Course (Paved Berms)	= 10788 " "
	45255 SQ.YD.

L-9 AGRICULTURAL LIMING MATERIAL @ 100 LBS. PER 1000 SQ.FT.

TOTAL Seeding Area (Sht. No 8) 65,787 Sq. Yd. x 9 = 592,083 Sq. Ft.
 $\frac{592,083 \times 100}{1000 \times 2000} =$ **29.604 TONS**

L-9 COMMERCIAL FERTILIZER (12-12-12) @ 20 LBS. PER 1000 SQ. FT.

$\frac{592,083 \times 20}{1000 \times 2000} =$ **5.921 TONS**

E-11 WATER @ 5 GAL. PER CU. YD.

TOTAL EMBANKMENT FROM EARTHWORK TABLE	12,710 Cu. Yd. x 5 ÷ 1000 = 63.55 M. Gal.
TOTAL I-22 Subbase Material - Sheet No 10	8,559 Cu. Yd. x 5 ÷ 1000 = 42.80 " "
TOTAL I-18 Stabilized Crushed Aggregate - Sheet No 10	1,721 Cu. Yd. x 5 ÷ 1000 = 8.61 " "
	= 114.96 M. GAL.

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	10 80
2	OHIO		

CUYAHOGA COUNTY
CUY-42-1877

ITEM	SHEET NUMBER																												ITEM	QUANTITY	UNIT	DESCRIPTION
	2	3	8	9	12	13	14	15	16	17	20	21	22	23	24	25	74	CODE 7221														
ROADWAY																																
E-1			57,955																									E-1	57,955	Cu.Yds.	Roadway Excavation, Method "B", as per Plan	
E-1				45,255																								E-1	45,255	Sq.Yds.	Compacted Subgrade	
E-8											20	18	24	17														E-8	79	Sq.Yds.	Removal and Disposal of Existing Pavement	
E-8							750	1185	1258																			E-8	3,193	Sq.Ft.	Removal and Disposal of Existing Sidewalk	
E-8											89	81	39	74														E-8	283	Lin.Ft.	Removal and Disposal of Existing Sandstone Curb	
E-11				115																								E-11	115	M.Gals.	Water	
E-9				Lump																								E-9	Lump Sum		Removal of Trees and Stumps	
I-8					2																							I-8	3	Each	Monument Assemblies Standard	
I-13																												I-13	2,111	Sq.Ft.	4" Concrete Sidewalk	
I-15																												I-15	3,237.5	Lin.Ft.	Guard Rail, Steel Beam Standard Type (Deep)	
I-15																												I-15	2,062.5	Lin.Ft.	Guard Rail, Steel Beam Barrier Type (Deep)	
L-9																												L-9	29.60	Tons	Agricultural Liming Materials	
L-9																												L-9	5.92	Tons	Commercial Fertilizer (12-12-12)	
L-9																												L-9	65,787	Sq.Yds.	Seeding and Protecting, as per Plan	
SS-18	12,905	7,244																										SS-18	20,149	Lin.Ft.	Fence, Type "C"	
SS-18	16	5																										SS-18	21	Each	Fence Gates, Type "C"	
Special																												Special	4	Each	Interstate & Defense Highway Signs Furnished & Erected	
PAVEMENT																																
B-219				899																								B-219	899	Cu.Yds.	Waterproofed Aggregate Base Course	
T-30				4,315																								T-30	4,315	Gals.	Bituminous Prime Coat (Sec. M-5.7, RT2 of RT-3)	
T-31				2,697																								T-31	2,697	Gals.	Bituminous Surface Treatment - Bituminous Material, as per Plan	
T-31				86																								T-31	86	Cu.Yds.	Bituminous Surface Treatment - No 6 Aggregate	
T-71				3,418							746	513	615	698	475	2												T-71	34,467	Sq.Yds.	9" Reinforced Portland Cement Concrete Pavement	
I-11				8,715							413	316	287	302	88													I-11	10,121	Lin.Ft.	6" x 18" Sandstone Curb, as per Plan	
I-18				1,450							74	34	80	34	42	7												I-18	1,721	Cu.Yds.	Stabilized Crushed Aggregate Shoulders and Approaches	
I-21				2,803																								I-21	2,803	Sq.Yds.	Portland Cement Concrete Median Pavement, 4" Standard Type 1, as per Plan	
I-22				7,827							180	114	174	144	110	10												I-22	8,559	Cu.Yds.	Subbase	
																												Lump Sum			Construction Layout Stakes	
LIGHTING																																
See Sheet No 74 for Lighting Quantities																																

GENERAL SUMMARY

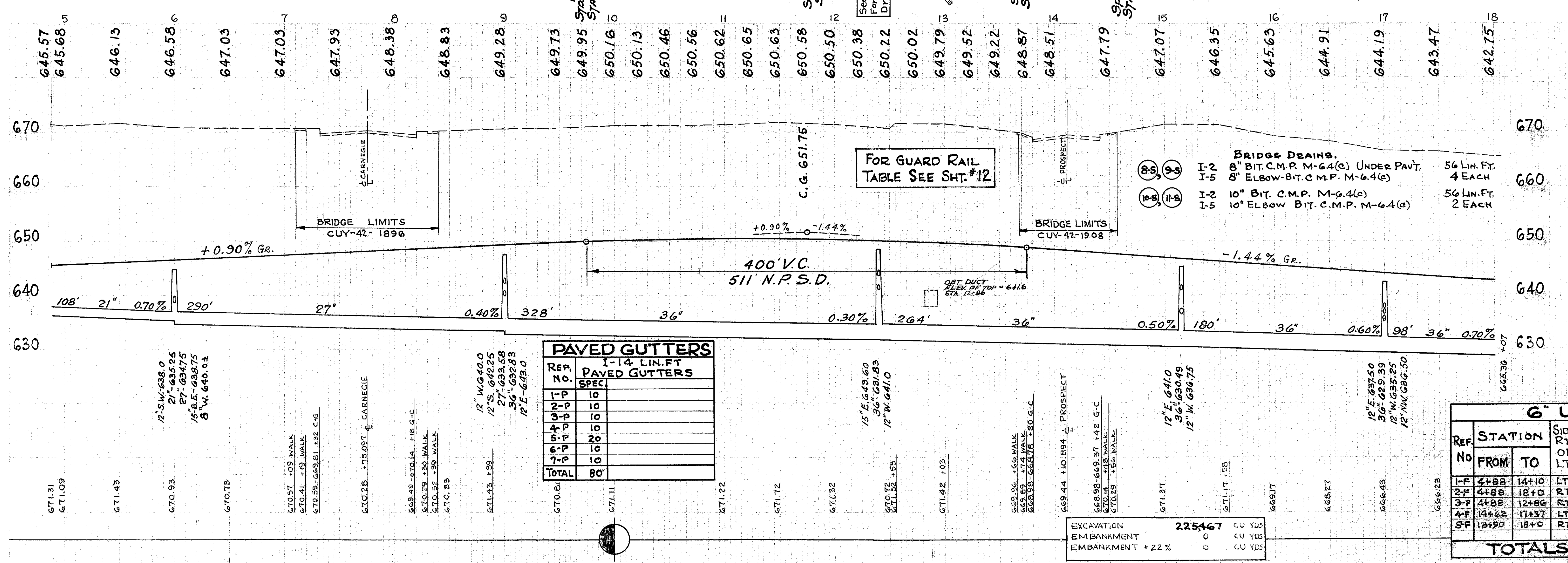
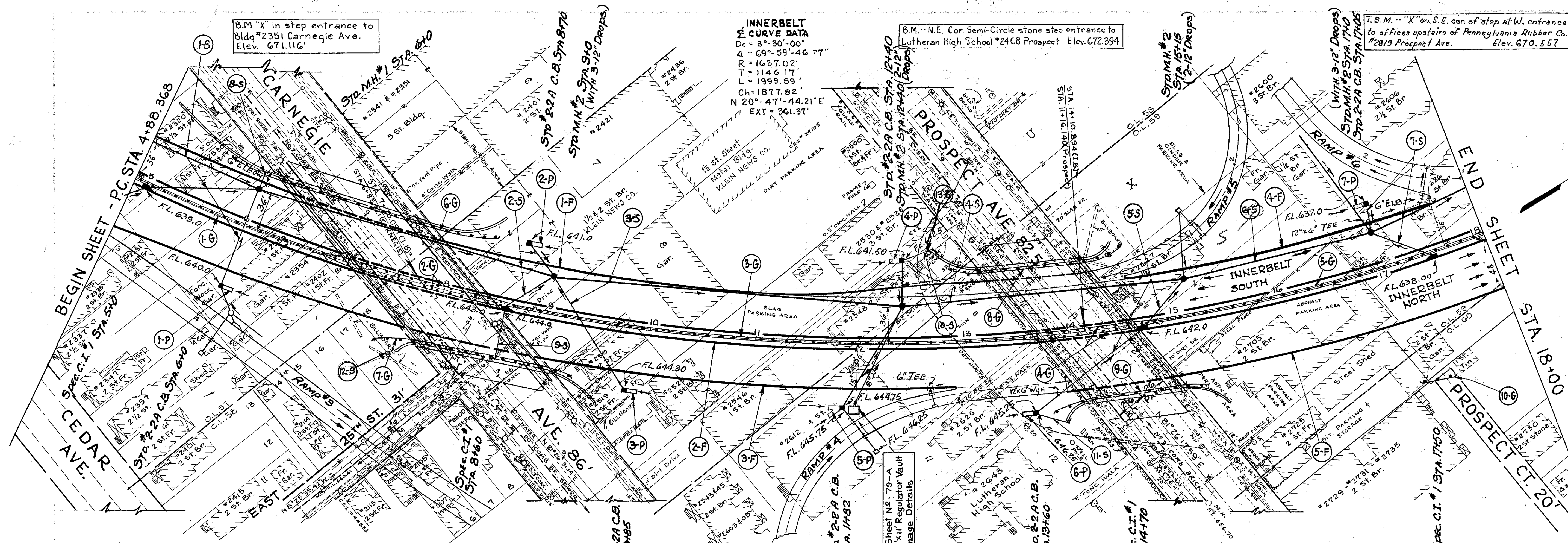
FED. RD DIVISION	STATE	PROJECT
2	OHIO	

11
80

CUYAHOGA COUNTY
Sec. CUY - 42-18.77

ITEM	SHEET NUMBER										ITEM	QUANTITY	UNIT	DESCRIPTION					
	12	13	14	15	16	17	19	65	67	CODE 7221									
DRAINAGE																			
I-2			54									I-2	54	Lin.Ft.	8" Storm Sewers, Sec.M-6.4(c) as per Plan				
I-2		56										I-2	56	Lin.Ft.	8" Storm Sewers Under Pav't or Approaches, Sec.M-6.4(c) as per Plan				
I-2				22				100				I-2	122	Lin.Ft.	12" Class "A" Storm Sewers				
I-2	152	336	223	128	44	102	280					I-2	1265	Lin.Ft.	12" Class "A" Storm Sewers Under Pav't or Approaches, Sec.M-6.5(b) or M-6.8(b)				
I-2		108										I-2	108	Lin.Ft.	15" Class "A" Storm Sewer Under Pav't or Approaches Sec.M-6.5(b) or M-6.8(b)				
I-2				236		213	124					I-2	573	Lin.Ft.	12" Class "B" Storm Sewers				
I-2	98	276	100	64		52	106					I-2	696	Lin.Ft.	12" Class "B" Storm Sewers Under Pavement or Approaches				
I-2	432	95	96									I-2	623	Lin.Ft.	15" Class "B" Storm Sewers Under Pavement or Approaches				
I-2	136	108										I-2	244	Lin.Ft.	21" Class "B" Storm Sewers Under Pavement or Approaches				
I-2		290										I-2	290	Lin.Ft.	27" Class "B" Storm Sewers Under Pavement or Approaches, Sec. M-6.6(b) as				
I-2			228									I-2	228	Lin.Ft.	36" Class "B" Storm Sewers Under Pavement or Approaches				
I-2			463									I-2	463	Lin.Ft.	42" Class "B" Storm Sewers Under Pavement or Approaches				
I-2		870	56									I-2	926	Lin.Ft.	36" Storm Sewers Under Pav't or Approaches, Sec.M-6.6(b) or M-6.8(b)				
I-2		56										I-2	56	Lin.Ft.	10" Storm Sewers, Sec.M-6.4(c) as per Plan				
I-2	16											I-2	16	Lin.Ft.	10" Storm Sewers Under Pav't or Approaches, Sec.M-6.4(c) as per Plan				
I-4		38		712	74	1224	1084					I-4, 6" Underdrains 15,046 Lin.Ft. (Carried to General Summary Sh.#14 Part 7 Part A)	I-4	3772	Lin.Ft.	6" Curb Underdrains - Deep, as per Plan			
I-4	1094	2380	309	874	755	1319	1210						I-4	8941	Lin.Ft.	6" Underdrains - Deep, as per Plan			
I-4	226	1308	799										I-4	2333	Lin.Ft.	6" Underdrains - Shallow, as per Plan			
I-4	12	18			12	56	16	40	138				I-4	292	Lin.Ft.	6" Outlets For Underdrains, Sec.M-6.4(h) Without Perforations			
I-5	1	3	1	1	2	4	2					I-5	14	Each	6" Pipe Specials For Underdrains, As Per Plan				
I-5	3	2	3	2	2	1	1					I-5	14	Each	12" Class "A" Pipe Specials For Storm Sewers Under Pav't or Approaches Sec.M-6.5(b) or M-6.8(b)				
I-5	4						2					I-5	6	Each	12" Class "B" Pipe Specials For Storm Sewers Under Pav't or Approaches				
I-5		4	2									I-5	6	Each	8" Pipe Specials For Storm Sewers, Sec.M-6.4(c)				
I-5	1	2										I-5	3	Each	10" Pipe Specials For Storm Sewers, Sec.M-6.4(c)				
I-8	3	1	3	1		1	1					I-8	10	Each	Standard Manholes #1 With City type Frame and Cover, as per Plan				
I-8		4										I-8	4	Each	Standard Manholes #2 With City type Frame and Cover, as per Plan				
I-8	3	7	5	3	1	2	3					I-8	24	Each	Standard Catch Basins #2-2A				
I-8	1											I-8	1	Each	Standard Catch Basins #6 Modified, as per Plan				
I-8		4	2	3		1	1					I-8	11	Each	Special Curb Inlets #1, as per Plan				
I-8	1											I-8	1	Each	Special Curb Inlets #2, as per Plan				
I-8						1						I-8	1	Each	Special Catch Basins #4, as per Plan				
I-14	131			150	50	50	156					I-14	537	Lin.Ft.	Standard Paved Gutters Type #1 Modified, as per Plan				
I-14	40	80	50	30	10	30	30					I-14	270	Lin.Ft.	Special Paved Gutters, as per Plan				
I-16	1	2	1			1						I-16	5	Each	Catch Basins Abandoned				
Sub-total Part 7-B I-71-5(8) 248										Sub-total Part 6 I-71-5(6) 247									
E-2												E-2	Lump	Lump	Cofferdams, Cribbs, and Shoring				
E-2												E-2	8935	Cu.Yds	Excavation for Structures, as per Plan				
S-29												S-29	100	Lin.Ft.	6" Corrugated Metal Pipe, Sec.M-6.4(h)(c) including specials				
S-29												S-29	23	Cu.Yds	Porous Backfill, as per Plan				
I-4												I-4	598	Lin.Ft.	6" Corrugated Metal Pipe, Sec.M-6.4(h)(c) For Underdrains as per Plan				
I-5						1	5					I-5	6	Each	6" Pipe Specials, Sec.M-6.4(h)(c), Without Perforations, For Underdrains				
I-5						3	3					I-5	3	Each	6" Pipe Specials, Sec.M-6.4(h), Without Perforations For Outlets For Underdrains				
I-17												I-17	14,680	Sq.Ft.	Galvanized Metal Cellular Retaining Wall, as per Plan				
S-1												S-1	35	Cu.Yds	Concrete for Structures, Class "C" (Wall)				
S-1												S-1	125	Cu.Yds	Concrete For Structures, Class "E" (Footings)				
S-3												S-3	46	Lin.Ft.	Premolded Sealing Strip, as per Plan				
S-4												S-4	8887	Lbs.	Reinforcing Steel				
S-9												S-9	12	Sq.Ft.	Premolded Expansion Joint Filler, Sec.M-10.02, as per Plan				
S-9												S-9	20	Sq.Ft.	1" Gray Rubber Preformed Expansion Joint Filler				
S-17												S-17	Lump	Lump	First Test Pile				
S-18												S-18	1130	Lin.Ft.	12" C.I.P Reinforced Concrete Piles				
S-18												S-18	188	Lin.Ft.	Fence, Type "C", as per plan				

Quantities carried from Sheet 92-9, Part 6



STATION	CLASS 'A'		CLASS 'B'		CLASS 'C'		CLASS 'D'		CLASS 'E'		CLASS 'F'		I-5 EACH	LOCATION OF STRUCTURE		
	REF. NO.	FROM	TO	RT.	LT.	REF. NO.	FROM	TO	RT.	LT.	REF. NO.	FROM			TO	RT.
1-S	4+88	6+40	R.L.	32										510' 610		
2-S	6+40	9+00	R.L.	32										610' 816' 8170		
3-S	9+00	12+40	R.L.	122										910' 9+85		
4-S	11+82	15+15	R.L.	38	108									1182' 2 @ 12+40		
5-S	13+60	15+15	R.L.	124										13466' 14+10		
6-S	15+15	17+00	LT.	20										15+15		
7-S	17+00	18+00	R.L.	20										1740' 17+05' 17+50		
8-S	17+00	18+00	R.L.	20										17+20		
9-S	18+00	18+00	R.L.	20										18+60		
TOTALS													336108	276 95 108 290 870	1 2 2 7 4	

REF. NO.	STATION FROM TO	SIDE RT. OR LT.	CURB		SHAFT LOW	OUTLETS FOR UNDERDRAINS	6" PIPE SPECIALS					
			5'-0" DEEP	5'-0" DEEP			ELBOW	TEE				
1-F	4+88 14+10	LT.	896			10	1					
2-F	4+88 18+00	RT.			1308							
3-F	4+88 12+86	RT.	18	800		6	2					
4-F	14+62 17+57	LT.	20	260								
5-F	13+90 18+00	RT.		424								
TOTALS							38	2380	1308	18	2	1

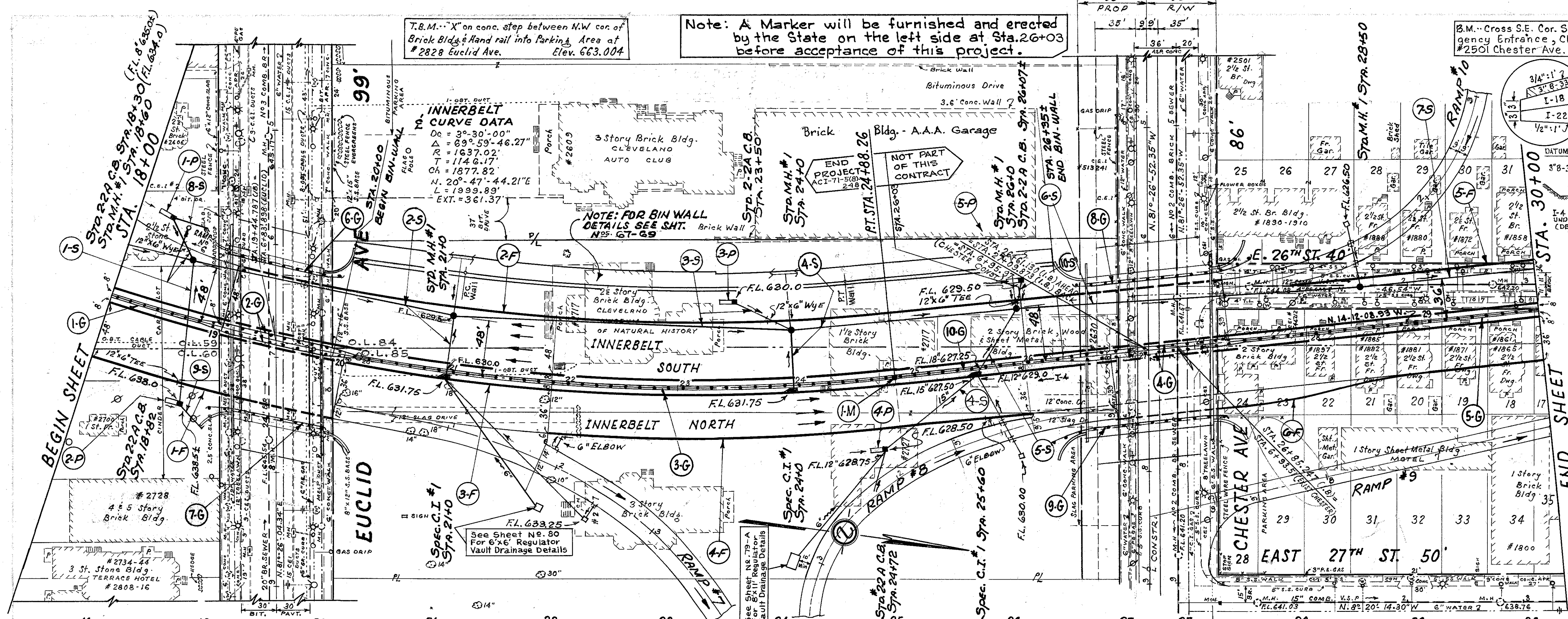
REF. NO.	PAVED GUTTERS SPEC.	1-14 LIN. FT.
1-P	10	
2-P	10	
3-P	10	
4-P	10	
5-P	20	
6-P	10	
7-P	10	
8-P	10	
TOTAL	80	

EXCAVATION	225467	CU YDS
EMBANKMENT	0	CU YDS
EMBANKMENT + 22%	0	CU YDS

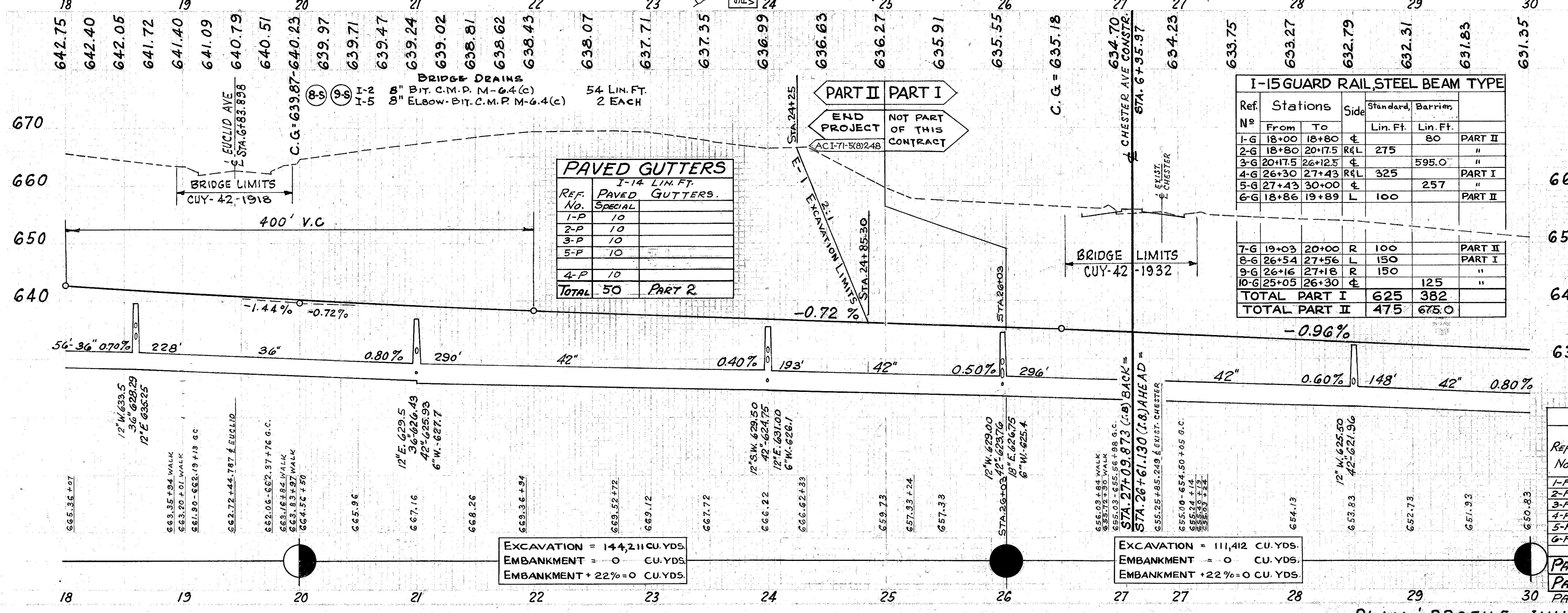
PLAN & PROFILE - INNERBELT - STA. 4+88.368 P.C. TO STA. 18+00

* See General Note 'Backfill At Structures' For Possible Non-Performance Of Ref. Nos. 12-5 & 13-5

CUYAHOGA COUNTY
Sec. CUY-42-18.77



ADJOINING PAVT. INNERBELT @ STA. 26+03
TRANSITION BETWEEN PROPOSED PAVT. & ADJOINING PAVT.
SHALL BE AS DIRECTED BY THE ENGINEER.
SCALE: HOR. 1"=20' VERT. 1"=6'



REF. NO.	STATION	SIDE	RT. OR LT.	CLASS	DIA.	MATERIAL	LENGTH	I-5 EACH		TOTAL
								UNDER PAVT.	UNDER PAVT.	
1-5	18+00	R	15'	18"	CL. A	156	228	1	1	1
2-5	18+00	R	15'	18"	CL. A	50	290	1	1	1
3-5	18+00	R	15'	18"	CL. A	49	179	1	1	1
4-5	24+00	R	15'	18"	CL. A	100	100	1	1	1
5-5	24+00	R	15'	18"	CL. A	100	100	1	1	1
6-5	24+00	R	15'	18"	CL. A	100	100	1	1	1
7-5	24+00	R	15'	18"	CL. A	100	100	1	1	1
PART 2 - TOTALS								660	660	660
PART 1 - TOTALS								660	660	660

Ref. No.	Stations	Side	Standard	Barrier	Part
1-G	18+00 to 18+80	R	275	80	PART II
2-G	18+80 to 20+17.5	R	275	80	"
3-G	20+17.5 to 26+12.5	R	325	595.0	"
4-G	26+30 to 27+43	R	325	257	PART I
5-G	27+43 to 30+00	R	100	257	"
6-G	18+86 to 19+89	L	100	257	PART II
7-G	19+03 to 20+00	R	100	150	PART II
8-G	26+54 to 27+56	L	150	150	PART I
9-G	26+16 to 27+18	R	150	150	"
10-G	25+05 to 26+30	R	125	125	"
TOTAL PART I			625	382	
TOTAL PART II			475	675.0	

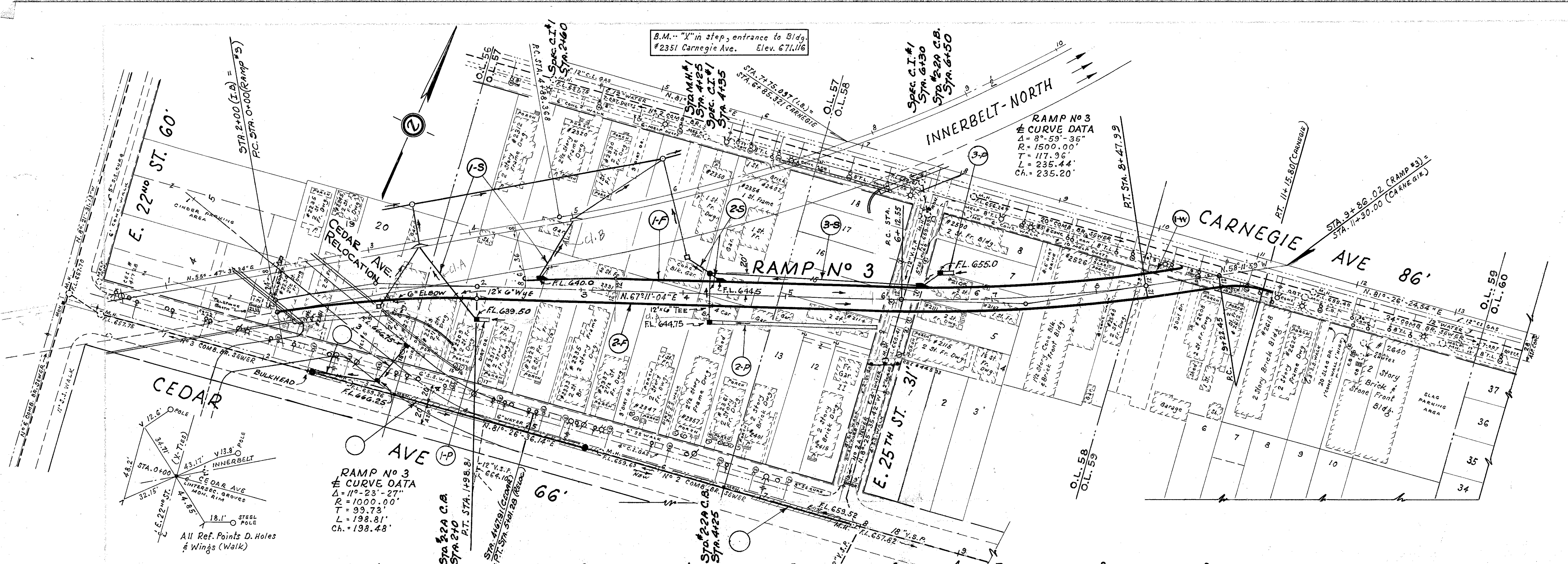
REF. NO.	STATION	SIDE	RT. OR LT.	CURB OR 5'0" DEEP	5'0" DEEP	SHAL-LOW	I-5 EACH
1-F	18+00	RT.	20+10	210	210		1
2-F	19+00	RT.	27+30	856			1
3-F	18+00	RT.	26+50	840			1
4-F	22+00	RT.	25+50	364			1
5-F	27+30	LT.	30+00	190			1
6-F	26+75	RT.	30+00	374			1
PART 2 - TOTALS							1309
PART 1 - TOTALS							47

PLAN & PROFILE: INNERBELT STA. 18+00 to STA. 30+00

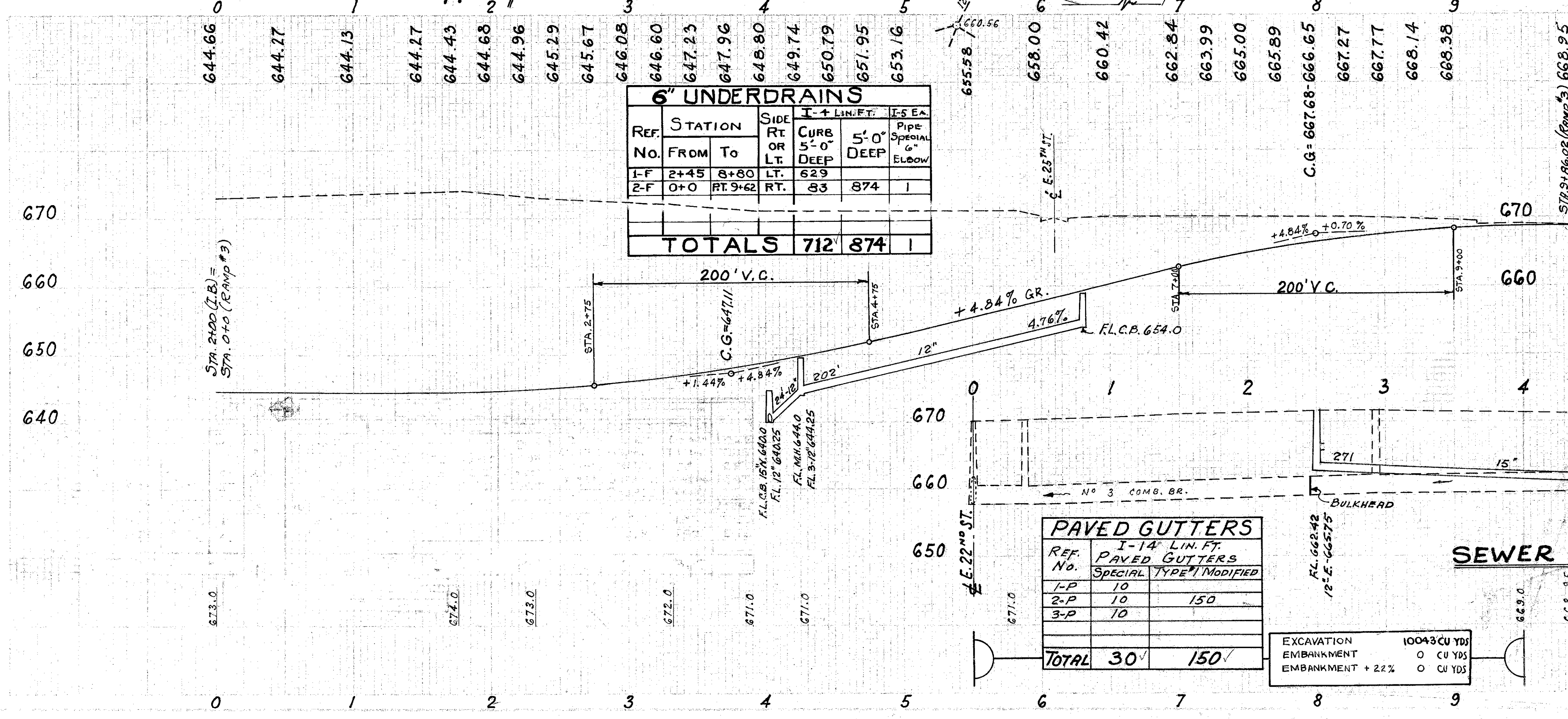
EXCAVATION = 144,211 CU. YDS.
EMBANKMENT = 0 CU. YDS.
EMBANKMENT + 22% = 0 CU. YDS.

EXCAVATION = 111,412 CU. YDS.
EMBANKMENT = 0 CU. YDS.
EMBANKMENT + 22% = 0 CU. YDS.

* See General Note "EXCAVATION AT STRUCTURES" For Possible Non-Performance Of Item I-16 Ref No 1-5



NOTE:
Storm Sewer Work on Cedar Ave & Cedar Ave Relocation indicated on Plan & Profile shall not be considered as part of this contract.



6" UNDERDRAINS

REF. No.	STATION FROM	STATION TO	SIDE RT. OR LT.	I-4 LIN. FT.	I-5 EA. 5'-0" DEEP	PIPE SPECIAL 6" ELBOW
I-F	2+45	8+80	LT.	629		
Z-F	0+0	RT. 9+62	RT.	83	874	1
TOTALS				712	874	1

STORM SEWERS RAMP #3

REF. No.	STATION FROM	STATION TO	SIDE RT. OR LT.	I-2 LIN. FT. UNDER PAVT.				I-8 EACH			I-5 EACH CLASS 'A' UNDER PAVT. PIPE SPECIALS		LOCATION OF STRUCTURE
				CL. 'A' 12"	CL. 'B' 12"	CL. 'A' 12"	CL. 'B' 12"	STD. M.H. #1	STD. 2-2A C.B.	SPEC. C.I. #1	12"X6" TEE	WVE	
1-S	3+50	J.B. 3+0	R.F.L.		86	64			1	1	1		2+0: 2+60
2-S	6+0	J.B. 4+35	R.F.L.	34	42			1	1	1			2+4+25: 4+35
3-S	4+25	6+50	LT.	22	202								6+50: 6+50
TOTALS				22	236	128	64	1	3	3	1	1	

SIDEWALK

REF. No.	STATION FROM	STATION TO	SIDE RT. OR LT.	E-8 REMOVAL & DISPOSAL EX. WALK		I-13 4" PORTLAND CEM. CONC. WALK	
				Sq. Ft.	Width	Sq. Ft.	Width
I-W	10+00	11+25	RT.	750	6'	414	
TOTAL				750		414	

PAVED GUTTERS

REF. No.	I-14' LIN. FT. PAVED GUTTERS	SPECIAL TYPE #1 MODIFIED
I-P	10	150
2-P	10	
3-P	10	
TOTAL		30

EXCAVATION 10043 CU YDS
EMBANKMENT 0 CU YDS
EMBANKMENT + 22% 0 CU YDS

CUYAHOGA COUNTY
Sec. CUY-42-18.77

RAMP No 4
E CURVE DATA

④	③	②	①
R = 309.00'	R = 169.00'	R = 119.00'	R = 169.00'
Δ = 20°-03'-13"	Δ = 33°-18'-11"	Δ = 121°-53'-11"	Δ = 36°-54'-53"
T = 54.63'	T = 50.55'	T = 214.18'	T = 56.41'
L = 108.15'	L = 98.23'	L = 253.15'	L = 108.88'
Ch. = 107.60'	Ch. = 96.85'	Ch. = 208.05'	Ch. = 107.01'

B.M. "N.E. Cor. Semi-circle stone step entrance to Lutheran High School #2468 Prospect. Elev. 672.394

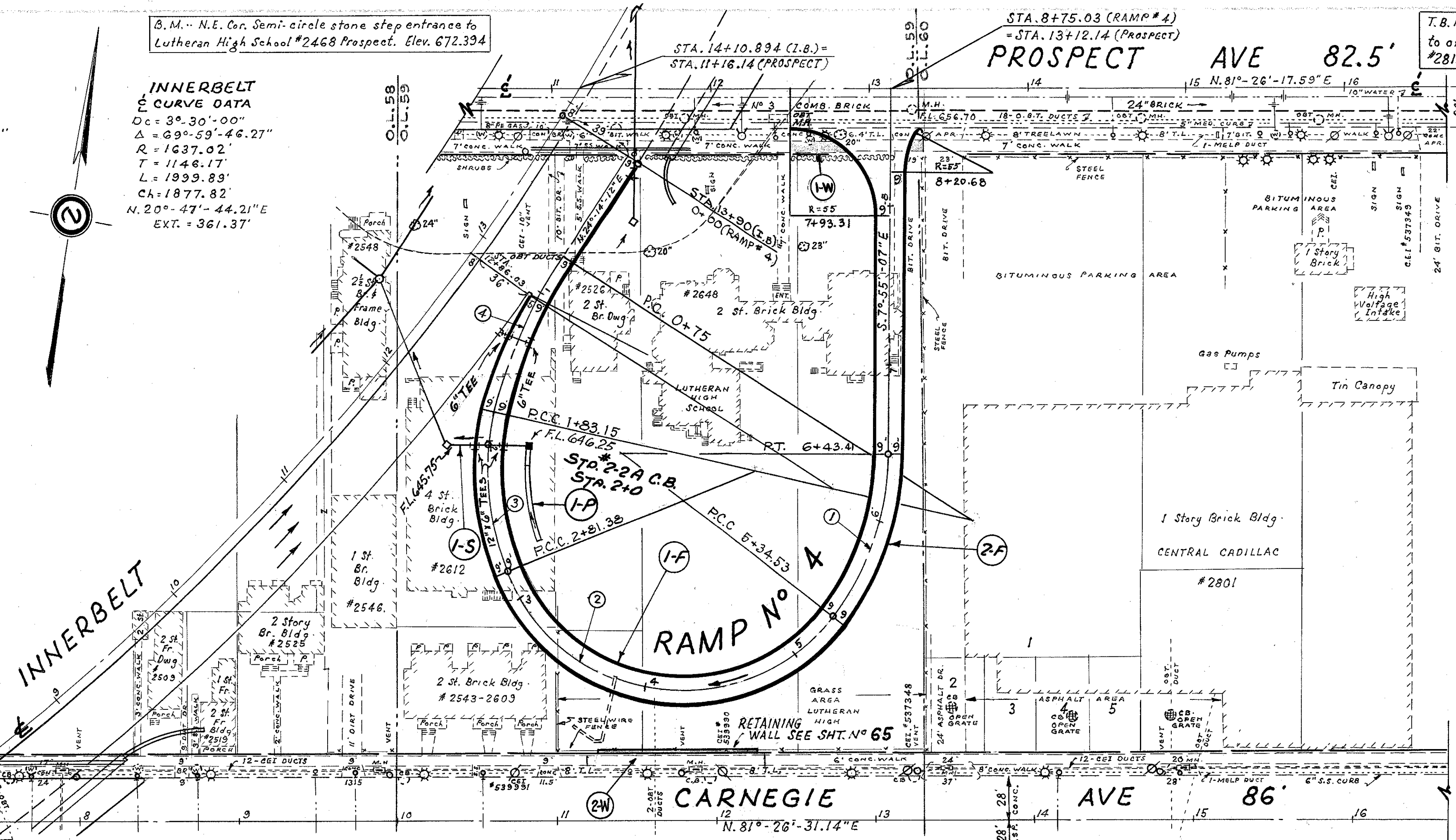
INNERBELT
E CURVE DATA
Dc = 3°-30'-00"
Δ = 69°-59'-46.27"
R = 1637.02'
T = 1146.17'
L = 1999.89'
Ch. = 1877.82'
N. 20°-47'-44.21"E
EXT. = 361.37'

STA. 8+75.03 (RAMP #4)
= STA. 13+12.14 (PROSPECT)
PROSPECT AVE 82.5'

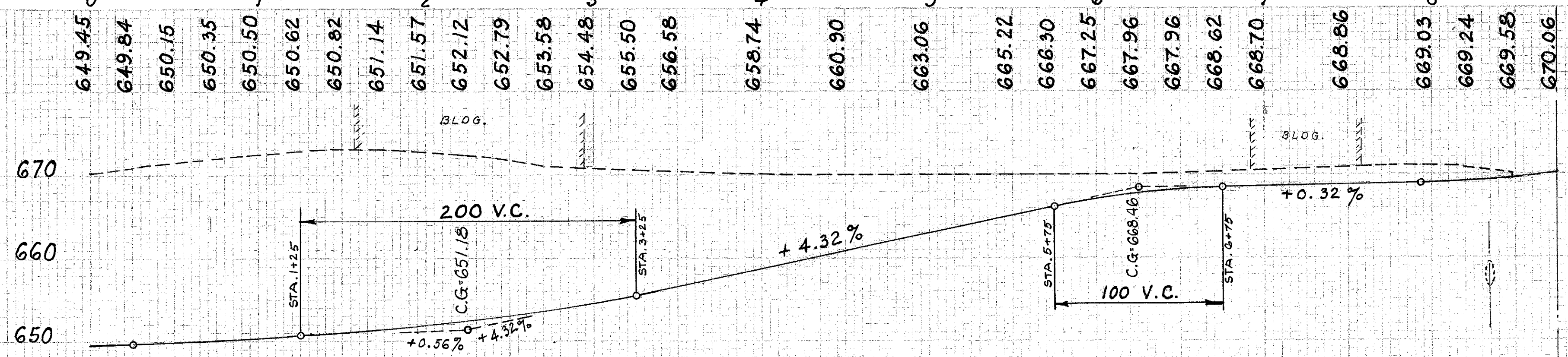
T.B.M. "X" on S.E. cor. of step at W. entrance to offices upstairs of Pennsylvania Rubber Co. #2819 Prospect Ave. Elev. 670.557

STA. 7+75.097 (I.B.)
= STA. 6+85.321 (CARNEGIE)

B.M. "X" in step entrance to Bldg. #2351 Carnegie Ave. Elev. 671.116



SIDEWALK				
REF. No.	STATION	SIDE RT. OR LT.	E-8 REMOVAL & DISPOSAL EX. WALK	
			Sq. Ft.	WIDTH
1-W	12+50 to 13+25	Rt.	525	7'
2-W	11+20 to 12+30	Lt.	660	6'
TOTAL			525	287



STORM SEWERS						
REF. No.	STATION	SIDE RT. OR LT.	UNDER PAVT. CL. "A"			LOC. OF STRUCT.
			I-2 LIN. FT.	I-5 EACH	I-8 EA.	
1-S	2+0	Rt.	44	2	1	2+0
TOTALS			44	2	1	

6" UNDERDRAINS					
REF. No.	STATION	SIDE RT. OR LT.	I-4 LIN. FT.		I-5 EACH
			CURB 5'-0" DEEP	OUTLETS FOR UNDERDRAINS	
1-F	0+05 to 7+93	Lt.	755	12	1
2-F	1+33 to 8+20	Rt.	714	12	1
TOTALS			714	755	2

PAVED GUTTERS		
REF. No.	I-14 LIN. FT. PAVED GUTTERS	
	SPEC. TYPE	MODIFIED
1-P	10	50
TOT.	10	50

REF. No.	STATION	SIDE RT. OR LT.	I-2 LIN. FT. UNDER PAVT.		I-2 LIN. FT. UNDER PAVT.	I-5 EACH	I-8 EACH	I-5 EACH	I-8 EACH	LOCATION OF STRUCTURE
			CL. CL.	CL. CL.						
5-S	0-155	0-90	Rt.	132						Abandon C.B.
6-S	0-90	3+50	Lt.	132						
7-S	3+0	3+50	Rt.	98						
8-S	3+50	4+88	Lt.	20						
10-S	2+15		Lt.							
FEDERAL-TOTAL				152	98	136	136	136	136	

See General Note Excavation at Structures for Performance of Ref. No. 10-S

WALL DRAIN - SHEET No. 12
10" BIT. C.M.P. M-64(C) UNDER PAVT.
10" ELBOW BIT. C.M.P. M-64(C)

* THE STD. C.B. IS MODIFIED AS FOLLOWS. THE 1'-6" X 2'-3" STRUCTURE IS PARTIALLY BUILT IN THE FOOTER OF THE BRIDGE ABUTMENT, THE REMAINDER BUILT ACCORDING TO THE STD. DRWG. OMIT THE KEY JOINT AND CURB DETAIL.

T.B.M. "X" on conc. step between N.W. cor. of Brick Bldg. & Hand Rail into Parking Area at #2828 Euclid Ave. Elev. 663.004

T.B.M. "X" on S.E. cor. of step at W. entrance to offices upstairs of Pennsylvania Rubber Co. #2819 Prospect Ave. Elev. 670.557

CUYAHOGA COUNTY Sec. CUY-42-18.77

T.B.M. "X" on S.E. cor. of step at W. entrance to offices upstairs of Pennsylvania Rubber Co. #2819 Prospect Ave. Elev. 670.557

SIDEWALK				
REF. No.	STATION		E-8 REMOVAL & DISPOSAL EX. WALK	I-13 4" PORTLAND CEM. CONC. WALK
	FROM	TO		
I-W	7+45	9+30	12.58	750
TOTAL			1258	750

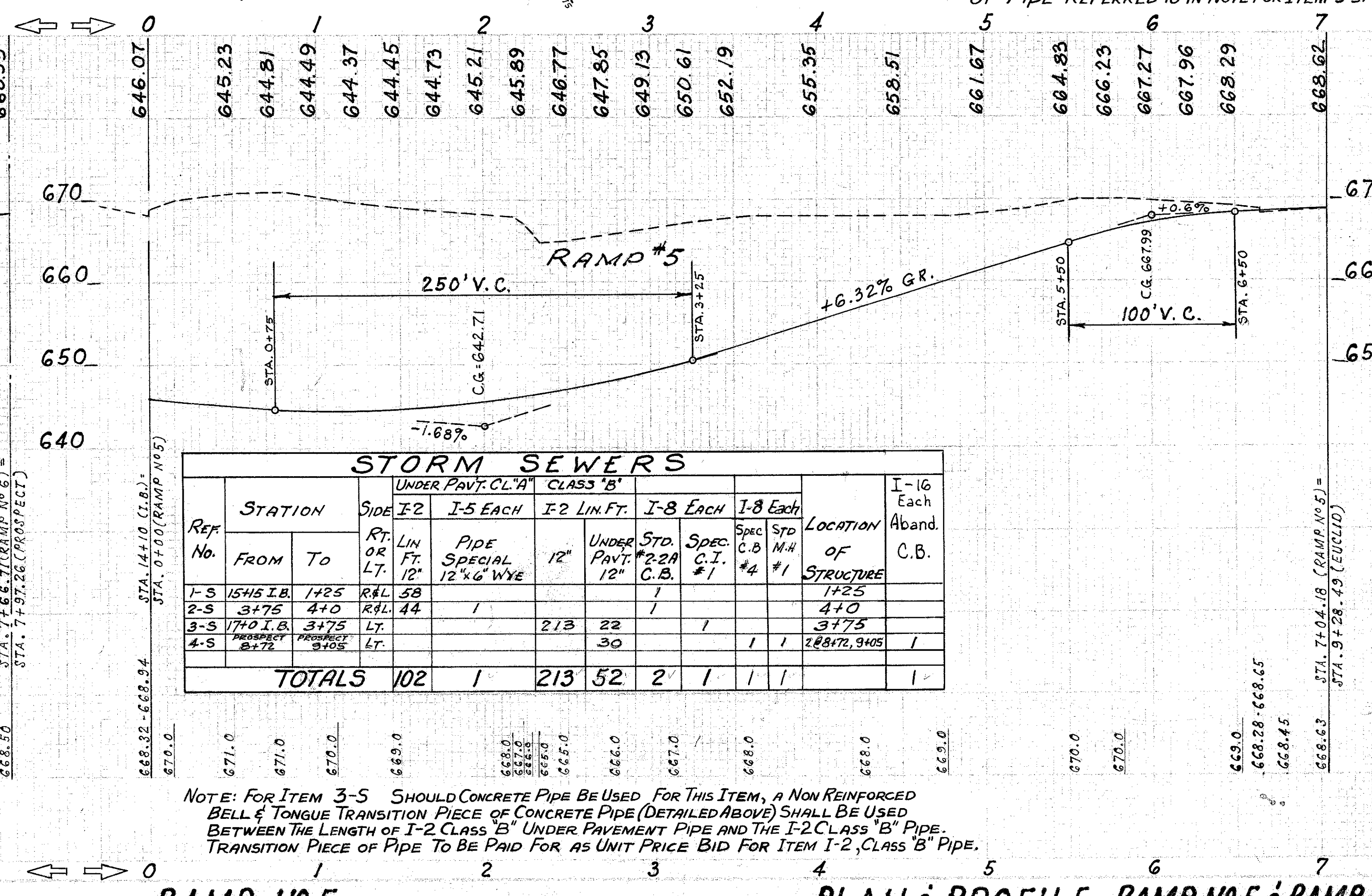
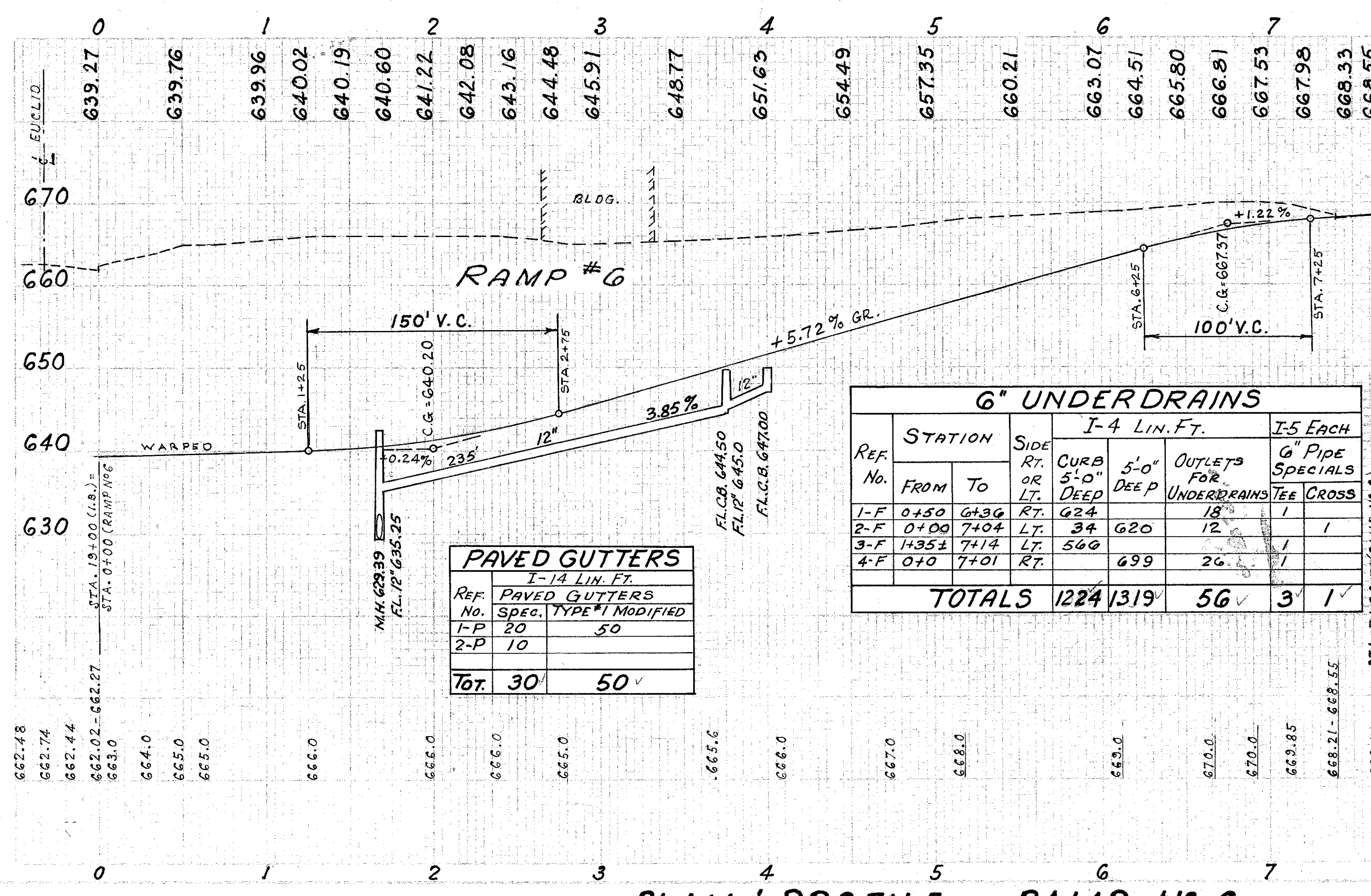
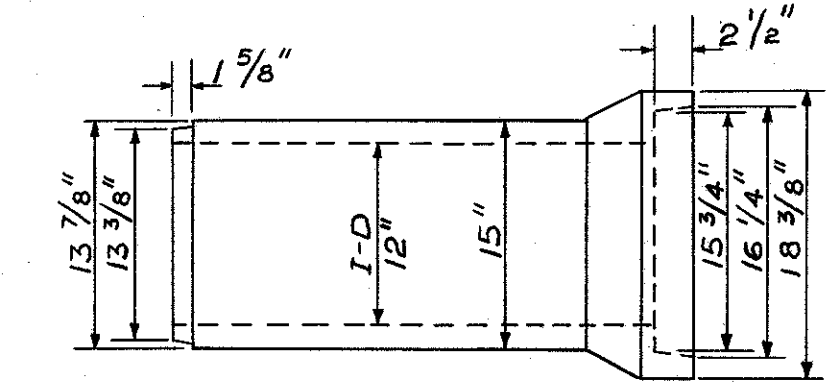
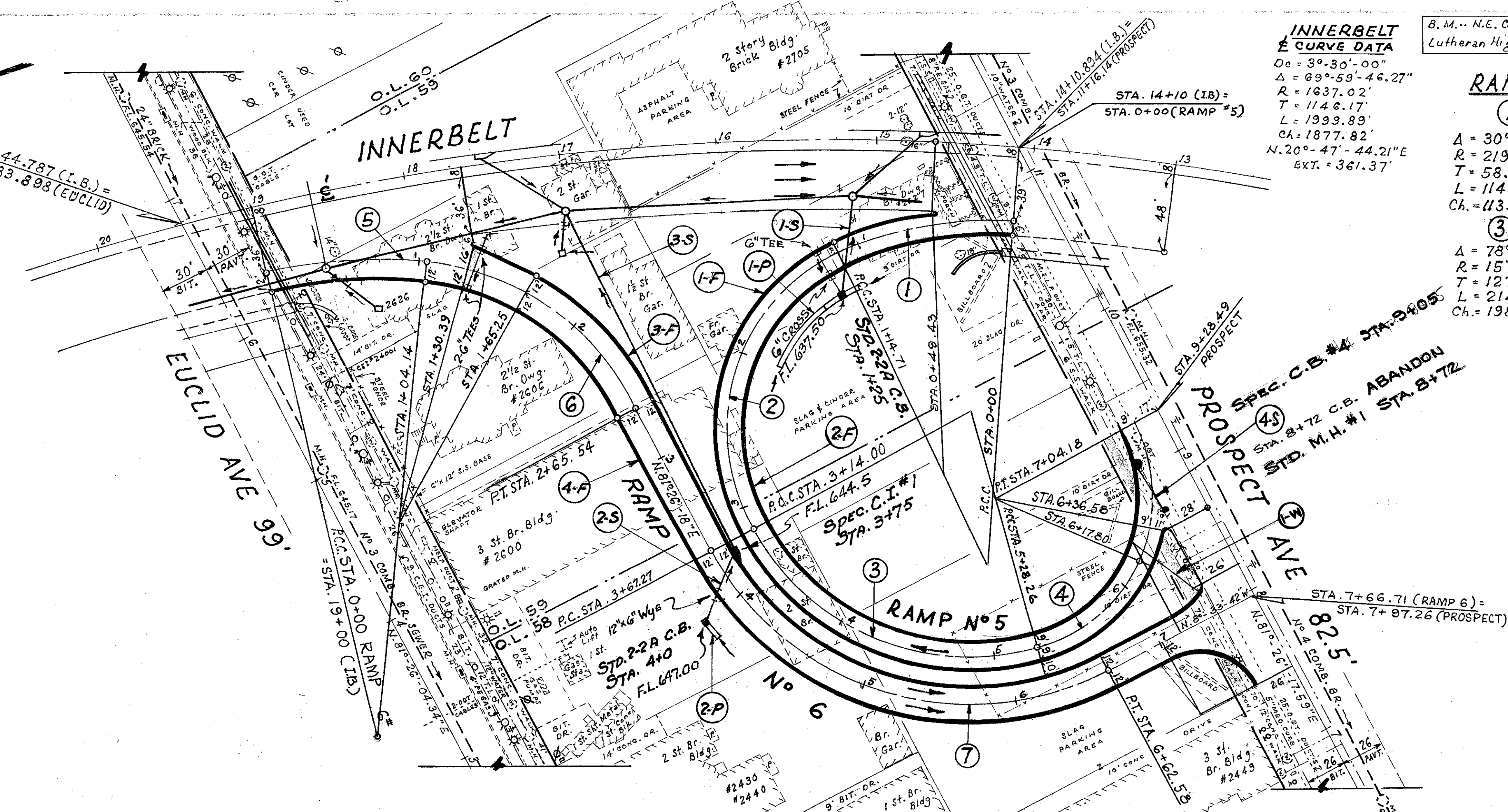
RAMP No 6 CURVE DATA

⑤	⑥	⑦
$\Delta = 19^{\circ}-45'-26''$	$\Delta = 55^{\circ}-17'-40''$	$\Delta = 90^{\circ}-00'-00''$
$R = 302.00'$	$R = 167.24'$	$R = 188.00'$
$T = 52.59'$	$T = 87.61'$	$T = 188.00'$
$L = 104.14'$	$L = 161.40'$	$L = 295.31'$
$Ch. = 103.62'$	$Ch. = 155.19'$	$Ch. = 265.87'$

INNERBELT CURVE DATA
 $\Delta = 3^{\circ}-30'-00''$
 $\Delta = 69^{\circ}-59'-46.27''$
 $R = 1637.02'$
 $T = 114.617'$
 $L = 1939.89'$
 $Ch. = 1877.82'$
 $N. 20^{\circ}-47'-44.21'' E$
 $EXT. = 361.37'$

RAMP No 5 CURVE DATA

①	②
$\Delta = 30^{\circ}-00'-43''$	$\Delta = 92^{\circ}-05'-10''$
$R = 219.00'$	$R = 124.00'$
$T = 58.71'$	$T = 128.60'$
$L = 114.71'$	$L = 139.29'$
$Ch. = 43.41'$	$Ch. = 178.53'$
③	④
$\Delta = 78^{\circ}-11'-20''$	$\Delta = 101^{\circ}-48'-40''$
$R = 157.00'$	$R = 99.00'$
$T = 127.57'$	$T = 121.84'$
$L = 214.25'$	$L = 175.92'$
$Ch. = 198.01'$	$Ch. = 153.67'$



NOTE: FOR ITEM 3-S SHOULD CONCRETE PIPE BE USED FOR THIS ITEM, A NON REINFORCED BELL & TONGUE TRANSITION PIECE OF CONCRETE PIPE (DETAILED ABOVE) SHALL BE USED BETWEEN THE LENGTH OF I-2 CLASS "B" UNDER PAVEMENT PIPE AND THE I-2 CLASS "B" PIPE. TRANSITION PIECE OF PIPE TO BE PAID FOR AS UNIT PRICE BID FOR ITEM I-2, CLASS "B" PIPE.

T.B.M. "X" on conc. step between N.W. cor. of Brick Bldg. & Hand rail into Parking Area at #2828 Euclid Ave. Elev. 663.004

INNERBELT CURVE DATA
 $D_c = 3^\circ-30'-00''$
 $\Delta = 63^\circ-59'-46.27''$
 $R = 1637.02'$
 $T = 114.617'$
 $Ch = 1877.82'$
 $N. 20^\circ-47'-44.21'' E$
 $L = 1939.89'$
 $EXT. = 361.37'$

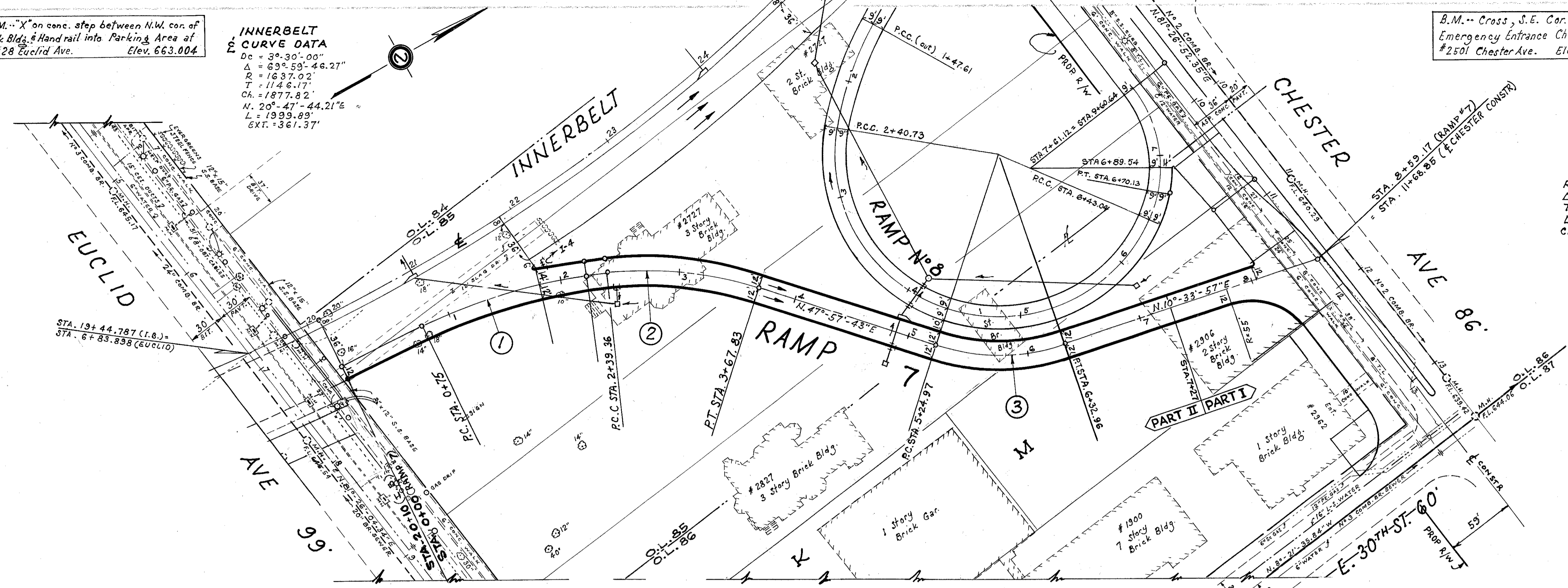
B.M. -- Cross, S.E. Cor. stone step Emergency Entrance Chester Ave Clinic #2501 Chester Ave. Elev. 655.933

CUYAHOGA COUNTY
Sec. CUY-42-18.77

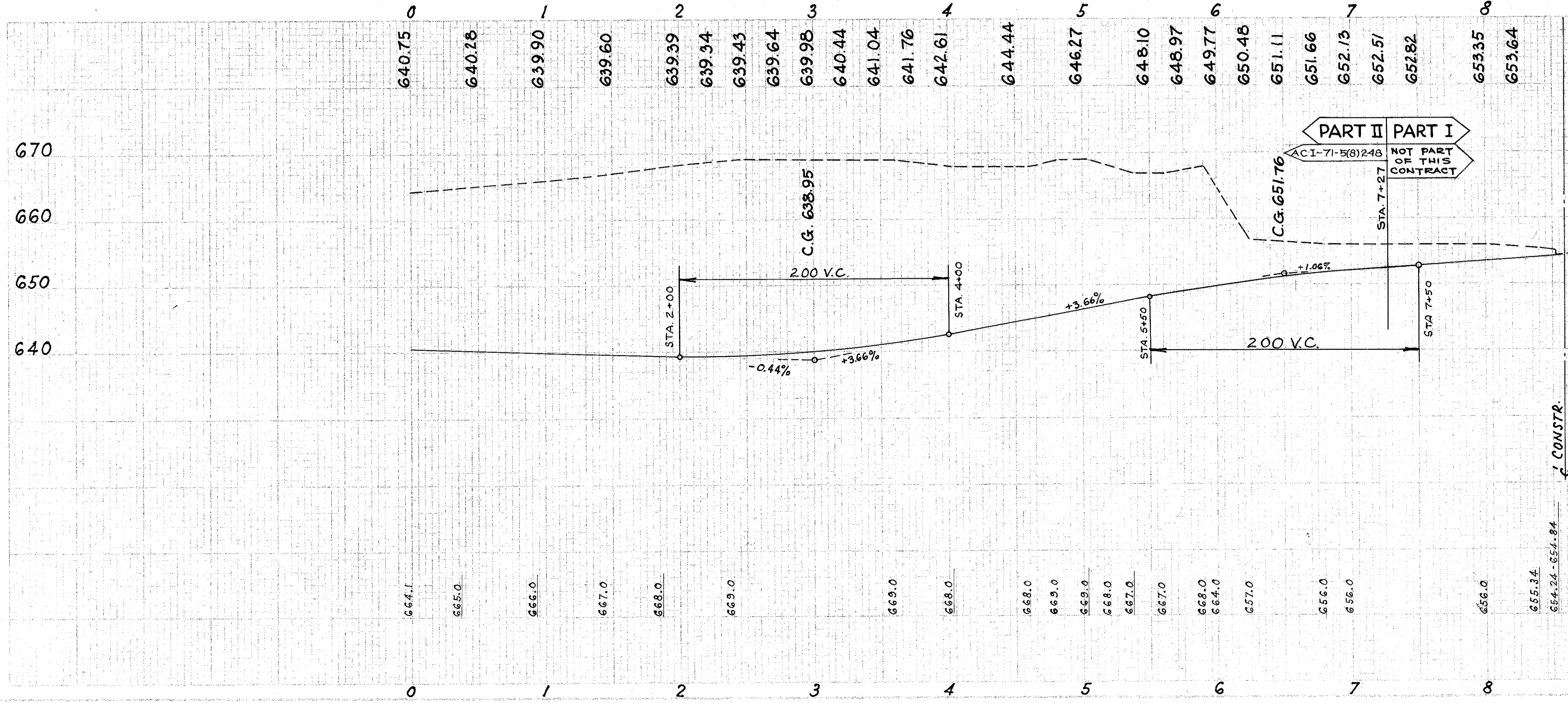
18
80

RAMP No 7 CURVE DATA

①	②	③
$R = 452.00'$	$R = 312.00'$	$R = 170.00'$
$\Delta = 20^\circ-50'-05''$	$\Delta = 23^\circ-35'-56''$	$\Delta = 36^\circ-23'-46''$
$T = 83.10'$	$T = 65.15'$	$T = 55.89'$
$L = 164.36'$	$L = 128.46'$	$L = 107.97'$
$Ch = 163.46'$	$Ch = 127.56'$	$Ch = 106.18'$



FOR DRAINAGE QUANTITIES SEE RAMP #8, SHT. No. 19



CODE 6707		STORM SEWER		FOR CHESTER AVE.		SH#
Ref No.	FROM TO	UNDER PRVT.	LINE FT.	REMOVAL OF EXISTING PIPE	REMOVAL OF EXISTING CONCRETE	LOC. OF STRUCTURE
1-3	0+0	12"	28	1	1	0+0-0+35: 0+44
2-5	0+19	18"	32	1	1	0-19: 0-110
3-5	0+19	18"	39	1	1	28-0+18: 0+44: 0-110
4-5	0+25	18"	36	1	1	13+10: 13+56
5-5	0+25	18"	246	1	1	13+10: 13+56: 13+50
6-5	0+25	18"	246	1	1	0-112: 0-112: 13+50
7-5	0+25	18"	246	1	1	0-112: 0-112: 13+50
8-5	0+25	18"	246	1	1	0-112: 0-112: 13+50
9-5	0+25	18"	246	1	1	0-112: 0-112: 13+50
URBAN-TOTAL			190	2	4	
INTERSTATE - TOTAL			176	2	3	

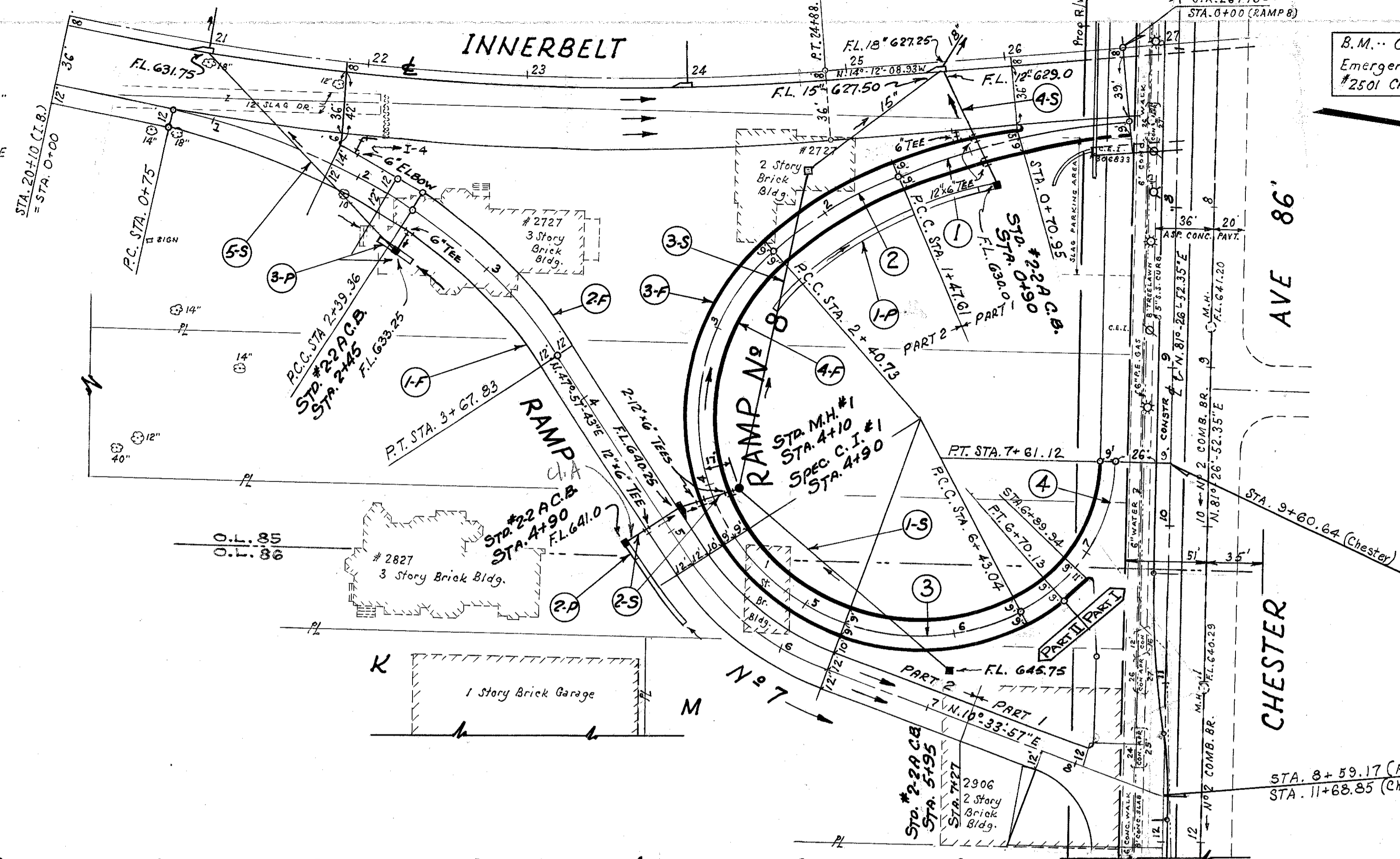
PLAN & PROFILE ... RAMP No 7

RAMP No 8 CURVE DATA

①	②	③	④
R = 509.00'	R = 269.00'	R = 139.00'	R = 109.00'
Δ = 16° 36' 57"	Δ = 19° 49' 59"	Δ = 165° 50' 08"	Δ = 62° 03' 55"
T = 74.33'	T = 47.03'	T = 1118.79'	T = 65.58'
L = 147.61'	L = 93.12'	L = 402.32'	L = 118.07'
Ch = 147.03'	Ch = 92.65'	Ch = 275.88'	Ch = 112.33'

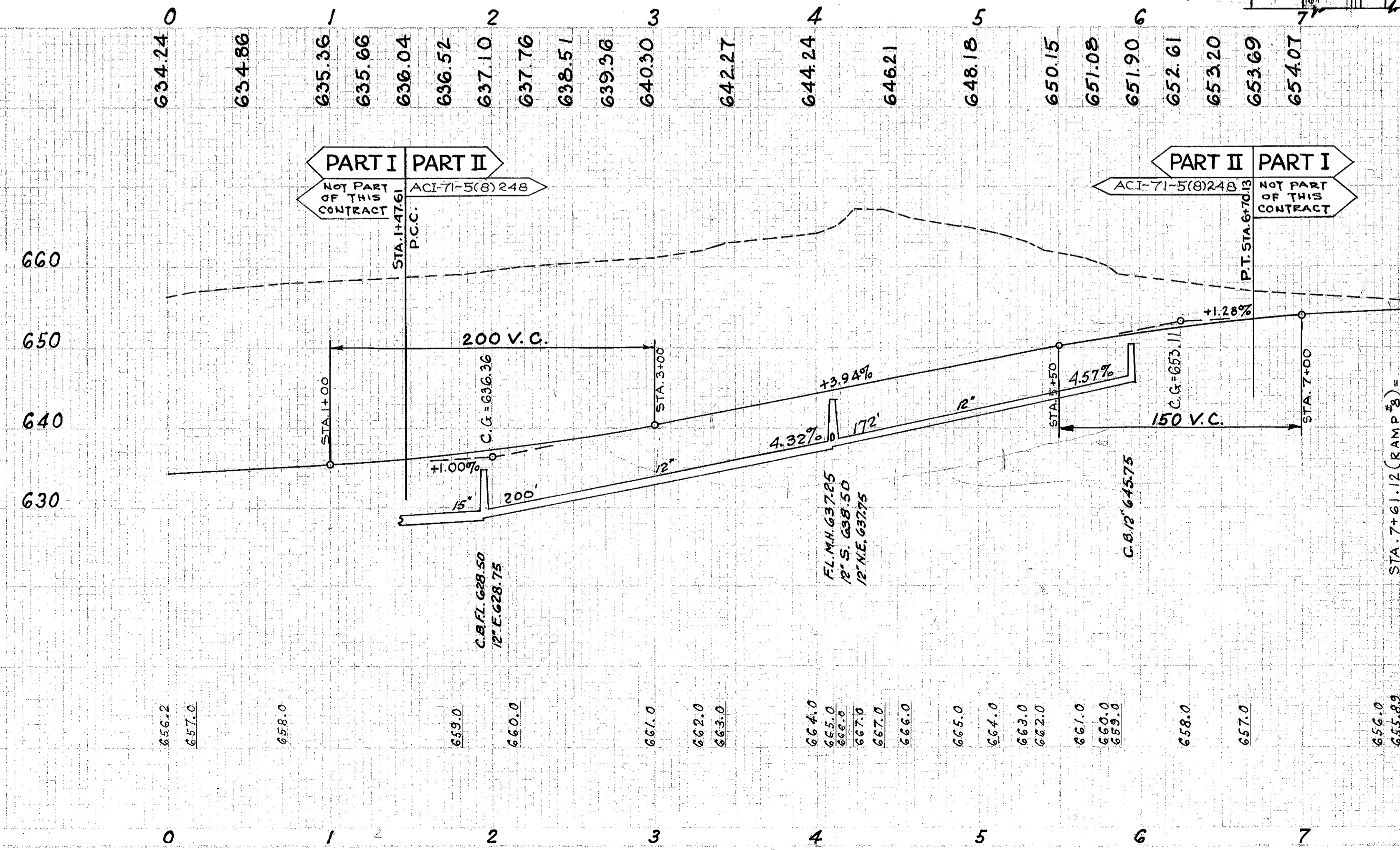
INNERBELT CURVE DATA

Oc = 3° 30' 00"	Δ = 63° 59' 46.27"
R = 1837.02'	T = 1146.17'
Ch = 1877.82'	N. 20° 47' 44.21" E
L = 1999.83'	L = 1999.83'
EXT. = 361.37'	



B.M. Cross, S.E. Cor. stone step
Emergency Entrance Chester Ave Clinic
#2501 Chester Ave. Elev. 655.933

CUYAHOGA COUNTY
Sec. CUY. - 42 - 18.77



(RAMP #748) 6" UNDERDRAINS

REF. No.	STATION FROM TO	SIDE RT. OR LT.	I-4 LIN. FT.		I-5 EACH G" PIPE SPECIALS
			5'-0" DEEP	OUTLETS FOR UNDERDRAINS	
1-F	0+0	RT.	772	10	1
2-F	1+90±	LT.	612	6	1
3-F	0+95±	RT.	622	2	1
4-F	0+0	LT.	64	652	
PART 2 TOTALS			1084	1210	1 1
PART 1 TOTALS			214	214	2 1

PART 2 & PART 1 QUANTITIES DIVIDED AS SHOWN IN PLAN ABOVE.

STORM SEWERS (RAMP #748)

REF. No.	STATION FROM TO	SIDE RT. OR LT.	I-2 LIN. FT.		I-3 EACH	I-5 EA.	LOCATION OF STRUCTURE
			12" UNDER PAVT	12" CLASS			
1-S	4+10	RT.	5+95	REL. 100	72		5+95
2-S	4+90 (*)	RT.	4+10 (*)	REL. 36	30	1	204+90
3-S	4+10	LT.	24172	I.B. REL. 124	76		4+10
4-S	0+90	LT.	25440	I.B. REL. 74		2	0+90
5-S	2+46 (*)	LT.	2+10	I.B. REL. 172			2+45
(PART 2) TOTALS			100	24280	106	1 2	
(PART 1) TOTALS				74		2	

ITEM REF. 4-5 TO BE BUILT AS PART 1.

PAVED GUTTERS

REF. No.	PAVED GUTTERS SPEC.	I-4 LIN. FT.	
		TYPE	MODIFIED
1-P	10	44	PART 1
2-P	10	50	
3-P	20		
1-P		106	PART 2
TOT.	30	156	(PART 2)
TOT.	10	44	(PART 1)

NOTE: REFER TO NOTE ON SH.#17 FOR INSTALLING BELL AND TONGUE TRANSITION PIECE OF PIPE IN ITEM 3-5 IN ABOVE TABLE.

EXTRA AREA DETAIL RAMP N^o 3

SCALE 1"=20'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		2080

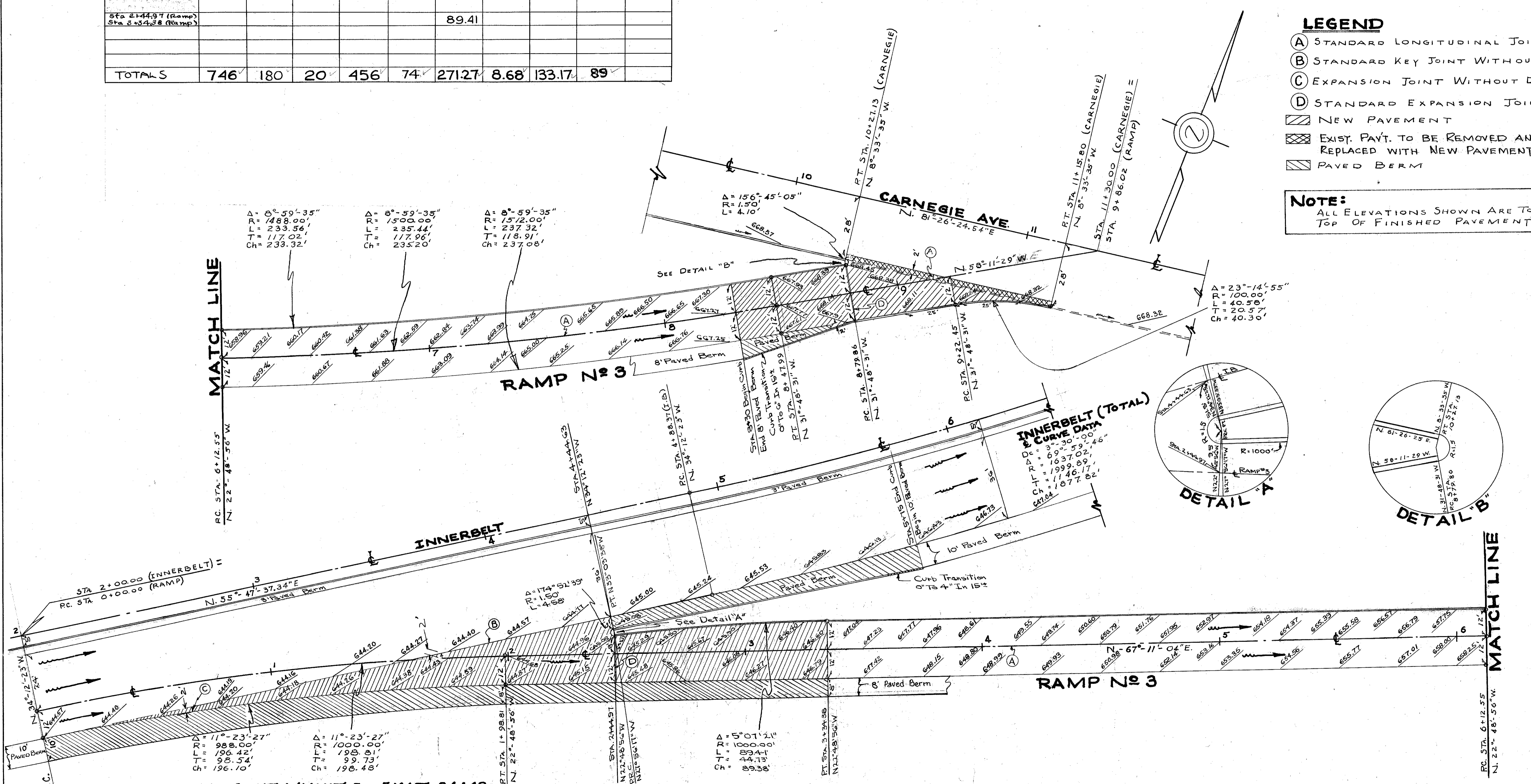
CUYAHOGA COUNTY
CUY. - 42-18.77

LOCATION	T-71	I-22	E-8	B-219	I-18	I-11 Sandstone Curb			E-8
	9" Reinf. Port. Cem. Concrete Pavement	Subbase	Removal & Disposal of Exist. Pavement	3" WATERPROOF AGGREGATE BASE COURSE SHOULDER	Crushed Aggregate Stabilized	6"x18" 3" Bullnose	1.5' Radius Block	6"x18" 1" Bullnose	Removal & Disposal of Exist. Curb
	Sq. Yds.	Cu. Yds.	Sq. Yds.	Sq. Yds.	Cu. Yds.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
Sta. 0+00 (Ramp)	488	120		319	52				
Sta. 3+34.38 (Ramp)			20	21	3	49.86	4.10	133.17	89
Sta. 8+50 (Ramp) to S. Edge Carnegie	258	46							
Sta. 4+44.65 (I.B.)		14		116	19	132.00	4.58		
Sta. 5+75 (I.B.)									
Sta. 2+44.97 (Ramp)						89.41			
Sta. 8+34.38 (Ramp)									
TOTALS	746	180	20	456	74	271.27	8.68	133.17	89

LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- [Hatched] NEW PAVEMENT
- [Cross-hatched] EXIST. PAVT. TO BE REMOVED AND REPLACED WITH NEW PAVEMENT.
- [Diagonal lines] PAVED BERM

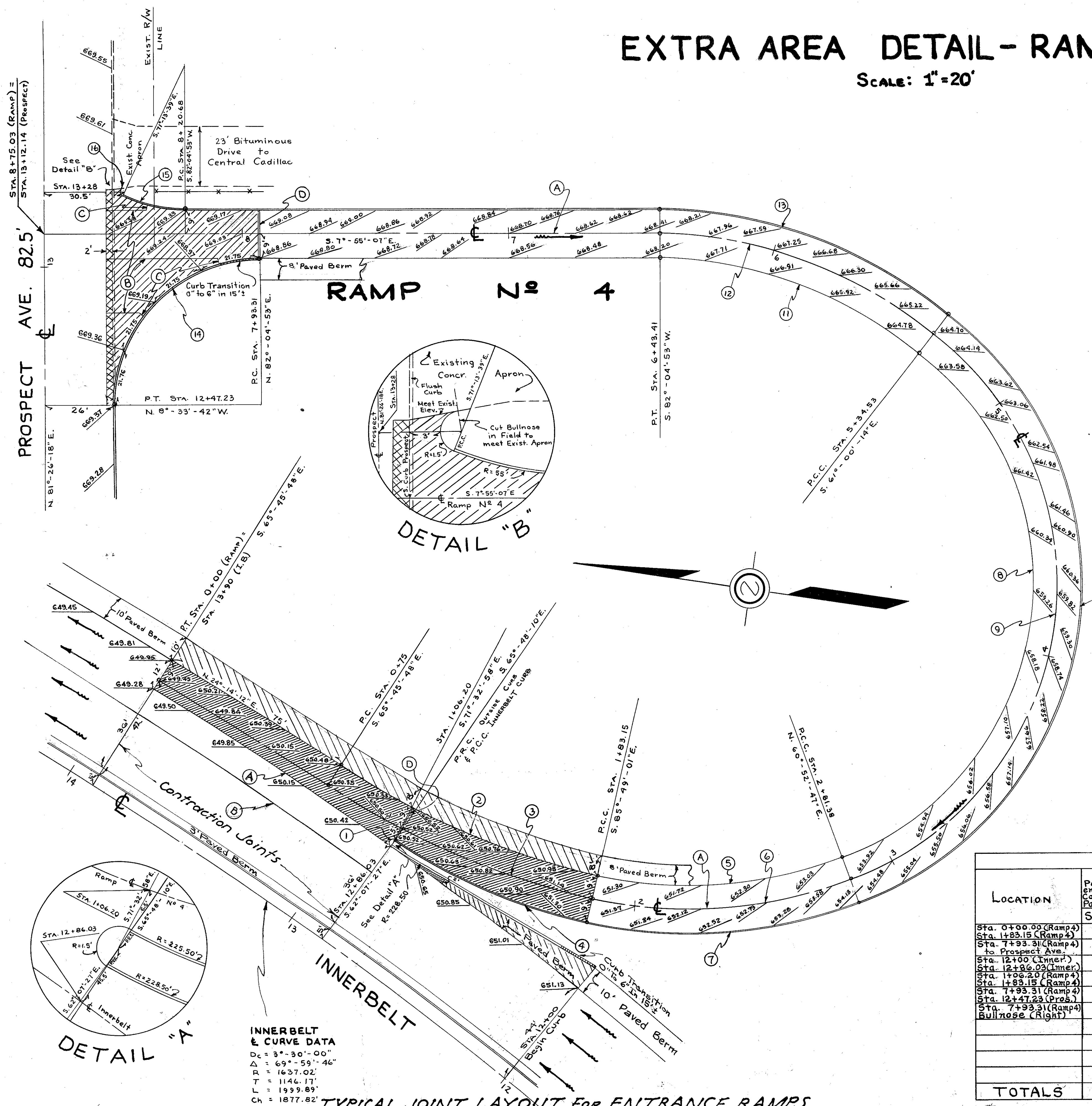
NOTE:
ALL ELEVATIONS SHOWN ARE TO TOP OF FINISHED PAVEMENT



EXTRA AREA DETAIL - RAMP No 4

SCALE: 1"=20'

CUYAHOGA COUNTY
CUY.-42-18.77

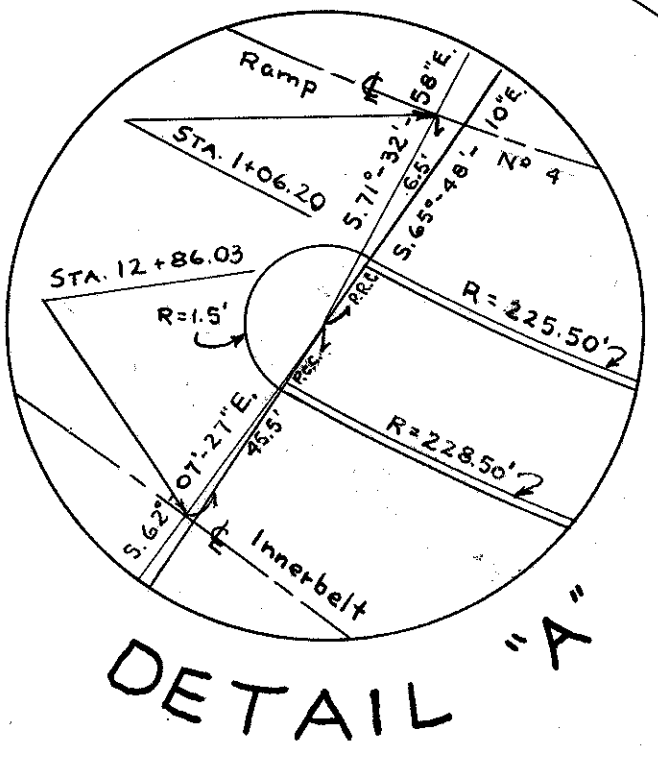
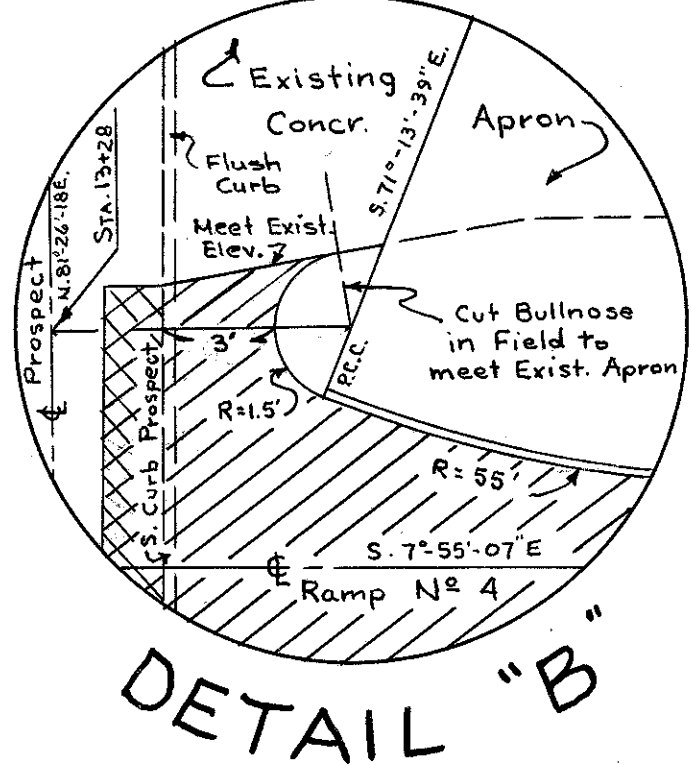


① R = 150.00' Δ = 180°-00'-00" L = 4.71'	② R = 300.00' Δ = 20°-03'-13" T = 53.04' L = 105.00' Ch = 104.46'	③ R = 309.00' Δ = 20°-03'-13" T = 54.63' L = 108.15' Ch = 107.60'	④ R = 225.50' Δ = 20°-01'-52" T = 39.83' L = 78.84' Ch = 78.44'	⑤ R = 160.00' Δ = 33°-18'-11" T = 47.85' L = 93.00' Ch = 91.70'
⑥ R = 169.00' Δ = 33°-18'-11" T = 50.55' L = 98.23' Ch = 96.85'	⑦ R = 178.00' Δ = 33°-18'-11" T = 53.24' L = 103.46' Ch = 102.01'	⑧ R = 110.00' Δ = 121°-53'-11" T = 197.98' L = 234.00' Ch = 192.31'	⑨ R = 119.00' Δ = 121°-53'-11" T = 214.18' L = 253.15' Ch = 208.05'	⑩ R = 128.00' Δ = 121°-53'-11" T = 230.38' L = 272.29' Ch = 223.78'
⑪ R = 160.00' Δ = 36°-54'-53" T = 53.40' L = 103.09' Ch = 101.31'	⑫ R = 169.00' Δ = 36°-54'-53" T = 56.41' L = 108.88' Ch = 107.01'	⑬ R = 178.00' Δ = 36°-54'-53" T = 59.41' L = 114.68' Ch = 112.71'	⑭ R = 55.00' Δ = 90°-38'-35" T = 55.62' L = 87.01' Ch = 72.55'	⑮ R = 55.00' Δ = 26°-41'-29" T = 13.05' L = 25.62' Ch = 25.39'
⑯ R = 150.00' Δ = 180°-00'-00" L = 4.71'				

LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- [Hatched Box] NEW PAVEMENT
- [Cross-hatched Box] EXISTING PAVEMENT TO BE REMOVED AND REPLACED WITH NEW PAVEMENT
- [Dashed Box] PAVED BERM

NOTE:
ALL ELEVATIONS ARE TO THE TOP OF FINISHED PAVEMENT.



INNERBELT & CURVE DATA
 Δ = 3°-30'-00"
 Δ = 69°-59'-46"
 R = 1637.02'
 T = 1146.17'
 L = 1939.89'
 Ch = 1877.82'

TYPICAL JOINT LAYOUT FOR ENTRANCE RAMPS

EXTRA AREA QUANTITIES

LOCATION	I-22 Subbase		E-8 Removal & Disposal of Existing Pavement		B-215 Waterproofing Aggregate Base Course		I-18 Stabilized Crushed Aggregate Shoulders		I-11 Sandstone Curb				E-8 Removal & Disposal of Exist. Curb
	Sq. Yds.	Cu. Yds.	Sq. Yds.	Sq. Yds.	Sq. Yds.	Cu. Yds.	Lin. Ft.	Lin. Ft.	6" x 18" 1" Bullnose	6" x 18" 5.5" Radius Bullnose	6" x 18" 1" Bullnose	Lin. Ft.	Lin. Ft.
Sta. 0+00.00 (Ramp 4)	298	71			174	27							
Sta. 1+93.15 (Ramp 4)	213	36	18										81
Sta. 12+00 (Inner)	2	7			43	7		4.71	88				
Sta. 12+06.03 (Inner)								78.84					
Sta. 1+93.15 (Ramp 4)												87.01	
Sta. 12+47.23 (Pres.)								27.37	4.71			25.62	
Sta. 7+93.31 (Ramp 4) Bullnose (Right)													
TOTALS	513	114	18	217	34	10621	9.42	88	112.63	81			

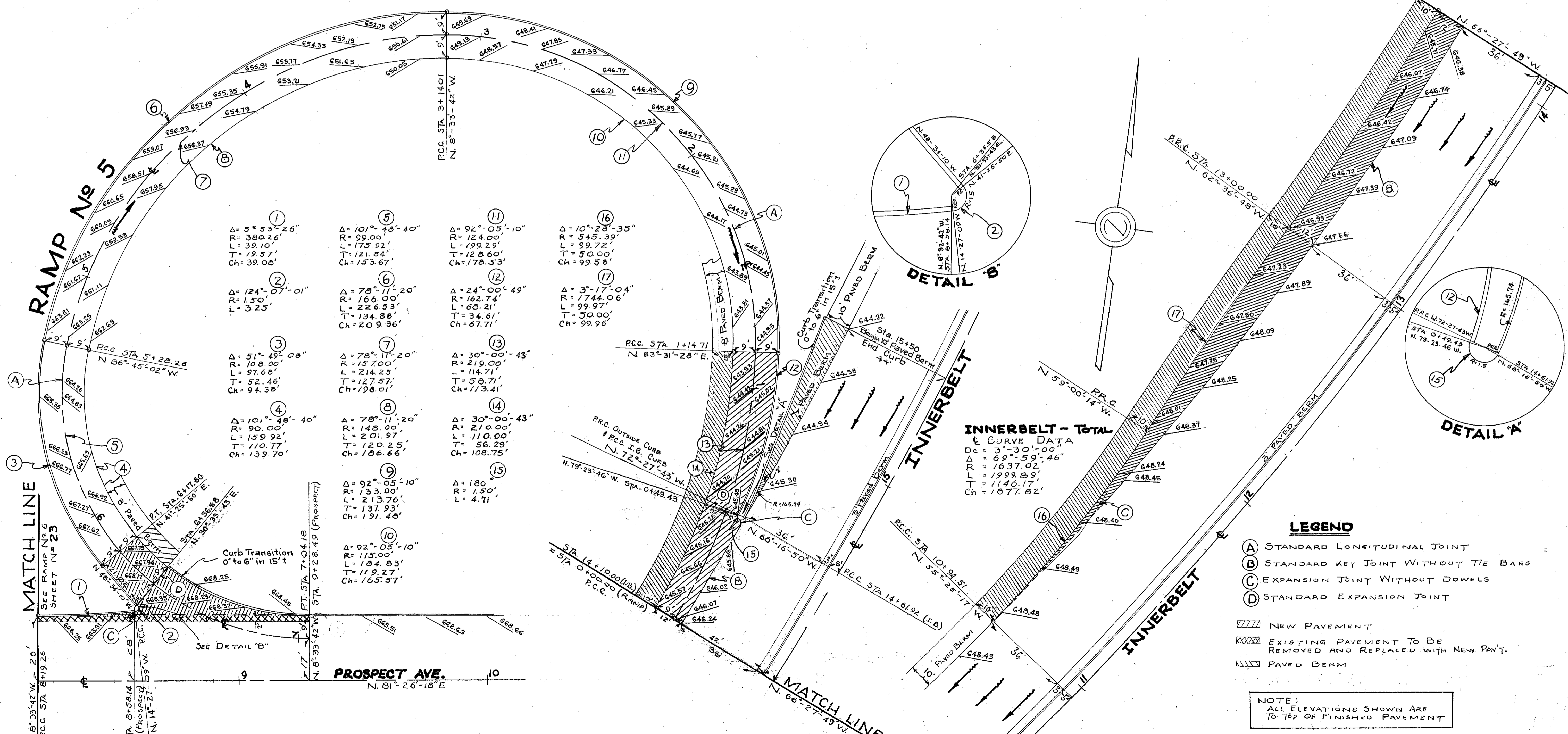
EXTRA AREA DETAIL RAMP No 5

SCALE 1"=20'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		22 80

CUYAHOGA COUNTY
CUY. - 42-18.77

LOCATION	EXTRA AREA QUANTITIES								
	T-71 9" Reinf. Port. Cem. Concrete	I-22 Sub base	E-8 Removal & Disposal of Exist. Pavement	B-219 3" W/Aggregate Base Course For Shoulders	I-18 Stabilized Shoulders	I-11 Sandstone 6" x 18" Bullnose Block	15' Radius Bumper Block	6" x 18" Bullnose	E-8 Removal & Disposal of Exist. Curb
	Sq. Yds.	Cu. Yds.	Sq. Yds.	Sq. Yds.	Cu. Yds.	Lin. Ft.	Lin. Ft.	Lin. Ft.	
Sta. 10+94.51 (Inner)									
Sta. 1+14.71 (Ramp)	487	144	24	449	71				
Sta. 6+17.80 (Ramp)	126	21	24						
Sta. 7+04.18 (Ramp)									
Sta. 6+36.58 (Ramp)							61.5		
Sta. 7+04.18 (Ramp)									
Sta. 6+17.8 (Ramp)		2		16	2	21.02	3.25		
Sta. 6+36.58 (Ramp)									
Sta. 14+41.92 (Inner)	2	7		47	7		4.71	89.0	
Sta. 15+50 (Inner)									
Sta. 0+49.43 (Ramp)						68.21			
Sta. 1+14.71 (Ramp)									
Sta. 8+19.26 (Prospect)								39.1	
Sta. 9+58.14 (Prospect)									
TOTALS	615	174	24	512	80	89.23	7.96	189.6	39

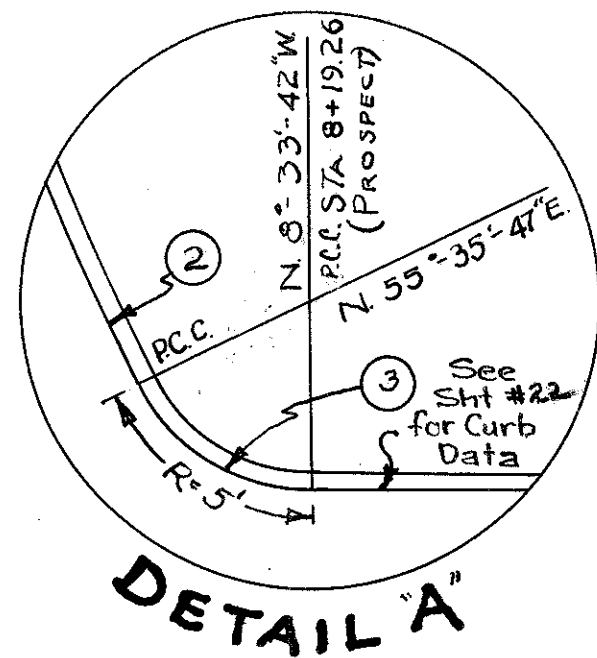


EXTRA AREA DETAIL - RAMP No 6

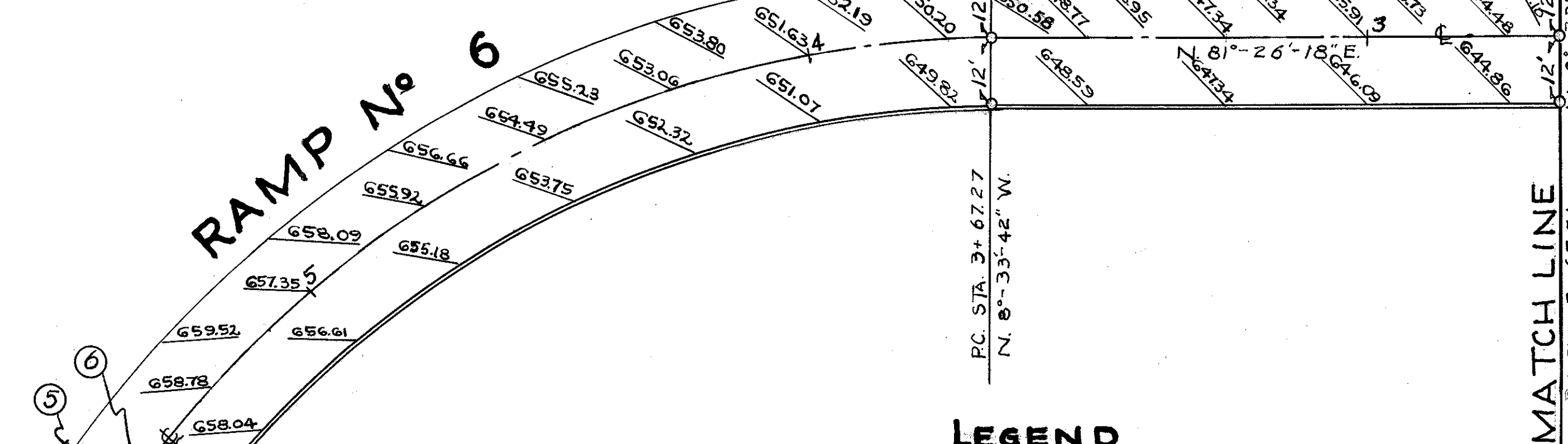
SCALE 1" = 20'

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		23 80

CUYAHOGA COUNTY
CUY. - 42-18.77

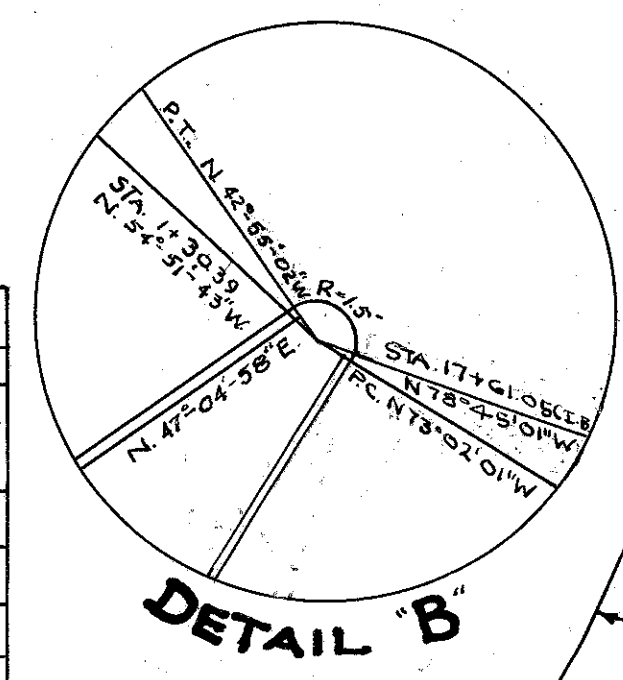
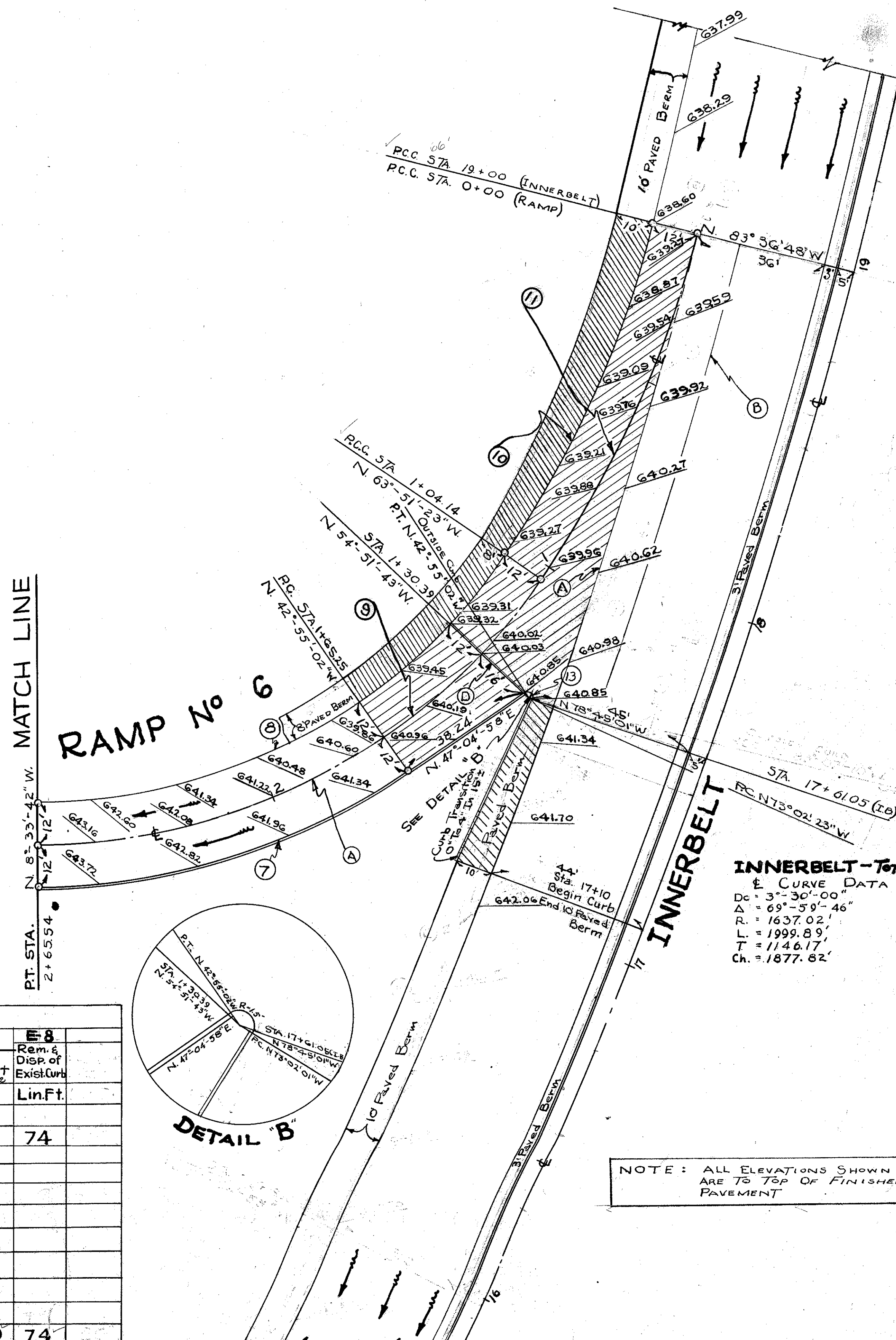
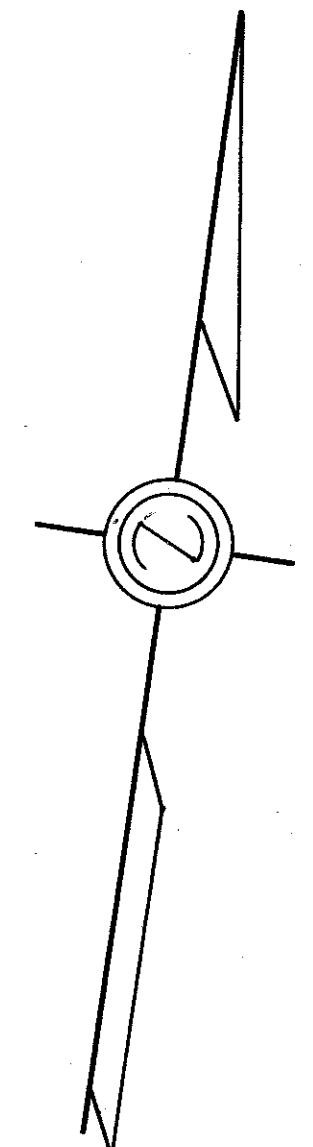


- ① Δ = 90°-00'-00"
R = 40.00'
L = 62.83'
T = 40.00'
Ch = 56.57'
- ② Δ = 25°-50'-31"
R = 55.00'
L = 24.81'
T = 12.62'
Ch = 24.60'
- ③ Δ = 64°-09'-29"
R = 5.00'
L = 3.60'
T = 3.13'
Ch = 3.31'
- ④ Δ = 90°-00'-00"
R = 176.00'
L = 276.46'
T = 176.00'
Ch = 248.90'
- ⑤ Δ = 90°-00'-00"
R = 200.00'
L = 314.16'
T = 200.00'
Ch = 282.84'
- ⑥ Δ = 90°-00'-00"
R = 188.00'
L = 295.31'
T = 188.00'
Ch = 265.81'
- ⑦ Δ = 34°-21'-20"
R = 179.24'
L = 107.48'
T = 55.40'
Ch = 103.86'
- ⑧ Δ = 55°-17'-40"
R = 155.24'
L = 149.82'
T = 81.32'
Ch = 144.06'
- ⑨ Δ = 55°-17'-40"
R = 167.24'
L = 161.40'
T = 87.61'
Ch = 155.19'
- ⑩ Δ = 19°-45'-26"
R = 290.00'
L = 100.00'
T = 50.50'
Ch = 99.51'
- ⑪ Δ = 19°-45'-26"
R = 302.00'
L = 104.14'
T = 52.59'
Ch = 103.62'
- ⑫ Δ = 8°-39'-00"
R = 40.00'
L = 6.03'
T = 2.96'
Ch = 5.91'
- ⑬ Δ = 149°-51'-39"
R = 1.50'
L = 3.92'



LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- ▨ NEW PAVEMENT
- ▩ EXISTING PAVEMENT TO BE REMOVED AND REPLACED WITH NEW PAVEMENT
- ▧ PAVED BERM



LOCATION	T-71 9" Part. Cement Reinf. Conc. Pavement	I-22 Sub base	E-8 Removal & Disposal of Exist. Pavement	B-219 3" Waterproof Aggregate Base Course For Shoulders	I-18 Stabilized Crushed Aggr. For Shoulders	I-11 Sandstone Curb			E-8 Rem. & Disp. of Exist. Curb		
	Sq. Yds.	Cu. Yds.	Sq. Yds.	Sq. Yds.	Cu. Yds.	6" x 18" 3" Bullnose	1.5' Rad. Bumper Block	5' Radius 6" x 18" 1" Bullnose	40' Radius 6" x 18" 1" Bullnose	6" x 18" Straight 1" Bullnose	Lin. Ft.
Sta. 0+00 (Ramp)											
Sta. 1+65.25 (Ramp)	387	84	17	21	3			5.60	68.86	2481	46.0
Sta. 6+50 (Ramp)	311	54									74
Sta. 7+42.71 (Ramp)											
Sta. 1+30.39 (Ramp)											
Sta. 1+65.25 (Ramp)											
Sta. 17+10 (Inner)		6		46	7	51.50	3.92				
Sta. 17+61.05 (Inner)											
Sta. 15+99.1 (Inner)											
Sta. 17+10 (Inner)											
TOTALS	698	144	17	223	34	153.24	3.92	5.60	68.86	2481	46.0

NOTE: ALL ELEVATIONS SHOWN ARE TO TOP OF FINISHED PAVEMENT

PROSPECT AVE. 18.
N. 81°-26'-18" E

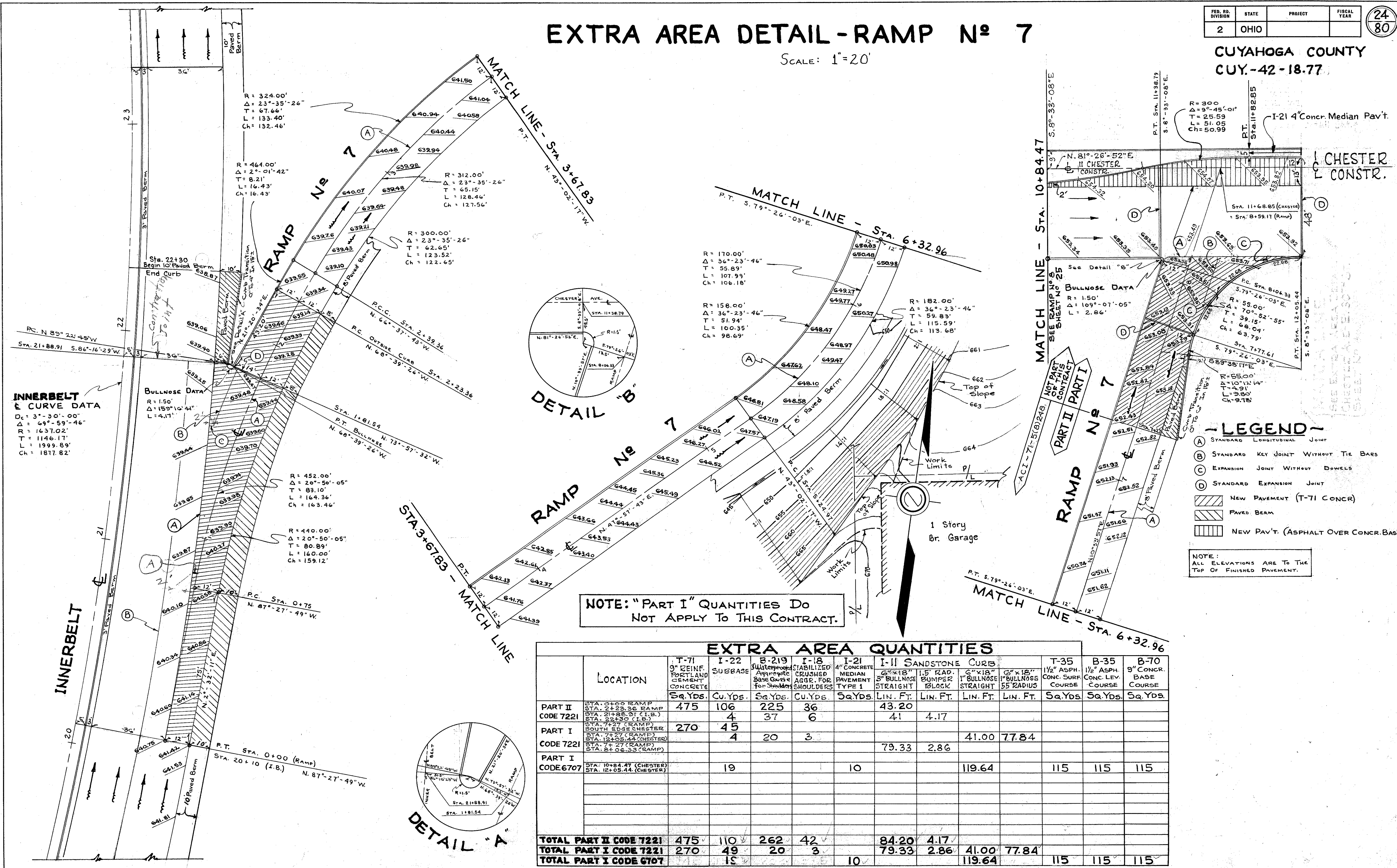
MATCH LINE

EXTRA AREA - RAMP No 6

EXTRA AREA DETAIL - RAMP No 7

SCALE: 1"=20'

CUYAHOGA COUNTY
C.U.Y.-42-18-77



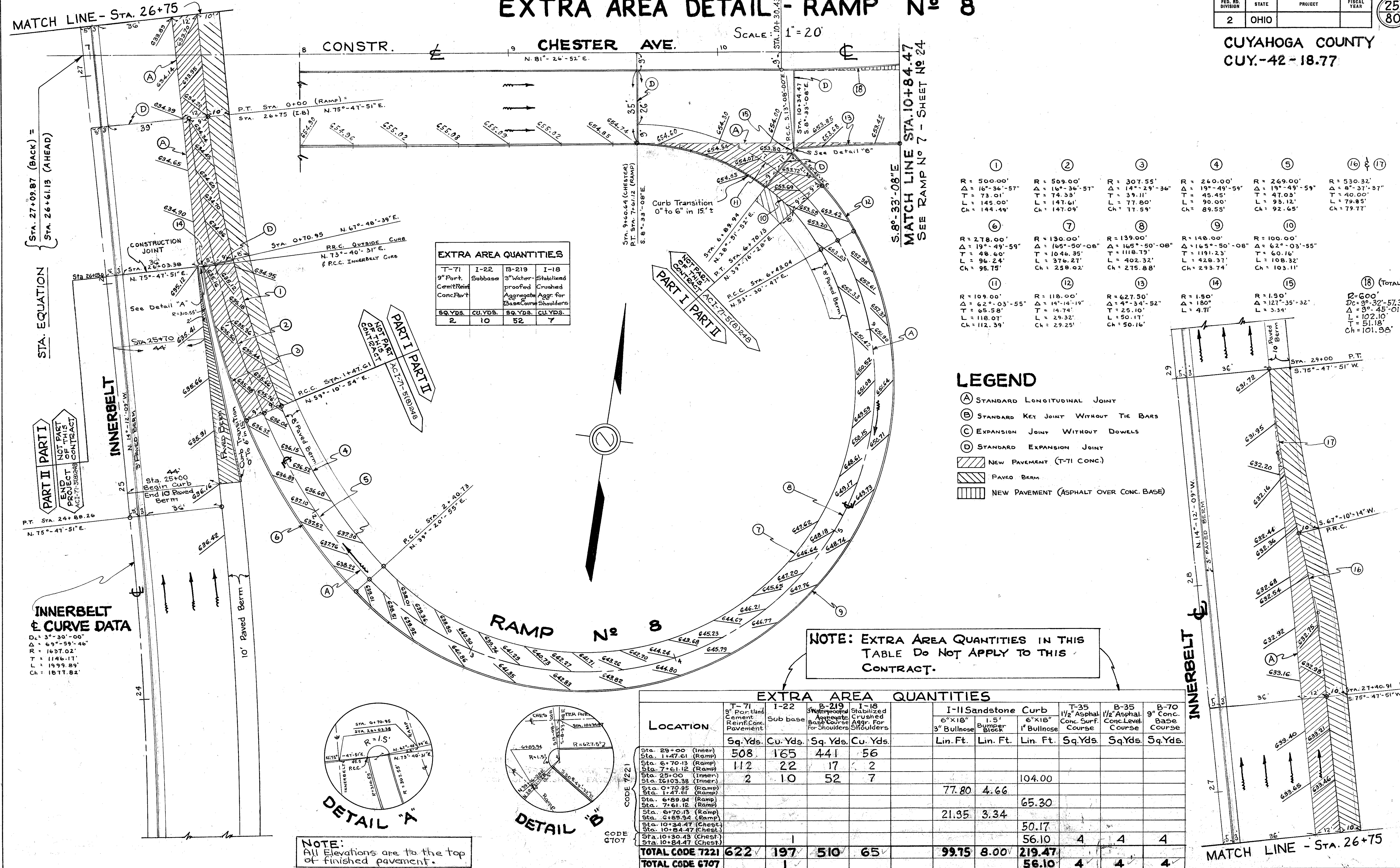
NOTE: "PART I" QUANTITIES DO NOT APPLY TO THIS CONTRACT.

EXTRA AREA QUANTITIES											
LOCATION	T-71	I-22	B-219	I-18	I-21	I-11 SANDSTONE CURB		T-35	B-35	B-70	
	3" REINF. PORTLAND CEMENT CONCRETE	SUBBASE	3" WaterprooF Aggregate Base Course for Shoulders	STABILIZED CRUSHED AGGR. FOR SHOULDERS	4" CONCRETE MEDIAN PAVEMENT TYPE 1	6"x18" 3" BULLNOSE STRAIGHT	1.5" RAD. BUMPER BLOCK	6"x18" 1" BULLNOSE STRAIGHT	1 1/2" ASPH. CONC. SURF. COURSE	1 1/2" ASPH. CONC. LEV. COURSE	9" CONCR. BASE COURSE
	Sq.Yds.	Cu.Yds.	Sq.Yds.	Cu.Yds.	Sq.Yds.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq.Yds.	Sq.Yds.	Sq.Yds.
PART II CODE 7221 STA. 0+00 RAMP STA. 2+23.36 RAMP STA. 21+88.91 (I.B.) STA. 22+30 (I.B.)	475	106	225	36		43.20					
PART I CODE 7221 STA. 7+27 (RAMP) STA. 12+06.44 (CHESTER) STA. 7+27 (RAMP) STA. 2+06.33 (RAMP)	270	45	37	6		41	4.17				
PART I CODE 6707 STA. 10+84.47 (CHESTER) STA. 12+05.44 (CHESTER)		19			10			119.64	115	115	115
TOTAL PART II CODE 7221	475	110	262	42		84.20	4.17				
TOTAL PART I CODE 7221	270	49	20	3		79.33	2.86	41.00	77.84		
TOTAL PART I CODE 6707		19			10			119.64	115	115	115

EXTRA AREA DETAIL - RAMP No 8

CUYAHOGA COUNTY
CUY.-42-18.77

SCALE: 1" = 20'



T-71 9" Port. Cement Reinf. Conc Pav't	I-22 Subbase	B-219 3" Water- proofed Aggregate Base Course Shoulders	I-18 Stabilized Crushed Aggr. For Base Course Shoulders
Sq. Yds.	Cu. Yds.	Sq. Yds.	Cu. Yds.
2	10	52	7

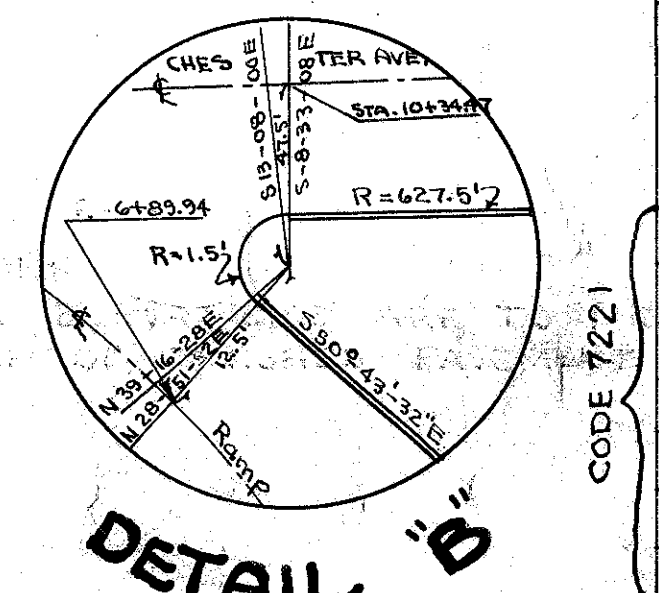
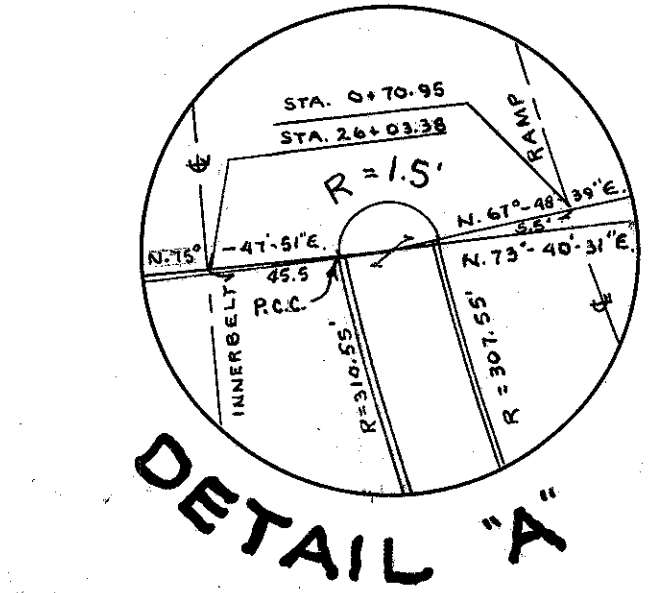
①	②	③	④	⑤	⑬ & ⑭
R = 500.00' Δ = 16°-36'-57" T = 73.01' L = 145.00' Ch = 144.49'	R = 509.00' Δ = 16°-36'-57" T = 74.33' L = 147.61' Ch = 147.09'	R = 307.55' Δ = 14°-29'-36" T = 39.11' L = 77.80' Ch = 77.59'	R = 240.00' Δ = 19°-49'-59" T = 45.45' L = 90.00' Ch = 89.55'	R = 269.00' Δ = 19°-49'-59" T = 47.03' L = 93.12' Ch = 92.65'	R = 530.32' Δ = 8°-37'-37" T = 40.00' L = 79.85' Ch = 79.77'
⑥	⑦	⑧	⑨	⑩	⑮
R = 278.00' Δ = 19°-49'-59" T = 48.60' L = 96.24' Ch = 95.75'	R = 130.00' Δ = 165°-50'-08" T = 1046.35' L = 376.27' Ch = 258.02'	R = 139.00' Δ = 165°-50'-08" T = 1118.79' L = 402.32' Ch = 275.88'	R = 146.00' Δ = 165°-50'-08" T = 1191.23' L = 428.37' Ch = 293.74'	R = 100.00' Δ = 62°-03'-55" T = 60.16' L = 108.32' Ch = 103.11'	R = 150.00' Δ = 127°-35'-32" T = 3.34' L = 3.34'
⑪	⑫	⑬	⑭	⑯	⑰ (TOTAL)
R = 109.00' Δ = 62°-03'-55" T = 65.58' L = 118.07' Ch = 112.39'	R = 118.00' Δ = 14°-14'-19" T = 14.74' L = 29.32' Ch = 29.25'	R = 627.50' Δ = 4°-34'-52" T = 25.10' L = 50.17' Ch = 50.16'	R = 150° Δ = 180° T = 4.71' L = 4.71'	R = 150° Δ = 180° T = 3.34' L = 3.34'	R = 600' Δ = 9°-32'-57.38" T = 102.10' L = 51.18' Ch = 101.98'

LEGEND

- (A) STANDARD LONGITUDINAL JOINT
- (B) STANDARD KEY JOINT WITHOUT TIE BARS
- (C) EXPANSION JOINT WITHOUT DOWELS
- (D) STANDARD EXPANSION JOINT
- [Hatched Pattern] NEW PAVEMENT (T-71 CONC.)
- [Diagonal Lines] PAVED BERM
- [Vertical Lines] NEW PAVEMENT (ASPHALT OVER CONC. BASE)

NOTE: EXTRA AREA QUANTITIES IN THIS TABLE DO NOT APPLY TO THIS CONTRACT.

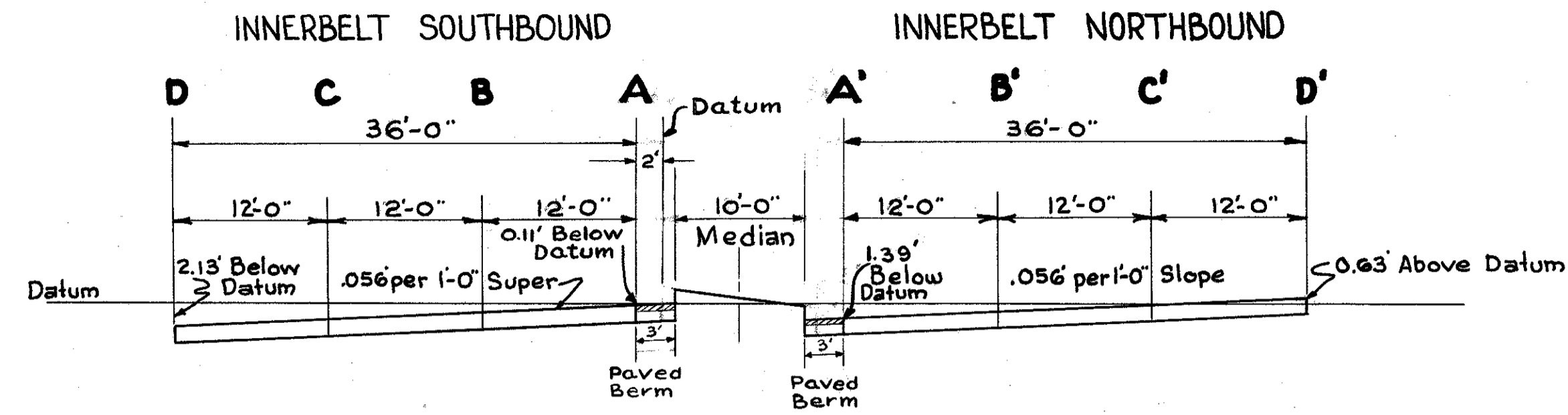
LOCATION	T-71 9" Portland Cement Reinf. Conc. Pavement		I-22 Sub base		B-219 3" Water- proofed Aggregate Base Course For Shoulders		I-18 Stabilized Crushed Aggr. For Shoulders		I-11 Sandstone Curb			T-35 1 1/2" Asphalt Conc. Surf. Course	B-35 1 1/2" Asphalt Conc. Level Course	B-70 9" Conc. Base Course
	Sq. Yds.	Cu. Yds.	Sq. Yds.	Cu. Yds.	Sq. Yds.	Cu. Yds.	Sq. Yds.	Cu. Yds.	6" x 18" Lin. Ft.	1.5' Bumper Block Lin. Ft.	6" x 18" 1" Bullnose Lin. Ft.	Sq. Yds.	Sq. Yds.	Sq. Yds.
Sta. 29+00 (Inner)														
Sta. 1+47.61 (Ramp)	508	165	441	56										
Sta. 6+70.13 (Ramp)	112	22	17	2										
Sta. 7+61.12 (Ramp)														
Sta. 25+00 (Inner)	2	10	52	7										
Sta. 26+03.38 (Inner)														
Sta. 0+70.95 (Ramp)									77.80	4.66	104.00			
Sta. 1+47.61 (Ramp)														
Sta. 6+89.94 (Ramp)											65.30			
Sta. 7+61.12 (Ramp)														
Sta. 6+70.13 (Ramp)									21.95	3.34				
Sta. 6+89.94 (Ramp)														
Sta. 10+34.47 (Chest.)											50.17			
Sta. 10+84.47 (Chest.)														
Sta. 10+30.43 (Chest.)											56.10	4	4	4
Sta. 10+84.47 (Chest.)														
TOTAL CODE 7221	622	197	510	65					99.75	8.00	219.47			
TOTAL CODE 6707											56.10	4	4	4



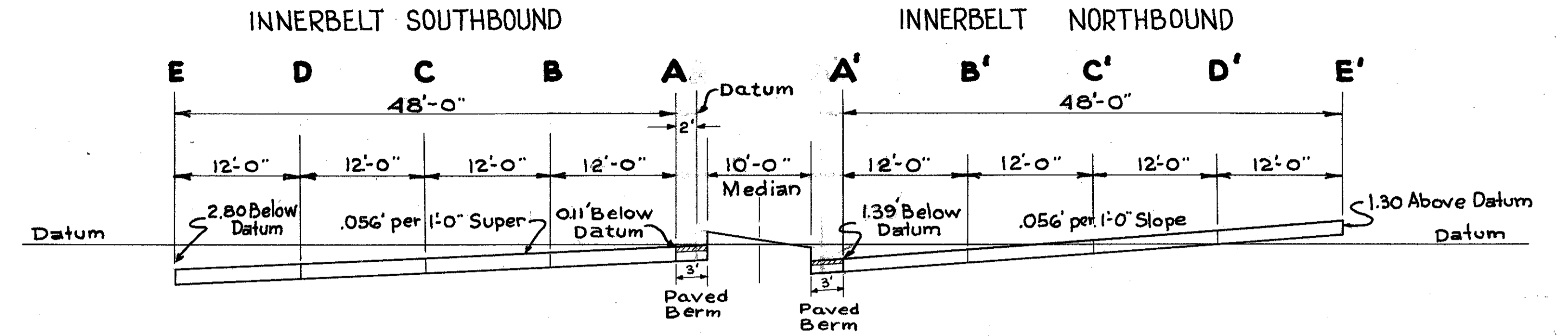
NOTE: All Elevations are to the top of finished pavement.

SUPERELEVATION TABLES

CUY-42-18.77
CUYAHOGA COUNTY



FULL SUPERELEVATION SECTION
STA. 6+25 TO STA. 19+00 SOUTHBOUND
STA. 7+75 TO STA. 13+90 NORTHBOUND



FULL SUPERELEVATION SECTION
STA. 19+00 TO STA. 22+00 SOUTHBOUND
STA. 13+90 TO STA. 20+10 NORTHBOUND

3°30' CURVE P.C. STA. 4+88.368 P.T. STA. 24+88.26 DESIGN SPEED 50 M.P.H.

D	C	B	A	DATUM	STATION	A'	B'	C'	D'
645.50	645.69	645.87	646.06	646.09	1+25	646.06	645.87	645.69	645.50
645.02	645.22	645.42	645.62	645.66	+50	645.61	645.44	645.27	645.10
644.61	644.82	645.04	645.25	645.29	+75	645.20	645.07	644.94	644.81
644.26	644.49	644.72	644.95	644.99	2+00	644.84	644.75	644.66	644.57
643.99	644.23	644.46	644.70	644.74	+25	644.52	644.48	644.44	644.40
643.74	644.00	644.26	644.52	644.56	+50	644.29	644.28	644.27	644.26
643.56	643.84	644.12	644.39	644.44	+75	644.10	644.13	644.16	644.19
643.43	643.73	644.04	644.34	644.39	3+00	643.98	644.04	644.10	644.16
643.36	643.68	644.00	644.33	644.39	+25	643.93	644.02	644.11	644.20
643.32	643.68	644.04	644.40	644.46	+50	643.91	644.03	644.15	644.27
643.35	643.74	644.13	644.52	644.59	+75	643.92	644.08	644.24	644.40
643.42	643.85	644.28	644.71	644.78	4+00	643.97	644.17	644.37	644.57
643.51	643.98	644.45	644.92	645.00	+25	644.08	644.31	644.54	644.77
643.61	644.12	644.63	645.15	645.23	+50	644.19	644.46	644.73	645.00
643.71	644.26	644.81	645.36	645.45	+75	644.34	644.64	644.94	645.24
643.81	644.40	645.99	645.58	645.68	5+00	644.51	644.85	645.19	645.53
643.95	644.57	645.18	645.80	645.90	+25	644.69	645.07	645.45	645.83
644.10	644.74	645.38	646.02	646.13	+50	644.87	645.29	645.71	646.13
644.26	644.92	645.58	646.24	646.35	+75	645.05	645.51	645.97	646.43
644.46	645.13	645.80	646.47	646.58	6+00	645.23	645.73	646.23	646.73
644.67	645.34	646.01	646.69	646.80	+25	645.42	645.97	646.52	647.07
644.90	645.57	646.24	646.92	647.03	+50	645.64	646.20	646.77	647.34
645.12	645.79	646.46	647.14	647.25	+75	645.86	646.46	647.05	647.64
645.35	646.02	646.69	647.37	647.48	7+00	646.09	646.71	647.32	647.94
645.57	646.24	646.91	647.59	647.70	+25	646.31	646.95	647.59	648.24
645.80	646.47	647.14	647.82	647.93	+50	646.54	647.21	647.87	648.53
646.02	646.69	647.36	648.04	648.15	+75	646.76	647.44	648.11	648.78
646.25	646.92	647.59	648.27	648.38	8+00	646.99	647.67	648.34	649.01
646.47	647.14	647.81	648.49	648.60	+25	647.21	647.89	648.56	649.23
646.70	647.37	648.04	648.72	648.83	+50	647.44	648.12	648.79	649.46
646.92	647.59	648.26	648.94	649.05	+75	647.66	648.34	649.01	649.68
647.15	647.82	648.49	649.17	649.28	9+00	647.89	648.57	649.24	649.91
647.37	648.04	648.71	649.39	649.50	+25	648.11	648.79	649.46	650.13
647.60	648.27	648.94	649.62	649.73	+50	648.34	649.02	649.69	650.36
647.82	648.49	649.16	649.84	649.95	+75	648.56	649.24	649.91	650.58
648.03	648.70	649.37	650.05	650.16	10+00	648.77	649.45	650.12	650.79
648.20	648.87	649.54	650.22	650.33	+25	648.94	649.62	650.29	650.96
648.33	649.00	649.67	650.35	650.46	+50	649.07	649.75	650.42	651.09
648.43	649.10	649.77	650.45	650.56	+75	649.17	649.85	650.52	651.19
648.49	649.16	649.83	650.51	650.62	11+00	649.23	649.91	650.58	651.25

3°30' CURVE P.C. STA. 4+88.368 P.T. STA. 24+88.26 DESIGN SPEED 50 M.P.H.

E	D	C	B	A	DATUM	STATION	A'	B'	C'	D'	E'
	648.52	649.19	649.86	650.54	650.65	11+25	649.26	649.94	650.61	651.28	
	648.50	649.17	649.84	650.52	650.63	+50	649.24	649.92	650.59	651.26	
	648.45	649.12	649.79	650.47	650.58	+75	649.19	649.87	650.54	651.21	
	648.37	649.04	649.71	650.39	650.50	12+00	649.11	649.79	650.46	651.13	
	648.25	648.92	649.59	650.27	650.38	+25	648.99	649.67	650.34	651.01	
	648.09	648.76	649.43	650.11	650.22	+50	648.83	649.51	650.18	650.85	
	647.89	648.56	649.23	649.91	650.02	+75	648.63	649.31	649.98	650.65	
	647.66	648.33	649.00	649.68	649.79	13+00	648.40	649.08	649.75	650.42	
	647.39	648.06	648.73	649.41	649.52	+25	648.13	648.81	649.48	650.15	
	647.09	647.76	648.43	649.11	649.22	+50	647.83	648.51	649.18	649.85	
	646.74	647.41	648.08	648.76	648.87	+75	647.48	648.16	648.83	649.50	
	646.38	647.05	647.72	648.40	648.51	14+00	647.12	647.80	648.47	649.14	649.81
	646.02	646.69	647.36	648.04	648.15	+25	646.76	647.44	647.11	648.78	649.45
	645.66	646.33	647.00	647.68	647.79	+50	646.40	647.08	647.75	648.42	649.09
	645.30	645.97	646.64	647.32	647.43	+75	646.04	646.72	647.39	648.06	648.73
	644.94	645.61	646.28	646.96	647.07	15+00	645.68	646.36	647.03	647.70	648.37
	644.58	645.25	645.92	646.60	646.71	+25	645.32	646.00	646.67	647.34	648.01
	644.22	644.89	645.56	646.24	646.35	+50	644.96	645.64	646.31	646.98	647.65
	643.86	644.53	645.20	645.88	645.99	+75	644.60	645.28	645.95	646.62	647.29
	643.50	644.17	644.84	645.52	645.63	16+00	644.24	644.92	645.59	646.26	646.93
	643.14	643.81	644.48	645.16	645.27	+25	643.88	644.56	645.23	645.90	646.57
	642.78	643.45	644.12	644.80	644.91	+50	643.52	644.20	644.87	645.54	646.21
	642.42	643.09	643.76	644.44	644.55	+75	643.16	643.84	644.51	645.18	645.85
	642.06	642.73	643.40	644.08	644.19	17+00	642.80	643.48	644.15	644.82	645.49
	641.70	642.37	643.04	643.72	643.83	+25	642.44	643.12	643.79	644.46	645.13
	641.34	642.01	642.68	643.36	643.47	+50	642.08	642.76	643.43	644.10	644.77
	640.98	641.65	642.32	643.00	643.11	+75	641.72	642.40	643.07	643.74	644.41
	640.62	641.29	641.96	642.64	642.75	18+00	641.36	642.04	642.71	643.38	644.05
	640.27	640.94	641.61	642.29	642.40	+25	641.01	641.69	642.36	643.03	643.70
	639.92	640.59	641.26	641.94	642.05	+50	640.65	641.34	642.01	642.68	643.35
	639.59	640.26	640.93	641.61	641.72	+75	640.33	641.01	641.68	642.35	643.02
	638.60	639.27	639.94	640.61	641.29	19+00	640.01	640.69	641.36	642.03	642.70
	638.29	638.96	639.63	640.30	640.98	+25	639.70	640.38	641.05	641.72	642.39
	637.99	638.66	639.33	640.00	640.68	+50	639.40	640.08	640.75	641.42	642.09
	637.71	638.38	639.05	639.72	640.40	+75	639.12	639.80	640.47	641.14	641.81
	637.43	638.10	638.77	639.44	640.12	20+00	638.84	639.52	640.19	640.86	641.53
	637.17	637.84	638.51	639.18	639.86	+25	638.58	639.26	639.93	640.60	
	636.91	637.58	638.25	638.92	639.60	+50	638.32	639.00	639.67	640.34	
	636.67	637.34	638.01	638.68	639.36	+75	638.08	638.76	639.43	640.10	

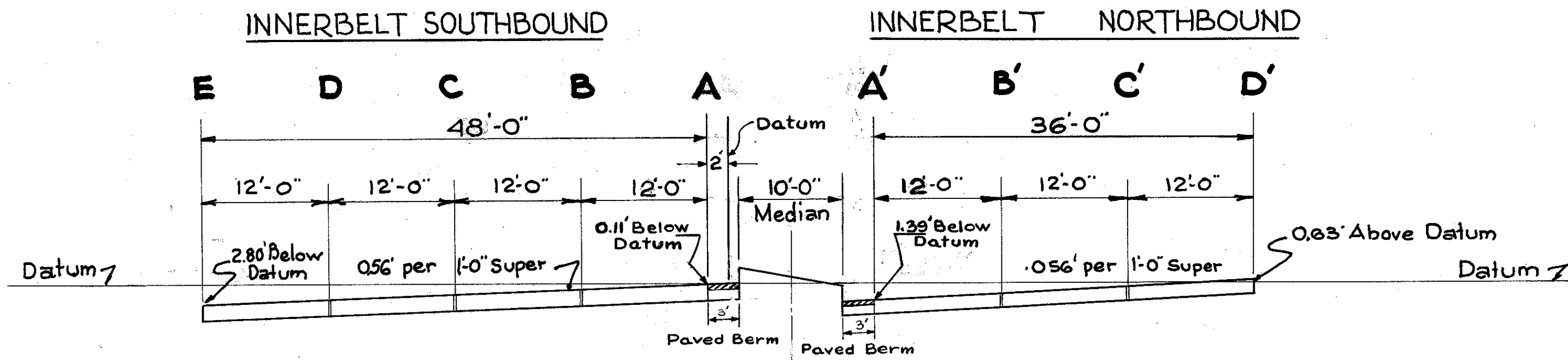
See Sheet No 27 For Continuation

SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

27
80

CUY-42-18.77
CUYAHOGA COUNTY



**FULL SUPERELEVATION SECTION
STA. 20+10 TO STA. 22+00 NORTHBOUND
CONTINUED FROM SHEET No 26**

3°30' CURVE P.C. STA. 4+88.368 P.T. STA. 24+88.26 DESIGN SPEED 50 MPH

		E	D	C	B	A	DATUM	STATION	A'	B'	C'	D'		
400' V.C. Full Super	Transition -0.72%	636.44	637.11	637.18	638.45	639.13	639.24	21+00	637.85	638.53	639.20	639.87	400' V.C. Full Super	Transition -0.72%
		636.22	636.89	637.56	638.23	638.91	639.02	+25	637.63	638.31	638.98	639.65		
		636.01	636.68	637.35	638.02	638.70	638.81	+50	637.42	638.10	638.77	639.44		
		635.82	636.49	637.16	637.83	638.51	638.62	+75	637.23	637.91	638.58	639.25		
		635.63	636.30	636.97	637.64	638.32	638.43	22+00	637.04	637.72	638.39	639.06		
		635.47	636.14	636.80	637.47	638.14	638.25	+25	636.89	637.55	638.21	638.87		
		635.34	636.00	636.65	637.32	638.00	638.07	+50	636.74	637.38	638.02	638.66		
		635.24	635.88	636.51	637.15	637.78	637.89	+75	636.60	637.22	637.83	638.44		
		635.16	635.77	636.38	637.00	637.61	637.71	23+00	636.48	637.04	637.61	638.18		
		635.10	635.68	636.27	636.85	637.43	637.53	+25	636.34	636.87	637.40	637.93		
400' V.C. Full Super	Transition -0.72%	635.05	635.60	636.15	636.71	637.26	637.35	+50	636.21	636.70	637.19	637.68	400' V.C. Full Super	Transition -0.72%
		634.99	635.51	636.04	636.56	637.08	637.17	+75	636.08	636.53	636.98	637.43		
		634.94	635.43	635.92	636.42	636.91	636.99	24+00	635.94	636.35	636.76	637.17		
		634.88	635.34	635.81	636.27	636.73	636.81	+25	635.81	636.18	636.55	636.92		
		634.83	635.26	635.69	636.13	636.56	636.63	+50	635.68	636.01	636.34	636.67		
		634.77	635.17	635.58	636.08	636.38	636.45	+75	635.55	635.84	636.13	636.42		
		634.72	635.09	635.46	635.84	636.21	636.27	25+00	635.41	635.66	635.91	636.16		
		634.66	635.00	635.35	635.69	636.03	636.09	+25	635.28	635.49	635.70	635.91		
		634.61	634.92	635.23	635.55	635.86	635.91	+50	635.15	635.32	635.49	635.66		
		634.56	634.84	635.12	635.40	635.68	635.73	+75	635.02	635.15	635.28	635.41		
400' V.C. Full Super	Transition -0.72%	634.50	634.75	635.00	635.26	635.51	635.55	26+00	634.88	634.97	635.06	635.15	400' V.C. Full Super	Transition -0.72%
		634.42	634.65	634.88	635.10	635.33	635.37	+25	634.75	634.80	634.85	634.90		
		634.30	634.51	634.72	634.93	635.14	635.18	+50	634.62	634.63	634.64	634.65		
		634.13	634.32	634.52	634.71	634.91	634.94	+75	634.48	634.45	634.42	634.39		
		633.92	634.11	634.30	634.49	634.67	634.70	27+00	634.35	634.28	634.21	634.14		
		633.82	634.01	634.20	634.39	634.57	634.60	27+09.87 (Back) 26+41.12 (Ahead)	634.30	634.21	634.12	634.03		
		633.69	633.88	634.07	634.26	634.44	634.47	26+75	634.23	634.12	634.00	633.89		
		633.45	633.64	633.83	634.02	634.20	634.23	27+00	634.09	633.94	633.80	633.65		
		633.21	633.40	633.59	633.78	633.96	633.99	+25	633.91	633.74	633.57	633.40		
		633.16	633.35	633.54	633.72	633.75	633.75	+50	633.70	633.52	633.34	633.16		
-0.96% Normal Pav't.	Transition -0.72%	632.92	633.11	633.30	633.48	633.51	+75	633.48	633.30	633.11	632.92	-0.96% Normal Pav't.	Transition -0.72%	

6-33 EE-9

ROUTE - 42

SECT. 18.77

COUNTY - CUYAHOGA

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

28
80

TOTAL NUMBER OF OWNERS - 82

SUMMARY OF ADDITIONAL R/W REQUIRED

CUY-42 - 18.77
CUYAHOGA COUNTY
CUY-90-16.74
PART 7-B

PARCEL N°	OWNER	AREA SQ. FT.	EXIST. BL'GS	SHEET N°	REMARKS
1 LA	DORA & HARRY ROSENTHAL	843.37	BILLB'RDS	29	
2 LA	SARAH P THORNE, n.k.a. S.P BOSWORTH	9612	YES	"	
3 LA	HENRY H. & ANNA BELLE STEELY	24,900	"	"	
4 LA	IRENE MARMATAKIS	2900	"	"	
5 LA	IRENE LOUDIANOS	4950	"	"	
6 LA	JAMES J McHALE COMPANY	4950	"	"	
7 LA	ROBERT G. NIERMAN	3600	"	"	
8 LA	OLYMPIA LAZZARO	3756	"	"	
9 LA	HENRY KATZ, et al.	3477	"	"	
10 LA	TESSIE GALLETTI	3379	"	"	
11 LA		3191	"	"	SEE 7 LA
12 LA		8244	YES	"	SEE 9 LA
13 LA	MORRIS LESSOWITZ	7821	"	"	
14 LA	IDA BRUML	3818	"	"	
15 LA	A. K. BRADLEY & M.K. GRAHAM	3441	"	"	
16 LA	JOSEPH C. RINI	4950	YES	"	
17 LA	ABUL H. SARDAR	4950	"	"	
18 LA	FRANK LEONETTI	4950	"	"	
19 LA	STANLEY J. OLSTYN	4950	YES	"	
20 LA	LILLIAN MURNEY McNALLY	9900	"	"	
21 LA	HENRY H. STEELY	4950	"	"	
22 LA	ARTHUR R. BAIER	9900	YES	"	
23 LA	RICHARD B. FREEMAN	4950	"	"	
24 LA	SINCLAIR REFINING COMPANY	10,456	"	"	
25 LA	EDWARD F. HOBAN, BISHOP OF CLEVELAND	7577	YES	"	
26 LA	JOSEPH TESAR, ET AL	18,867	"	"	
27 LA		5319	"	"	SEE 25 LA
28 LA	CHARLOTTE A. PIERCE	4950	"	"	
31 LA	BOARD OF COUNTY COMMISSIONERS OF CUY. CO. OHIO	823	"	"	

PARCEL N°	OWNER	AREA SQ. FT.	EXIST. BL'GS	SHEET N°	REMARKS
150 LA	NOT USED			30	
151 LA	"			"	
152 LA	"			"	
153 LA	WELDING & CUTTING SUPPLY CO.-ALSO 153T	960	"	"	
154 LA	NOT USED			"	
155 LA	GEORGE R. KLEIN		YES	"	
156 LA	"		"	"	
157 LA	"	42,093	"	"	
158 LA	"		"	"	
159 LA	"		"	"	
160 LA	RUTH E. LUSTIG	2892	"	"	
161 LA	THE GUND REALTY COMPANY	5123	"	"	
162 LA	THE GUND CO. (OF DELAWARE)	14,850	"	"	
163 LA	"	16,264	"	"	
164 LA	ADOLPH & ANNA M. WEISFELD	7900	"	"	
165 LA	THE CLEVELAND LUTHERAN HIGH SCHOOL ASS'N, INC.	112,866	"	"	
166 LA		3825	"	"	SEE 88 LA

NOTE :

SECTION N° CUY-42R-18.81 APPEARING THROUGHOUT THESE PLANS SHALL BE CONSIDERED READING CUY-42-18.77

50 LA	SAMUEL A. ROTH & MIRIAM S. GALE	3314	"	30	
51 LA	C. H. MOORE, DEC'D.	3314	"	"	
52 LA	ROSE & JOSEPH GARAMONE	2587	"	"	
53 LA	"	2315	"	"	
54 LA	MARY S. HELLER & ALICE S. BREMER	11,762	"	"	
55 LA	GREATER CLEV.-LODGE 18-LOYAL ORDER OF MOOSE	6750	YES	"	
56	CLEVELAND FED. OF MUSICIANS, LOC. N° 4 A.F. OF M.	72	"	"	
57 LA	ELIZABETH HAYNES	4357	YES	"	
58 LA	MINNIE LEE WALKER, n.k.a. M.L. MATHIS	4357	"	"	
59 LA	ARTHUR MENDELSON	6632	"	"	
60 LA	GEORGE BLACK	5212	YES	"	
61 LA	WILLIAM W. OLIVER	5365	"	"	
62 LA	EDDIE & ETHEL ASHFORD	5220	"	"	
63 LA	EDMUND W. ROTHSCHILD	5220	"	"	
64 LA	A. H. BRAMSON	5220	"	"	
65 LA	PARAMOUNT REALTY CO.	5220	"	"	
66A LA	OLYN C. & CORA MAE BYRD	4188	"	"	
66B LA	GEORGE DUBE	3424	"	"	
67 LA	MAWD INVESTMENT COMPANY	3169	"	"	
68 LA	ELSIE M. GILMORE LEE, ET AL	2130	"	"	
69 LA	GEORGE & MATTIE MATHEWS,	1,411	"	"	
70 LA	ALLEN L. WOLFE, ET AL	720	"	"	
71 LA	ARTHUR & LEONA MILLER	366	YES	"	
72 LA	GEORGE & MATTIE MATHEWS, ET AL	670	"	"	
73 LA	THE CARNEGIE - EAST 22 ND CO. ALSO 73-T	4365	YES	"	
74 LA	MICHAEL'S INCORPORATED ALSO 74-T	4660	"	"	
75 LA	"	"	"	"	
76 LA	STEVE BIKAS	3400	YES	"	
77 LA	"	3407	"	"	SEE 74 LA
78 LA	MICHAEL'S OLDSMOBILE CO.	4896	BILLB'RD	"	
79 LA	BURT WENGER	4896	YES	"	
80 LA	WILLIAM E. CLEGG, ET AL.	7616	"	"	
81 LA	CALLAGHAN - BRAUN	7185	"	"	
82 LA		5548	"	"	SEE 78 LA
83 LA	EDWARD GENOTS	5130	YES	"	
84 LA	HARRY E. & MARGARET BAMMERLIN	3672	"	"	
85 LA	MARY VITO	3264	"	"	
86 LA	ELIAS HAKAL & ALYAH HAKAL	3000	"	"	
87 LA	"	3000	"	"	SEE 1 LA
88 LA	OUTDOOR INVESTMENT COMPANY	12,400	BILLB'RD	"	
89 LA	STORES REALTY CO., INC.	6000	YES	"	
90 LA	"	"	"	"	
91 LA	AGNES K. BRADLEY & MARY K. GRAHAM	3000	"	"	
92 LA	HAWKINS TRADING CO.	3000	"	"	
93 LA	HAWKINS TRADING CO.	2450	YES	"	
94 LA	L. & R. REALTY COMPANY	5635	"	"	
95 LA	HECTOR G. ZOIA	2769	"	"	
96 LA	AGNES J. BRANIGAN	2507	"	"	
97 LA	GULL REALTY CO.	2046	"	"	
98 LA	ARTHUR W. RECK	1989	YES	"	
99 LA	WILBUR E. LAGANKE	922	"	"	

200 LA	SAMUEL A. ROTH	65,552	YES	31	
201 LA	SADIE GILL NEEDS & MARGUERITE GILL BROWN	21,303	"	"	
202 LA	ALYCE N. RIVITZ	19,200	"	"	
203 LA	EVERETT M. CLARK & RONALD N. WELLS	7183	"	"	
204 LA	NOT USED		"	"	
205 LA	THE BOARD OF COUNTY COMMISSIONERS OF CUY. CO.	21,494	"	"	
206 LA	SAMUEL A. ROTH & MIRIAM S. GALE	10,455	"	"	
208 LA	MAUDE FALLE	13,530	"	"	
209 LA	BERT WENGER & STELLA EMSLIE	17,915	"	"	
210 LA	HAZEL W. NIELDS & THE THOROUGHFARE REALTY CO.	10,332	"	"	
211 LA	"	21,154	"	"	SEE 200 LA
212 LA	RETAIL STORE EMPLOYEES UNION, LOCAL 880	319	"	"	

Completed 8-29-58
Revised 9-16-58
" 2-11-59
" 7-24-62

CUYAHOGA COUNTY
SEC. CUY-42-18.77

CURVE DATA
R = 15'
L = 21.10'
CH = 19.41' (S. 58°-15'-22" E.)

CARNEGIE AVE. 86'

CEDAR RELOCATION
5.75'-03'-03" E.

CEDAR 66' AVE.

CENTRAL AVE. 66'

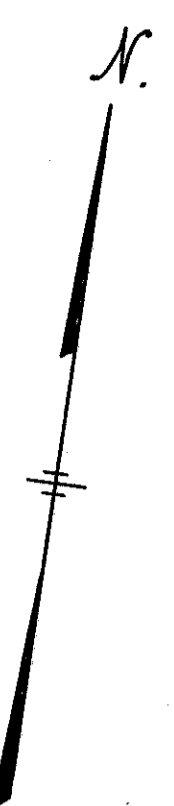
EAST 20 ST. 60'

EAST 21 ST. 60'

EAST 22 ST. 60'

EAST 21 ST. 49'

EAST 22 ST.



Compl. 8-29-58
Rev. 9-2-58
Rev. 9-16-58
Rev. 1-28-59
Rev. 7-24-62

UTILITIES INVOLVED

- THE CLEVELAND ELECTRIC ILLUMINATING CO.
- THE OHIO BELL TELEPHONE CO.
- THE EAST OHIO GAS CO.
- CITY OF CLEVELAND (WATER DEPT.)
- (LIGHT & POWER DEPT.)
- (CLEVELAND TRANSIT SYSTEM)
- (SANITARY SEWER DEPT.)

PARCEL NO.

OWNER

1 LA	DORA ROSENTHAL & HARRY ROSENTHAL
2 LA	SARAH P. THORNE, n.k.a. S.P. BOSWORTH
3 LA	HENRY H. STEELY & ANNA BELLE STEELY
4 LA	IRENE MARMATAKIS
5 LA	IRENE LOUDIANOS
6 LA	JAMES J. McHALE COMPANY
7 LA	ROBERT G. NIERNAN
8 LA	OLYMPIA LAZZARO
9 LA	HENRY I. KATZ
10 LA	TESSIE GALLETTI
11 LA	ROBERT G. NIERNAN
12 LA	WILLIAM M. KATZ & DOROTHY A. KATZ
13 LA	MORRIS LESSOWITZ
14 LA	IDA BRUML
15 LA	A. K. BRADLEY & M. K. GRAHAM
16 LA	JOSEPH C. RINI
17 LA	ABUL H. SARDAR
18 LA	FRANK LEONETTI
19 LA	STANLEY J. OLSTYN
20 LA	LILLIAN MURNEY McNALLY AKA. LILLIAN T. McNALLY
21 LA	HENRY H. STEELY
22 LA	ARTHUR R. BAIER
23 LA	RICHARD B. FREEMAN
24 LA	SINCLAIR REFINING COMPANY
25 LA	EDWARD F. HOBAN, BISHOP OF CLEVELAND
26 LA	JOSEPH TESAR, ET AL
27 LA	EDWARD F. HOBAN, BISHOP OF CLEVELAND
28 LA	CHARLOTTE A. PIERCE
31 LA	BOARD OF COUNTY COMMISSIONERS OF CUYAHOGA CO.

NOTE: For Fence Quantities See Sheet No 2

Scale: 1" = 50'

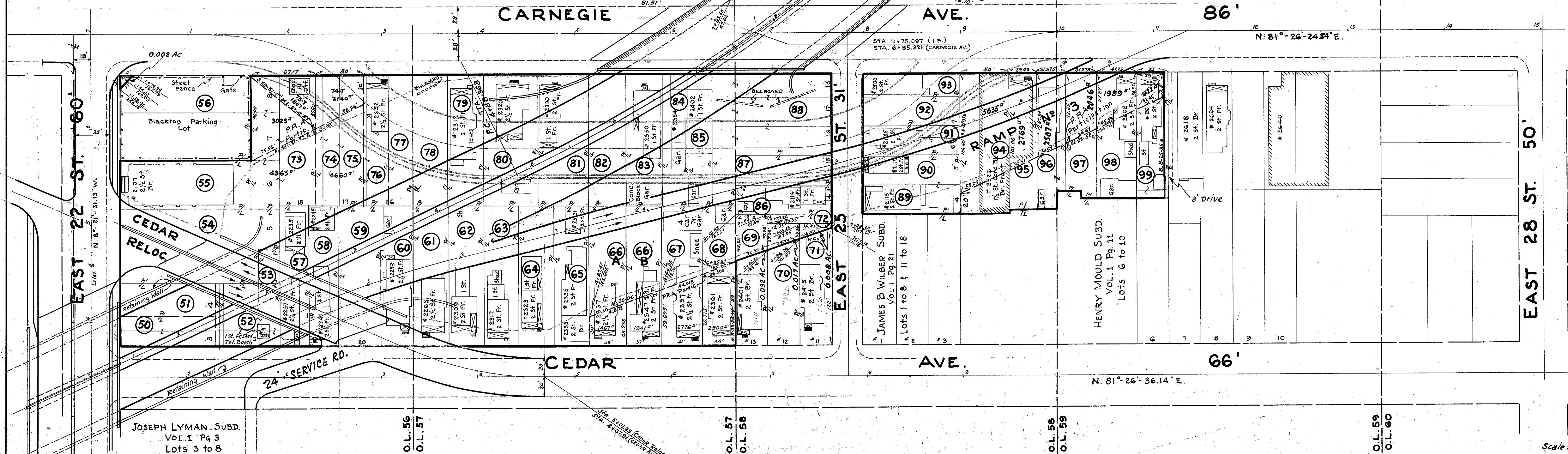
CUY. 42-18.77
CUYAHOGA COUNTY

PARCEL NO.	OWNER
50 LA	SAMUEL A. ROTH & MIRIAM S. GALE
51 LA	C. H. MOORE, Dec'd
52 LA	ROSE GARAMONE & JOSEPH GARAMONE
53 LA	
54 LA	MARY S. HELLER & ALICE S. BREMER
55 LA	GREATER CLEV. LODGE 18-LOYAL ORDER OF MOOSE
56	CLEVELAND FED. OF MUSICIANS' LOC. N° 4. A.F. OF M.
57 LA	ELIZABETH HAYNES
58 LA	MINNIE LEE WALKER, n.k.a. M.L. MATHIS
59 LA	ARTHUR MENDELSON
60 LA	GEORGE BLACK
61 LA	WILLIAM W. OLIVER
62 LA	EDDIE ASHFORD & ETHEL ASHFORD
63 LA	EDMUND W. ROTHSCHILD
64 LA	A. H. BRAMSON
65 LA	PARAMOUNT REALTY CO.
66A-LA	OLYN C. BYRD & CORA MAE BYRD
66B-LA	GEORGE DUBE
67 LA	MAWD INVESTMENT COMPANY
68 LA	ELSIE M. GILMORE LEE, ET AL
69 LA	GEORGE MATHEWS & MATTIE MATHEWS
70 LA	ALAN L. WOLFE, ET AL
71 LA	ARTHUR MILLER & LEONA MILLER
72 LA	GEORGE MATHEWS & MATTIE MATHEWS, ET AL
73 LA	THE CARNEGIE - EAST 22 ND CO. ALSO 73-T
74 LA	MICHAEL'S INCORPORATED ALSO 74-T
75 LA	"
76 LA	STEVE BIKAS
77 LA	MICHAEL'S INCORPORATED
78 LA	MICHAEL'S OLDSMOBILE CO.
79 LA	BURT WENGER
80 LA	WILLIAM E. CLEGG, ET AL.
81 LA	CALLAGHAN-BRAUN
82 LA	MICHAEL'S OLDSMOBILE CO.
83 LA	EDWARD GENOTS
84 LA	HARRY E. BAMMERLIN & MARGARET BAMMERLIN
85 LA	MARY VITO
86 LA	ELIAS HAKAL & ALYAH HAKAL
87 LA	HARRY ROSENTHAL & DORA ROSENTHAL
88 LA	OUTDOOR INVESTMENT COMPANY
89 LA	STORES REALTY CO., INC.
90 LA	"
91 LA	AGNES K. BRADLEY & MARY K. GRAHAM
92 LA	HAWKINS TRADING CO.
93 LA	HAWKINS TRADING CO.
94 LA	L. & R. REALTY COMPANY
95 LA	HECTOR G. ZOIA
96 LA	AGNES J. BRANIGAN
97 LA	GULL REALTY CO.
98 LA	ARTHUR W. RECK
99 LA	WILBUR E. LAGANKE

PARCEL NO.	OWNER
150 LA	NOT USED
151 LA	"
152 LA	"
153 LA	WELDING & CUTTING SUPPLY CO. ALSO 153-T
154 LA	NOT USED
155 LA	GEORGE R. KLEIN
156 LA	"
157 LA	"
158 LA	"
159 LA	"
160 LA	RUTH E. LUSTIG
161 LA	THE GUND REALTY COMPANY
162 LA	THE GUND CO. (OF DELAWARE)
163 LA	"
164 LA	ADOLPH WEISFELD & ANNA M. WEISFELD
165 LA	THE CLEVELAND LUTHERAN HIGH SCHOOL ASS'N
166 LA	OUTDOOR INVESTMENT CO., INC.

PROSPECT AVE. 82.5' N. 81°-26'-17.59" E.

CARNEGIE AVE. 86' N. 81°-26'-24.54" E.



Compl. 8-29-58
Rev. 9-2-58
Rev. 9-16-58
Rev. 2-11-59
Rev. 7-24-62

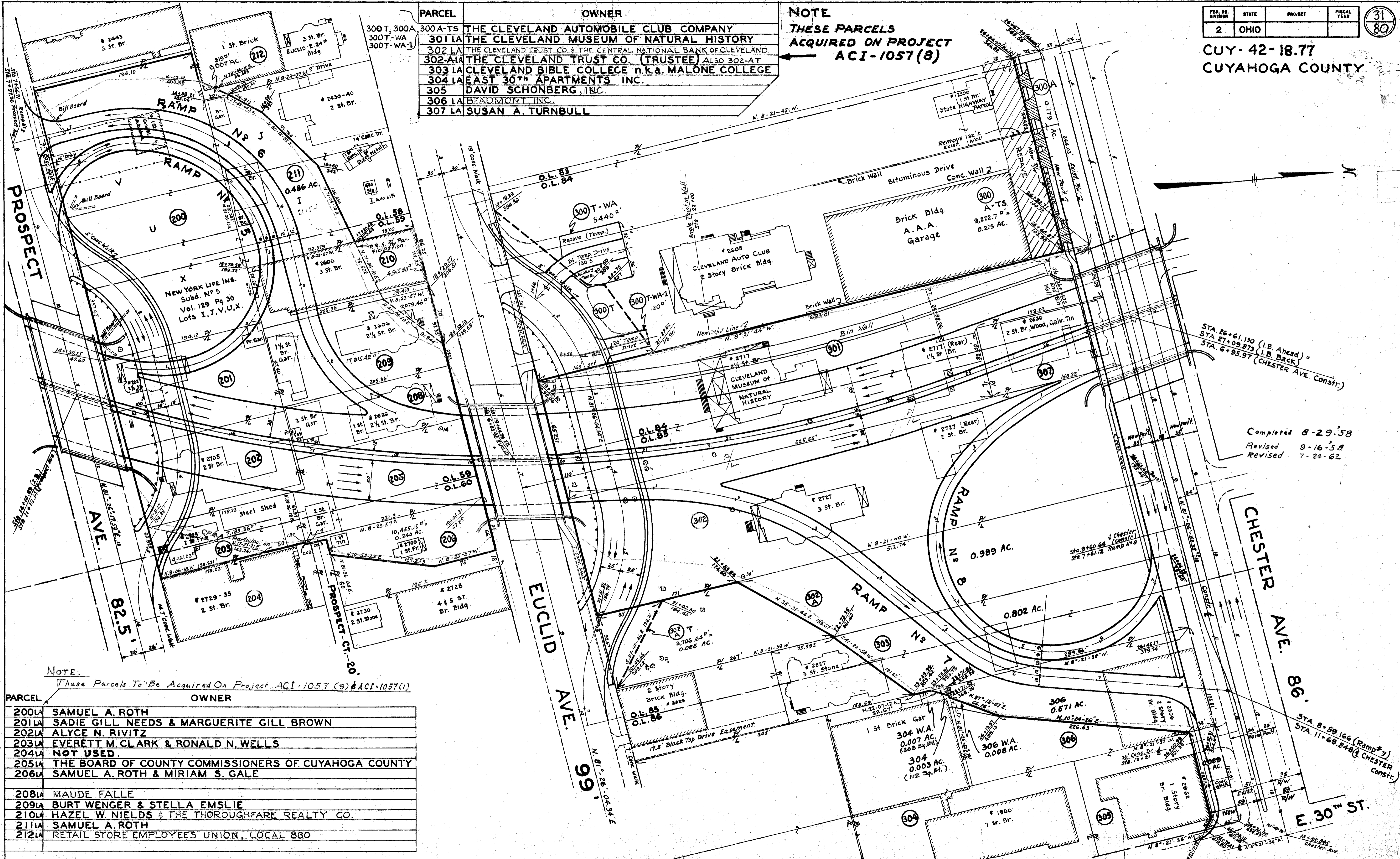
RIGHT-OF-WAY - INNERBELT - STA. 0+00 TO STA. 14+10.89 - CEDAR TO PROSPECT

Scale: 1" = 50'

CUY-42-18.77
CUYAHOGA COUNTY

PARCEL	OWNER
300 T, 300A, 300 T-WA, 300 T-WA-1	THE CLEVELAND AUTOMOBILE CLUB COMPANY
301 LA	THE CLEVELAND MUSEUM OF NATURAL HISTORY
302 LA	THE CLEVELAND TRUST CO. & THE CENTRAL NATIONAL BANK OF CLEVELAND
302-A LA	THE CLEVELAND TRUST CO. (TRUSTEE) ALSO 302-A T
303 LA	CLEVELAND BIBLE COLLEGE n.k.a. MALONE COLLEGE
304 LA	EAST 30 TH APARTMENTS INC.
305	DAVID SCHONBERG, INC.
306 LA	BEAUMONT, INC.
307 LA	SUSAN A. TURNBULL

NOTE
THESE PARCELS
ACQUIRED ON PROJECT
ACI-1057(8)



STA. 26+61.130 (I.B. Ahead) =
STA. 27+09.873 (I.B. Back)
STA. 6+95.97 (CHESTER AVE. CONST.)

Completed 8-29-58
Revised 9-16-58
Revised 7-24-62

NOTE:
These Parcels To Be Acquired On Project ACI-1057(9) & ACI-1057(1)

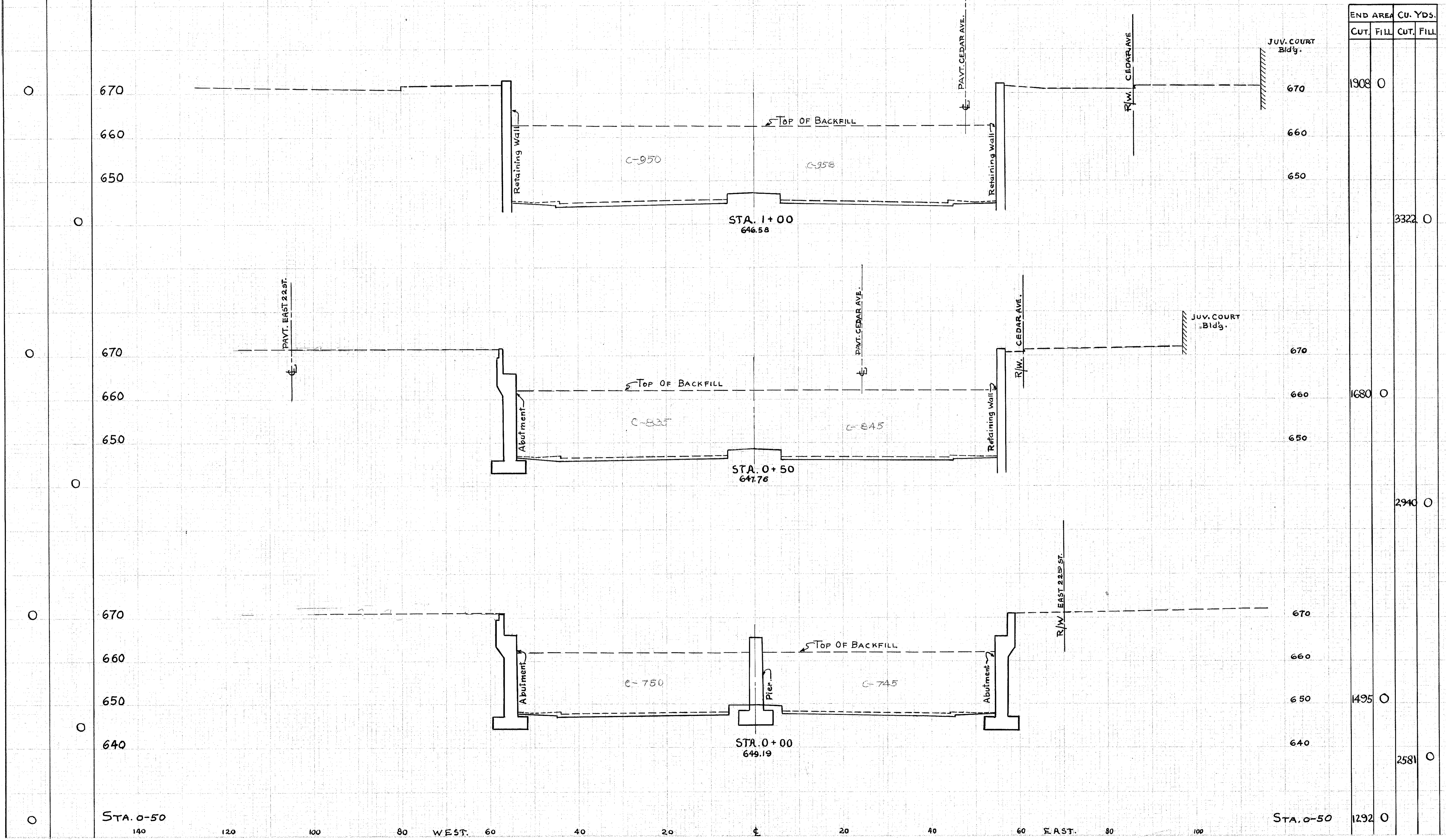
PARCEL	OWNER
200LA	SAMUEL A. ROTH
201LA	SADIE GILL NEEDS & MARGUERITE GILL BROWN
202LA	ALYCE N. RIVITZ
203LA	EVERETT M. CLARK & RONALD N. WELLS
204LA	NOT USED
205LA	THE BOARD OF COUNTY COMMISSIONERS OF CUYAHOGA COUNTY
206LA	SAMUEL A. ROTH & MIRIAM S. GALE
208LA	MAUDE FALLE
209LA	BURT WENGER & STELLA EMSLIE
210LA	HAZEL W. NIELDS & THE THOROUGHFARE REALTY CO.
211LA	SAMUEL A. ROTH
212LA	RETAIL STORE EMPLOYEES UNION, LOCAL 880

SEEDING & PROTECTING	
WIDTH.	AREA.
LIN. FT.	SQ. YDS.

DATE	SCALE	PROJECT	FILE NO.
2	ONE		

33
80

CUYAHOGA COUNTY
CUY.-42-18.77



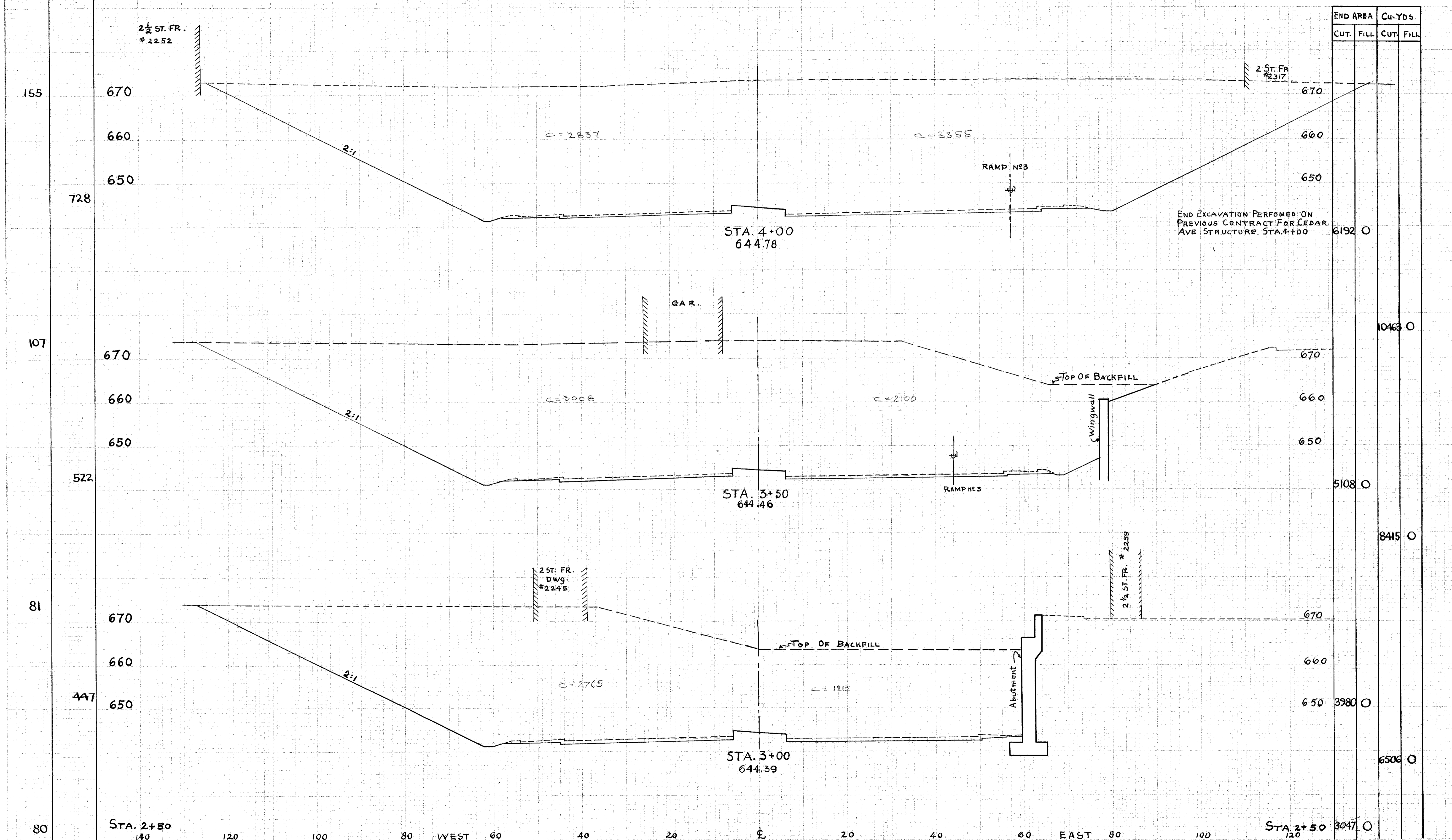
END AREA		CU. YDS.	
CUT.	FILL	CUT.	FILL
1908	0		
		3322	0
		1680	0
		2940	0
		1495	0
		2581	0
1292	0		

INNER BELT STA. 0+00 TO STA. 1+00

SEEDING & PROTECTING	
WIDTH	AREA
LIN. FT.	SQ. YDS.

2	OHIO	35	80
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CUYAHOGA COUNTY
CUY-42-18.77



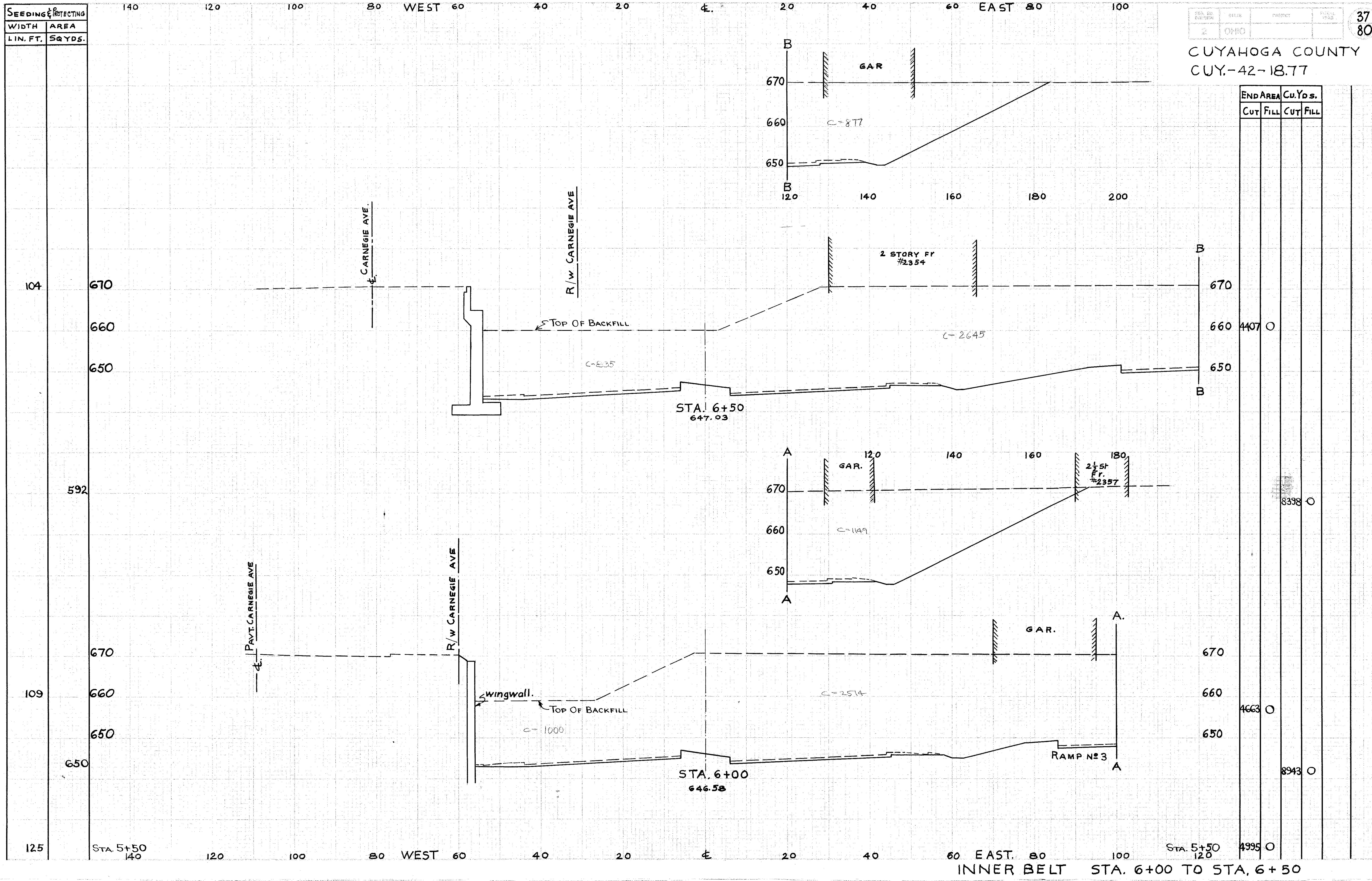
END AREA		Cu-YDS.	
CUT.	FILL	CUT.	FILL
155	670	6192	0
107	670	10463	0
522	650	5108	0
81	670	8415	0
447	650	3980	0
80	650	6506	0
3047	650	3047	0

INNER BELT STA. 3+00 TO STA. 4+00

SEEDING & PROTECTING	WIDTH	AREA
	LIN. FT.	SQ. YDS.

CUYAHOGA COUNTY
CUY.-42-18.77

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		4407	0
		8398	0
		4663	0
		8943	0
		4995	0

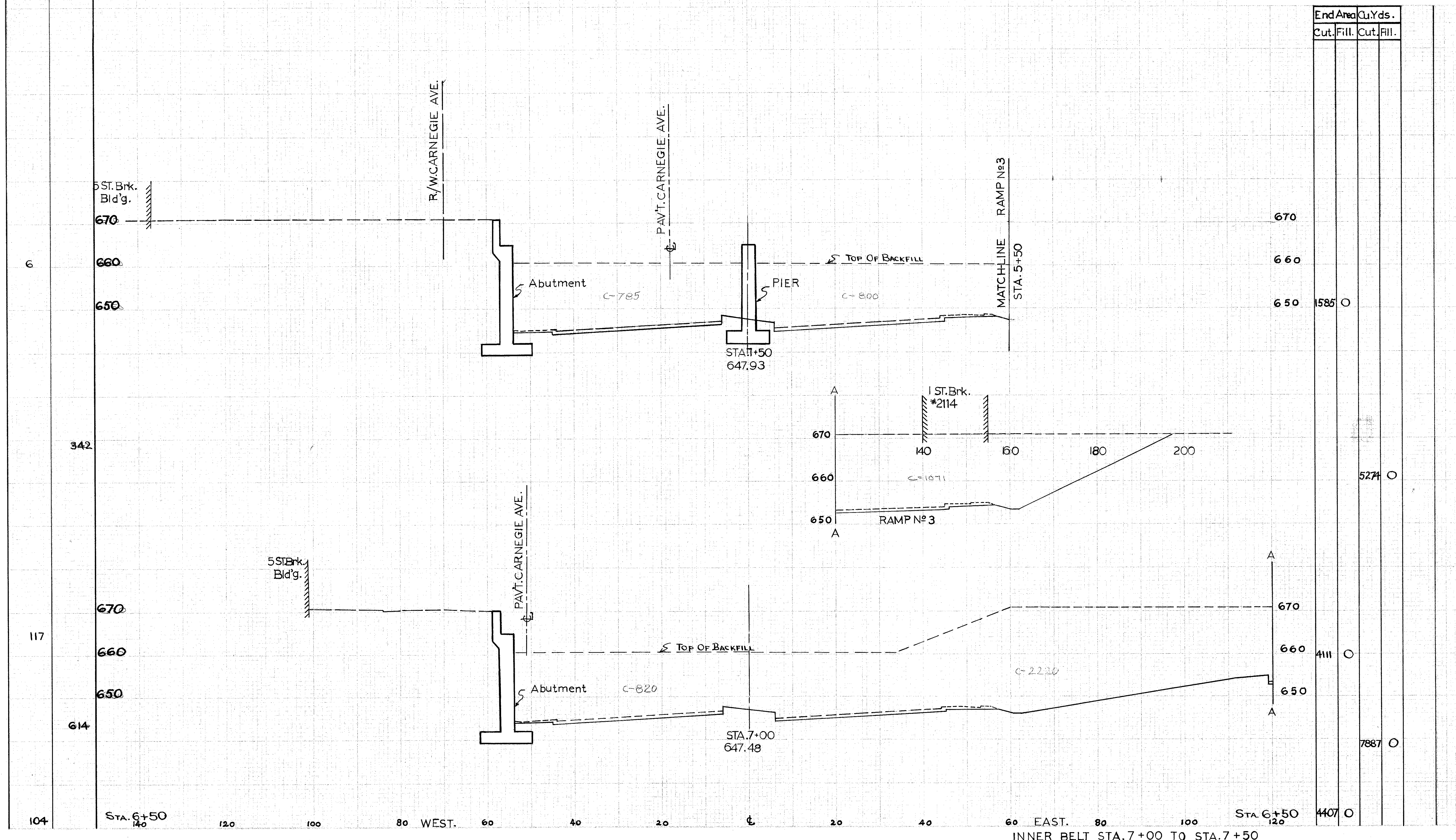
INNER BELT STA. 6+00 TO STA. 6+50

Seeding & Protecting
Width Area
Lin.Ft. Sq.Yds.

NO. OF MILEAGE	SPRT.	PROJECT	FISCAL YEAR
2	OHIO		

38
80

CUYAHOGA COUNTY
CUY.- 42-18.77



End Area		Cu. Yds.	
Cut.	Fill.	Cut.	Fill.
		1585	0
		5274	0
		4111	0
		7887	0
		4407	0

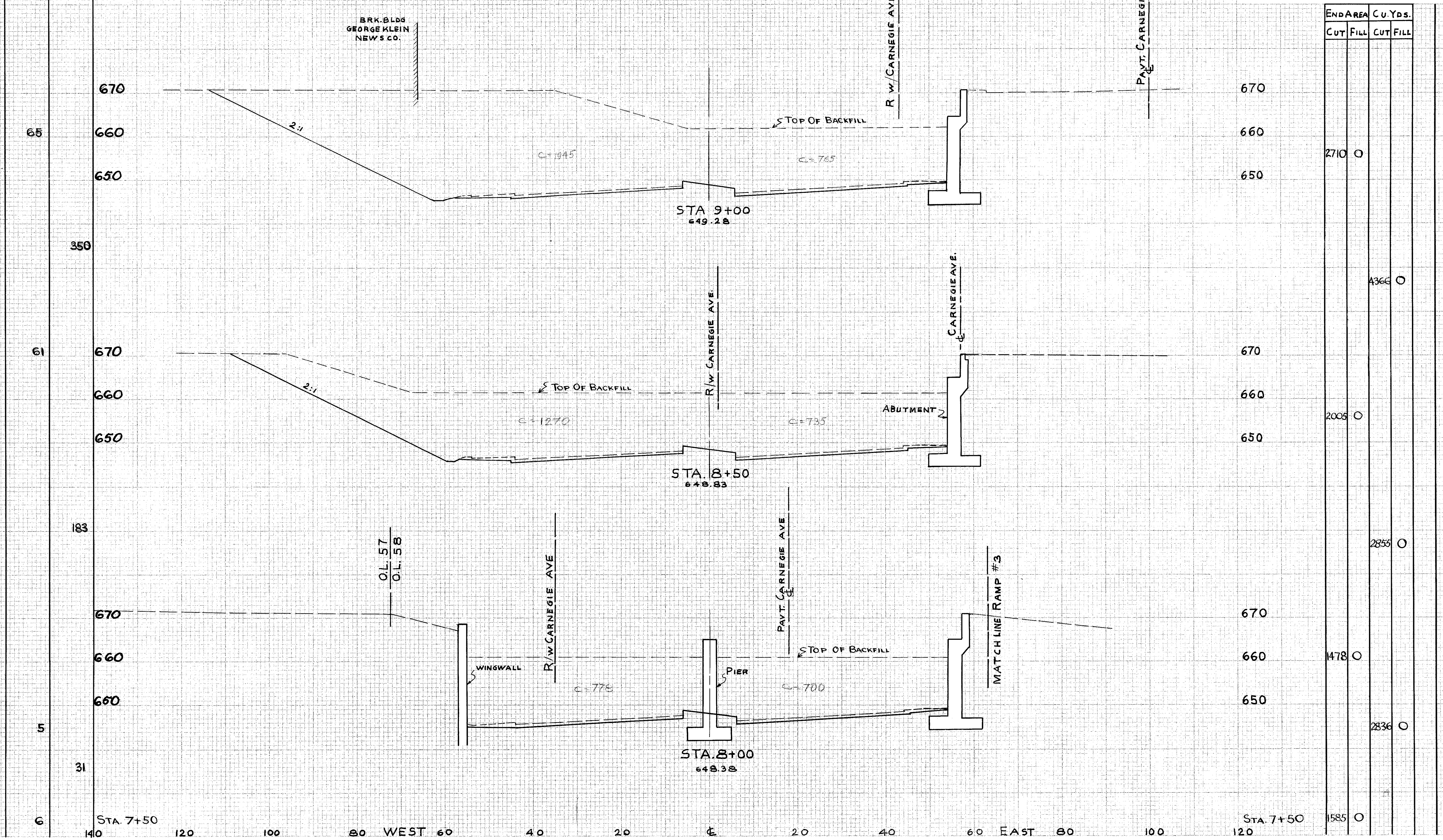
INNER BELT STA. 7+00 TO STA. 7+50

SEEDING & PROTECTING	
WIDTH	AREA
LIN. FT.	SQ. YDS.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

39
80

CUYAHOGA COUNTY
CUY-42-18.77

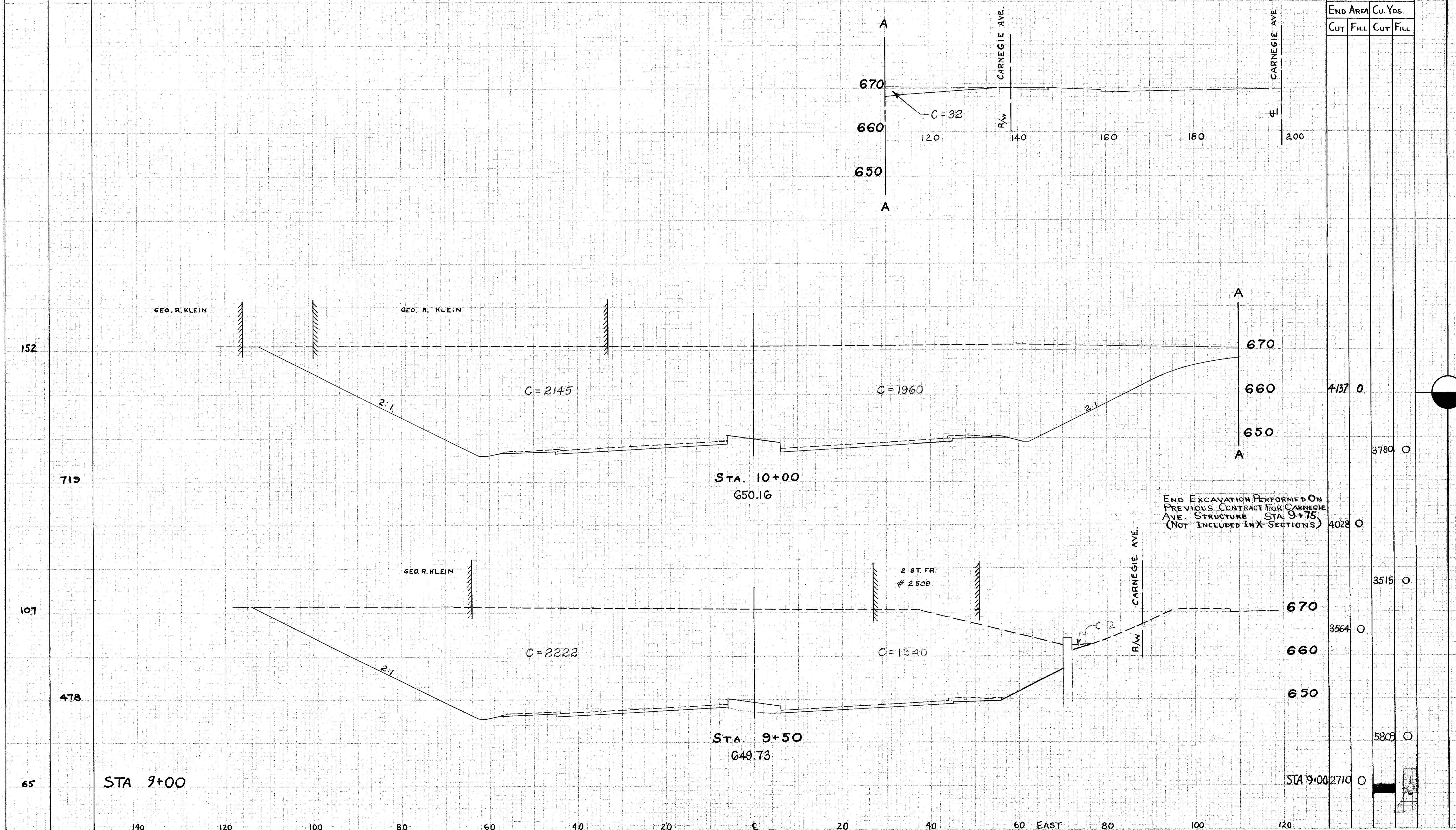


END AREA	CU. YDS.	
	CUT	FILL
2710	0	
4366	0	
2005	0	
2855	0	
1478	0	
2836	0	
1585	0	

INNER BELT STA. 8+00 TO STA. 9+00

SEEDING	PROTECTING
WIDTH	AREA
LIN. FR.	Sq. Yds.

CUYAHOGA COUNTY
 CUY.-42-18.77



END AREA		Cu. Yds.	
CUT	FILL	CUT	FILL

152							
719				4137	0		
107				3780	0		
478				4028	0		
65				3515	0		
				3564	0		
				5809	0		
				2710	0		

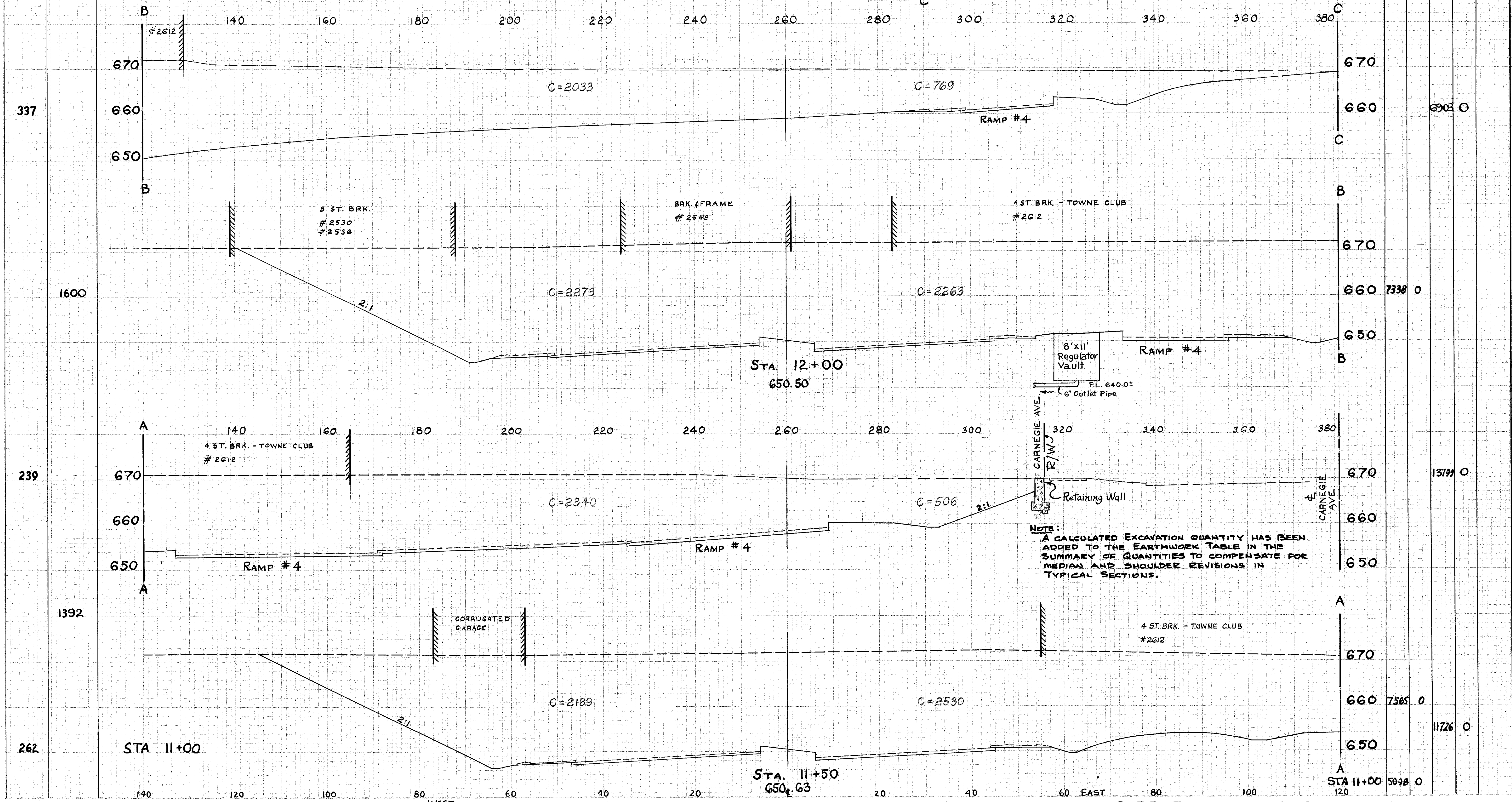
INNER BELT STA 9+50 To STA 10+00

SEEDING & PROTECTING	WIDTH	AREA
	LIN. FT.	SQ. YDS.

CUYAHOGA COUNTY
CUY-42-18.77

END AREA		Cu. Yds.	
CUT	FILL	CUT	FILL

BEGIN EXCAVATION PERFORMED ON PREVIOUS CONTRACT FOR PROSPECT AVE. STRUCTURE STA. 12+25 (NOT INCLUDED IN X-SECTIONS)



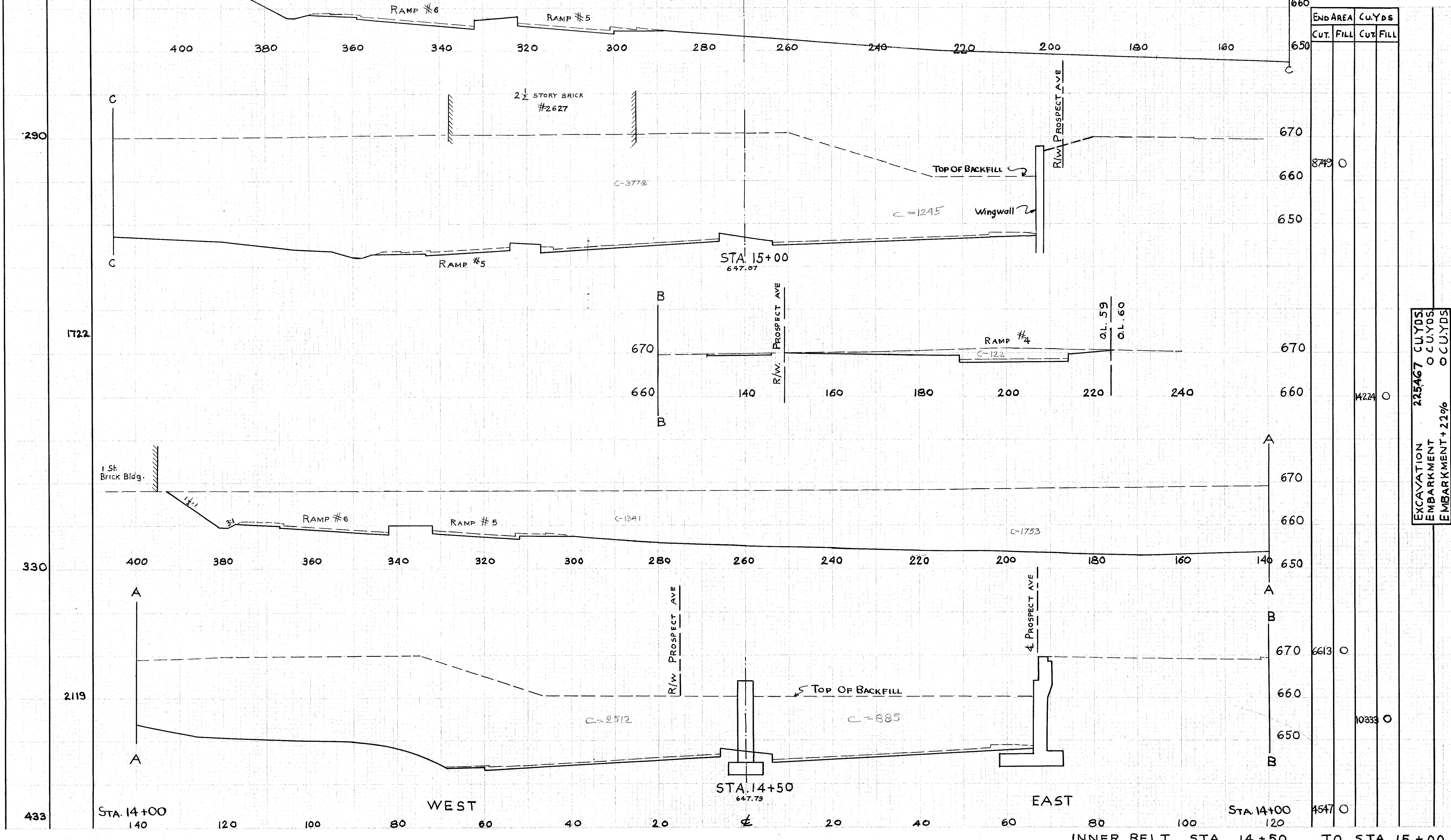
NOTE:
A CALCULATED EXCAVATION QUANTITY HAS BEEN ADDED TO THE EARTHWORK TABLE IN THE SUMMARY OF QUANTITIES TO COMPENSATE FOR MEDIAN AND SHOULDER REVISIONS IN TYPICAL SECTIONS.

END AREA		Cu. Yds.	
CUT	FILL	CUT	FILL
7573	0		
		6908	0
		7338	0
			13799
		7565	0
			11726
		5098	0

INNER BELT STA 11+50 TO STA 12+00

SEEDING	PROTECTING
WIDTH	AREA
LIN. FT.	SQ. YDS.

CUYAHOGA COUNTY.
CUY.-42-18.77.

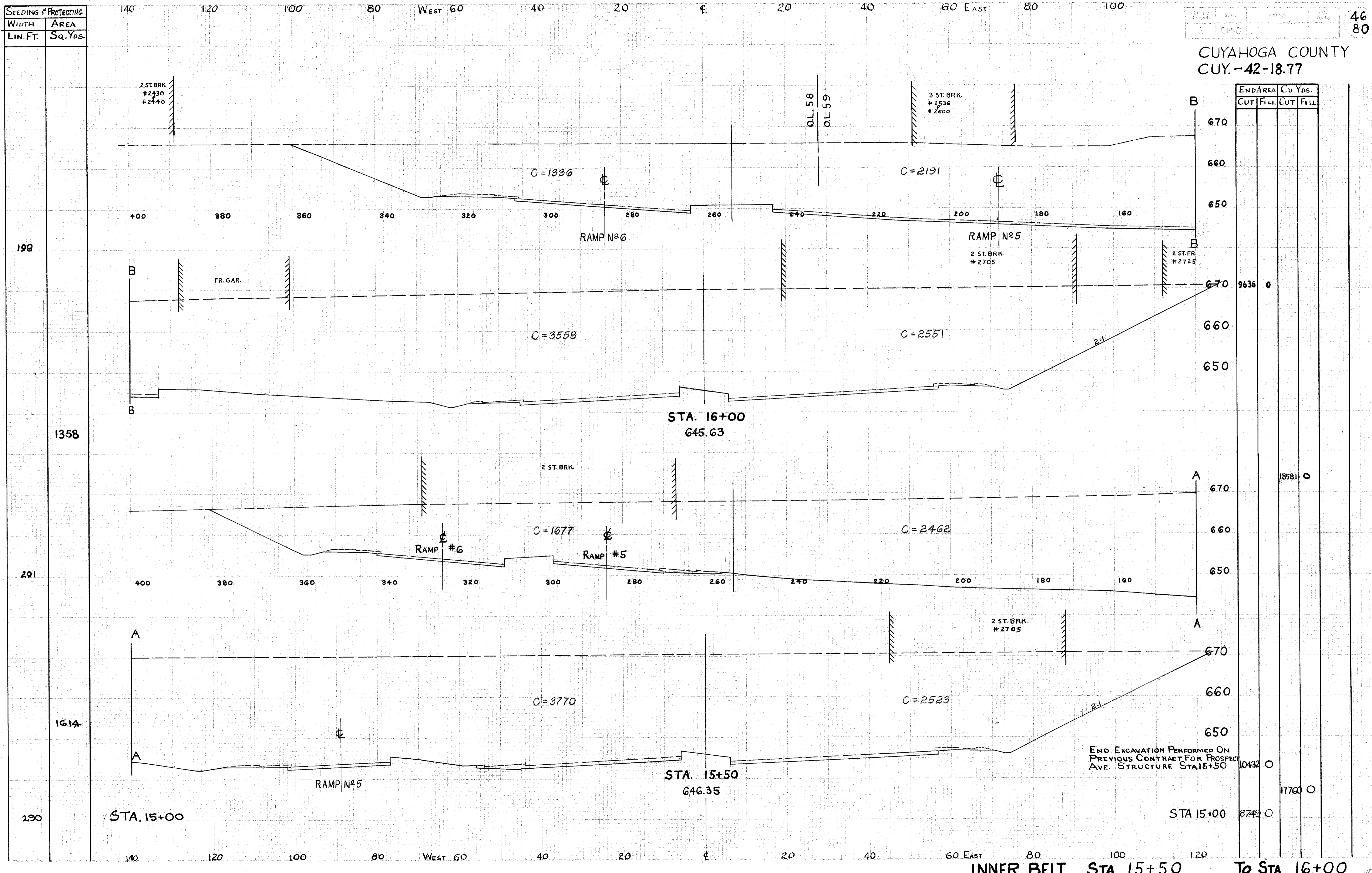


EXCAVATION 225467 CU. YDS.
EMBARKMENT 0 CU. YDS.
EMBARKMENT + 22% 0 CU. YDS.

SEEDING & PROTECTING
WIDTH AREA
LIN. FT. SQ. YDS.

NO. 2	DATE	PROJECT	46
			80

CUYAHOGA COUNTY
CUY.-42-18.77



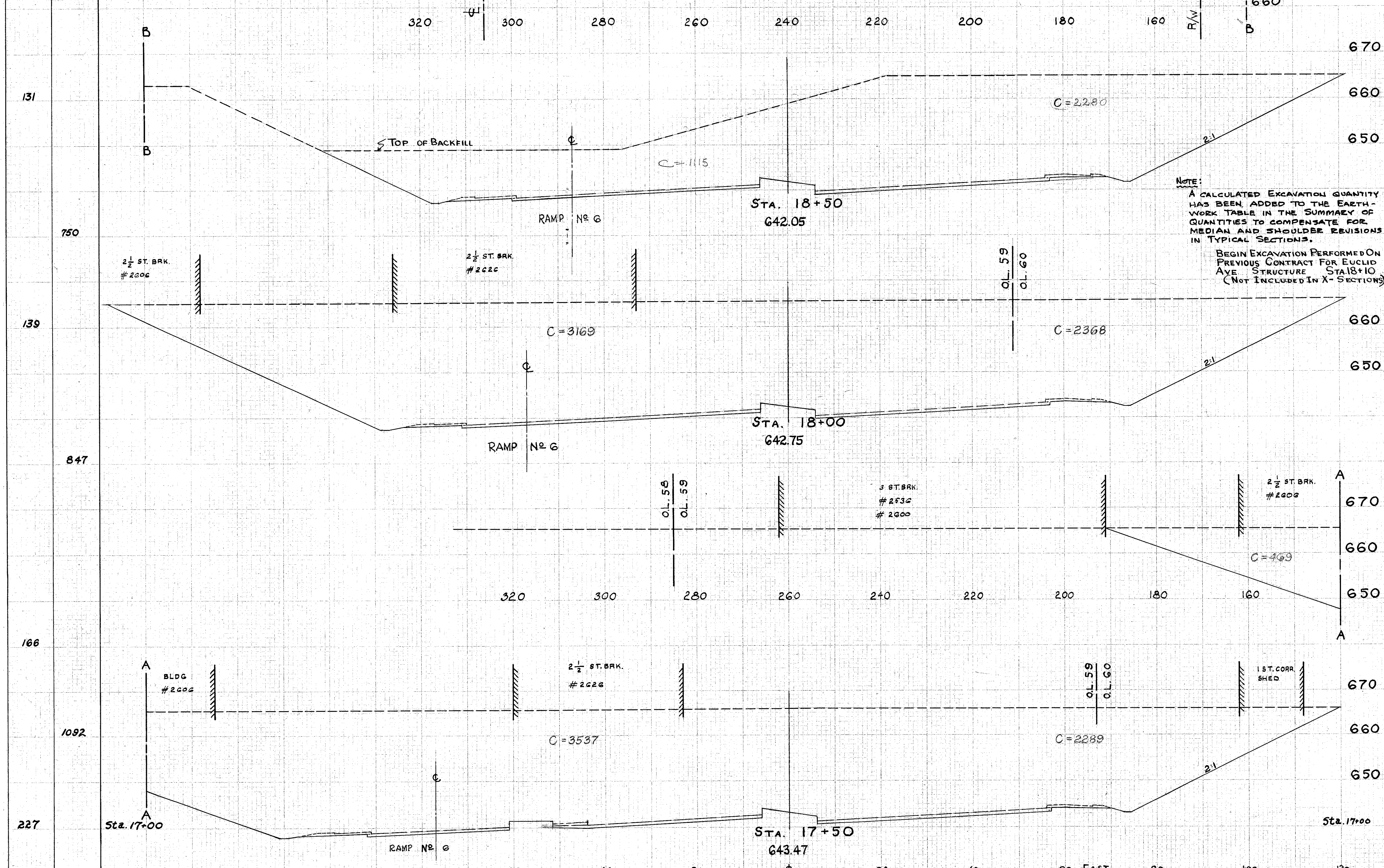
END EXCAVATION PERFORMED ON PREVIOUS CONTRACT FOR PROSPECT AVE. STRUCTURE STA 15+50

INNER BELT STA 15+50 To STA 16+00

SEEDING & PROTECTING	
WIDTH	AREA
LIN. FT.	Sq. Yds.

FILE NO.	STATE	PROJECT	TYPE	NO.
2	OHIO			48

CUYAHOGA COUNTY
CUY.-42-18.77



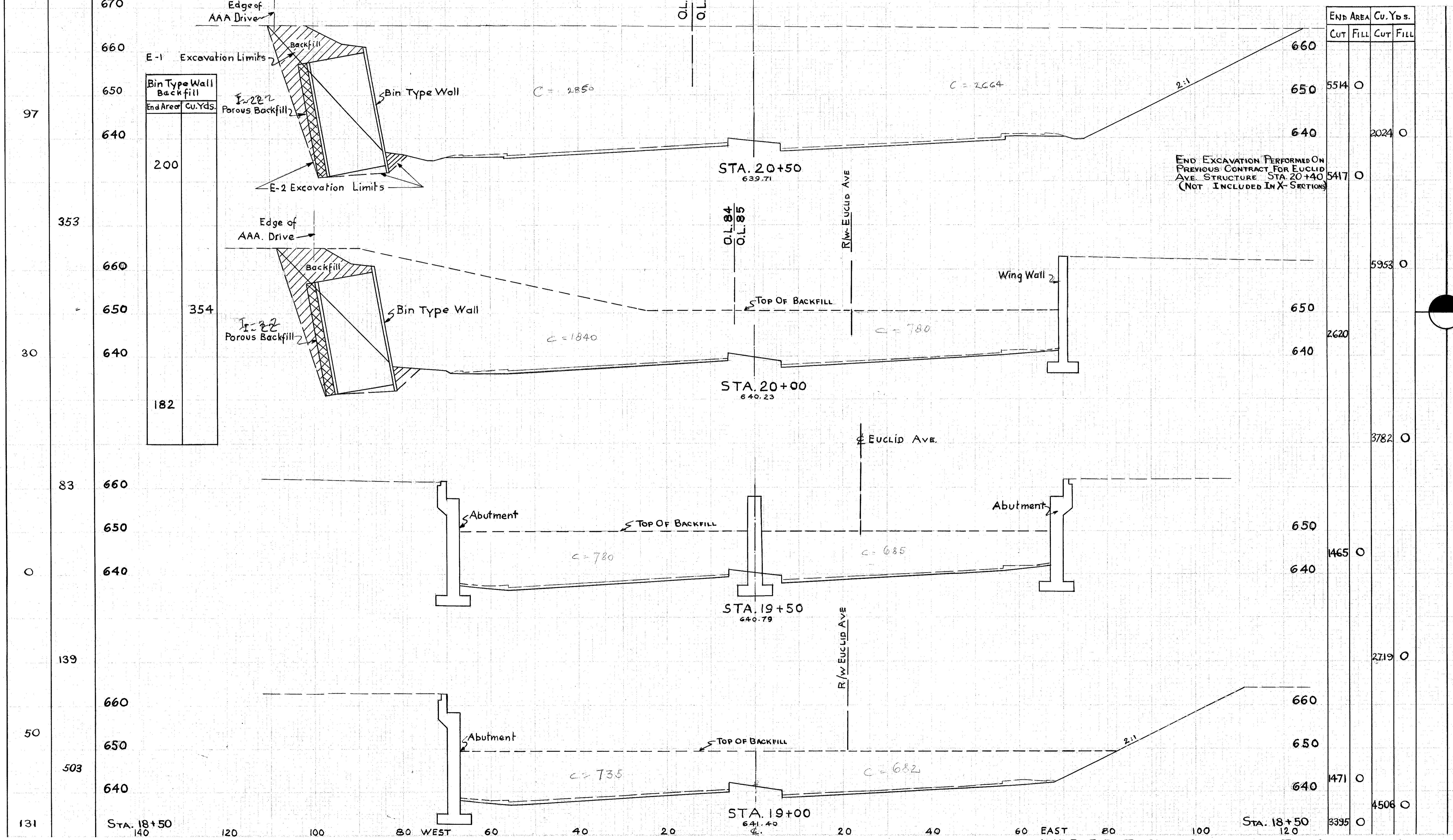
END AREA	Cu. Yds.	
	CUT	FILL
670		
660	3395	0
650		
6483		0
6483		0
6357		0
660		
2017		0
650		
5537		0
670		
10956		0
660		
6295		0
650		
13256		0
8021		0

NOTE:
A CALCULATED EXCAVATION QUANTITY HAS BEEN ADDED TO THE EARTH-WORK TABLE IN THE SUMMARY OF QUANTITIES TO COMPENSATE FOR MEDIAN AND SHOULDER REVISIONS IN TYPICAL SECTIONS.
BEGIN EXCAVATION PERFORMED ON PREVIOUS CONTRACT FOR EUCLID AVE. STRUCTURE STA. 18+10 (NOT INCLUDED IN X-SECTIONS)

INNER BELT STA 17+50 TO STA 18+50

SEEDING & PROTECTING	WIDTH	AREA
	LIN. FT.	Sq. YDS.

CUYAHOGA COUNTY
CUY.-42-18.77



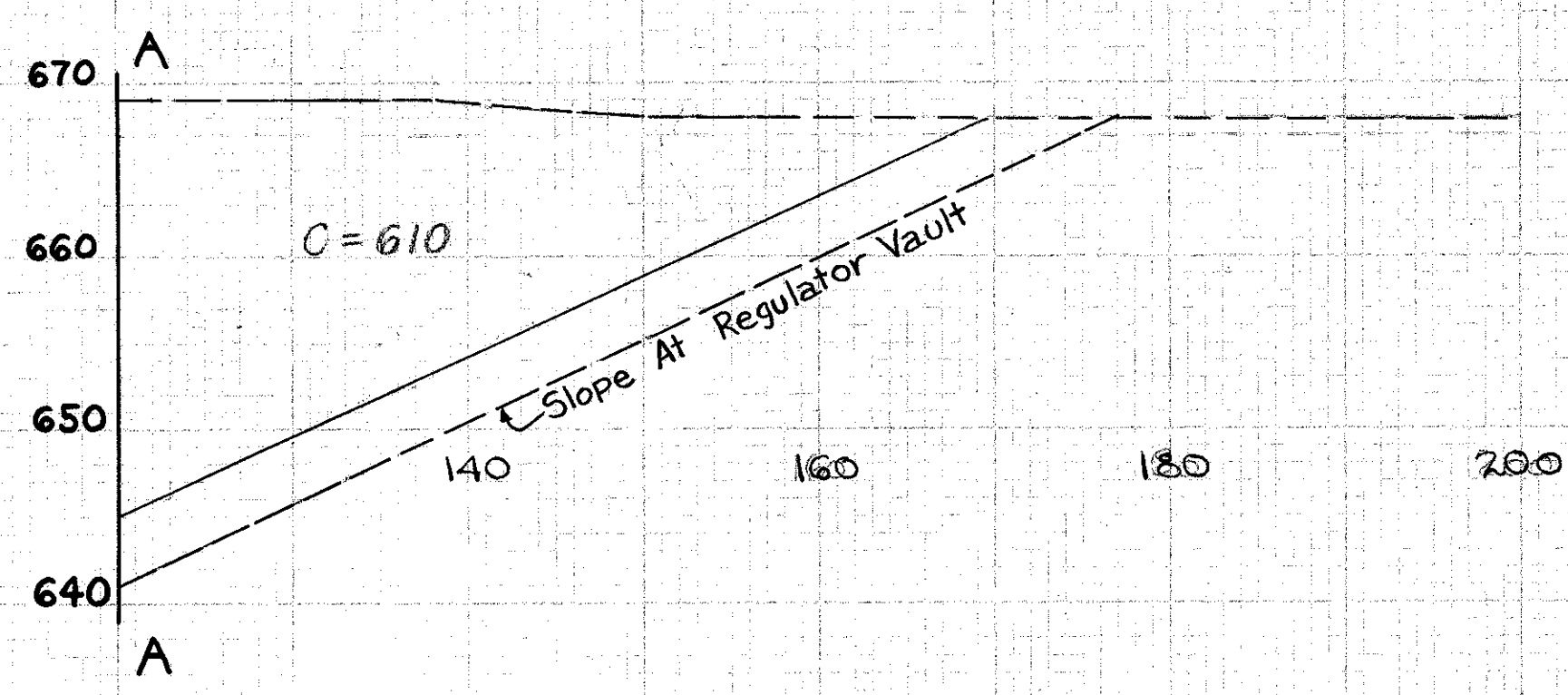
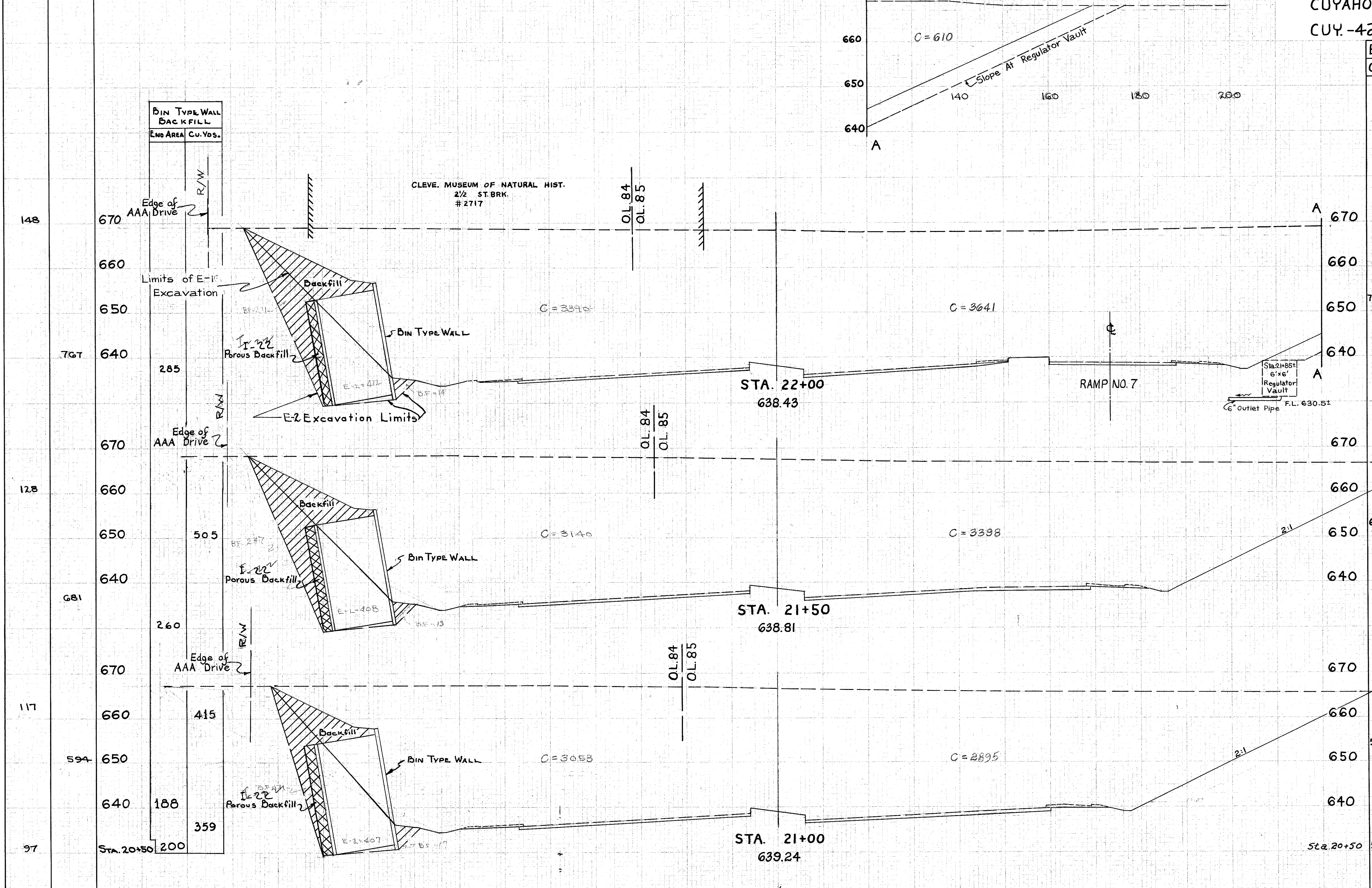
Bin Type Wall Backfill	End Area	Cu. Yds.
	200	
	354	
	182	

ELEVATION	END AREA		Cu. Yds.	
	CUT	FILL	CUT	FILL
660				
650	5514	0		
640		2024	0	
650	5417	0		
650		5953	0	
640	2620			
650		3782	0	
640	1465	0		
650		2719	0	
640	1471	0		
640		4506	0	
640	3395	0		

END EXCAVATION PERFORMED ON PREVIOUS CONTRACT FOR EUCLID AVE. STRUCTURE STA. 20+40 (NOT INCLUDED IN X-SECTIONS)

INNER BELT STA. 19+00 TO STA. 20+50

SEEDING & PROTECTING	WIDTH	AREA
	LIN. FT.	Sq. Yds.



END AREA	Cu. Yds.
CUT	FILL

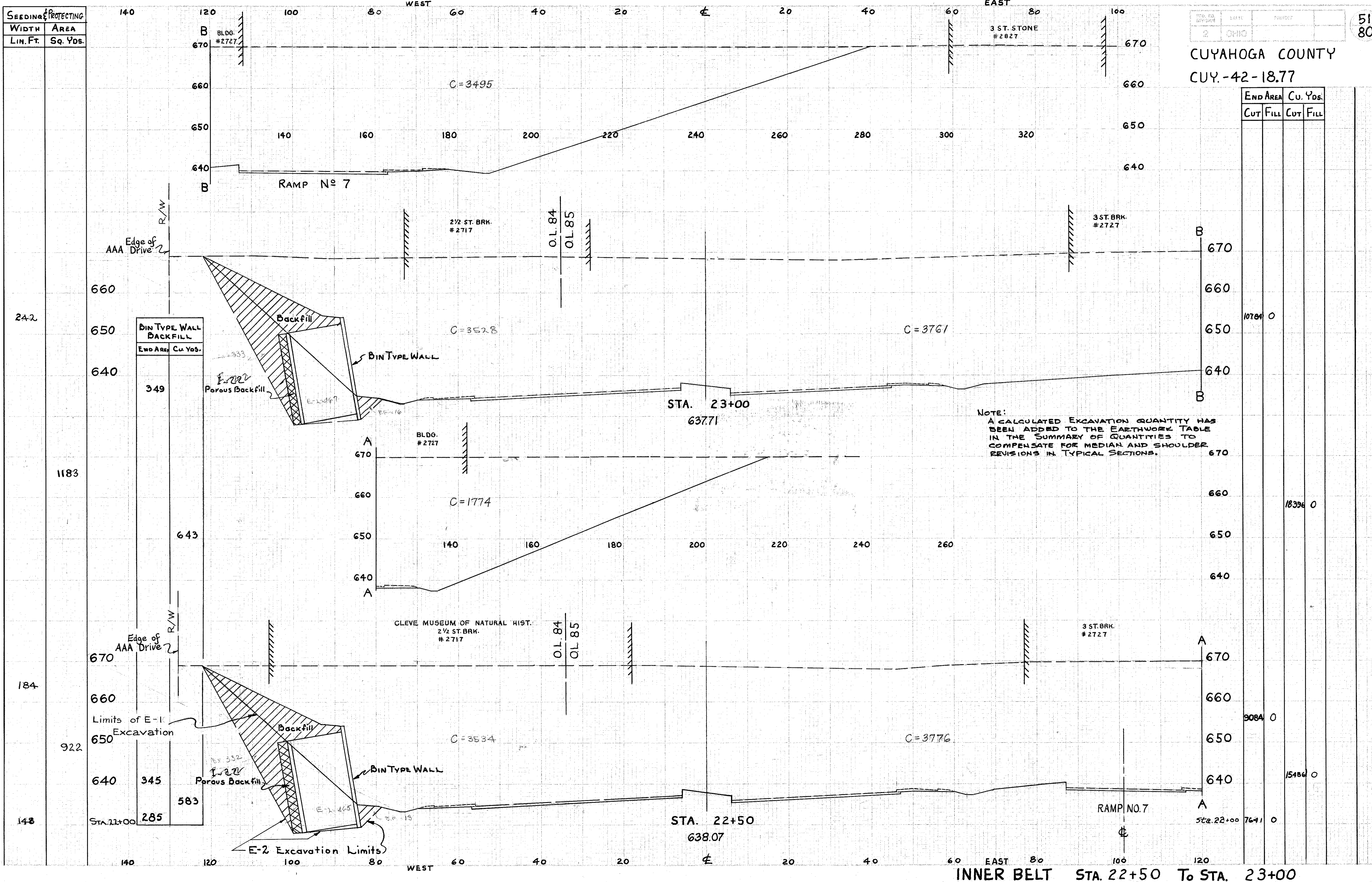
7641	0
13129	0
6538	0
11561	0
5948	0
10613	0
5514	0

INNER BELT STA. 21+00 To STA. 22+00

SEEDING	PROTECTING
WIDTH	AREA
LIN. FT.	SQ. YDS.

CUYAHOGA COUNTY
CUY.-42-18.77

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL



NOTE:
A CALCULATED EXCAVATION QUANTITY HAS BEEN ADDED TO THE EARTHWORK TABLE IN THE SUMMARY OF QUANTITIES TO COMPENSATE FOR MEDIAN AND SHOULDER REVISIONS IN TYPICAL SECTIONS.

BIN TYPE WALL BACKFILL	
END AREA	CU. YDS.
349	

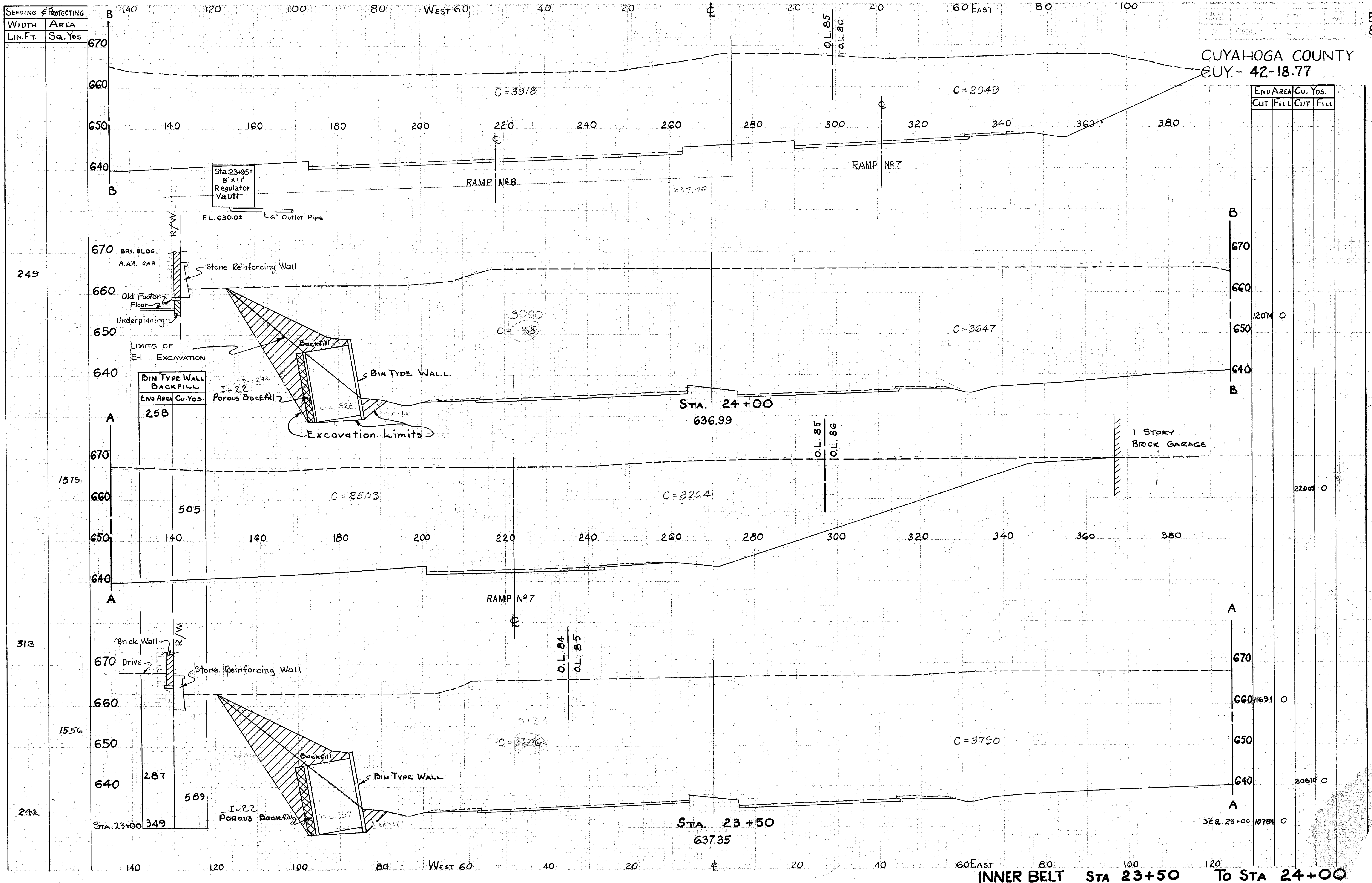
BIN TYPE WALL BACKFILL	
END AREA	CU. YDS.
643	

BIN TYPE WALL BACKFILL	
END AREA	CU. YDS.
345	583
285	

END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
		10784	0
		18396	0
		9084	0
		15486	0
		7641	0

INNER BELT STA. 22+50 To STA. 23+00

SEEDING & PROTECTING	WIDTH	AREA
LIN. FT.	Sq. Yds.	

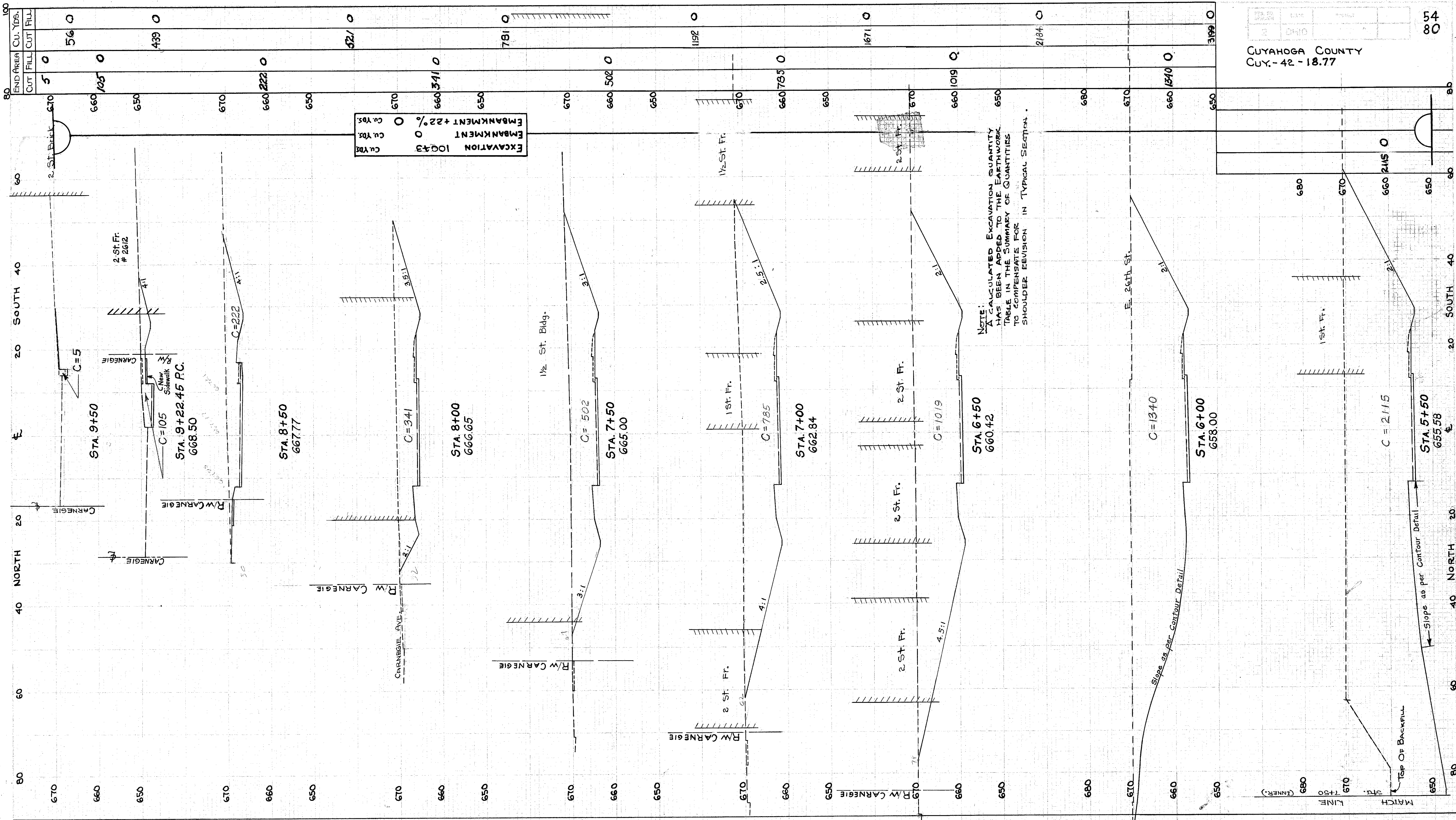


END AREA		Cu. Yds.	
CUT	FILL	CUT	FILL

12074	0	22009	0
11691	0	20810	0
568	10784		

INNER BELT STA 23+50 To STA 24+00

SEEDING & PROTECTING	WIDTH AREA	END AREA	CUT	FILL	CUT	FILL
Lin. Ft.	Sq. Yds.	Cu Yds.	Cu Yds.	Cu Yds.	Cu Yds.	Cu Yds.
15	97	56	0	0	5	0
20	147	439	0	0	105	0
33	247	521	0	0	222	0
56	375	781	0	0	341	0
79	492	1192	0	0	502	0
98	578	1671	0	0	765	0
110	653	2184	0	0	1019	0
125	686	3199	0	0	1340	0
122					2115	0



CUYAHOGA COUNTY
CUY.-42-18.77

54
80

RAMP #3 STA. 5+50 TO 9+50

0.13

CUY-90-16.74 ±

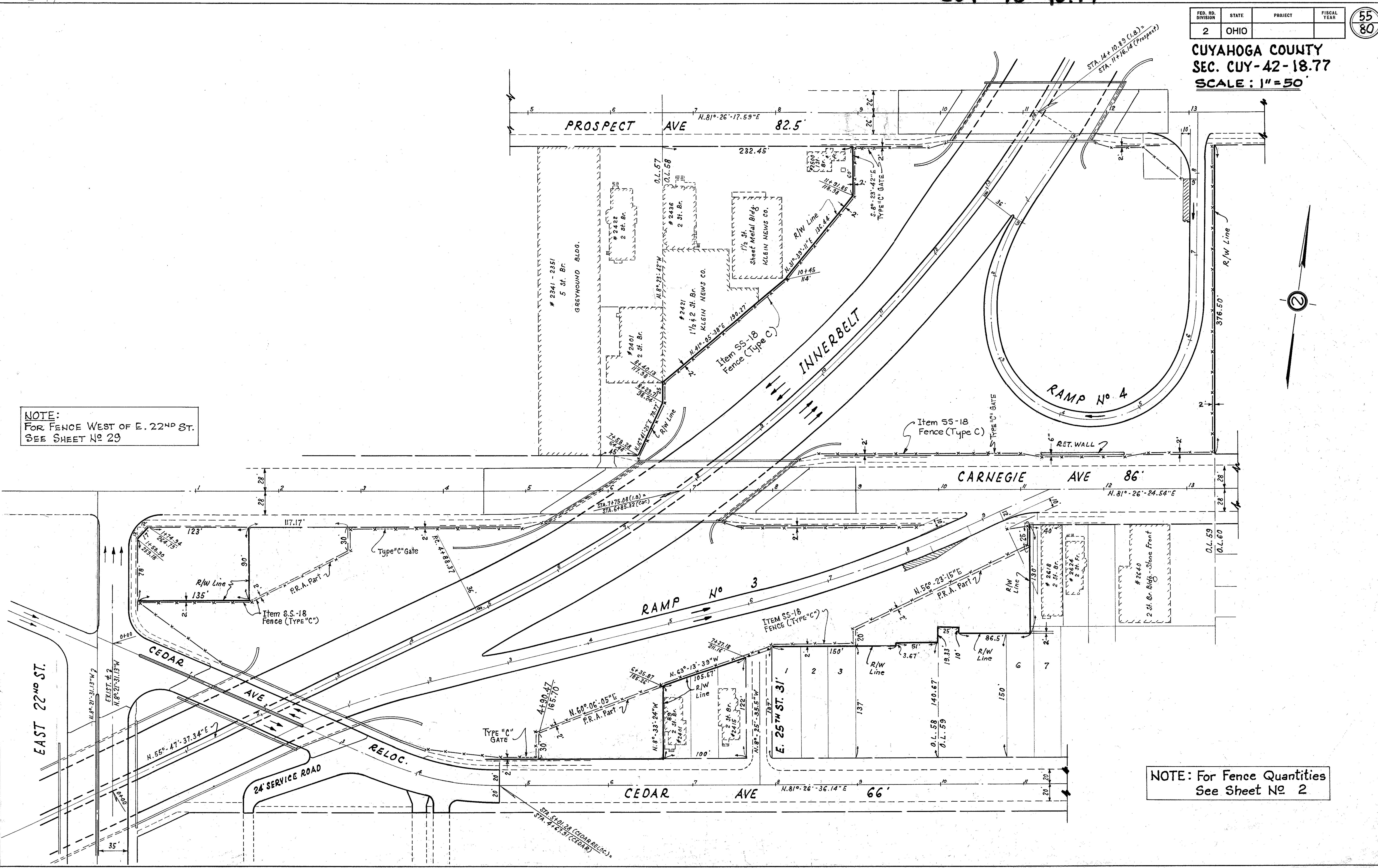
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

55
80

CUYAHOGA COUNTY
 SEC. CUY-42-18.77
 SCALE: 1" = 50'

NOTE:
 FOR FENCE WEST OF E. 22ND ST.
 SEE SHEET NO 29

NOTE: For Fence Quantities
 See Sheet No 2



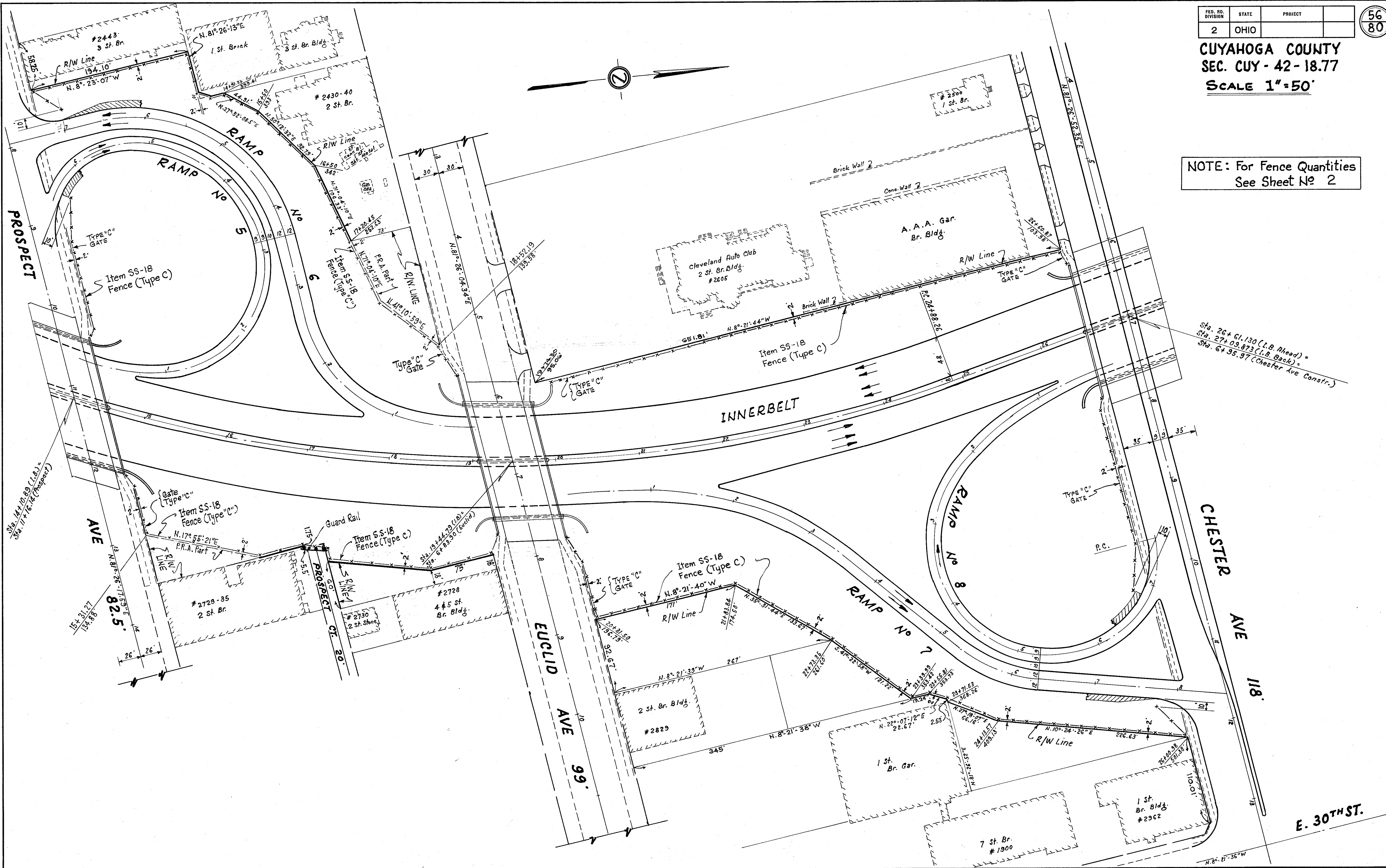
DETAILED FENCE LAYOUT- INNERBELT- from E. 22ND ST. & CEDAR AVE to PROSPECT AVE

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

56
80

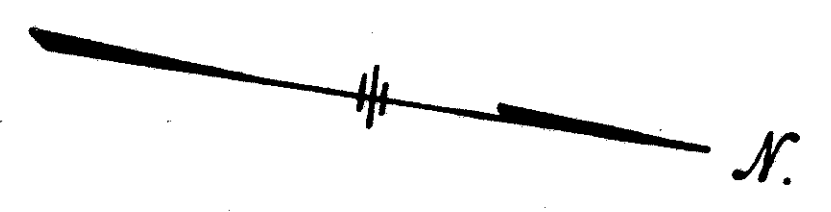
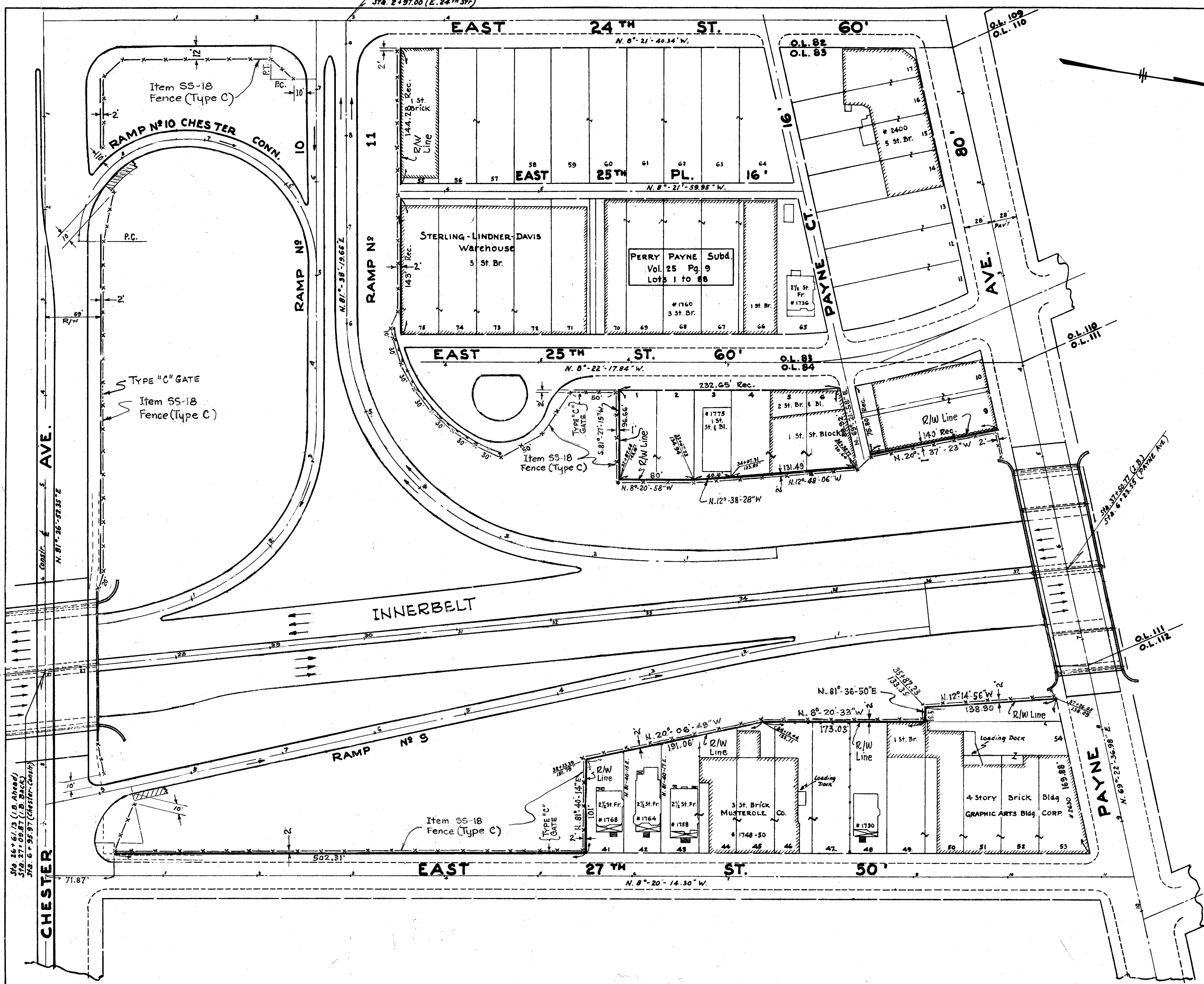
CUYAHOGA COUNTY
SEC. CUY - 42 - 18.77
SCALE 1"=50'

NOTE: For Fence Quantities
See Sheet No 2



DETAILED FENCE LAYOUT - INNERBELT- from PROSPECT AVE to CHESTER AVE

CUY. 42-18.77
CUYAHOGA COUNTY



NOTE: For Fence Quantities
See Sheet No 2

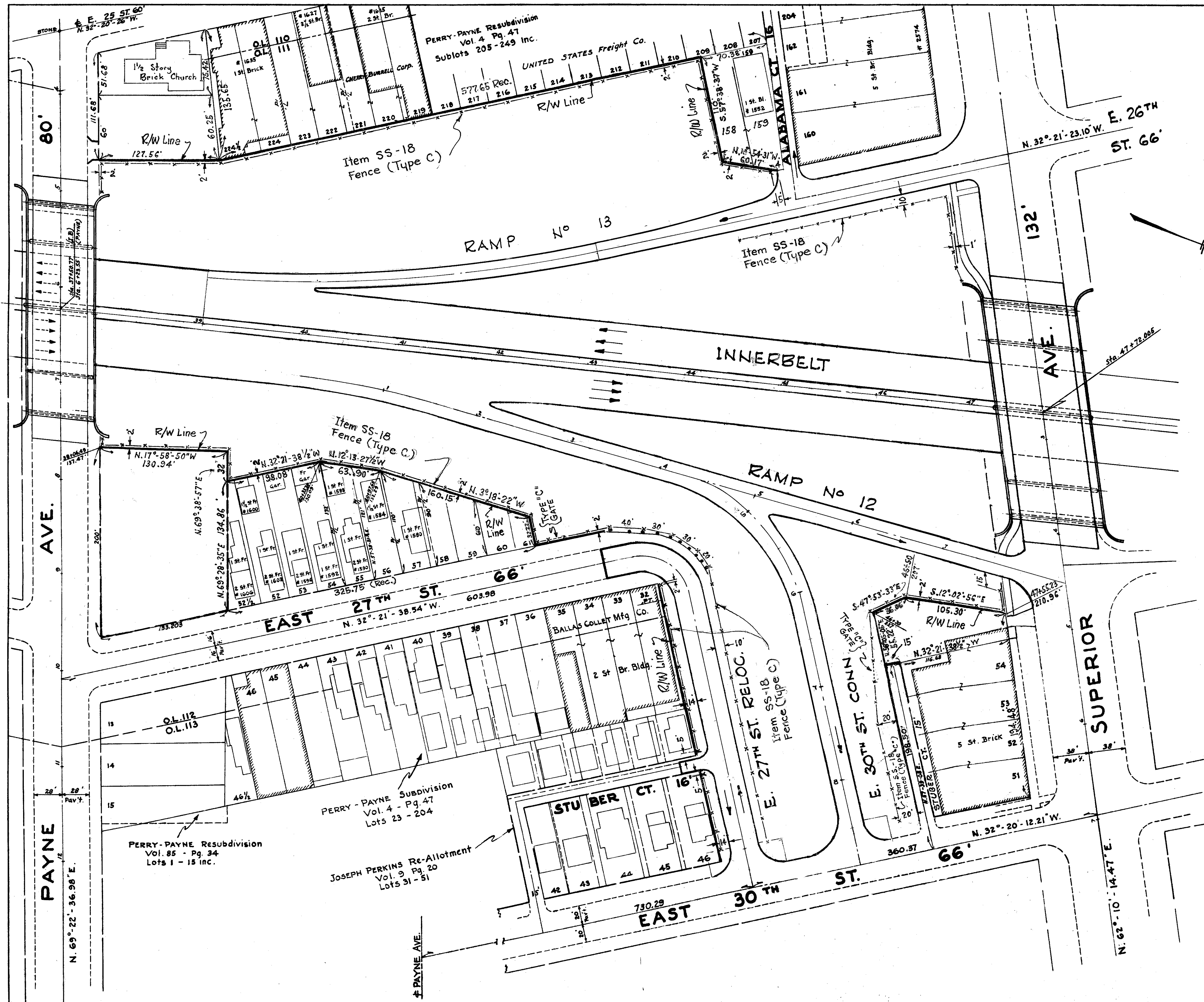
SCALE: 1" = 50'

DETAILED FENCE LAYOUT — INNERBELT — STA. 26+61.13 TO STA. 37+50.77 CHESTER TO PAYNE AVE.

FED. NO. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

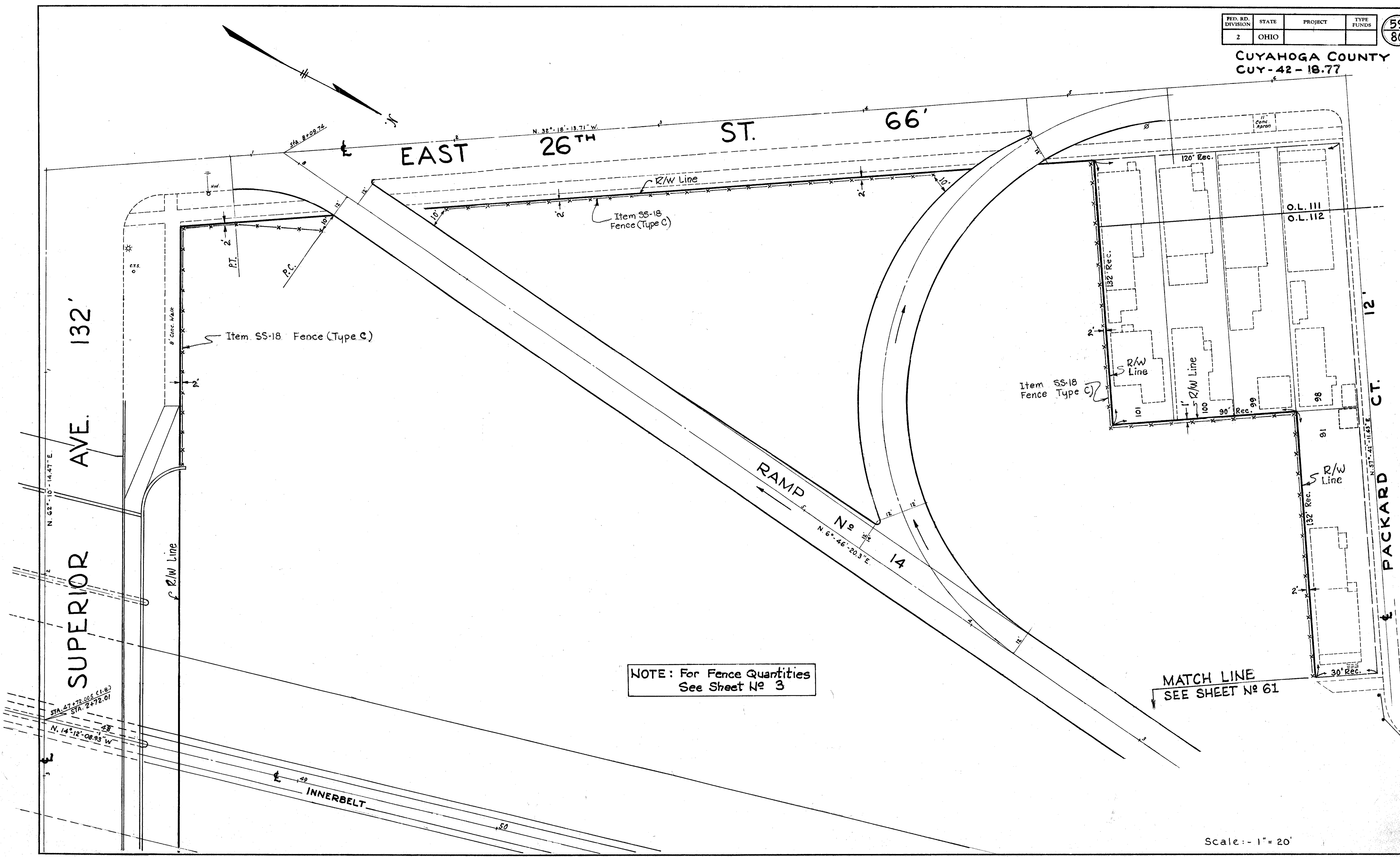
58
80

CUYAHOGA COUNTY
CUY. 42-18.77



NOTE: For Fence Quantities
See Sheet No 2

Scale: 1" = 50'



NOTE: For Fence Quantities
See Sheet No 3

MATCH LINE
SEE SHEET No 61

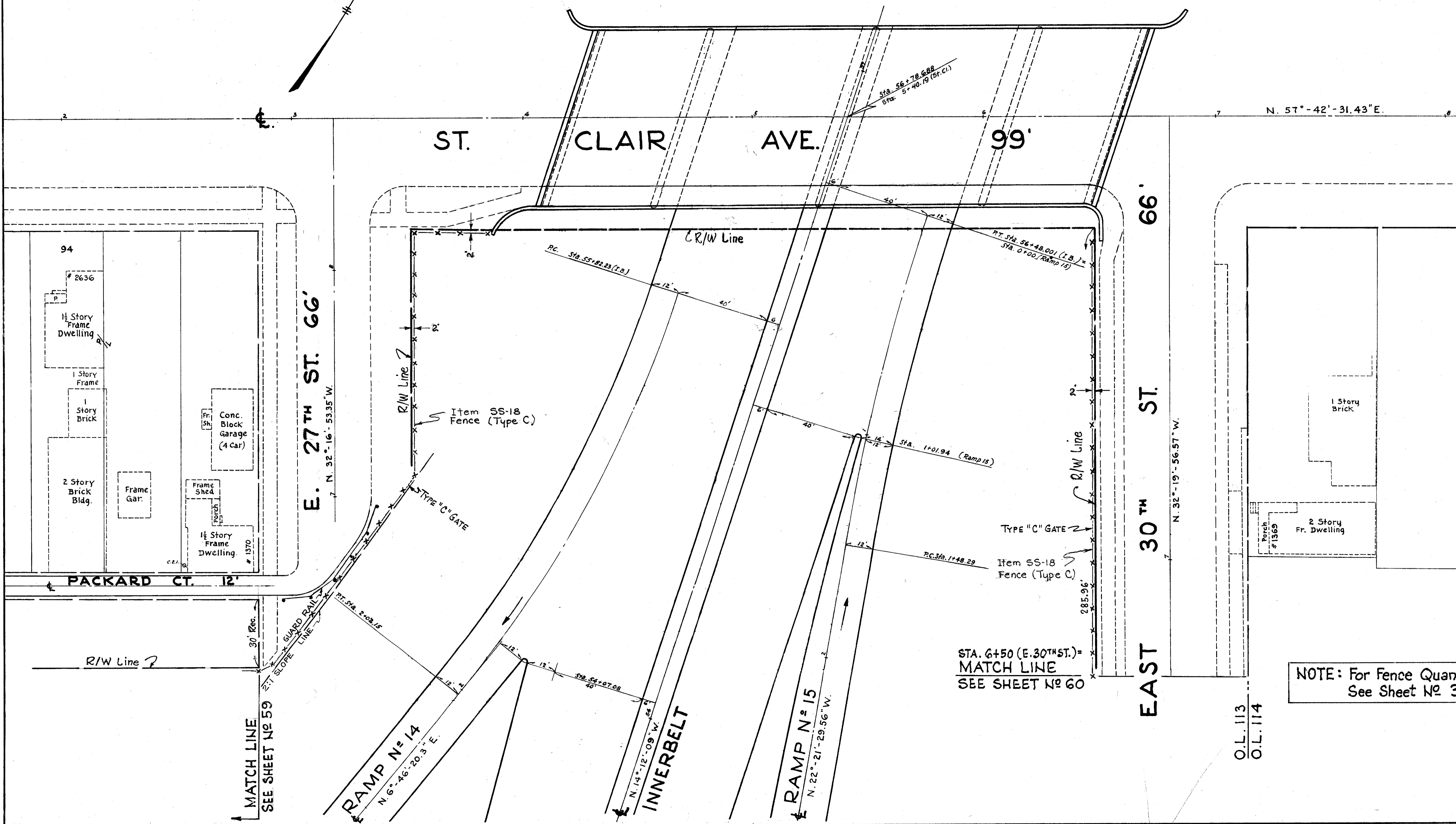
Scale: - 1" = 20'

DETAILED FENCE LAYOUT — INNERBELT — STA. 47+72.005 TO STA. 49+60.683 — RAMP No 14

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

61
80

CUYAHOGA COUNTY
 CUY- 42-18.77
 SCALE: 1" = 20'



NOTE: For Fence Quantities
 See Sheet No 3

DETAILED FENCE LAYOUT - INNERBELT - STA. 54+00 ± TO STA. 56+76.668

HAMILTON

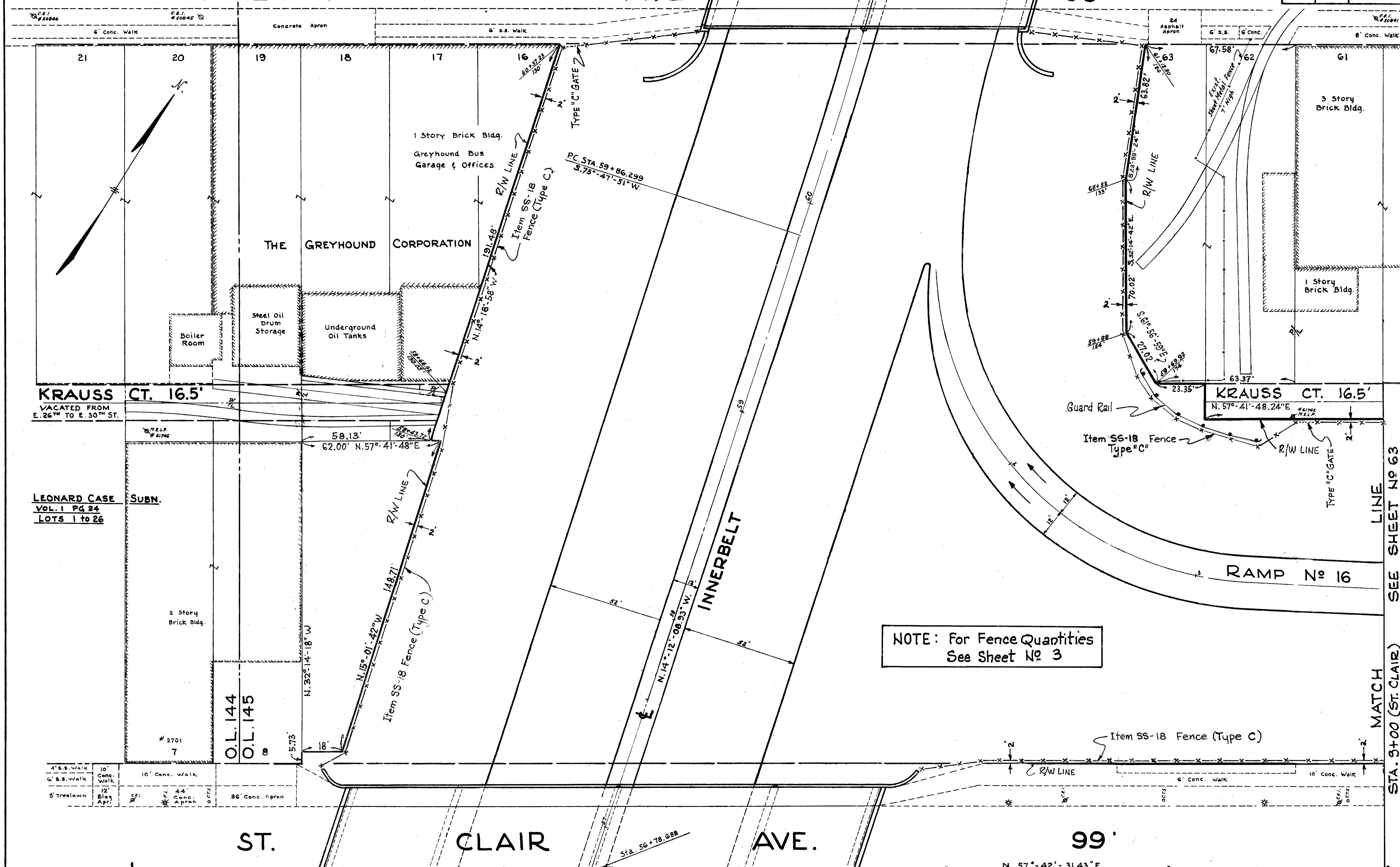
N. 57°-41'-23.45"E

AVE.

66'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

62
80



THE GREYHOUND CORPORATION

1 Story Brick Bldg.
Greyhound Bus
Garage & Offices

3 Story
Brick Bldg.

1 Story
Brick Bldg.

KRAUSS CT. 16.5'

VACATED FROM
E. 26TH TO E. 30TH ST.

LEONARD CASE
VOL. 1 PG 24
LOTS 1 to 26

O.L. 144
O.L. 145

ST.

CLAIR

AVE.

99'

N. 57°-42'-31.43"E

NOTE: For Fence Quantities
See Sheet No 3

LINE
MATCH
SEE SHEET NO 63
STA. 5+00 (ST. CLAIR)

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

63
80

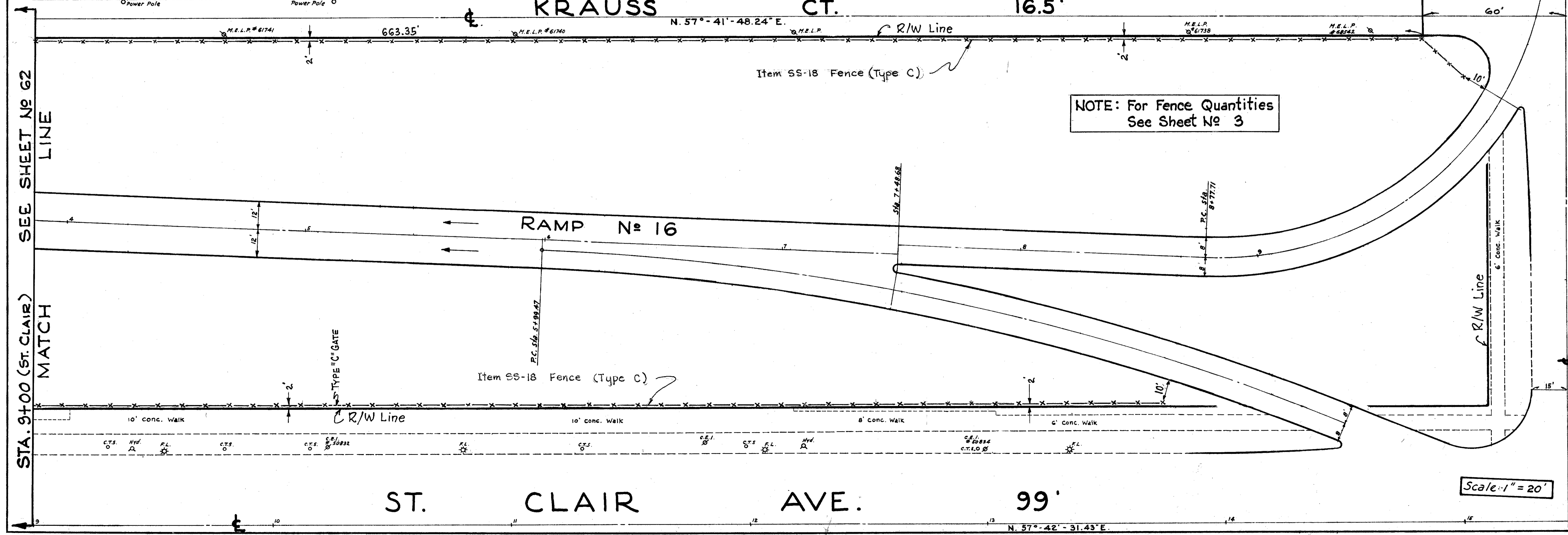
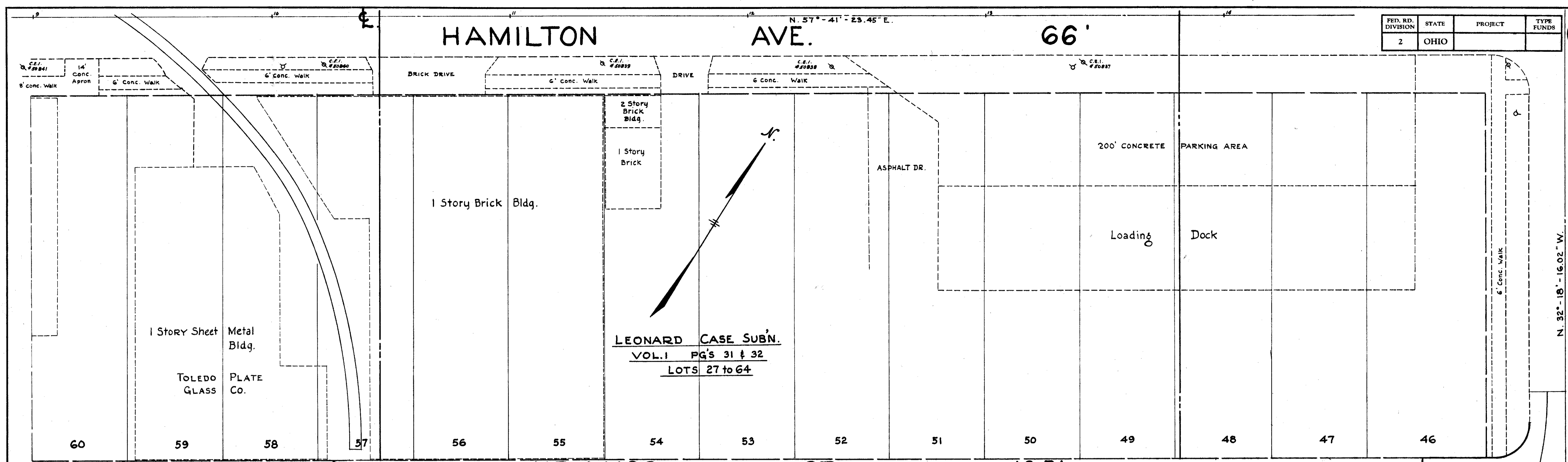
66' CUYAHOGA COUNTY
CUY - 42-18.77

N. 32°-18'-16.02" W.

ST.

33 RD

EAST



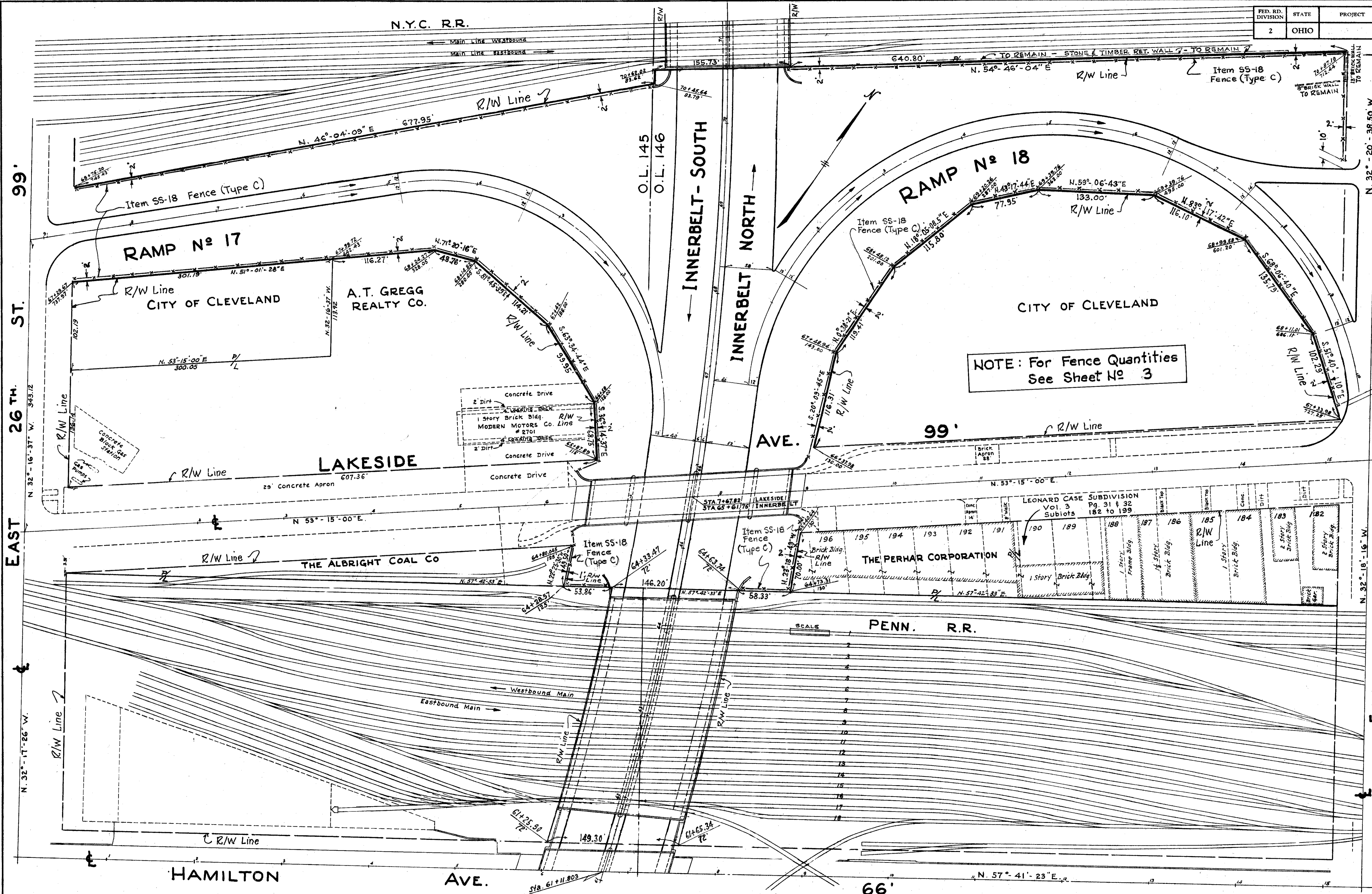
DETAILED FENCE LAYOUT - INNERBELT - RAMP No 16 (EAST 33RD ST. TO EAST 30TH ST.)

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

64
80

END WORK
STA. 70+86

CUYAHOGA COUNTY
CUY-42-18.77



99'
ST.
26 TH.
EAST
N. 32°-16'-37" W. 345.12
N. 32°-17'-26" W.

66'
ST.
33 RD
EAST
N. 32°-20'-38.50" W.
N. 32°-18'-16" W.

NOTE: For Fence Quantities
See Sheet No 3

SCALE

Scale: - 1" = 50'

DE ILED FENCE LAYOUT - INNERBELT - STA. 61+11.803 TO STA. 71+00 ±

E1-D

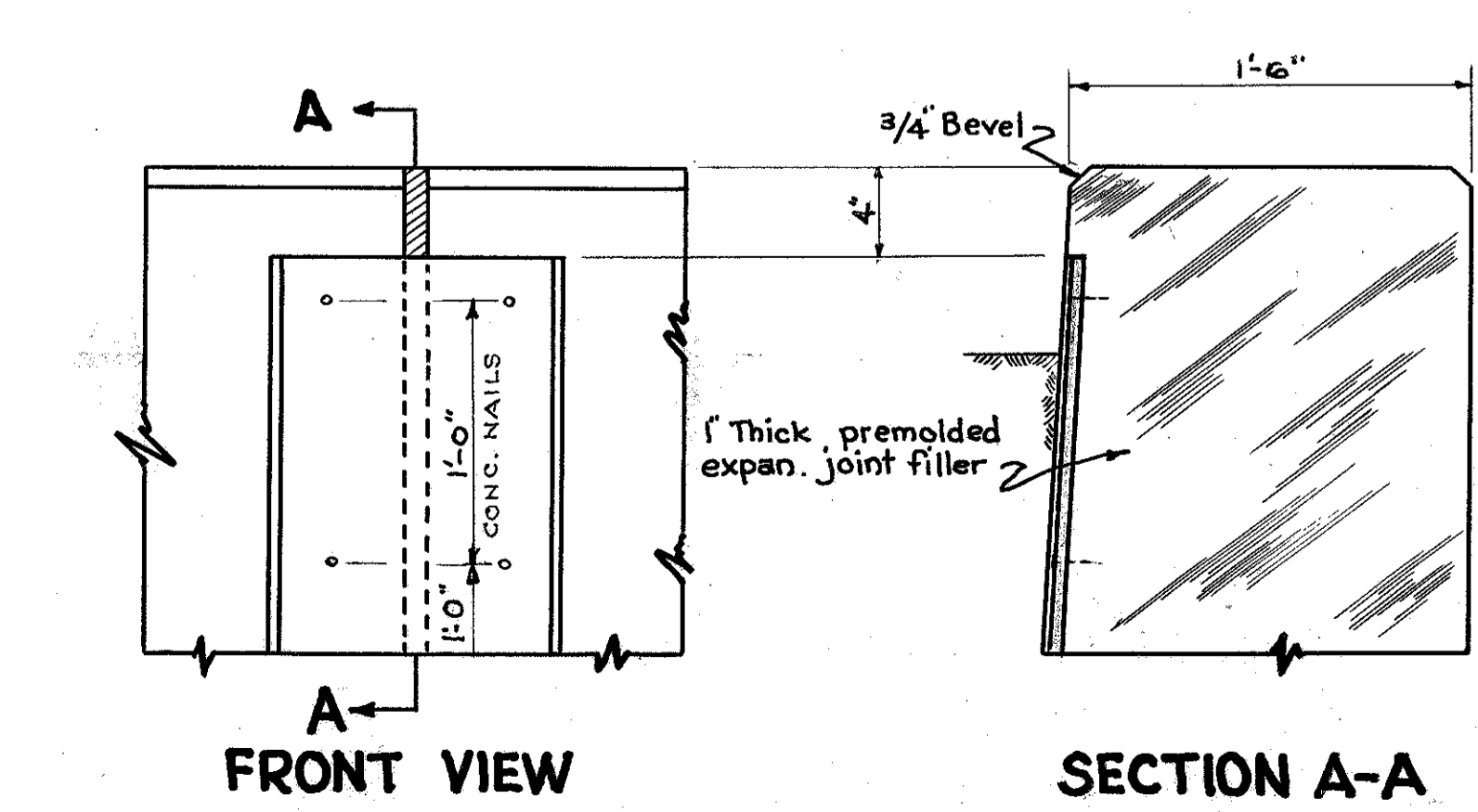
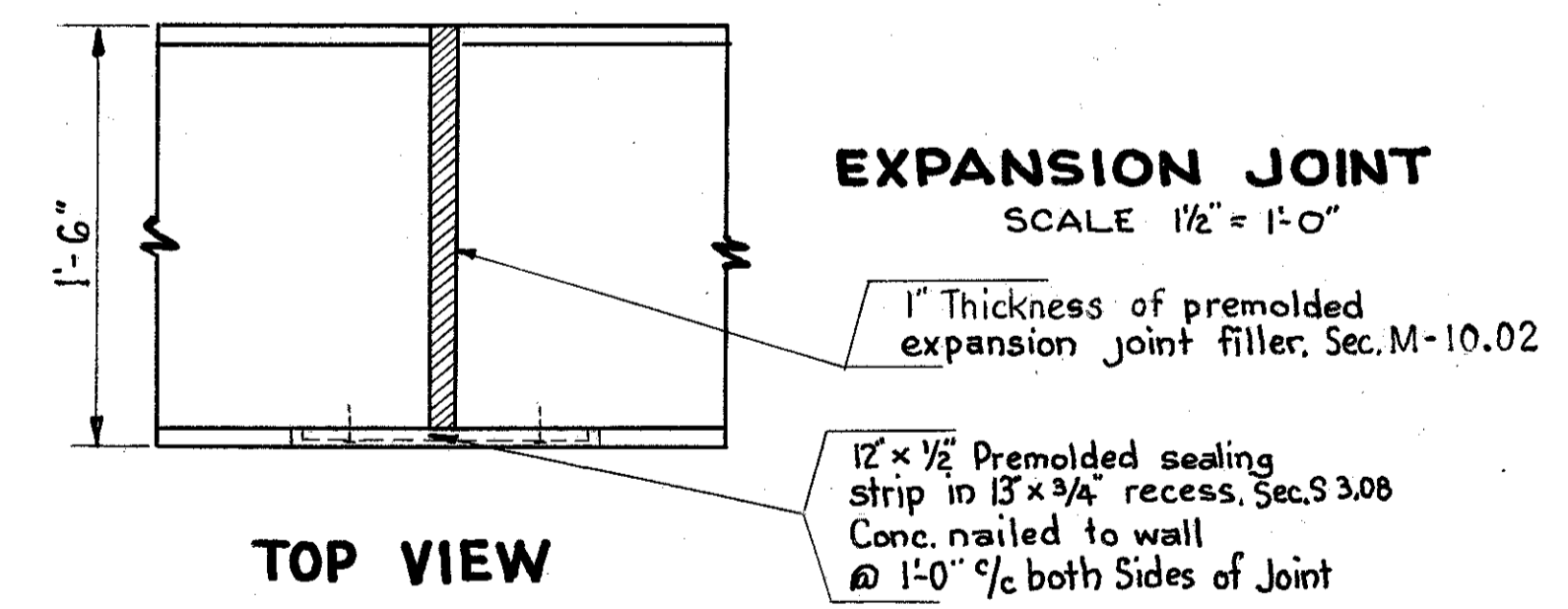
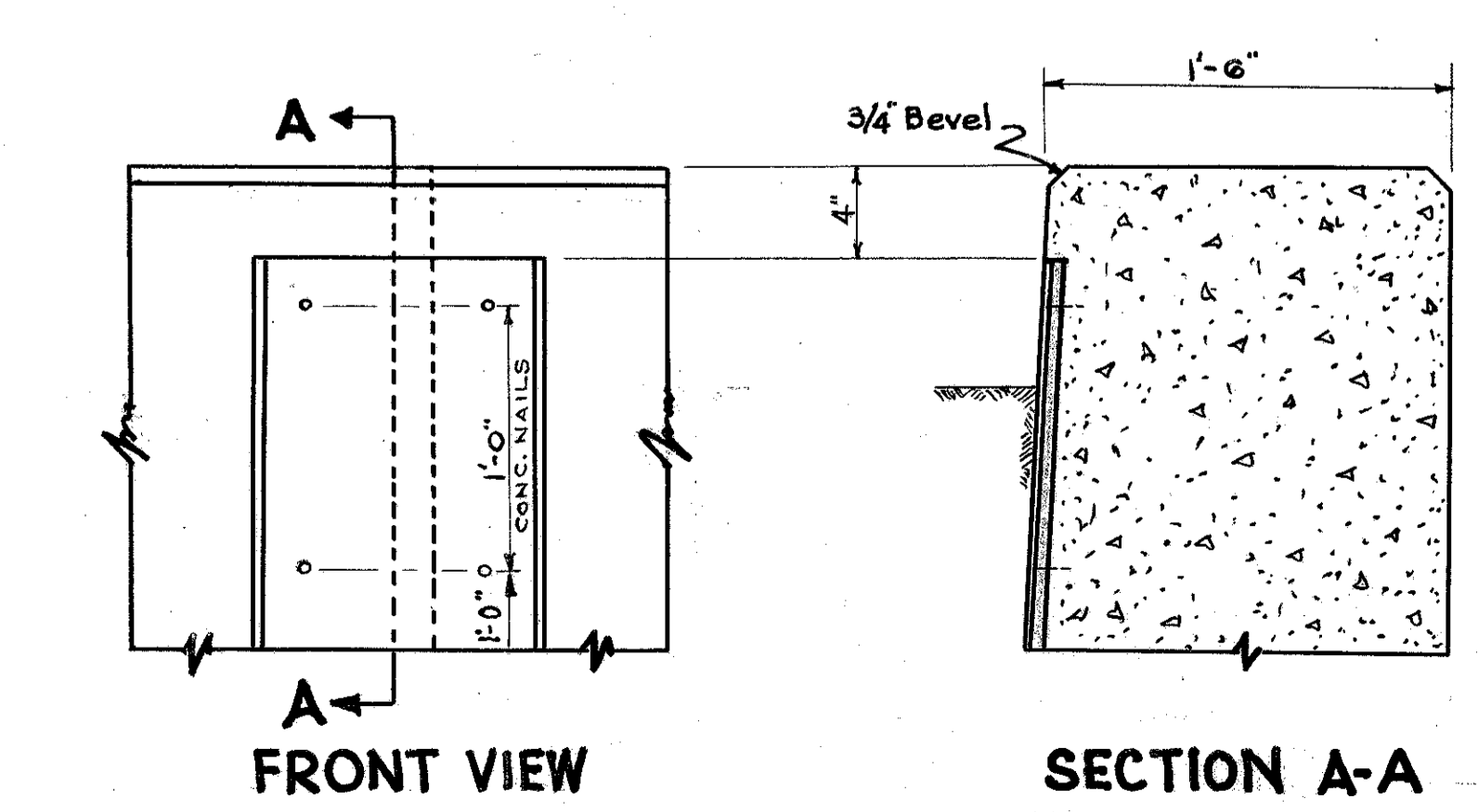
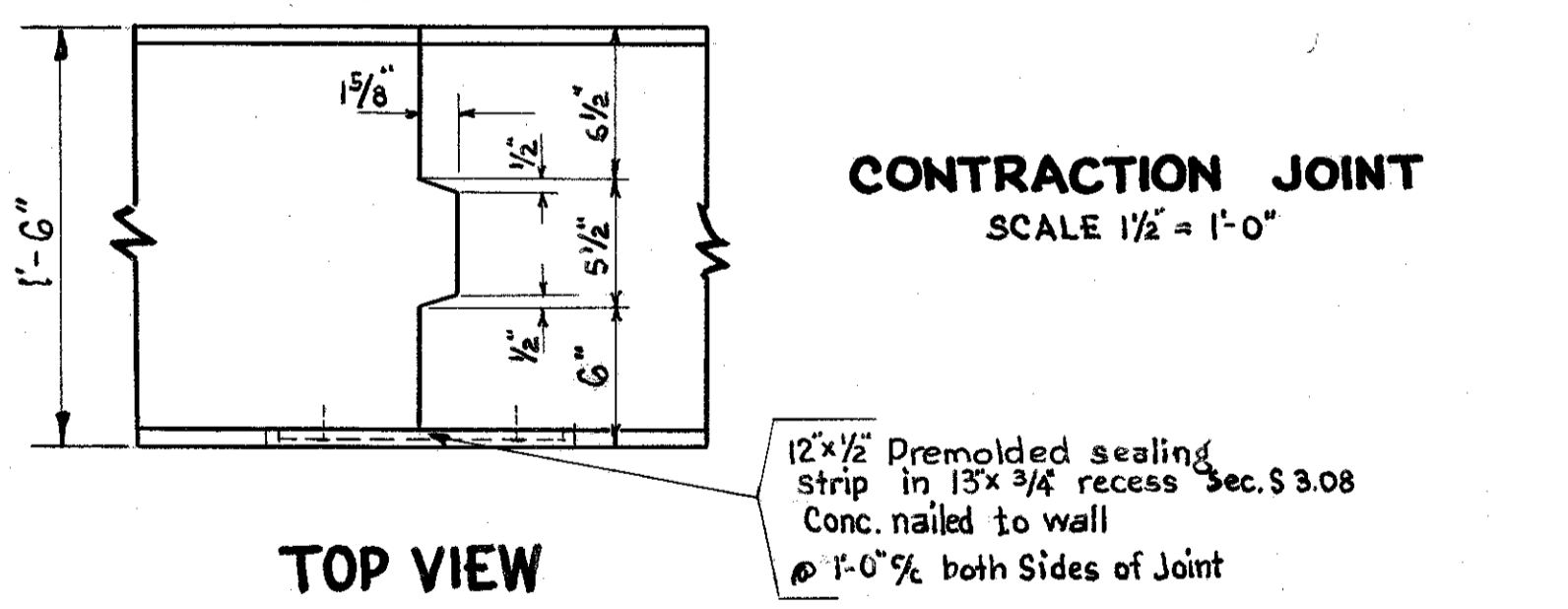
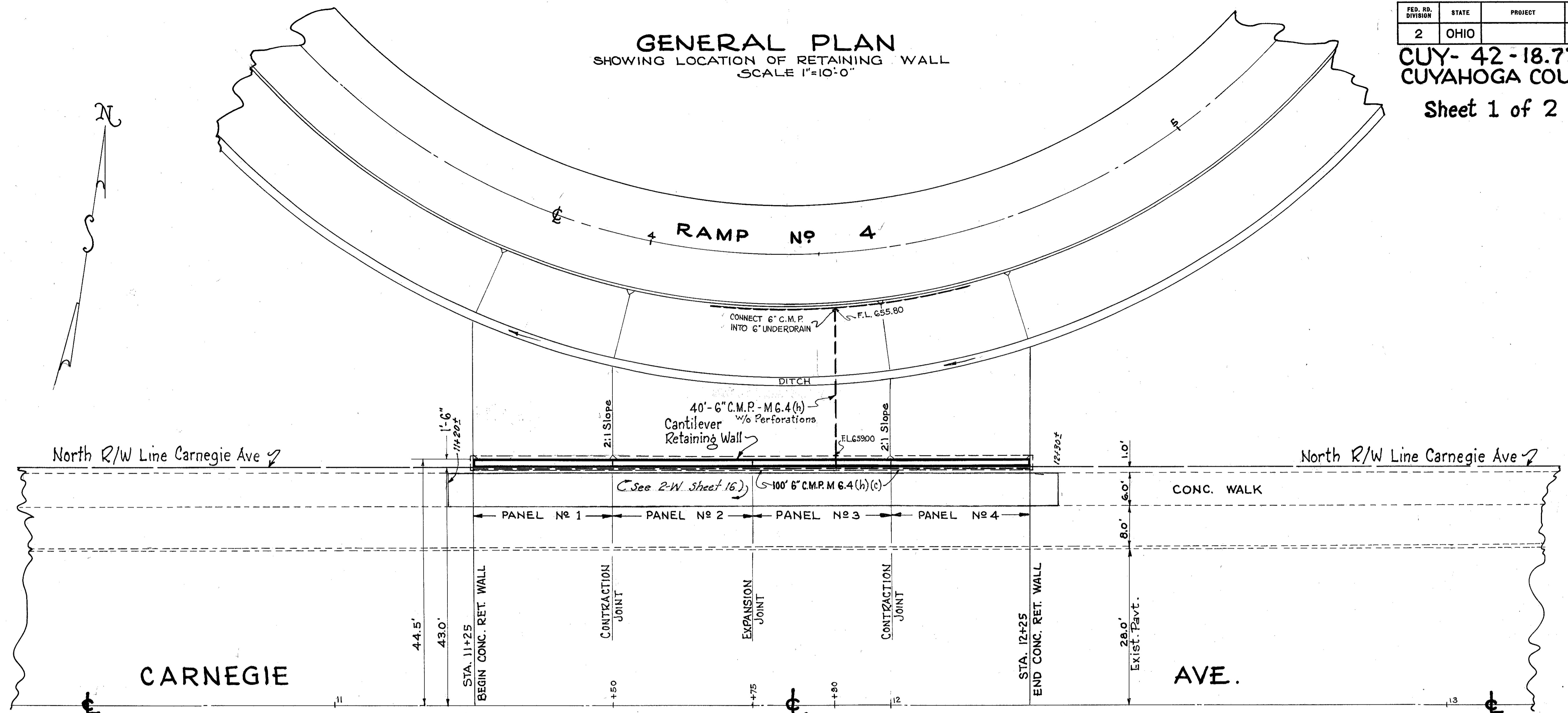
0-17

CUY-90-16.14 E

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

65
80

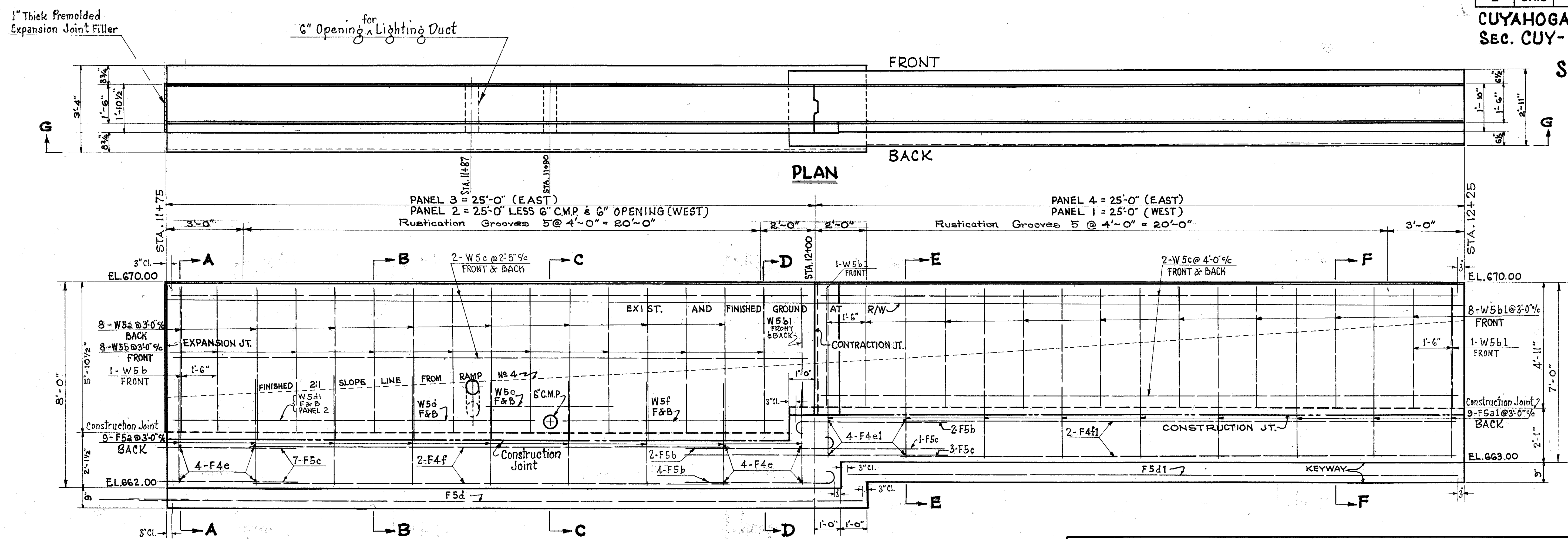
CUY-42-18.77
CUYAHOGA COUNTY
Sheet 1 of 2



ESTIMATED QUANTITIES		
ITEM	DESCRIPTION	QUANTITY
E-2	EXCAVATION FOR STRUCTURES	160 CU.YDS.
S-1	CONCRETE FOR FOOTINGS CLASS E	25 CU.YDS.
S-1	CONCRETE FOR WALLS CLASS C	35 CU.YDS.
S-4	REINFORCING STEEL	1587.08 LBS.
S-6	12"x1/2" PREMOLDED SEALING STRIP AS PER PLAN	16 LIN.FT.
S-9	1" PREMOLDED EXPANSION JOINT FILLER, Sec.M-10.02	12 SQ.FT.
S-29	6" CORRUGATED METAL PIPE (PERFORATED) SEC.M 6.4(h)(c)	100 LIN.FT.
I-4	6" OUTLETS FOR UNDERDRAIN SEC.M 6.4(h) W/O PERFORATIONS	40 LIN.FT.
I-5	6" PIPE SPECIALS SEC.M 6.4(c)(h) FOR UNDERDRAINS, 1 TEE	1 EA.
S-29	W/O PERFORATIONS SEC.M 6.4(h) FOR OUTLETS FOR UNDERDRAINS, 2-90° TEE	3 EA.
S-29	POROUS BACKFILL SEC.M 6.4(h)	23 CU.YDS.
E-2	COFFERDAMS, CRIBS & SHEETING	LUMP SUM

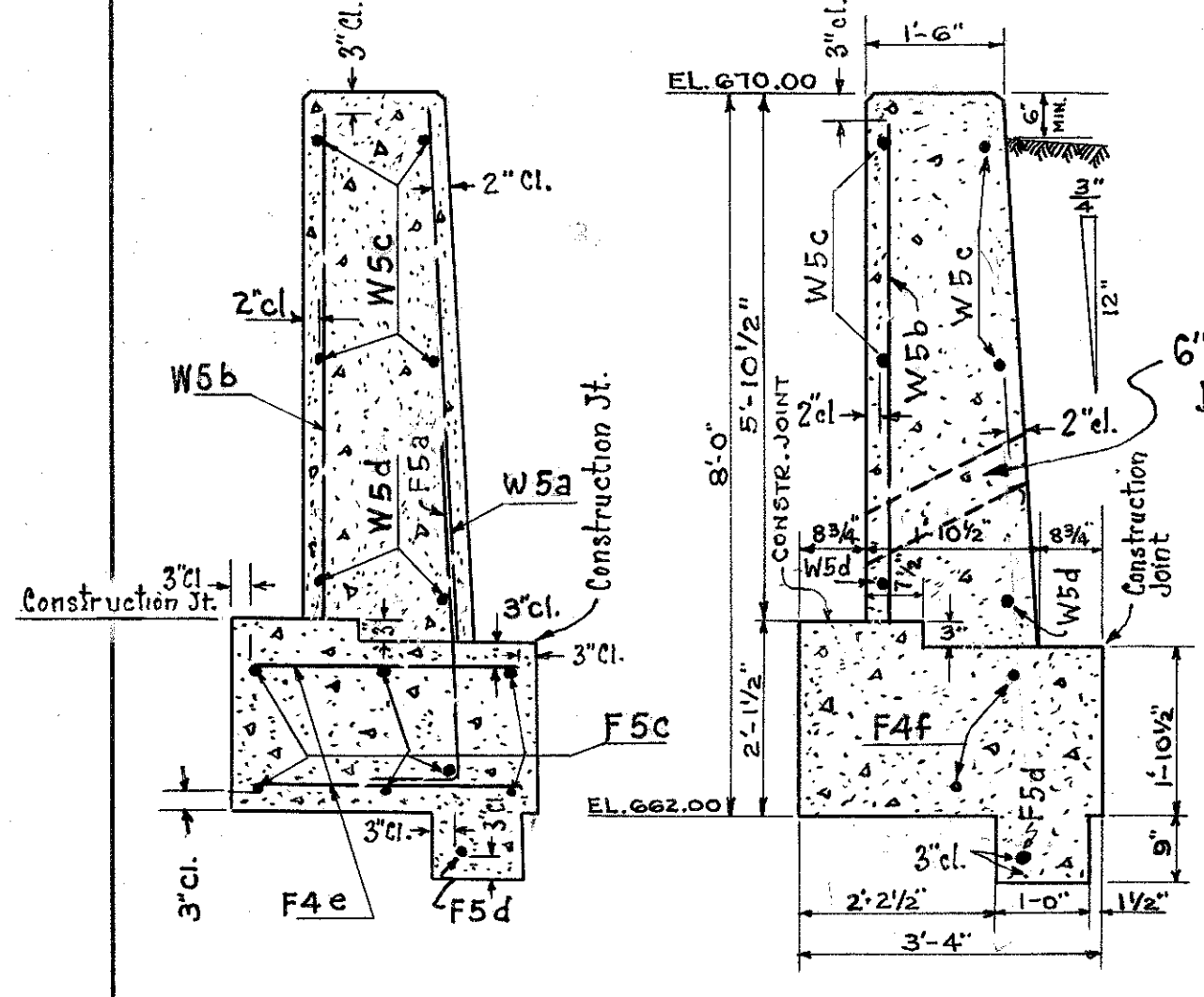
STATE OF OHIO DEPARTMENT OF HIGHWAYS					
CONCRETE RETAINING WALL					
STA. 11+25 TO STA. 12+25					
SOUTH OF RAMP NO 4 ON CARNEGIE AVE.					
DESIGNED	DRAWN	TRACED	CHECKED	APPROVED	REVISED
S.P.R.	S.P.R.	J.A.K.			

CONCRETE RETAINING WALL- CARNEGIE AVE. & RAMP NO 4

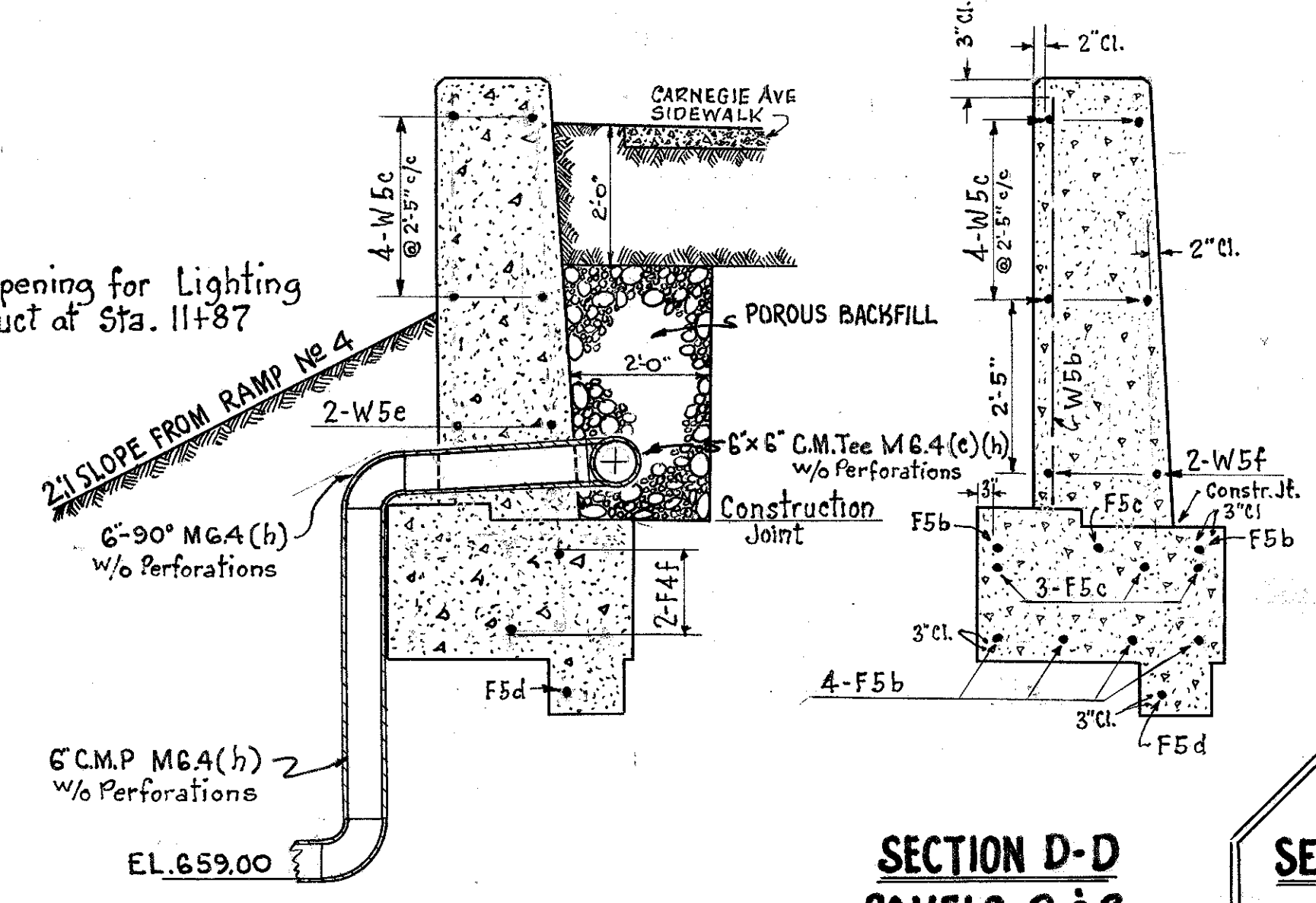


ELEVATION-VIEW G-G
CARNEGIE SIDE-BACK
SCALE: 1/2" = 1'-0"

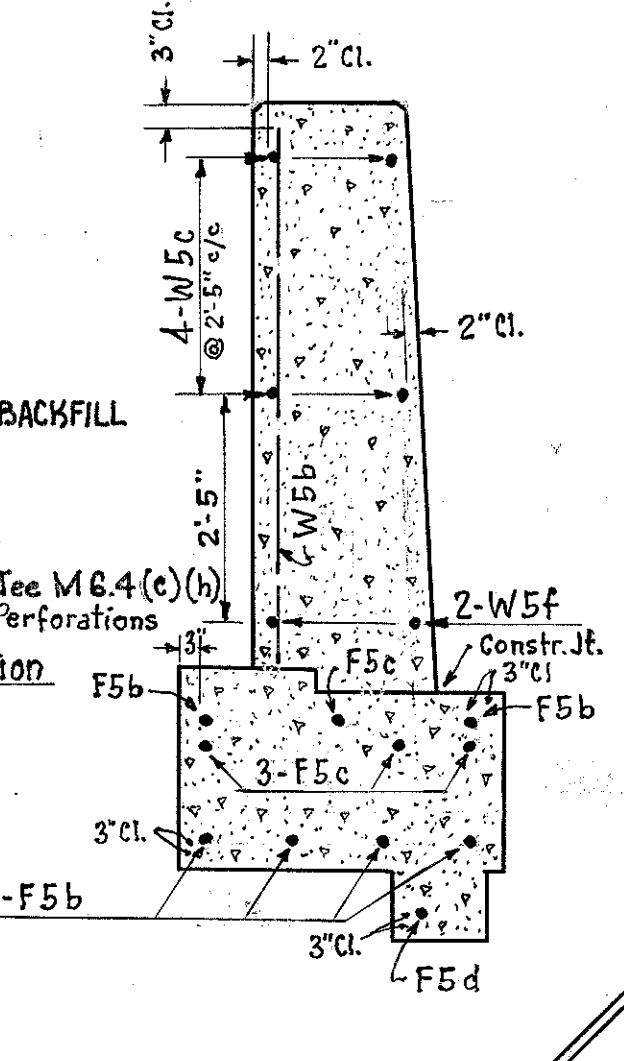
REINFORCING				STEEL			
PANEL No 1 & PANEL No 4				PANEL No 2 & PANEL No 3			
SHAPE	MARK	SIZE	TOTAL NO.	LENGTH FEET	TOTAL FEET	WEIGHT LBS.	SHAPE
BENT	F5a1	5/8" φ	18	7'-7"	136.50	142.37	F5a
"	F5b	5/8" φ	4	6'-4"	25.33	26.42	F5b
STR.	F5c	5/8" φ	6	10'-0"	60.00	62.58	F5c
"	F5d1	5/8" φ	2	23'-6"	47.00	49.02	F5d
"	F4e1	1/2" φ	8	2'-5"	19.33	12.92	F4e
"	F4f1	1/2" φ	4	21'-6"	86.00	57.45	F4f
"	W5b1	5/8" φ	20	4'-8"	93.33	97.35	W5b
STR.	W5c	5/8" φ	8	24'-6"	196.00	204.43	W5c
TOTAL				652.54 Lbs.	TOTAL		934.54 Lbs.
				TOTALS			1,587.08 Lbs.



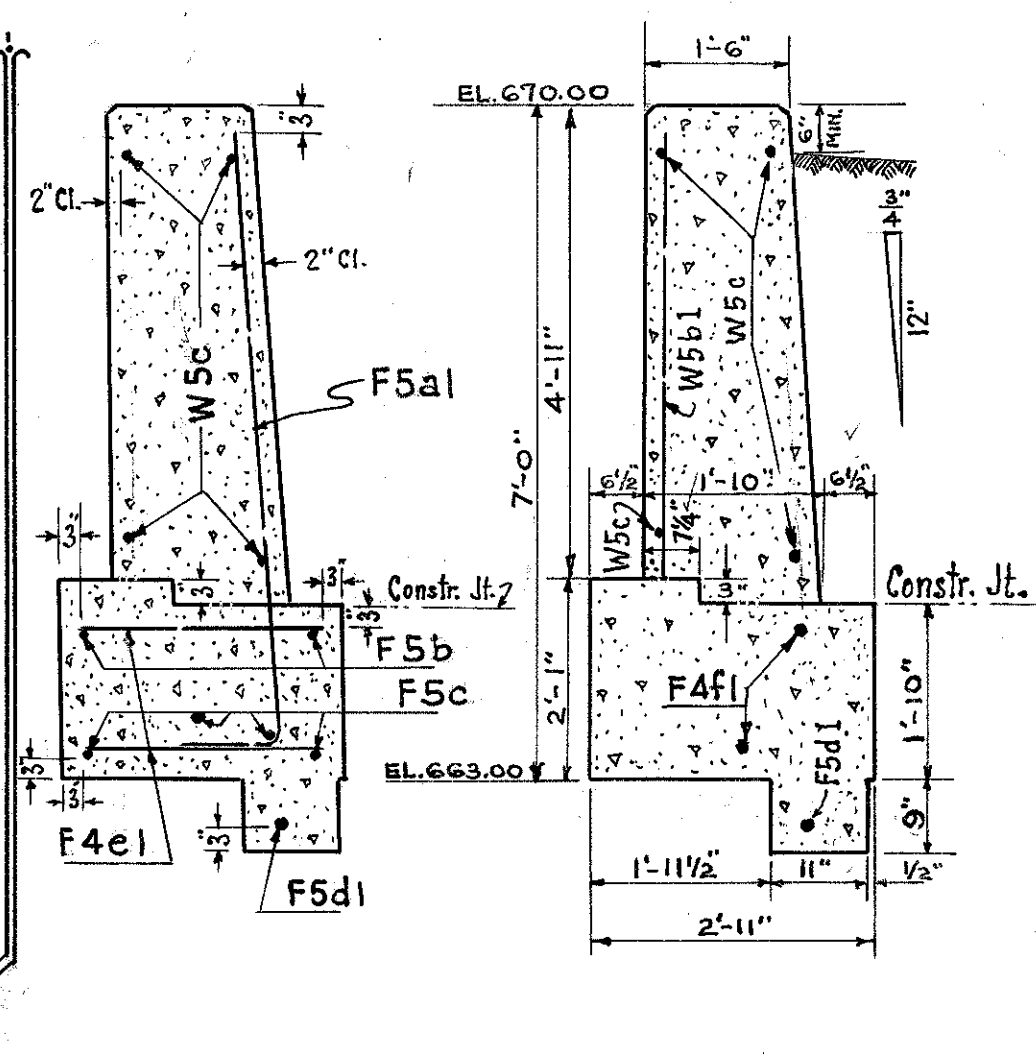
SECTION A-A
PANEL 2 & PANEL 3



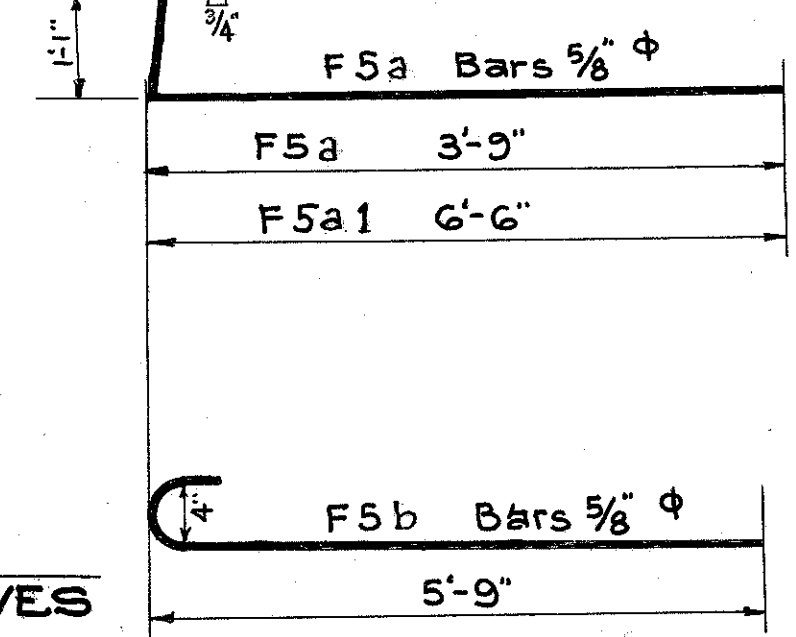
SECTION C-C AT STA. 11+90
SHOWING DRAINAGE DETAILS
PANEL 3



SECTION D-D
PANELS 2 & 3



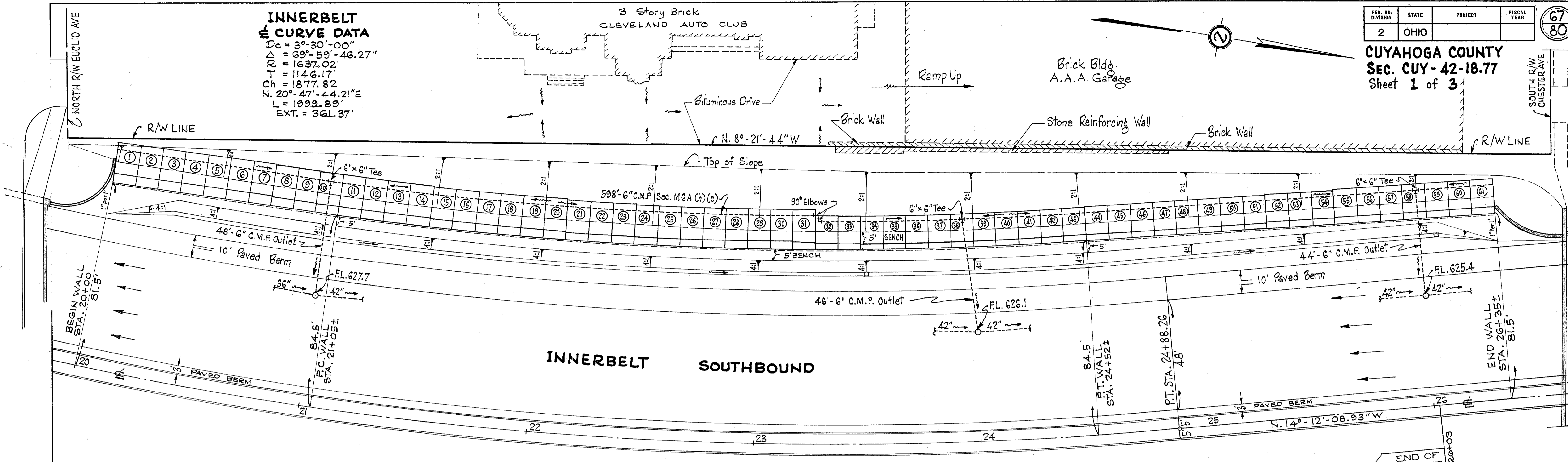
SECTION E-E
PANEL 1 & PANEL 4



DETAILS OF
RUSTICATION GROOVES

STATE OF OHIO DEPARTMENT OF HIGHWAYS					
CONCRETE RETAINING WALL					
STA. 11+25 TO STA. 12+25					
SOUTH OF RAMP No 4 ON CARNEGIE AVE.					
DESIGNED	DRAWN	TRACED	CHECKED	APPROVED	REVISED
S.P.R.	S.P.R.	J.A.K.			

INNERBELT CURVE DATA
 $D_c = 3^\circ-30'-00''$
 $\Delta = 69^\circ-59'-46.27''$
 $RD = 1637.02'$
 $T = 1146.17'$
 $Ch = 1877.82'$
 $N. 20^\circ-47'-44.21'' E$
 $L = 1999.89'$
 $EXT. = 361.37'$

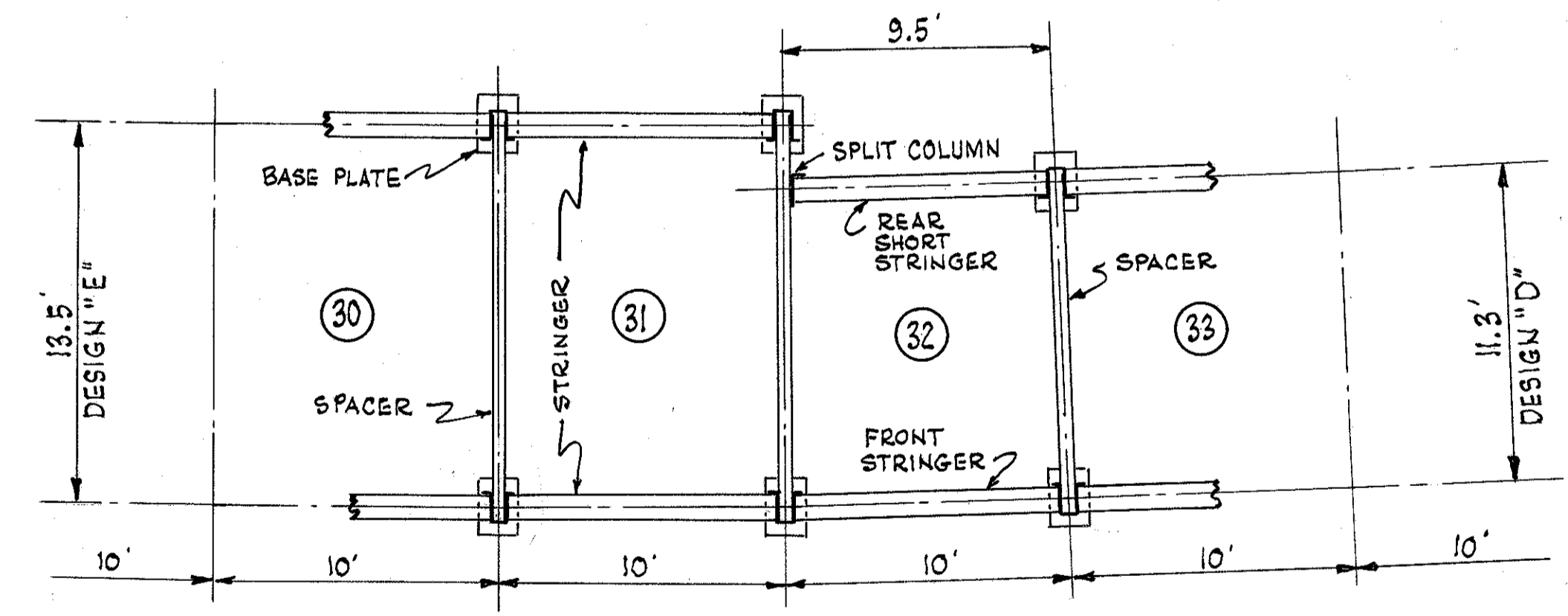


GENERAL PLAN

SHOWING LOCATION OF BIN-TYPE RETAINING WALL ALONG A.A.A. PROPERTY

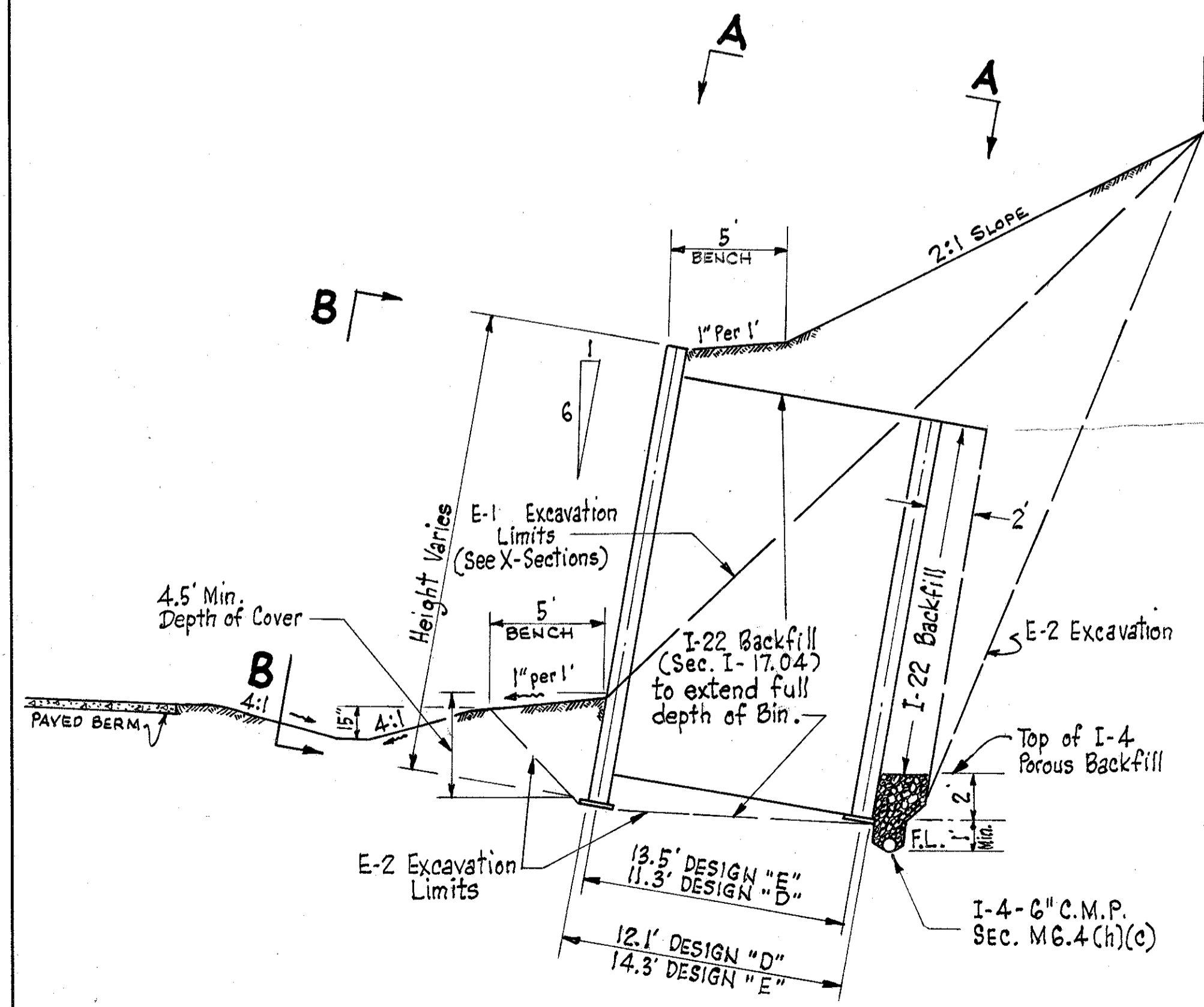
SCALE 1" = 20'

ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
E-2	Excavation for Structures	Cu. Yds.	8435
I-4	6" Corrugated Metal Pipe, Sec. M6.4 (h)(c), for Underdrains	Lin. Ft.	598
I-4	6" Outlets for Underdrains, Sec. M6.4 (h), w/o perforations.	Lin. Ft.	138
I-5	6" Pipe Specials, Sec. M6.4 (c)(h) w/o Perforations, for underdrains. (3-Tees)(2-90° Elbows)	Each	5
I-17	Galv. Metal Cellular Retaining Wall.	Sq. Ft.	14,680



VIEW A-A at DESIGN CHANGE

SCALE 1" = 5'



TYPICAL SECTION - DESIGNS "E" & "D"

NOTES:

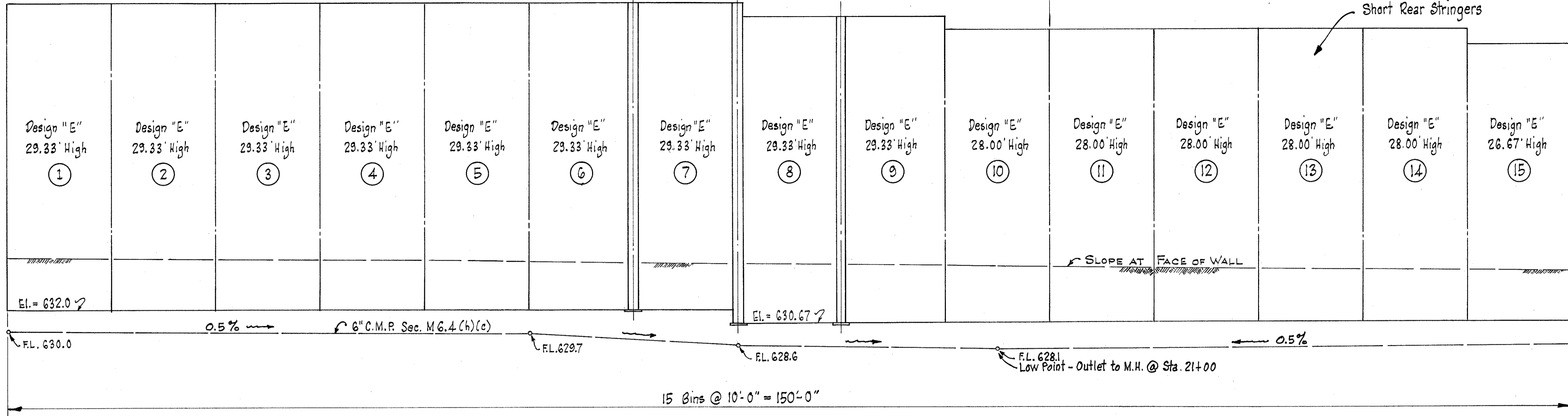
The Contractor shall take adequate precautions to prevent damage to the adjacent A.A.A. garage walls and driveway during construction of the cellular wall. The cost of this protection shall be included in the unit price bid for Item I-17 Galvanized Metal Cellular Retaining Wall.

Special attention is directed to Sec. I-17.04 of the Construction and Materials Specifications. The back-fill requirements of this specification must be rigidly adhered to. Details and dimensions of the wall shall conform to those manufactured by Armeo Drainage and Metal Products Inc., Designs "E" and "D".

BEGIN WALL
STA. 20+00

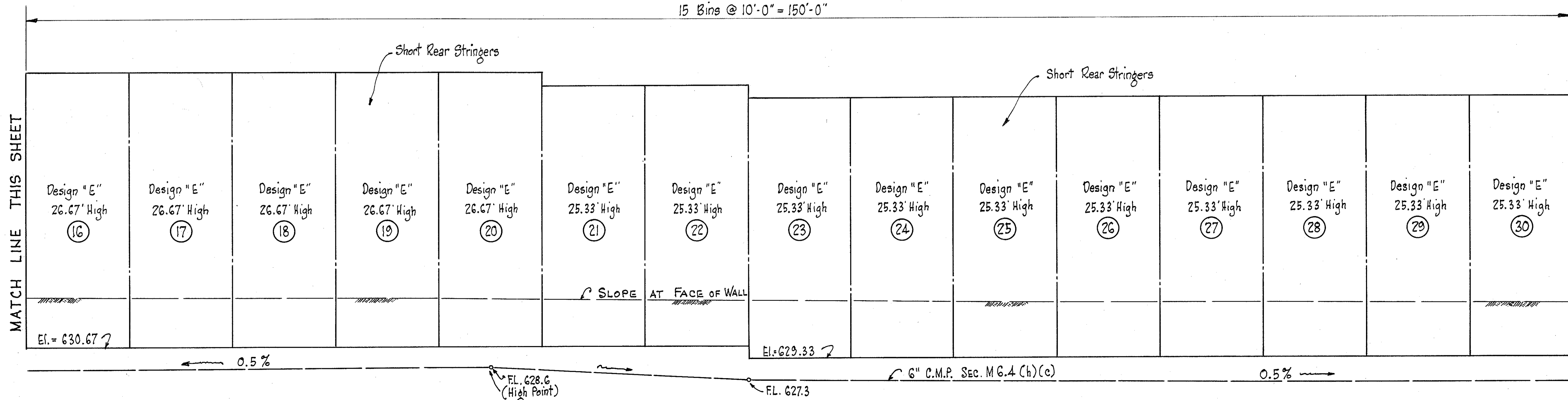
INNERBELT
STA. 21+05±

← WALL ON TANGENT WALL ON CURVE
Radius = 1550± →



NOTE: Use short rear stringers (9'-6" ± to ± Columns) in Bins No 13, 19 and 25 in addition to play in bolt holes for construction of curved portion of wall.

ELEVATION ... VIEW B-B

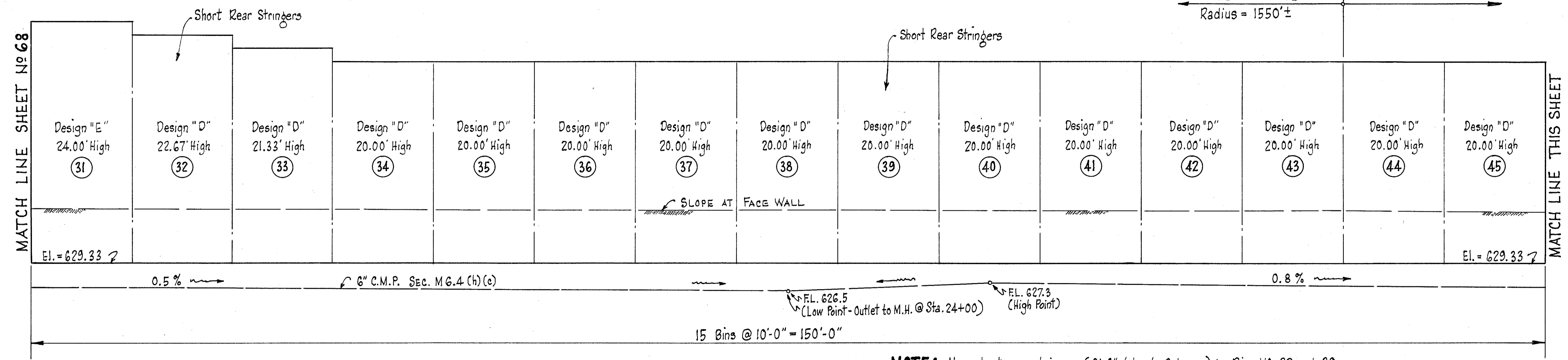


ELEVATION ... VIEW B-B

INNERBELT
STA. 24+52±

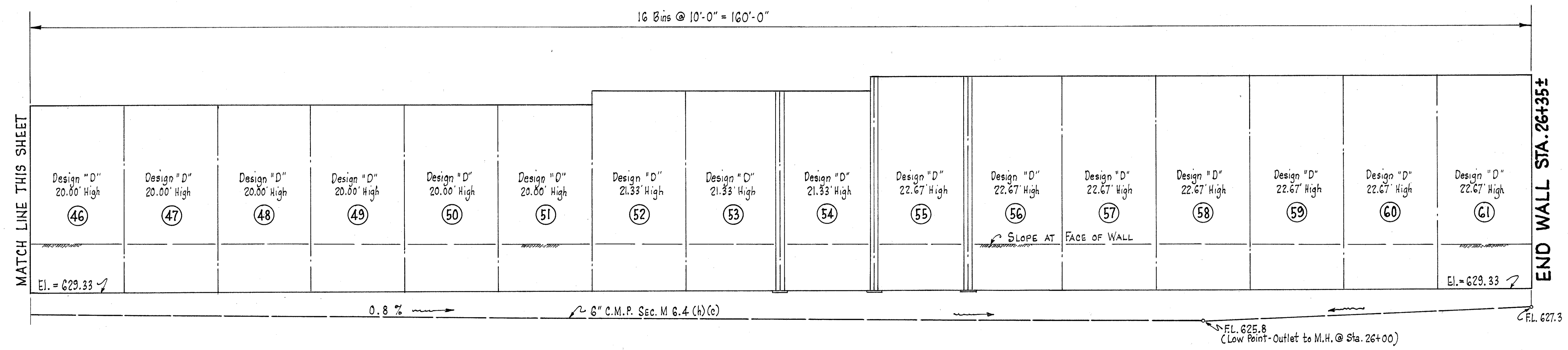
WALL ON CURVE
Radius = 1550'±

WALL ON TANGENT



NOTE: Use short rear stringers (9'-6" ± to ± Columns) in Bins No 32 and 39 in addition to play in bolt holes for construction of curved portion of wall.

ELEVATION ... VIEW B-B

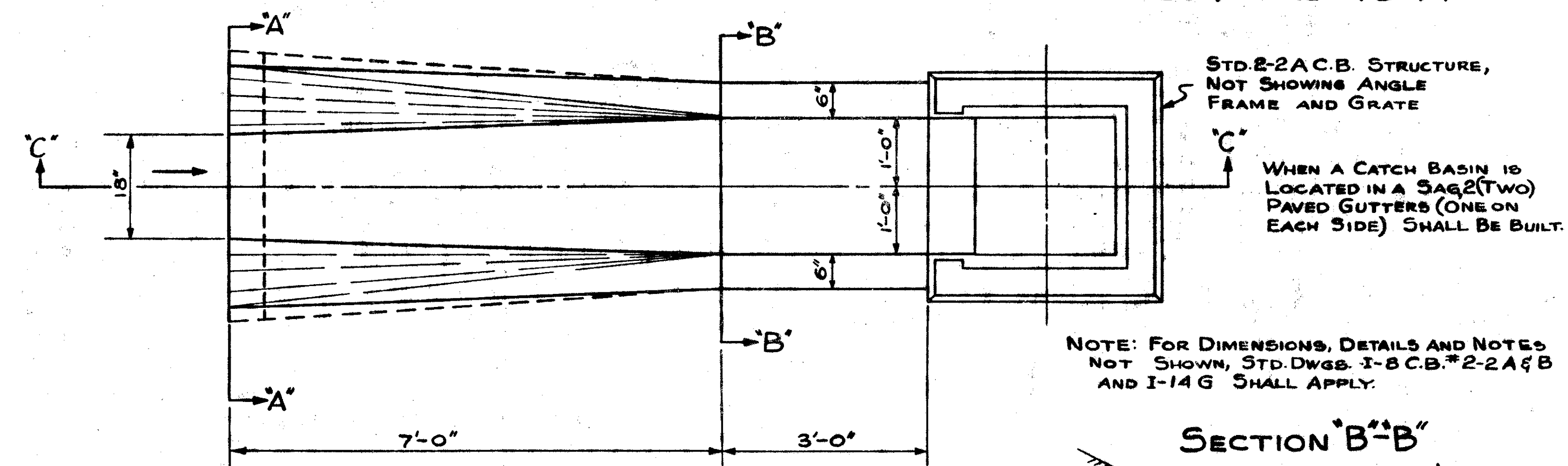


ELEVATION ... VIEW B-B

DRAINAGE DETAILS

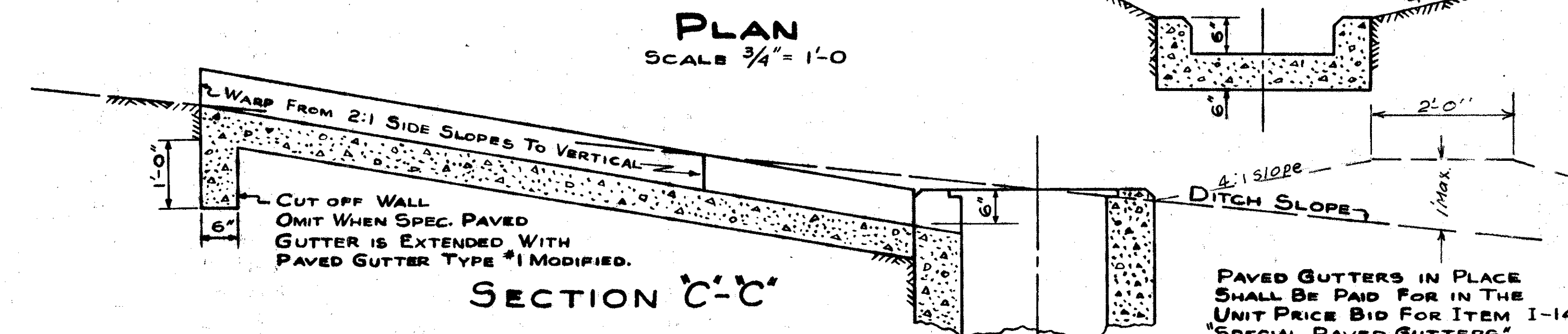
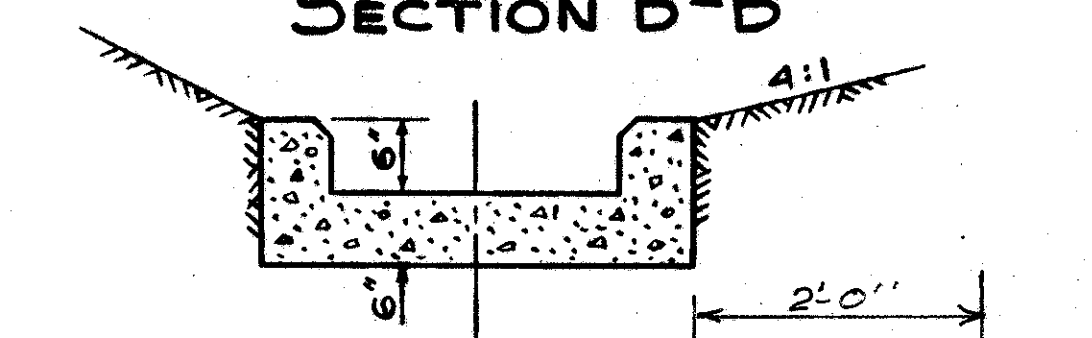
SCALE AS SHOWN

CUYAHOGA COUNTY
CUY-42-18.77



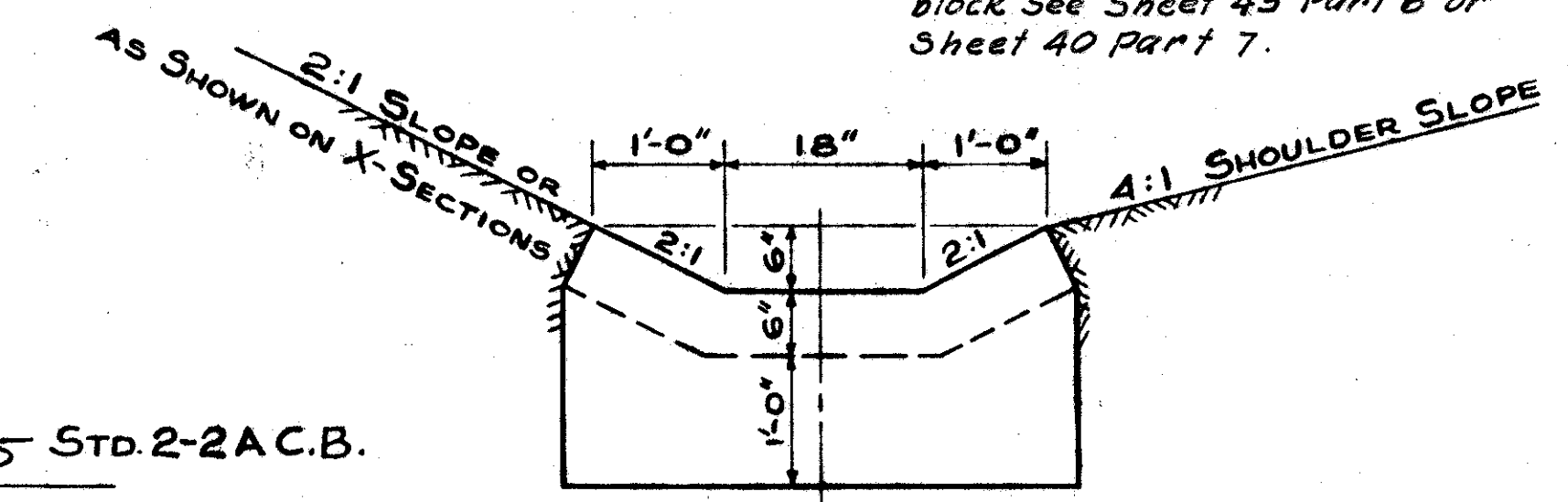
NOTE: FOR DIMENSIONS, DETAILS AND NOTES NOT SHOWN, STD. DWGS. I-8 C.B. #2-2A & B AND I-14 G SHALL APPLY.

SECTION B-B

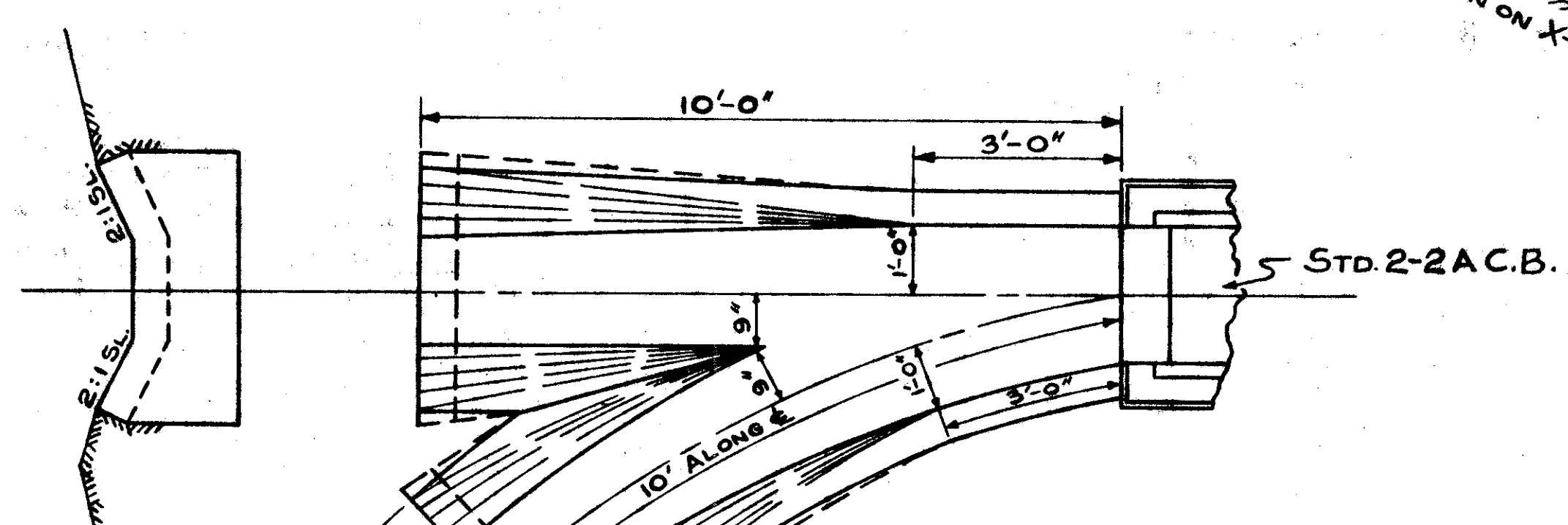


PAVED GUTTERS IN PLACE SHALL BE PAID FOR IN THE UNIT PRICE BID FOR ITEM I-14 "SPECIAL PAVED GUTTERS" For additional detail of ditch block see Sheet 43 Part 6 or Sheet 40 Part 7.

SECTION C-C



SECTION A-A



PLAN
DETAIL OF PAVED GUTTER AT JUNCTION OF DITCHES AT RAMP & INNER BELT.
SCALE 1/2" = 1'-0"

THIS CONSTRUCTION IN PLACE TO BE PAID FOR AS 20 LIN. FT. OF ITEM I-14 "SPECIAL PAVED GUTTERS."

NOTE: STD. PAVED GUTTERS TYPE #1 IS MODIFIED IN THE BOTTOM WIDTH DIMENSION. USE 1'-6" INSTEAD OF 2'-0" AS SHOWN IN THE STANDARD.

SPECIAL PAVED GUTTERS

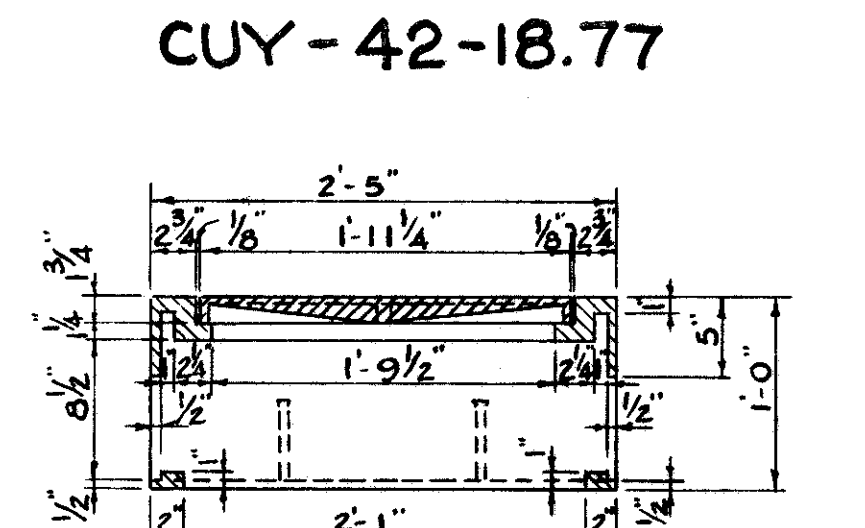
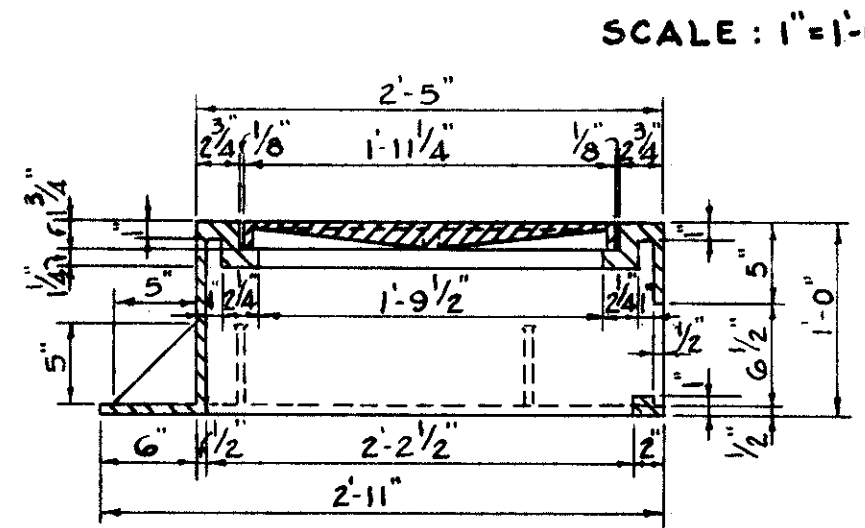
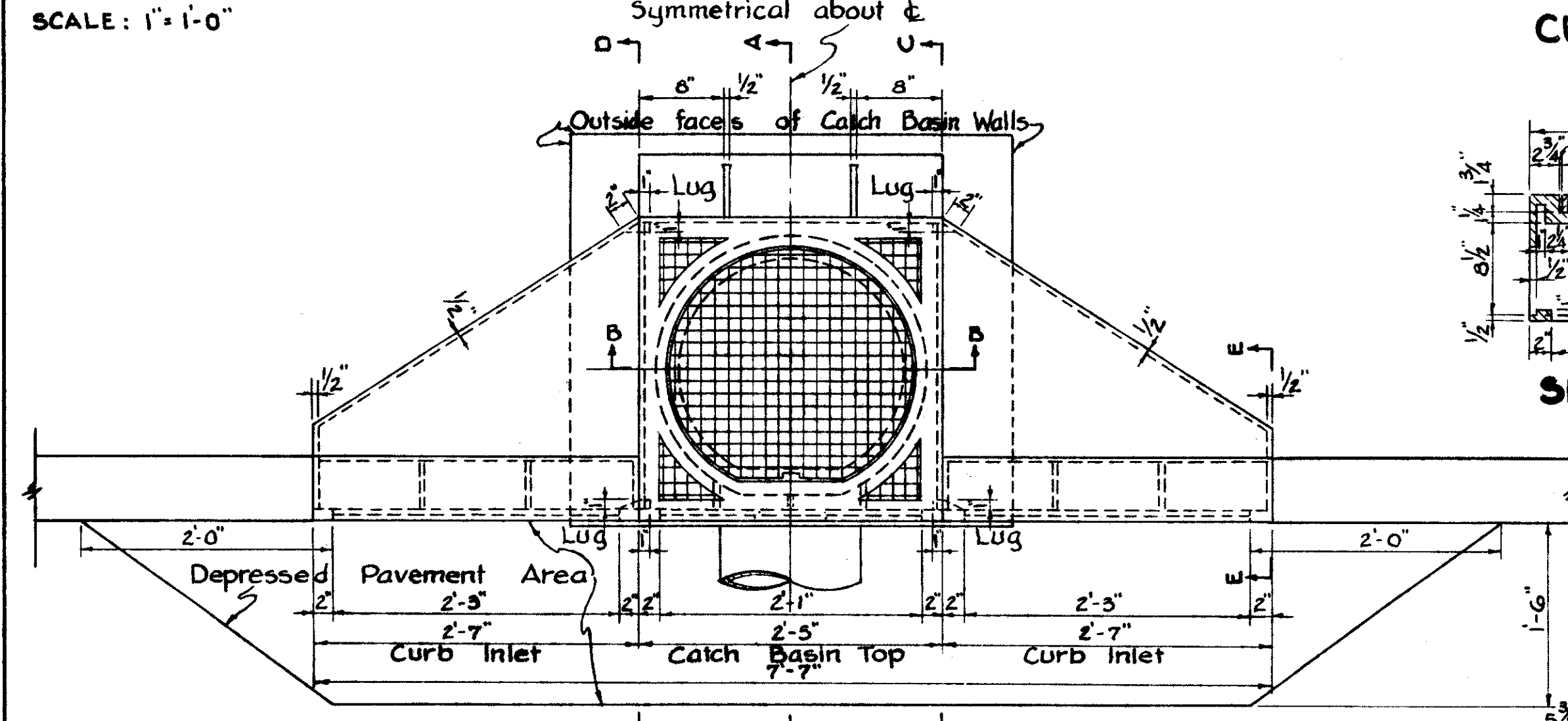
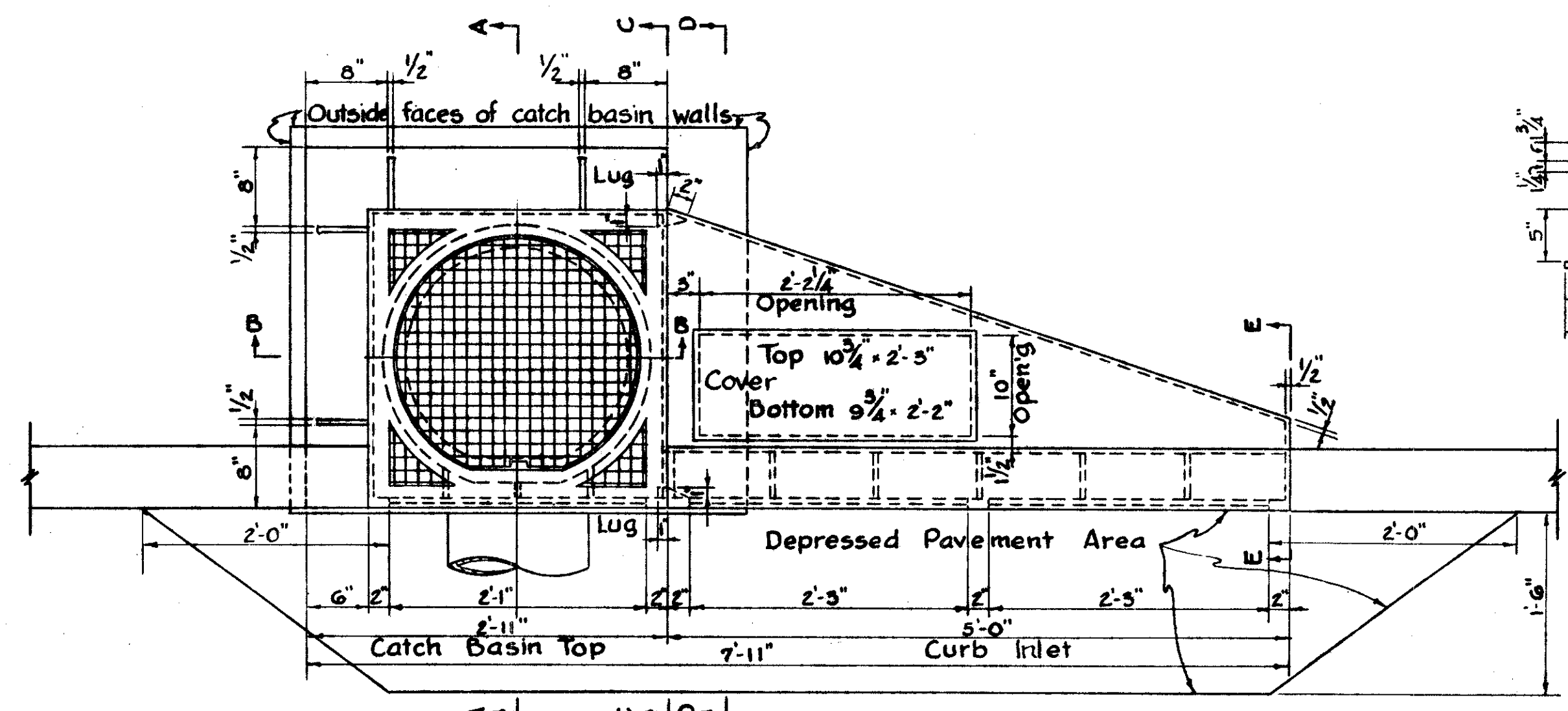
SPECIAL CURB INLET No 1

SPECIAL CURB INLET No 2

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

CUYAHOGA COUNTY
CUY-42-18.77

72
80

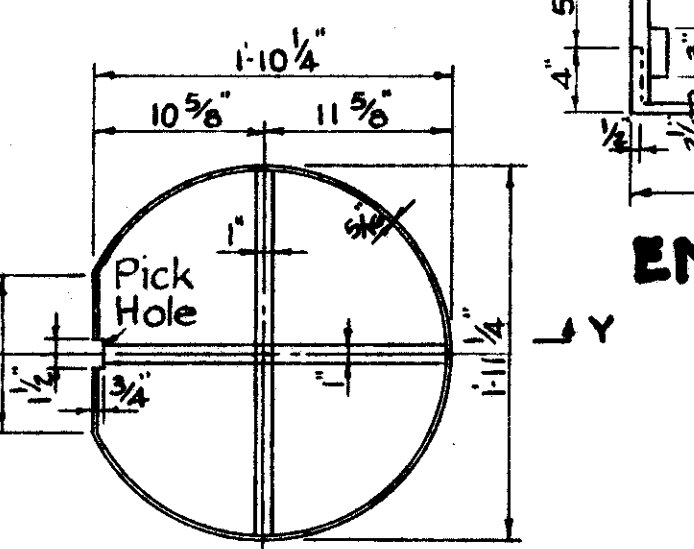
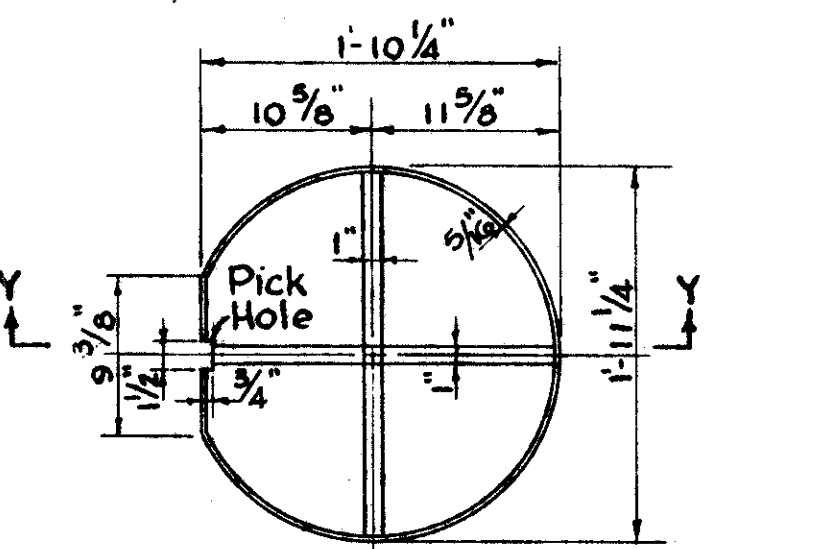
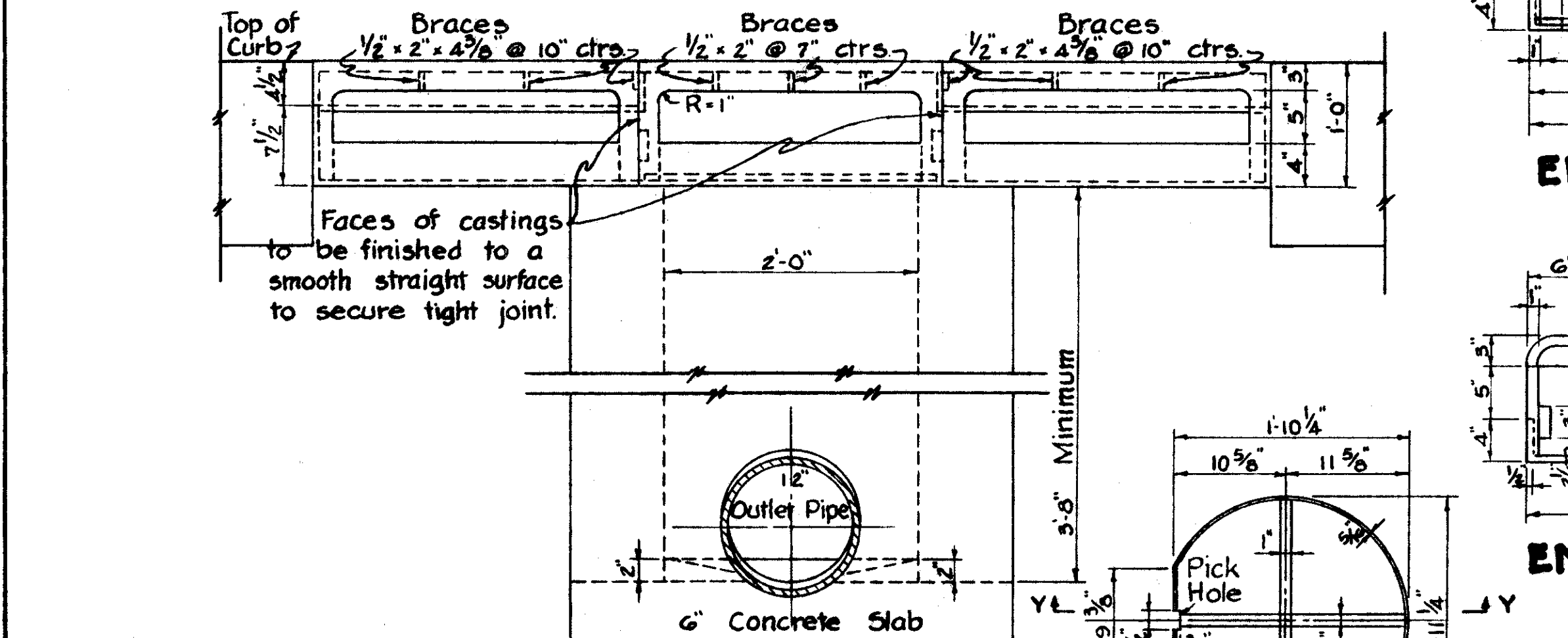
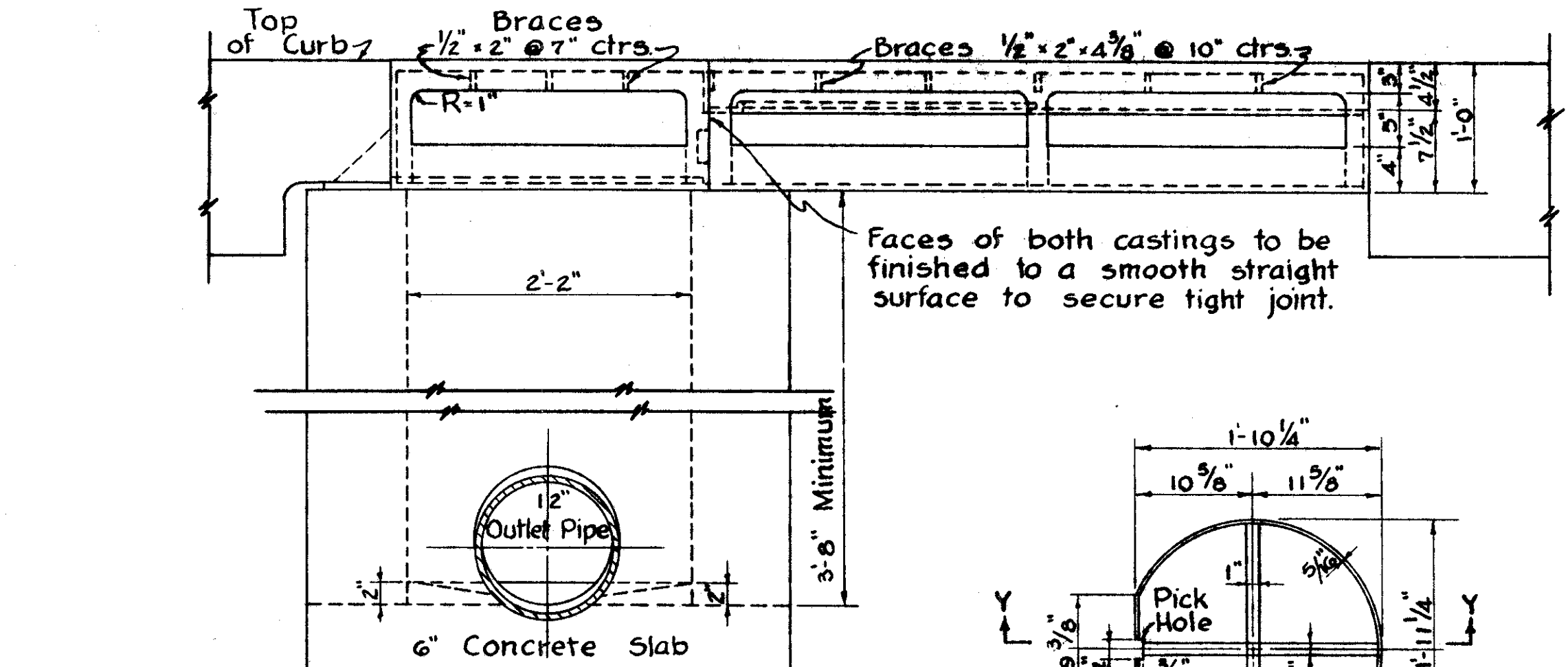


SECTION 'B-B'

SECTION 'B-B'

Pavement to be depressed 2" along the curb line for the entire length of the casting opening.

Pavement to be depressed 2" along the curb line for the entire length of the casting opening.



BOTTOM OF COVER

BOTTOM OF COVER

SECTION 'Y-Y'

SECTION 'Y-Y'

END VIEW 'C-C'

END VIEW 'C-C'

SECTION 'D-D'

SECTION 'D-D'

END VIEW 'E-E'

END VIEW 'E-E'

NOTES:

- WALLS - Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar 1/2" 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.

NOTES:

- WALLS - Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar 1/2" 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.

WEIGHTS

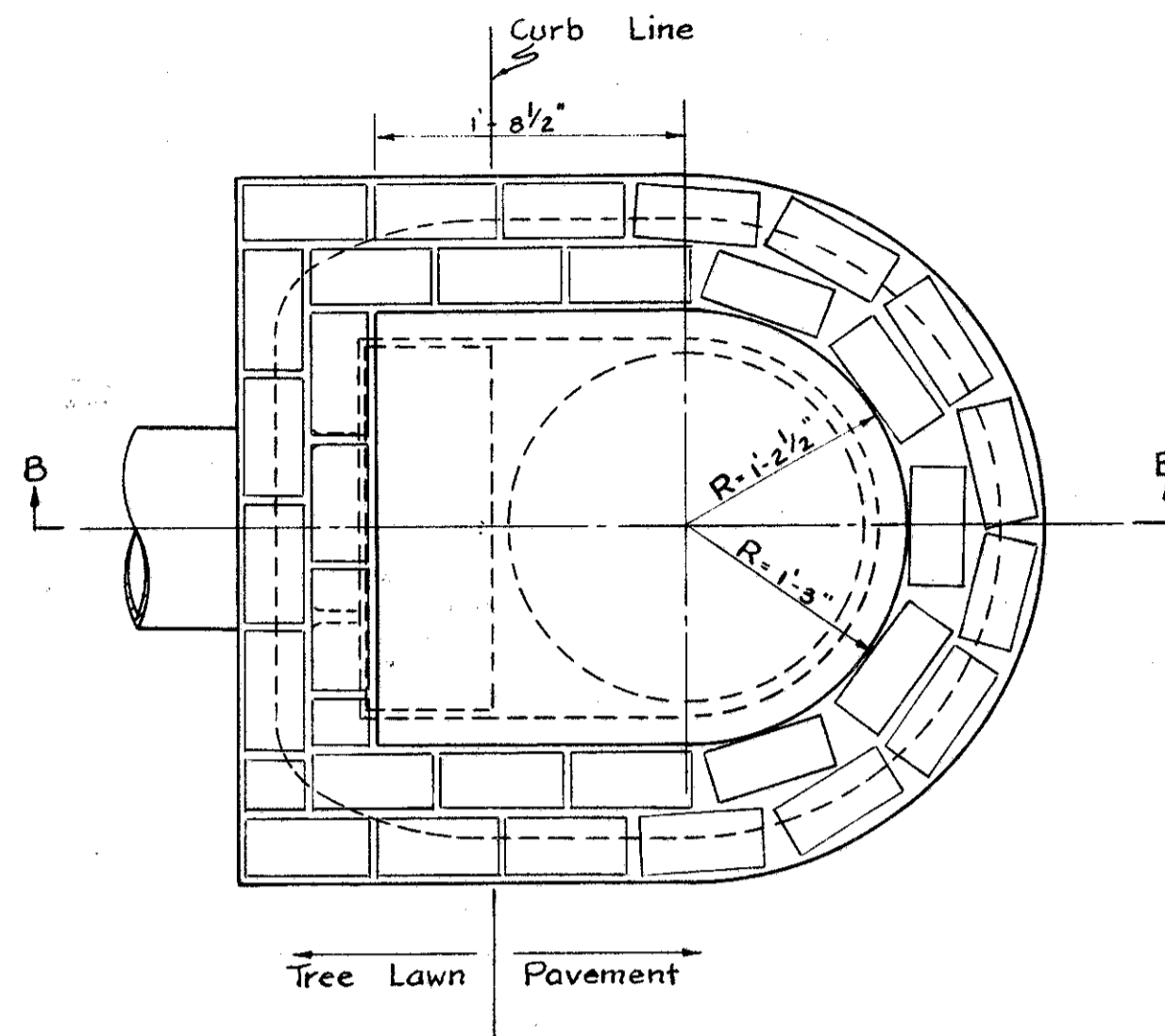
Catch Basin Cover	65 lbs.
Catch Basin Frame	535 lbs.
Curb Inlet Frame	350 lbs. Each

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 4

((Does Not Apply To This Contract))

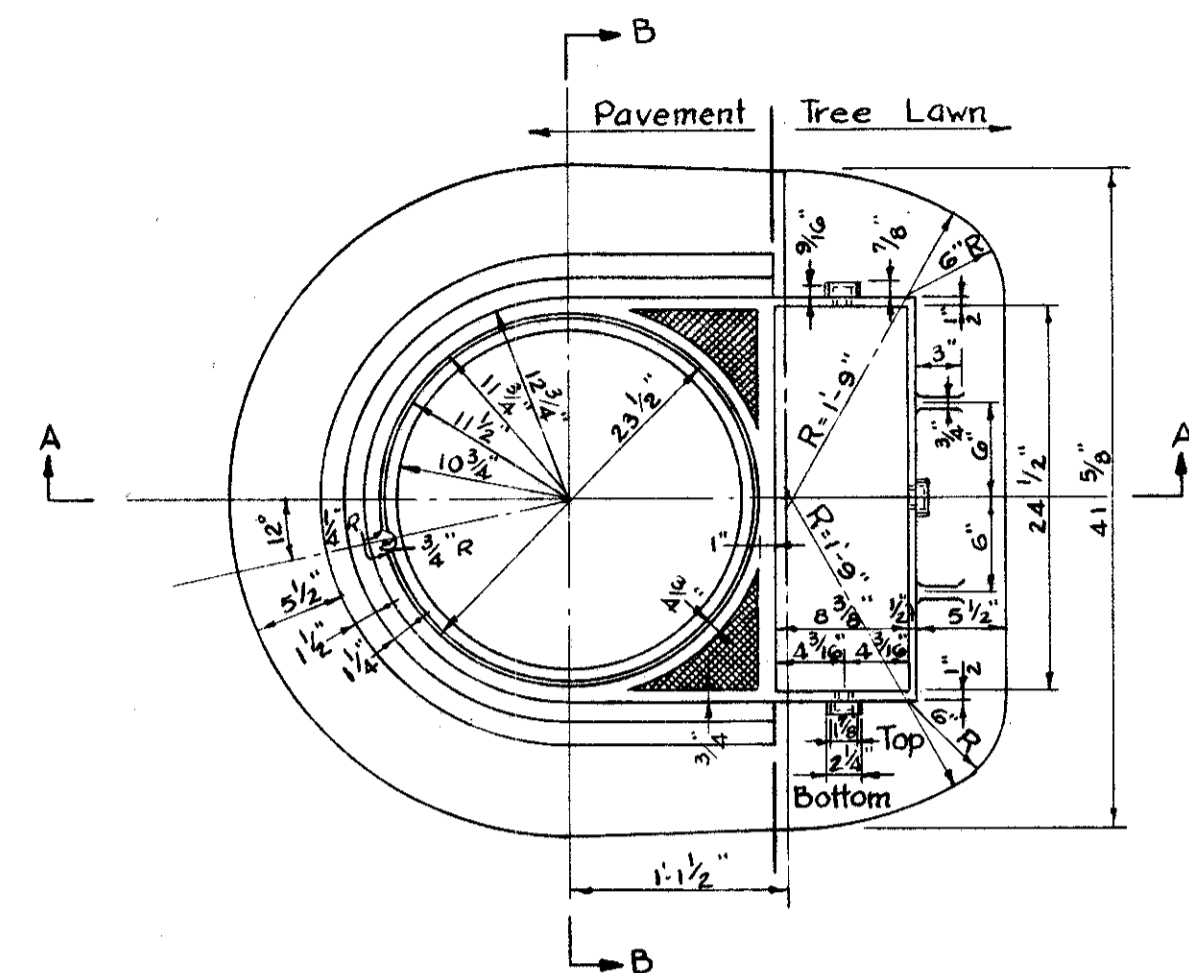
SPECIAL CATCH BASIN NO 4



PLAN INLET BASIN
VIEW "A-A"

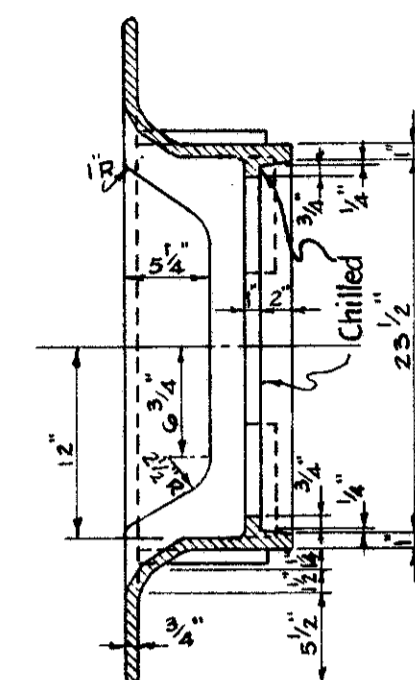
Scale: 1" = 1'-0"

Position of casting shown in dashed lines.

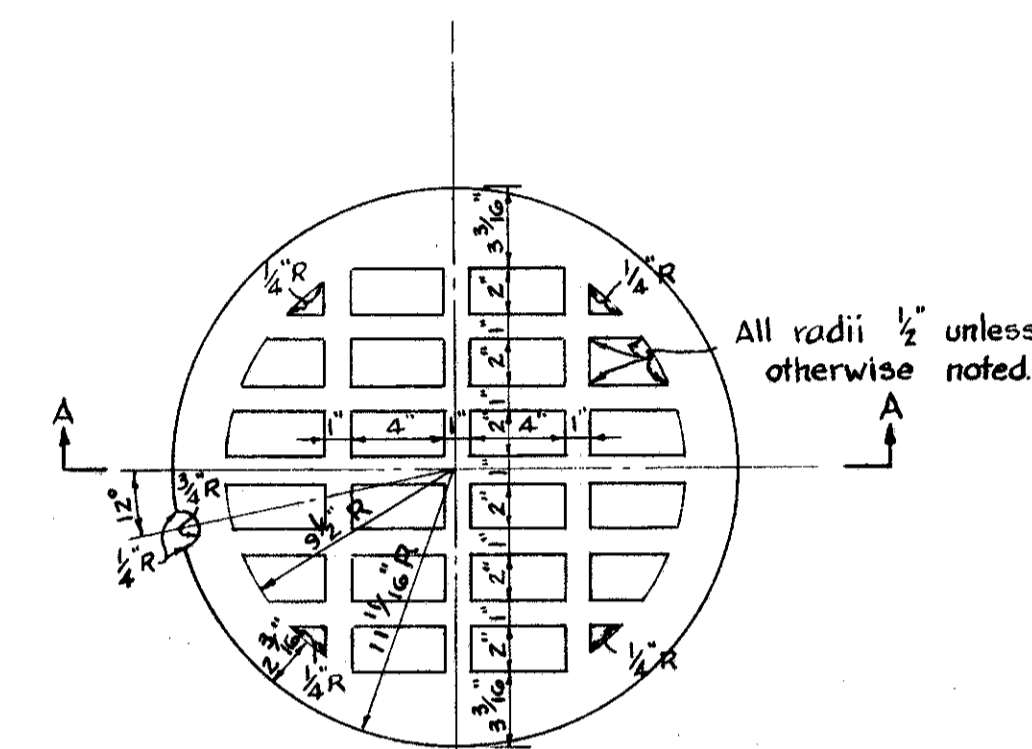


PLAN FRAME
(CAST IRON)

SECTION "B-B"

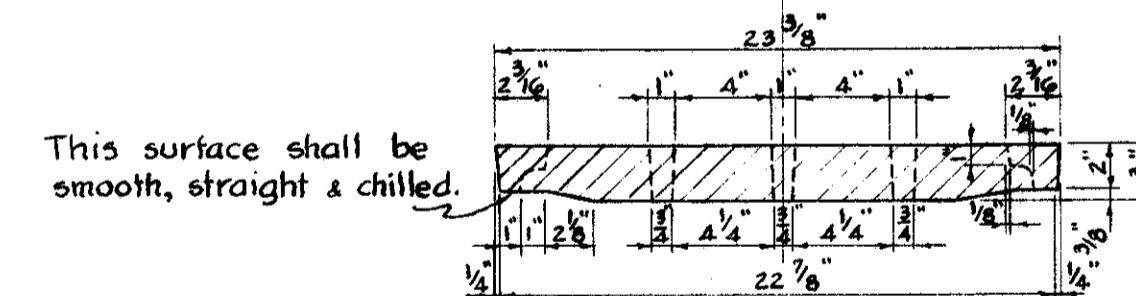


Note:
Cover seat surface to be chilled & chipped or ground to smooth round regular edge.

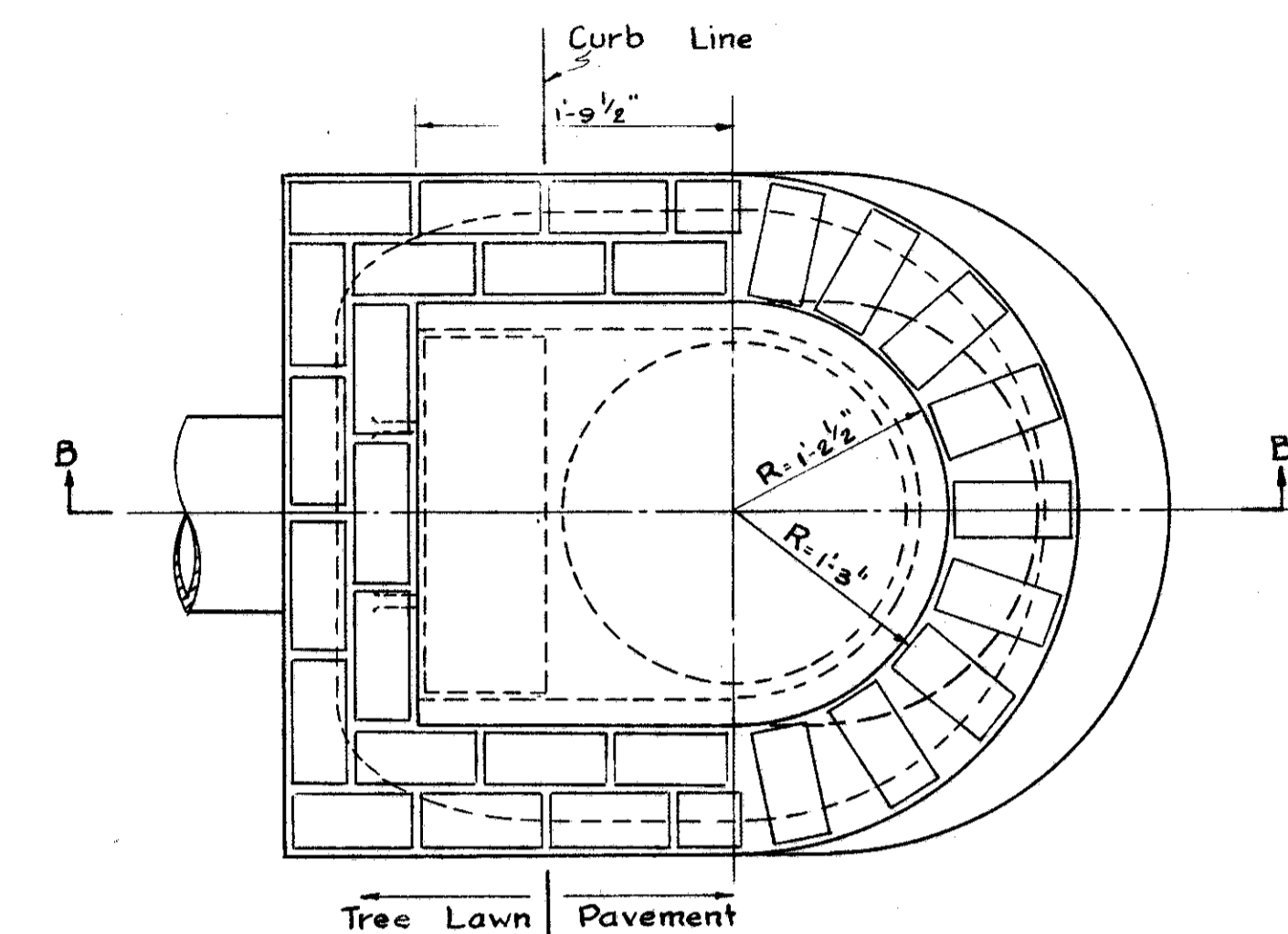


PLAN
CITY STANDARD CAST IRON
CATCH BASIN COVER

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



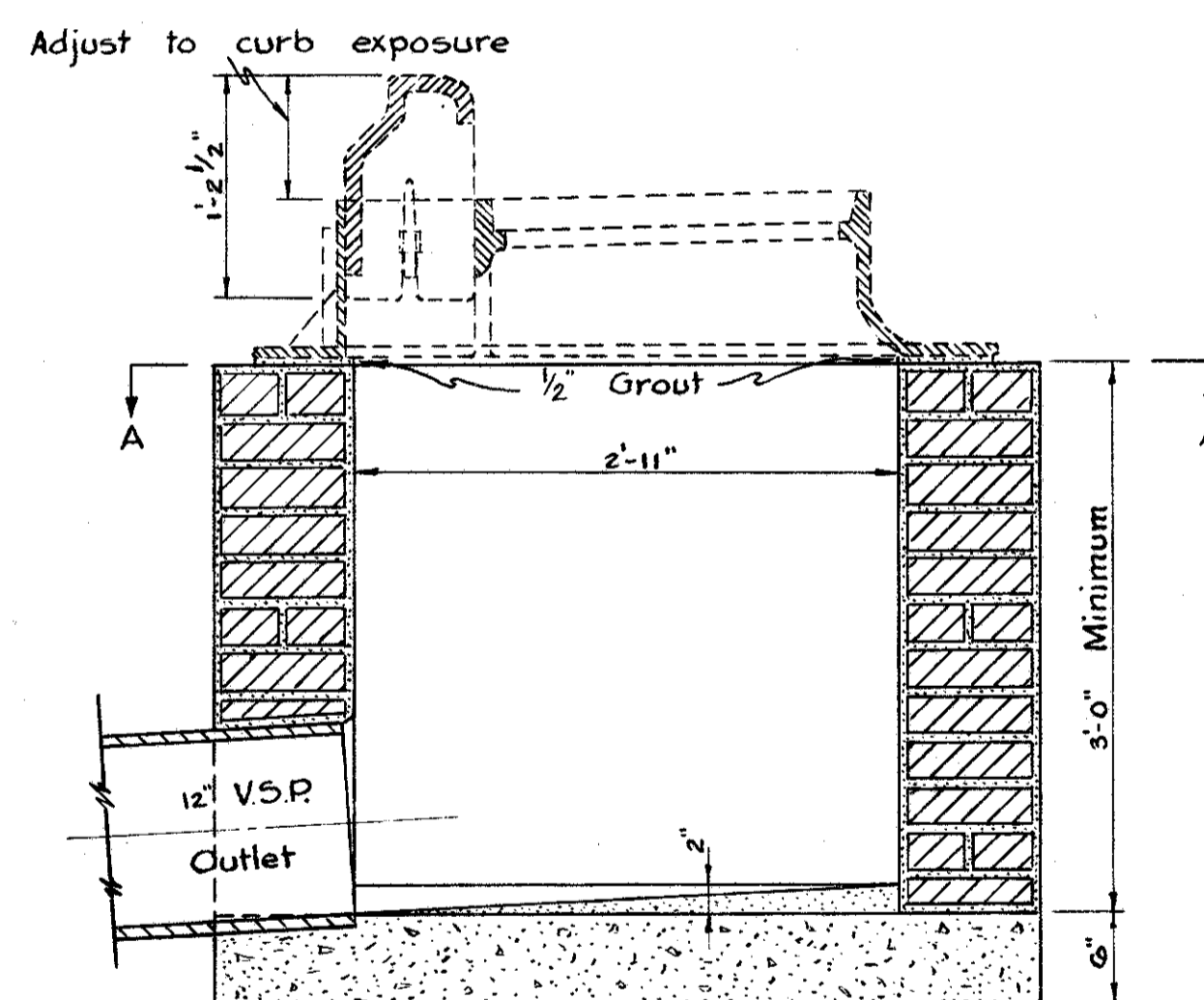
SECTION "A-A"



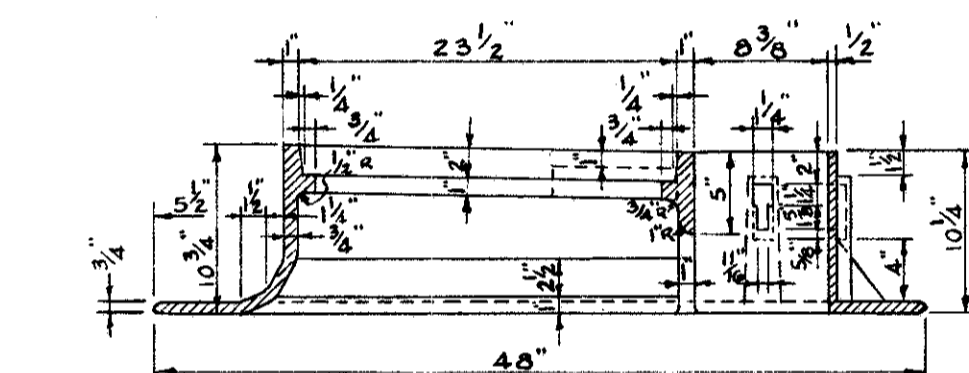
PLAN CATCH BASIN
VIEW "A-A"

Scale: 1" = 1'-0"

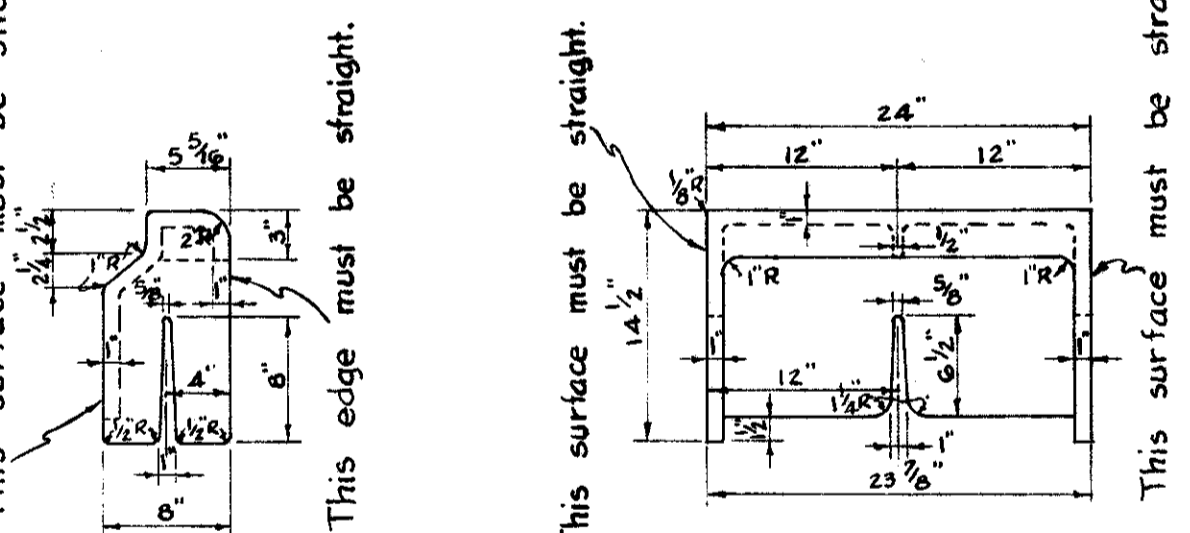
Position of casting shown in dashed lines.



SECTION "B-B"



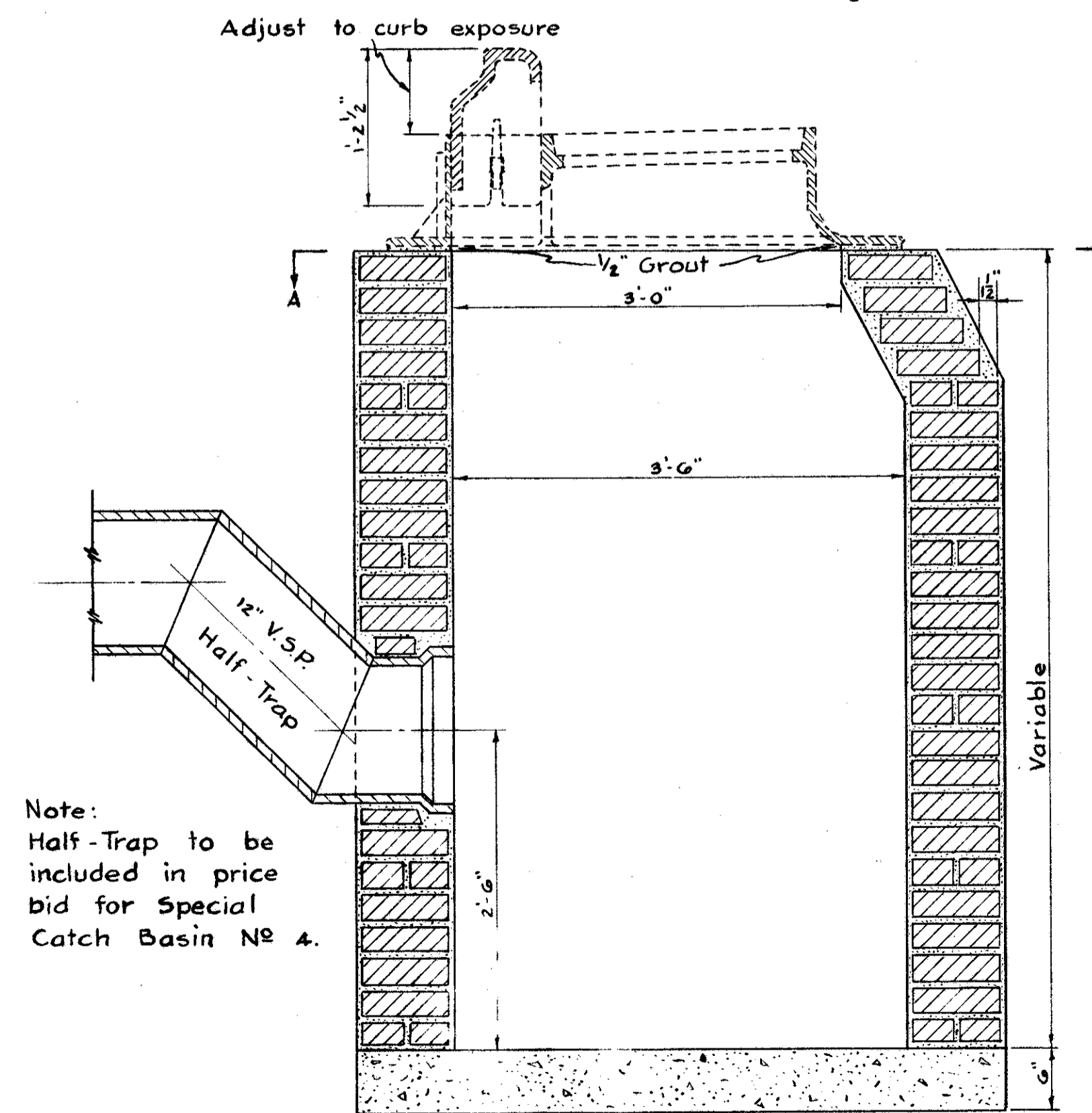
SECTION "A-A"



END VIEW FRONT ELEVATION
CURB BOX

CITY STANDARD CATCH BASIN FRAME
AND CAST IRON CURB BOX

Scale: 1" = 1'-0"



SECTION "B-B"

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

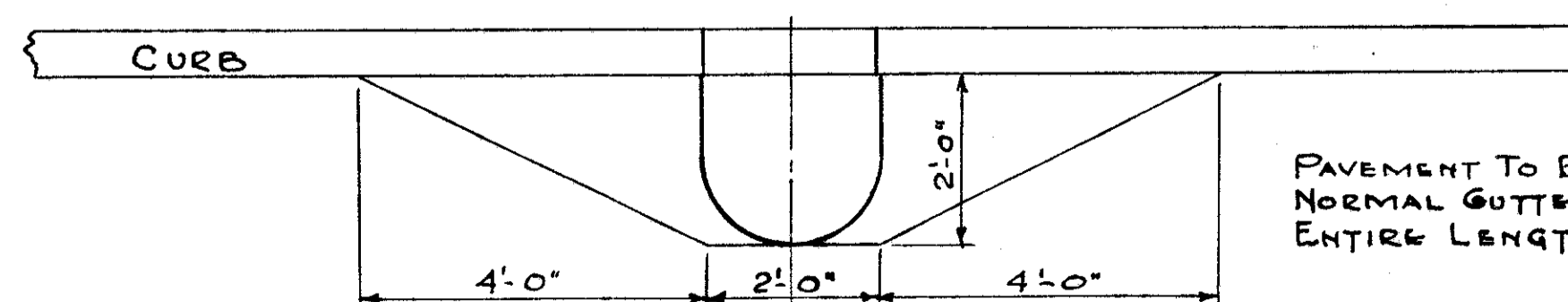
NOTES:

BRICK WALLS:
Brick walls shall be 8" thick and plastered on the inside and outside with 1:2 cement mortar 1/2" 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.



DETAIL FOR DEPRESSING PAVEMENT
FOR ABOVE STRUCTURES

PAVEMENT TO BE DEPRESSED 2" BELOW NORMAL GUTTER ALONG CURB LINE FOR ENTIRE LENGTH OF CURB OPENING.

LIGHTING NOTES

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	TYPE FUNDS
2	OHIO		

73A
80

CUYAHOGA COUNTY
CUY-42-18.77

1. GENERAL

THIS SPECIFICATION SHALL SUPPLEMENT THE STATE OF OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1959, FOR THE MATERIAL USED AND FOR THE INSTALLATION OF COMPLETE SERIES ROADWAY AND MULTIPLE UNDERDECK LIGHTING SYSTEMS FOR PART B PORTION OF THE INNER BELT-FREEWAY

THE TYPE AND LOCATION OF LIGHTS, THE CIRCUITS AND THE LOCATION OF CABLES AND CONDUITS SHALL BE AS INDICATED ON THE PLANS. THE CABLES FOR ROADWAY LIGHTS SHALL BE IN CONCRETE ENCASED FIBER OR ASBESTOS-CEMENT CONDUIT. FOR THE ROADWAY LIGHTING, 15,000 LUMEN AND 10,000 LUMEN INCANDESCENT LIGHTS ARE TO BE INSTALLED WHERE AND AS INDICATED ON THE PLANS. THE

UNDERDECK LIGHTS ARE TO BE 250 WATT. BALLASTS ARE TO BE INSTALLED FOR 230 VOLT OPERATION.

THE CONTRACTOR SHALL CONSULT AND COOPERATE WITH THE CLEVELAND DIVISION OF LIGHT AND POWER BUT HE WILL NOT BE REQUIRED TO FURNISH, INSTALL OR CONNECT CONSTANT CURRENT OR MULTIPLE PRIMARY SERVICES, METERS, METER MOUNTS, METERING EQUIPMENT OR HOUSINGS FOR SAME.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL LIGHTING EQUIPMENT, INCLUDING REG. VAULTS, LAMPS, LUMINAIRES, UNDERDECK LIGHTING, FIXTURES, BALLASTS, SERIES CABLES, WIRING, LUMINAIRE BRACKETS AND STANDARDS FOR ROADWAY UNITS OFF STRUCTURES, MULTIPLE FEEDERS, FLEXIBLE CONDUIT CONNECTIONS TO UNDERDECK LIGHTING FIXTURES, JUNCTION BOXES, ADAPTERS, POLE CAP SCREWS, CABLE, CONCRETE POLE BASES, INSULATING TRANSFORMERS, POTHEADS, CONCRETE POLE BASE BOXES, GROUNDS, ALL CONDUITS AND DUCTS FOR PRIMARY AND LIGHTING CIRCUITS WHERE INDICATED, COUPLINGS, FEEDERS AND ALL INCIDENTALS NECESSARY AND INDICATED FOR COMPLETE CIRCUIT INSTALLATIONS, INSTALLED, ACCEPTED AND CONNECTED FOR OPERATION. THE CLOSED TYPE LOOPS OF ALL SERIES LIGHTING CIRCUITS SHALL BE COMPLETE, AND THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT NECESSARY FOR THE SATISFACTORY OPERATION OF THE CIRCUITS AND FOR THE COMPLETE OPERATION OF THE LIGHTING SYSTEMS, (EXCLUDING PRIMARY SERVICE LEADS, DISTRIBUTION, TRANSFORMERS, PRIMARY ARRESTERS, PRIMARY INSULATORS, CONSTANT CURRENT REGULATORS, SECONDARY ARRESTERS, CONTROLLERS FOR SERIES CIRCUITS, OIL SWITCHES, PRIMARY CONTACTORS, POWER POLES, PRIMARY FUSE CUTOUPS, AND PRIMARY CONNECTIONS TO THE POWER SOURCES) WHETHER SPECIFICALLY MENTIONED OR NOT.

ALL FLUORESCENT LIGHTING SHALL BE FED FROM APPROPRIATE REGULATOR VAULTS BY TWO CONDUCTOR NO. 8 RILL 600VOLT CABLES THROUGH ONE 4 INCH DUCT UP TO AND INCLUDING JUNCTION BOXES INSTALLED ON PREVIOUS CONTRACT. FROM THIS POINT ON TWO NO. 10 AWG SINGLE CONDUCTOR WIRES SHALL BE USED. ALL FLUORESCENT UNDERPASS LUMINAIRES SHALL BE MOUNTED AS HIGH ON ABUTMENTS AS PRACTICALLY POSSIBLE.

THE LIGHTING INSTALLATION, WHEN COMPLETED, SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE A.I.E.E. STANDARDS AND PRACTICES, AMERICAN STANDARDS, AND NATIONAL ELECTRIC MANUFACTURERS' ASSOCIATION STANDARDS, AND SHALL CONFORM TO ALL LOCAL AND SPECIAL LAWS AND/OR ORDINANCES GOVERNING SUCH INSTALLATION, AND TO THE SPECIAL REQUIREMENTS HEREIN SET FORTH. SHOULD THE PLANS AND DETAIL SPECIFICATIONS BE IN CONFLICT WITH THESE REQUIREMENTS, THROUGH ERROR OR OMISSION, THE CONTRACTOR SHALL CALL SUCH CONFLICT TO THE ATTENTION OF THE ENGINEER, AND THE CONTRACTOR SHALL MAKE THE NECESSARY CORRECTIONS IN THE INSTALLATION AS MAY BE DIRECTED BY THE ENGINEER.

INsofar AS PRACTICABLE, ALL MAJOR ITEMS OF ELECTRICAL EQUIPMENT SUCH AS LUMINAIRES, CABLE, POLES, INSULATING TRANSFORMERS, ETC., SHALL CONSIST OF PRODUCTS OF THE SAME MANUFACTURER IN ORDER TO SECURE SINGLE RESPONSIBILITY AND MOST SATISFACTORY SERVICE. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ELECTRICAL EQUIPMENT SHALL BE EQUAL TO THE BEST GRADE OF THAT TYPE OF EQUIPMENT AS MANUFACTURED BY THE GENERAL ELECTRIC COMPANY, THE WESTINGHOUSE ELECTRIC COMPANY, OR THE LINE MATERIAL COMPANY. REFERENCE TO ANY NAME, MAKE OR MANUFACTURER'S NUMBER FOR AN ARTICLE OF EQUIPMENT OR MATERIAL IS INTENDED TO BE DESCRIPTIVE AND SET A STANDARD OF DESIRED QUALITY AND STYLE, BUT IS NOT RESTRICTIVE. IT INDICATES THE MATERIALS THAT WILL BE ACCEPTABLE AND THAT SHOULD BE USED AS THE BASIS OF THE BIDS.

A LAYOUT WIRING DIAGRAM SHOWING IN GENERAL THE ARRANGEMENTS AND LOCATION OF THE EQUIPMENT IS SHOWN ON THE PLANS. THIS SHALL BE CONSIDERED ONLY AS ILLUSTRATIVE AND, SUBJECT TO THE APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL MODIFY IT AS NECESSARY FOR COMPLETE AND PROPER CONSTRUCTION AND OPERATION. THE LOCATION OF THE TRANSFORMERS, SERVICES, CONDUIT AND LUMINAIRES SHOWN ON THE PLANS ARE DIAGRAMMATIC ONLY, AND MAY BE SUBJECT TO SLIGHT SHIFTING AS THE ENGINEER MAY DIRECT IN ORDER TO CONFORM TO LOCAL CONDITIONS.

BEFORE COMMENCEMENT OF INSTALLATION OF THE ROADWAY AND UNDERDECK LIGHTING SYSTEMS, A COMPLETE SCHEDULE OF MATERIALS AND EQUIPMENT PROPOSED FOR INSTALLATION SHALL BE SUBMITTED FOR THE APPROVAL OF THE ENGINEER. THE SCHEDULE SHALL INCLUDE CATALOGS, CUTS, BROCHURES, DIAGRAMS, DRAWINGS, AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED BY THE ENGINEER. IN THE EVENT ANY ITEMS OF MATERIAL OR EQUIPMENT CONTAINED IN THE SCHEDULE FAIL TO COMPLY WITH SPECIFICATION REQUIREMENTS, SUCH ITEMS WILL BE REJECTED.

2. MATERIALS AND EQUIPMENT

ALL BOLTS, NUTS, STUDS, WASHERS, PINS, TERMINALS, SPRINGS, AND SIMILAR FASTENINGS AND FITTINGS SHALL BE, WHERE PRACTICABLE, OF AN APPROVED CORROSION-RESISTING MATERIAL SUCH AS BRASS OR BRONZE, OR OF A MATERIAL TREATED IN AN APPROVED MANNER TO RENDER IT ADEQUATELY RESISTANT TO CORROSION. HOT-DIP GALVANIZING WILL BE CONSIDERED SUCH APPROVED TREATMENT. ALL MATERIALS FURNISHED SHALL BE NEW, SHALL BE OF THE BEST QUALITY AND WORKMANSHIP, SHALL BE THE BEST STANDARD PRODUCT OF A MANUFACTURER REGULARLY ENGAGED IN THE PRODUCTION OF THIS TYPE OF EQUIPMENT AND SHALL BE OF THE MANUFACTURER'S LATEST APPROVED DESIGN.

EACH ROADWAY LIGHTING UNIT SHALL COMPRISE A POLE WITH BRACKET OR BRACKETS AND EITHER A 15,000 LUMEN LUMINAIRE SIMILAR TO GENERAL ELECTRIC FORM 79-AD OR A 10,000 LUMEN LUMINAIRE SIMILAR TO WESTINGHOUSE AK-10

LIGHT STANDARDS SHALL CONFORM AS NEARLY AS POSSIBLE TO THE SPECIFICATIONS HEREIN AND SHALL BE SIMILAR TO UNION METAL DESIGN NO. 8 AS INDICATED FOR STANDARDS ALONG ROADWAYS AS TO GENERAL DESIGN AND FINISH, HEIGHT, BASE, MAST ARM, DIMENSIONS AND TO METHOD OF FABRICATION. IN GENERAL, EACH STANDARD SHALL CONSIST OF A CAST STEEL ANCHOR BASE TO WHICH SHALL BE WELDED A TAPERED STEEL POLE. TO THE STEEL POLE SHALL BE FASTENED AN ORNAMENTAL POLE TOP TO WHICH SHALL BE WELDED A MAST ARM BRACKET FOR SUPPORTING THE LIGHTING UNIT.

THE TRANSFORMER BOX FOR ALL STANDARDS OFF STRUCTURES SHALL BE A PART OF THE POLE BASE FOUNDATION AS INDICATED ON THE PLANS, WITH CLASS C CONCRETE USING NO. 4 AGGREGATE.

THE STEEL SHAFT OF THE LIGHTING STANDARDS SHALL BE FABRICATED FROM NOT LESS THAN NO. 11 MANUFACTURER'S STANDARD GAUGE. THE SHAFT SHALL BE FORMED AND WELDED WITH ONLY ONE LONGITUDINAL, AUTOMATICALLY ELECTRICALLY WELDED JOINT AND SHALL HAVE NO HORIZONTAL JOINTS OR WELDS. THE WELD SHALL BE OF FULL PENETRATION. AFTER FORMING AND WELDING, THE TAPERED SHAFT SHALL BE COLD ROLLED OR WORKED UNDER SUFFICIENT PRESSURE TO FLATTEN OUT THE WELD, TO INCREASE THE ELASTIC LIMIT OF THE METAL IN THE COMPLETED SHAFT, AND TO PRODUCE A TRUE TAPERED TUBE WITHOUT FLAT SPOTS AND A CIRCULAR CROSS SECTION THROUGHOUT THE LENGTH OF THE SHAFT. IF THE SHAFT IS FABRICATED BY MEANS OF A BRAKE OR OTHER PROCESS WHICH DOES NOT UTILIZE THE COLD ROLLING PRINCIPLE, IT SHALL BE FABRICATED FROM A STEEL SHEET HAVING A THICKNESS OF NO. 7 MANUFACTURER'S STANDARD GAUGE.

EACH STANDARD SHALL HAVE A MAST OR BRACKET ARM MADE OF STANDARD PIPE OF THE SIZE AND LENGTH AS SHOWN ON THE PLANS. THE INNER END OF THE BRACKET ARM SHALL BE WELDED TO A CAST STEEL HEAD BLOCK SO DESIGNED THAT THE BLOCK CAN BE BOLTED THROUGH A CAST IRON NECK PIECE TO A PLATE WELDED TO THE TOP OF THE POLE TO PERMIT RADIAL ADJUSTMENT OF THE BRACKET ARM. PROVISIONS SHALL BE MADE TO PERMIT PASSAGE OF THE CONCEALED WIRES TO BRACKET ARM. THE ORNAMENTAL CASTING WELDED TO THE OUTER END OF THE BRACKET SHALL BE ARRANGED WITH A LEVELING DEVICE OR "PLUMBER" FOR ADJUSTMENT OF A PENDANT LIGHTING FIXTURE AND SHALL BE TAPPED FOR 1-1/4 INCH PIPE CONNECTION. THE POLE BASE FOUNDATIONS SHALL BE CLASS "C" CONCRETE WITH 1-1/4 "x-5" CADMIUM COATED STEEL ANCHOR BOLTS EXTENDED 3-1/16 INCH ABOVE BASE WITH 4 INCH L-BEND AT BOTTOM. EACH ROD SHALL HAVE ONE GALVANIZED AMERICAN STANDARD HEX-NUT. EACH CABLE SHALL ENTER THE STANDARD THROUGH 2-INCH FIBER CONDUIT INSTALLED IN THE CONCRETE FOUNDATION FROM TRANSFORMER POLE BASE BOX. CONDUIT SHALL EXTEND AT LEAST 3 INCHES ABOVE TOP OF FOUNDATION. ALL STANDARDS SHALL HAVE GROUNDING LUGS.

EACH STANDARD SHALL HAVE TWO 9/16 INCH HOLES PROVIDED WHERE SHOWN ON DETAILS. ALL POLES AND BRACKETS SHALL HAVE A FACTORY APPLIED PRIMER, TOUCHED UP AND THEN SHALL BE PAINTED WITH TWO FIELD COATS OF DARK GREEN WEATHER RESISTING ENAMEL AS USED ON CITY STREETS BY DIVISION OF LIGHT AND POWER. FINISH FIELD COATS SHALL BE APPLIED AFTER ERECTION. THE FIRST FIELD COAT SHALL BE TINTED.

EACH LUMINAIRE SHALL CONSIST OF A SUPPORTING HOOD, AND EXTERNAL BODY OR CASING, MAIN REFLECTOR AND A REFLECTOR GLOBE. THE HOOD SHALL BE MADE OF CAST ALUMINUM AND SHALL BE TAPPED FOR 1-1/4 INCH STANDARD PIPE. THE EXTERNAL BODY OR CASING SHALL BE MADE OF CAST ALUMINUM AND SHALL BE FIRMLY ATTACHED TO THE HOOD BY MEANS OF ADEQUATE SCREWS OR BOLTS. THE MAIN REFLECTOR SHALL BE MADE OF HEAVY GAUGE ALUMINUM SHEET, ALZAK FINISHED AND POLISHED. THE ENTIRE REFLECTING ELEMENT SHALL BE RIGIDLY ATTACHED TO THE EXTERNAL BODY BY MEANS OF SCREWS OR BOLTS.

THE GLOBES SHALL BE SUPPLIED WITH A NON-RUSTING METAL SUPPORTING RING OR BAND WITH CLAMPS AROUND THE RIM OR FLANGE OF THE GLOBE. THE SUPPORTING RING SHALL BE SO DESIGNED THAT BROKEN GLOBES CAN BE REPLACED AT THE LAMP LOCATION WITH THE USE OF SIMPLE HAND TOOLS. ALL SCREWS, NUTS, WASHERS, ETC., WHICH MUST BE REMOVED IN ORDER TO REPLACE A BROKEN GLOBE SHALL BE NON-FERROUS AND CORROSION-PROOF. THE GLOBE SUPPORTING RING SHALL BE ATTACHED TO THE REFLECTOR BY MEANS OF A HINGE OR ITS EQUIVALENT ON ONE SIDE AND A LATCH, THUMB SCREW, OR EQUIVALENT ON THE OPPOSITE SIDE. THESE DEVICES SHALL BE SO DESIGNED THAT WITH THE GLOBE IN PLACE, THE LATCH OR THUMB SCREW CAN BE RELEASED BY HAND, THE GLOBE SWUNG DOWN AND THEN LIFTED OFF THE HINGE SO THAT THE GLOBE CAN BE WASHED SEPARATELY FROM THE FIXTURE. THE DESIGN SHALL BE SUCH THAT AFTER WASHING, THE GLOBE CAN BE HOOKED ONTO THE HINGE AND THEN PUSHED UP INTO PLACE AGAINST THE GASKET WITH ONE HAND WHILE THE LATCH OR THUMB SCREW IS TIGHTENED WITH THE OTHER HAND. THE BEST DESIGN SHALL BE THAT WHICH COMBINES SIMPLICITY AND EASE OF OPERATION WITH THE MOST EFFECTIVE SEAL BETWEEN THE GLASS GLOBE AND THE REFLECTOR. FIXTURES HAVING THE REFLECTOR PERMANENTLY ATTACHED OR "SPUN ON" TO THE GLASS GLOBE WILL NOT BE ACCEPTED. A SKELETON TYPE MOGUL MULTIPLE SOCKET SHALL BE MOUNTED IN THE HOOD AND SHALL BE SUITABLE FOR 10,000 OR 15,000 LUMEN, 20 AMPERE LAMPS. THE LUMINAIRES SHALL PRODUCE AN I.E.S. TYPE IV LIGHT DISTRIBUTION CURVE EQUAL TO THE CURVE PRODUCED BY THE GENERAL ELECTRIC FORM 79-AD OR AN I.E.S. TYPE III PRODUCED BY WESTINGHOUSE AK-10, AS REQUIRED.

LAMPS FOR UNDERDECK LUMINAIRES SHALL BE NOMINAL 85 WATT, FLUORESCENT TYPE CW/HO, AND FOR ROADWAY UPRIGHT LUMINAIRES SHALL BE 10,000 LUMEN OR 15,000 LUMEN, 2,000 HOUR LAMPS FOR REGULAR REPLACEMENT, PS-40 BULBS, MOGUL BASE.

EXTERNAL PARTS OF ALL LUMINAIRES SHALL BE FINISHED ALUMINUM. GASKETS USED FOR SEALING THE JOINT BETWEEN GLOBES AND REFLECTORS OR CASINGS SHALL BE PERFORMED CORK OR FELT AND SHALL BE CEMENTED IN PLACE. THE FIXTURES AS SPECIFIED ARE PRECISION OPTICAL DEVICES AND IN ORDER TO DELIVER THE PERFORMANCE REQUIRED THEY MUST HAVE THE LAMP FILAMENT CORRECTLY LOCATED WITH

REFERENCE TO THE REFLECTING OR REFRACTING ELEMENTS. THE SOCKETS SHALL PREFERABLY BE SOLIDLY MOUNTED, WITH THE LAMP FILAMENT AT THE CORRECT OPTICAL CENTER. IF THE MANUFACTURER'S DESIGN PROVIDES FOR VERTICAL ADJUSTMENT OF THE SOCKET, HE SHALL FURNISH A DRAWING SHOWING THE PROPER DIMENSION TO SOME CONVENIENT REFERENCE POINT, SUCH AS THE LOWER EDGE OF THE REFLECTOR OR CASING, SO THAT THE PURCHASER CAN MAKE A GAUGE TO BE USED FOR ACCURATELY SETTING AND LOCKING THE SOCKETS. REFRACTING GLOBES SHALL PREFERABLY BE KEYS TO THE SUPPORTING REFLECTOR SO THAT THEY CANNOT BE PLACED IN ANY OTHER THAN THE CORRECT ANGULAR LOCATION. IN ANY EVENT, THE GLOBES MUST BE PLAINLY MARKED TO INDICATE THE "STREET SIDE" AND THE "HOUSE" OR "SIDEWALK SIDE." ALL LAMPS USED IN THESE FIXTURES WILL BE STANDARD 20 AMPERE, BASE UP MAZDA TYPE WITH MOGUL BASES AND 7 INCH LIGHT CENTERS.

LAMP SOCKETS USED IN ENCLOSED FIXTURES OF THE TYPES SPECIFIED ARE SUBJECTED TO HIGH TEMPERATURES AND THE SOCKETS FURNISHED SHALL BE FOR HEAVY DUTY AND SHALL INCORPORATE ALL THE LATEST DESIGN FEATURES AVAILABLE SUCH AS CENTER SPRING LOADED CONTACTS, PLATED PARTS AND EXTRA HEAVY CAST TERMINALS TO REDUCE THE POSSIBILITY OF CONTACT TROUBLES AND WELDING OF THE LAMP BASE TO THE SOCKET SHELL. EACH FIXTURE SHALL PREFERABLY BE COMPLETELY ASSEMBLED AT THE FACTORY AND SHIPPED IN A SINGLE CONTAINER AS A COMPLETE UNIT.

ALL OF THE SERIES STREET LIGHTING INSULATING TRANSFORMERS WILL BE CONNECTED WITH THEIR PRIMARY WINDINGS IN A 6.6 AMPERE, 60 CYCLE REGULATED CIRCUIT, AND SHALL BE LOCATED EITHER IN CONCRETE POLE BASE BOXES OR IN PARAPET JUNCTION BOXES. TRANSFORMERS FOR LIGHTING UNITS ON RAMPS, ROADWAYS AND LANES SHALL BE LOCATED IN THE POLE BASE BOX OF EACH POLE. THE SECONDARY OF THE 10,000/15,000 LUMEN TRANSFORMERS WILL SUPPLY 20 AMPERES TO ONE LAMP RATED 10,000 OR 15,000 LUMENS. WHEN THE LAMP WATTAGE VARIES BETWEEN 8% ABOVE AND 20% BELOW NORMAL, THE SECONDARY OR LAMP CURRENT SHALL NOT VARY MORE THAN 1% FROM 20 AMPERES WITH 6.6 AMPERES AT 60 CYCLES SUPPLIED TO THE PRIMARY WINDING. EACH TRANSFORMER SHALL BE GIVEN A DIELECTRIC TEST BY THE MANUFACTURER AND SHALL WITHSTAND 22,000 VOLTS BETWEEN PRIMARY WINDING AND ALL OTHER PARTS OF THE TRANSFORMER AND 1,500 VOLTS BETWEEN THE SECONDARY WINDING AND ALL OTHER PARTS OF THE TRANSFORMER. BOTH OF THE ABOVE TESTS SHALL BE APPLIED FOR ONE MINUTE, WITHOUT FAILURE. THE STREET LIGHTING TRANSFORMERS SHALL BE FOR POLE BASE MOUNTING WITH TAPING SLEEVES SIMILAR TO G. E. CAT. NO. 95A642 WHICH WILL BE THE CRITERION IN JUDGING THE ADEQUACY OF THE TYPE PROPOSED BY THE CONTRACTOR. INDIVIDUAL TRANSFORMERS SHALL BE FURNISHED FOR EACH LIGHT.

EACH TRANSFORMER SHALL BE SUPPLIED WITH A NON-CORROSIVE NAME PLATE SHOWING THE FOLLOWING DATA: MAKER'S NAME AND STYLE OR CATALOG NUMBER, RATING IN LUMENS, PRIMARY CURRENT, SECONDARY CURRENT, AND FREQUENCY.

CONDUCTORS FOR ROADWAY LIGHTING SHALL BE TWO SINGLE NO. 8 AWG SOLID SOFT DRAWN COPPER OF NOT LESS THAN 98% CONDUCTIVITY AND SHALL BE COATED WITH LEAD, TIN, OR ANTIMONY ALLOY. INSULATION SHALL CONSIST OF 10/64 INCH OF POLY-VINYL CHLORIDE COMPOUND MADE IN ACCORDANCE WITH A.S.T.M. SPEC. D-734. ALL CONDUCTORS SHALL BE PLACED IN CONDUIT.

CABLE TO BE INSTALLED IN POLES FROM THE SECONDARY TAPS OF THE ISOLATING TRANSFORMERS TO THE BRACKET END AT LUMINAIRE SHALL BE NO. 8 AWG, SINGLE CONDUCTORS, 600 V. CABLE. INSULATION SHALL CONSIST OF 4/64 INCH OF RUBBER OR RUBBER LIKE COMPOUND KNOWN COMMERCIALY AS OZONE RESISTANT INSULATION WITH AN OUTSIDE JACKET OR SHEATH OF NEOPRENE, 1/64 INCH THICK. POLE AND BRACKET ASBESTOS WIRE SHALL BE INSTALLED BETWEEN THE BRACKET END AT LUMINAIRE AND LAMP SOCKET. IT SHALL BE NO. 8 AWG SINGLE CONDUCTOR, SOLID. INSULATION SHALL BE ASBESTOS APPLIED TO THE CONDUCTOR TO FORM A CONTINUOUS TUBE OF ASBESTOS FIBRES AT LEAST 40 MILS THICK TIGHTLY COMPRESSED AND IMPREGNATED WITH A FLAME, HEAT AND MOISTURE-PROOF COMPOUND, AND AN OUTER ASBESTOS BRAID AT LEAST 45 MILS THICK.

UNDERDECK LUMINAIRES SHALL BE EQUAL TO LINE MATERIAL NO. LF11 WITH TWO 1-AMP. STREET LIGHTING, HIGH OUTPUT FLUORESCENT LAMPS, PRE-HEATED CATHODE, CAT. NO. F7212-CW-HO, COMPLETE WITH 230 VOLT AC MULTIPLE BUILT IN BALLASTS.

THE JUNCTION BOX SHALL BE CAST IRON, WATERTIGHT, AND EQUAL TO O.2. TYPE YS CAT. NO. 060404 FOR THE UNDERDECK LIGHTS ON BRIDGES. THE CONTRACTOR SHALL PROVIDE 30 AMP. 250 VOLT, DOUBLE POLE CIRCUIT BREAKERS SIMILAR TO GENERAL ELECTRIC CAT. NO. TC-2331/WP2, AND WITH 3/4 INCH REMOVAL HUBS ON TOP SIDE OF CIRCUIT BREAKER BOX.

3. CONSTRUCTION METHODS

THE INSTALLATION AS A WHOLE SHALL BE CARRIED OUT IN CONFORMANCE WITH THE REQUIREMENTS HEREIN STATED AND IMPLIED, AND UPON COMPLETION OF THE WORK SHALL PRESENT A NEAT AND WORKMANLIKE FINISHED APPEARANCE. SAFE CONSTRUCTION AND OPERATING PRACTICES MEETING THE REQUIREMENTS OF THE NATIONAL ELECTRIC SAFETY CODE SHALL BE MAINTAINED.

POLES SHALL BE CAREFULLY SET, THEY SHALL BE RAKED SO THAT THE BACK TAPERED SIDE IS VERTICAL AND THE LUMINAIRES SHALL BE SUPPORTED BY BRACKETS ABOUT 28'-0" ABOVE PAVEMENT AS INDICATED. THE CAREFUL ALIGNING AND GRADING OF POLES IS CONSIDERED TO BE AN ESSENTIAL FEATURE OF THE INSTALLATION. THE WORK SHALL BE AS NEARLY PERFECT AS PRACTICABLE, AND NO PERCEPTIBLE TOLERANCES WILL BE PERMITTED. IN ORDER TO ACCOMPLISH THE DESIRED PERFECTION OF ALIGNMENT OF THE LUMINAIRES, THE POLES SHALL BE CAREFULLY ALIGNED IN PLACE, SUPPORTED BY SHIMS AS REQUIRED, AND SECURELY BOLTED.

THE INSTALLATION OF ALL LUMINAIRES AND WIRING SHALL CONFORM TO THE RECOMMENDATIONS OF THE EQUIPMENT MANUFACTURERS AND THE PRACTICE OF THE DIVISION OF LIGHT & POWER.

CABLES SHALL BE INSTALLED IN CONTINUOUS LENGTHS WITHOUT SPLICES, FROM TERMINAL TO TERMINAL. AT THE TERMINALS, CABLE SHALL BE SPLICED TO THE EQUIPMENT LEADS IN STRICT CONFORMITY WITH THE MANUFACTURER'S INSTRUCTIONS AND AS DIRECTED. CARE SHALL BE TAKEN TO INSURE WATERTIGHT JOINTS. SPLICES MAY BE MADE IN CONCRETE PULL BOXES.

SPLICES SHALL NOT BE MADE IN CONDUITS. SPLICES OF CONDUCTORS SHALL BE MADE MECHANICALLY AND ELECTRICALLY SECURE BY USING FOUR SCREW COPPER CONNECTORS AND WRAPPING IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER OF THE CABLE SO THAT THE INSULATION AND THE MECHANICAL AND ELECTRICAL QUALITIES OF THE SPLICES SHALL BE EQUAL TO THAT OF THE REMAINDER OF THE CONDUCTOR. TAPE OF THE SAME COMPOSITION AS THE CABLE INSULATION OR SCOTCH BRAND TAPE SHALL BE USED.

4. TESTS

THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND APPLIANCES NECESSARY TO TEST THE COMPLETED CABLE SYSTEMS. A BURNING TEST WILL BE REQUIRED FOR THE LIGHTS. IN ADDITION, THE CITY OF CLEVELAND WILL MAKE A "MEGER" TEST OF ALL CIRCUITS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DEMONSTRATE TO THE SATISFACTION OF THE DIRECTOR OF HIGHWAYS THAT ALL LIGHTING CIRCUITS ARE CONTINUOUS AND FREE FROM SHORT CIRCUITS AND UNSPECIFIED GROUNDS, THAT ALL CIRCUITS ARE PROPERLY CONNECTED IN ACCORDANCE WITH THE APPLICABLE WIRING DIAGRAM AND THAT THE RESISTANCE TO GROUND OF NON-GROUNDED SERIES CIRCUITS IS NOT LESS THAN 50,000 OHMS AND PARALLEL UNGROUNDED CIRCUITS IS NOT LESS THAN 100,000 OHMS. THE CONTRACTOR SHALL FURNISH A COMPLETE REPORT OF MEGOHM READINGS ON ALL CIRCUITS INSTALLED.

5. PAYMENT FOR ROADWAY AND UNDERDECK LIGHTING

PAYMENT FOR THE ROADWAY AND UNDERDECK LIGHTING SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR ITEMS AS INDICATED IN THE SCHEDULE OF QUANTITIES, WHICH PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY, WHETHER SPECIFICALLY MENTIONED OR NOT, TO COMPLETE THE ENTIRE WORK, INSTALLED AND IN OPERATING CONDITION FOR FULL ACCEPTANCE, ACCORDING TO THE PLANS AND SPECIFICATIONS. PAYMENT WILL BE MADE AS FOLLOWS:

- A. "15,000 LUMEN LUMINAIRES AND INSULATING TRANSFORMER," PER EACH AND SHALL INCLUDE LAMP, GLOBE, REFLECTOR, REFRACTOR, LAMP RECEPTACLE, CORROSION RESISTANT FITTINGS, LATCHES, SAFETY CHAIN, GASKETS AND INSULATING TRANSFORMER.
- B. "10,000 LUMEN LUMINAIRE AND INSULATING TRANSFORMER," PER EACH AND SHALL INCLUDE ALL FEATURES SPECIFIED FOR 15,000 LUMEN LUMINAIRE, ITEM A, EXCEPT USING 10,000 LUMEN LUMINAIRE.
- C. "STANDARD 10 FOOT BRACKET," PER EACH AND SHALL INCLUDE POLE FOR 28-FOOT MOUNTING HEIGHT, BRACKET ATTACHMENTS, STEEL BRACKET OR BRACKETS SHIMS, ANCHOR BOLTS, HANDHOLE, ANCHOR BASE, LEAF COVERS, PAINTING, END KNOB WITH PLUMBIZER AND PIPE NIPPLE, SINGLE CONDUCTOR NO. 8 AWG, 600 VOLT POLE AND BRACKET CABLE TO INSULATING TRANSFORMER, ATTACHMENTS TO "M" HOOK, SCREWS, BOLTS, NUTS, WASHERS AND ALL MODIFICATIONS AND INCIDENTALS REQUIRED.
- D. "CONCRETE POLE BASE," PER EACH AND SHALL INCLUDE CONCRETE POLE BASE BOX, EXCAVATIONS, FORMS, CONCRETE, REINFORCING STEEL, SETTING ANCHOR BOLTS, 2-INCH CONDUIT THRU BASE TO BOX FOR WIRING, GROUNDING POLE, BACKFILLING, TAMPING, REMOVING WASTE, 90-DEGREE BENDS, GALVANIZED COUPLINGS, PIPE NIPPLES, INSULATING BUSHINGS, CONDUIT STUBS THRU POLE BASE BOX WALLS FOR CONTINUOUS RUNS, AND CONDUIT STUBS AND PLUGGING.
- E. "PULL BOXES, CONCRETE," PER EACH AND SHALL INCLUDE EXCAVATION, FORMS, CONCRETE, REINFORCING STEEL, CONDUIT STUBS THRU WALLS, BACKFILLING, TAMPING AND REMOVING WASTE.
- F. "NO. 8 AWG, 5 KV LIGHTING CABLE," PER LINEAL FOOT AND SHALL INCLUDE TWO SINGLE CONDUCTOR CABLES IN DUCTS AND PULL BOXES, SPLICING, TERMINALS, CONNECTIONS AND TESTING. MEASUREMENT FOR CABLE SHALL INCLUDE TWO LENGTHS OF SINGLE CABLE RUNS.
- G. "1-WAY DUCT, 2-INCH," PER LINEAL FOOT AND SHALL INCLUDE FORMS FOR CONCRETE, CONCRETE, END BELLS, PLUGGING DUCTS, CONDITIONING DUCTS, NO. 9 AWG GALVANIZED IRON PULVIN WIRE, AND SEALING AROUND DUCTS WHERE THEY ENTER MANHOLES OR VAULTS.
- H. "2-WAY DUCT, 2-INCH," PER LINEAL FOOT AND SHALL INCLUDE ALL FEATURES REQUIRED FOR "1-WAY DUCT, 2-INCH," ITEM G, EXCEPT USING TWO DUCT RUNS.
- I. "1-WAY DUCT, 4-INCH," PER LINEAL FOOT AND SHALL INCLUDE ALL FEATURES REQUIRED.
- J. "2-WAY DUCT, 1-2 INCH & 1-4 INCH," PER LINEAL FT. AND SHALL INCLUDE ALL FEATURES REQUIRED.
- K. "2-WAY DUCT, 4 INCH," PER LINEAL FT. AND SHALL INCLUDE ALL FEATURES REQUIRED.
- L. "3-WAY DUCT, 2-2 INCH & 1-4 INCH PER LINEAL FT. AND SHALL INCLUDE ALL FEATURES REQUIRED.
- M. "3-WAY DUCT, 1-2 INCH & 2-4 INCH PER LINEAL FT. AND SHALL INCLUDE ALL FEATURES REQUIRED.
- N. "4-WAY DUCT, 2-2 INCH & 2-4 INCH PER LINEAL FT. AND SHALL INCLUDE ALL FEATURES REQUIRED.
- O. "MULTIPLE FEEDERS", PER LINEAL FOOT AND SHALL INCLUDE TWO CONDUCTOR NO. 8 RILL 600VOLT CABLES IN CONDUITS, DUCTS JUNCTION BOXES, SPLICING, TERMINATIONS, CONNECTIONS AND TESTING. MEASUREMENT FOR CABLE SHALL INCLUDE TWO LENGTHS OF SINGLE CABLE RUNS.
- P. REG. VAULT PER EACH AND SHALL INCLUDE REQUIRED EXCAVATION FOR SAME FORMS, REINFORCING STEEL, CONCRETE, MANHOLE FRAMES AND COVERS, BOLTS AND FASTENINGS FOR HOLDING MANHOLE FRAME DOWN, END BELLS FOR DUCTS, PULLING IRONS, CONNECTIONS, SPLICING, BACKFILLING, TAMPING, COMPACTING, REMOVAL OF WASTE, CAST IRON DRAIN AND GRATING.
- Q. "NO. 10 AWG, 600 V. BRANCH CONDUCTORS", PER LINEAL FOOT AND SHALL INCLUDE TWO NO. 10 AWG SINGLE CONDUCTORS FOR FLUORESCENT UNDERDECK LIGHTS IN 3/4 INCH CONDUITS, JUNCTION BOXES SPLICING, TERMINATIONS, CONNECTIONS AND TESTING. MEASUREMENT FOR CONDUCTORS SHALL INCLUDE TWO LENGTHS OF SINGLE CONDUCTOR RUNS. THIS PAY ITEM SHALL INCLUDE 30 AMP., DOUBLE POLE UNDERDECK LIGHTS BRANCH CIRCUIT BREAKERS.
- R. "FLUORESCENT UNDERDECK LIGHT", PER EACH AND SHALL INCLUDE FIXTURE, 2-1 AMPERS, 230 VOLT DUAL, HIGH POWER FACTOR, LOW STARTING TEMPERATURE, BUILT-IN BALLAST BRACKETS, SUPPORT WHERE REQUIRED, GROUNDING FIXTURE.

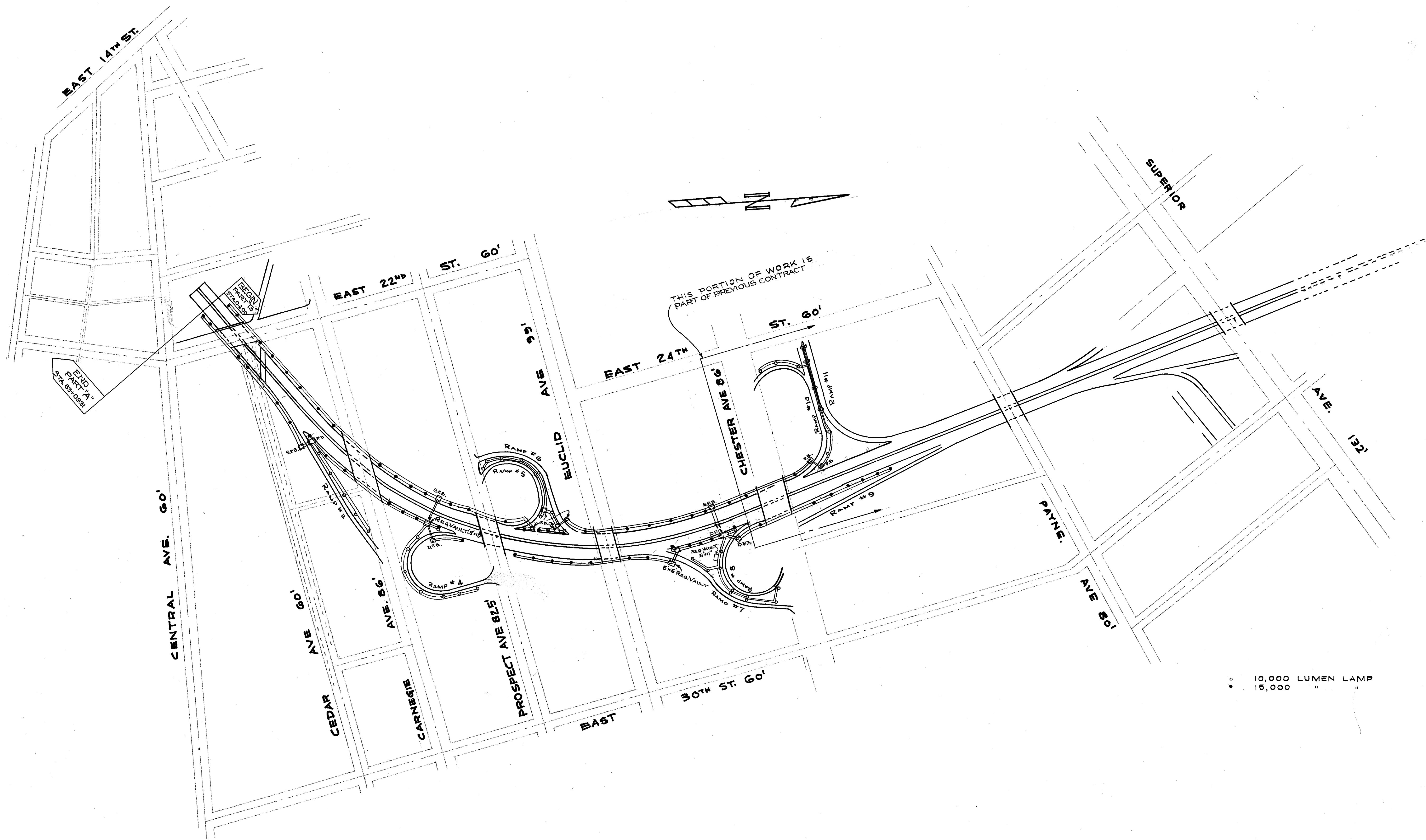
LIGHTING NOTES

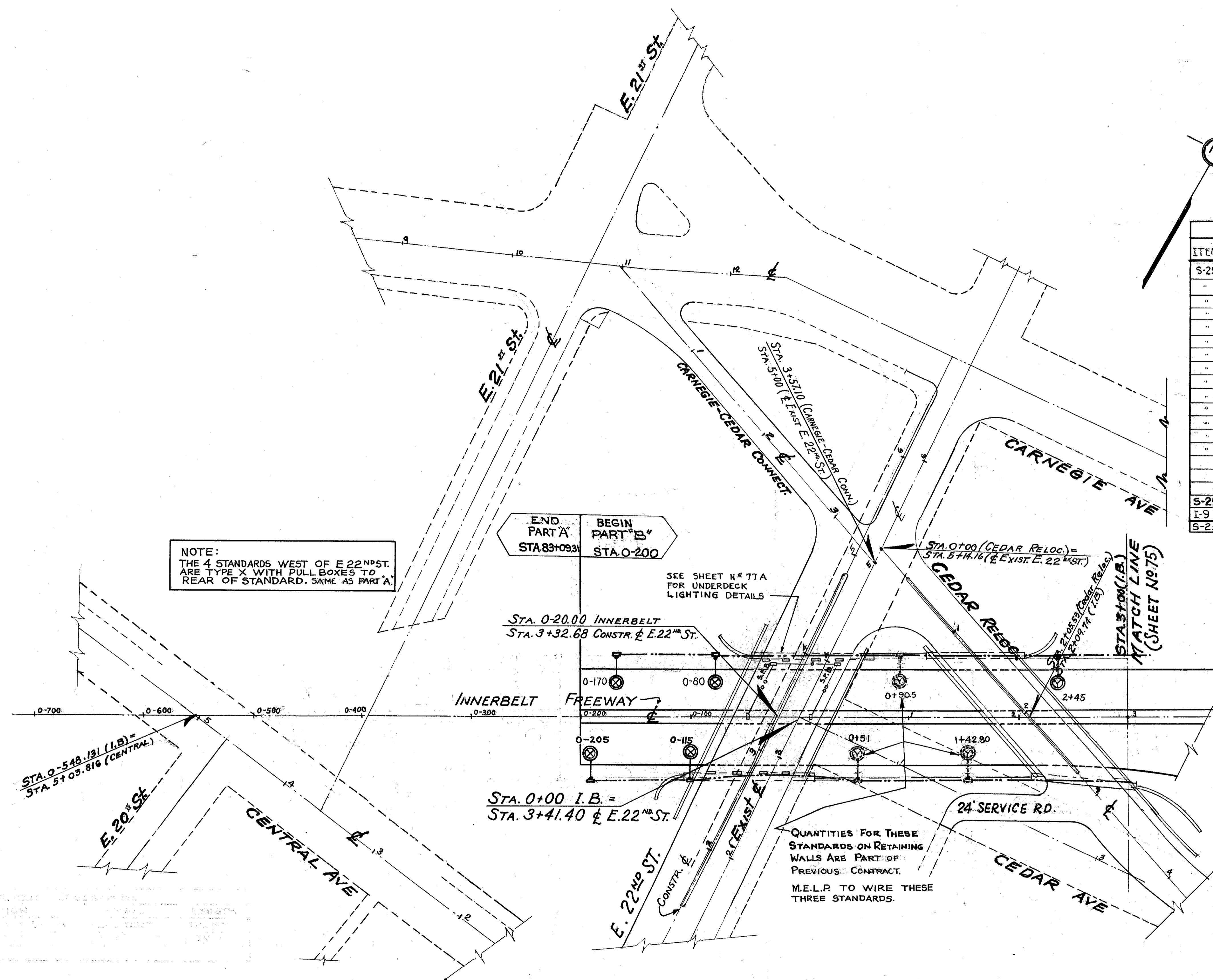
STREET LIGHTING CIRCUITS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

73B
80

CUYAHOGA COUNTY
CUY-42-18.77





NOTE:
THE 4 STANDARDS WEST OF E 22ND ST.
ARE TYPE X WITH PULL BOXES TO
REAR OF STANDARD, SAME AS PART A.

END PART A
STA. 83+09.31

BEGIN PART B
STA. 0+200

SEE SHEET N^o 77A
FOR UNDERDECK
LIGHTING DETAILS

STA. 0+20.00 INNERBELT
STA. 3+32.68 CONSTR. & E. 22ND ST.

STA. 0+00 I.B. =
STA. 3+41.40 & E. 22ND ST.

QUANTITIES FOR THESE
STANDARDS ON RETAINING
WALLS ARE PART OF
PREVIOUS CONTRACT.
M.E.L.P. TO WIRE THESE
THREE STANDARDS.

ITEM	DESC.	LEGEND	SHEET N ^o				TOTALS	
			74	75	76	77	100% CITY	FED. PART.
S-25	1-2" DUCT	---	55	2265	1065	1365		4750 FT.
"	1-4" DUCT	---	50	40				90 "
"	2-2" DUCT	---	920	580	290	140		1930 "
"	2-4" DUCT	---	100	225	125			450 "
"	1-2" & 1-4" DUCT	---		535	380	365		1280 "
"	2-2" & 1-4" DUCT	---		65	20			85 "
"	2-2" & 2-4" DUCT	---		190	125	80		395 "
"	REG. PULL BOX	□	4	14	13	10		41 EA.
"	DOUBLE PULL BOX	□ DPB		2		3		5 "
"	REGULAR FOUNDATION	•	4	14	9	10		37 "
"	SPECIAL FOUNDATION	•	1	18	9	11		39 "
"	LAMP STD TYPE W	⊙		2	5	4		11 "
"	LAMP STD TYPE X	⊙	4	12	4	6		26 "
"	LAMP STD TYPE Y	⊙	1	18	9	11		39 "
"	10000 LUMEN LAMPS	⊙		14	12	12		38 "
"	15000 LUMEN LAMPS	⊙	8	20	11	13		52 "
"	FLOUR, UNDERDECK LIGHTS	⊙	8	14	6			28 "
S-25	SPECIAL PULL BOX	□	3	23	13	12		51 EA.
I-9	STONE UNDERDRAIN (N ^o 2)	---	48	218	133	143		542 FT.
S-25	N ^o 8 AWG, 5 KV LIGHTING CABLE	---	975	3540	1675	2140	8330	FT.

- NOTE:
- (1) NUMBERS AT LAMP LOCATIONS ARE CENTER LINE STATIONS.
 - (2) DUCT UNDER BRIDGE STRUCTURES, AND BETWEEN CEDAR AVE. AND E. 22 ST. TO INTERCEPT PULL BOXES INSTALLED AS PART OF PREVIOUS CONTRACT.
 - (3) ALL PULL BOXES AT Y-STANDARDS ARE "SPECIAL" AND PULL BOXES DESIGNATED "S.P.B." IN DUCT RUNS ARE ALSO "SPECIAL".
 - (4) LENGTH OF DUCT FOR PAVEMENT CROSSOVERS ARE INCLUDED IN SUMMARY OF QUANTITIES TABLE.

LAMP STANDARD ASSEMBLY				
TYPE	POLE	BRACKET	FOUNDATION	PULL BOX
W	TYPICAL-MOD.	2-10 FOOT	REGULAR	REGULAR
X	TYPICAL	1-10 FOOT	"	"
Y	TYPICAL-MOD.	1-17 FOOT	SPECIAL	SPECIAL

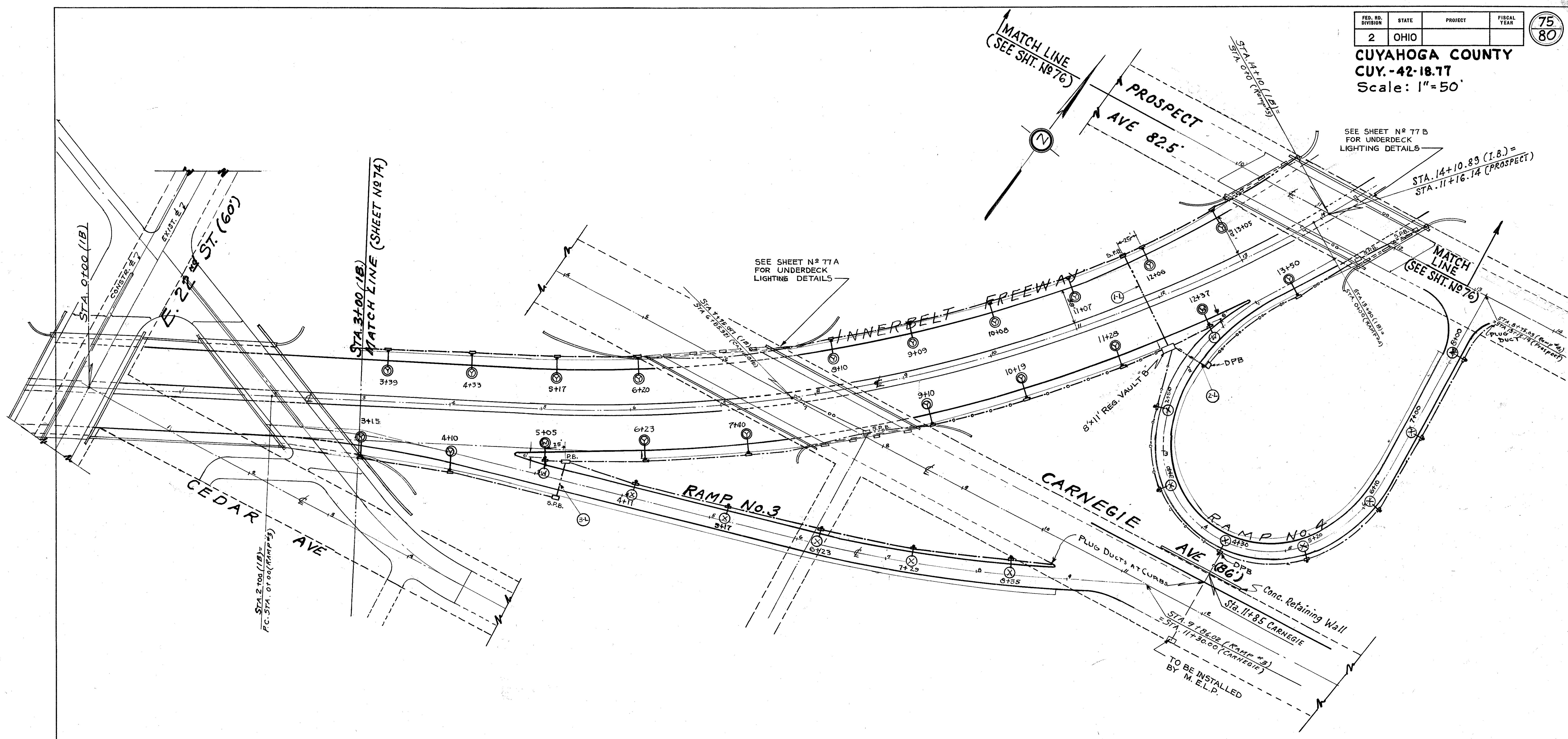
GENERAL ILLUMINATION DATA				
ROADWAY	LAMP SIZE	AVER. SPACING	OVER-HANG	FOOT-CANDLES
FREEWAY	15,000 Lumen	105'	4'	1.00
RAMPS	10,000 Lumen	105'	4'	0.90

ITEM	DESCRIPTION	LEGEND	SHEET N ^o				TOTALS		UNIT
			74	75	76	77	100% CITY	FED. PART.	
S-25	1-2" & 2-4" DUCT	---	140	75	330			470 FT.	
"	MULTIPLE FEEDERS	---	70	785	115	205	1175		
"	N ^o 10 AWG CONDUCTORS	---	170	580	240			990 "	
"	REGULATOR VAULT 6'x6'	---				1		1 EA.	
"	REGULATOR VAULT 8'x11'	---				1		2 "	

* IN TRANSFER OF QUANTITIES TO GENERAL SUMMARY SHEET N^o 12 PART 7 A ITEMS WERE COMBINED TO AGREE WITH PAY ITEMS AS DESCRIBED IN NOTES ON SHEET N^o 73 A.

STREET LIGHTING - INNERBELT

CUYAHOGA COUNTY
CUY.-42-18.17
Scale: 1"=50'



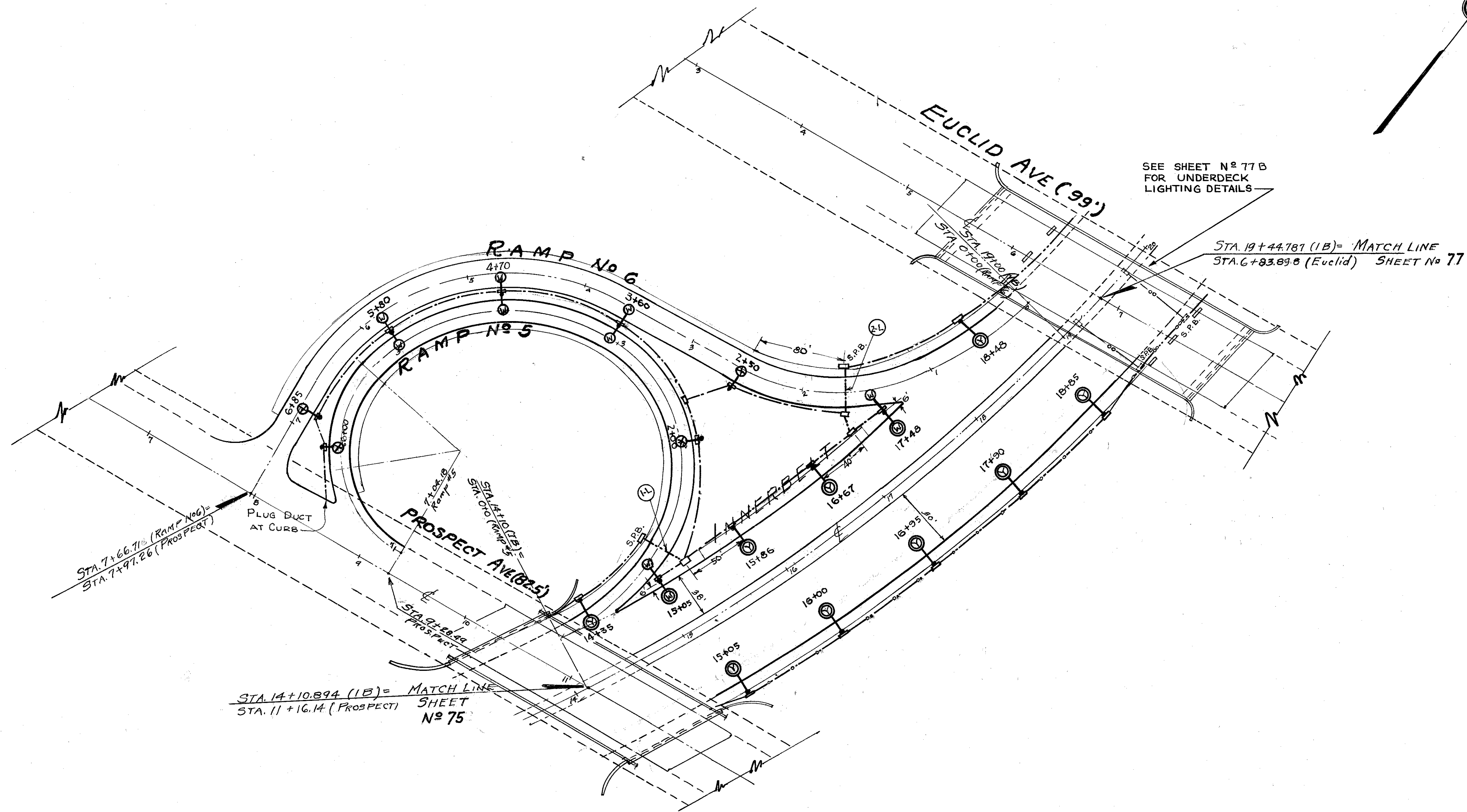
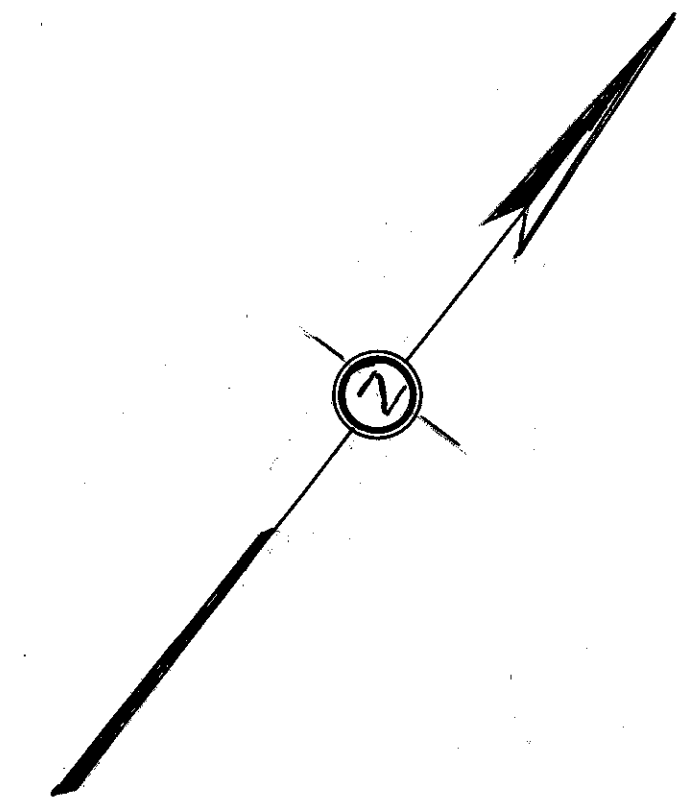
PAYEMENT CROSSEVERS			
ITEM	LOCATION	TYPE	LENGTH
1-L	FREEWAY, STA. 11+81	2-2" DUCT	112 FT.
2-L	RAMP 4, STA. 2+08	2-2" & 2-4" DUCT	40 "
3-L	RAMP 3, STA. 3+30	2-2" DUCT	36 "

INNERBELT - STREET LIGHTING

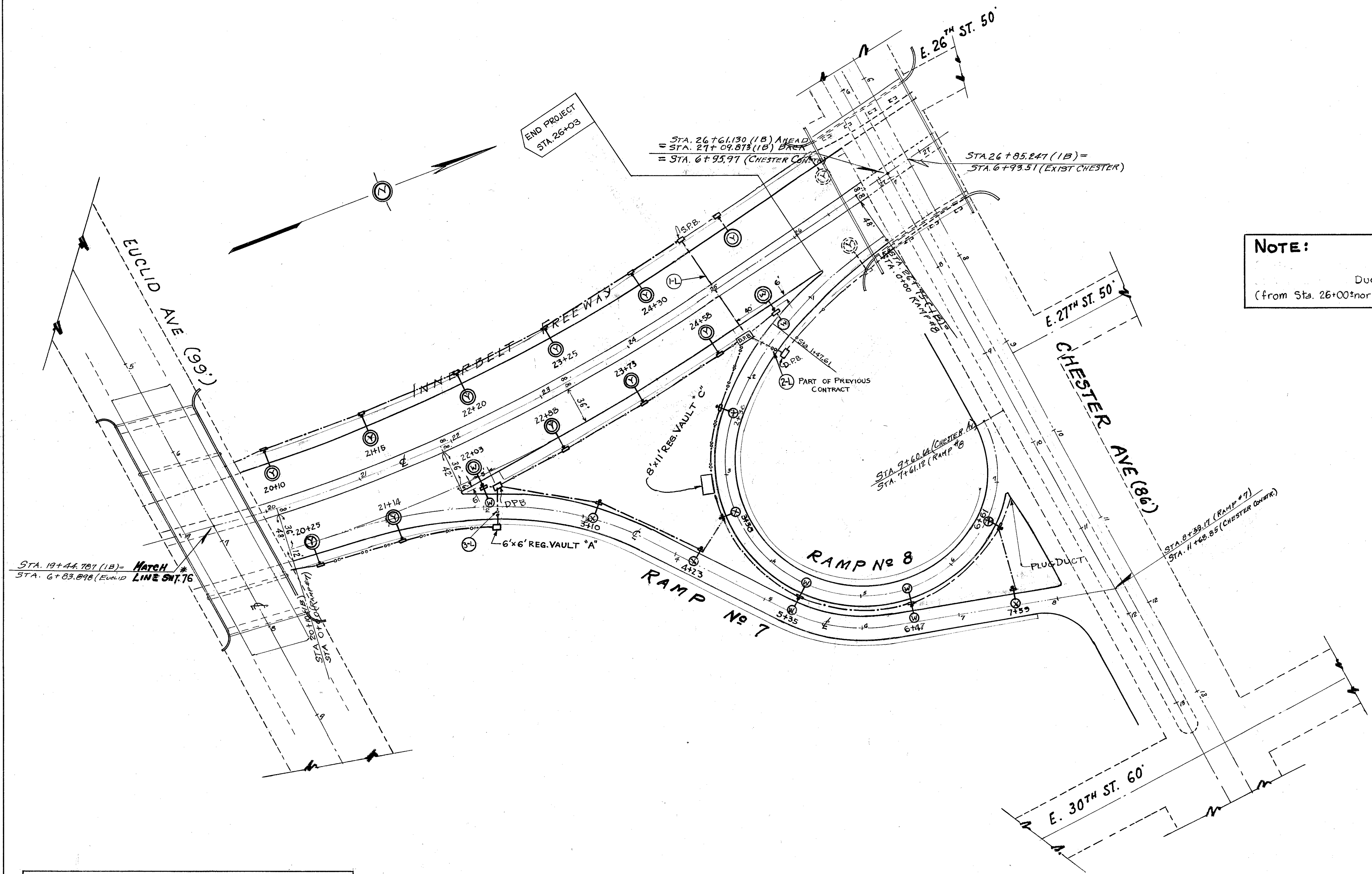
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO		

76
80

CUYAHOGA COUNTY
CUY. 42-18.77
Scale: 1" = 50'



PAVEMENT CROSSOVERS			
ITEM	LOCATION	TYPE	LENGTH
1-L	RAMP 5, STA. 1+20	2-2" DUCT	36 FT.
2-L	RAMP 6, STA. 1+70	2-2" DUCT	36 "



NOTE:
 Ducts, pull boxes, and standards shown dotted (from Sta. 26+00 northerly) are not a part of this contract.

STA. 19+44.701 (1B) = MATCH *
 STA. 6+83.898 (EUCLID) = LINE SHT. 76

END PROJECT
 STA. 26+03

STA. 26+61.130 (1B) AHEAD
 = STA. 21+09.873 (1B) BACK
 = STA. 6+95.97 (CHESTER CONT.)

STA. 26+85.247 (1B) =
 STA. 6+93.51 (EXIST. CHESTER)

STA. 9+60.64 (CHESTER AV)
 STA. 7+61.12 (RAMP #8)

STA. 8+39.17 (RAMP #7)
 STA. 11+68.85 (CHESTER (METR.))

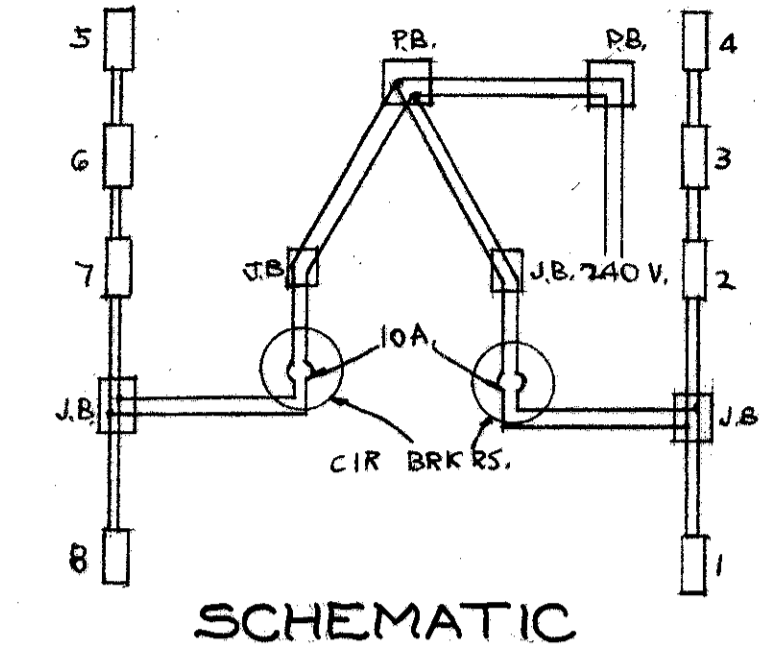
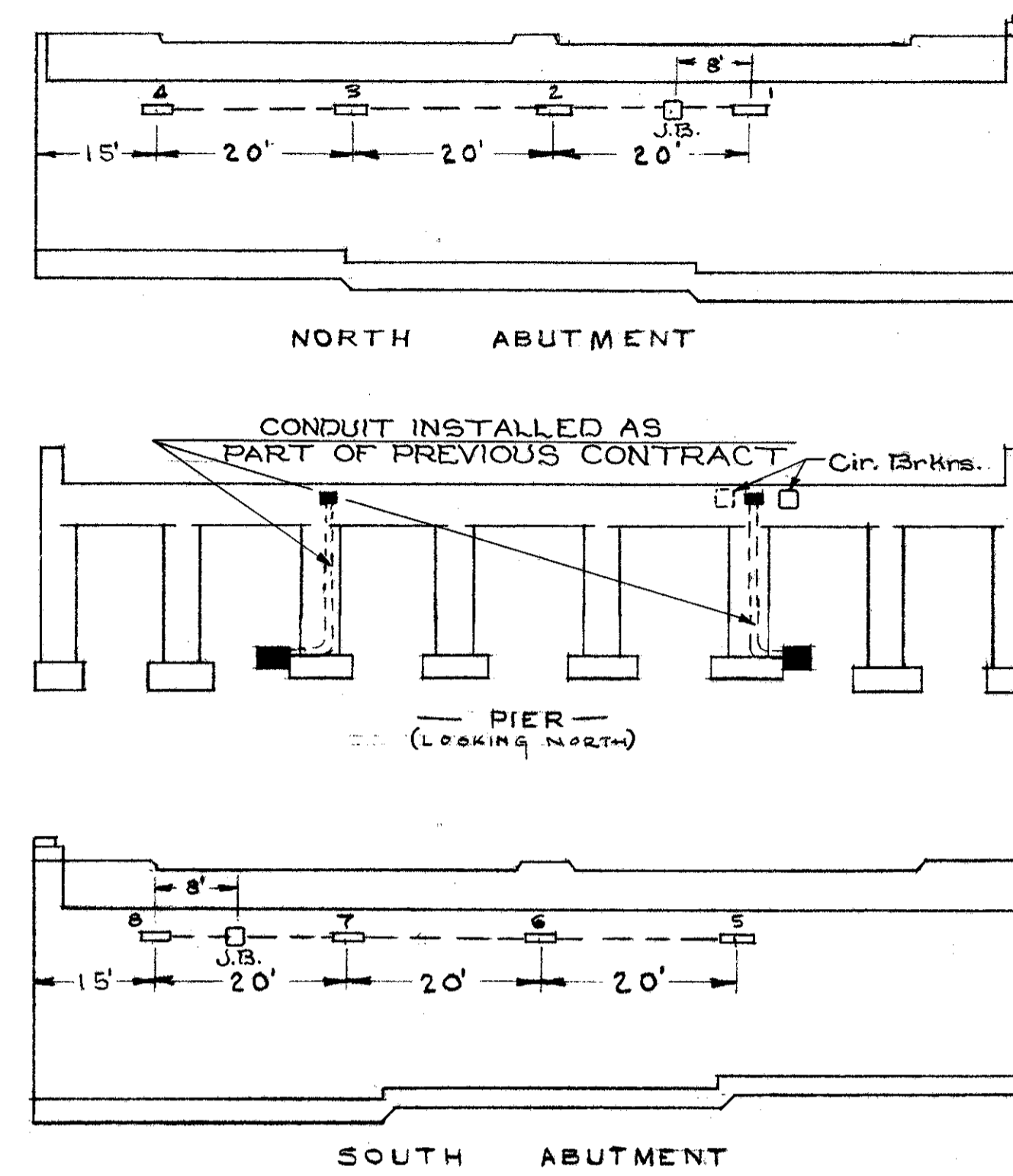
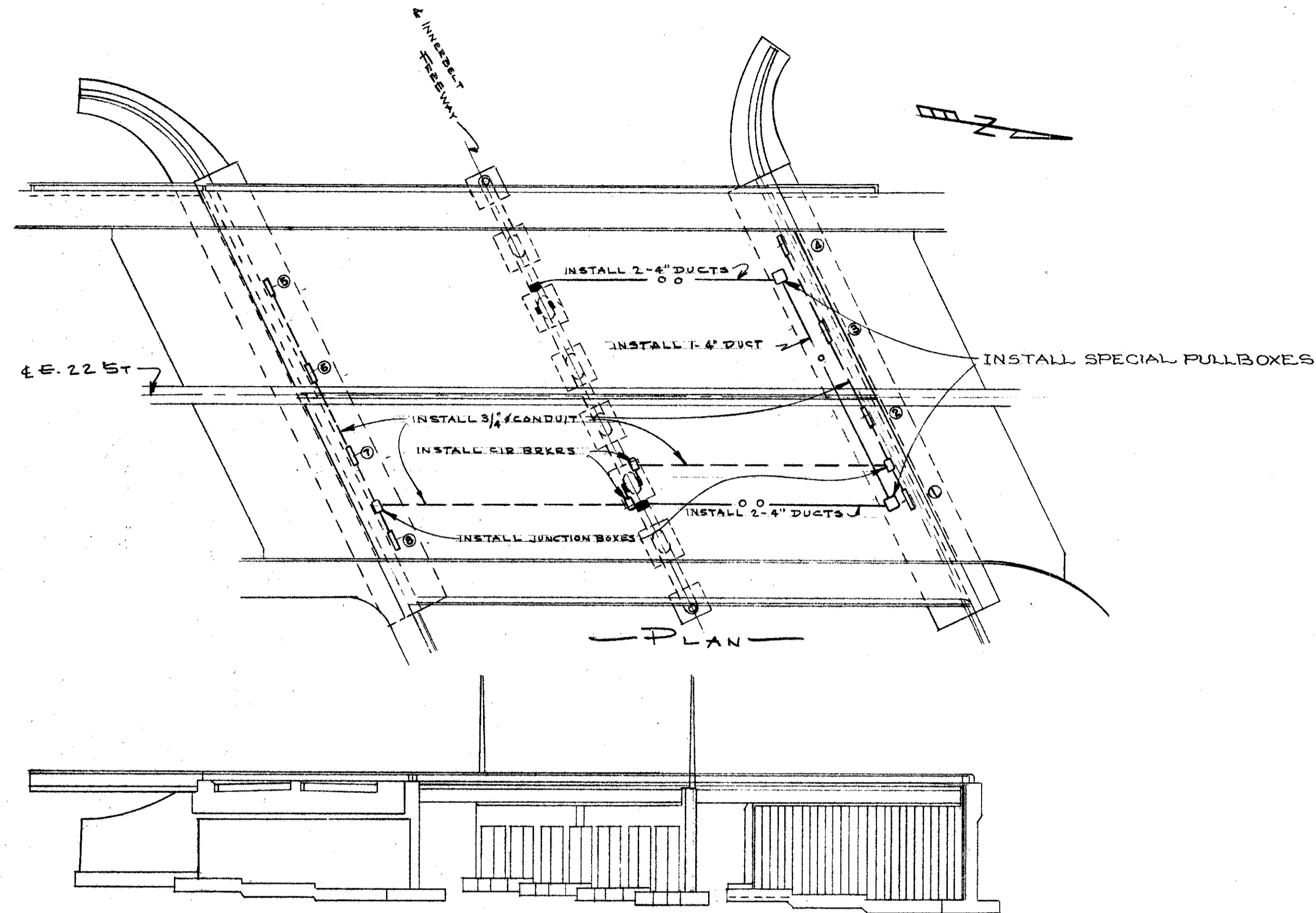
PAVEMENT CROSSOVERS			
ITEM	LOCATION	TYPE	LENGTH
1-L	FREEWAY STA 25+05	2-2" DUCT	112 FT.
2-L	RAMP 8, STA 1+65	2-2" & 2-4" DUCT	PART OF PREVIOUS CONTRACT.
3-L	RAMP 7, STA. 2+05	2-2" & 2-4" DUCT	55 FT.

EAST 22ND ST.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

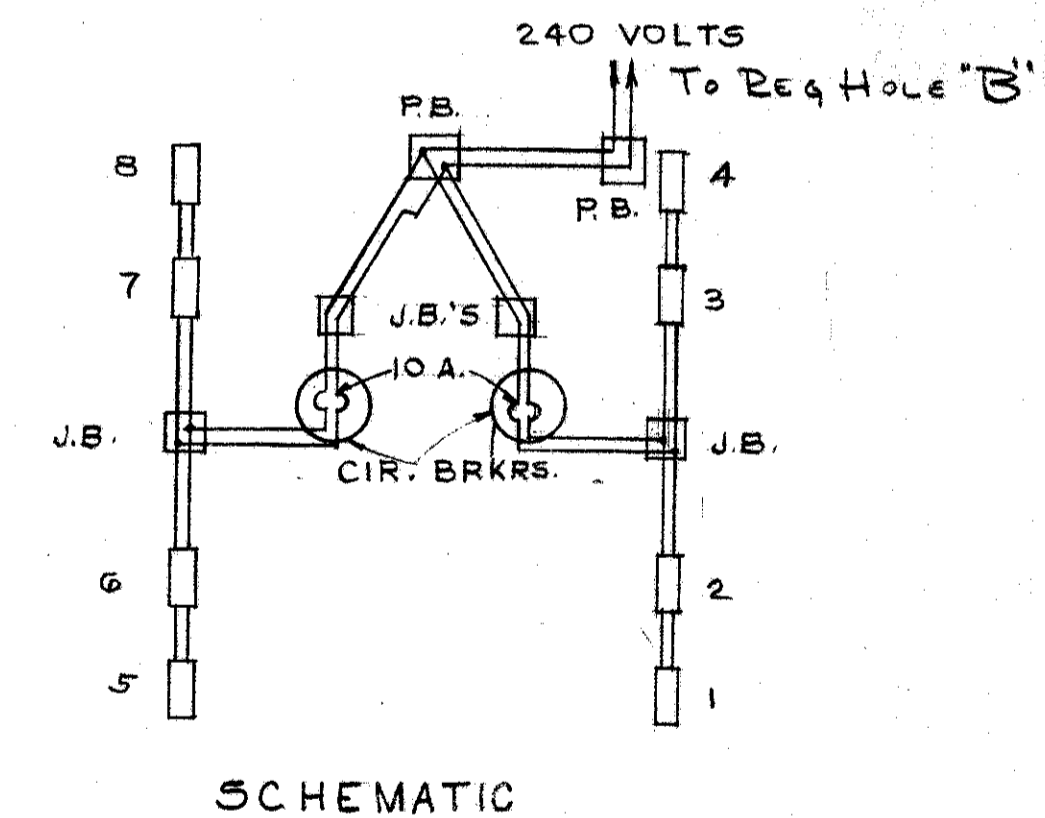
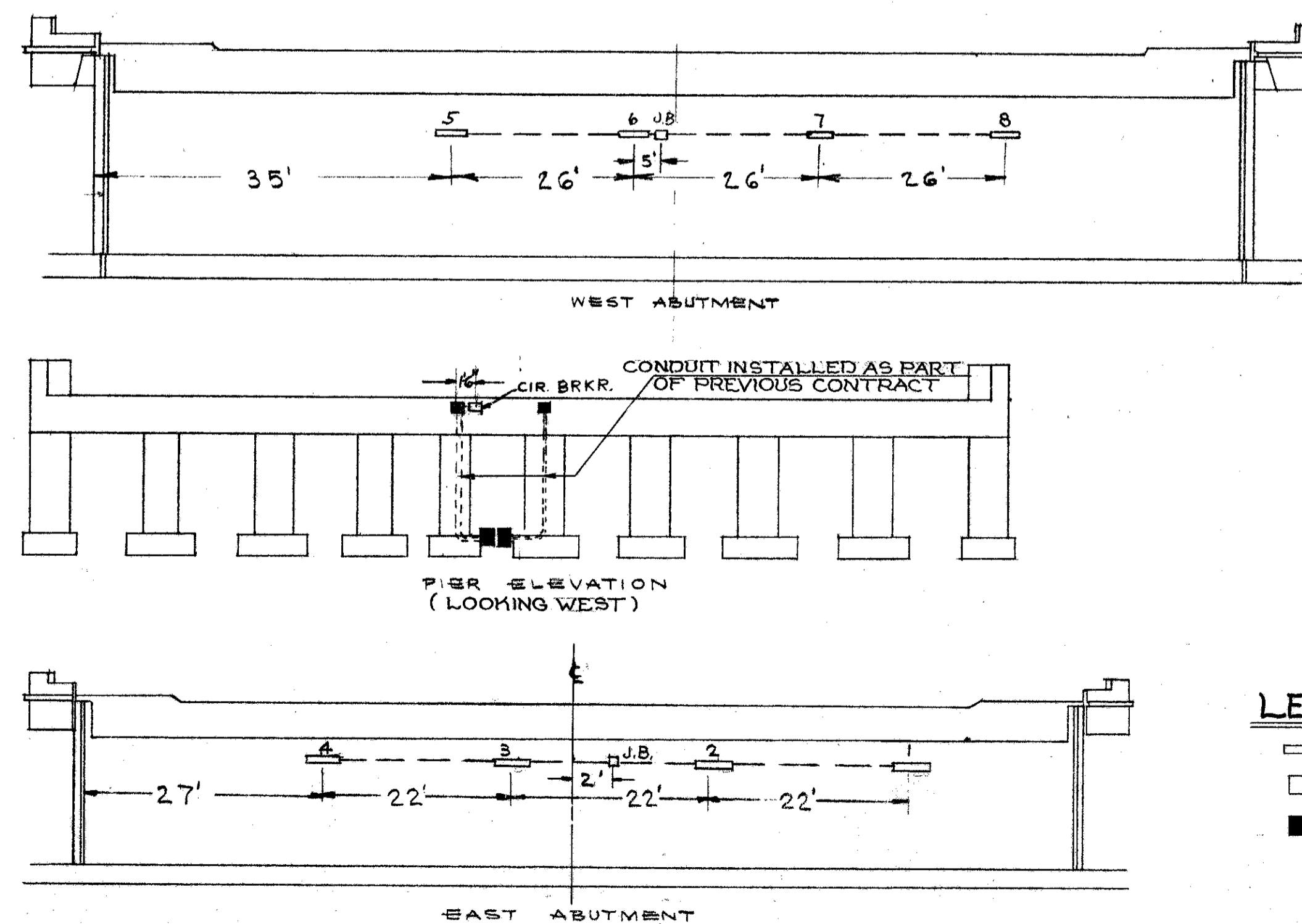
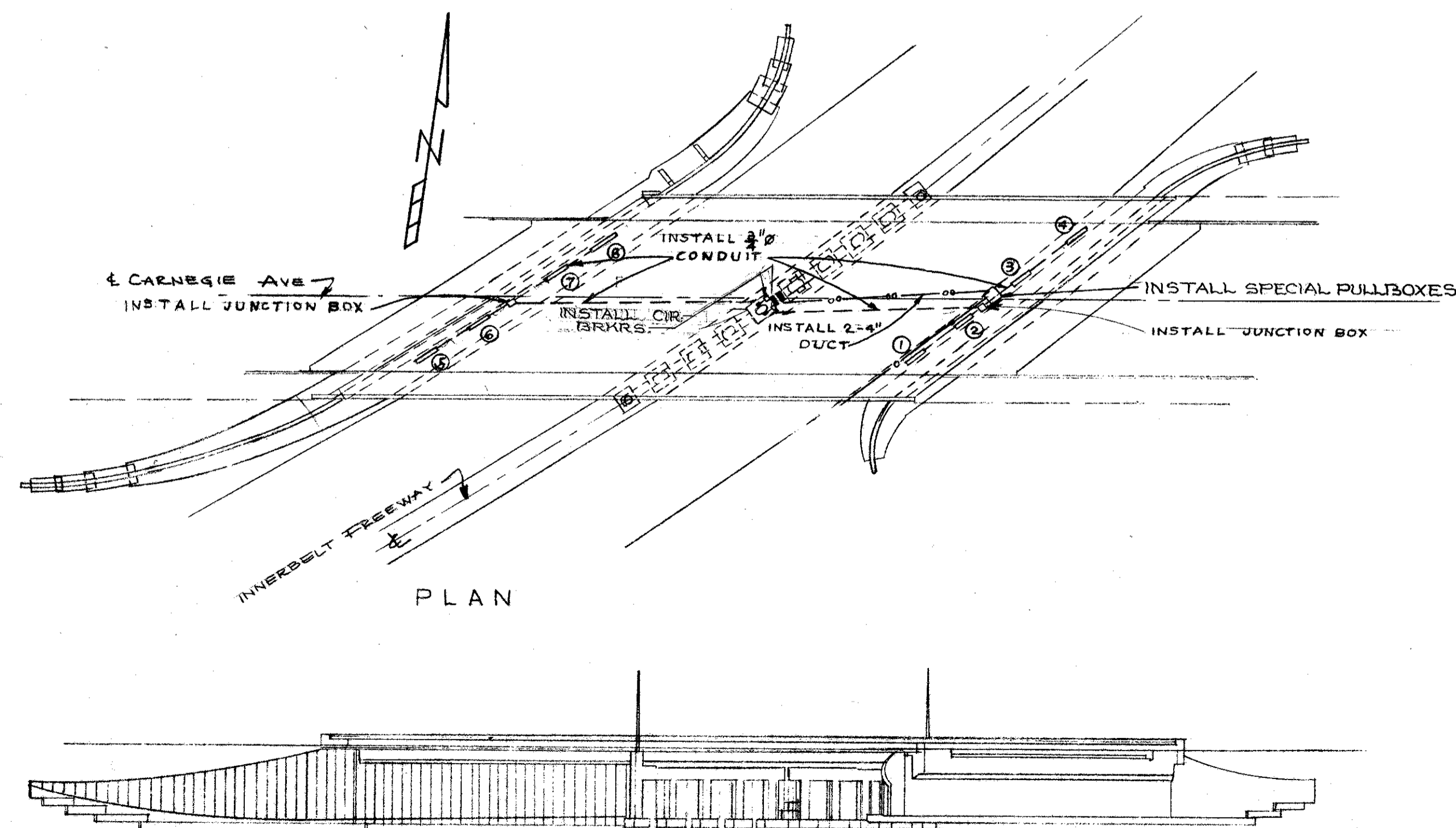
77A
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CUYAHOGA COUNTY
SEC. CUY. - 42-18.77



NOTE:
3/4" ϕ Conduit Shall Be Made Of Easy Bending Mild Steel, Hot Dipped Galvanized Outside & Lacquer Coated Inside Approved By U.I. 3/4" ϕ Conduit Shall Be Fastened With Clamps Similar To Appatton Electric Co's Cat. No. 17251.

CARNEGIE AVE.



LEGEND

- Fluorescent Underdeck Lighting Units
- Pull Boxes, Circuit Breakers and Junction Boxes
- Pull Boxes and Junction Boxes Installed As Part of Previous Contract.

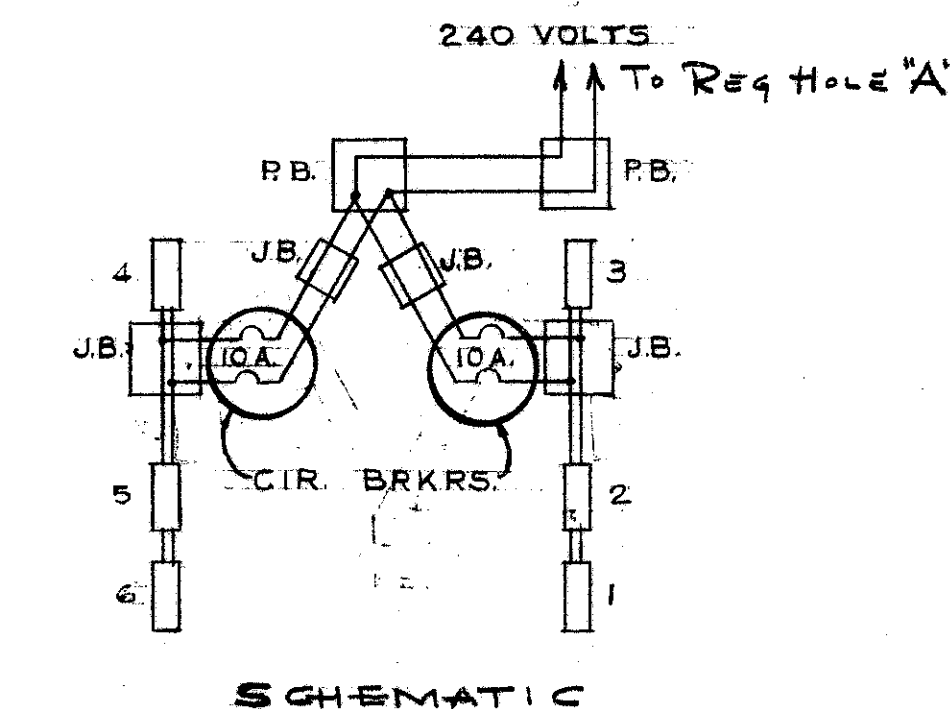
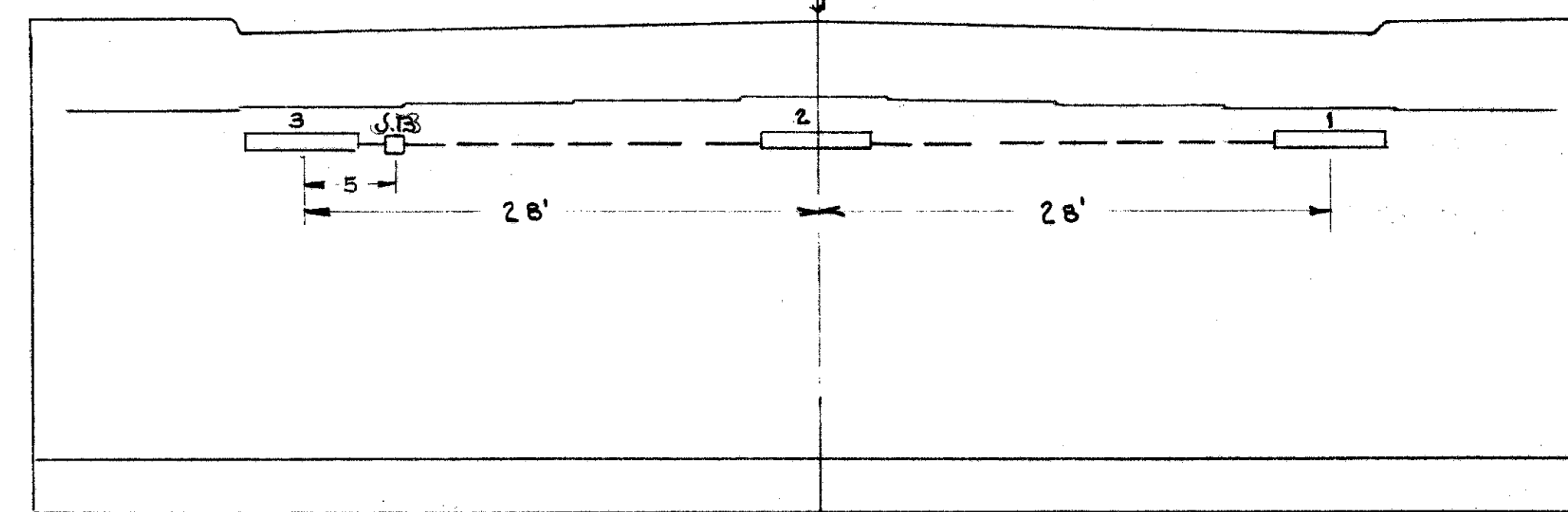
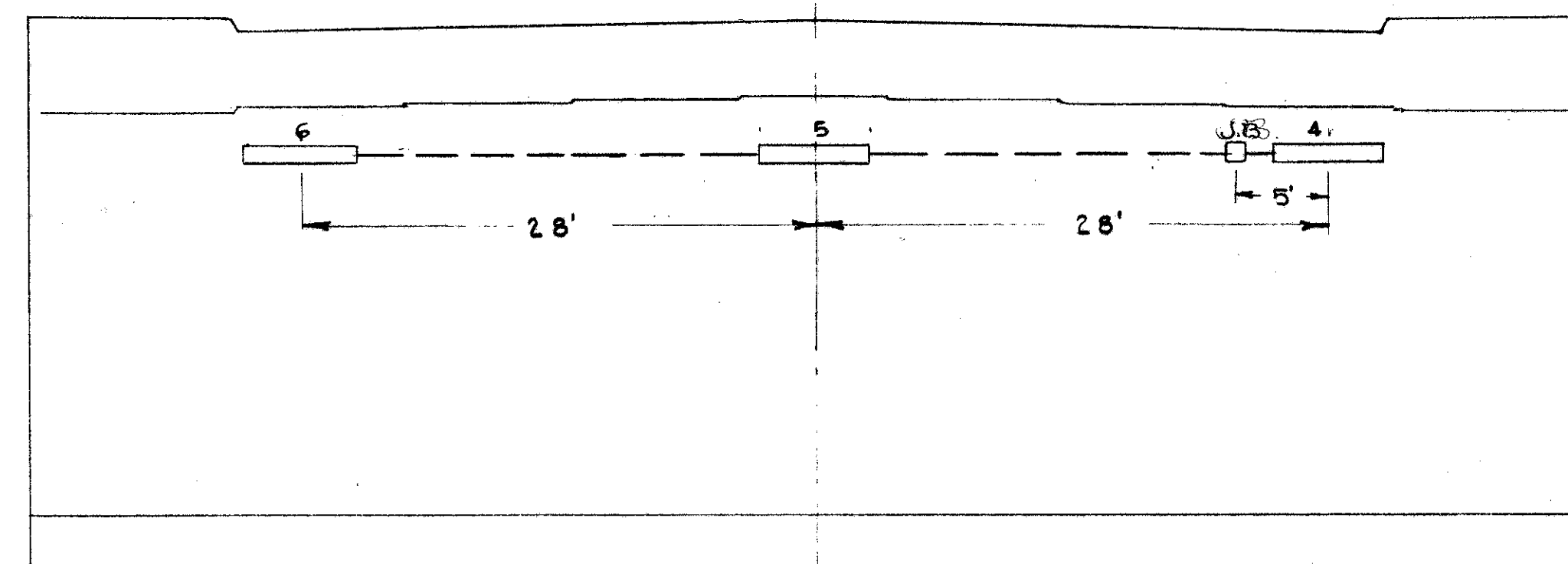
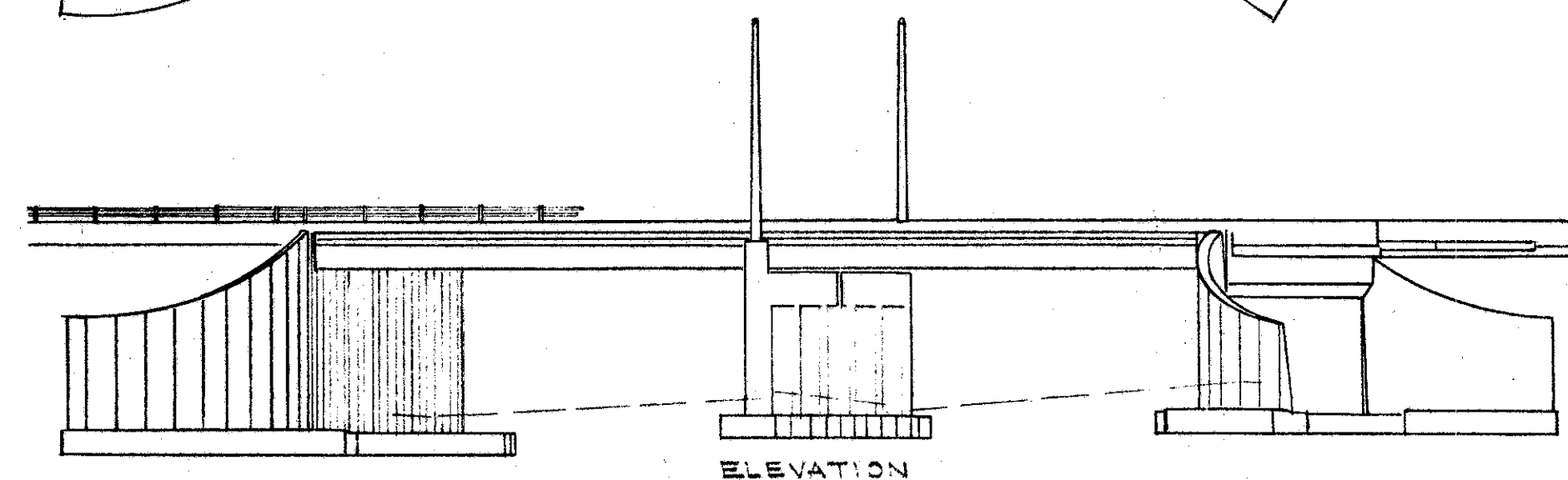
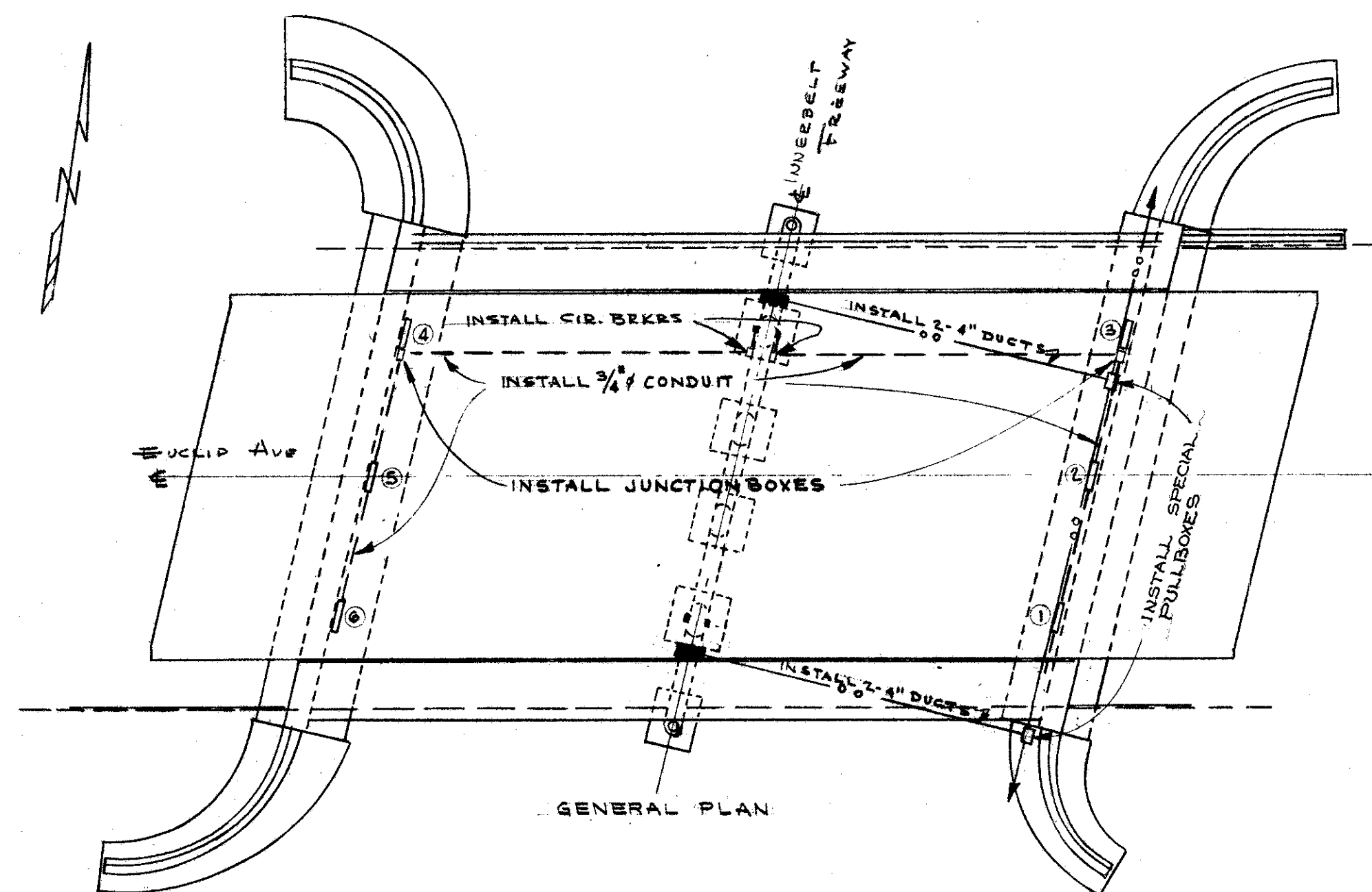
} Part of this Contract

EUCLID AVE.

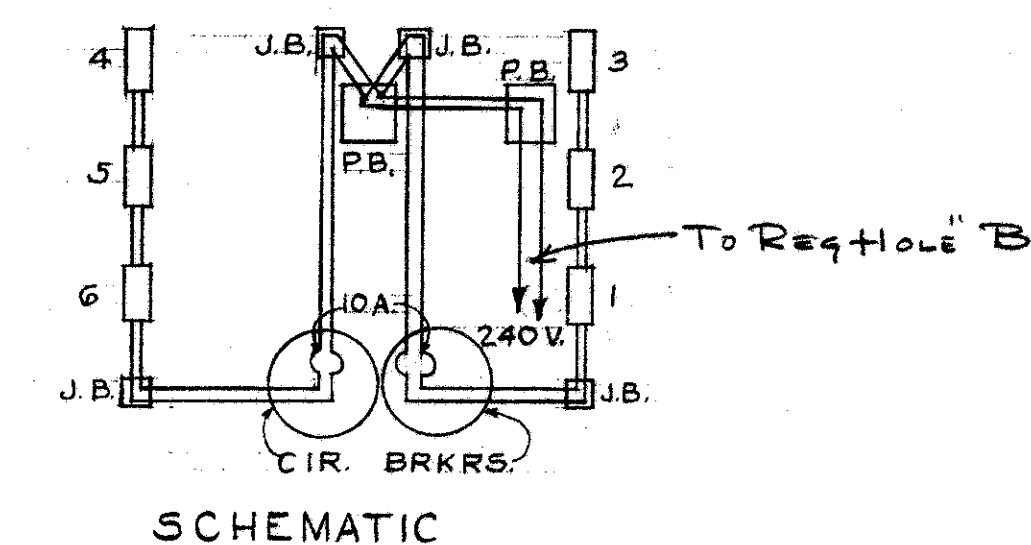
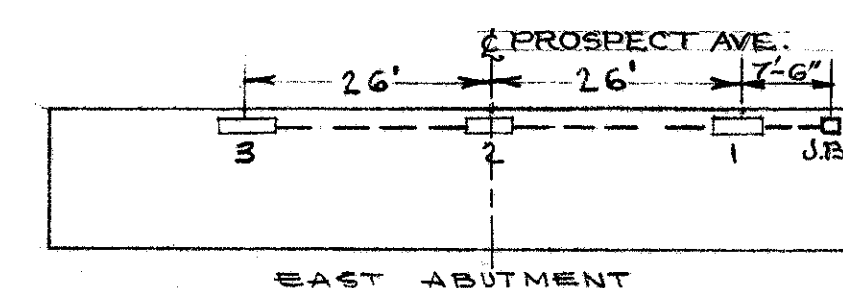
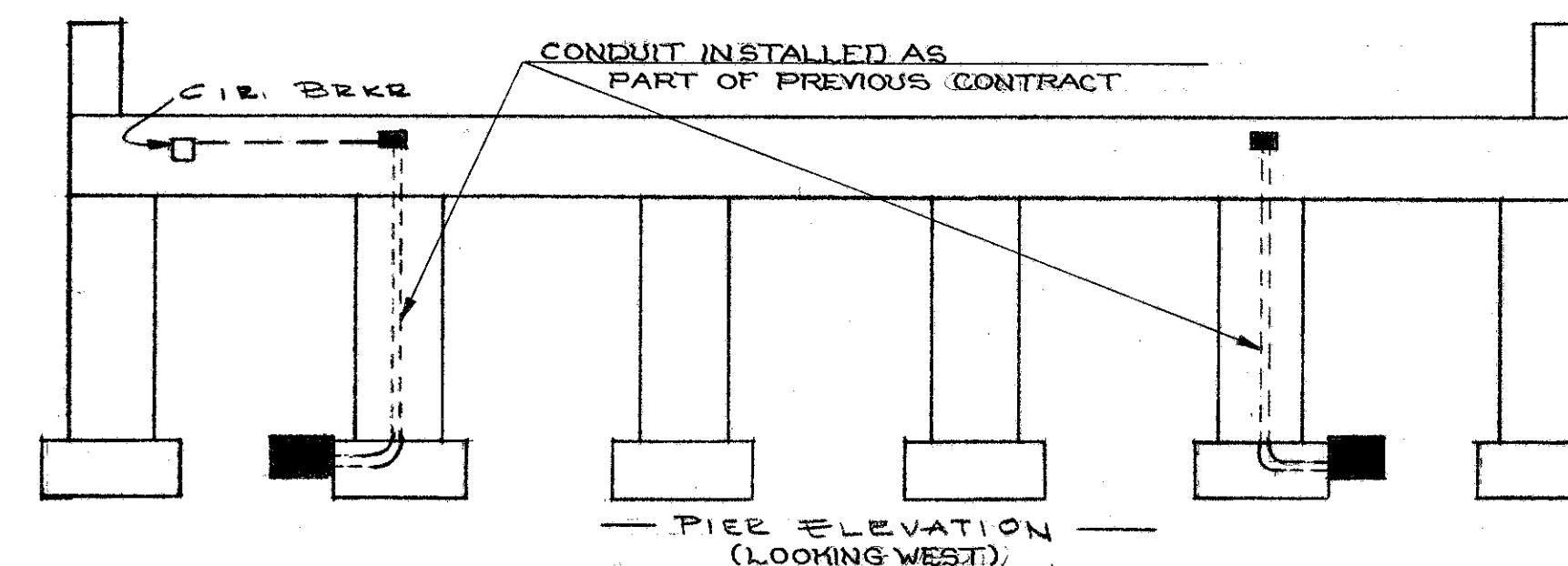
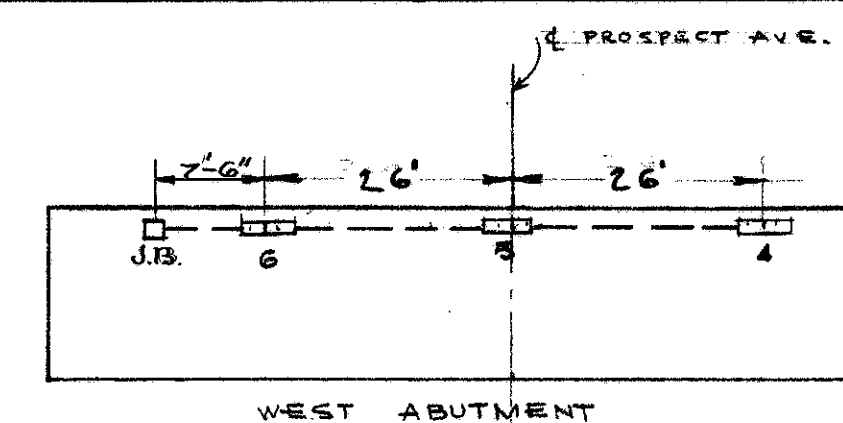
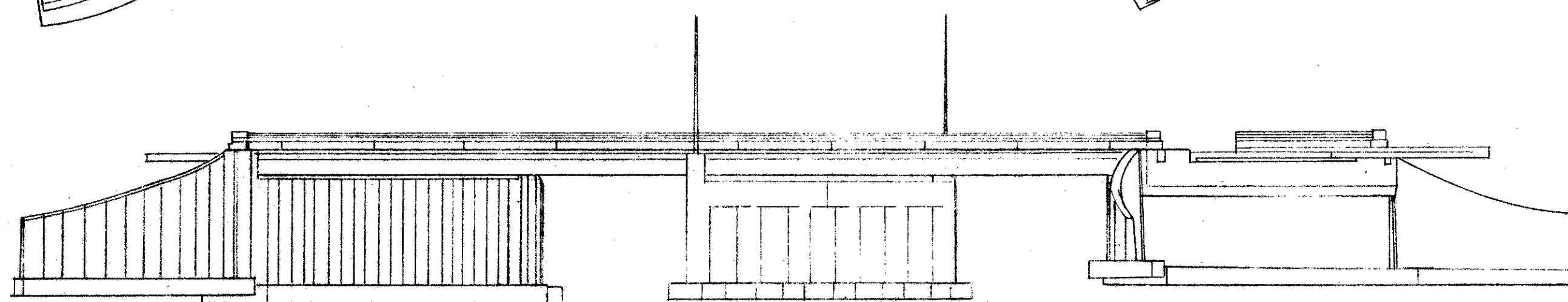
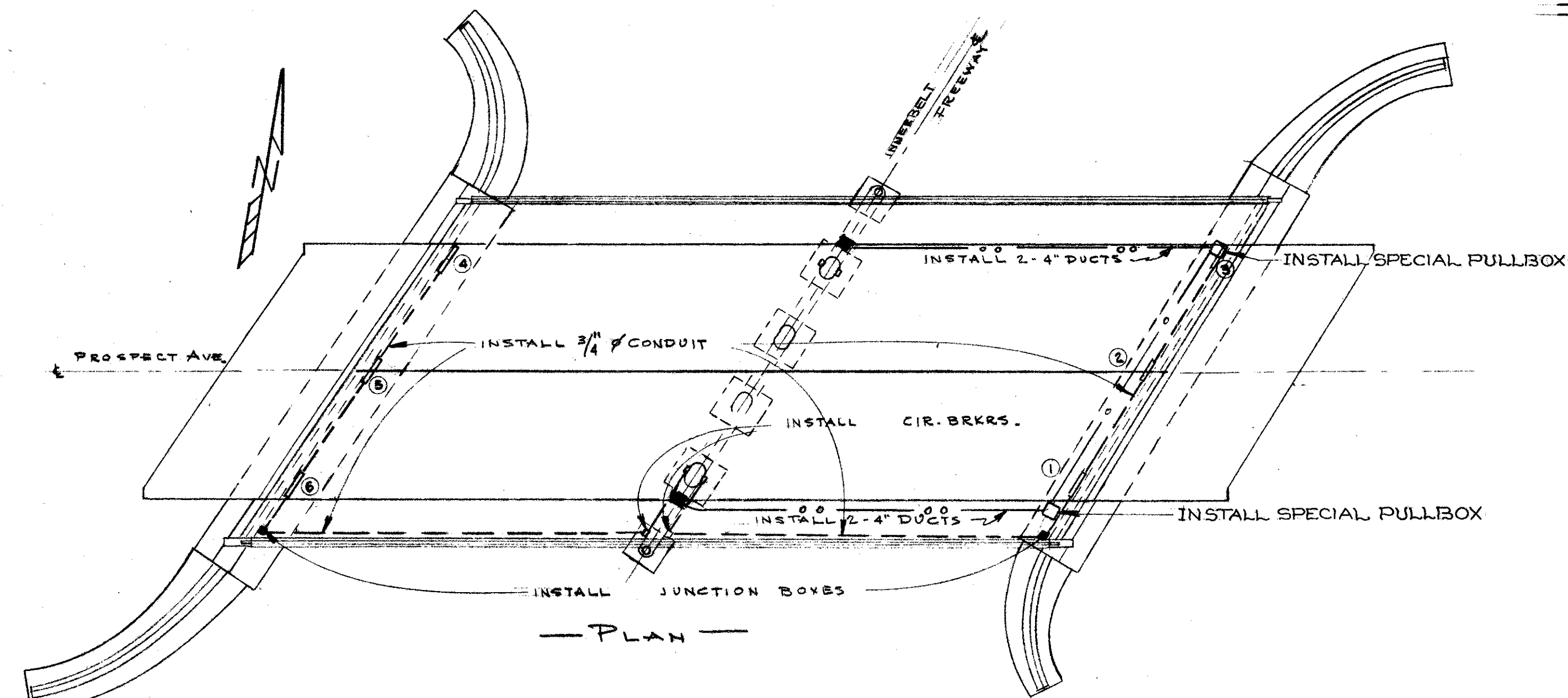
FED. RD. DIVISION	STATE	PROJECT
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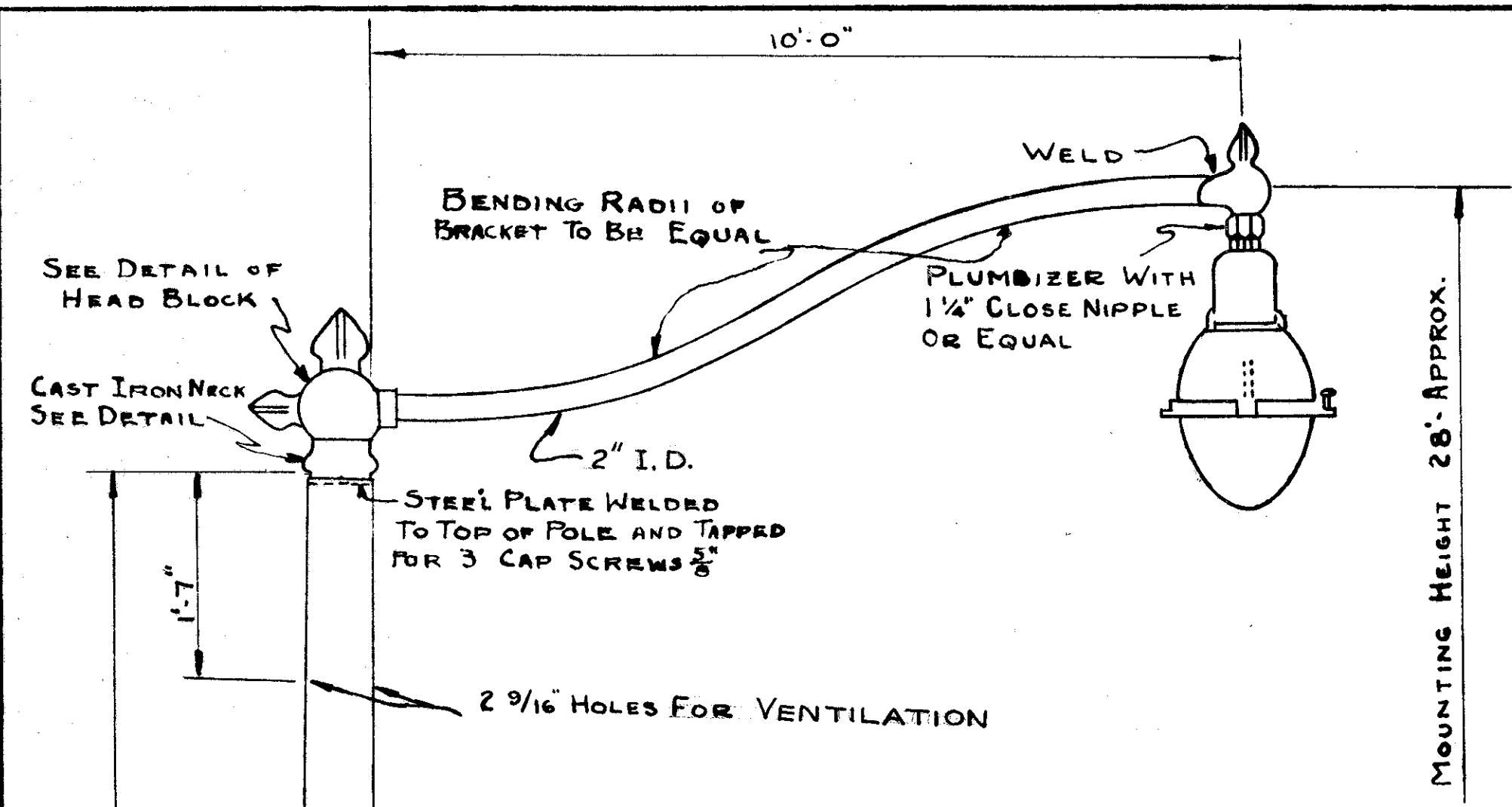


PROSPECT AVE.

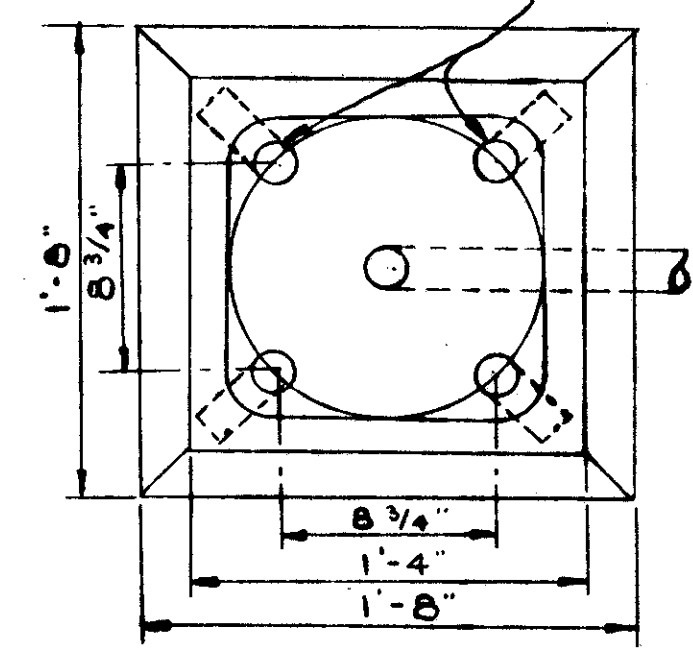


SEE NOTE AND LEGEND, SHEET N^o 77-A
UNDERDECK LIGHTING DETAILS

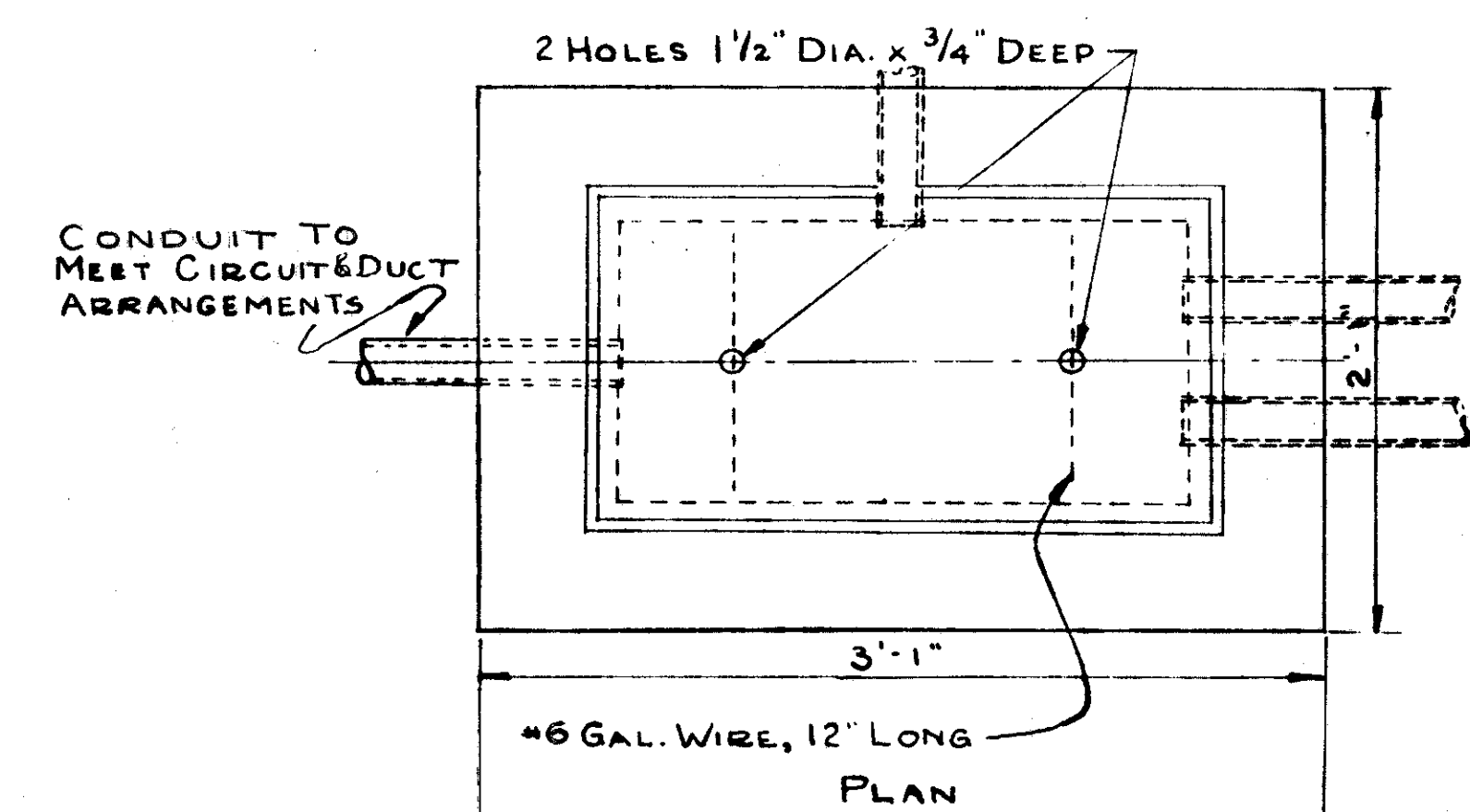
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CUYAHOGA COUNTY



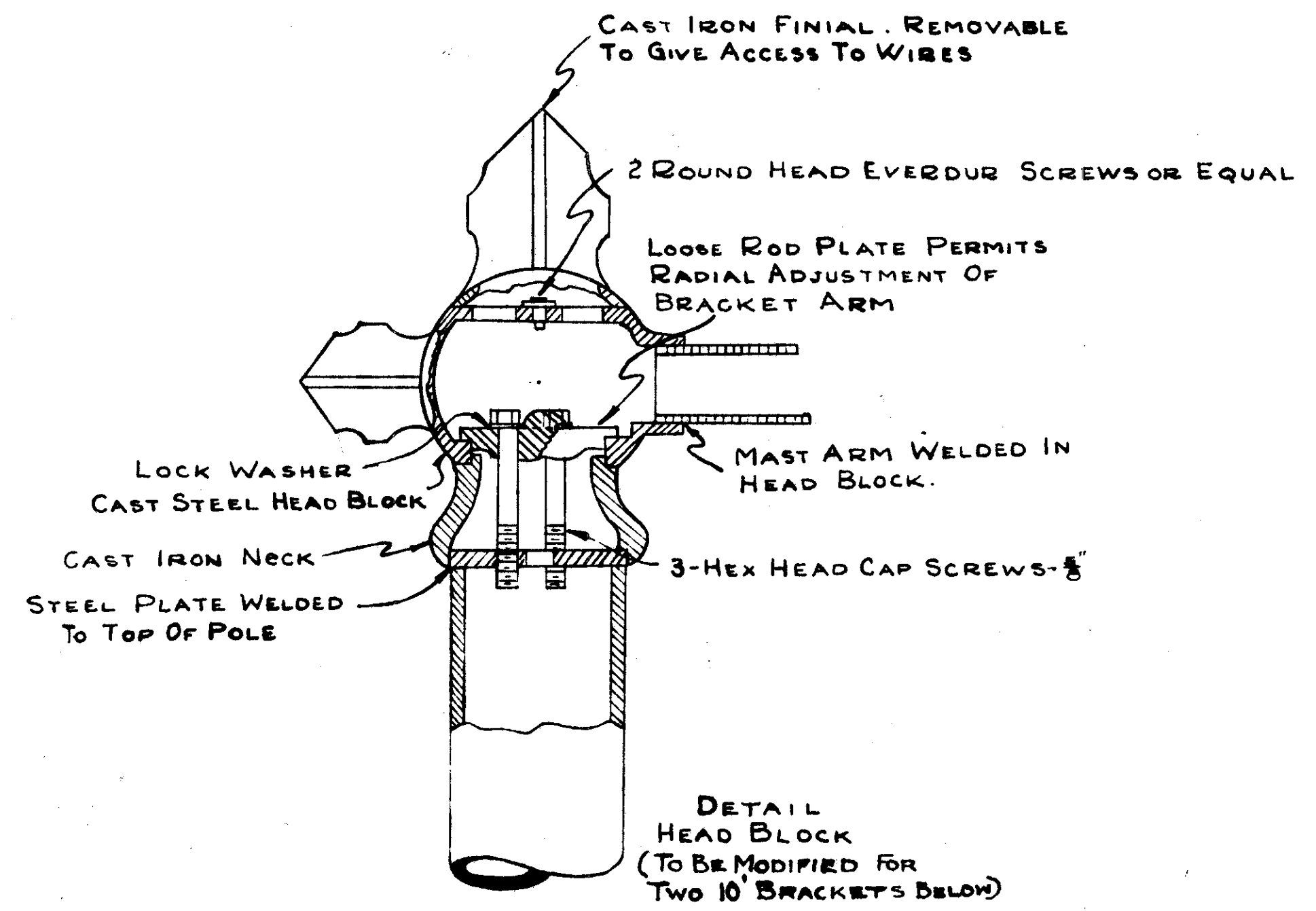
4-1/4" ANCHOR RODS 60" OVERALL LENGTH ON 12 1/2" BOLT CIRCLE. RODS MUST PROJECT 3 1/8" ABOVE BASE.



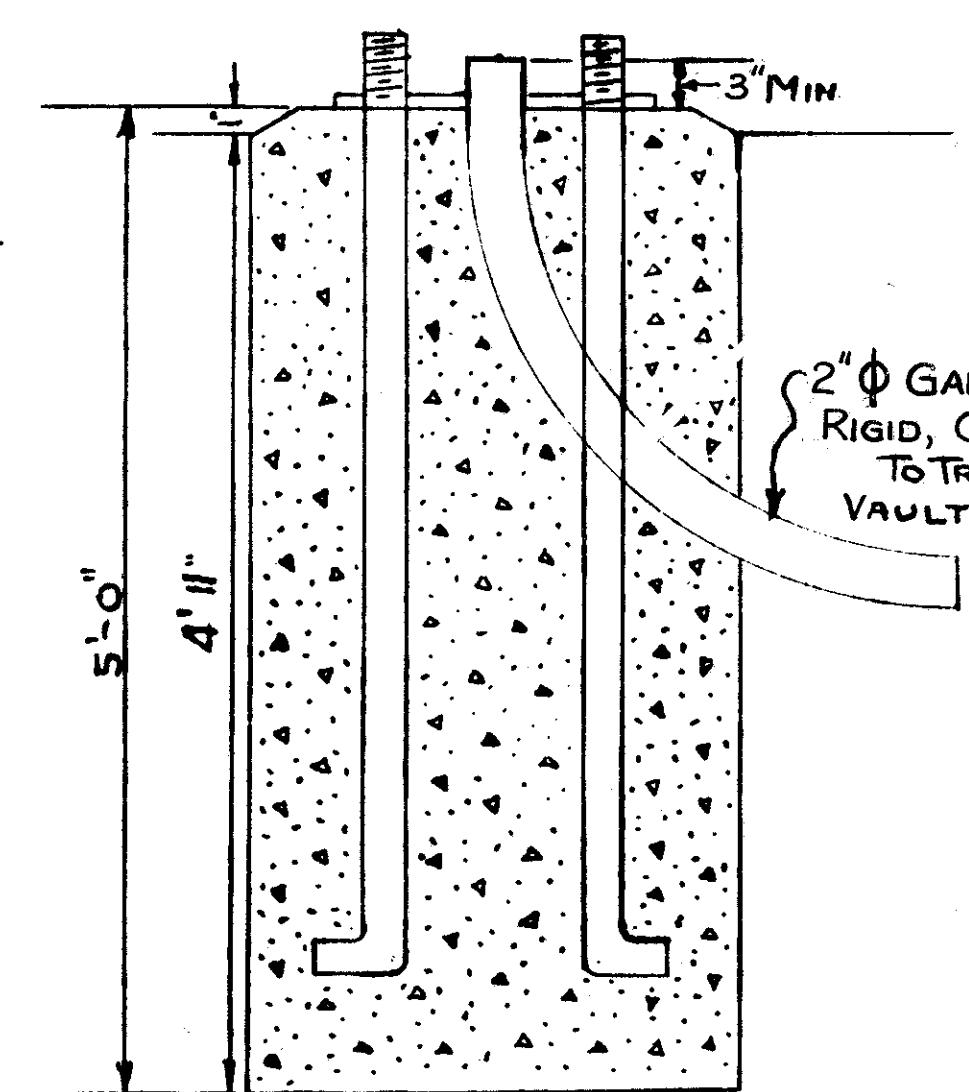
PLAN



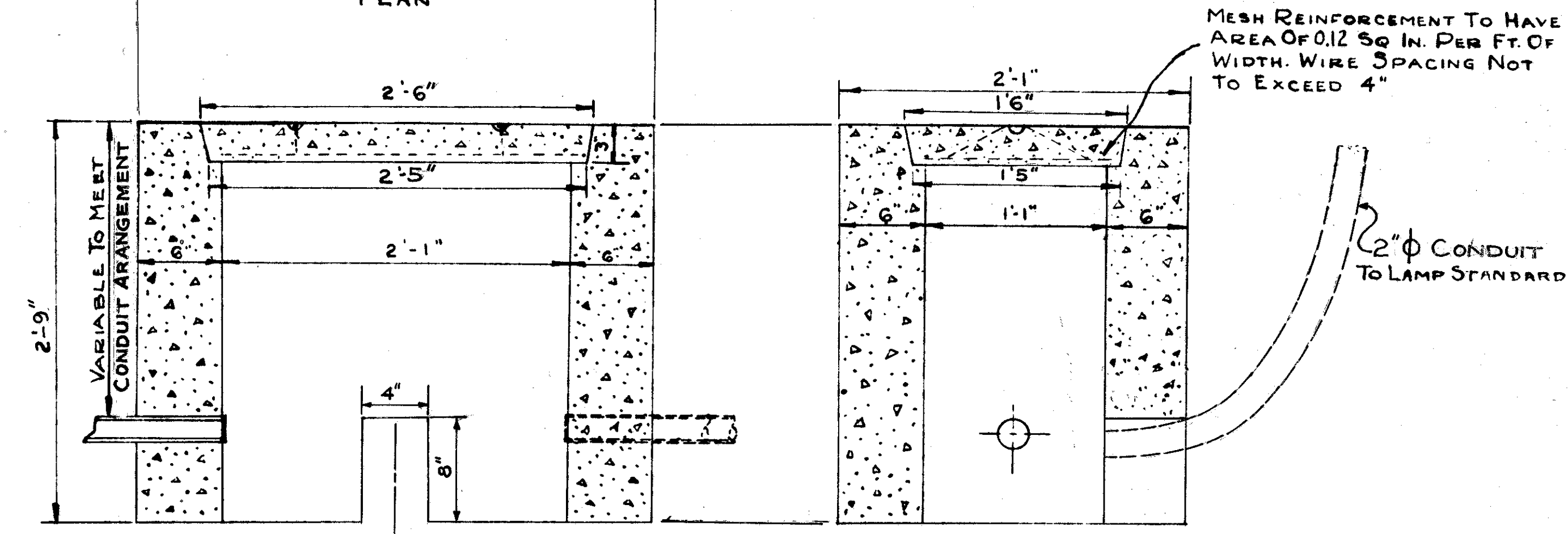
NOTES:
DIMENSIONS SHOWN ARE FOR TOP OPENING. COVER TO BE APPROX. 1/2" LESS.
4" x 8" SLOT TO BE OMITTED WHEN USED AS A PULLBOX ONLY & WILL BE DESIGNATED THUS FB.



DETAIL HEAD BLOCK (TO BE MODIFIED FOR TWO 10" BRACKETS BELOW)

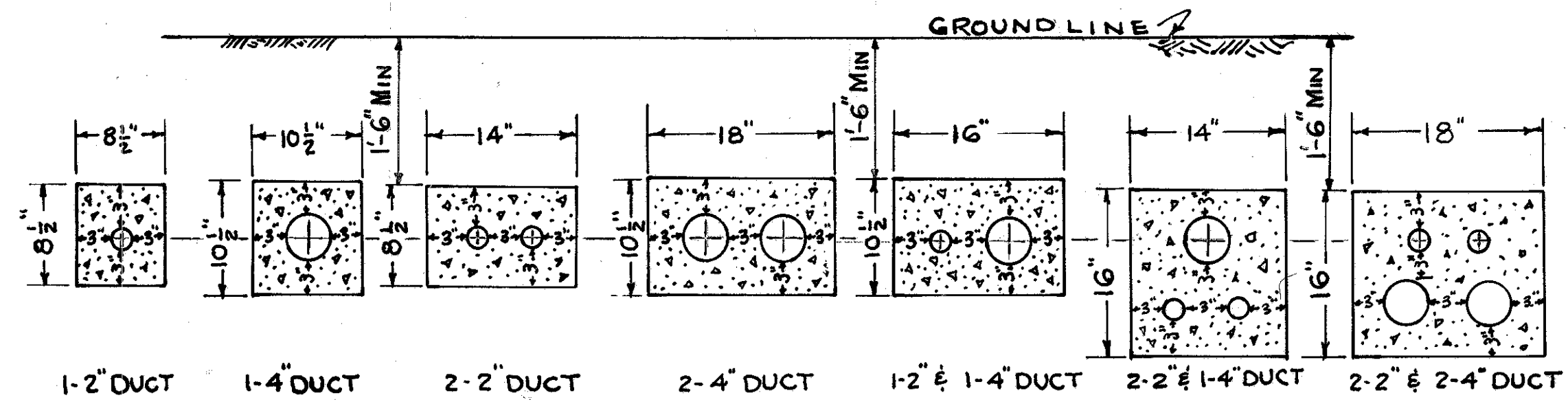
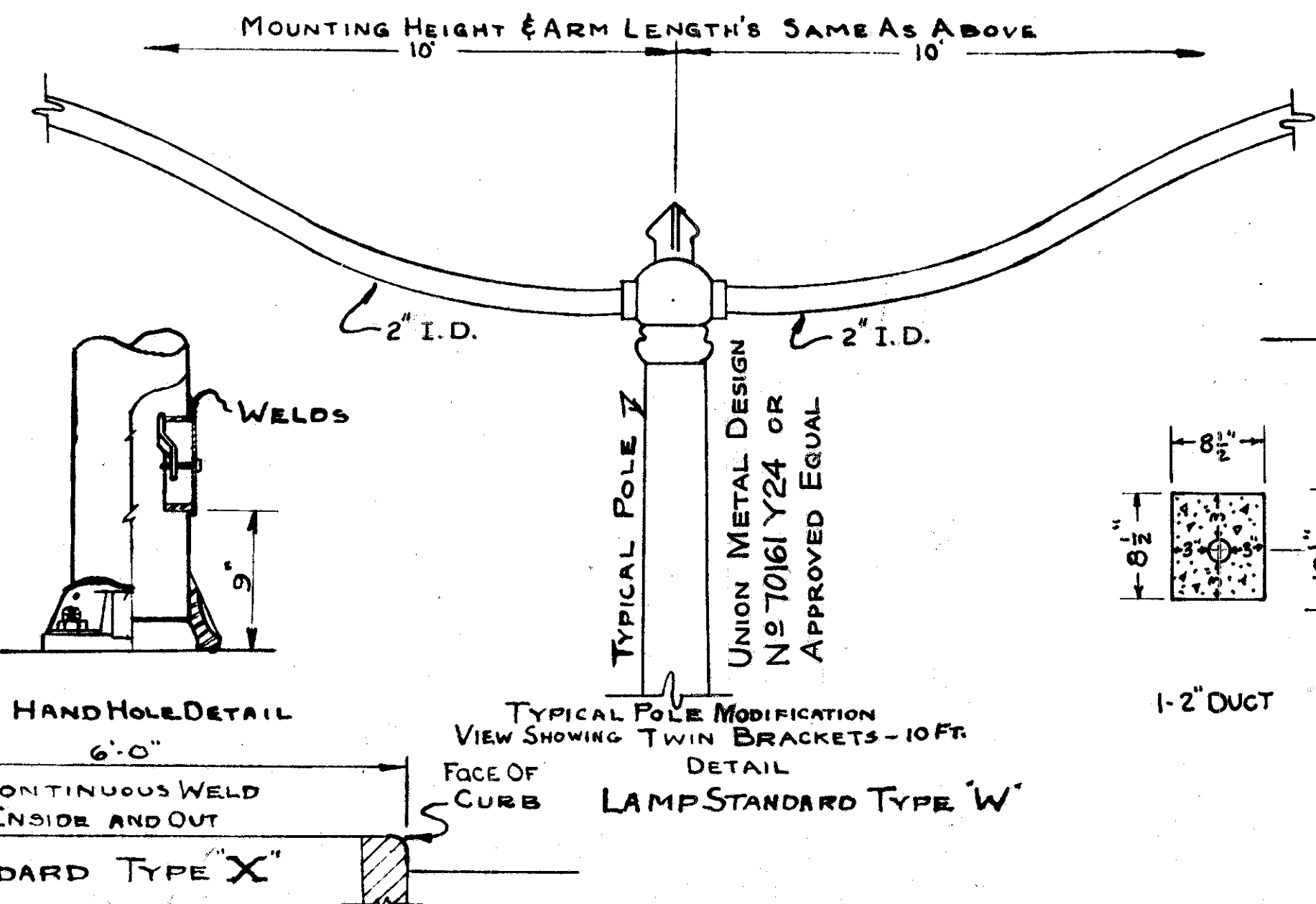


SECTION LAMP STANDARD FOUNDATION-REGULAR TO BE CAST IN PLACE FOR TYPES W & X LAMP STANDARDS

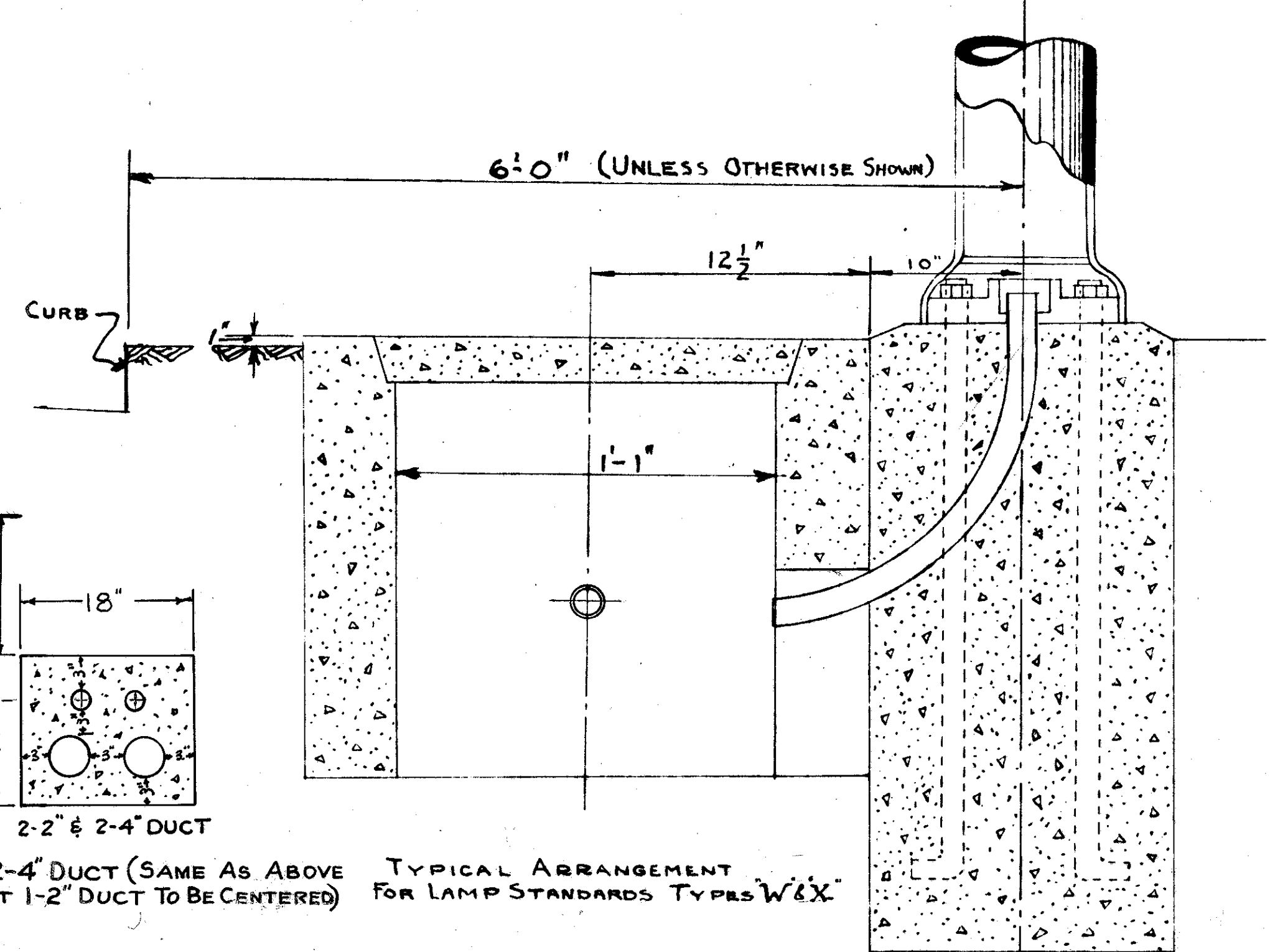


PULL BOX AND TRANSFORMER VAULT-REGULAR FOR TYPES W & X LAMP STANDARDS.

ROUND MONOTUBE POLE 9x5.36" x 26'-0" LONG
UNION METAL DESIGN NO 70161 Y23 OR APPROVED EQUAL

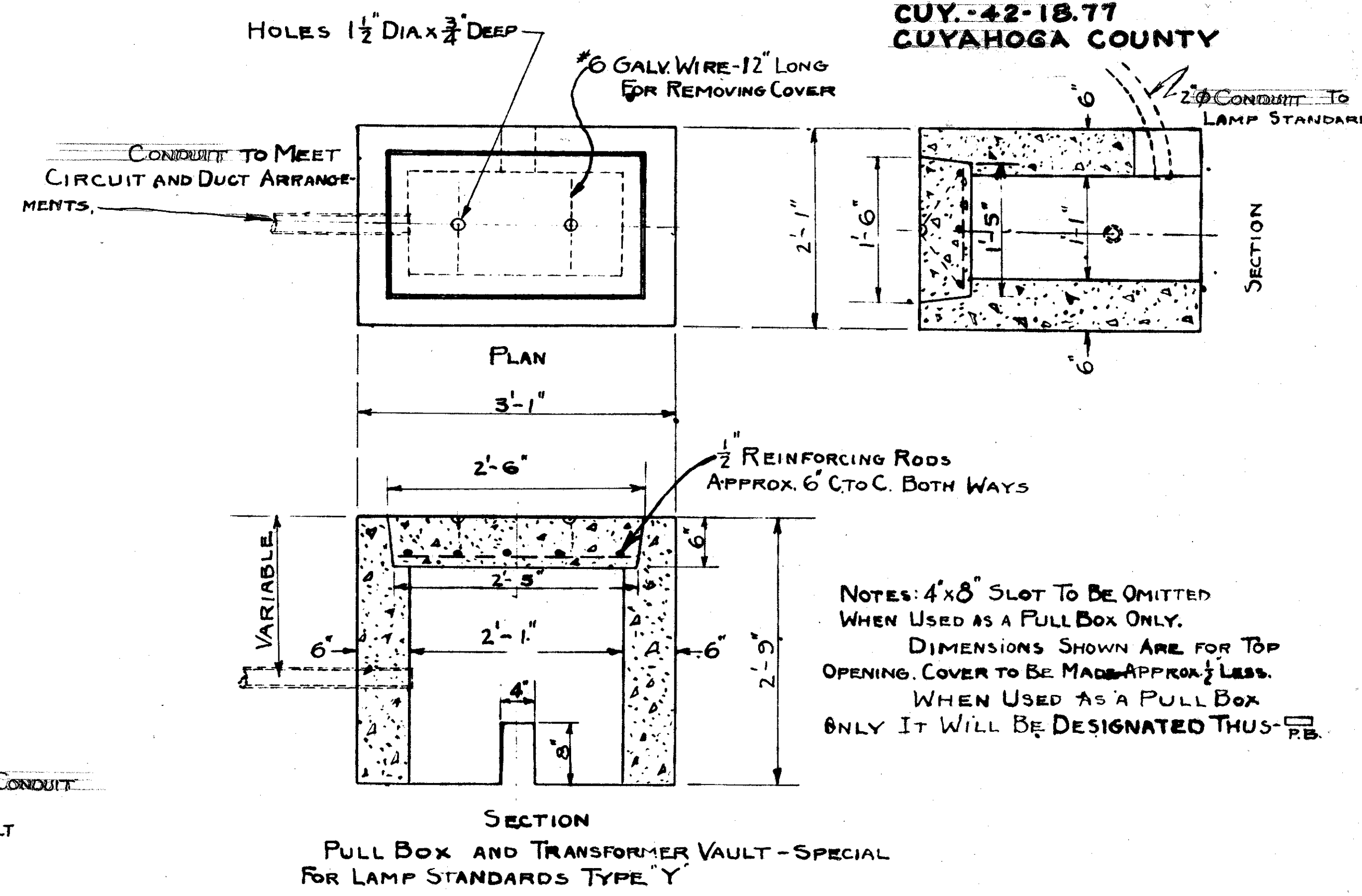
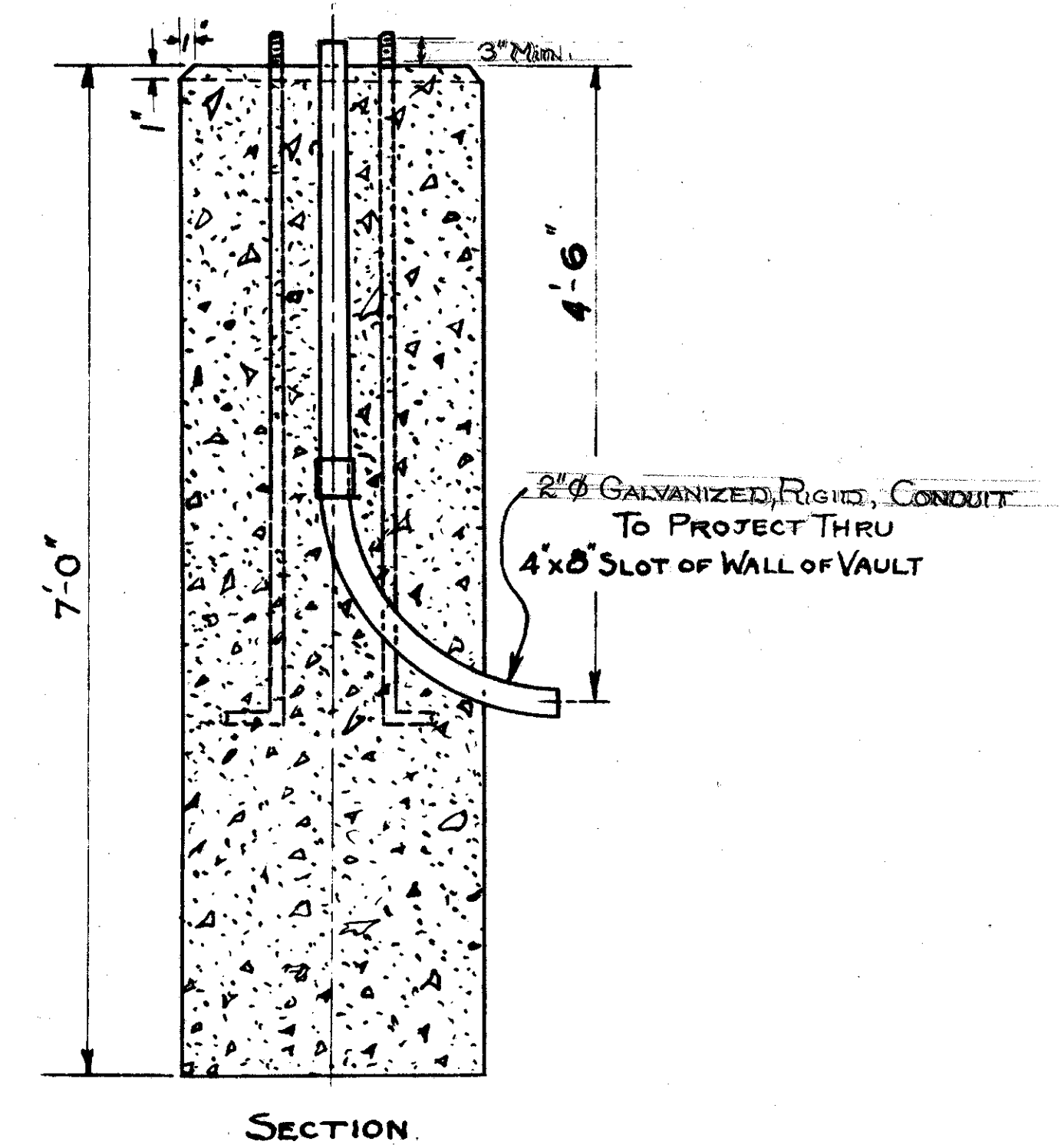
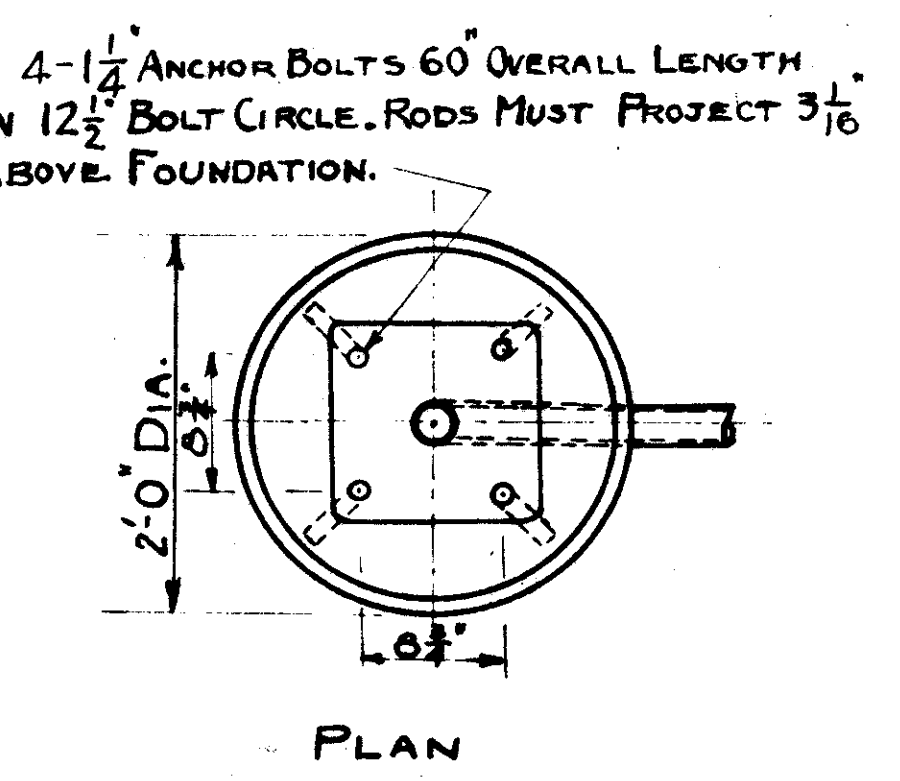
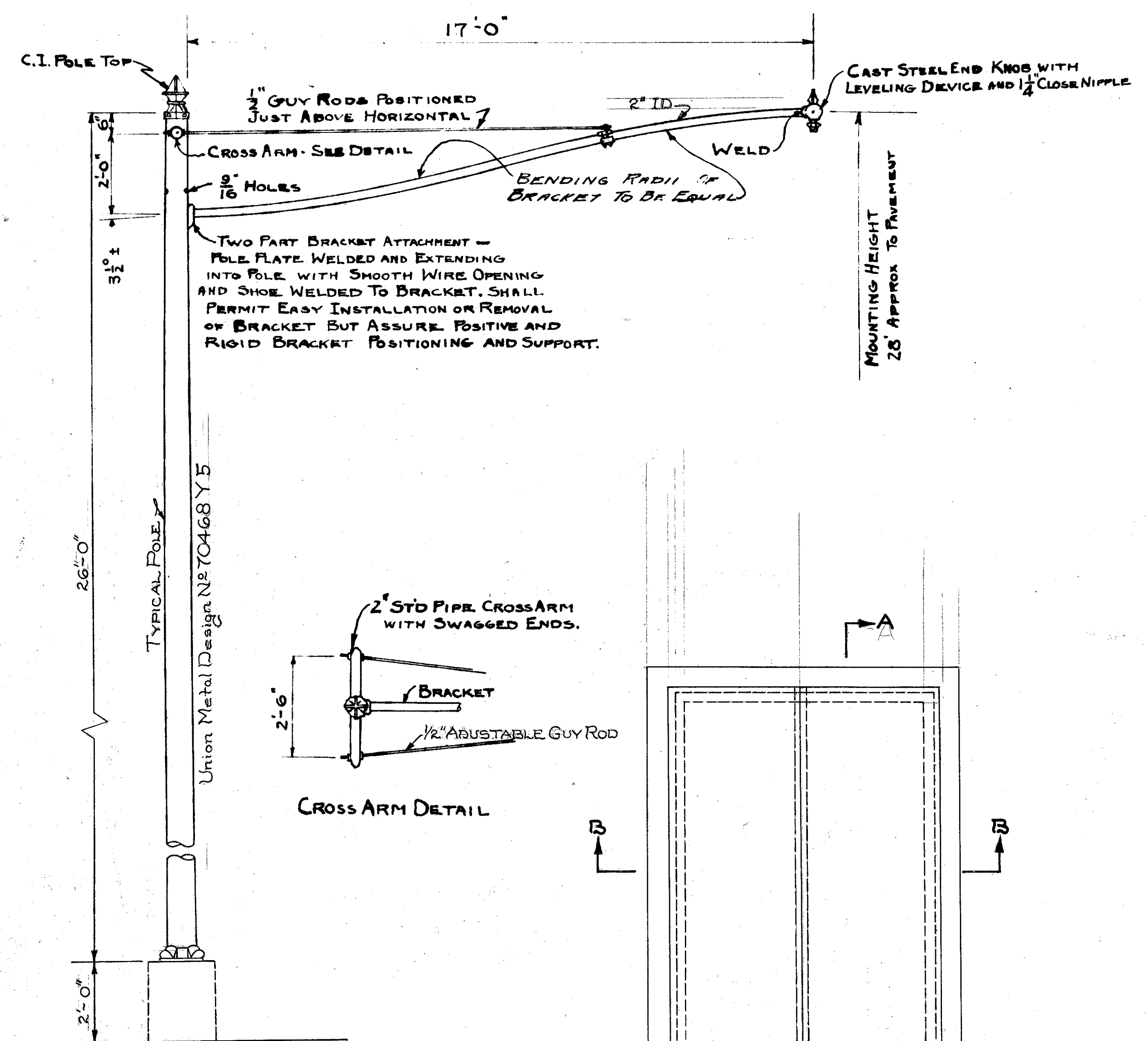


TYPICAL DUCT SECTIONS
CONCRETE ENCASED FIBER OR ASBESTOS CEMENT CONDUIT
FOR DEPTH OF PAVEMENT CROSSOVERS SEE OTHER DETAIL SHEET NO 79

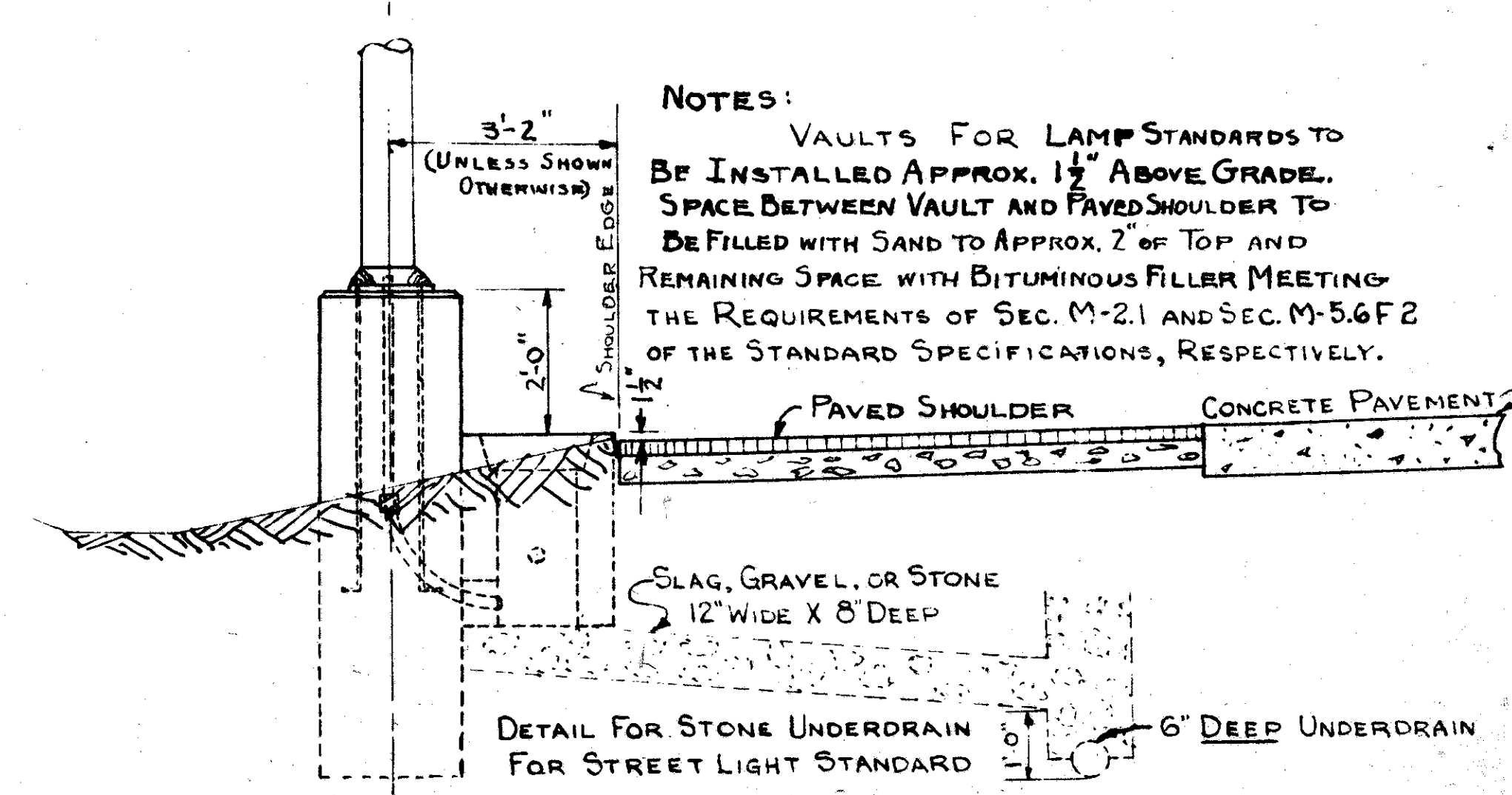
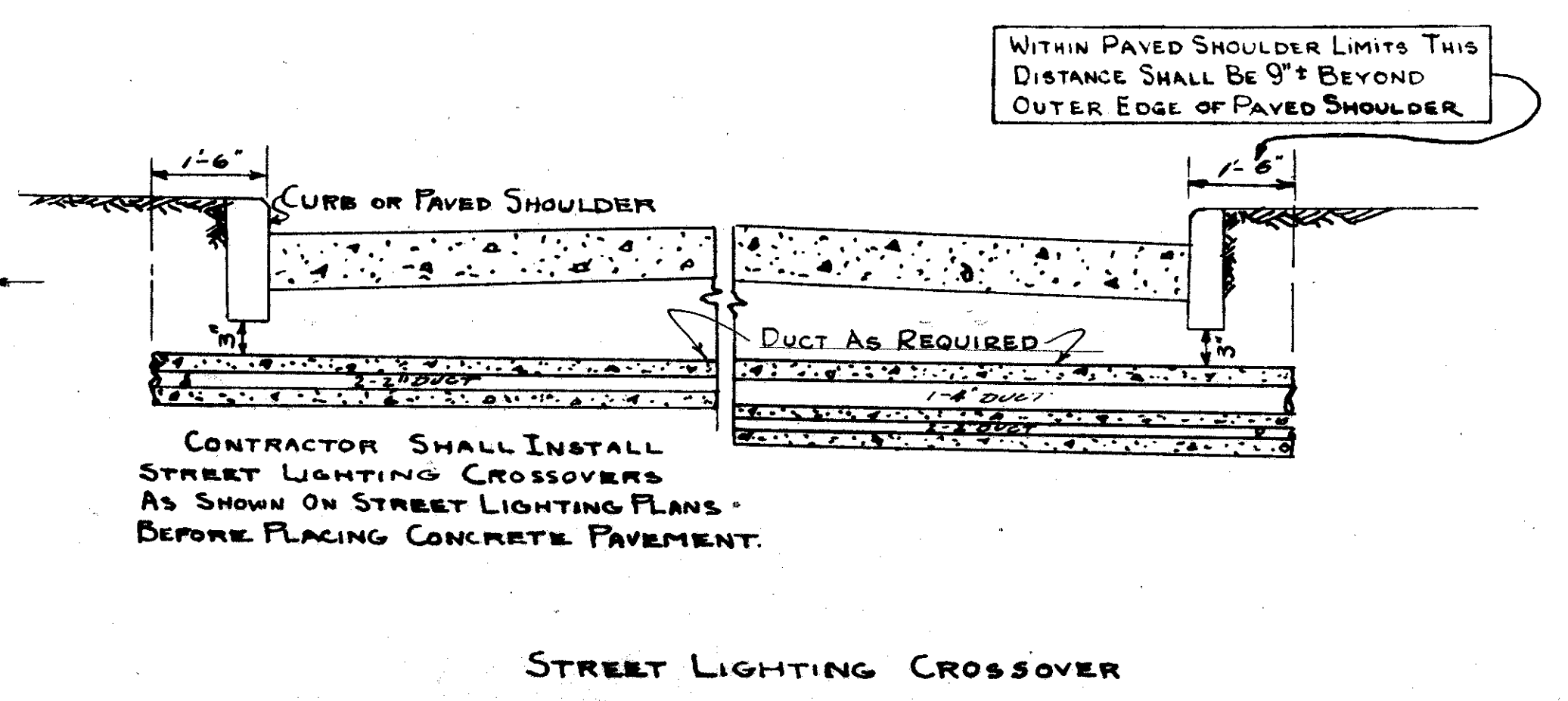
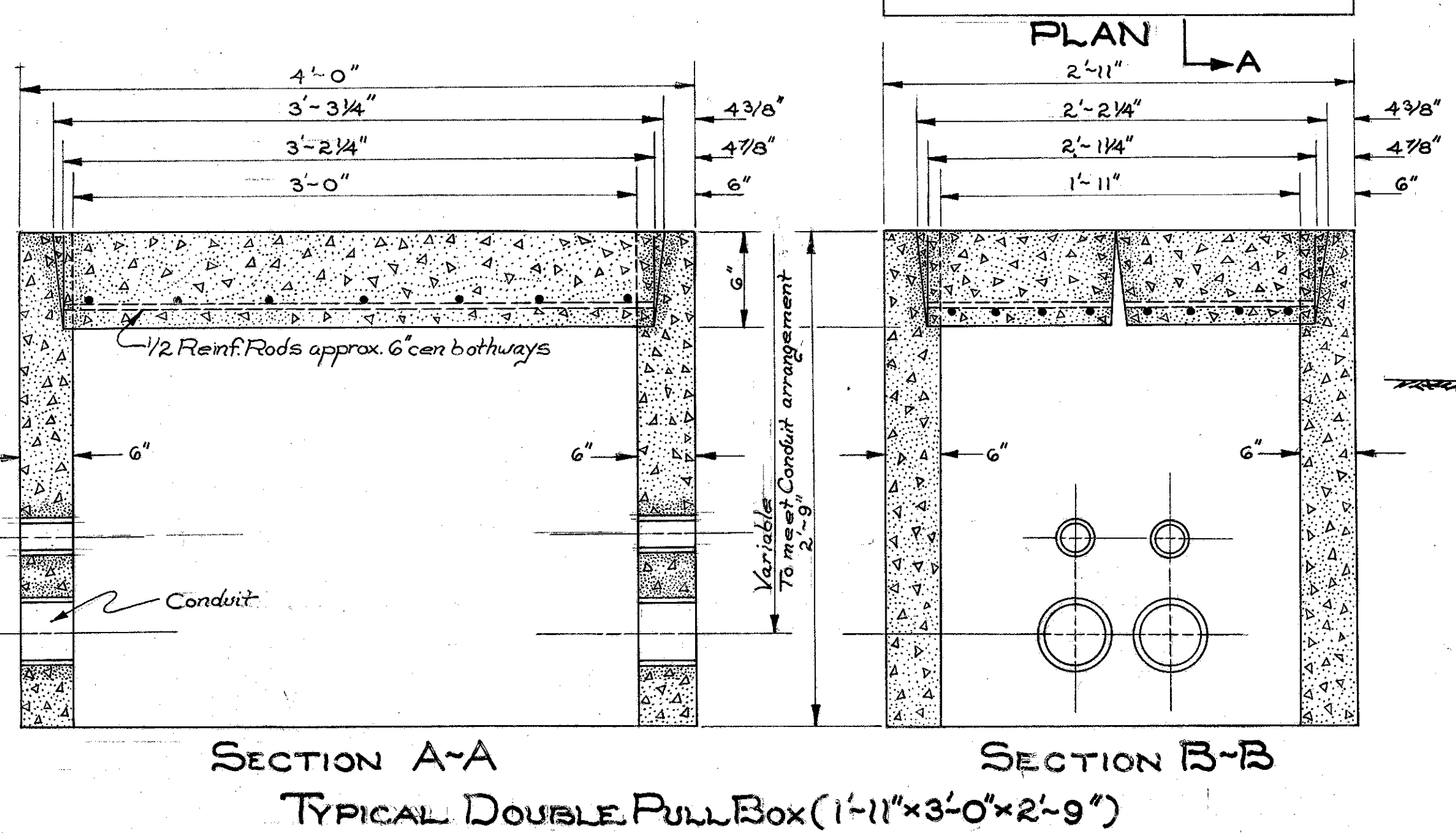


1-2" & 2-4" DUCT (SAME AS ABOVE EXCEPT 1-2" DUCT TO BE CENTERED) TYPICAL ARRANGEMENT FOR LAMP STANDARDS TYPES W & X

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NOTES: 4'x8" SLOT TO BE OMITTED WHEN USED AS A PULL BOX ONLY. DIMENSIONS SHOWN ARE FOR TOP OPENING. COVER TO BE MADE APPROX 1/2" LESS. WHEN USED AS A PULL BOX ONLY IT WILL BE DESIGNATED THUS - PB.



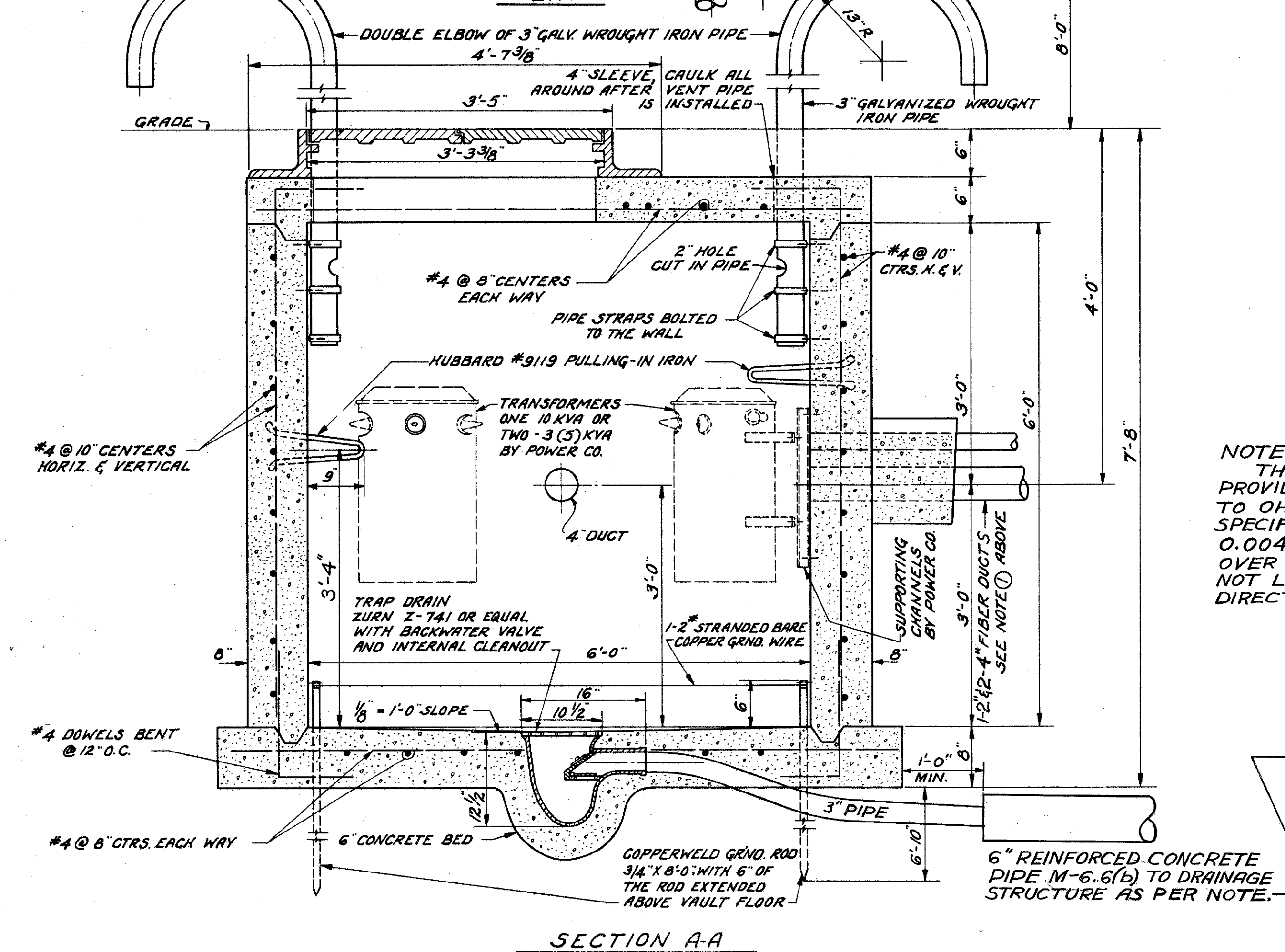
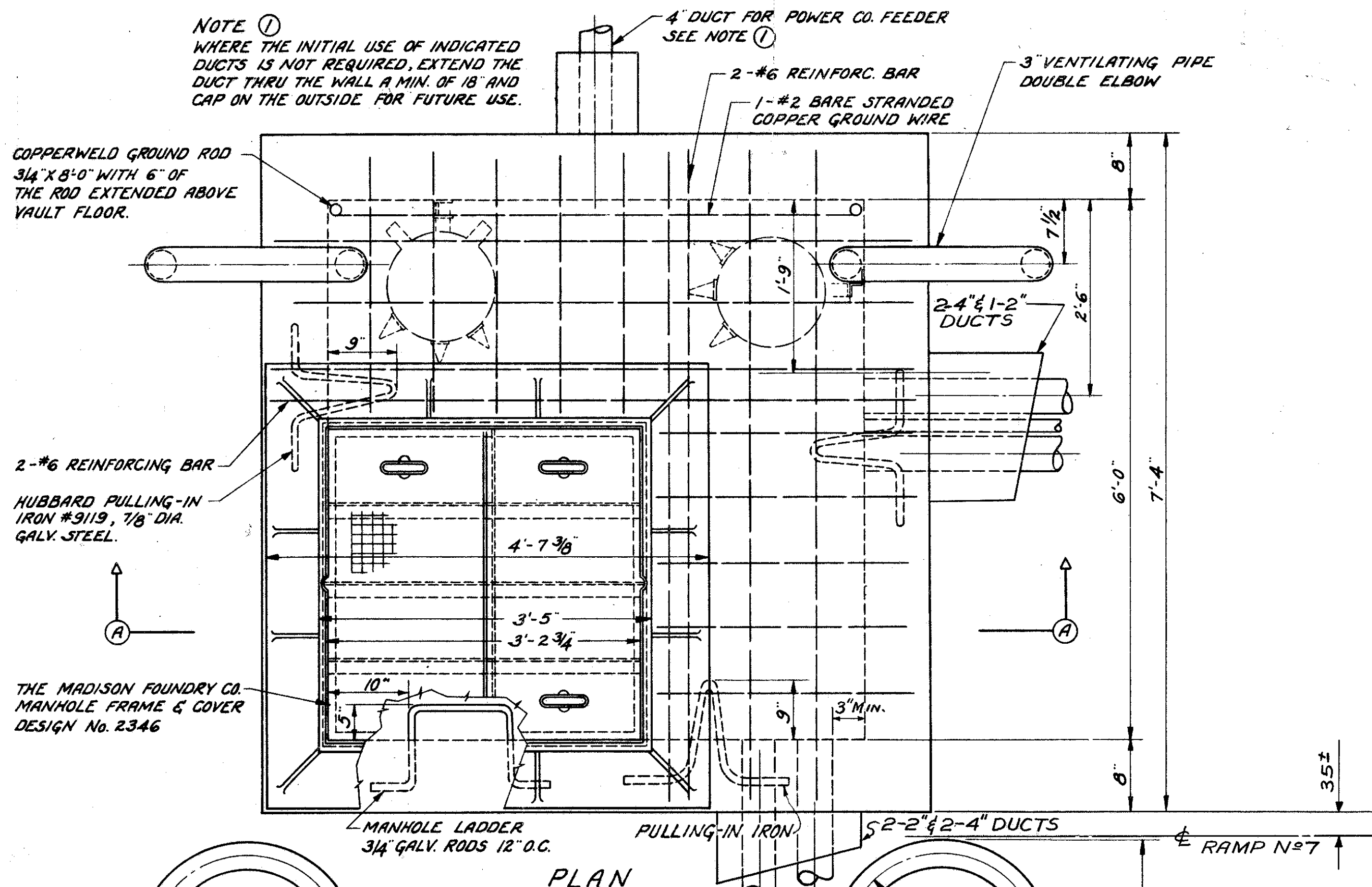
NOTES: VAULTS FOR LAMP STANDARDS TO BE INSTALLED APPROX. 1 1/2" ABOVE GRADE. SPACE BETWEEN VAULT AND PAVED SHOULDER TO BE FILLED WITH SAND TO APPROX. 2" OF TOP AND REMAINING SPACE WITH BITUMINOUS FILLER MEETING THE REQUIREMENTS OF SEC. M-2.1 AND SEC. M-5.6 F 2 OF THE STANDARD SPECIFICATIONS, RESPECTIVELY.

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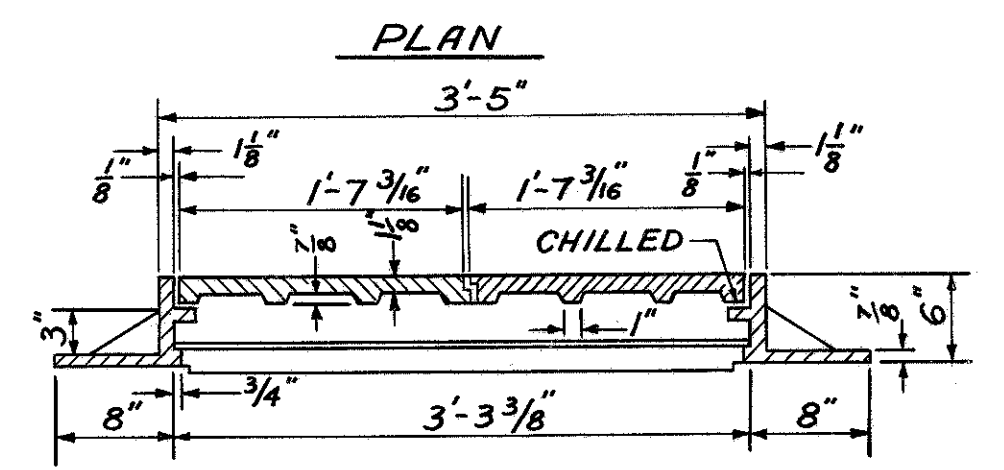
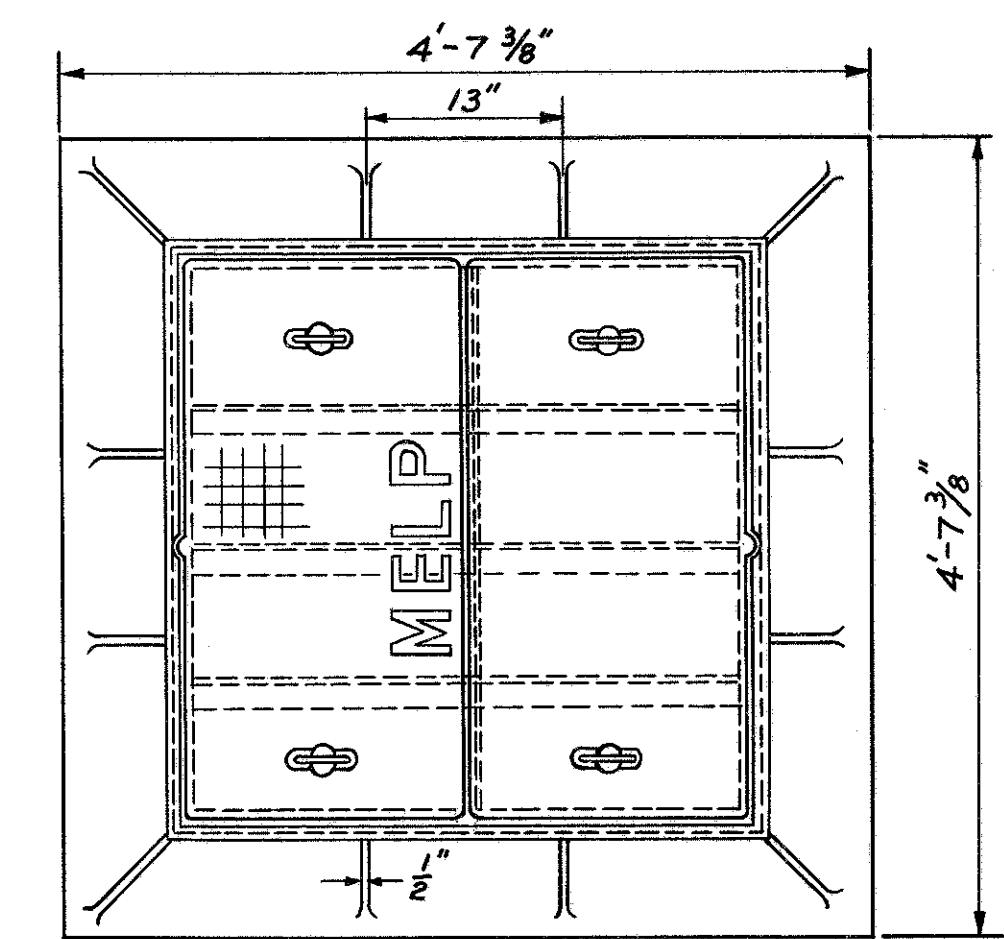
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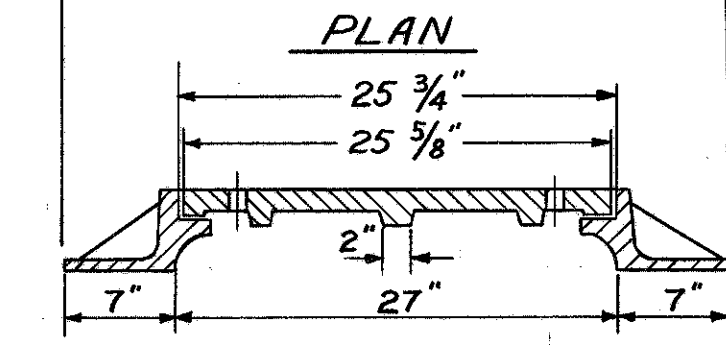
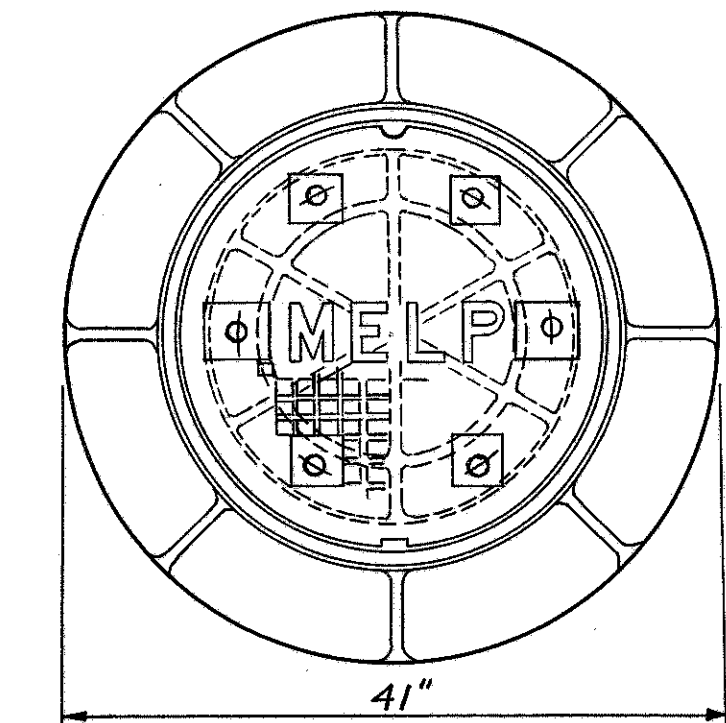
NOTE ①
WHERE THE INITIAL USE OF INDICATED
DUCTS IS NOT REQUIRED, EXTEND THE
DUCT THRU THE WALL A MIN. OF 18" AND
CAP ON THE OUTSIDE FOR FUTURE USE.



6'x6' REGULATOR VAULT



STANDARD SQUARE MANHOLE
SIDEWALK TYPE COVER AND FRAME
(BY THE MADISON FOUNDRY CO., DESIGN N° 2346)
OR EQUAL



STANDARD CI MANHOLE DETAILS
SIDEWALK TYPE RING & COVER
(BY THE MADISON FOUNDRY CO., DESIGN N° 2371)
OR EQUAL

NOTE:
THE TOP AND SIDES OF TRANSFORMER VAULT SHALL BE PROVIDED WITH TYPE "B" WATERPROOFING ACCORDING TO OHIO STANDARD CONSTRUCTION AND MATERIALS SPECIFICATIONS. FOR THE FLOOR VAPOR BARRIER A 0.004" POLYETHYLENE FILM SHALL BE APPLIED OVER THE SUBGRADE. THE FILM SHALL BE LAPPED NOT LESS THAN 6" WITH THE TOP PLACED IN THE DIRECTION OF THE SPREADING OF THE CONCRETE.

NOTE:
6" REINFORCED CONCRETE PIPE FROM REGULATOR VAULT AT STA. 21+85± SHALL EXTEND FROM REGULATOR VAULT TO SPECIAL C.I. AT STA. 21+00.
FLOWLINE OF OUTLET PIPE SHALL BE AS DIRECTED BY THE ENGINEER.
6" REINFORCED CONCRETE PIPE FROM REGULATOR VAULT TO DRAINAGE STRUCTURE SHALL BE IN ACCORDANCE WITH ITEM I-2 STORM SEWERS EXCEPT THAT PAYMENT SHALL BE INCLUDED IN UNIT PRICE BID FOR ITEM I-8 REGULATOR VAULT.