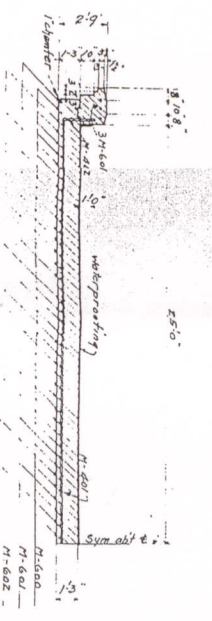
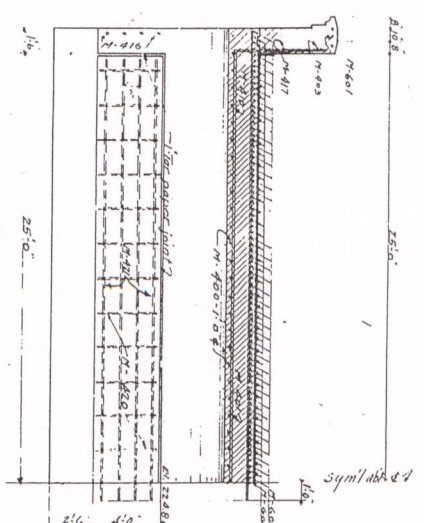


SECTION C-C



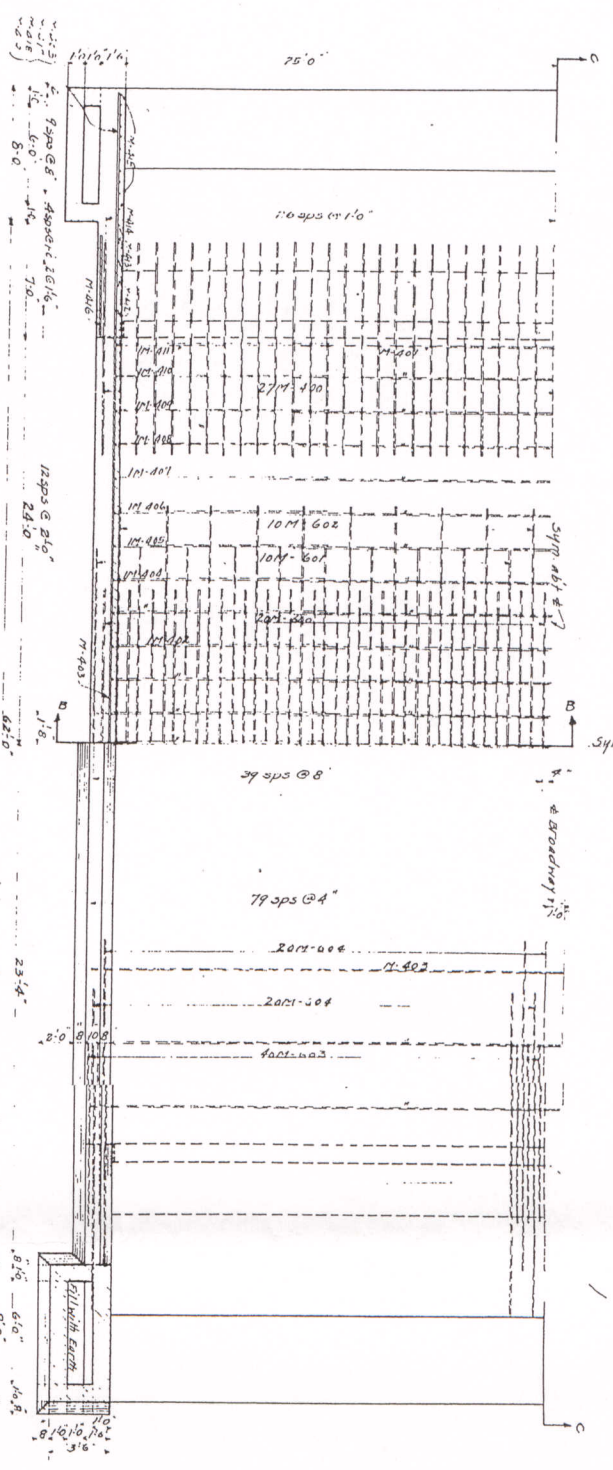
SECTION B-B



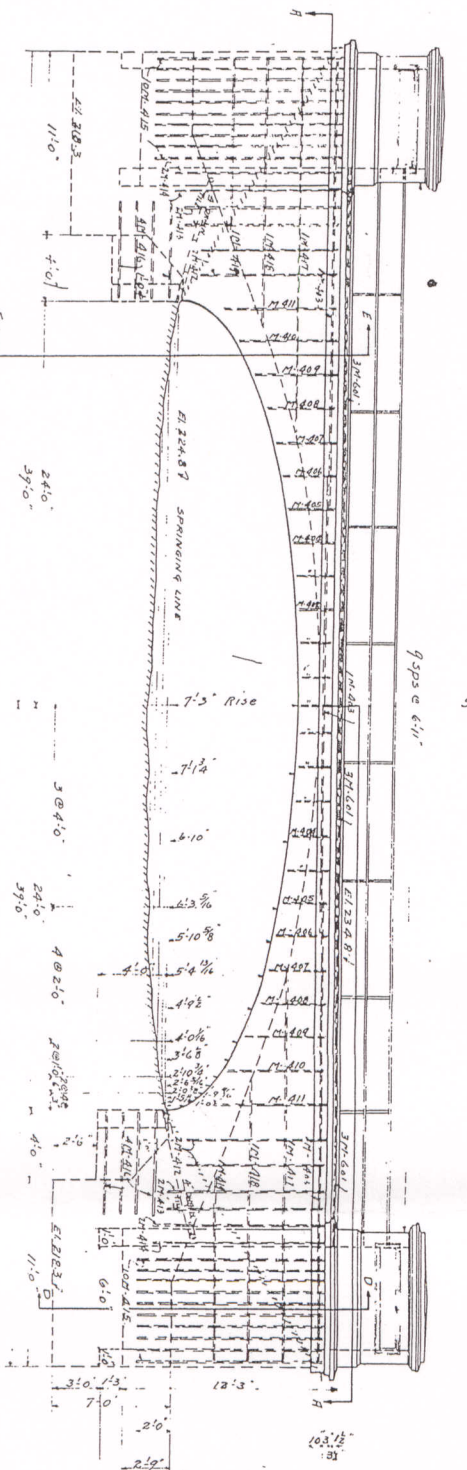
SECTION E-E

BILL OF BARS

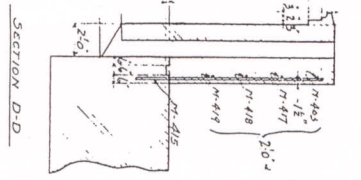
MARK	NO	SIZE	LENGTH	SEMI	LOCATION
M-402	40	3/4"	18'-0"	0	Arch Barrel
M-403	38	3/4"	23'-0"	0	Arch Barrel
M-404	16	3/4"	18'-0"	0	Arch Barrel
M-405	16	3/4"	18'-0"	0	Arch Barrel
M-406	16	3/4"	18'-0"	0	Arch Barrel
M-407	16	3/4"	18'-0"	0	Arch Barrel
M-408	16	3/4"	18'-0"	0	Arch Barrel
M-409	16	3/4"	18'-0"	0	Arch Barrel
M-410	16	3/4"	18'-0"	0	Arch Barrel
M-411	16	3/4"	18'-0"	0	Arch Barrel
M-402	40	3/4"	18'-0"	0	Arch Barrel
M-403	38	3/4"	23'-0"	0	Arch Barrel
M-404	16	3/4"	18'-0"	0	Arch Barrel
M-405	16	3/4"	18'-0"	0	Arch Barrel
M-406	16	3/4"	18'-0"	0	Arch Barrel
M-407	16	3/4"	18'-0"	0	Arch Barrel
M-408	16	3/4"	18'-0"	0	Arch Barrel
M-409	16	3/4"	18'-0"	0	Arch Barrel
M-410	16	3/4"	18'-0"	0	Arch Barrel
M-411	16	3/4"	18'-0"	0	Arch Barrel
M-402	40	3/4"	18'-0"	0	Arch Barrel
M-403	38	3/4"	23'-0"	0	Arch Barrel
M-404	16	3/4"	18'-0"	0	Arch Barrel
M-405	16	3/4"	18'-0"	0	Arch Barrel
M-406	16	3/4"	18'-0"	0	Arch Barrel
M-407	16	3/4"	18'-0"	0	Arch Barrel
M-408	16	3/4"	18'-0"	0	Arch Barrel
M-409	16	3/4"	18'-0"	0	Arch Barrel
M-410	16	3/4"	18'-0"	0	Arch Barrel
M-411	16	3/4"	18'-0"	0	Arch Barrel



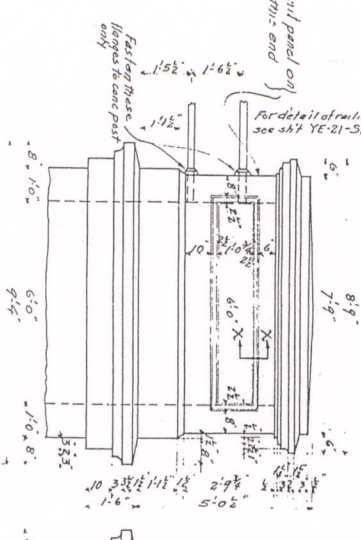
SECTION A-A



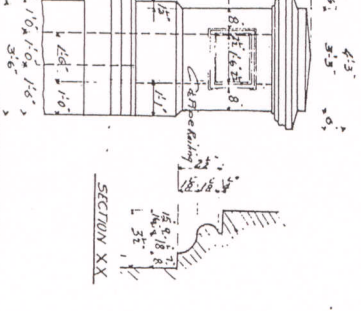
FRONT ELEVATION



SECTION D-D



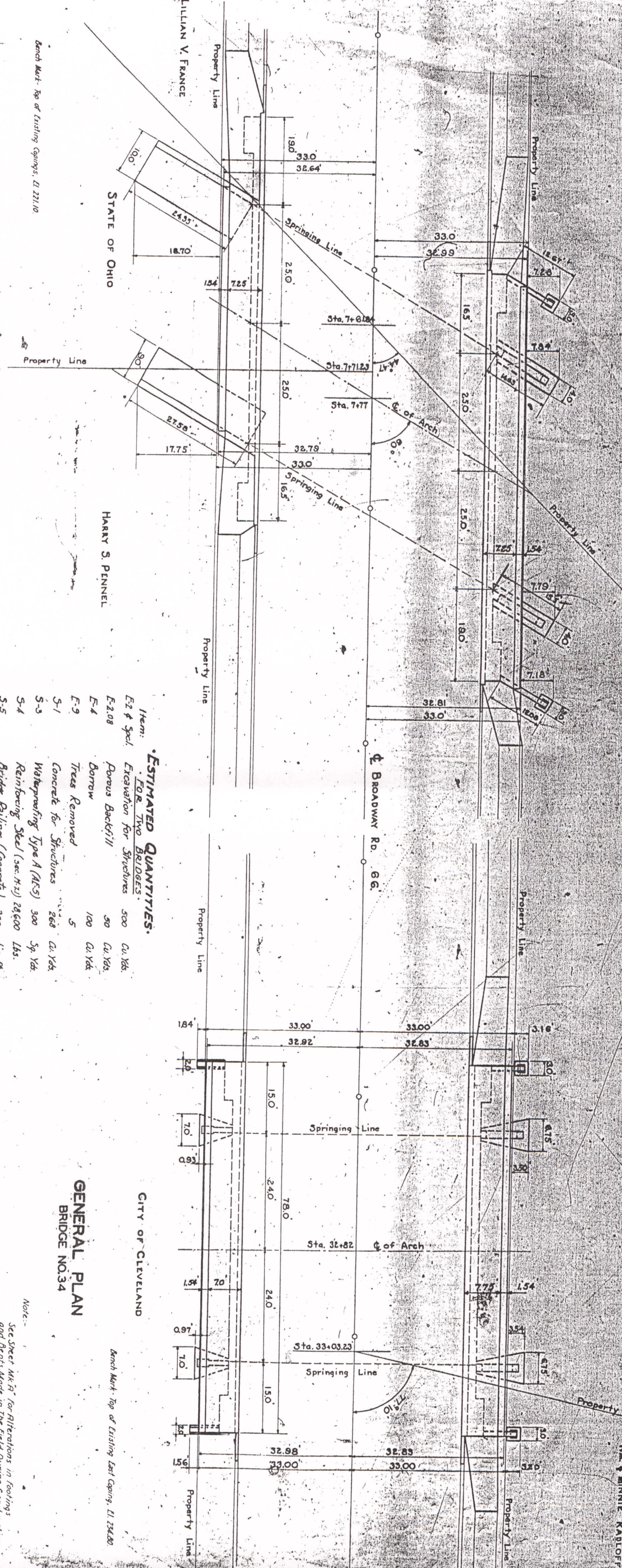
TERMINAL POSTS



SECTION XX

Notes:  
 Price bid for excavation shall include the price for spacers, till and/or backfill and for the concrete and for the steel reinforcement bars.  
 Concrete to be placed in the formwork and the reinforcement bars to be placed in the formwork.  
 The bridge to be property of contractor but must be removed from site before final estimate will be paid.

FILE NO. 12  
 COUNTY OF CUYAHOGA  
 CLEVELAND, OHIO.  
 REINFORCED CONCRETE BRIDGE  
 ROAD BRIDGE  
 TOWNSHIP of Grandford  
 W. A. RESINGER COUNTY SUPERVISOR  
 A. W. RESINGER BRIDGE ENGINEER  
 DRAWN BY: M. H. CROOKER  
 DATE: 11/5/17  
 SCALE: 3/4" = 1'-0"  
 DIVISION: HIGHWAYS  
 SHEET: 26-21-21  
 RECORD NO.: 417C



**ESTIMATED QUANTITIES**  
FOR TWO BRIDGES

Item	Description	Quantity	Unit
E-2	Excavation for Structures	500	Cu. Yds.
E-2.08	Porous Backfill	50	Cu. Yds.
E-4	Borrow	100	Cu. Yds.
E-9	Trees Removed	5	
S-1	Concrete for Structures	268	Cu. Yds.
S-3	Waterproofing Type A (AKS)	300	Sq. Yds.
S-4	Reinforcing Steel (sec. H-12)	24,600	Lbs.
S-5	Bridge Railing (Concrete)	300	Lin. Ft.
S-7	Structural Steel	20,000	Lbs.
See & Spec.	Removal of Portions of Existing Masonry		Lump Sum
I-5	12" x 12" Roadway Drainage	10	Lin. Ft.
I-11	Stone Curb (Sandstone)	40	Lin. Ft.
I-13	Concrete Sidewalk (Approach)	250	Sq. Ft.
Top & Spec.	Brick Surface Course	64	Sq. Yds.
Spec.	Pipe Railing	20	Lin. Ft.
Spec.	Common Labor	150	Hrs.
Spec.	Skilled Labor	50	Hrs.
Spec.	Maintaining Traffic, Barricades & Lights		Lump Sum

**GENERAL PLAN**  
BRIDGE NO. 36

**GENERAL PLAN**  
BRIDGE NO. 34

BUILT BY CONTRACT  
**BROADWAY**  
GARFIELD HEIGHTS CITY  
SIDEWALK EXTENSION & RAILING

**NO. B-61**

DATE: 6/26/24  
DRAWN BY: J.P.B. CHECKED BY: J.C. REVISED

Note:  
See Sheet M.R. 1 for Alterations in Footings and Bents Made in the Field During Construction

Bench Mark: Top of Existing East Coping, El. 234.00

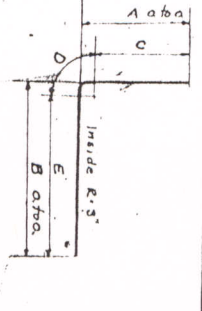
Bench Mark: Top of Existing Copings, El. 221.10



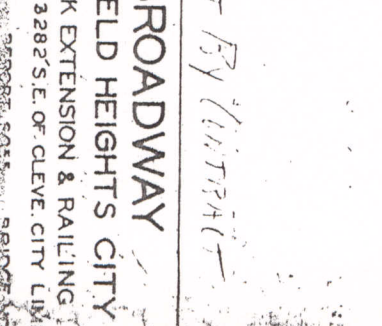
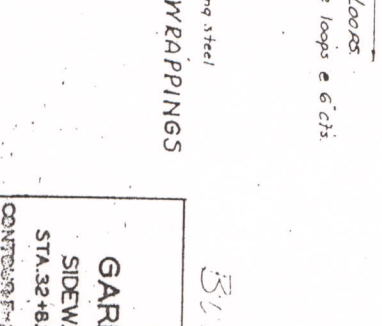
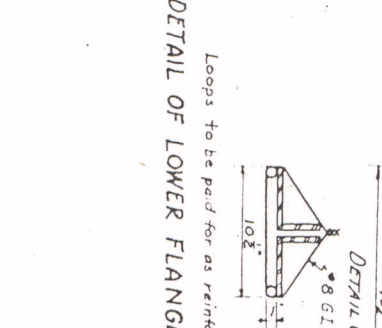
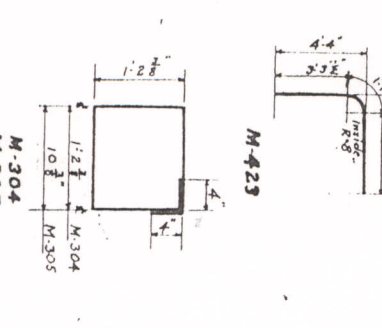
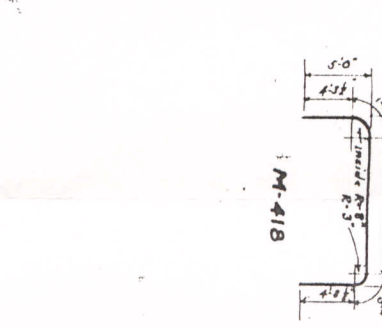
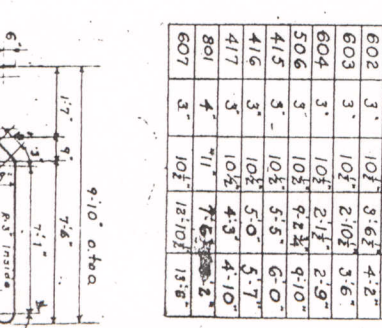
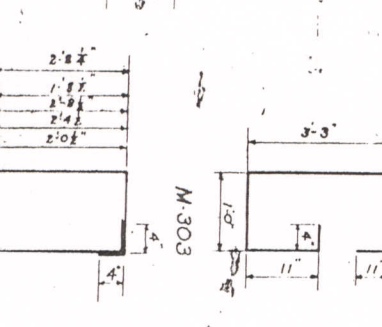
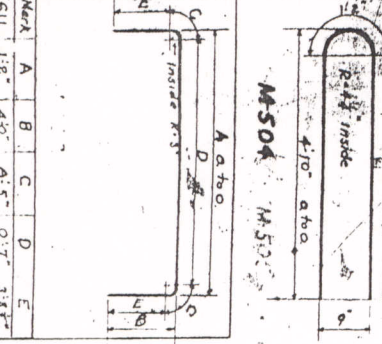


MARK NO.	SIZE	DIMENSION	LOCATION	MARK NO.	SIZE	DIMENSION	LOCATION
800	16	1.5" x 2.5"	End Spinn Facia Beam				
801	8	1.5" x 10.0"	Bent East				
600	6	3/4" x 7.8"	Footings - West				
601	6	6.8"					
602	6	3.0"					
603	4	2.21"		611	4	3/4" x 8-11"	Footings East
604	4	2.21"		612	12	5-11"	West
605	4	2.21"					
607	12	1.5"	End Spinn Facia Beam	614	24	11-0"	End Wall West
				615	24	4-9"	Shown End Footing
609	24	1.5"	Column Steel - East				
610	6	6.8"	Footings Steel				
500	6	5.0"	Rail Post Dowels	415	4	3/4" x 7.8"	Shown Int Footings East
501	6	5.9"	Bottom Rail	416	4	6.8"	
502	6	10.5"	Bottom Rail	417	6	6.8"	
503	6	9.3"	Bottom Rail	418	8	18-3"	Bent
504	12	10.0"	Shown Rail Post Dowels	419	32	7-0"	End Wall
505	10	11.6"	Int. Fts East	420	12	7.6"	End Wall
506	18	11.6"	Int. Fts East				
400	4	7.0"	Footings - West	423	4	5-11"	Shown
401	20	12.0"	Interior Walls	424	8	4.0"	Bent
402	4	4.0"	Side Walks	425	8	5.6"	Int Footing
403	12	7.0"	Side Walks	426	117	4.10"	Side Walks - East
404	117	7.0"	Side Walks	427	117	3.5"	Shown Side Walks - East
405	168	4.0"	Dowels	429	117	8.0"	Bent
406	96	2.10"	Int. Backing West	430	20	6.4"	Bent
407	20	3.10"	End Wall East	431	4	8.4"	Bent
408	12	4.6"	Shown End Wall East	432	2	7.8"	
409	12	5.6"	Int Footing East	433	4	7.0"	Int Footing - East
410	12	4.4"	Int Footing East	434	2	4.0"	Int Footing - East
411	4	5.4"	Interior Wall	435	2	3.5"	
412	4	5.4"	Interior Wall	436	2	2.6"	
413	28	4.1"	Shown Rail Dowels				
300	120	3.0"	Railing Spindles	304	56	3/8" x 5.6"	Shown Columns East
301	14	1.1"	Top Rail	305	26	4.10"	
302	14	5.3"	Bottom Rail	306	22	7.5"	West
303	40	7.5"	Shown End Spinn Facia Beam				

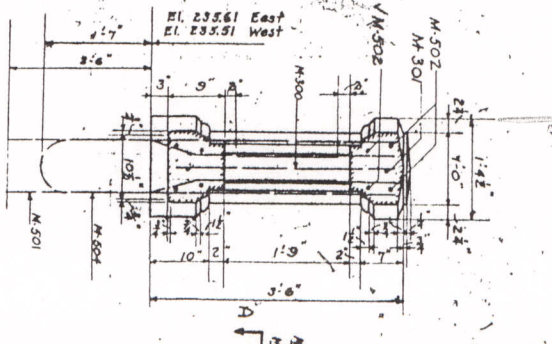
NOTE: All dimensions given are to  $\phi$  of bars except as noted.



Mark	A	B	C	D	E
403	0.5	7.0	0.12	0.5	6.8
404	0.8	6.6	0.42	0.5	6.2
405	1.6	2.8	1.22	0.5	2.4
409	2.4	2.0	6.02	0.5	1.8
610	4.0	2.2	3.8	0.5	1.0
612	4.0	2.2	3.8	0.5	1.0
428	0.8	7.8	0.42	0.5	6.1
429	0.5	7.9	0.12	0.5	7.5
407	3.0	1.0	2.82	0.5	8.1
615	4.0	1.0	3.8	0.5	8.1



SECTION-B-B

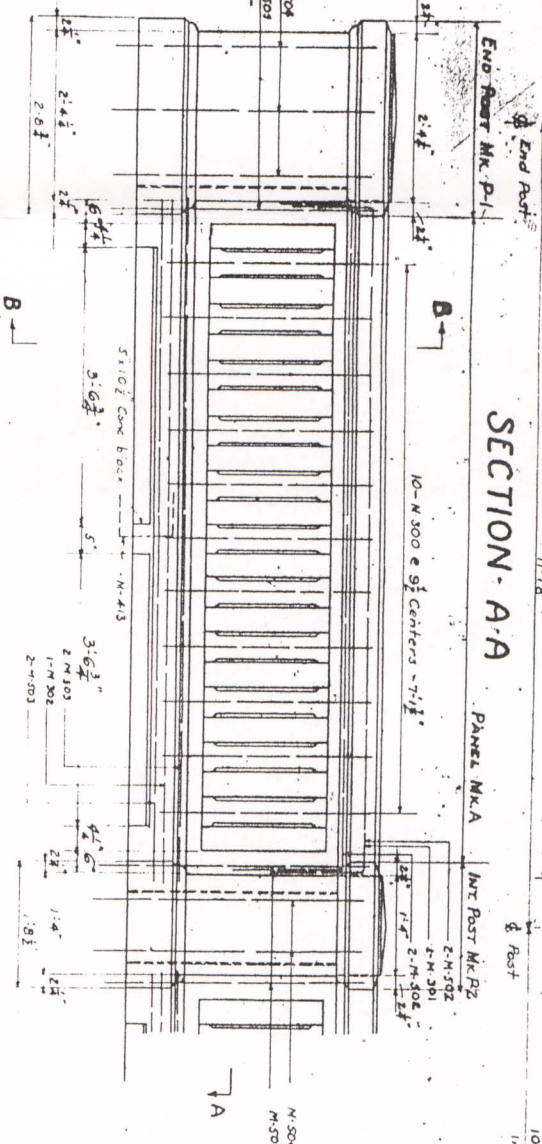


DETAILS OF SIDEWALK RAILINGS

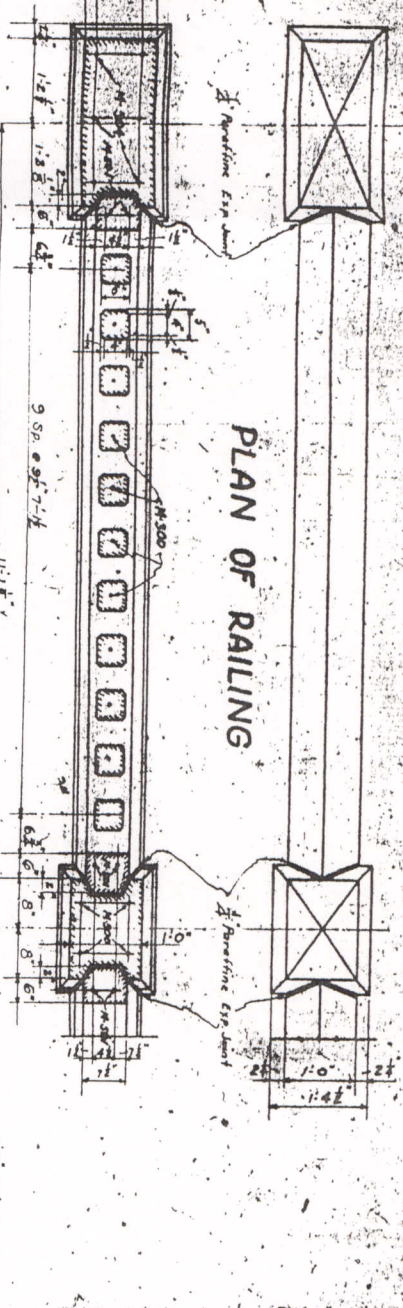
Scale 3/4"=1'-0"

NOTE - Top and Bottom Rails and Posts shall be cast in place. Spindles may be pre-cast in which case they shall be cast long enough to project 6" into top and bottom rails.

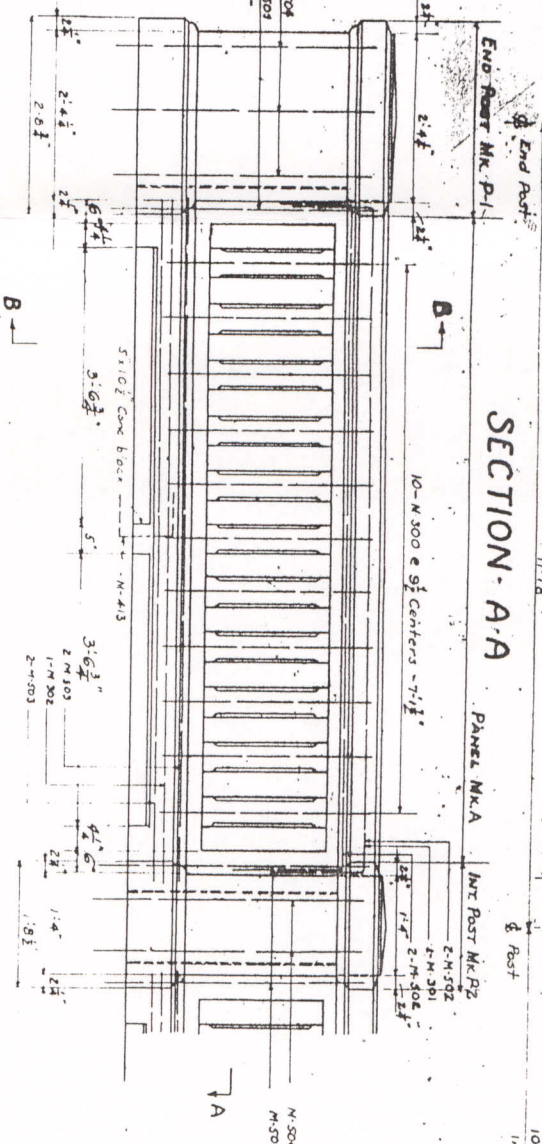
ELEVATION



PLAN OF RAILING

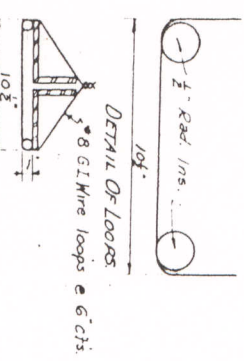


SECTION-A-A



DETAIL OF LOWER FLANGE WRAPPINGS

Loops to be paid for as reinforcing steel



BROADWAY

GARFIELD HEIGHTS CITY  
SIDEWALK EXTENSION & RAILING  
STA. 32+82 3282'S.E. OF CLEVELAND CITY LIMITS

NO. B-61

SCALE AS INDICATED DATE 6-16-52  
DRAWN BY J.L.D. CHECKED BY J.E.T. REVISED