

Bench Mark QM 1273
Approximately 27' North of E of W 140th St. and 31' North
of E of Triskett Rd. 30.62' Northeast of top end center of
hydrant on Northwest corner. 32.52' Northwest of I Pin in
Monument Box at E of intersection of W 140th St. and
Triskett Rd. Elevation 774.738.

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BAR LIST |

WEST 140TH STREET
GRADE SEPARATION WITH NYC.R.R.
AND C.T.S. RAPID TRANSIT
CITY OF CLEVELAND

35
74

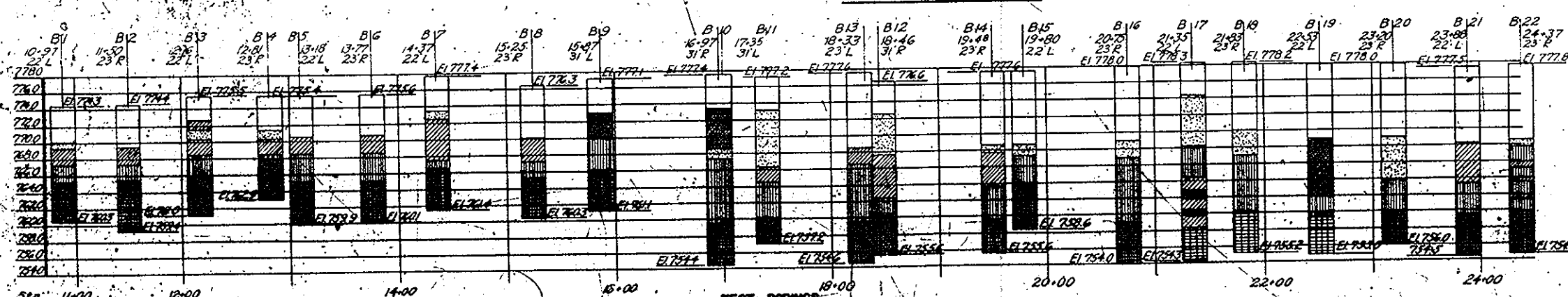
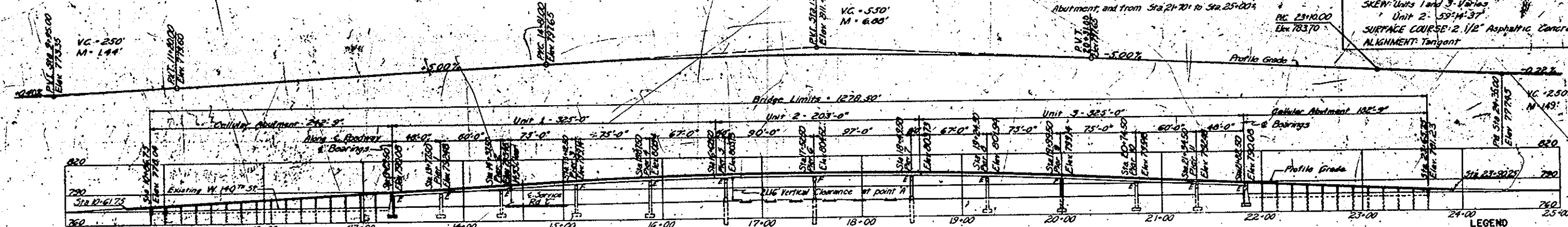
SITE PLAN

PROPOSED STRUCTURE

TYPE: Units 1 and 3 Continuous Steel Beam
with Concrete Deck and Substructure
Unit 2 Continuous Steel Beam Composite design of
positive moment areas with Concrete
Deck and Substructure
SPANS: Units 1 and 3 380'-0" 6'-25" 7'-0" 8'-0"
Unit 2 8'-0" Centerline, 90'-0" 9'-0" 8'-0" Centerline
ROADWAY: 52'-0" 11' of curbs with 2'-5" Sidewalks
LOADING: CP-1000S77
SKEW: Units 1 and 3 Varies
Unit 2 59° 14' 37"
SURFACE COURSE: 2 1/2" Asphaltic Concrete
ALIGNMENT: Tangent

NOTE: B gas line to be relocated by others, as required
in the vicinity of Piers 4, 5, 6 and 7, South
Abutment, and from Sta. 21+70 to Sta. 25+00.

PROFILE ON E OF STRUCTURE



- LEGEND**
- Power Pole (C.E.I.)
 - Telephone Manhole
 - Power and Telephone Pole
 - Water Dept. Manhole
 - Catch Basin
 - Fire Hydrant
 - Light Pole
 - Sewer Manhole
 - Fence

REV. NO. 1 North Approach Slab 9-17-58 P.A.
MADE A.R.L. DATE 1-28 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCD DATE CONSULTING ENGINEERS
CUD T.J.P. DATE 8-30-58 CLEVELAND CITY CLEVELAND NEW YORK

WEST 140TH STREET CITY OF CLEVELAND

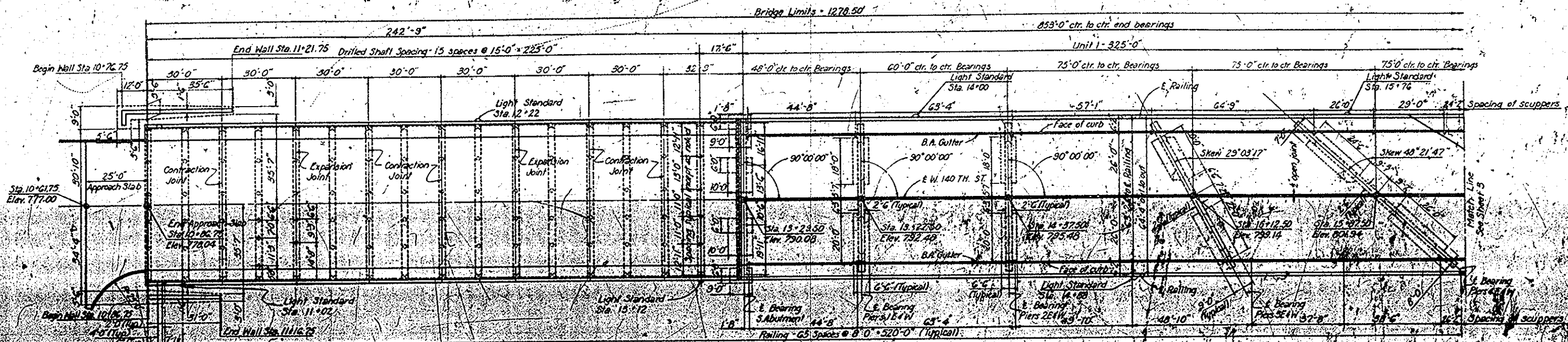
BRIDGE OVER NYC.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 208

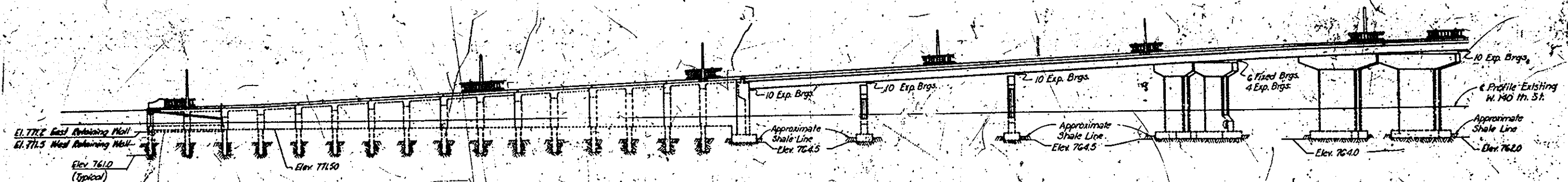
NO. B-200

SCALE 1"=50' DATE REVISED

SITE PLAN & PROFILE



GENERAL PLAN



EAST ELEVATION

GENERAL NOTES

DESIGN SPECIFICATIONS
Specifications for Design of Structures of the State of Ohio, Department of Highways, dated September 1, 1937.

CONSTRUCTION SPECIFICATIONS
Construction and Material Specifications, State of Ohio, Department of Highways, dated January 1, 1937, as modified by notes on the plans shall govern.

WATERPROOFING
All surfaces in contact with bituminous roadway surfacing shall be waterproofed with type "C" waterproofing. All construction joints in substructure against which earth is to be placed shall be waterproofed with 36" type "B" waterproofing or 12" preformed sealing strips as noted except for horizontal joints at top of footings.

WELDING
All welding shall be Class "A".

CHARACTER OF METAL
All steel more than one inch thick to be welded shall conform to A.S.T.M. designation A-373. All other structural steel shall be either A-373 or A-7.

DIMENSIONS
The dimensions given are measured horizontally and at 60° F, unless otherwise noted.

GENERAL NOTES

REINFORCING STEEL
All bars are designated on the plans by bar numbers preceded by the letters M or S. The bar size is indicated in the bar mark as follows:
No. 4 thru No. 9: First digit
No. 10 & No. 11: First two digits.

CONCRETE FINISH
Railing terminal posts, fascias of deck, vertical surfaces of pier shafts, and cap beams, bottom of cap beams and all exposed surfaces of abutments and walls, except the backwall and bridge seal, shall receive a rubbed surface finish on all other exposed surfaces shall be governed by the provisions of Item S-1.

ELECTRICAL GROUNDS
A solid No. 0 bare copper wire electrical ground shall be embedded in concrete of Piers 3E & 3W, 6E & 6W and 9E & 9W. The lower end of the solid No. 0 bare copper wire shall be a coil of 25 feet of wire placed under the footing and separated from the footing.

(Cont)
with 2 layers of tar paper. The upper end shall extend sufficiently above the top of the concrete to provide for a suitable splice and extension to the substructure. Connection to the superstructure shall be No. 6 bare stranded tinned copper wire brazed or bolted to a beam flange and to the solid copper wire in the pier. Payment for electrical grounds is to be included under Item S-25, and Special, Bridge Lighting complete as per plan.

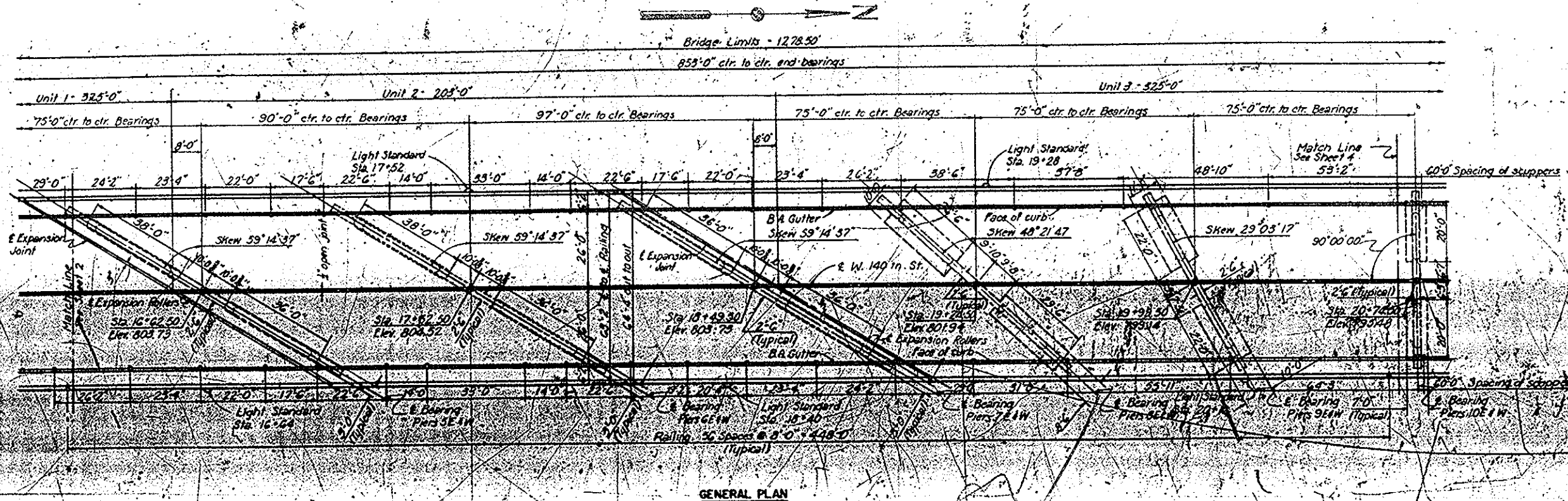
CHAMFER
Provide 3 inch chamfer on all exposed edges of concrete unless otherwise shown.

RAILROAD AND C.T.S. CLEARANCES
Construction clearance of 18'-0" vertically above the top of rails, and 6'-4" horizontally from the center of tracks shall be maintained at all times except during the driving and pulling of sheeting for Piers 6E and 6W.

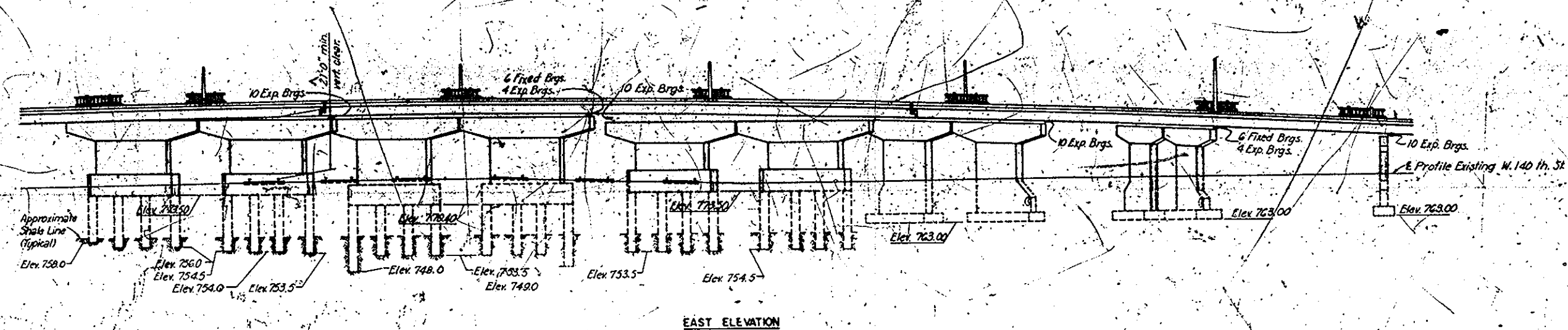
For additional notes regarding construction adjacent to Railroad and Rapid Transit tracks see sheet 4 of 74.

MADE A.S. DATE 8/26/37	HOWARD, NEEDLES, TAMMEN & BERENSON
RECD. DATE 8/26/37	CONSULTING ENGINEERS
ORD. D.Y.O. DATE 6-22-36	KANSAS CITY CLEVELAND NEW YORK
WEST 140TH STREET CITY OF CLEVELAND	
BRIDGE OVER N.Y.C.R.R.	
CONTOUR F-237	REPORT NO. 6766 BRIDGE NO. 200
NO. B-200	
SCALE 1"=20'-0"	DATE REISED

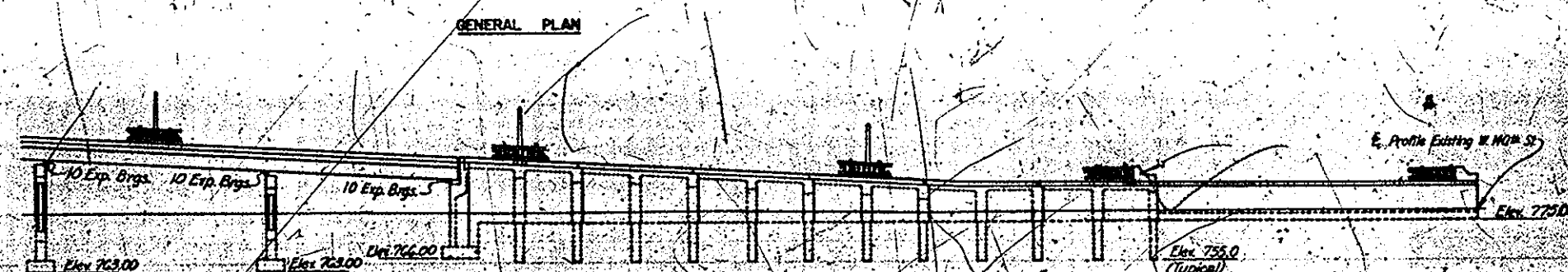
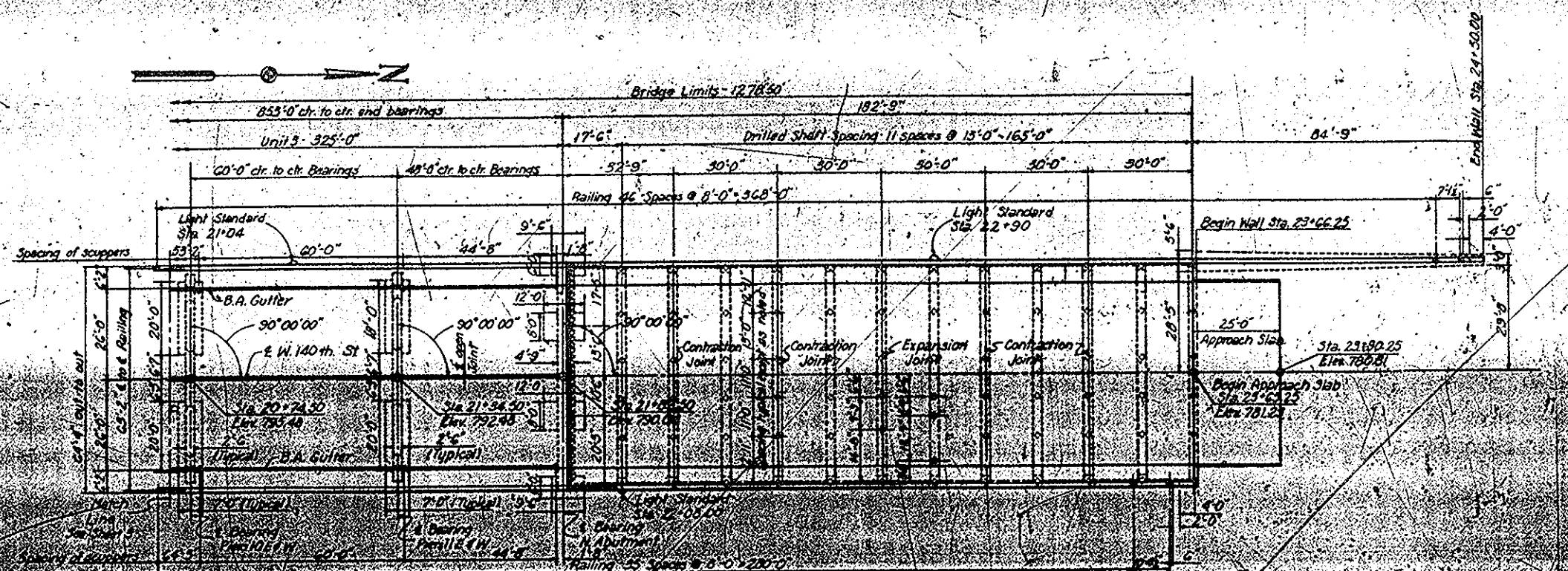
GENERAL PLAN & ELEVATION



GENERAL PLAN



EAST ELEVATION



ESTIMATED QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
E-2	Cofferdams - Steel Sheet Piling - Complete in Place	S.F.	5700
E-2	Excavation for Structures, Unclassified	C.Y.	3180
S-1	Class "C" Concrete - Superstructure	C.Y.	1480
S-1	Class "C" Concrete - Pier Shafts & Cap Beams	C.Y.	1300
S-1	Class "C" Concrete - Walls (Abutment, Storable and Retaining Walls)	C.Y.	650
S-1	Class "C" Concrete - Abutment Slabs & Terminal Posts	C.Y.	1330
S-1	Class "C" Concrete - Abutment Columns	C.Y.	40
S-1	Class "C" Concrete - Abutment Breast Walls	C.Y.	200
S-2	Class "C" Concrete - 3' Reinforced Slab - Bearing Course - Including Reinforcement Metal	S.F.	6430
S-1	Class "C" Concrete - Abutment 4' Pier Footings	C.Y.	180
S-1	Class "C" Concrete - Retaining Wall Footings	C.Y.	50
S-3 & SP	Type A Macropaving - Bridge Sidewalk	S.Y.	1400
S-3 & SP	Type B Macropaving	S.Y.	100
S-3	Type C Macropaving	S.Y.	7500
S-3	12" x 12" Paved Slab - Strip	L.F.	120
S-3	Reinforcing Steel (18-22) L.F. Or	LBS.	2015,000
S-7 & SP	Structural Steel, Including Field Painting	LBS.	207,000
S-7 & SP	1" Dia. Steel Type Steel Connectors	Each	44900
S-4	T-Preformed Core - Joint Fill	S.F.	120
S-4	Steel Bridge Rolling	L.F.	2584
S-44	18" Dia. W.I. Pipe Rolling with Welded Joints	L.F.	75
S-19 & SP	18" Dia. Drilled Shafts - Complete in Place	L.F.	3,000
S-19 & SP	36" Dia. Drilled Shafts - Complete in Place	L.F.	500
Special	Core Borings	L.F.	200
S-25 & SP	Bridge Light Standards - Complete As Per Plan, including Field Painting	Each	4
S-25 & SP	Bridge Lighting - Complete As Per Plan	Lump Sum	Lump Sum
S-26	Name Plaque - 18" x 26" Cast Bronze	Each	2
S-29	Sub-drainage - 18" Bearing Course	L.F.	2500
S-28 & SP	Dock Draining System - Complete As Per Plan	Lump Sum	Lump Sum
F-1 & SP	Reinforced Concrete Approach Slab	S.Y.	30
F-50 & SP	2" E.A. Asphaltic Concrete Surface Course	S.Y.	7500
Special	Poured Joints in Slab on Bearing Surface	L.F.	4800
Special	Rolling Steel Doors with Hardware, including Field Painting - Complete as per plan	Each	2
Special	Yellow metal emergency doors with hardware & cylinder lock, including Field Painting - Complete as per plan	Each	2
Special	Insulated Air Walls - complete as per plan, including screens	Each	26

44

The following steel components shall be included in the calculation of the total weight to be paid for under "Item S-7, and Special-Structural Steel, including Field Painting.

A: All structural steel embraced in bridge framework.

B. Bearing assemblies, including sheet lead plates

Anchor bolt

D. Railings, anchorages.

F. Such plates & W 1 center plates

E. Curb plates & W.I. center plates
F. Rail angle cutters and support

G. Roadway expansion joint and contracting

6. Roadway expansion joint and contraction joint assemblies, including W. I. plates and

joint assemblies, including: W.I. plates & drains.

H. Expansion Joint Roller assemblies.

1. Rivets or high strength steel bolts and

1. Rivets or high strength steel bolts and washers if used.

J. Weld materials.

K. Angle frames and stickers for buyers.

Swinging doors and rolling doors.

CHANGING COSTS AND RISKY DECISIONS

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...and the fact that the *Journal* is a journal of the American Psychological Association, the largest and most influential organization in the field of psychology, adds to the journal's prestige and makes it a must-read for all psychologists.

Journal of Management Education 30(6)

1280

100

* Method "B" consisting of $1\frac{1}{2}$ " Binder Course T 50.07 (No. 4) and $1\frac{1}{2}$ " Modified Type "A" Wearing Course.

REV. NO. 1	North Approach Slab	9-17-58	R.A.
WALKER, S. EARLY, TIES	HOWARD, NEEDLES, TAMMEN & BERENSON		
TIME DATE	CONSULTING ENGINEERS		
CED. JCS-880426 4-18-57	KANSAS CITY	CLEVELAND	NEW YORK

WEST 140TH STREET
CITY OF CLEVELAND

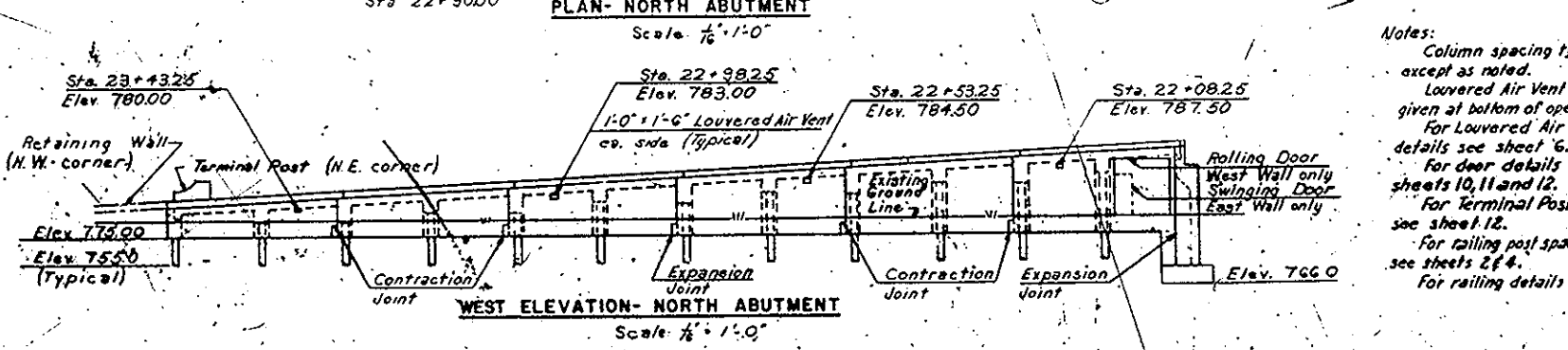
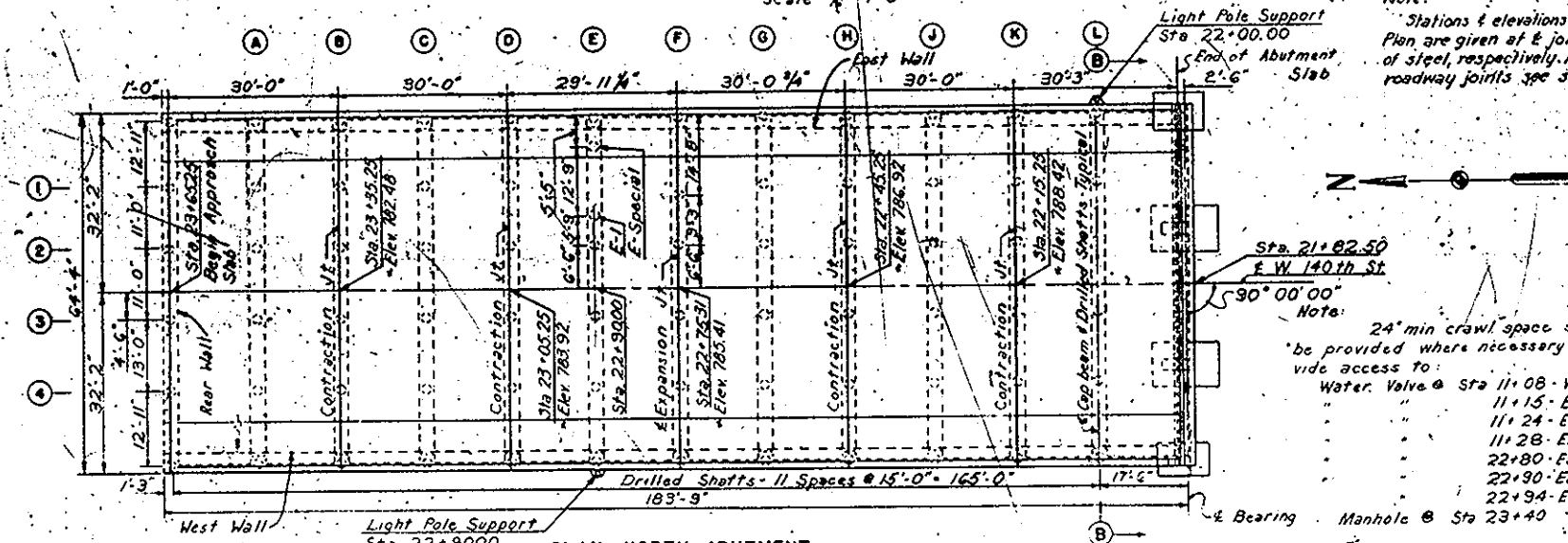
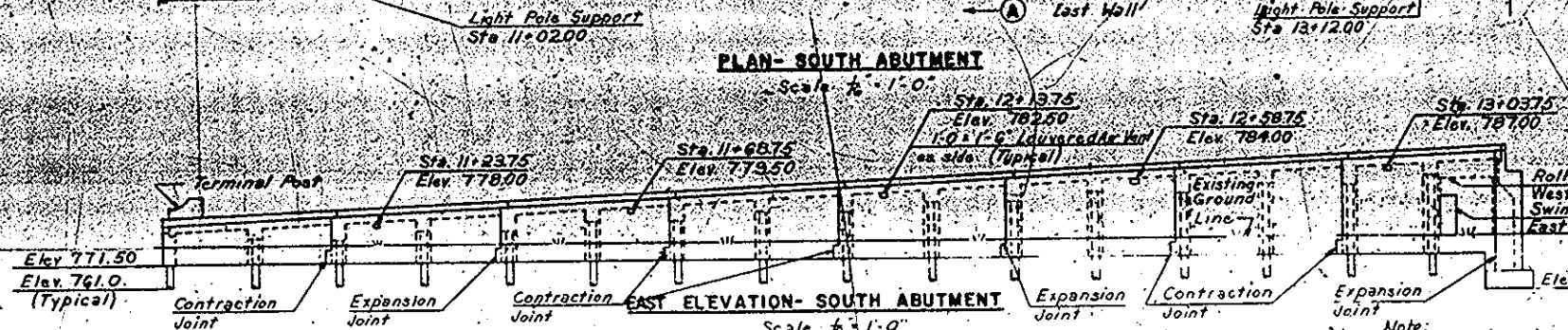
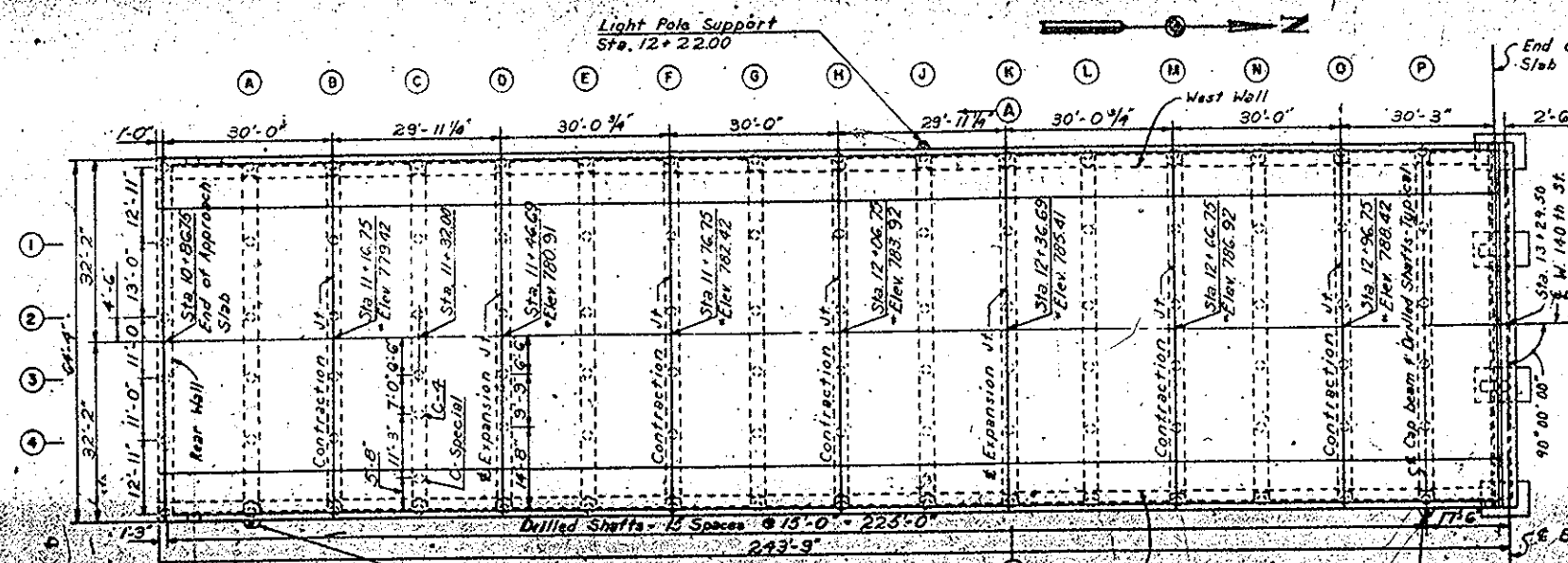
BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 208

NO. B-200

SCALE 1"=20' DATE REVISED 2-5-59

GENERAL PLAN & ELEVATION

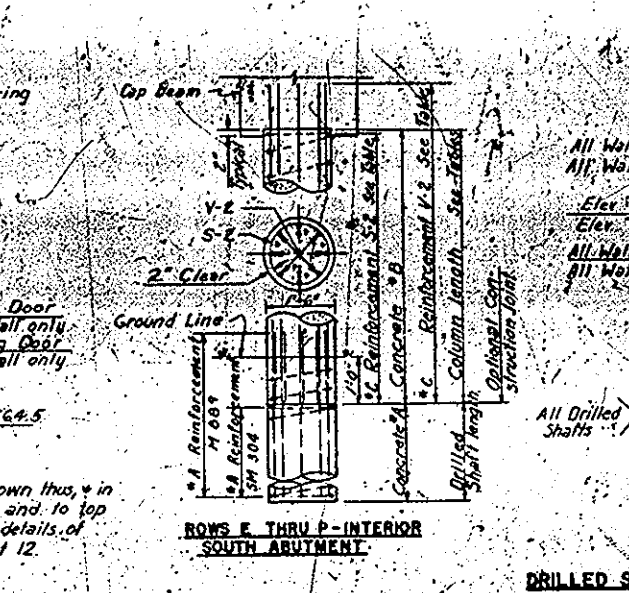
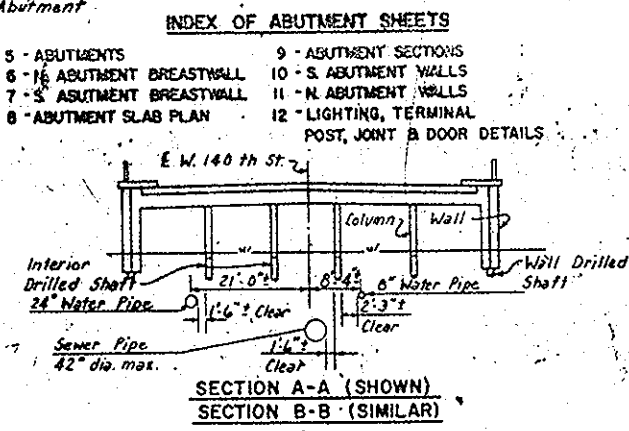


Note:
Stations & elevations shown thus, in Plan are given at joints and to top of steel, respectively. For details of roadway joints see sheet 12.

Note:
24" min crawl space shall be provided where necessary to provide access to:
Water Valve @ Sta 11+08 West 18'
11+15 East 18'
11+24 East 20'
11+28 East 20'
22+80 East 18'
22+90 East 22'
22+94 East 20'
Manhole @ Sta 23+40

Notes:
Column spacing typical except as noted.
Louvered Air Vent elevations given at bottom of opening.
For Louvered Air Vent details see sheet 6.
For door details see sheets 10, 11 and 12.
For Terminal Post details see sheet 12.
For railing post spacing see sheets 2 & 4.
For railing details see sheet 30.

ABUTMENTS



COLUMN LENGTH AND REINFORCEMENT									
SOUTH ABUTMENT					NORTH ABUTMENT				
LOCATION	LENGTH	V-2	S-2		LOCATION	LENGTH	V-3	S-3	V-4
A-1 & 4	1.44	MB75	SM306		A-1 & 4	1.57	MB81	SM336	
A-2	1.64	MB76	SM307		A-2	1.74	MB81	SM337	
A-3	1.61	MB76	SM307		A-3	1.77	MB81	SM337	
B-1 & 4	1.66	MB77	SM307		B-1 & 4	1.76	MB82	SM337	
B-2	1.86	MB78	SM308		B-2	1.93	MB82	SM338	
B-3	1.83	MB78	SM308		B-3	1.96	MB82	SM338	
C-1 & 4	2.91	MB79	SM309		C-1 & 4	2.92	MB83	SM339	
C-2	3.11	MB80	SM310		C-2	3.09	MB84	SM339	
C-3	3.08	MB80	SM310		C-3	3.12	MB84	SM339	
D-1 & 4	3.16	MB129	SM311		D-1 & 4	3.16	MB85	SM339	
D-2	3.36	MB130	SM312		D-2	3.33	MB86	SM340	
D-3	3.33	MB130	SM312		D-3	3.36	MB86	SM340	
E-1 & 4	4.41	MB16	SM313		E-1 & 4	4.41	MB41	SM341	
E-2	4.61	MB17	SM314		E-2	4.58	MB42	SM341	
E-3	4.58	MB17	SM314		E-3	4.61	MB42	SM342	
F-1 & 4	4.66	MB18	SM315		F-1 & 4	4.66	MB43	SM342	
F-2	4.86	MB20	SM316		F-2	4.83	MB44	SM343	
F-3	4.83	MB20	SM316		F-3	4.86	MB44	SM343	
G-1 & 4	5.91	MB22	SM317		G-1 & 4	5.91	MB45	SM344	
G-2	6.11	MB24	SM318		G-2	6.08	MB46	SM345	
G-3	6.08	MB24	SM318		G-3	6.11	MB46	SM345	
H-1 & 4	6.16	MB25	SM319		H-1 & 4	6.16	MB47	SM345	
H-2	6.36	MB26	SM320		H-2	6.33	MB48	SM346	
H-3	6.33	MB26	SM320		H-3	6.36	MB48	SM346	
J-1 & 4	7.41	MB28	SM321		J-1 & 4	7.41	MB49	SM347	
J-2	7.61	MB30	SM322		J-2	7.58	MB50	SM348	
J-3	7.58	MB30	SM322		J-3	7.61	MB50	SM348	
K-1 & 4	7.66	MB31	SM323		K-1 & 4	7.66	MB51	SM349	
K-2	7.86	MB32	SM324		K-2	7.83	MB52	SM350	
K-3	7.83	MB32	SM324		K-3	7.86	MB52	SM350	MB131
L-1 & 4	8.91	MB33	SM325		L-1 & 4	8.91	MB53	SM351	MB131
L-2	9.11	MB34	SM326		L-2	9.08	MB54	SM352	
L-3	9.08	MB34	SM326		L-3	9.11	MB54	SM352	MB131

DRILLED SHAFT LENGTHS AND REINFORCEMENT									
SOUTH ABUTMENT					NORTH ABUTMENT				
LOCATION	LENGTH	V-2	S-2		LOCATION	LENGTH	V-3	S-3	
M-1 & 4	9.16	MB36	SM327		M-1 & 4	9.16	MB36	SM327	
M-2	9.36	MB37	SM328		M-2	9.36	MB37	SM328	
M-3	9.33	MB37	SM328		M-3	9.33	MB37	SM328	
N-1 & 4	10.41	MB38	SM329		N-1 & 4	10.41	MB38	SM329	
N-2	10.61	MB39	SM330		N-2	10.61	MB39	SM330	
N-3	10.58	MB39	SM330		N-3	10.58	MB39	SM330	
O-1 & 4	10.66	MB125	SM331		O-1 & 4	10.66	MB125	SM331	
O-2	10.86	MB126	SM332		O-2	10.86	MB126	SM332	
O-3	10.83	MB126	SM332		O-3	10.83	MB126	SM332	
P-1 & 4	11.91	MB127	SM333		P-1 & 4	11.91	MB127	SM333	
P-2	12.11	MB128	SM334		P-2	12.11	MB128	SM334	
P-3	12.08	MB128	SM334		P-3	12.08	MB128	SM334	

Notes:
*A - Shall be included for payment in "Item 5-19 f Special Drilled Shafts".
*B - Shall be included for payment in "Item 5-1, Class C Concrete Columns".
*C - Shall be included for payment in "Item 5-4 Reinforcing Steel".

Use identical reinforcement for additional columns in row "C" South Abutment and row "E" North Abutment.

MADE C.B. DATE 11-22-59 HOWARD, NEEDLES, TAMMEN & BERGENDORF
TRON DATE CONSULTING ENGINEERS
CED. DATE 1-22-59 KANSAS CITY CLEVELAND NEW YORK

WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

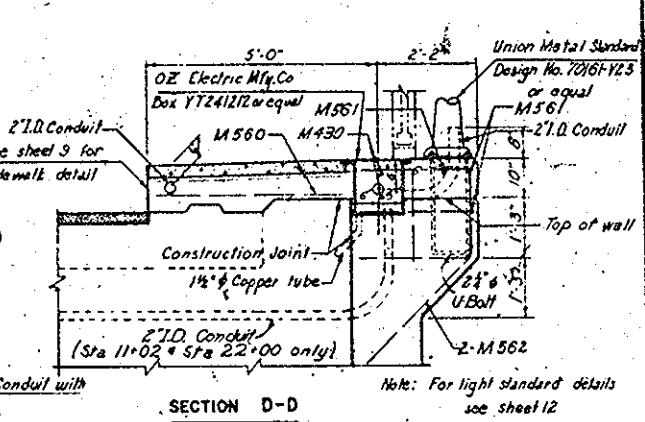
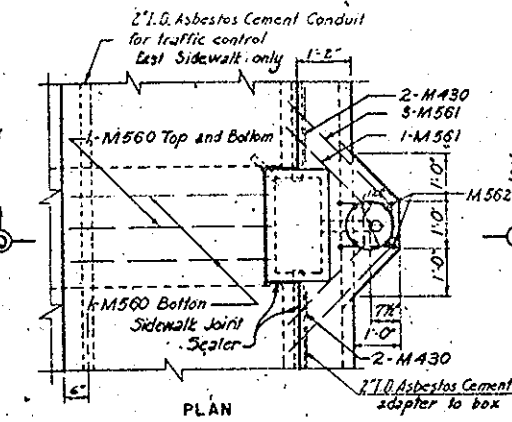
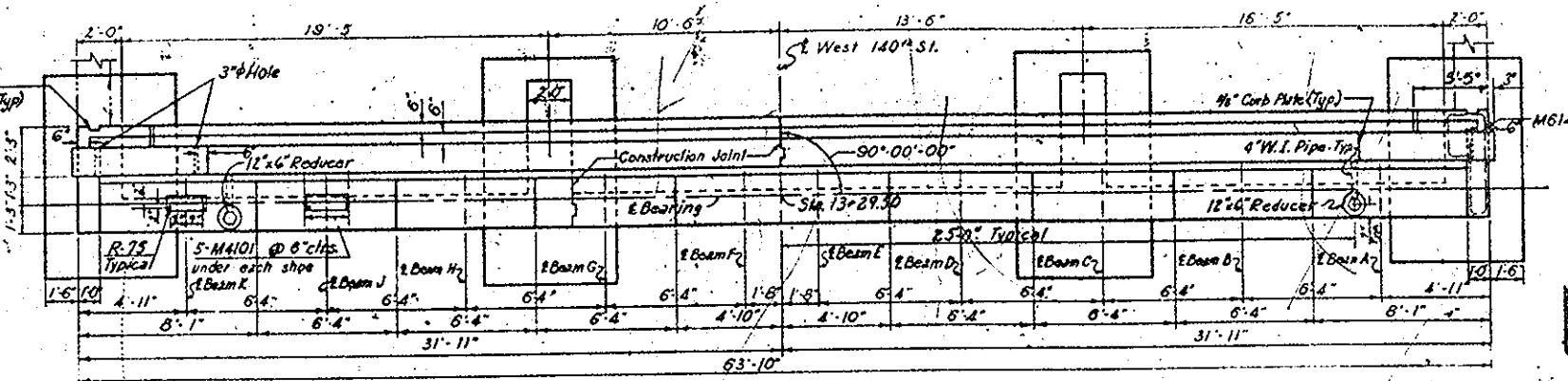
CONTOUR F337 REPORT NO. 6766 BRIDGE NO. 208

NO. B-200

SCALE As noted DATE 2-25-59 REVISED 2-5-59

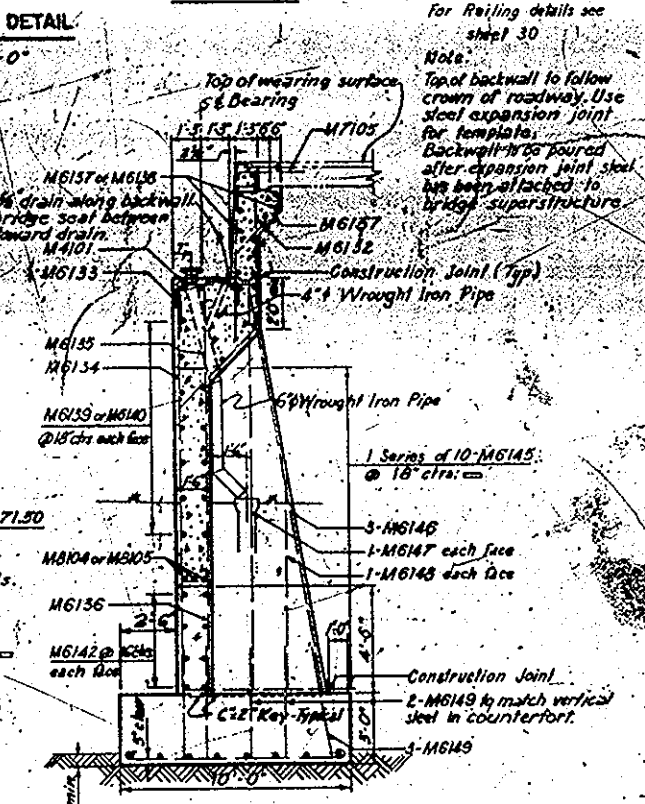
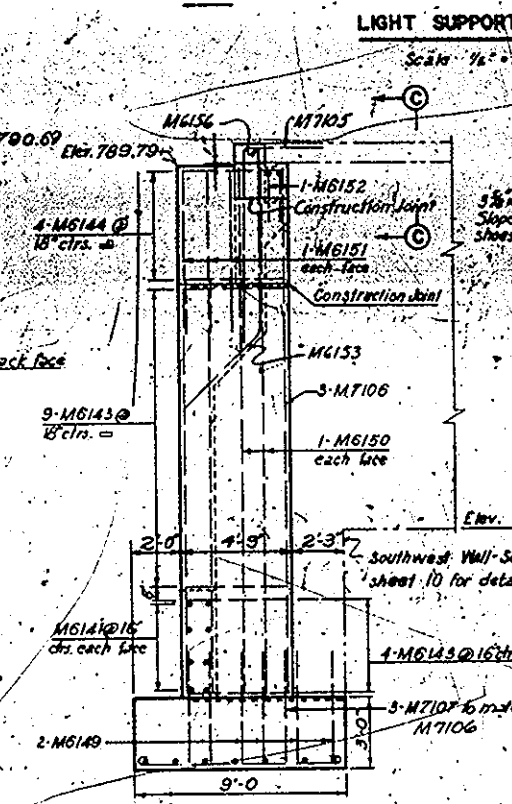
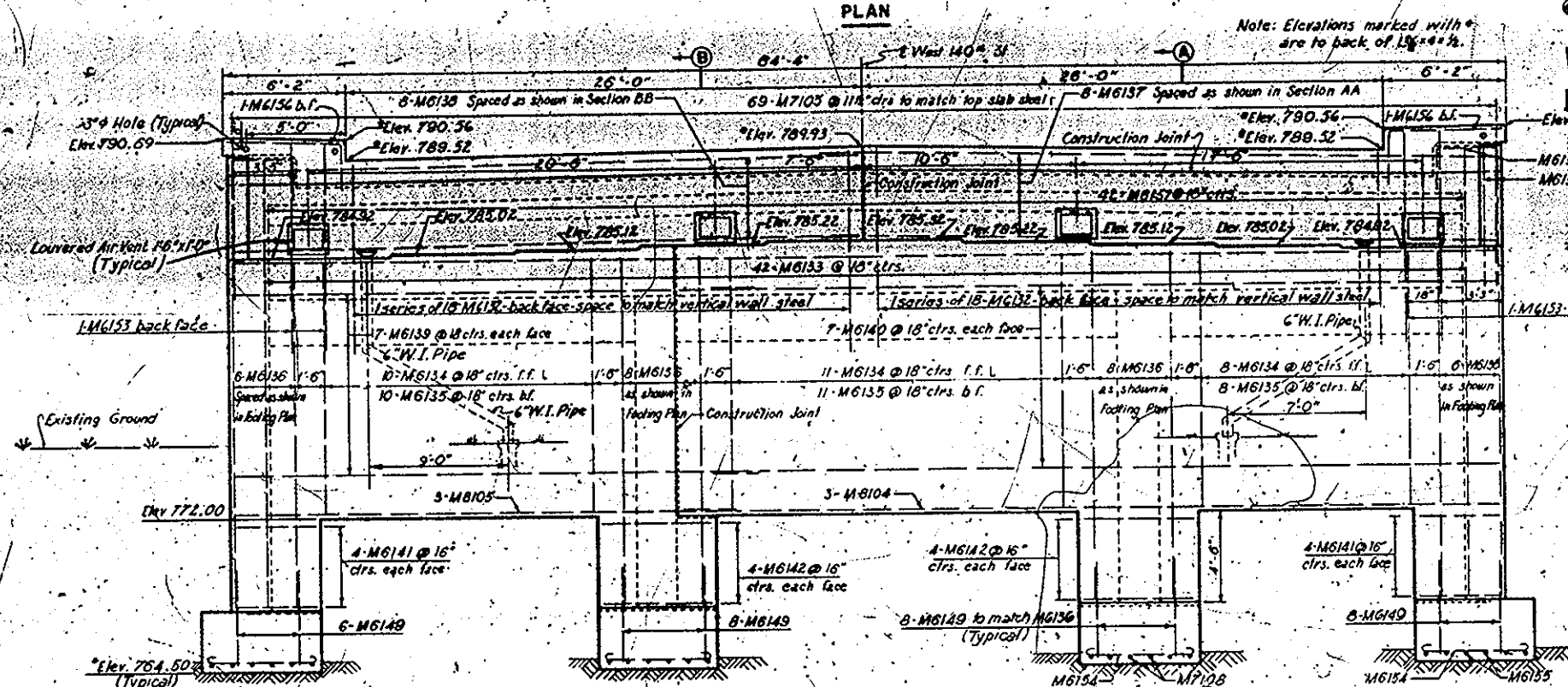
Note:
Wall expansion key see
sheet 11 for details (Typ)

Note: Special care shall
be taken when placing
reinforcing steel so as
not to interfere with
anchor bar setting.



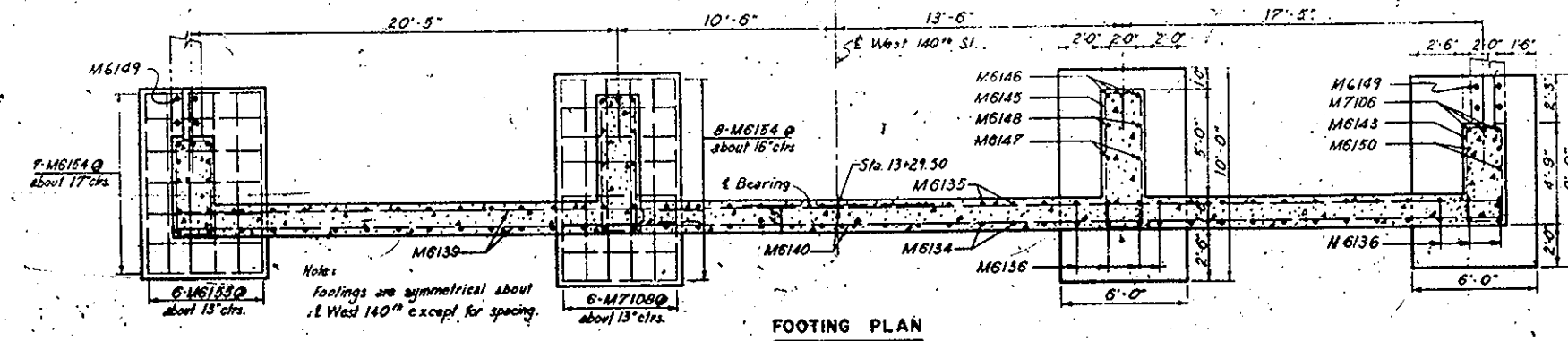
Note: For light standard details
see sheet 12
For railing details see
sheet 30

Note:
Top of backwall to follow
crown of roadway. Use
steel expansion joint
for templates.
Backwall to be poured
after expansion joint steel
has been attached to
bridge superstructure.



Note:
For expansion joint details see sheet 29
For Section C-C see sheet 6
For additional drainage details see sheets 30, 31 & 32
For construction joint detail see sheet 6
For shoe details see sheets 25 & 30
Bars to be 3" clear from face of concrete
in footing and 2" elsewhere.
For vent and louver frame details see sheet 6.
12x6 W.I. reducer, 4" and 6" W.I. pipes, pipe specials and pipe supports are
to be included for payment in Item S-29 and
Special Bridge Deck Drainage, Complete as
per plan.

Note: Footing shall penetrate shale a
minimum of 6". Final elevation
of the bottom of footing is to be
determined by the Engineer.



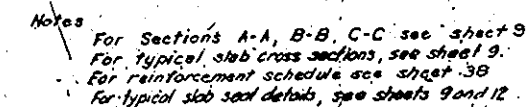
Note:
Footings are symmetrical about
West 140th except for spacing.

SOUTH ABUTMENT BREASTWALL

MADE BY: H.C.M. DATE: 11/1/38 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCD: DATE: CONSULTING ENGINEERS
CDD: W. DATE: 5/26/38 KANSAS CITY CLEVELAND NEW YORK

WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.
CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 208
NO. B-200
SCALE 1/4" = 1'-0" DATE REVISD



A circular logo with a horizontal line. Above the line is the number '8' and below the line is the number '40'.

MADECKB DATE *11/4/57* HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCO DATE CONSULTING ENGINEERS
CID *W.F.* DATE *5/20/58* KANSAS CITY CLEVELAND NEW YORK

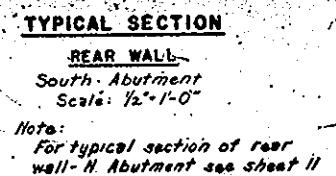
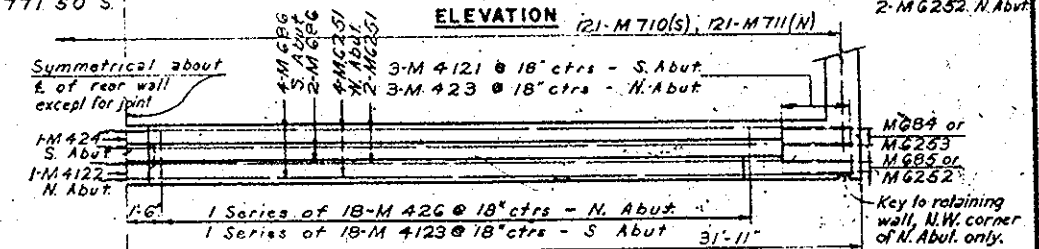
WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

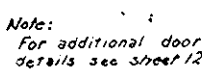
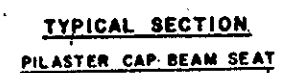
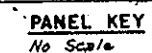
CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 206

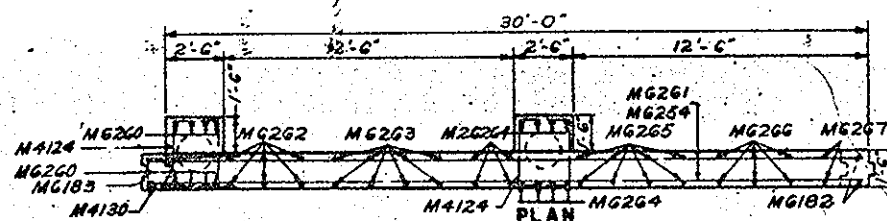
NO. B-200

SCALE *As noted* DATE REVISED *2-25-59*



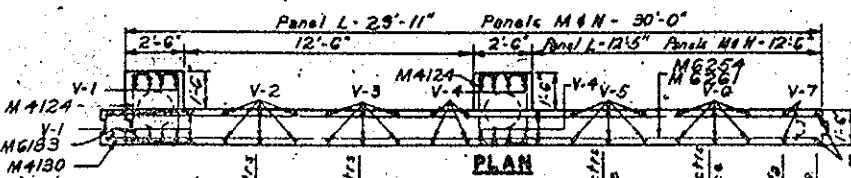
Note: For reinforcement steel-bar list see sheet 88





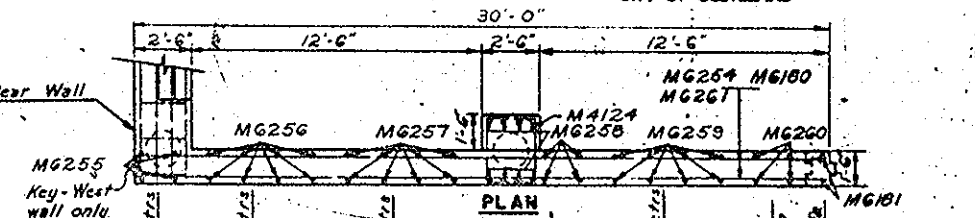
ELEVATION - PANEL K

West Panel Shown
East Panel Similar - but
Opposite Hand



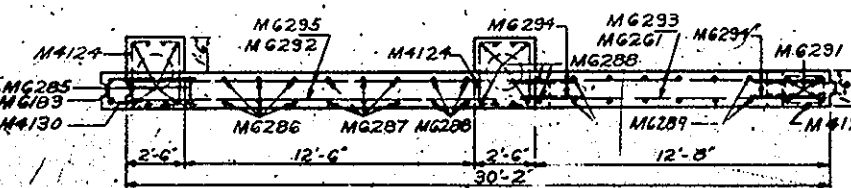
ELEVATION - PANELS L, M, N

West Panel Shown
East Panel Similar - but
Opposite Hand



ELEVATION - PANEL J

West Panel Shown
East Panel Similar



PLAN

Note:
For additional door
details see sheet 12

Lowered Air Vent - typical
for locations see sheet 5

1 series of 7-MG290 @
18" ctrs.

1-MG291 each face

1-MG292 ea. fa.

1-MG293 ea. fa.

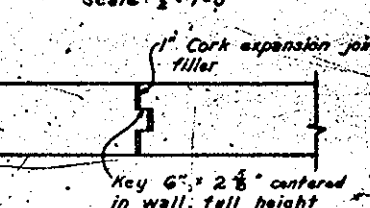
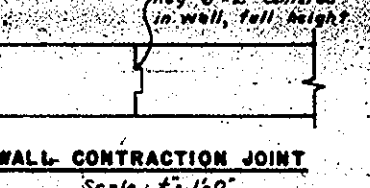
1-MG294 ea. fa.

1-MG295 ea. fa.

Note:
For drilled shaft details see
sheet 5
For lowered air vent details
see sheet 6
Section A-A Similar to Section A-A
on sheet 10

REINFORCING STEEL	L	M	N
V-1	MG267	MG273	MG279
V-2	MG268	MG274	MG280
V-3	MG269	MG275	MG281
V-4	MG270	MG276	MG282
V-5	MG271	MG277	MG283
V-6	MG272	MG278	MG284
V-7	MG273	MG279	MG285
V-8	MG274	MG280	MG286
No. of Bars - One Panel			
1-MG254	6	7	8
2-MG124	5	6	7
3-MG124	4	5	6

Clear distance from face of concrete
to reinforcing steel shall be 2", unless
otherwise noted.
For reinforcement steel-bar list
see sheet 33



Elev. 781.03	Elev. 782.32	Elev. 783.75	Elev. 785.25	Elev. 786.75	Elev. 788.25	Elev. 789.75	Elev. 791.00
J	K	L	M	N	O		
30'-0"	30'-0"	29'-11"	30'-0"	30'-0"	30'-2"		
160'-2"							
Elev. 775.00							
Elev. 769.00							

PANEL KEY

No Scale

MADE CMB DATE 12-13-50 HOWARD, NEEDLES, TAMMEN & BERENSON
CONSULTING ENGINEERS
CITY OF CLEVELAND
DATE 5-20-50
CITY OF CLEVELAND
NEW YORK

WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 208

NO. B-200

SCALE 1/4" = 1'-0" DATE REVISED

11
40

11
40

INSIDE ELEVATION - EAST PANEL O

NORTH ABUTMENT WALLS

ELEVATION - WEST PANEL O

TYPICAL SECTION

REAR WALL

North Abutment

Scale: 1/4" = 1'-0"

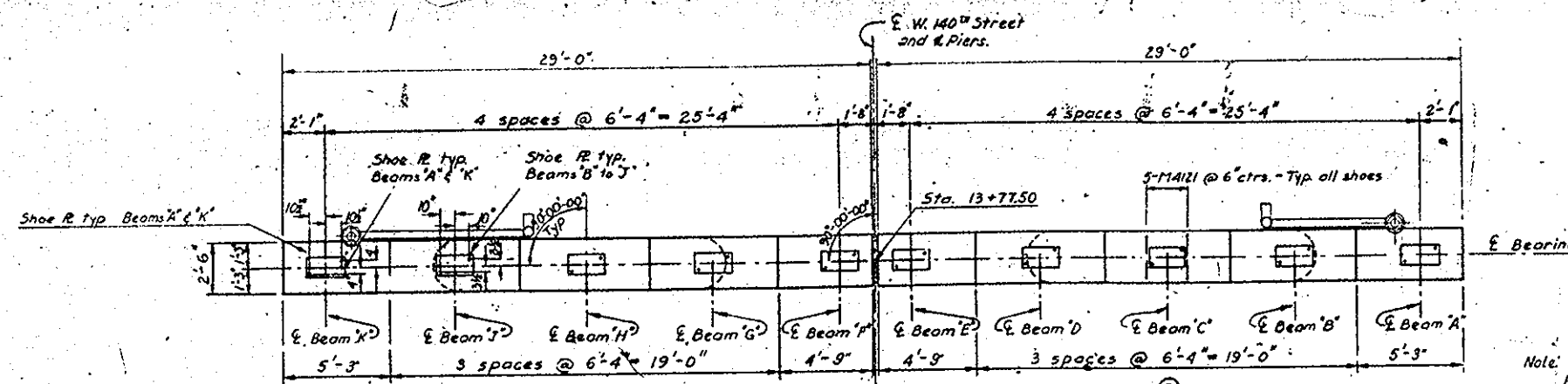
3" Clear

Drilled Shaft

11
40







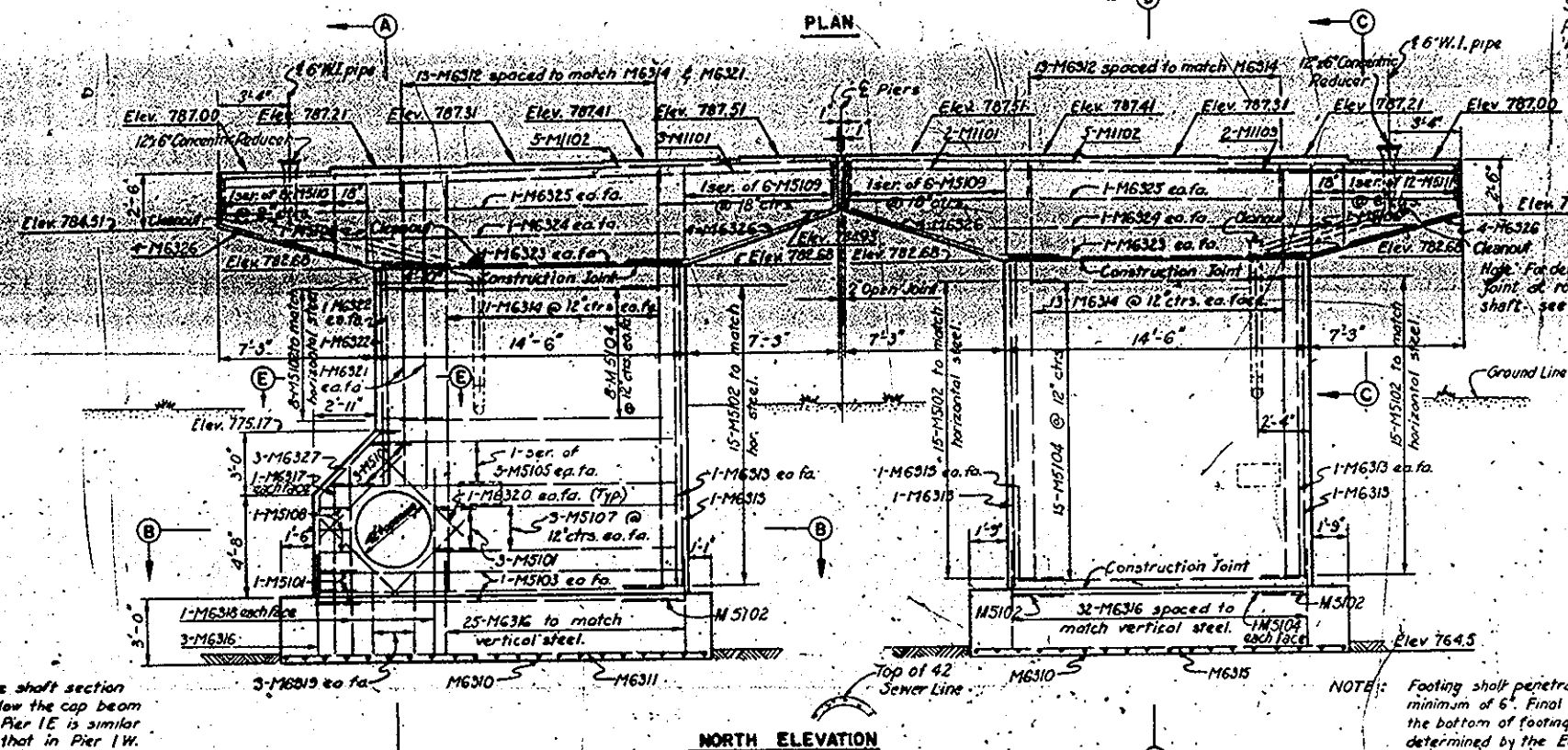
NOTES: Special care shall be taken when placing reinforcing steel so as not to interfere with anchor bolt setting.

Bars shall be 3 inches clear from face of concrete in footings and 2 inches elsewhere.

For reinforcement schedule see
sheet 35

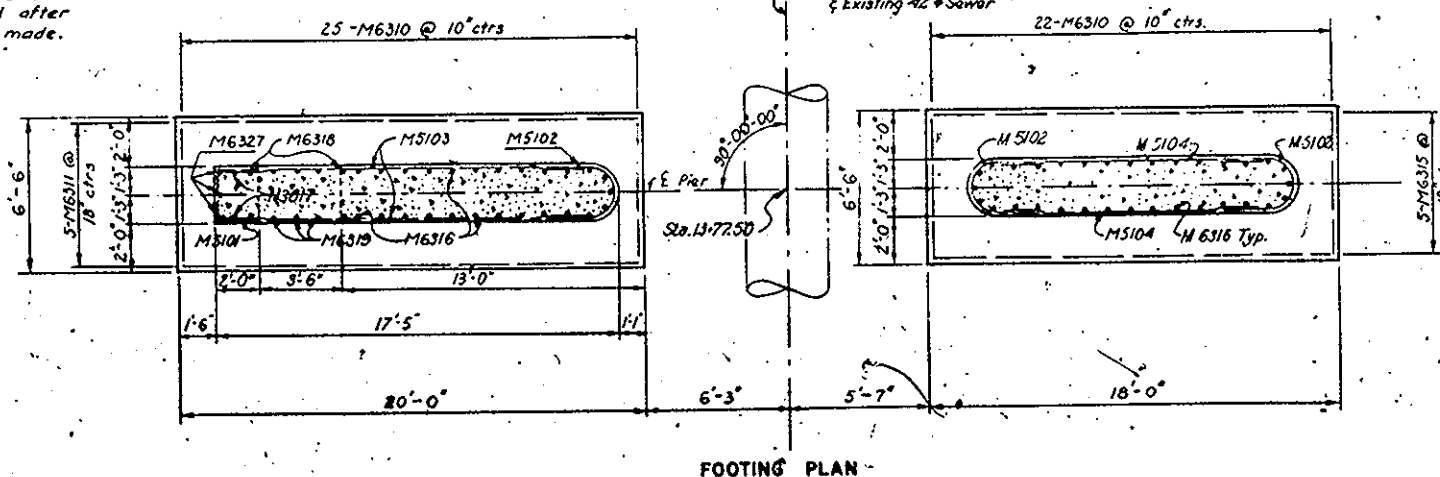
For shoe details see sheet 30

For drainage details see sheets 31 & 32

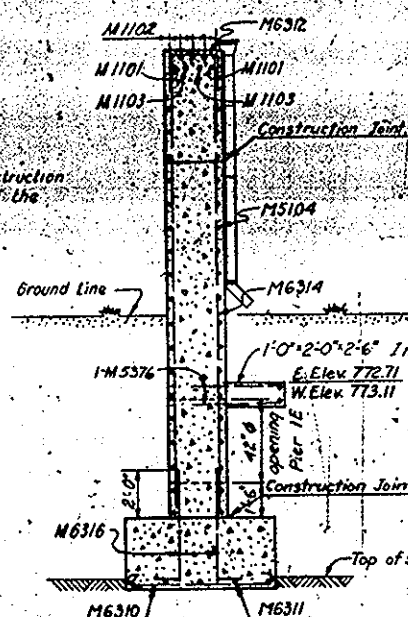
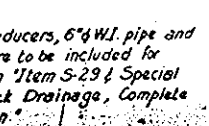


NOTE: The shaft section below the cap beam in Pier 1E is similar to that in Pier 1W.

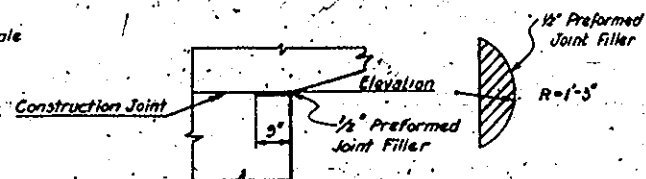
42" Ø opening in Pier 1E is to be centered about existing 24" water pipe. Exact elevation will be determined after pier excavation is made.



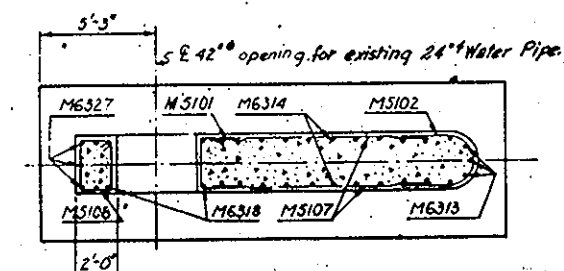
NOTE: Footing shall penetrate shale a minimum of 6". Final elevation of the bottom of footing is to be determined by the Engineer.



Note: Inlet Support is to be centered under the 6" W.I. Pipe.



Section D-D shown.
Section A-A similar except for
bar marking & location of 42° opening



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

Note: 4' preformed gray rubber joint Filler
Sec. M 10.02, Type I, is to be included for
payment in Item "S.I. Class C Concrete
Pier Shafts and Cap Beams."

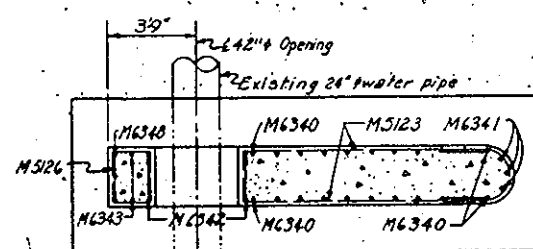
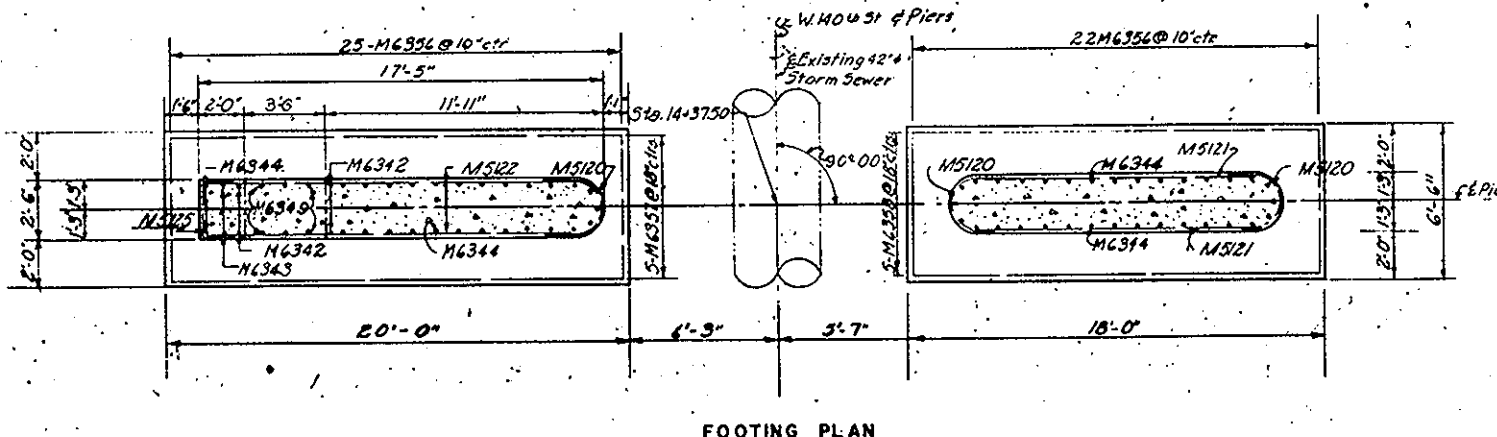
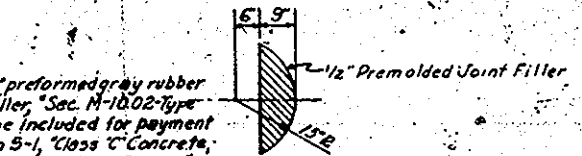
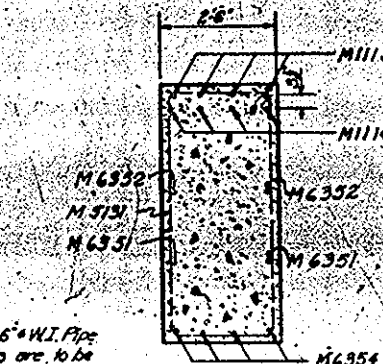
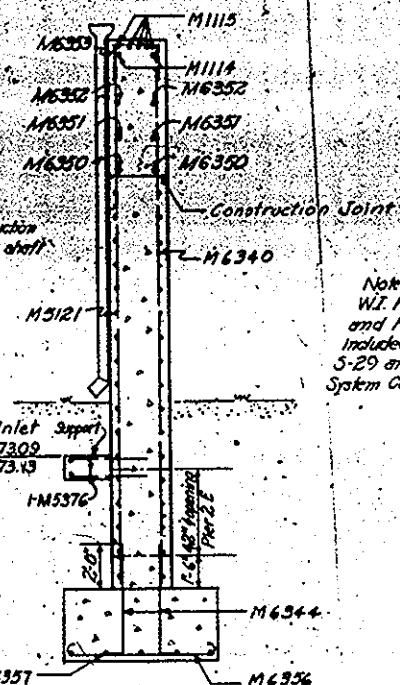
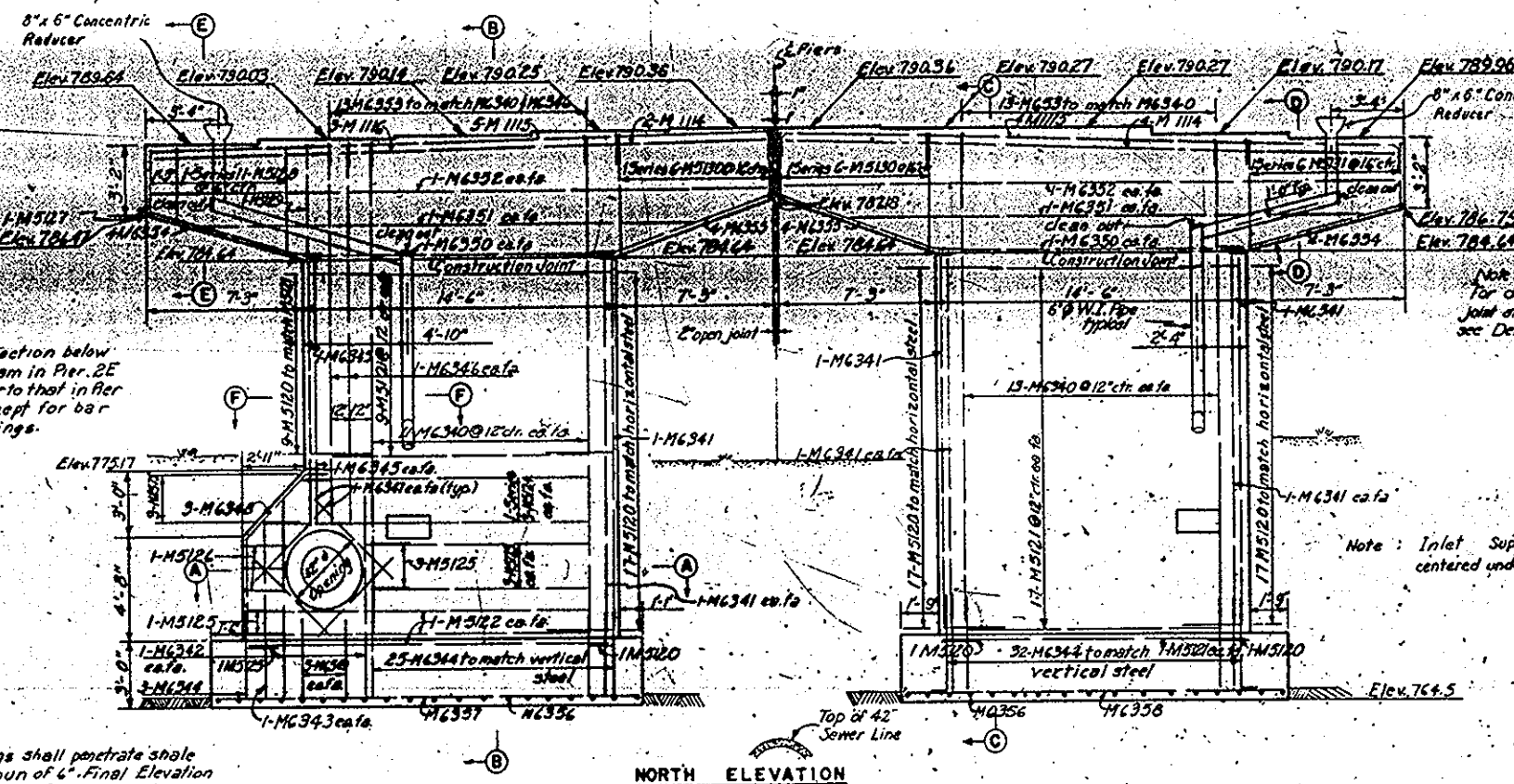
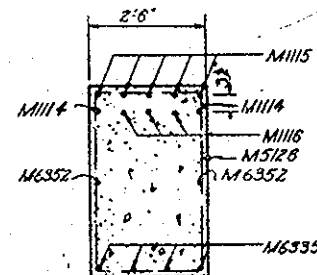
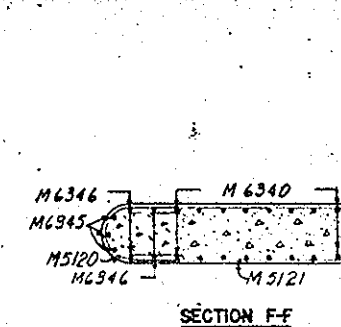
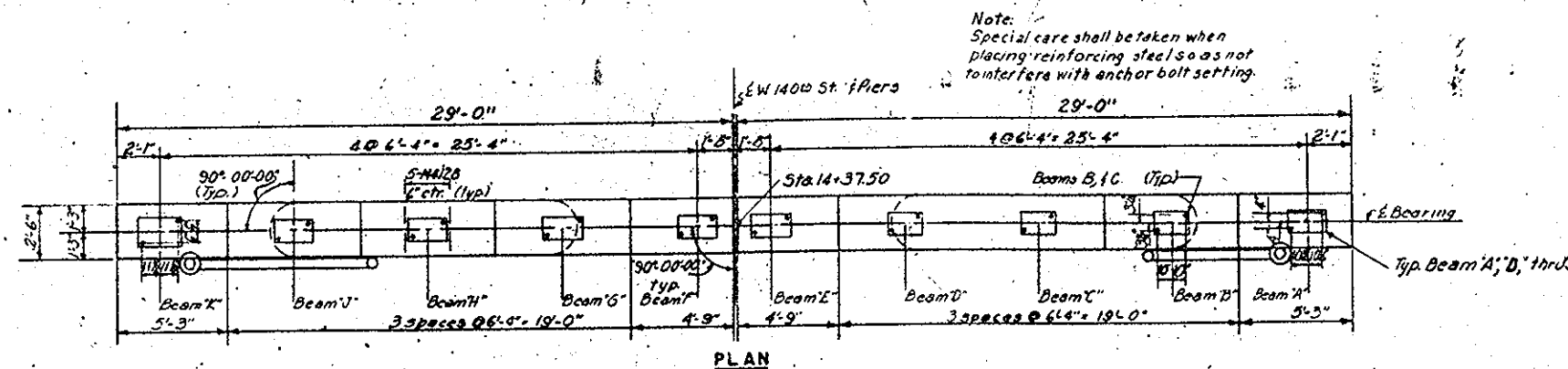
WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 200

NO. B-200

SCALE 1/4" = 1'-0" DATE _____ REVISED 2-5-59



Notes:
For reinforcement schedule see sheet 55
For shoe details see sheet 30
For additional drainage details
see sheets 51 & 52
Bars shall be 3 inches clear from
face of concrete in footings and
2 inches elsewhere.
42" opening in Pier 2E is to be centered
about 24" existing watermain. Exact
elevation will be determined after
pier excavation is made.

MADE B.A. DATE 2-22-58 HOWARD, NEEDLES, TAMMEN & BERGENSON
TRCD DATE CONSULTING ENGINEERS
CIC DATE 3-20-58 KANSAS CITY CLEVELAND NEW YORK

WEST 140TH STREET
CITY OF CLEVELAND

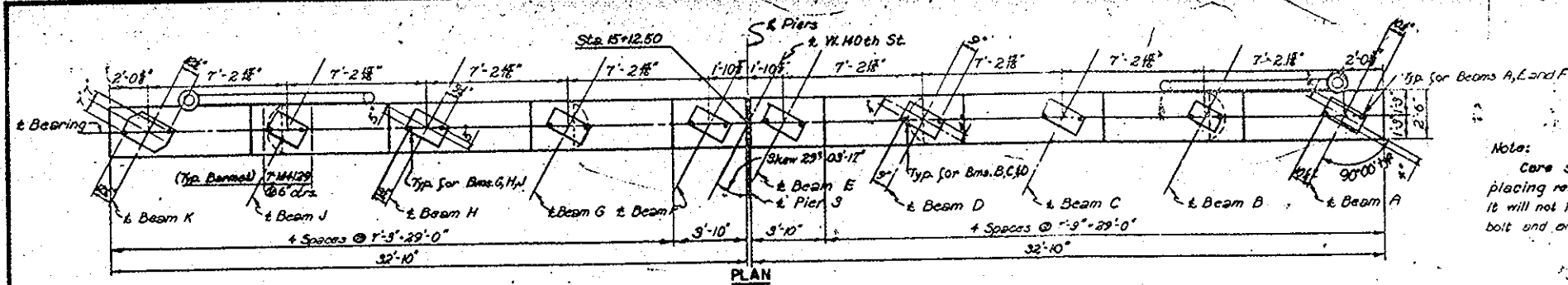
BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 208

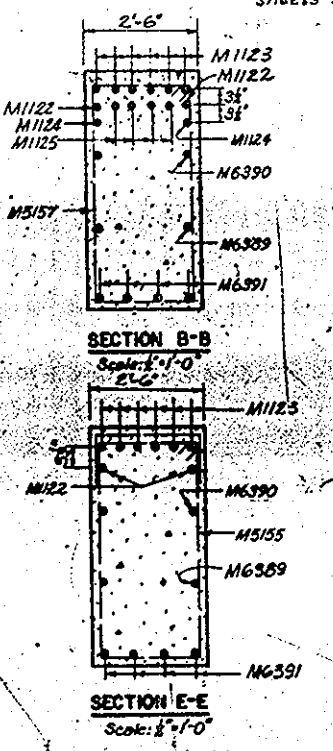
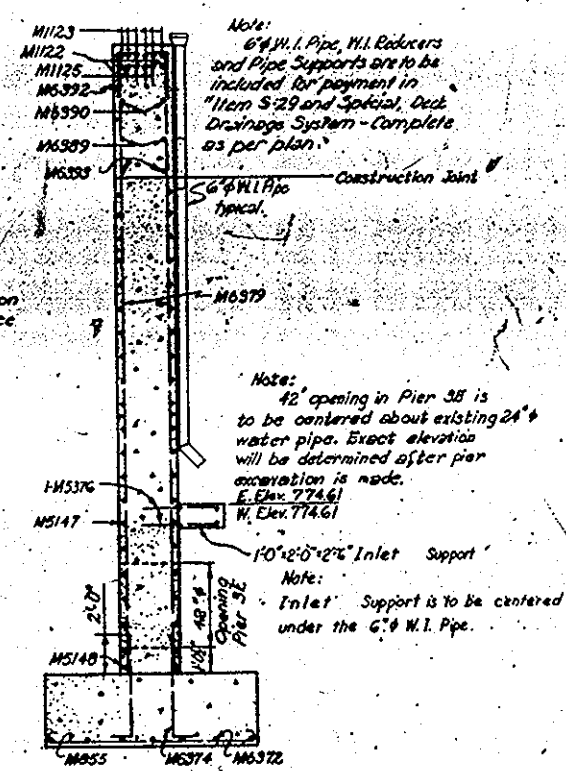
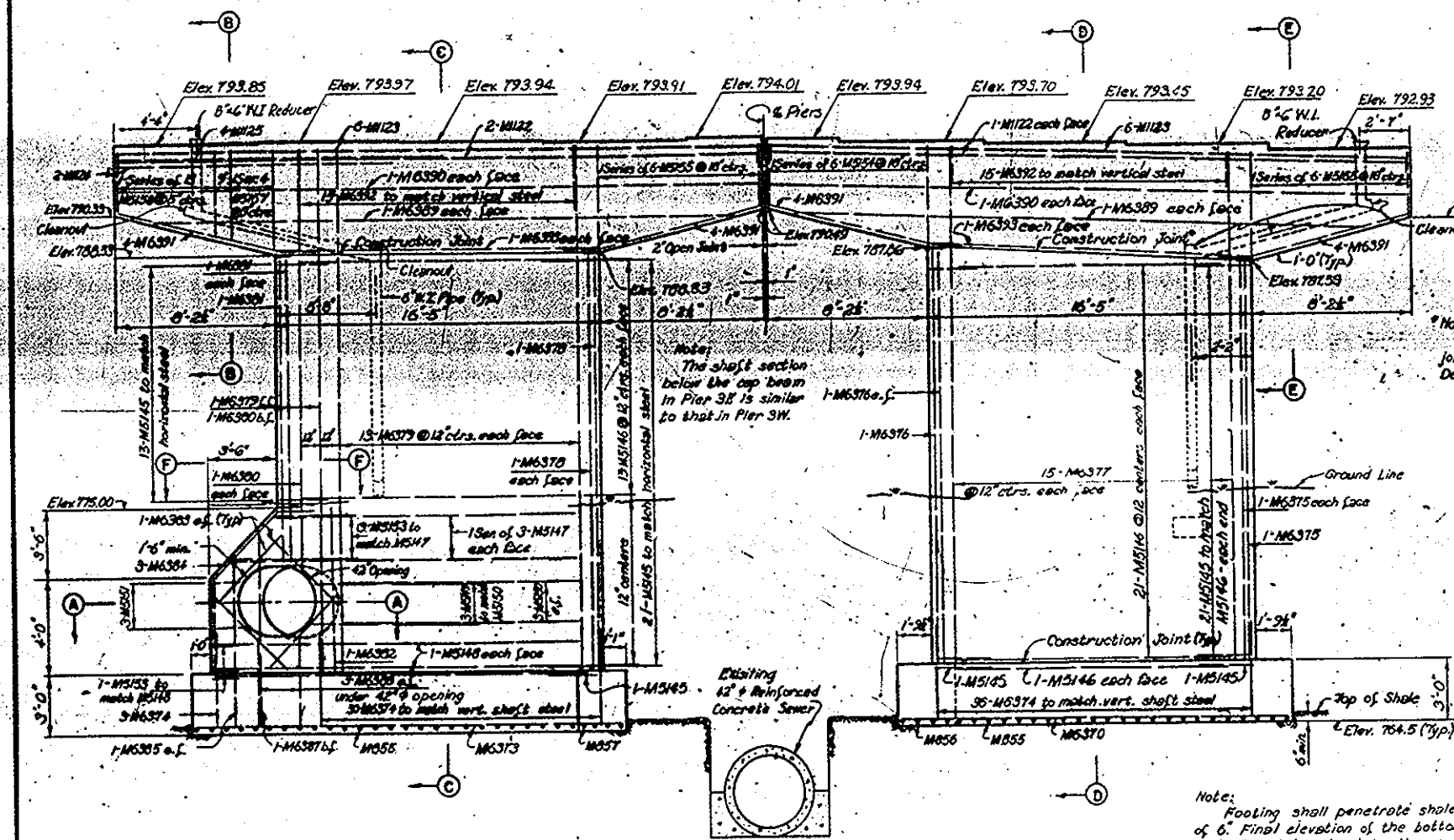
NO. B-200

SCALE 1/4" = 1'-0" DATE REVISED 2-5-59

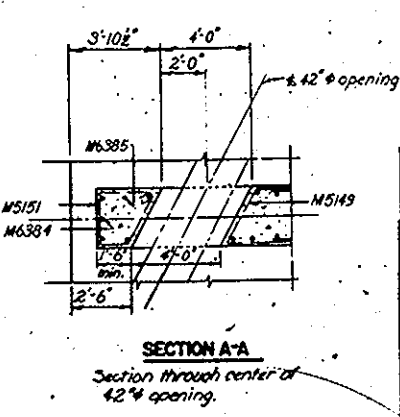
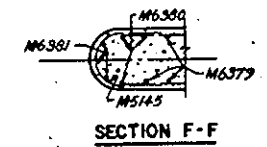
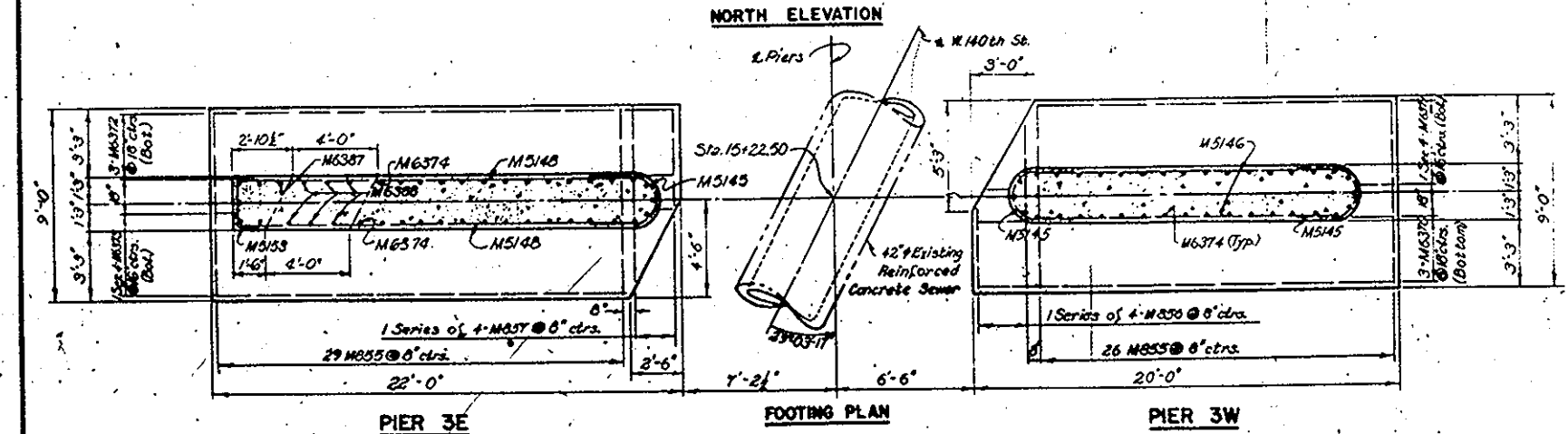
PIERS 2E & 2W



Notes:
Reinforcing bars shall be 3 inches clear from face of concrete in footings and 2 inches elsewhere.
For reinforcement schedule see sheet 35.
For shoe details see sheet 30.
For additional drainage details see sheets 31 and 32.



Notes:
1/2" preformed gray rubber joint filler, "Sec. M-10.02 - Type I" is to be included for payment in "Item S-1, Class C Concrete Pier Shafts and Cap Beams."



PIERS 3E & 3W

MADE U.S. DATE 2-10-58 HOWARD, NEEDLES, TAMMEN & BERGENDORF
TRCO DATE CONSULTING ENGINEERS
ORD DATE 5-20-58 KANSAS CITY CLEVELAND NEW YORK

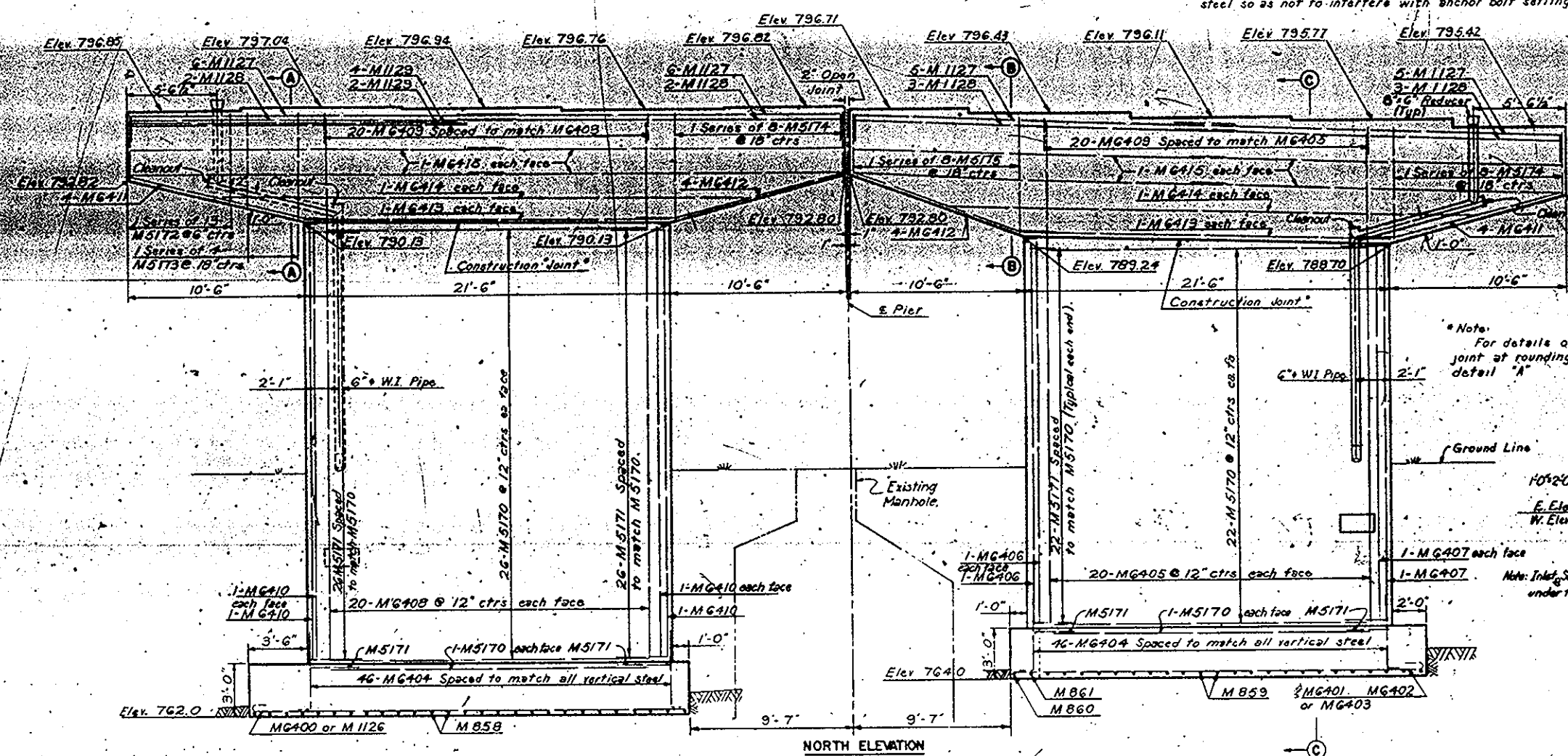
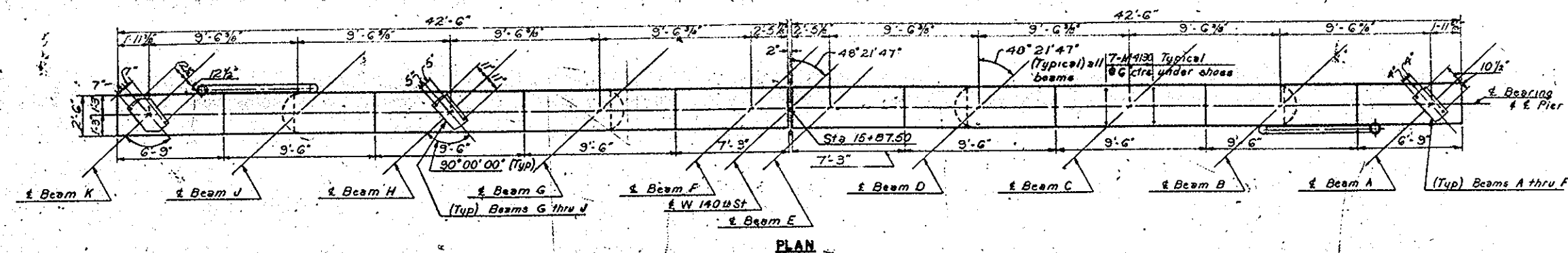
**WEST 140TH STREET
CITY OF CLEVELAND**

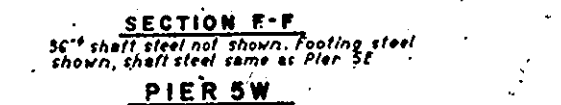
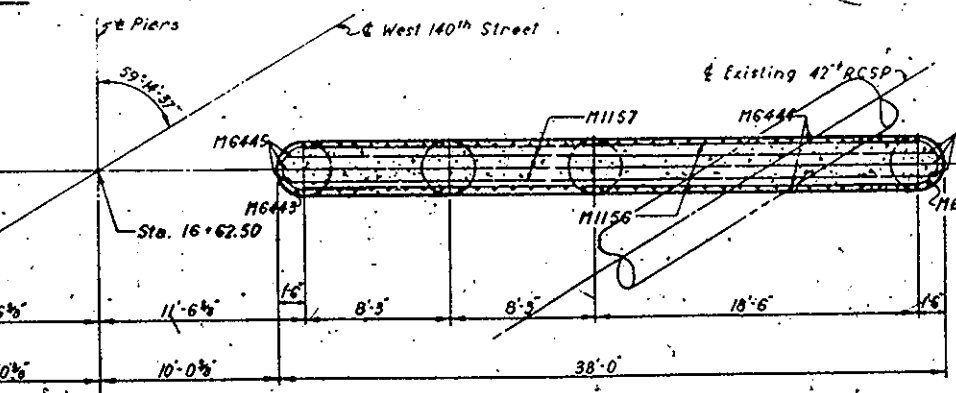
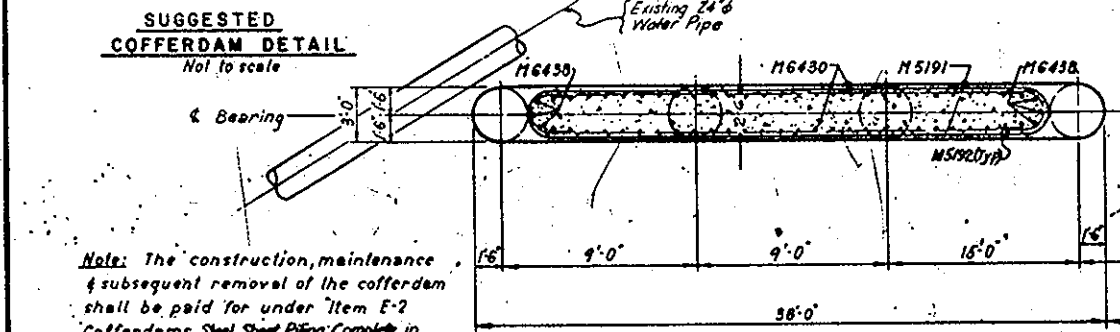
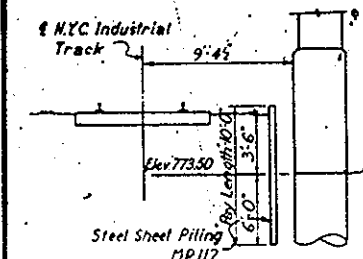
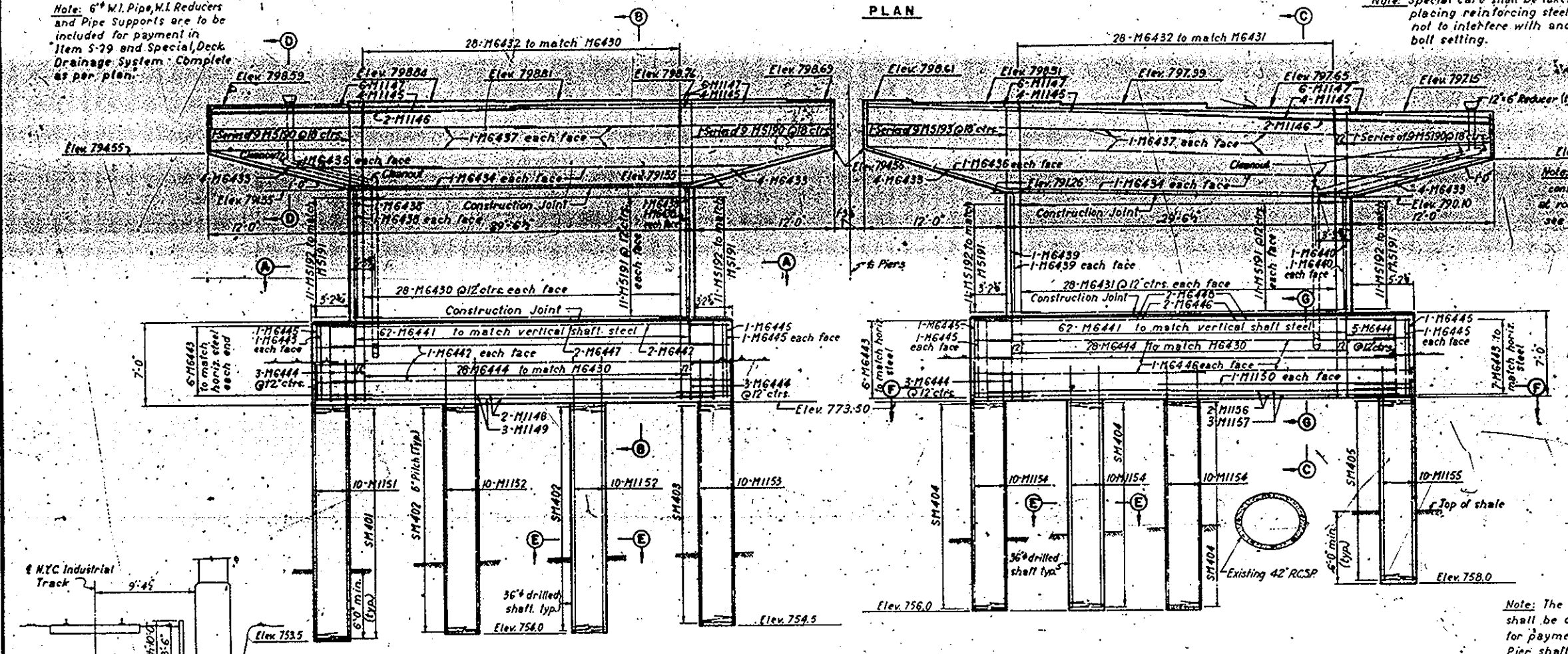
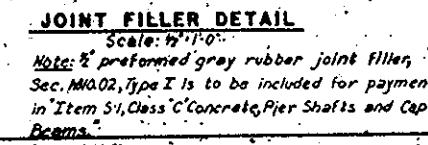
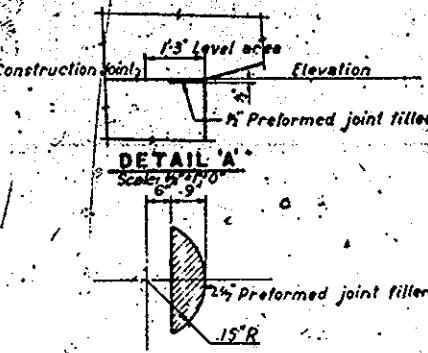
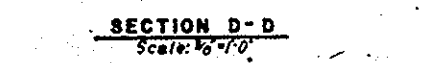
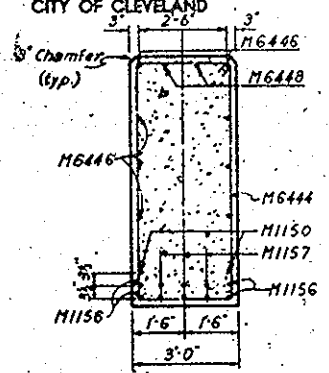
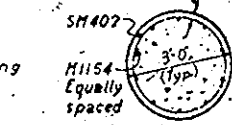
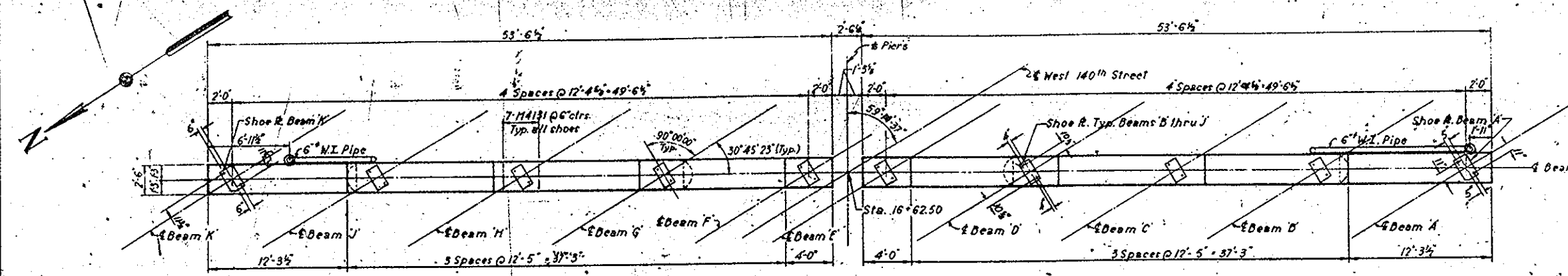
BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 208

NO. B-200

SCALE 1/4"=1'-0" DATE REVISED 2-25-59





PIERS 5E & 5W

MADE A.A. DATE 2-20-59 HOWARD, NEEDLES, TAMMEN & BERENDSON
TICKER DATE CONSULTING ENGINEERS
CIVIL ENGINEER KANSAS CITY CLEVELAND NEW YORK

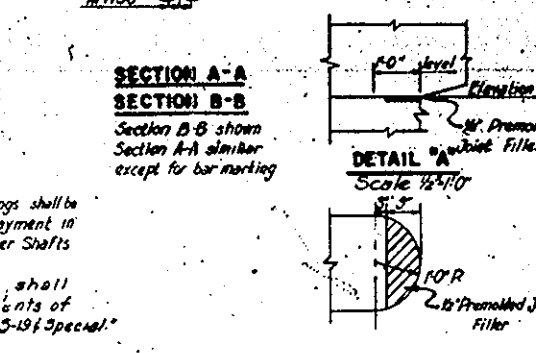
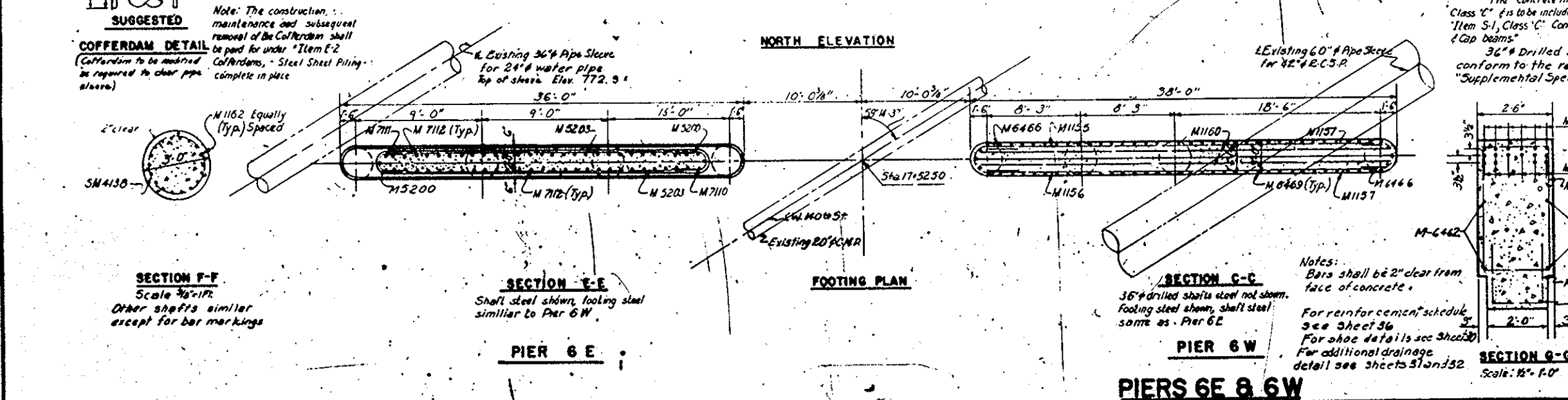
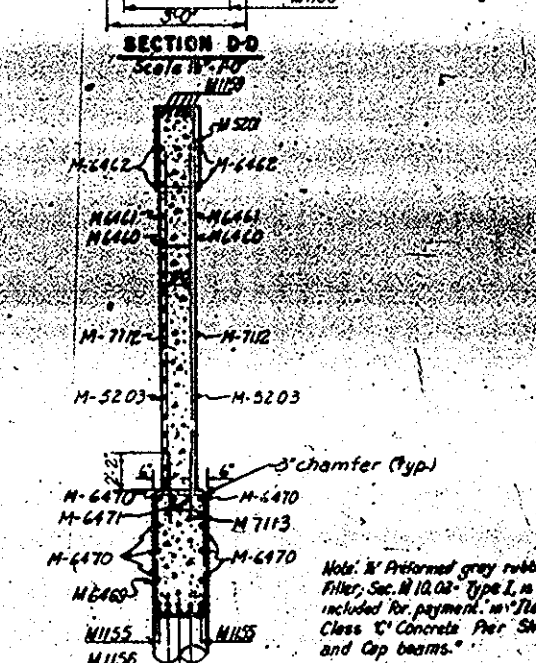
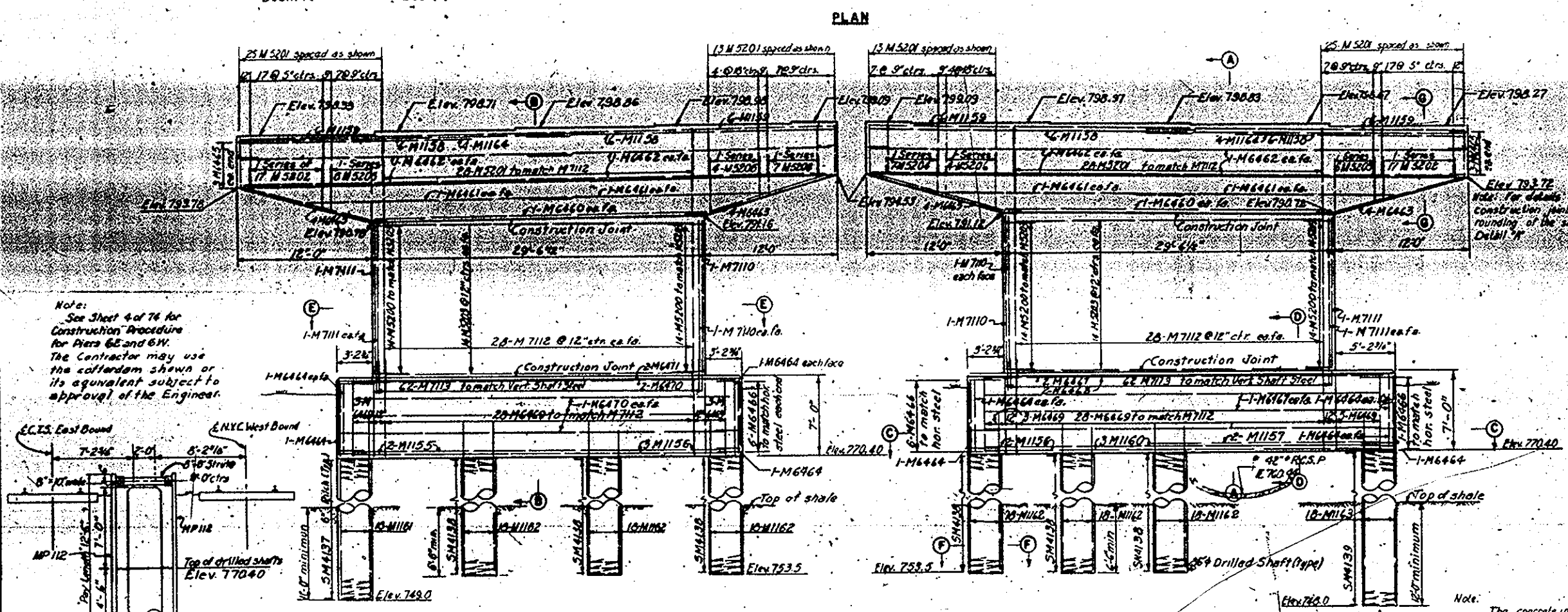
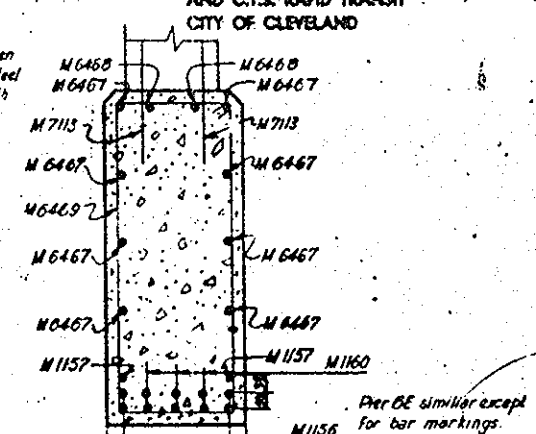
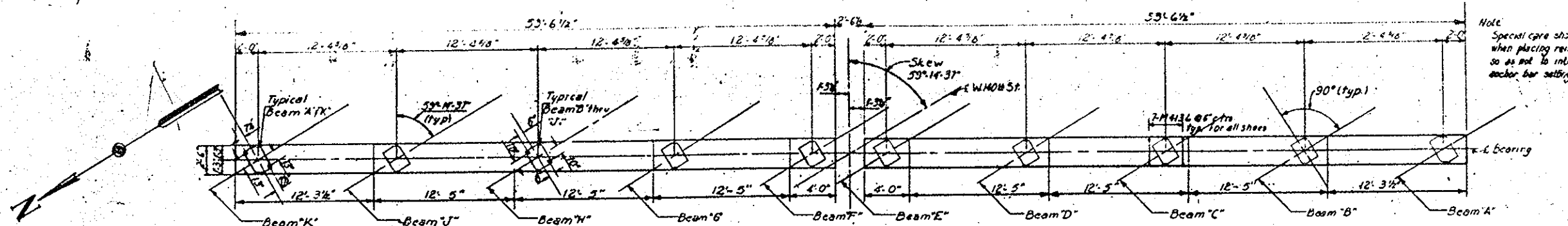
WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 - REPORT NO. 6764 BRIDGE NO. 208

NO. B-200

SCALE: AS NOTED DATE REVISED 2-5-59



MADE R.A. DATE 2-8-58 HOWARD, NEEDLE, TAMMEN & BERENSON
CONSULTING ENGINEERS
CITY OF CLEVELAND
NEW YORK

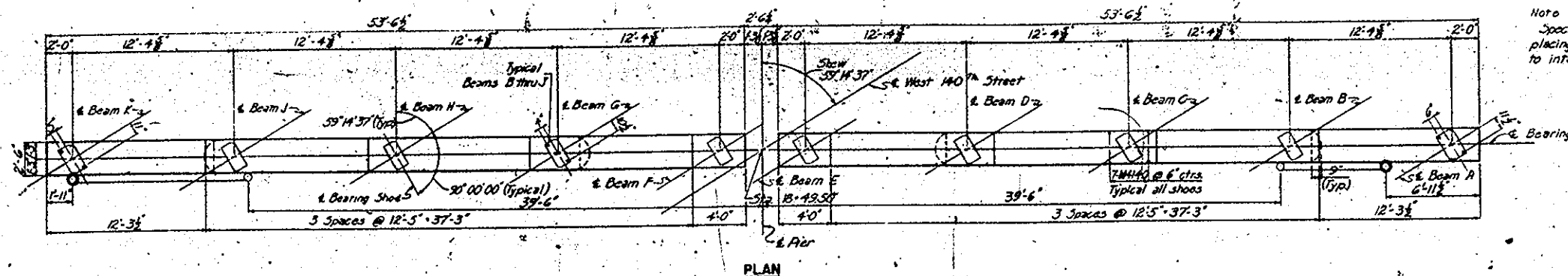
WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

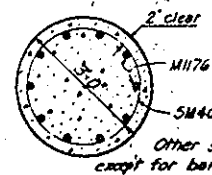
CONTOUR F-237 REPORT NO. 6744 BRIDGE NO. 208

NO. B-200

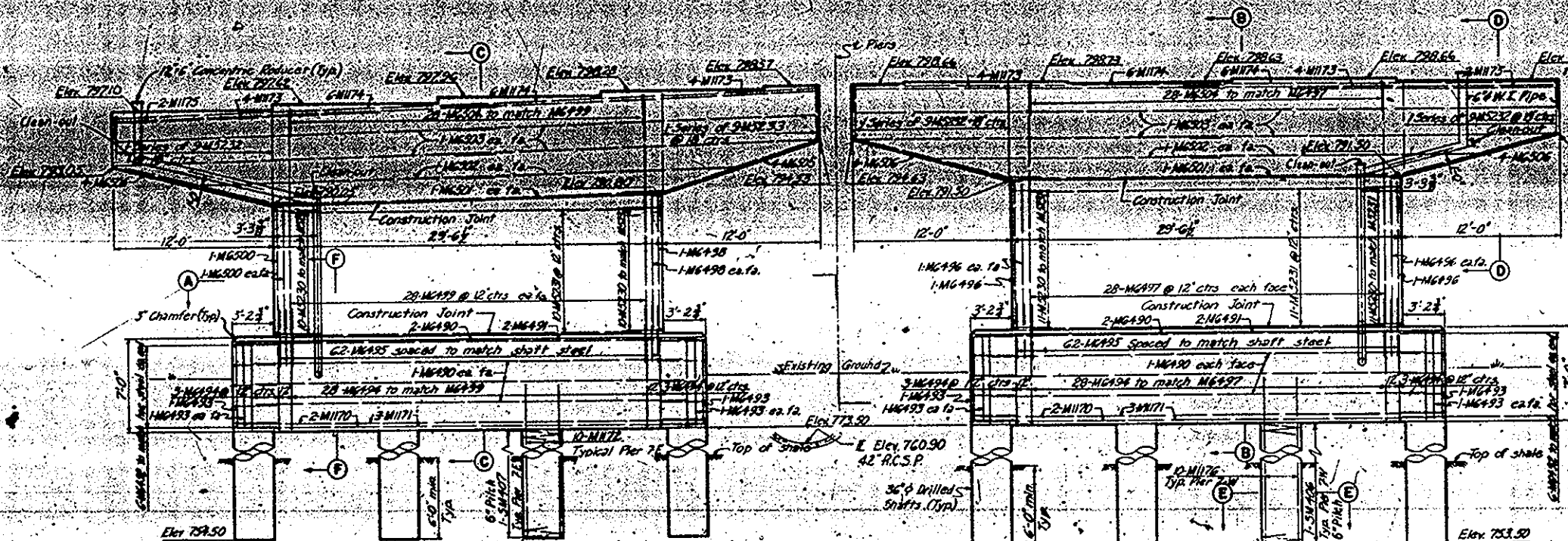
SCALE 3/4" = 1'-0" DATE 2-25-59
REVISED 2-8-59



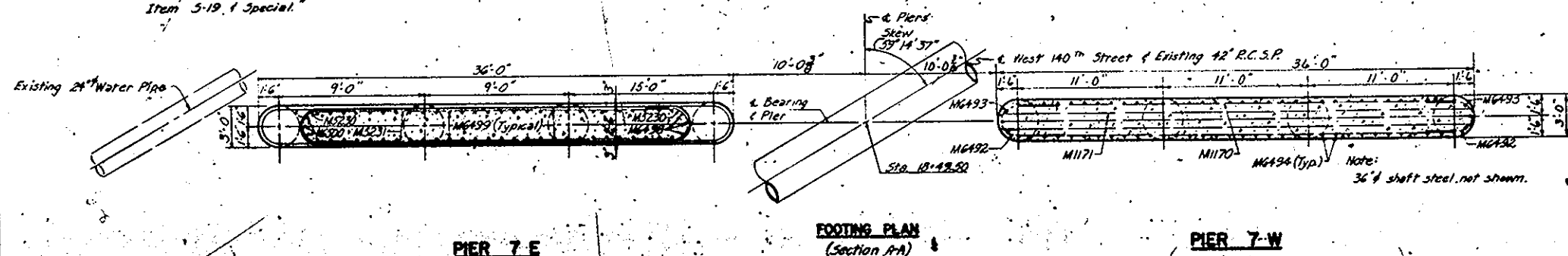
Special care shall be taken when placing reinforcing steel so as not to interfere with anchor bar setting.



SECTION E-E
Scale: $\frac{1}{2}'' = 1'-0''$



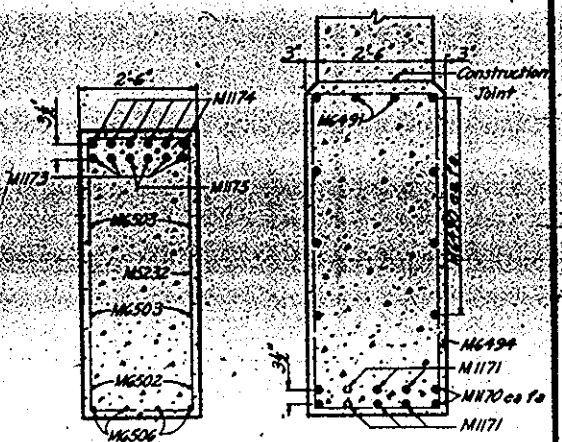
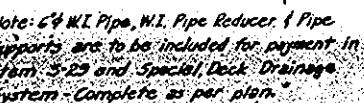
Typ. Pier 7E
Note: Concrete in footings shall be Class "C"
and to be included for payment under Item 3-1,
Class "C" Concrete, Pier Shafts and Cap Beams.
36" Ø drilled shafts shall conform to the
requirements of Supplemental Specifications
Item 5-19 & Special."



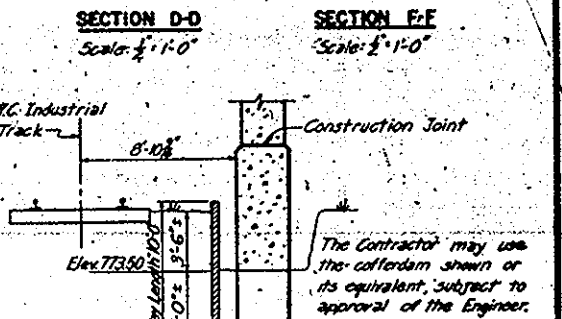
PIER 7 E



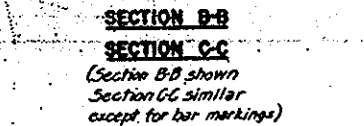
(Section AA)



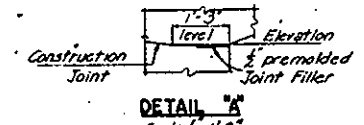
SECTION D-D
Scale 1"=1'-0"



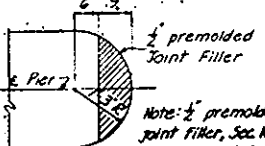
SECTION F.F
Scale: 1/2" = 1'-0"



SECTION C-C
Section B-B shown
Section C-C similar
(except for bar markings)



DETAIL, "A"



JOINT FILLER DETAIL ^{Pier}
Scale: $\frac{1}{2}$ " = 1'-0"

Notes:
Bars shall be 2" clear from face of concrete.
For reinforcement schedule see Sheet 36.
For shoe details see Sheet 30.
For drainage details see Sheets 34/32

The Contractor may use the cofferdam shown or its equivalent, subject to approval of the Engineer.

Note: The construction, maintenance, & subsequent removal of cofferdam shall be paid for under Item E-2, Cofferdams, Steel Sheet Piling, Complete in Place.

MADE ARL DATE 2-21-58 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 REGD. DATE _____ CONSULTING ENGINEERS
 CIO LAUREL DATE 5-30-58 KANSAS CITY CLEVELAND NEW YORK

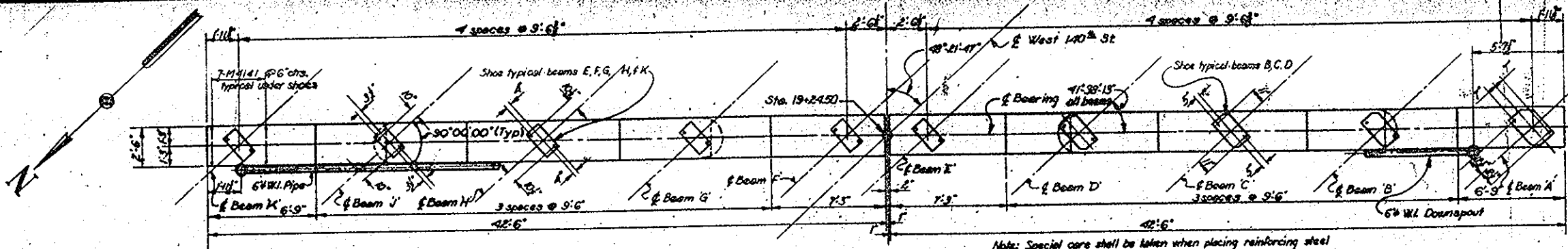
WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

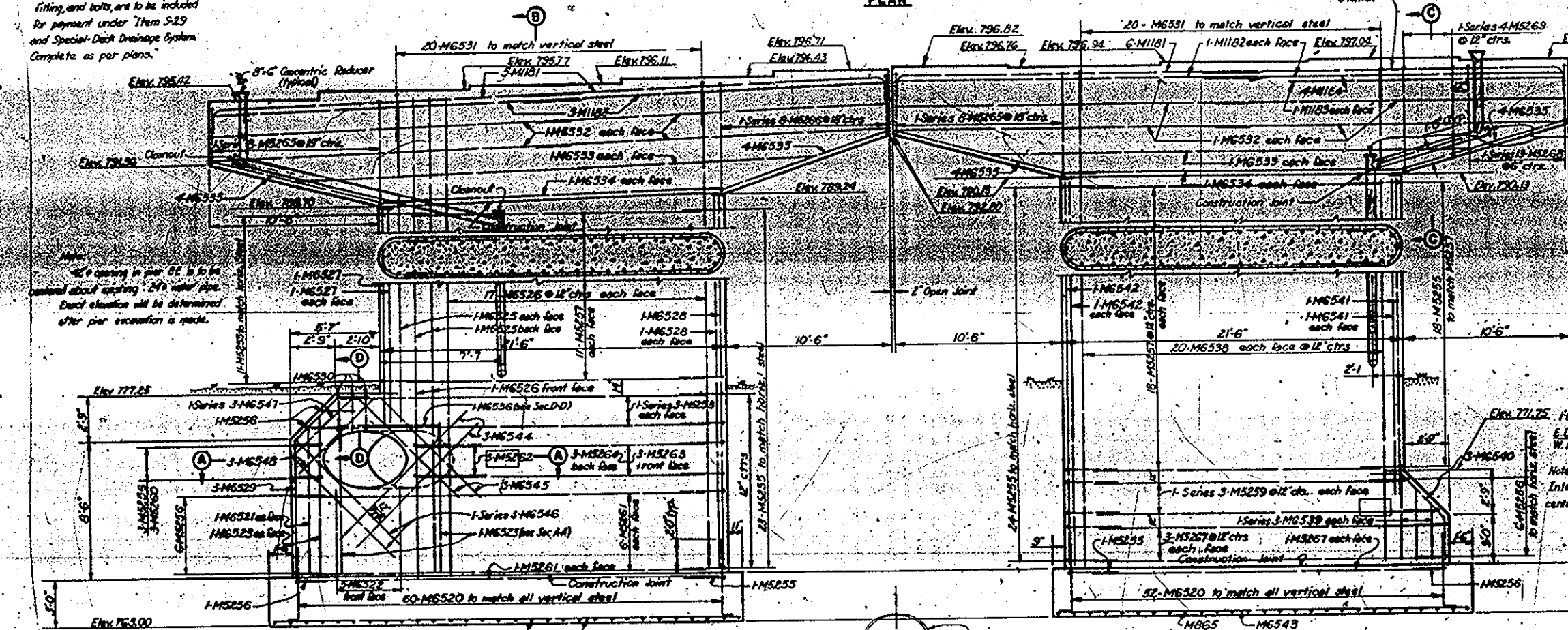
CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 208

NO. B-200 19/40

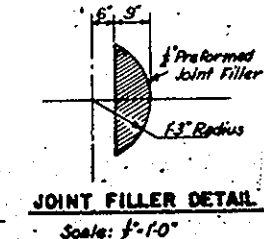
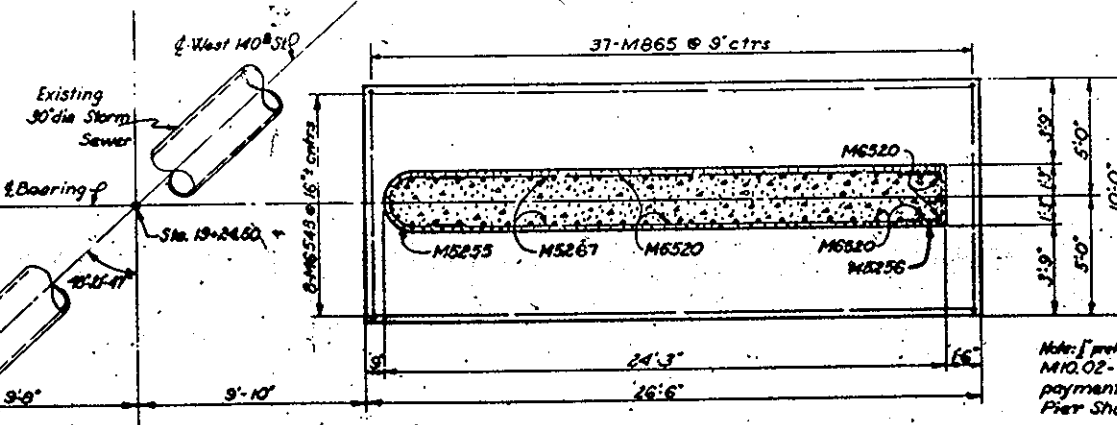
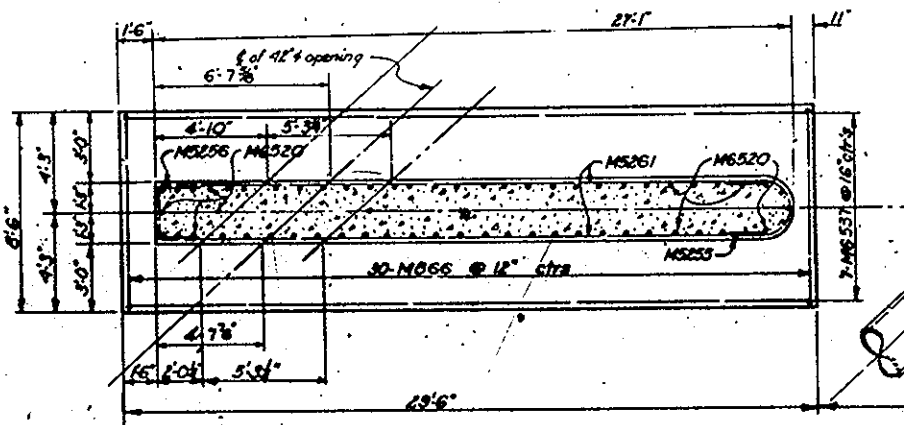
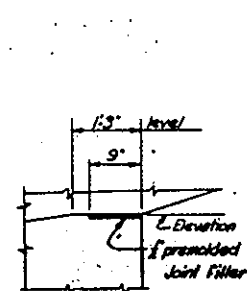
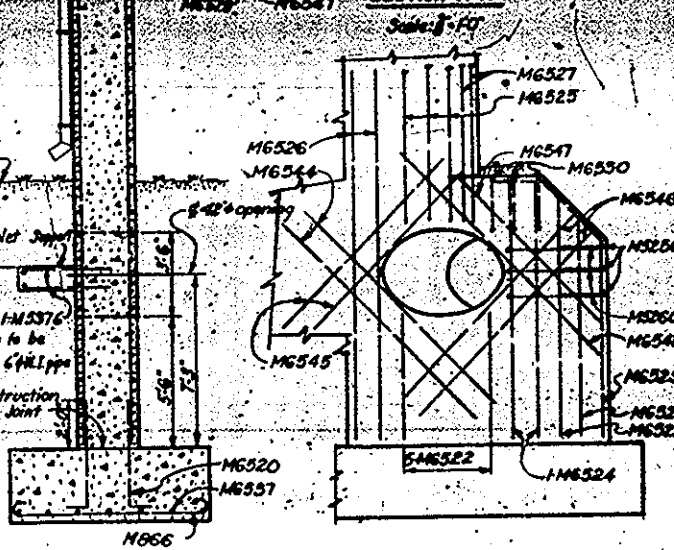
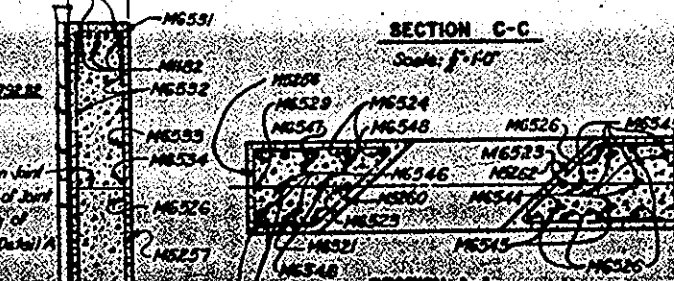
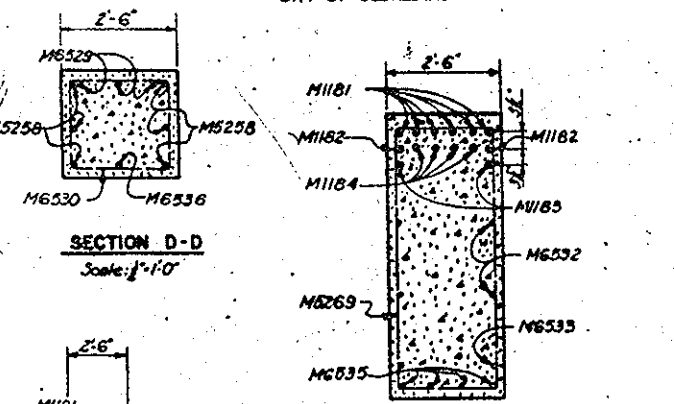
SCALE $\frac{3}{8} = 140'$ DATE 2-25-59
REVISED 2-5-59



Note: All 6" WVL pipe, 8" G-reducers, hangers, fitting, and bolts, are to be included for payment under Item S-29 and Special-Deck Drainage System Complete as per plans.



Note: For back face steel not shown see Partial South Elevation - Pier 8E.



Note: 1" preformed joint filler, Section M10.02-Type I, is to be included for payment in Item S-1, Class C Concrete, Pier Shafts & cap beams.

Bars to be 5' clear from face of concrete in footing and 2' clear elsewhere.
For Shoe details see Sheet 30
For Drainage details see Sheets 31 and 32
For Reinforcement Schedule see Sheets 34 & 37

MADE BY: C.D.B. HOWARD, HEDLEY, TARRAH & BERENSON
DATE: 5/22/58
CONSULTING ENGINEERS
CITY: CLEVELAND, OHIO

WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

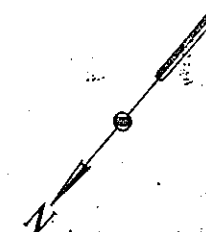
CONTOUR F-237 REPORT NO. 6744 BRIDGE NO. 208

NO. B-200

SCALE: 1"=1'-0" DRAWN DATE: REVISED 2-25-59

PIERS 8E & 8W

FOOTING PLAN



Elevation

1'-3" (Level)

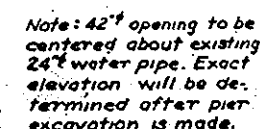
9"

2" Preformed Joint Filler

DETAIL "A"

Scale 1/2" = 1'-0"

JOINT FILLER DETAIL
Scale 1/2"=1'-0"



Construction joint

M526T

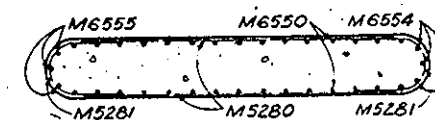
M5263

SECTION A-B (Similar)

SECTION G-G (Shown)

Notes:

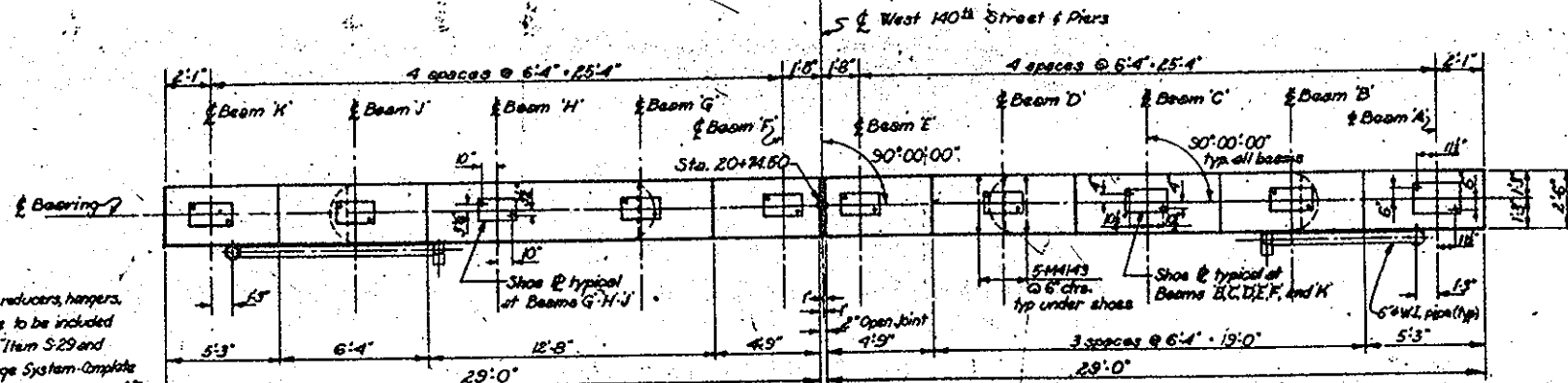
- Reinforcing bars shall be 3" clear from face of concrete in footings and 2" elsewhere.
- For reinforcing schedule see Sheet 37.
- For shoe details see Sheet 30.
- For additional drainage details, see sheets 31 & 32



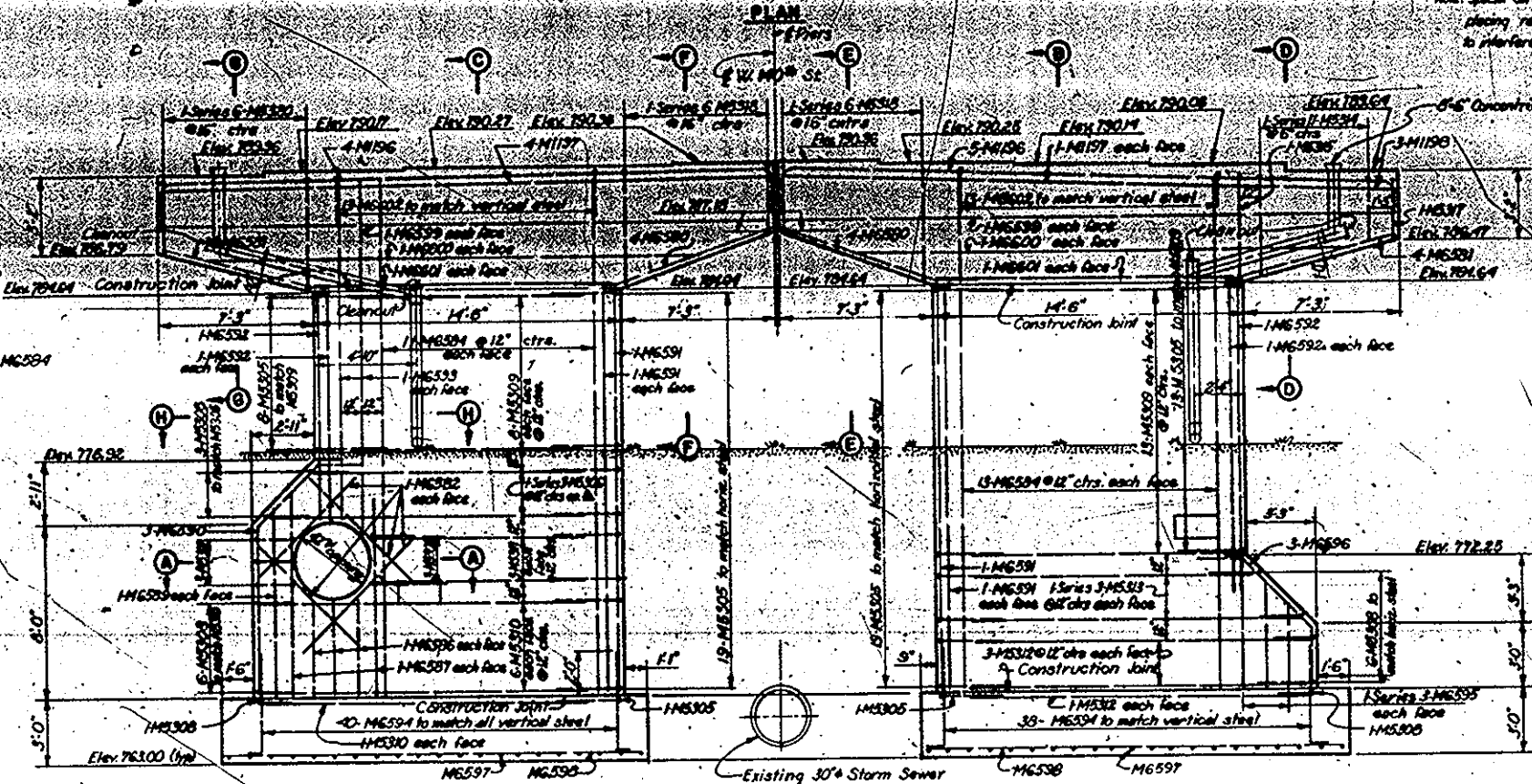
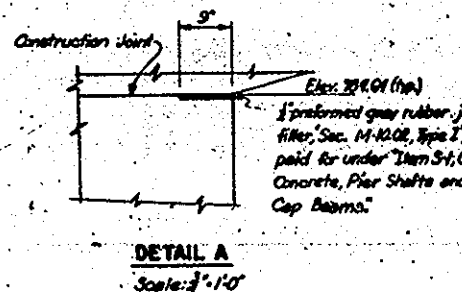
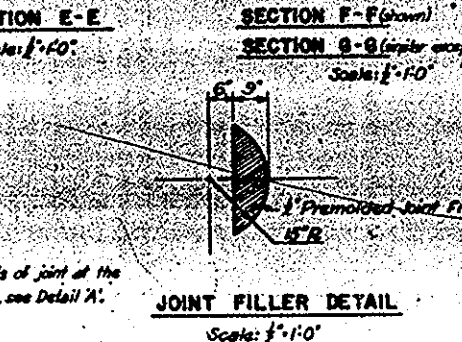
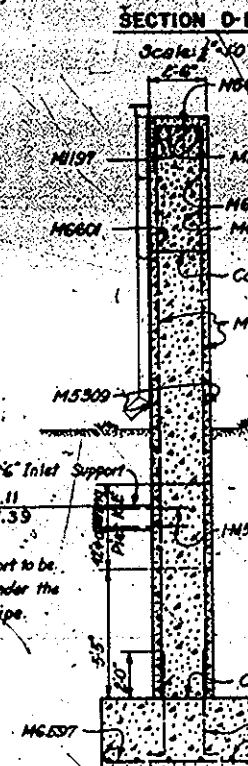
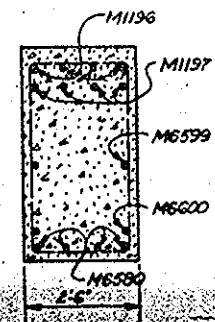
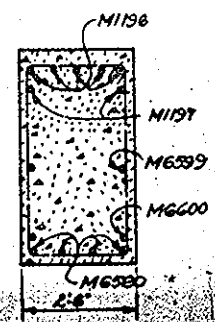
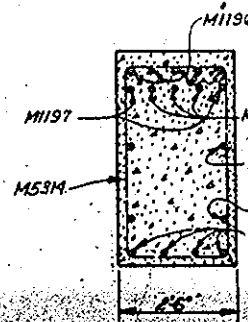
SECTION F-F
SECTION E-E
Section F-F shown. Section E-E
similar except for bar marks.

REVISED 2-25-59.

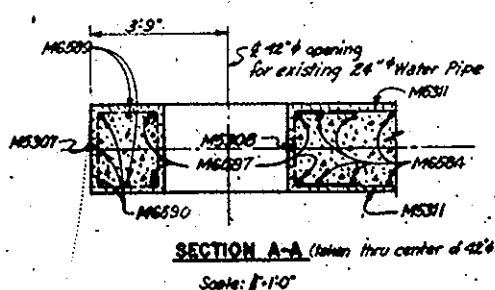
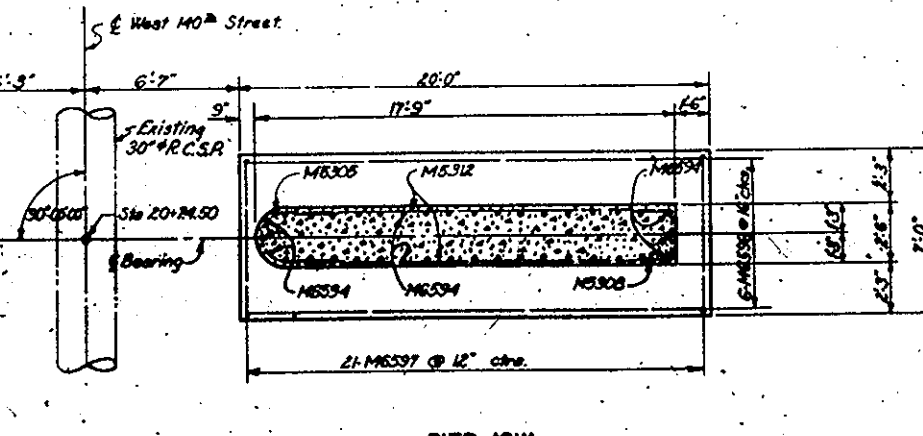
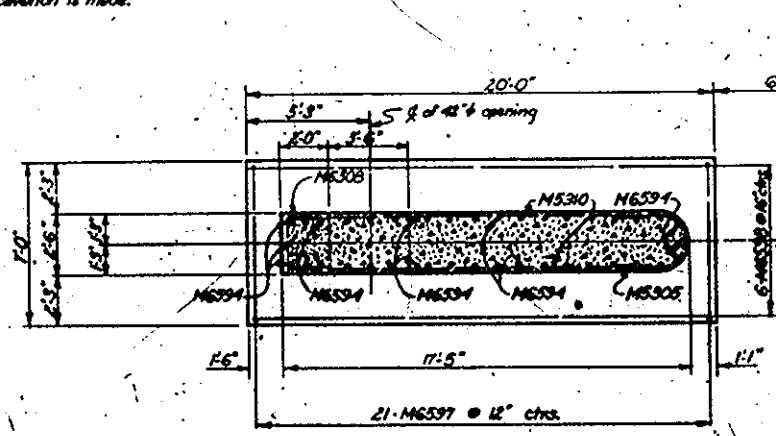
Notes: All 6" W.I. pipe, 8" 6" reducers, hangers, fittings, and bolts are to be included for payment under Item S29 and Special-Deck Drainage System-Complete as per plans.



Note: Special Care shall be taken when placing reinforcing steel so as not to interfere with anchor bolt setting.



Note: 42\" opening in pier 10E is to be centered about existing 24\" Water Pipe. Exact elevation will be determined after Pier excavation is made.



PIERS 10E & 10W

Notes:
- For shoe details see Sheet 50
- For drainage details see Sheet 32
- Bars to be 3\" clear from face of concrete in footing and 2\" elsewhere
- For reinforcement schedule see Sheet 37

MADE C.D.D. BY E.E. HOWARD, NEEDLES, TAMM & BERENSON
1900 BAY CONSULTING ENGINEERS
CIB LONG ISLAND CITY, CLEVELAND NEW YORK

WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6744 BRIDGE NO. 200

NO. B-200

SCALE: 1/4\"/>

Note: 6" W.I. Pipe, M.I. Reducers and Pipe Supports are to be included for payment in Item S-29 and Special Deck Drainage System - Complete as per plan.

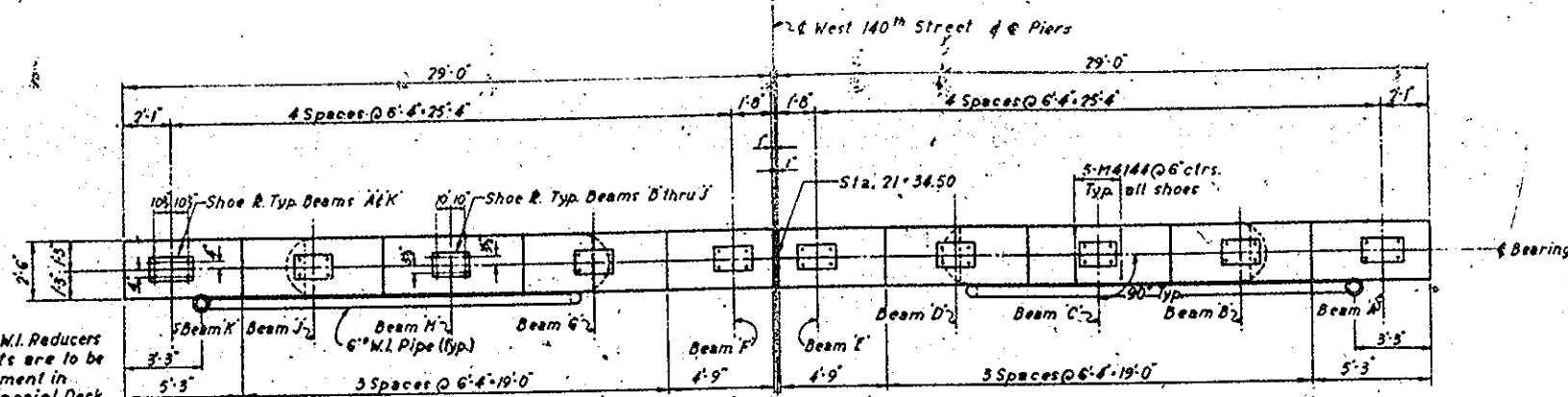
Note: Special care shall be taken when placing reinforcing steel so as not to interfere with anchor bolt setting.

Note: The shaft section below the cap beam in Pier IIE is similar to that in Pier IIW except for bar markings.

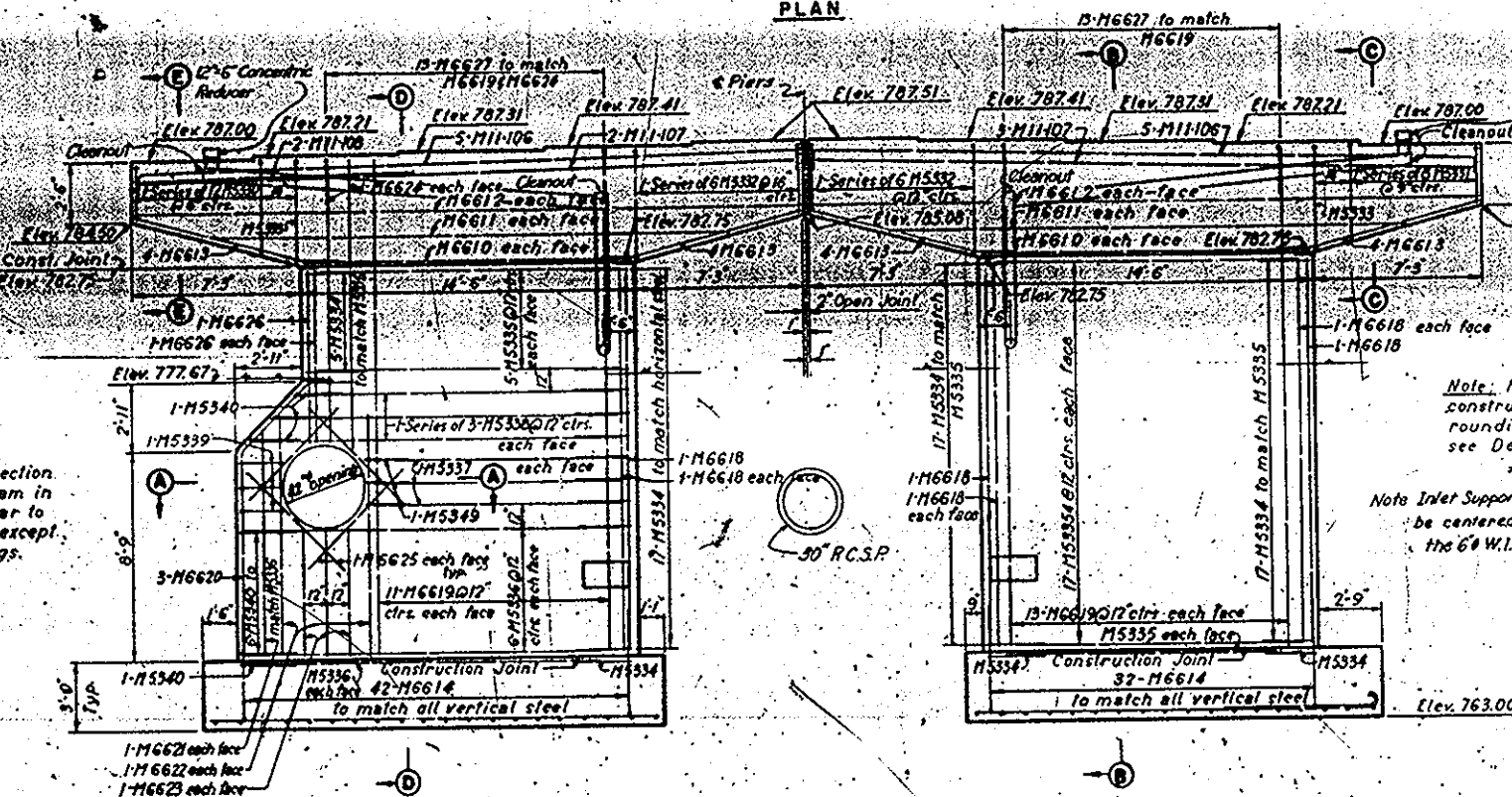
Note: Inlet Support is to be centered under the 6" W.I. pipe

Note: 42" opening in Pier IIE is to be centered about existing 24" water pipe. Exact elevation will be determined after pier excavation is made.

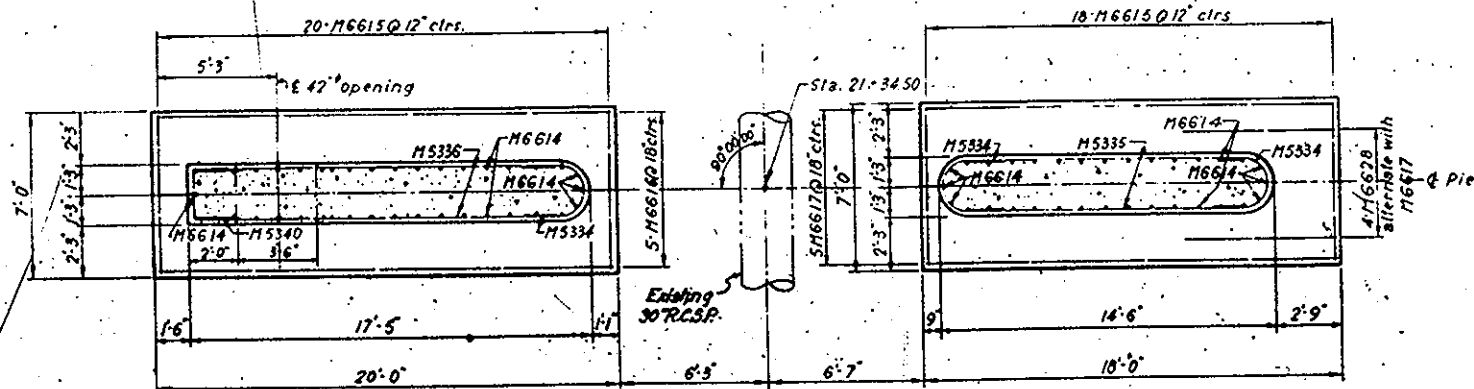
Notes:
Bars shall be 3 inches clear from face of concrete in footings and 2 inches elsewhere.
For reinforcement schedule see sheet 37
For shoe details see sheet 30
For drainage details see sheets 31 & 32



PLAN



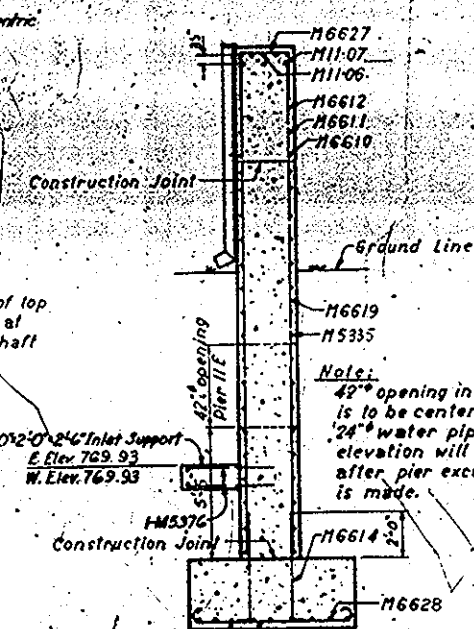
NORTH ELEVATION



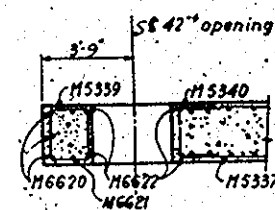
PIER IIE

FOOTING PLAN

PIER IIW

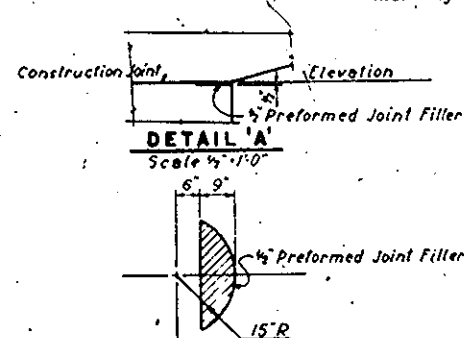


SECTION C-C (shown)
SECTION E-E (similar)
Scale: 1/2" = 1'-0"



SECTION A-A
Section through center of 42" opening

SECTION B-B (shown)
SECTION D-D (similar except for bar markings)



JOINT FILLER DETAIL
Scale: 1/2" = 1'-0"

Note: 1/2" Preformed gray rubber joint filler, Sec. M-1002-Type I is to be included for payment in Item S1, Class C Concrete Pier Shafts and Cap Beams.

PIERS IIE&IIW

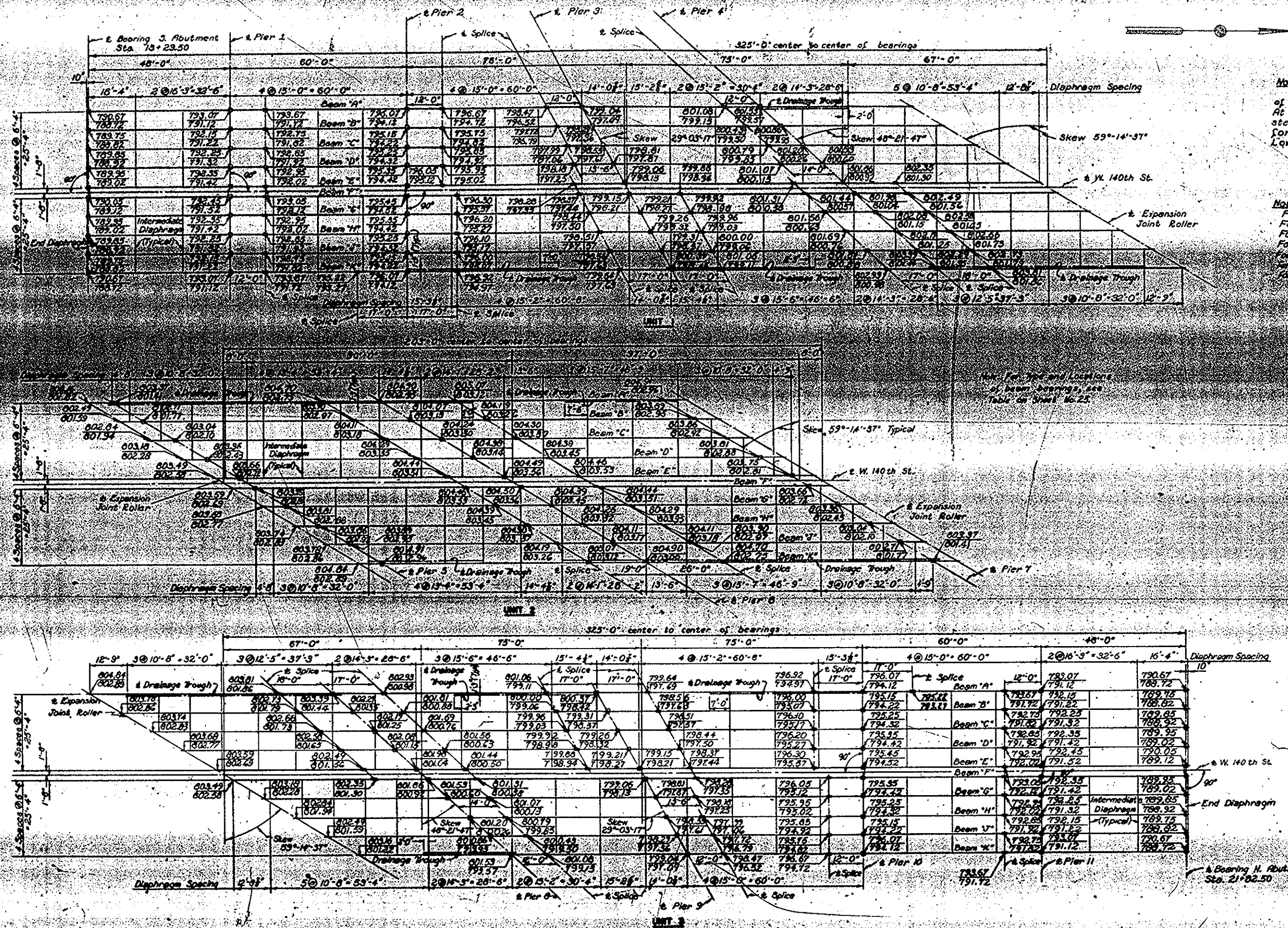
WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 208

NO. B-200

SCALE 1/2" = 1'-0" DATE REVISED



Note:
Top elevation given for interior beams is top of wearing surface except at expansion rollers. At expansion rollers, top elevation given is top of steel expansion plate. The top elevation given for curb beams is for the top of curb plate. Lower elevation given is at top of beam flange.

Note:
For Detail of diaphragms, see sheet 28
For Drainage details, see sheets 31 and 32
For Beam elevations, see sheet 25
For Expansion Joint details, see sheet 29
For Beam slabs, see sheet 25
For Skew details and section diagrams, see sheet 26
For Deck details, see sheet 30

Note:
Item 3-25 and Special Bridge Light, complete as per plan.
Item 3-25 and Special Bridge Lighting, complete as per plan.
Item 3-25 and Special Deck Drainage System, complete as per plan.
Special Hollow Metal Swinging Doors.
Special Rolling Steel Doors.

Shop Painting
All steel components in the above items except the surfaces in contact with or imbedded in concrete shall be given one shop coat of Basic Lead Silico Chromate paint, prime coat conforming to the Supplemental Specifications.

Field Painting
All exposed surfaces of steel in the above items shall be given two coats of Basic Lead Silico Chromate paint, conforming to the requirements of the Supplemental Specifications. The paint shall be gray in color and shall match a color standard furnished by the County Engineer. In order to distinguish the first coat from the second or final coat, the paint used for the first coat shall be tinted to a lighter shade.

Shop Drawings
All shop drawings required for the fabrication of the steel in the above items are to be inked tracings on standard Federal A11 Sheets of tracing cloth or processed tracings on cloth. The tracings are to become the property of the County Engineer after the completion of the project.

MADE BY: S. J. HEST HOWARD, NEEDLES, TAMMAM & HENNINGSON
DESIGNED BY: S. J. HEST HOWARD, NEEDLES, TAMMAM & HENNINGSON
CHECKED BY: E. C. BATH, JR. CIVIL ENGINEER
CITY OF CLEVELAND, OHIO

WEST 140TH STREET
CITY OF CLEVELAND

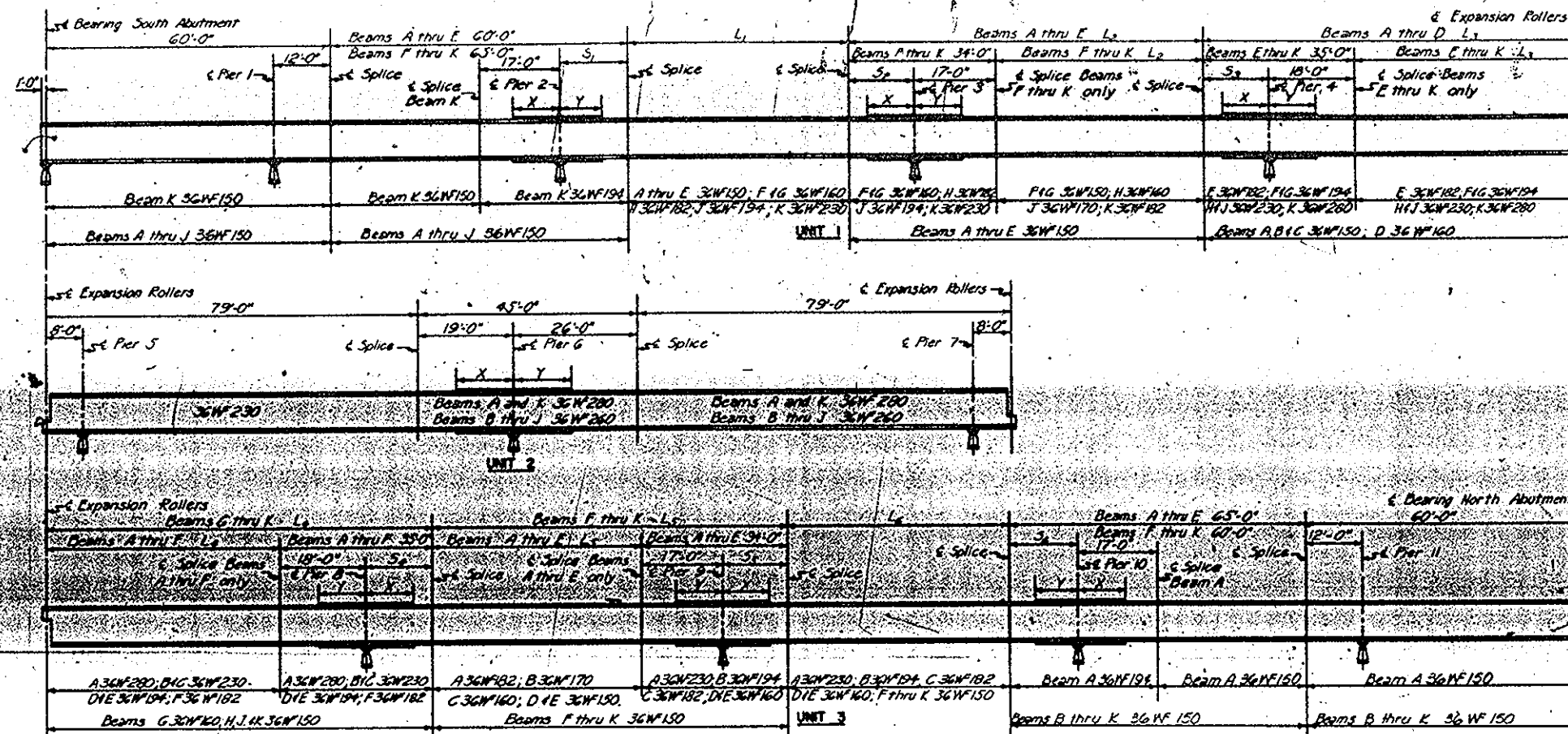
BRIDGE OVER N.Y.C.R.R.

CONTOUR F-217 REPORT NO. 6746 BRIDGE NO. 288

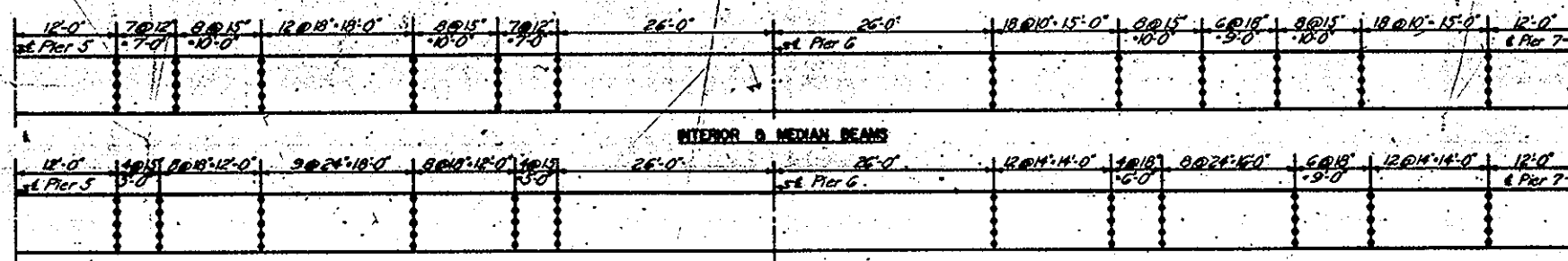
NO. B-200

SCALE 1"=16' DATE REVISED 2-25-59

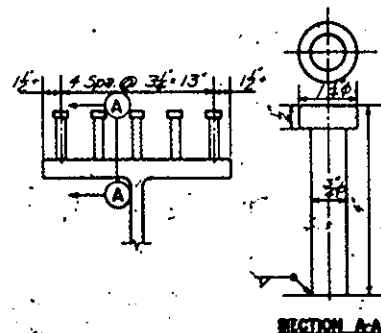
FRAMING PLAN



BEAM ELEVATIONS



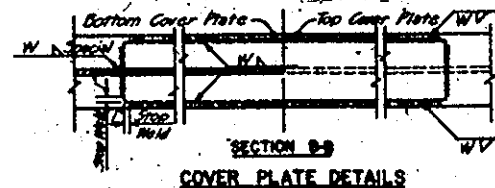
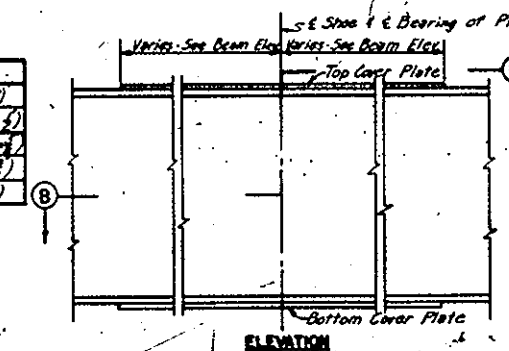
CURB BEAMS
PLAN SHOWING
SHEAR CONNECTOR SPACING



SHEAR CONNECTOR DETAILS

Note:
Shear Connectors shall conform to
and be paid for under "Item S-11 Special
3/4 in. Dia. Stud Type Shear Connectors."
All dimensions not shown or otherwise
noted may be determined by the manufacturer.

WELDING TABLE	
Pl. Thickness	Weld Size (W)
1/2"	3/8" (Special 1/2")
3/4"	1/2" (Special 3/4")
1"	5/8" (Special 1")
1 1/4"	3/4" (Special 1 1/4")



BEAM ELEVATIONS AND SHEAR CONNECTORS

TABLE OF BEAM DIMENSIONS										
Dim.	A	B	C	D	E	F	G	H	J	K
L ₁	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₃	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₄	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₅	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₆	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₇	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₈	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₉	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₀	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₁	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₂	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₃	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₄	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₅	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₆	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₇	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₈	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₁₉	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₀	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₁	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₂	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₃	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₄	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₅	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₆	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₇	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₈	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₂₉	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"
L ₃₀	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"	36'-0"

TABLE OF COVER PLATES										
Beams	Piers									
Units	2 and 10		3 and 9		4 and 8		5 and 7		6	
112	3	X	Y	Size	X	Y	Size	X	Y	Size
A	K	7	6	11/16"	8	7	11/16"	9	8	11/16"
B	J	7	6	11/16"	8	7	11/16"	9	8	11/16"
C	H	7	6	11/16"	8	7	11/16"	9	8	11/16"
D	G	7	6	11/16"	8	7	11/16"	9	8	11/16"
E	F	7	6	11/16"	8	7	11/16"	9	8	11/16"
F	E	7	6	11/16"	8	7	11/16"	9	8	11/16"
G	D	7	6	11/16"	8	7	11/16"	9	8	11/16"
H	C	7	6	11/16"	8	7	11/16"	9	8	11/16"
J	B	7	6	11/16"	8	7	11/16"	9	8	11/16"
K	A	7	6	11/16"	8	7	11/16"	9	8	11/16"

Note: Cover plates similar on both top & bottom of beam.

TABLE OF SHOE SIZES AND LOCATIONS										
Units	Na/5a	Piers	Piers	Piers	Piers	Pier	Pier	Pier		
112	3	Abuts	111	211	319	418	5	6	7	
A	K	R 75	R 150	R 150	R 150	R 150	R 150	R 150	R 150	R 150
B	J	R 75	R 125	R 125	R 150	R 150	R 150	R 150	R 150	R 150
C	H	R 75	R 125	R 125	R 150	R 150	R 150	R 150	R 150	R 150
D	G	R 75	R 125	R 150	R 150	R 150	R 150	R 150	R 150	R 150
E	F	R 75	R 125	R 150	R 150	R 150	R 150	R 150	R 150	R 150
F	E	R 75	R 125	R 150	R 150	R 150	R 150	R 150	R 150	R 150
G	D	R 75	R 125	R 150	R 150	R 150	R 150	R 150	R 150	R 150
H	C	R 75	R 125	R 150	R 150	R 150	R 150	R 150	R 150	R 150
J	B	R 75	R 125	R 150	R 150	R 150	R 150	R 150	R 150	R 150
K	A	R 75	R 150	R 200	R 250	R 250	R 250	R 250	R 250	R 250

Notes
For shoe details see sheet 30.
For framing plan see sheet 24.
For expansion joint and roller details see sheet 29.
For beam splices and deflection diagrams see sheet 26.

NAME: ARL BARKER
FIRM: HOWARD, NEEDLE, TAMMEN & BERENSON
DATE: 11/15/57
CITY: CLEVELAND
STATE: OHIO

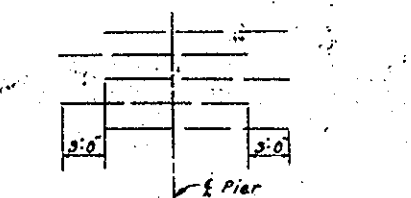
WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6746 BRIDGE NO. 200

NO. B-200

SCALE: None DATE: 11/15/57 REVISED: 2-5-59



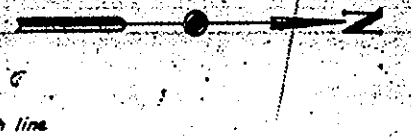
Match line Additional longitudinal bars over Pier 5 and 7 are not staggered.
DIAGRAM FOR PLACING ADDITIONAL LONGITUDINAL BARS OVER PIERS

Notes:
All longitudinal bars are to be placed parallel with the E. Roadway.
Transverse sidewalk bars are spaced as noted along curb faces.
Transverse slab steel is spaced along E. Roadway.

(a) Longitudinal bars in the sidewalk are spaced as shown in sidewalk detail.
(b) Longitudinal bars in the bottom of the slab are spaced 15" c/c between beams.

For Details A, B, and C - See sheet 20
For Section A-A - See sheet 20
For upper dimensions and details - See sheet 21
For railing post spacing - See sheets 2, 3 & 4
For expansion joint details - See sheet 29
Typical cross section is shown on 20
For upper spacing - See sheets 2, 3 and 4
For light support detail - See sheet 20
For signal cable pull box detail - See sheet 20

The bridge slab shall be poured in the sequence and direction indicated by the circled numbers and arrows.



Match line

WHEELER, DAVIS & ASSOCIATES
CONSULTING ENGINEERS
CIVIL ENGINEERS
CITY OF CLEVELAND, OHIO

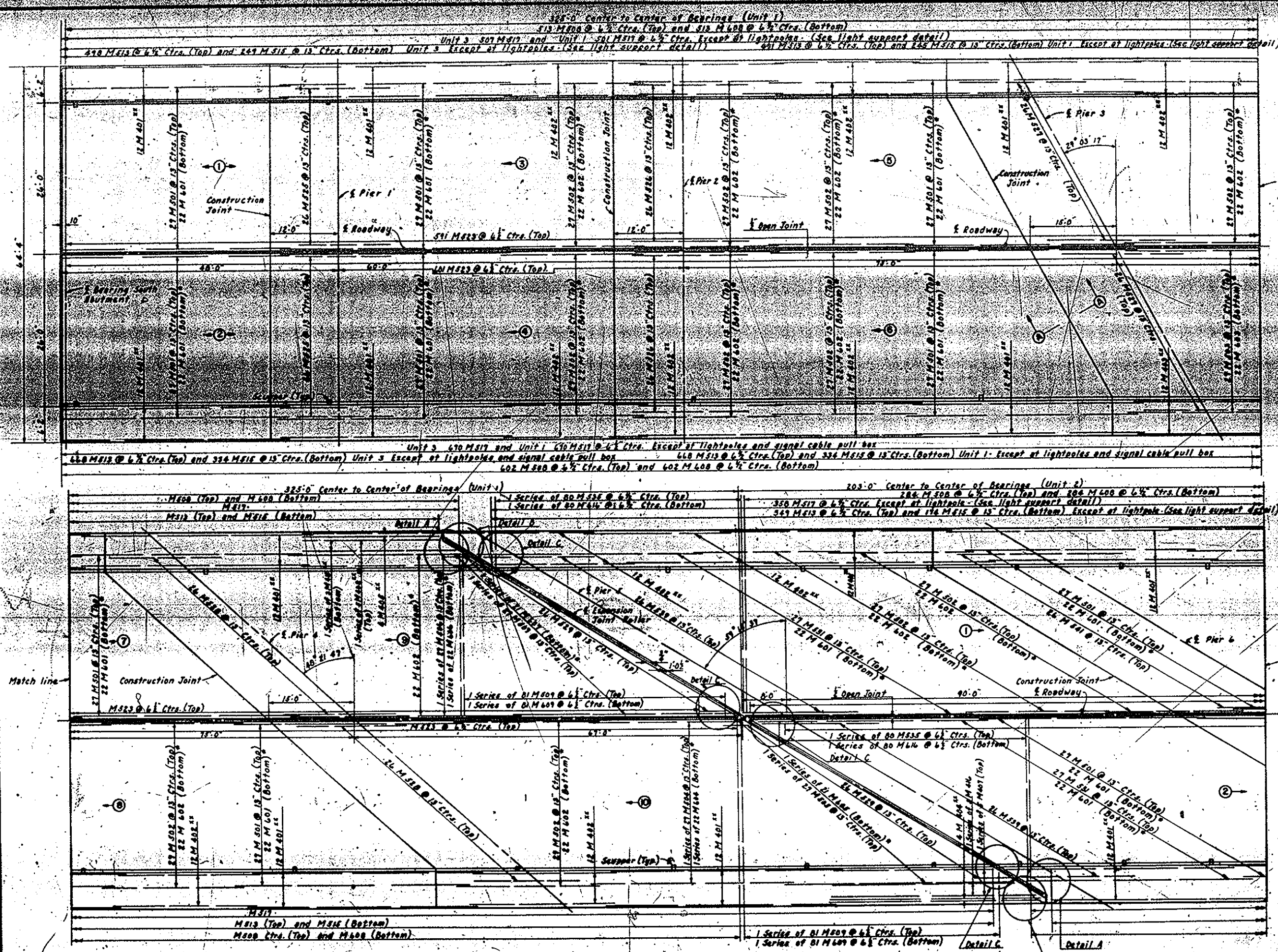
**WEST 140TH STREET
CITY OF CLEVELAND**

BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 200

NO. B-200

SCALE 1" = 1'-0" DATE REVISED 2-20-47



SLAB PLAN

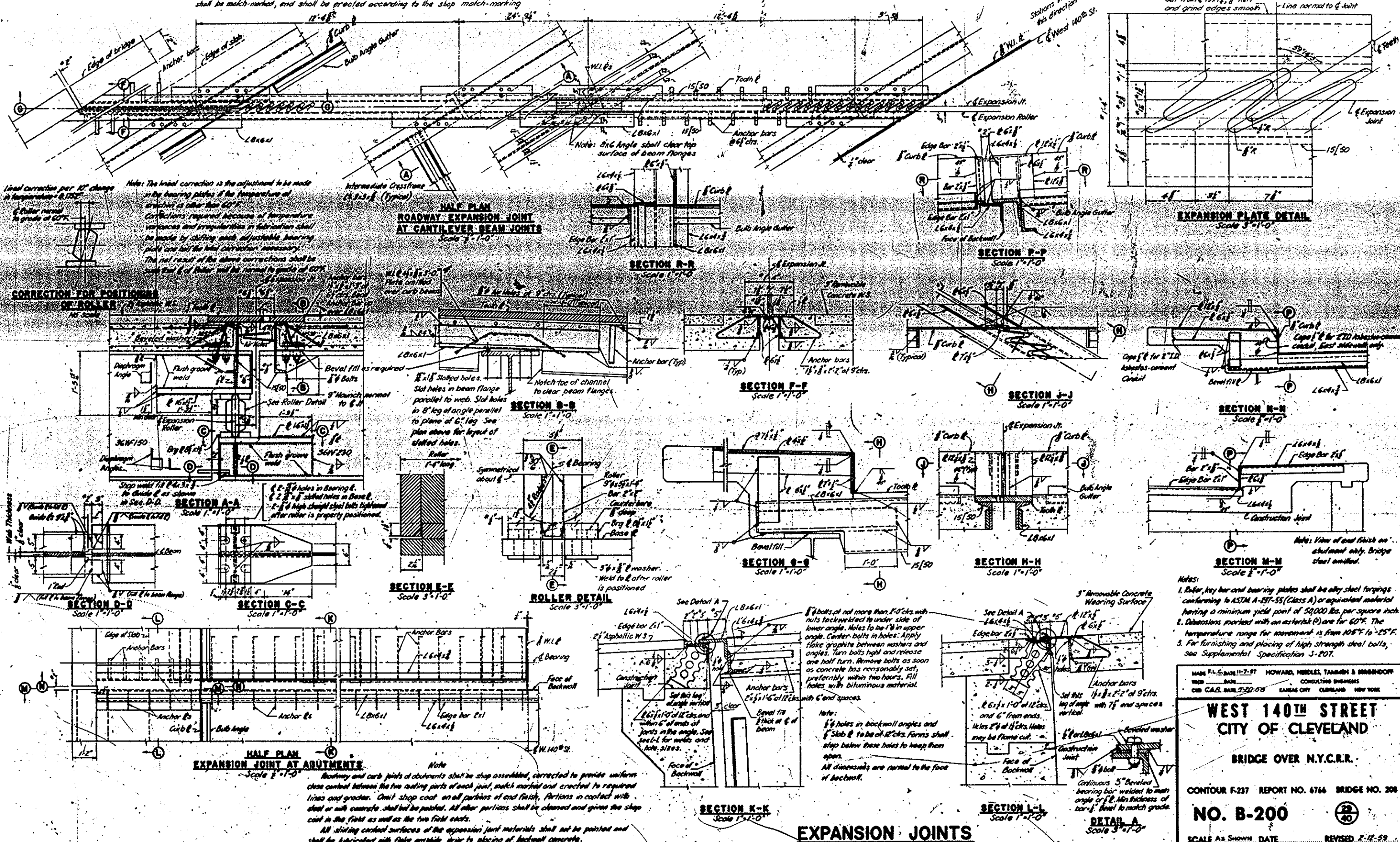


Note: All expansion joint material shall be shop assembled allowing for a nominal clearance of $\frac{1}{8}$ inch between ends and roots of mating projections. While thus assembled, the joint shall be checked and corrected to provide not less than $\frac{1}{8}$ inch clearance between sides of projections and not less than $\frac{1}{8}$ inch clearance between ends and roots of projections. All expansion joints so assembled shall be match-marked, and shall be erected according to the shop match-marking.

and shall be set to the longitudinal clearance required for the temperature at the time of setting, to the required grade and slope of roadway, and to provide equal side clearance between mating projections.

WEST 140TH STREET
GRADE SEPARATION WITH N.Y.C.R.R.
AND C.T.S. RAPID TRANSIT
CITY OF CLEVELAND

63
74



Notes:
1. Roller, key bar and bearing plates shall be alloy steel forgings conforming to ASTM A-227-SS (Class A) or equivalent material having a minimum yield point of 50,000 lbs. per square inch.
2. Dimensions marked with an asterisk (*) are for 60°F. The temperature range for movement is from 105°F to -25°F.
3. For furnishing and placing of high strength steel bolts, see Supplemental Specification S-207.

MADE BY: E. C. B. 11-7-57 HOWARD, NEEDLES, TAMMEN & BERENSON
DESIGNED BY: C. A. S. 11-7-57 CONSULTING ENGINEERS
CIV. ENGR. REG. NO. 11-7-57 CLEVELAND, OHIO

**WEST 140TH STREET
CITY OF CLEVELAND**

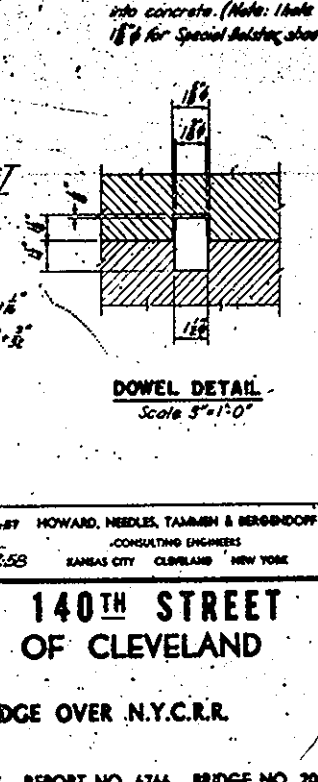
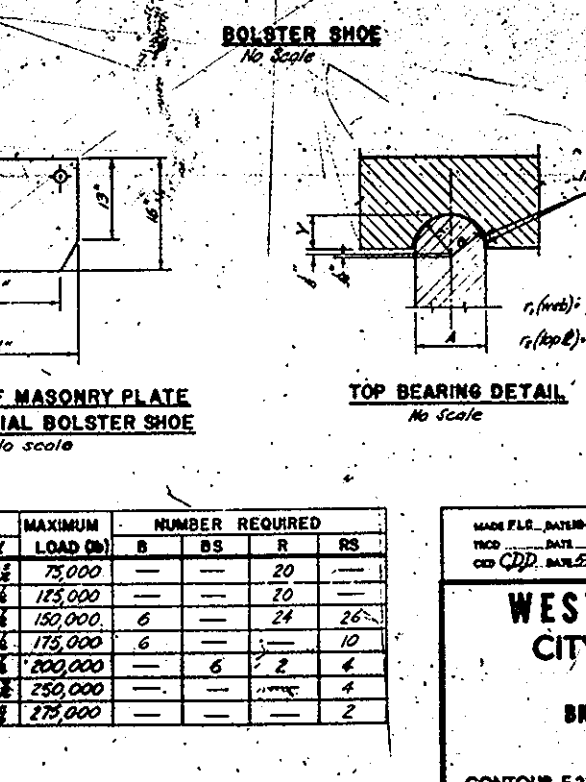
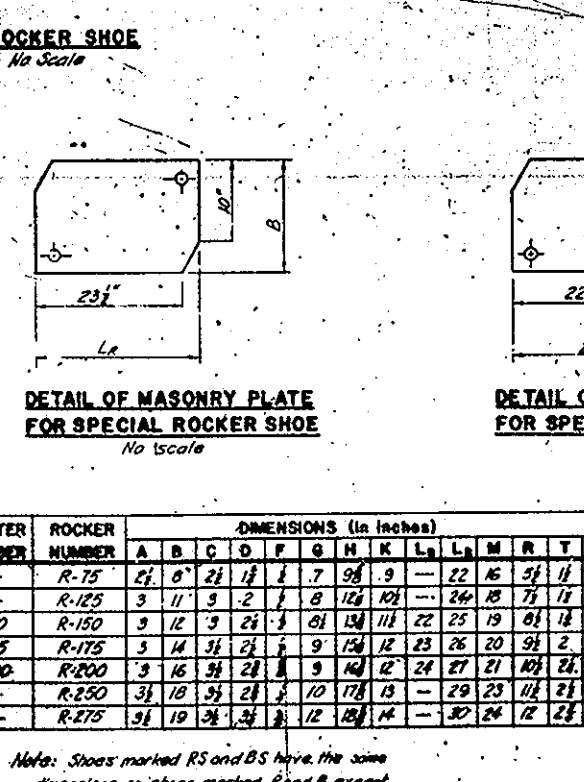
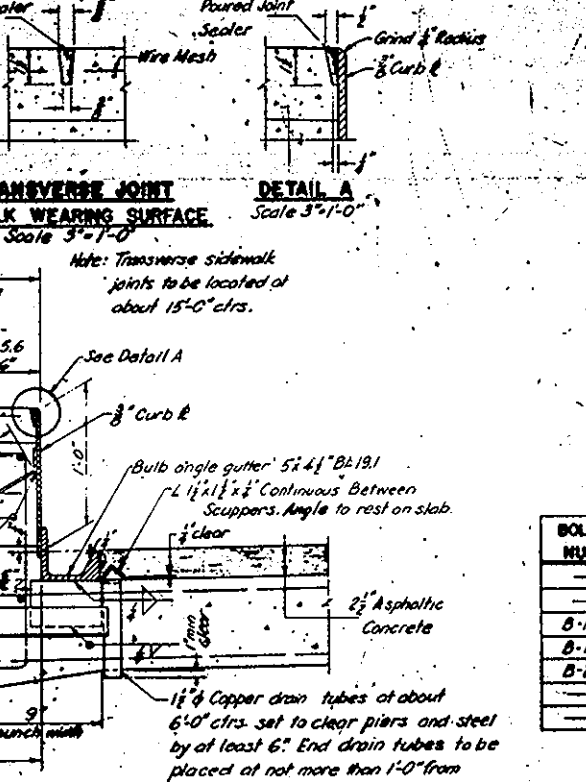
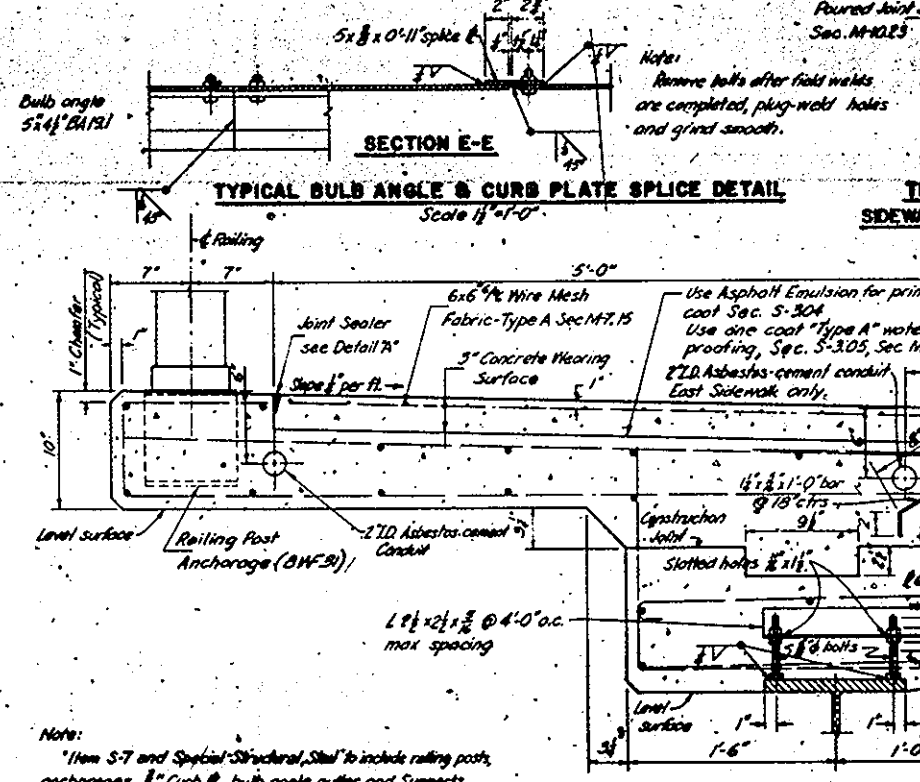
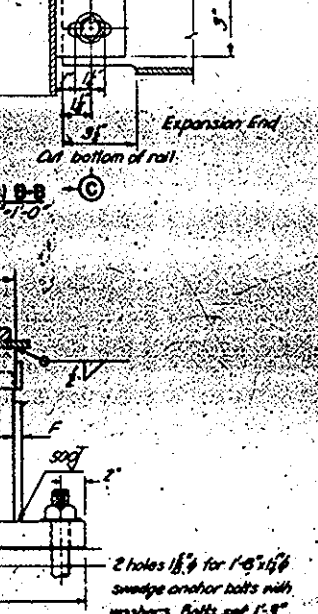
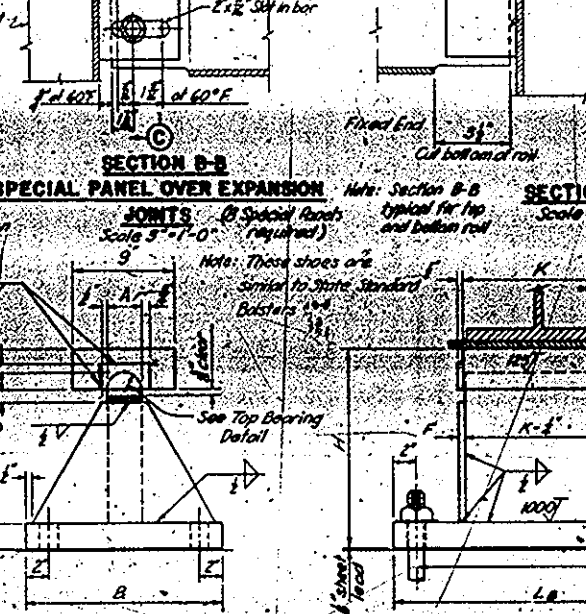
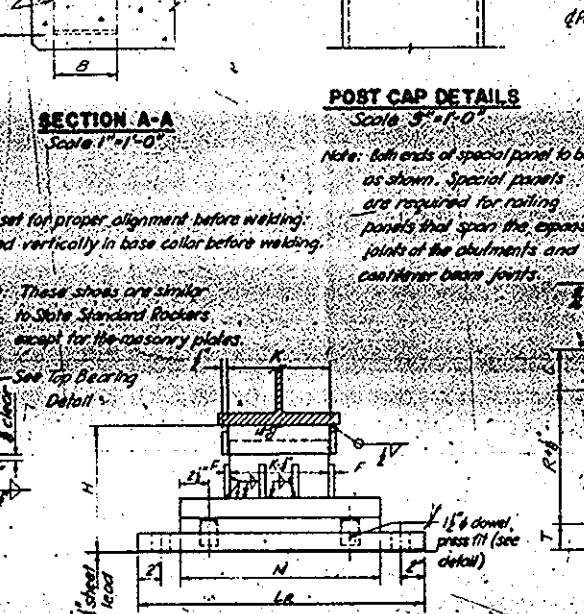
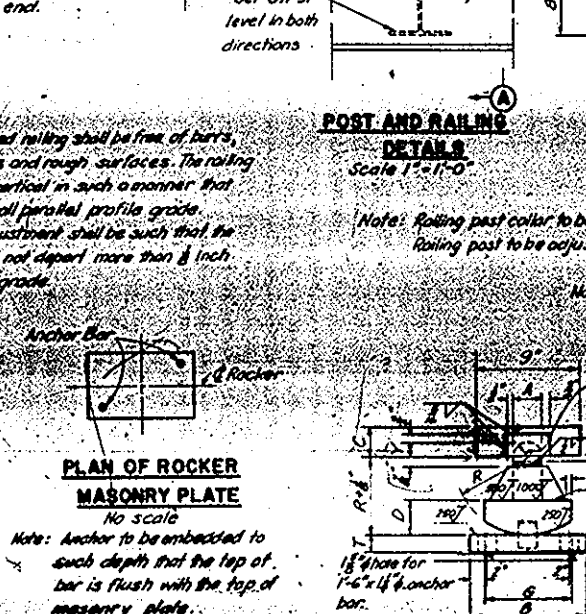
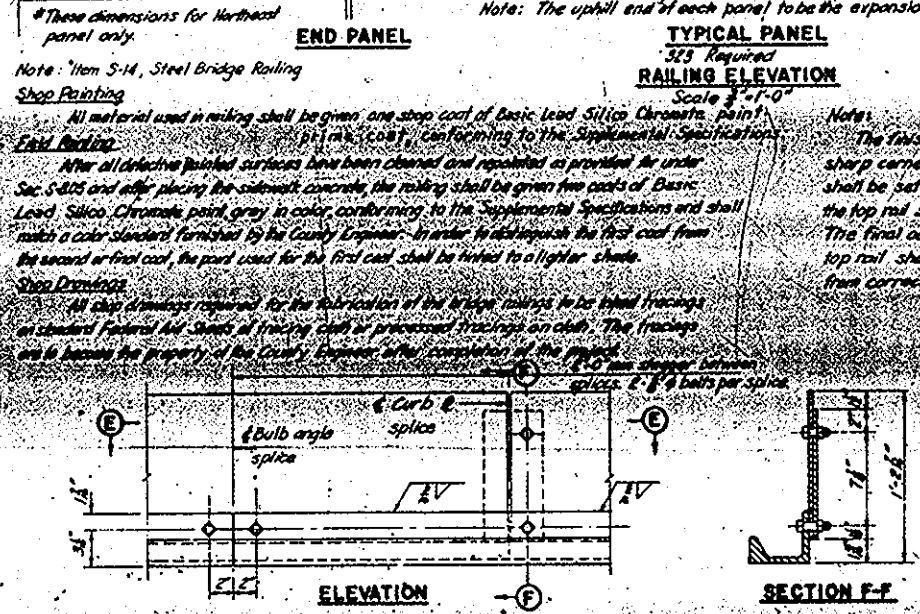
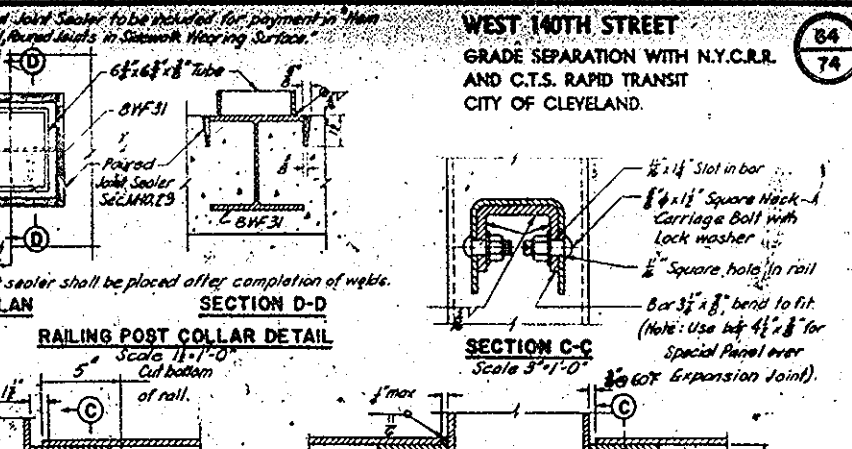
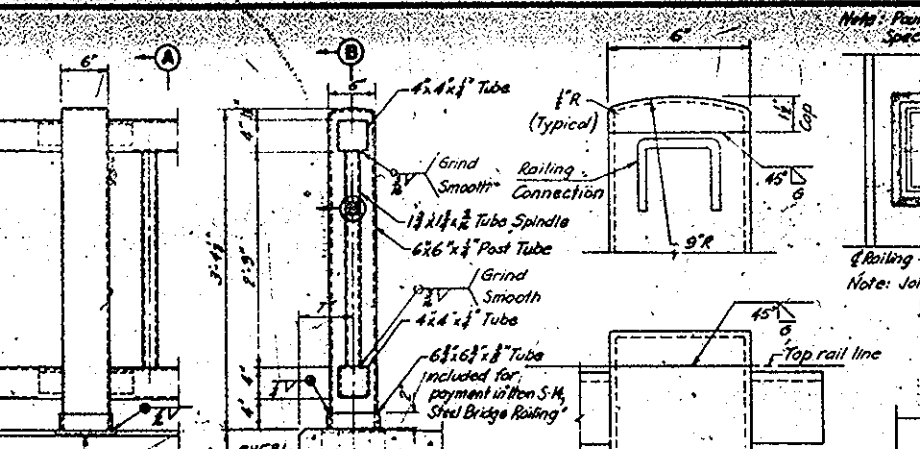
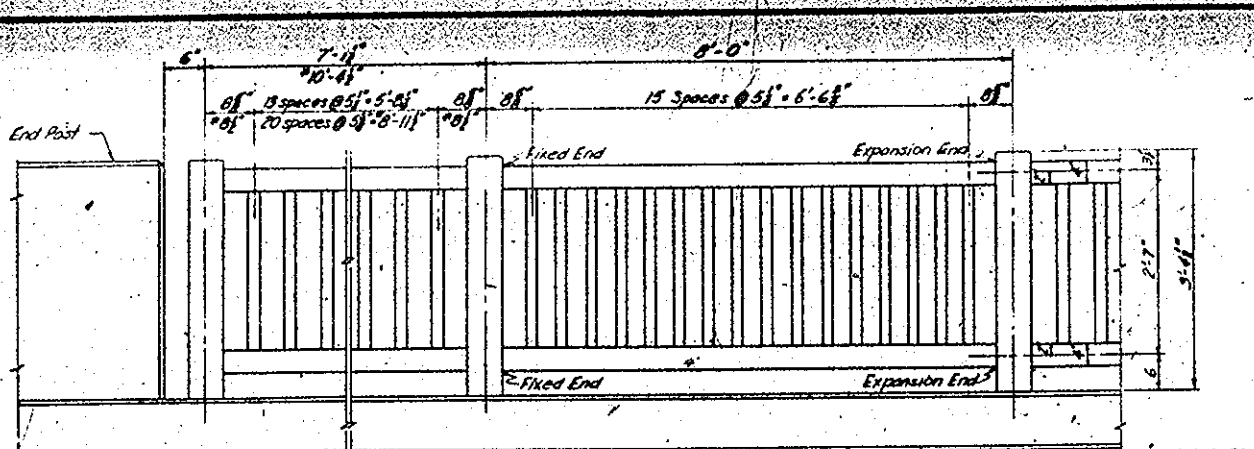
BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6764 BRIDGE NO. 208

NO. B-200

SCALE AS SHOWN DATE REVISED 2-12-59

WEST 140TH STREET
GRADE SEPARATION WITH N.Y.C.R.R.
AND C.T.S. RAPID TRANSIT
CITY OF CLEVELAND.



BOLSTER NUMBER	ROCKER NUMBER	DIMENSIONS (in inches)																MAXIMUM LOAD (lb)	NUMBER REQUIRED			
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		B	BS	R	RS
—	R-75	2 1/2	8	2 1/2	1 1/2	1	7	9 1/2	9	—	22	15	5 1/2	1 1/2	1 1/2	1 1/2	1 1/2	75,000	—	—	20	—
—	R-125	3	11	3	2	1	8	12 1/2	10 1/2	—	24	18	7 1/2	1 1/2	1 1/2	1 1/2	1 1/2	125,000	—	—	20	—
B-150	R-150	3	12	3	2 1/2	1	9 1/2	13 1/2	11 1/2	22	25	19	8 1/2	1 1/2	1 1/2	1 1/2	1 1/2	150,000	6	—	24	26
B-175	R-175	3	14	3 1/2	2 1/2	1	10 1/2	14 1/2	12 1/2	23	26	20	9 1/2	1 1/2	1 1/2	1 1/2	1 1/2	175,000	6	—	—	10
B-200	R-200	3	16	4	2 1/2	1	11 1/2	15 1/2	13 1/2	24	27	21	10 1/2	1 1/2	1 1/2	1 1/2	1 1/2	200,000	—	6	2	4
—	R-250	3 1/2	18	4 1/2	2 1/2	1	12 1/2	17 1/2	14 1/2	—	29	23	11 1/2	1 1/2	1 1/2	1 1/2	1 1/2	250,000	—	—	—	—
—	R-275	3 1/2	19	4 1/2	2 1/2	1	13 1/2	18 1/2	15 1/2	—	30	24	12 1/2	1 1/2	1 1/2	1 1/2	1 1/2	275,000	—	—	—	4

Note: Shoes marked RS and BS have the same dimensions as shoes marked R and B except that the masonry plate dimensions are as shown above in the Details for Special Shoes. Shoes marked R and B have rectangular masonry plates.

MISCELLANEOUS DETAILS

WEST 140TH STREET
CITY OF CLEVELAND

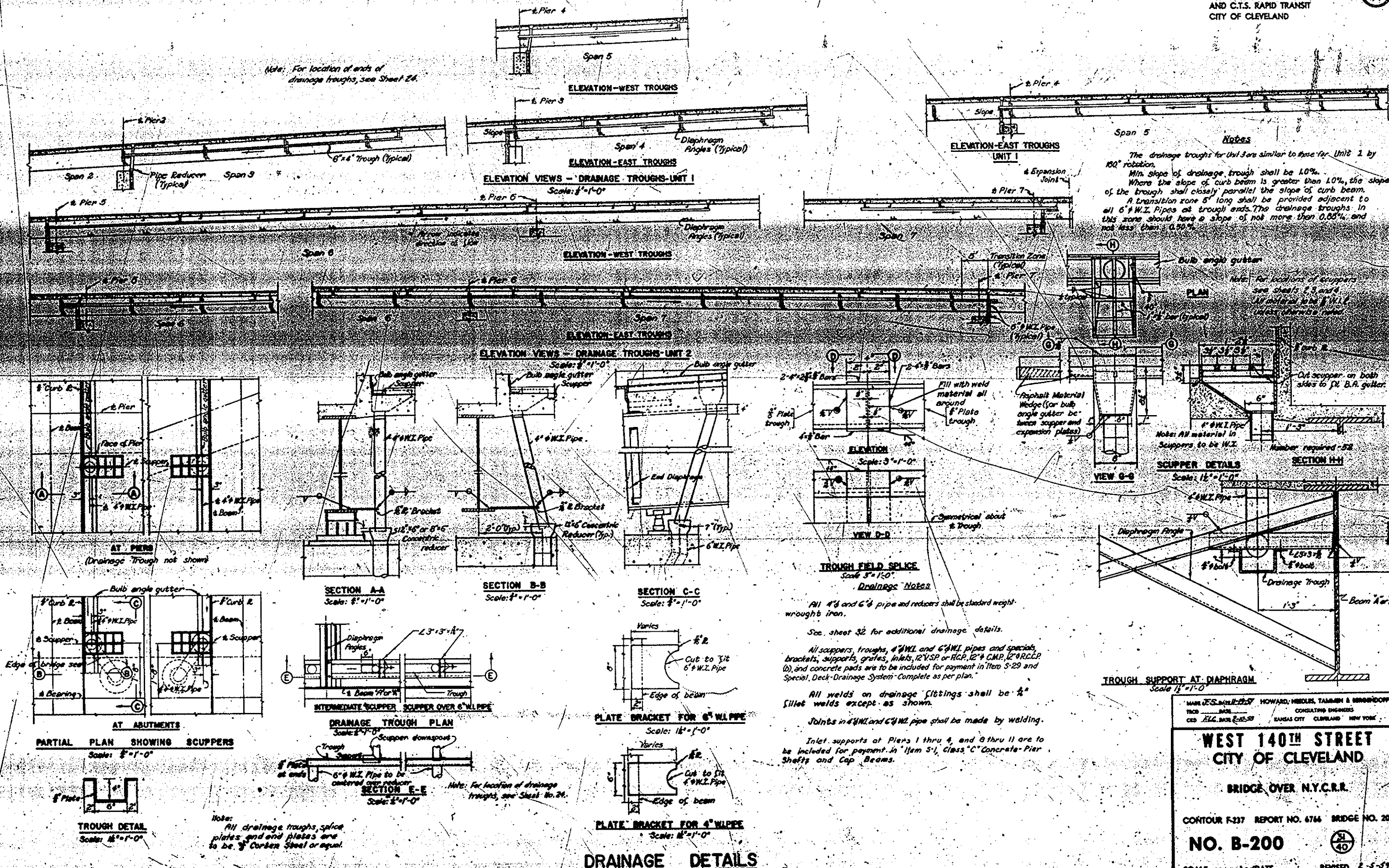
BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6766 BRIDGE NO. 200

NO. B-200

SCALE AS NOTED DATE REVISED 2-5-59

Note: For location of ends of drainage troughs, see Sheet 24.



MADE BY J.S. BAKER & SONS
HOWARD, NEEDLES, TAMMEN & BERGMAN
CONSULTING ENGINEERS
CITY OF CLEVELAND
NEW YORK

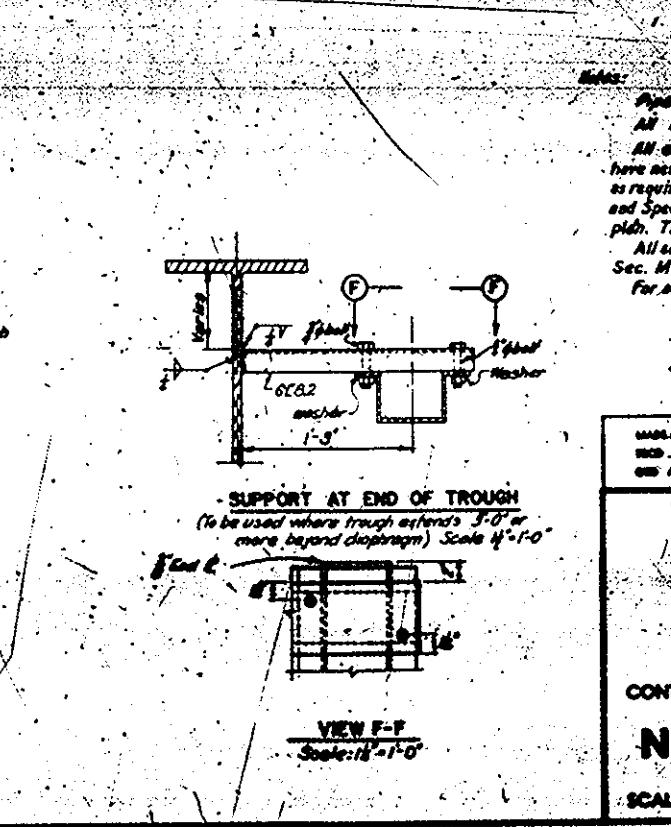
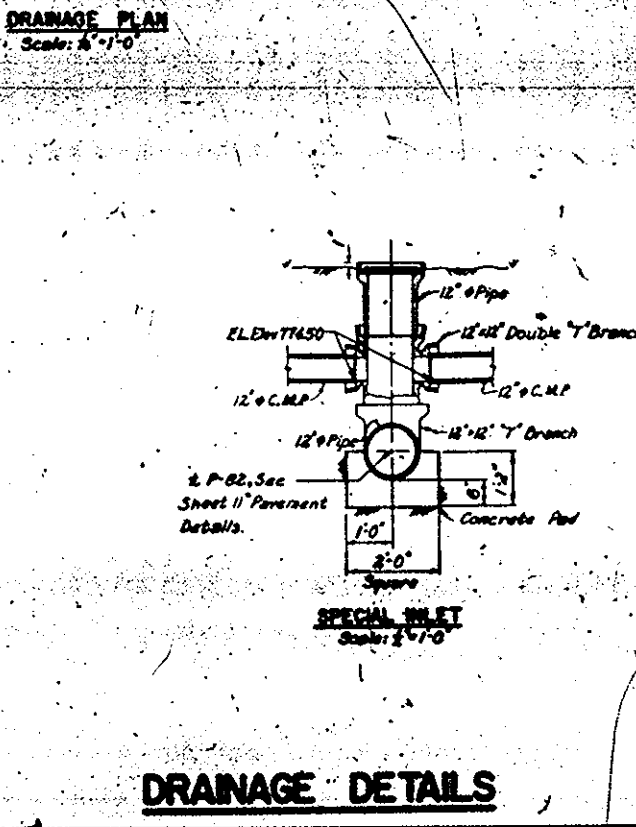
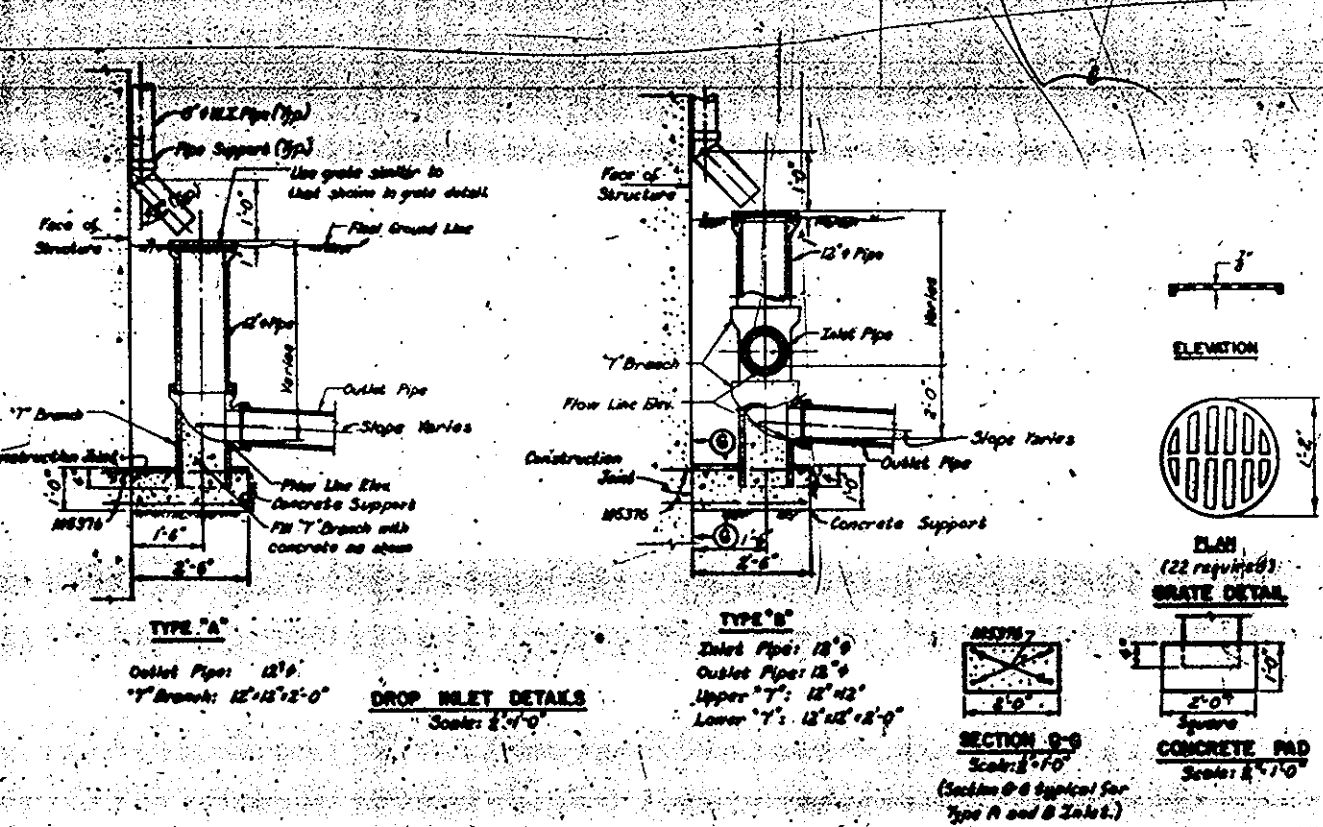
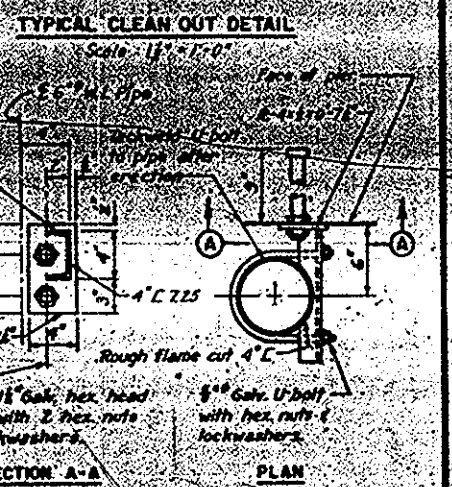
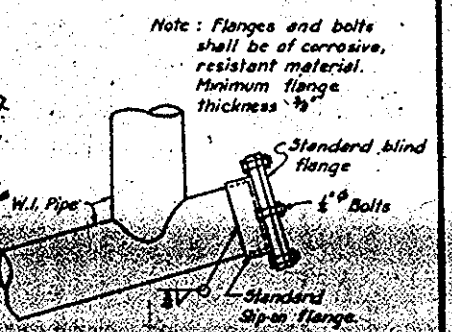
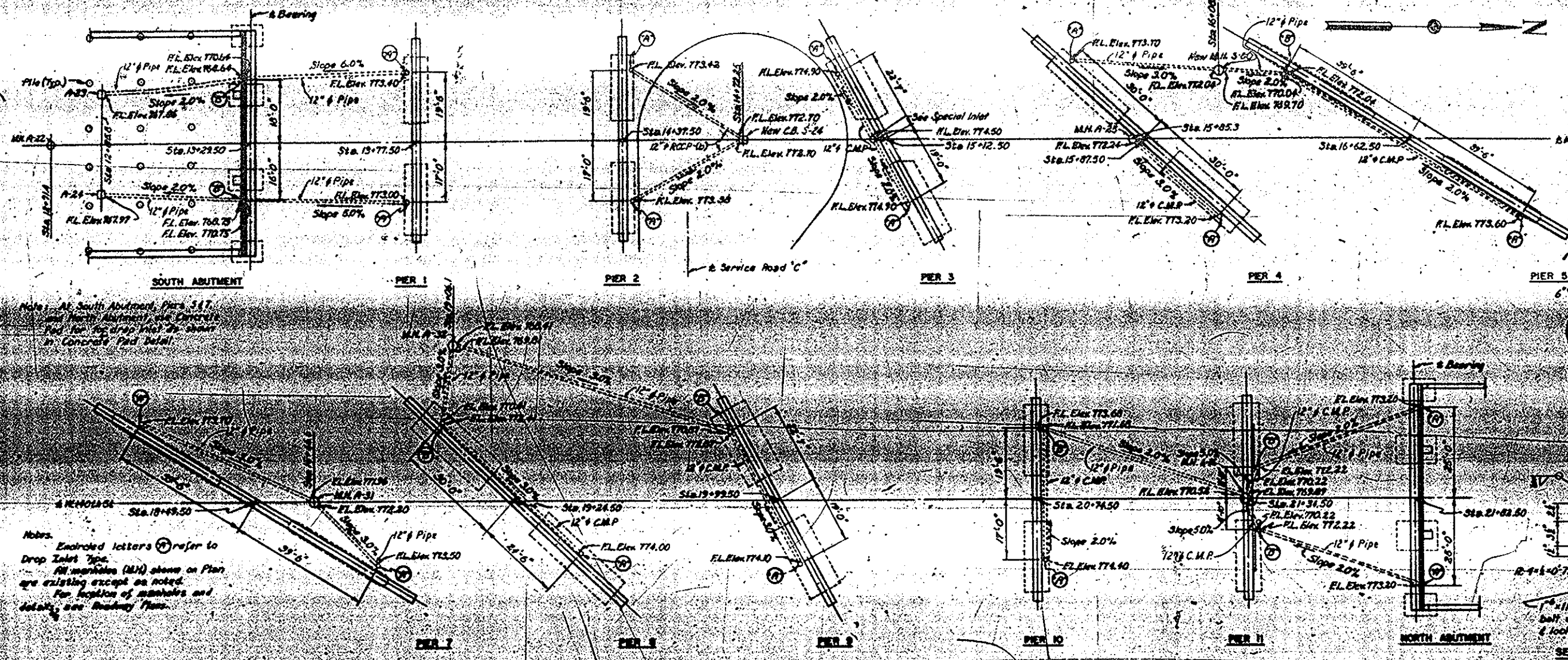
WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

CONTOUR F-237 REPORT NO. 6784 BRIDGE NO. 208

NO. B-200

SCALE as noted DATE REVISED 2-5-59



Notes:
Pipe supports to be spaced at 8'-0" cts. max.
All inlets to be by U.S.P.
All existing manholes and catch basins that have new cover lines flowing into them are to be modified as required and to be included for payment in Item 5-29 and Special Deck Drainage System - Complete as per plan. This work to be supervised by the City of Cleveland. All covers to be 12" V.S.P. Sec. M-6.8(a) or R.C.P. Sec. M-6.3(a) unless otherwise specified. For additional drainage details, see sheet 31.

WILLIAMS, BAKER & HOWARD, ENGINEERS & ARCHITECTS
CONSULTING ENGINEERS
ONE E.C. BUEL BLDG. 2ND FLOOR CLEVELAND, OHIO

**WEST 140TH STREET
CITY OF CLEVELAND**

BRIDGE OVER N.Y.C.R.R.

CONTOUR K327 REPORT NO. 6764 BRIDGE NO. 200

NO. B-200

SCALE as noted. DATE 2-10-57





SIZE	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCRE- MENT	TOTAL WEIGHT	LOCATION	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCRE- MENT	TOTAL WEIGHT	LOCATION	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCRE- MENT	TOTAL WEIGHT	LOCATION											
					A	B	C	D								A	B	C	D								A	B	C	D														
DECK SLAB											PIER 1																	PIER 3																
4	M401	300	40'	Str.						806	Unit 12,13	4	M4121	50	4'-5"	105	2'-2"	1'-3"					148	Cap	C	M6350	4	14'-3"	Str.							86	Cap							
4	M402	252	25'	Str.						4208	Unit 12,13														C	M6351	4	23'-9"	Str.							143	do							
4	M403	28	30'	Str.						481	Unit 113														C	M6352	4	28'-6"	Str.							171	do							
4	M404	8	36'-9"	Str.						196	Unit 113	5	M5001	9	5'-1"	105	2'-2"	1'-7"					48	Shaft / Footing	C	M6353	26	5'-10"	105	2'-2"	2'-0"				228	do								
4	M405	8	23'-9"	Str.						127	Unit 113	5	M5002	56	7'-4"	144	2'-0"	3'-4"	12 3/4"				128	do	C	M6354	8	9'-8"	108	2'-0"	7'-6"	3"	12"	114	do									
4	M407	28	28'-6" to 35'-9"	Str.					1 3/4%	215	Unit 113	5	M5003	6	16'-0"	Str.							100	do	C	M6355	8	9'-8"	108	2'-6"	7'-6"	4"	12"	114	do									
4	M408	28	23'-9" to 31'-0"	Str.					1 3/4%	183	Unit 113	5	M5004	16	12'-0"	Str.							601	do	C	M6356	47	7'-8"	100	5'-8"				424	Footing									
4	M409	4	37'-6"	Str.						100	Unit 2	5	M5105	13	13'-6" to 15'-6"	Str.					1'-0"	91	Shaft	C	M6357	5	19'-6"	Str.							146	do								
4	M410	4	22'-6"	Str.						60	Unit 2	5	M5106	2	12'-8"	109	2'-2"	3'-11"				26	Cap	C	M6358	5	17'-6"	Str.							131	do								
4	M411	8	36'-6"	Str.						193	Unit 2	5	M5107	6	10'-6"	Str.							66	Shaft																				
4	M412	8	21'-3"	Str.						114	Unit 2	5	M5108	3	8'-2"	109	2'-2"	1'-8"				26	do																					
4	M413	27	9'-0"	109	2'-9"	1'-7"				162	Light Support	5	M5109	9	9'-4" to 13'-4"	109	2'-2"	2'-3"				9 3/4"	142	Cap																				
4	M414	18	5'-9"	109	1'-0"	1'-8"				69	Light Support	5	M5110	8	9'-2" to 11'-10"	109	2'-2"	2'-3"				4 1/2"	88	do																				
4	M415	28	23'-9" to 27'-6"	Str.					1 1/2%	103	Unit 113	5	M5111	8	9'-2" to 11'-10"	109	2'-2"	2'-3"				2 1/2"	132	do	4	M4129	70	4'-5"	105	2'-2"	1'-3"				207	Cap								
4	M416	28	32'-0" to 35'-9"	Str.					1 1/2%	136	Unit 113	5	M5376	4	8'-3"	105	1'-6"	3'-6"				34	Intel Support																					
											PIER 2																																	
5	M501	594	40'	Str.						24782	Unit 12,13	6	M6310	47	7'-8"	100	5'-8"						341	Footing	5	M5445	79	7'-4"	144	2'-0"	3'-4"	12 3/4"			604	Shaft / Footing								
5	M502	540	25'	Str.						14080	Unit 12,13	6	M6311	5	19'-6"	Str.							146	do	5	M5446	70	13'-3"	Str.							967	do							
5	M503	54	30'	Str.						1690	Unit 113	6	M6312	26	5'-10"	105	2'-2"	2'-0"				228	Cap	5	M5447	13	15'-3" to 17'-3"	Str.							51	do								
5	M504	162	26'-6" to 38'-9"	Str.					5 1/4%	1816	Unit 113	6	M6313	48	14'-9"	Str.							199	Shaft	5	M5448	6	18'-3"	Str.							118	do							
5	M505	117	9'-7" to 2'-1"	101	5'-3"				1 1/4%	1117	Unit 113	6	M6314	5	17'-6"	Str.							131	Footing	5	M5449	3	7'-9"	125	2'-1"	2'-6"	3'-5"	6 1/2"	24	Shaft									
5	M506	117	30'-6" to 40'-0"	Str.					4 3/4%	1985	Unit 113	6	M6315	60	5'-5"	104	4'-9"	10'				488	Shaft / Footing	5	M5450	6	11'-3"	Str.							70	do								
5	M507	117	39'-10" to 2'-4"	101	5'-3"			1 5/8%	1187	Unit 113	6	M6316	2	8'-8"	104	8'-0"	10'				26	do	5	M5451	3	8'-12"	134	2'-6"	2'-2"	1'-2"	2'-6"	28	do											
5	M508	2798	29'-1"	100	27'-6"			3 1/2%	8517	Unit 12,13	6	M6317	4	9'-5"	104	8'-9"	10'-1"				57	do	5	M5452	6	10'-8" to 15'-2"	109	2'-2"	2'-2"				10 3/4"	81	Cap									
5	M509	28	28'-0" to 28'-4"	101	27'-6"			3 1/2%	5238	Unit 113	6	M6318	4	4'-8"	104	4'-0"	10'				42	do	5	M5453	13	11'-2" to 15'-8"	109	2'-2"	2'-2"				9 3/4"	165	do									
5	M510	148	6'-3"	101	5'-5"				100	Unit 12,13	6	M6319	6	5'-0"	Str.							60	Shaft	5	M5454	13	11'-2" to 15'-8"	109	2'-2"	2'-2"				28	do									
5	M511	3023	6'-3"	101	5'-5"				19704	Unit 12,13	6	M6320	4	14'-5"	Str.							86	do	5	M5455	13	11'-2" to 15'-8"	109	2'-2"	2'-2"				4 3/4"	61	do								
5	M512	98	6'-3"	101	5'-5"				596	Unit 12,13	6	M6321	3	10'-0"	Str.							45	do	5	M5456	4	11'-2" to 15'-8"	109	2'-2"	2'-2"														
5	M513	1510	7'-1"	126	5'-10"	6"	10"		1156	Unit 12,13	6	M6322	4	14'-0"	Str.							84	Cap	5	M5457	4	11'-2" to 15'-8"	109	2'-2"	2'-2"														
5	M514	8	3'-0"	109	5'-2"	8"			25	Unit 12,13	6	M6323	4	21'-6"	Str.							129	do	C	M6370	3	19'-6"	Str.							88	Footing								
5	M517	3127	5'-10"	127	1'-5"	2'-0"	1'-3"		18109	Unit 12,13	6	M6325	4	88'-6"	Str.							171	do	C	M6371	4	16'-9" to 19'-0"	Str.							107	do								
5	M518	8	9'-10"	127	1'-5"	3'-11"	2'-6"		82	Unit 12,13	6	M6326	16	9'-3"	108	2'-0"	7'-3"	3"	12"			222	do	C	M6372	3	21'-6"	Str.							97	do								
5	M520	84	5'-4"	101	4'-6"				467	Unit 12,13	6	M6327	3	10'-4"	147	4'-6"	4'-0"	2'-0"	12"			47	Shaft	C	M6373	13	19'-0" to 21'-3"	Str.							121	do								
5	M523	3106	3'-5"	101	2'-7"				11069	Unit 12,13														C	M6374	69	5'-3"	104	4'-7"	10"				544	Shaft / Footing									
5	M525	104	16'-3"	Str.						1763	Unit 113													C	M6375	3	19'-6"	Str.							88	Shaft								
5	M526	104	20'-3"	Str.						2197	Unit 113	11	M1101	5	28'-6"	Str.							757	Cap	C	M6376	3	20'-0"	Str.							90	do							
5	M527	104	22'-6"	Str.						2441	Unit 113	11	M1102	10	31'-1"	105	28'-8"	1'-6"				1651	do	C	M6377	30	25'-3"	Str.							1138	do								
5	M528	104	21'-																																									

LINE NO.	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCRE-MENT	TOTAL WEIGHT	LOCATION	LINE NO.	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCRE-MENT	TOTAL WEIGHT	LOCATION	LINE NO.	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCRE-MENT	TOTAL WEIGHT	LOCATION	
					A	B	C	D									A	B	C	D									A	B	C	D				
PIER 4												PIER 7																								
4	M4130	70	4'-5"	105	2'-2"	1'-3"				207	Cap Beam												4	M4140	70	4'-5"	105	2'-2"	1'-3"				207	Cap Beam		
5	M5170	100	18'-9"	31r						1903	Shaft	11	M1145	16	28'-3"	31r						2401	Cap Beam	5	M5230	42	7'-4"	144	2'-0"	3'-4"	12'			381	Shaft	
5	M5171	100	7'-4"	144	2'-0"	3'-4"	12'			763	do	11	M1146	4	20'-0"	31r						425	do	5	M5231	42	26'-3"	31r						1150	do	
5	M5172	100	12'-2" to 15'-6"	109	2'-2"	5'-8" to 5'-4"				188	Cap Beam	11	M1147	24	29'-6"	104	28'-3"	1'-6"				3762	do	5	M5232	31r	12'-2" to 18'-2"	109	2'-2"	5'-8" to 5'-4"				427	Cap Beam	
5	M5173	100	16'-0" to 17'-6"	109	2'-2"	5'-8" to 5'-4"				70	do	11	M1148	4	35'-0"	31r						701	Footling	5	M5233	31r	11'-8" to 18'-6"	109	2'-2"	5'-8" to 5'-4"				142	do	
5	M5174	100	12'-2" to 17'-6"	109	2'-2"	5'-8" to 5'-4"				248	do	11	M1149	6	35'-0"	31r						1116	do													
5	M5175	100	11'-0" to 18'-2"	109	2'-2"	5'-8" to 5'-4"				125	do	11	M1150	2	20'-6"	31r						218	do													
5	M5376	4	8'-5"	105	1'-6"	3'-6"				34	Intl Support	11	M1156	4	35'-3"	31r						749	do													
												11	M1157	6	37'-0"	31r						1179	do													
6	M6400	6	26'-4"	101	25'-4"					237	Footling												6	M6490	16	33'-0"	31r						793	Footling		
6	M6401	4	24'-9"	101	25'-9"					149	do												6	M6491	4	35'-3"	31r						212	do		
6	M6402	4	6'-8"	101	5'-9"					41	do												6	M6492	24	7'-11"	144	2'-0"	3'-11"	13'			285	do		
6	M6403	1	23'-10"	101	27'-10"					36	do	4	M4136	70	4'-5"	105	2'-2"	1'-3"					207	Cap Beam	6	M6493	12	6'-6"	31r					1172	do	
6	M6404	92	5'-5"	104	4'-7"	10'				725	Footling & Shaft												6	M6494	68	19'-1"	109	2'-8"	6'-6"				1949	do		
6	M6405	102	28'-0"	31r						1712	Shaft												6	M6495	124	4'-3"	31r						792	Footling & Shaft		
6	M6406	3	22'-0"	31r						99	do	5	M5200	56	6'-6"	144	2'-0"	2'-6"	9'				380	Shaft	6	M6496	6	10'-3"	31r					97	Shaft	
6	M6407	3	21'-0"	31r						97	do	5	M5201	192	15'-2"	109	2'-2"	4'-2"					1813	do	6	M6497	36	17'-9"	31r					1493	do	
6	M6408	40	31'-6"	31r						1893	do	5	M5202	31r	5'-7" to 8'-5"	105	1'-9"	10' to 8'					24	Cap Beam	6	M6498	56	16'-9"	31r					1409	do	
6	M6409	40	31'-6"	31r						330	Cap Beam	5	M5203	56	27'-6"	31r							239	Cap Beam	6	M6500	5	9'-3"	31r					42	do	
6	M6410	6	24'-9"	31r						223	Shaft	5	M5204	56	27'-6"	31r							1606	Shaft	6	M6501	4	29'-6"	31r					177	Cap Beam	
6	M6411	8	12'-6"	108	10'-8"	3'-0"	12'			152	Cap Beam	5	M5205	56	27'-6"	31r							41	Cap Beam	6	M6502	2	22'-9"	31r					267	do	
6	M6412	8	12'-6"	108	10'-8"	3'-0"	12'			154	do	5	M5206	56	27'-6"	31r							48	do	6	M6503	16	27'-9"	31r					667	do	
6	M6413	4	21'-0"	31r						182	do	5	M5207	56	27'-6"	31r							12	do	6	M6504	36	5'-10"	105	2'-2"	2'-0"			1491	do	
6	M6414	4	21'-0"	31r						182	do	5	M5208	56	27'-6"	31r							12	do	6	M6505	4	14'-6"	108	2'-0"	12'-6"	5'	12'		187	do
6	M6415	16	22'-0"	31r						529	do	5	M5209	56	27'-6"	31r							12	do	6	M6506	12	14'-6"	108	2'-0"	12'-6"	5'	12'		255	do
												6	M6460	7	29'-0"	31r							174	Cap Beam												
												6	M6461	8	21'-9"	31r							261	do												
8	M859	40	3'-5"	100	6'-5"					1006	Footling	6	M6462	16	27'-6"	31r							342	do	11	M1170	8	33'-0"	31r					1403	Footling	
8	M859	23	8'-5"	100	5'-9"					517	do	6	M6463	16	14'-3"	108	12'-3"	2'-0"	3'	12'			99	do	11	M1171	12	35'-0"	31r					2231	do	
8	M860	1	6'-5"	100	4'-0"					18	do	6	M6464	12	6'-6"	31r							117	Footling	11	M1172	16	28'-3"	31r					2401	Cap Beam	
8	M861	1	7'-6"	100	4'-10"					20	do	6	M6465	12	5'-6"	105	2'-2"	1'-40"					99	Cap Beam	11	M1173	24	29'-6"	104	28'-4"	1'-6"			3762	do	
												6	M6466	25	7'-11"	144	2'-0"	8'-11"	13'				297	Footling	11	M1174	4	20'-0"	31r					425	do	
												6	M6467	8	35'-0"	31r							421	do	11	M1175	4	20'-0"	31r							
												6	M6468	2	27'-3"	31r							112	do												
11	M1126	5	9'-8"	101	7'-8"					257	Footling	6	M6469	70	19'-1"	109	2'-9"	6'-6"					2006	do												
11	M1127	22	24'-1"	104	22'-10"	1'-6"				2815	Cap Beam	6																								

WEST 140TH STREET
GRADE SEPARATION WITH N.Y.C.R.R.
AND C.T.S. RAPID TRANSIT
CITY OF CLEVELAND

71
74

SIZE	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCREMENT	TOTAL WEIGHT	LOCATION	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCREMENT	TOTAL WEIGHT	LOCATION	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCREMENT	TOTAL WEIGHT	LOCATION																			
					A	B	C	D								A	B	C	D								A	B	C	D																						
PIER 8 (Cont)																																																				
C	W6529	3	14'-0"	147	8'-3"	3'-11"	2'-0"	12"			63	Shaft	11	M1186	2	14'-3"	Str						151	Cap	C	W6602	4	28'-6"	Str				171	Cap																		
C	W6530	3	8'-8"	109	2'-2"	1'-11"					39	do	11	M1187	4	16'-9"	Str						396	do	C	W6603	16	9'-3 1/2"	108	7'-3"	2'-0"	5"	12"	222	do																	
C	W6531	40	5'-10"	105	2'-2"	2'-0"					350	Cap	11	M1188	4	32'-6"	Str						691	do	C	W6604	24	5'-3"	104	4'-7"	10"			584	Footings																	
C	W6532	16	22'-0"	Str							529	do											226	do	C	W6605	38	8'-0"	100	6'-0"				457	do																	
C	W6533	4	33'-0"	Str							198	do													C	W6606	5	19'-6"	Str					146	do																	
C	W6534	4	21'-0"	Str							126	do													C	W6607	5	18'-6"	104	17'-6"				139	do																	
C	W6535	16	13'-1"	108	10'-10"	2'-3"	3"	12"			314	do													C	W6608	9	16'-3"	Str					220	Shaft																	
C	W6536	1	9'-9"	105	6'-1"	2'-0"					15	Shaft													C	W6609	48	8'-0"	Str					1514	do																	
C	W6537	7	29'-0"	Str							304	Footings	4	M1189	50	4'-5"	105	2'-2"	1'-3"					198	Cap	C	W6610	3	14'-4"	M7	8'-4"	1'-0"	2'-0"	12"	65	do																
C	W6538	40	30'-6"	Str							1832	Shaft													C	W6611	2	9'-6"	Str					29	do																	
C	W6539	3	5'-9" to 5'-9"	Str							43	do													C	W6612	4	10'-3"	Str					62	do																	
C	W6540	3	8'-3"	Str							37	do	5	M1190	61	7'-4"	144	2'-0"	3'-4"	12'-3 1/2"				467	Shaft & Footings	C	W6613	6	5'-3"	Str					47	do																
C	W6541	3	20'-6"	Str							92	do	5	M1191	61	13'-3" to 15'-3"	Str							89	Shaft	C	W6614	8	6'-0"	Str					72	do																
C	W6542	3	23'-9"	Str							107	do	5	M1192	3	8'-2"	109	2'-2"	1'-8"					26	do	C	W6615	3	7'-0"	Str					32	do																
C	W6543	8	26'-0"	Str							312	Footings	5	M1193	20	5'-4"	105	2'-2"	1'-7"					104	do	C	W6616	26	5'-10"	105	2'-2"	2'-0"			228	Cap																
C	W6544	6	11'-0"	Str							99	Shaft	5	M1194	42	11'-3"	Str							493	do	C	W6617	4	7'-6"	101	6'-6"				45	Footings																
C	W6545	6	9'-0"	Str							81	do	5	M1195	10	15'-9"	Str							230	Shaft & Footings																											
C	W6546	3	9'-0" to 11'-0"	Str							30	do	5	M1196	5	10'-3"	Str							64	do																											
C	W6547	3	5'-9" to 5'-9"	Str							24	do	5	M1197	8	16'-0"	Str							134	Shaft & Footings	11	M1106	10	31'-1"	105	28'-8"	1'-6"		1657	Cap																	
C	W6548	3	7'-3" to 12'-0"	Str							20 1/2	do	5	M1198	3	14'-0" to 18'-0"	Str							12	do	11	M1107	5	28'-6"	Str					757	do																
													5	M1199	10	11'-2" to 13'-8"	Str						5	do	11	M1108	2	12'-3"	Str					130	do																	
													5	M1200	1	14'-5"	Str							15	do																											
													5	M1201	1	10'-5"	Str							11	do																											
													5	M1202	1	10'-5"	Str							11	do																											
													5	M1203	1	10'-5"	Str							11	do																											
													5	M1204	1	10'-5"	Str							11	do																											
													5	M1205	1	10'-5"	Str							11	do																											
													5	M1206	1	10'-5"	Str							11	do																											
													5	M1207	1	10'-5"	Str							11	do																											
													5	M1208	1	10'-5"	Str							11	do																											
													5	M1209	1	10'-5"	Str							11	do																											
													5	M1210	1	10'-5"	Str							11	do																											
													5	M1211	1	10'-5"	Str							11	do																											
													5	M1212	1	10'-5"	Str							11	do																											
													5	M1213	1	10'-5"	Str							11	do																											
													5	M1214	1	10'-5"	Str							11	do																											
													5	M1215	1	10'-5"	Str							11	do																											
													5	M1216	1	10'-5"	Str							11	do																											
													5	M1217	1	10'-5"	Str							11	do																											
													5	M1218	1	10'-5"	Str							11	do																											
													5	M1219	1	10'-5"	Str							11	do																											
													5	M1220	1	10'-5"	Str							11	do																											
													5	M1221	1	10'-5"	Str							11	do																											
													5	M1222	1	10'-5"	Str							11	do																											
													5	M1223	1	10'-5"	Str							11	do																											
													5	M1224	1	10'-5"	Str							11	do																											
													5	M1225	1	10'-5"	Str							11	do																											
													5	M1226	1	10'-5"	Str							11	do																											
													5	M1227	1	10'-5"	Str							11	do																											
													5	M1228	1	10'-5"	Str							11	do																											
													5	M1229	1	10'-5"	Str							11	do																											
													5	M1230	1	10'-5"	Str							11	do																											
													5	M1231	1	10'-5"	Str							11	do																											
													5	M1232	1	10'-5"	Str							11	do																											
													5	M1233	1	10'-5"	Str							11	do																											
													5	M1234	1	10'-5"	Str							11	do																											
													5	M1235	1	10'-5"	Str							11	do																											
													5	M1236	1	10'-5"	Str							11	do																											
													5	M1237	1	10'-5"	Str							11	do																											
													5	M1238	1	10'-5"	Str							11	do																											
													5	M1239	1	10'-5"	Str							11	do																											
													5	M1240	1	10'-5"	Str							11	do																											
													5	M1241	1	10'-5"	Str							11	do																											
													5	M1242	1	10'-5"	Str							11	do																											

REINFORCING STEEL - BAR LISTS

SCALE _____ DATE _____ REVISED _____

SIZE	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS	SERIES INCRE- MENT	TOTAL WEIGHT	LOCATION	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS	SERIES INCRE- MENT	TOTAL WEIGHT	LOCATION
					A B C D								A B C D			
SOUTH ABUTMENT WALLS																
4	M422	19	10'-0"	Str	10'-0" 2'-2" 2'-8"		127	Panel 12 (Ex. Required)	6	M6271	12	3'-5"	Str		167	Panel 12 (Ex. Required)
4	M423	10	5'-11"	Str	10'-0" 2'-2" 2'-8"		40	do	6	M6272	12	3'-5"	Str		171	do
4	M431	2	8'-11"	Str	10'-0" 2'-2" 2'-8"		12	do	6	M6273	4	3'-5"	Str		59	do
5	M565	8	4'-8"	Str	10'-0" 2'-2" 2'-8"		37	do	8	M840	16	6'-2"	Str		264	Panel 12 (Ex. Required)
6	M638	40	17'-9"	Str	10'-0" 2'-2" 2'-8"		267	do	4	M4124	22	10'-0"	Str		147	Panel 12 (Ex. Required)
6	M671	10	16'-5"	Str	10'-0" 2'-2" 2'-8"		244	do	4	M4130	4	8'-11"	Str		24	do
6	M672	6	16'-5"	Str	10'-0" 2'-2" 2'-8"		147	do	6	M6183	4	5'-10"	Str		36	do
6	M673	6	16'-5"	Str	10'-0" 2'-2" 2'-8"		151	do	6	M6186	4	5'-10"	Str		50	do
6	M674	14	17'-0"	Str	10'-0" 2'-2" 2'-8"		367	do	6	M6254	32	29'-6"	Str		1418	do
6	M675	12	5'-9"	Str	10'-0" 2'-2" 2'-8"		63	do	6	M6256	4	29'-9"	Str		179	do
6	M676	6	4'-6"	Str	10'-0" 2'-2" 2'-8"		41	do	6	M6273	20	9'-9"	Str		293	do
6	M677	16	4'-6"	Str	10'-0" 2'-2" 2'-8"		41	do	6	M6274	12	10'-0"	Str		180	do
6	M678	16	29'-9"	Str	10'-0" 2'-2" 2'-8"		715	do	6	M6275	12	10'-0"	Str		183	do
6	M679	8	4'-0"	Str	10'-0" 2'-2" 2'-8"		48	do	6	M6276	28	10'-5"	Str		442	do
6	M680	2	30'-0"	Str	10'-0" 2'-2" 2'-8"		30	do	6	M6277	12	10'-5"	Str		194	do
6	M681	4	21'-9"	Str	10'-0" 2'-2" 2'-8"		131	do	6	M6278	12	11'-0"	Str		198	do
6	M682	1	10'-6"	Str	10'-0" 2'-2" 2'-8"		16	do	6	M6279	4	11'-5"	Str		67	do
6	M683	2	5'-10"	Str	10'-0" 2'-2" 2'-8"		18	do								
6	M684	8	5'-2"	Str	10'-0" 2'-2" 2'-8"		132	Panel 12 (Ex. Required)	8	M840	16	6'-2"	Str		264	Panel 12 (Ex. Required)
NORTH ABUTMENT WALLS																
4	M4124	8	10'-0"	Str	10'-0" 2'-2" 2'-8"		53	Panel 12 (Ex. Required)	6	M6183	4	5'-10"	Str		36	do
6	M6180	8	28'-6"	Str	10'-0" 2'-2" 2'-8"		342	do	6	M6186	4	10'-3"	Str		62	do
6	M6181	4	4'-3"	Str	10'-0" 2'-2" 2'-8"		23	do	6	M6254	36	29'-6"	Str		1595	do
6	M6254	12	29'-6"	Str	10'-0" 2'-2" 2'-8"		532	do	6	M6261	4	29'-9"	Str		179	do
6	M6255	8	5'-6"	Str	10'-0" 2'-2" 2'-8"		66	do	6	M6279	20	11'-3"	Str		338	do
6	M6256	16	5'-9"	Str	10'-0" 2'-2" 2'-8"		134	do	6	M6280	12	11'-6"	Str		207	do
6	M6257	16	6'-0"	Str	10'-0" 2'-2" 2'-8"		168	do	6	M6281	12	11'-9"	Str		212	do
6	M6258	24	6'-3"	Str	10'-0" 2'-2" 2'-8"		225	do	6	M6282	20	12'-0"	Str		303	do
6	M6259	16	6'-6"	Str	10'-0" 2'-2" 2'-8"		156	do	6	M6283	12	12'-5"	Str		221	do
6	M6260	8	6'-9"	Str	10'-0" 2'-2" 2'-8"		81	do	6	M6284	12	12'-6"	Str		225	do
6	M6261	4	29'-9"	Str	10'-0" 2'-2" 2'-8"		179	do	6	M6285	4	12'-5"	Str		77	do
8	M840	8	6'-2"	Str	10'-0" 2'-2" 2'-8"		132	Panel 12 (Ex. Required)	8	M840	16	6'-2"	Str		264	Panel 12 (Ex. Required)
4	M4124	14	10'-0"	Str	10'-0" 2'-2" 2'-8"		94	Panel 12 (Ex. Required)	4	M4124	15	10'-0"	Str		100	Panel 12 (Ex. Required)
4	M4130	4	8'-11"	Str	10'-0" 2'-2" 2'-8"		24	do	4	M4126	5	7'-7"	Str		25	do
6	M6182	4	5'-9"	Str	10'-0" 2'-2" 2'-8"		32	do	4	M4130	2	8'-11"	Str		12	do
6	M6183	4	5'-10"	Str	10'-0" 2'-2" 2'-8"		36	do	6	M6183	2	5'-10"	Str		19	do
6	M6254	24	29'-6"	Str	10'-0" 2'-2" 2'-8"		1063	do	6	M6186	10	29'-9"	Str		447	do
6	M6255	16	5'-6"	Str	10'-0" 2'-2" 2'-8"		162	do	6	M6285	10	12'-9"	Str		192	do
6	M6256	12	7'-0"	Str	10'-0" 2'-2" 2'-8"		174	do	6	M6286	6	13'-0"	Str		117	do
6	M6257	16	7'-3"	Str	10'-0" 2'-2" 2'-8"		270	do	6	M6287	6	13'-3"	Str		119	do
6	M6258	24	7'-6"	Str	10'-0" 2'-2" 2'-8"		406	do	6	M6288	14	13'-6"	Str		284	do
6	M6259	16	7'-9"	Str	10'-0" 2'-2" 2'-8"		274	do	6	M6291	4	20'-3"	Str		122	do
6	M6260	12	8'-0"	Str	10'-0" 2'-2" 2'-8"		144	do	6	M6292	2	30'-0"	Str		90	do
6	M6261	4	8'-3"	Str	10'-0" 2'-2" 2'-8"		52	do	6	M6293	2	15'-0"	Str		45	do
8	M840	16	6'-2"	Str	10'-0" 2'-2" 2'-8"		264	Panel 12 (Ex. Required)	6	M6294	8	4'-0"	Str		48	do
4	M4124	18	10'-0"	Str	10'-0" 2'-2" 2'-8"		120	Panel 12 (Ex. Required)	6	M6295	10	4'-0"	Str		267	do
4	M4130	2	8'-11"	Str	10'-0" 2'-2" 2'-8"		24	do	6	M6300	10	17'-9"	Str		267	do
6	M6183	4	5'-10"	Str	10'-0" 2'-2" 2'-8"		36	do	6	M6183	2	5'-10"	Str		19	do
6	M6186	4	10'-3"	Str	10'-0" 2'-2" 2'-8"		62	do	6	M6186	10	29'-9"	Str		447	do
6	M6254	36	29'-6"	Str	10'-0" 2'-2" 2'-8"		1595	do	6	M6285	10	12'-9"	Str		192	do
6	M6261	4	29'-9"	Str	10'-0" 2'-2" 2'-8"		179	do	6	M6286	6	13'-0"	Str		117	do
6	M6279	20	11'-3"	Str	10'-0" 2'-2" 2'-8"		338	do	6	M6287	6	13'-3"	Str		119	do
6	M6280	12	11'-6"	Str	10'-0" 2'-2" 2'-8"		207	do	6	M6288	14	13'-6"	Str		284	do
6	M6281	12	11'-9"	Str	10'-0" 2'-2" 2'-8"		212	do	6	M6291	4	20'-3"	Str		122	do
6	M6282	20	12'-0"	Str	10'-0" 2'-2" 2'-8"		303	do	6	M6292	2	30'-0"	Str		90	do
6	M6283	12	12'-5"	Str	10'-0" 2'-2" 2'-8"		221	do	6	M6293	2	15'-0"	Str		45	do
6	M6284	12	12'-6"	Str	10'-0" 2'-2" 2'-8"		225	do	6	M6294	8	4'-0"	Str		48	do
6	M6285	4	12'-5"	Str	10'-0" 2'-2" 2'-8"		77	do	6	M6295	10	4'-0"	Str		267	do
6	M6116	10	11'-7" to 16'-5"	Str	10'-0" 2'-2" 2'-8"		379	Counterfort	6	M6116	10	11'-7" to 16'-5"	Str		379	Counterfort
6	M6117	6	14'-9"	Str	10'-0" 2'-2" 2'-8"		133	do	6	M6117	6	14'-9"	Str		133	do
6	M6118	4	14'-6"	Str	10'-0" 2'-2" 2'-8"		82	do	6	M6118	4	14'-6"	Str		82	do
6	M6119	4	7'-9"	Str	10'-0" 2'-2" 2'-8"		44	Counterfort	6	M6119	4	7'-9"	Str		44	Counterfort
6	M6120	8	5'-5"	Str	10'-0" 2'-2" 2'-8"		300	Footings	6	M6120	8	5'-5"	Str		300	Footings
6	M6121	36	4'-9"	Str	10'-0" 2'-2" 2'-8"		257	Footings	6	M6121	36	4'-9"	Str		257	Footings
6	M6122	8	20'-6"	Str	10'-0" 2'-2" 2'-8"		246	Wall	6	M6122	8	20'-6"	Str		246	Wall
6	M6123	24	12'-11"	Str	10'-0" 2'-2" 2'-8"		466	Wall	6	M6123	24	12'-11"	Str		466	Wall
6	M6124	8	15'-7"	Str	10'-0" 2'-2" 2'-8"		163	Wing wall	6	M6124	8	15'-7"	Str		163	Wing wall
6	M6125	12	6'-6"	Str	10'-0" 2'-2" 2'-8"		117	Wing wall	6	M6125	12	6'-6"	Str		117	Wing wall
6	M6126	4	4'-10"	Str	10'-0" 2'-2" 2'-8"		29	Wall	6	M6126	4	4'-10"	Str		29	Wall
6	M6127	18	9'-0"	Str	10'-0" 2'-2" 2'-8"		243	Footings	6	M6127	18	9'-0"	Str		243	Footings
6	M6128	12	10'-6"	Str	10'-0" 2'-2" 2'-8"		189	do	6	M6128	12	10'-6"	Str		189	do
6	M6129	14	7'-0"	Str	10'-0" 2'-2" 2'-8"		147	Footings	6	M6129	14	7'-0"	Str		147	Footings
6	M6130	2	7'-8"	Str	10'-0" 2'-2" 2'-8"		23	Wall	6	M6130	2	7'-8"	Str		23	Wall
6	M6131	6	12'-2"	Str	10'-0" 2'-2" 2'-8"		110	Wall	6	M6131	6	12'-2"	Str		110	Wall
7	M7101	69	10'-2"	Str	10'-0" 2'-2" 2'-8"		1434	Backwall	7	M7101	69	10'-2"	Str		1434	Backwall
7	M7102	6	20'-6"	Str	10'-0" 2'-2" 2'-8"		251	Wall	7	M7102	6	20'-6"	Str		251	Wall
7	M7103	6	5'-5"	Str	10'-0" 2'-2" 2'-8"		64	Footings	7	M7103	6	5'-5"	Str		64	Footings
7	M7104	16	15'-3"	Str	10'-0" 2'-2" 2'-8"		433	Footings	7	M7104	16	15'-3"	Str		433	Footings
8	M8101	3	19'-9"	Str	10'-0" 2'-2" 2'-8"		158	Wall	8	M8101	3	19'-9"	Str		158	Wall
8	M8102	3	21'-0"	Str	10'-0" 2'-2" 2'-8"		168	do	8	M8102	3	21'-0"	Str		168	do
8	M8103	3	16'-9"	Str	10'-0" 2'-2" 2'-8"		134	do	8	M8103	3	16'-9"	Str		134	do
ABUTMENT LIGHT POLE SUPPORTS																
5	M550	20	4'-5"	Str	10'-0" 2'-2" 2'-8"		89	5-Required	5	M550	20	4'-5"	Str		89	5-Required
5	M551	20	7'-6"	Str	10'-0" 2'-2" 2'-8"		156	do	5	M551	20	7'-6"	Str		156	do
5	M552	10	7'-7"	Str	10'-0" 2'-2" 2'-8"		79	do	5	M552	10	7'-7"	Str		79	do
Total 11,033																

Note: For bar bending diagrams, see sheets 35 & 36
For notes, see sheet 40

MADE T.J.P. DATE 5-24-55 HOWARD, NEEDLES, TAMM & BERENSON
CONSULTING ENGINEERS
CITY OF CLEVELAND
KANSAS CITY CLEVELAND NEW YORK

WEST 140TH STREET
CITY OF CLEVELAND

BRIDGE OVER N.Y.C.R.R.

SIZE	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCR. MENT	TOTAL WEIGHT	LOCATION	SIZE	MARK	TOTAL NO.	LENGTH	TYPE	DIMENSIONS				SERIES INCR. MENT	TOTAL WEIGHT	LOCATION	
					A	B	C	D									A	B	C	D				
NORTHWEST RETAINING WALL																								
5	N3305	6	38'-0"	5in						286	Footing	8	N884	16	26'-9"	5in						1143		
5	N3306	8	10'-9"	do						22	do	8	N885	16	27'-0"	do						1153		
5	N3307	27	7'-3" to 5'-5"	do						79	do	8	N886	16	27'-3"	do						1164		
5	N3308	27	5'-9" to 5'-0"	do						62	do										29829			
5	N3309	27	5'-0" to 4'-6"	do						55	do													
5	N3310	12	10'-5" to 8'-0"	133	5'-5"	5'-5"				285	do	3	N3386	2	176'-5"	150	49	2'-11"	134			227		
5	N3311	27	10'-5" to 8'-0"	do						240	do	3	N3391	4	180'-0"	do	50	2'-5"	134			461		
5	N3312	27	8'-7" to 7'-6"	do						201	Footing	3	N3388	8	180'-0"	do	50	2'-4"	134			231		
5	N3313	18	27'-6"	5in						345	Wall	3	N3389	6	187'-3"	do	58	2'-4"	134			722		
5	N3314	1	25'-3"	do						24	do	3	N3390	8	190'-10"	do	58	2'-11"	134			245		
5	N3315	2	27'-9"	do						50	do	3	N3393	88	169'-5"	do	47	2'-5"	134			3024		
5	N3316	4	27'-3"	do						116	do	3	N3394	88	169'-5"	do	47	2'-7"	134			3122		
5	N3317	1	8'-6"	do						9	Wall										Total	46,810		
Total 1731												36" DRILLED SHAFTS												
SOUTHEAST RETAINING WALL																								
11	N1151	10	23'-6"	5in								11	N1152	20	23'-0"	do						1,249		
11	N1153	10	23'-0"	do								11	N1153	10	23'-0"	do						1195		
11	N1154	20	23'-0"	do								11	N1154	20	23'-0"	do						2387		
11	N1155	10	23'-0"	do								11	N1155	10	23'-0"	do						1009		
6	N4001	1	335'-0"	do								6	N4001	1	335'-0"	do	43	2'-4"	31			312		
6	N4002	2	347'-1"	do								6	N4002	2	347'-1"	do	43	1'-6"	31			570		
6	N4003	1	338'-0"	do								6	N4003	1	338'-0"	do	43	1'-6"	31			270		
6	N4004	3	314'-1"	do								6	N4004	3	314'-1"	do	43	1'-6"	31			772		
6	N4005	3	281'-0"	do								6	N4005	3	281'-0"	do	43	1'-6"	31			280		
Total 11356												Total 11356												
SOUTHWEST RETAINING WALL																								
11	N1156	10	23'-6"	5in								11	N1156	10	23'-6"	5in						1,249		
11	N1157	10	23'-0"	do								11	N1157	10	23'-0"	do						1,249		
11	N1158	10	23'-0"	do								11	N1158	10	23'-0"	do						1,249		
11	N1159	10	23'-0"	do								11	N1159	10	23'-0"	do						1,249		
11	N1160	10	23'-0"	do								11	N1160	10	23'-0"	do						1,249		
6	N4006	1	335'-0"	do								6	N4006	1	335'-0"	do	43	2'-4"	31			312		
6	N4007	2	347'-1"	do								6	N4007	2	347'-1"	do	43	1'-6"	31			570		
6	N4008	1	338'-0"	do								6	N4008	1	338'-0"	do	43	1'-6"	31			270		
6	N4009	3	314'-1"	do								6	N4009	3	314'-1"	do	43	1'-6"	31			772		
6	N4010	3	281'-0"	do								6	N4010	3	281'-0"	do	43	1'-6"	31			280		
Total 1116												Total 1116												
36" DRILLED SHAFTS																								
SOUTH ABUTMENT																								
8	N815	16	76'-0"	5in								8	N815	16	76'-0"	5in						685		
8	N816	16	16'-5"	do								8	N816	16	16'-5"	do						634		
8	N817	16	16'-6"	do								8	N817	16	16'-6"	do						705		
8	N818	16	16'-8"	do								8	N818	16	16'-8"	do						716		
8	N819	24	17'-6"	do								8	N819	24	17'-6"	do						1121		
8	N820	16	17'-9"	do								8	N820	16	17'-9"	do						758		
8	N821	288	15'-0"	do								8	N821	288	15'-0"	do						2996		
8	N822	352	15'-0"	do								8	N822	352	15'-0"	do						4096		
8	N823	16	18'-0"	do								8	N823	16	18'-0"	do						769		
8	N824	16	18'-3"	5in								8	N824	16	18'-3"	5in						780		
3	N3383	36	86'-5"	150	24	10'-3"	13'-4"					3	N3383	36	86'-5"	150	24	10'-3"	13'-4"			1922		
3	N3384	36	100'-9"	do								3	N3384	36	100'-9"	do						2797		
3	N3385	8	111'-7"	do								3	N3385	8	111'-7"	do						141		
3	N3386	4	115'-2"	do								3	N3386	4	115'-2"	do						290		
3	N3387	2	115'-2"	do								3	N3387	2	115'-2"	do						145		
3	N3388	3	122'-5"	do								3	N3388	3	122'-5"	do						233		
3	N3389	8	126'-0"	do								3	N3389	8	126'-0"	do						159		
3	N3390	3	126'-0"	do								3	N3390	3	126'-0"	do						159		
3	N3391	2	126'-0"	do								3	N3391	2	126'-0"	do						160		
Total 36,520												Total 36,520												
NORTH ABUTMENT																								
8	N825	32	25'-3"	5in								8	N825	32	25'-3"	5in						827		
8	N826	32	25'-3"	do								8	N826	32	25'-3"	do						828		
8	N827	16	26'-0"	do								8	N827	16	26'-0"	do						1144		
REINFORCING STEEL - BAR LISTS																								