

LEGEND

- D.F.D. Manhole
- Sewer Inlet or Catchbasin
- ⊗ Water Gate Well and Valve
- PLC Manhole
- Detroit Edison Co. Cable Manhole
- M.B.T. Pole
- M.B.T. Cable Manhole
- Sewer Manhole
- Tree
- - - Fence
- Test Hole

NOTES

The topography shown represents conditions existing at the time the field survey was made. These conditions may have been altered by the operations of others before this work is started.

Bench Marks are referenced to City of Detroit Datum.

The work covered by these plans includes construction of the proposed bridge and placing sand-gravel material and slope protection to the limits shown. All other work is included in the Road Plans which is a part of this contract.

This bridge is part of an interchange and all area shown is within M.D.S.H. R.O.W.

Removal of fences and buildings is not a part of this contract.

SURVEY PLAN
Scale 1" = 40'-0"

PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
 STRUCTURAL ENGINEER

JOB No.
 PW 99012

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
 SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING
 THE JEFFRIES FREEWAY IN DETROIT

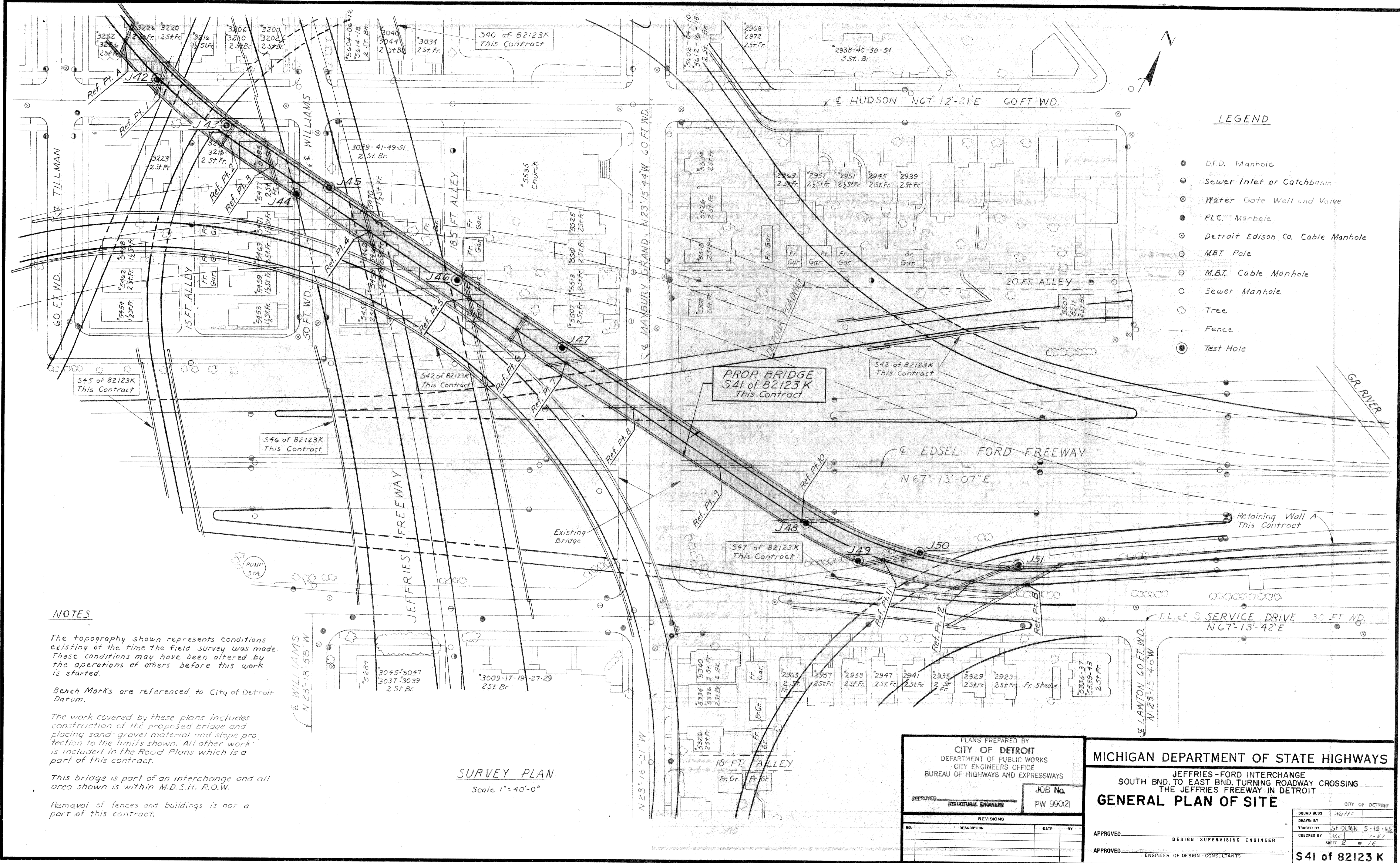
GENERAL PLAN OF SITE

APPROVED: _____
 DESIGN SUPERVISING ENGINEER

APPROVED: _____
 ENGINEER OF DESIGN - CONSULTANTS

CITY OF DETROIT
 SQUAD BOSS: Wolff
 DRAWN BY: _____
 TRACED BY: SEIDLIN 5-15-66
 CHECKED BY: M.C. 1-67
 SHEET 2 OF 16

S41 of 82123 K



LEGEND

- D.F.D. Manhole
- Sewer Inlet or Catchbasin
- ⊗ Water Gate Well and Valve
- P.L.C. Manhole
- Detroit Edison Co. Cable Manhole
- M.B.T. Pole
- M.B.T. Cable Manhole
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SURVEY PLAN
Scale 1" = 40'-0"

PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
 STRUCTURAL ENGINEER

JOB No.
 PW 990(2)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
 SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING
 THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF SITE

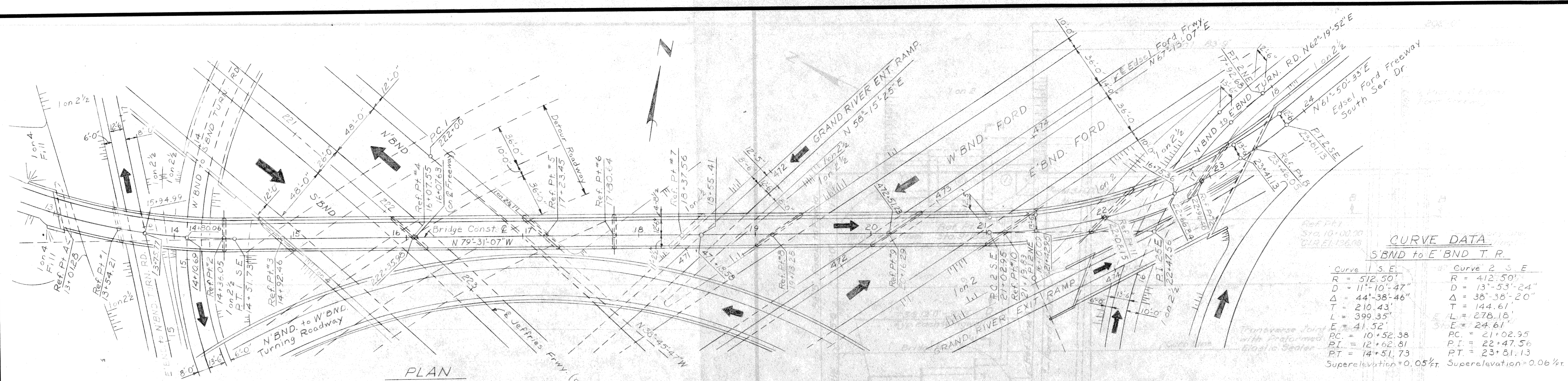
CITY OF DETROIT

SQUAD BOSS	W.H.H.
DRAWN BY	SEIDLMAN 5-15-66
TRACED BY	M.C.
CHECKED BY	1-87
SHEET 2 OF 16	

APPROVED: _____
 DESIGN SUPERVISING ENGINEER

APPROVED: _____
 ENGINEER OF DESIGN - CONSULTANTS

S41 of 82123 K



BENCH MARKS

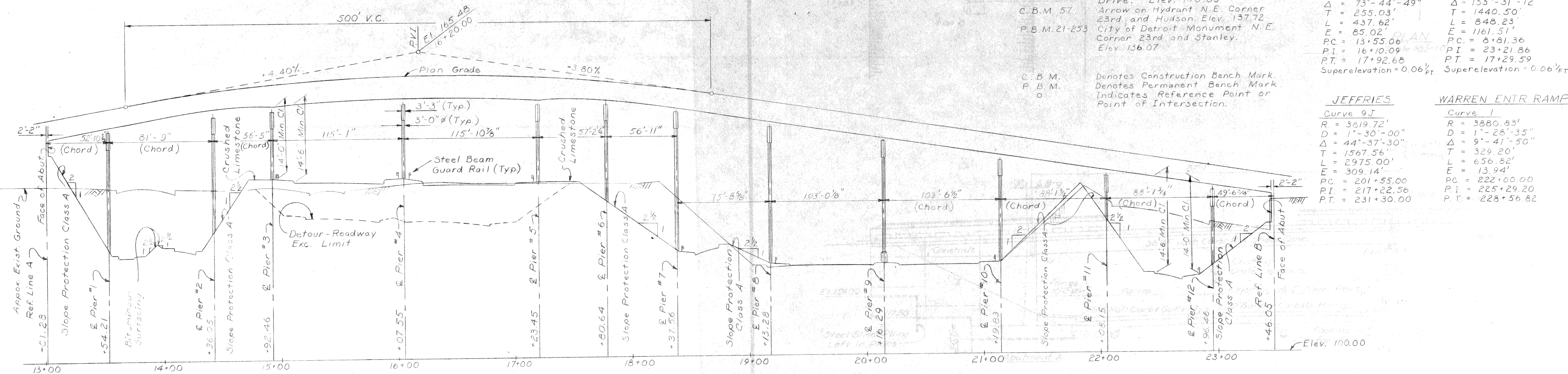
- C.B.M. 36 Arrow on Hydrant S.W. Corner Lawton and Ford S. Service Drive. Elev. 140.83
 - C.B.M. 57 Arrow on Hydrant N.E. Corner 23rd and Hudson. Elev. 137.72
 - P.B.M. 21-253 City of Detroit Monument N.E. Corner 23rd and Stanley. Elev. 136.07
- C.B.M. Denotes Construction Bench Mark.
P.B.M. Denotes Permanent Bench Mark.
o Indicates Reference Point or Point of Intersection.

N'BND to E' BND T.R.

- Curve 2 N.E.**
R = 340.00'
D = 16°-51'-06"
Δ = 73°-44'-49"
T = 255.03'
L = 437.62'
E = 85.02'
PC = 13+55.06
PI = 16+10.09
PT = 17+92.68
Superelevation = 0.06%
- Curve 1 W.S.**
R = 312.50'
D = 18°-20'-05"
Δ = 155°-31'-12"
T = 1440.50'
L = 848.23'
E = 1161.51'
PC = 8+81.36
PI = 23+21.86
PT = 17+29.59
Superelevation = 0.06%

JEFFRIES

- Curve 9J**
R = 3819.72'
D = 1°-30'-00"
Δ = 44°-37'-30"
T = 1567.56'
L = 2975.00'
E = 309.14'
PC = 201+55.00
PI = 217+22.56
PT = 231+30.00
- WARREN ENTR RAMP**
Curve 1
R = 3880.83'
D = 1°-28'-35"
Δ = 9°-41'-50"
T = 329.20'
L = 656.82'
E = 13.94'
PC = 222+00.00
PI = 225+29.20
PT = 228+56.82



NOTE: The indicated slopes are normal to roadway Shoulder Line.

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
STRUCTURAL ENGINEER

JOB No. PW 990(2)

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE
JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

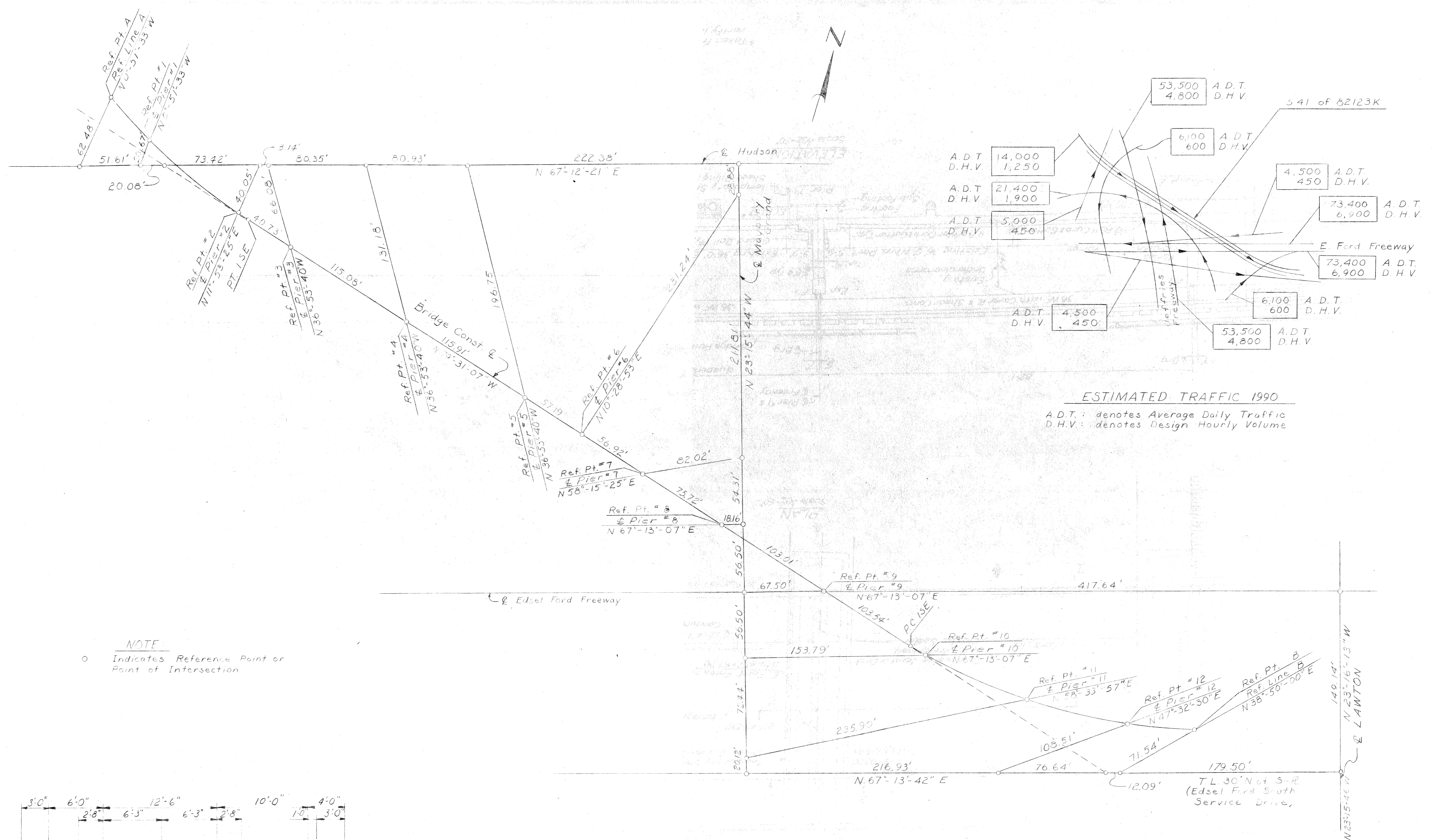
APPROVED: _____
DESIGN SUPERVISING ENGINEER

APPROVED: _____
ENGINEER OF DESIGN - CONSULTANTS

SQUAD BOSS	DATE

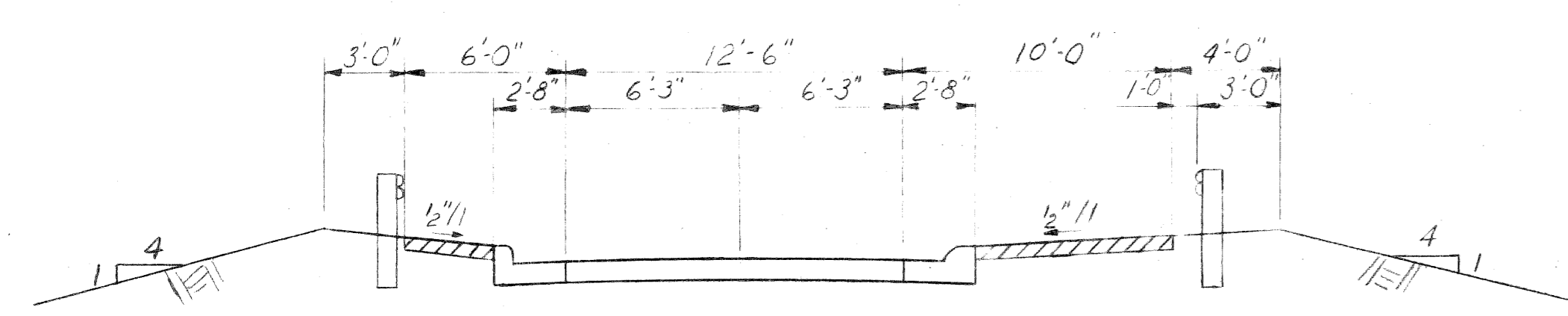
CHECKED BY: M.C. 1-67
SHEET 5 OF 16

S 41 of 82123 K



ESTIMATED TRAFFIC 1990
 A.D.T. : denotes Average Daily Traffic
 D.H.V. : denotes Design Hourly Volume

NOTE
 ○ Indicates Reference Point or Point of Intersection



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

ALIGNMENT DIAGRAM
 (No Scale)

PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____
 STRUCTURAL ENGINEER

JOB No.
 PW 990(2)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
 SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE
 JEFFRIES FREEWAY IN DETROIT

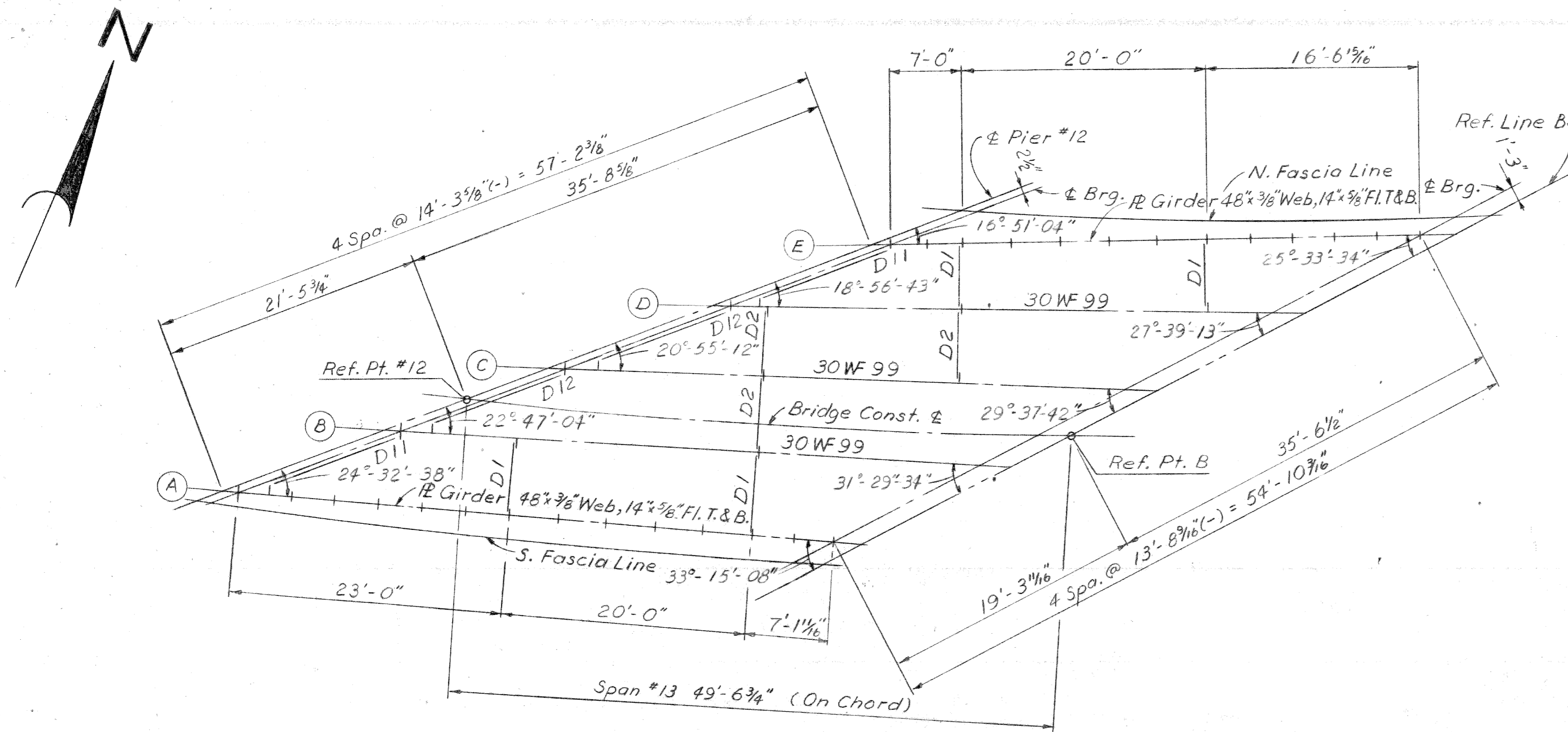
GENERAL DRAWING

APPROVED _____
 DESIGN SUPERVISING ENGINEER

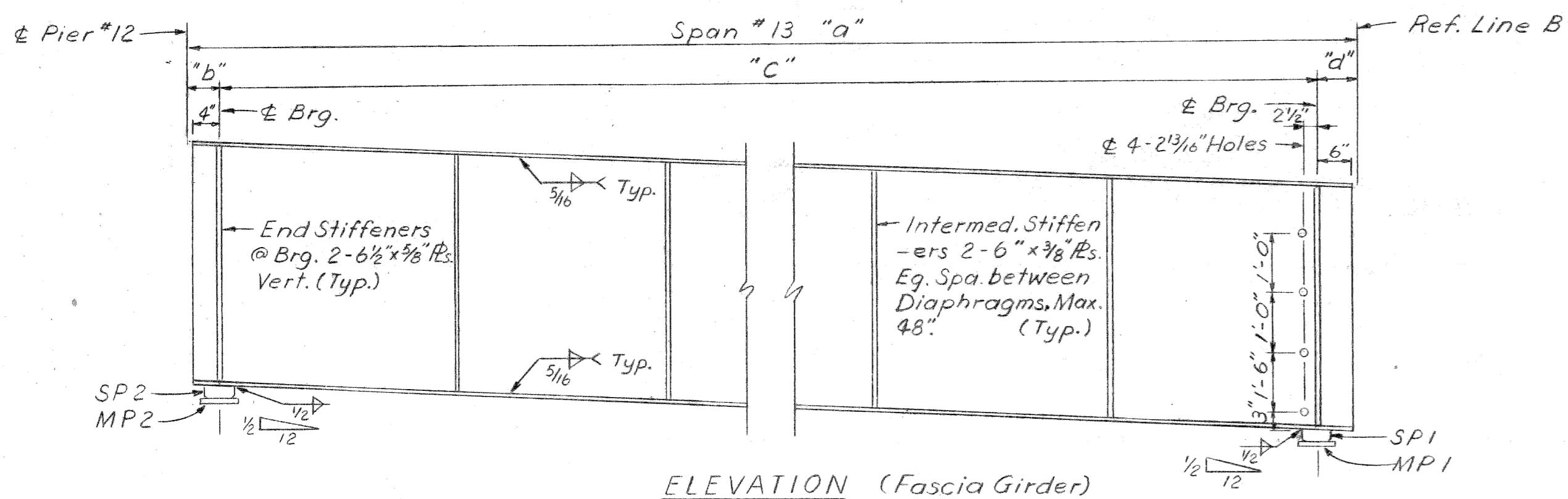
APPROVED _____
 ENGINEER OF DESIGN - CONSULTANTS

SQUAD BOSS	WJ/15	
DRAWN BY	RG	7-66
CHECKED BY	WCL	1-67
SHEET 7 OF 16		

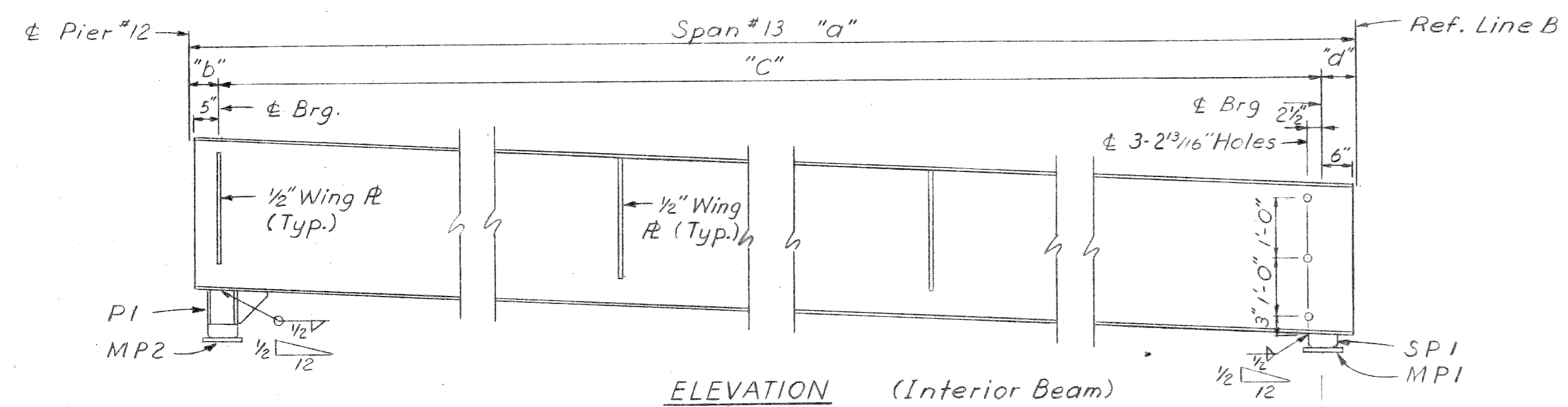
S 41 of 82123K



PLAN

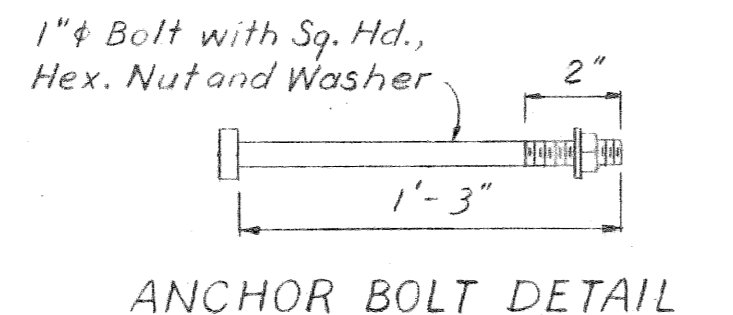
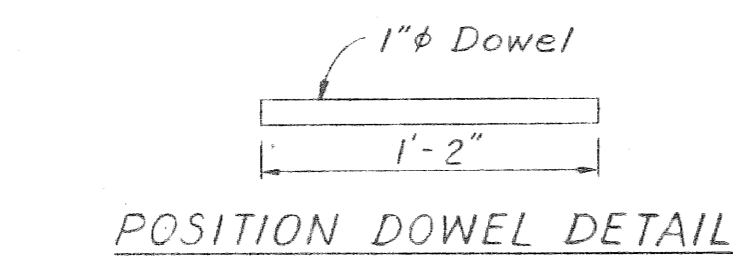


ELEVATION (Fascia Girder)



ELEVATION (Interior Beam)

Beam	a	b	c	d
A	52'-11 1/2"	6"	50'-1 1/2"	2'-3 3/8"
B	51'-4 7/8"	6 3/4"	48'-5 1/4"	2'-4 3/8"
C	49'-11 1/2"	7"	46'-9 3/8"	2'-6 3/8"
D	48'-6 3/8"	7 1/4"	45'-2 3/8"	2'-8 3/8"
E	47'-2 1/2"	8 3/4"	43'-6 3/8"	2'-10 3/8"



STRUCTURAL STEEL NOTES

DESIGN: M.D.S.H. Specifications for Design of Highway Bridges - 1958 edition and current AASHTO Standard Specifications for Highway Bridges HS20-44 and Alternate Military Loading.

FABRICATION: M.D.S.H. Standard Specifications for Road and Bridge Construction - 1967 edition.

SHOP CONNECTIONS: Shop connections shall be welded as shown on the Plans.

FIELD CONNECTIONS: Field connections shall be bolted with 3/4 inch high-strength bolts, except as noted.

CAMBER: The beams are to have a camber as shown on the camber diagram. This camber is to be measured with the beam lying on its side. Allowable camber tolerance for rolled beams is ± 1/4 inch. Heating is to be used, if necessary, to assure camber permanency within the above tolerance. The top and bottom edges of the web plates are to be cut simultaneously to a parabolic camber, to minimize distortion.

SOLE PLATES: Sole plates 3 inch or more in thickness may be built up by welding together plates not less than 1/2 inch in thickness. Edges must be beveled 1/4 inch and welded with a continuous weld for the full perimeter. Welds shall be ground flush with faces of plates.

SHOP PAINT: The top surfaces of masonry plates, bottom surfaces of sole plates, and curved bearing surfaces of rockers, and pedestals shall be coated in accordance with the requirements for machine finished surfaces.

WELDING: Welding on tension flanges of beams and girders will not be permitted unless such welding is shown on the plans or specified. Welding at other locations on the beams and girders, except where shown on plans, may be permitted by written authorization providing the welding is to be performed in strict accordance with all specification requirements for structural welding.

STEEL: Structural steel shall conform to the requirements of the current specification for structural steel, unpainted ASTM Designation A41 (Modified). See Supplemental Specifications.

QUANTITIES: The quantity Structural Steel-Furnishing and Fabricating includes:
 Steel
 Bronze
 Lead
 Wrought Iron
 Total
 Structural Steel-Erection
 Shear Developers
 Elastomeric Bearing Pad
 1,049,000 Lbs.
 1,049,000 Lbs.
 Lump Sum
 43 Sq. Ft.

MAGNETIC PARTICLE INSPECTION: Magnetic particle inspection of welds is required and shall consist of 100% inspection of not less than one fabricated section selected at random from each ten sections or fractions thereof.

SPAN	BEAM	TYPE	VARIABLE DIMENSIONS					
			L	W	t	P	k	s
SPAN 7	A&E Pier 6	MP8	8"	26"	-	-	14 1/2"	-
	B,C&D Pier 6	MP8	8"	24"	-	-	11 3/4"	-
	A&E Pier 7	SP5	-	14 1/2"	3"	-	-	-
	B&D Pier 7	P3	-	-	1'-0"	-	-	+3/8"
SPAN 8	C Pier 7	P3	-	-	1'-3"	-	-	+3/8"
	A&E Pier 7	MP9	-	24"	-	-	5"	14"
	B,C&D Pier 7	MP7	9 1/2"	22"	-	-	2 3/4"	-
	A&E Pier 7	SP5	-	14 1/2"	2 1/2"	-	-	-
SPAN 9	B&D Pier 7	SP5	-	12 1/2"	2 1/2"	-	-	-
	C Pier 7	SP5	-	12 1/2"	5 1/4"	-	-	-
	A&E Pier 7	ER1	-	15"	-	-	5"	14"
	B,C&D Pier 7	ER1	-	13"	-	-	4"	12"
SPAN 10	A&E Pier 7	MP7	7"	24"	-	-	5"	-
	B,C&D Pier 7	MP7	7"	22"	-	-	4"	-
	A&E Pier 8	SP5	-	14"	3 1/4"	-	-	-
	B&D Pier 8	P3	-	-	1'-11 1/2"	-	-	+1/2"
SPAN 11	C Pier 8	P3	-	-	1'-11 1/2"	-	-	+1/2"
	A&E Pier 8	MP9	-	24"	-	-	5"	14"
	B,C&D Pier 8	MP7	9 1/2"	22"	-	-	2 3/4"	-
	(A+E) Pier 8	SP5	-	16 1/2"	2 1/2"	-	-	-
SPAN 12	(A+E) Pier 8	ER1	-	17"	-	-	6"	16"
	(A+E) Pier 8	MP7	7"	26"	-	-	6"	-
	A&B Pier 9	SP7	-	30"	2 1/2"	-	-	-1/2"
	C,D&E Pier 9	SP7	-	30"	2 1/2"	-	-	-1/2"
SPAN 13	A&E Pier 10	SP5	-	16 1/2"	3"	-	-	-
	B Pier 10	SP5	-	16 1/2"	2 3/4"	-	-	-
	C&D Pier 10	SP5	-	16 1/2"	2 1/2"	-	-	-
	(A+E) Pier 10	ER1	-	17"	-	-	6"	16"
SPAN 14	(A+E) Pier 10	MP7	7"	26"	-	-	6"	-
	A&E Pier 10	SP5	-	14 1/2"	2 1/2"	-	-	-
	B Pier 10	P4	-	-	1'-1 1/2"	-	-	-3/8"
	C Pier 10	P4	-	-	1'-1 1/4"	-	-	-1/2"
SPAN 15	D Pier 10	P4	-	-	1'-0 1/2"	-	-	-1/2"
	A&E Pier 11	ER1	-	15"	-	-	5"	14"
	B,C&D Pier 11	ER1	-	13"	-	-	4"	12"
	A&E Pier 11	MP7	7"	24"	-	-	5"	-
SPAN 16	B,C&D Pier 11	MP7	7"	22"	-	-	4"	-
	A&E Pier 11	SP5	-	14 1/2"	3"	-	-	-
	B,C&D Pier 11	SP5	-	12 1/2"	3"	-	-	-
	A&E Pier 11	MP9	-	24"	-	-	5"	14"
SPAN 17	B,C&D Pier 11	MP9	-	22"	-	-	4"	12"
	A&E Pier 11	SP5	-	14 1/2"	2 1/2"	-	-	-
	B,C&D Pier 11	SP5	-	12 1/2"	2 1/2"	-	-	-
	A&E Pier 11	ER1	-	15"	-	-	5"	14"
SPAN 18	B,C&D Pier 11	ER1	-	13"	-	-	4"	12"
	A&E Pier 11	MP7	7"	24"	-	-	5"	-
	B,C&D Pier 11	MP7	7"	22"	-	-	4"	-
	A Pier 12	SP3	-	14"	2 3/4"	-	-	-1/2"
SPAN 19	A&E Pier 12	SP3	-	12"	2 1/2"	-	-	-1/2"
	D Pier 12	SP3	-	12"	2 1/4"	-	-	-1/2"
	E Pier 12	SP3	-	14"	2"	-	-	-1/2"
	A&E Pier 12	MP7	6"	24"	-	-	2 3/4"	-
SPAN 20	B,C&D Pier 12	MP7	6"	22"	-	-	2 3/4"	-
	A Pier 12	SP2	-	14"	3 1/2"	-	-	-1/2"
	B&C Pier 12	P1	-	-	9 1/4"	-	-	-1/2"
	D Pier 12	PV	-	-	9"	-	-	-1/2"
SPAN 21	E Pier 12	SP2	-	14"	2 1/4"	-	-	-1/2"
	A&E Pier 12	MP2	8"	24"	-	-	-	-
	B,C&D Pier 12	MP2	11 1/2"	20"	-	-	-	-
	A&E Abut. B	SPI	-	14"	2"	-	-	-1/2"
SPAN 22	B,C&D Abut. B	SPI	-	10 1/2"	2"	-	-	-1/2"
	A&E Abut. B	MPI	-	15"	-	-	-	-
SPAN 23	B,C&D Abut. B	MPI	-	11 1/2"	-	-	-	-

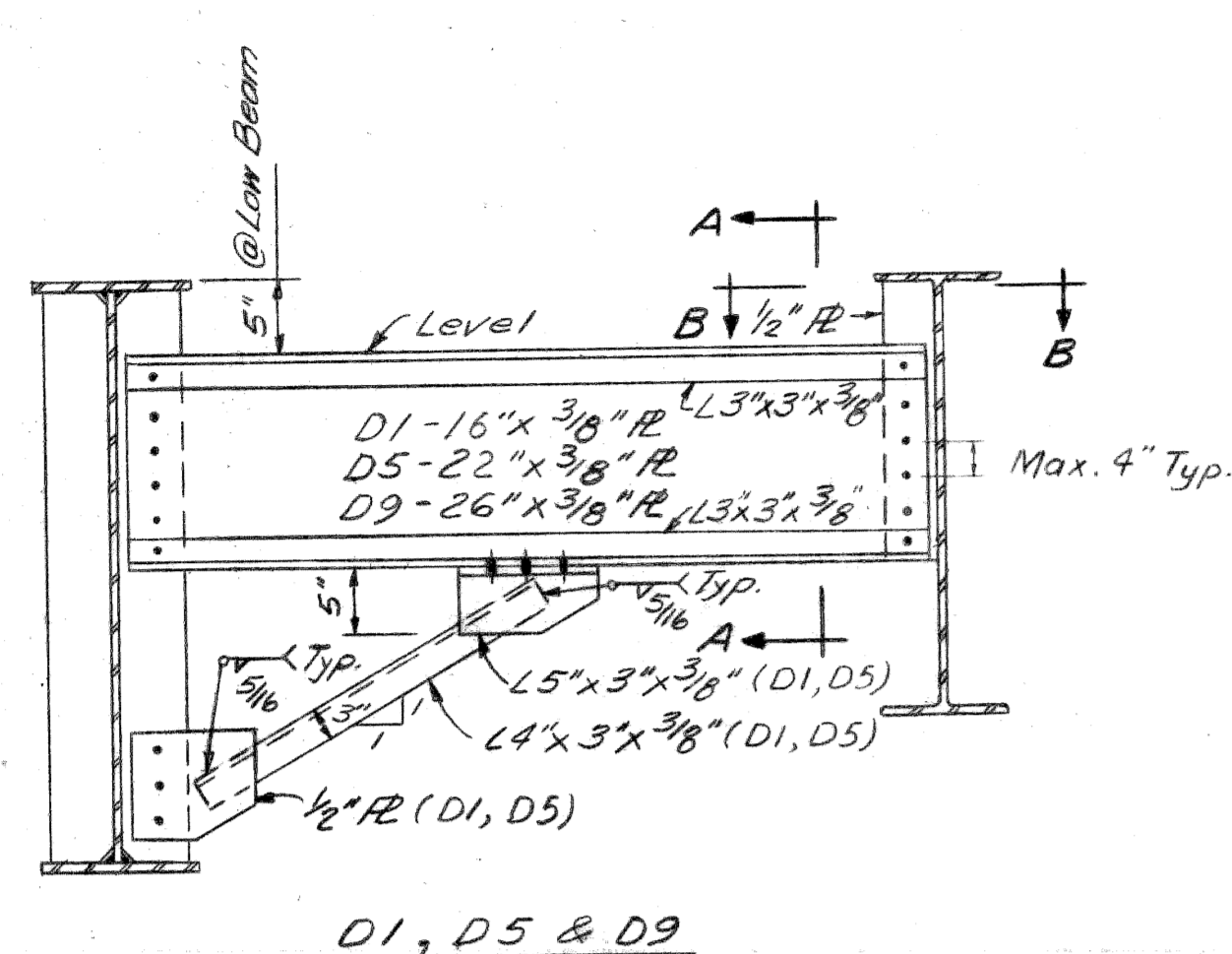
PLANS PREPARED BY
 CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS
 APPROVED: *H. Conant*
 STRUCTURAL ENGINEER

JOB No.
 PW99021

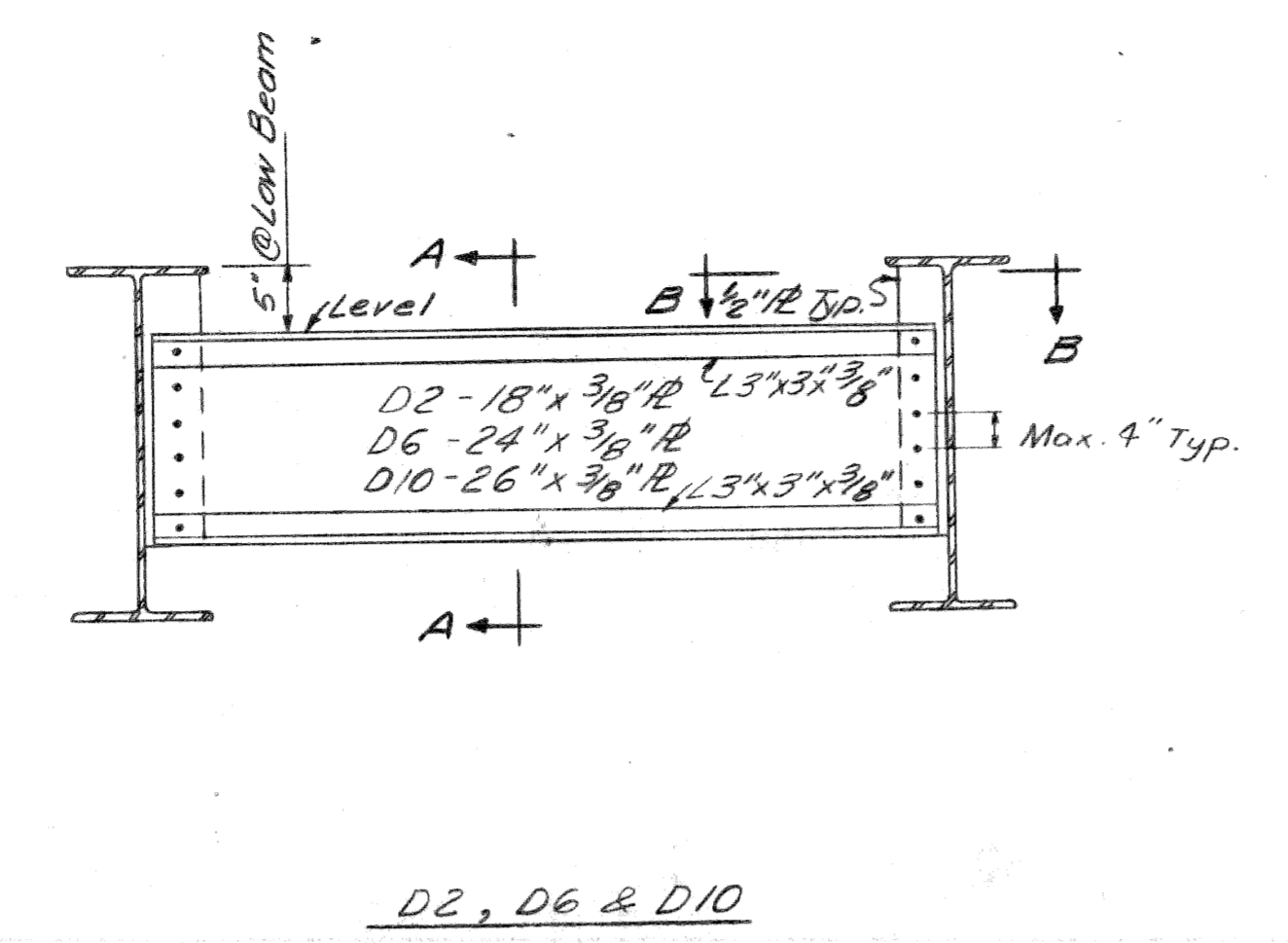
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT
 SQUAD BOSS: *W. H. H.*
 DRAWN BY: *M.C.* 6-67
 CHECKED BY: *F.W.*
 SHEET 43 OF 78
 S 41 of 82123 K

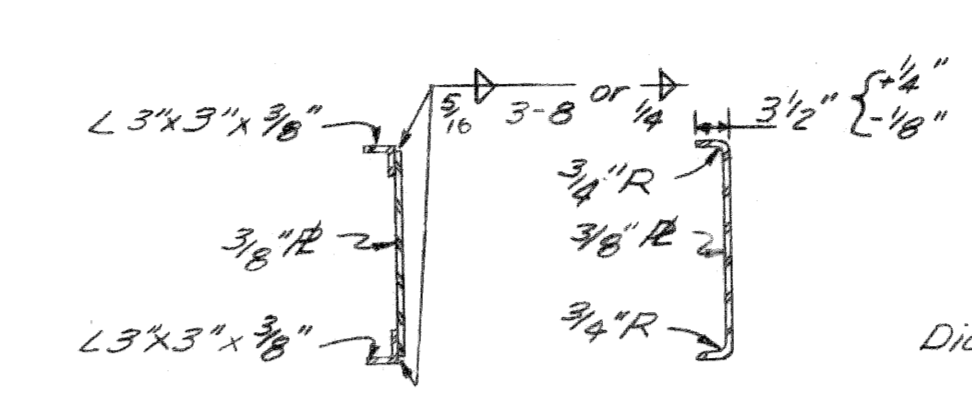


D1, D5 & D9

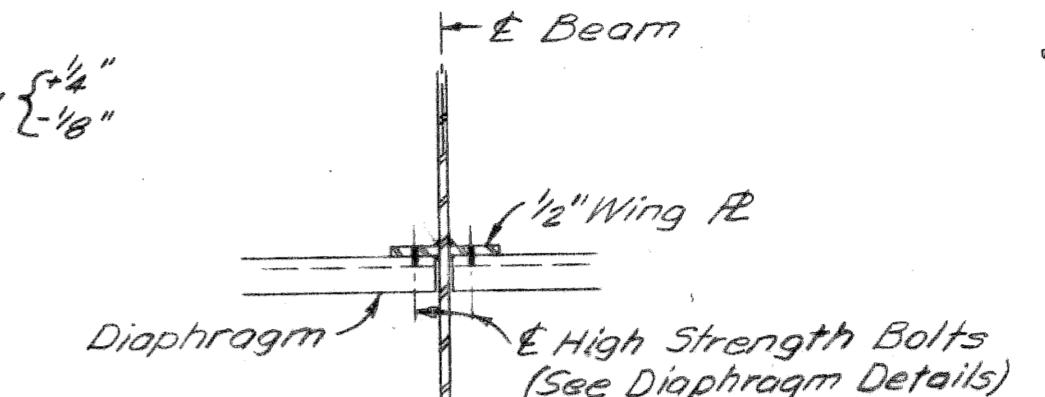


D2, D6 & D10

INTERMEDIATE DIAPHRAGMS



SECTION A-A
(Either detail may be used)



SECTION B-B

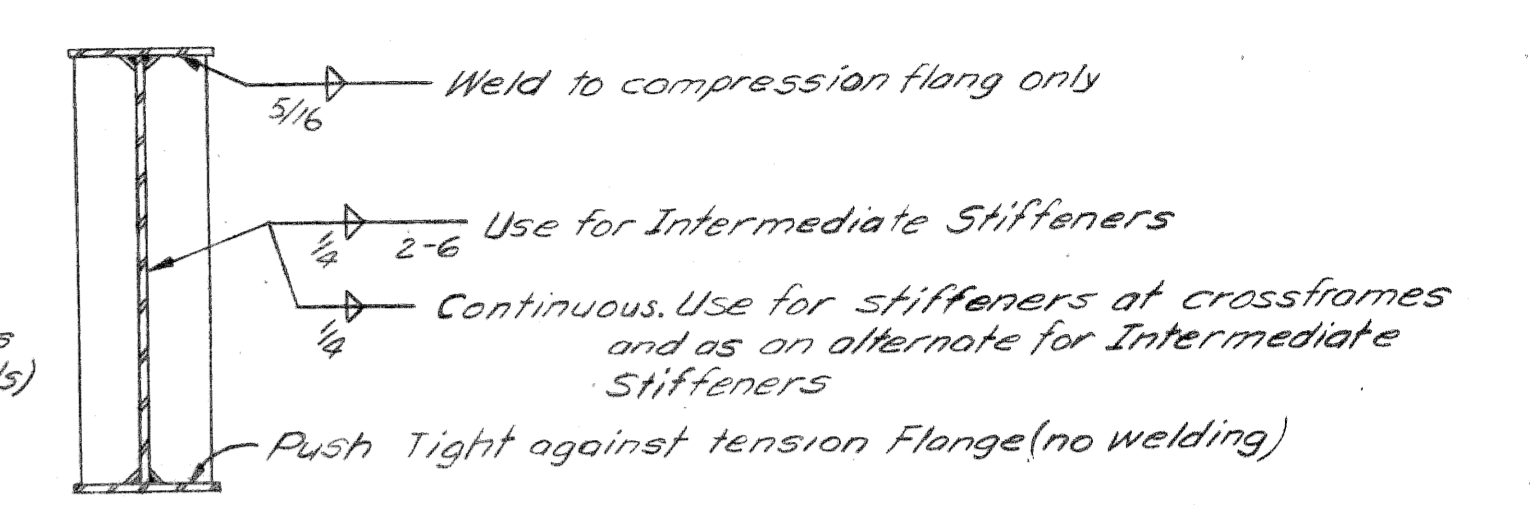
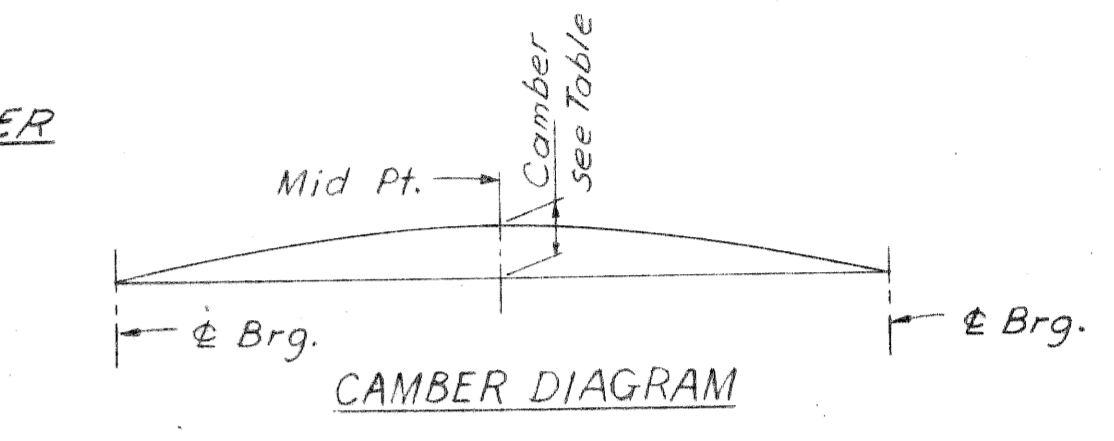
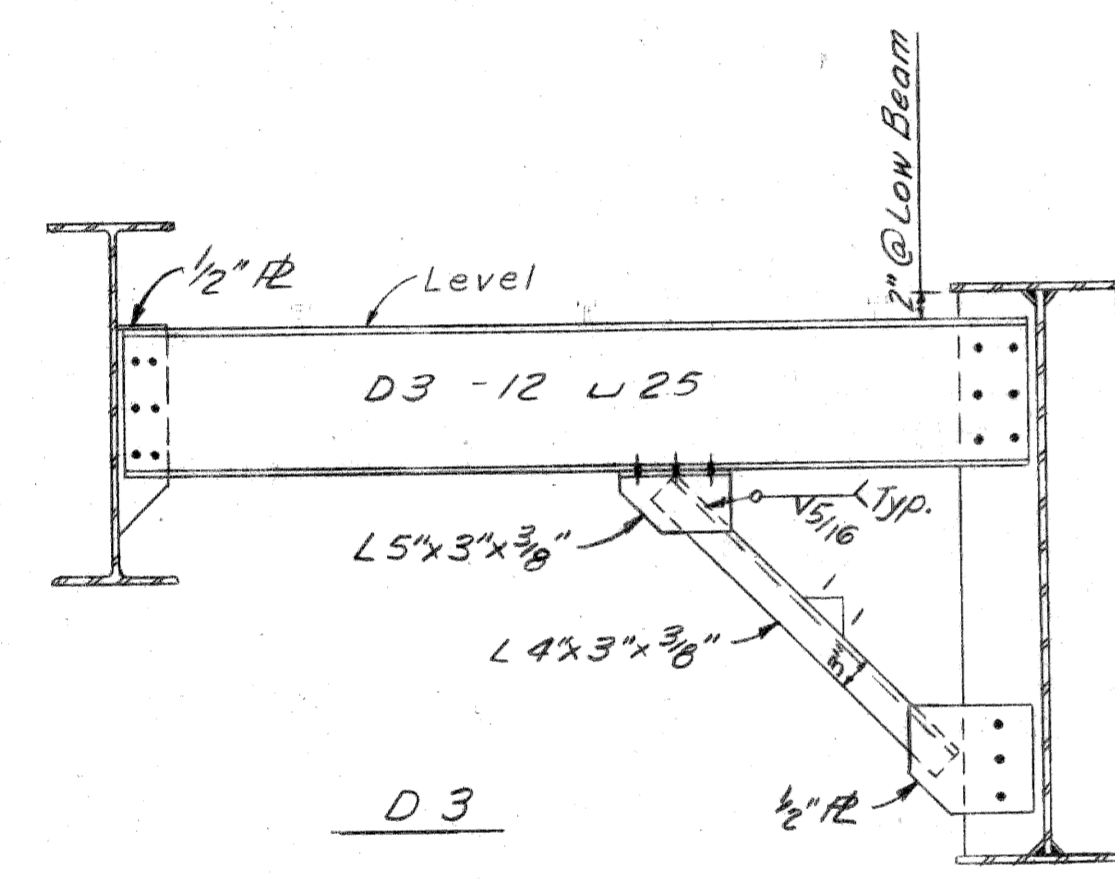


PLATE GIRDER
INTERMEDIATE STIFFENER
DETAIL



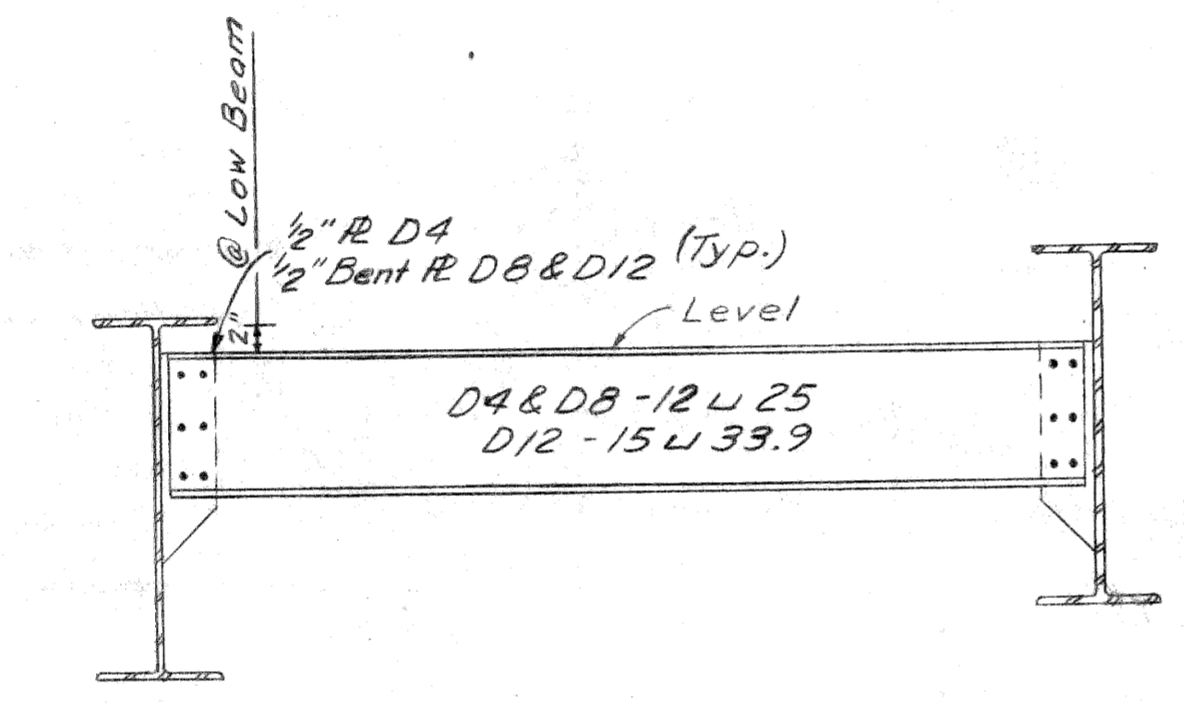
CAMBER DIAGRAM

Camber Table		#1	#2	#3	#6	#7	#8	#11	#12	#13
Beam or Girder	Span	0"	3 3/4"	2"	3/4"	3/4"	2"	3"	2 3/4"	1 1/2"
A	0"	3 3/4"	2"	3/4"	3/4"	2"	3"	2 3/4"	3"	1"
B	1"	4 1/4"	2 3/4"	1 3/4"	1 3/4"	2 3/4"	3 1/4"	3 1/4"	1 3/4"	0"
C	1"	3 1/2"	1 3/4"	2 1/4"	2 1/4"	2 3/4"	1 1/4"	1 1/2"	0"	
D	1"	3"	1"	3"	3"	2 3/4"	1 1/4"	1 1/2"	0"	
E	1"	3"	0"	3"	3"	2"	3"	2 3/4"	1 1/2"	

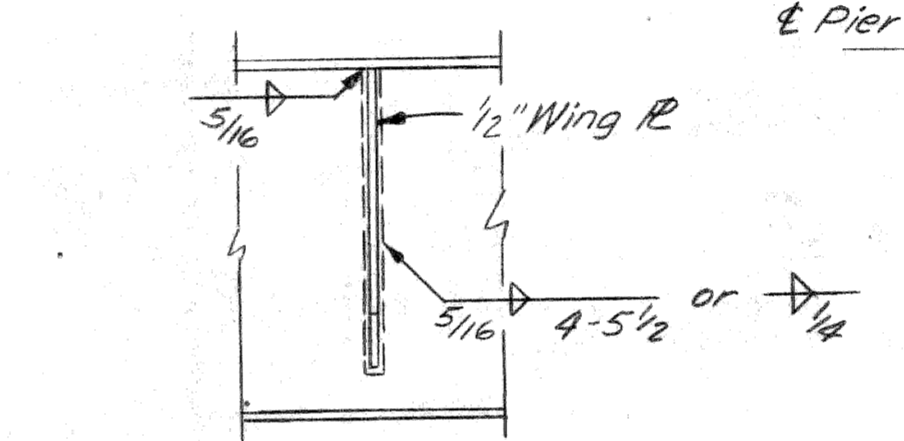


D3

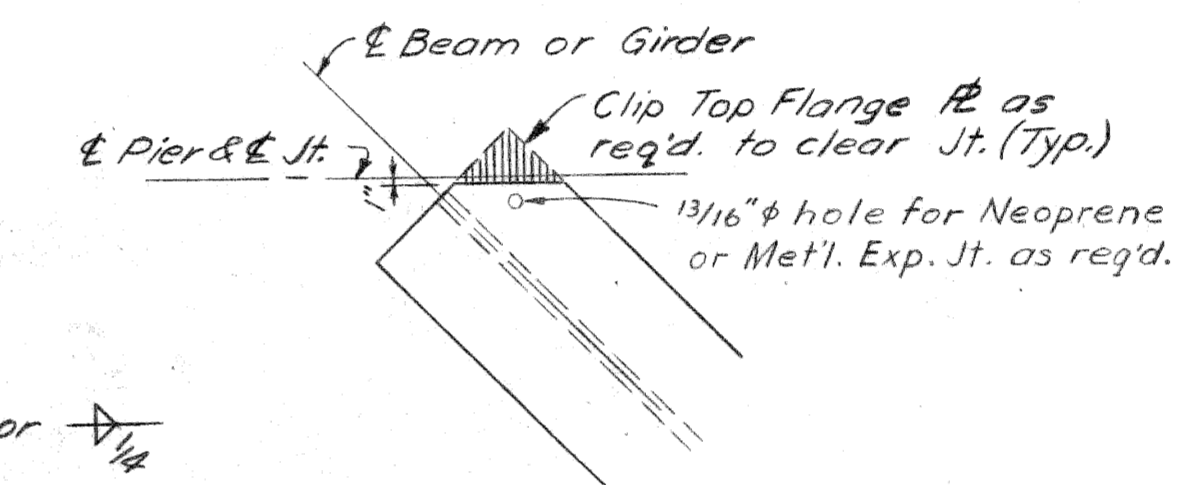
END DIAPHRAGMS



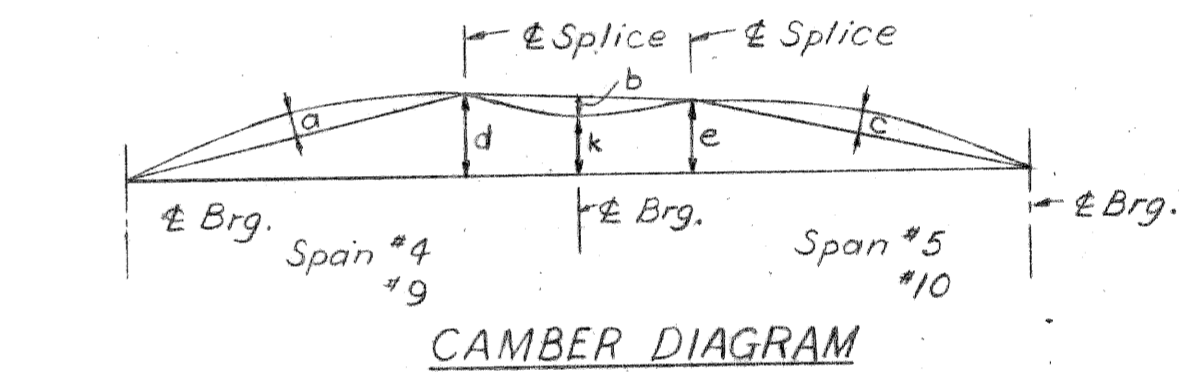
D4, D8 & D12



INTERMEDIATE
DIAPHRAGM CONN.

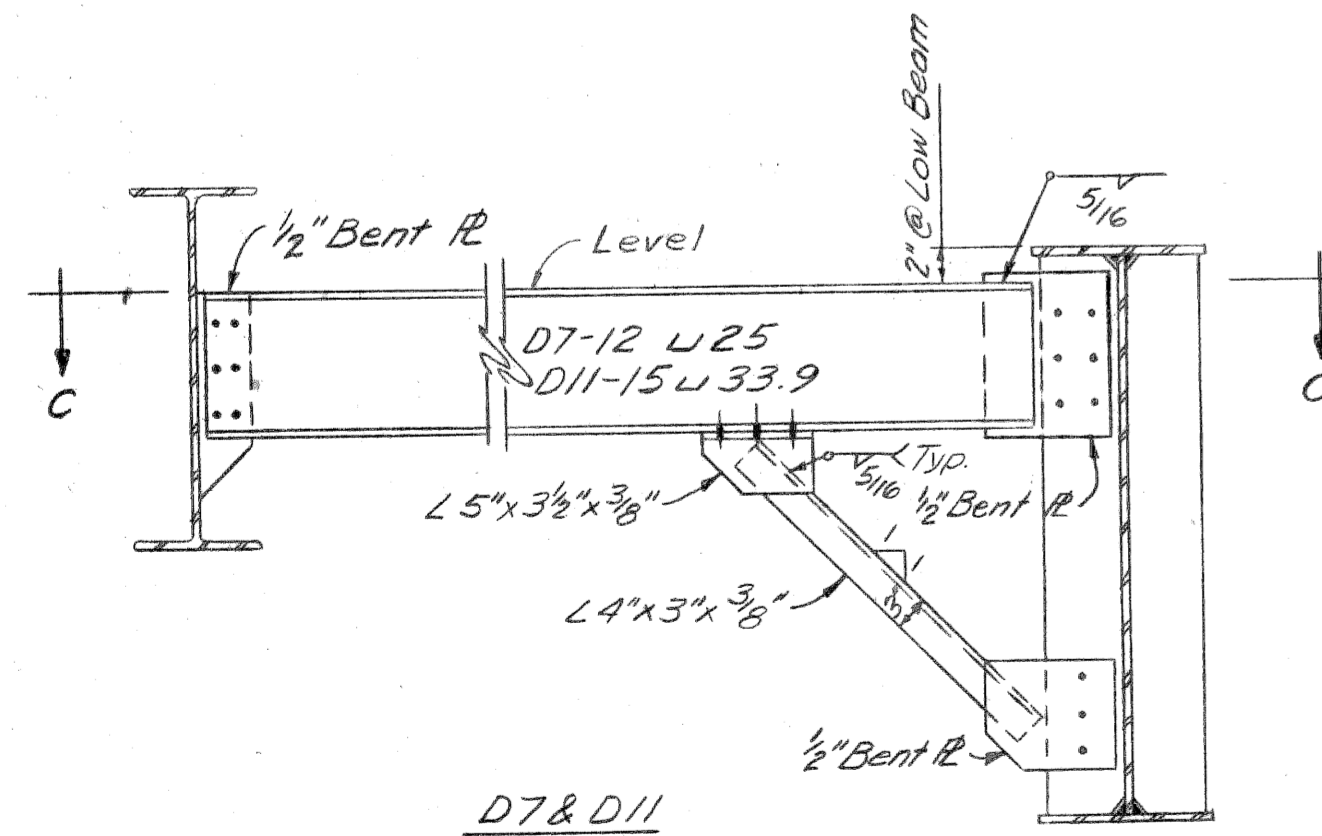


TOP FLANGE DETAIL

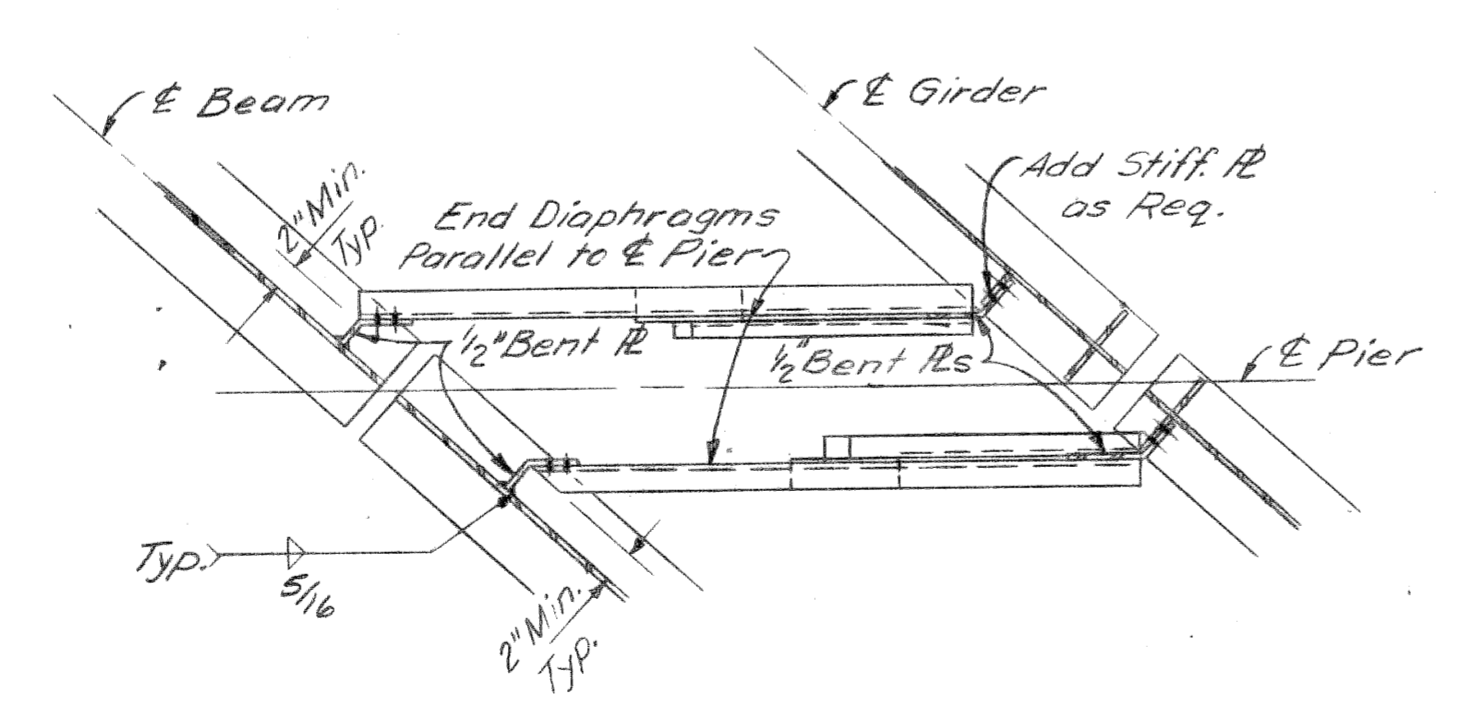


CAMBER DIAGRAM

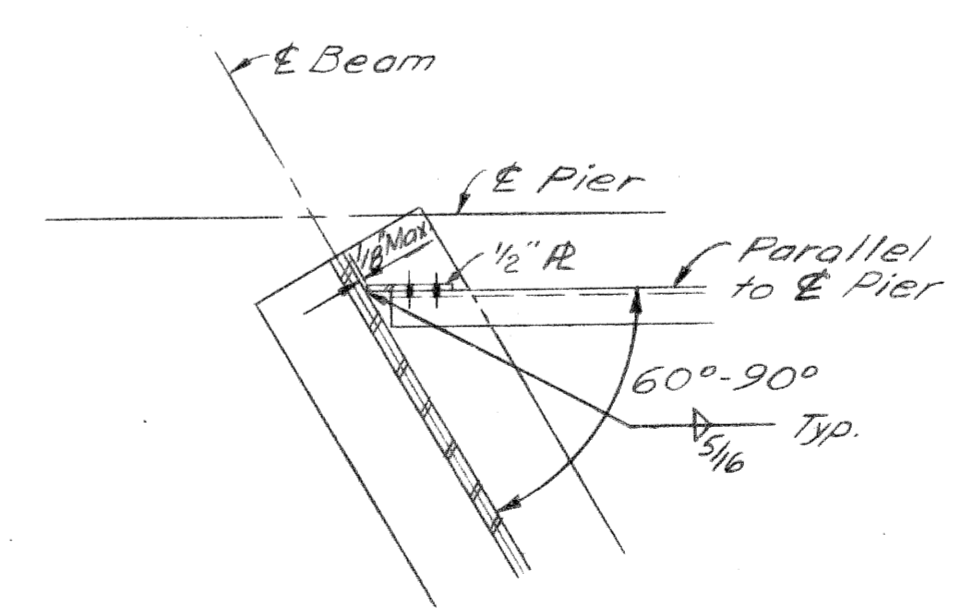
Camber Table		a	d	b	k	e	C
Span #4 & 5	Girder						
A	4"	1'-1 1/4"	1"	1'-0 1/4"	1'-1 1/4"	4"	
B	4"	1'-1"	1"	1'-0 1/2"	1'-1 1/4"	4"	
C	4"	1'-1 3/8"	1"	1'-0 3/8"	1'-1 3/8"	4"	
D	4 3/4"	1'-2 1/2"	1"	1'-1 1/4"	1'-2"	4"	
E	5 1/2"	1'-4 1/2"	1"	1'-2 1/8"	1'-3 1/4"	4"	
Span #9 & 10	Girder						
A	1 3/4"	5/8"	2"	-1 1/2"	3/8"	1 3/4"	
B	1 7/8"	1/2"	1 3/4"	-1 3/8"	1/4"	1 7/8"	
C	1 3/8"	1 1/4"	1 1/4"	0	1 1/4"	1 1/2"	
D	1 3/4"	2 1/2"	3/4"	1 5/8"	2 1/4"	3/4"	
E	1 3/8"	5"	3/4"	3 7/8"	4 1/4"	3/4"	



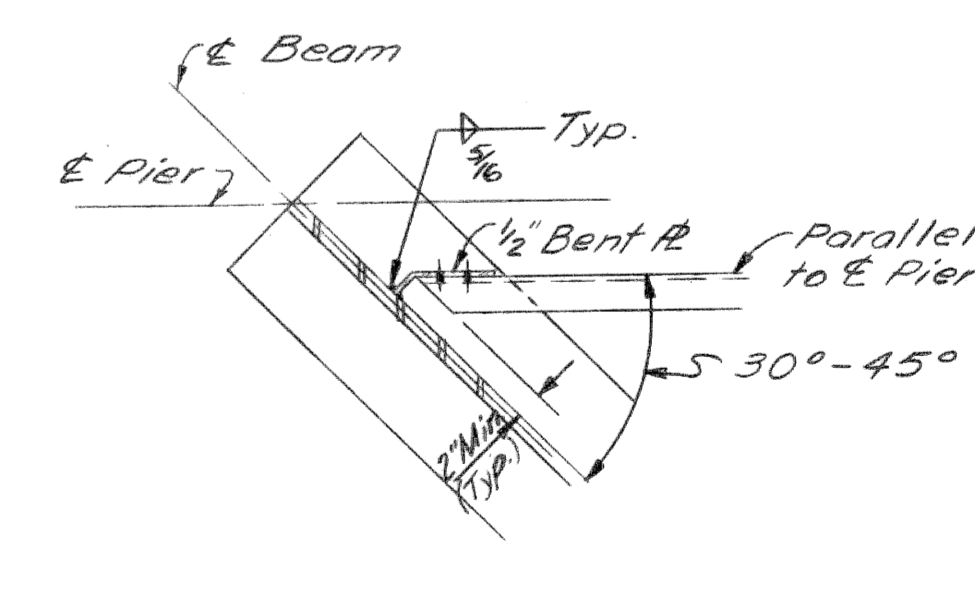
D7 & D11
END DIAPHRAGMS



SECTION C-C



TYPICAL END
DIAPHRAGM CONNECTION



BENT PLATE
DIAPHRAGM CONNECTION

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
BUREAU OF HIGHWAYS & EXPRESSWAYS
APPROVED: *H. Lovat*
STRUCTURAL ENGINEER

JOB No.
PW9902

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

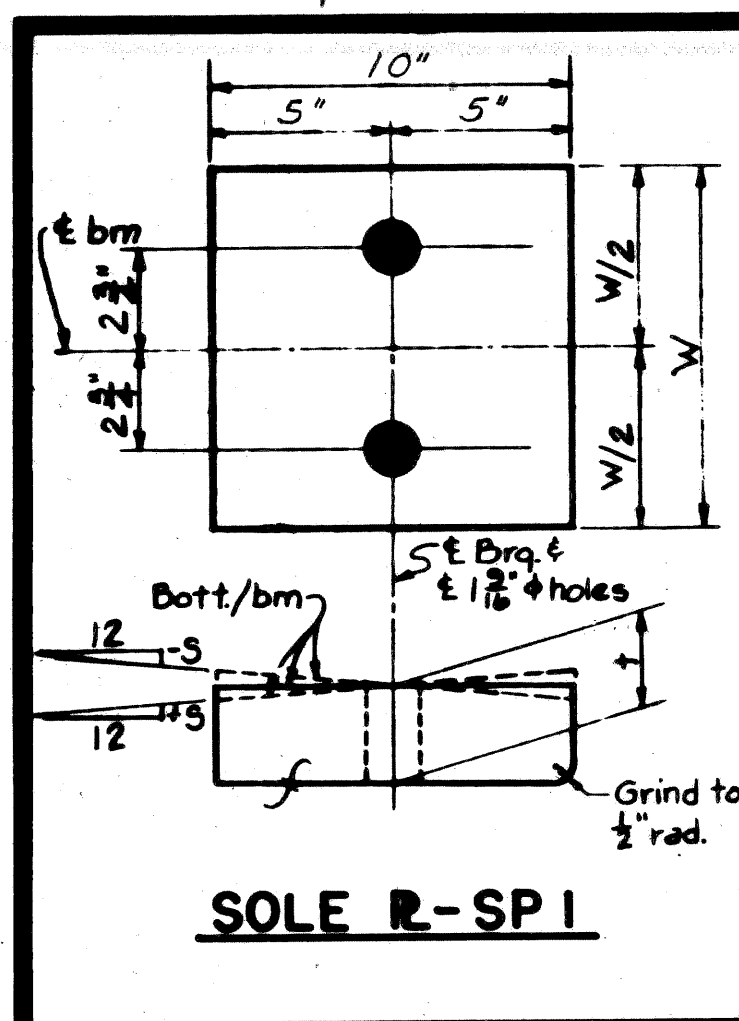
CITY OF DETROIT

SQUAD BOSS: *Watts*
DRAWN BY: *MC*
TRACED BY:
CHECKED BY: *FW*
SHEET 44 OF 78

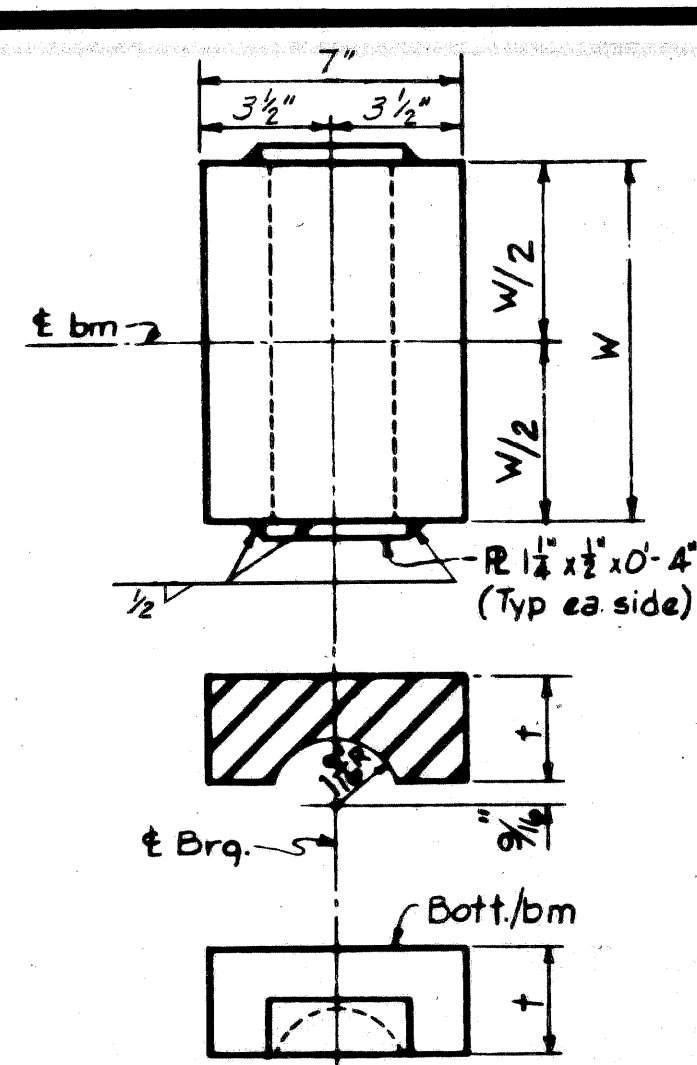
REVISIONS

NO.	DESCRIPTION	DATE	BY

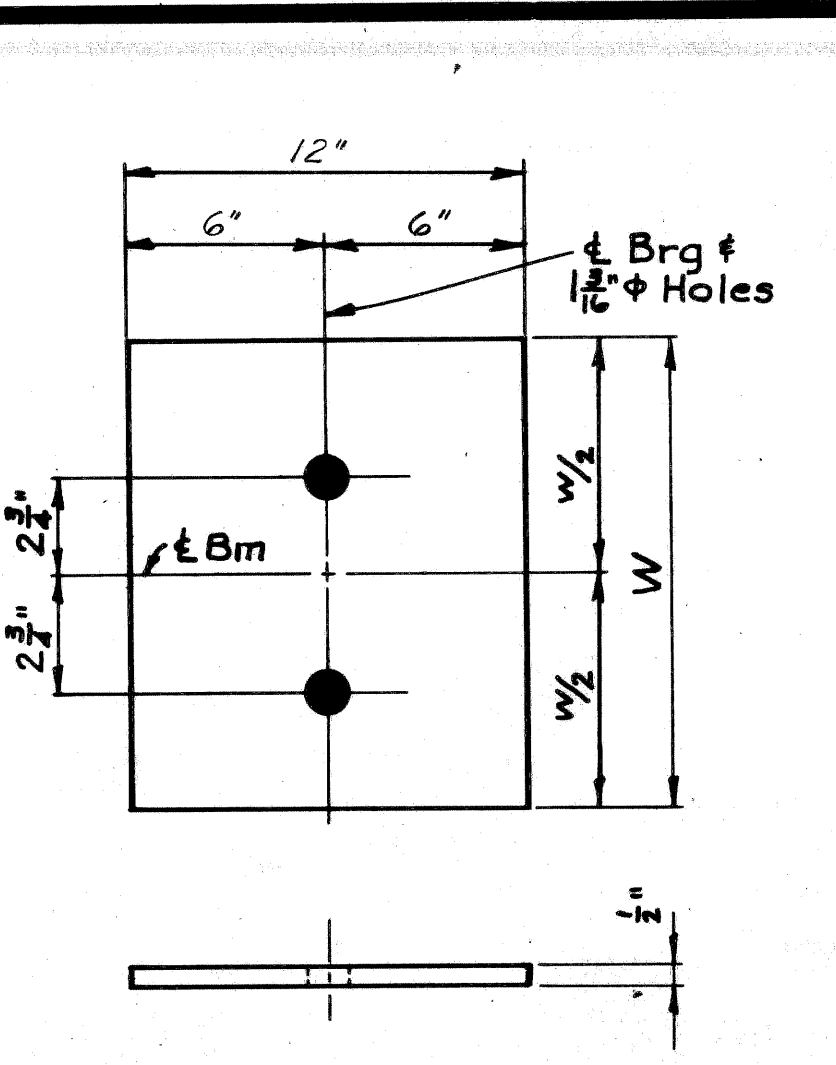
S 41 of 82123 K



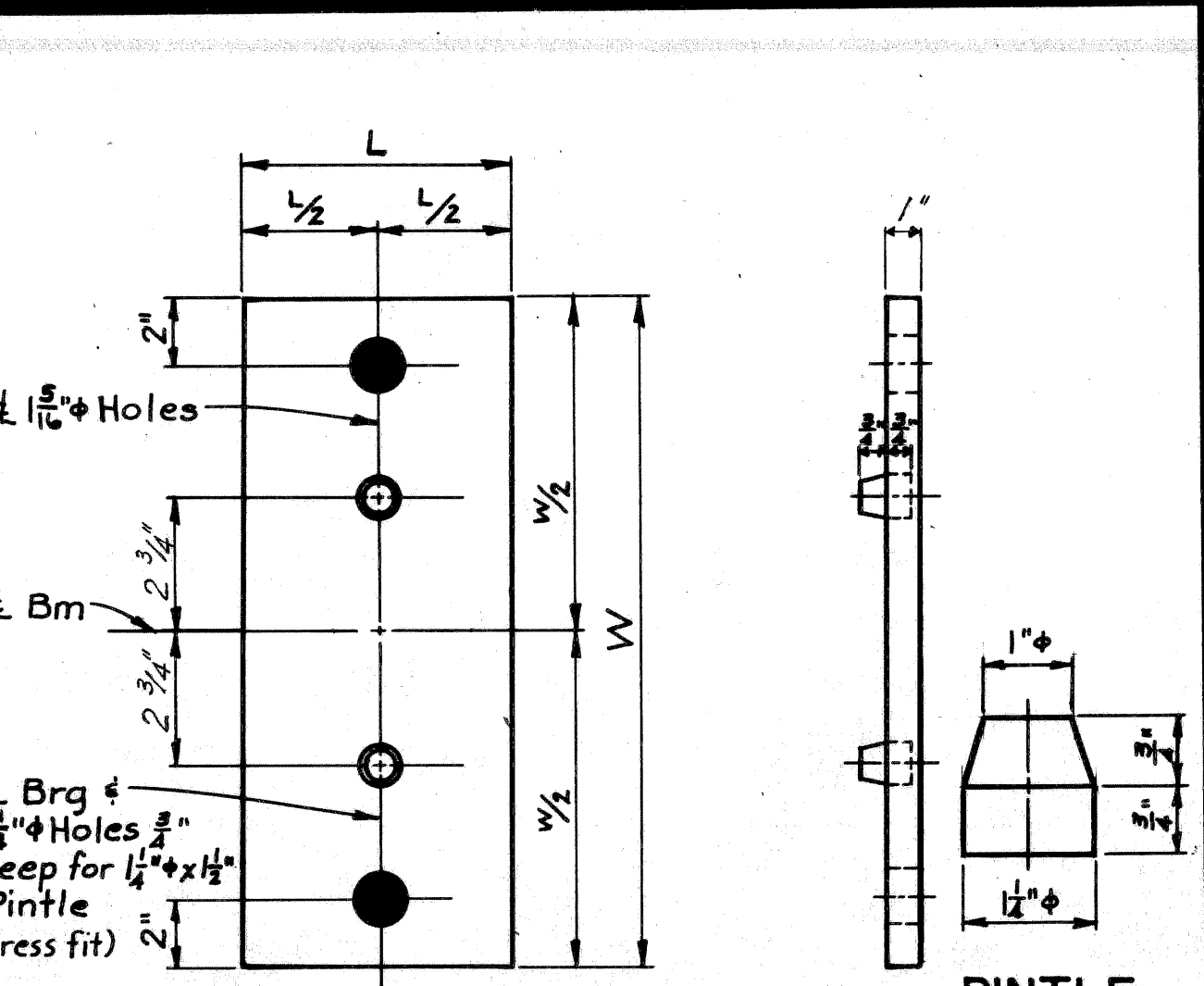
SOLE R-SP1



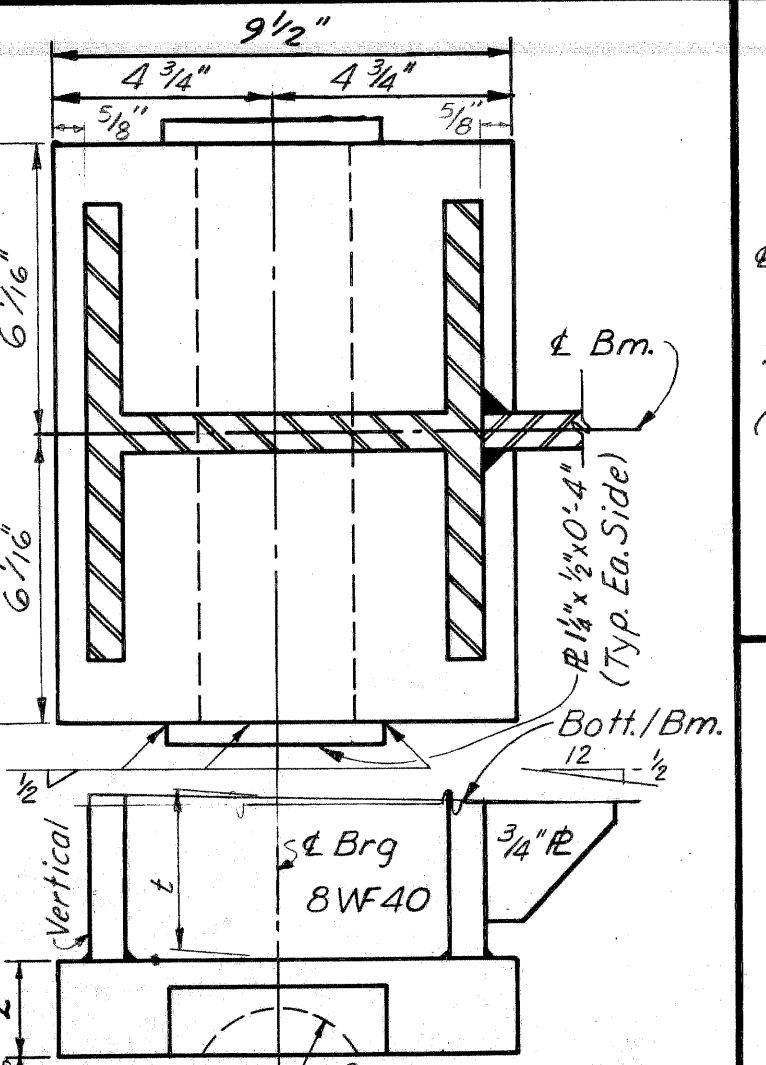
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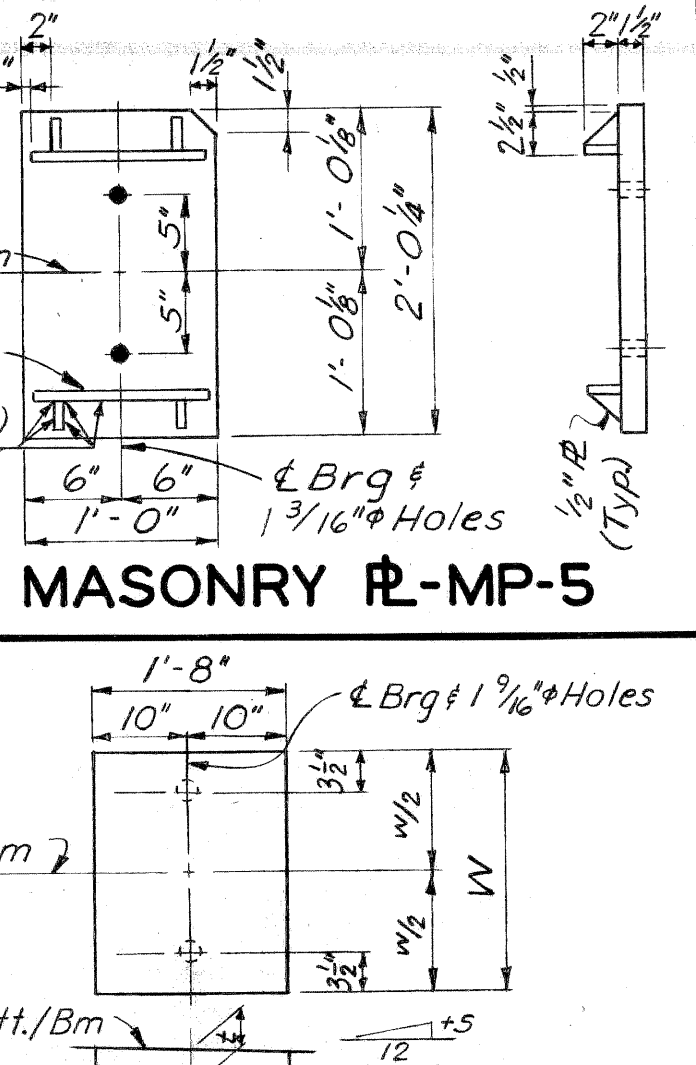
MASONRY R-MP1



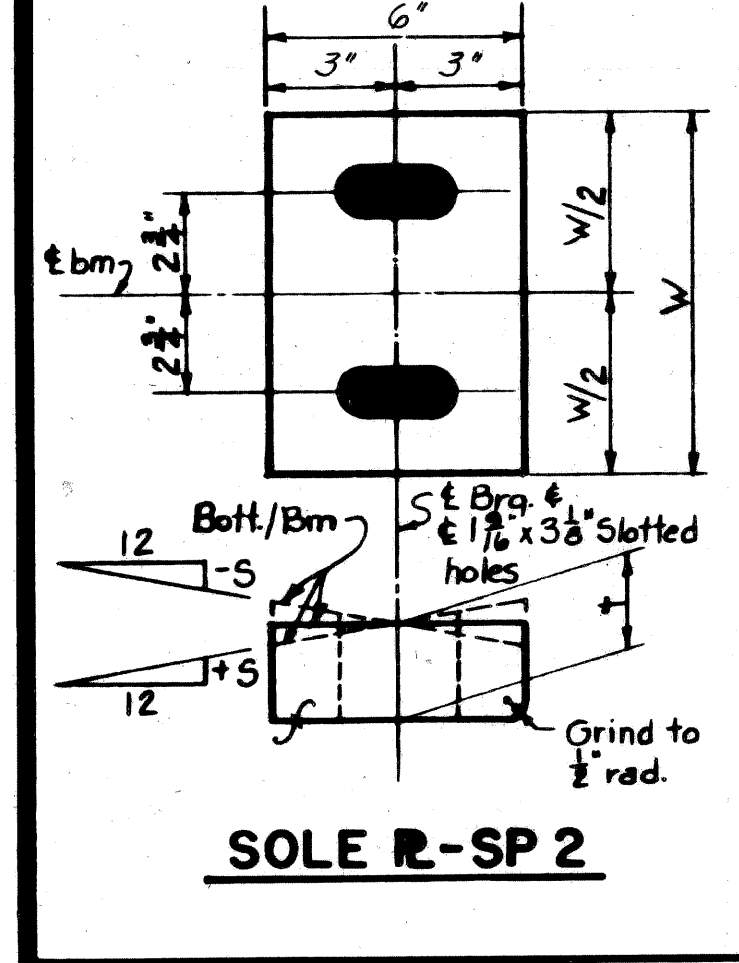
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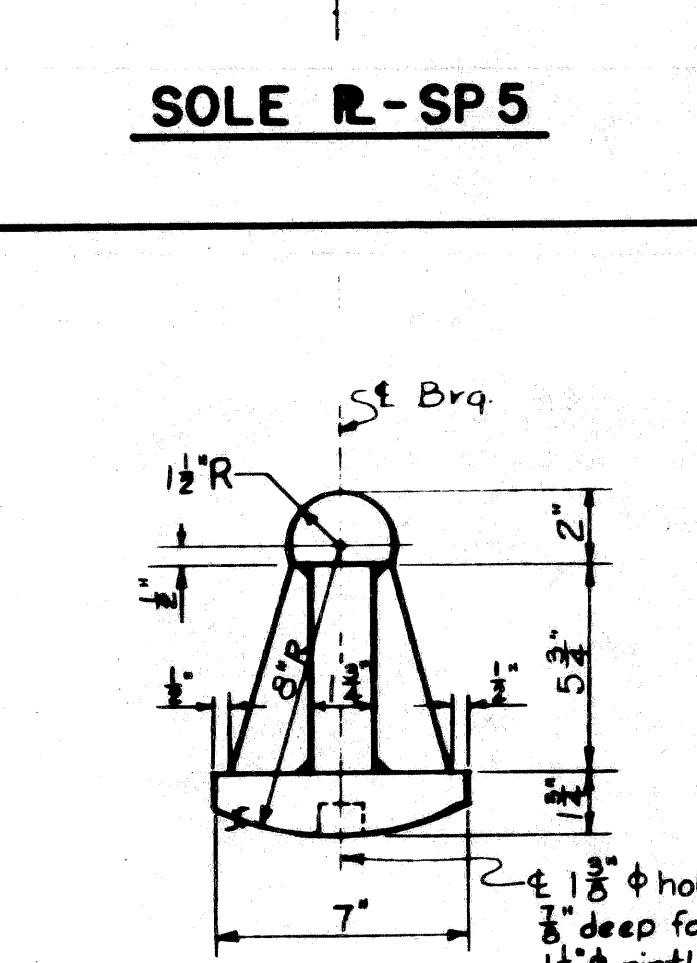
PEDESTAL P4



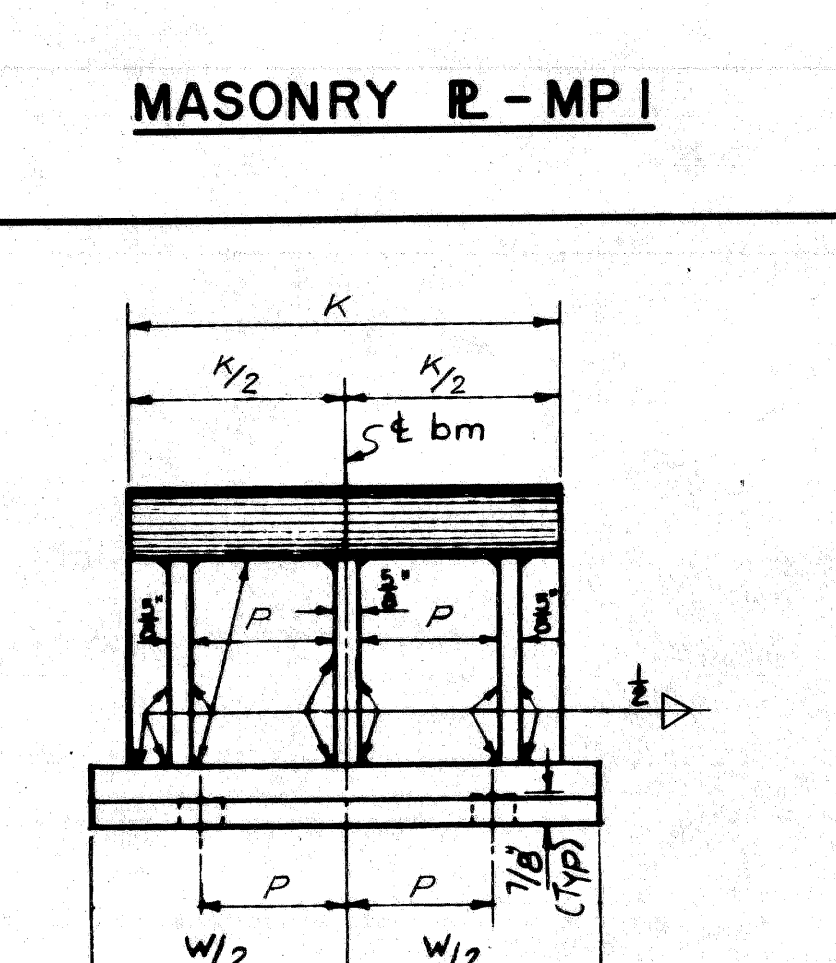
SOLE R-SP-7



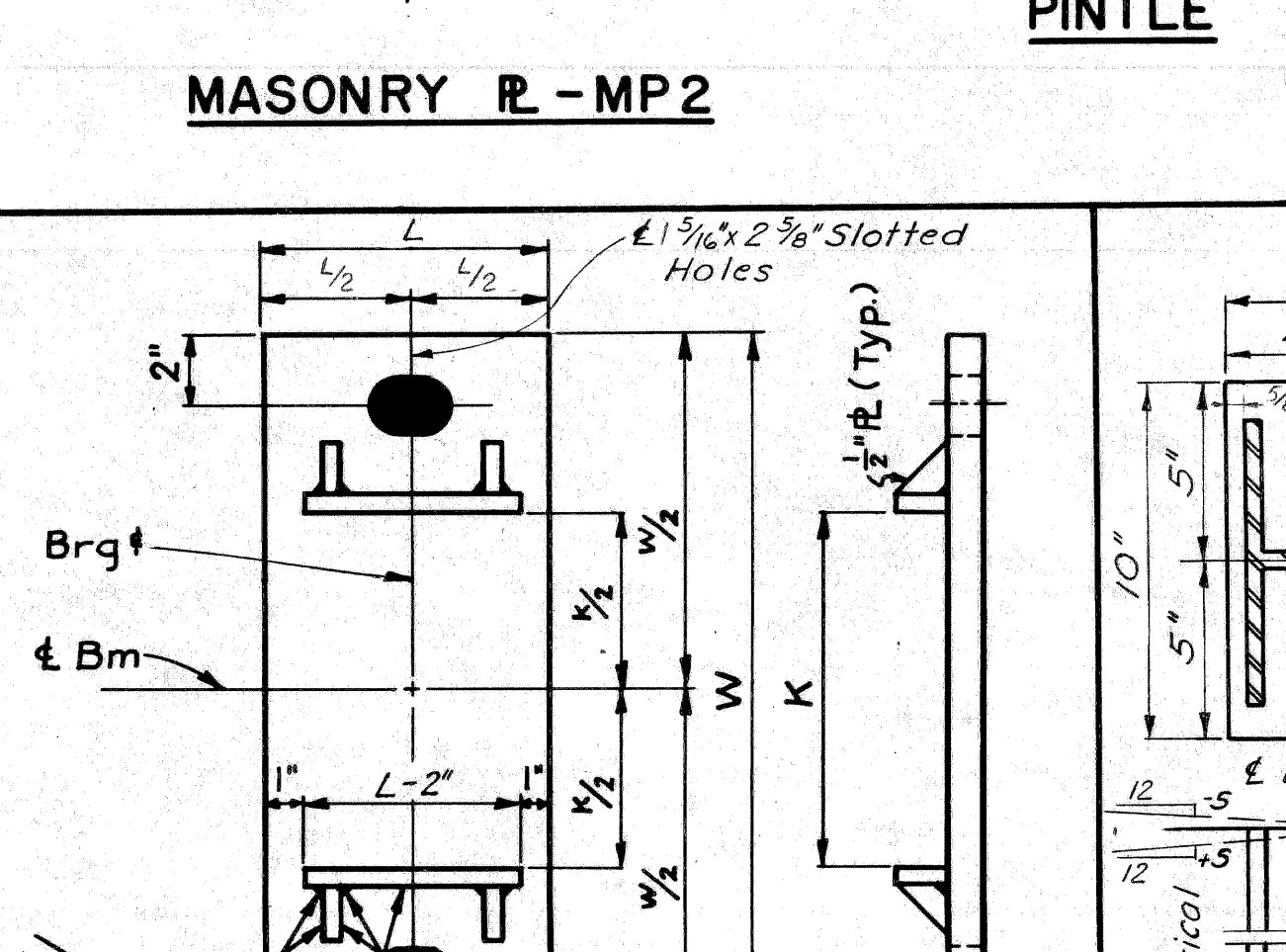
SOLE R-SP2



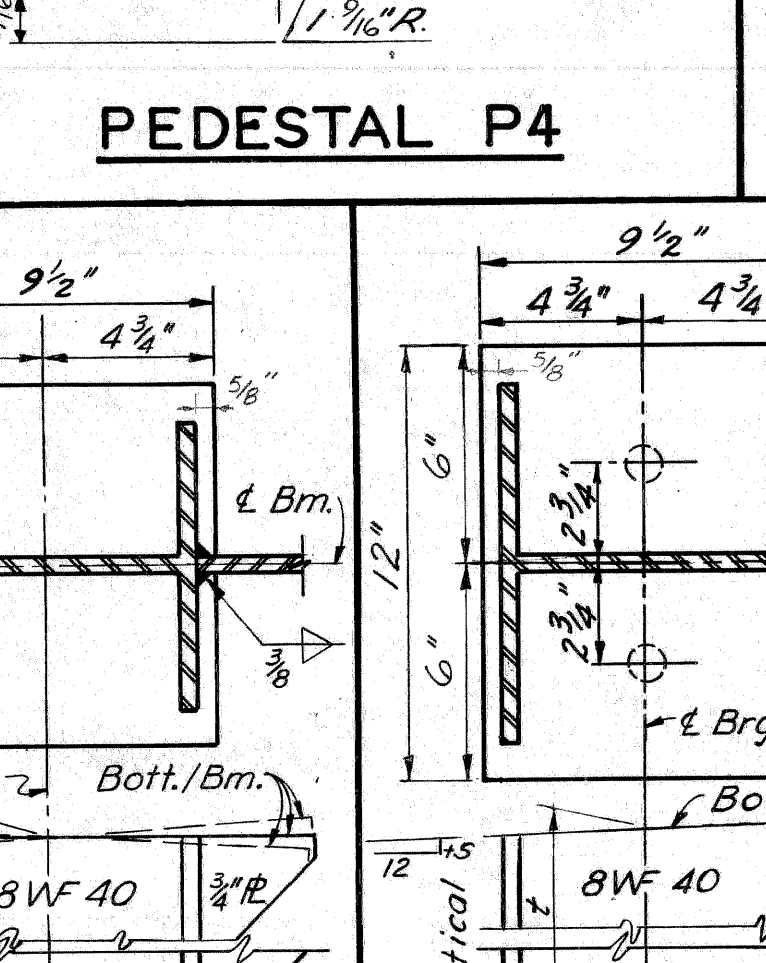
EXPANSION ROCKER-ER1



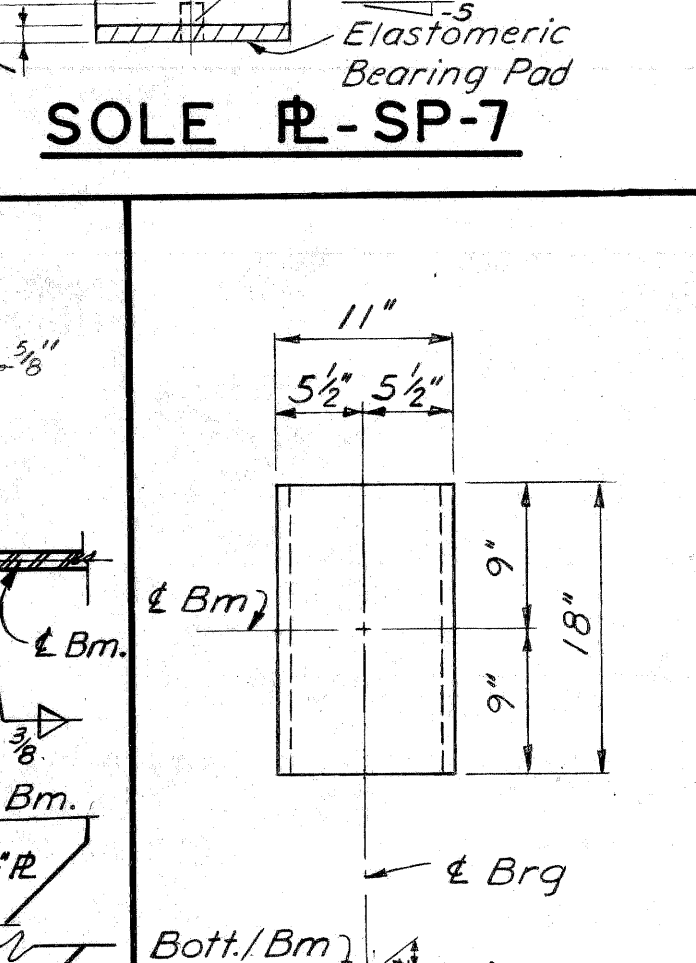
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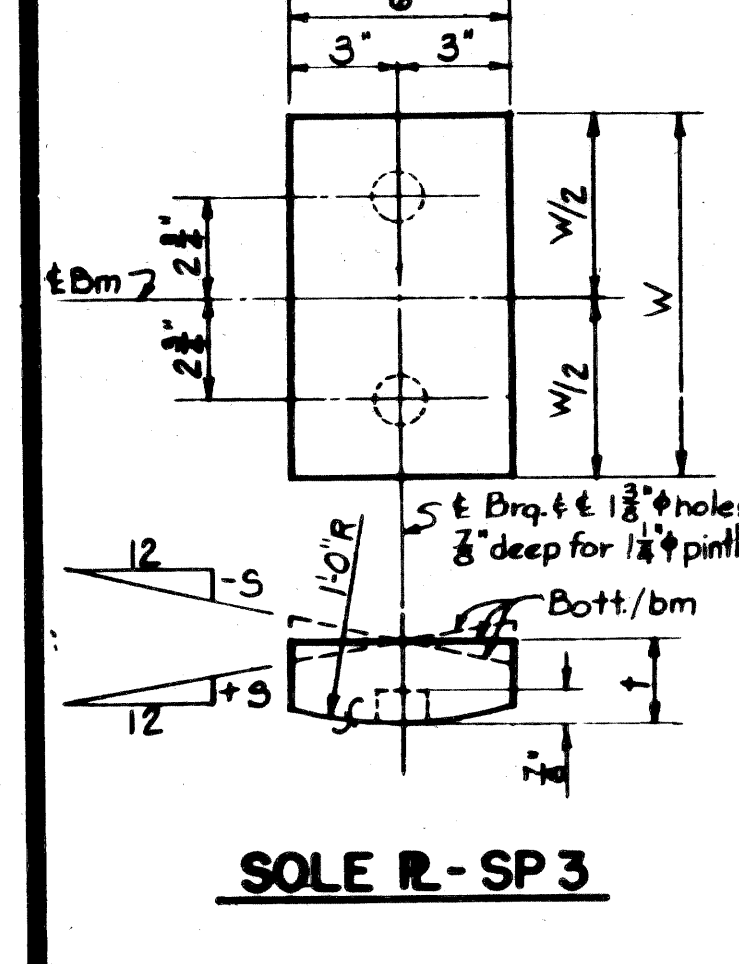
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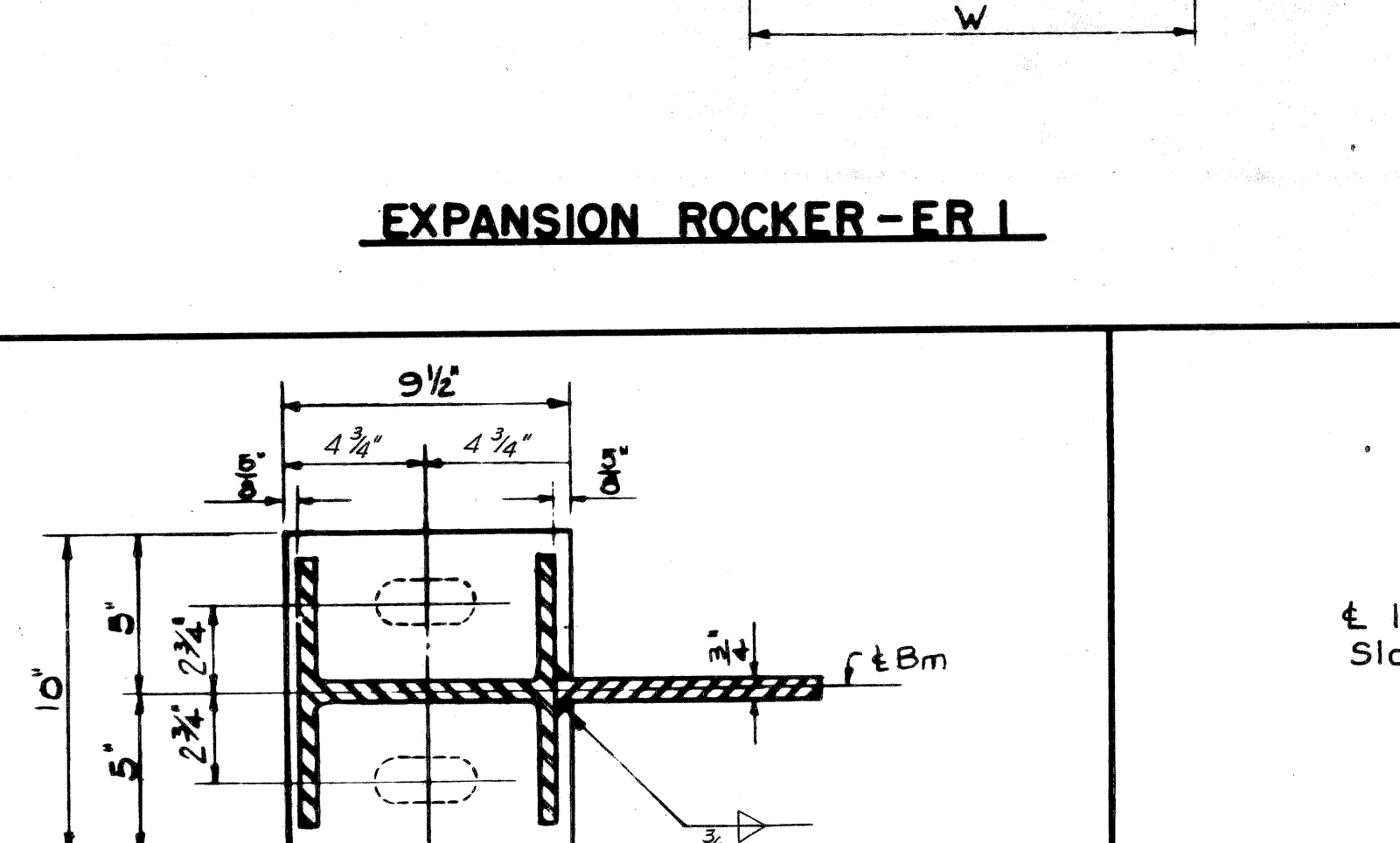
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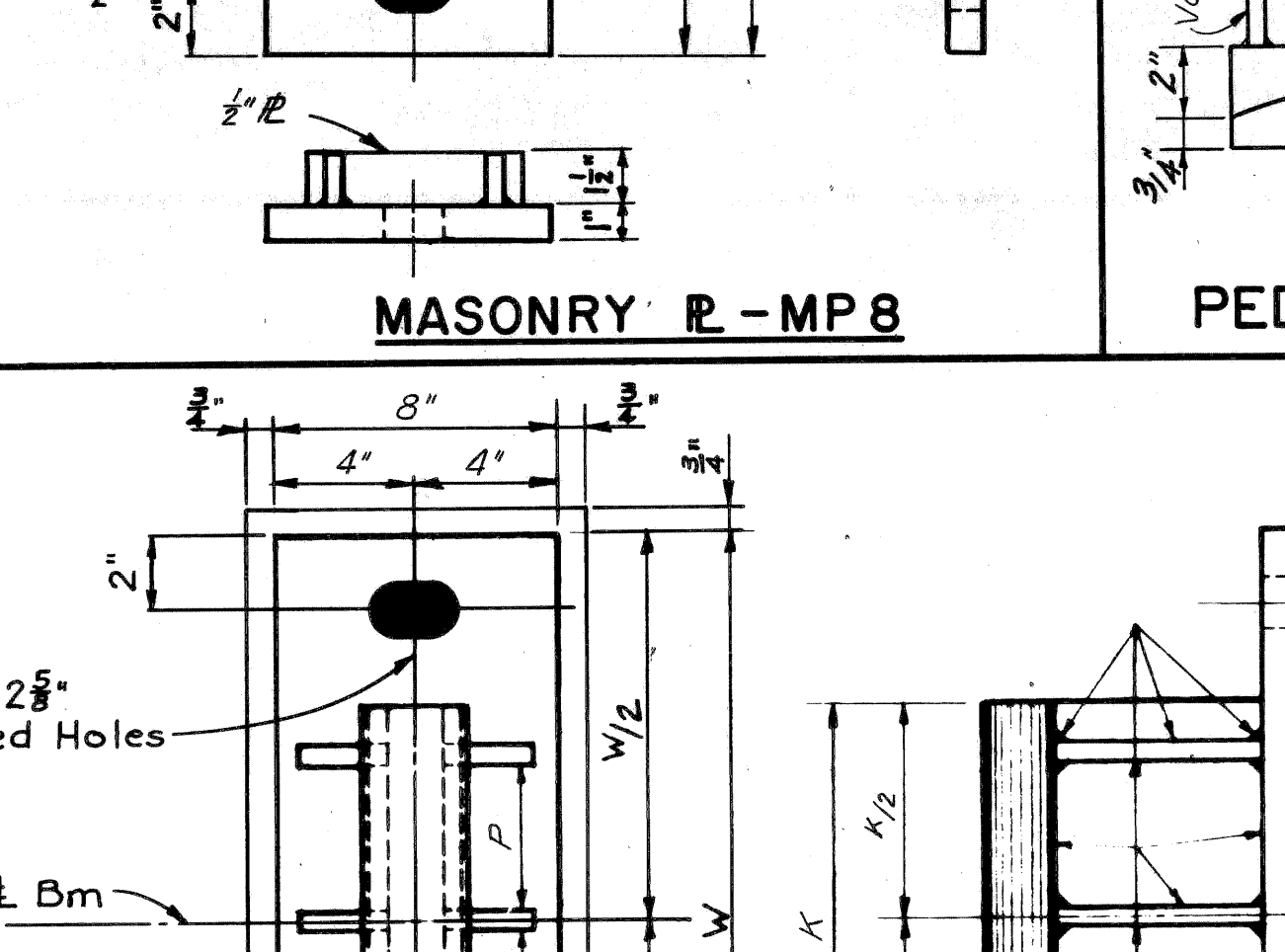
SOLE R-SP-6



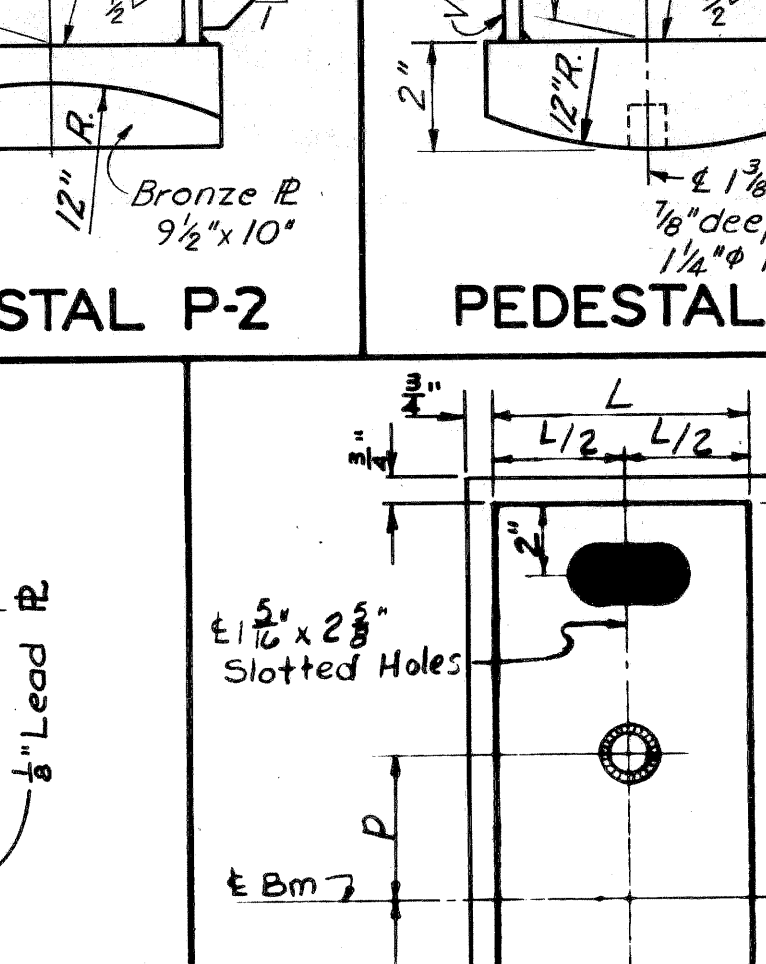
SOLE R-SP3



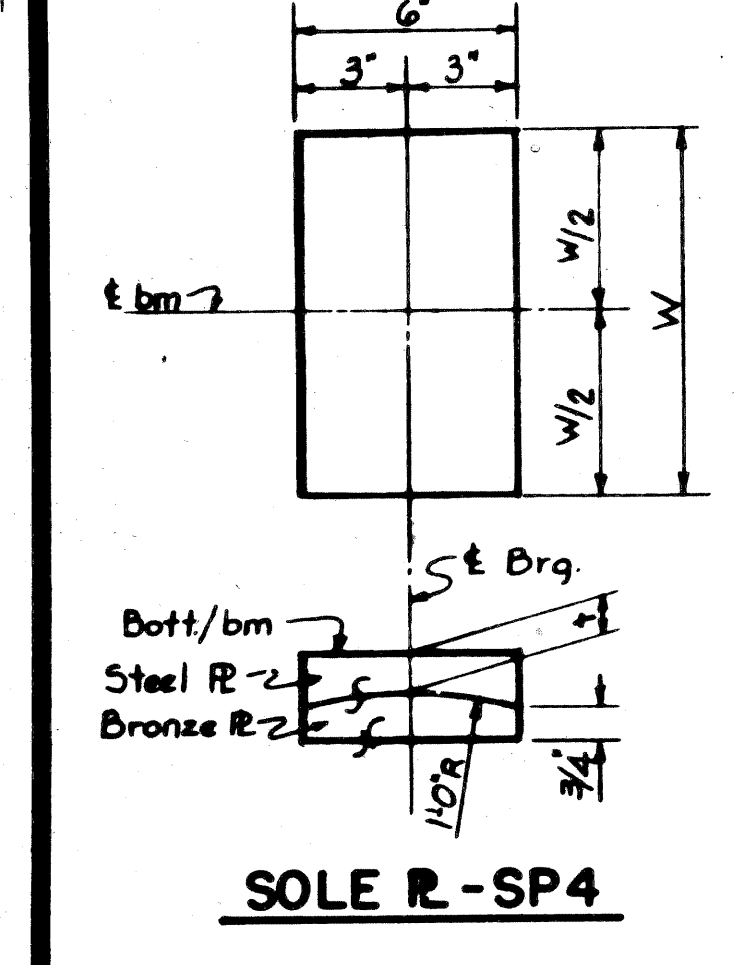
PEDESTAL-PI



MASONRY R-MP9



MASONRY R-MP7



SOLE R-SP4

SPAN	BEAM	TYPE	VARIABLE DIMENSIONS					
			L	W	t	p	k	s
SPAN 1	A&E AbutA	SP1	14"	2"				+1/2"
	B AbutA	SP1	10 1/2"	6"				+1/2"
	C&D AbutA	SP1	10 1/2"	2"				+1/2"
	A&E AbutA	MP1	15"					
SPAN 2	B,C&D AbutA	MP1	11 1/2"					
	A&E Pier1	SP4	14"	2"				
	B Pier1	P2		9"				+1/2"
	C Pier1	P2		5 1/2"				+1/2"
SPAN 3	D Pier1	P2		5"				+1/2"
	A&E Pier1	MP8	8"	26"				14 1/4"
	B,C&D Pier1	MP8	11 1/2"	22"				10 1/4"
	A&E Pier1	SP3		14"	3"			+1/2"
SPAN 4	B Pier1	SP3		12"	5 1/2"			+1/2"
	C&D Pier1	SP3		12"	2"			+1/2"
	A&E Pier1	MP7	8"	24"				2 3/4"
	B,C&D Pier1	MP7	8"	22"				2 3/4"
SPAN 5	A&E Pier2	SP5		14 1/2"	2 1/2"			
	B&D Pier2	SP5		12 1/2"	2 1/2"			
	C Pier2	SP5		12 1/2"	5 1/2"			
	A&E Pier2	ERI		15"		5"	14"	
SPAN 6	B,C&D Pier2	ERI		13"		4"	12"	
	A&E Pier2	MP7	7"	24"		5"		
	B,C&D Pier2	MP7	7"	22"		4"		
	A&E Pier2	SP5		14 1/2"	3 1/2"			
SPAN 7	B Pier2	P3		1-3 1/2"				+3/8"
	C Pier2	P3		1-6 3/4"				+3/8"
	D Pier2	P3		1-3 3/4"				+3/8"
	A&E Pier2	MP9		24"		5"	14"	
SPAN 8	B,C&D Pier2	MP7	9 1/2"	22"		2 3/4"		
	A&E Pier3	SP4		14"	2"			
	B Pier3	P2		2-2 3/8"				+1/4"
	C&D Pier3	P2		1-11 1/2"				+3/8"
SPAN 9	A&E Pier3	MP8	8"	26"				14 1/4"
	B,C&D Pier3	MP8	11 1/2"	22"				10 1/4"
	A&E Pier3	SP6		3 1/4"				
	B Pier3	SP6		3 1/4"				
SPAN 10	E Pier3	SP6		1"				
	(A-E) Pier3	MP5						
	A Pier4	SP7		32"	4 1/2"			+1/16"
	B&C Pier4	SP7		32"	4 1/2"			+1/16"
SPAN 11	D Pier4	SP7		32"	3 3/4"			+1/16"
	E Pier4	SP7		32"	2 1/2"			+1/16"
	A&E Pier5	SP6		1"				
	B Pier5	SP6		2 1/4"				
SPAN 12	C Pier5	SP6		4"				
	E Pier5	SP6		1 1/4"				
	(A-E) Pier5	MP5						
	A Pier5	SP4		14"	2 1/2"			
SPAN 13	B Pier5	P2		1-10 1/4"				-1/8"
	C Pier5	P2		2'-0"				-1/8"
	D Pier5	P2		1'-9"				-1/8"
	E Pier5	SP4		14"	2 1/2"			
SPAN 14	A&E Pier5	MP8	8"	26"				14 1/4"
	B,C&D Pier5	MP8	11 1/2"	22"				10 1/4"
	A Pier6	SP3		14"	3 3/4"			-1/4"
	B Pier6	SP3		11 1/2"	3 3/4"			-1/4"
SPAN 15	C&D Pier6	SP3		11 1/2"	3 3/4"			-1/4"
	E Pier6	SP3		14"	3"			-1/4"
	A&E Pier6	MP2	8"	24"				
	B,C&D Pier6	MP2	8"	22"				
SPAN 16	A Pier6	SP4		14"	1 3/4"			
	B Pier6	SP4		11 1/2"	1 3/4"			
	C&D Pier6	SP4		11 1/2"	2 1/4"			
	E Pier6	SP4		14"	1 5/8"			

PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED *H. Post*
 STRUCTURAL ENGINEER

JOB No. PW-4410

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

BEARING DETAILS

NO.	REVISIONS	DATE	BY

QTY OF DETROIT
 DRAWN BY: J.K.
 CHECKED BY: M.C.
 DATE: 12-15-64

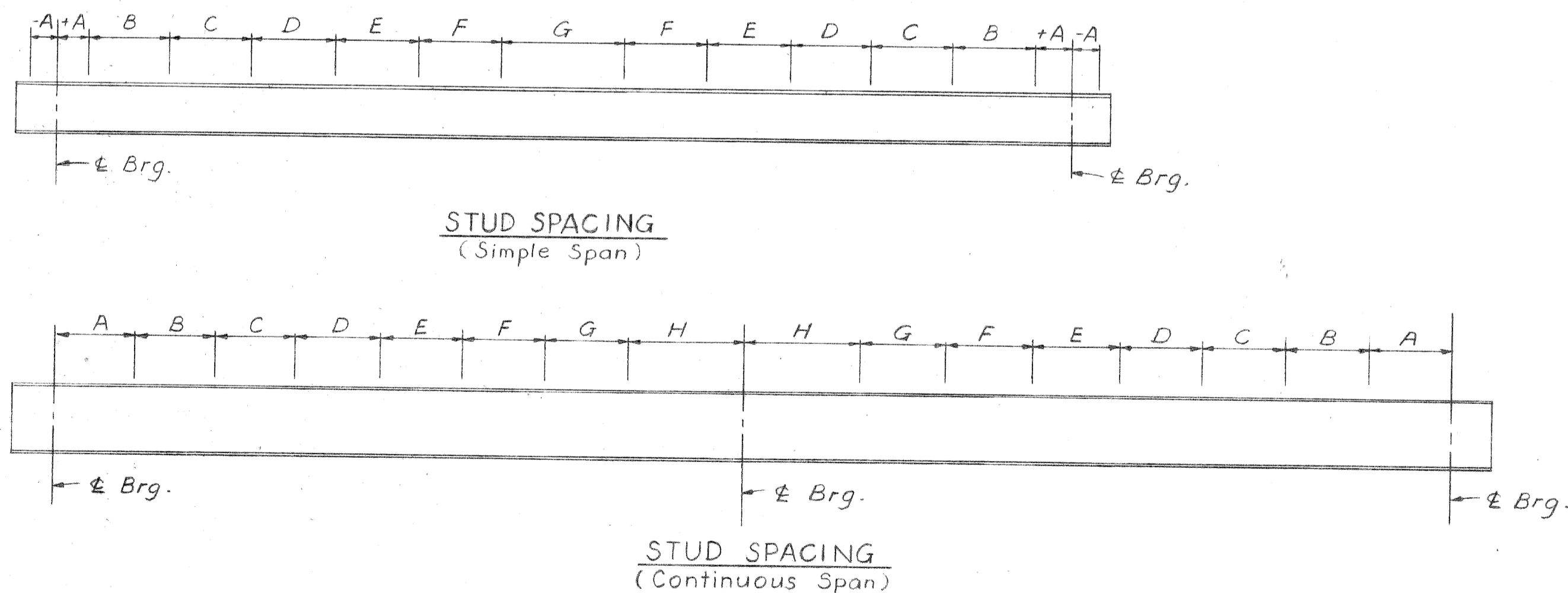
S 41 of 82123 K

STUD SHEAR DEVELOPER SPACING TABLE

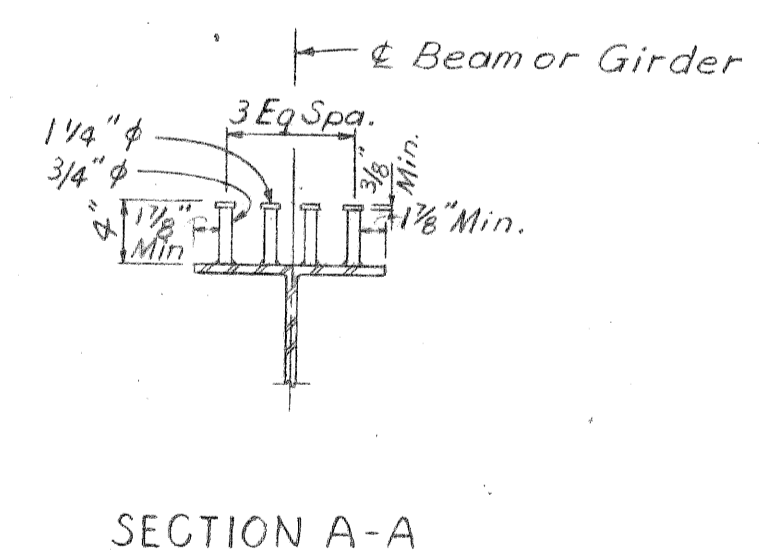
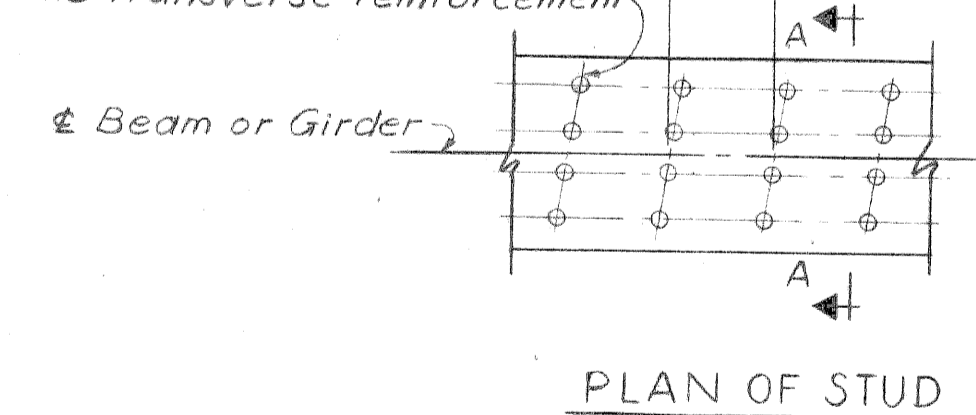
SPAN	BEAM OR GIRDER	A	B	C	D	E	F	G
1	A	2 3/8"	6 Spa. @ 13" = 6'-6"	6 Spa. @ 16" = 8'-0"	---	---	---	10 Spa. @ 24" = 20'-0"
1	B	2 3/4"	18 Spa. @ 6" = 9'-0"	10 Spa. @ 9" = 7'-6"	---	---	---	16 Spa. @ 12" = 16'-0"
1	C	2 3/4"	18 Spa. @ 6" = 9'-0"	10 Spa. @ 9" = 7'-6"	---	---	---	16 Spa. @ 12" = 16'-0"
1	D	2 3/4"	18 Spa. @ 6" = 9'-0"	10 Spa. @ 9" = 7'-6"	---	---	---	16 Spa. @ 12" = 16'-0"
1	E	2 1/2"	6 Spa. @ 13" = 6'-6"	6 Spa. @ 16" = 8'-0"	---	---	---	10 Spa. @ 24" = 20'-0"
2	A	1 1/8"	12 Spa. @ 8" = 8'-0"	11 Spa. @ 10" = 9'-2"	10 Spa. @ 12" = 10'-0"	6 Spa. @ 16" = 8'-0"	---	5 Spa. @ 24" = 10'-0"
2	B	1 1/2"	12 Spa. @ 7" = 7'-0"	9 Spa. @ 8" = 6'-0"	9 Spa. @ 10" = 7'-6"	8 Spa. @ 12" = 8'-0"	5 Spa. @ 15" = 6'-3"	8 Spa. @ 18" = 12'-0"
2	C	1 1/2"	12 Spa. @ 7" = 7'-0"	9 Spa. @ 8" = 6'-0"	10 Spa. @ 10" = 8'-4"	8 Spa. @ 12" = 8'-0"	5 Spa. @ 15" = 6'-3"	8 Spa. @ 18" = 12'-0"
2	D	1 1/8"	14 Spa. @ 8" = 9'-4"	12 Spa. @ 10" = 10'-0"	10 Spa. @ 12" = 10'-0"	5 Spa. @ 15" = 6'-3"	---	9 Spa. @ 18" = 13'-6"
2	E	1 1/8"	10 Spa. @ 12" = 10'-0"	4 Spa. @ 15" = 5'-0"	4 Spa. @ 18" = 6'-0"	---	---	22 Spa. @ 24" = 44'-0"
3	A	3 3/8"	14 Spa. @ 11" = 12'-10"	7 Spa. @ 16" = 9'-4"	---	---	---	11 Spa. @ 24" = 22'-0"
3	B	1 1/2"	27 Spa. @ 6" = 13'-6"	10 Spa. @ 9" = 7'-6"	---	---	---	17 Spa. @ 12" = 17'-0"
3	C	3 3/4"	18 Spa. @ 7" = 10'-6"	10 Spa. @ 9" = 7'-6"	---	---	---	16 Spa. @ 12" = 16'-0"
3	D	---	12 Spa. @ 7" = 7'-0"	10 Spa. @ 9" = 7'-6"	---	---	---	16 Spa. @ 12" = 16'-0"
3	E	3 3/8"	4 Spa. @ 17" = 5'-8"	---	---	---	---	13 Spa. @ 24" = 26'-0"
6	A	3 3/4"	8 Spa. @ 13" = 8'-8"	4 Spa. @ 18" = 6'-0"	---	---	---	8 Spa. @ 24" = 16'-0"
6	B	2 3/4"	25 Spa. @ 6" = 12'-6"	10 Spa. @ 9" = 7'-6"	---	---	---	12 Spa. @ 12" = 12'-0"
6	C	1 3/4"	25 Spa. @ 7" = 14'-7"	13 Spa. @ 9" = 9'-9"	---	---	---	9 Spa. @ 14" = 10'-6"
6	D	-1 1/4"	27 Spa. @ 7" = 15'-9"	12 Spa. @ 10" = 10'-0"	---	---	---	13 Spa. @ 14" = 15'-2"
6	E	3 3/8"	14 Spa. @ 12" = 14'-0"	8 Spa. @ 16" = 10'-8"	---	---	---	12 Spa. @ 24" = 24'-0"
7	A	-1 3/4"	8 Spa. @ 13" = 8'-8"	4 Spa. @ 18" = 6'-0"	---	---	---	8 Spa. @ 24" = 16'-0"
7	B	1 1/8"	25 Spa. @ 6" = 12'-6"	10 Spa. @ 9" = 7'-6"	---	---	---	12 Spa. @ 12" = 12'-0"
7	C	3 3/8"	25 Spa. @ 7" = 14'-7"	13 Spa. @ 9" = 9'-9"	---	---	---	9 Spa. @ 14" = 10'-6"
7	D	---	28 Spa. @ 7" = 16'-4"	11 Spa. @ 10" = 9'-2"	---	---	---	13 Spa. @ 14" = 15'-2"
7	E	3 3/4"	14 Spa. @ 12" = 14'-0"	8 Spa. @ 16" = 10'-8"	---	---	---	12 Spa. @ 24" = 24'-0"
8	A	2 7/8"	17 Spa. @ 9" = 12'-9"	9 Spa. @ 15" = 11'-3"	---	---	---	11 Spa. @ 24" = 22'-0"
8	B	1 7/8"	30 Spa. @ 6" = 15'-0"	12 Spa. @ 9" = 9'-0"	8 Spa. @ 12" = 8'-0"	---	---	6 Spa. @ 16" = 9'-0"
8	C	1 1/8"	19 Spa. @ 7" = 11'-1"	16 Spa. @ 9" = 12'-0"	10 Spa. @ 12" = 12'-0"	---	---	7 Spa. @ 16" = 9'-4"
8	D	1 1/2"	17 Spa. @ 7" = 9'-11"	10 Spa. @ 12" = 10'-0"	---	---	---	10 Spa. @ 16" = 13'-4"
8	E	-1 1/8"	12 Spa. @ 11" = 11'-0"	8 Spa. @ 14" = 9'-4"	5 Spa. @ 18" = 7'-6"	---	---	13 Spa. @ 24" = 26'-0"

SPAN	BEAM OR GIRDER	A	B	C	D	E	F	G
11	A	1 7/8"	10 Spa. @ 8" = 6'-8"	10 Spa. @ 10" = 8'-4"	9 Spa. @ 12" = 9'-0"	8 Spa. @ 14" = 9'-4"	---	10 Spa. @ 24" = 20'-0"
11	B	1 1/4"	25 Spa. @ 7" = 14'-7"	10 Spa. @ 10" = 8'-4"	6 Spa. @ 12" = 6'-0"	7 Spa. @ 14" = 8'-2"	---	9 Spa. @ 18" = 13'-6"
11	C	1"	23 Spa. @ 7" = 13'-5"	11 Spa. @ 10" = 9'-2"	7 Spa. @ 12" = 7'-0"	8 Spa. @ 14" = 9'-4"	---	7 Spa. @ 18" = 10'-6"
11	D	-3/8"	24 Spa. @ 7" = 14'-0"	11 Spa. @ 10" = 9'-2"	7 Spa. @ 12" = 7'-0"	8 Spa. @ 14" = 9'-4"	---	7 Spa. @ 18" = 10'-6"
11	E	---	13 Spa. @ 8" = 8'-8"	11 Spa. @ 10" = 9'-2"	12 Spa. @ 12" = 12'-0"	7 Spa. @ 16" = 9'-4"	---	5 Spa. @ 24" = 10'-0"
12	A	2 1/4"	11 Spa. @ 8" = 7'-4"	10 Spa. @ 10" = 8'-4"	9 Spa. @ 12" = 9'-0"	8 Spa. @ 14" = 9'-4"	---	10 Spa. @ 24" = 20'-0"
12	B	1"	23 Spa. @ 7" = 13'-5"	10 Spa. @ 10" = 8'-4"	7 Spa. @ 12" = 7'-0"	7 Spa. @ 14" = 8'-2"	---	9 Spa. @ 18" = 13'-6"
12	C	1"	20 Spa. @ 7" = 11'-8"	12 Spa. @ 10" = 10'-0"	7 Spa. @ 12" = 7'-0"	8 Spa. @ 14" = 9'-4"	---	7 Spa. @ 18" = 10'-6"
12	D	-1/2"	21 Spa. @ 7" = 12'-3"	11 Spa. @ 10" = 9'-2"	7 Spa. @ 12" = 7'-0"	8 Spa. @ 14" = 9'-4"	---	7 Spa. @ 18" = 10'-6"
12	E	-3/4"	12 Spa. @ 8" = 8'-0"	10 Spa. @ 10" = 8'-4"	12 Spa. @ 12" = 12'-0"	7 Spa. @ 16" = 9'-4"	---	5 Spa. @ 24" = 10'-0"
13	A	1 7/8"	9 Spa. @ 12" = 9'-0"	4 Spa. @ 18" = 6'-0"	---	---	---	10 Spa. @ 24" = 20'-0"
13	B	-1/8"	21 Spa. @ 6" = 10'-6"	7 Spa. @ 9" = 5'-3"	---	---	---	17 Spa. @ 12" = 17'-0"
13	C	1"	22 Spa. @ 6" = 11'-0"	6 Spa. @ 9" = 4'-6"	---	---	---	16 Spa. @ 12" = 16'-0"
13	D	1 3/4"	21 Spa. @ 6" = 10'-6"	7 Spa. @ 9" = 5'-3"	---	---	---	14 Spa. @ 12" = 14'-0"
13	E	1 1/2"	8 Spa. @ 13" = 8'-8"	4 Spa. @ 18" = 6'-0"	---	---	---	7 Spa. @ 24" = 14'-0"

SPAN	A	B	C	D	E	F	G	H
"4	18 Spa. @ 9" = 13'-6"	11 Spa. @ 12" = 11'-0"	5 Spa. @ 15" = 6'-3"	20 Spa. @ 18" = 28'-0"	6 Spa. @ 15" = 7'-6"	13 Spa. @ 12" = 13'-0"	8 Spa. @ 11" = 7'-4"	28'-2 1/2" No Stud
"5	18 Spa. @ 9" = 13'-6"	11 Spa. @ 12" = 11'-0"	5 Spa. @ 15" = 6'-3"	20 Spa. @ 18" = 28'-0"	6 Spa. @ 15" = 7'-6"	13 Spa. @ 12" = 13'-0"	7 Spa. @ 11" = 6'-5"	28'-1" No Stud
"9 & "10	22 Spa. @ 9" = 16'-6"	8 Spa. @ 12" = 8'-0"	5 Spa. @ 15" = 6'-3"	13 Spa. @ 18" = 19'-6"	6 Spa. @ 15" = 7'-6"	9 Spa. @ 12" = 9'-0"	12 Spa. @ 10" = 10'-0"	25'-9 3/4" No Stud



Each row of studs shall be skewed to parallel the transverse reinforcement



NOTE: Either spiral or stud shear developers may be used at the option of the contractor. The weight of shear developers is not included in the weight of structural steel. Welding of shear developers is incidental to "Shear Developers".

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT

SQUAD BOSS	WGT/JS
DRAWN BY	M.G.
CHECKED BY	FW
SHEET	46 OF 73

S 41 of 82123 K

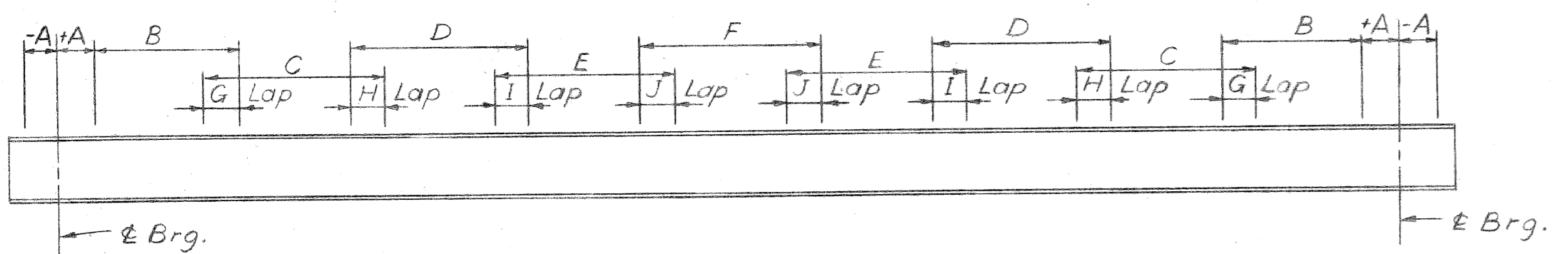
JOB No. PW9902

SPIRAL SHEAR DEVELOPER SPACING TABLE

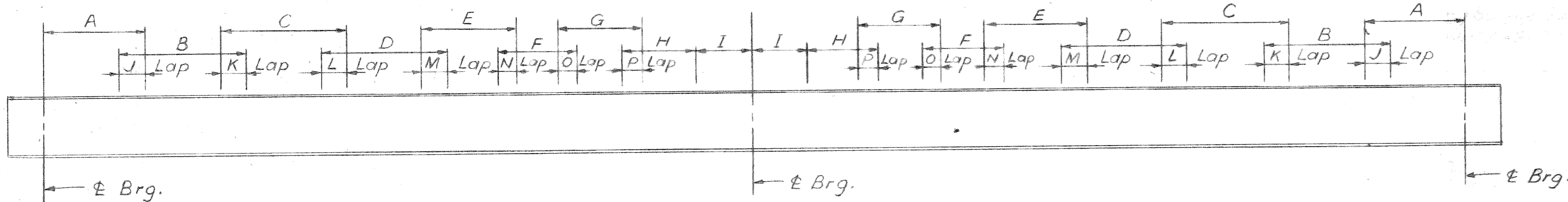
SPAN	BEAM OR GIRDER	A	B	C	D	E	F	G	H	I	J
1	A	2 3/8"	27 Spa. @ 5" = 11' 3"	11 Spa. @ 9" = 8' 3"			9 Spa. @ 15" = 11' 3"	2 1/2"			4 1/2"
1	B	3/4"	Double Row 20 Spa. @ 6" = 10' 0"	30 Spa. @ 4" = 10' 0"			20 Spa. @ 6" = 10' 0"	2"			2"
1	C	3/4"	Double Row 20 Spa. @ 6" = 10' 0"	30 Spa. @ 4" = 10' 0"			20 Spa. @ 6" = 10' 0"	2"			2"
1	D	3/4"	Double Row 20 Spa. @ 6" = 10' 0"	30 Spa. @ 4" = 10' 0"			20 Spa. @ 6" = 10' 0"	2"			2"
1	E	2 3/8"	27 Spa. @ 5" = 11' 3"	11 Spa. @ 9" = 8' 3"			9 Spa. @ 15" = 11' 3"	2 1/2"			4 1/2"
2	A	-1 1/2"	20 Spa. @ 7" = 11' 5"	33 Spa. @ 4" = 11' 10"	24 Spa. @ 6" = 12' 0"		15 Spa. @ 10" = 12' 6"	3 1/2"	2"		3"
2	B	1"	Double Row 20 Spa. @ 6" = 10' 0"	30 Spa. @ 4" = 10' 0"	15 Spa. @ 5" = 6' 3"	18 Spa. @ 6" = 9' 0"	19 Spa. @ 8" = 12' 8"	2"	2"	2 1/2"	3"
2	C	-2 1/4"	Double Row 22 Spa. @ 6" = 11' 0"	30 Spa. @ 4" = 10' 0"	15 Spa. @ 5" = 6' 3"	18 Spa. @ 6" = 9' 0"	19 Spa. @ 8" = 12' 8"	2"	2"	2 1/2"	3"
2	D	1 3/8"	Double Row 18 Spa. @ 6" = 9' 0"	25 Spa. @ 4" = 8' 4"	23 Spa. @ 5" = 9' 7"	20 Spa. @ 6" = 10' 0"	15 Spa. @ 8" = 12' 0"	2"	2"	2 1/2"	3"
2	E	3/8"	27 Spa. @ 5" = 11' 3"	14 Spa. @ 7" = 8' 2"	12 Spa. @ 9" = 9' 0"	10 Spa. @ 12" = 10' 0"	9 Spa. @ 16" = 12' 0"	2 1/2"	3 1/2"	4 1/2"	6"
3	A	-1 1/8"	31 Spa. @ 5" = 12' 11"	11 Spa. @ 7" = 6' 5"	12 Spa. @ 9" = 9' 0"		10 Spa. @ 14" = 11' 8"	2 1/2"	3 1/2"		4 1/2"
3	B	-2"	Double Row 19 Spa. @ 5" = 7' 11"	15 Spa. @ 6" = 7' 6"	28 Spa. @ 4" = 9' 4"		22 Spa. @ 6" = 11' 0"	2 1/2"	2"		2"
3	C	3/4"	Double Row 24 Spa. @ 6" = 12' 0"	28 Spa. @ 4" = 9' 4"			20 Spa. @ 6" = 10' 0"	2"			2"
3	D	-2"	Double Row 15 Spa. @ 6" = 7' 6"	27 Spa. @ 4" = 9' 0"			22 Spa. @ 6" = 11' 0"	2"			2"
3	E	2 1/8"	9 Spa. @ 7" = 5' 3"	8 Spa. @ 12" = 8' 0"			9 Spa. @ 16" = 12' 0"	3 1/2"			3"
6	A	-1 1/4"	28 Spa. @ 5" = 11' 8"	7 Spa. @ 9" = 5' 3"			13 Spa. @ 12" = 13' 0"	2 1/2"			4 1/2"
6	B	3 3/4"	Double Row 29 Spa. @ 5" = 12' 1"	26 Spa. @ 4" = 8' 8"			22 Spa. @ 6" = 11' 0"	2"			2"
6	C	3/4"	26 Spa. @ 6" = 13' 0"	33 Spa. @ 4" = 11' 0"			24 Spa. @ 6" = 12' 0"	2"			2"
6	D	-1 1/4"	Double Row 25 Spa. @ 6" = 12' 6"	23 Spa. @ 4" = 7' 8"	12 Spa. @ 5" = 6' 8"		26 Spa. @ 6" = 13' 0"	2"	2"		2 1/2"
6	E	5/8"	31 Spa. @ 5" = 12' 11"	17 Spa. @ 7" = 9' 11"	10 Spa. @ 10" = 8' 4"		11 Spa. @ 14" = 12' 10"	2 1/2"	3 1/2"		5"
7	A	1 1/2"	27 Spa. @ 5" = 11' 3"	7 Spa. @ 9" = 5' 3"			13 Spa. @ 12" = 13' 0"	2 1/2"			4 1/2"
7	B	2 1/8"	Double Row 29 Spa. @ 5" = 12' 1"	26 Spa. @ 4" = 8' 8"			22 Spa. @ 6" = 11' 0"	2"			2"
7	C	-5/8"	26 Spa. @ 6" = 13' 0"	33 Spa. @ 4" = 11' 0"			24 Spa. @ 6" = 12' 0"	2"			2"
7	D	1/2"	25 Spa. @ 6" = 12' 6"	23 Spa. @ 4" = 7' 8"	12 Spa. @ 5" = 6' 8"		26 Spa. @ 6" = 13' 0"	2"	2"		2 1/2"
7	E	3/4"	31 Spa. @ 5" = 12' 11"	17 Spa. @ 7" = 9' 11"	10 Spa. @ 10" = 8' 4"		11 Spa. @ 14" = 12' 10"	2 1/2"	3 1/2"		5"
8	A	-3/8"	31 Spa. @ 4" = 10' 4"	22 Spa. @ 6" = 11' 0"	10 Spa. @ 9" = 9' 0"		10 Spa. @ 14" = 11' 8"	2"	3"		4 1/2"
8	B	-1 1/8"	Double Row 22 Spa. @ 3 1/2" = 10' 1"	Double Row 17 Spa. @ 7" = 9' 11"	29 Spa. @ 4 1/2" = 10' 10 1/2"		24 Spa. @ 6 1/2" = 13' 0"	2 3/4"	2 1/2"		2 1/2"
8	C	-3/8"	25 Spa. @ 6" = 12' 6"	28 Spa. @ 4" = 9' 4"	29 Spa. @ 5" = 12' 1"		16 Spa. @ 7" = 9' 4"	2"	2"		2 1/2"
8	D		Double Row 22 Spa. @ 6" = 11' 0"	33 Spa. @ 4" = 11' 0"	29 Spa. @ 5" = 12' 1"		20 Spa. @ 7" = 11' 8"	2"	2"		2 1/2"
8	E	-1 1/8"	29 Spa. @ 5" = 12' 1"	25 Spa. @ 6" = 12' 6"	15 Spa. @ 9" = 11' 3"		10 Spa. @ 14" = 11' 8"	2 1/2"	3"		4 1/2"

SPAN	BEAM OR GIRDER	A	B	C	D	E	F	G	H	I	J
11	A	1 1/8"	26 Spa. @ 6" = 13' 0"	29 Spa. @ 5" = 12' 1"	14 Spa. @ 7" = 8' 2"	7 Spa. @ 10" = 5' 10"	9 Spa. @ 14" = 10' 6"	2 1/2"	2 1/2"	3 1/2"	3 1/2"
11	B	3/4"	Double Row 21 Spa. @ 6" = 10' 6"	32 Spa. @ 4" = 10' 8"	19 Spa. @ 5" = 7' 11"	19 Spa. @ 6" = 9' 6"	18 Spa. @ 8" = 12' 0"	2"	2"	2 1/2"	3"
11	C	1/2"	18 Spa. @ 6" = 9' 0"	37 Spa. @ 4" = 12' 4"	21 Spa. @ 5" = 8' 9"	22 Spa. @ 6" = 11' 0"	12 Spa. @ 8" = 8' 0"	2"	2"	2 1/2"	3"
11	D	-1 1/2"	19 Spa. @ 6" = 9' 6"	37 Spa. @ 4" = 12' 4"	21 Spa. @ 5" = 8' 9"	22 Spa. @ 6" = 11' 0"	12 Spa. @ 8" = 8' 0"	2"	2"	2 1/2"	3"
11	E	-1 1/2"	20 Spa. @ 6" = 10' 0"	25 Spa. @ 4" = 8' 4"	19 Spa. @ 5" = 7' 11"	26 Spa. @ 6" = 13' 0"	14 Spa. @ 10" = 11' 8"	2"	2"	2 1/2"	3"
12	A	3/8"	26 Spa. @ 6" = 13' 0"	31 Spa. @ 5" = 12' 11"	14 Spa. @ 7" = 8' 2"	7 Spa. @ 10" = 5' 10"	9 Spa. @ 14" = 10' 6"	2 1/2"	2 1/2"	3 1/2"	3 1/2"
12	B	1 1/2"	Double Row 21 Spa. @ 6" = 10' 6"	32 Spa. @ 4" = 10' 8"	19 Spa. @ 5" = 7' 11"	19 Spa. @ 6" = 9' 6"	18 Spa. @ 8" = 12' 0"	2"	2"	2 1/2"	3"
12	C	1 1/2"	16 Spa. @ 6" = 8' 0"	37 Spa. @ 4" = 12' 4"	21 Spa. @ 5" = 8' 9"	22 Spa. @ 6" = 11' 0"	12 Spa. @ 8" = 8' 0"	2"	2"	2 1/2"	3"
12	D	2"	15 Spa. @ 6" = 7' 6"	37 Spa. @ 4" = 12' 4"	21 Spa. @ 5" = 8' 9"	22 Spa. @ 6" = 11' 0"	12 Spa. @ 8" = 8' 0"	2"	2"	2 1/2"	3"
12	E	1 3/4"	17 Spa. @ 6" = 8' 6"	24 Spa. @ 4" = 8' 0"	19 Spa. @ 5" = 7' 11"	26 Spa. @ 6" = 13' 0"	14 Spa. @ 10" = 11' 8"	2"	2"	2 1/2"	3"
13	A	3/8"	30 Spa. @ 5" = 12' 6"	10 Spa. @ 9" = 7' 6"			9 Spa. @ 15" = 11' 3"	2 1/2"			4 1/2"
13	B	7/8"	Double Row 21 Spa. @ 6" = 10' 6"	24 Spa. @ 4" = 8' 0"			24 Spa. @ 6" = 12' 0"	2"			2"
13	C	-1"	Double Row 20 Spa. @ 6" = 10' 6"	25 Spa. @ 4" = 8' 4"			24 Spa. @ 6" = 10' 0"	2"			2"
13	D	-3/4"	Double Row 20 Spa. @ 6" = 10' 6"	25 Spa. @ 4" = 8' 4"			24 Spa. @ 6" = 10' 0"	2"			2"
13	E	-1 1/2"	18 Spa. @ 5" = 7' 6"	17 Spa. @ 7" = 8' 11"			12 Spa. @ 12" = 12' 0"	2 1/2"			3 1/2"

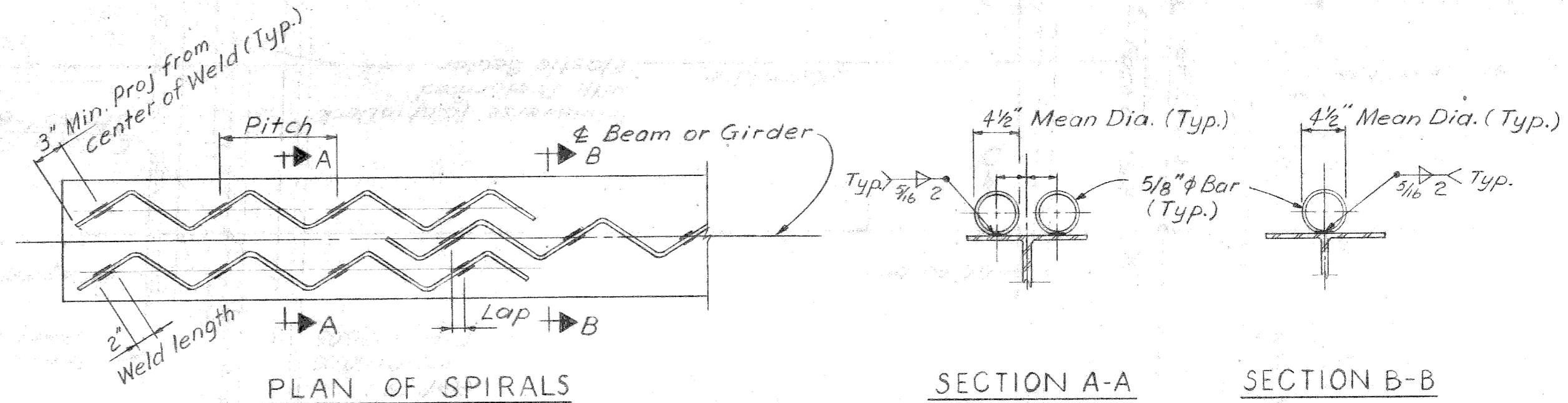
SPAN	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
" 4	33 Spa. @ 4" = 11' 0"	31 Spa. @ 5" = 12' 11"	26 Spa. @ 6" = 13' 0"	11 Spa. @ 9" = 8' 3"	12 Spa. @ 9" = 9' 0"	19 Spa. @ 7" = 11' 1"	24 Spa. @ 5 1/2" = 12' 0"	31 Spa. @ 4" = 10' 4"	28' 4 1/2" No Spiral	2"	2 1/2"	3"	4 1/2"	3 1/2"	2 1/2"	2"
" 5	33 Spa. @ 4" = 11' 0"	31 Spa. @ 5" = 12' 11"	26 Spa. @ 6" = 13' 0"	11 Spa. @ 9" = 8' 3"	12 Spa. @ 9" = 9' 0"	19 Spa. @ 7" = 11' 1"	24 Spa. @ 5 1/2" = 12' 0"	31 Spa. @ 4" = 10' 4"	28' 6 3/4" No Spiral	2"	2 1/2"	3"	4 1/2"	3 1/2"	2 1/2"	2"
" 9 & 10	33 Spa. @ 4" = 11' 0"	33 Spa. @ 4 1/2" = 12' 4 1/2"	22 Spa. @ 6" = 11' 0"	18 Spa. @ 8 1/2" = 12' 9"	26 Spa. @ 6" = 13' 0"	21 Spa. @ 5 1/2" = 8' 9"	27 Spa. @ 4" = 9' 0"		25' 10 1/2" No Spiral	2"	2 1/4"	3"	3"	2 1/2"	2"	



SPIRAL SPACING
(Simple Span)



SPIRAL SPACING
(Continuous Span)



MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

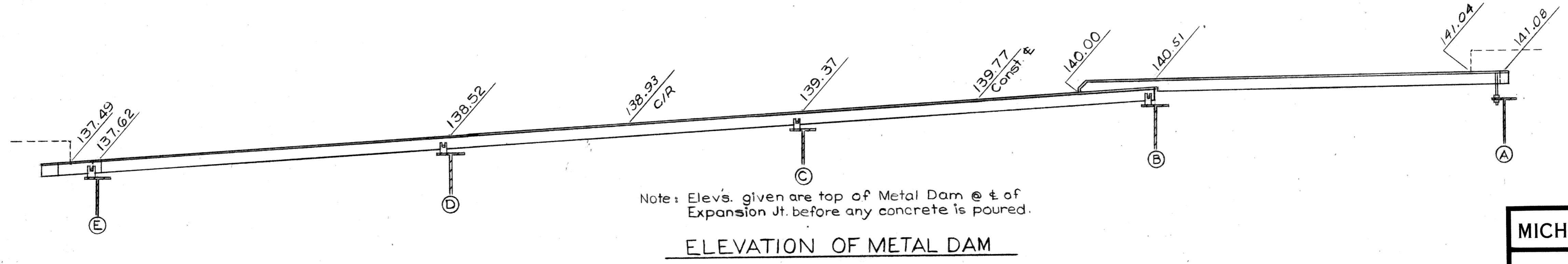
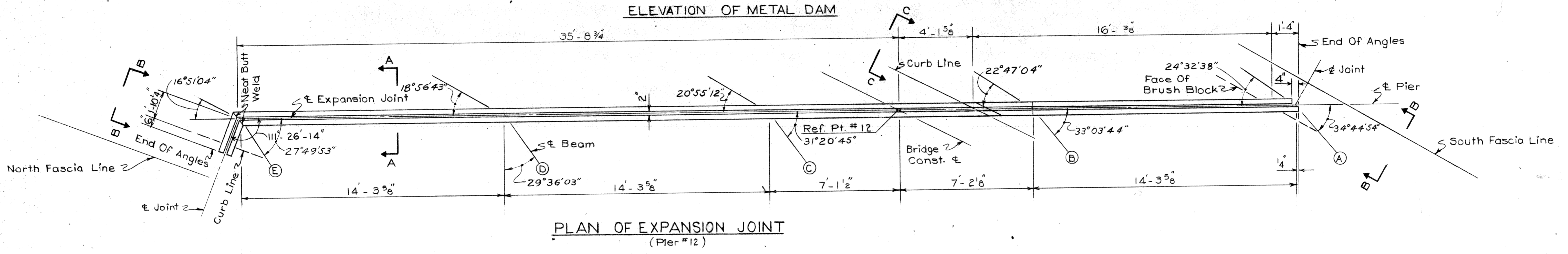
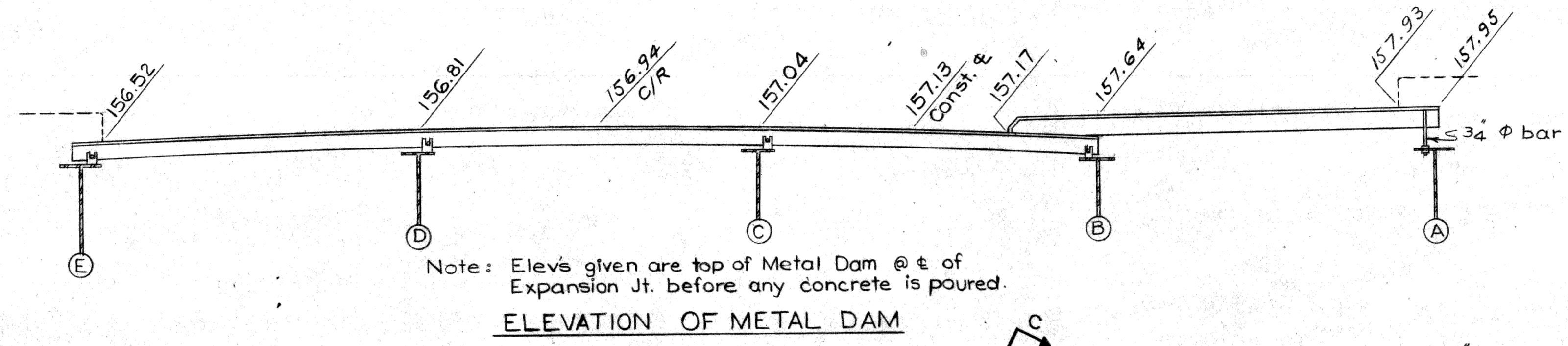
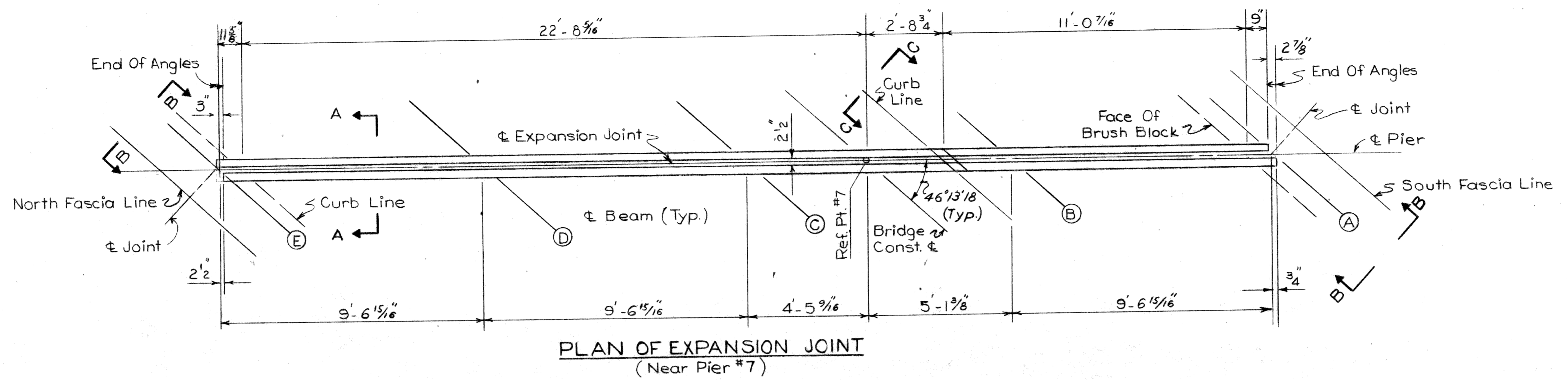
PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS' OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *H. Conant*
STRUCTURAL ENGINEER

JOB No.
FW99012

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS			
DRAWN BY	Watts		
CHECKED BY	M.C.	9-67	
CHECKED BY	FW		
SHEET 47 OF 78			
S 41 of 82123 K			



Work this sheet with Sh. #50.

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS' OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *H. Hunt*
STRUCTURAL ENGINEER

JOB No.
PW990(2)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

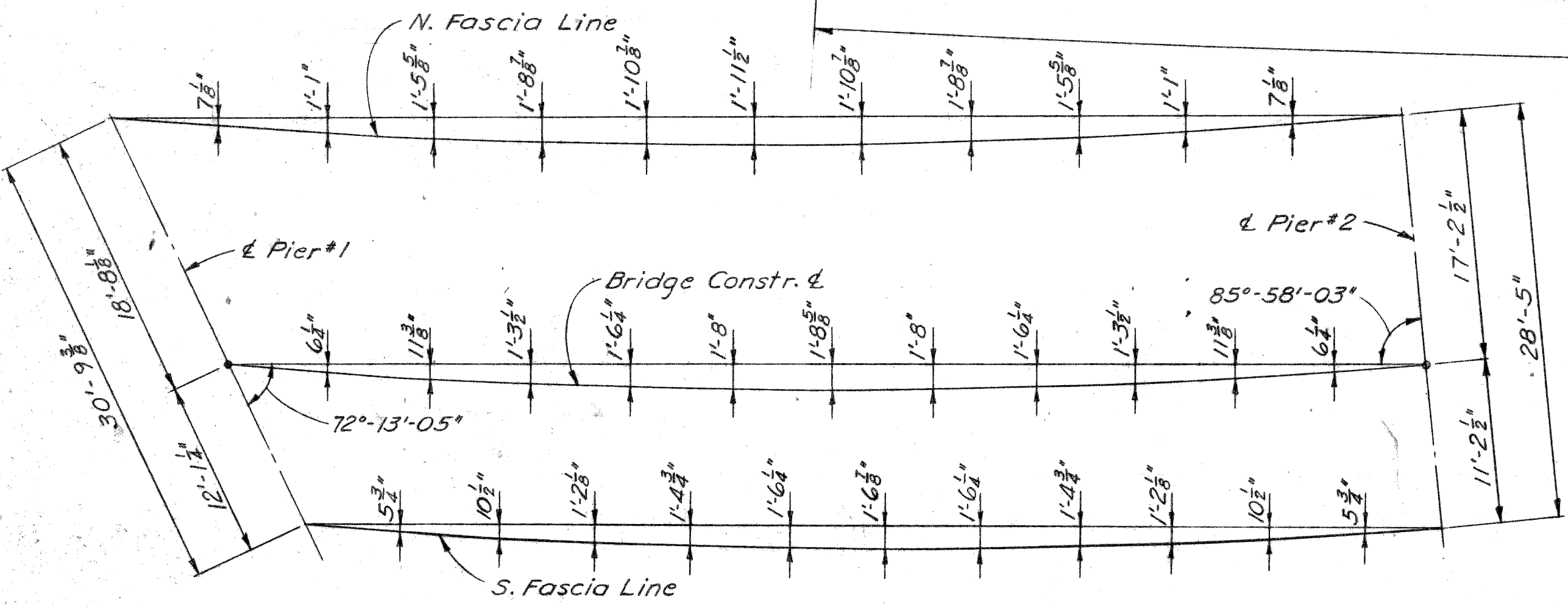
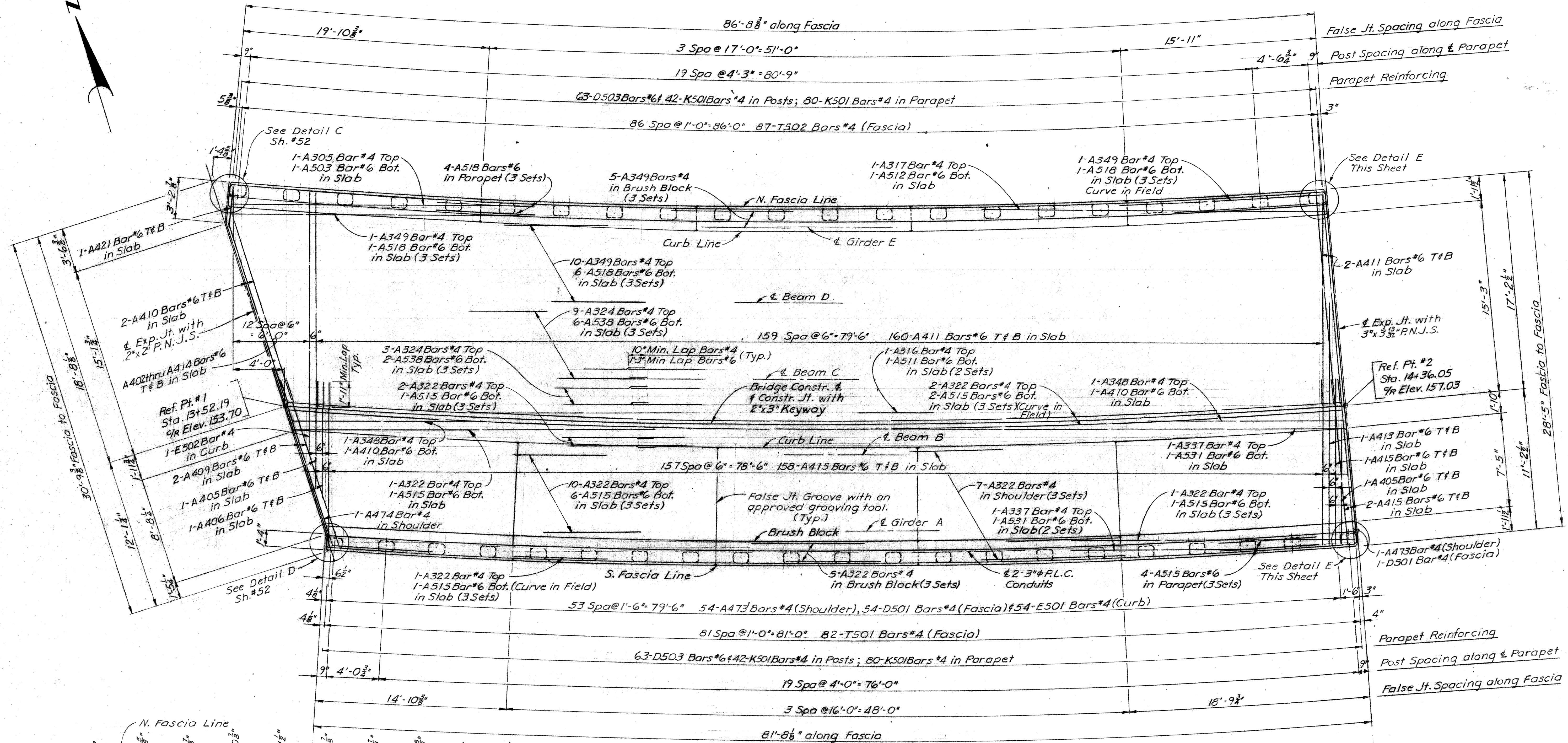
SUPERSTRUCTURE DETAILS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

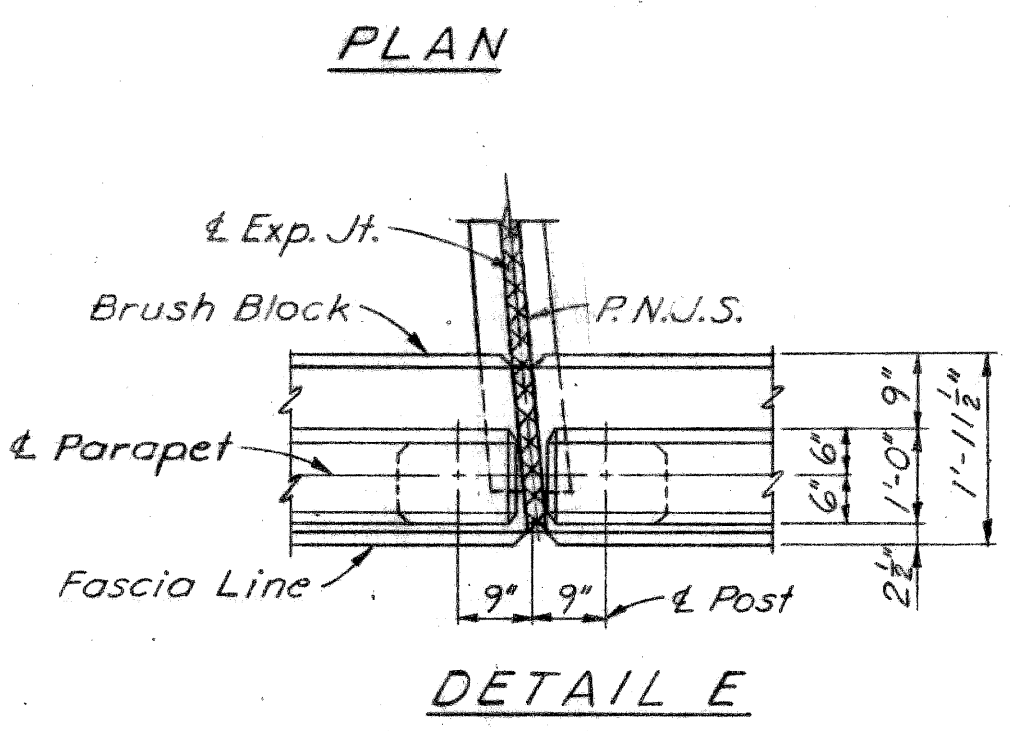
CITY OF DETROIT

SQUAD BOSS	W.G.F.S.
DRAWN BY	A. Vank. 7-67
TRACED BY	JES
CHECKED BY	JES
SHEET 51 OF 78	

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ALIGNMENT DIAGRAM



DETAIL E

Note:
For General Notes, see Sh. #68.

MICHIGAN STATE HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS

PLANS PREPARED BY
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CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

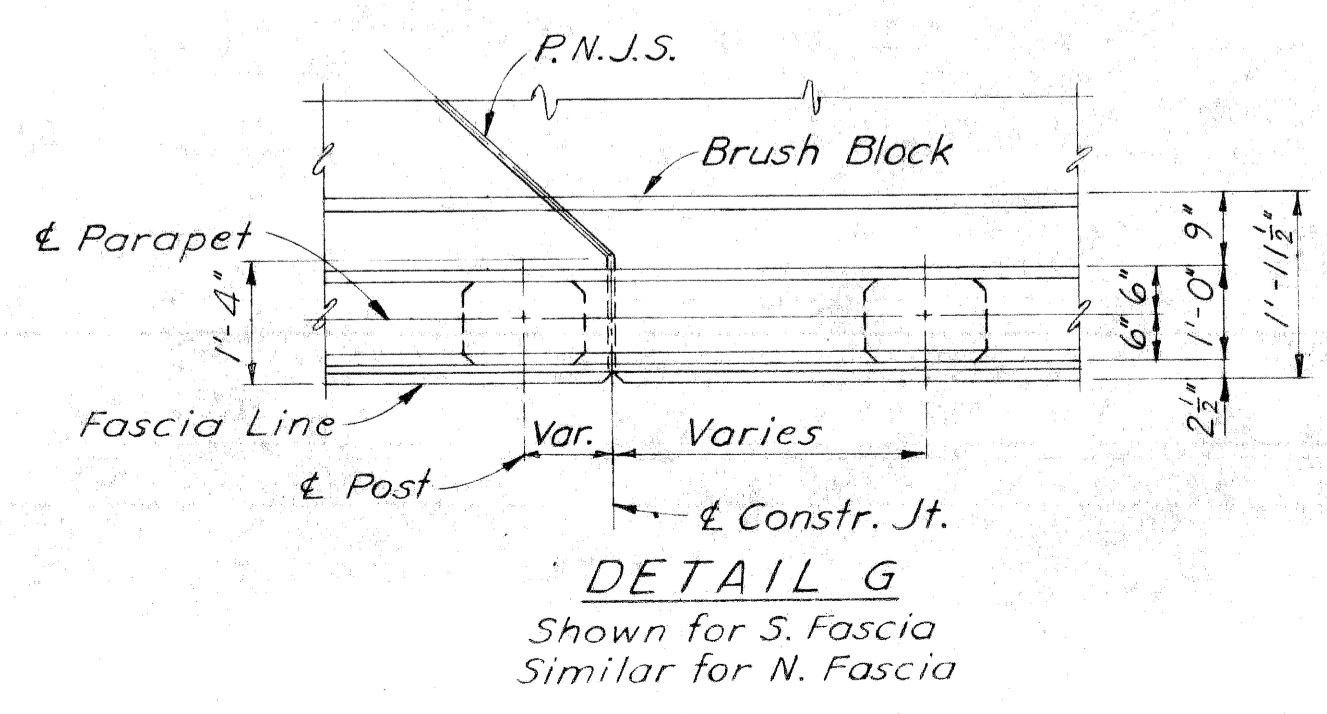
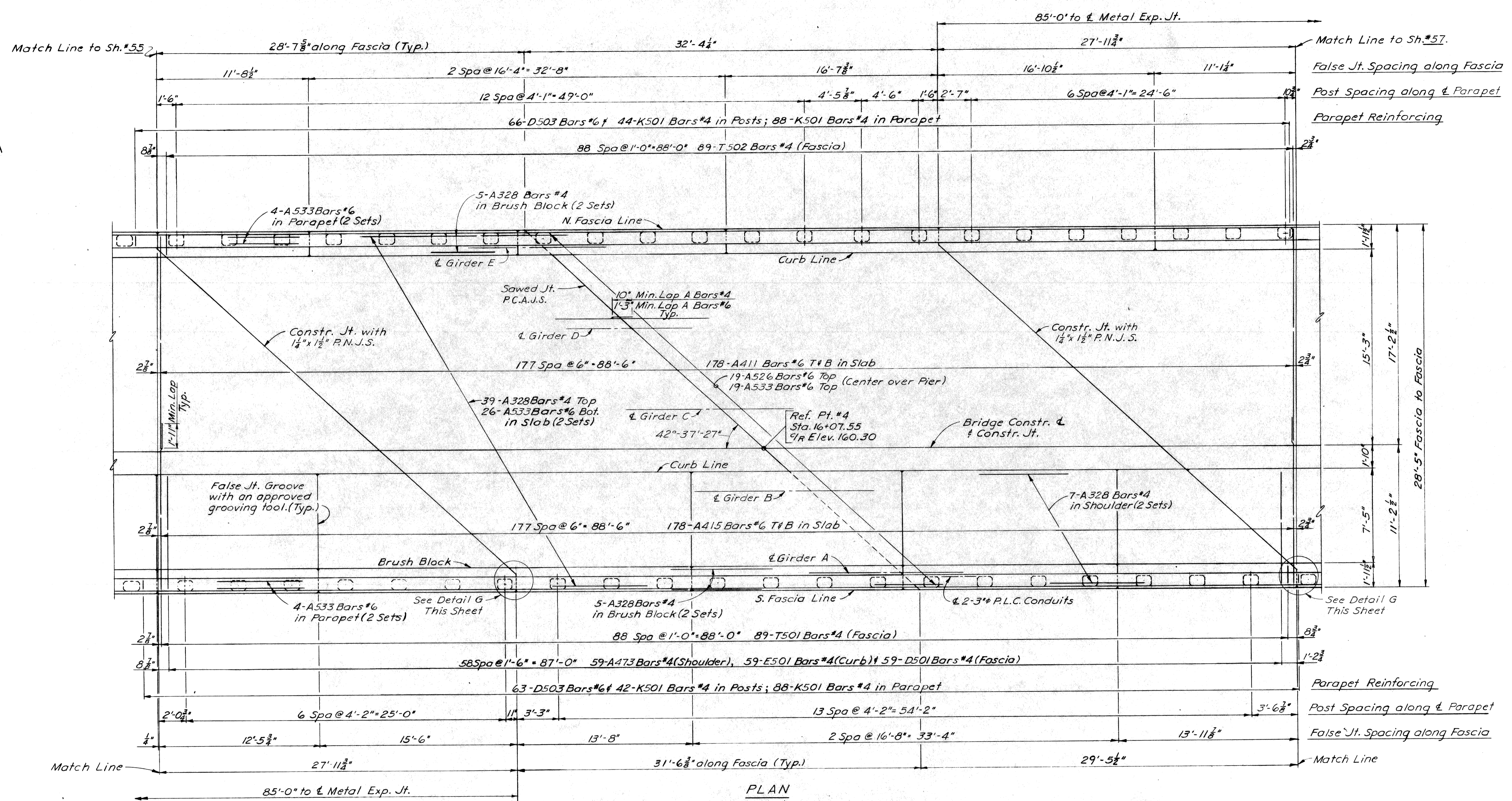
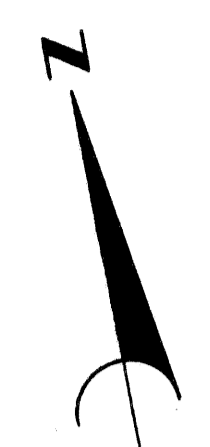
APPROVED: *H. Cant*
STRUCTURAL ENGINEER

JOB No.
EW990(2)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	Watts
DRAWN BY	R. Harris B-67
TRACED BY	JES
CHECKED BY	JES
SHEET 33 OF 78	
S 41 of 82123 K	

CITY OF DETROIT



Note:
For General Notes, see Sh.#68.

PLANS AND SPECIFICATIONS
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE SUPERVISOR OF HIGHWAYS
JOURNAL OF PROFESSIONAL ENGINEERING

Cont

MICHIGAN STATE HIGHWAY DEPARTMENT

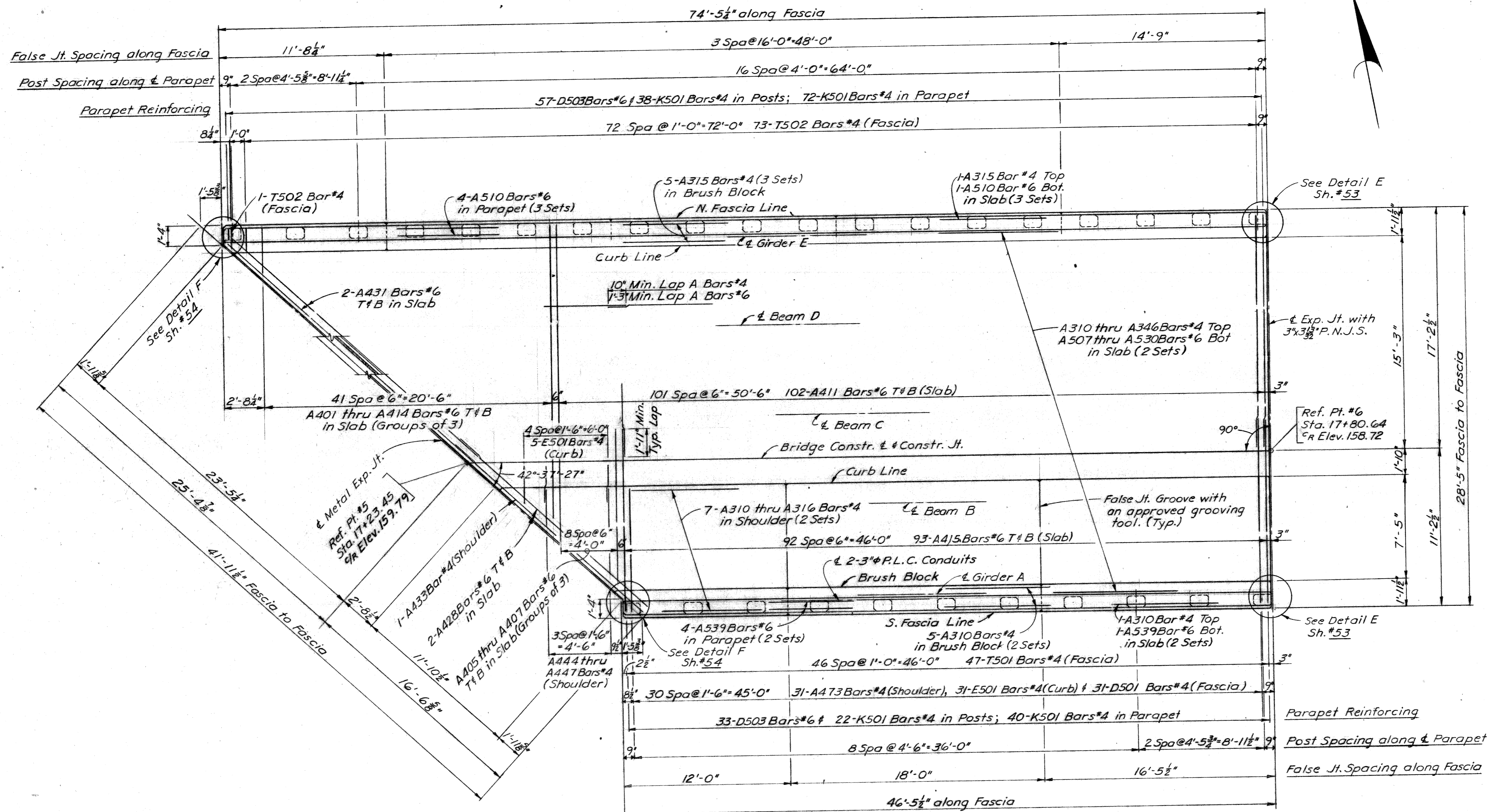
SUPERSTRUCTURE DETAILS

CITY OF DETROIT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	W. J. T. S.
DRAWN BY	R. Harris
CHECKED BY	JES
SHEET	36 of 73

S 41 of 82123 K



PLAN

Note:
For General Notes, see Sh.#68.

MICHIGAN STATE HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS

PLANS PREPARED BY
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DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *[Signature]*
STRUCTURAL ENGINEER

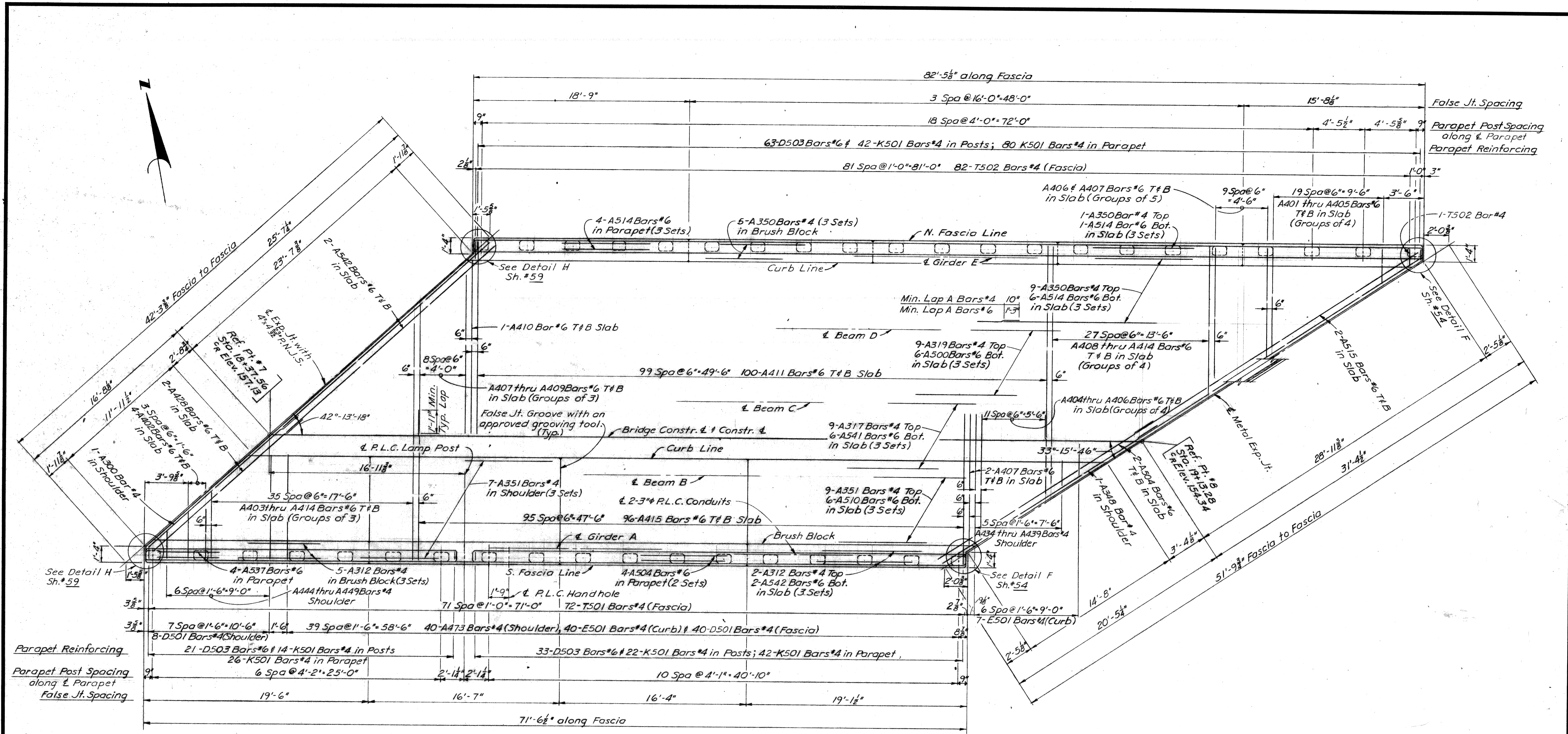
JOB No.
PW99021

REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT	
SQUAD BOSS	Watts
DRAWN BY	Watts
TRACED BY	R. Harris 8-67
CHECKED BY	JES
SHEET 58 OF 78	

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Span 6



PLAN

Note:
For General Notes, see Sh.#68.

MICHIGAN STATE HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS

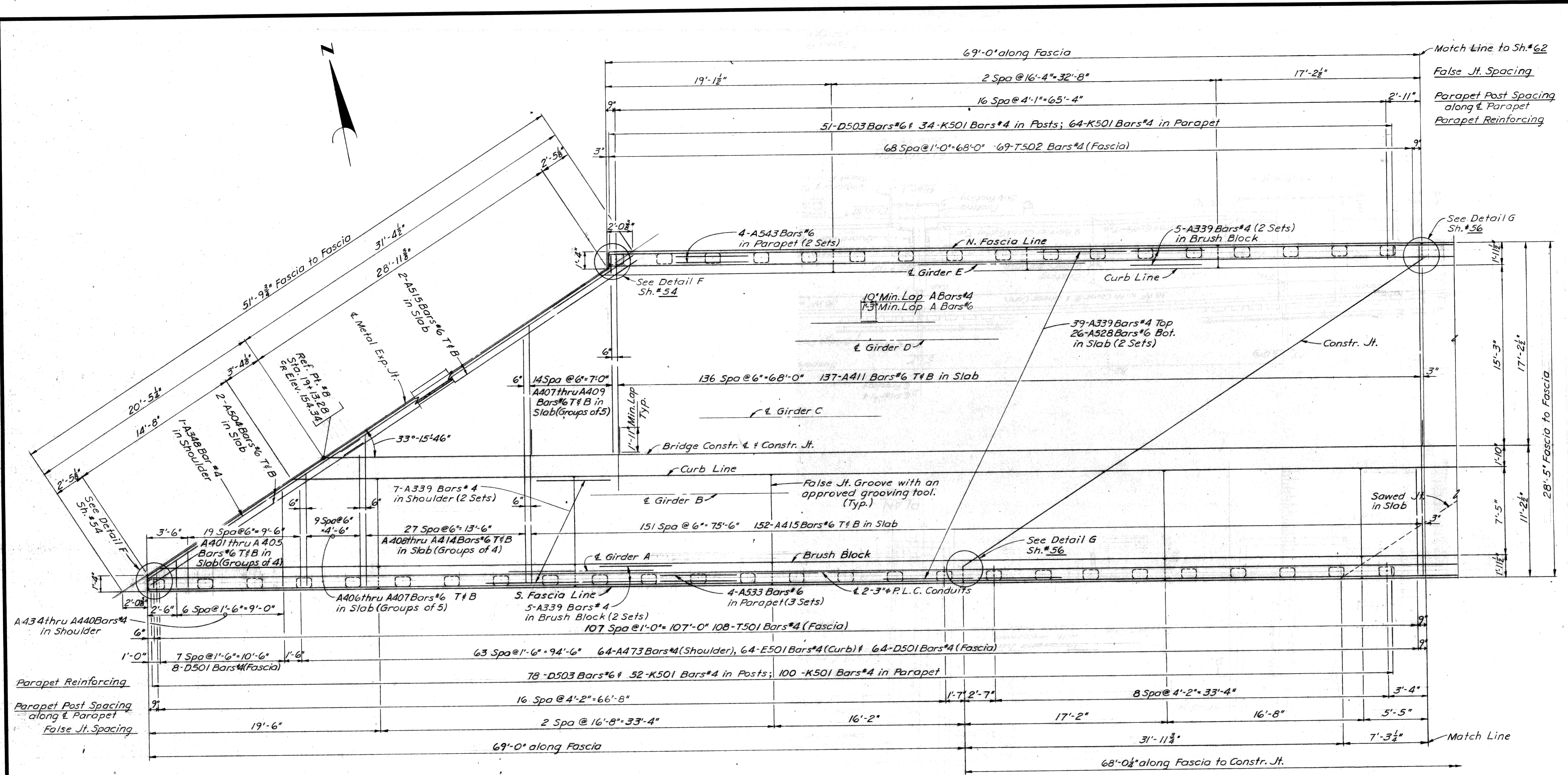
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CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPANSION
APPROVED: *[Signature]*
STRUCTURAL ENGINEER

REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT	
SQUAD BOSS	Watts
DRAWN BY	R. Harris 8-67
TRACED BY	JES
CHECKED BY	JES
SHEET 60 OF 78	

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Span 8



PLAN

Note: For General Notes, see Sh.#68.

MICHIGAN STATE HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS

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 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

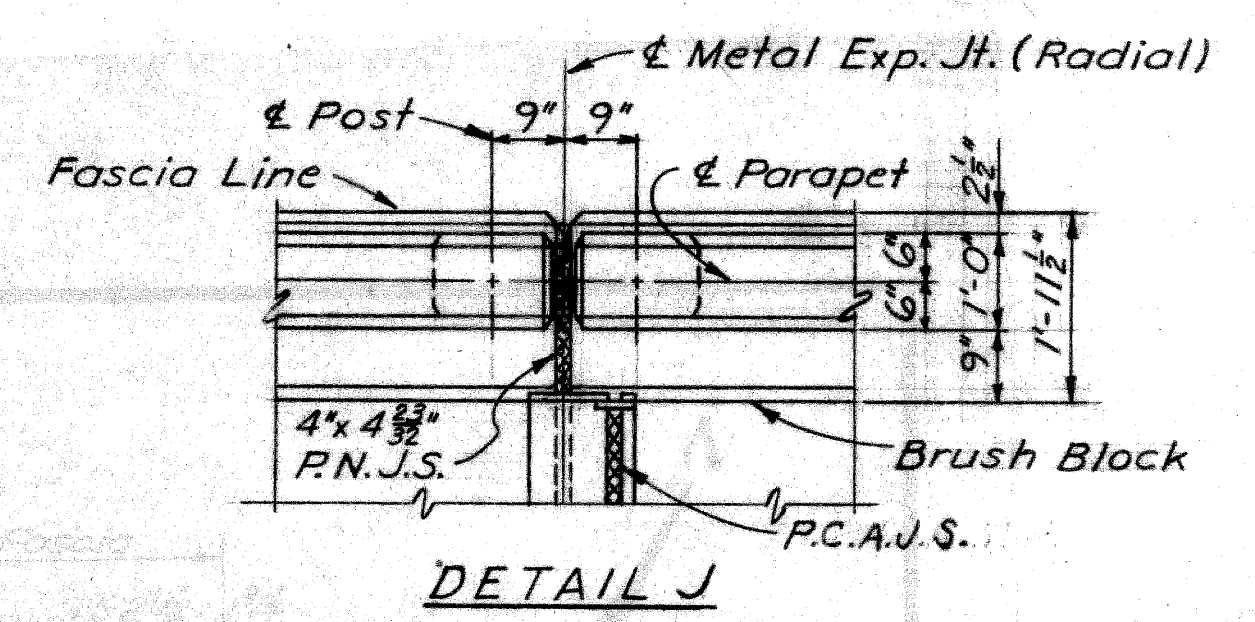
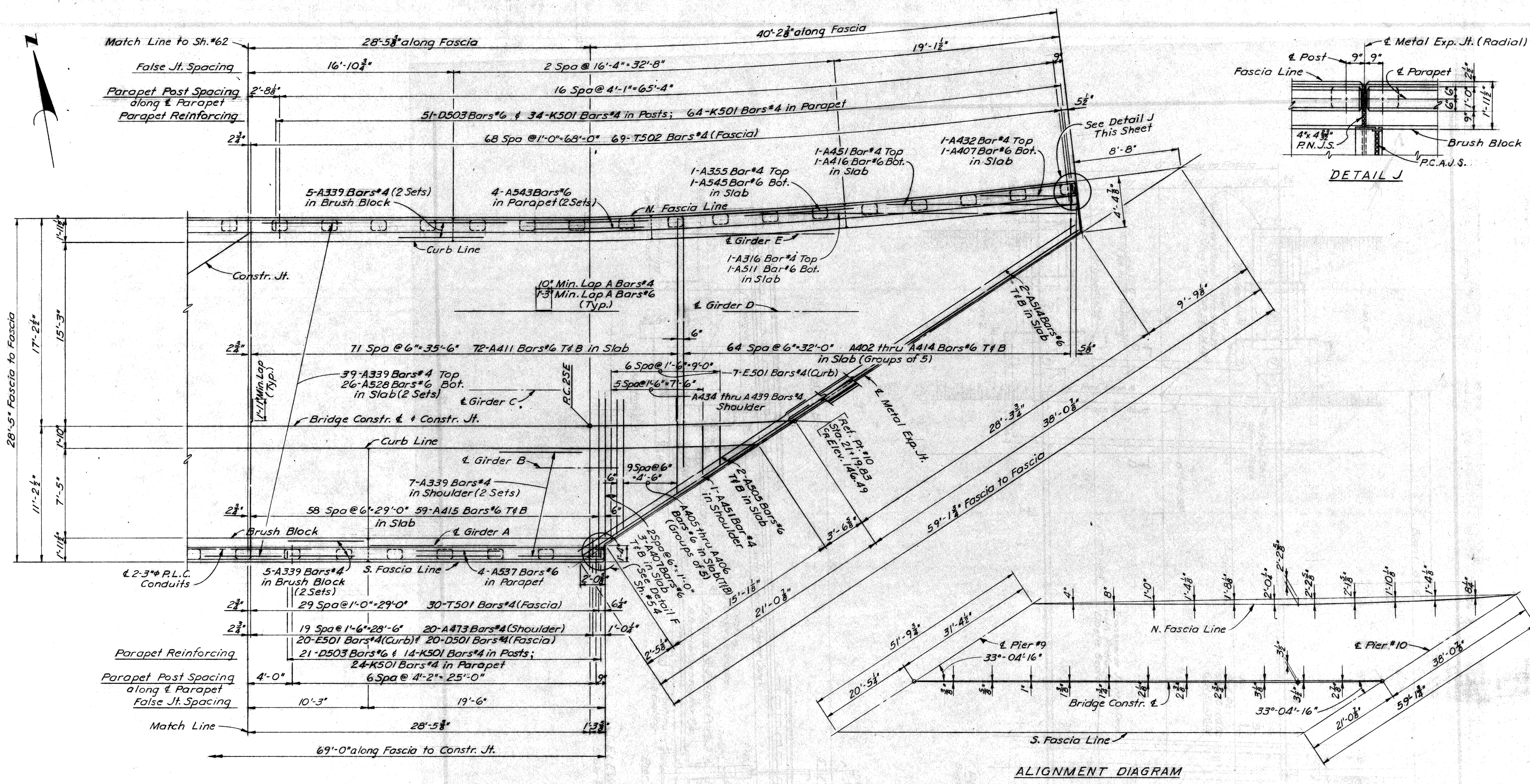
APPROVED: *H. Cant*
 STRUCTURAL ENGINEER

JOB No.
 PW990(2)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	
	Watts
DRAWN BY	
TRACED BY	R. Harris 8-67
CHECKED BY	JES
SHEET 61 OF 78	
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Span 9 (Partial)



PLAN

ALIGNMENT DIAGRAM

Note:
For General Notes, see Sh. #68.

MICHIGAN STATE HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS

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CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

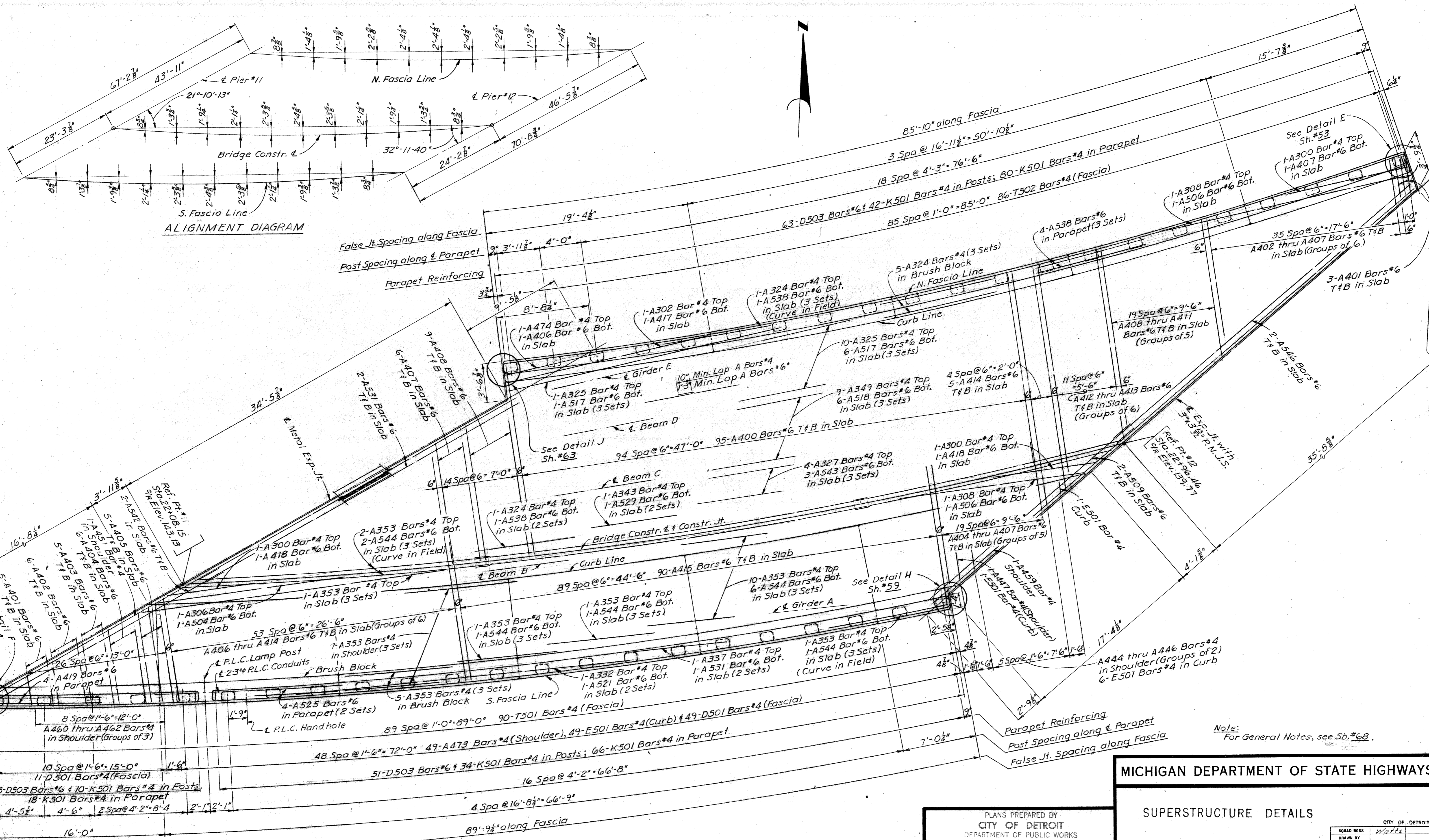
REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	WOTIS
DRAWN BY	R. Harris
TRACED BY	JES
CHECKED BY	JES
SHEET 63 OF 78	

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JOB No.
PW890121

APPROVED: *H. Cant*
STRUCTURAL ENGINEER



ALIGNMENT DIAGRAM

PLAN

Note: For General Notes, see Sh.#68.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

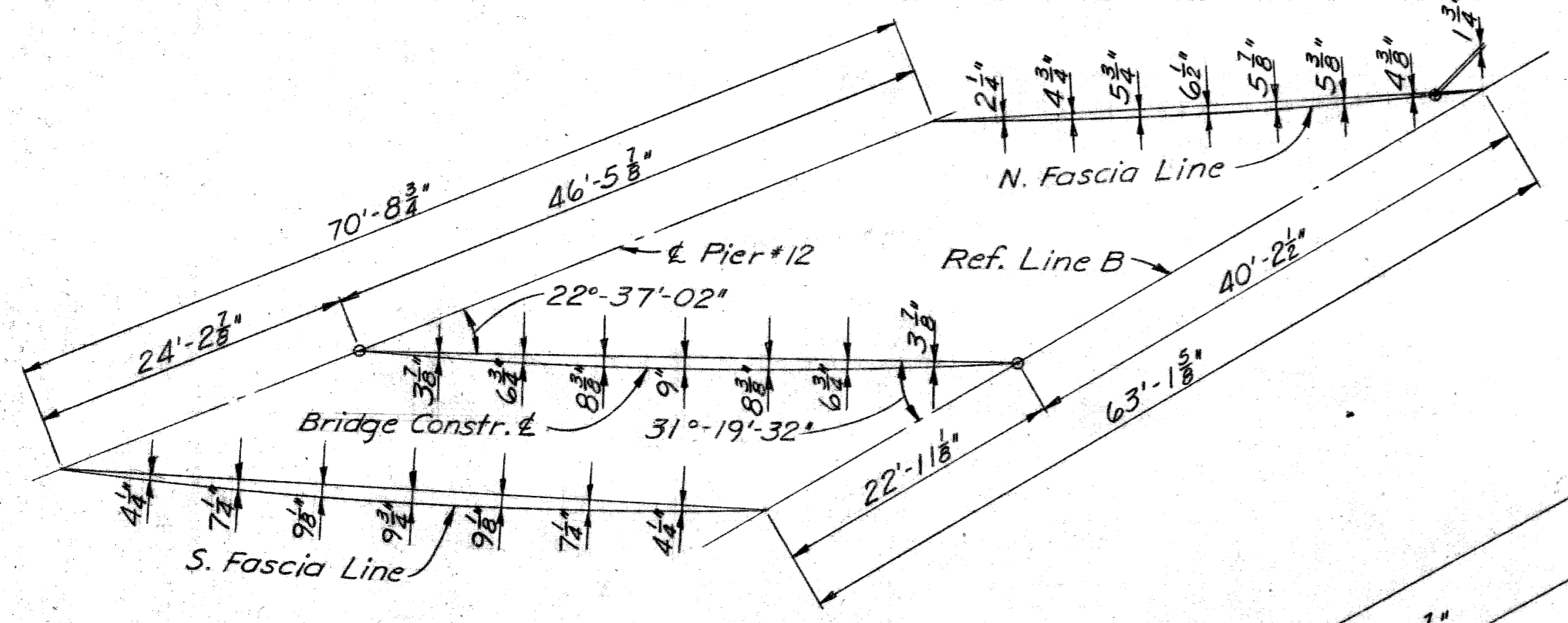
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 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *[Signature]*
 STRUCTURAL ENGINEER

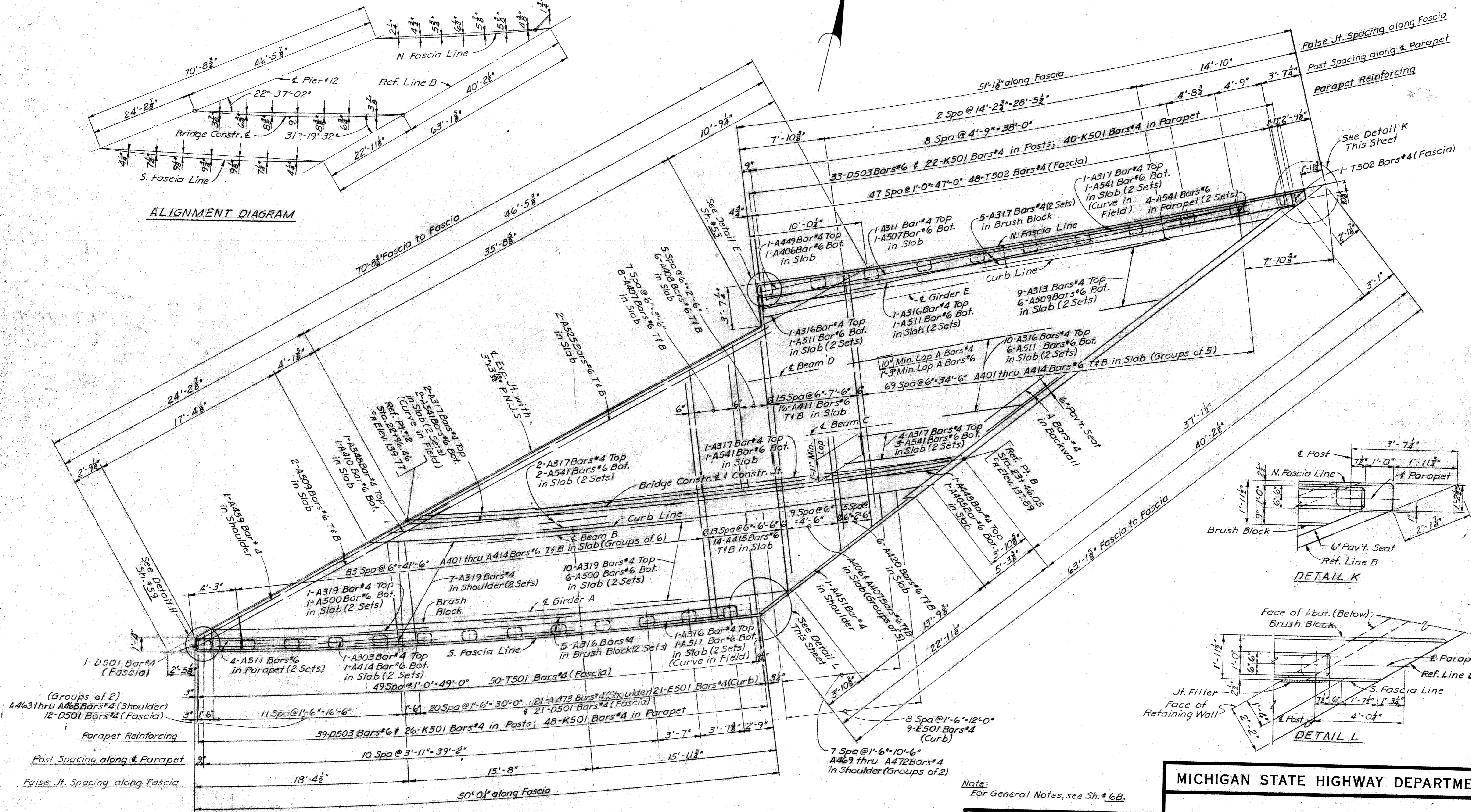
JOB No.
 PW99021

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NO.	DESCRIPTION	DATE	BY

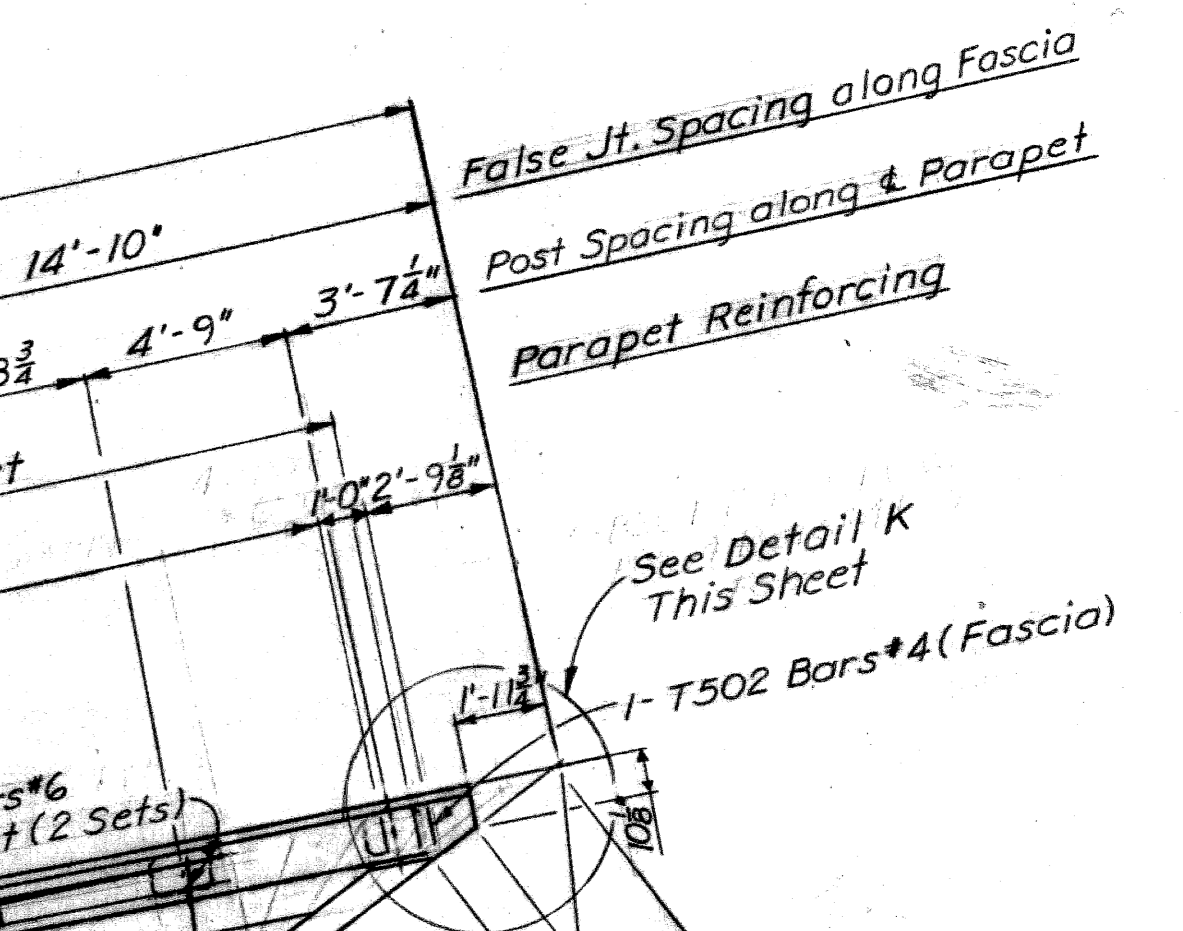
CITY OF DETROIT	
SQUAD BOSS	Watts
DRAWN BY	R. Harris 9-67
CHECKED BY	WES
SHEET	63 OF 78
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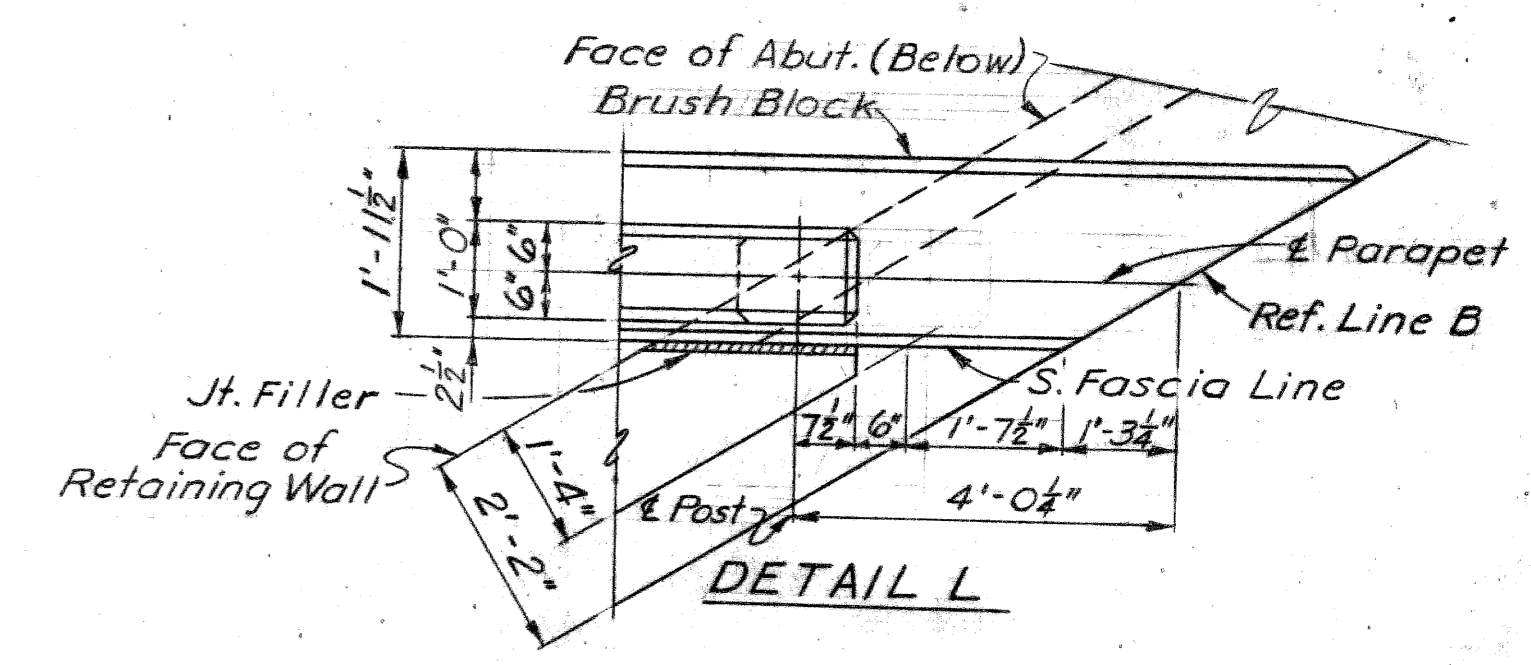
ALIGNMENT DIAGRAM



PLAN



DETAIL K



DETAIL L

Note:
For General Notes, see Sh. # 6B.

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APPROVED: *J. Cant*
STRUCTURAL ENGINEER

JOB No.
PW99022

MICHIGAN STATE HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS

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CITY OF DETROIT

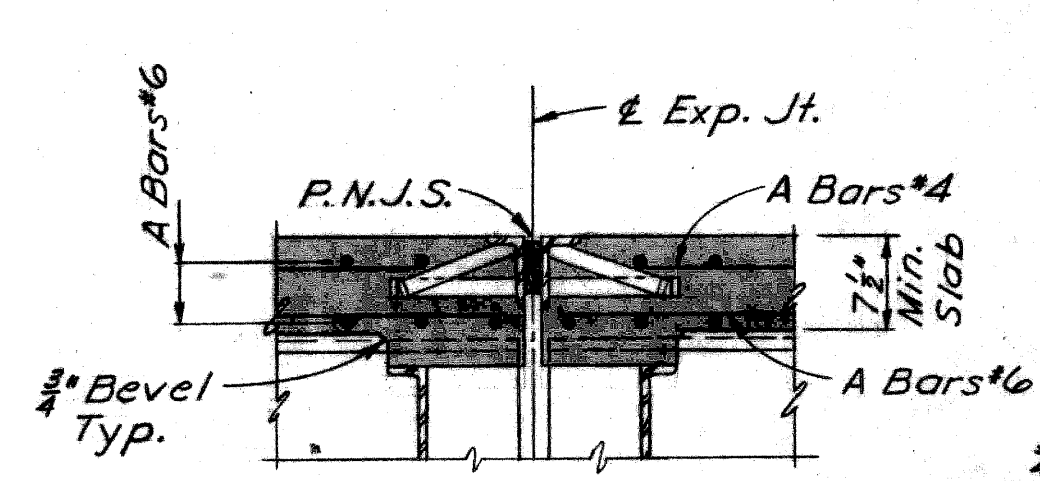
SQUAD BOSS *Watts*

DRAWN BY *R. Harris* 8-67

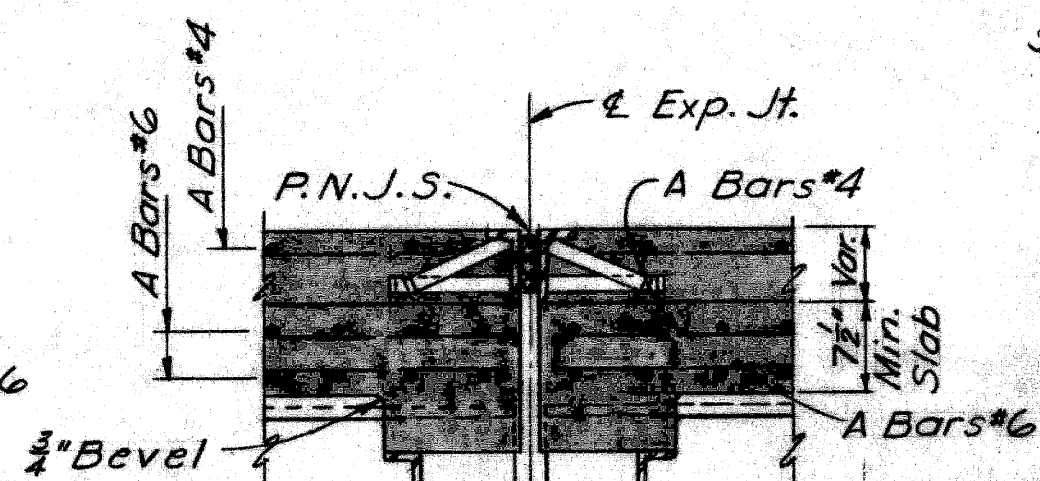
CHECKED BY *JES*

SHEET 66 OF 73

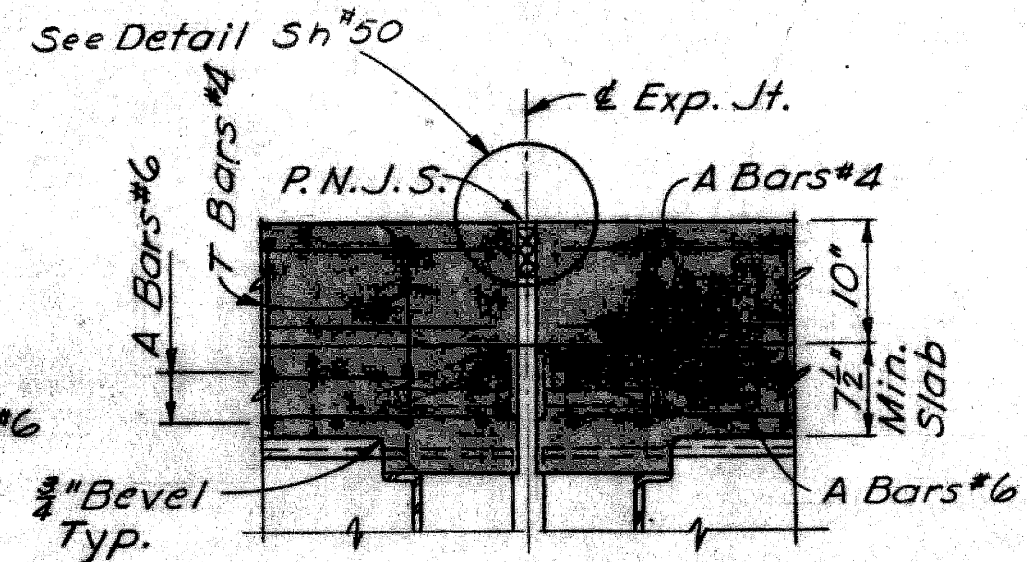
S 41 of 82123 K



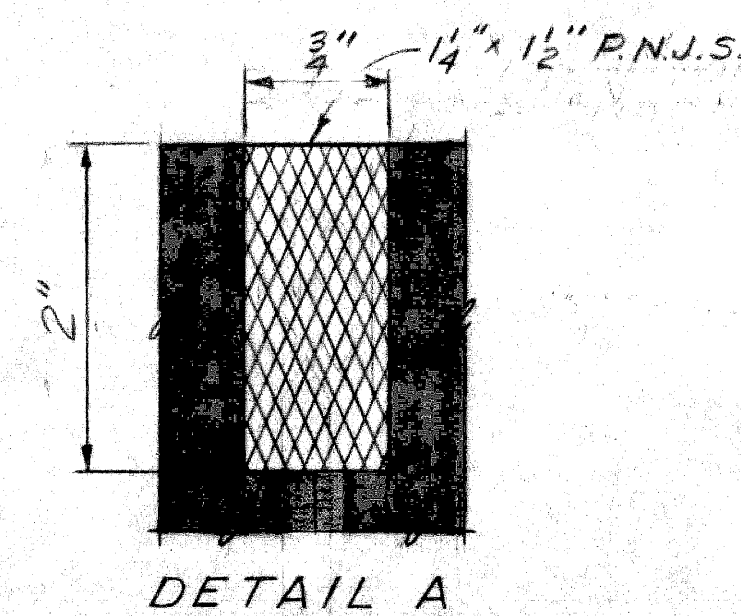
SECTION THRU SLAB @ 3" or 4" EXPAN. JT.



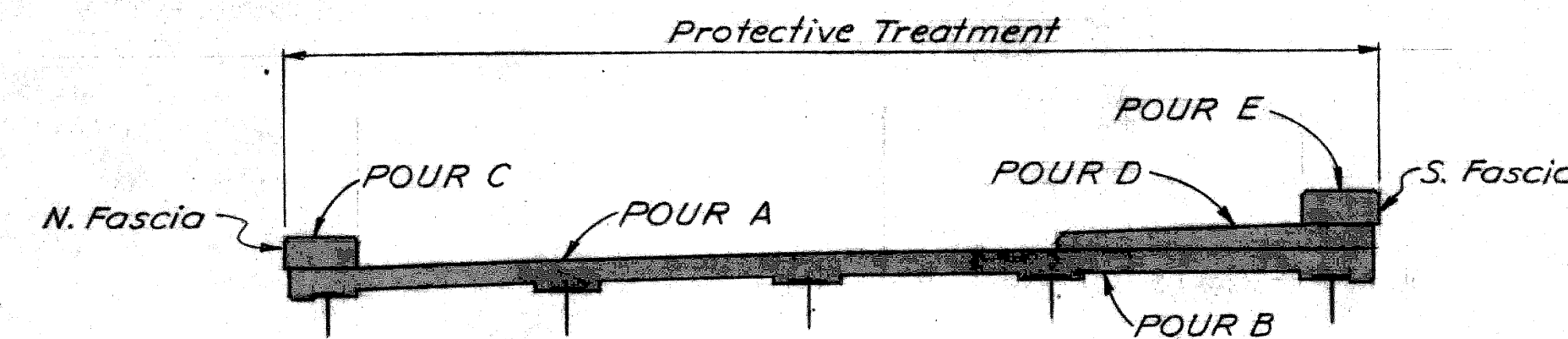
SECTION THRU SHOULDER @ 3" or 4" EXPAN. JT.



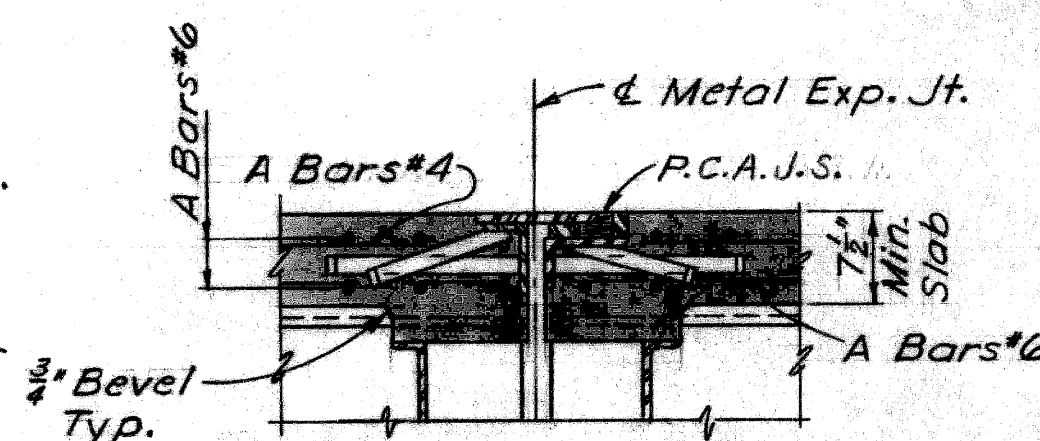
SECTION THRU BRUSH BLOCK @ EXPAN. JT.



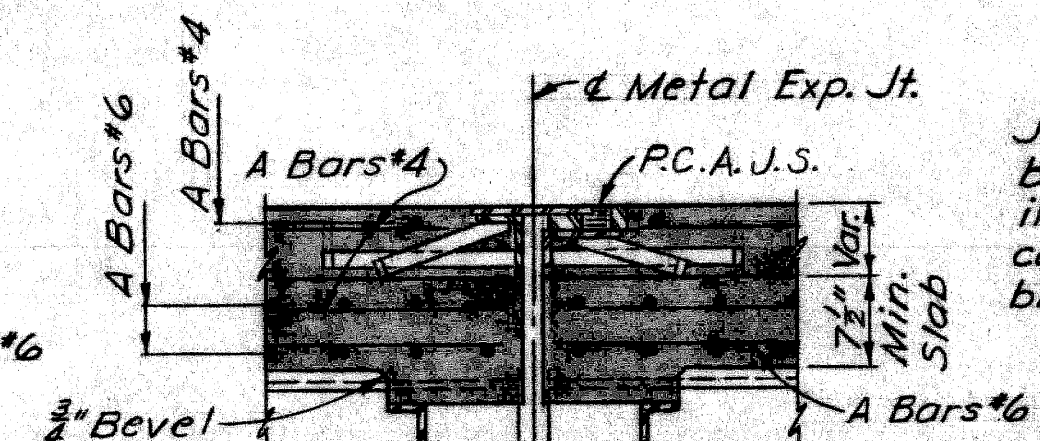
DETAIL A



POUR DIAGRAM

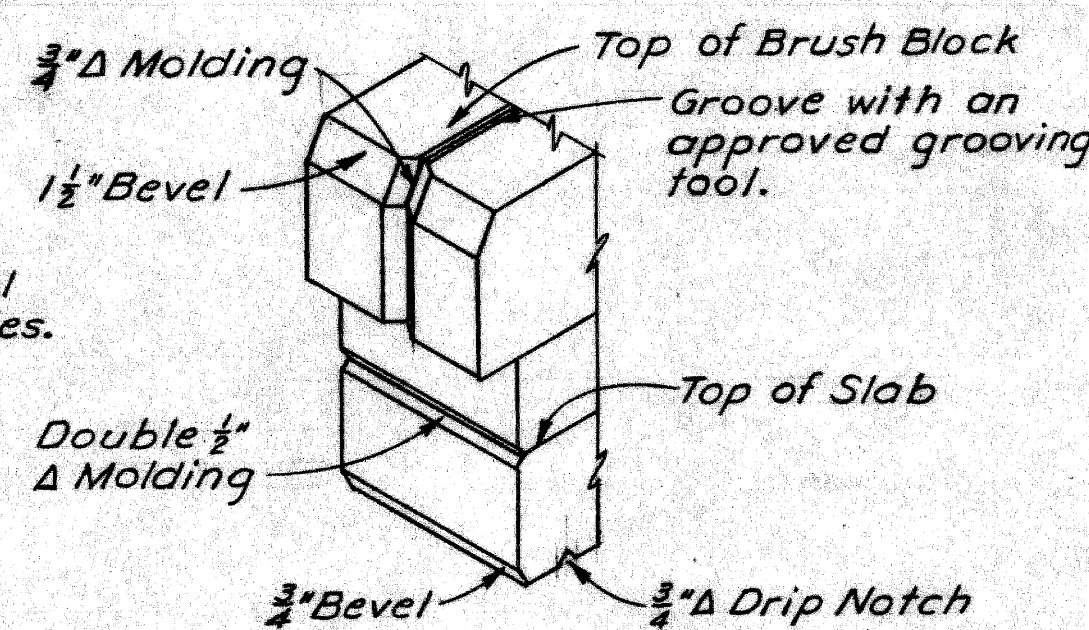
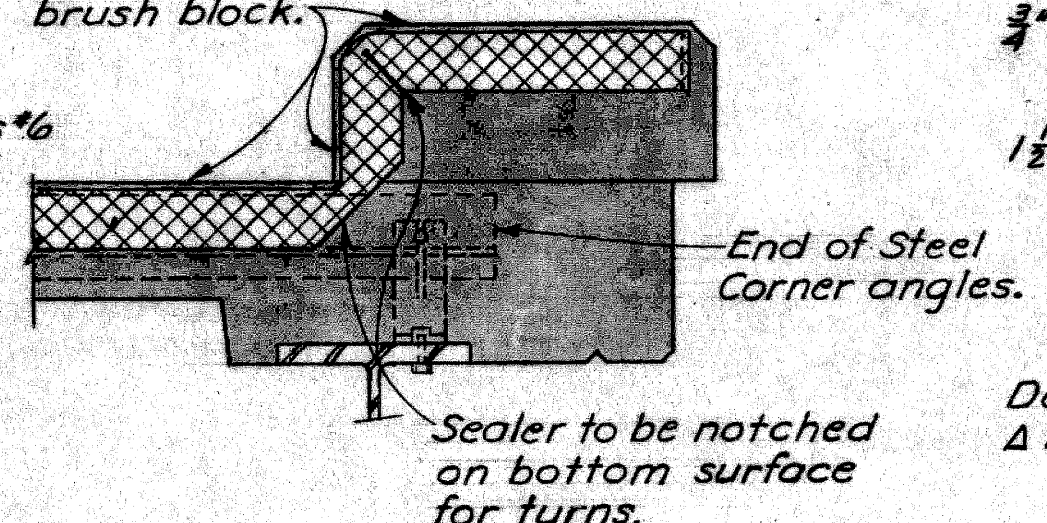


SECTION THRU SLAB @ METAL EXP. JT.

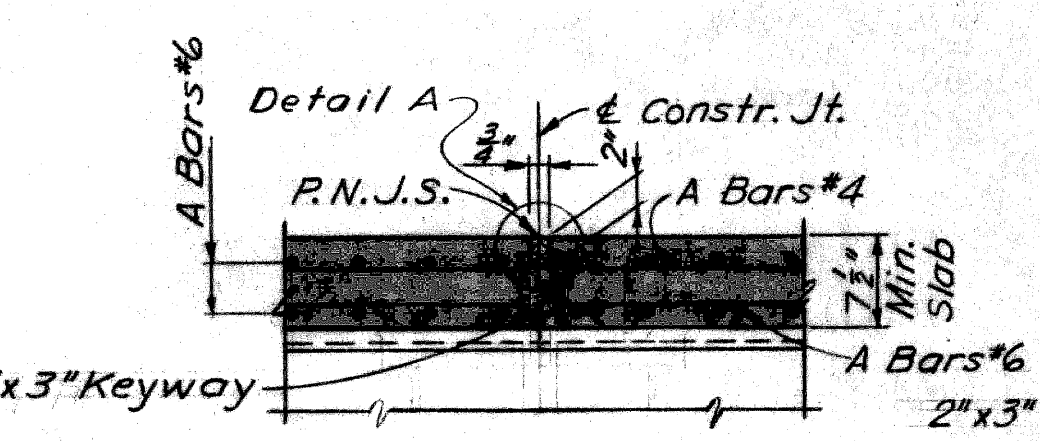


SECTION THRU SHOULDER @ METAL EXP. JT.

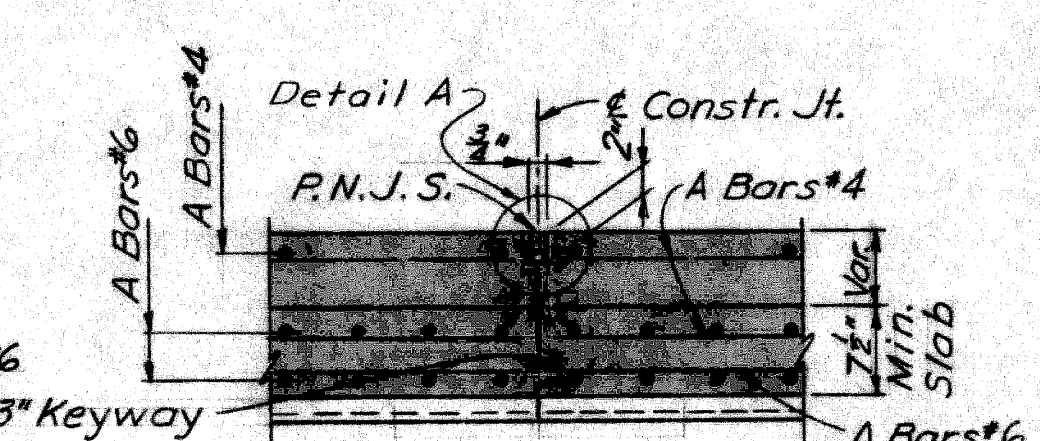
Joint in top of deck slab, shoulder and brush block to be made by sawing. Joint in curb face may be made by forming. Saw cut deck slab before placing shoulder and brush block.



FASCIA MOLDING DETAIL



SECTION THRU SLAB @ CONSTR. JT.

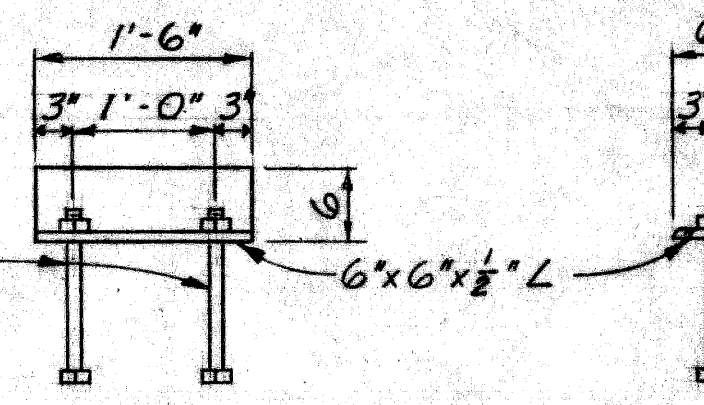


SECTION THRU SHOULDER @ CONSTR. JT.

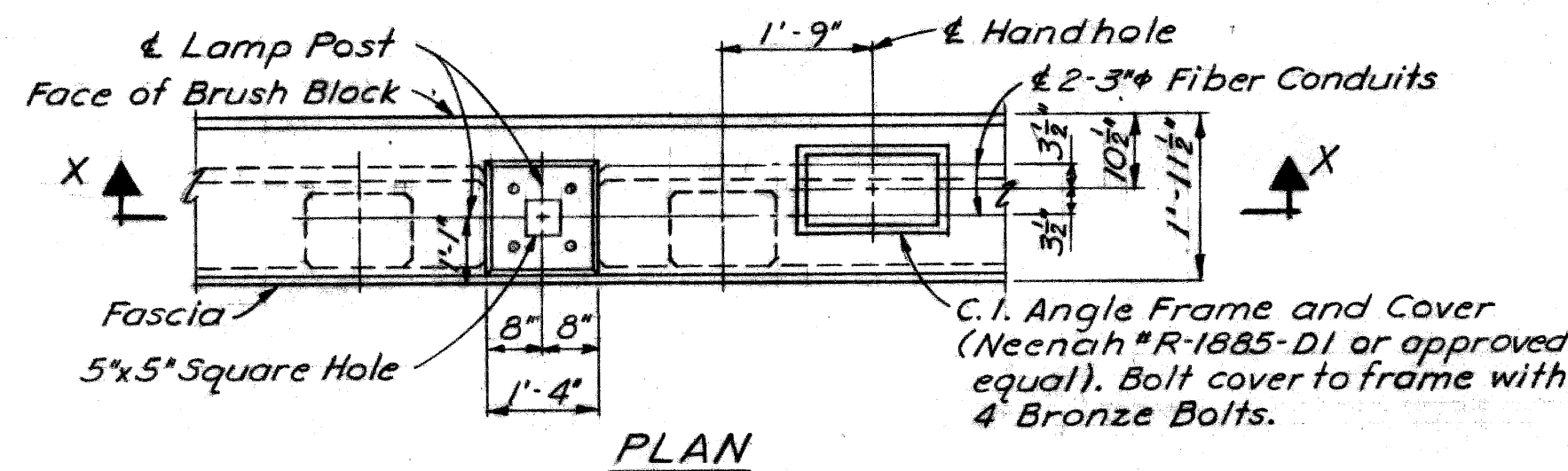
EXPAN. JT. @ CURBS (Shown @ Brush Block Similar @ Shoulder)

TYPICAL NOTCH

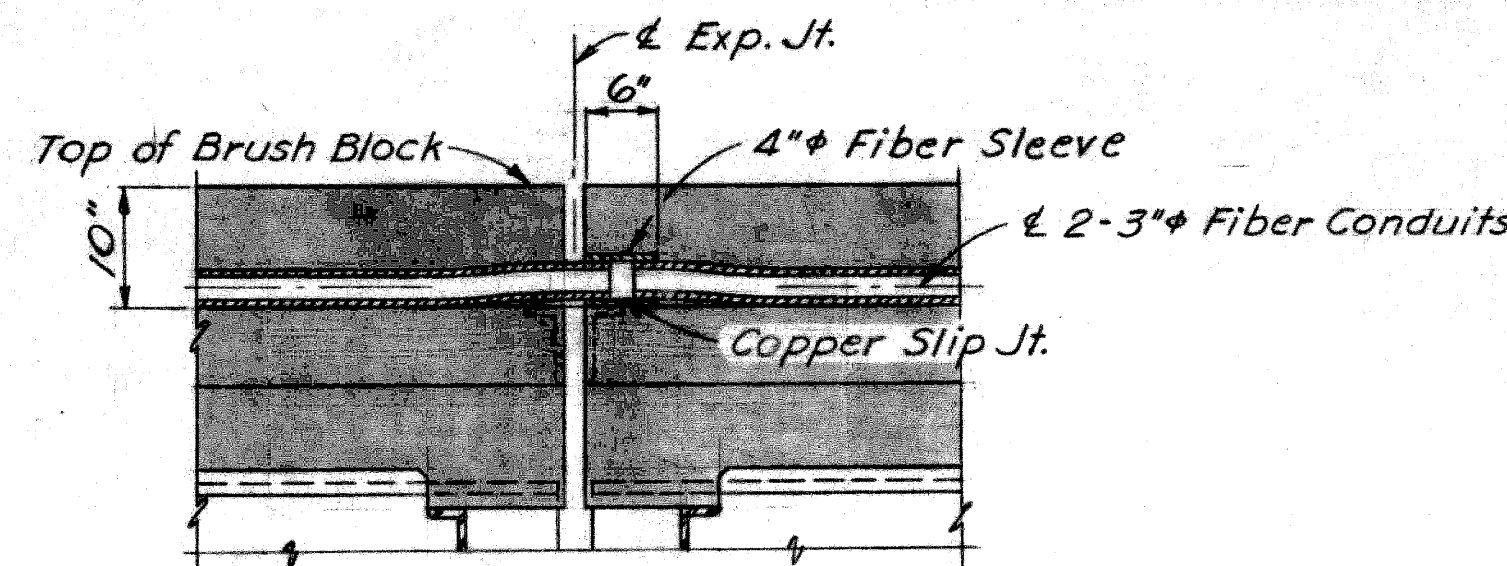
2-1" x 1'-0" Long Galv. Bolts, 3" projection. Bolts & angles included in Struct. Steel weight.



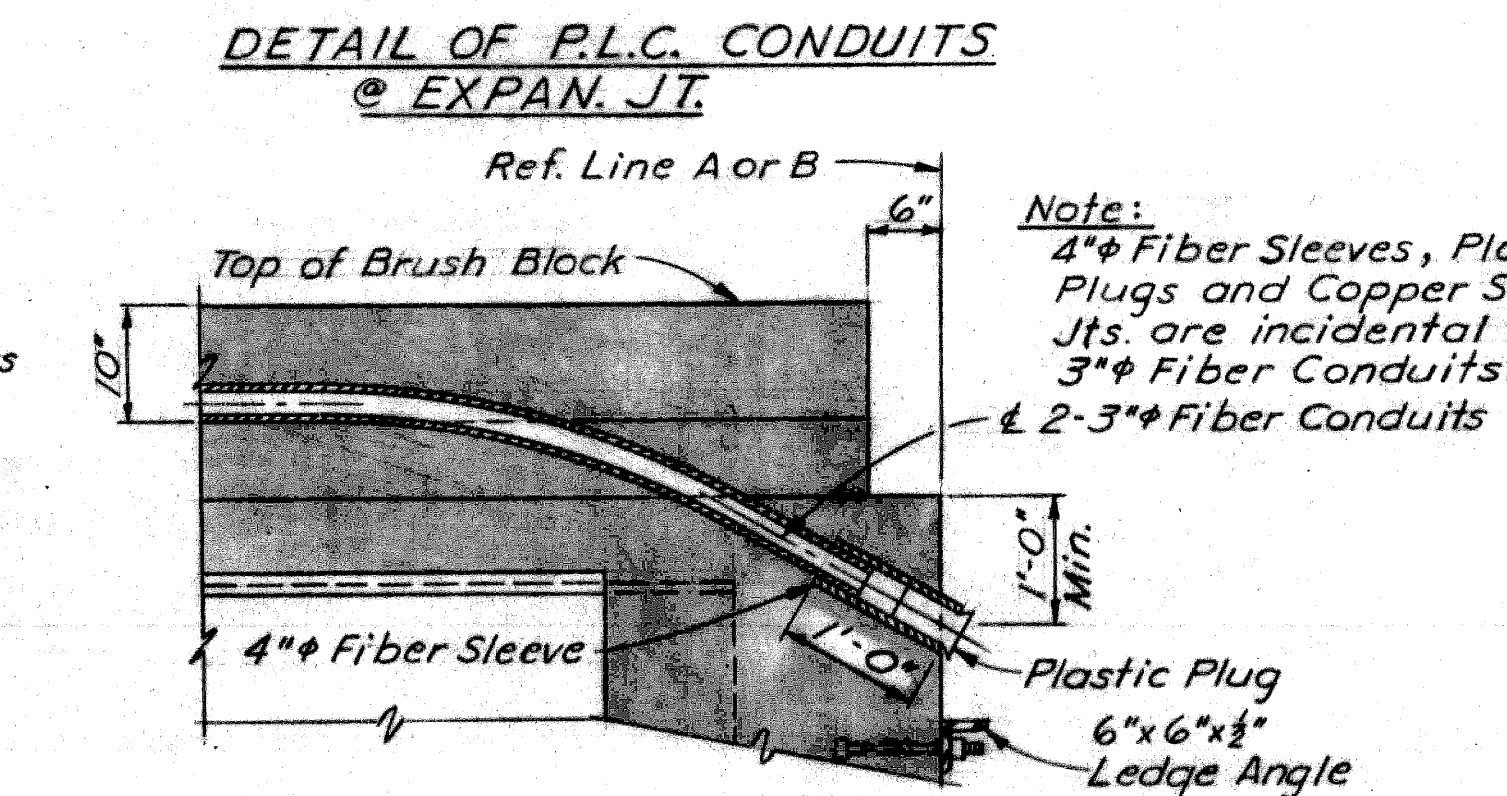
LEDGE ANGLE DETAIL



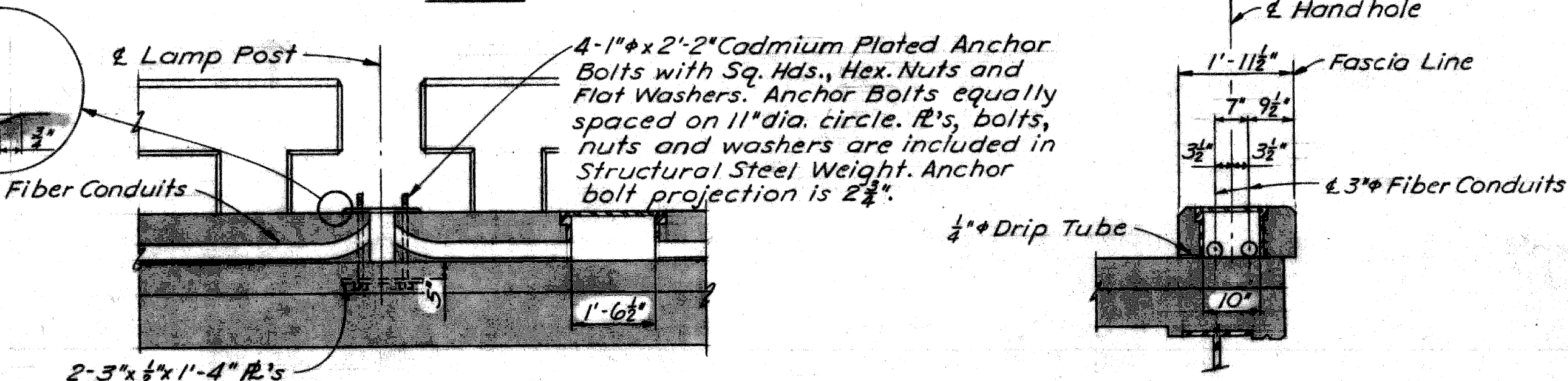
PLAN



DETAIL OF P.L.C. CONDUITS @ EXPAN. JT.



DETAIL OF P.L.C. CONDUITS @ BACKWALL



SECTION X-X

SECTION THRU HANDHOLE

P.L.C. LAMP POST BASE AND HANDHOLE DETAILS

CONCRETE QUANTITIES (Cu. Yds.)															
POUR	SPAN														
	1	2	3	4 & 5		6	7	8	9 & 10		11	12	13		
A	25.0	35.7	19.4	35.8	25.7	35.8	27.6	27.6	33.0	29.1	28.7	30.1	39.3	38.4	27.9
B	16.5	22.3	16.9	23.2	16.7	23.2	13.8	13.7	18.9	18.9	18.6	18.9	23.8	24.0	18.6
C	3.1	5.2	2.3	5.1	3.7	5.1	4.5	4.5	5.0	4.2	4.1	4.2	5.5	5.2	3.0
D	7.2	11.6	8.8	12.0	8.6	12.0	7.2	7.2	9.8	9.7	9.6	9.8	12.4	12.6	7.2
E	3.0	4.9	4.1	5.1	3.7	5.1	2.8	2.8	4.3	4.2	4.1	4.2	5.3	5.4	3.0
TOTAL	54.8	79.7	51.5	81.2	58.4	81.2	55.9	55.8	71.0	66.1	65.1	67.2	86.3	85.6	59.7
TOTAL CONCRETE														1019.5 C.Y.	

Parapet Concrete = 117.0 Cu. Yds. Grade A (6AA) Incidental to Bridge Parapet and is not a pay item.

MISCELLANEOUS QUANTITIES		
Item	Unit	Amount
Water-Reducing Retarding Admixture	Gal.	128
1/2" x 1/2" Preformed Neoprene Joint Sealer	Lin. Ft.	189
2" x 2" Preformed Neoprene Joint Sealer	Lin. Ft.	33
3" x 3" Preformed Neoprene Joint Sealer	Lin. Ft.	125
4" x 4" Preformed Neoprene Joint Sealer	Lin. Ft.	66
Two-Comp. Polyurethane Cold Applied Jt. Sealer	Lin. Ft.	222
Joint Waterproofing	Sq. Ft.	186
Bridge Parapet	Lin. Ft.	2084.0
3" Fiber Conduit	Lin. Ft.	2057
Drain Casting Assembly Type 2	Each	3
Drain Casting Assembly Type 3	Each	1
Handhole Frame and Cover	Each	6
8" Galvanized Steel Pipe	Lin. Ft.	95
Protective Treatment for Bridge Decks	Sq. Ft.	39,070
1/2" Jt. Filler	Sq. Ft.	49

NOTES
 P.C.A.J.S. denotes Two Component Polyurethane Cold Applied Jt. Sealer.
 J.W.P. denotes Joint Waterproofing.
 P.N.J.S. denotes Preformed Neoprene Joint Sealer.
 For details of drain castings, bevels, moldings and bridge parapet, see Standard Shs. R11 or R12. No metal railing will be used.
 Shoulder pours shall not be cast until slab concrete has attained at least 50% of its design strength as determined by Section 5.01.05 of the Standard Specifications.
 Alphabetical designation of pours is not to be construed as a pour sequence.
 The contractor is to provide a sawed joint 1/2" deep by 1/8" wide in the top of the slab over and parallel to the 4 Piers #4 and #9. The joint is to be sawed before casting of shoulder and is to be filled with Two Comp. Polyurethane Cold Applied Jt. Sealer (Incidental).

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 APPROVED: [Signature] STRUCTURAL ENGINEER

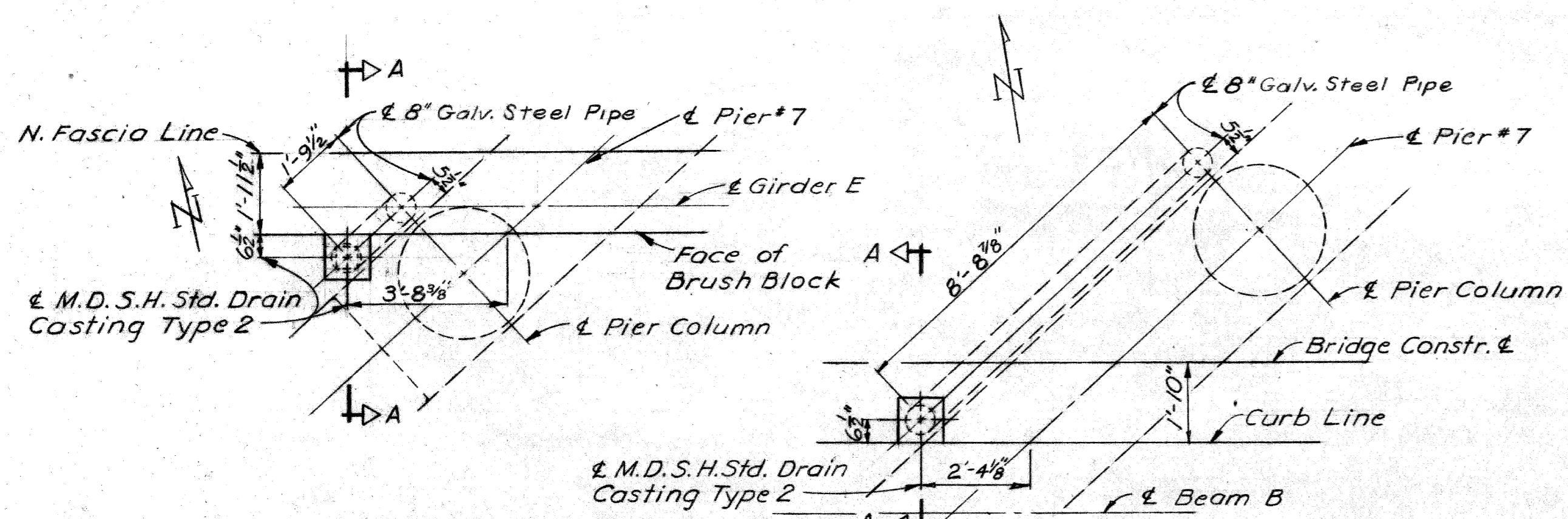
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

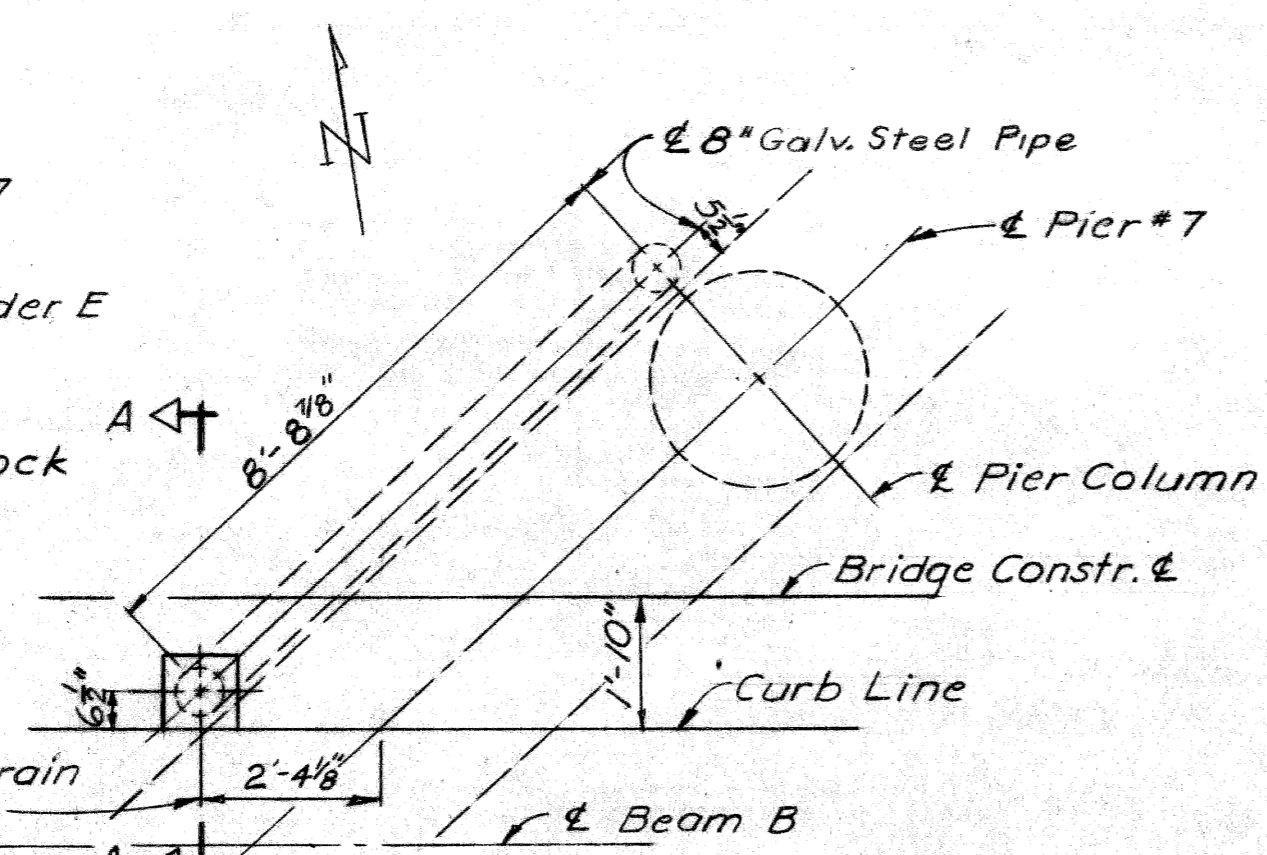
REVISIONS			
NO.	DESCRIPTION	DATE	BY

JOB No. PW9902J

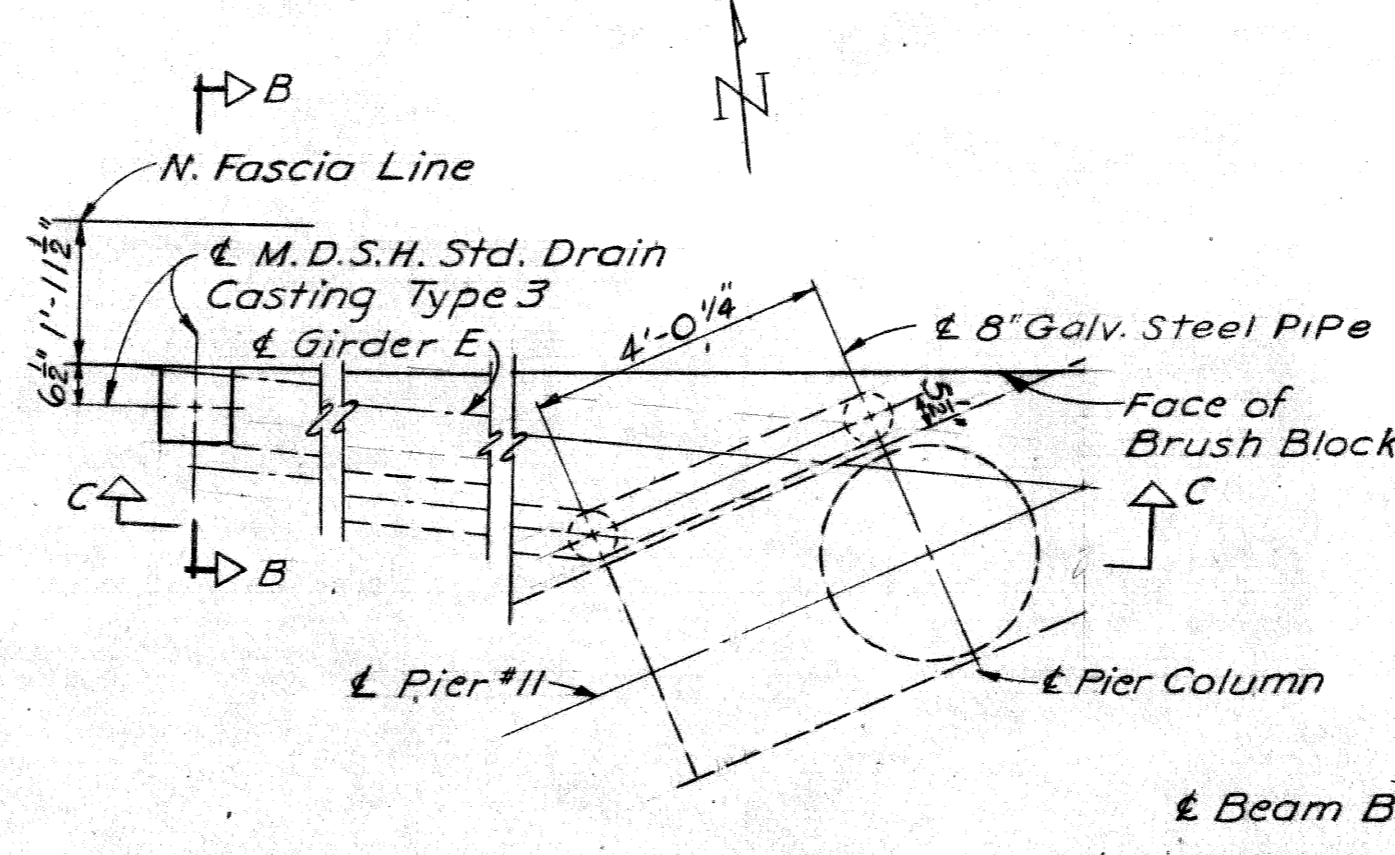
CITY OF DETROIT
 SQUAD BOSS: [Signature]
 DRAWN BY: [Signature]
 TRACED BY: R. Harris
 CHECKED BY: JES
 SHEET 28 OF 74
 S 41 of 82123 K



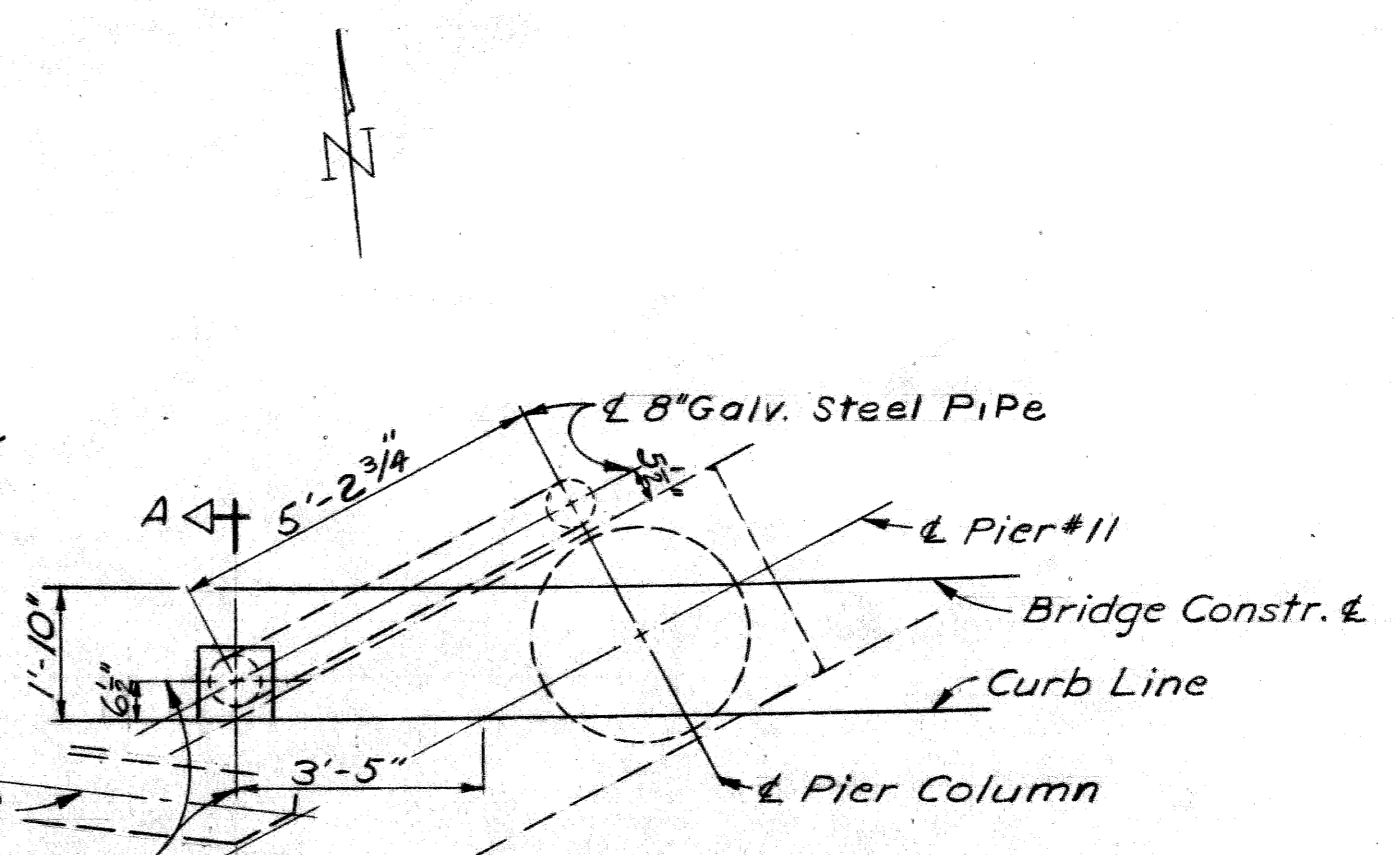
PLAN OF DRAIN @ PIER #7
N. FASCIA BRUSH BLOCK



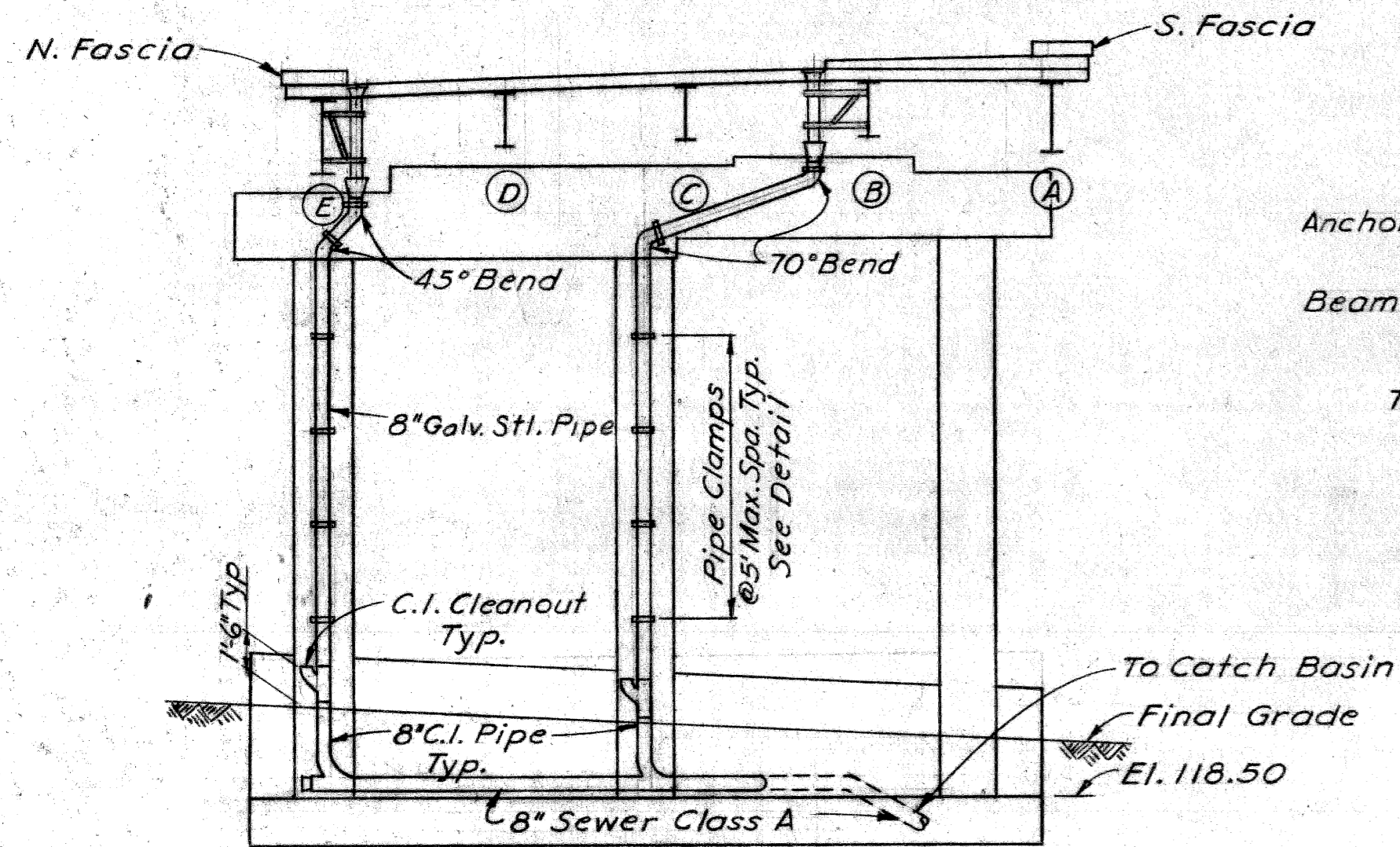
PLAN OF DRAIN @ PIER #7
SHOULDER CURB



PLAN OF DRAIN @ PIER #11
N. FASCIA BRUSH BLOCK

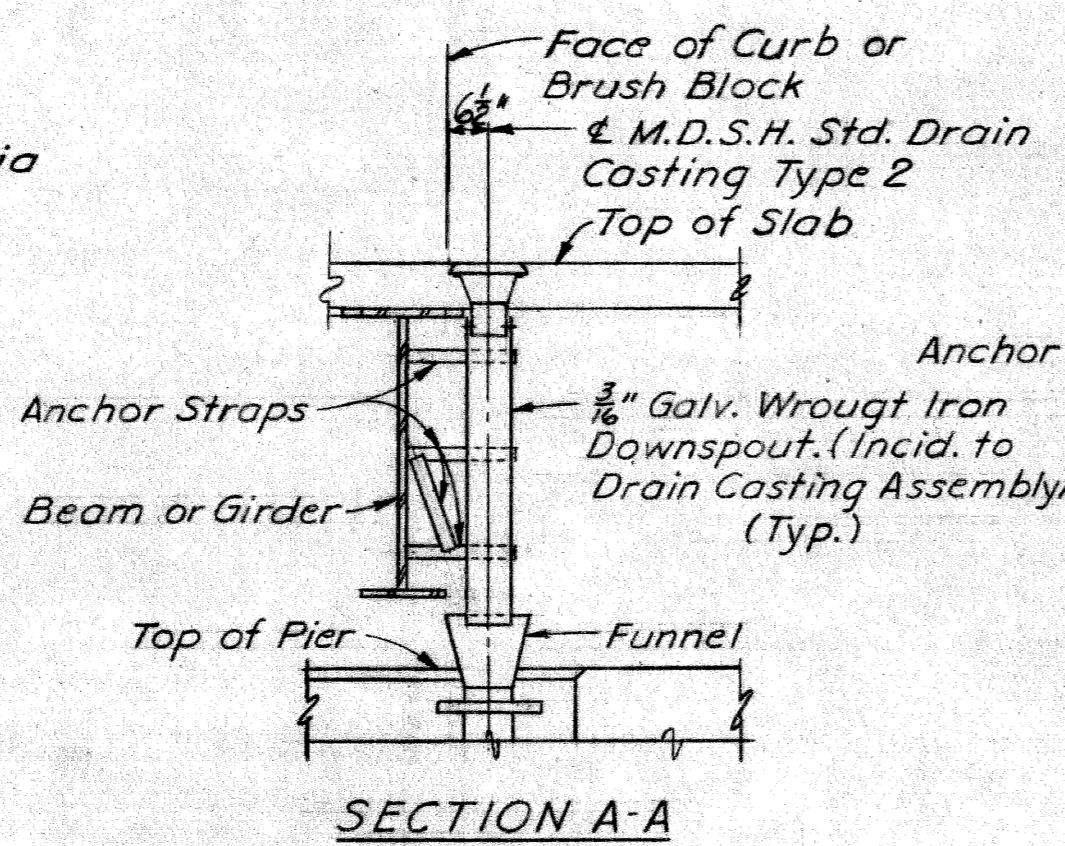


PLAN OF DRAIN @ PIER #11
SHOULDER CURB

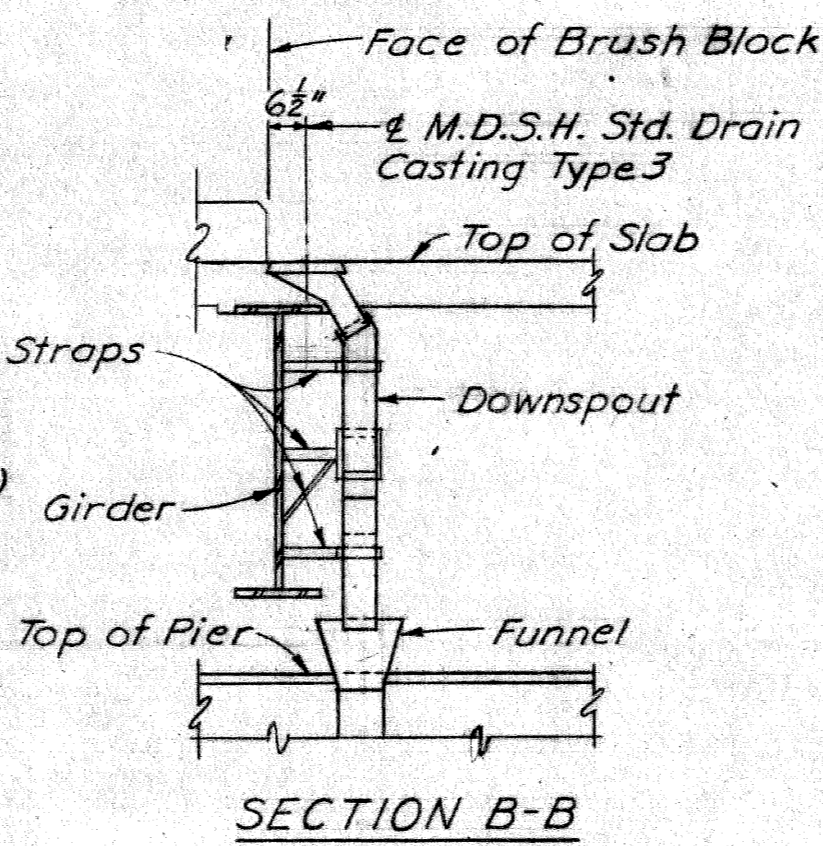


ELEVATION PIER #7

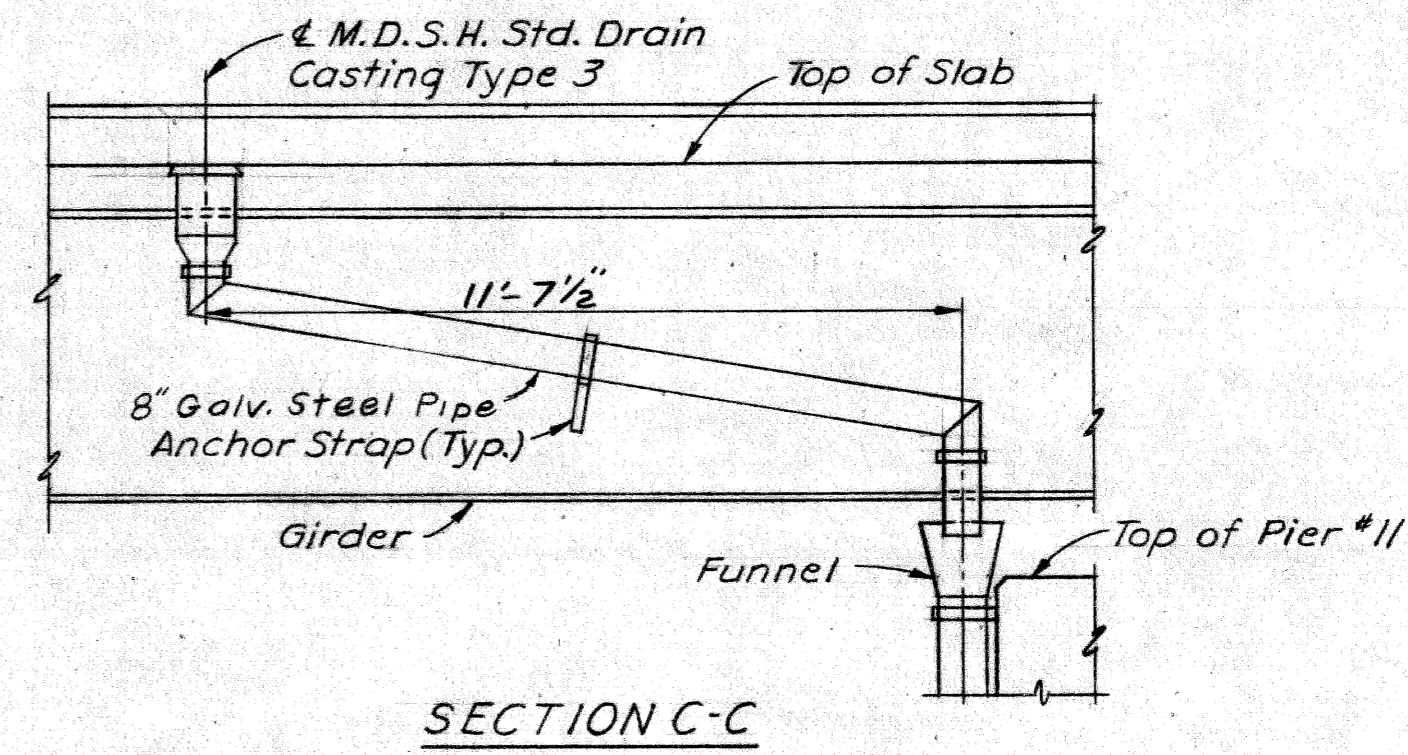
Note:
For Sewer Quantities.
See Sheet #8



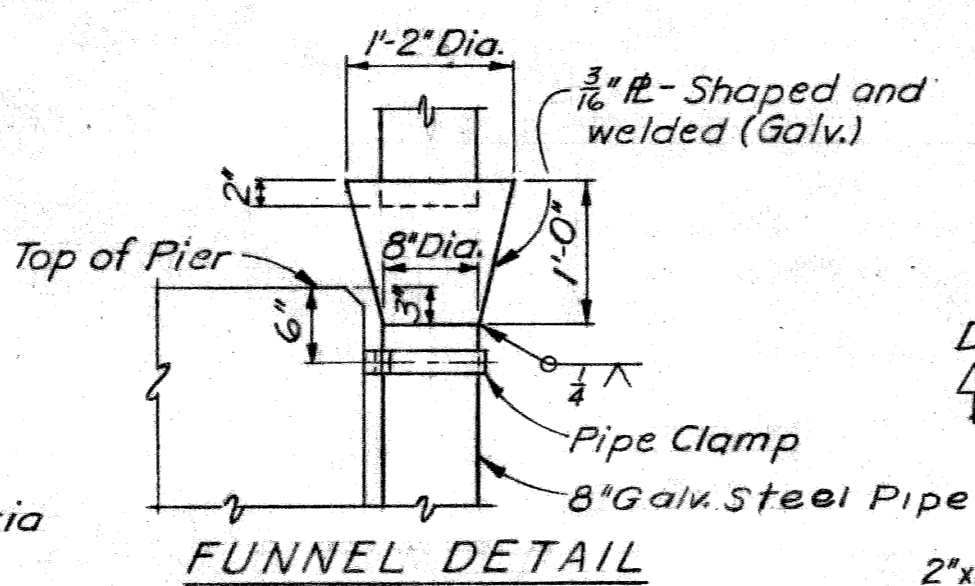
SECTION A-A



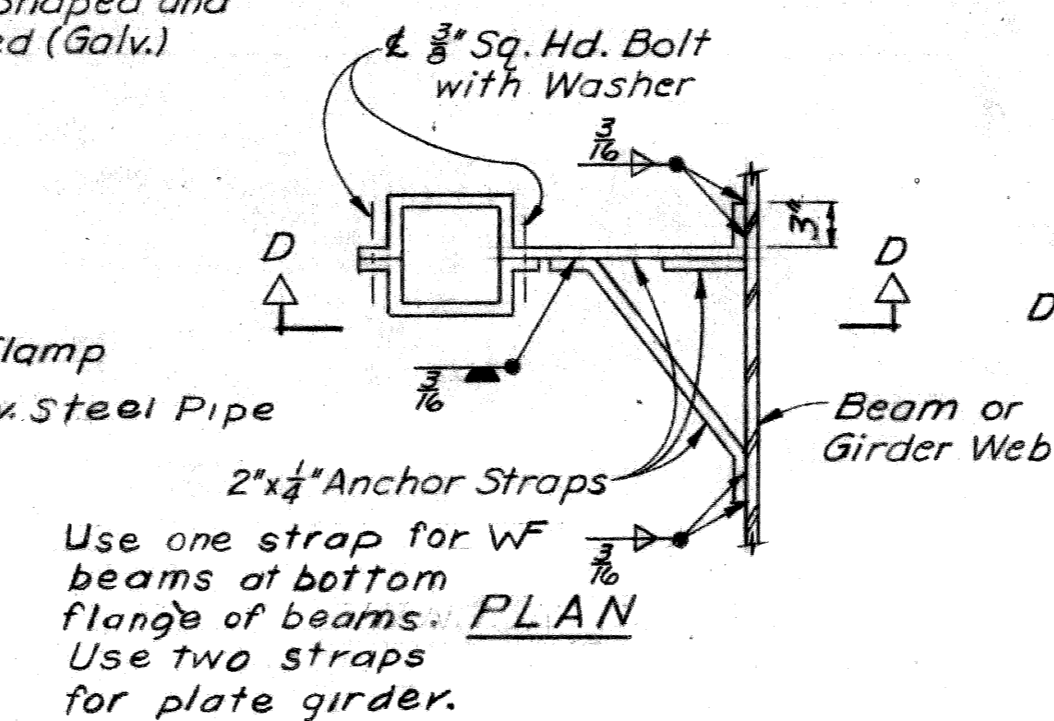
SECTION B-B



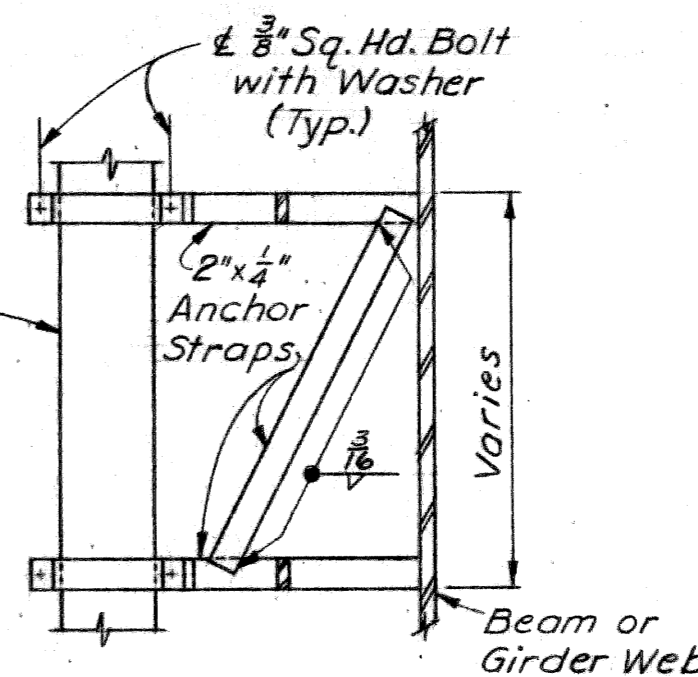
SECTION C-C



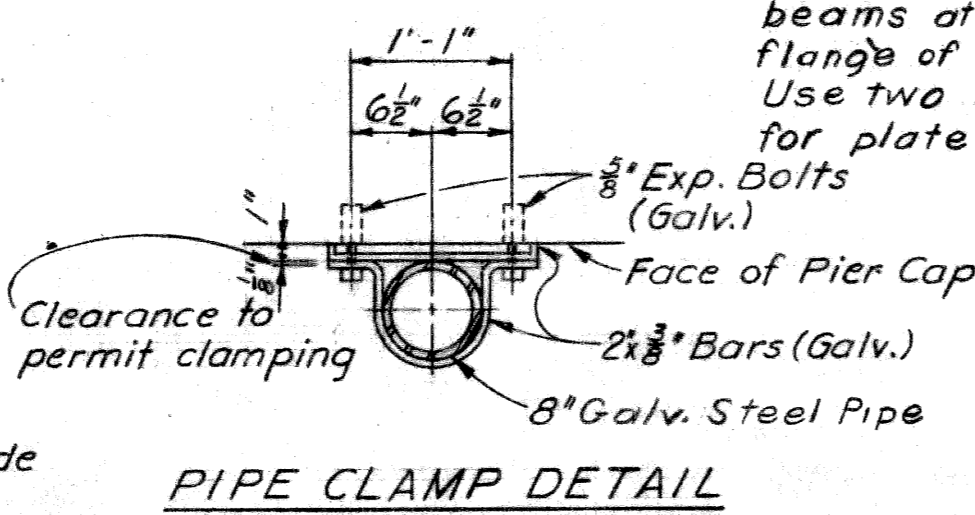
FUNNEL DETAIL



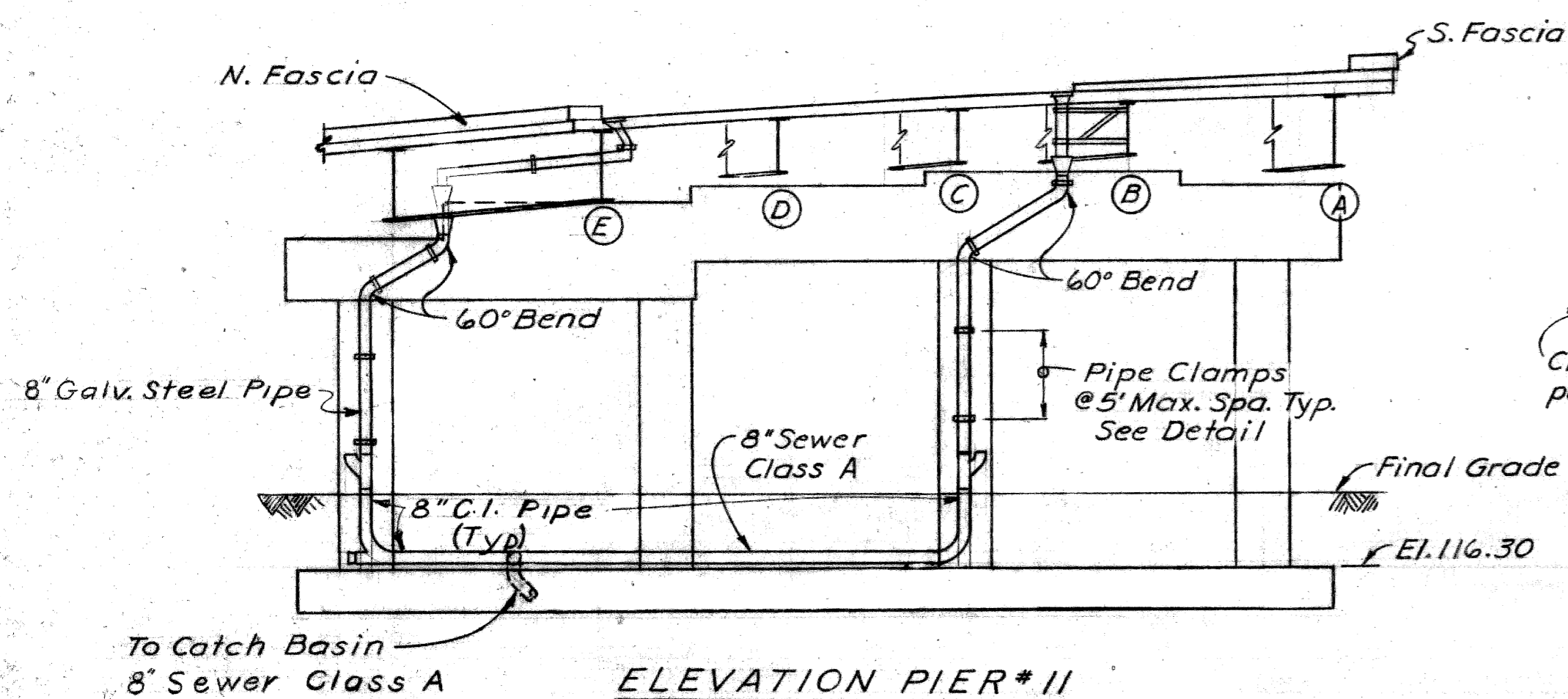
HANGER DETAILS



SECTION D-D



PIPE CLAMP DETAIL



ELEVATION PIER #11

NOTES

Pipe Clamps and Fasteners are incidental to 8 Galvanized Steel Pipe.

Galvanizing is to be in accordance with ASTM A 153 and is to be done after fabrication.

Anchor Straps are included in structural steel. Fasteners are incidental to Drain Casting Assembly. See sheets R11 and R12 for Drain Casting Detail. For Miscellaneous Quantities, see Sh. # 68.

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SUPERSTRUCTURE DETAILS

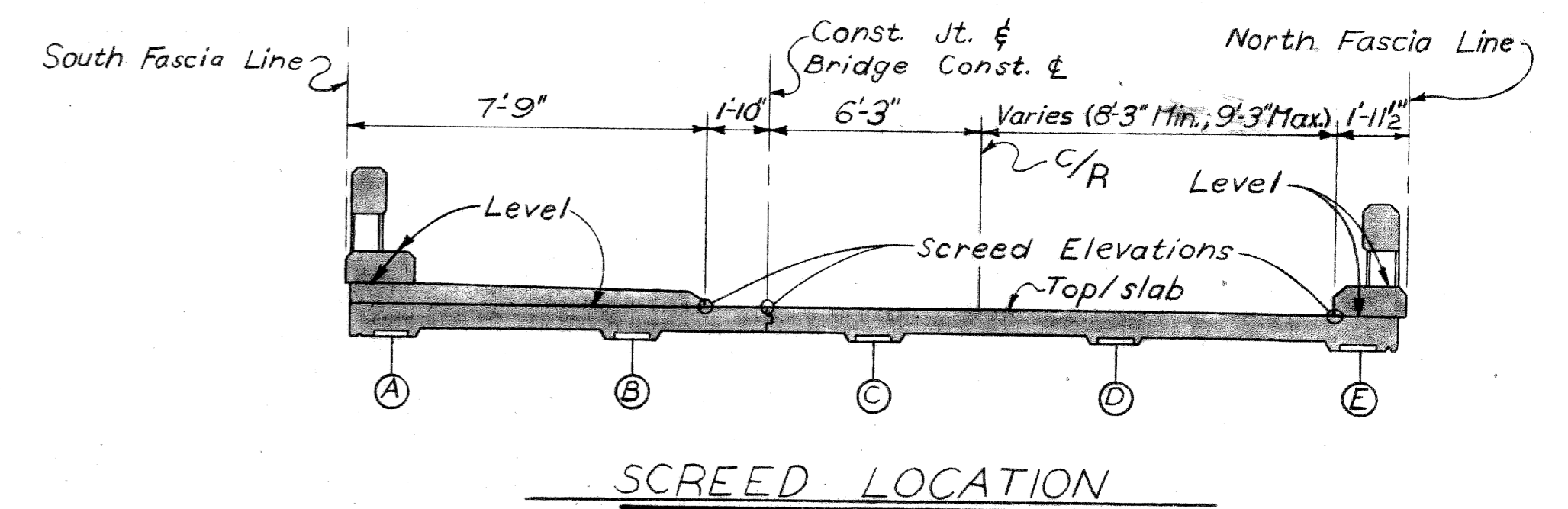
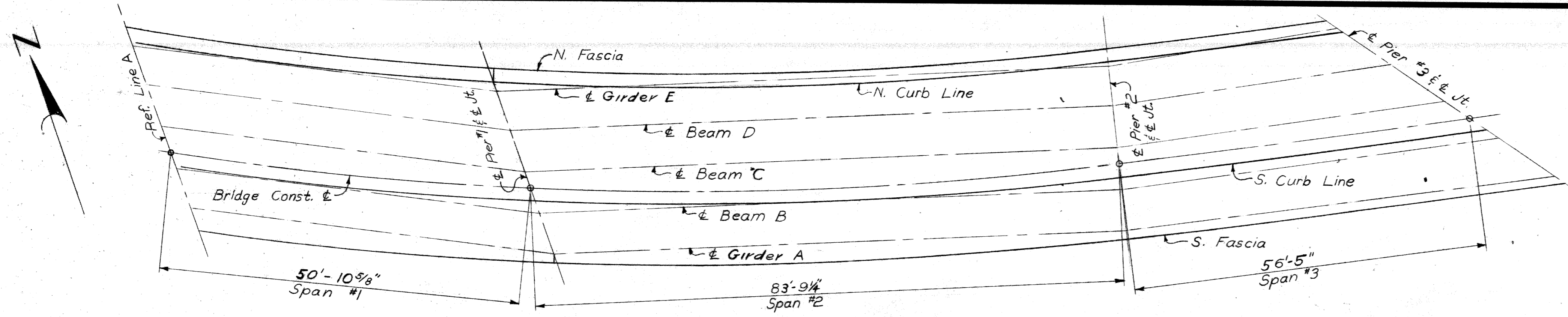
PLANS PREPARED BY
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APPROVED: *J. J. Cant*
STRUCTURAL ENGINEER

JOB No.
PW990(2)

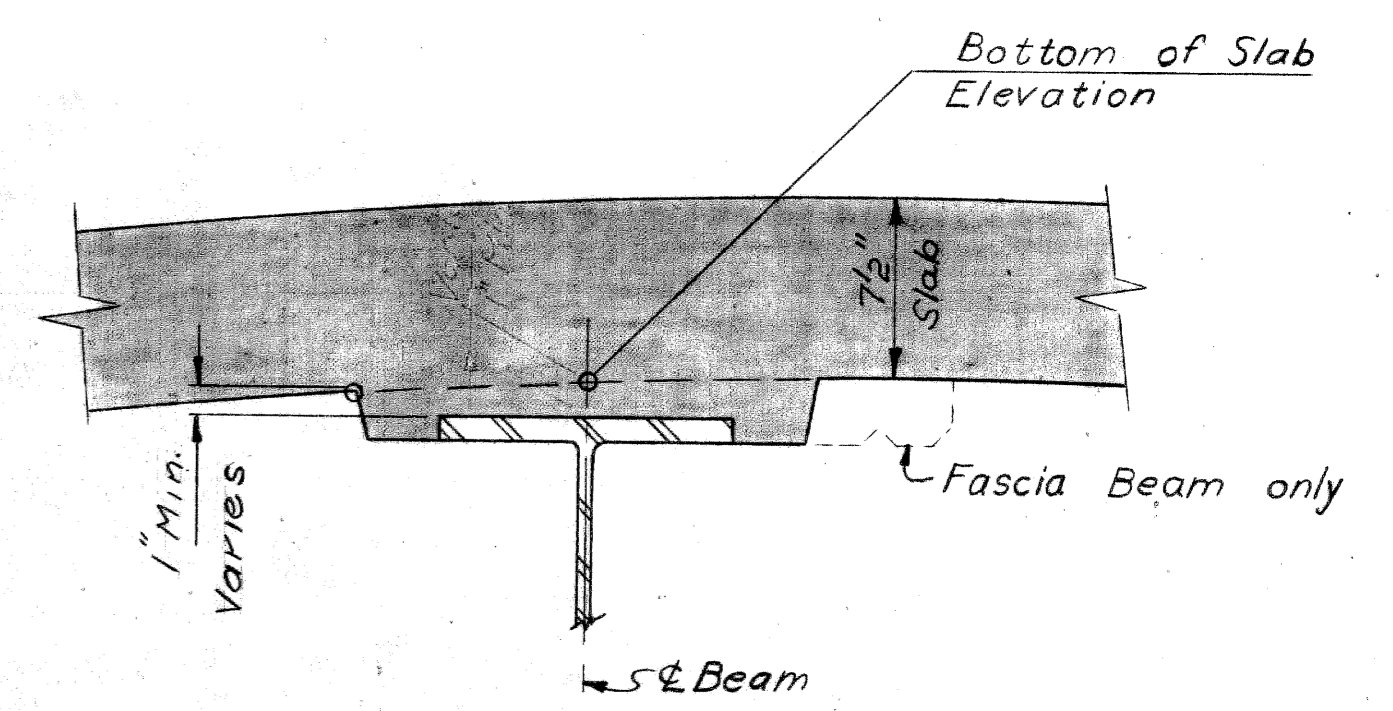
REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT			
SQUAD BOSS	Wolfe	9-67	
DRAWN BY	R.H.		
CHECKED BY	J.E. FW		
SHEET 69 OF 78		S 41 of 82123' K	



SCREED ELEVATION

Ref. Line A	4 Eq. Spaces Span 1				Pier #1 & Jt.	12 Eq. Spaces Span 2												Pier #2 & Jt.	4 Eq. Spaces Span 3				Pier #3 & Jt.
150.29	150.89	151.48	152.07	152.64	153.70	153.01	153.37	153.73	154.08	154.41	154.72	155.01	155.29	155.56	156.06	156.31	156.69	157.07	157.44	157.80			
151.46	152.05	152.63	153.17	153.70	154.04	154.38	154.72	155.04	155.35	155.64	155.91	156.16	156.40	156.62	156.83	157.03	157.53	157.97	158.34	158.64			
151.57	152.17	152.74	153.28	153.80	154.14	154.48	154.81	155.13	155.44	155.72	156.00	156.27	156.54	156.79	156.99	157.09	157.61	158.05	158.40	158.69			
																				on N. Curb Line			
																				on Const. Jt.			
																				on S. Curb Line			



BOTTOM OF SLAB ELEV. (For Loading Case I)

Ref. Line A	4 Eq. Spaces Span 1				Pier #1 & Jt.	12 Eq. Spaces Span 2												Pier #2 & Jt.	4 Eq. Spaces Span 3				Pier #3 & Jt.
149.74	150.31	150.90	151.49	152.09	152.56	152.43	152.77	153.12	153.47	153.80	154.12	154.41	154.69	154.95	155.21	155.49	155.76	156.10	156.45	156.79	157.15		
150.22	150.82	151.41	151.99	152.56	152.89	153.22	153.56	153.88	154.20	154.50	154.79	155.06	155.33	155.58	155.83	156.08	156.30	156.89	157.25	157.58	157.91		
150.63	151.23	151.82	152.39	152.95	153.28	153.61	153.94	154.26	154.57	154.86	155.13	155.40	155.65	155.88	156.11	156.33	156.81	157.24	157.60	157.91	158.11		
150.96	151.57	152.15	152.70	153.21	153.56	153.90	154.24	154.56	154.87	155.14	155.41	155.65	155.88	156.09	156.28	156.47	156.81	157.01	157.40	157.83	158.11		
151.10	151.67	152.23	152.78	153.32	153.65	153.98	154.30	154.60	154.89	155.17	155.41	155.66	155.88	156.09	156.28	156.47	157.04	157.53	157.93	158.28	158.69		
																				on Girder E			
																				on Beam D			
																				on Beam C			
																				on Beam B			
																				on Girder A			

GENERAL NOTES

Use transverse strike-off finishing machine in placing slab concrete.

Screeds affected by loads in other spans are to be set to the elevations shown before casting any concrete.

Bottom of slab elevations and cambers shown include allowances for deflection due to the weight of the structural steel, welding of shear developers, weight of forms, steel reinforcement, slab concrete, sidewalk and railing and vertical curve, crown and super-elevation as indicated in the following load cases:

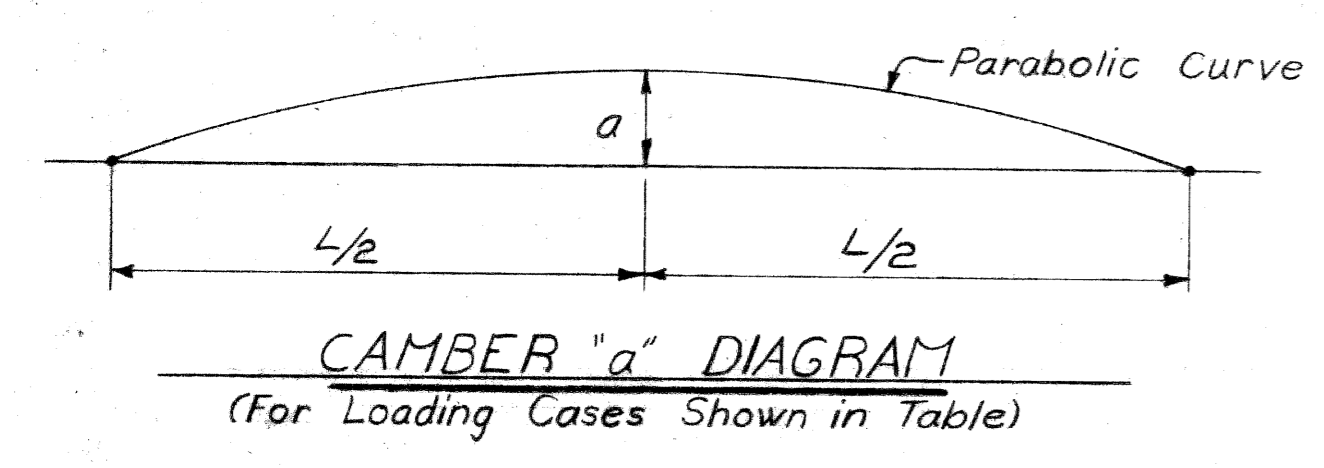
Case I All structural steel erected and no other loads applied.

Case II Shear developers, forms, and steel reinforcement in place on structural steel and no other loads applied.

Case III Slab, Shoulder, Brush Block and Parapet concrete in place on structural steel and no other loads applied.

Screed Elevations shown are for the top of the screed after form work and steel reinforcement are in place and the shear developers are welded to the beams. The elevations are based on a minimum slab thickness of 7 1/2" and a variable haunch depth (1" minimum). After the screeds are set, if a check indicates that less than the minimum slab and haunch will be obtained, adjust the screeds accordingly.

Provide a temporary girder support as located on Sheets 71 and 73.



CAMBER "a"

Case	Span 1			Span 2			Span 3		
	I	II	III	I	II	III	I	II	III
A	0	-3/8"	-5/8"	3 3/4"	3 1/4"	1 3/4"	2 1/8"	1 3/4"	1"
B	1 5/8"	3/4"	1/8"	4 1/8"	3 1/4"	1 5/8"	2 1/2"	1 5/8"	3/4"
C	1 5/8"	5/8"	1/4"	3 3/8"	2 1/2"	7/8"	1 7/8"	1 1/2"	3/4"
D	1 5/8"	3/8"	1/4"	2 7/8"	2"	3/8"	1"	3/4"	1/4"
E	1"	5/8"	1/2"	2 7/8"	2 3/8"	5/8"	0	-1/4"	-3/8"

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JOB No. PW9907

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

SQUAD BOSS *Watts*

DRAWN BY *Manbeck/Khouri* 8-8-67

TRACED BY *EW*

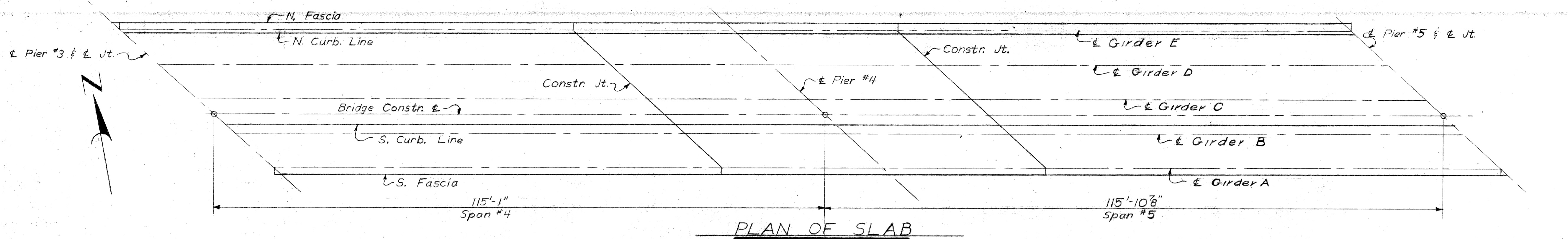
CHECKED BY

SHEET 70 OF 78

S 41 of 82123 K

REVISIONS

NO.	DESCRIPTION	DATE	BY



SCREED ELEVATIONS

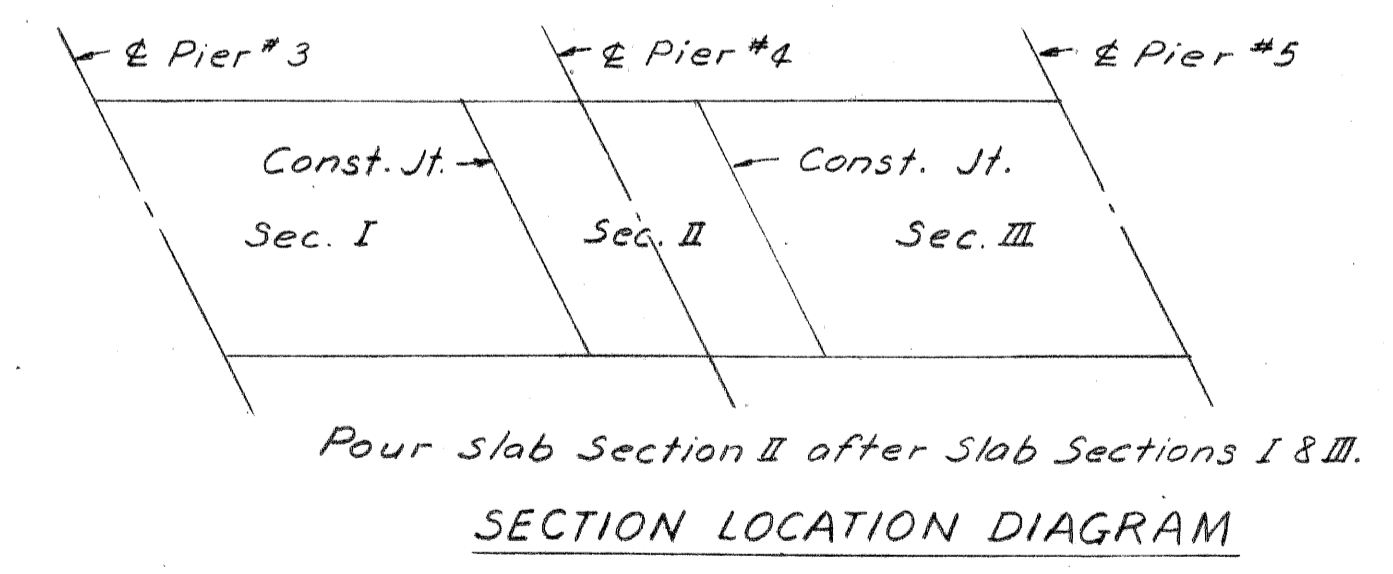
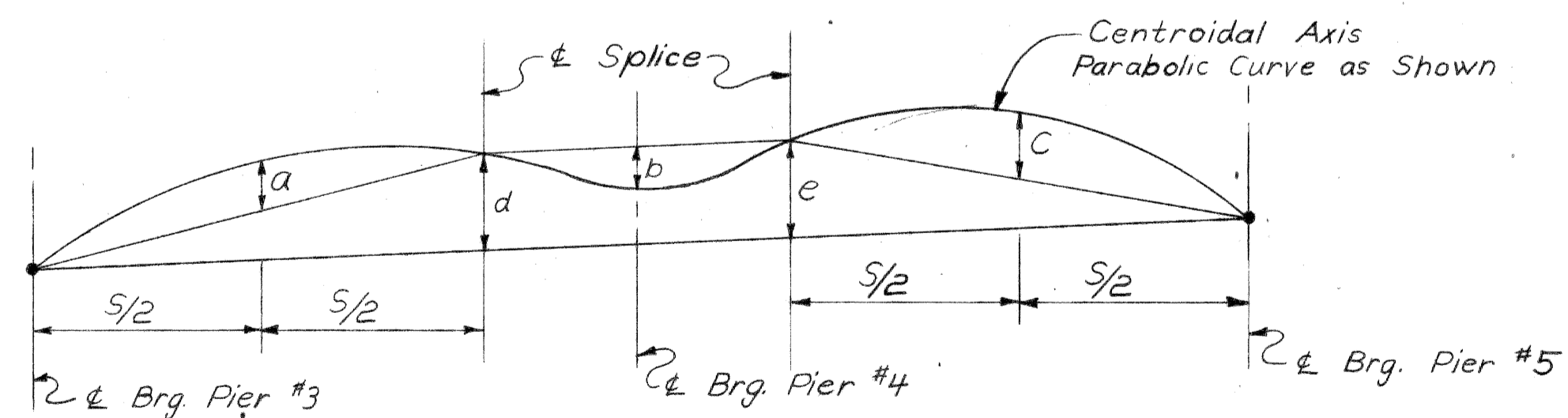
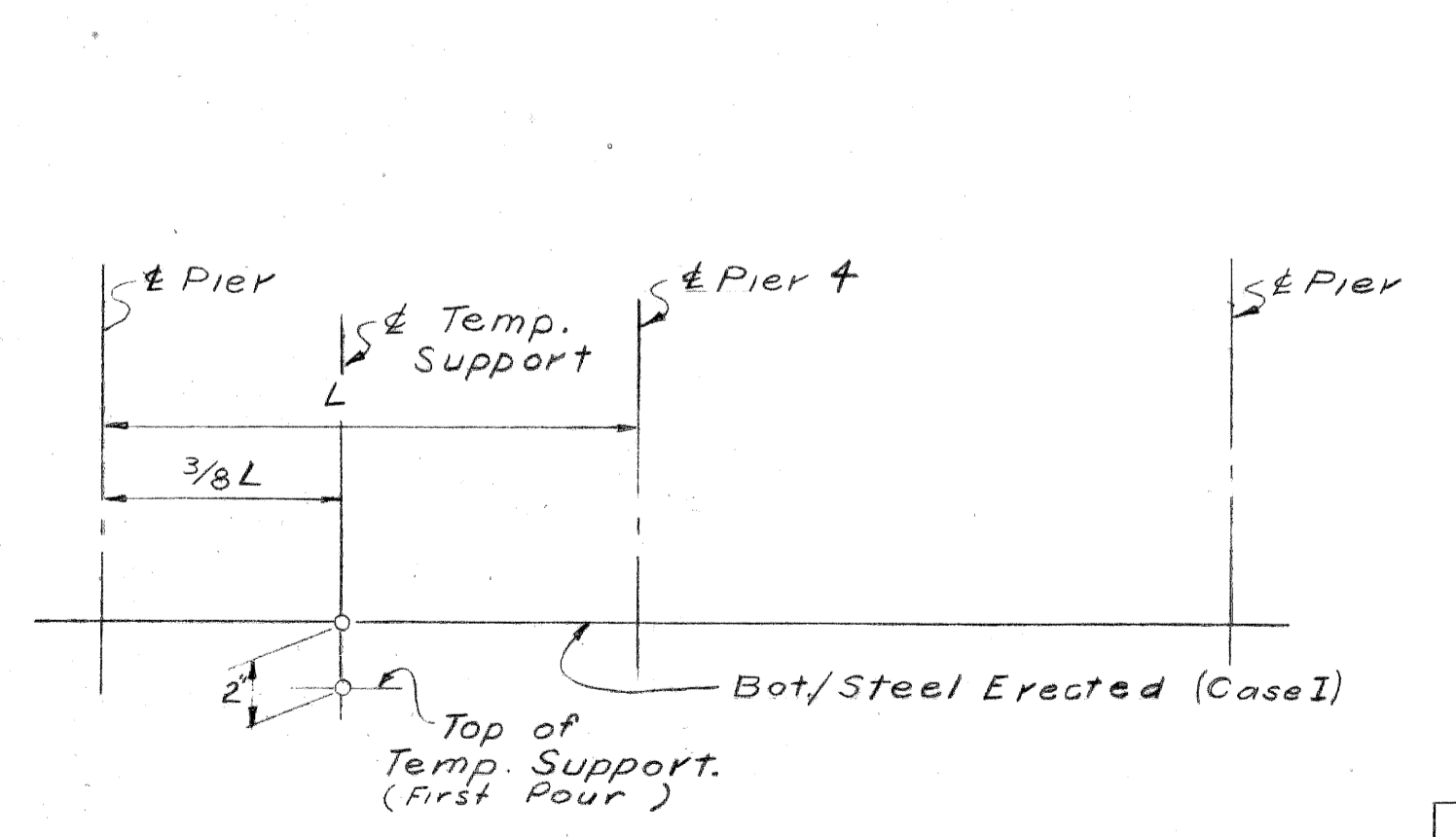
157.80	158.23	158.61	158.95	159.24	159.48	159.67	159.82	159.93	160.00	160.06	160.11	160.17	160.22	160.28	160.33	160.39	160.44	160.47	160.47	160.43	160.36	160.26	160.13	159.96
158.64	158.93	159.20	159.44	159.65	159.82	159.96	160.06	160.15	160.19	160.23	160.27	160.30	160.34	160.38	160.41	160.44	160.47	160.47	160.44	160.37	160.27	160.14	159.98	159.79
158.69	158.97	159.23	159.46	159.66	159.83	159.96	160.07	160.15	160.19	160.23	160.26	160.29	160.33	160.36	160.40	160.44	160.44	160.44	160.41	160.34	160.24	160.10	159.93	159.74

on N. Curb Line
on Constr. Jt.
on S. Curb Line

BOTTOM OF SLAB ELEV. (For Loading Case I)

157.15	157.58	157.98	158.32	158.62	158.86	159.05	159.19	159.31	159.36	159.43	159.48	159.54	159.60	159.65	159.70	159.75	159.79	159.83	159.83	159.86	159.86	159.83	159.76	159.65	159.51
157.58	157.96	158.29	158.58	158.84	159.05	159.21	159.34	159.44	159.50	159.54	159.60	159.65	159.70	159.75	159.79	159.83	159.83	159.88	159.88	159.89	159.88	159.84	159.76	159.64	159.51
157.91	158.23	158.51	158.77	158.99	159.17	159.31	159.42	159.51	159.56	159.61	159.65	159.69	159.73	159.77	159.81	159.84	159.87	159.88	159.88	159.85	159.80	159.70	159.58	159.44	159.29
158.11	158.39	158.66	158.89	159.09	159.25	159.38	159.47	159.55	159.58	159.62	159.65	159.68	159.71	159.75	159.78	159.81	159.83	159.83	159.83	159.79	159.73	159.62	159.47	159.42	159.29
158.26	158.54	158.79	159.02	159.21	159.36	159.47	159.55	159.61	159.64	159.66	159.68	159.70	159.73	159.76	159.78	159.81	159.82	159.81	159.76	159.70	159.68	159.56	159.40	159.29	159.20

on Girder E
on Girder D
on Girder C
on Girder B
on Girder A



Case	a			b			c			d			e		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Girder A	3 3/8"	3 1/4"	1 7/8"	1/2"	1/4"	-1/2"	3 3/8"	3 1/2"	2"	11 3/4"	11 1/2"	10 3/4"	14 1/4"	11 3/4"	10 3/8"
Girder B	3 3/8"	3"	2"	7/8"	1/4"	-3/8"	3 3/4"	3 1/4"	2"	1'-0 1/4"	11 3/4"	11"	1'-0 1/4"	11 3/8"	11"
Girder C	3 3/4"	3 3/4"	2 3/8"	5/8"	0	-1/2"	3 5/8"	3 1/8"	2 1/8"	1'-0 3/8"	11 3/8"	11 1/4"	1'-0 3/8"	11 3/8"	11 1/4"
Girder D	4 3/8"	3 3/8"	3"	5/8"	0	-1/2"	3 3/8"	3 1/8"	2 1/8"	1'-1 1/2"	1'-1"	1'-0 3/8"	1'-1"	1'-0 3/8"	11 3/8"
Girder E	4 7/8"	4 5/8"	3 1/2"	5/8"	3/8"	-1/4"	3 1/2"	3 1/4"	2"	1'-2 5/8"	1'-2 1/8"	1'-2"	1'-1 1/8"	1'-1 3/8"	1'-0 3/8"

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STRUCTURAL ENGINEER

JOB No. PW9902

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

REVISONS

NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT

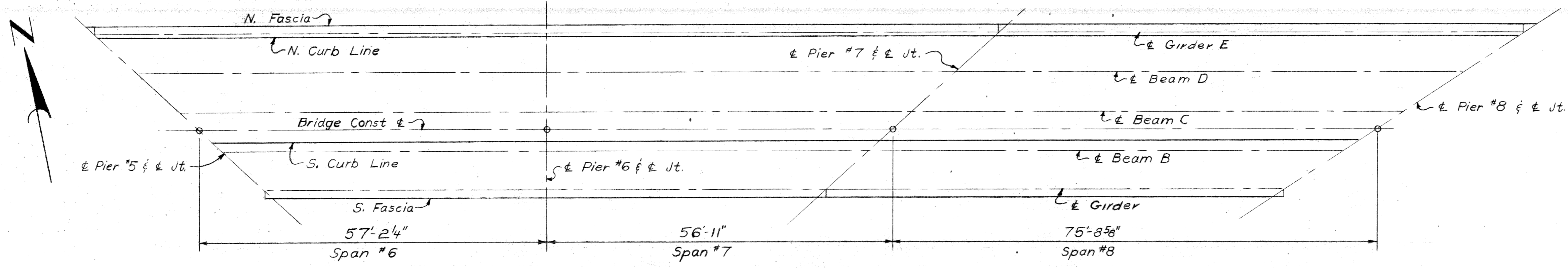
SQUAD ROSS: *W. J. L.*

DRAWN BY: *Van Hatten B-9-67*

CHECKED BY: *FW*

SHEET 71 OF 73

S 41 of 82123 K



SCREENED ELEVATION

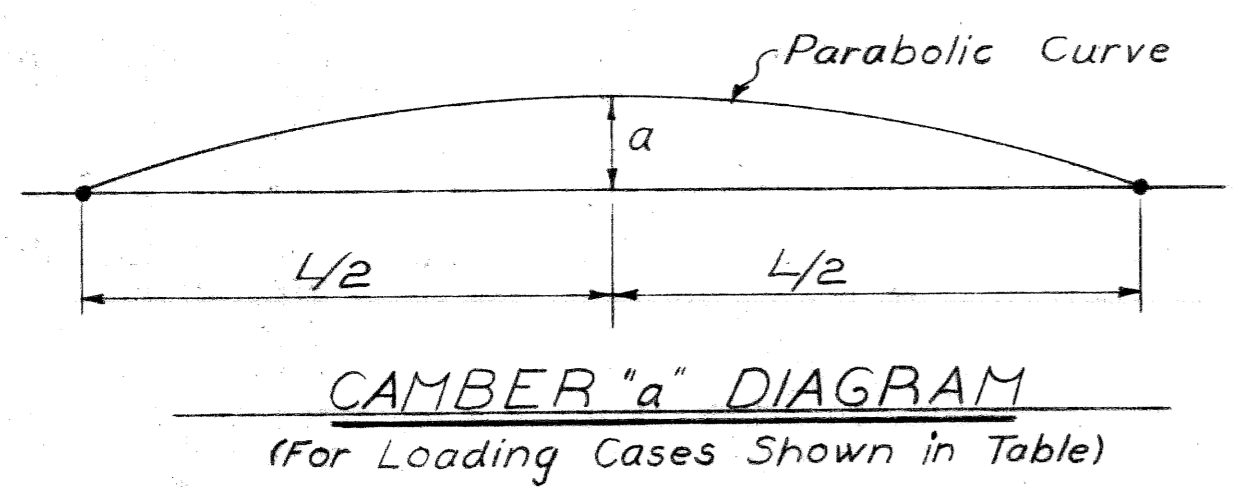
Span 6 (8 Eq. Spaces)								Span 7 (8 Eq. Spaces)								Span 8 (8 Eq. Spaces)								
159.96	159.89	159.79	159.67	159.52	159.35	159.15	158.93	158.69	158.51	158.31	158.08	157.82	157.54	157.22	156.88	156.52	156.21	155.85	155.49	155.11	154.71	154.29	153.86	153.42
159.79	159.70	159.61	159.50	159.37	159.24	159.07	158.90	158.72	158.57	158.41	158.23	158.04	157.83	157.61	157.40	157.13	156.85	156.56	156.24	155.90	155.52	155.14	154.74	154.34
159.74	159.66	159.56	159.46	159.33	159.20	159.04	158.88	158.70	158.56	158.40	158.23	158.05	157.85	157.64	157.41	157.17	156.91	156.62	156.31	155.97	155.60	155.22	154.82	154.42

on N. Curb Line
on Const. Jt.
on S. Curb Line

BOTTOM OF SLAB ELEV. (For Loading Case I)

Span 6 (8 Eq. Spaces)								Span 7 (8 Eq. Spaces)								Span 8 (8 Eq. Spaces)								
159.35	159.27	159.18	159.06	158.92	158.74	158.54	158.31	158.06	157.89	157.69	157.46	157.20	156.91	156.59	156.24	155.87	155.55	155.21	154.85	154.47	154.07	153.65	153.21	152.76
159.29	159.26	159.18	159.07	158.93	158.77	158.58	158.36	158.12	157.97	157.79	157.59	157.36	157.10	156.82	156.51	156.18	155.89	155.58	155.23	154.87	154.47	154.06	153.63	153.19
159.09	159.01	159.08	158.98	158.85	158.70	158.52	158.33	158.08	157.98	157.82	157.64	157.44	157.21	156.97	156.70	156.42	156.15	155.86	155.53	155.17	154.80	154.40	153.99	153.56
158.98	158.89	158.80	158.70	158.59	158.47	158.35	158.25	158.08	157.94	157.79	157.63	157.46	157.27	157.06	156.84	156.60	156.36	156.08	155.78	155.44	155.08	154.69	154.30	153.89
158.89	158.80	158.70	158.59	158.47	158.35	158.25	158.21	158.08	157.94	157.81	157.66	157.51	157.35	157.18	157.01	156.83	156.58	156.31	156.02	155.71	155.37	154.99	154.64	154.26

on Girder E
on Beam D
on Beam C
on Beam B
on Girder A



CAMBER "a"

Case	Span 6			Span 7			Span 8		
	I	II	III	I	II	III	I	II	III
A	1"	3/4"	1/2"	1"	3/4"	1/2"	2"	1 3/4"	3/4"
B	1 5/8"	1 1/4"	5/8"	1 5/8"	1 1/4"	5/8"	2 3/8"	2"	1/2"
C	2 1/4"	1 7/8"	7/8"	2 1/4"	1 7/8"	1"	2 3/4"	2"	1/2"
D	3"	2 1/4"	1 1/4"	3"	2 1/4"	1 1/4"	2 3/4"	1 7/8"	1/4"
E	2 3/4"	2 3/8"	1 3/8"	3"	2 5/8"	1 3/8"	1 7/8"	1 1/2"	-1/8"

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS' OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *[Signature]*
STRUCTURAL ENGINEER

JOB No.
PW99012

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

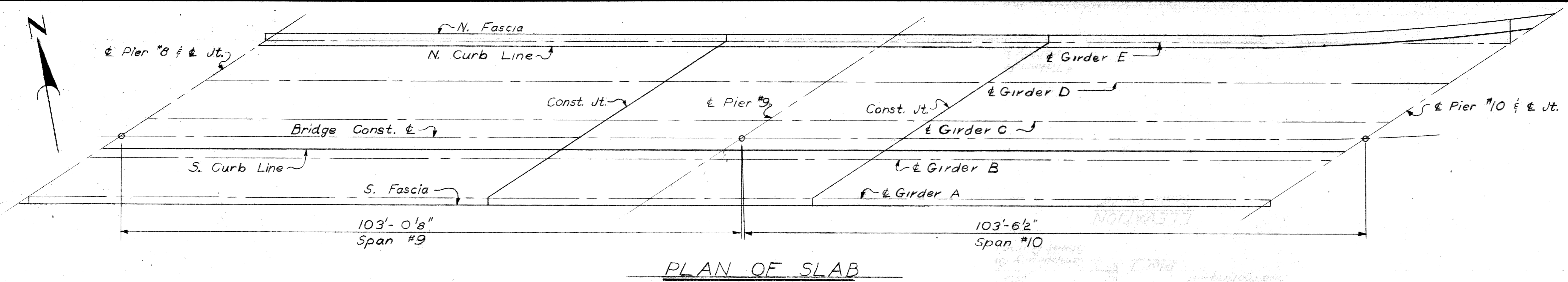
CITY OF DETROIT

SQUAD BOSS: *Watts*
DRAWN BY: *Van Kerkhove* 8-10-67
CHECKED BY: *FW*
SHEET 72 OF 73

REVISIONS

NO.	DESCRIPTION	DATE	BY

S 41 of 82123 K

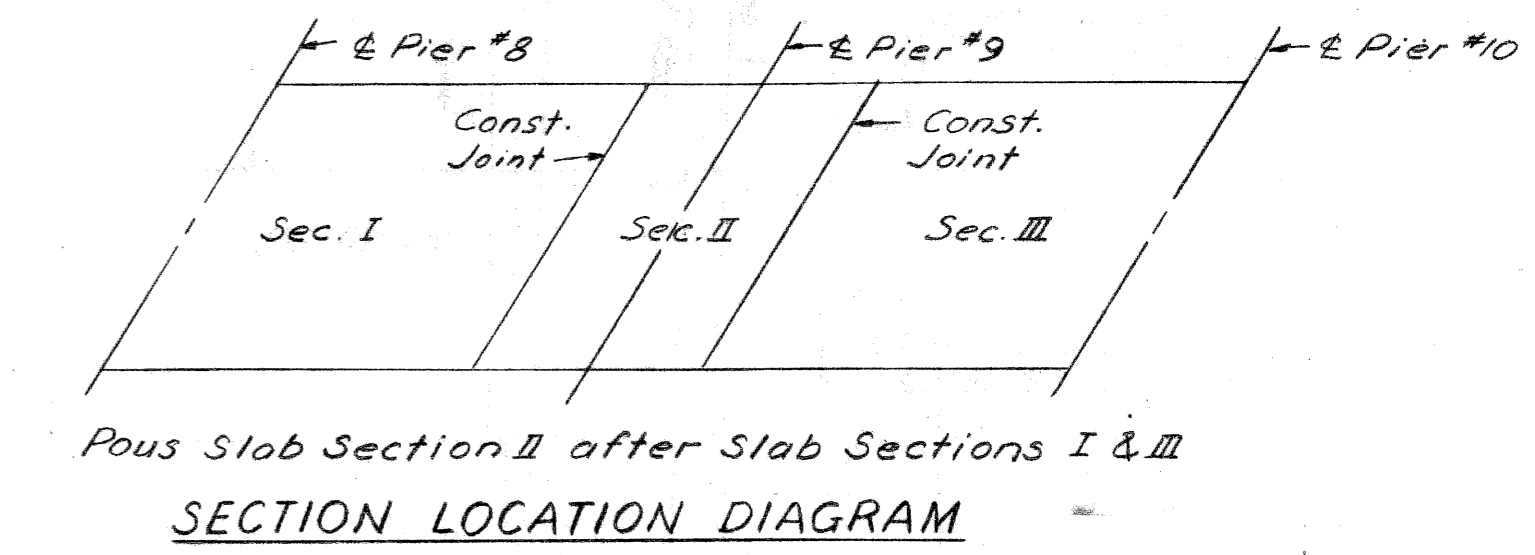
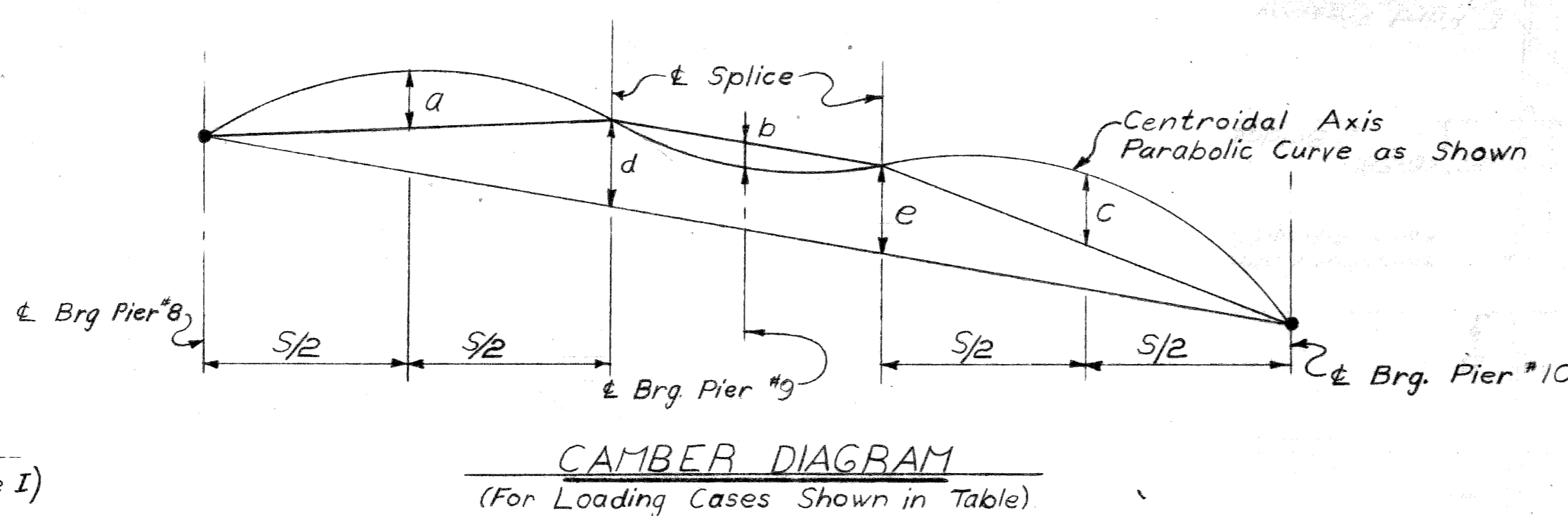
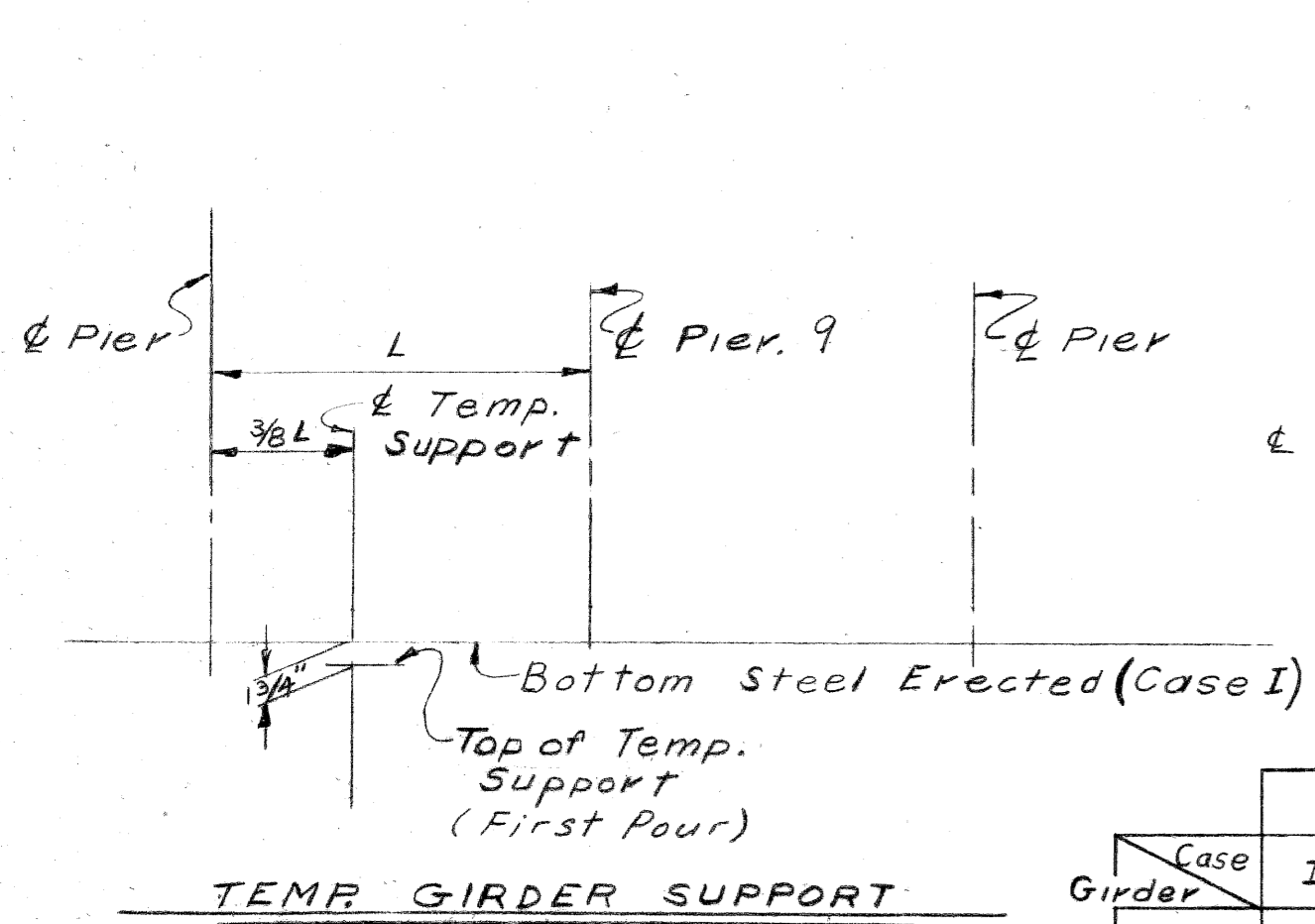


SCREED ELEVATIONS

153.42	153.09	152.76	152.42	152.07	151.70	151.32	150.93	150.53	150.25	149.97	149.68	149.40	149.11	148.82	148.53	148.24	147.98	147.78	147.31	146.85	146.39	145.93	145.47	145.03	144.59
154.34	154.01	153.67	153.33	152.98	152.61	152.23	151.84	151.45	151.19	150.93	150.67	150.42	150.18	149.95	149.72	149.49	149.15	148.80	148.44	148.07	147.69	147.30	146.89	146.49	146.09
154.42	154.09	153.76	153.42	153.06	152.70	152.32	151.93	151.54	151.27	151.01	150.76	150.51	150.27	150.04	149.81	149.59	149.35	149.15	148.92	148.67	148.41	148.15	147.85	147.47	147.08

BOTTOM OF SLAB ELEV. (For Loading Case I)

152.76	152.44	152.11	151.77	151.42	151.05	150.67	150.28	149.87	149.59	149.31	149.02	148.73	148.45	148.16	147.87	147.58	147.19	146.67	146.21	145.76	145.30	144.88	144.47	144.07
153.19	152.86	152.53	152.18	151.83	151.46	151.08	150.69	150.30	150.04	149.77	149.50	149.24	148.98	148.72	148.45	148.19	147.79	147.38	146.95	146.52	146.09	145.68	145.27	144.87
153.50	153.24	152.90	152.56	152.20	151.83	151.46	151.07	150.67	150.41	149.77	149.50	149.64	149.40	149.16	148.92	148.68	148.33	147.96	147.59	146.95	146.52	146.09	145.68	145.27
153.89	153.57	153.24	152.90	152.55	152.18	151.80	151.41	151.01	150.75	150.15	149.90	149.98	149.74	149.52	149.29	149.06	148.73	147.96	147.59	146.95	146.52	146.09	145.68	145.27
154.26	153.95	153.62	153.29	152.94	152.57	152.19	151.80	151.40	151.13	150.86	150.60	150.35	149.98	149.88	149.66	149.44	149.12	148.78	148.44	148.08	147.71	147.34	146.95	146.55



Case	a			b			c			d			e		
	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
A	1 3/8"	1 3/8"	1/4"	1 3/4"	1 5/8"	3/4"	1 7/8"	1 1/4"	1/8"	-5/8"	-3/4"	-1 5/8"	-3/8"	-1/2"	-1 3/8"
B	1 5/8"	1 1/8"	1/4"	1 1/2"	1 3/8"	5/8"	1 5/8"	1 1/8"	1/4"	1/4"	1/8"	-5/8"	-1/2"	-5/8"	-1 3/8"
C	1 3/8"	1 1/8"	1/8"	7/8"	3/4"	1/4"	1 1/8"	7/8"	-1/8"	7/8"	3/4"	1/4"	7/8"	3/4"	1/4"
D	1 3/8"	1 1/8"	1/8"	1/2"	3/8"	-1/8"	1/4"	0	-1"	2 3/8"	2 1/4"	1 3/4"	1 7/8"	1 3/4"	1 1/4"
E	1 3/4"	1 1/4"	1/4"	5/8"	1/2"	-1/4"	1"	5/8"	-3/8"	3 1/8"	3 3/4"	3"	3 3/8"	3 3/4"	3"

PLANS PREPARED BY
 CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *J. J. Covert*
 STRUCTURAL ENGINEER

JOB No. PW990(2)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

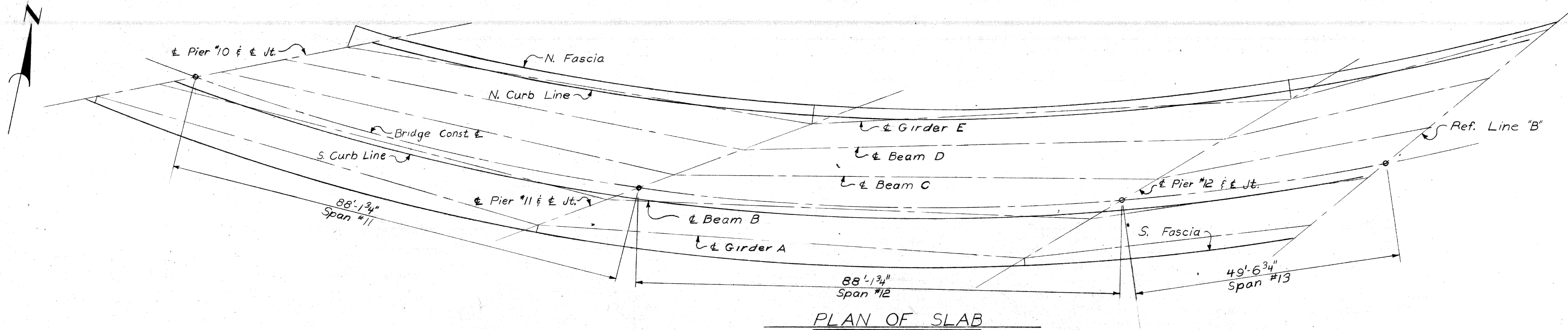
REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT

SQUAD BOSS: *Watts*
 DRAWN BY: *Van Kerkhove*
 TRACED BY: *B-10-67*
 CHECKED BY: *FW*
 SHEET 73 OF 78

S 41 of 82123 K



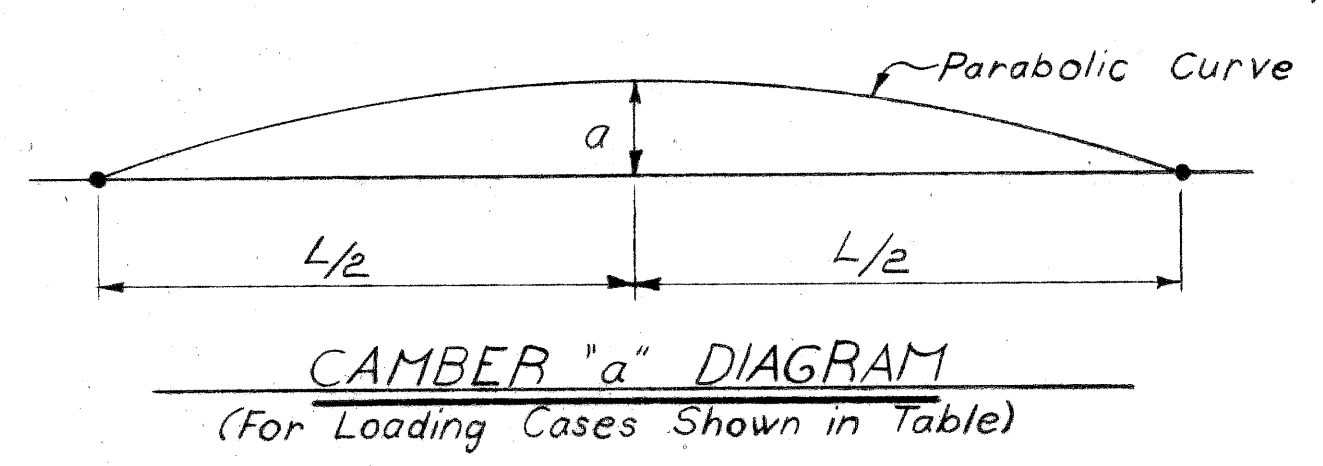
Span #11												Span #12												Span #13				Ref. Line 'B'	
12 Eq. Spaces												12 Eq. Spaces												4 Eq. Spaces					
144.52	144.25	143.99	143.72	143.44	143.15	142.86	142.55	142.24	141.91	141.58	141.24	140.90	140.66	140.41	140.16	139.90	139.63	139.35	139.06	138.76	138.45	138.14	137.81	137.49	137.05	136.64	136.26	135.89	on N. Curb Line
146.49	146.25	146.01	145.75	145.50	145.24	144.96	144.68	144.39	144.08	143.77	143.45	143.13	142.89	142.65	142.40	142.15	141.88	141.61	141.32	141.03	140.72	140.41	140.10	139.77	139.34	138.88	138.39	137.89	on Const. Lt.
146.68	146.45	146.21	145.97	145.71	145.45	145.18	144.89	144.60	144.30	143.99	143.67	143.35	143.12	142.87	142.63	142.37	142.11	141.83	141.55	141.26	140.95	140.64	140.32	140.00	139.58	139.10	138.62	138.11	on S Curb Line

SCREED ELEVATION

Span #11												Span #12												Span #13				Ref Line 'B'		
12 Eq. Spaces												12 Eq. Spaces												4 Eq. Spaces						
144.01	143.75	143.44	143.13	142.84	142.55	142.26	141.95	141.63	141.30	140.99	140.69	140.39	140.11	139.82	139.55	139.29	139.03	138.74	138.45	138.15	137.84	137.56	137.28	137.00	136.50	136.04	135.63	135.26	on Girder E	
144.87	144.56	144.25	143.96	143.66	143.37	143.07	142.77	142.47	142.17	141.86	141.57	141.28	140.99	140.71	140.44	140.16	139.88	139.60	139.32	139.03	138.74	138.46	138.17	137.90	137.40	136.92	136.46	136.02	on Beam D	
145.59	145.31	145.03	144.75	144.47	144.18	143.89	143.60	143.30	143.01	142.70	142.41	142.11	141.84	141.57	141.31	141.03	139.88	139.60	139.32	139.03	138.74	138.46	138.17	137.90	137.40	136.92	136.46	136.02	on Beam C	
146.16	145.94	145.71	145.47	145.20	144.93	144.65	144.37	144.08	143.78	143.48	143.15	142.85	142.60	142.37	142.11	141.84	141.57	141.30	141.01	139.91	139.62	139.33	139.04	138.75	138.26	137.78	137.29	136.81	on Beam B	
146.52	146.30	146.09	145.86	145.62	145.37	145.10	144.82	144.53	144.23	143.91	143.59	143.28	143.04	142.82	142.58	142.34	142.08	141.80	141.52	141.22	140.92	140.60	140.27	139.96	139.48	139.04	138.57	138.07	137.54	on Girder A

BOTTOM OF SLAB ELEV

(For Loading Case I)



Case	Span 11			Span 12			Span 13		
	I	II	III	I	II	III	I	II	III
A.	2 3/8"	2"	0	2 3/8"	1 3/4"	-1/4"	3/4"	3/8"	1/8"
B.	2 1/2"	1 5/8"	-1/4"	2 1/4"	7/8"	-1"	7/8"	1/2"	0
C.	1"	0	-1 3/4"	1 1/4"	1/4"	-1 1/2"	-1/8"	-1/2"	-1"
D.	3/8"	-1/2"	-2 1/4"	5/8"	-1/4"	-2"	0	-1/2"	-7/8"
E.	2 1/2"	2"	1/8"	2 1/2"	2"	1/8"	1/2"	1/4"	-1/8"

PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *H. Cant*
 STRUCTURAL ENGINEER

JOB No. **RW99021**

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT

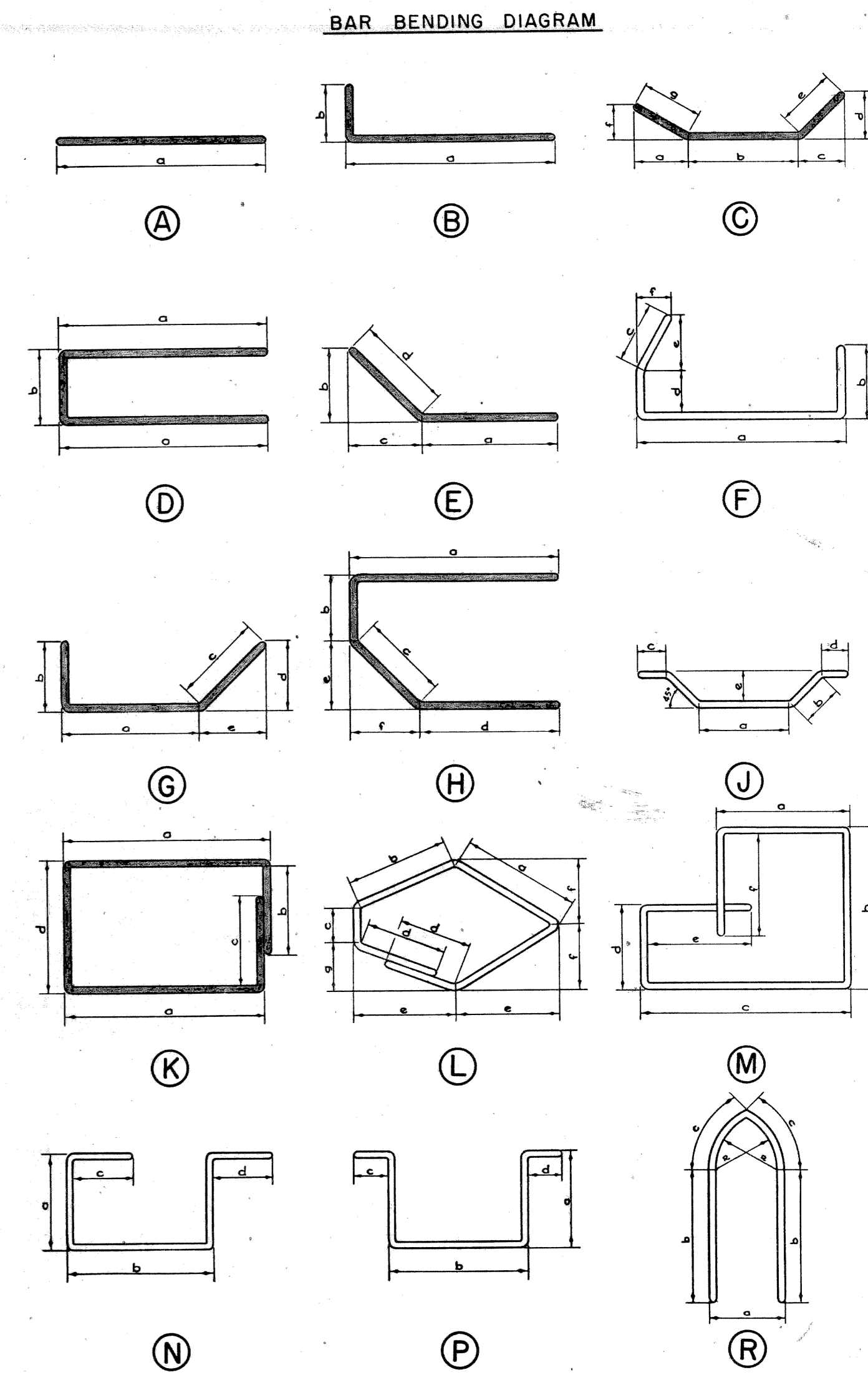
SQUAD BOSS *W.H.S.*
 DRAWN BY *Van Kerkhove* 8-11-67
 TRACED BY *FW*
 CHECKED BY *FW*
 SHEET 74 OF 78

S 41 of 82123 K

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
A1	6'-6"							#6	6'-6"	48	469
A2	4'-6"							#6	4'-6"	25	169
A3	8'-0"							#6	8'-0"	66	793
A4	6'-3"							#6	6'-3"	49	460
A5	38'-0"							#6	38'-0"	10	571
A6	16'-0"							#6	16'-0"	20	481
A7	5'-0"							#6	5'-0"	33	248
A8	9'-6"							#6	9'-6"	34	485
A9	19'-6"							#4	19'-6"	8	104
A10	16'-3"							#4	16'-3"	12	130
A11	12'-3"							#4	12'-3"	2	16
A12	10'-0"							#4	10'-0"	8	53
A13	7'-0"							#4	7'-0"	6	28
A14	9'-0"							#7	9'-0"	17	313
A15	14'-9"							#6	14'-9"	28	620
A16	13'-9"							#6	13'-9"	20	413
A17	4'-3"							#6	4'-3"	8	51
A18	6'-0"							#6	6'-0"	21	189
A19	15'-6"							#6	15'-6"	9	210
A20	10'-6"							#6	10'-6"	22	347
A21	17'-9"							#4	17'-9"	22	261
A22	17'-0"							#6	17'-0"	4	102
A23	12'-6"							#4	12'-6"	20	167
A24	18'-0"							#4	18'-0"	15	180
A25	28'-0"							#6	28'-0"	4	168
A26	16'-0"							#6	16'-0"	10	240
A27	9'-0"							#9	9'-0"	10	306
A28	10'-6"							#6	10'-6"	10	158
A29	10'-6"							#8	10'-6"	10	280
A30	14'-6"							#6	14'-6"	14	305
A31	8'-6"							#8	8'-6"	13	295
A32	9'-3"							#6	9'-3"	14	195
A33	9'-3"							#7	9'-3"	13	246
A34	13'-6"							#6	13'-6"	18	365
A35	8'-6"							#6	8'-6"	36	460
A36	12'-0"							#6	12'-0"	19	342
A37	5'-3"							#6	5'-3"	16	126
A38	4'-9"							#6	4'-9"	14	100
A39	15'-3"							#6	15'-3"	15	344
A40	19'-9"							#6	19'-9"	15	445
A41	26'-6"							#6	26'-6"	15	597
A42	28'-3"							#6	28'-3"	13	552
A43	22'-3"							#6	22'-3"	26	869
A44	16'-0"							#8	16'-0"	20	854
A45	10'-6"							#9	10'-6"	9	321
A46	16'-6"							#6	16'-6"	19	471
A47	11'-6"							#9	11'-6"	11	430
A48	15'-9"							#6	15'-9"	34	804
A49	14'-9"							#8	14'-9"	17	670
A50	10'-3"							#8	10'-3"	16	438
A51	13'-0"							#6	13'-0"	38	742
A52	11'-6"							#7	11'-6"	19	447
A53	8'-3"							#7	8'-3"	19	320
A54	16'-9"							#4	16'-9"	30	336
A55	15'-0"							#4	15'-0"	12	120
A56	18'-6"							#4	18'-6"	10	124
A57	26'-0"							#4	26'-0"	18	313
A58	32'-6"							#4	32'-6"	14	304
A59	14'-9"							#4	14'-9"	2	20
A60	1'-6"							#4	1'-6"	1	1
A61	5'-0"							#4	5'-0"	1	3
A62	21'-0"							#4	21'-0"	1	14
A63	19'-0"							#4	19'-0"	2	25
A64	4'-6"							#4	4'-6"	5	15
A65	6'-0"							#4	6'-0"	5	20
A66	5'-3"							#4	5'-3"	1	4
A67	6'-6"							#4	6'-6"	1	4
A68	16'-9"							#6	16'-9"	4	101
A69	3'-0"							#6	3'-0"	128	577

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
B1	1'-6 1/2"	1'-6"						#4	3'-0"	10	20
C1	8"	3'-0"	8"	9"	1'-0"	9"	1'-0"	#6	5'-0"	6	45
C2	8 1/2"	5'-0"	8 1/2"	8 1/2"	1'-0"	8 1/2"	1'-0"	#6	7'-0"	5	53
D2	2'-9"	10"						#4	6'-3"	14	58
D3	1'-9"	10"						#4	4'-3"	12	34
D4	1'-6"	10"						#4	3'-9"	28	70
D5	3'-1 1/2"	7 1/2"						#6	6'-9"	51	517
D6	6'-3 1/2"	10"						#6	13'-3"	3	60
D7	9'-0 1/2"	1'-7"						#6	19'-6"	2	59
DB	3'-3"	10"						#4	7'-3"	3	15
E1	2'-0"	11 1/2"	11 1/2"	1'-0"				#4	3'-0"	6	12
E2	1'-0"	11 1/2"	5 1/2"	1'-0"				#4	2'-0"	5	7
H1	2'-1"	0"	11 1/2"	1'-0"	10"	5 1/2"		#4	4'-0"	10	27
K1	10 3/4"	6 1/2"	6"	8 1/2"				#4	3'-5"	90	205
Total = 24916*											

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
A601	16'-0"							#6	16'-0"	64	1538
A602	10'-3"							#6	10'-3"	64	1001
A603	9'-0"							#8	9'-0"	63	1514
A604	10'-3"							#7	10'-3"	63	1320
A605											
A606											
A607											
A608	8'-6"							#6	8'-6"	95	1213
A609	12'-0"							#6	12'-0"	64	1154
A610	23'-0"							#6	23'-0"	64	2211
A611	7'-9"							#8	7'-9"	64	1324
A612	13'-6"							#8	13'-6"	64	2307
A613	21'-3"							#6	21'-3"	64	2043
A614											
A615	23'-6"							#4	23'-6"	94	1476
A616	25'-0"							#4	25'-0"	236	3941
A617	32'-9"							#6	32'-9"	117	5755
A618	6'-3"							#6	6'-3"	128	1202
A619	18'-9"							#6	18'-9"	64	1802
A620	17'-0"							#6	17'-0"	64	1634
A621	10'-6"							#6	10'-6"	64	1009
A622	7'-0"							#6	7'-0"	64	673
A623	9'-0"							#6	9'-0"	64	865
A624	5'-3"							#8	5'-3"	63	883
A625	12'-6"							#6	12'-6"	64	1202
A626	14'-3"							#6	14'-3"	64	1370
A627	4'-6"							#6	4'-6"	54	365
A628	37'-9"							#6	37'-9"	8	454
A629	30'-0"							#4	30'-0"	14	281
A630	6'-3"							#4	6'-3"	140	585
A631	13'-6"							#4	13'-6"	70	631
B601	10'-0"	1'-0 1/2"						#6	11'-0"	32	529
B602	9'-3"	1'-0 1/2"						#6	10'-3"	32	493
B603	8'-3"	1'-0 1/2"						#6	9'-3"	36	500
B604	2'-2 1/2"	1'-1"						#4	3'-3"	32	69
B605	2'-1 1/2"	1'-5"						#4	3'-6"	32	75
B606	2'-2 1/2"	1'-10"						#4	4'-0"	38	102
D601	3'-1 1/2"	10"						#4	7'-0"	192	898
D602	1'-4 1/2"	2'-10"						#4	5'-6"	70	257
Total = 42,660*											



Note:-
All right angle bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.
All bar numbers shown on this sheet are to be prefixed S41.
Steel for reinforcement shall be intermediate or hard grade only.

Tolerances in cutting and bending bars are as established in Manual of Standard Practice of the Concrete Reinforcing Steel Institute and Detailing Manual of the American Concrete Institute.
Total Steel Reinforcement This Sheet 64,576*
For Grand Total Steel Reinforcement, see Sh. 78.

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS' OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS
APPROVED: *H. Cant*
STRUCTURAL ENGINEER
JOB No. EW9902

MICHIGAN STATE HIGHWAY DEPARTMENT

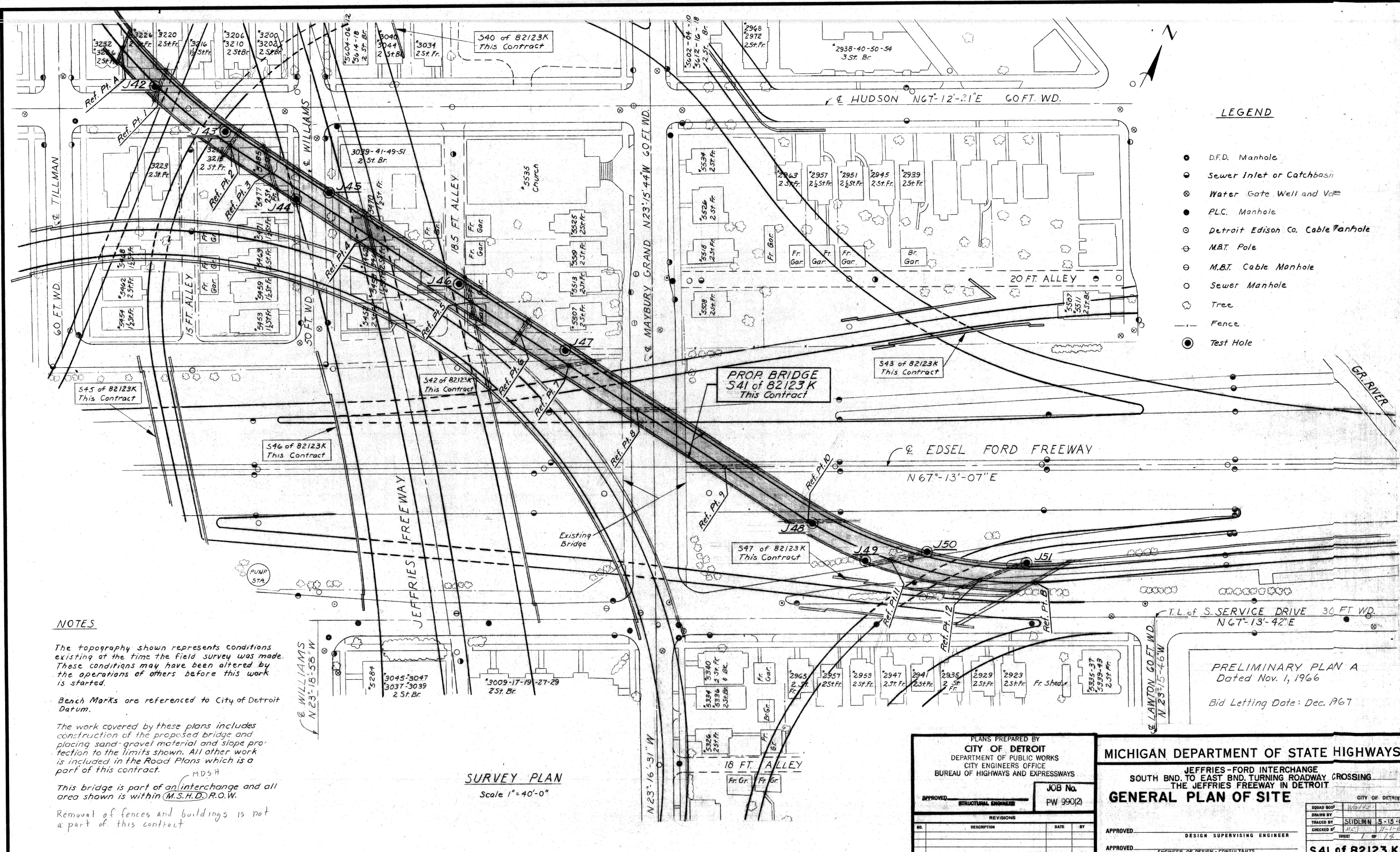
STEEL REINFORCEMENT DETAILS

CITY OF DETROIT

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS *WHTS*
DRAWN BY *RHDS* 10-67
TRACED BY
CHECKED BY *MC*
SHEET 75 OF 73
S 41 of 82123 K



- LEGEND**
- D.F.D. Manhole
 - Sewer Inlet or Catchbasin
 - ⊗ Water Gate Well and Valve
 - P.L.C. Manhole
 - ⊙ Detroit Edison Co. Cable Panhole
 - ⊙ M.B.T. Pole
 - ⊙ M.B.T. Cable Manhole
 - Sewer Manhole
 - ☼ Tree
 - - - Fence
 - Test Hole

NOTES

The topography shown represents conditions existing at the time the field survey was made. These conditions may have been altered by the operations of others before this work is started.

Bench Marks are referenced to City of Detroit Datum.

The work covered by these plans includes construction of the proposed bridge and placing sand-gravel material and slope protection to the limits shown. All other work is included in the Road Plans which is a part of this contract.

This bridge is part of an interchange and all area shown is within (M.S.H.D.) R.O.W.

Removal of fences and buildings is not a part of this contract.

SURVEY PLAN
Scale 1" = 40'-0"

PRELIMINARY PLAN A
Dated Nov. 1, 1966
Bid Letting Date: Dec. 1967

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
STRUCTURAL ENGINEER

JOB No.
PW 990(2)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING
THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF SITE

APPROVED: _____
DESIGN SUPERVISING ENGINEER

APPROVED: _____
ENGINEER OF DESIGN - CONSULTANTS

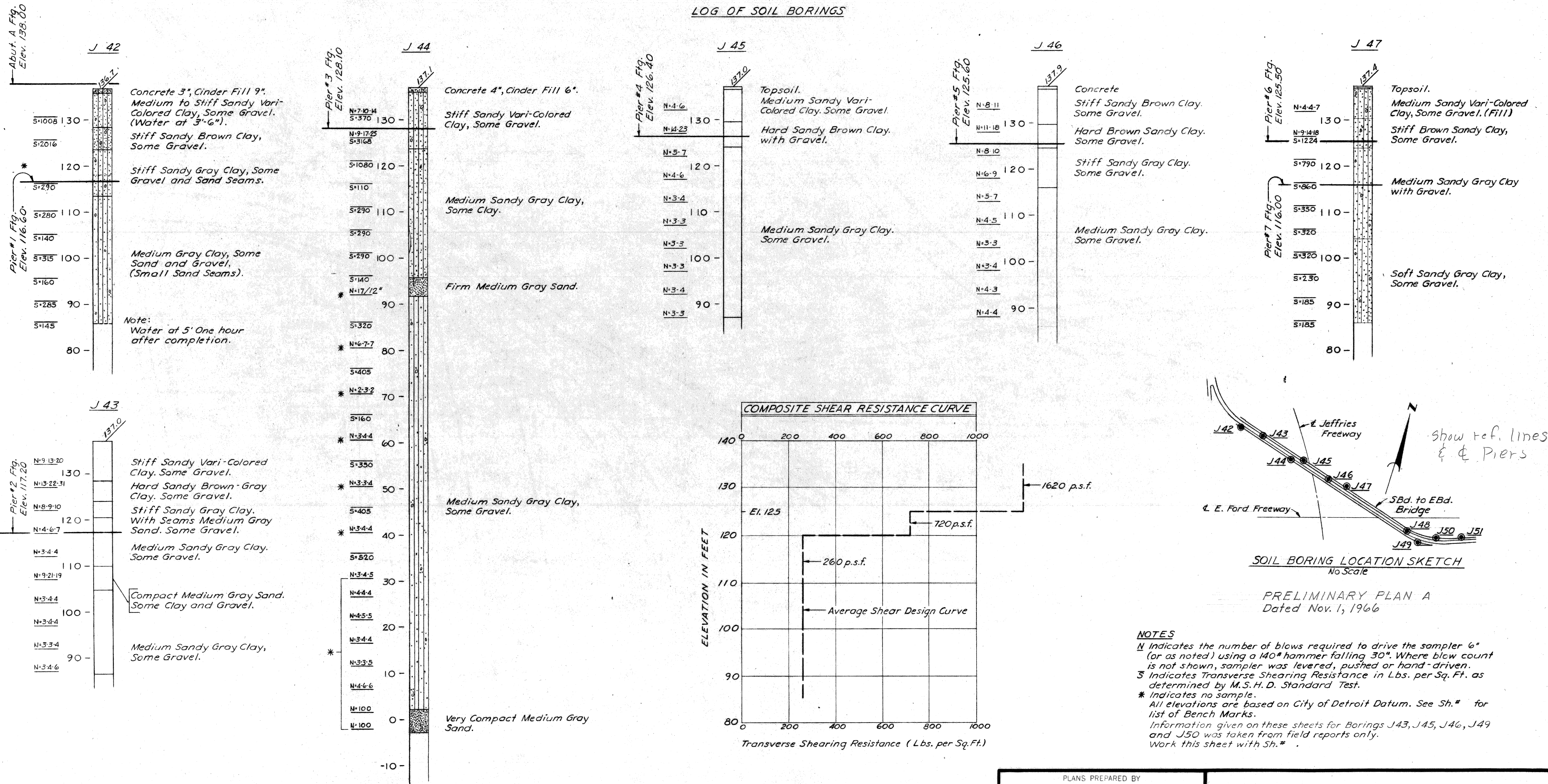
CITY OF DETROIT

SQUAD BND.	Wanta
DRAWN BY	SEIDLIN 5-15-66
TRACED BY	MC 11-1-68
CHECKED BY	

SHEET 1 OF 14

S41 of 82123 K

LOG OF SOIL BORINGS



PLANS PREPARED BY
 CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
 STRUCTURAL ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE	BY

JOB No. PW990(2)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES - FORD INTERCHANGE
 SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE
 JEFFRIES FREEWAY IN DETROIT

LOG OF SOIL BORINGS

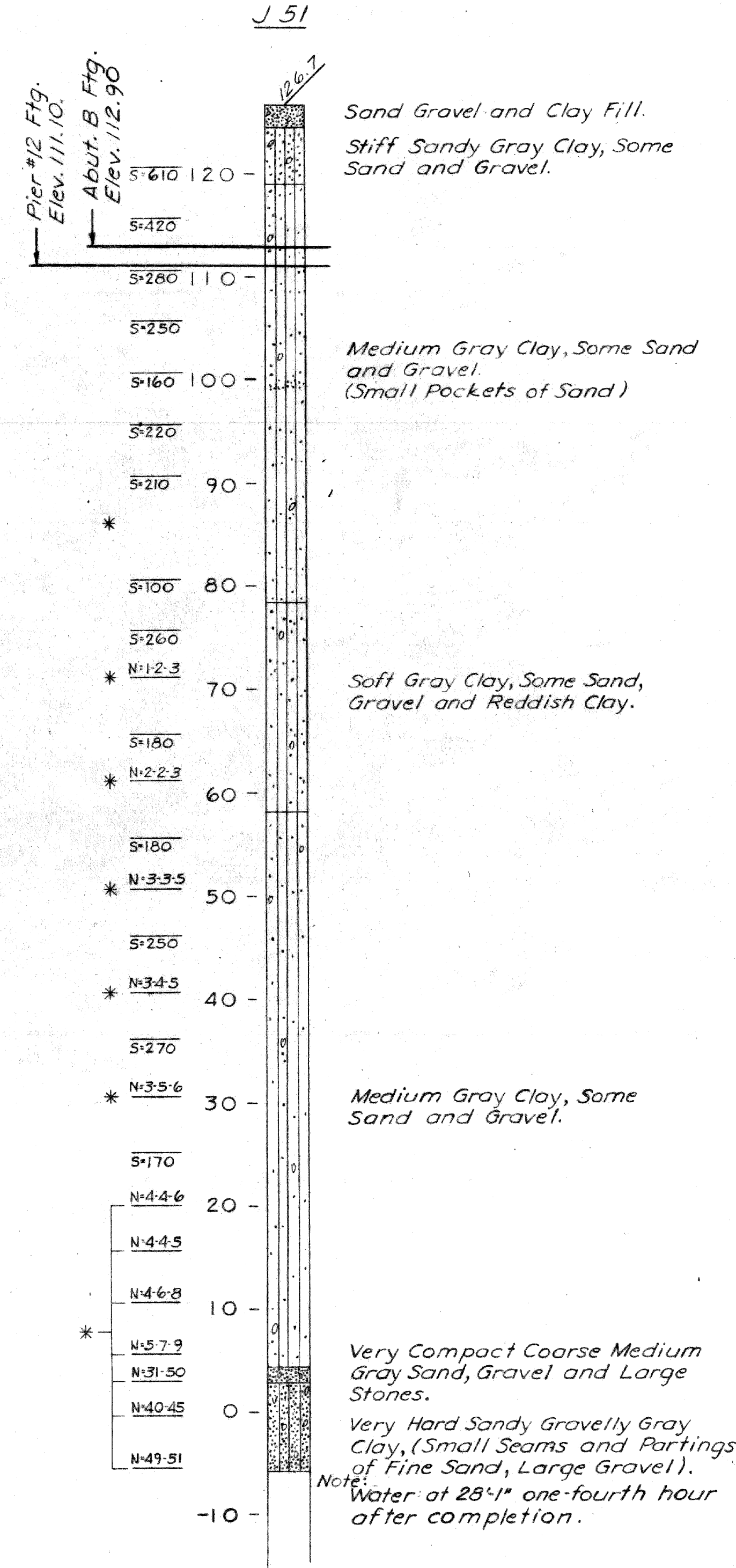
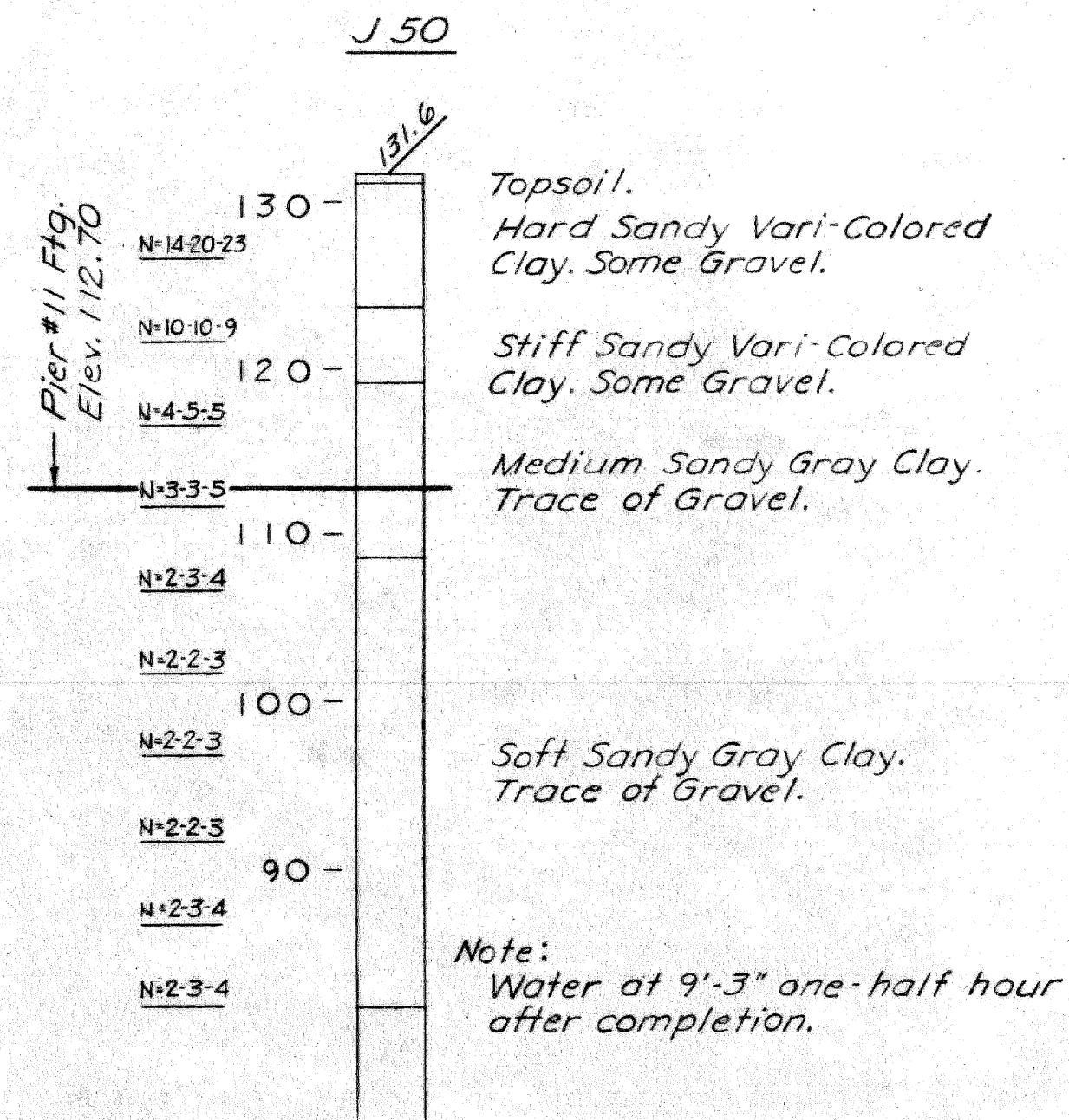
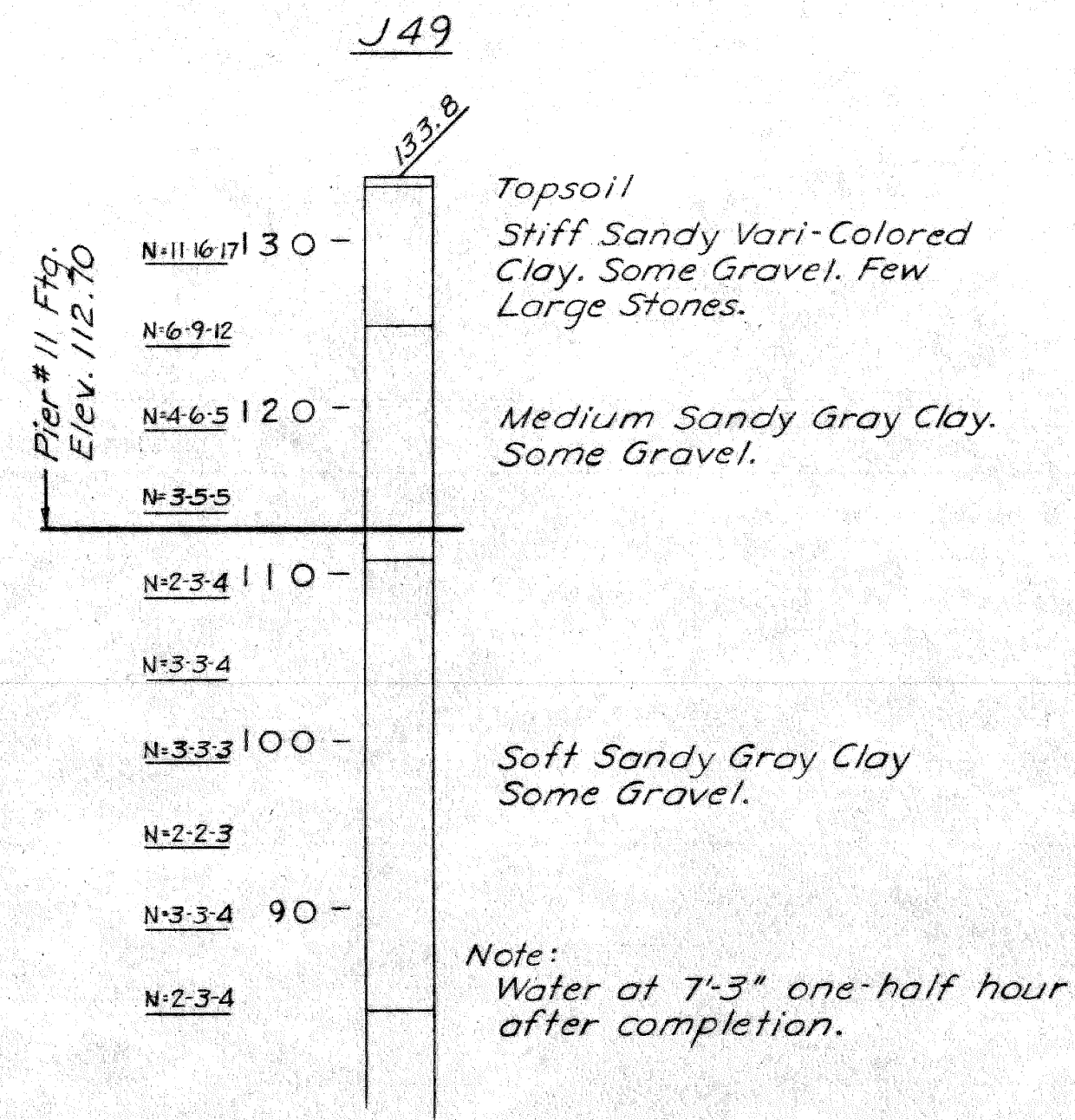
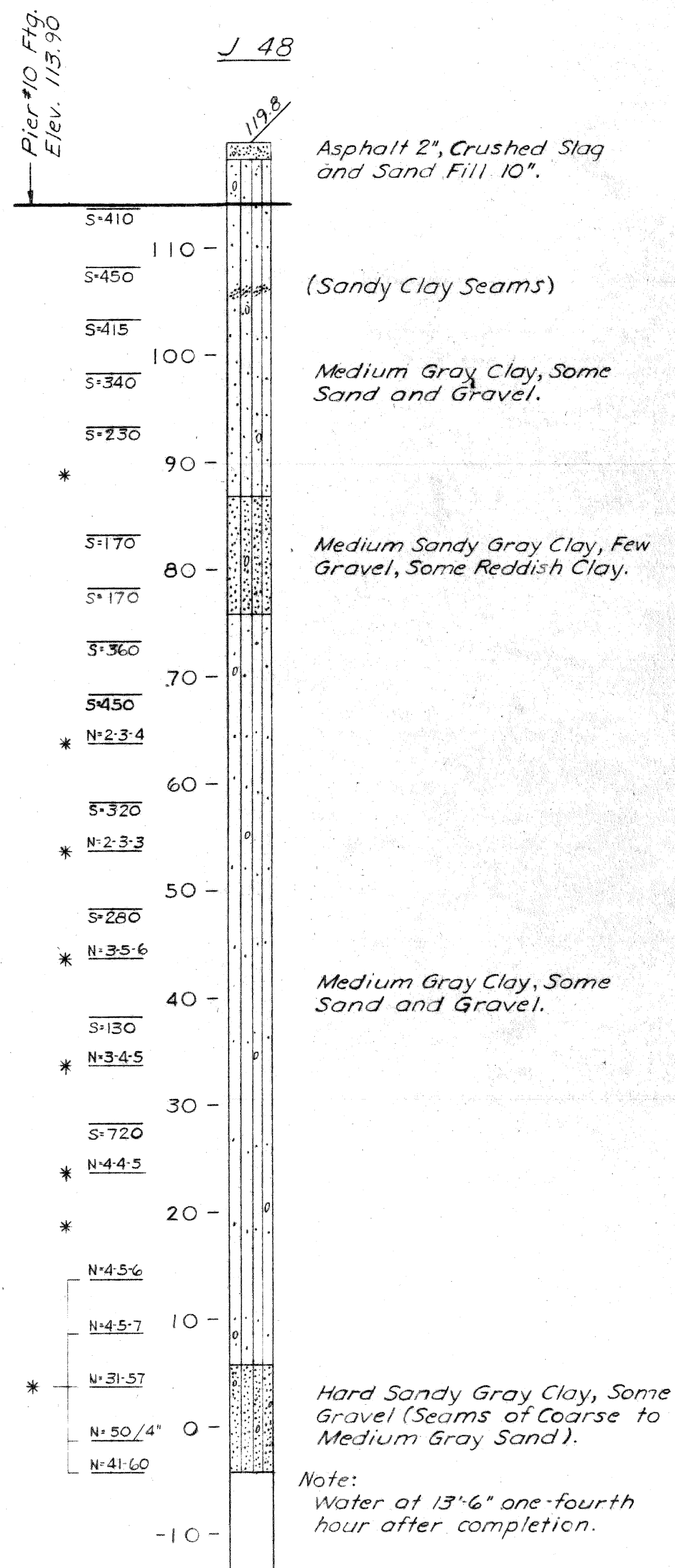
APPROVED: _____
 DESIGN SUPERVISING ENGINEER

APPROVED: _____
 ENGINEER OF DESIGN - CONSULTANTS

CITY OF DETROIT
 SQUAD BOSS: W.G.H.
 DRAWN BY: _____
 TRACED BY: E. Harris
 CHECKED BY: M.C. 11-1-66
 SHEET 2 OF 14

S41 of 82123 K

LOG OF SOIL BORINGS



Note: See NOTES on Sh.#

PRELIMINARY PLAN A
Dated Nov. 1, 1966

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____
STRUCTURAL ENGINEER

JOB No.
PW990(2)

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE
JEFFRIES FREEWAY IN DETROIT

LOG OF SOIL BORINGS

APPROVED _____
DESIGN SUPERVISING ENGINEER

APPROVED _____
ENGINEER OF DESIGN-CONSULTANTS

CITY OF DETROIT

SQUAD BOSS _____

DRAWN BY _____

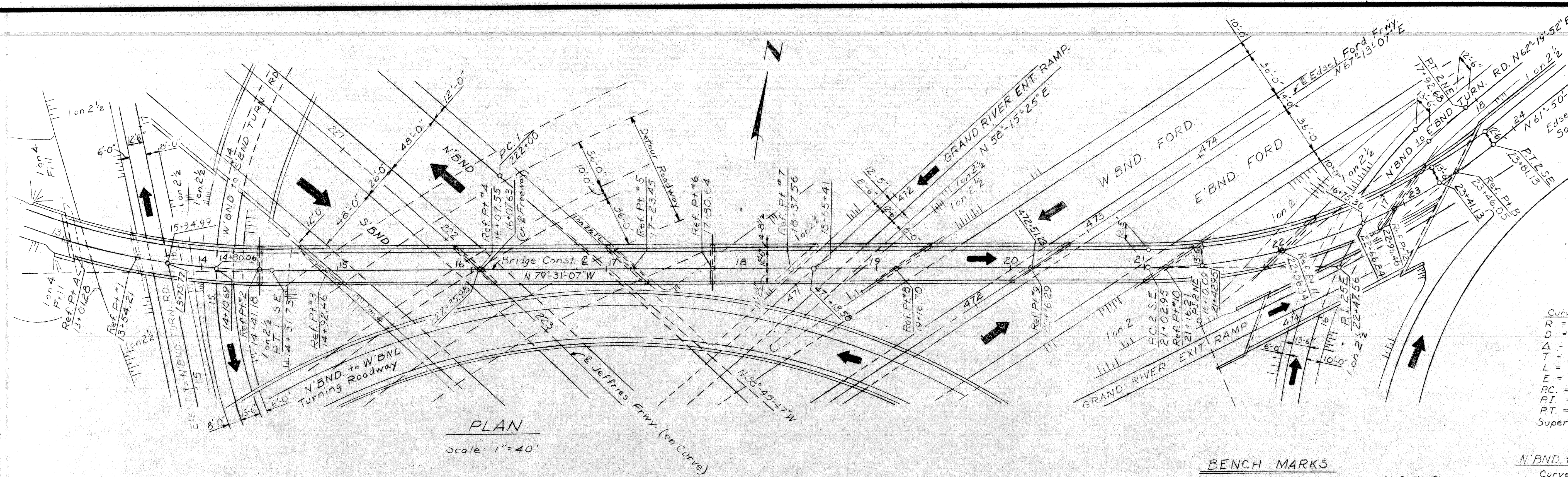
TRACED BY _____

CHECKED BY _____

SHEET 3 OF 17

11-1-66

S41 of 8/123 K



PLAN
Scale: 1" = 40'

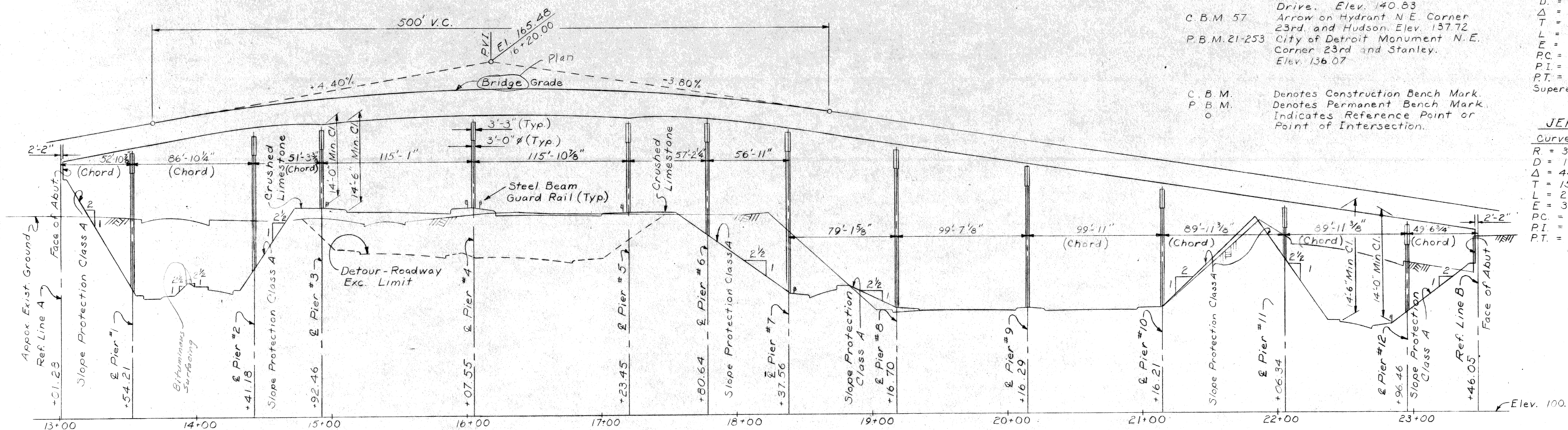
CURVE DATA
S'BND to E'BND T.R.

Curve 1 S.E.	Curve 2 S.E.
R = 512.50'	R = 412.50'
D = 11°-10'-47"	D = 13°-53'-24"
Δ = 44°-38'-46"	Δ = 38°-36'-20"
T = 210.43'	T = 144.61'
L = 399.35'	L = 278.18'
E = 41.52'	E = 24.61'
PC = 10+52.38	PC = 21+02.95
PI = 12+62.81	PI = 22+47.56
PT = 14+51.73	PT = 23+81.13
Superelevation = 0.05%	Superelevation = 0.06%

- BENCH MARKS**
- C.B.M. 36 Arrow on Hydrant S.W. Corner Lawton and Ford S. Service Drive. Elev. 140.83
 - C.B.M. 57 Arrow on Hydrant N.E. Corner 23rd and Hudson. Elev. 137.72
 - P.B.M. 21-253 City of Detroit Monument N.E. Corner 23rd and Stanley. Elev. 136.07
- C.B.M. Denotes Construction Bench Mark.
P.B.M. Denotes Permanent Bench Mark.
o Indicates Reference Point or Point of Intersection.

N'BND to E'BND T.R.	W'BND to S'BND T.R.
Curve 2 N.E.	Curve 1 W.S.
R = 340.00'	R = 312.50'
D = 16°-51'-06"	D = 18°-20'-05"
Δ = 73°-44'-49"	Δ = 155°-31'-12"
T = 255.03'	T = 1440.50'
L = 437.62'	L = 848.23'
E = 85.02'	E = 1161.51'
PC = 13+55.06	PC = 8+81.36
PI = 16+10.09	PI = 23+21.86
PT = 17+92.68	PT = 17+29.59
Superelevation = 0.06%	Superelevation = 0.06%

JEFFRIES	WARREN ENTR RAMP
Curve 9 J.	Curve 1
R = 3819.72'	R = 3880.83'
D = 1°-30'-00"	D = 1°-28'-35"
Δ = 44°-37'-30"	Δ = 9°-41'-50"
T = 1567.56'	T = 329.20'
L = 2975.00'	L = 656.82'
E = 309.14'	E = 13.94'
PC = 201+55.00	PC = 222+00.00
PI = 217+22.56	PI = 225+29.20
PT = 231+30.00	PT = 228+56.82



PROFILE ON BRIDGE CONSTR. @

Scale: Horz. 1" = 40'
Vert. 1" = 10'

NOTE: The indicated slopes are normal to roadway Shoulder Line.

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
STRUCTURAL ENGINEER

JOB No. PW 990(2)

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

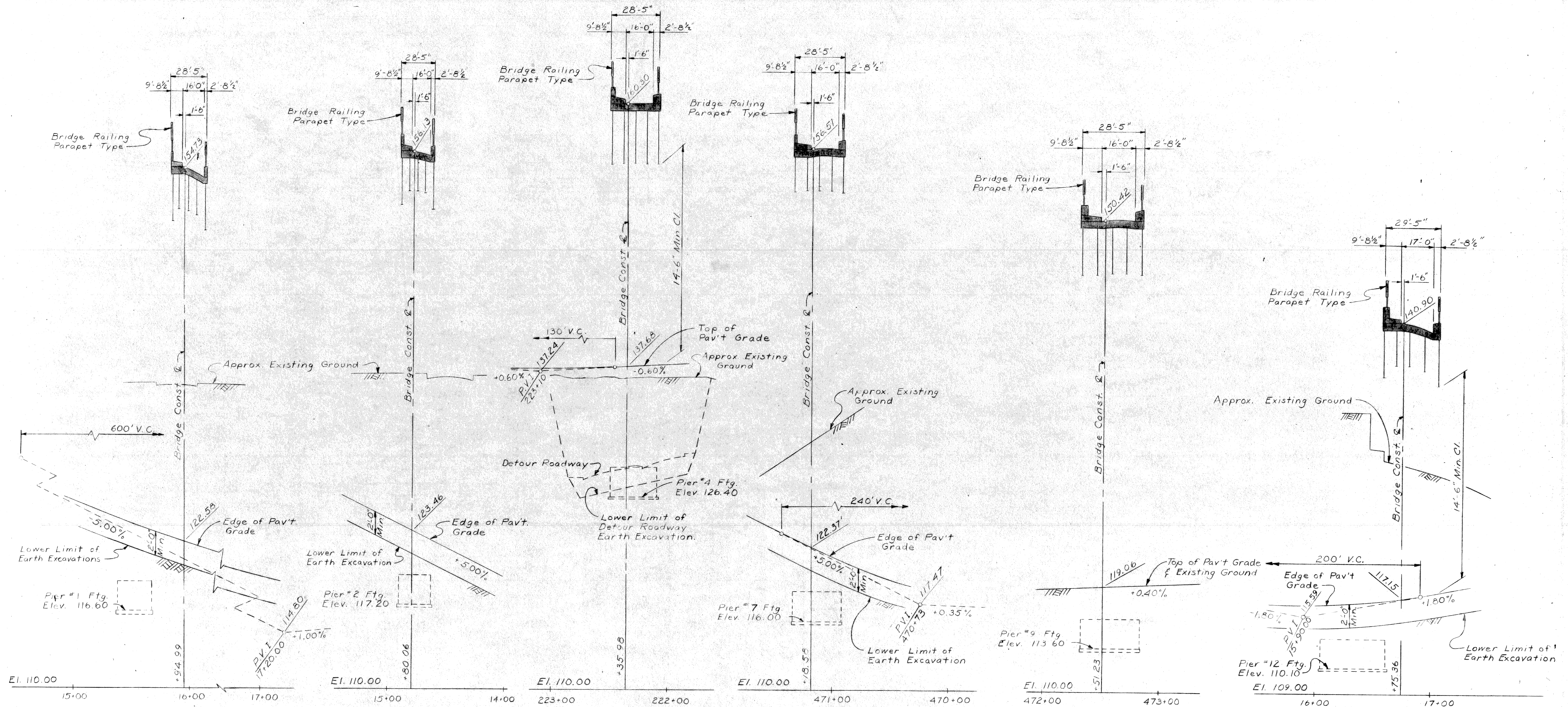
APPROVED: _____
DESIGN SUPERVISING ENGINEER

APPROVED: _____
ENGINEER OF DESIGN - CONSULTANTS

SQUAD BOSS	DATE
WJH	5-16-66
RG	

CITY OF DETROIT
SHEET 4 OF 17
S 41 of 82123 K

PRELIMINARY PLAN A
Dated Nov. 1, 1966



PROFILE ALONG E'BND to N'BND
TURNING ROADWAY
Scale: Horz. 1" = 40'
Vert. 1" = 4'

PROFILE ALONG W'BND to S'BND
TURNING ROADWAY
Scale: Horz. 1" = 40'
Vert. 1" = 4'

PROFILE ALONG
JEFFRIES FRWY.
Scale: Horz. 1" = 40'
Vert. 1" = 4'

PROFILE ALONG GRAND
RIVER ENT. RAMP
Scale: Horz. 1" = 40'
Vert. 1" = 4'

PROFILE ALONG
E. FORD FRWY.
Scale: Horz. 1" = 40'
Vert. 1" = 4'

PROFILE ALONG N'BND to E'BND
TURNING ROADWAY
Scale: Horz. 1" = 40'
Vert. 1" = 4'
PRELIMINARY PLAN A
Dated Nov. 1, 1966

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS' OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
STRUCTURAL ENGINEER

JOB No.
PW 990(2)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES - FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE
JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

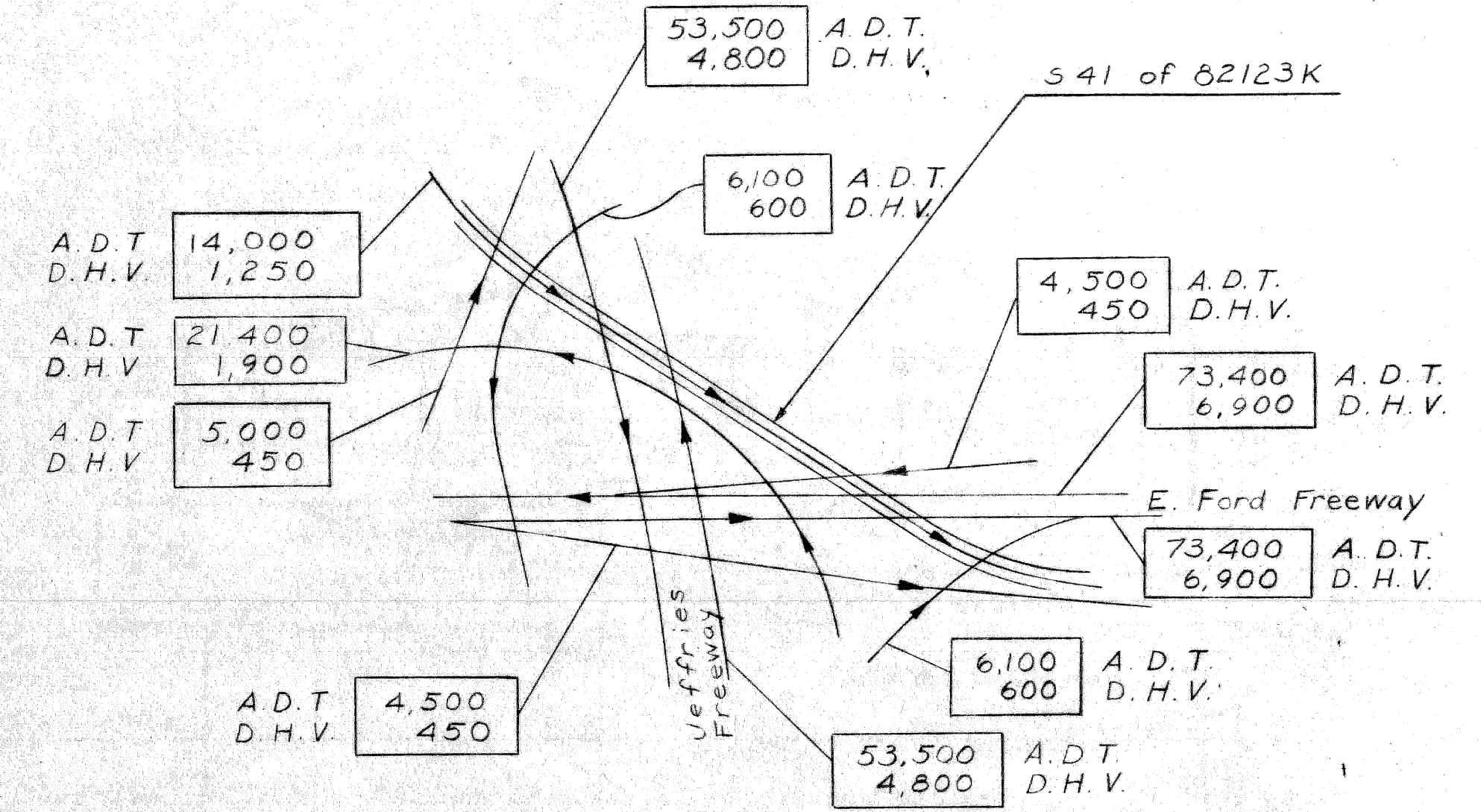
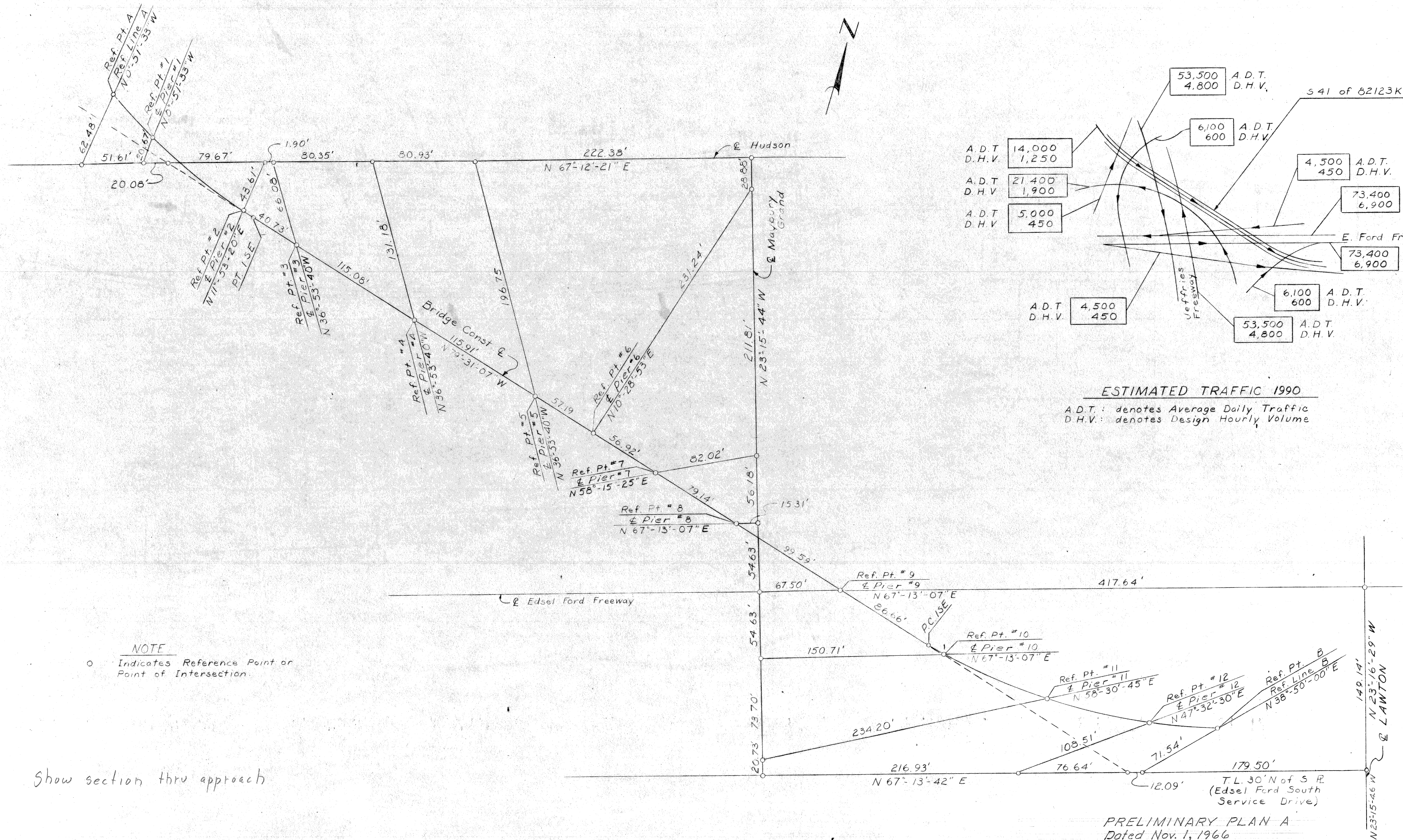
APPROVED: _____
DESIGN SUPERVISING ENGINEER

APPROVED: _____
ENGINEER OF DESIGN - CONSULTANTS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SHEET 5 OF 14

S41 of 82123 K



ESTIMATED TRAFFIC 1990
 A.D.T.: denotes Average Daily Traffic
 D.H.V.: denotes Design Hourly Volume

NOTE
 O Indicates Reference Point or Point of Intersection.

Show section thru approach

ALIGNMENT DIAGRAM
 (No Scale)

PRELIMINARY PLAN A
 Dated Nov. 1, 1966

PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____
 STRUCTURAL ENGINEER

JOB No.
 PW 990(2)

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE
JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

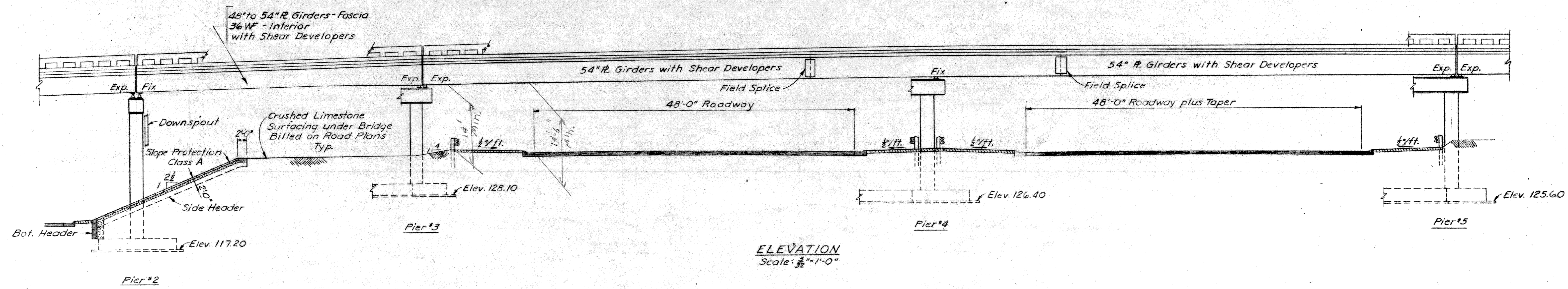
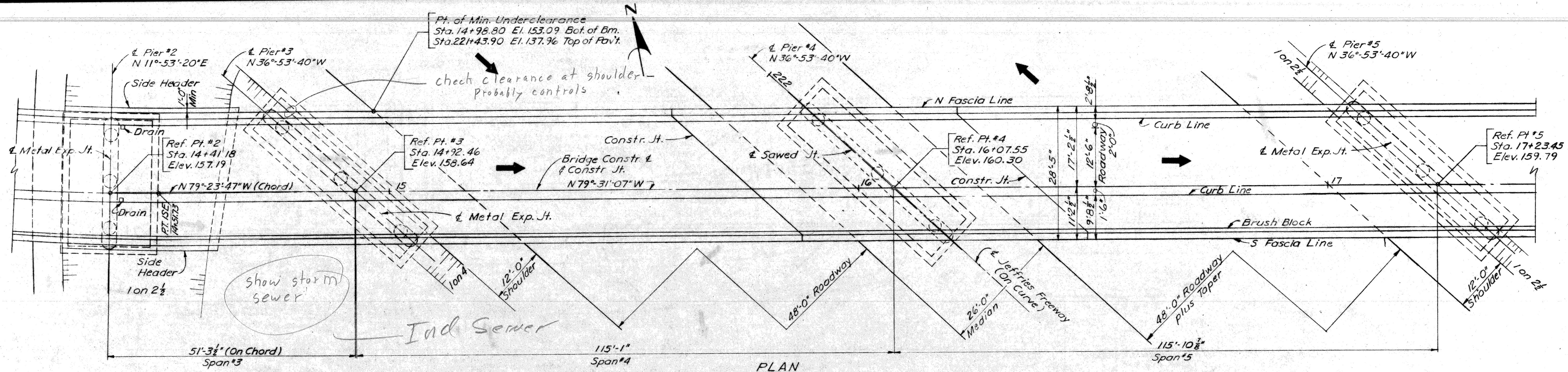
APPROVED _____
 DESIGN SUPERVISING ENGINEER

APPROVED _____
 ENGINEER OF DESIGN - CONSULTANTS

SQUAD BOSS	DATE
Watts	7-66
RG	7-66
MCJ	11-4-66

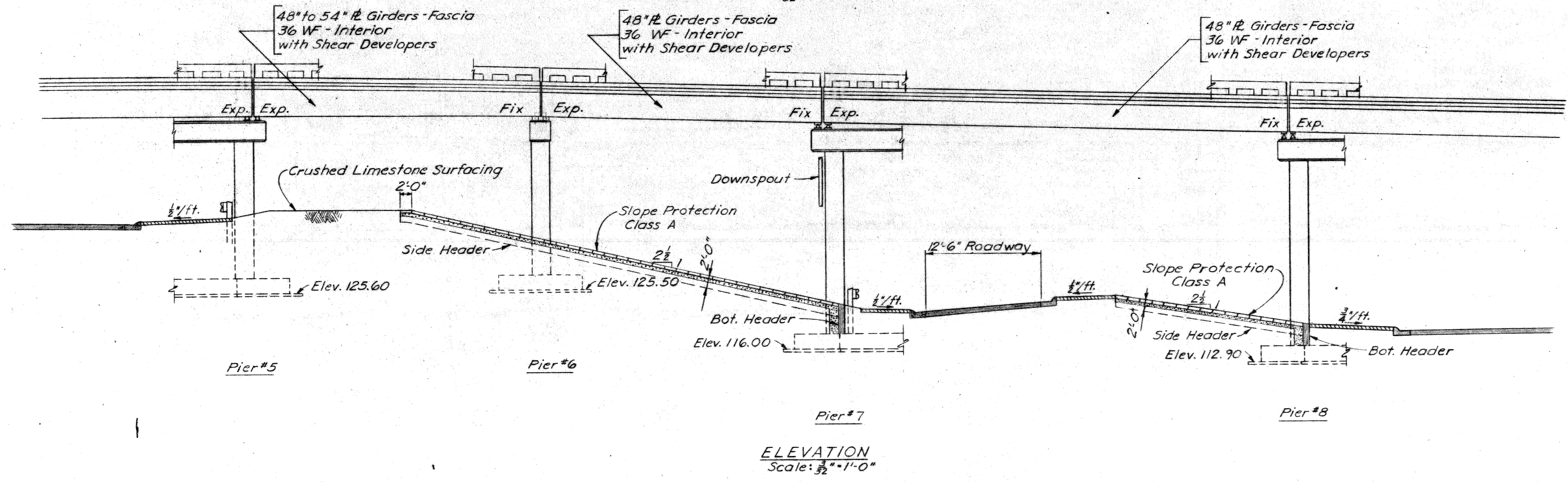
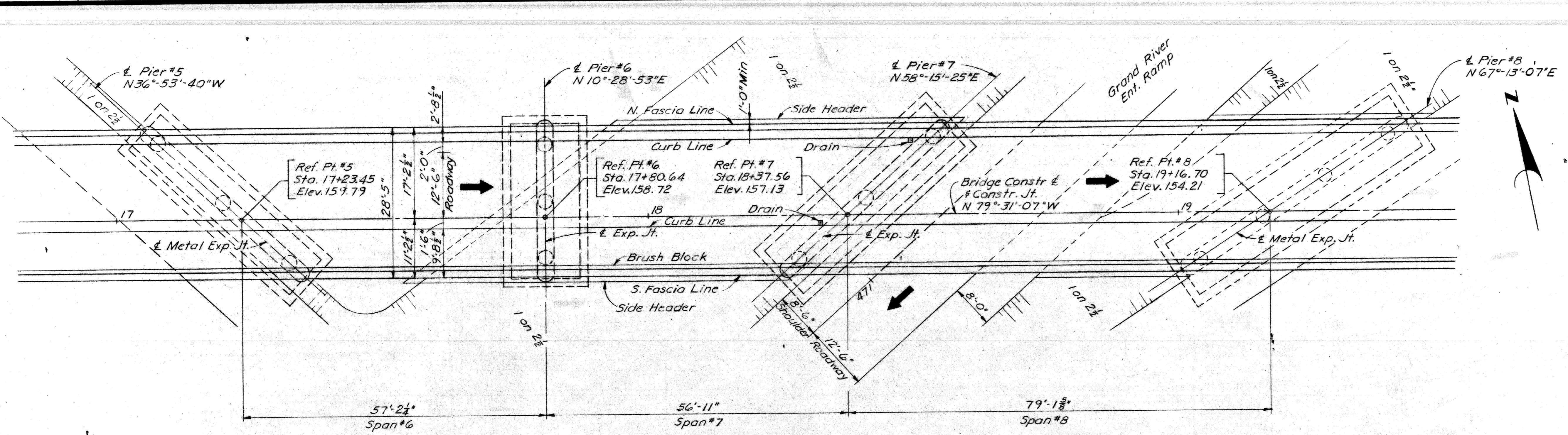
SHEET 6 OF 14

S 41 of 82123 K



PRELIMINARY PLAN A
Dated Nov. 1, 1966

PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERS OFFICE BUREAU OF HIGHWAYS AND EXPRESSWAYS		MICHIGAN DEPARTMENT OF STATE HIGHWAYS SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE JEFFRIES-FORD INTERCHANGE JEFFRIES FREEWAY IN DETROIT	
APPROVED _____ STRUCTURAL ENGINEER		GENERAL PLAN OF STRUCTURE CITY OF DETROIT	
JOB No. PW990(2)		SQUAD BSS <i>W.H.S.</i> DRAWN BY <i>W.H.S.</i> TRACED BY <i>R.H.</i> CHECKED BY <i>M.C.</i> 11-1-66 SHEET 8 OF 13	
REVISIONS NO. DESCRIPTION DATE BY		APPROVED _____ DESIGN SUPERVISING ENGINEER	
APPROVED _____ ENGINEER OF DESIGN - CONSULTANTS		S 41 of 82123 K	



PRELIMINARY PLAN A
Dated Nov. 1, 1966

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
STRUCTURAL ENGINEER

JOB No.
PW990(2)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES - FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE
JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

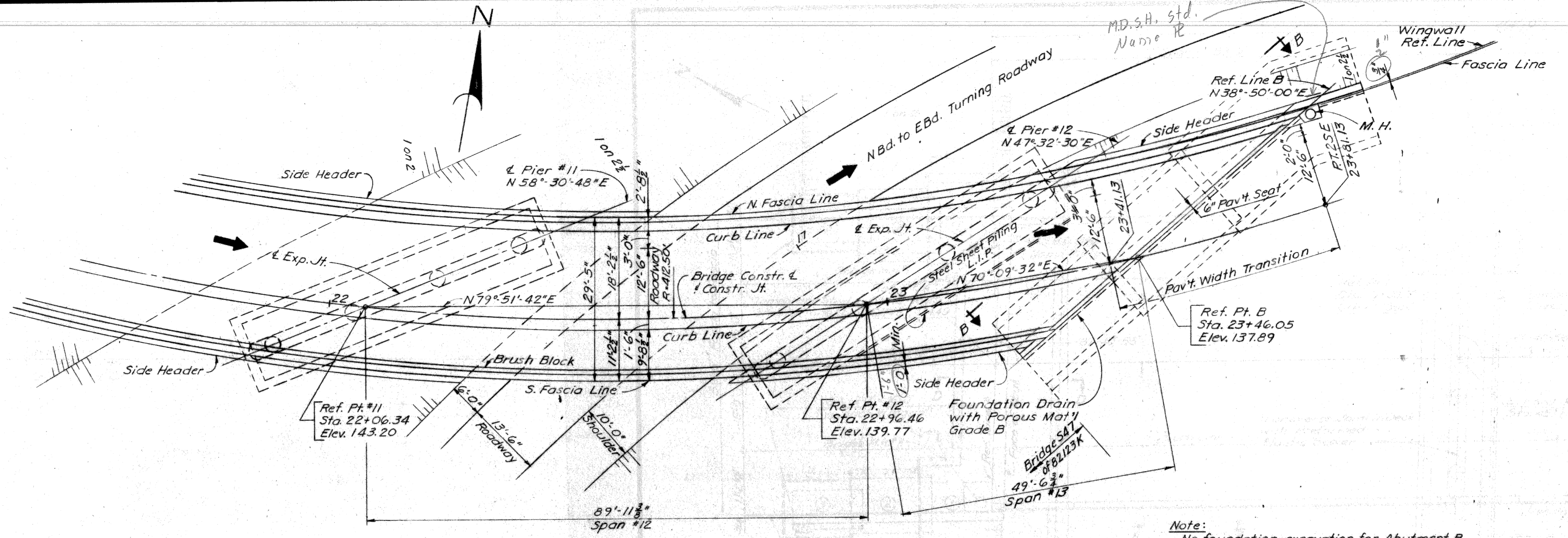
CITY OF DETROIT

APPROVED: _____
DESIGN SUPERVISING ENGINEER

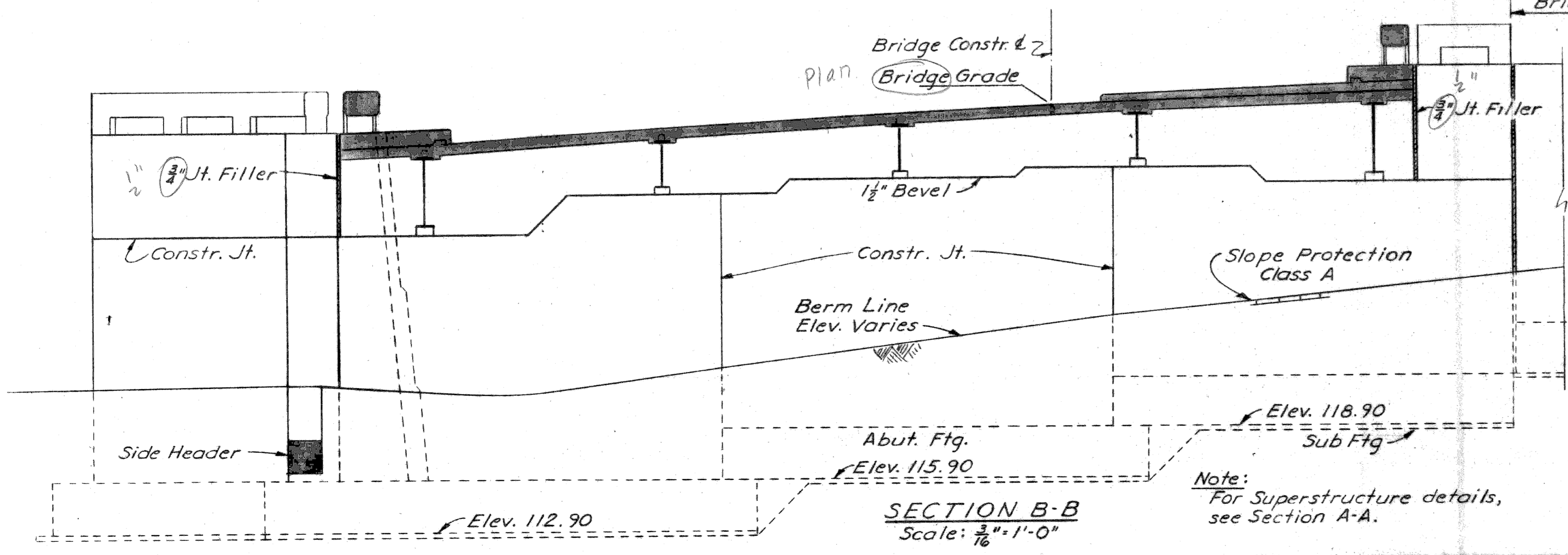
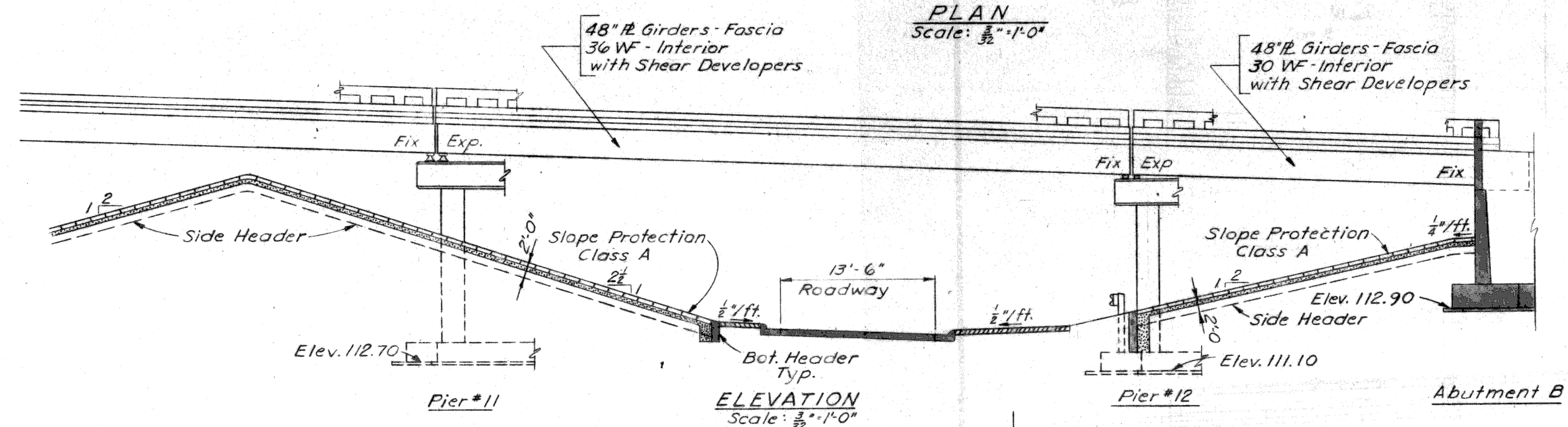
APPROVED: _____
ENGINEER OF DESIGN - CONSULTANTS

SHEET 9 OF 18

S 41 of 82123 K



Note:
No foundation excavation for Abutment B shall be made until Pier #12 footing has been poured and backfilled.



PRELIMINARY PLAN A
Dated Nov. 1, 1966

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

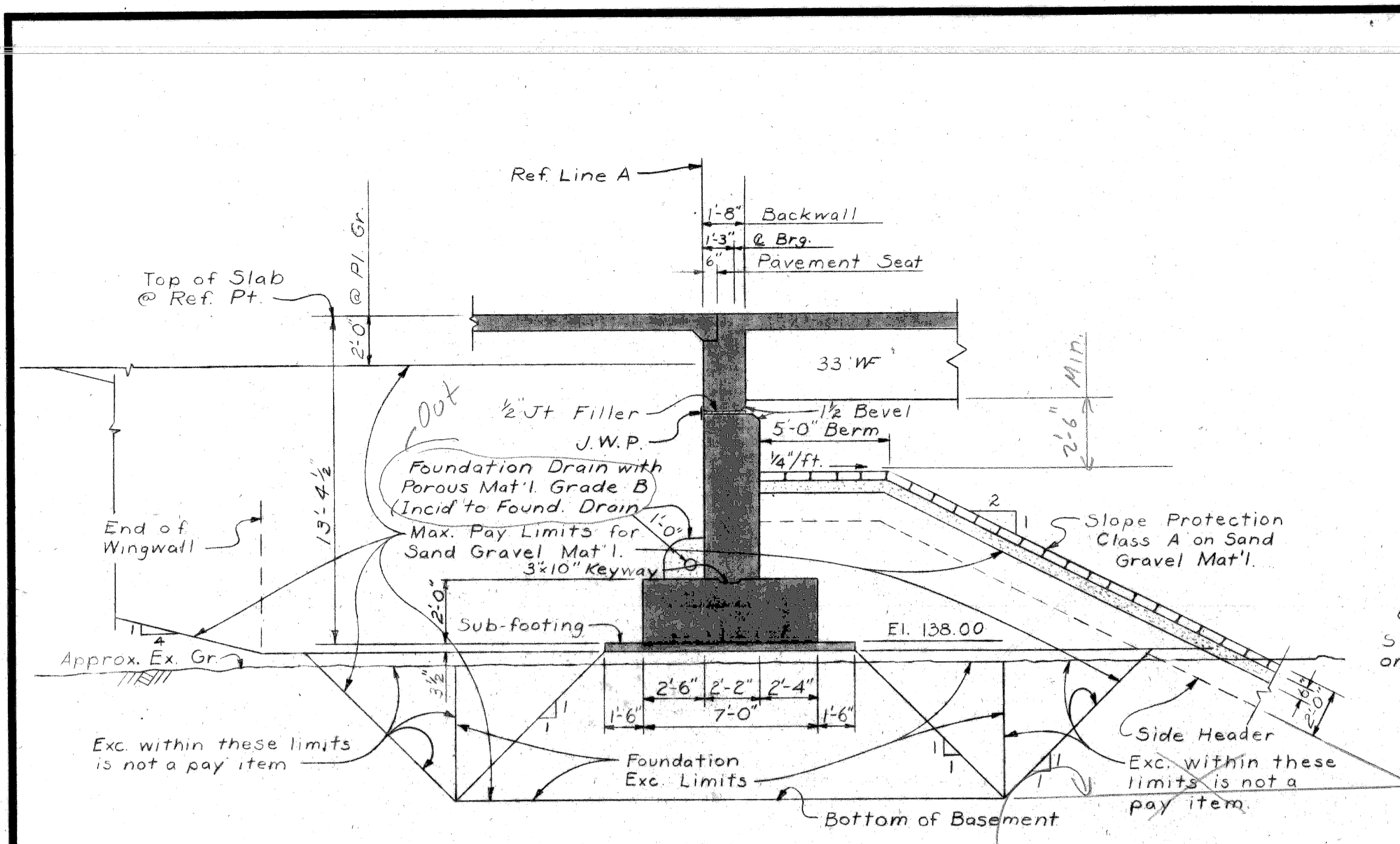
JEFFRIES-FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING
THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

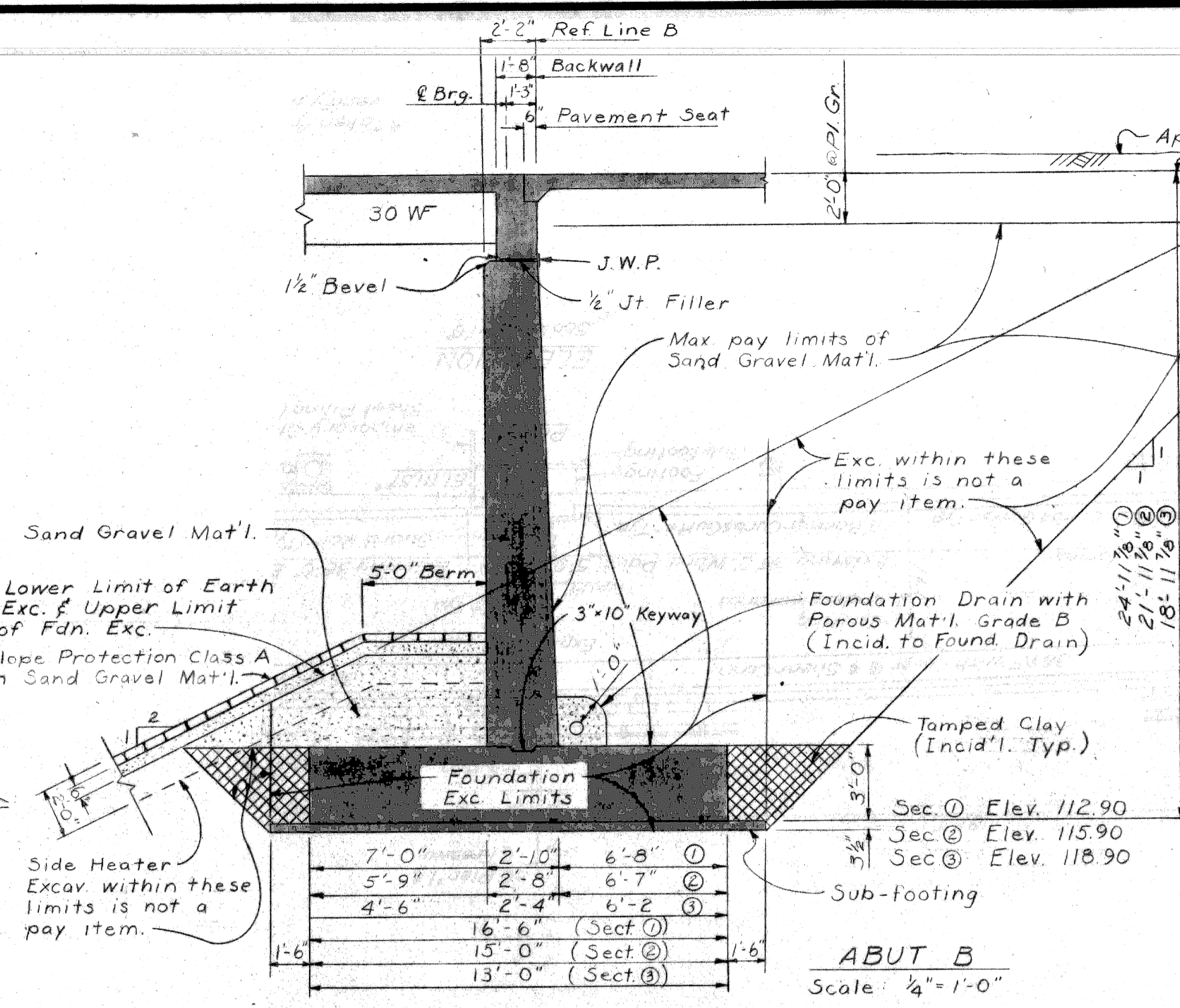
APPROVED _____
DESIGN SUPERVISING ENGINEER
APPROVED _____
ENGINEER OF DESIGN-CONSULTANTS

NO.	DESCRIPTION	DATE	BY

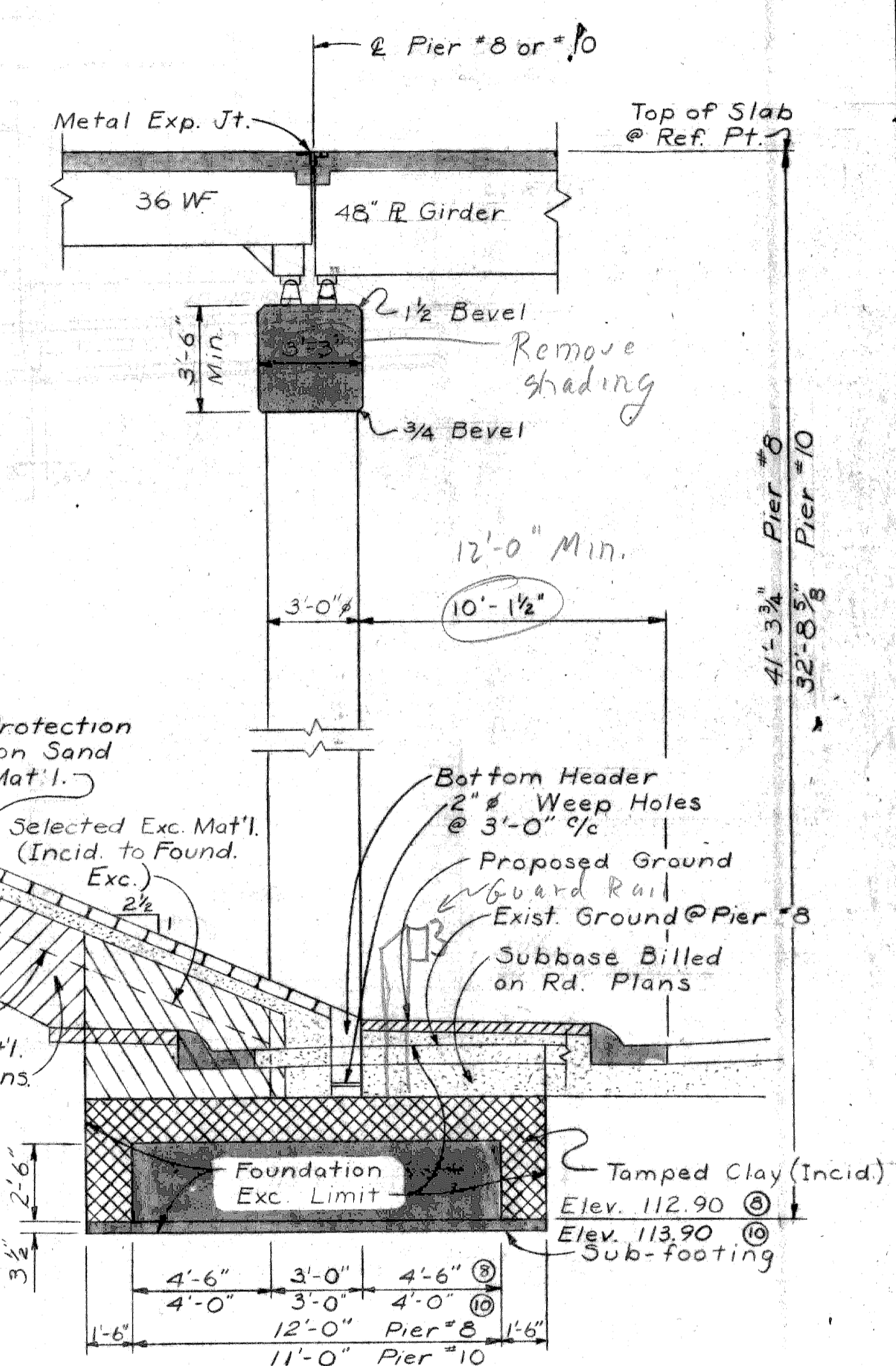
CITY OF DETROIT
SQUAD BOSS: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]
SHEET 11 OF 14
S41 of 82123K



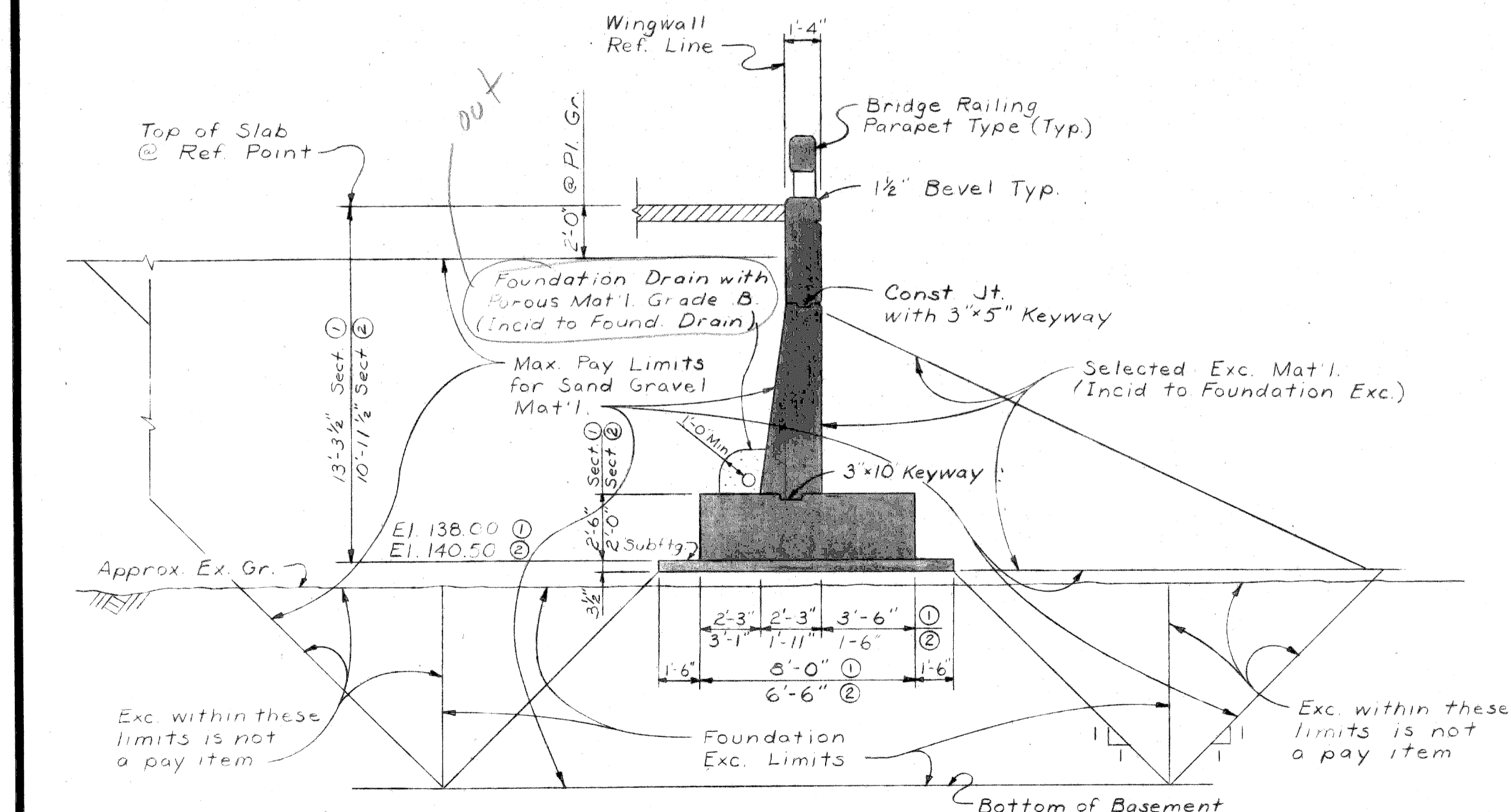
ABUT A
Scale: 1/4" = 1'-0"



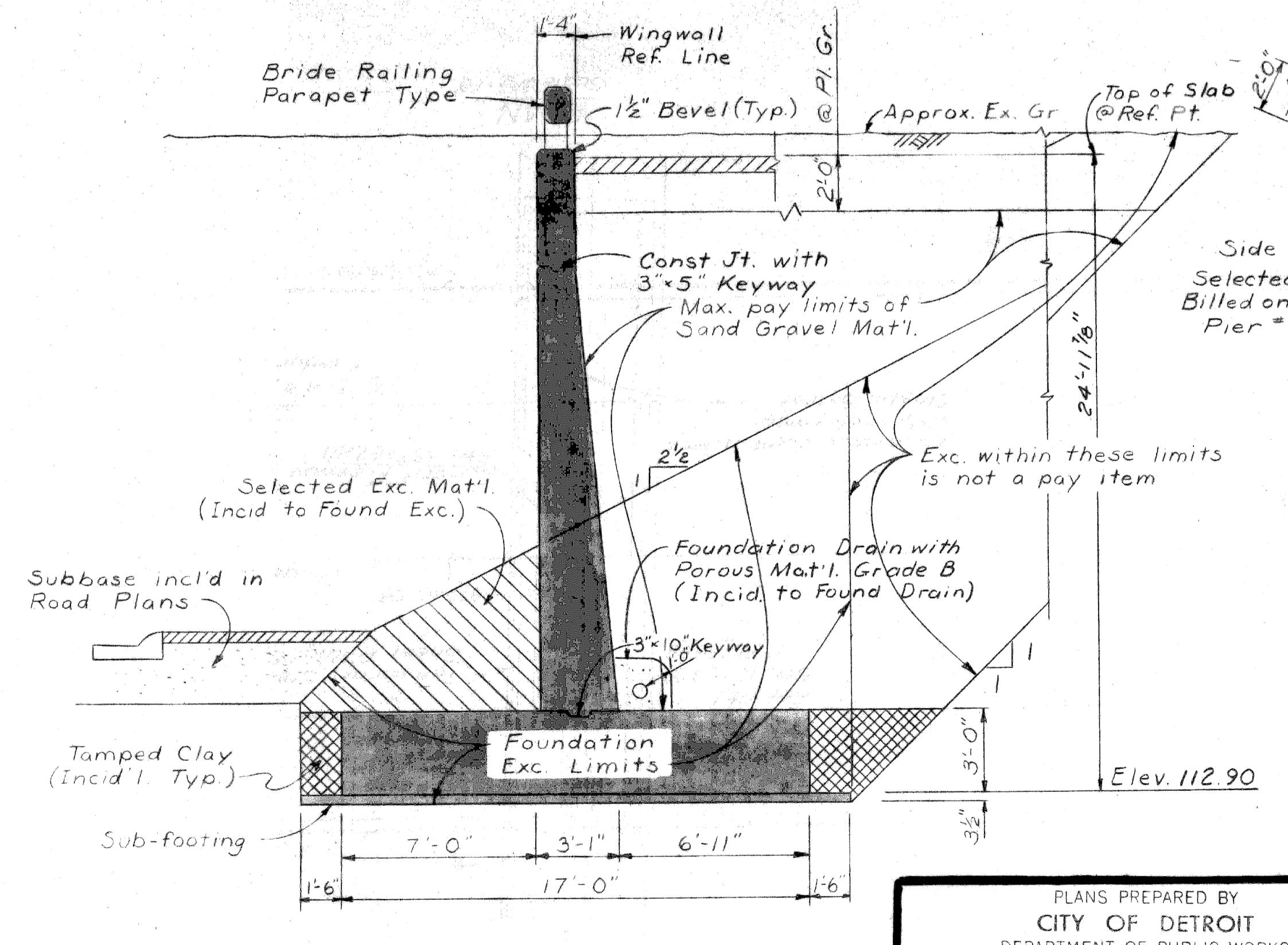
ABUT B WINGWALL
Scale: 1/4" = 1'-0"



PIER #8 & #10
Scale: 1/4" = 1'-0"



ABUT A WINGWALL
Scale: 1/4" = 1'-0"



NOTE:
Basement backfill shall be undercut and replaced with Sand-Gravel Material Compacted to 100% of Max. Unit Weight. Excavation and Backfill Quantities are based on estimated undercut to Elev. 129.00. Actual limits of excavation will be determined by the Engineer at the time of Construction.

PRELIMINARY PLAN A
Dated Nov. 1, 1966

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
STRUCTURAL ENGINEER

JOB No.
PW 99042

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING THE
JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

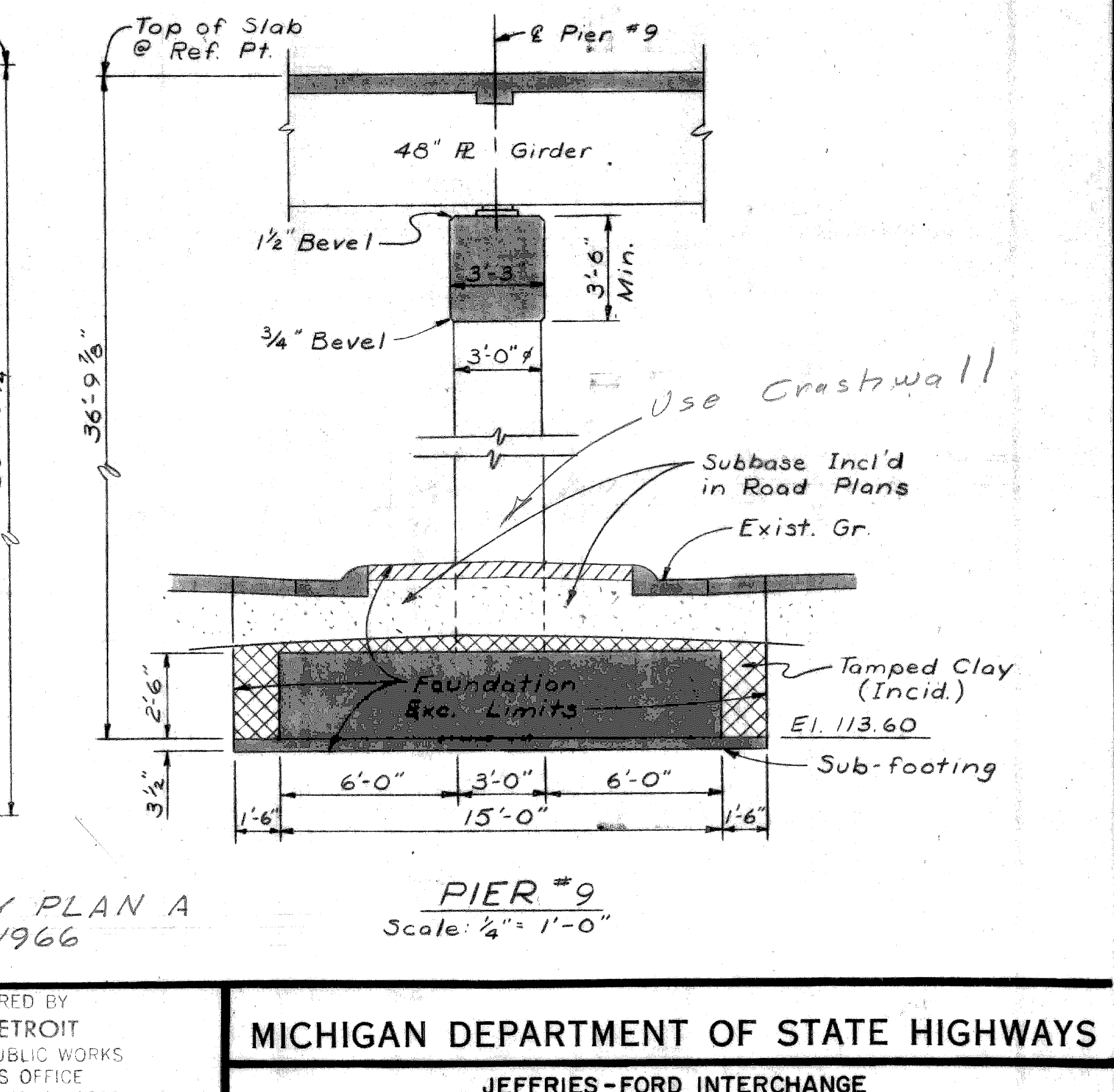
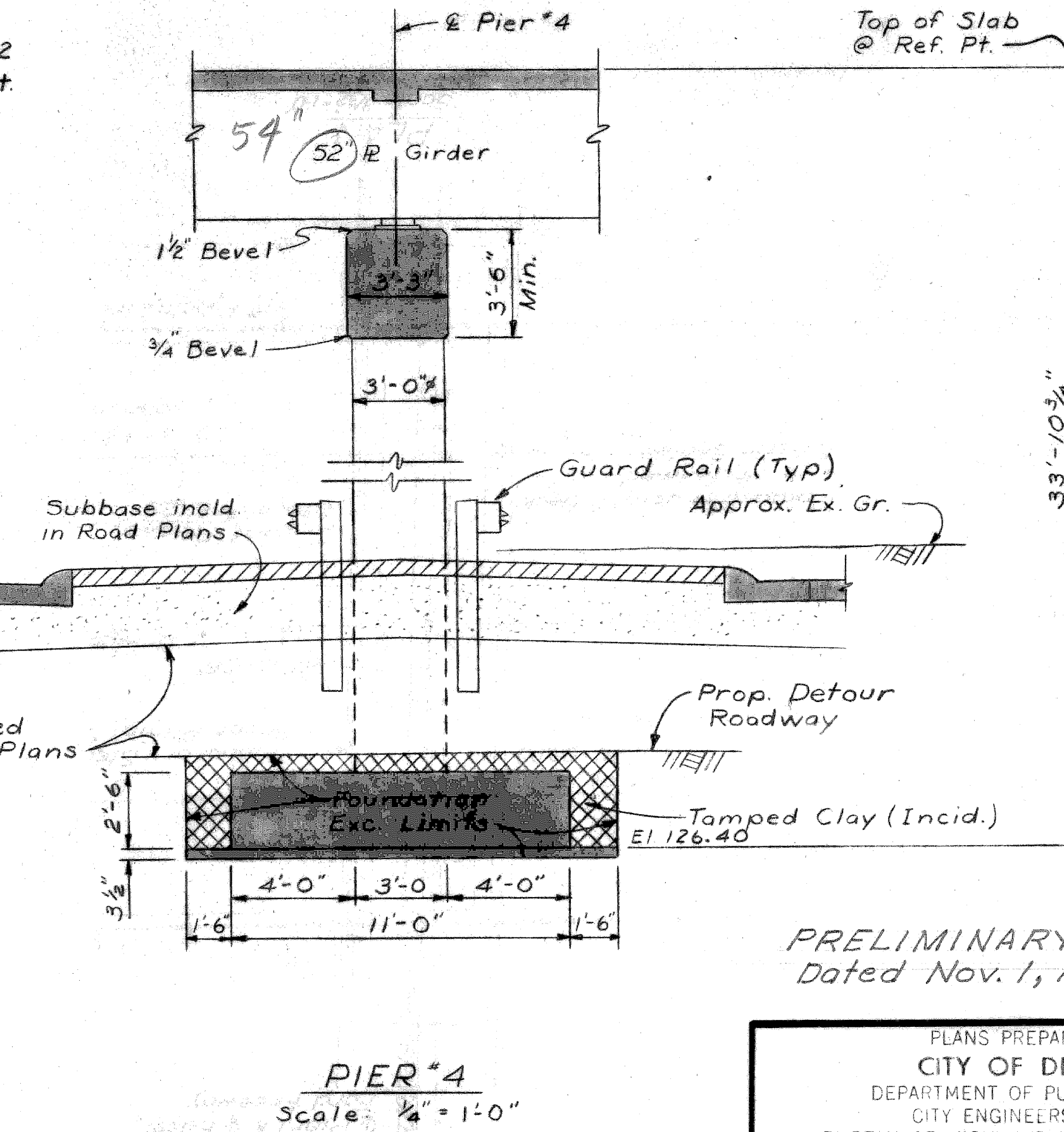
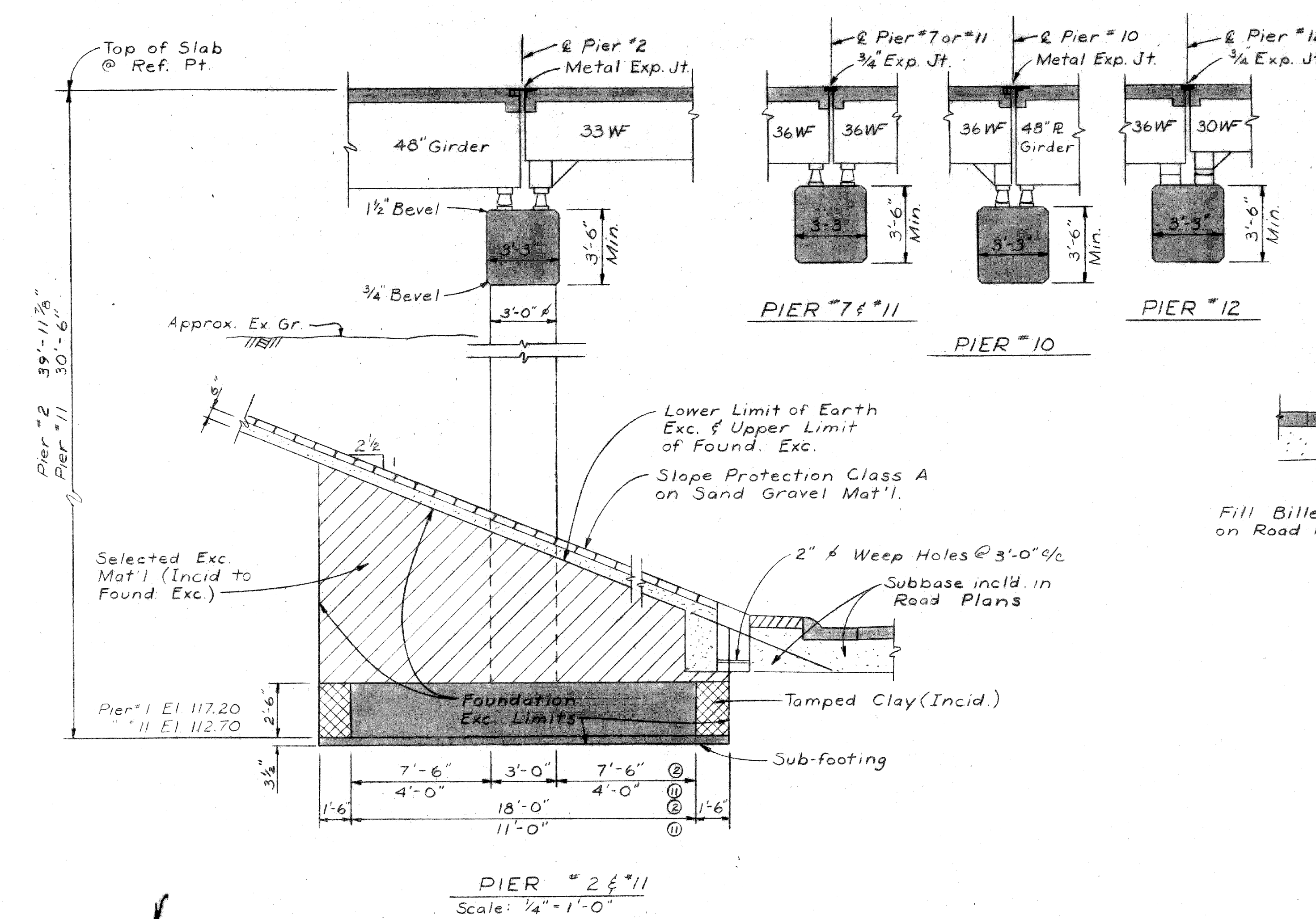
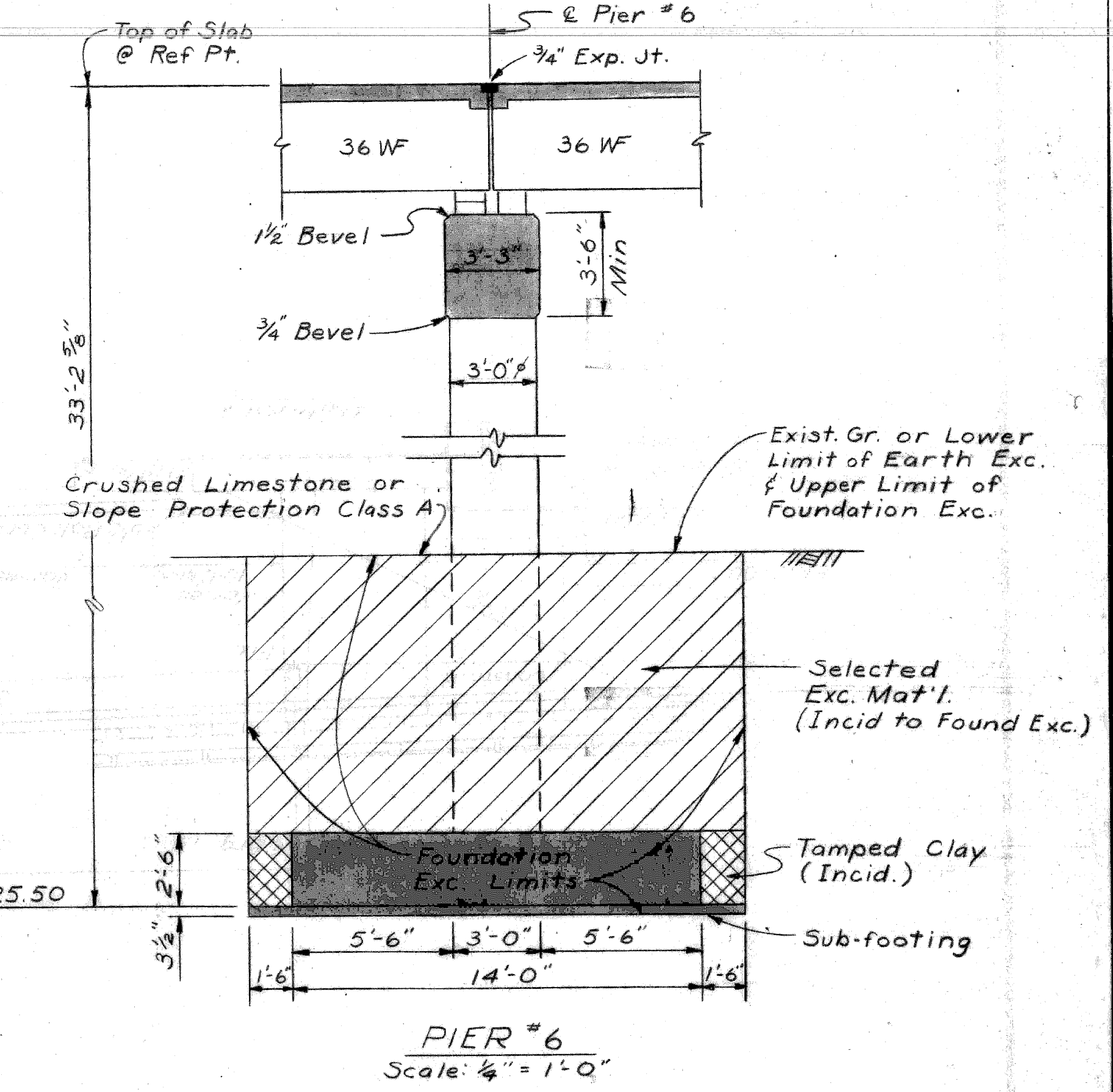
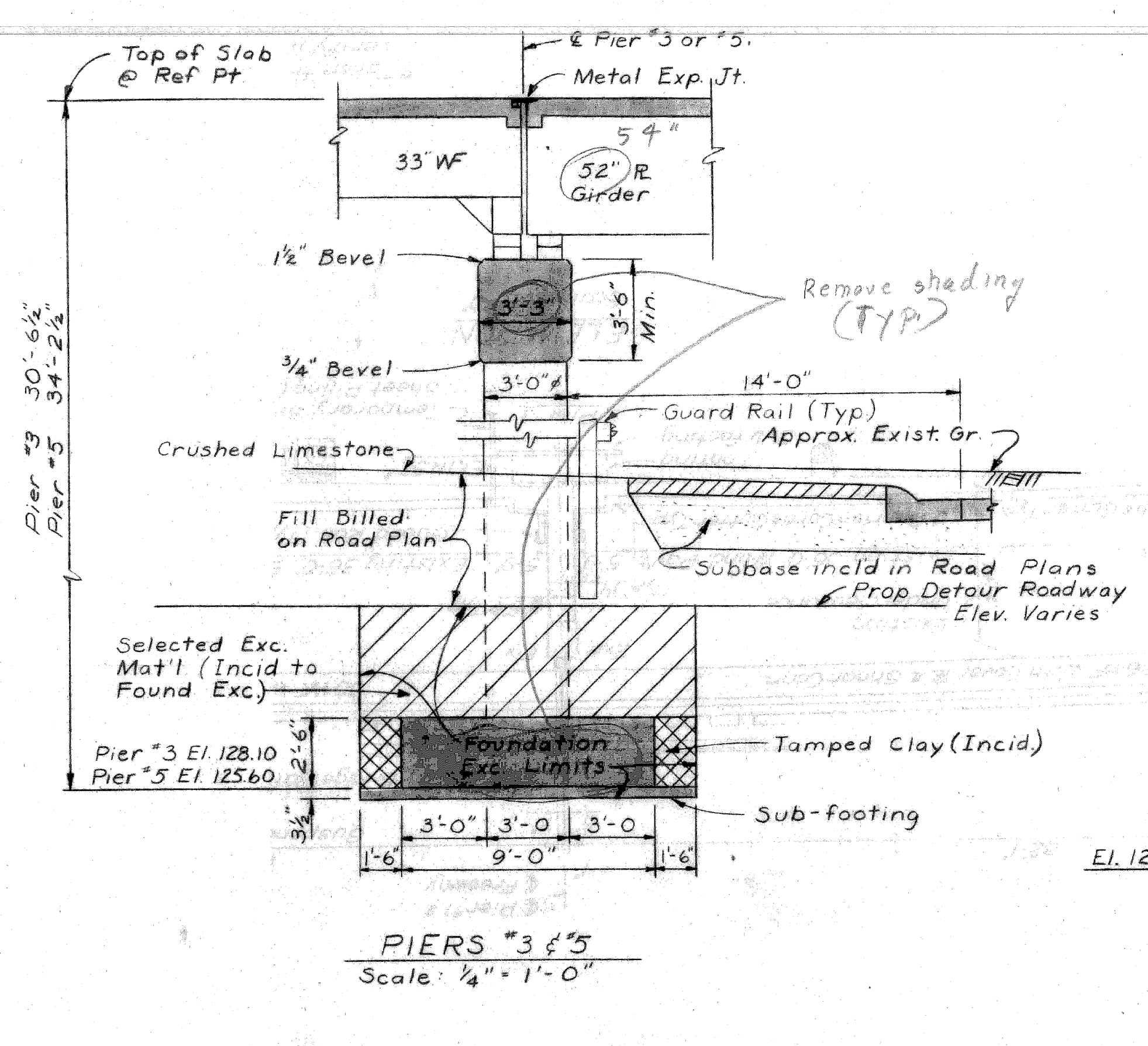
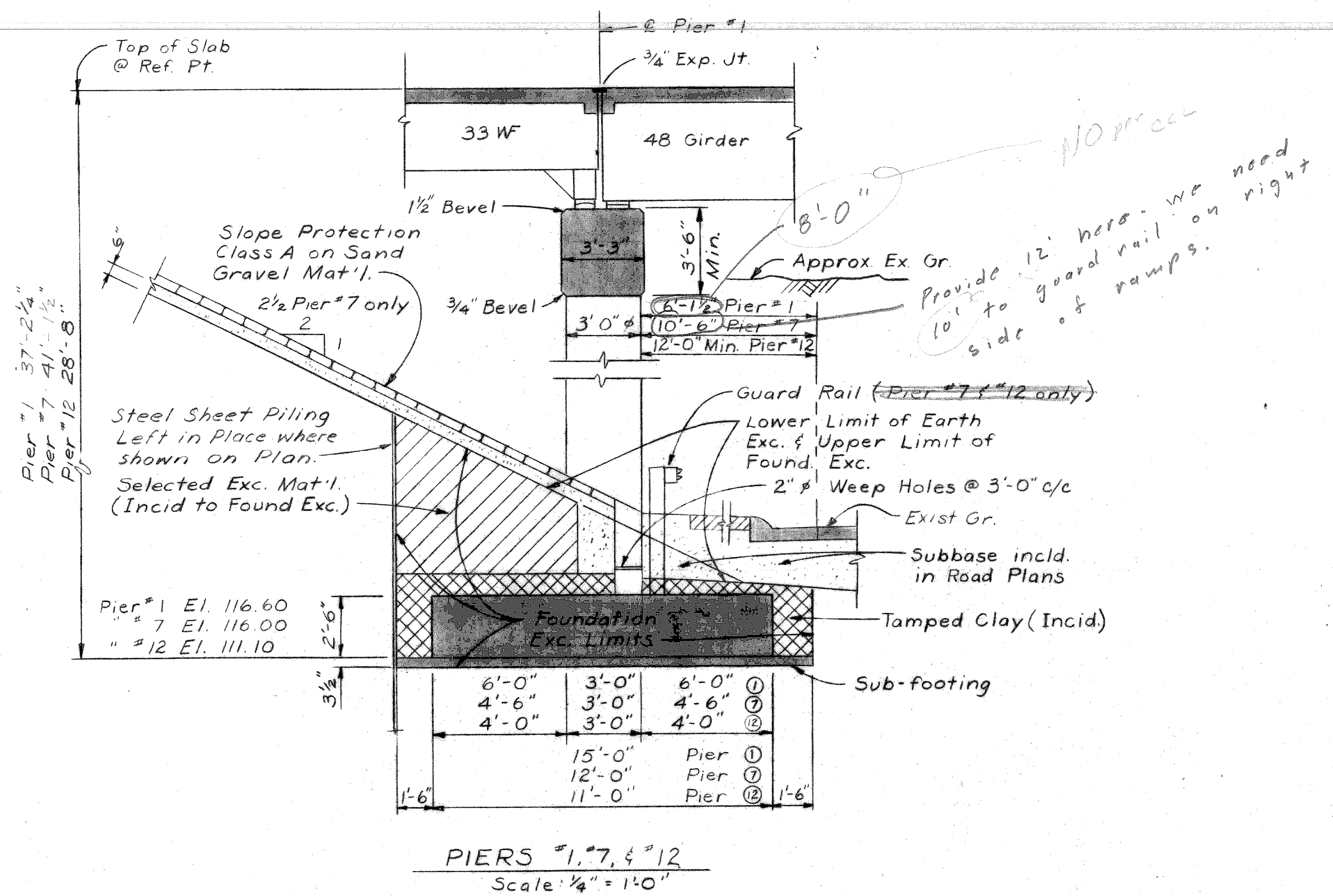
APPROVED: _____
DESIGN SUPERVISING ENGINEER

APPROVED: _____
ENGINEER OF DESIGN-CONSULTANTS

SQUAD BOSS	DATE
W.H.S.	11-1-66
RG	11-1-66
M.C.J.	11-1-66

SHEET 12 OF 17

S 41 of 82123 K



PRELIMINARY PLAN A
Dated Nov. 1, 1966

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____
STRUCTURAL ENGINEER

JOB No.
PW 990(2)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING
THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

CITY OF DETROIT

DESIGNED BY
R G

CHECKED BY
M.C. 11-1-66

APPROVED _____
DESIGN SUPERVISING ENGINEER

APPROVED _____
ENGINEER OF DESIGN-CONSULTANT

SHEET 13 OF 14
S 41 of 82123 K

540 of 82123K
This Contract

PROP. BRIDGE
S41 of 82123K
This Contract

543 of 82123K
This Contract

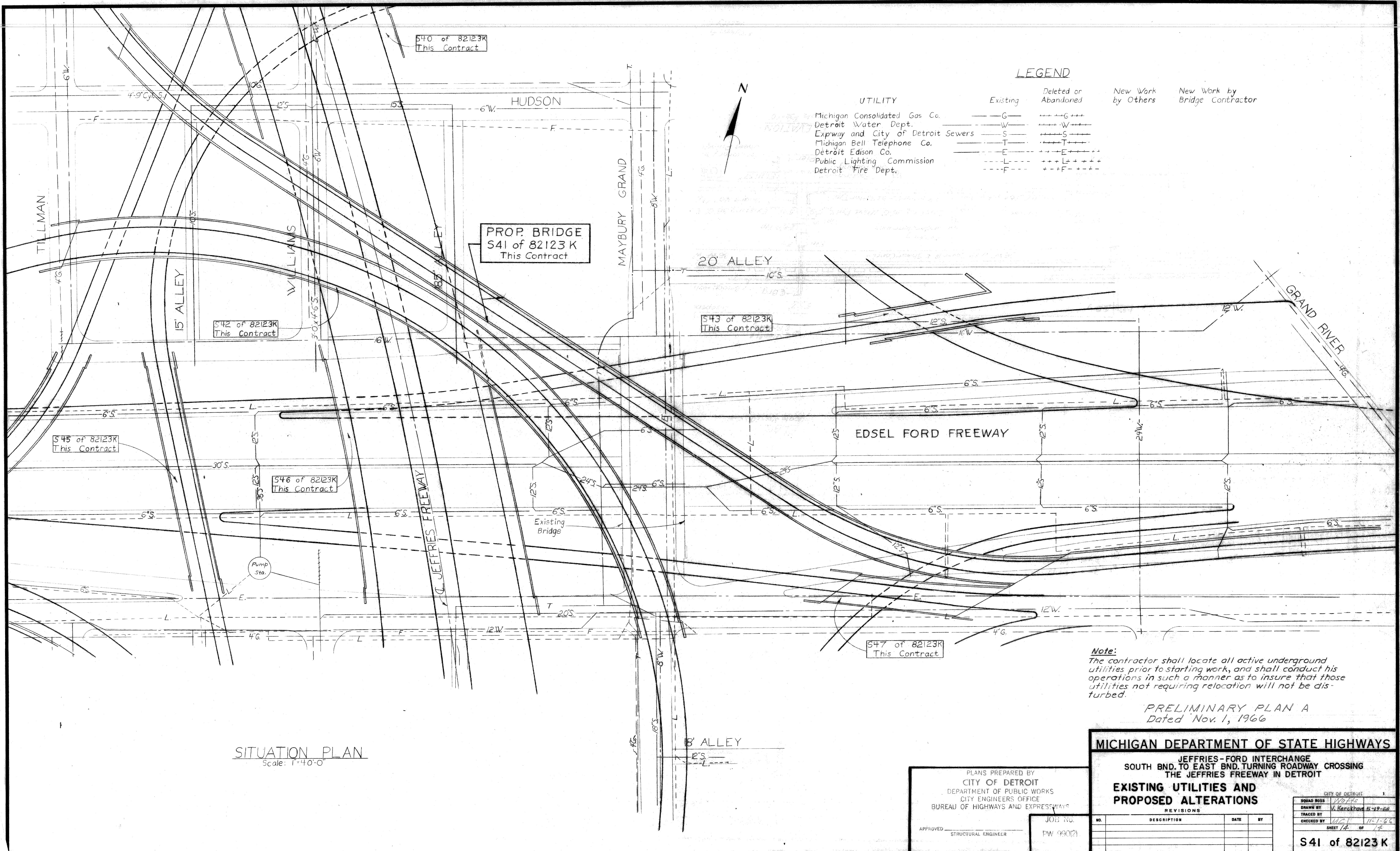
545 of 82123K
This Contract

546 of 82123K
This Contract

547 of 82123K
This Contract

LEGEND

UTILITY	Existing	Deleted or Abandoned	New Work by Others	New Work by Bridge Contractor
Michigan Consolidated Gas Co.	—G—	---G---	---G---	---G---
Detroit Water Dept.	—W—	---W---	---W---	---W---
Expway and City of Detroit Sewers	—S—	---S---	---S---	---S---
Michigan Bell Telephone Co.	—T—	---T---	---T---	---T---
Detroit Edison Co.	—E—	---E---	---E---	---E---
Public Lighting Commission	—L—	---L---	---L---	---L---
Detroit Fire Dept.	—F—	---F---	---F---	---F---



SITUATION PLAN
Scale: 1"=40'-0"

Note:
The contractor shall locate all active underground utilities prior to starting work, and shall conduct his operations in such a manner as to insure that those utilities not requiring relocation will not be disturbed.

PRELIMINARY PLAN A
Dated Nov. 1, 1966

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____
STRUCTURAL ENGINEER

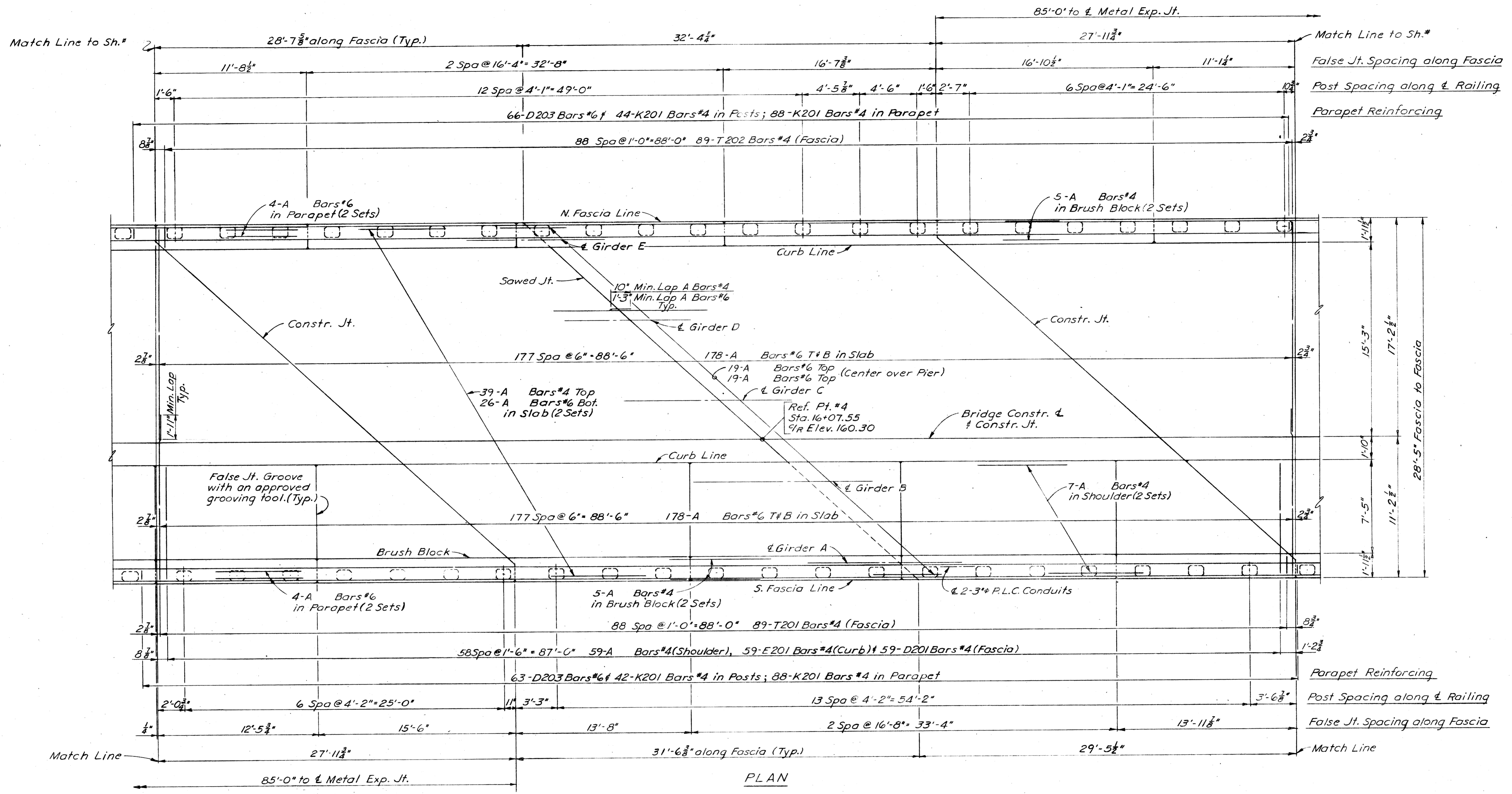
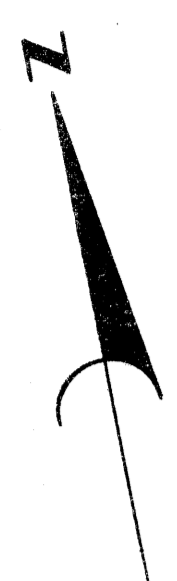
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
SOUTH BND. TO EAST BND. TURNING ROADWAY CROSSING
THE JEFFRIES FREEWAY IN DETROIT

**EXISTING UTILITIES AND
PROPOSED ALTERATIONS**

CITY OF DETROIT		REVISIONS		
NO.	DESCRIPTION	DATE	BY	

JOB NO. PW 990(2)
SHEET 14 OF 14
S41 of 82123K

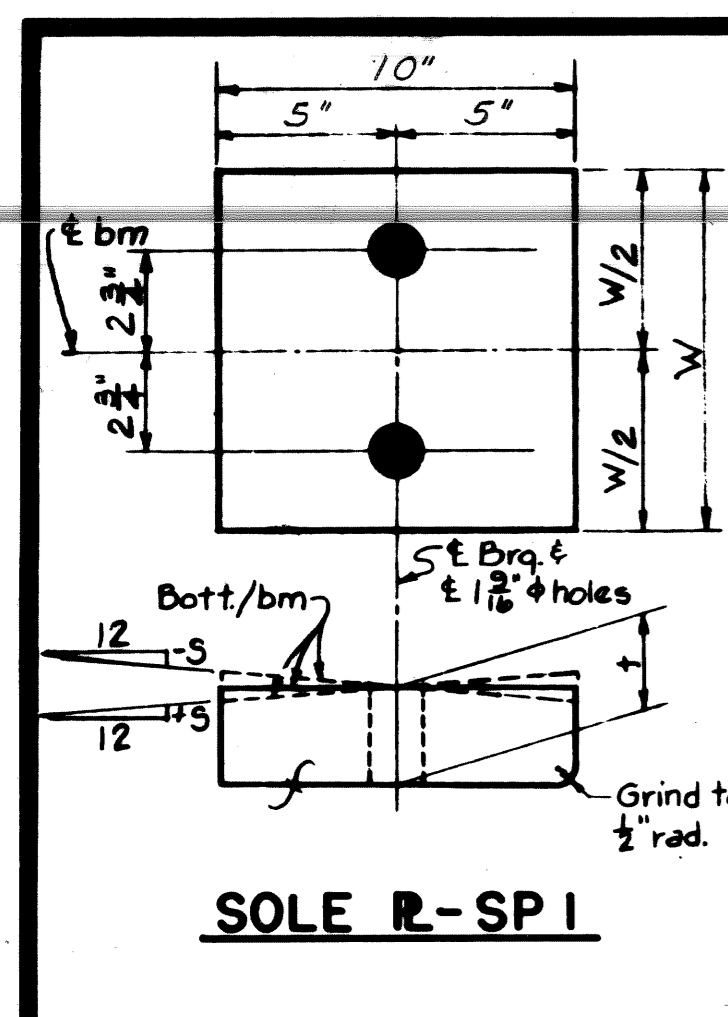


MICHIGAN STATE HIGHWAY DEPARTMENT

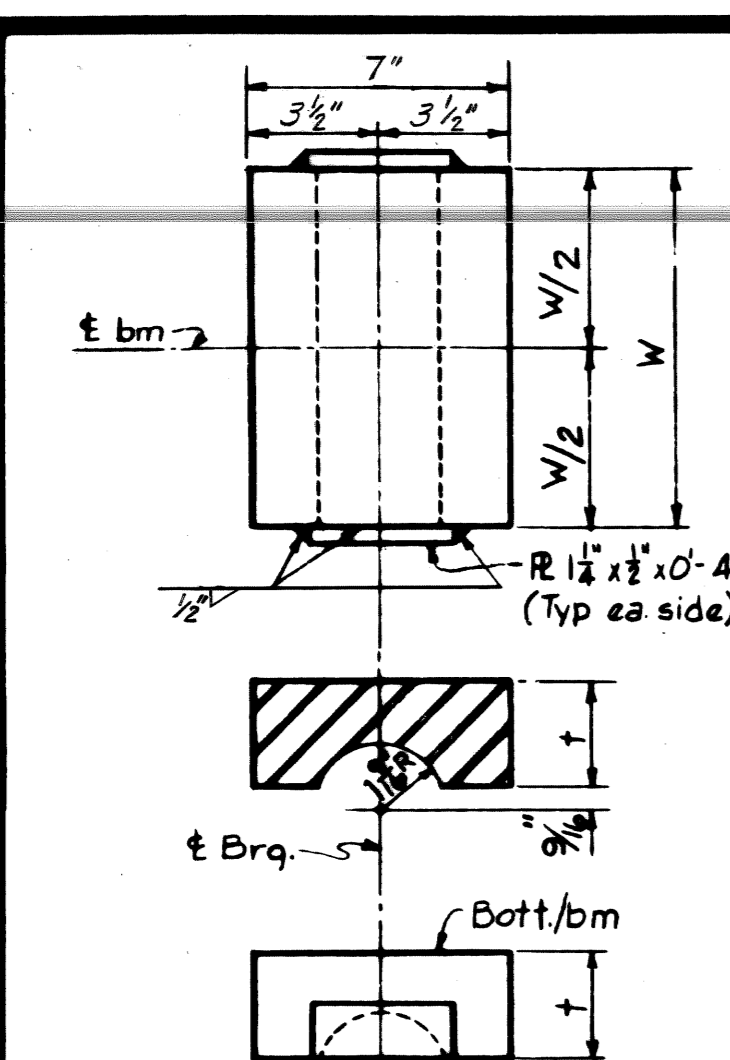
REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	
DRAWN BY	
TRACED BY	R. Morris
CHECKED BY	
SHEET	OF

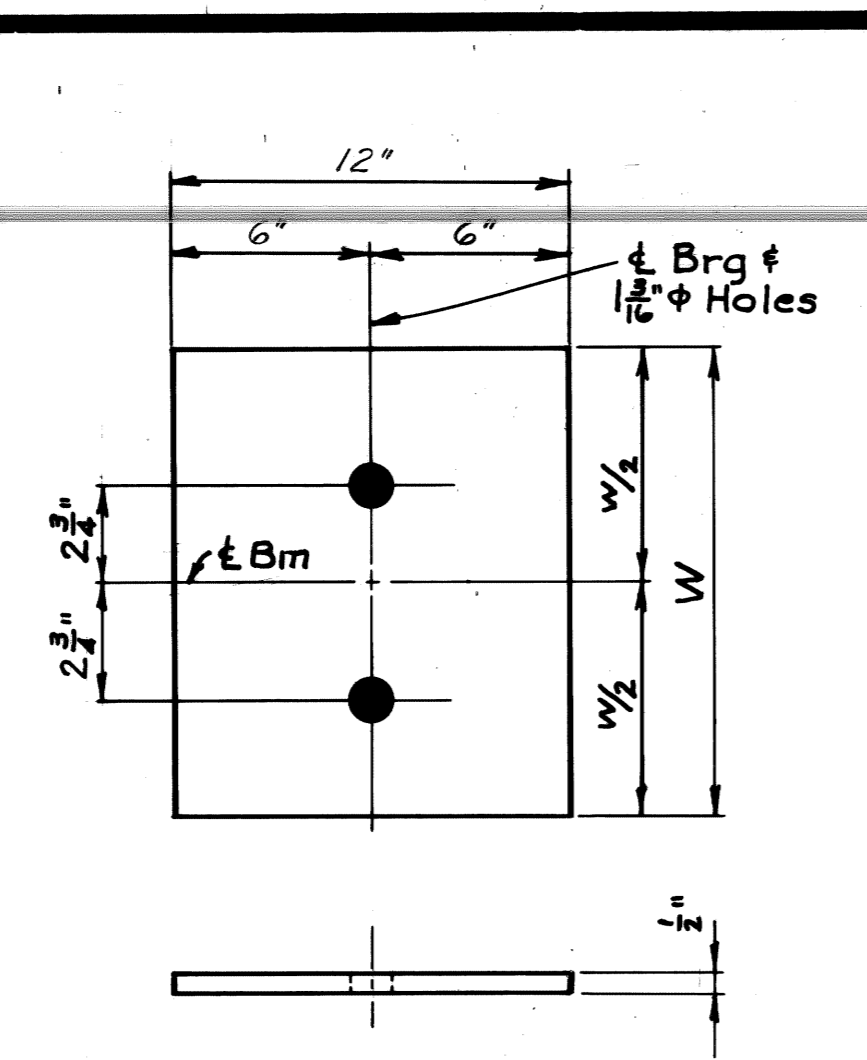
541 Superstructure Partial Spans 4 of 5



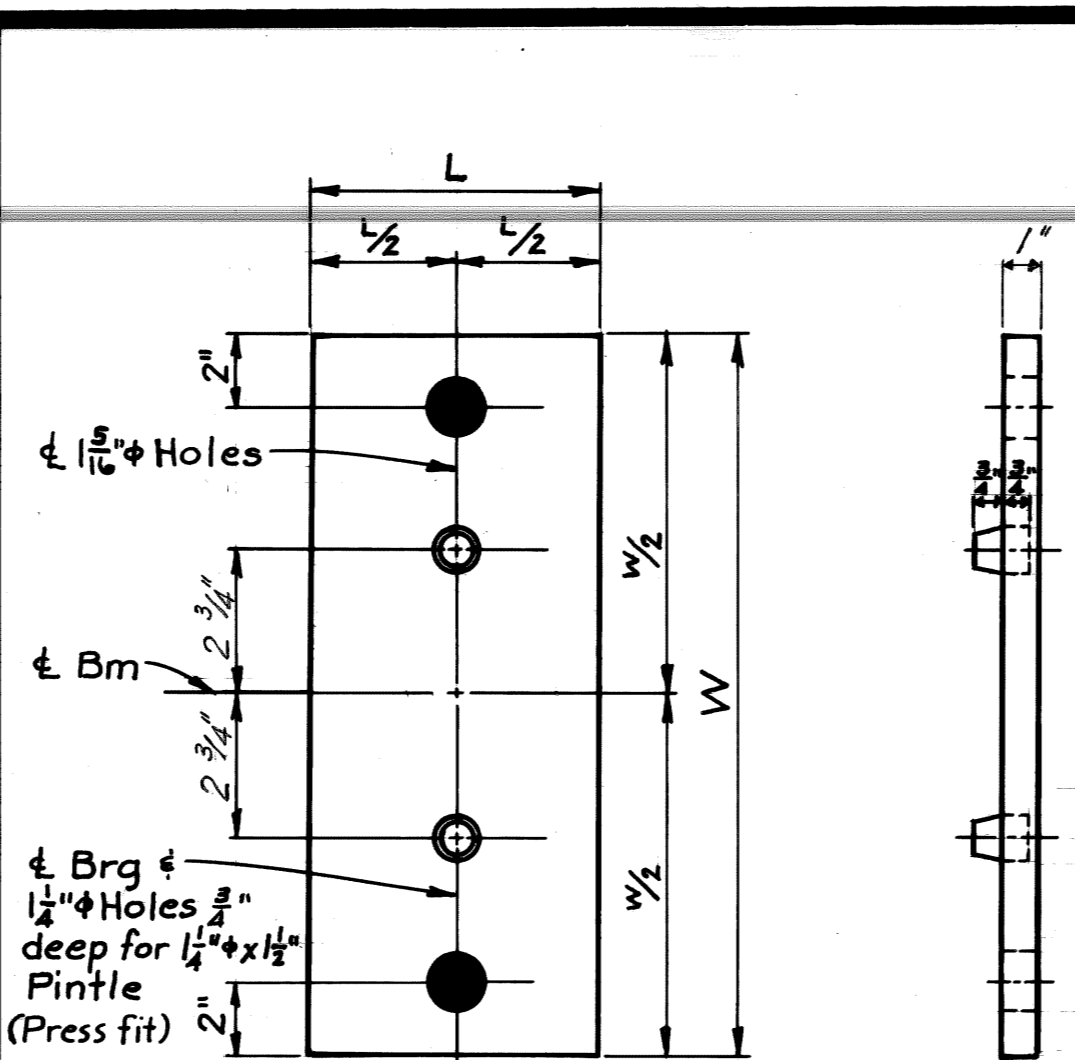
SOLE R-SP1



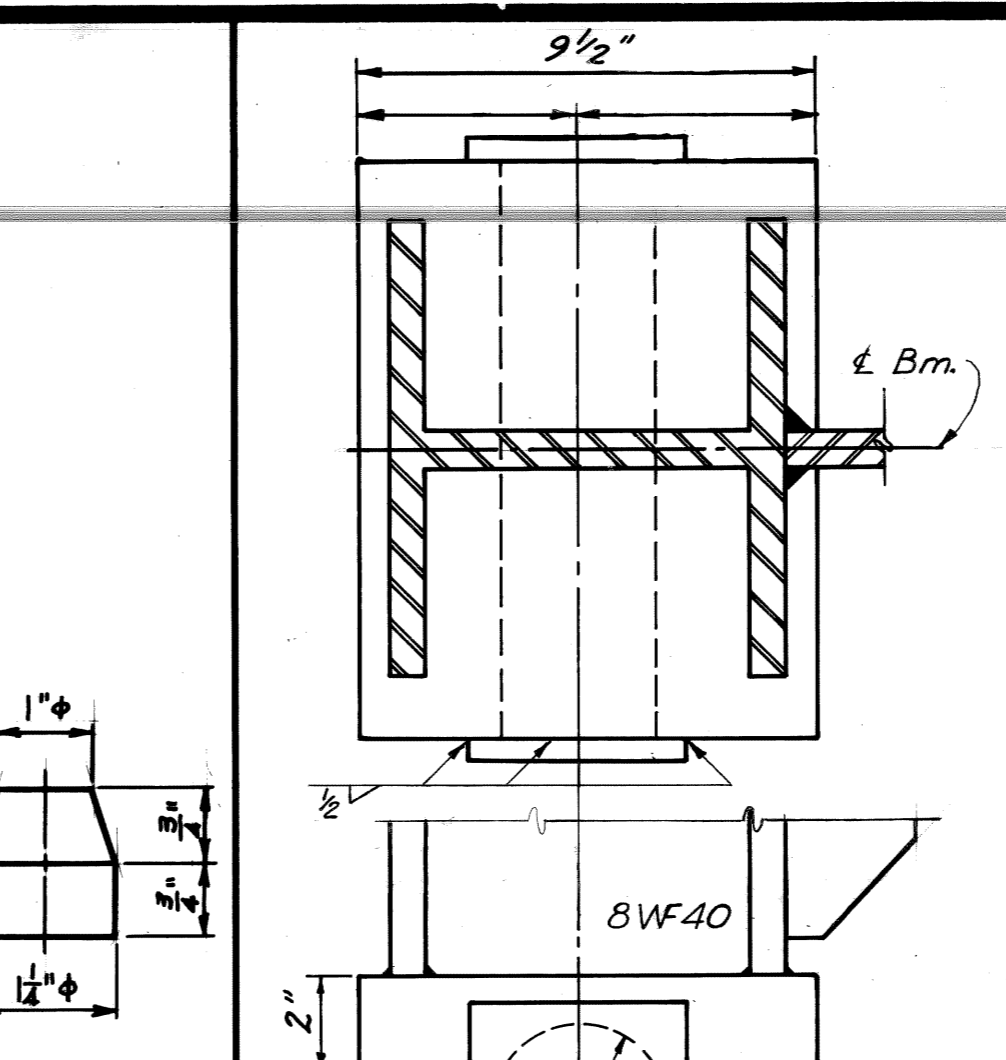
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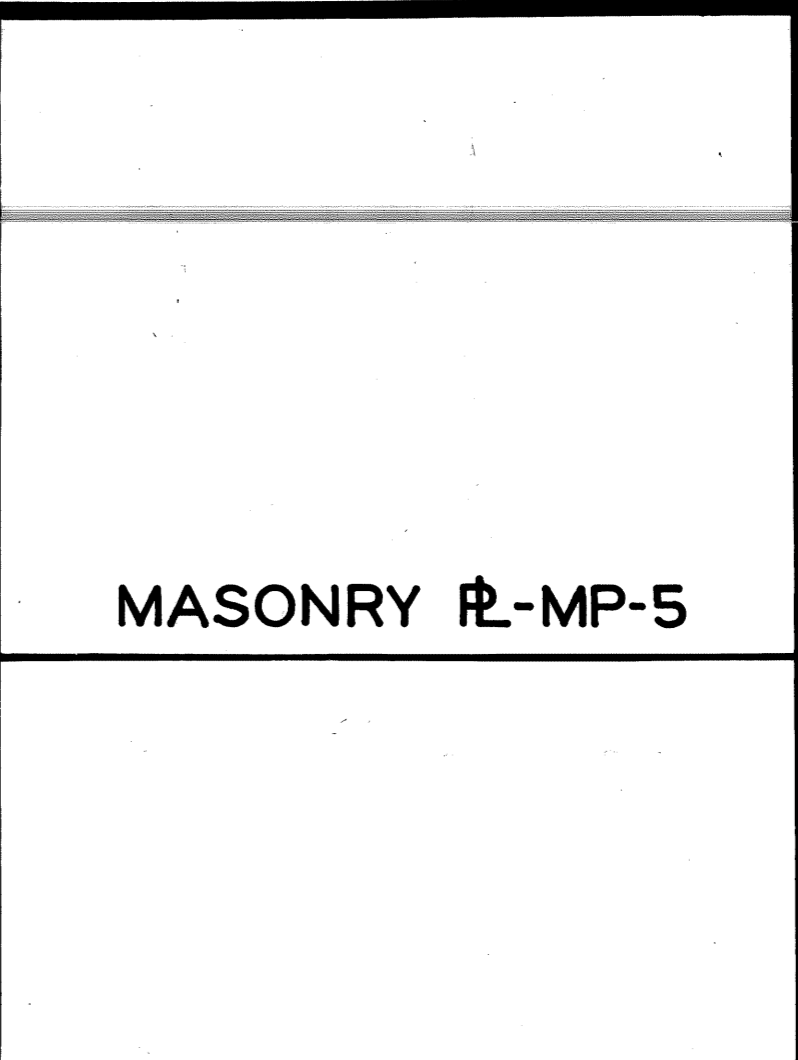
MASONRY R-MP1



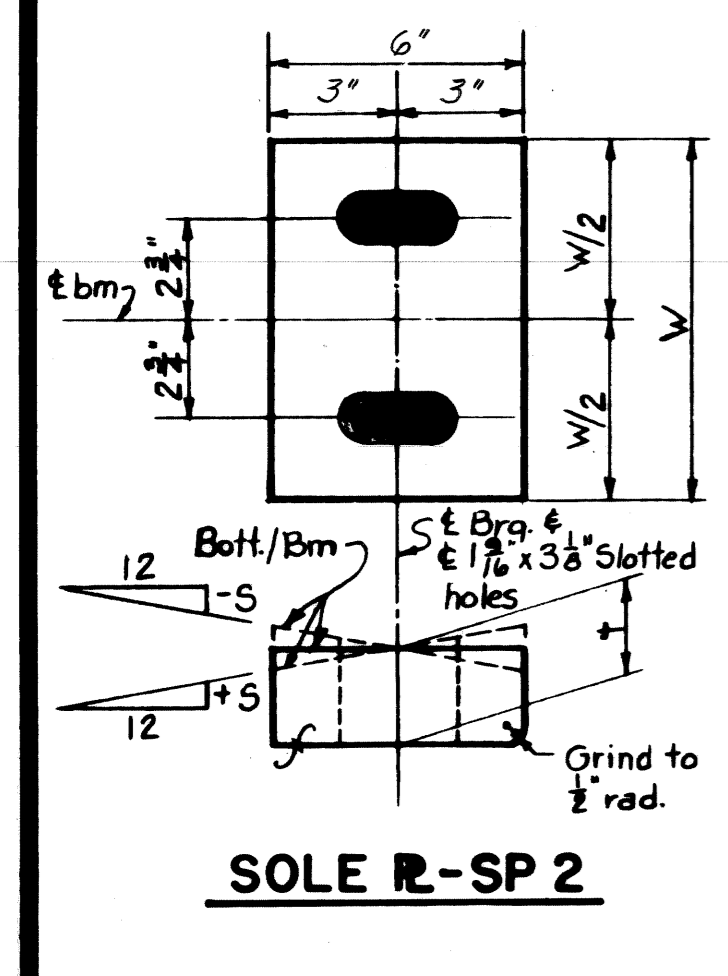
MASONRY R-MP2



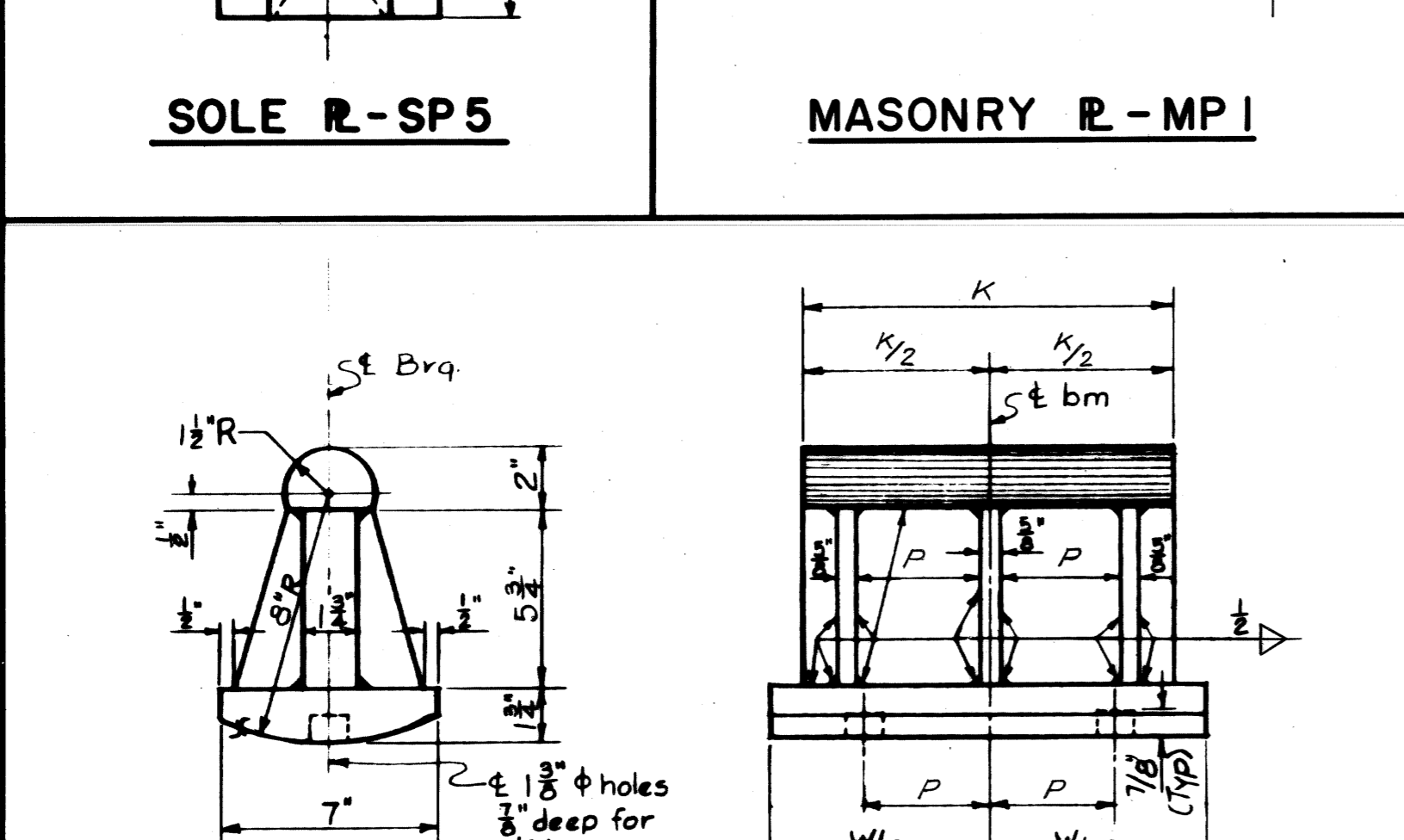
PEDESTAL P4



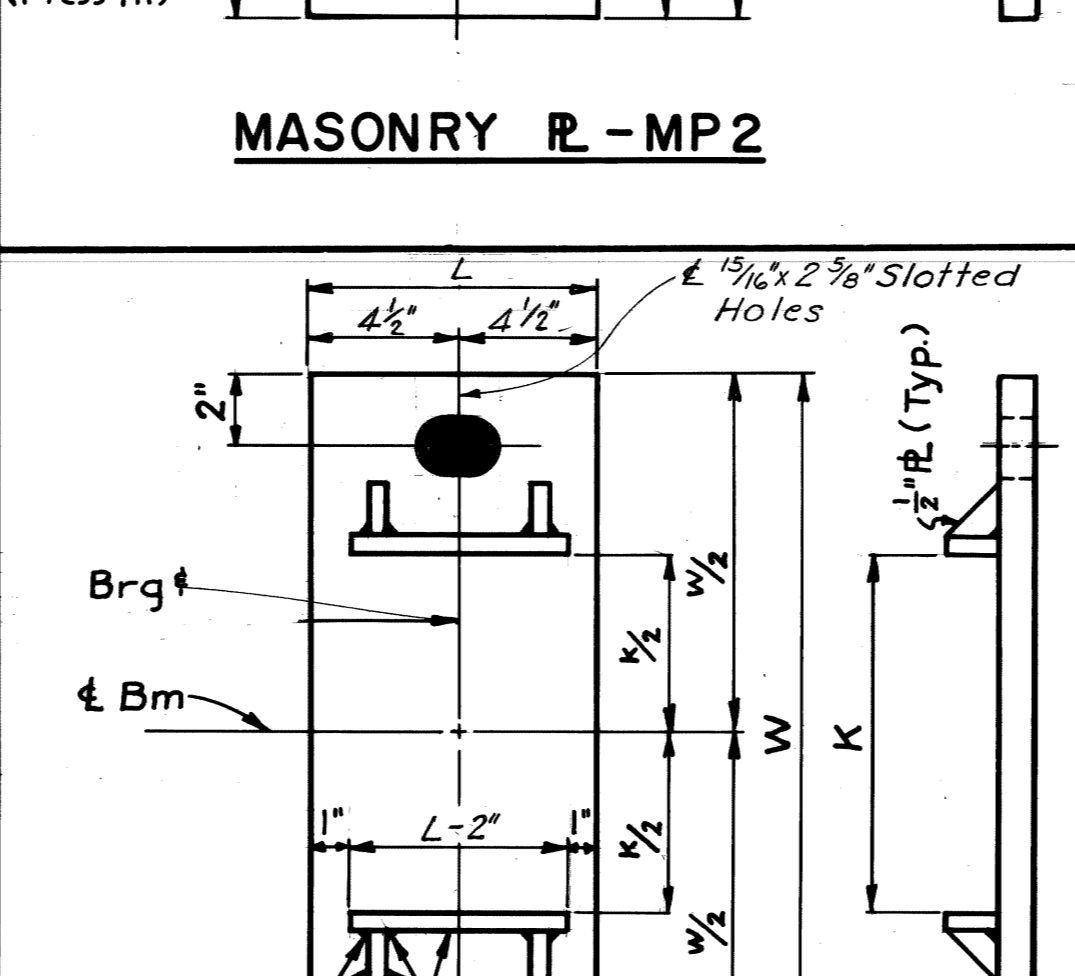
SOLE R-SP7



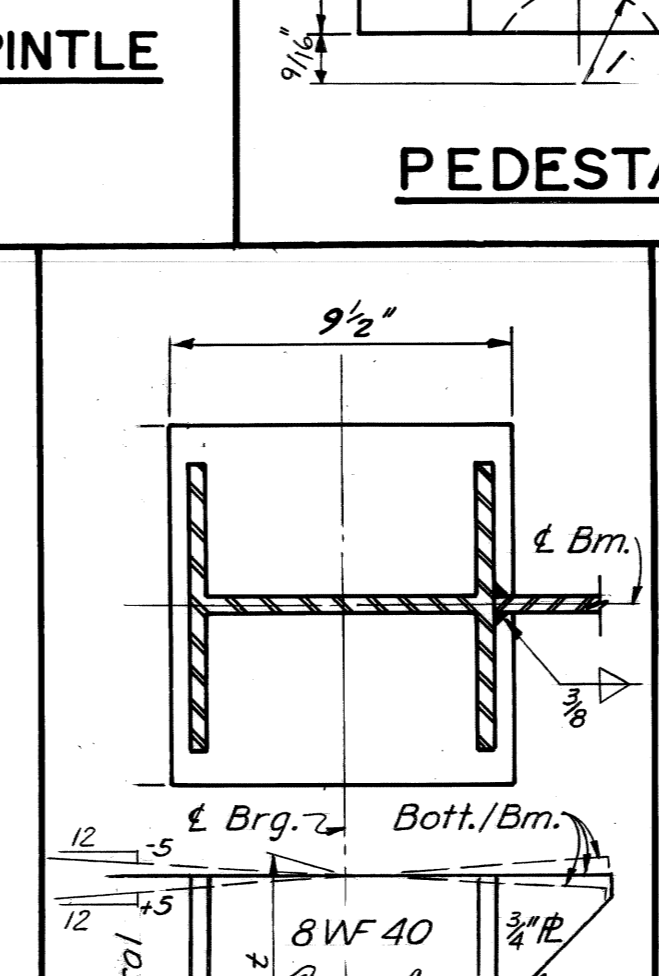
SOLE R-SP2



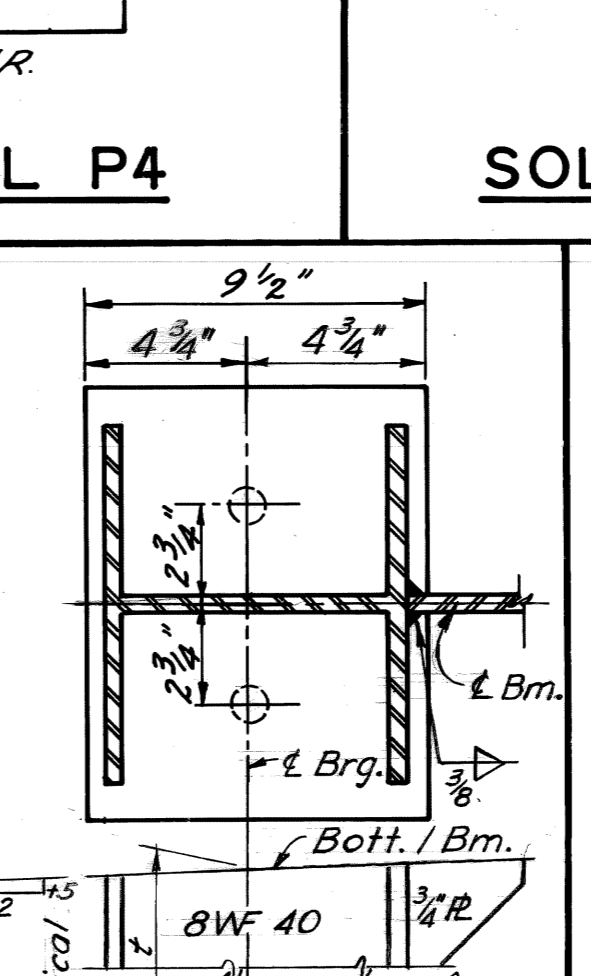
EXPANSION ROCKER-ER1



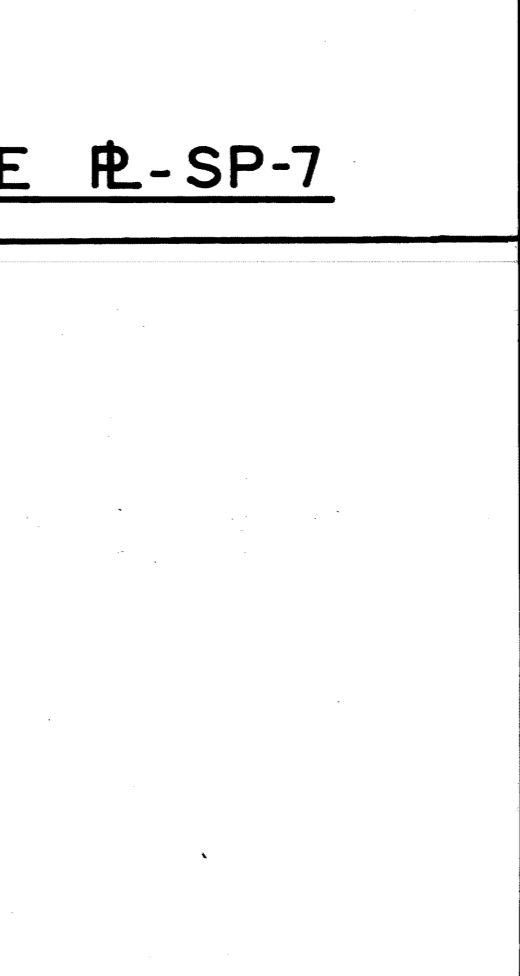
MASONRY R-MP8



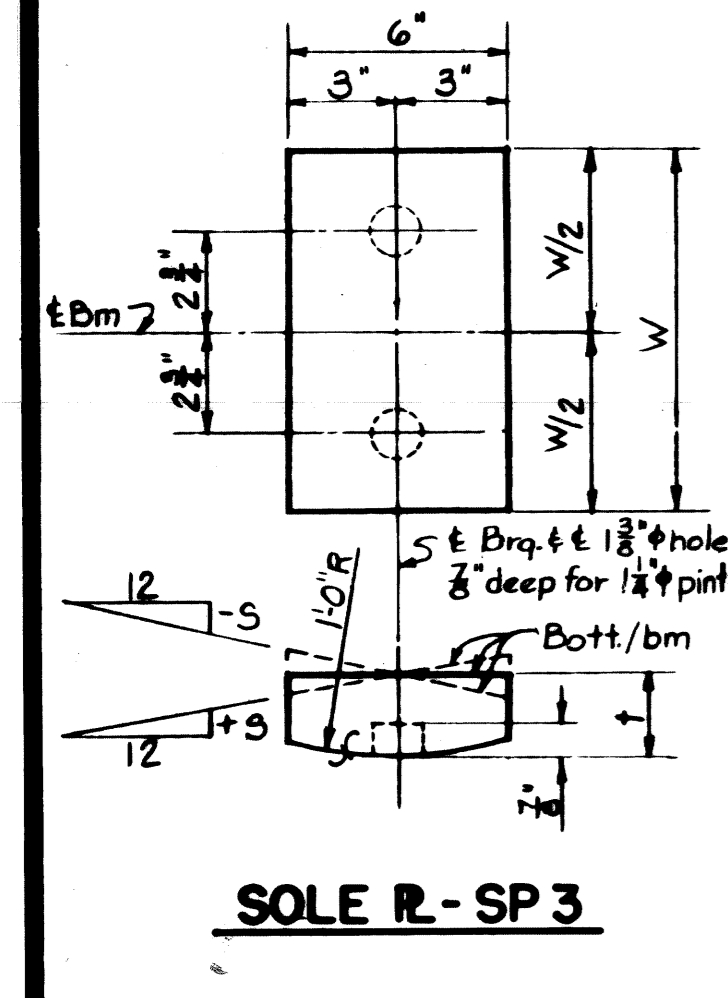
PEDESTAL P-2



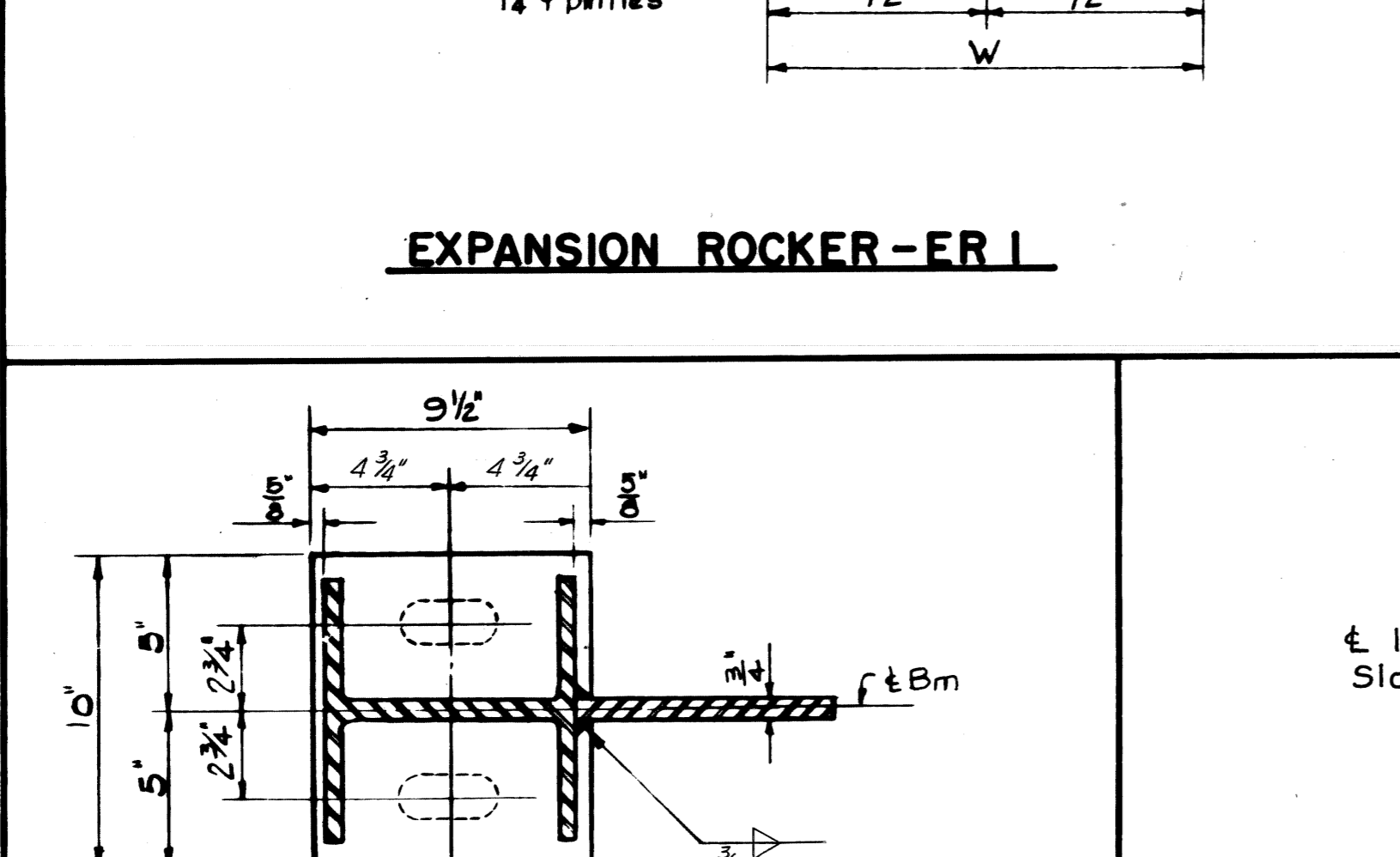
PEDESTAL P-3



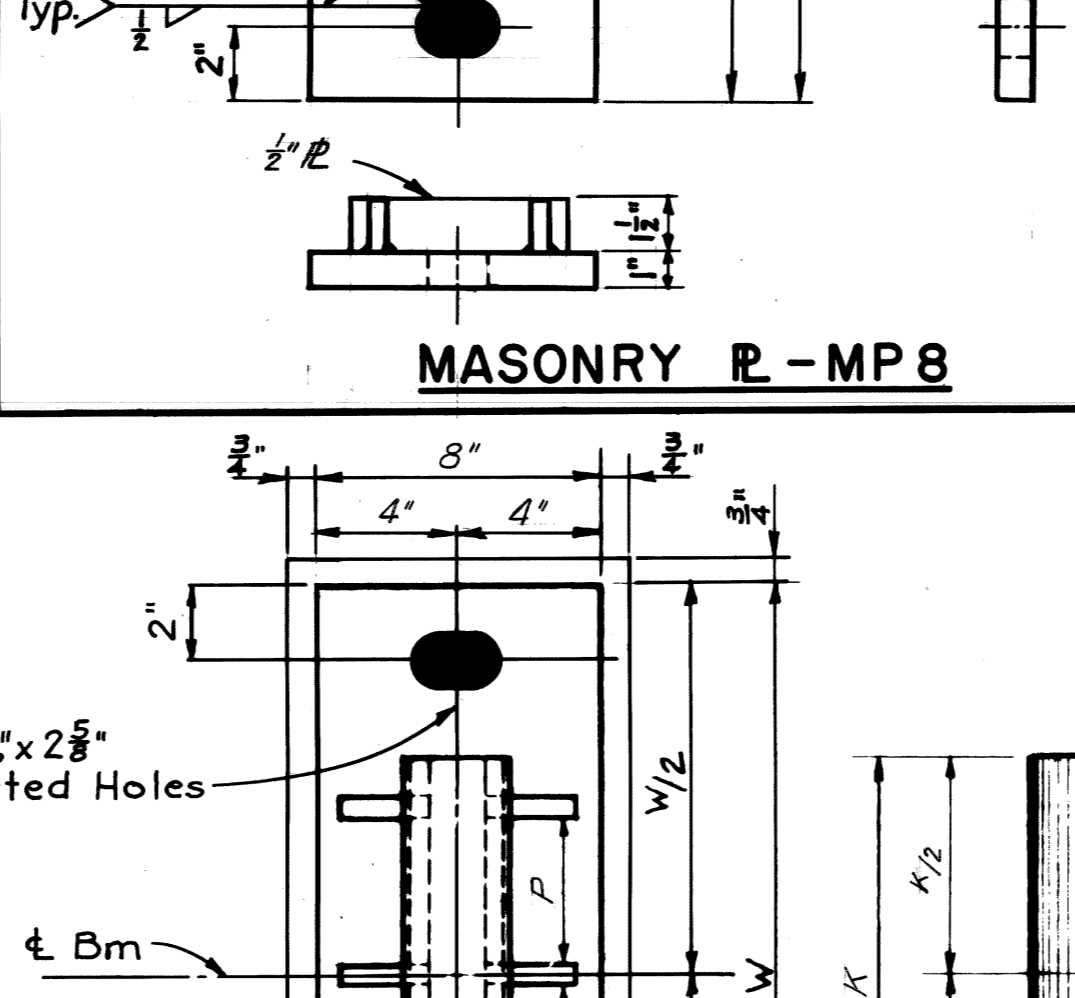
SOLE R-SP-6



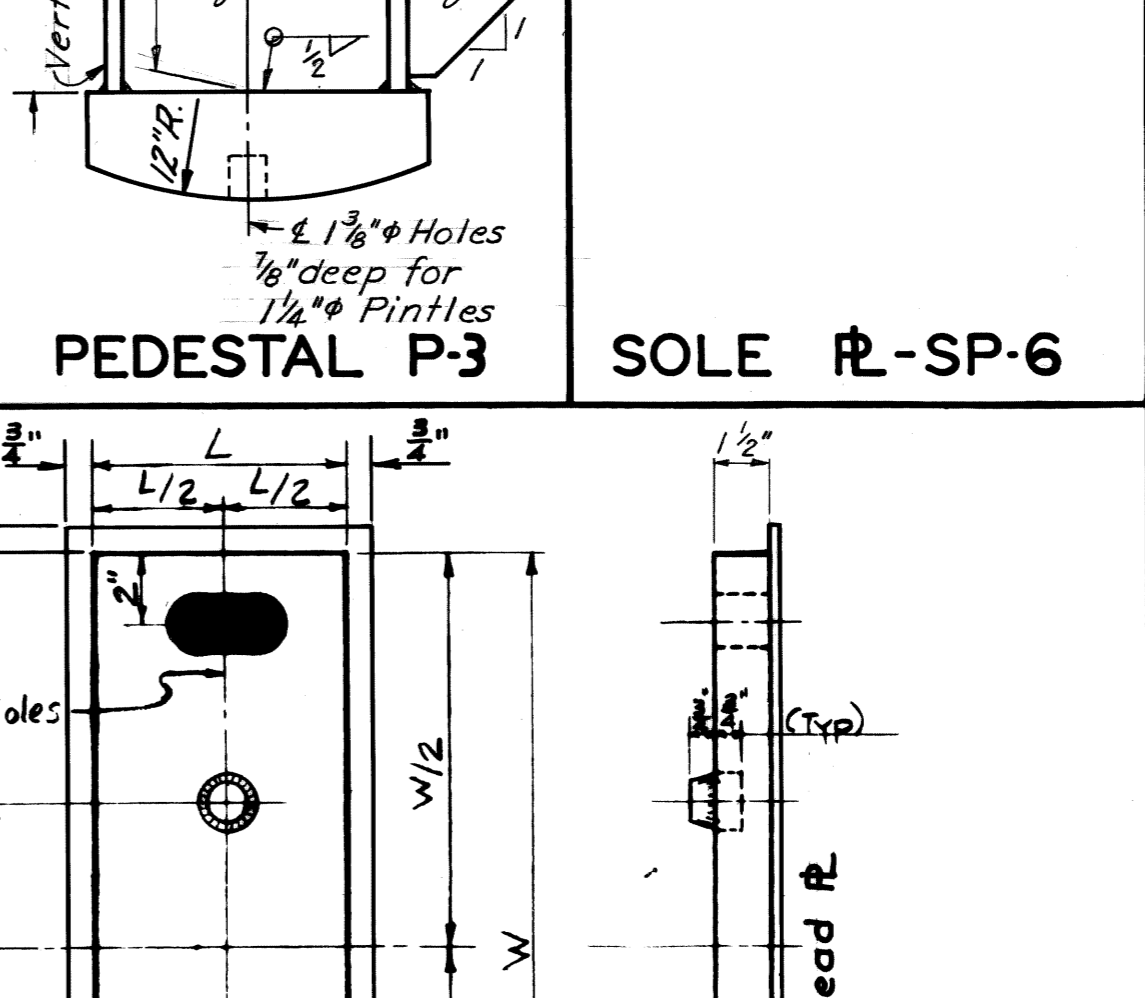
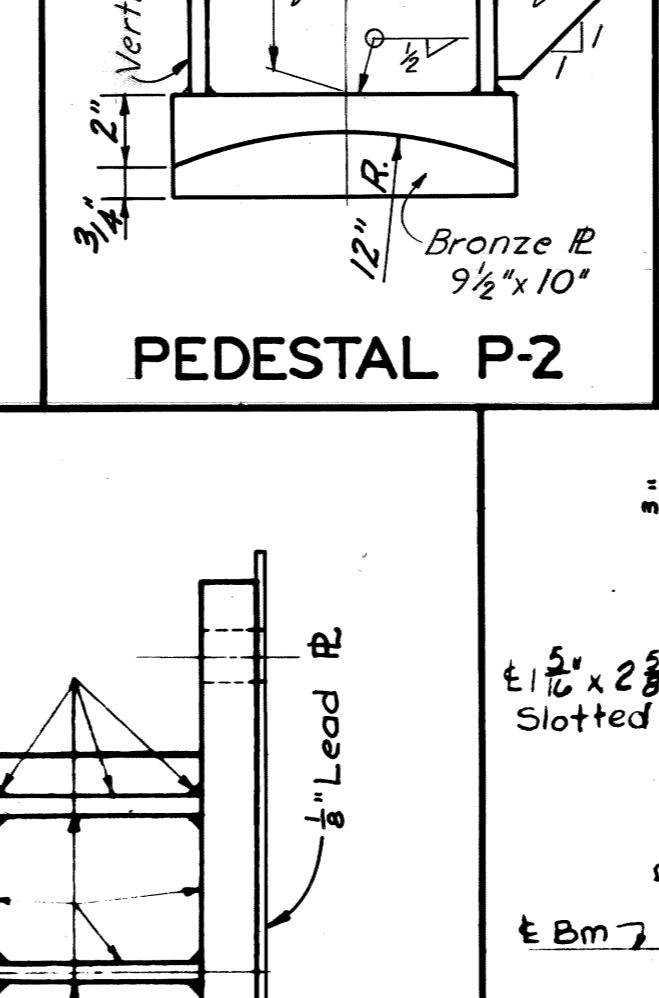
SOLE R-SP3



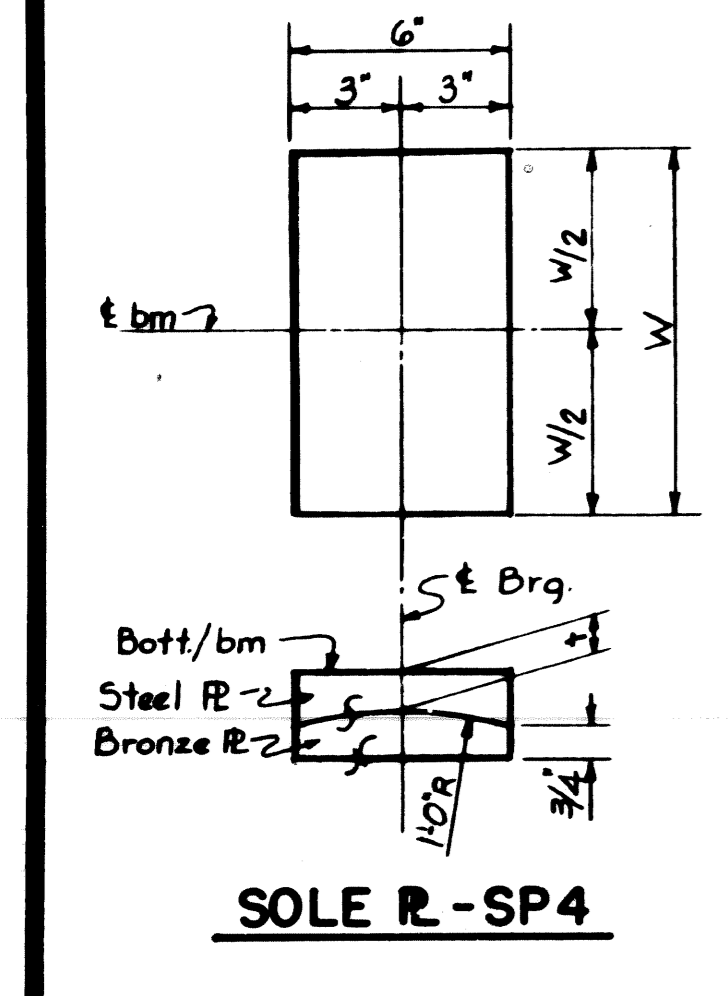
PEDESTAL-PI



MASONRY R-MP9



MASONRY R-MP7



SOLE R-SP4

SPAN	BEAM	TYPE	VARIABLE DIMENSIONS				
			L	W	t	p	k
SPAN 1	A/E AbutA	SP1	14"	2"			1/2"
	B AbutA	SP1	10 1/2"	6"			1/2"
	C/D AbutA	SP1	10 1/2"	2"			1/2"
	A/E AbutA	MP1	15"				
SPAN 2	B,C/D AbutA	MP1	11 1/2"				
	A/E Pier 1	SP4	14"	2"			
	B Pier 1	P2	8"				1/2"
	C Pier 1	P2	5"				1/2"
SPAN 3	D Pier 1	P2	4 1/2"				1/2"
	A/E Pier 1	MP8	8"	26"			14 1/4"
	B,C/D Pier 1	MP8	11 1/2"	22"			10 1/4"
	A/E Pier 1	SP3	14"	3"			1/2"
	B Pier 1	SP3	12	5 1/2"			1/2"
	C/D Pier 1	SP3	12	2"			1/2"
	A/E Pier 1	MP7	8"	24"			2 3/4"
	B,C/D Pier 1	MP7	8"	22"			2 3/4"
	A/E Pier 2	SP5	14 1/2"	2"			
	B/D Pier 2	SP5	12 1/2"	2"			
	C Pier 2	SP5	12 1/8"	5"			
	A/E Pier 2	ERI	15"				5" 14"
SPAN 4	B,C/D Pier 2	ERI	13"				4" 12"
	A/E Pier 2	MP7	7"	24"			5"
	B,C/D Pier 2	MP7	7"	22"			4"
	A/E Pier 2	SP5	14 1/2"	2 1/4"			
	B Pier 2	P3	1-3"				3/8"
	C Pier 2	P3	1-6"				3/8"
	D Pier 2	P3	1-3"				3/8"
	A/E Pier 2	MP9	24"				5" 14"
	B,C/D Pier 2	MP7	9 1/2"	22"			2 3/4"
	A/E Pier 3	SP4	14"	2"			
	B Pier 3	P2	2-2 3/4"				1/4"
	C/D Pier 3	P2	1-1 1/2"				3/8"
SPAN 5	A/E Pier 3	MP8	8"	26"			14 1/4"
	B,C/D Pier 3	MP8	11 1/2"	22"			10 1/4"
	A/C/D Pier 3	SP6	7 1/2"				
	B Pier 3	SP6	3 1/2"				
	E Pier 3	SP6	1"				
	(A-E) Pier 3	MP5					
	A Pier 4	SP7	32"	4 1/2"			1/8"
	B/C Pier 4	SP7	32"	4 1/4"			1/8"
	D Pier 4	SP7	32"	3 3/4"			1/8"
	E Pier 4	SP7	32"	2 1/2"			1/8"
	A/D Pier 5	SP6	1"				
	B Pier 5	SP6	2 1/4"				
C Pier 5	SP6	4"					
E Pier 5	SP6	1 1/4"					
SPAN 6	(A-E) Pier 5	MP5					
	A Pier 5	SP4	14"	2 1/4"			
	B Pier 5	P2	1-10 1/4"				1/8"
	C Pier 5	P2	2-0"				1/8"
	D Pier 5	P2	1-9"				1/8"
	E Pier 5	SP4	14"	2 1/2"			
	A/E Pier 5	MP8	8"	26"			14 1/4"
	B,C/D Pier 5	MP8	11 1/2"	22"			10 1/4"
	A Pier 6	SP03	14"	3 3/4"			1/4"
	B Pier 6	SP03	11 1/2"	3 3/4"			1/4"
	C/D Pier 6	SP03	11 1/2"	3 3/4"			1/4"
	E Pier 6	SP03	14"	3"			1/4"
SPAN 7	A/E Pier 6	MP2	8"	24"			
	B,C/D Pier 6	MP2	8"	22"			
	A Pier 6	SP4	14"	1 3/4"			
	B Pier 6	SP4	11 1/2"	1 3/4"			
	C/D Pier 6	SP4	11 1/2"	2 1/4"			
E Pier 6	SP4	14"	1 5/8"				

PLANS PREPARED BY
 CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
 STRUCTURAL ENGINEER

JOB No. PW99012

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

BEARING DETAILS

CITY OF DETROIT

REVISIONS

NO.	DESCRIPTION	DATE	BY

DESIGN BY: DEM 1514
 TRACED BY: FOR 1560
 CHECKED BY: FOR 1560
 SHEET 45 OF

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