BENCH MARKS

P.B.M. 28-356 ELEV. 100.217
BRASS CAP IN HANDHOLE SET IN WALK OF CENTER ISLAND. 82' N ℄ JEFFERSON AVE (70' WIDE) EXTENDED EAST AND 45' E WL THIRD ST. (59.42' WIDE) EXTENDED NORTHWESTERLY

C.B.M. # 1 ELEV. 110.30
STEEL CUT NAIL IN JOINT OF JOHN C. LODGE SOUTHBOUND RETAINING WALL ON ABOUT THE EAST LINE OF THIRD EXTENDED SOUTHEASTERLY FROM CONGRESS. ABOUT 3.5' ABOVE GROUND

C.B.M. # 2 ELEV. 99.76
RR SPIKE IN TRANSFORMER POLE ON WEST LINE OF THIRD ST. (59.42' WIDE) AND 85' SS ℄ JEFFERSON AVE (70' WIDE)

NOTE : ADD 479.755' TO CONVERT TO U.S.C.G.S. DATUM
DATUM FOR JOE LOUIS SPORTS ARENA PARKING GARAGE PLANS MAY BE DIFFERENT THAN CITY DATUM AND SHOULD NOT BE USED ON THE PROJECT.

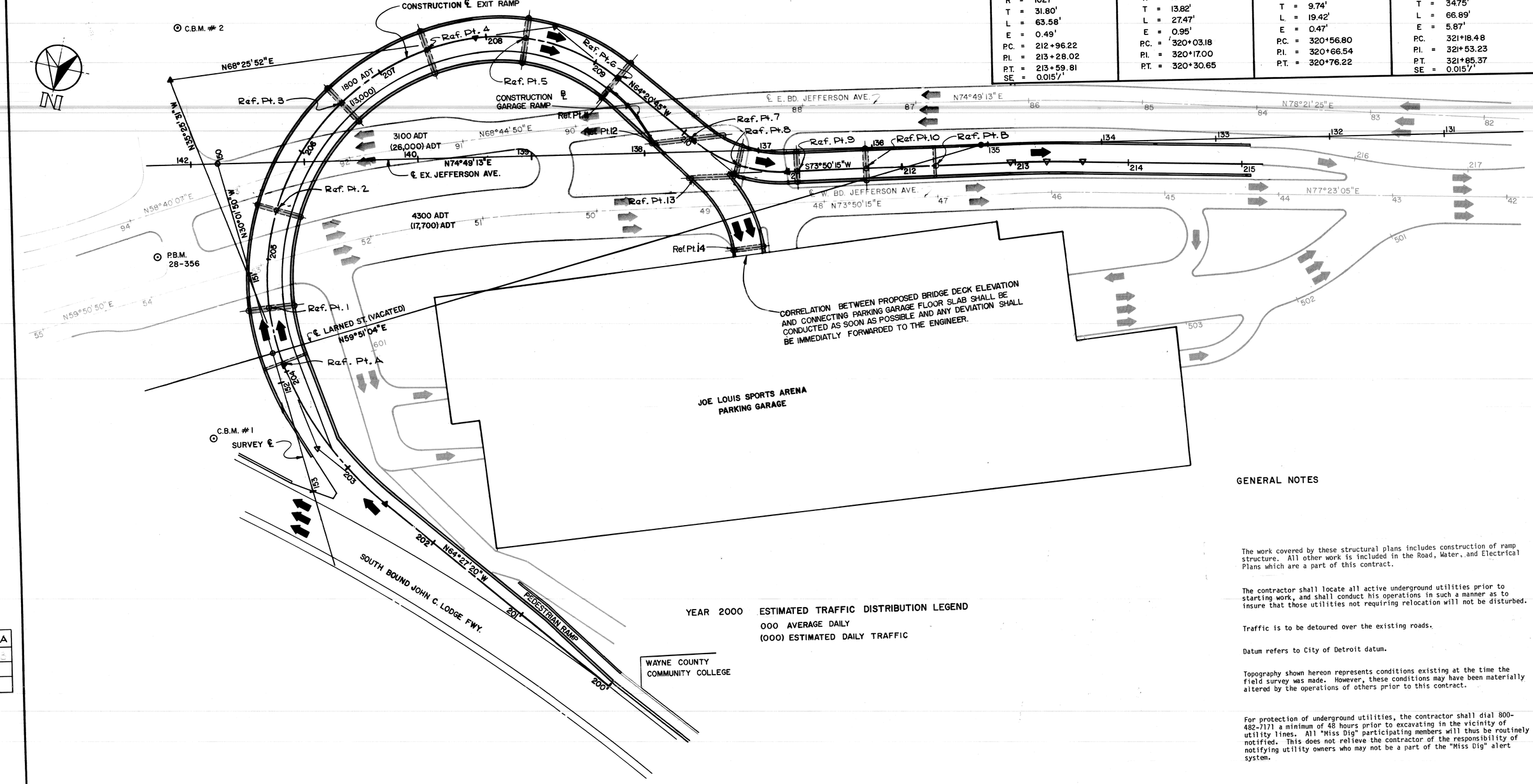
WITNESSES

THE CITY OF DETROIT WILL RE-ESTABLISH THE ℄ SURVEY OF EXISTING JEFFERSON AVE. PRIOR TO AWARD OF THE CONTRACT. THE CONTRACTOR SHALL CONTACT THE CITY ENGINEERING DEPARTMENT TO OBTAIN WITNESSED POINTS.

JEFFERSON AVE. EXIT RAMP CURVE DATA

CURVE # 1	CURVE # 2	CURVE # 3	CURVE # 4
Δ = 29°-01'-49" RT.	Δ = 103°-51'-23" RT.	Δ = 47°-13'-23" RT.	Δ = 41°-49'-00.4" LT.
D = 19°-05'-54.9"	D = 27°-01'-34.7"	D = 35°-22'-04.0"	D = 47°-44'-47.3"
R = 300'	R = 212'	R = 162'	R = 120'
T = 77.67'	T = 270.65'	T = 70.81'	T = 45.84'
L = 152'	L = 384.28'	L = 133.52'	L = 87.58'
E = 9.89'	E = 131.80'	E = 14.80'	E = 8.46'
P.C. = 202+54.33	P.C. = 204+06.33	P.C. = 207+90.61	P.C. = 210+11.38
P.I. = 203+32.00	P.I. = 206+76.98	P.I. = 208+61.42	P.I. = 210+57.22
P.T. = 204+06.33	P.T. = 207+90.61	P.T. = 209+24.13	P.T. = 210+98.96
SE = 0.04'/'	SE = 0.04'/'	SE = 0.04'/'	SE = 0.03'/'

CURVE # 5	CURVE # 20	CURVE # 21	CURVE # 22
Δ = 3°-32'-50.3" RT.	Δ = 150°-44'-11.7" RT.	Δ = 11°-07'-34" LT.	Δ = 38°-19'-37" RT.
D = 5°-34'-44.2"	D = 57°-17'-44.8"	D = 57°-17'-44.8"	D = 57°-17'-44.8"
R = 1027'	R = 100'	R = 100'	R = 100'
T = 31.80'	T = 13.82'	T = 9.74'	T = 34.75'
L = 63.58'	L = 27.47'	L = 19.42'	L = 66.89'
E = 0.49'	E = 0.95'	E = 0.47'	E = 5.87'
P.C. = 212+96.22	P.C. = 320+03.18	P.C. = 320+56.80	P.C. 321+18.48
P.I. = 213+28.02	P.I. = 320+17.00	P.I. = 320+66.54	P.I. = 321+53.23
P.T. = 213+59.81	P.T. = 320+30.65	P.T. = 320+76.22	P.T. 321+85.37
SE = 0.015'/'			SE = 0.015'/'



YEAR 2000 ESTIMATED TRAFFIC DISTRIBUTION LEGEND

000 AVERAGE DAILY
(000) ESTIMATED DAILY TRAFFIC

GENERAL NOTES

The work covered by these structural plans includes construction of ramp structure. All other work is included in the Road, Water, and Electrical Plans which are a part of this contract.

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.

Traffic is to be detoured over the existing roads.

Datum refers to City of Detroit datum.

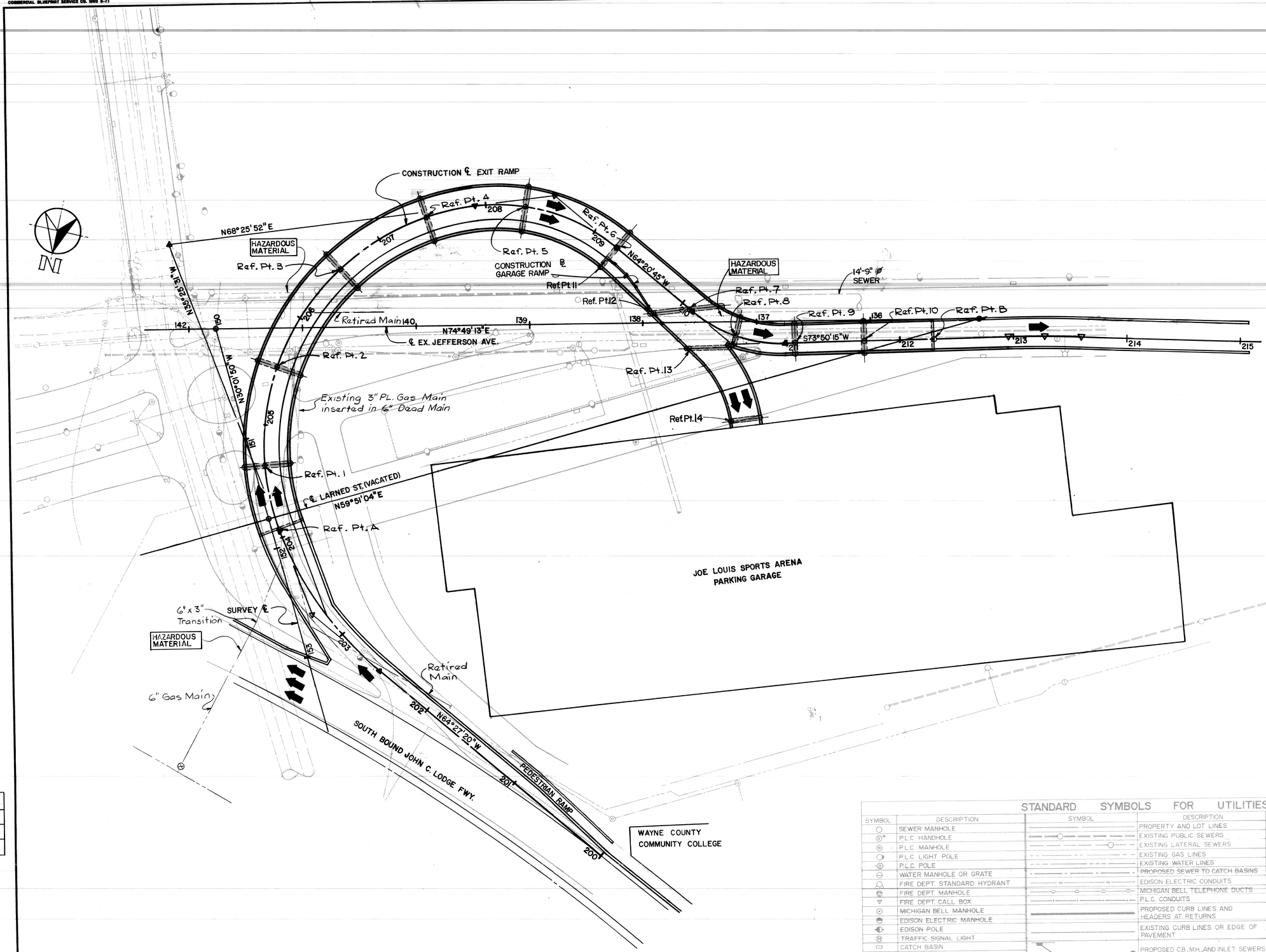
Topography shown hereon represents conditions existing at the time the field survey was made. However, these conditions may have been materially altered by the operations of others prior to this contract.

For protection of underground utilities, the contractor shall dial 800-482-7171 a minimum of 48 hours prior to excavating in the vicinity of utility lines. All "Miss Dig" participating members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

Work This Sheet With Sheets# S2 thru S5

DATE: August, 1979

DSGN BY: RGW, SJP	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: SJP			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: RGW			GENERAL PLAN OF SITE BRIDGE PLAN & PROPOSED ROADWAY
APP'D BY:			SCALE: NONE
			DRN. NO: S1



STANDARD SYMBOLS FOR UTILITIES (DETROIT)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
○	SEWER MANHOLE		PROPERTY AND LOT LINES		EXISTING C.B., M.H., AND INLET SEWERS
⊙ᴴ	P.L.C. HANDHOLE		EXISTING PUBLIC SEWERS		PROPOSED C.B., M.H., AND INLET SEWERS ON INTERSECTING STREETS
⊙	P.L.C. MANHOLE		EXISTING LATERAL SEWERS		
◑	P.L.C. LIGHT POLE		EXISTING GAS LINES		PROPOSED CURB OR PAVEMENT ON INTERSECTING STREETS
◈	P.L.C. POLE		EXISTING WATER LINES		
⊖	WATER MANHOLE OR GRATE		PROPOSED SEWER TO CATCH BASINS		
⊙	FIRE DEPT. STANDARD HYDRANT		EDISON ELECTRIC CONDUITS		
⊛	FIRE DEPT. MANHOLE		MICHIGAN BELL TELEPHONE DUCTS		
▽	FIRE DEPT. CALL BOX		P.L.C. CONDUITS		
⊙	MICHIGAN BELL MANHOLE		PROPOSED CURB LINES AND HEADERS AT RETURNS		
⊟	EDISON ELECTRIC MANHOLE		EXISTING CURB LINES OR EDGE OF PAVEMENT		
◐	EDISON POLE				
⊛	TRAFFIC SIGNAL LIGHT		PROPOSED C.B., M.H., AND INLET SEWERS		
▭	CATCH BASIN				

DSGN BY:	RGW	REVISIONS	
DR'N BY:	SJP		
CK'D BY:	RGW		
APP'D BY:			

CITY OF DETROIT, MICHIGAN

Snell Environmental Group
LANSING INDIANAPOLIS AKRON

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.

GENERAL PLAN OF SITE
PROPOSED BRIDGE & EXISTING UTILITIES

Work This Sheet With Sheets# S1 & S3 thru S5

DATE: August, 1979

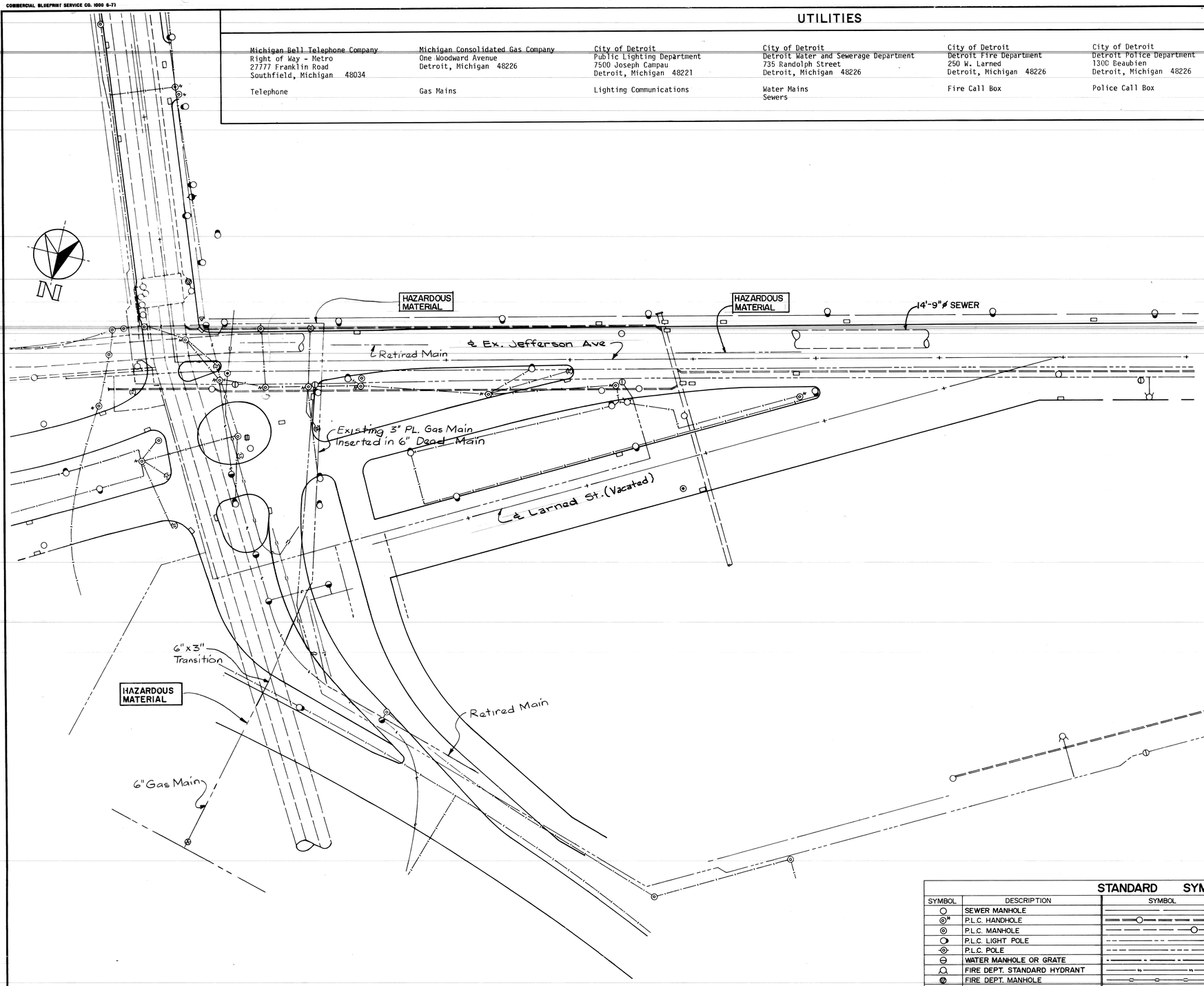
SCALE: NONE

DRN. NO: S2

I	A
	C

UTILITIES

Michigan Bell Telephone Company Right of Way - Metro 27777 Franklin Road Southfield, Michigan 48034	Michigan Consolidated Gas Company One Woodward Avenue Detroit, Michigan 48226	City of Detroit Public Lighting Department 7500 Joseph Campau Detroit, Michigan 48221	City of Detroit Detroit Water and Sewerage Department 735 Randolph Street Detroit, Michigan 48226	City of Detroit Detroit Fire Department 250 W. Larned Detroit, Michigan 48226	City of Detroit Detroit Police Department 1300 Beaubien Detroit, Michigan 48226	City of Detroit Department of Transportation 1301 E. Warren Detroit, Michigan 48207	Detroit Edison Company Detroit Service Planning 6200 W. Warren, B-207 W.S.C. Detroit, Michigan 48210
Telephone	Gas Mains	Lighting Communications	Water Mains Sewers	Fire Call Box	Police Call Box	D.O.T. Traffic	Electric Power



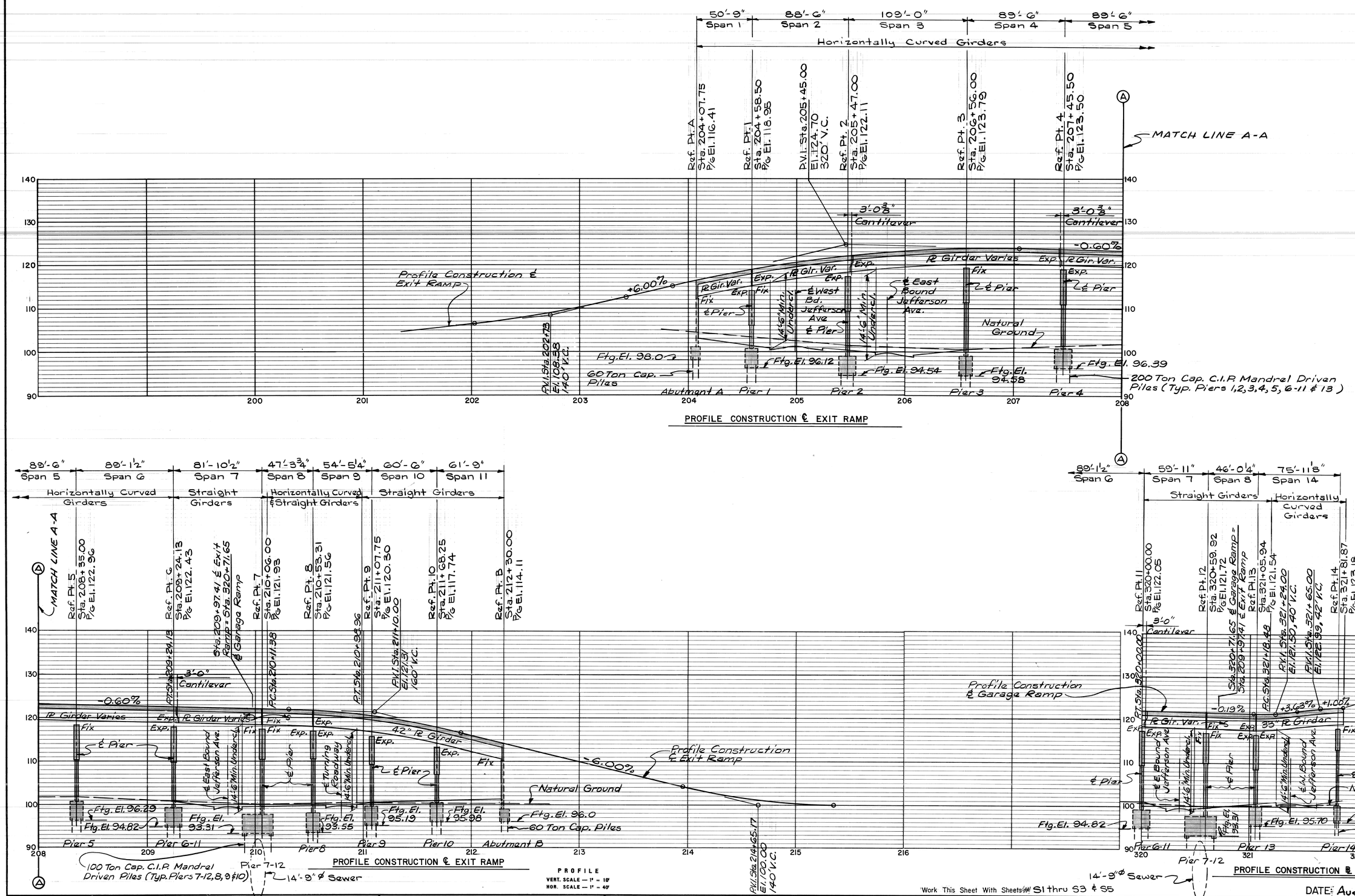
STANDARD SYMBOLS FOR UTILITIES (DETROIT)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
○	SEWER MANHOLE		PROPERTY AND LOT LINES		EXISTING C.B., M.H., AND INLET SEWERS
◎ᴴ	P.L.C. HANDHOLE		EXISTING PUBLIC SEWERS		PROPOSED C.B., M.H., AND INLET SEWERS ON INTERSECTING STREETS
◎	P.L.C. MANHOLE		EXISTING LATERAL SEWERS		
◑	P.L.C. LIGHT POLE		EXISTING GAS LINES		PROPOSED CURB OR PAVEMENT ON INTERSECTING STREETS
◎	P.L.C. POLE		EXISTING WATER LINES		
⊖	WATER MANHOLE OR GRATE		PROPOSED SEWER TO CATCH BASINS		
🔔	FIRE DEPT. STANDARD HYDRANT		EDISON ELECTRIC CONDUITS		
⊗	FIRE DEPT. MANHOLE		MICHIGAN BELL TELEPHONE DUCTS		
▽	FIRE DEPT. CALL BOX		P.L.C. CONDUITS		
⊙	MICHIGAN BELL MANHOLE		PROPOSED CURB LINES AND HEADERS AT RETURNS		
◓	EDISON ELECTRIC MANHOLE				
◐	EDISON POLE		EXISTING CURB LINES OR EDGE OF PAVEMENT		
⊛	TRAFFIC SIGNAL LIGHT				
▭	CATCH BASIN		PROPOSED C.B., M.H., AND INLET SEWERS		

Work This Sheet With Sheets# S1, S2, S4 & S5

DATE: August, 1979

DES'N BY: RGW DR'N BY: LDM, SJP CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA.	GENERAL PLAN OF SITE PLAN OF EXISTING UTILITIES SCALE: NONE DRN. NO: S3



PROFILE CONSTRUCTION ℄ EXIT RAMP

PROFILE
VERT. SCALE — 1" = 10'
HOR. SCALE — 1" = 40'

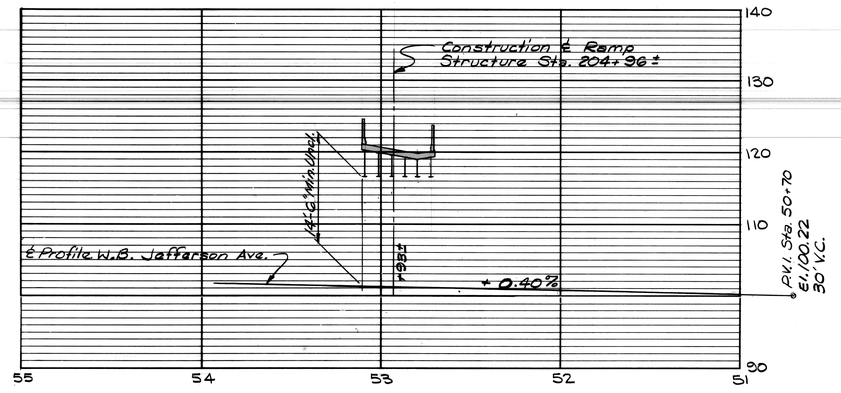
PROFILE CONSTRUCTION ℄ EXIT RAMP

PROFILE CONSTRUCTION ℄ GARAGE RAMP

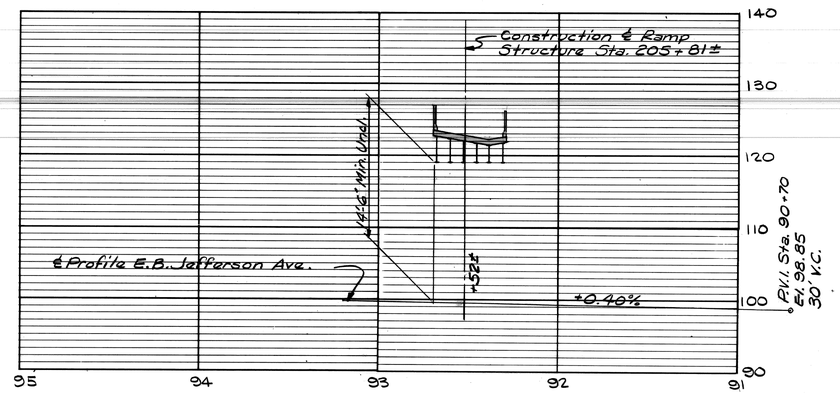
Work This Sheet With Sheets S1 thru S3 & S5

DATE: August, 1979

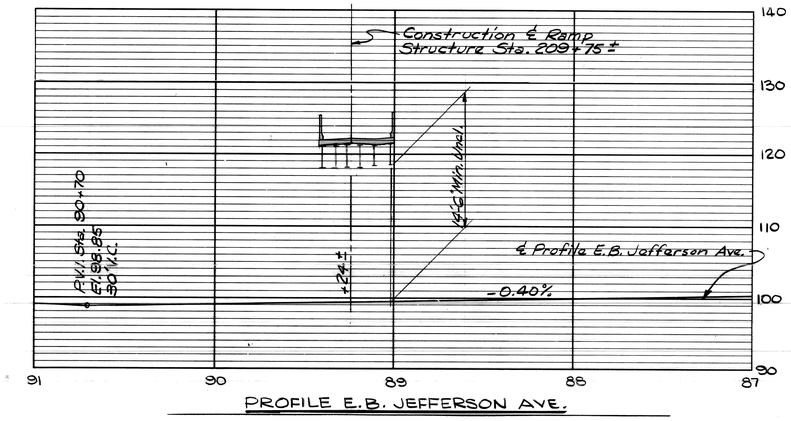
DSGN BY: RGW DRN BY: SJP CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA	GENERAL PLAN OF SITE RAMP STRUCTURE PROFILES	SCALE: NOTED DRN. NO: S4



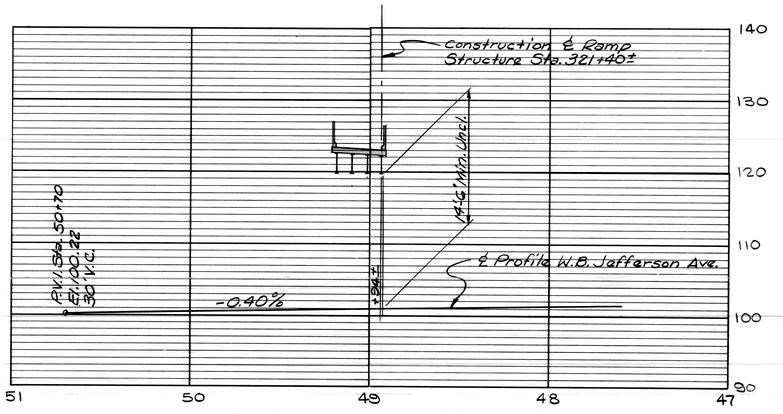
PROFILE W.B. JEFFERSON AVE.



PROFILE E.B. JEFFERSON AVE.



PROFILE E.B. JEFFERSON AVE.



PROFILE W.B. JEFFERSON AVE.

PROFILE
VERT. SCALE — 1" = 10'
HOR. SCALE — 1" = 40'

Work This Sheet With Sheets# S1 thru S4

DATE: August, 1979

DSGN BY: RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: SJP			
CK'D BY: RGW			
APP'D BY:			

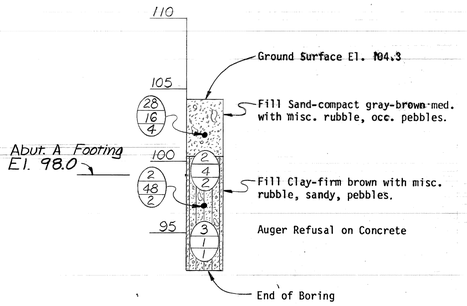
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-
RECONSTRUCTION AT THE JOE LOUIS ARENA

GENERAL PLAN OF SITE
JEFFERSON AVE. PROFILES

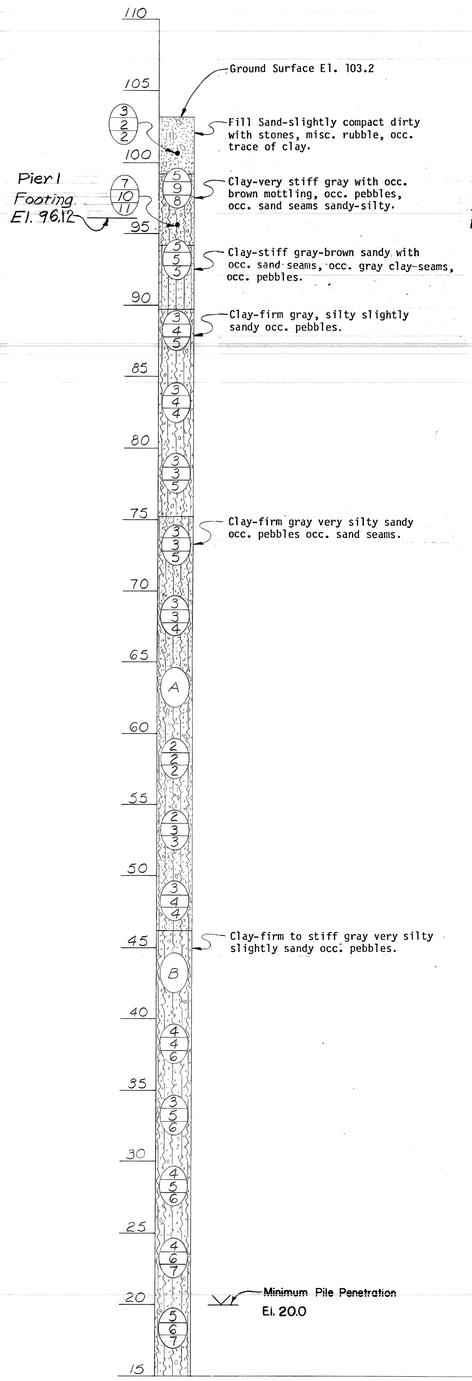
SCALE: NONE

DRN. NO: S5

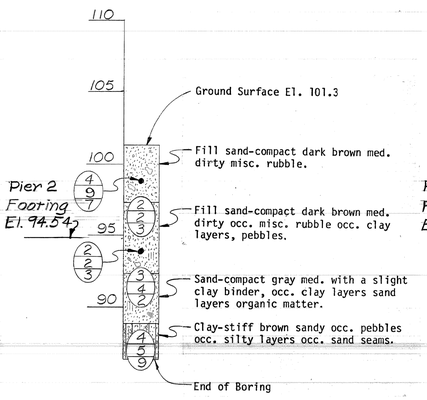
Test Hole #1
Location: 180' ± Left Sta. 141 + 09
on ℄ Jefferson Ave.



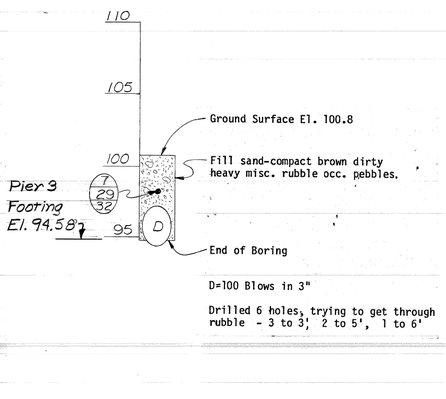
Test Hole #2
Location: 120' ± Left Sta. 141 + 55
on ℄ Jefferson Ave.



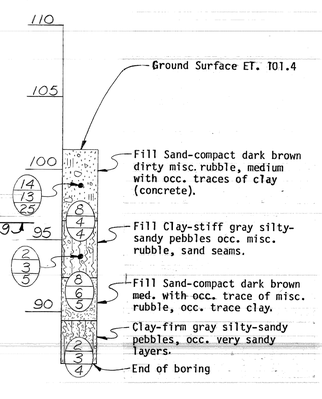
Test Hole #3
Location: 39' ± Left Sta. 141 + 00
on ℄ Jefferson Avenue

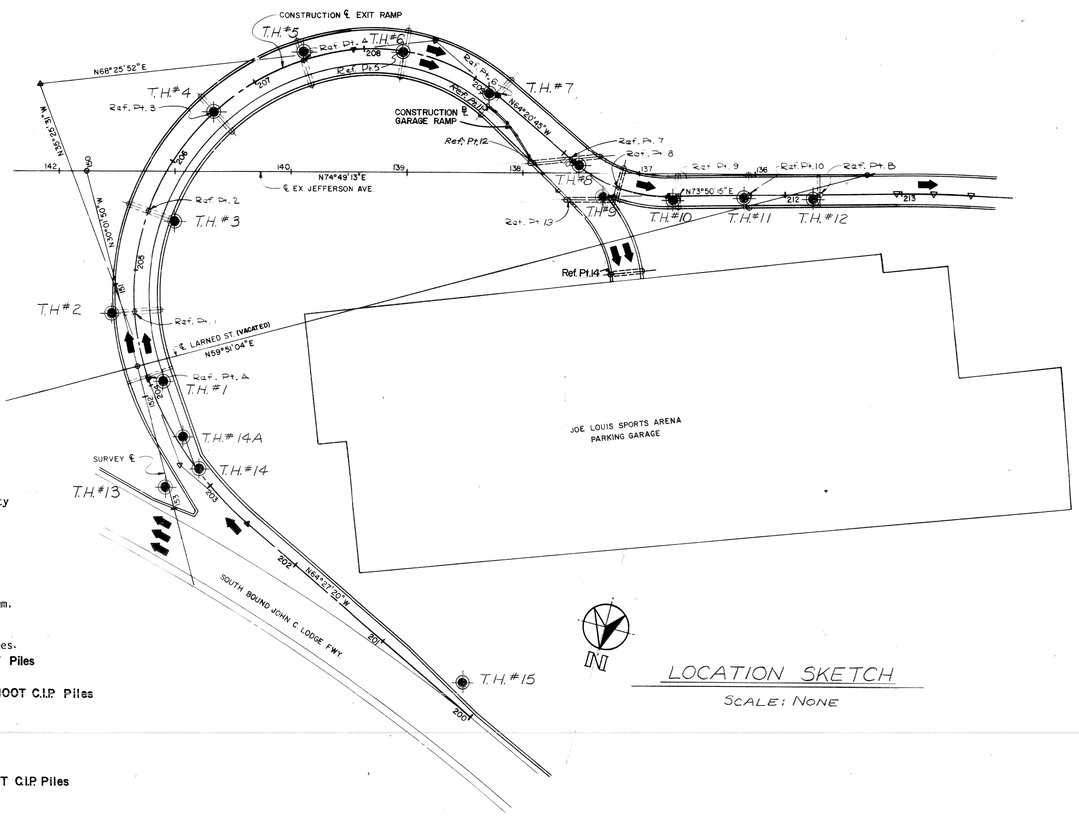


Test Hole #4
Location; 54' ± Right Sta. 140 + 66
on ℄ Jefferson Avenue



Test Hole #5
Location: 97' ± Right Sta. 139+91
on ℄ Jefferson Ave.



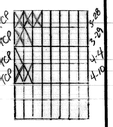


LOCATION SKETCH
SCALE: NONE

Work This Sheet With Sheets # S7 & S8

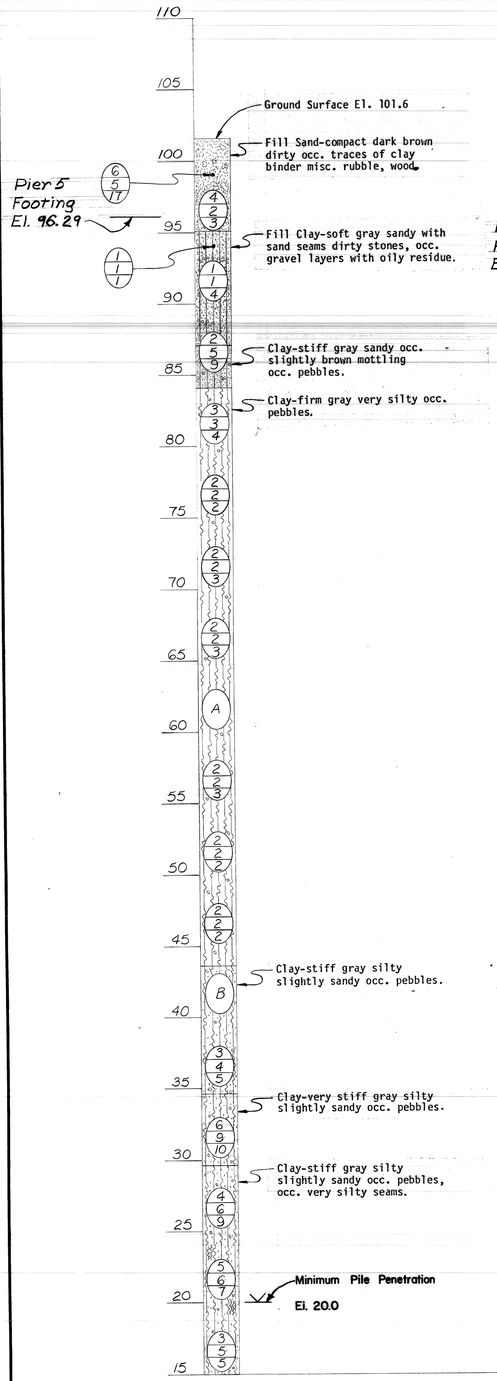
DATE: August, 1979

DSGN BY: RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Shell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: TGP			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE- RECONSTRUCTION AT THE JOE LOUIS ARENA
CK'D BY: RGW			LOG OF BORINGS LOCATION SKETCH
APP'D BY:			SCALE: NONE DRN. NO: S6



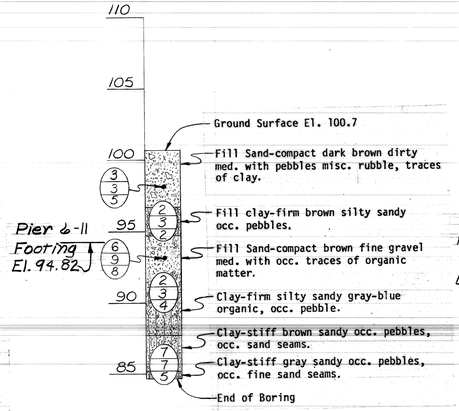
Test Hole #6

Location: 103' ± Right Sta. 139 + 05 on ℄ Jefferson Ave.



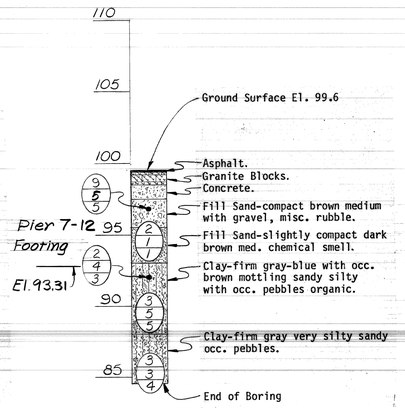
Test Hole #7

Location 66' ± Right Sta. 138 + 27 on ℄ Jefferson Ave.



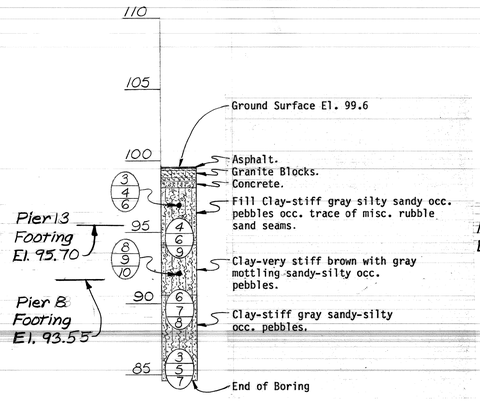
Test Hole #8

Location: 5' ± Right Sta. 137 + 55 on ℄ Jefferson Ave.



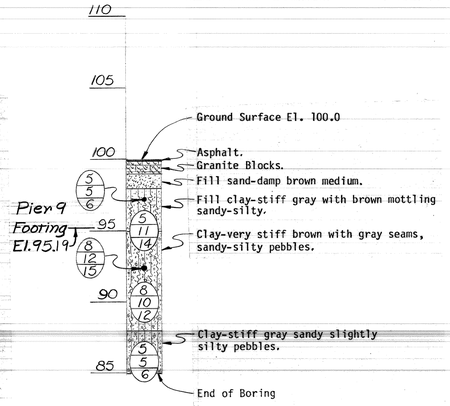
Test Hole #9

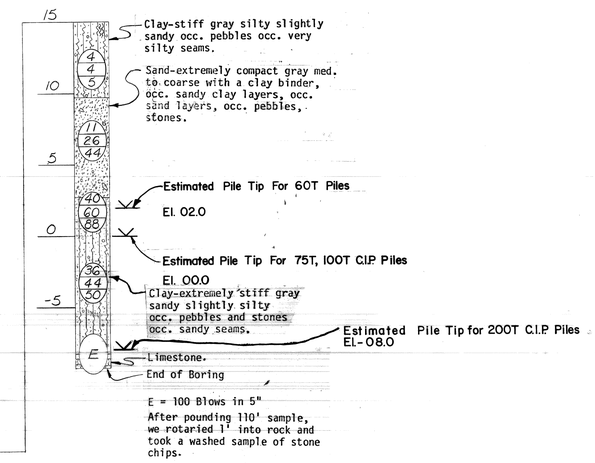
Location: 20' ± Left Sta. 137 + 29 on ℄ Jefferson Ave.



Test Hole #10

Location 20' ± Left Sta. 136 + 70 on ℄ Jefferson Avenue





Consistency of borings was determined by inspection of samples & substantiated by soils resistance to drilling tools.

The soil boring logs represent point information. Presentation of this information in no way infers that subsurface conditions are the same at location other than the exact location of the boring.

O = Number of blows required to drive a 2" O.D. split barrel sampler the 6" incremental distance shown using a 140# weight freefalling 30".

Soil borings were performed starting on March 12, 1979 and ending on March 19, 1979 by Soil Structures, Inc.

If not otherwise indicated, the samples were taken by a split barrel liner, ASTM D 1587.

(A) (B) - Denotes Shelby tube sample, ASTM D 1587.

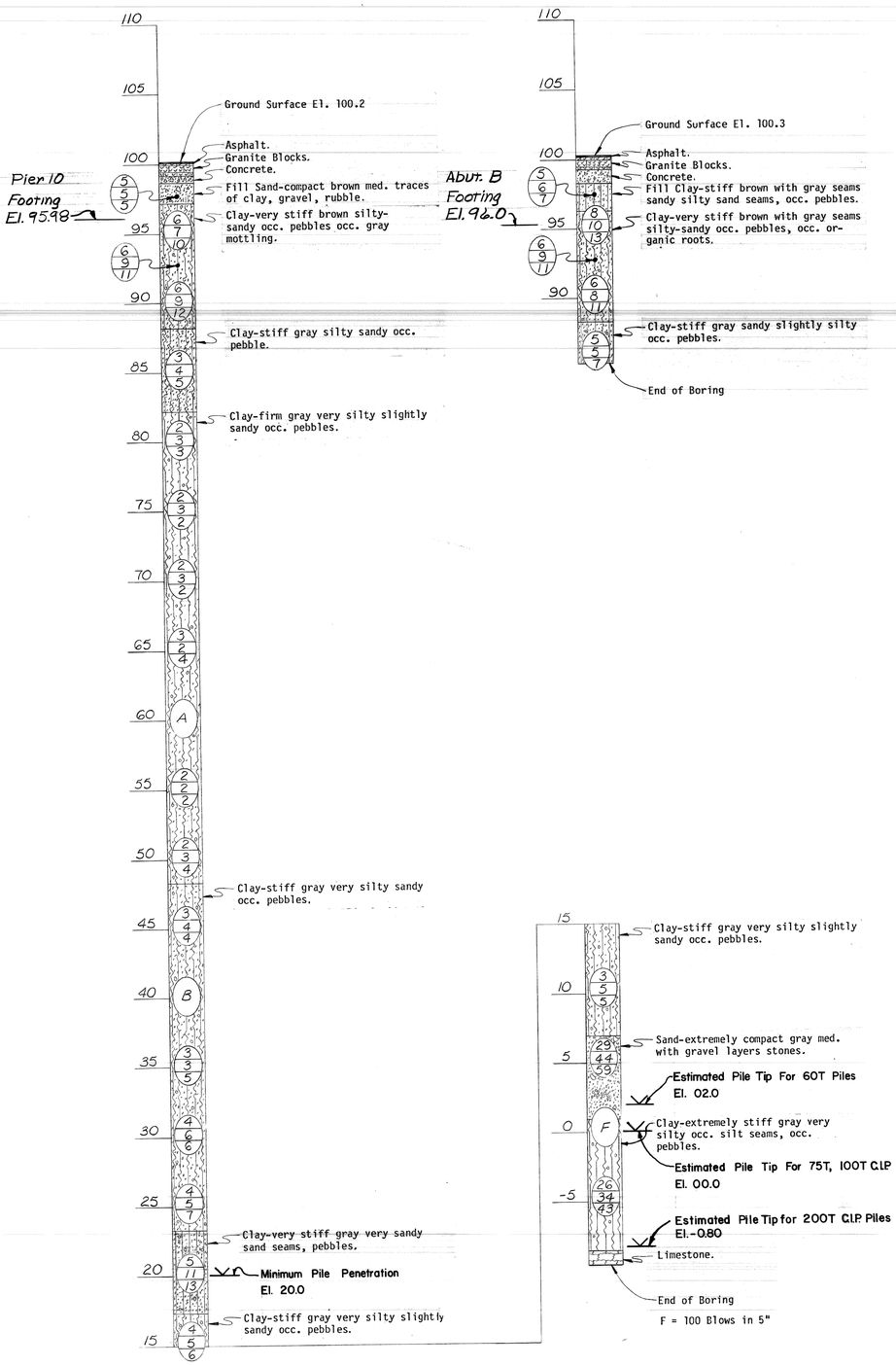
Work This Sheet With Sheets# S6 & S8

DATE: August, 1979

DSGN BY: RGW DR'N BY: TCP CK'D BY: RGW APP'D BY:		REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	LOG OF BORINGS	SCALE: NONE DRN. NO: S7

Test Hole #11

Location: 20' ± Left Sta. 136 + 09
on ℄ Jefferson Ave.

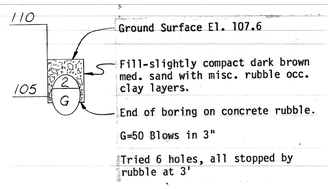


Test Hole #12

Location: 20' ± Left Sta. 135 + 47
on ℄ Jefferson Ave.

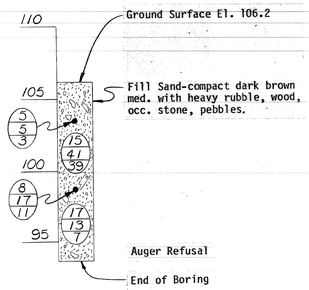
Test Hole #13

Location: 277' ± Left Sta. 141 + 06
on ℄ Jefferson Ave.



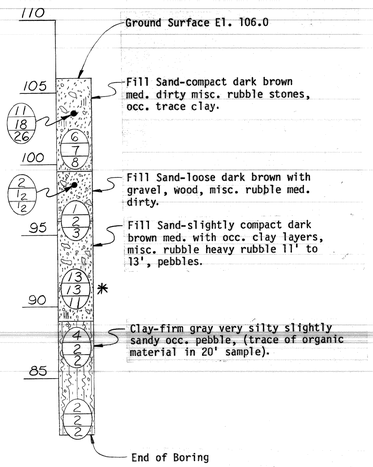
Test Hole #14

Location: 255' ± Left Sta. 140 + 76
on ℄ Jefferson Ave.



Test Hole #14A **

Location: 223' ± Left Sta. 140 + 89
on ℄ Jefferson Ave.

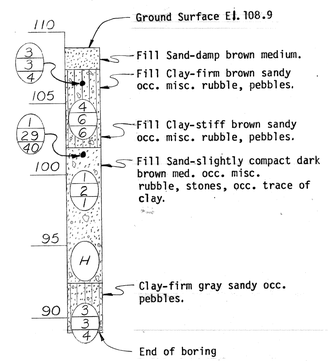


**Test Boring 14A located 33 feet south of Test Boring 14.

*15' sample bounced while being driven, blow counts were much higher than the material appeared, but there were not obstructions in the sampler.

Test Hole #15

Location: 436' ± Left Sta. 138 + 50
on ℄ Jefferson Ave.

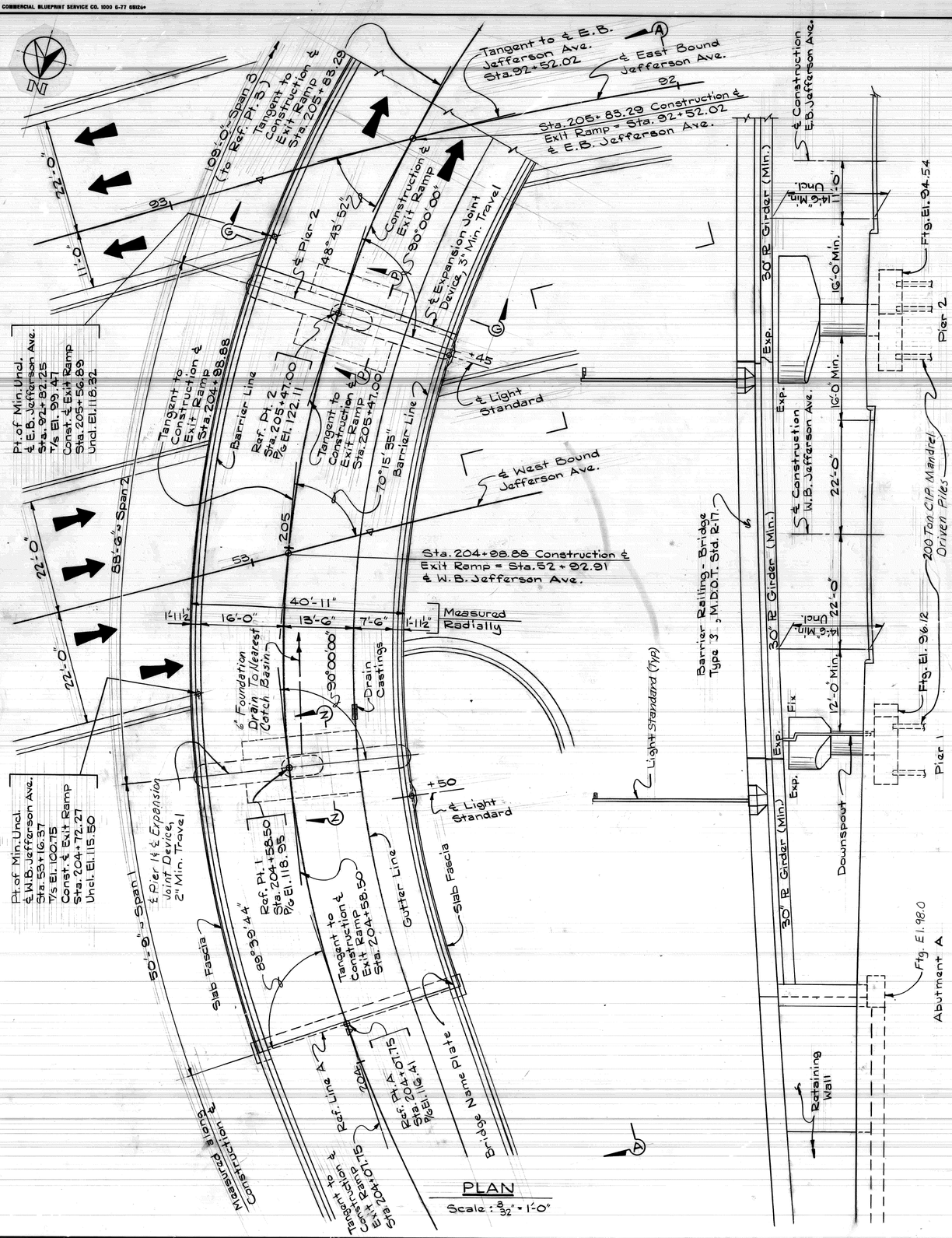


H=Brick

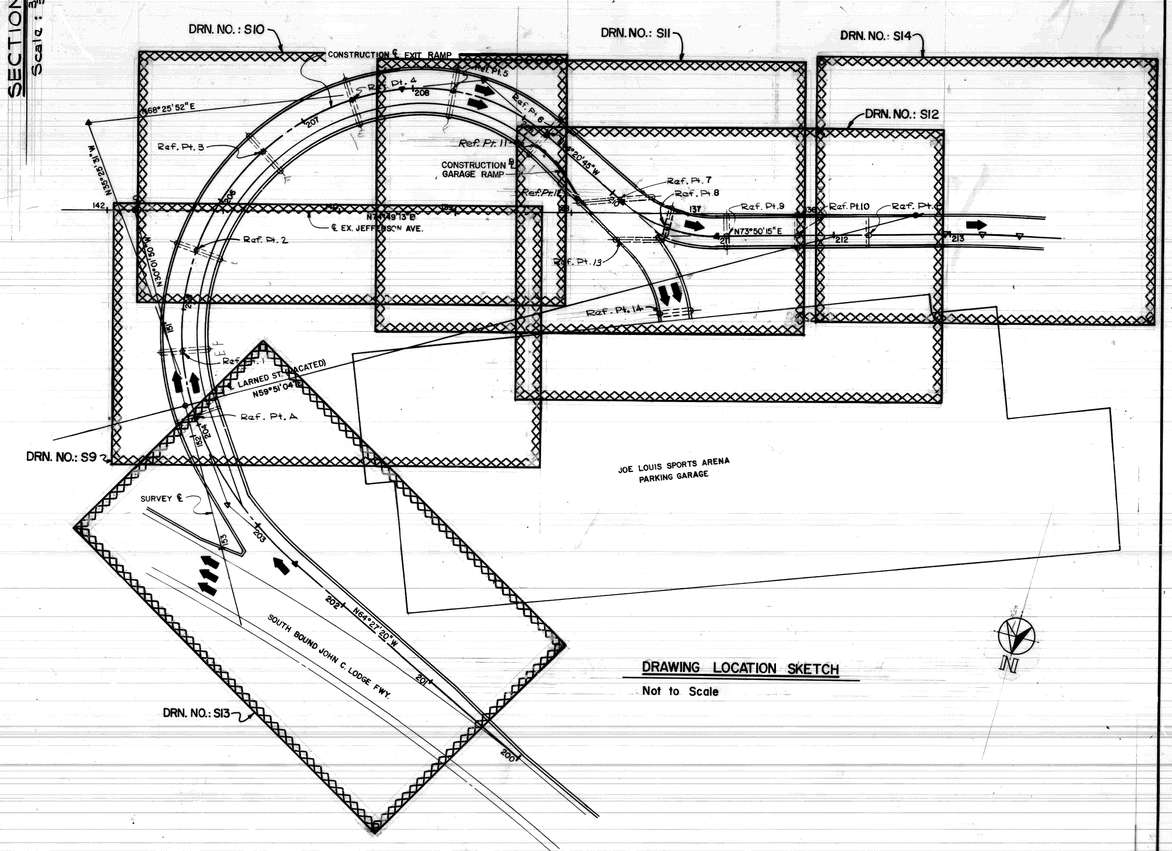
Work This Sheet With ~~Sheets #~~ S6 & S7

DATE: August, 1979

DSGN BY: RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	LOG OF BORINGS
DR'N BY: TCP					~~SCALE: NONE~~
CK'D BY: RGW					DRN. NO: S8
APP'D BY:					



MISCELLANEOUS QUANTITIES		
ITEM	UNIT	AMOUNT
Foundation Drain 6"	Lin. Ft.	255
2" Fiber Joint Filler	Sq. Ft.	540



DSGN BY:	RGW, SEB SSP	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA
DR'N BY:	SSP				
CK'D BY:	RGW				
APP'D BY:					

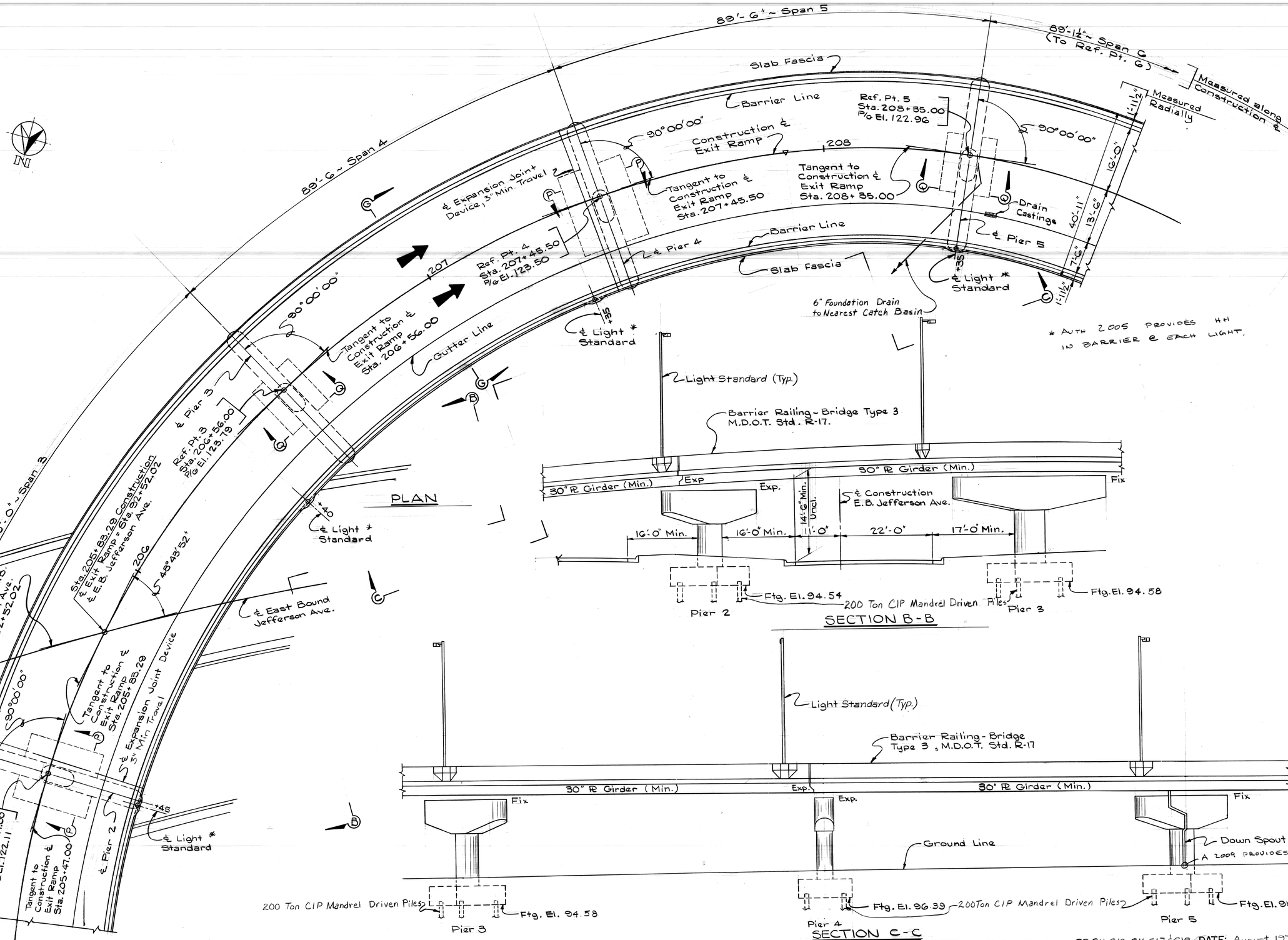
Work This Sheet With Sheets# S10 thru S12 & S16, S17 & S18

DATE: August, 1979

GENERAL PLAN OF STRUCTURE
BRIDGE PLAN & ELEVATION

SCALE: NONE

DRN. NO: S9



* AUTH 2005 PROVIDES HH IN BARRIER @ EACH LIGHT.

Work This Sheet With Sheets # S9, S11, S12, S16, S17 & S18 DATE: August, 1979

DSGN BY: RGW, SEB, SJP	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA	GENERAL PLAN OF STRUCTURE BRIDGE PLAN & ELEVATION	SCALE: NONE	
DR'N BY: SJP						DRN. NO: S10	
CK'D BY: RGW							
APP'D BY:							

COMMERCIAL BLUEPRINT SERVICE CO. 1000 6-77 65126•

Work This Sheet With Sheets # S9, S10, S12, S16, S17 & S18 DATE: August, 1979

DSGN BY:	RGW, SJP	REVISIONS	
DR'N BY:	SJP		
CK'D BY:	RGW		
APP'D BY:			

CITY OF DETROIT, MICHIGAN

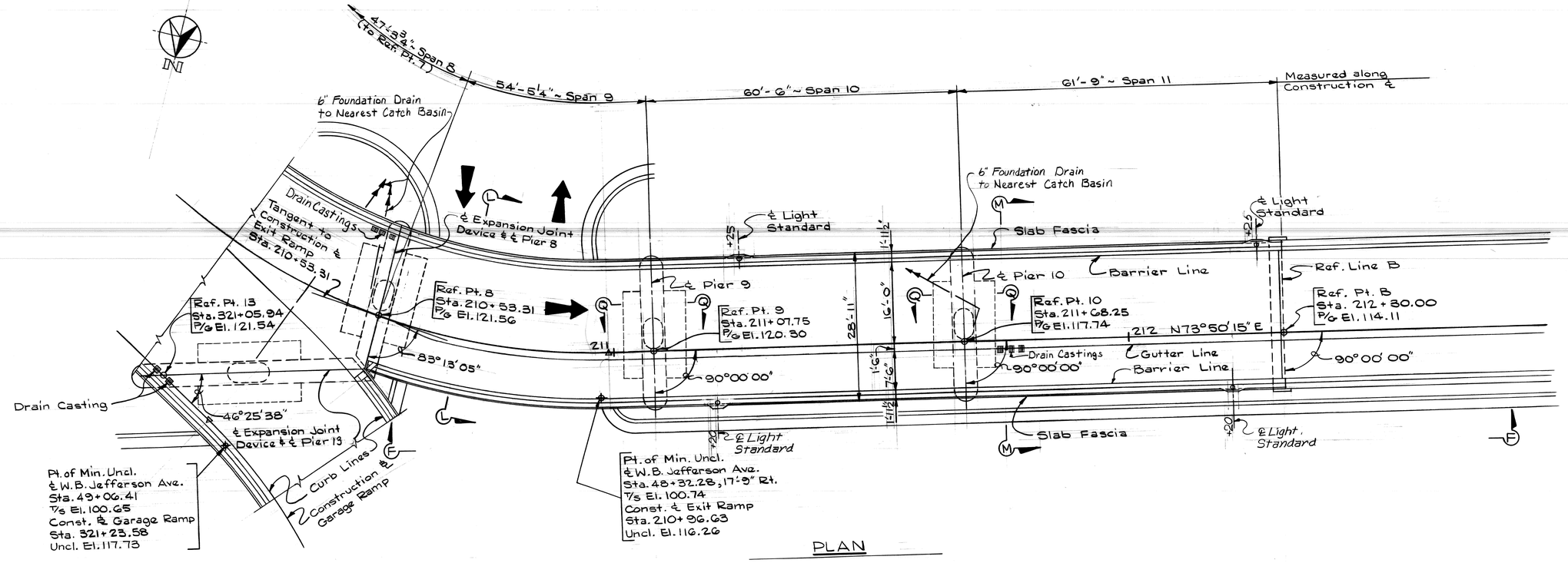
Snell Environmental Group
LANSING INDIANAPOLIS AKRON

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-
RECONSTRUCTION AT THE JOE LOUIS ARENA.

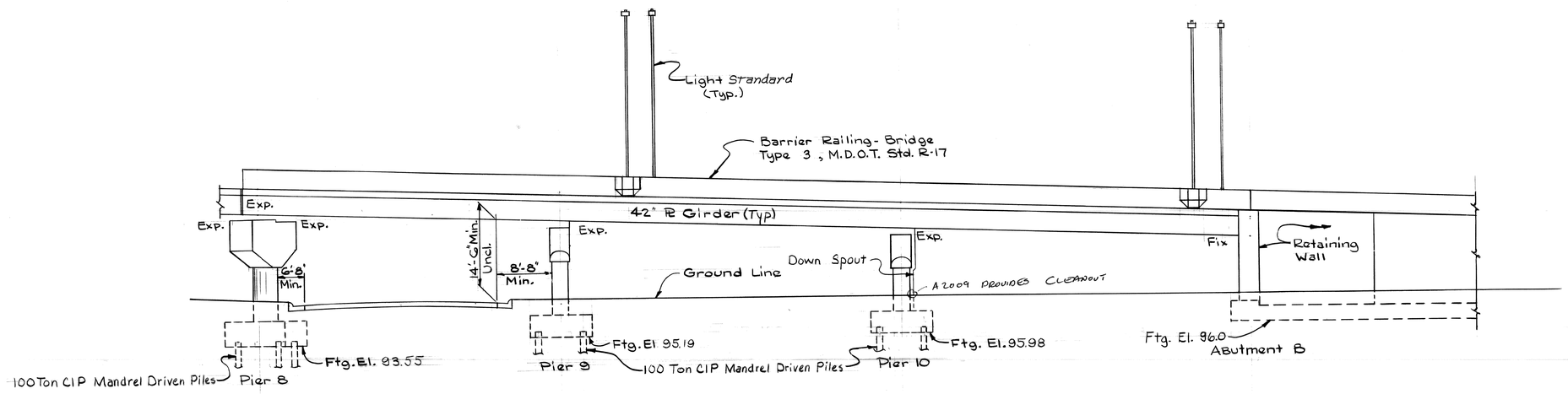
GENERAL PLAN OF STRUCTURE
BRIDGE PLAN & ELEVATION

SCALE: NONE

DRN. NO: S11



PLAN



SECTION F-F

Work This Sheet With Sheets #s S9, S10, S11, S16, S17 & S18

DATE: August, 1979

DSGN BY:	RGW, SJP
DR'N BY:	SJP
CK'D BY:	RGW
APP'D BY:	

REVISIONS

CITY OF DETROIT, MICHIGAN

Snell Environmental Group
LANSING INDIANAPOLIS AKRON

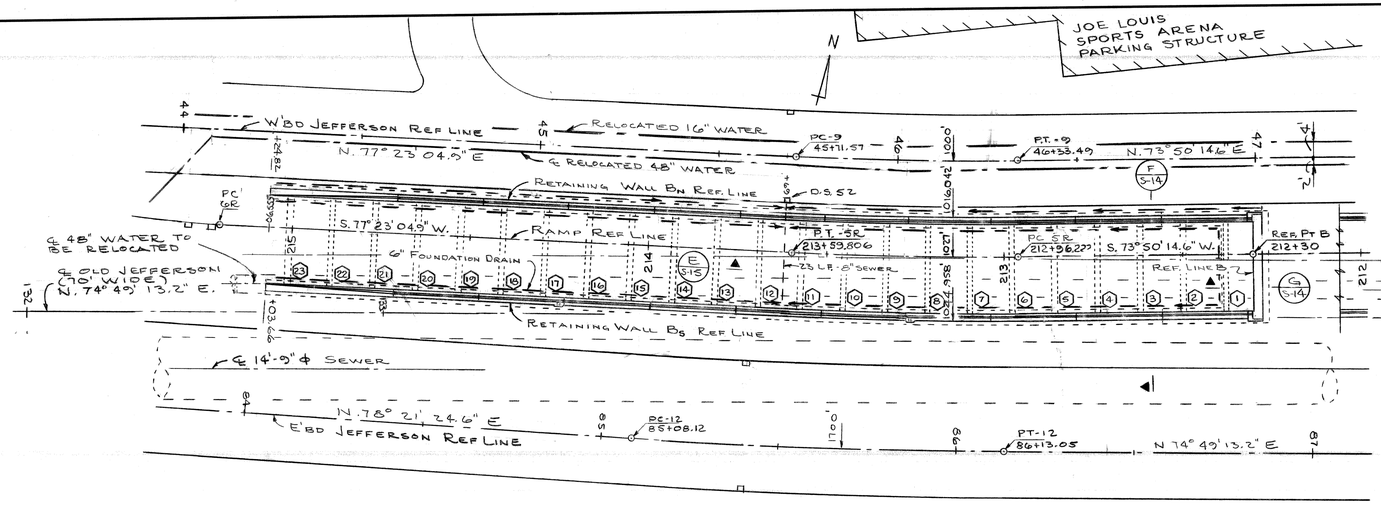
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.

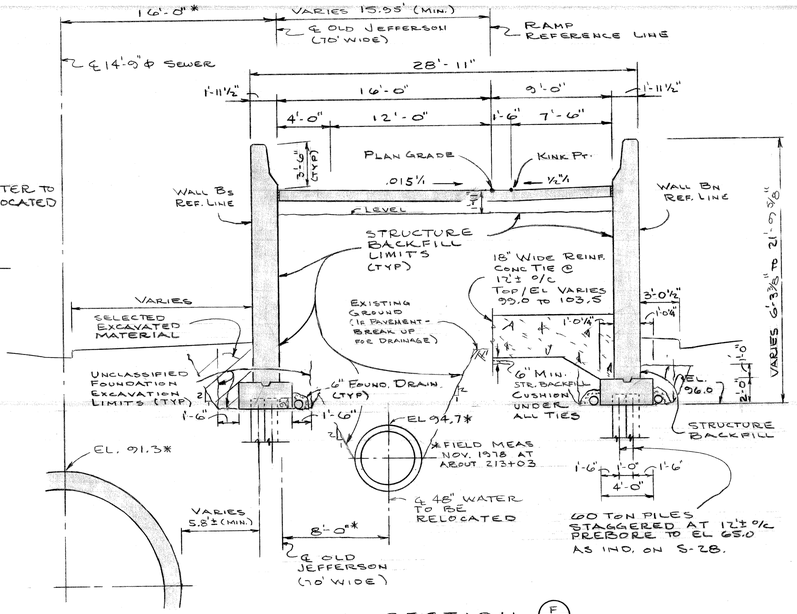
GENERAL PLAN OF STRUCTURE
BRIDGE PLAN & ELEVATION

SCALE: NONE

DRN. NO: S12

TSR 250 1-79 69399a



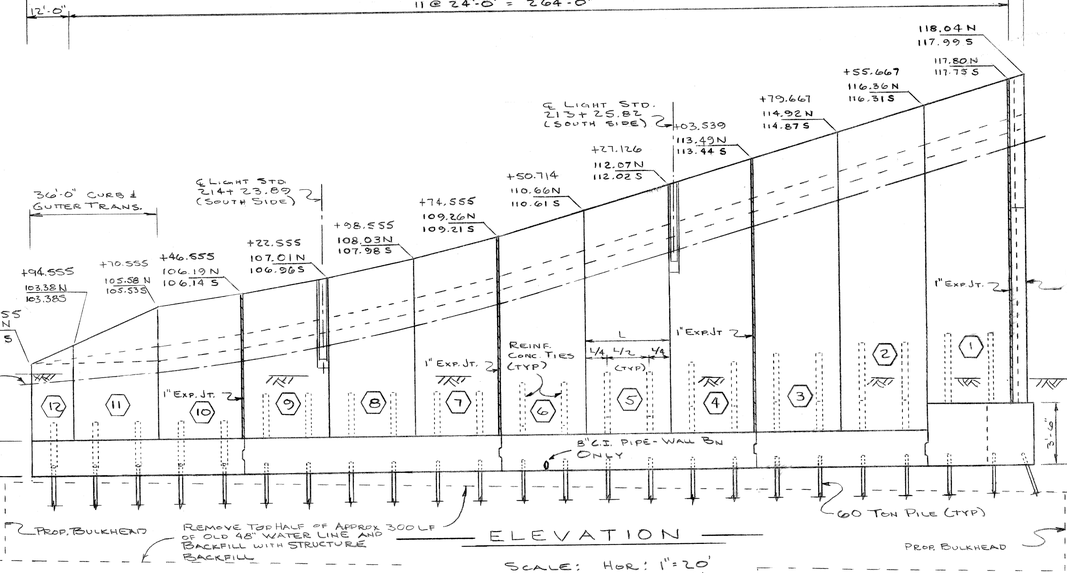


SECTION (F / S-14)

SCALE: 3/16" = 1'-0"

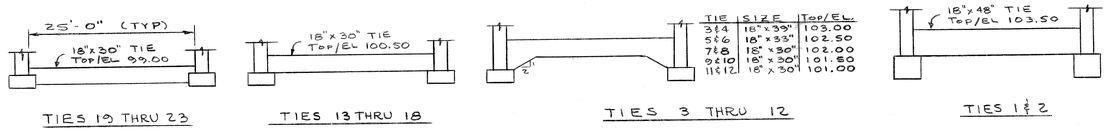
DIM. ALONG RET. WALL BN REFERENCE LINE

DIM. ALONG RET. WALL BS REFERENCE LINE



ELEVATION

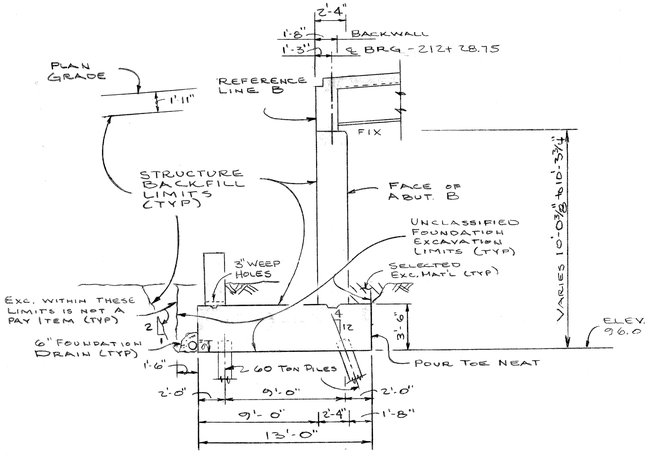
SCALE: HOR: 1" = 20'
VER: 1" = 4'



TIE	SIZE	Top/EL
3&4	18" x 39"	103.00
5&6	18" x 33"	102.50
7&8	18" x 30"	102.00
9&10	18" x 30"	101.50
11&12	18" x 30"	101.00

REINFORCED CONC. TIES

SCALE: 3/32" = 1'-0"



SECTION (G / S-15)

SCALE: 3/16" = 1'-0"

										REFERENCE DRAWINGS	
										DESIGNED BY	R Kuhn
										DRAWN BY	R Kuhn
										TRACED BY	—
COOR'D	DESCRIPTION			DR'N	CK'D	AP'VD	DATE			CHECKED BY	

REVISIONS LOCATED BY COORDINATES ON SHEET

APPROVED:

STRUCTURAL ENGINEER

CITY OF DETROIT

CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - GENERAL PLAN OF STRUCTURE ABUTMENT B AND RETAINING WALLS BS & BN

SHEET ____ OF ____ SHEETS

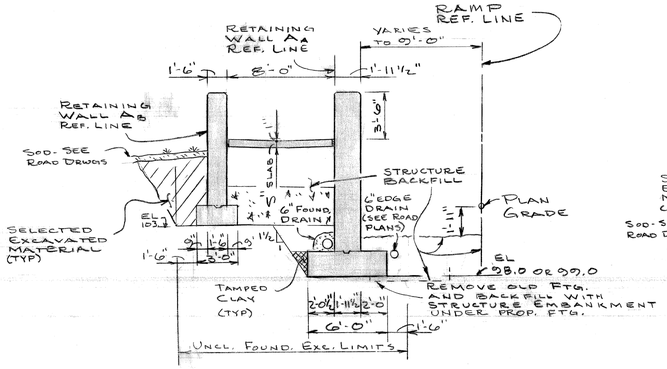
CONTRACT NO. 165603A

DRWG. NO. S-14

DATE AUG 1979

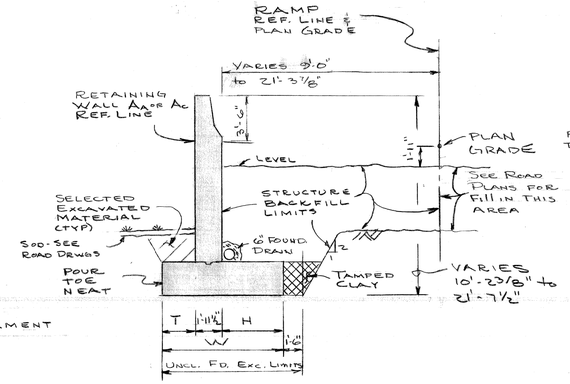
TSR 250 1-79 693994

PANEL	TOE	WALL THICK.	HEEL	FTG WIDTH	FTG THICK	B/ FTG. ELEV.	REMARKS
AA							
1-3	2'-0"	1'-11½"	2'-0½"	6'-0"	2'-6"	98.0	OMIT FTG IN PANEL #2 AT SEWER
4-5	2'-0"	1'-11½"	2'-0½"	6'-0"	2'-0"	99.0	
6-8	1'-6"	1'-11½"	1'-6½"	5'-0"	2'-0"	100.0	
9-12	2'-0"	1'-11½"	2'-0½"	6'-0"	2'-0"	99.0	
13-14	3'-6"	1'-11½"	3'-6½"	9'-0"	2'-6"	98.0	
15-16	4'-3"	1'-11½"	5'-9½"	12'-0"	2'-6"	98.0	
17	5'-0"	1'-11½"	7'-0½"	14'-0"	2'-6"	98.0	
18	0'-8"	1'-11½"	13'-4½"	16'-0"	3'-6"	98.0	ON PILES
AB							
1-5	0'-9"	1'-6"	0'-9"	3'-0"	1'-6"	103.0	
AC							
1	3'-0"	1'-11½"	4'-0½"	9'-0"	2'-0"	101.5	
2	4'-3"	1'-11½"	5'-9½"	12'-0"	2'-6"	99.0	
3	5'-0"	1'-11½"	7'-0½"	14'-0"	2'-6"	98.0	
4	0'-8"	1'-11½"	13'-4½"	16'-0"	3'-6"	98.0	ON PILES
AD							
1	0'-6"	1'-0"	2'-6"	4'-0"	1'-6"	103.0	



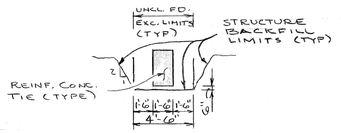
SECTION (A, 5-13)

SCALE: 3/16" = 1'-0"



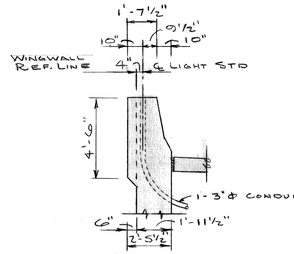
SECTION (B, 5-13)

SCALE: 3/16" = 1'-0"



SECTION (E, 5-13)

SCALE: 3/16" = 1'-0"



SECTION (J, 5-13)

SCALE: ¼" = 1'-0"

GENERAL NOTES:

THE DESIGN OF THIS STRUCTURE IS BASED ON MDOT SPECIFICATIONS FOR THE DESIGN OF HIGHWAY BRIDGES, 1958 EDITION, AND CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES - HS 25 LOADING. LIVE LOAD DEFLECTION DOES NOT EXCEED 1/800 OF SPAN LENGTH AND 1/300 OF THE CANTILEVER ARM.

THE TOP OF ROADWAY SLAB IS PARALLEL TO THE VERTICAL PROFILE EXCEPT AS MODIFIED BY SUPERELEVATION TRANSITIONS.

TAMPED CLAY AND SELECTED EXCAVATED MATERIAL ARE INCIDENTAL TO UNCLASSIFIED FOUNDATION EXCAVATION.

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1976 EDITION.

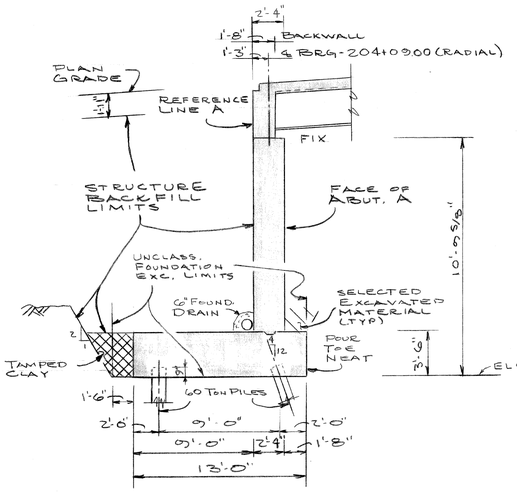
THE DESIGN OF SPREAD FOOTINGS FOR RETAINING WALLS AA, AB, AC AND AD IS BASED ON THE FOLLOWING MAXIMUM ALLOWABLE SOIL PRESSURES: DL= 1700 PSF ; DL+LL = 2100 PSF

PREBORING PILES:
- JEFFERSON INTERCEPTOR - NO PILES MAY BE DRIVEN WITHIN 5' OF THE SEWER AND ALL PILES WITHIN 25' SHALL BE PREBORED TO AT LEAST EL 65.0
- THIRD ST. SEWER - NO PILES MAY BE DRIVEN WITHIN 15' OF THE SEWER AND ALL PILES WITHIN 25' SHALL BE PREBORED TO AT LEAST EL 80.0.
- VOIDS AROUND PILES SHALL BE FILLED WITH SAND AND WATER

"STRUCTURE EMBANKMENT" IS INCIDENTAL TO "REMOVAL OF PORTIONS OF STRUCTURES".

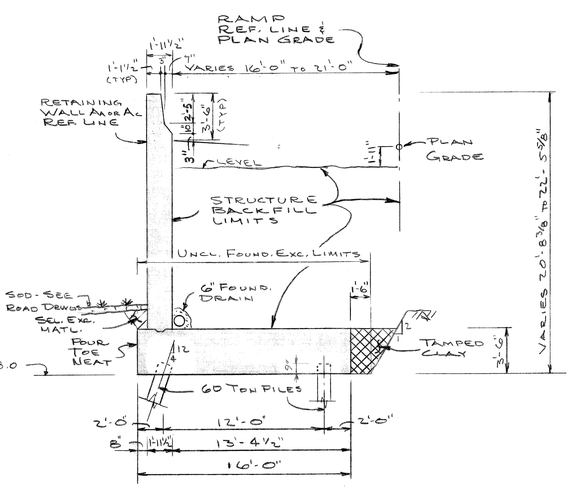
THE STRUCTURE IS PARTLY ON A HORIZONTAL CURVE. THE FASCIA LINES AND BARRIER LINES ARE PARALLEL TO THE CURVES AND TANGENTS EXCEPT AS NOTED.

48" BULKHEADS SHALL BE OF BRICK AND AT LEAST 16" THICK. THEY SHALL BE CONSTRUCTED AS SPECIFIED UNDER 5.14.03.C.1 OF THE STANDARD SPECIFICATIONS.



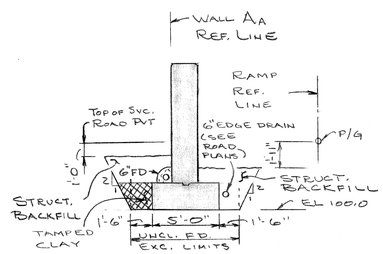
SECTION (C, 5-13)

SCALE: 3/16" = 1'-0"



SECTION (D, 5-13)

SCALE: 3/16" = 1'-0"



SECTION (K, 5-13)

SCALE: 3/16" = 1'-0"

MISCELLANEOUS QUANTITIES

ITEM	QUANT.
REMOVAL OF PORTIONS OF STRUCTURES	LUMP SUM
TEMPORARY STEEL SHEET PILING	275 S. F.

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

REFERENCE DRAWINGS

DESIGNED BY R. Lauber
DRAWN BY R. Lauber
TRACED BY
CHECKED BY M. Trice

APPROVED:
STRUCTURAL ENGINEER

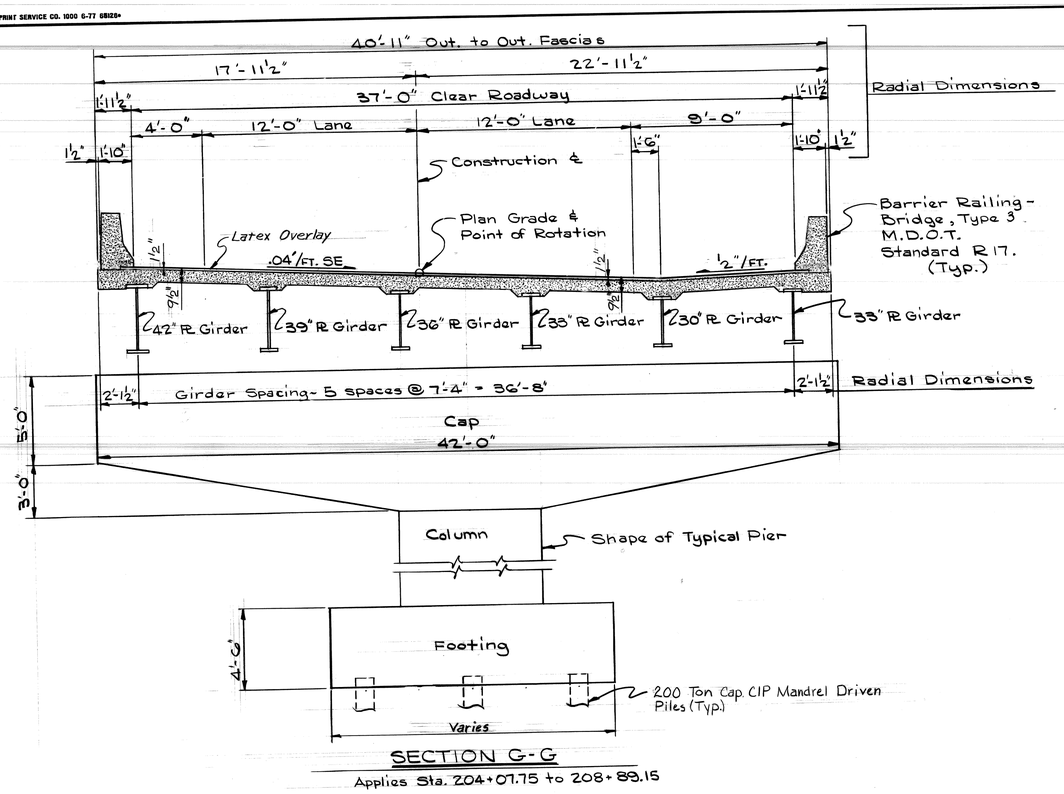
CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - GENERAL PLAN OF STRUCTURE DETAILS

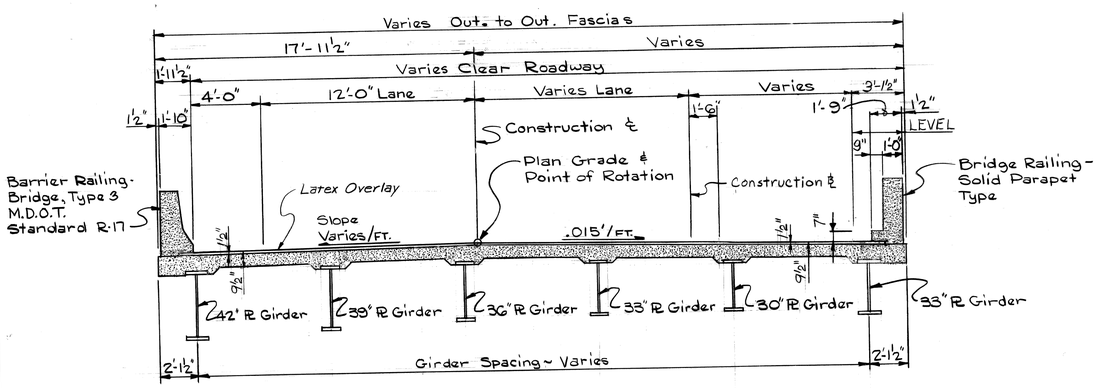
SHEET ____ OF ____ SHEETS
CONTRACT NO. 165603A
DRWG. NO. S-15
DATE AUG 1979

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11



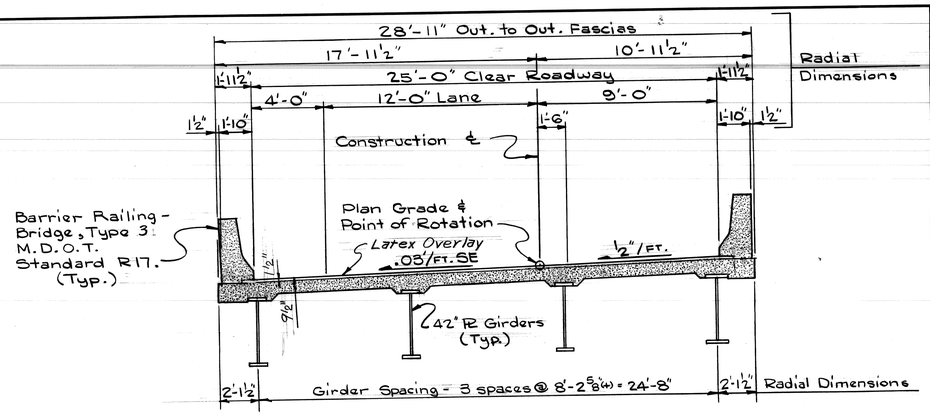
SECTION G-G

Applies Sta. 204+07.75 to 208+89.15



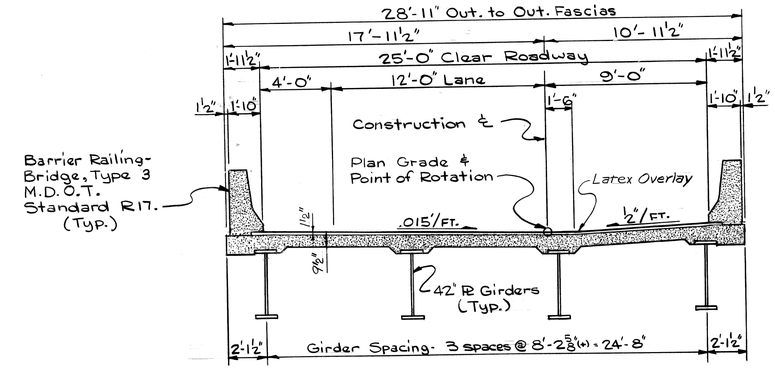
SECTION H-H

Applies Sta. 209+50.00



SECTION L-L

Applies Sta. 210+44.71 to 210+65.63



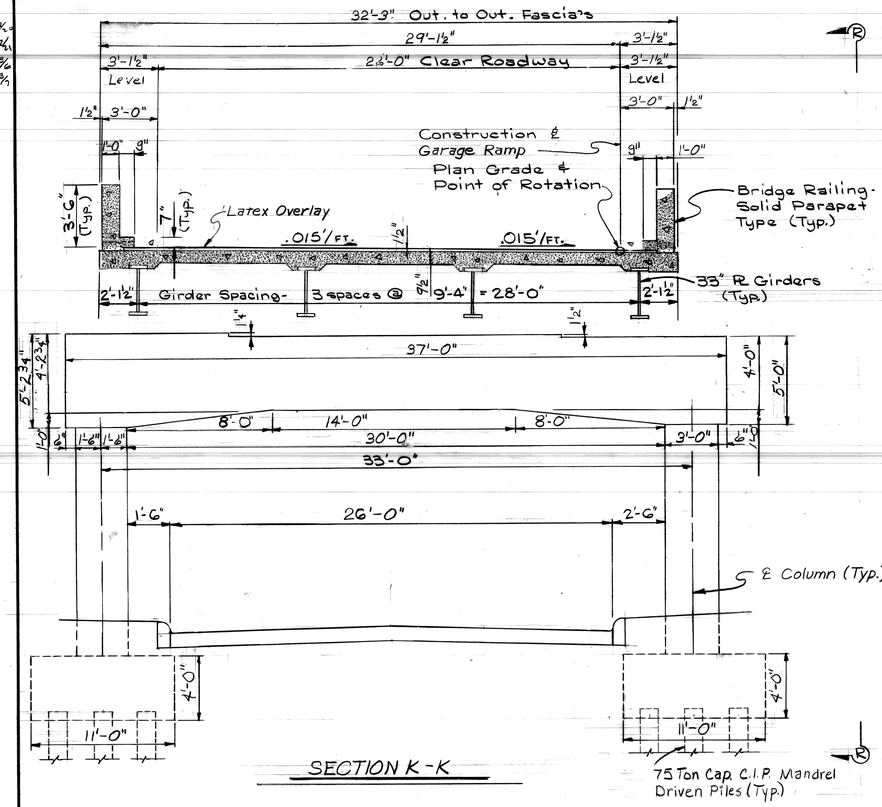
SECTION M-M

Applies Sta. 211+65.63 to 212+30.00

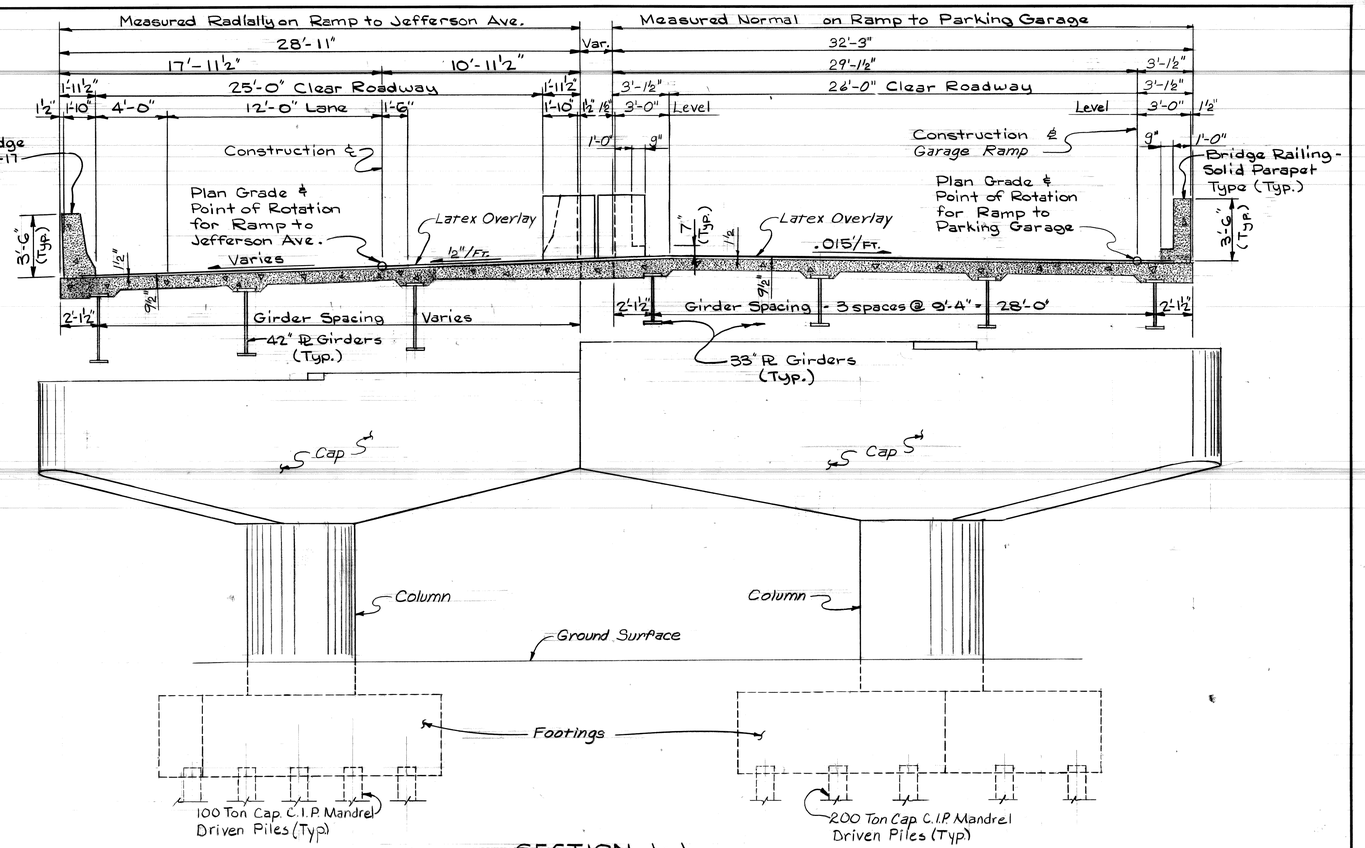
Work This Sheet With Sheets# 59 thru 512, 517 & 518

DATE: August, 1979

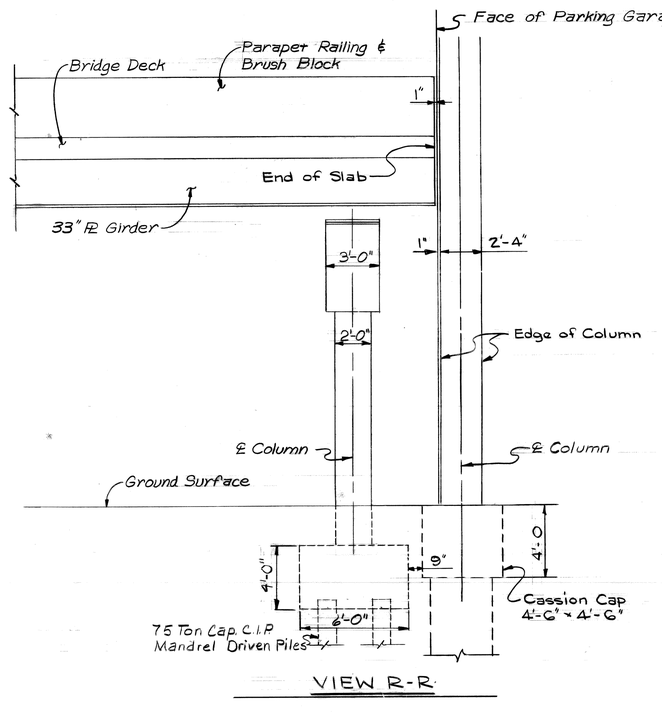
DSGN BY: RGW, SJP DR'N BY: SJP CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA.	GENERAL PLAN OF STRUCTURE GENERAL DETAIL	SCALE: NONE DRN. NO: S16



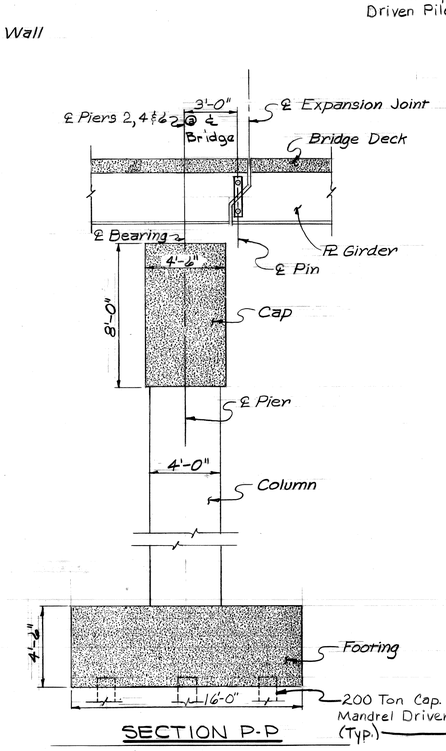
SECTION K-K



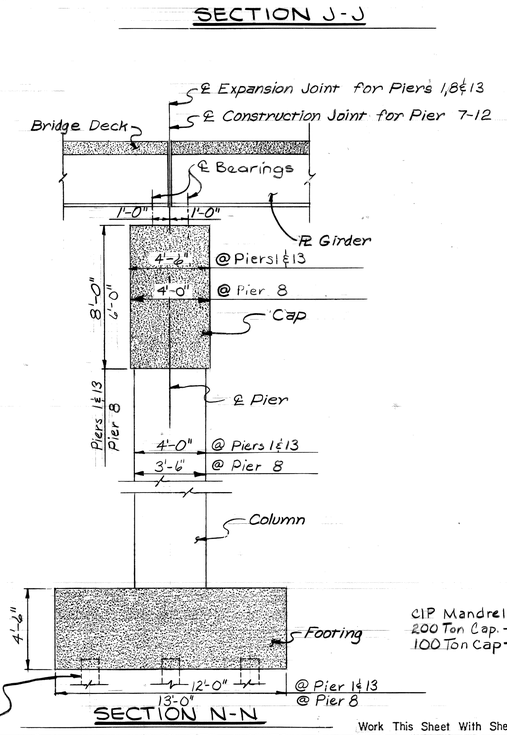
SECTION J-J



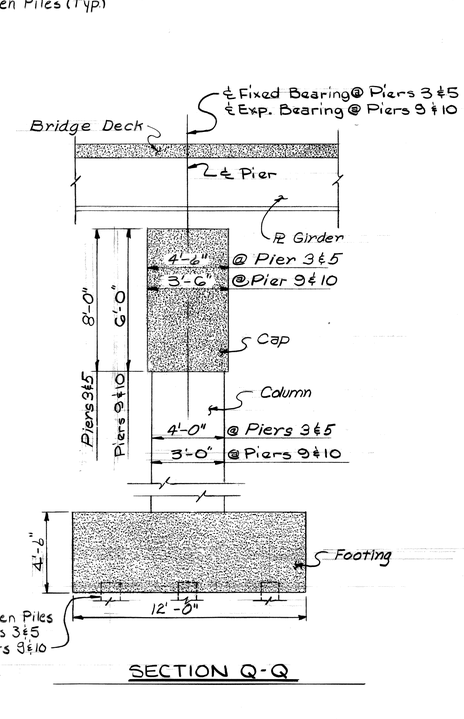
VIEW R-R



SECTION P-P



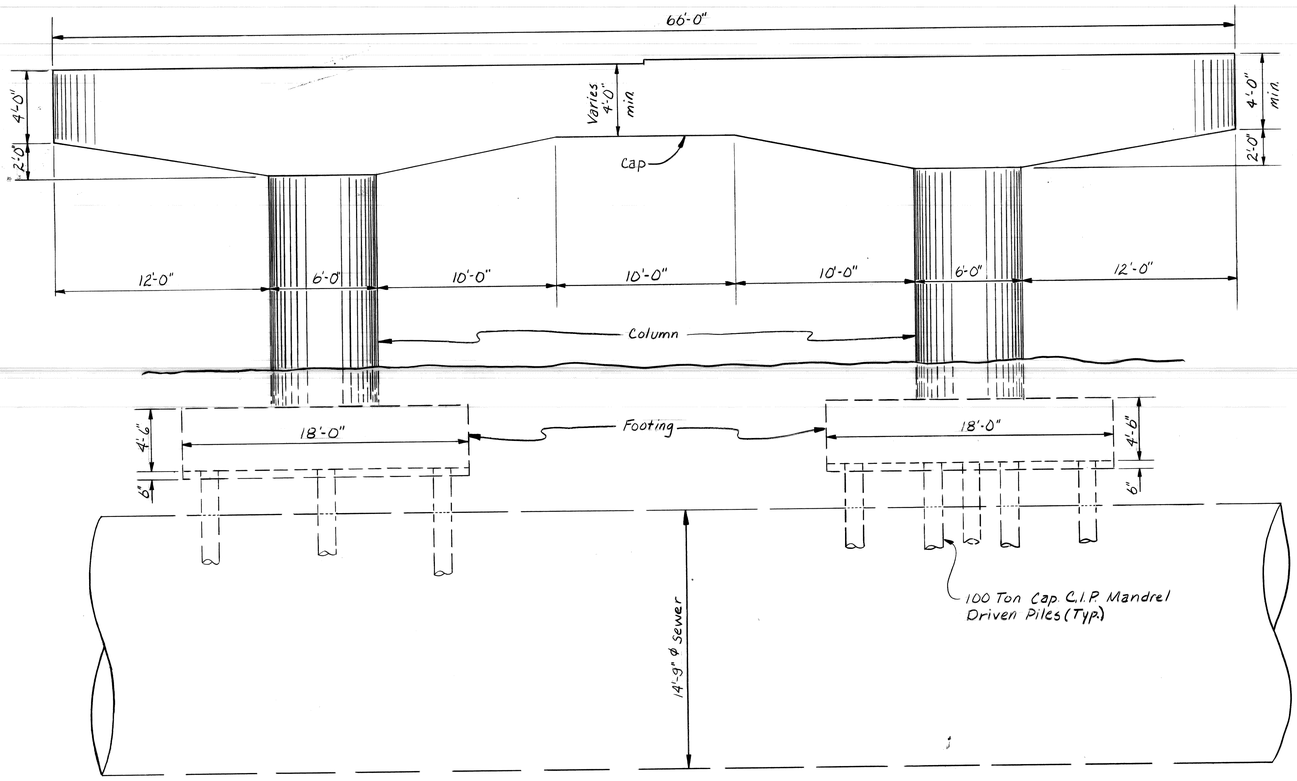
SECTION N-N



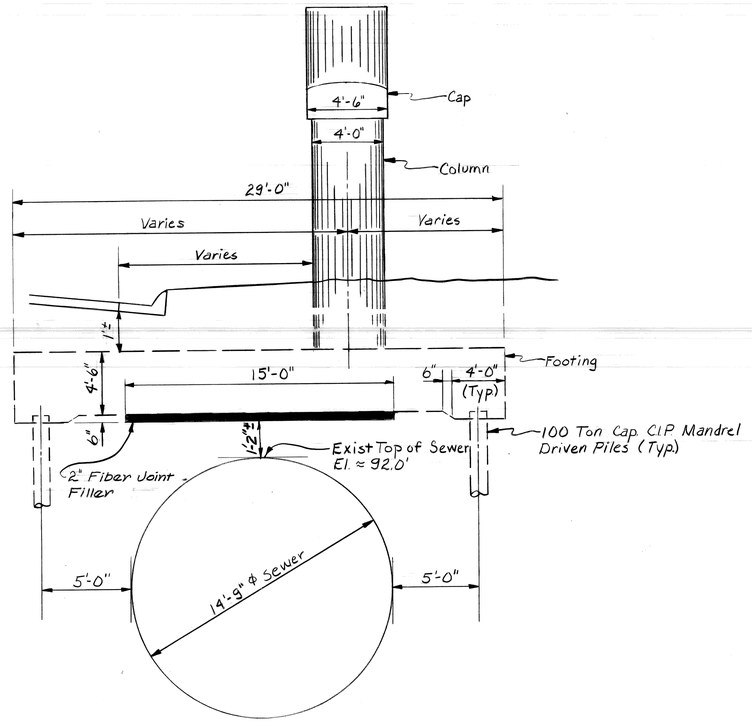
SECTION Q-Q

Work This Sheet With Sheets # S9 thru S12, S16 & S18 DATE: August, 1979

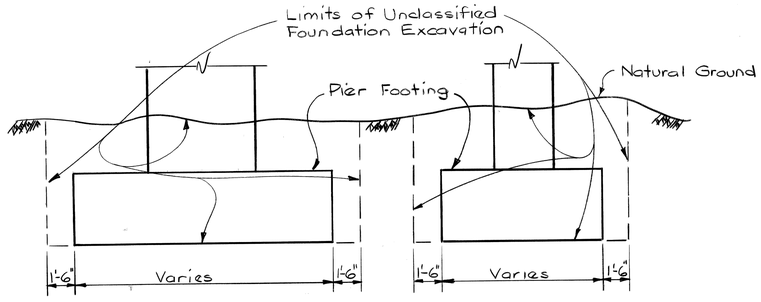
DSGN BY: RGW SJP	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA.	GENERAL PLAN OF STRUCTURE GENERAL DETAIL	SCALE: NONE
DR'N BY: SJP DE						DRN. NO: S17
CK'D BY: RGW						
APP'D BY:						



ELEVATION PIER 7-12



END VIEW



ELEVATION

END VIEW

LIMITS OF UNCLASSIFIED FOUNDATION EXCAVATION FOR ALL PIER FOOTINGS

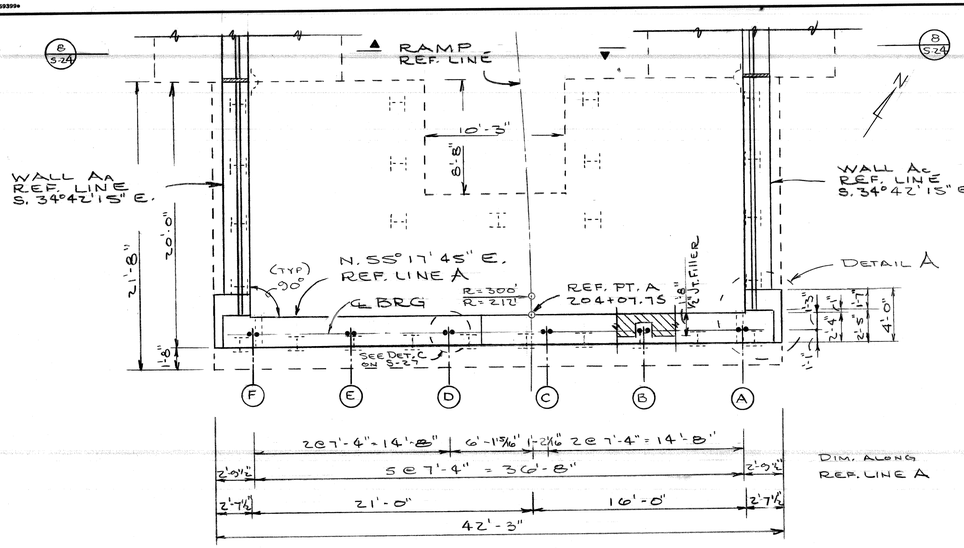
Note:
Styroform Board may be substituted for Fiber Joint Filler.

Work This Sheet With Sheets# S11 Thru S17

DATE: August, 1979

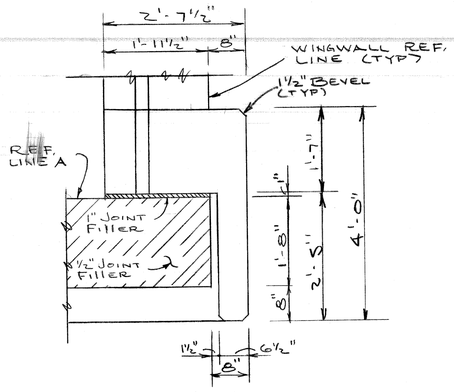
DSGN BY: RGW DR'N BY: RMO CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE – RECONSTRUCTION AT THE JOE LOUIS ARENA.	GENERAL PLAN OF STRUCTURE GENERAL DETAILS	SCALE: NONE	DRN. NO: S18

TSR 250 1-79 69399



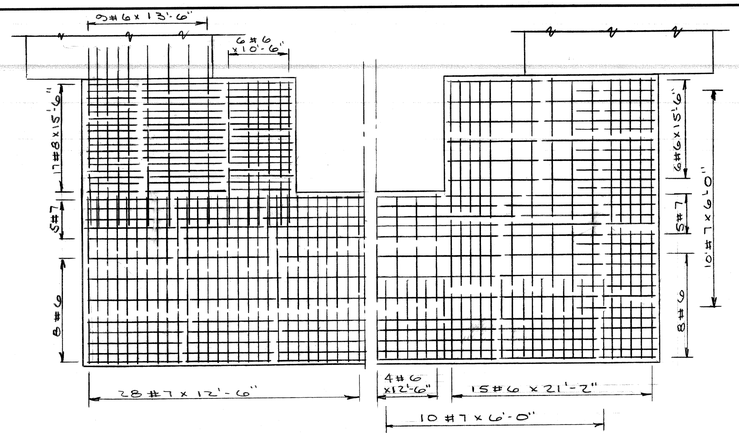
PLAN

SCALE: 3/16" = 1'-0"



DETAIL A

SCALE: 3/4" = 1'-0"

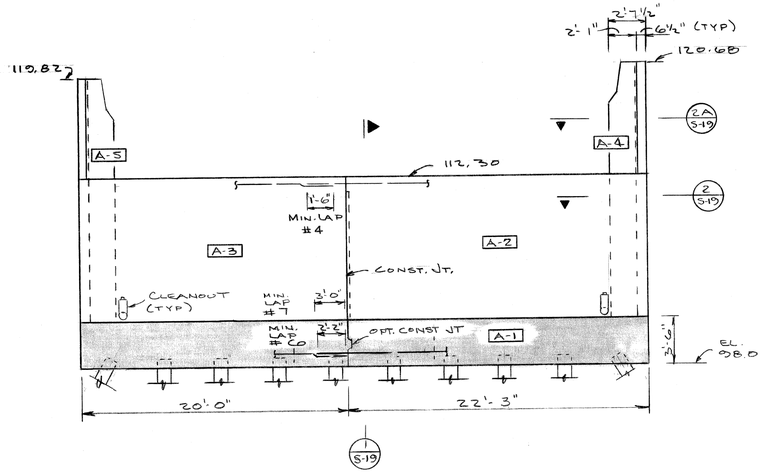


BOTTOM MAT TOP MAT

REINFORCING - POUR A1

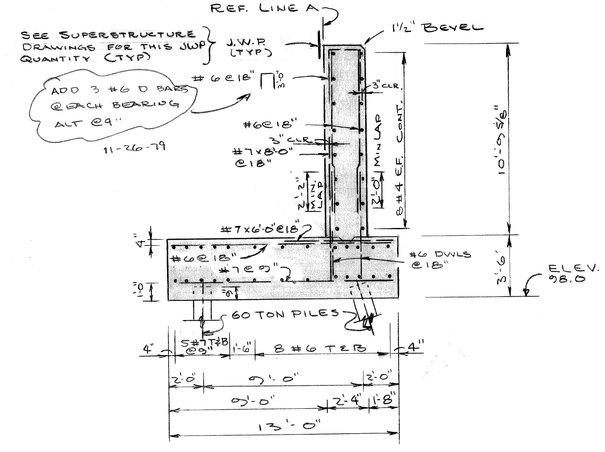
(BARS SYM. ABT. ℄)

SCALE: 3/16" = 1'-0"



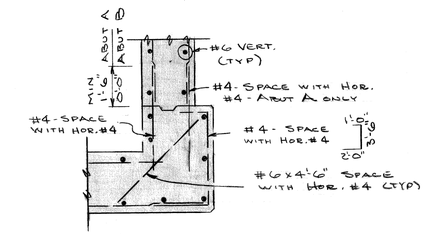
ELEVATION

SCALE: 3/16" = 1'-0"



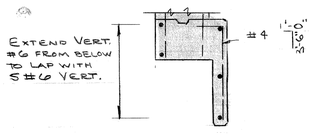
SECTION 1 S-19

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



SECTION 2 S-19

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



SECTION 2A S-19

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

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

REFERENCE DRAWINGS

DESIGNED BY R. Lawler

DRAWN BY R. Lawler

TRACED BY —

CHECKED BY J. M. Gore

APPROVED:

STRUCTURAL ENGINEER

CITY OF DETROIT

CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - ABUTMENT A

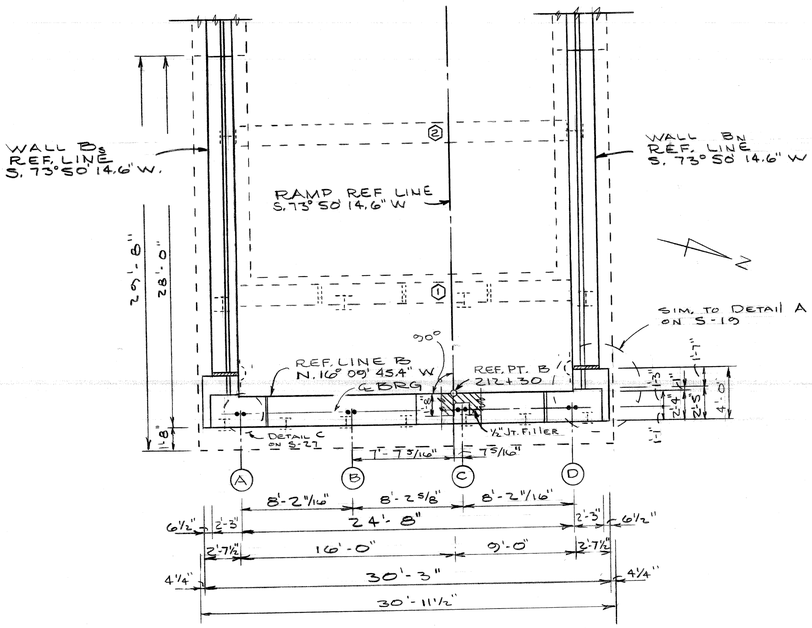
SHEET ____ OF ____ SHEETS

CONTRACT NO. 16563A

DRGW NO. S-19

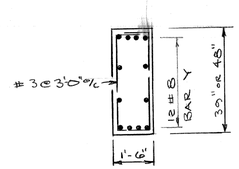
DATE AUG. 1979

TSR 250 1-79 69399•

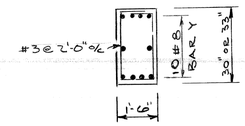


PLAN

SCALE: 3/16" = 1'-0"

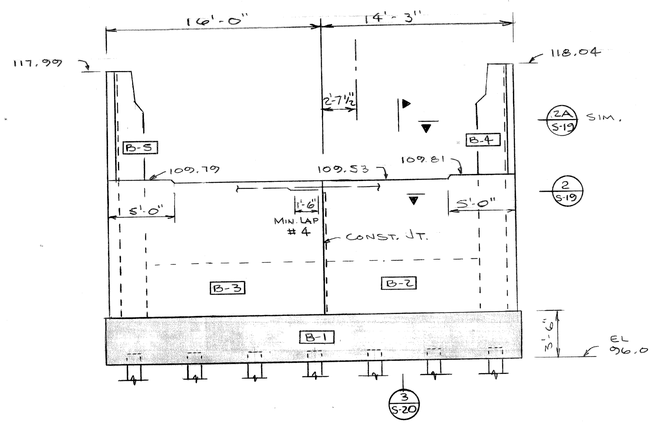


TIES 2-4



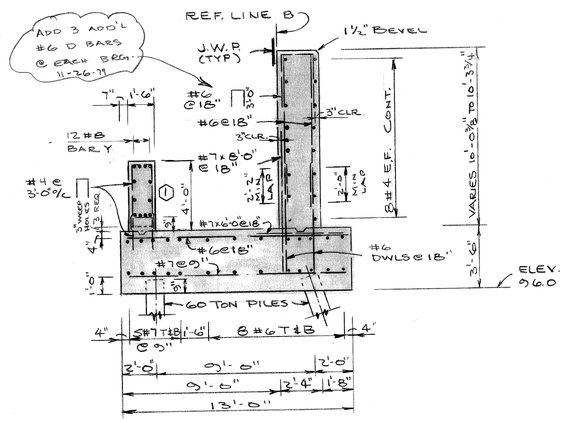
TIES 5-23

REINF. CONC. TIE DETAILS



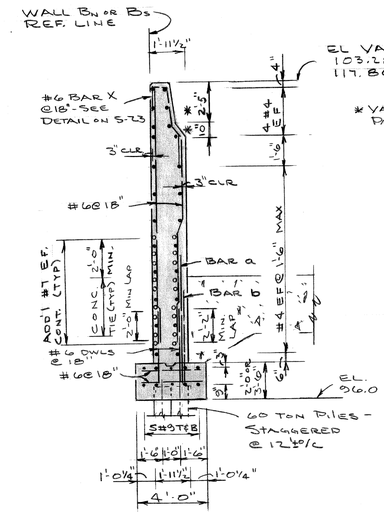
ELEVATION

SCALE: 3/16" = 1'-0"



SECTION 3 S-20

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



* VARIES IN PANELS 11 & 12

ADD'L REINF. @ 18"		
PANEL	a	b
1	#7 x 10'-0"	#7 x 7'-0"
2-3	#8 x 8'-0"	-
4-5	#6 x 5'-0"	-

SECTION 9 S-25

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

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE

REVISIONS LOCATED BY COORDINATES ON SHEET

REFERENCE DRAWINGS

DESIGNED BY
DRAWN BY
TRACED BY —
CHECKED BY

APPROVED:
STRUCTURAL ENGINEER

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - ABUTMENT B DETAILS

SHEET ___ OF ___ SHEETS
CONTRACT NO. 16563 A
DRWG NO. S-20
DATE AUG 1979

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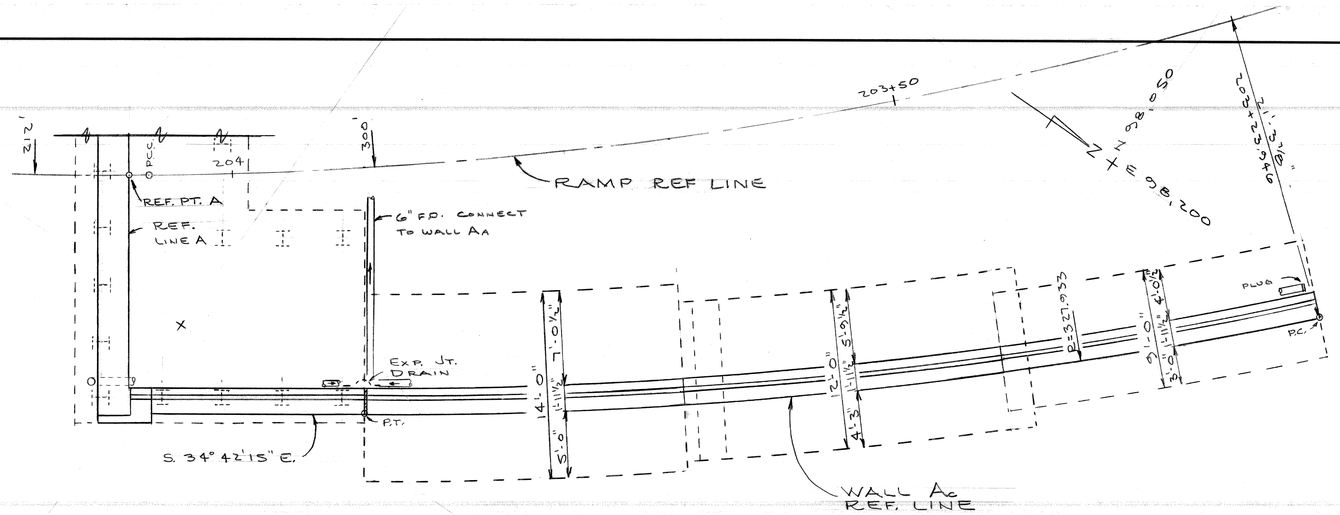
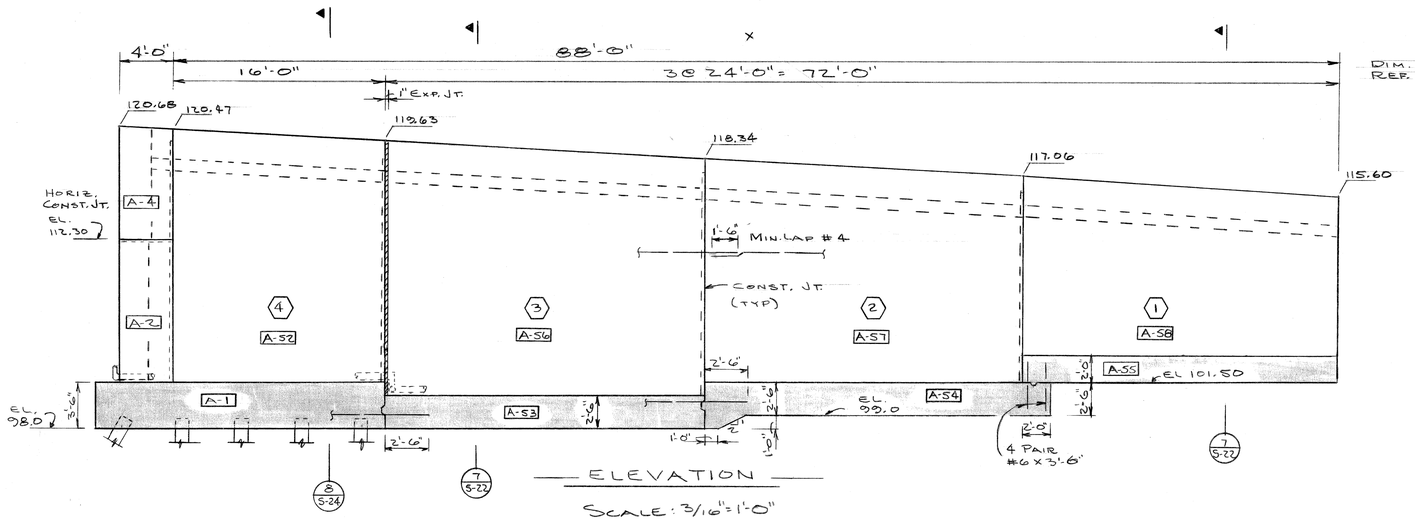


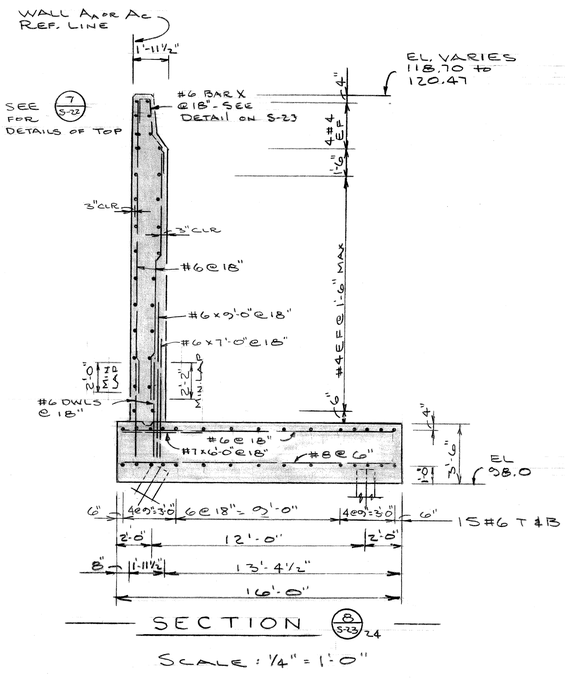
PLAN

SCALE: 3/16" = 1'-0"



ELEVATION

SCALE: 3/16" = 1'-0"



SECTION 8 S-23 24

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

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

REFERENCE DRAWINGS

DESIGNED BY R. Kaber
DRAWN BY R. Kaber
TRACED BY —
CHECKED BY J. McGinn

APPROVED:
STRUCTURAL ENGINEER

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

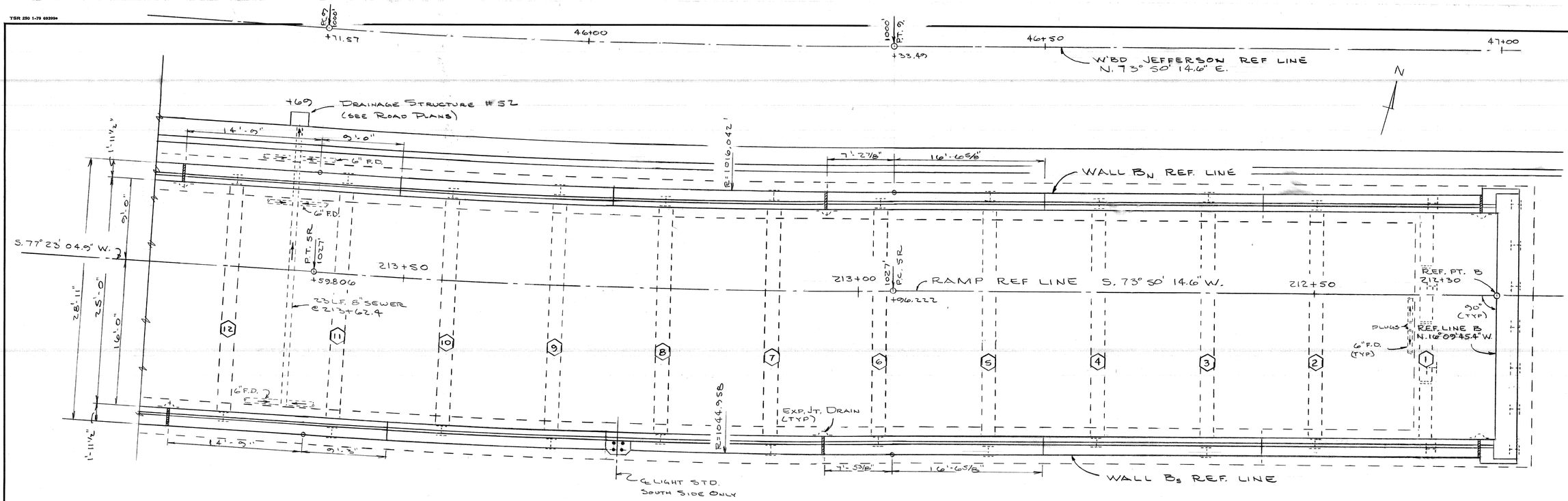
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA
RAMP - WALL Ac
DETAILS

SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563 A
DRWG NO. S-24
DATE AUG 1979

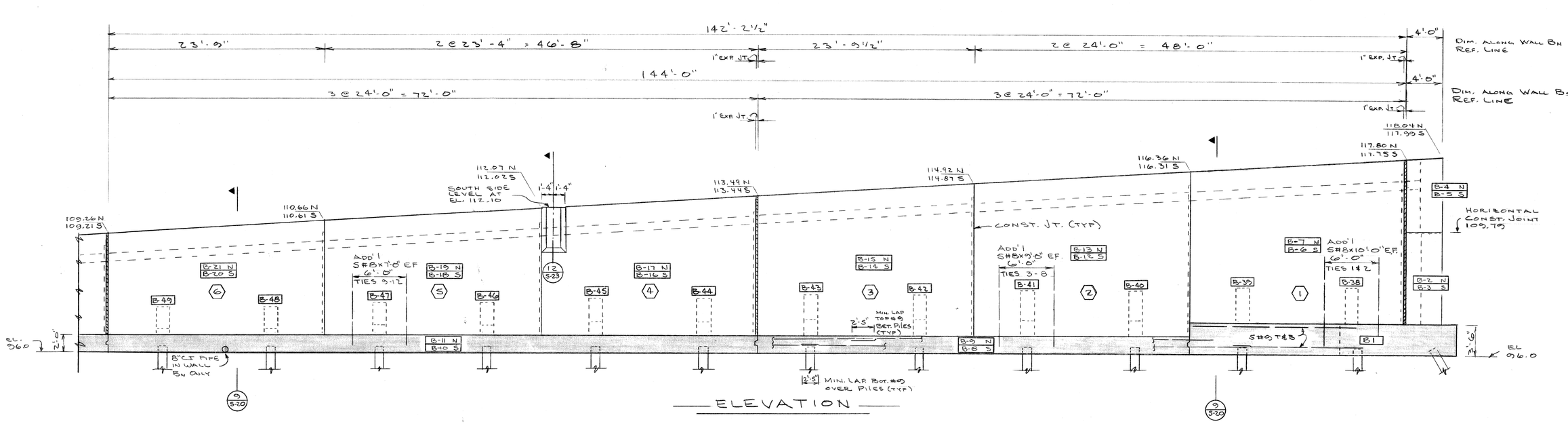
1 2 3 4 5 6 7 8 9 10 11

A B C D E F G

TSR 250 1-79 69399e



PLAN



ELEVATION

SCALE: 3/16" = 1'-0"

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE

REVISIONS LOCATED BY COORDINATES ON SHEET

REFERENCE DRAWINGS

DESIGNED BY
DRAWN BY
TRACED BY —
CHECKED BY

APPROVED:
STRUCTURAL ENGINEER

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

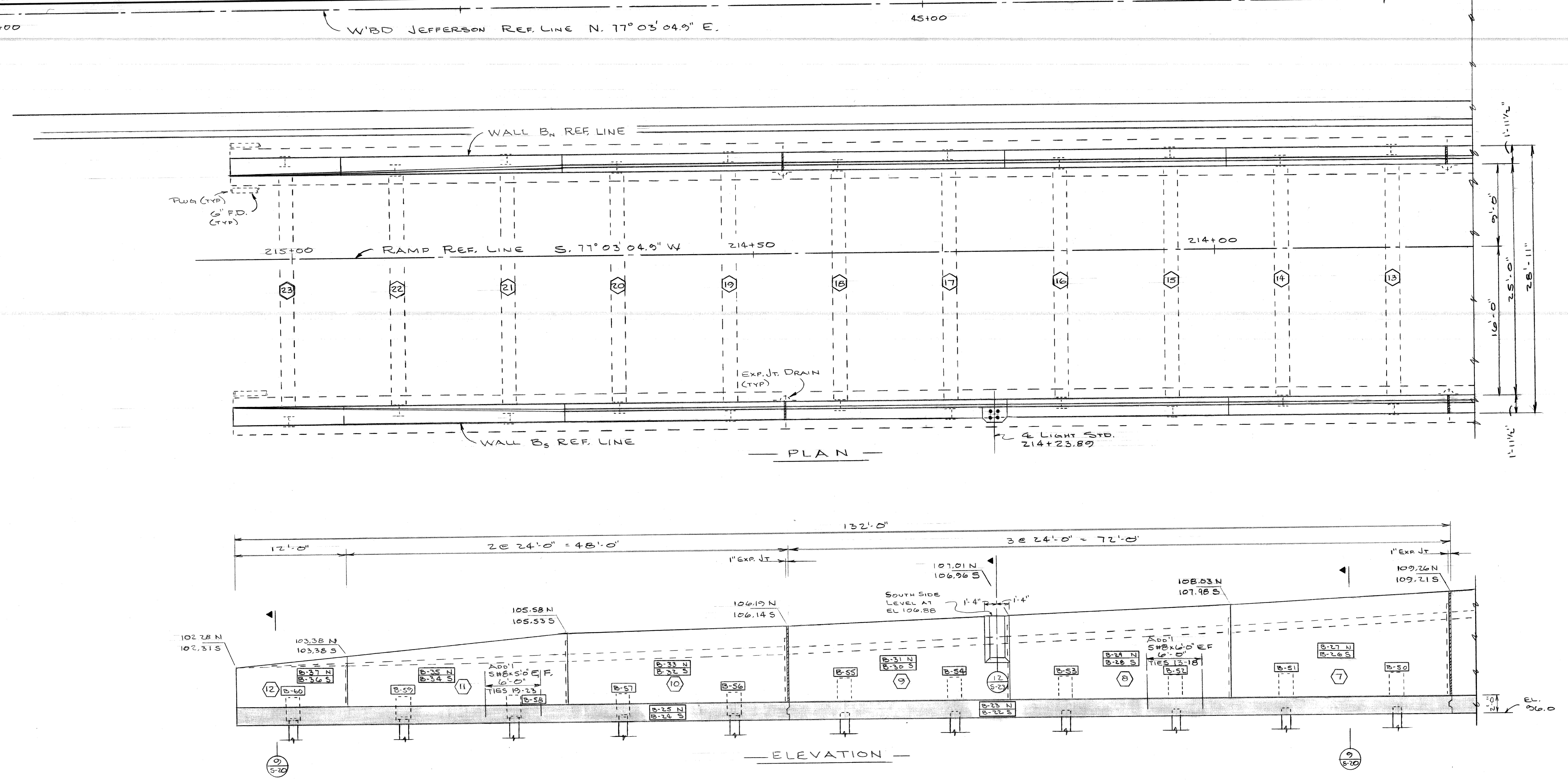
WALLS BSN & BS DETAILS

SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563A
DRWG. NO. S-25
DATE AUG 1979

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G

TSR 250 1-79 69399●



— PLAN —

— ELEVATION —

SCALE: 3/16" = 1'-0"

						REFERENCE DRAWINGS	DESIGNED BY	R. Harber	APPROVED:
							DRAWN BY	R. Harber	STRUCTURAL ENGINEER
							TRACED BY	—	
COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE		CHECKED BY	J. McGuire	
REVISIONS LOCATED BY COORDINATES ON SHEET									

CITY OF DETROIT

CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

WALLS B_N & B_S DETAILS

SHEET ____ OF ____ SHEETS

CONTRACT NO. 16563A

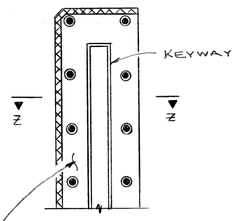
DRWG NO. S-26

DATE AUG 1979

1 2 3 4 5 6 7 8 9 10 11

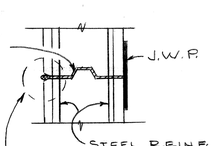
A B C D E F G

TSR 250 1-79 693994

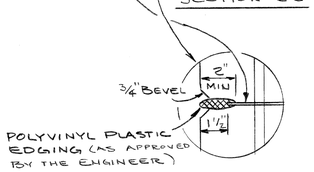


SECTION @ CONST. JT

12 GAGE PREFORMED STEEL OR ALUMINUM BULKHEAD SECURELY HELD IN PLACE. (No TACK WELDING TO REINF. STEEL).



SECTION Z-Z



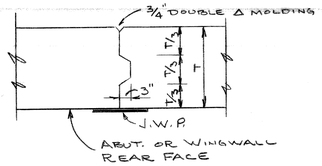
THE METAL BULKHEAD MAY BE USED AS AN ALTERNATE CONST. JT. AT CONTRACTORS EXPENSE.

CARE IS TO BE USED IN CASTING CONC. AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF BULKHEAD.

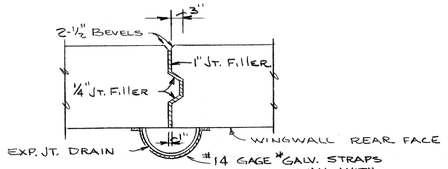
CUT HOLES IN METAL BULKHEAD FOR REINF. STEEL.

METAL BULKHEAD FOR WALL STEM CONSTRUCTION JOINT

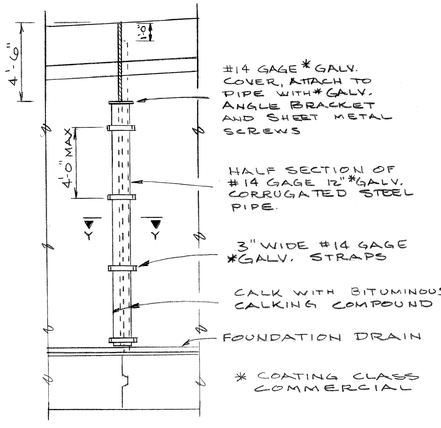
STOP VERTICAL KEYWAYS 1'-0" BELOW TOP OF ABUT. & WINGWALLS. STOP J.W.P. 4'-0" BELOW TOP OF WINGWALLS.



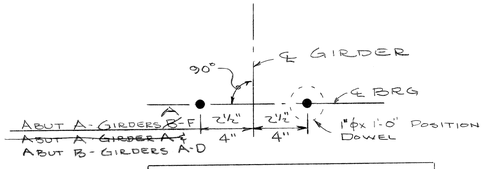
CONST. JOINT DETAIL



EXPANSION JOINT DETAIL AND SECTION Y-Y

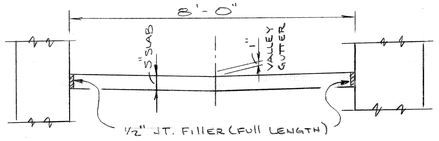


EXPANSION JOINT, DRAIN

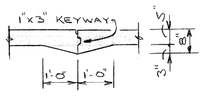


ANCHOR BOLT PROJECTION						
ABUT / GIR.	A	B	C	D	E	F
A	2 3/4"	2"	1 1/2"	1"	1"	1 1/2"
B	1"	2 1/2"	1"	1"	-	-

DETAIL C



SECTION



CONST. JT.

WALK DETAILS

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

PAY QUANTITIES

PAY ITEM	ABUT. A	ABUT. B	TOTAL	UNIT
UNCLASSIFIED FOUNDATION EXCAV.	1948	690	2638	CY
STRUCTURE BACKFILL (CIP)	1791	1939	3730	CY
CONCRETE GRADE X	3	-	3	CY
SUBSTRUCTURE CONCRETE	1032.2	780.6	1813	CY
STEEL REINFORCEMENT	67,572	102,556	170,128	LBS
LOW TEMP. PROT.- SUBSTR. CONC.	1032.2	780.6	1813	CY
CLEAR PROT. COATING - SUBSTR. CONC.	487	339	826	S.F.
EXPANSION JOINT DRAIN	9	8	17	EA
JOINT WATERPROOFING	282	191	473	SF
8" CLASS A SEWER - TRENCH DETAIL 9	60	23	83	LF
48" BULKHEAD	2	2	4	EA
FOUNDATION DRAINS 6"	571	837	1408	LF
5" CONCRETE SIDEWALK	1165	-	1165	SF

GENERAL NOTES:

J.W.P. DENOTES JOINT WATERPROOFING

N.S. DENOTES NEAR SIDE

F.S. DENOTES FAR SIDE

E.F. DENOTES EACH FACE

FOR PILE LAYOUT, QUANT. & NOTES, SEE S-28.

REMOVAL OF PORTIONS OF EXISTING SUBSTRUCTURE WITHIN THE OUTLINE OF THE FOUND. EXCAVATION AND BETWEEN GROUND ELEV. AND BOT. OF PROP. EXCAVATION IS INCLUDED IN QUANTITY "UNCL. FD. EXC." REMOVAL OF ALL OTHER PORTIONS OF THE EXISTING WATER MAINS, SEWERS & STRUCTURES IS INCLUDED IN THE ITEM "REMOVAL OF PORTIONS OF STRUCTURES".

THE EXPOSED FACES OF THE ABUTMENTS AND RETAINING WALLS SHALL HAVE SPECIAL ARCHITECTURAL TREATMENT IN ACCORDANCE WITH SECTION 5.03.06(c) OF THE STANDARD SPECIFICATIONS.

"CLEAR PROTECTIVE COATING FOR SUBSTRUCTURE CONCRETE" IS TO BE APPLIED TO THE BRIDGE SEAT AND FRONT FACE OF THE ABUTMENTS BETWEEN FASCIA LINES TO 6" BELOW FINISHED GROUND LINE.

POUR DESIGNATIONS SHALL NOT BE CONSTRUED AS A REQUIRED POUR SEQUENCE.

1", 1/2" AND 1/4" JOINT FILLER ARE INCIDENTAL TO "SUBSTRUCTURE CONC."

"SELECTED EXCAVATED MATERIAL" IS INCIDENTAL TO "UNCLASS. FOUNDATION EXCAVATION".

BUILD WALLS ON THE CURVES. FOOTINGS MAY BE BUILT ON A MAXIMUM OF 25' CHORDS.

THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS OF THE REINFORCING STEEL FOR APPROVAL BY THE ENGINEER IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

CAST IRON PIPES AND FITTINGS SHALL BE USED FOR FOUNDATION DRAIN CLEANOUTS AND PASSAGE THROUGH WALLS OR FOOTINGS. ENDS OF CLEANOUTS SHALL HAVE A THREADED BRASS PLUG. ALL INCIDENTAL TO "FOUNDATION DRAIN 6". ADJUST RESTEEL AS NEC.

POUR TOES AGAINST UNDISTURBED SOIL WHERE SHOWN ON DRAWINGS. NO ALLOWANCE WILL BE MADE IN CONCRETE QUANTITIES DUE TO EXCAVATION OUTSIDE OF THE FOOTING NEAT LINES.

ADJUST ABUTMENT WALL RESTEEL TO MISS THE POSITION DOWELS.

CONCRETE QUANTITIES

ABUTMENT A				ABUTMENT B			
POUR	SH.	DISC.	C.Y.	POUR	SH.	DISC.	C.Y.
A-1	S-19	ABUT. FTG.	118.7	B-1	S-20	ABUT. FTG.	69.4
A-2	S-19	ABUT. WALL	22.6	B-2	S-20	ABUT. WALL	14.1
A-3	S-19	ABUT. WALL	20.4	B-3	S-20	ABUT. WALL	15.6
A-4	S-24	WALL	1.6	B-4	S-25	WALL N	1.6
A-5	S-23	WALL	1.4	B-5	S-25	WALL S	1.6
A-6	S-23	WALL (8)	19.4	B-6	S-25	WALL (1) S	28.8
A-7	S-23	FTG	31.1	B-7	S-25	WALL (1) N	28.9
A-8	S-23	FTG	43.3	B-8	S-25	FTG S	14.2
A-9	S-23	FTG	39.1	B-9	S-25	FTG N	14.2
A-10	S-23	WALL (17)	28.9	B-10	S-25	FTG S	21.3
A-11	S-23	WALL (14)	26.7	B-11	S-25	FTG N	20.9
A-12	S-23	WALL (13)	15.2	B-12	S-25	WALL (2) S	25.0
A-13	S-23	WALL (14)	21.7	B-13	S-25	WALL (2) N	25.1
A-14	S-23	WALL (13)	20.9	B-14	S-25	WALL (3) S	26.5
A-15	S-22	FTG	18.2	B-15	S-25	WALL (3) N	26.4
A-16	S-22	FTG	21.3	B-16	S-25	WALL (4) S	24.1
A-17	S-22	FTG	15.2	B-17	S-25	WALL (4) N	23.4
A-18	S-22	WALL (12)	18.2	B-18	S-25	WALL (5) S	21.5
A-19	S-22	WALL (11)	11.1	B-19	S-25	WALL (5) N	21.0
A-20	S-22	WALL (10)	15.5	B-20	S-25	WALL (6) S	19.1
A-21	S-22	WALL (9)	14.3	B-21	S-25	WALL (6) N	19.0
A-22	S-22	WALL (8)	8.6	B-22	S-26	FTG S	21.3
A-23	S-22	WALL (7)	14.8	B-23	S-26	FTG N	21.3
A-24	S-21	FTG	9.3	B-24	S-26	FTG S	17.8
A-25	S-21	FTG	21.8	B-25	S-26	FTG N	17.8
A-26	S-21	FTG	20.1	B-26	S-26	WALL (7) S	16.8
A-27	S-21	FTG	15.4	B-27	S-26	WALL (7) N	16.8
A-28	S-21	WALL (6)	16.8	B-28	S-26	WALL (8) S	14.9
A-29	S-21	WALL (5)	20.7	B-29	S-26	WALL (8) N	14.9
A-30	S-21	WALL (4)	22.8	B-30	S-26	WALL (9) S	13.4
A-31	S-21	WALL (3)	25.7	B-31	S-26	WALL (9) N	13.3
A-32	S-21	WALL (2)	26.4	B-32	S-26	WALL (10) S	12.0
A-33	S-21	WALL (1)	29.8	B-33	S-26	WALL (10) N	12.1
A-34	S-21	FTG	8.1	B-34	S-26	WALL (11) S	10.1
A-35	S-21	FTG	15.1	B-35	S-26	WALL (11) N	10.1
A-36	S-21	WALL (5)	9.2	B-36	S-26	WALL (12) S	4.8
A-37	S-21	WALL (4)	13.0	B-37	S-26	WALL (12) N	4.8
A-38	S-21	WALL (3)	14.6	B-38	S-25	TIE 1	5.6
A-39	S-21	WALL (2)	16.0	B-39	S-25	TIE 2	5.6
A-40	S-21	WALL (1)	17.6	B-40	S-25	TIE 3	4.9
A-41	S-21	TIE 24	1.7	B-41	S-25	TIE 4	4.9
A-42	S-21	TIE 25	1.7	B-42	S-25	TIE 5	4.2
A-43	S-21	TIE 26	1.7	B-43	S-25	TIE 6	4.2
A-44	S-21	TIE 27	1.7	B-44	S-25	TIE 7	3.8
A-45	S-21	TIE 28	1.0	B-45	S-25	TIE 8	3.8
A-46	S-21	TIE 29	1.0	B-46	S-25	TIE 9	3.6
A-47	S-21	TIE 30	1.0	B-47	S-25	TIE 10	3.6
A-48	S-21	TIE 31	1.0	B-48	S-25	TIE 11	3.5
A-49	S-21	TIE 32	1.0	B-49	S-25	TIE 12	3.5
A-50	S-21	TIE 33	1.0	B-50	S-26	TIE 13	3.5
A-51	S-21	PED WALK	14.8	B-51	S-26	TIE 14	3.5
A-52	S-24	WALL (4)	20.4	B-52	S-26	TIE 15	3.5
A-53	S-24	FTG	30.9	B-53	S-26	TIE 16	3.5
A-54	S-24	FTG	29.6	B-54	S-26	TIE 17	3.5
A-55	S-24	FTG	15.9	B-55	S-26	TIE 18	3.5
A-56	S-24	WALL (3)	30.3	B-56	S-26	TIE 19	3.3
A-57	S-24	WALL (2)	26.5	B-57	S-26	TIE 20	3.3
A-58	S-24	WALL (1)	20.6	B-58	S-26	TIE 21	3.3
A-59	S-21	WALL A0	4.7	B-59	S-26	TIE 22	3.3
A-60	S-21	SLAB	3.2	B-60	S-26	TIE 23	3.3
SUB-TOTAL			1050.2	SUB-TOTAL			780.6
GRAND TOTAL							1830.8

REVISIONS LOCATED BY COORDINATES ON SHEET						
COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE	

REFERENCE DRAWINGS

DESIGNED BY
DRAWN BY
TRACED BY —
CHECKED BY

APPROVED:
STRUCTURAL ENGINEER

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

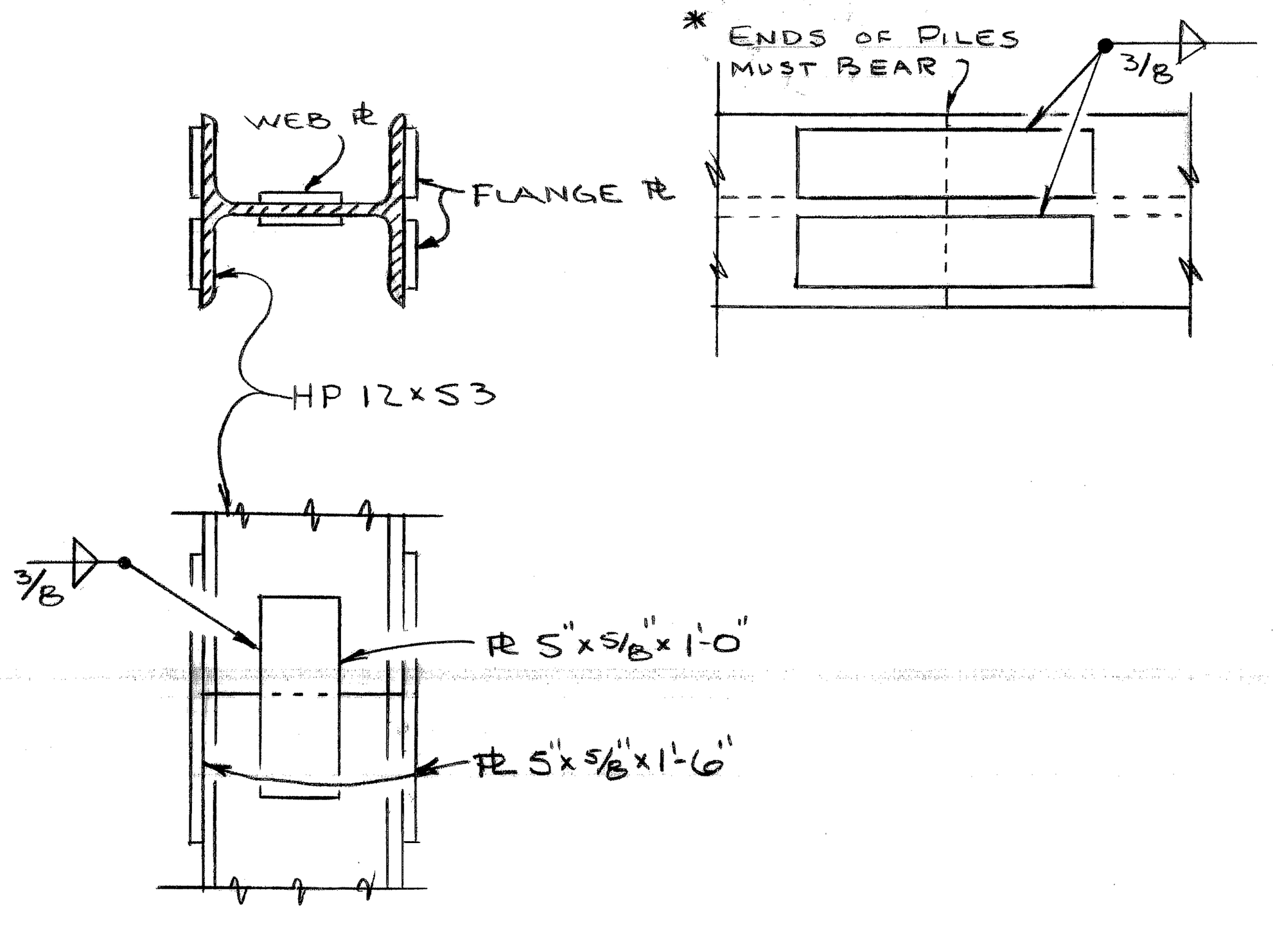
RAMP - ABUTMENTS AND WINGWALLS
MISC. DETAILS, NOTES AND QUANTITIES

SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563A
DRWG NO. S-27
DATE AUG 1979

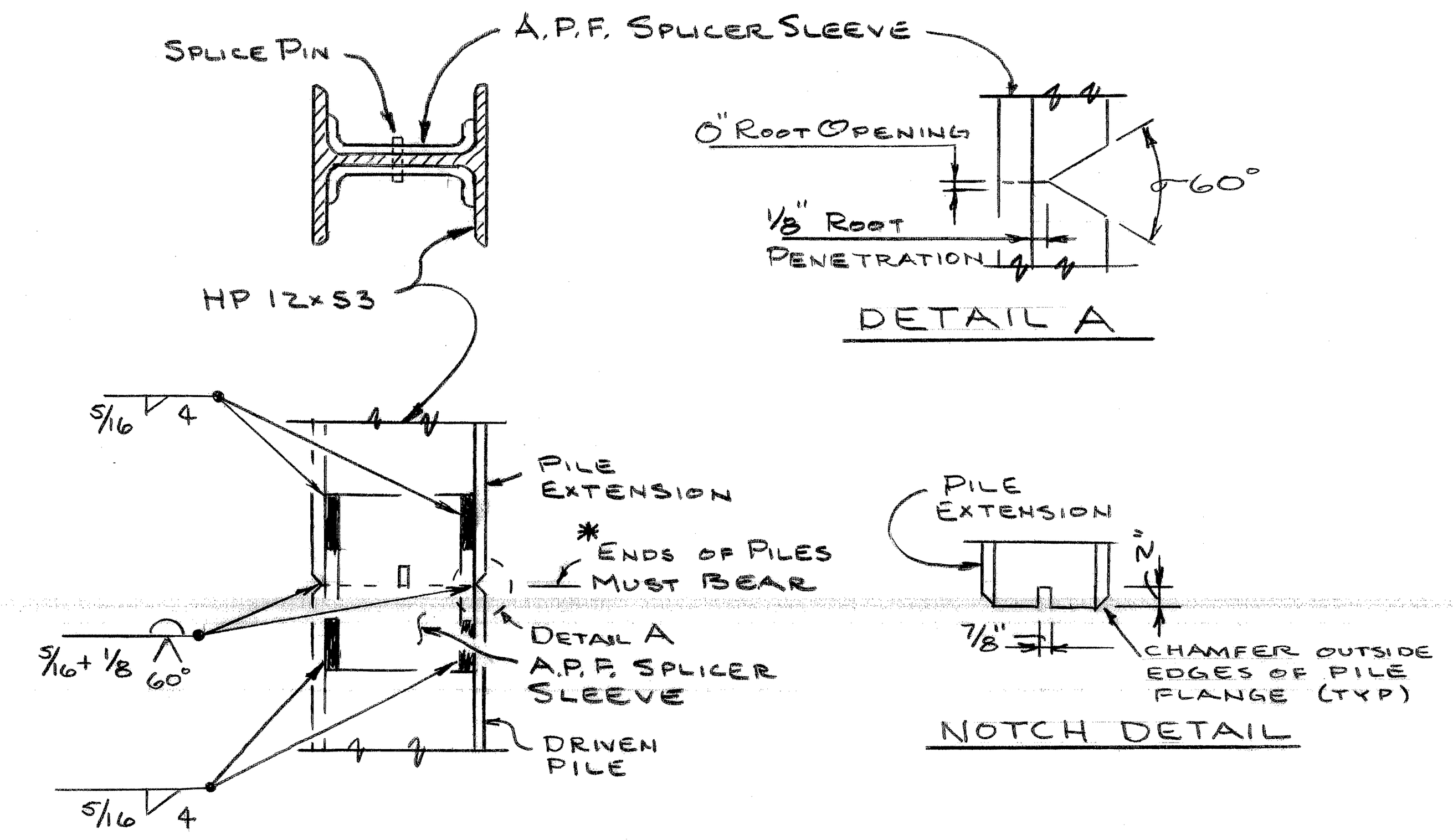
1 2 3 4 5 6 7 8 9 10 11

TSR 250 1-79 69399

*NOTE: SET UPPER SPLICE SECTION IN PLACE WITH UPPER SPLICE PLATES ATTACHED, TAP SEVERAL TIMES WITH THE HAMMER TO IMPROVE BEARING CONTACT, THEN COMPLETE WELDING OF PLATES TO LOWER SECTION.

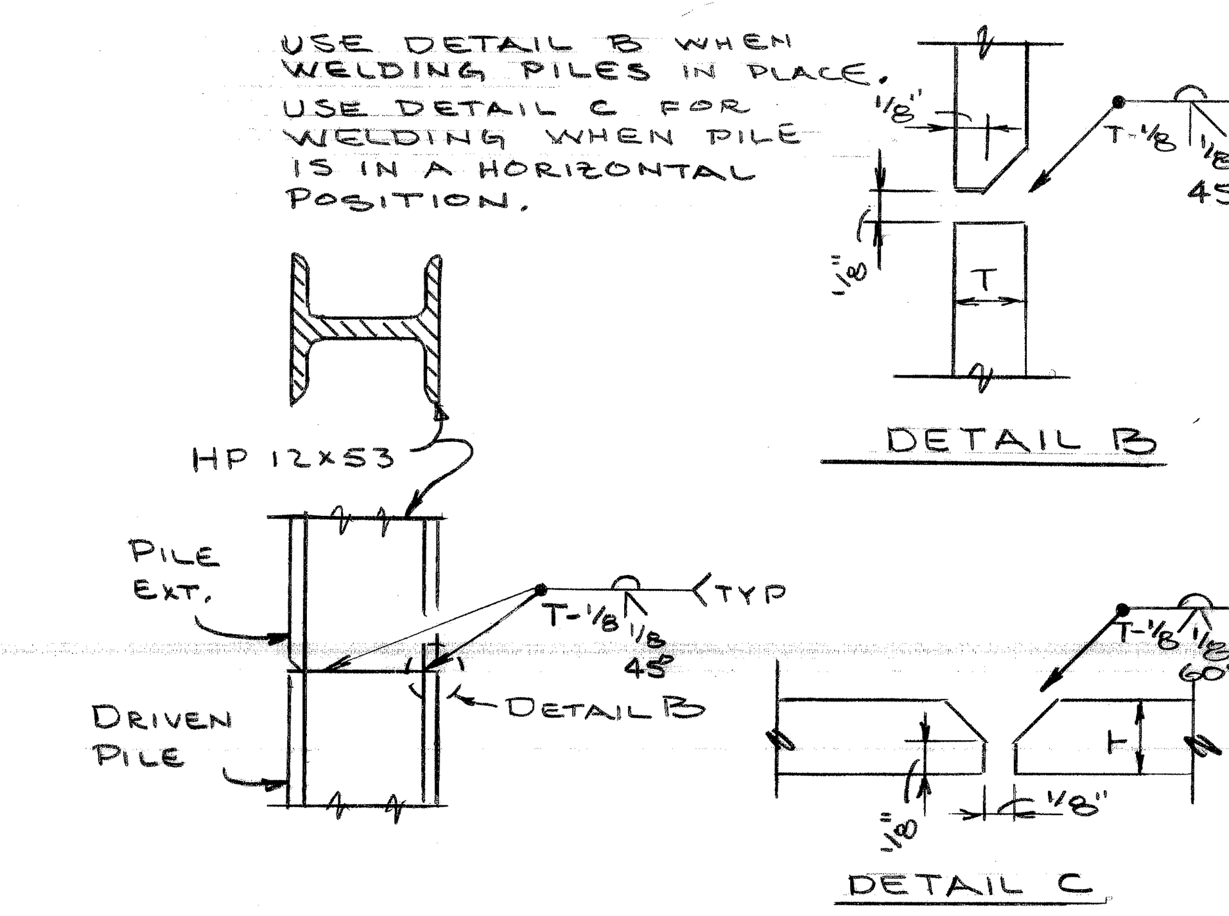


— SPLICE DETAILS —

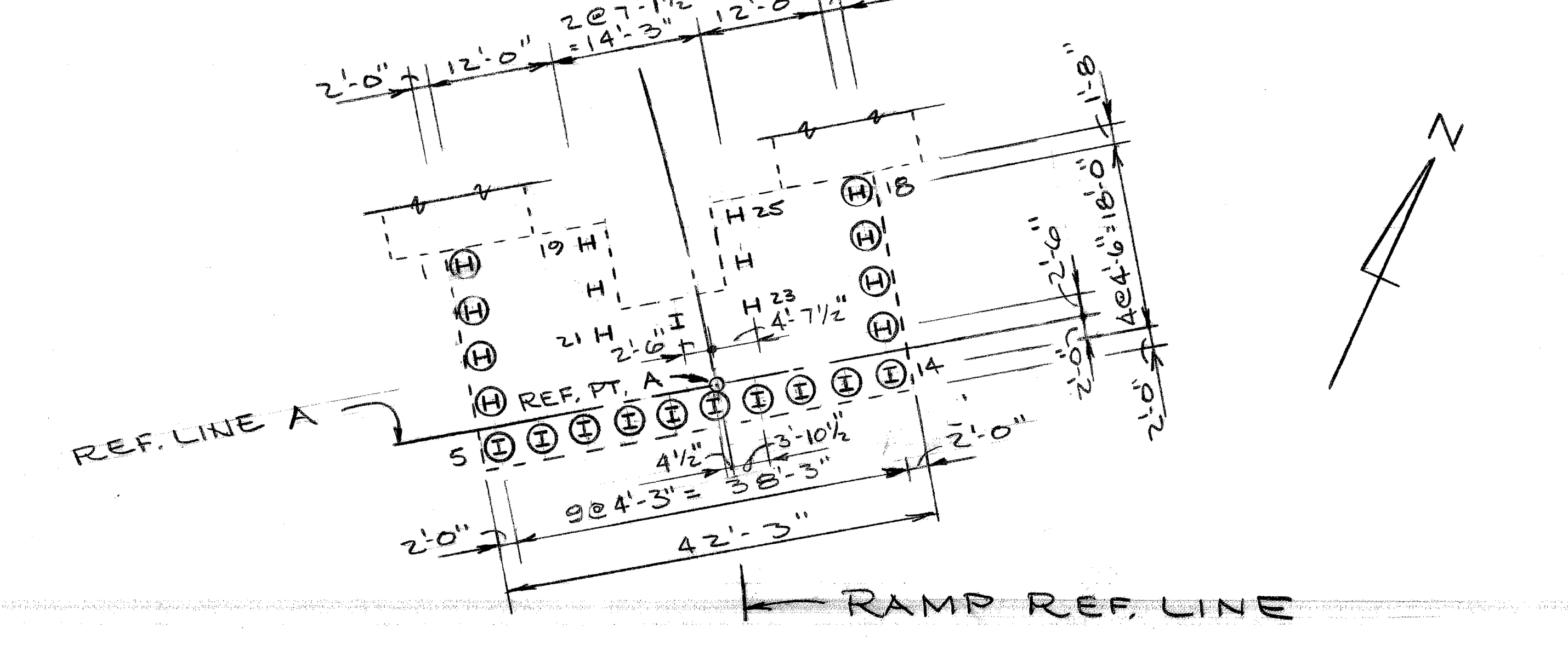


— ALTERNATE SPLICE DETAILS —

(A.P.F. - ASSOCIATED PIPE & FITTING CO.)



— BUTT WELD SPLICE DETAIL —



— PLAN AT ABUTMENT A —

SCALE: 1/16" = 1'-0"

— GENERAL NOTES —

ALL H-PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 60 TONS IN ACCORDANCE WITH M.D.O.T. STANDARD SPECIFICATIONS

STEEL H-PILES SHALL BE HP 12X53

PREBORE PILES 13 THRU 18 TO EL 80.0 (MIN.)

PREBORE PILES 26 THRU 30, 33 THRU 35 AND 59 THRU 80 TO ELEV 65.0 (MIN.)

VOIDS AROUND PILES SHALL BE BACKFILLED BY SLUICING AND/OR JETTING SAND AS REQ.

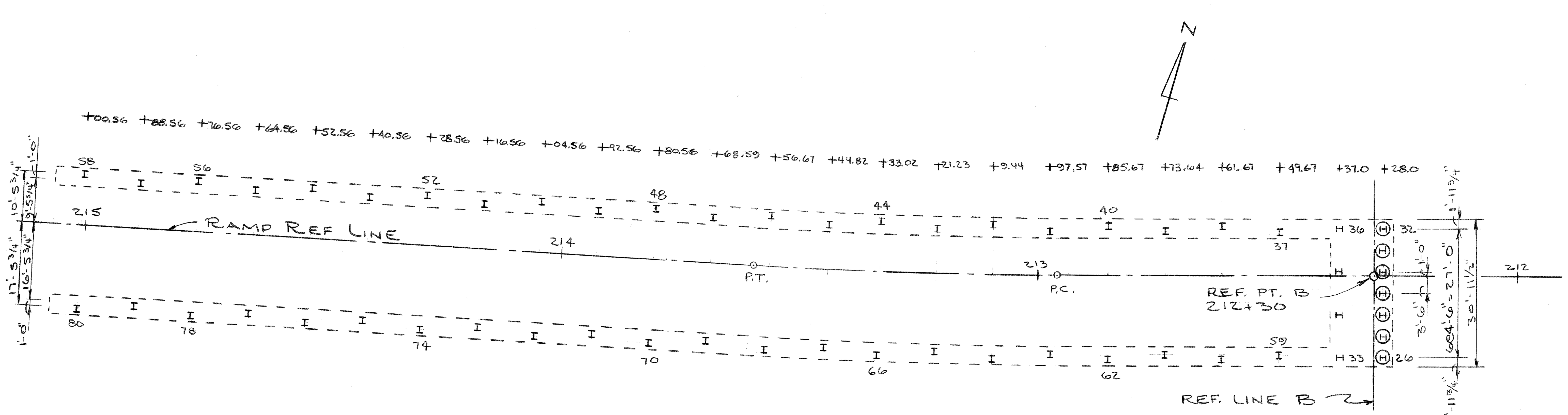
PREBORING AND BACKFILLING ARE INCIDENTAL TO "STEEL PILES, FURN. & DRIVEN (12")".

PILE CUT-OFF ELEV.
ABUT A = 98.75
ABUT B = 96.75

ESTIMATED BOTTOM OF PILE ELEV = +2.0

(I) DENOTES BATTERED PILE - SEE GEN. PLAN OF STR. SECTIONS C, D & G ON S-14 & 15 FOR PILE BATTER.

TEST PILES WILL NOT BE REQUIRED FOR THIS PROJECT



— PLAN AT ABUTMENT B —

SCALE: 1/16" = 1'-0"

PILE QUANTITIES					
ITEM	UNIT	AMOUNT		
		ABUT. A	ABUT. B	TOTAL
LENGTH OF EA. PILE FURN. & DRIVEN (EST.)	L.F.	96.75'	94.75'	–
STEEL PILES - FURN. & DRIVEN (12")	EA.	25	55	80
	L.F.	2419'	5211'	7630'
SPLICES STEEL PILES (12")	EA.	59	128	187

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE	REFERENCE DRAWINGS

REVISIONS LOCATED BY COORDINATES ON SHEET

DESIGNED BY R. Kauhn
DRAWN BY R. Kauhn
TRACED BY —
CHECKED BY J. McGuire

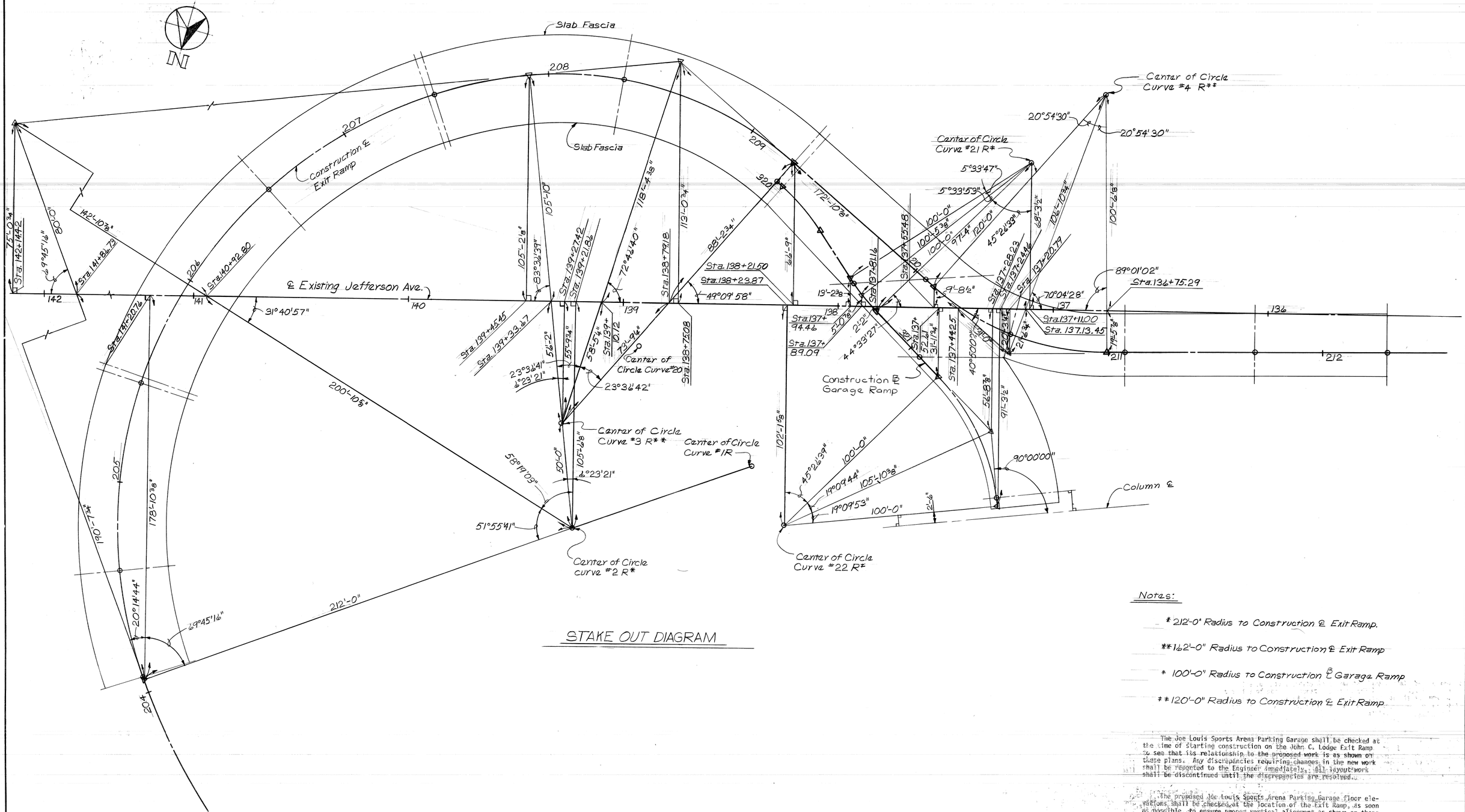
APPROVED:
STRUCTURAL ENGINEER

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - 60 TON H-PILES
PLAN AND DETAILS

SHEET ___ OF ___ SHEETS
CONTRACT NO. 16563A
DRWG NO. S-28
DATE AUG 1979



STAKE OUT DIAGRAM

Notes:

* 212'-0" Radius to Construction ℄ Exit Ramp.

** 162'-0" Radius to Construction ℄ Exit Ramp

* 100'-0" Radius to Construction ℄ Garage Ramp

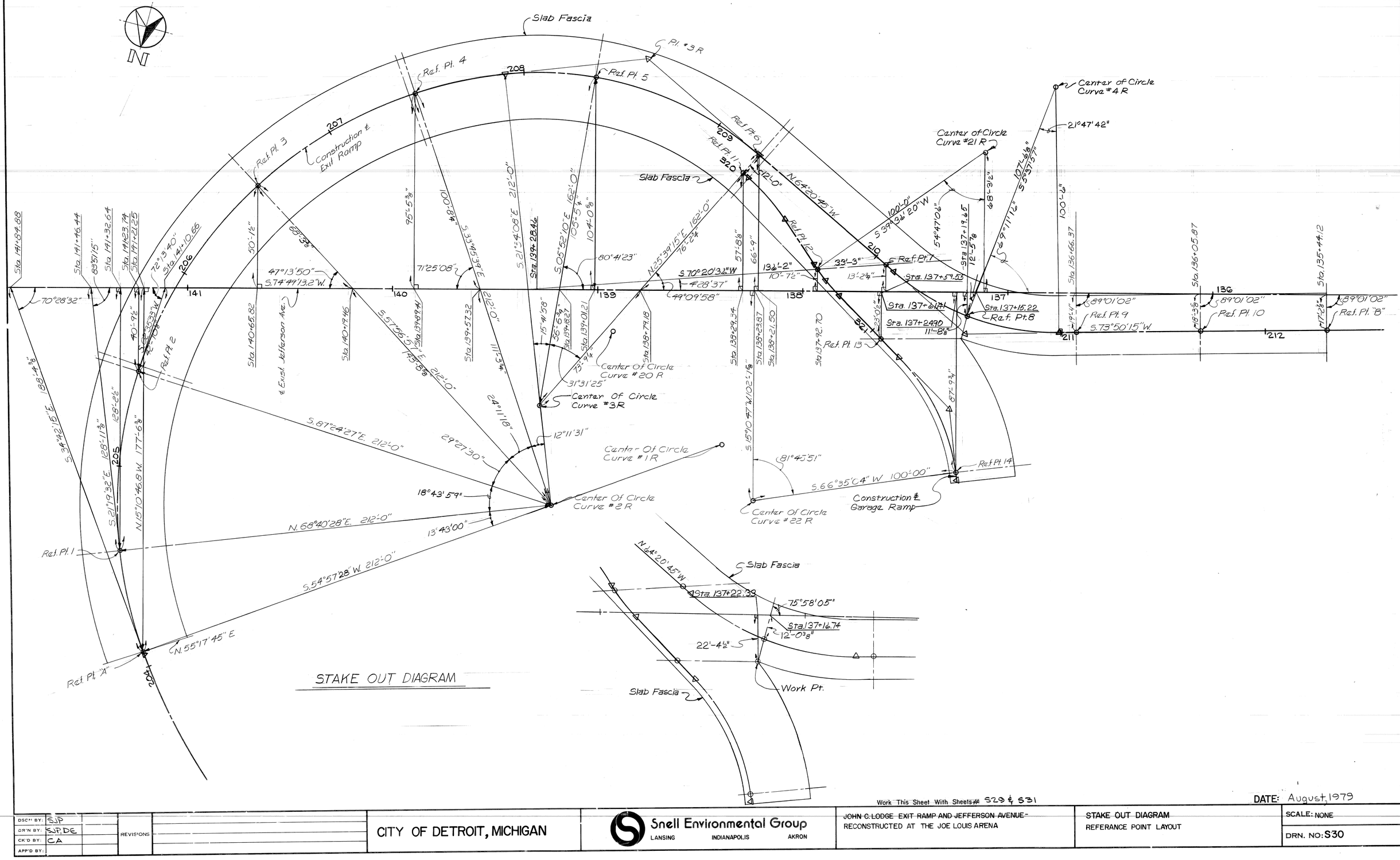
** 120'-0" Radius to Construction ℄ Exit Ramp

The Joe Louis Sports Arena Parking Garage shall be checked at the time of starting construction on the John C. Lodge Exit Ramp to see that its relationship to the proposed work is as shown on these plans. Any discrepancies requiring changes in the new work shall be reported to the Engineer immediately. All layout work shall be discontinued until the discrepancies are resolved.

The proposed Joe Louis Sports Arena Parking Garage floor elevations shall be checked at the location of the Exit Ramp, as soon as possible, to ensure proper vertical alignment as shown on these plans. Any discrepancies shall be promptly reported to the Engineer. Should a discrepancy be found all work in the vicinity of the Garage shall be discontinued until notified by the Engineer to proceed.

DATE: August, 1979

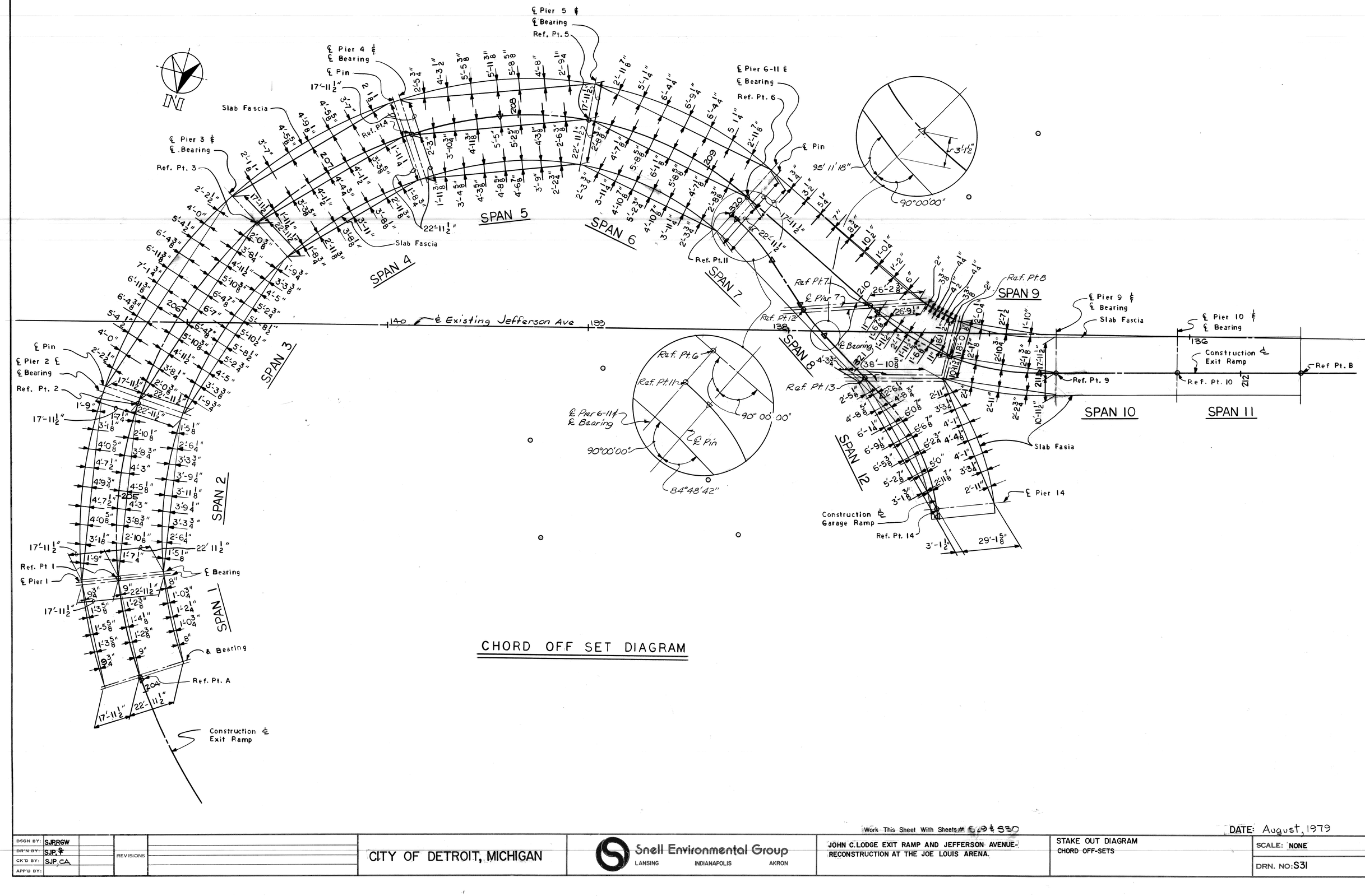
DSGN BY: SJP DR'N BY: SJP&DE CK'D BY: CA APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	Work This Sheet With Sheets# S30 & S31 JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTED AT THE JOE LOUIS ARENA.	STAKE OUT DIAGRAM CURVE LAYOUT	SCALE: NONE DRN. NO: S29



Work This Sheet With Sheets# S29 & S31

DATE: August, 1979

DSC'D BY: SJP DR'N BY: SJP, DE CK'D BY: CA APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTED AT THE JOE LOUIS ARENA	STAKE OUT DIAGRAM REFERANCE POINT LAYOUT	SCALE: NONE DRN. NO: S30	



CHORD OFF SET DIAGRAM

Work This Sheet With Sheets# S29 & S30

DATE: August, 1979

DSGN BY: SJP,RGW DR'N BY: SJP, SF CK'D BY: SJP, CA APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	STAKE OUT DIAGRAM CHORD OFF-SETS	SCALE: NONE DRN. NO: S31

N

Pier 1

Pier 2

Pier 3

Pier 4

Pier 5

Pier 6

Pier 7-12

Pier 8

Pier 9

Pier 10

Pier 13

Pier 14

200 Ton Capacity Mandrel Driven Piles

100 Ton Capacity Mandrel Drive Piles

100 Ton Cap. Mandrel Drive Piles

200 Ton Capacity Mandrel Drive Piles

75 Ton Piles (Typ.)

Construction ℄ Exit Ramp

Construction ℄ Garage Ramp

Tangent to ℄ Const ℄ Garage Ramp @ Ref. Pt. 14

℄ Sewer & ℄ Footing

℄ Pier 7-12

℄ Pier 13

℄ Exist. Jefferson Ave.

Ref. Pt. A

Ref. Pt. 13

Ref. Pt. 8

Ref. Pt. 12

Ref. Pt. 7

Ref. Pt. 14

Before any foundation piling is driven, the existing 14'-9" ø Jefferson Avenue Sewer shall be located and any deviation from its location shown on these plans shall be promptly reported to the Engineer. The design office shall be notified and ajustments made accordingly before any foundation piling is driven.

Work This Sheet With Sheets #S33

DATE: August, 1979

DSGN BY: RGW, SJP	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA.	PILE DETAILS PILE LAYOUT	SCALE: NONE
DR'N BY: SJP, DE						DRN. NO: S32
CK'D BY: RGW						
APP'D BY:						

C.I.P. CONCRETE PILES FURNISHED & DRIVEN 75 TON

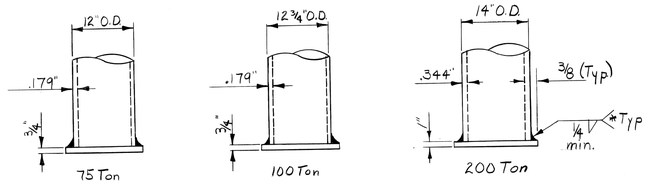
Pier No.	Type of Pile	No. of Piles	Length Each Furnished & Driven	Total Length Furnished & Driven	Pile Cut-Off Elevation
14	Vertical	10	95'	950'	96.44
Total =				950 Lin. Ft.	

C.I.P. CONCRETE PILES FURNISHED & DRIVEN 200 TON

Pier No.	Type of Pile	No. of Piles	Length Each Furnished & Driven	Total Length Furnished & Driven	Pile Cut-Off Elevation
1	Vertical	5	105'	525'	96.62
2	Vertical	7	105'	735'	95.04
3	Vertical	7	105'	735'	95.08
4	Vertical	7	105'	735'	96.89
5	Vertical	7	105'	735'	96.79
6-11	Vertical	7	105'	735'	95.32
13	Vertical	5	105'	525'	96.20
Total =				4725 Lin. Ft.	

C.I.P. CONCRETE PILES FURNISHED & DRIVEN 100 TON

Pier No.	Type of Pile	No. of Piles	Total Length Furnished & Driven	Total Length Furnished & Driven	Pile Cut-Off Elevation
7-12	Vertical	12	95'	1,140'	93.31
8	Vertical	5	95'	475'	94.05
9	Vertical	5	95'	475'	95.69
10	Vertical	5	95'	475	96.48
Total =				2565 Lin. Ft.	



Cast in Place Concrete Piles
R. thickness shown above for mandrel driven piles.
Over boots attached by mechanical means, may be used.

Split chill rings as recommended by the manufacturer shall be used for splicing of pile shells.

*Weld size and/or reinforcement required to withstand driving forces shall be determined by the Contractor subject to the approval of the Engineer.

AS BUILT

80 - 60 ton H-PILES AVE TIP EL +0.8
10 - 75 ton SHELL PILES - 3.2
27 - 100 ton SHELL PILES - 7.3
45 - 200 ton SHELL PILES - 8.3

Pile Notes:

All piles shall be driven to the minimum bearing capacity as shown on the detail sheets. In addition, the 200 ton piles shall be driven to sound rock.

The contractor shall exert extreme caution to avoid disturbance of the existing 177" Jefferson Avenue sewer and the existing Third Street 3BBL-4'R semicircular sewer.

The contractor is warned that soil conditions are such that wet drilling may be necessary to maintain holes.

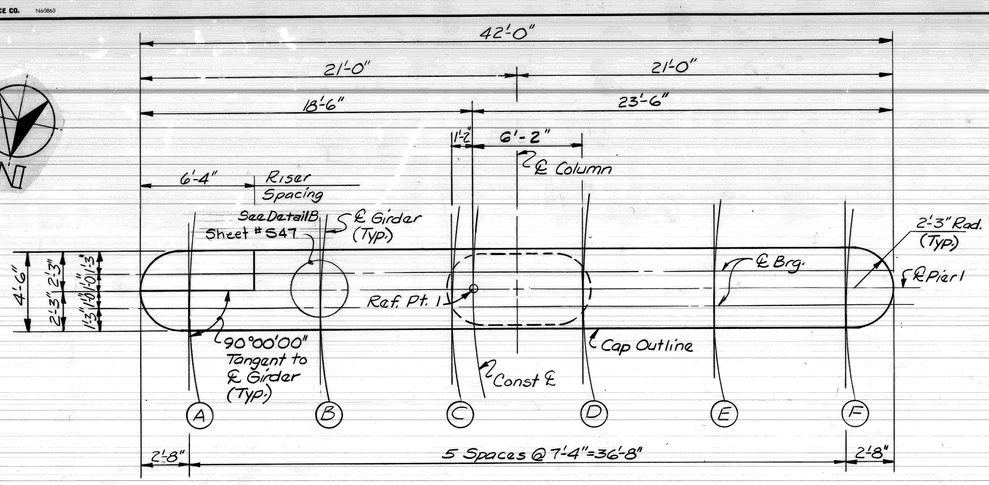
The contractor may substitute pile shells for those shown on the Plans if the substitution will result in a pile of a strength equal to or greater than that of the pile detailed.

Concrete for Cast-in-Place piles shall have a compressive strength of 4500 psi. See Supplemental Specifications.

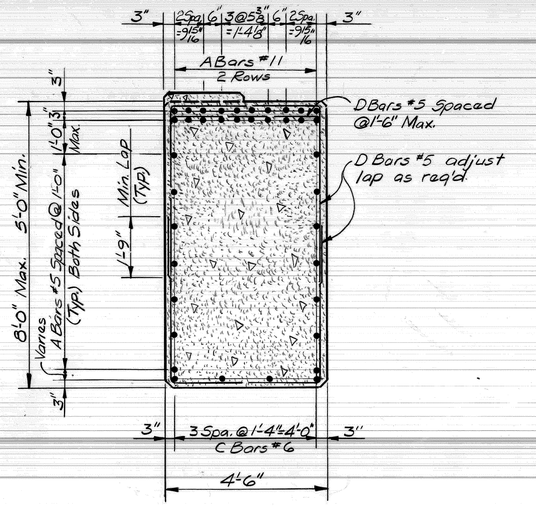
Work This Sheet With Sheets #: S32

DATE: August, 1979

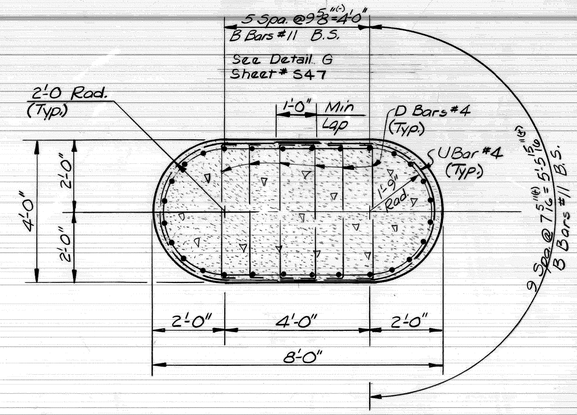
DSGN BY: SJP, RGW DR'N BY: MG CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	PILE DETAILS	SCALE: NONE DRN. NO: S33



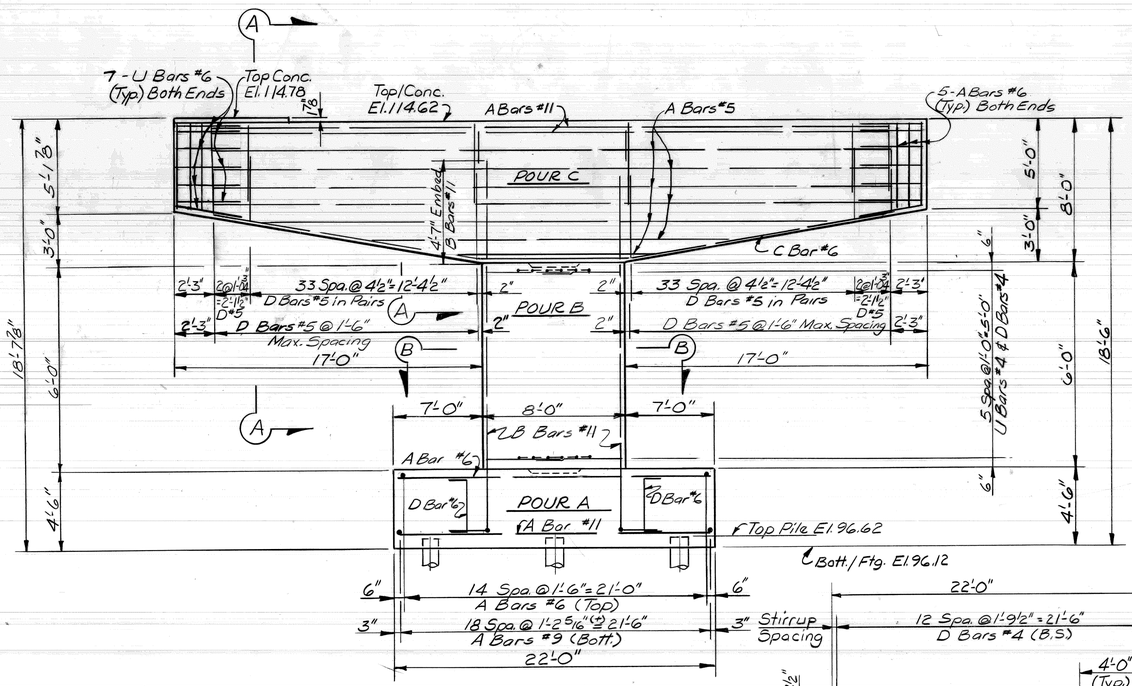
PLAN OF CAP



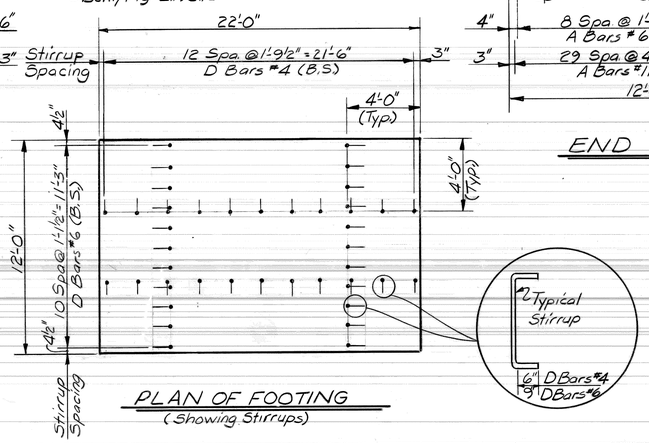
SECTION A-A



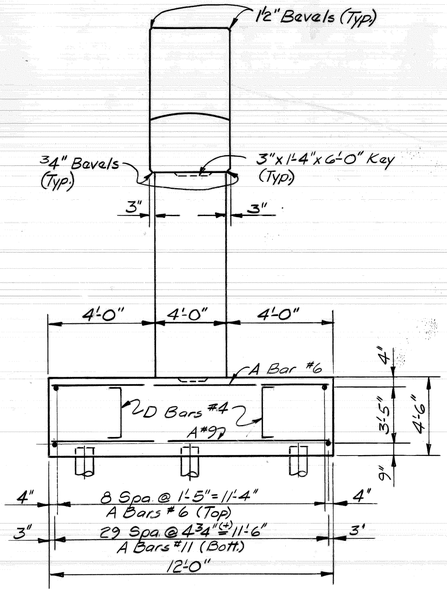
SECTION B-B



ELEVATION



PLAN OF FOOTING
(Showing Stirrups)

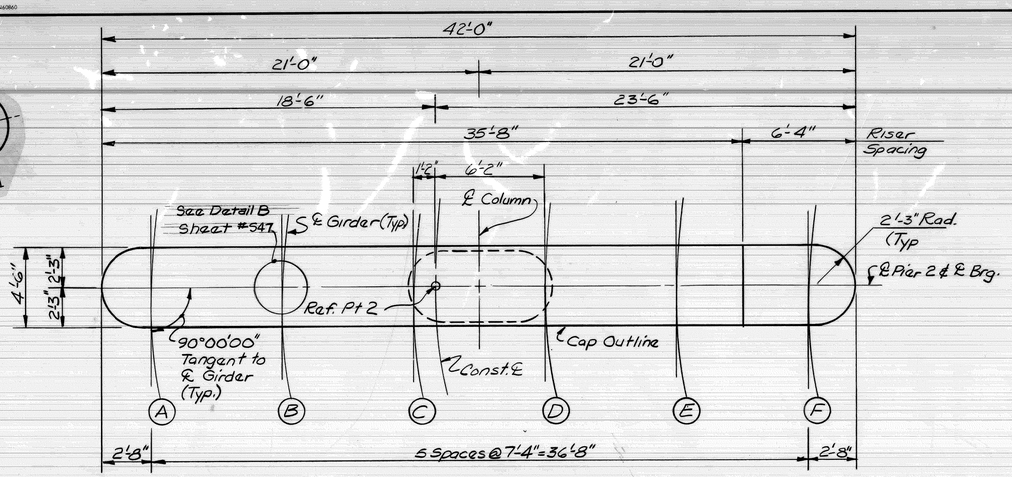


END VIEW

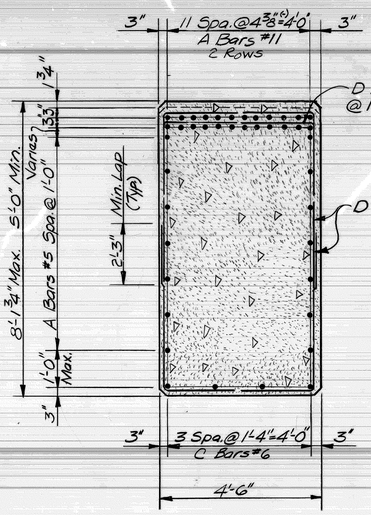
Work This Sheet With Sheets# S35 thru S48

DATE: August, 1979

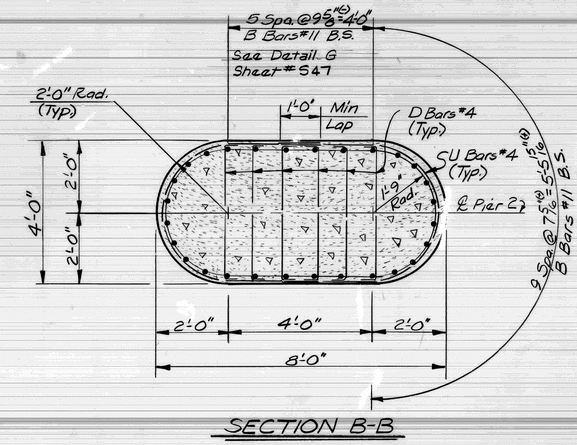
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 1	SCALE: NONE DRN. NO: S34



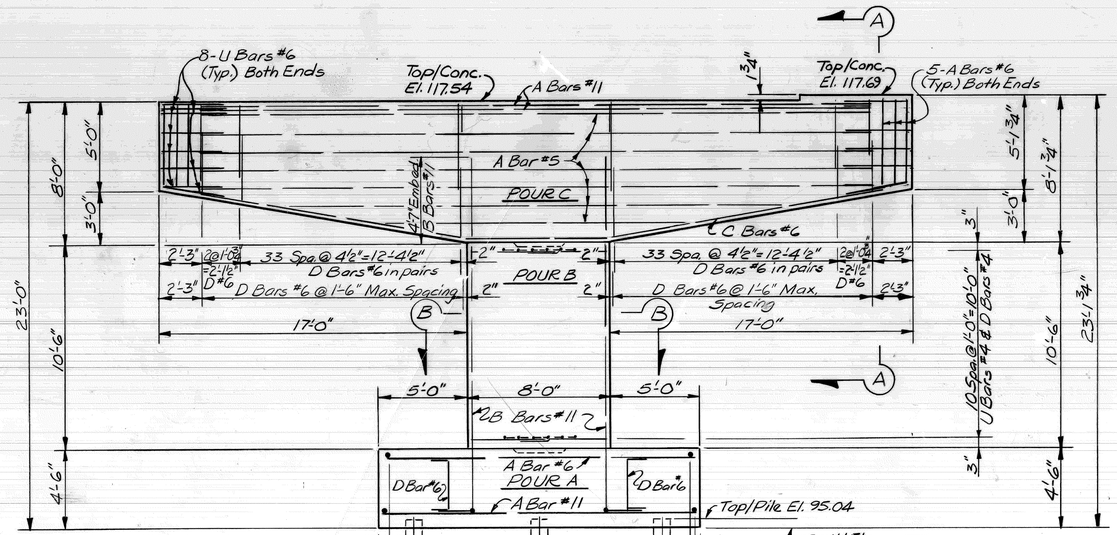
PLAN OF CAP



SECTION A-A

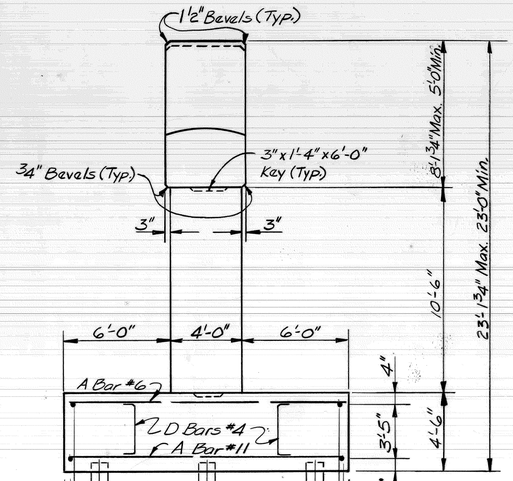


SECTION B-B



ELEVATION

PLAN OF FOOTING
(Showing Stirrups)

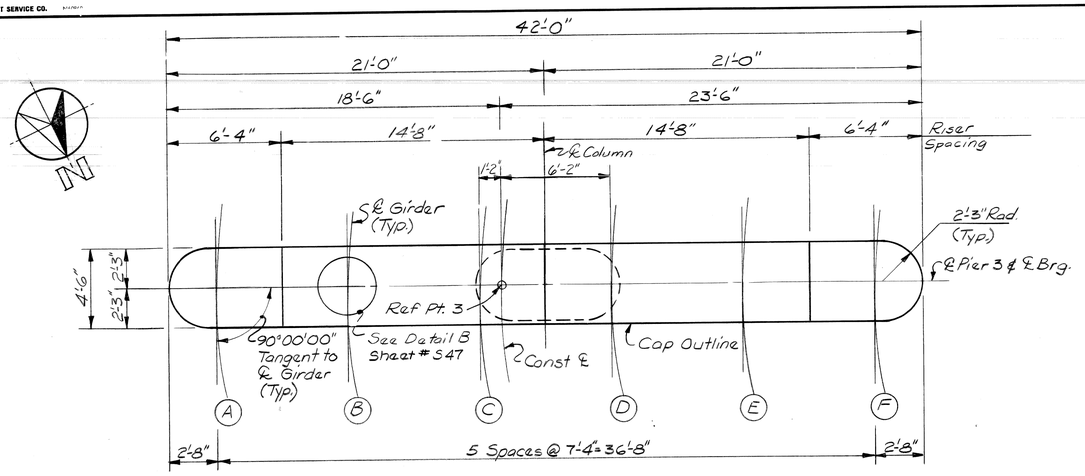


END VIEW

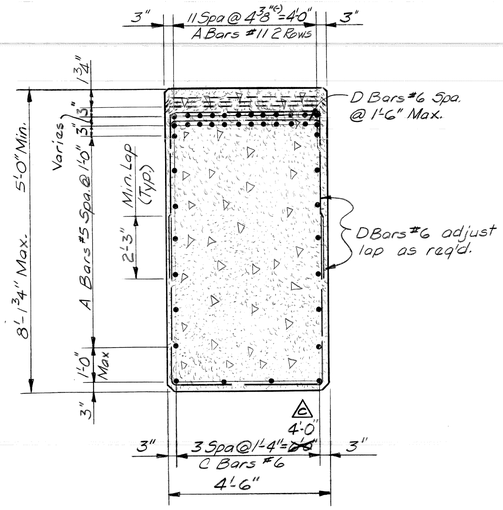
Work This Sheet With Sheets # 534, & 536 thru 548

DATE: August, 1979

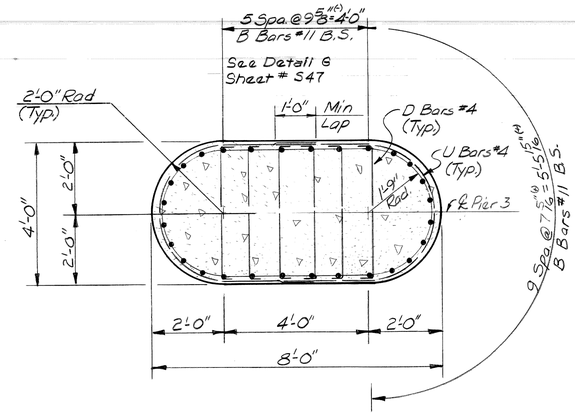
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 2	SCALE: NONE DRN. NO: S35



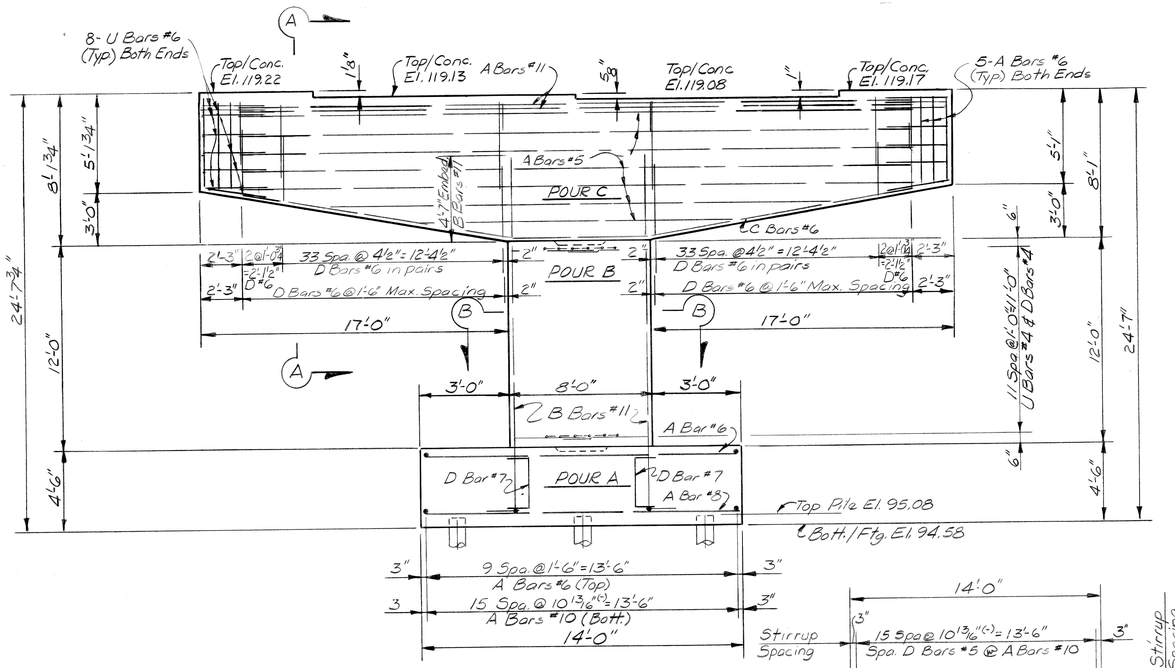
PLAN OF CAP



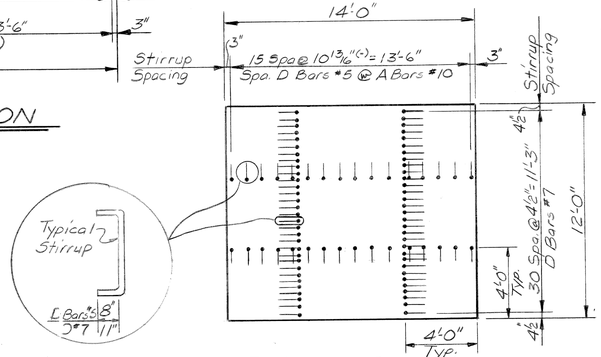
SECTION A-A



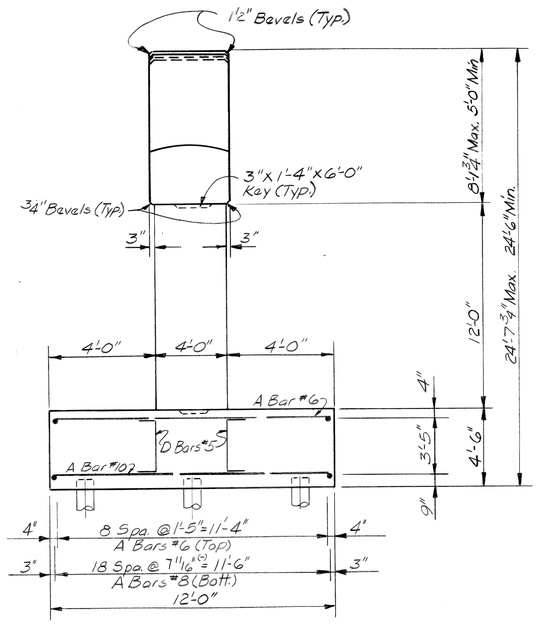
SECTION B-B



ELEVATION



PLAN OF FOOTING
(Showing Stirrups)

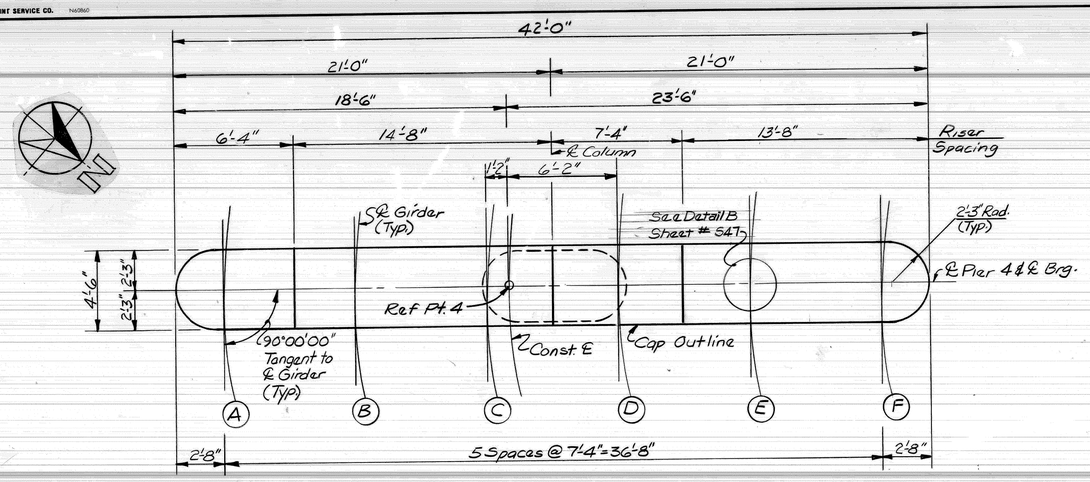


END VIEW

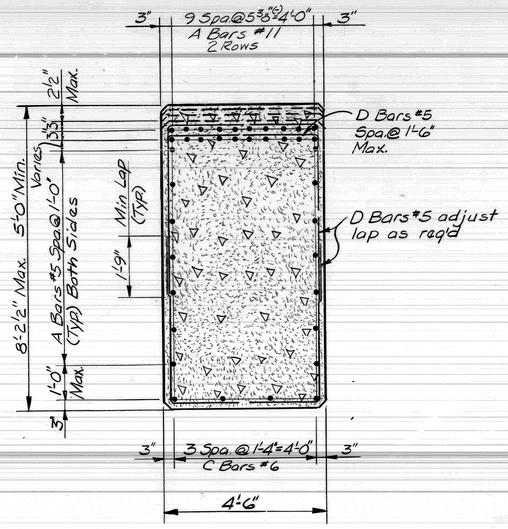
Work This Sheet With Sheets #'s 534, 535 & 537 thru 548

DATE: August, 1979

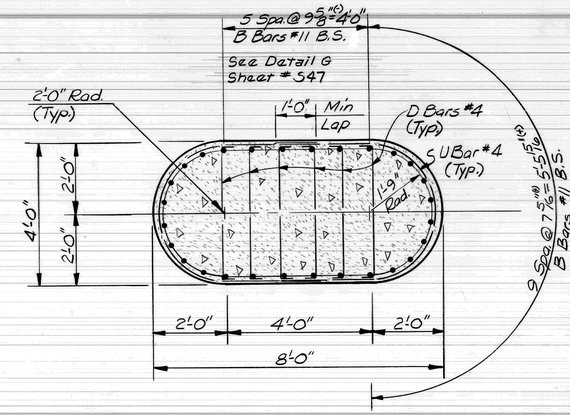
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	A Revise Dimension SSP 1-22-1980	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 3	SCALE: NONE DRN. NO: S36



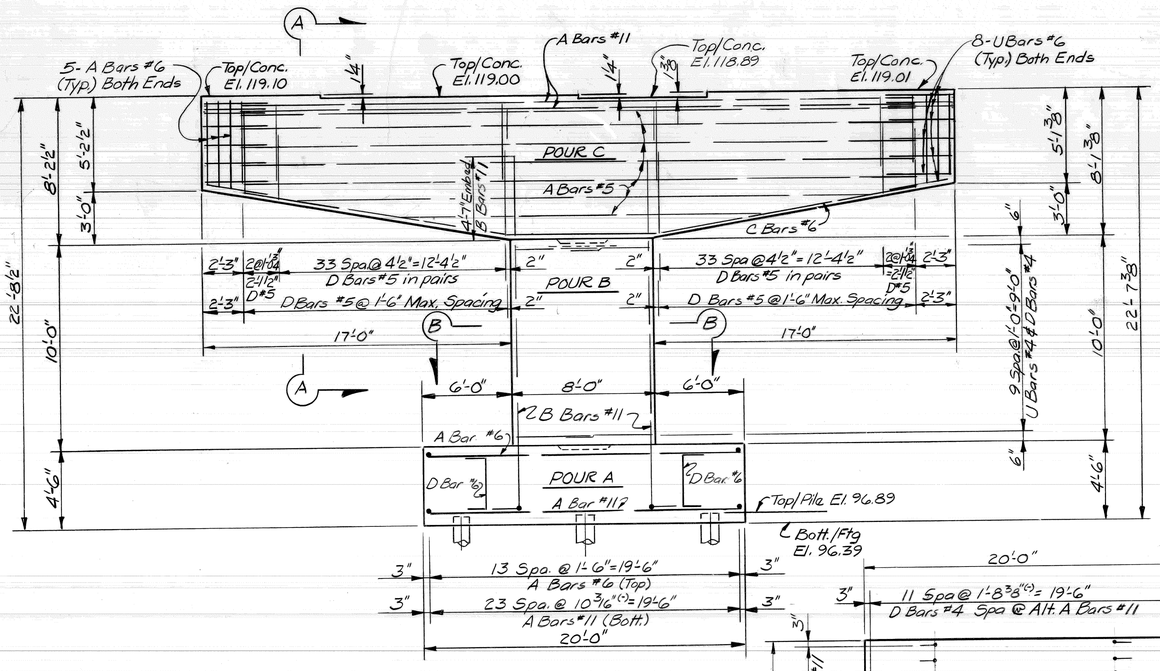
PLAN OF CAP



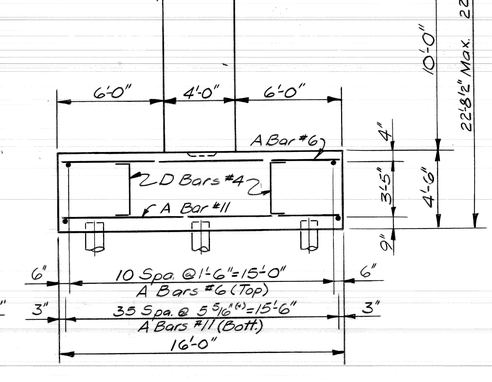
SECTION A-A



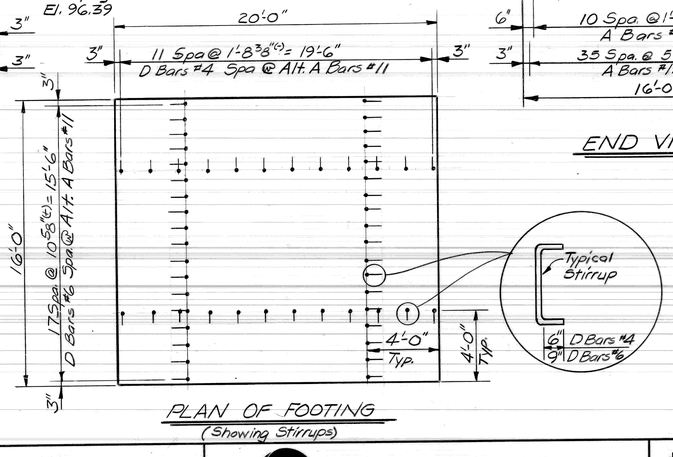
SECTION B-B



ELEVATION



END VIEW

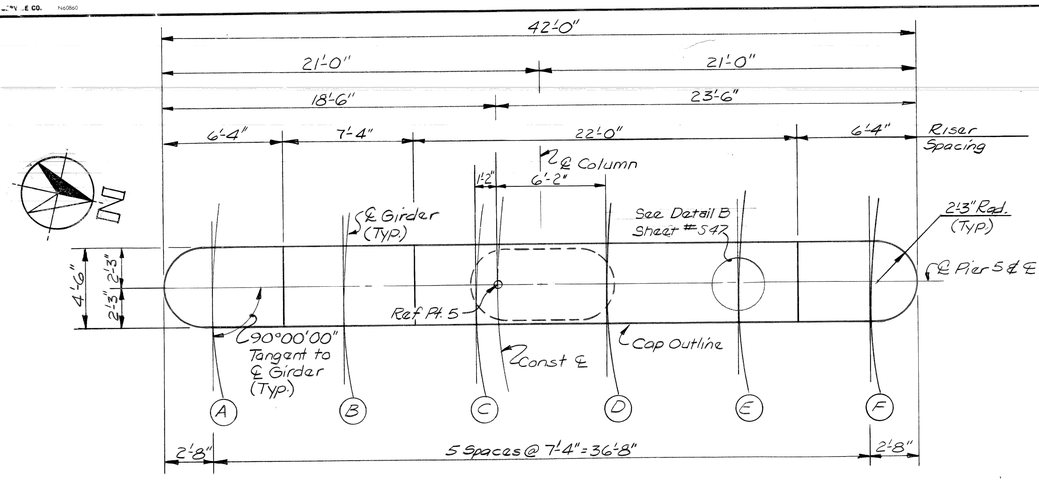


PLAN OF FOOTING
(Showing Stirrups)

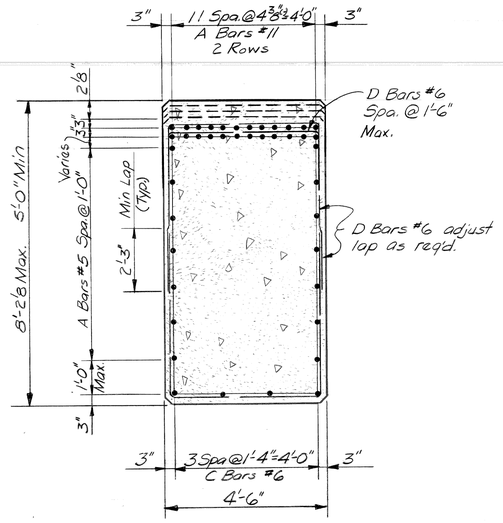
Work This Sheet With Sheets #'s S34 thru S36 & S38 thru S48

DATE: August, 1979

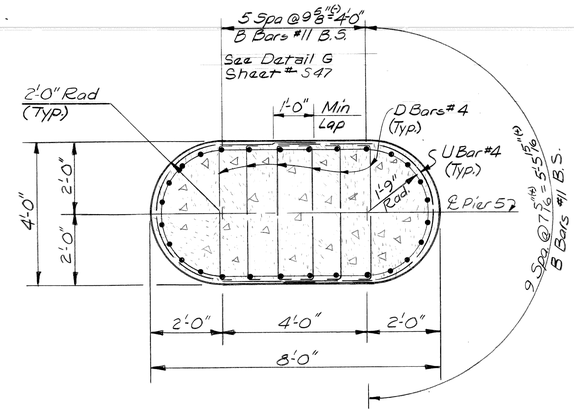
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE- RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 4	SCALE: NONE DRN. NO: S37



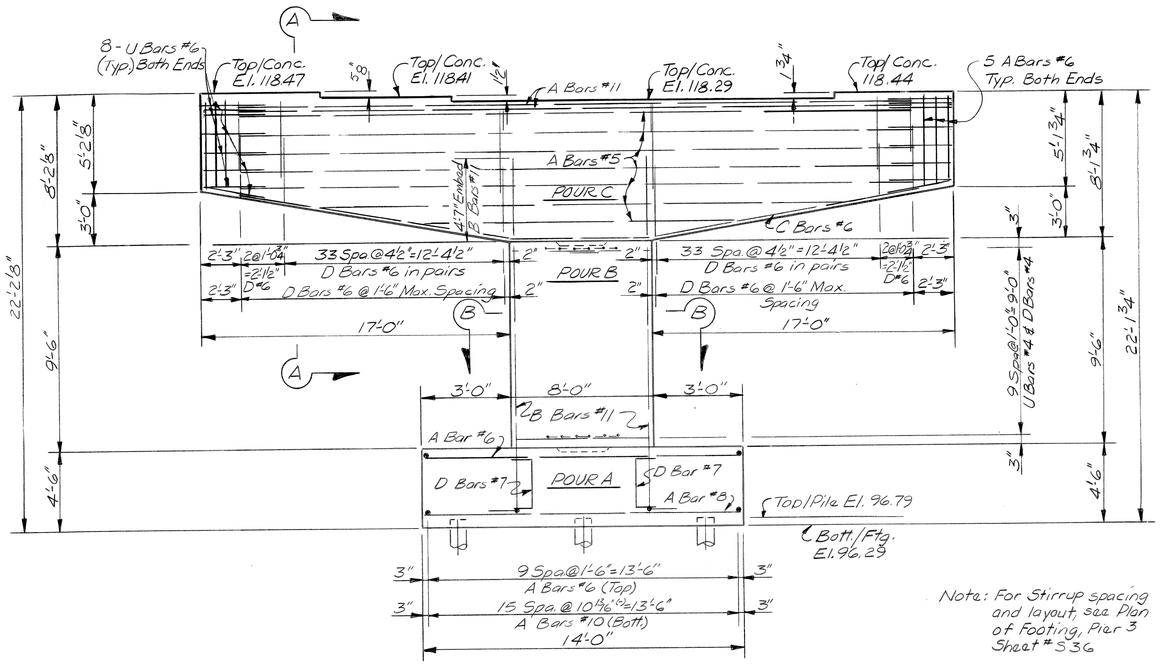
PLAN OF CAP



SECTION A-A

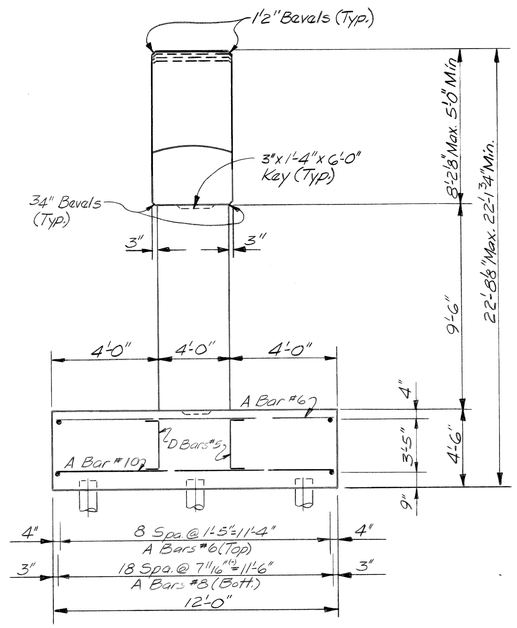


SECTION B-B



Note: For Stirrup spacing and layout, see Plan of Footing, Pier 3 Sheet #S36

ELEVATION

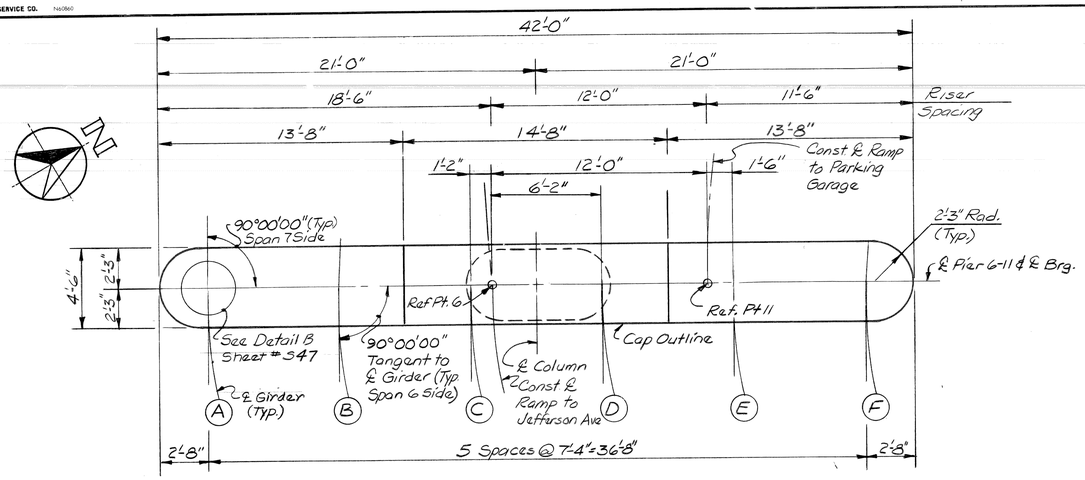


END VIEW

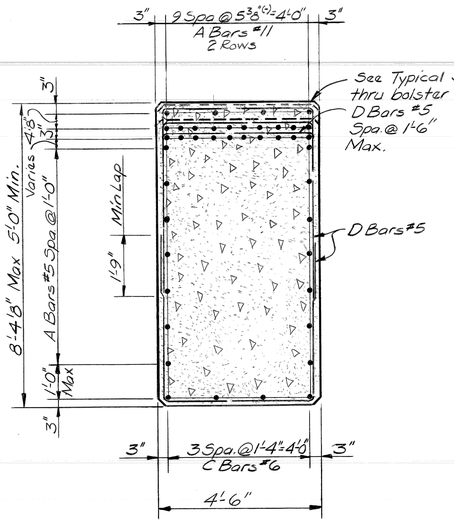
Work This Sheet With Sheets #S34 thru S37 & S39 thru S48

DATE: August, 1979

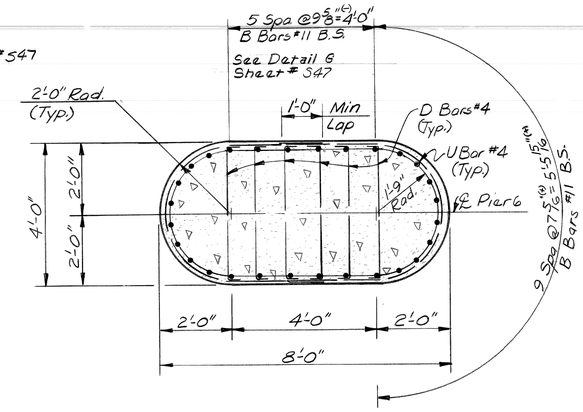
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS		CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 5	SCALE: NONE DRN. NO: S38



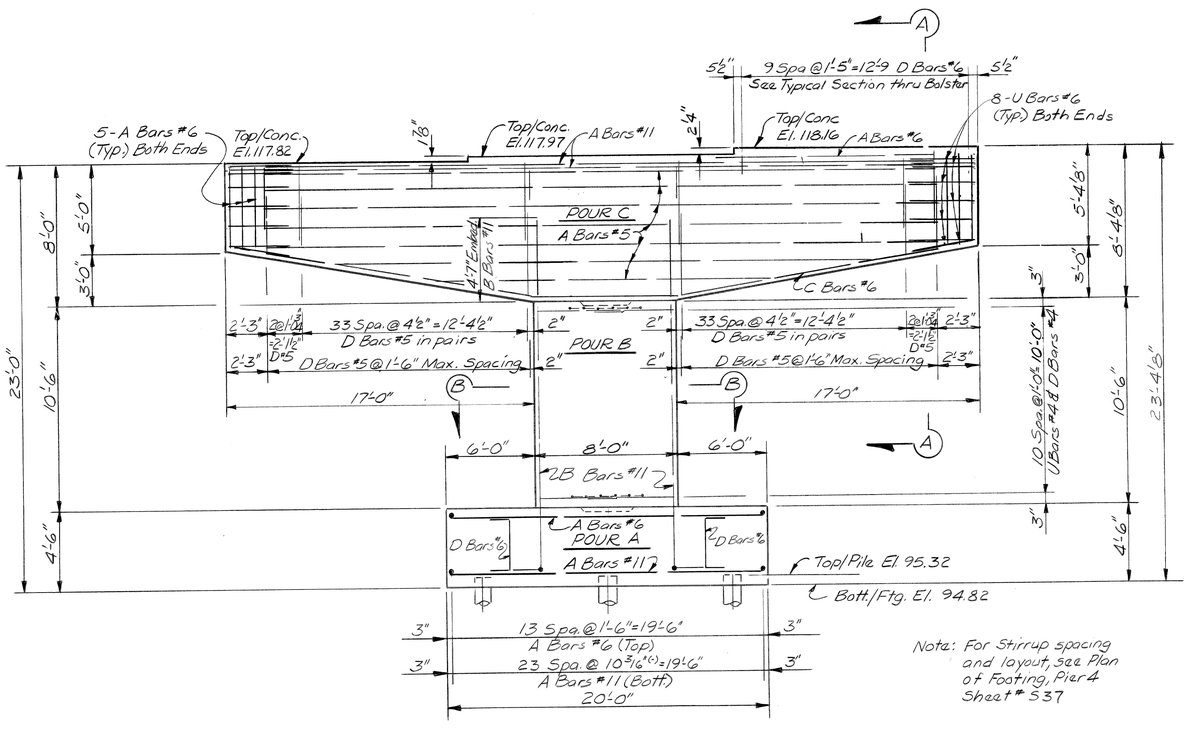
PLAN OF CAP



SECTION A-A

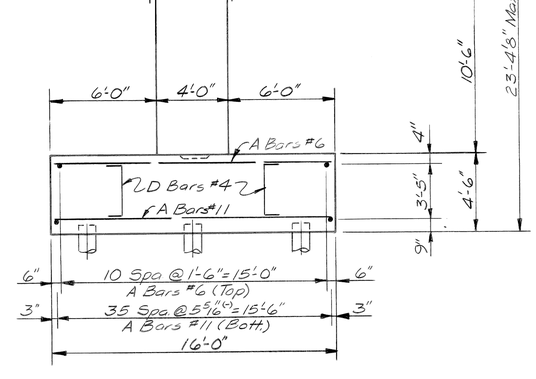


SECTION B-B



Note: For Stirrup spacing and layout, see Plan of Footing, Pier 4 Sheet # 537

ELEVATION

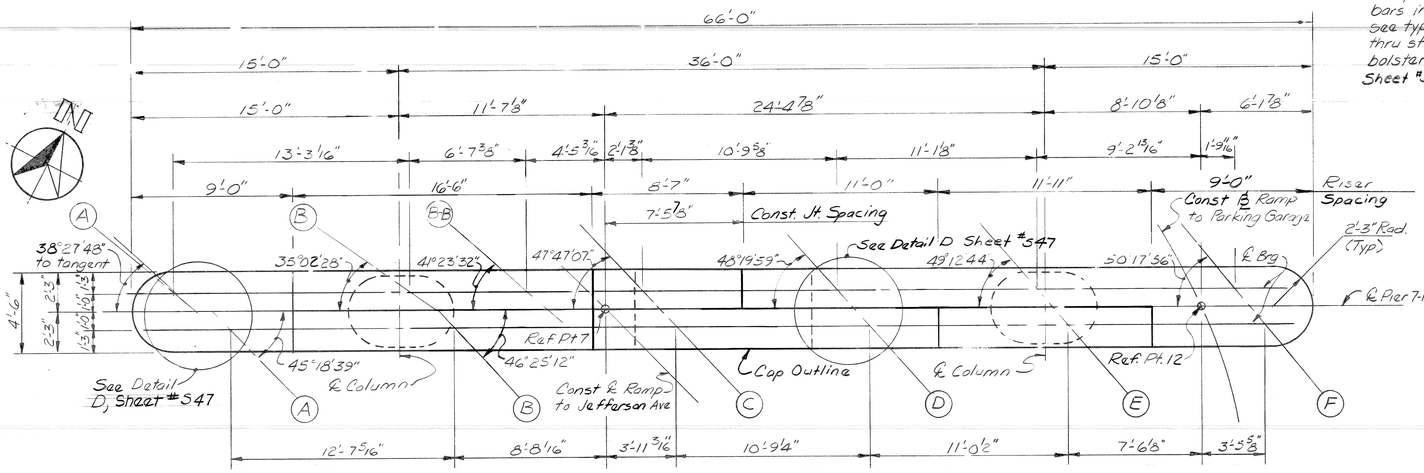


END VIEW

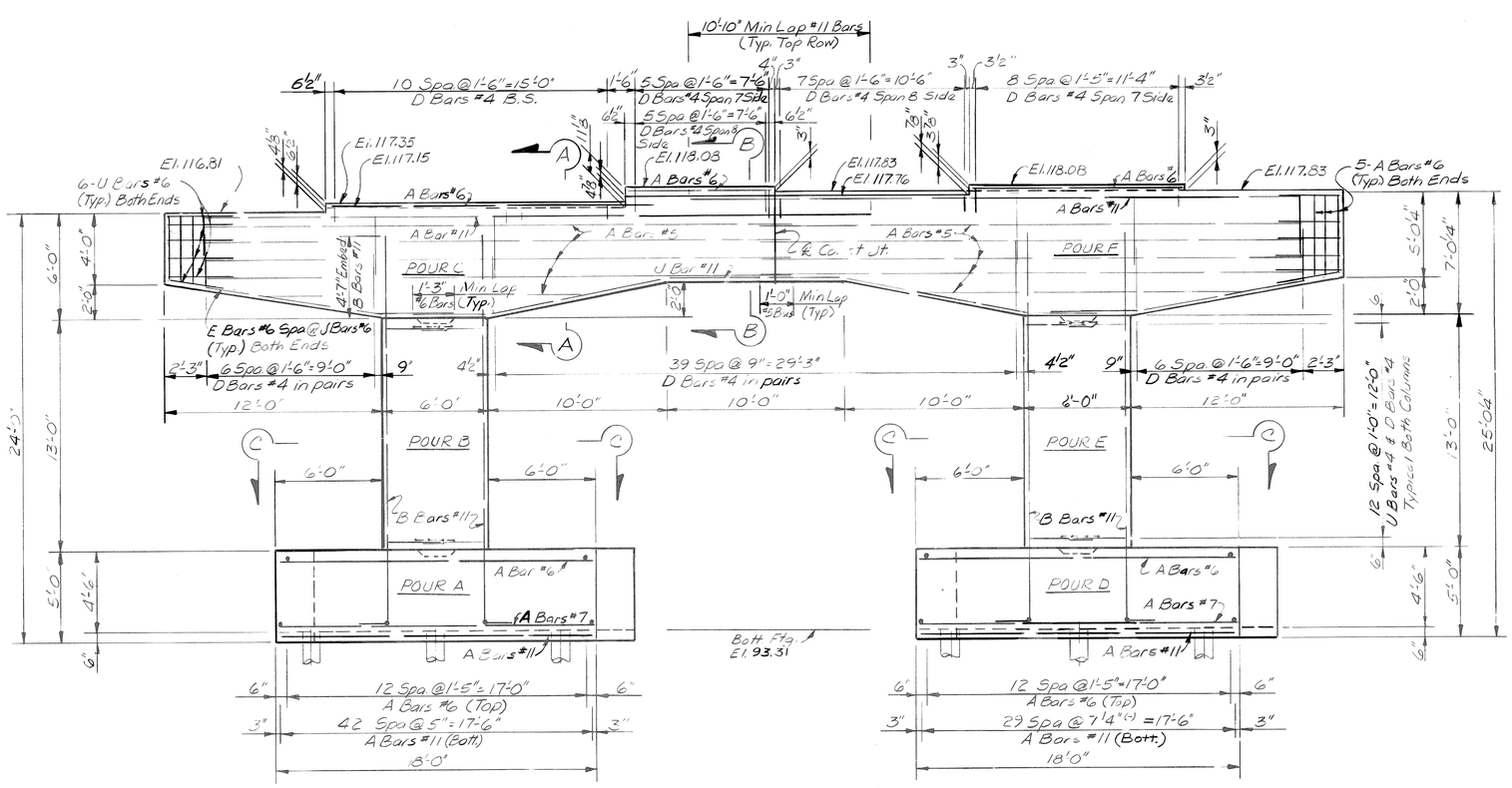
Work This Sheet With Sheets # S34 thru S38 & S40 thru S48

DATE: August, 1979

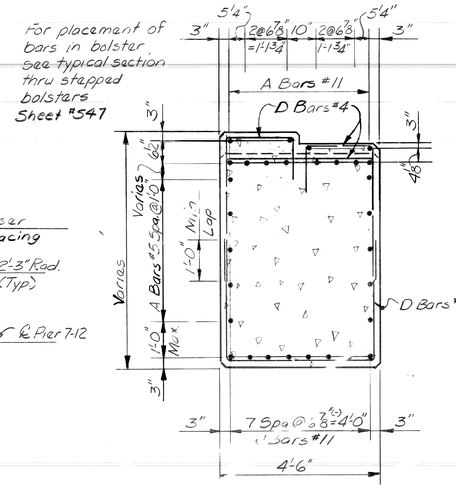
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 6-11	SCALE: NONE DRN. NO: S39



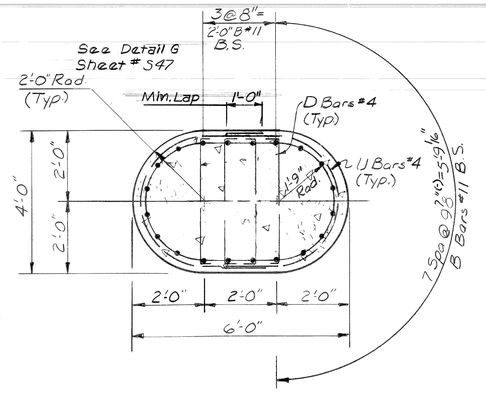
PLAN OF CAP



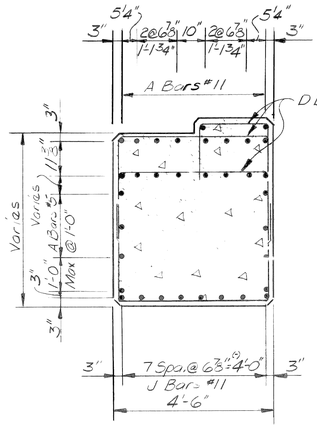
ELEVATION
(Shown Normal to ℄ Pier)



SECTION A-A



SECTION C-C

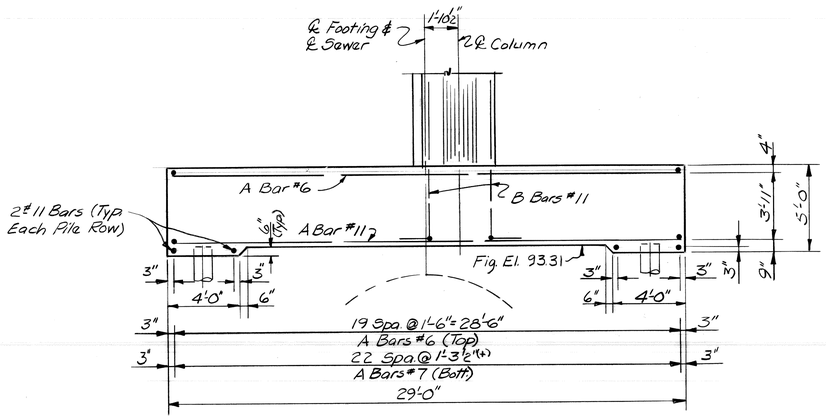


SECTION B-B

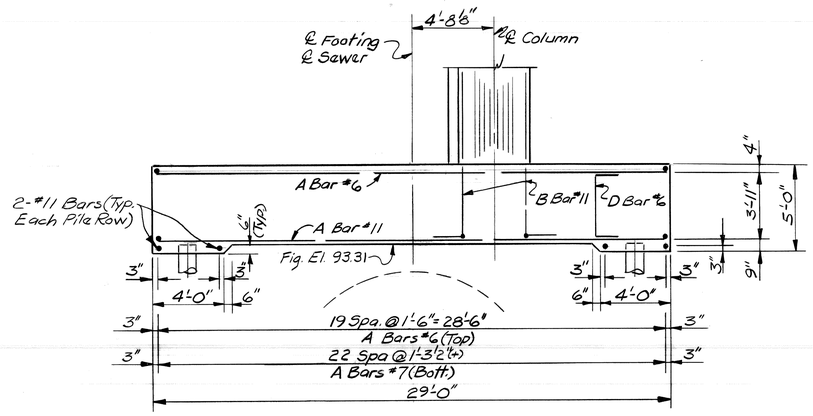
Work This Sheet With Sheets# S34 thru S39 & S41 thru S48

DATE: August, 1979

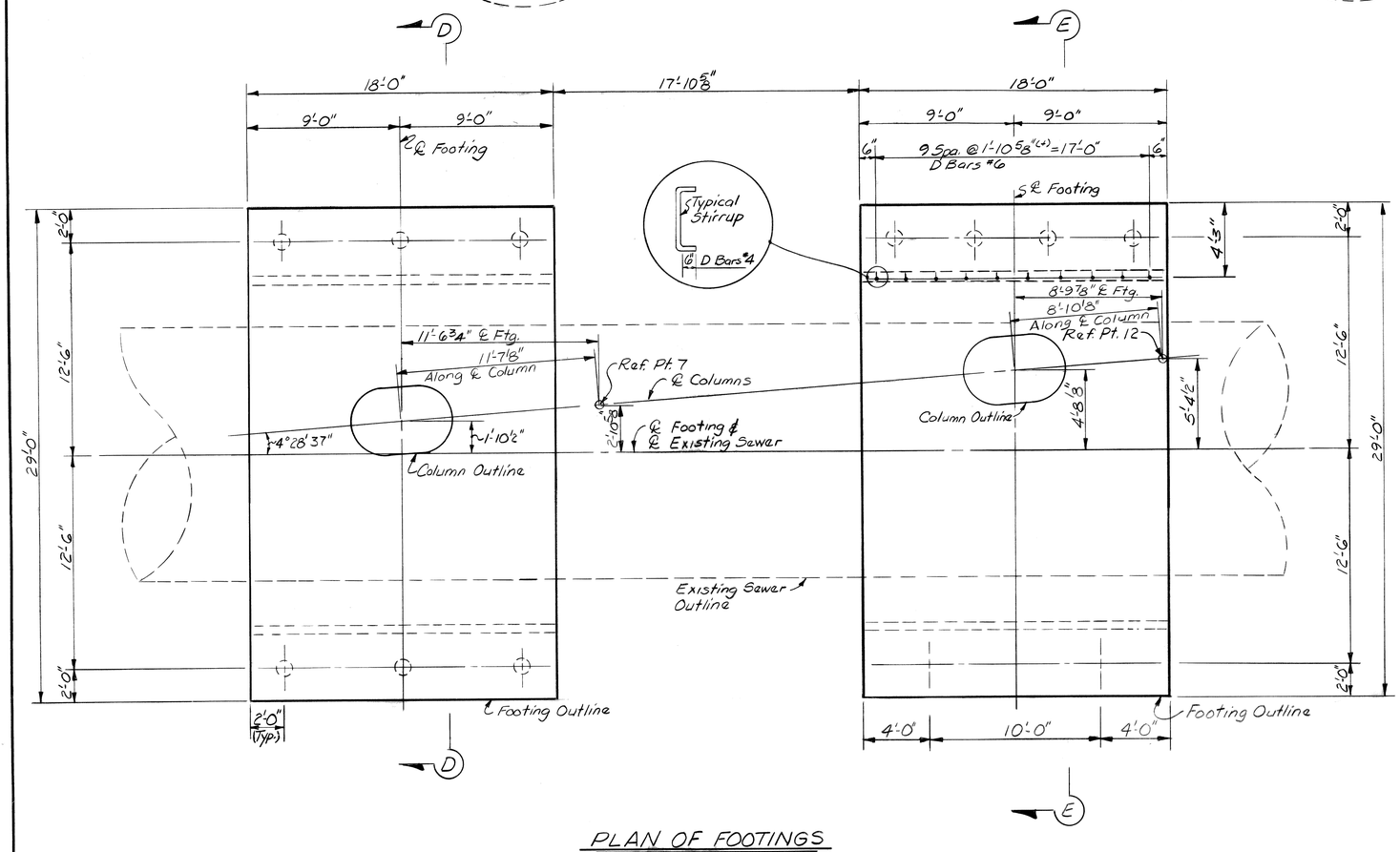
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	PIER DETAILS PIER 7-12	SCALE: NONE DRN. NO: S40



SECTION D-D



SECTION E-E

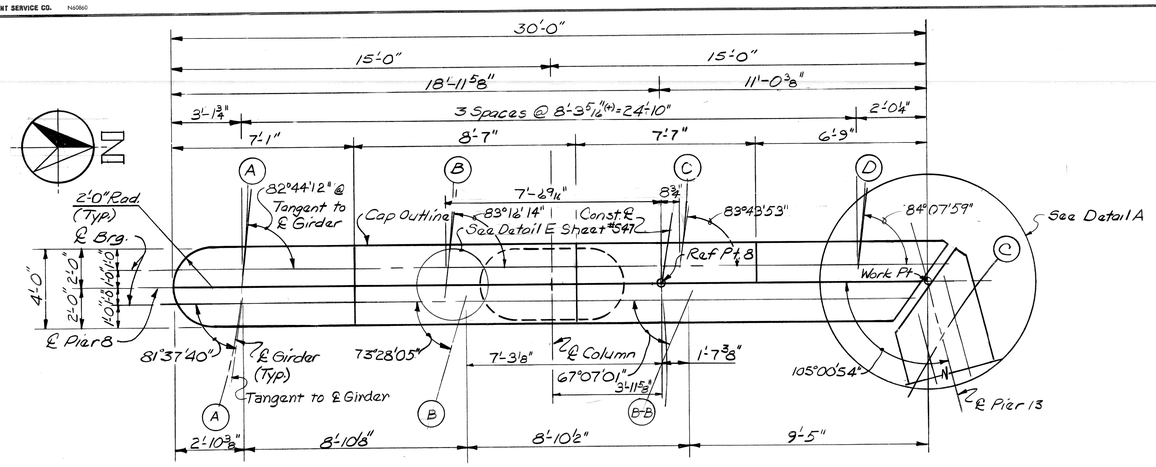


PLAN OF FOOTINGS
(Shown normal to ℄ Sewer)

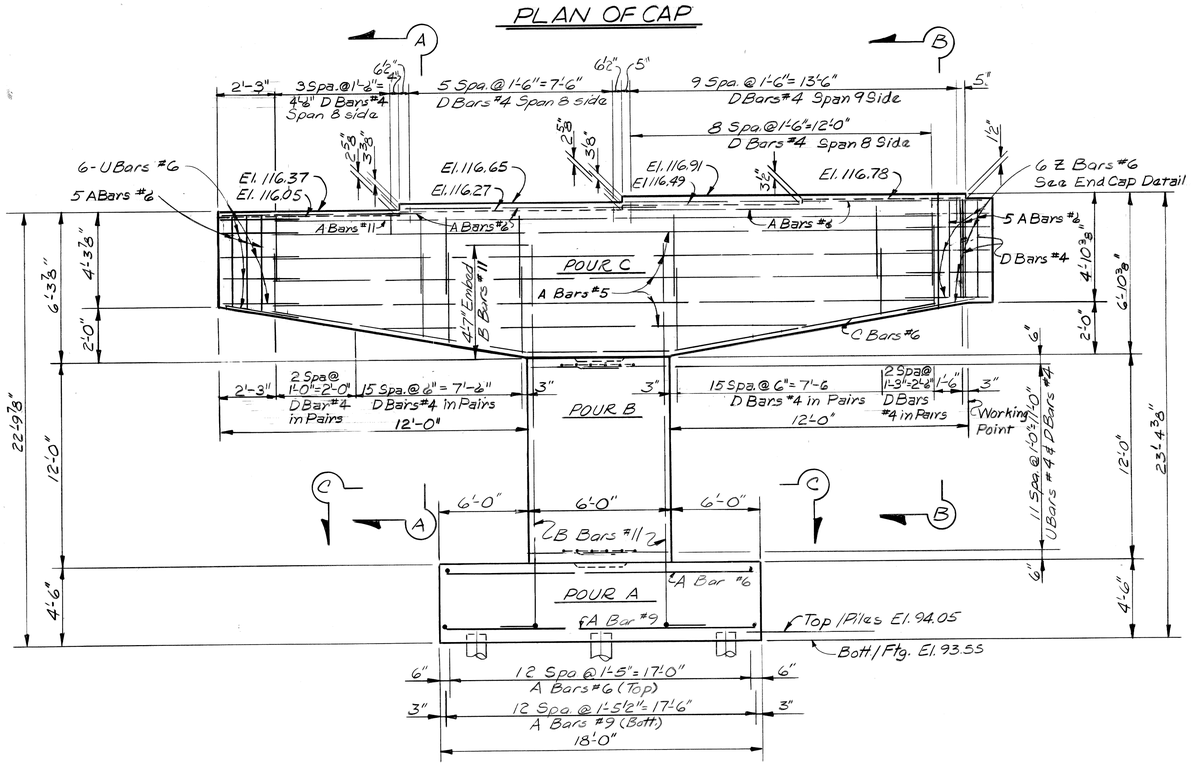
Work This Sheet With Sheets # S34 thru S40 & S42 thru S48

DATE: August, 1979

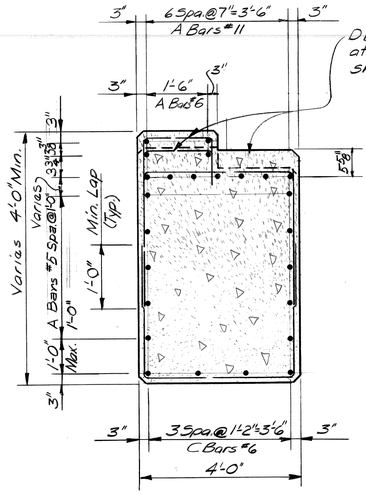
DSGN BY: RGW, MH	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: MH			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: RGW			PIER DETAILS PIER 7-12 FOOTING PLANS AND SECTIONS
APP'D BY:			SCALE: NONE
			DRN. NO: S41



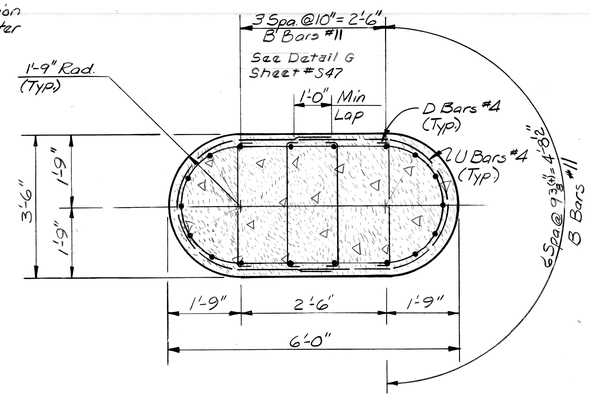
PLAN OF CAP



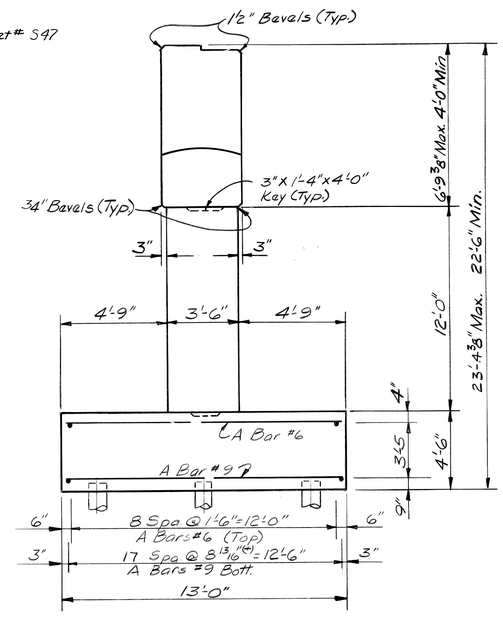
ELEVATION



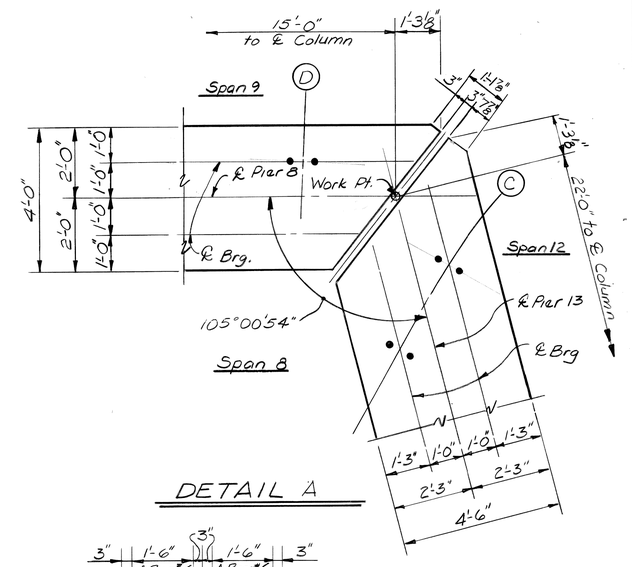
SECTION A-A



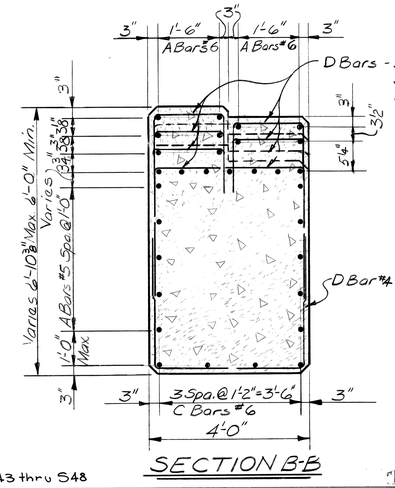
SECTION B-B



END VIEW



DETAIL A

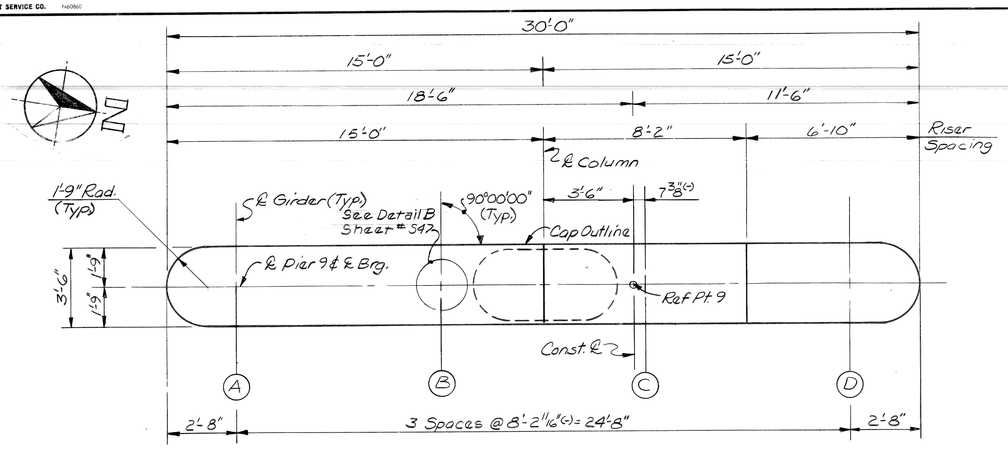


SECTION B-B

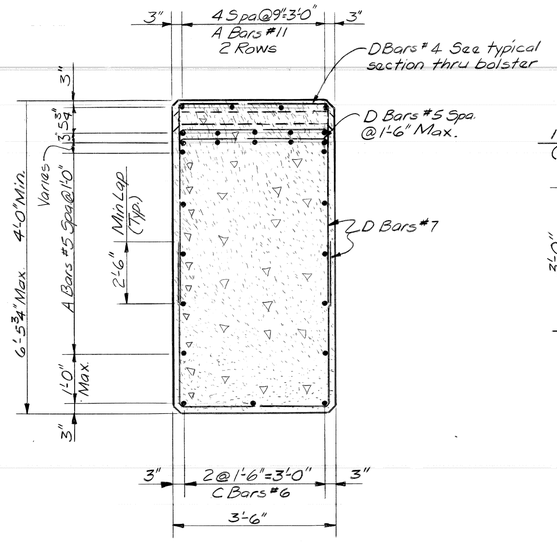
Work This Sheet With Sheets # S34 thru S41 & S43 thru S48

DATE: August, 1979

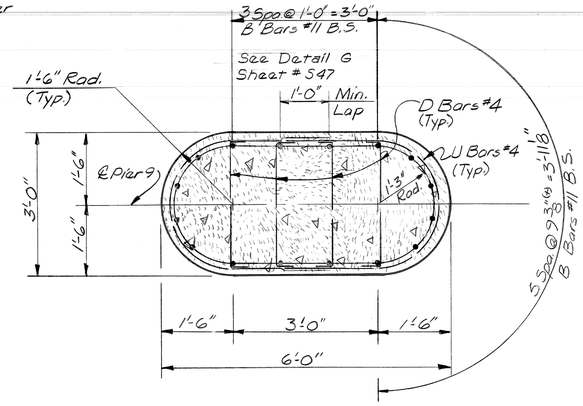
DSGN BY: RGW, MH	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 8	SCALE: NONE	
DR'N BY: MH						DRN. NO: S42	
CK'D BY: RGW							
APP'D BY:							



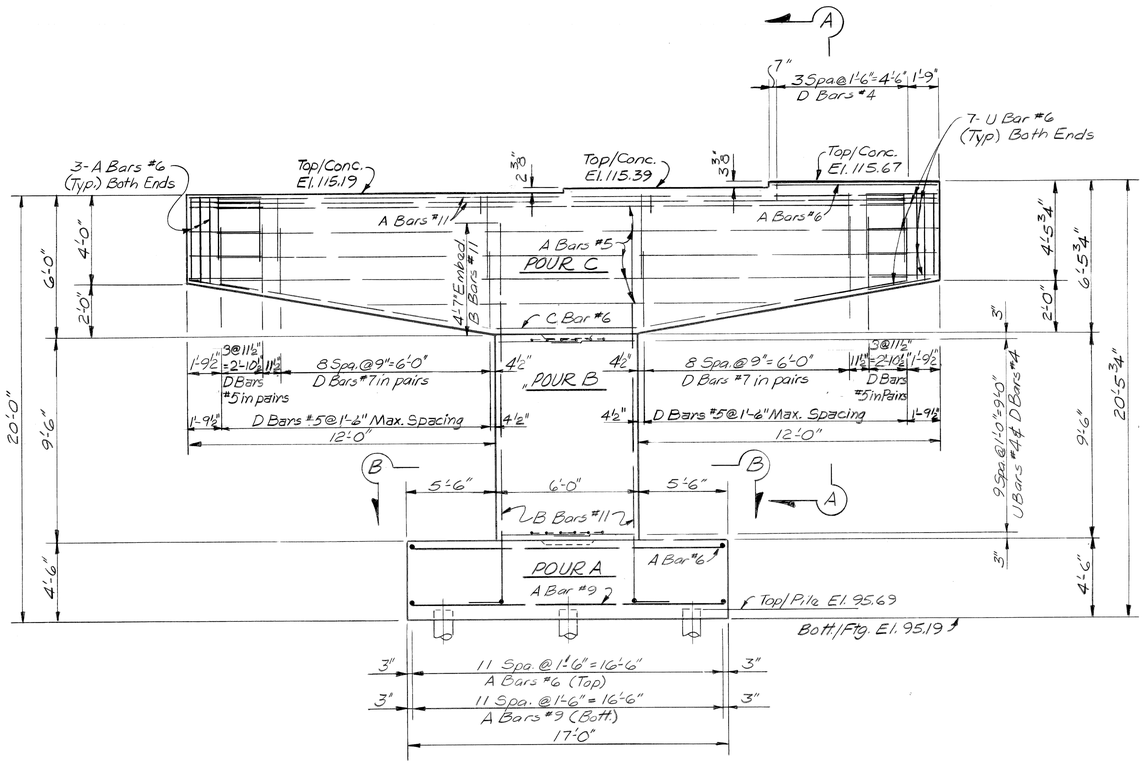
PLAN OF CAP



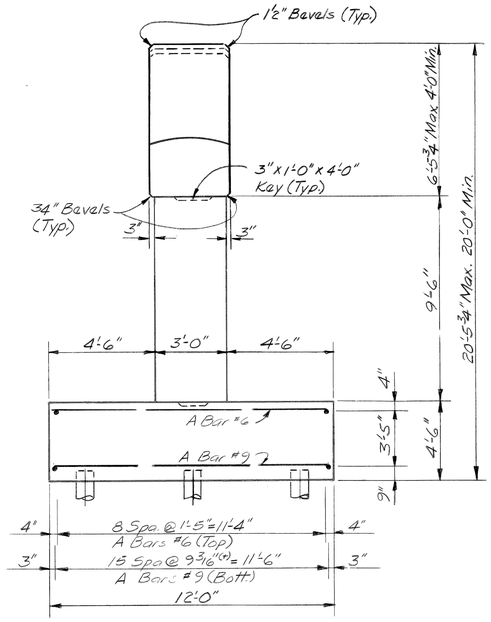
SECTION A-A



SECTION B-B



ELEVATION

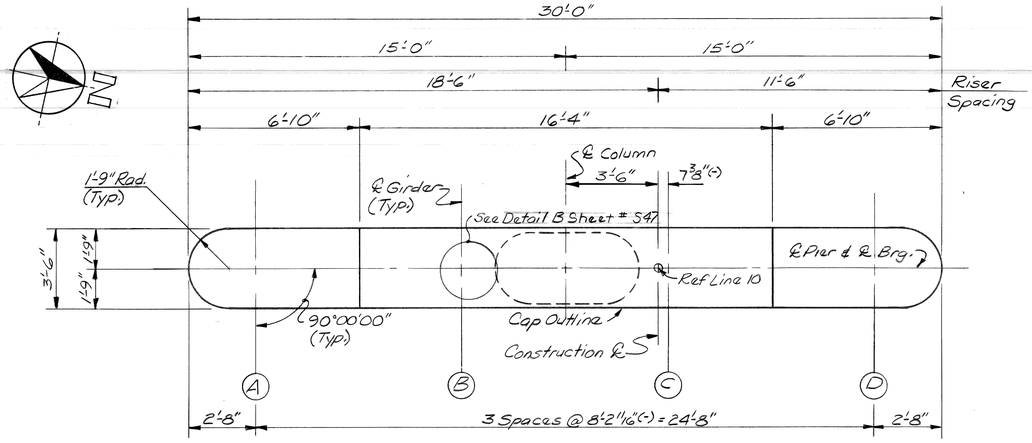


END VIEW

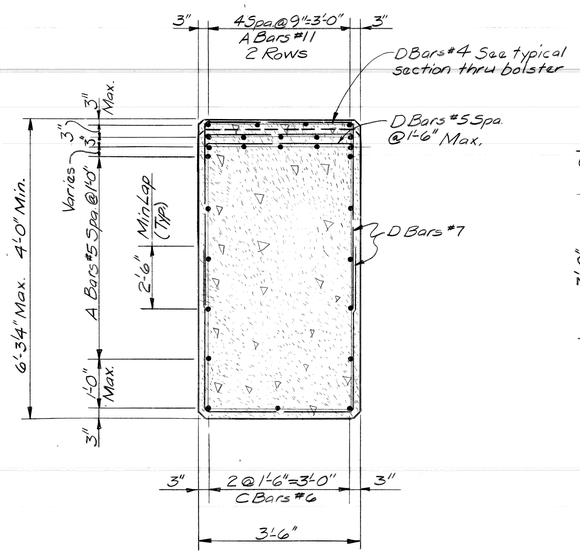
Work This Sheet With Sheets # S34 thru S42 & S44 thru S48

DATE: August, 1979

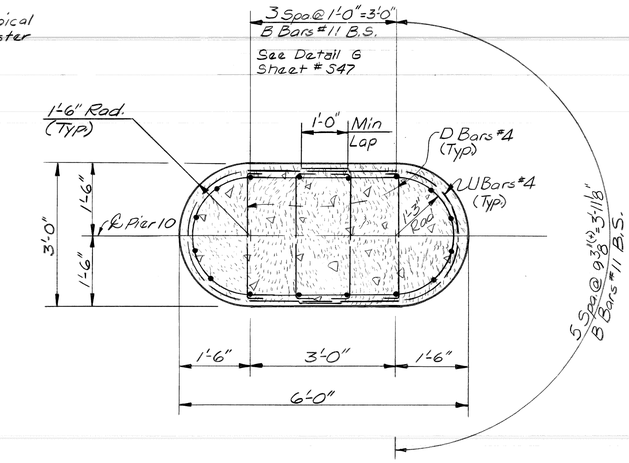
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 9	SCALE: NONE	DRN. NO: S43



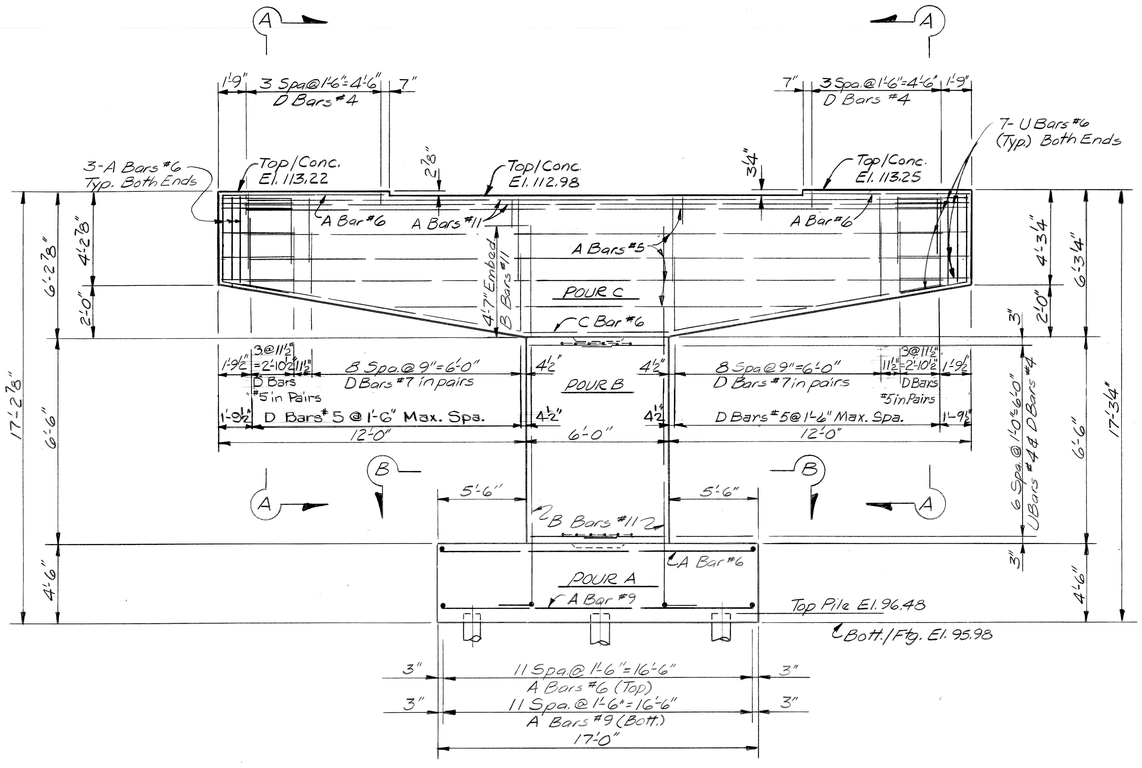
PLAN OF CAP



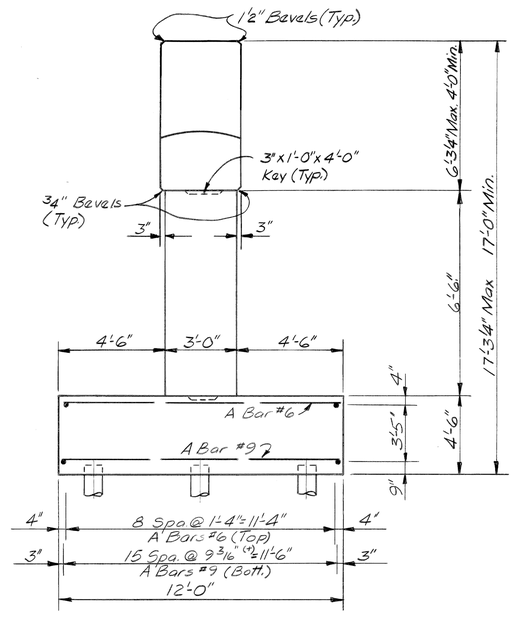
SECTION A-A



SECTION B-B



ELEVATION

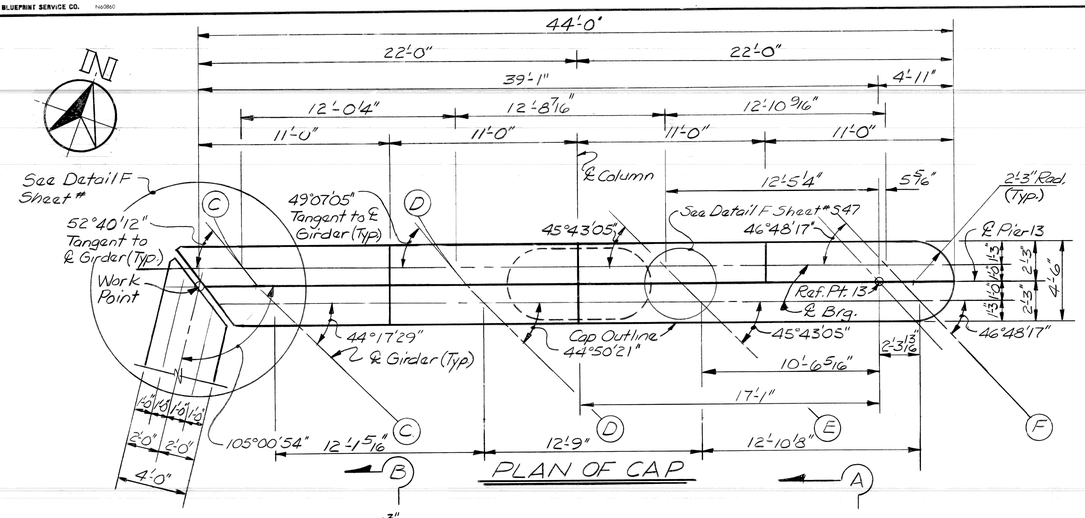


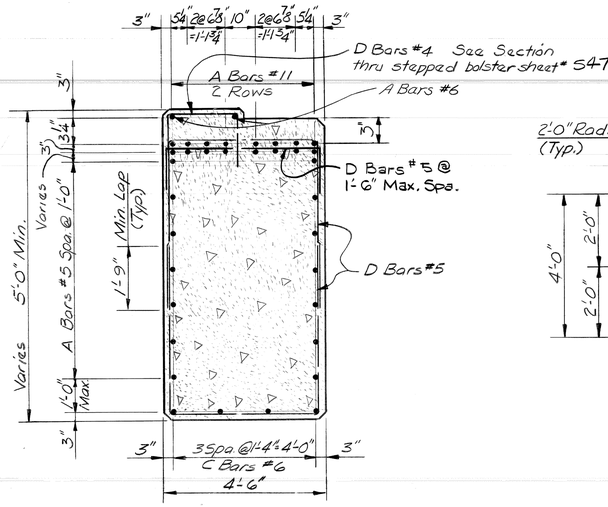
END VIEW

Work This Sheet With Sheets # S34 thru S43, S45, thru S48

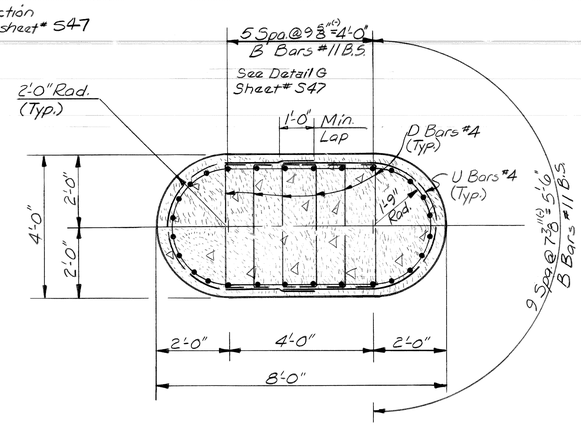
DATE: August, 1979

DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE- RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 10	SCALE: NONE DRN. NO: S44

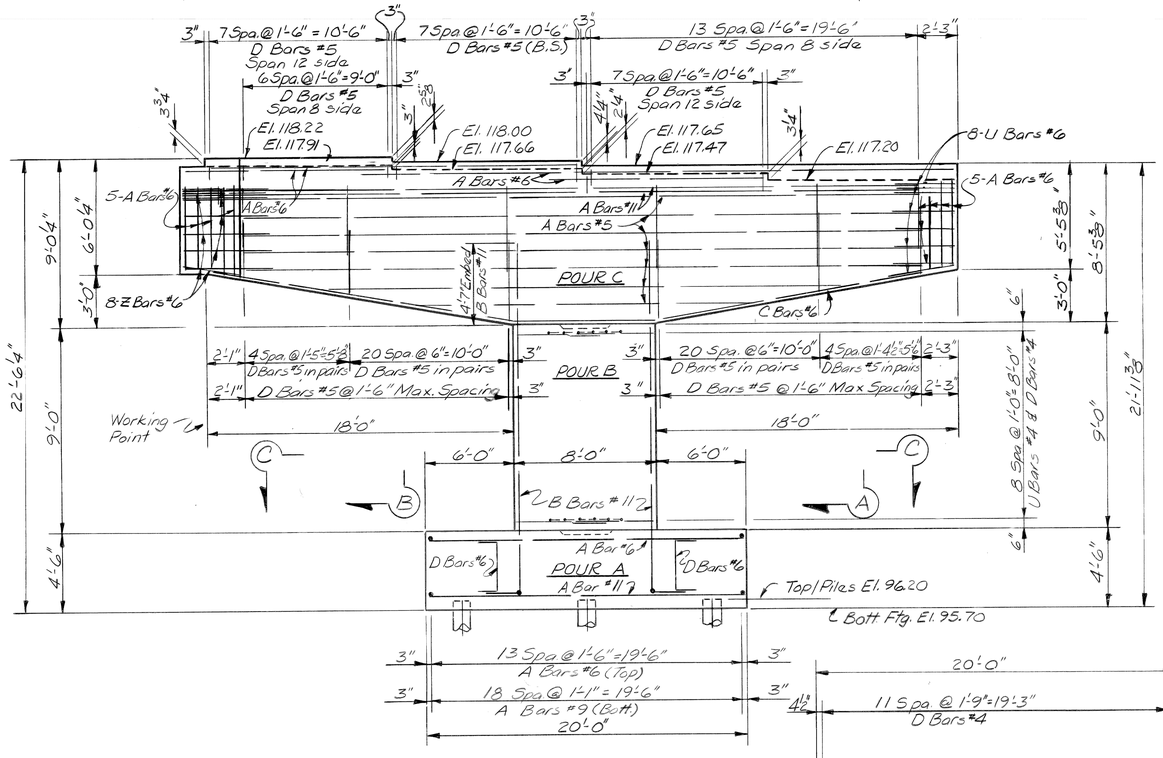




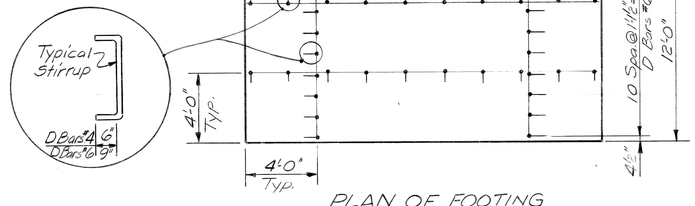
SECTION A-A



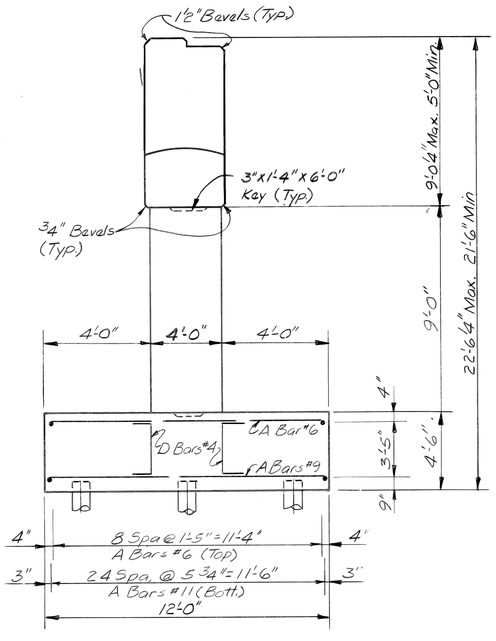
SECTION C-C



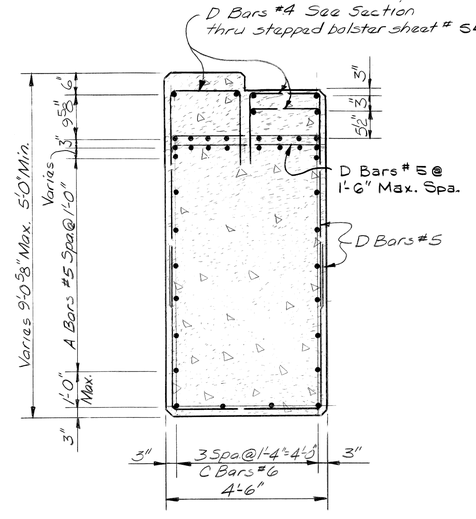
ELEVATION



PLAN OF FOOTING
(Showing Stirrups)



END VIEW

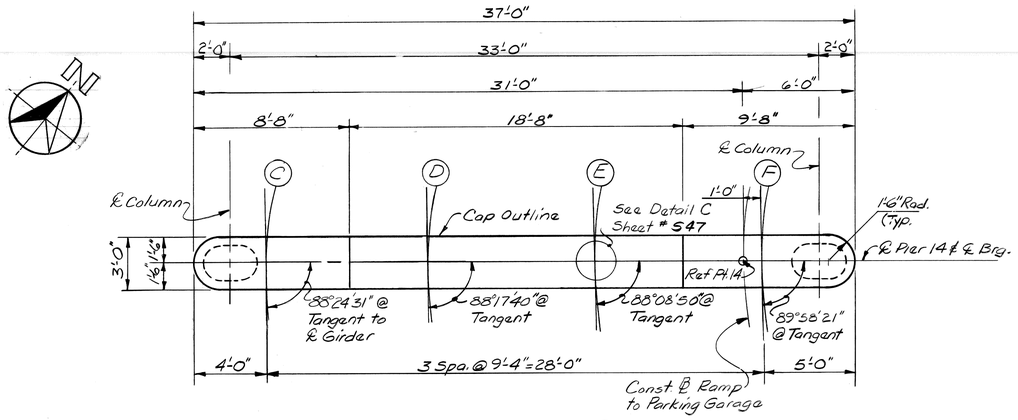


SECTION B-B

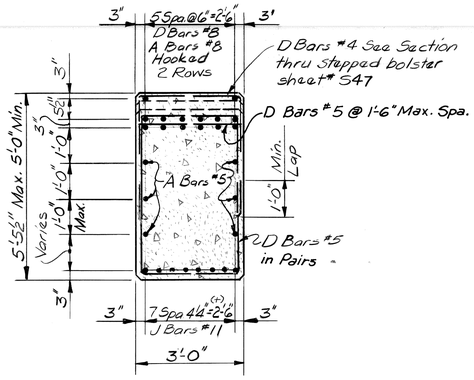
DSGN BY: RGW, MH	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA	PIER DETAILS PIER 13	SCALE: NONE
DR'N BY: MH						DRN. NO: S45
CK'D BY: RGW						
APP'D BY:						

Work This Sheet With Sheets # S34 thru S44 & S46 thru S48

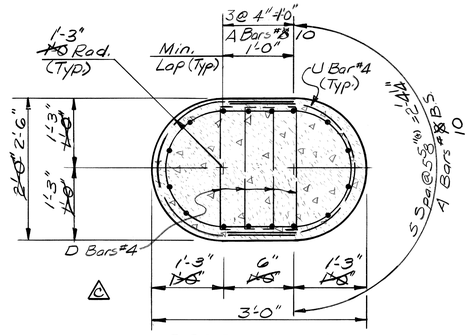
DATE: August, 1979



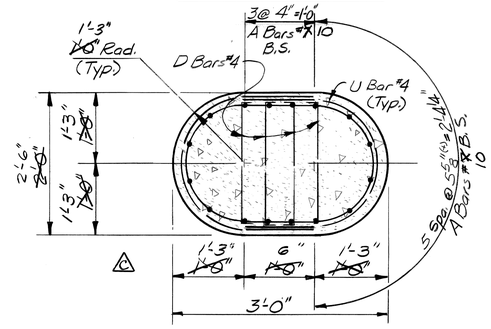
PLAN OF CAP



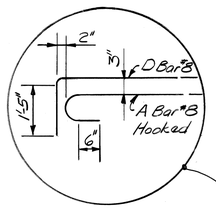
SECTION A-A

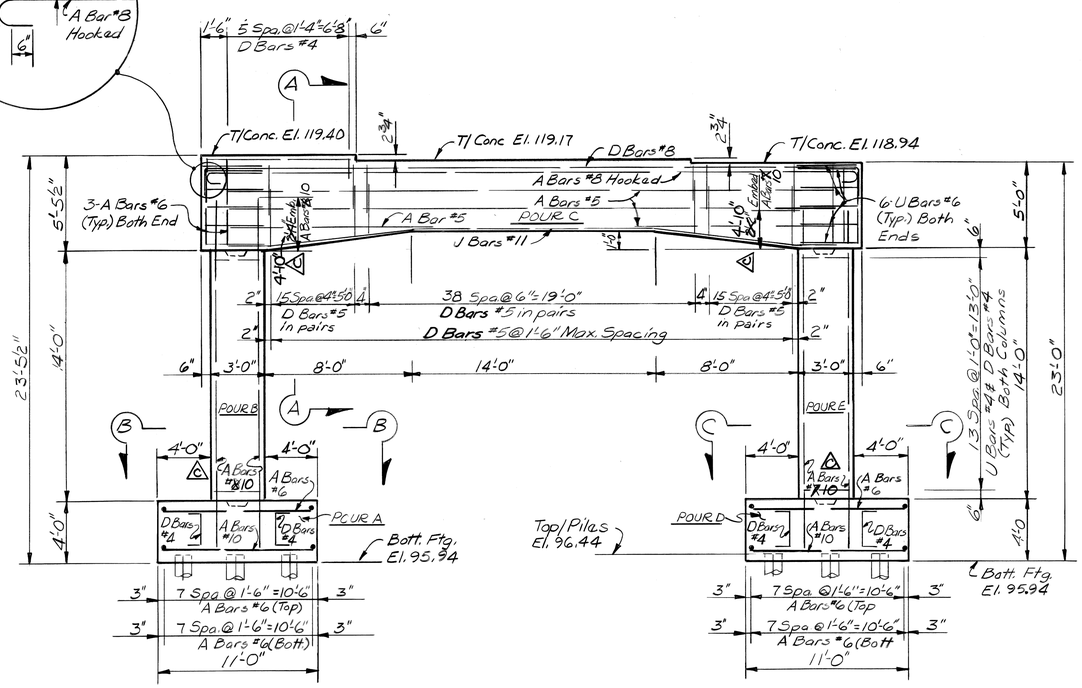


SECTION B-B

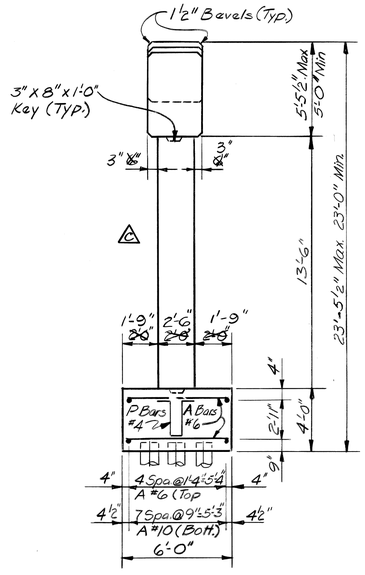


SECTION C-C

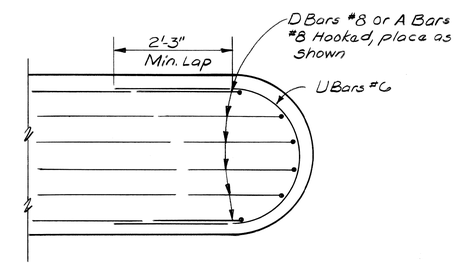




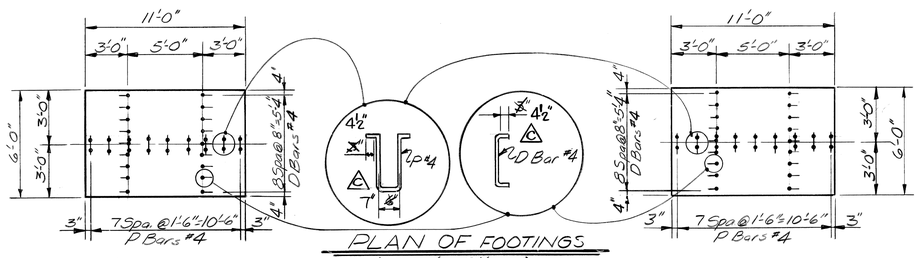
ELEVATION



END VIEW



END CAP DETAIL

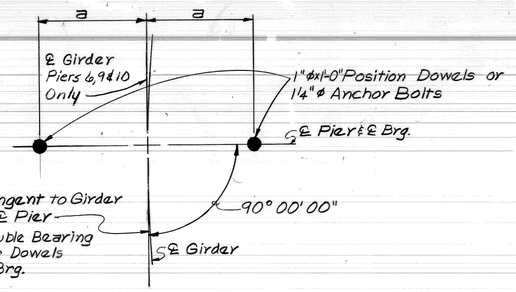


PLAN OF FOOTINGS
(Showing Stirrups)

Work This Sheet With Sheets# S34 thru S45, S47 & S48

DATE: August, 1979

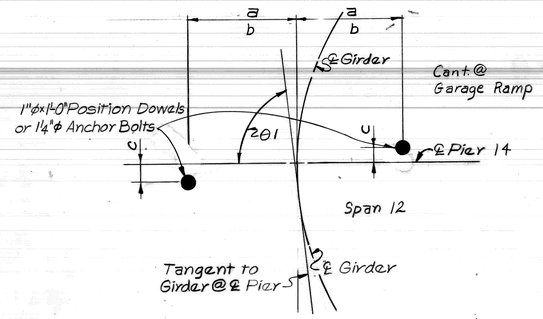
DSGN BY: RGW, MH DR'N BY: MH CK'D BY: RGW APP'D BY:	REVISIONS	⚠ Revise Dimensions SJP 1-22-1980	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE- RECONSTRUCTION AT THE JOE LOUIS ARENA.	PIER DETAILS PIER 14	SCALE: NONE DRN. NO: S46



Note: Pier 1 Is A Double Bearing Pier, Place Bolts Or Dowels As Shown Along ℄ Brg.

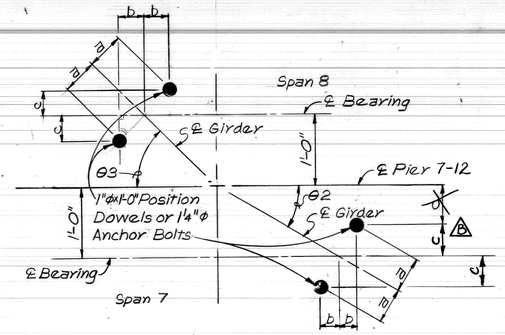
DETAIL B

Piers 1 thru 6-11, 9 & 10



DETAIL C

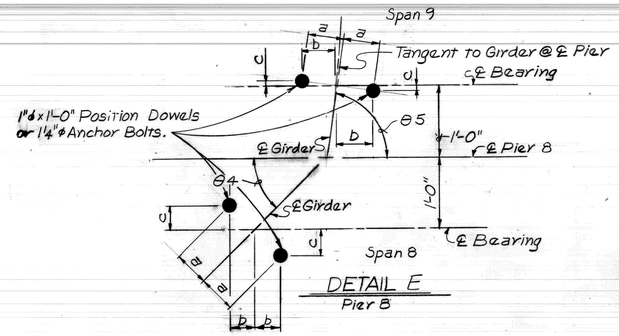
Pier 14



DETAIL D

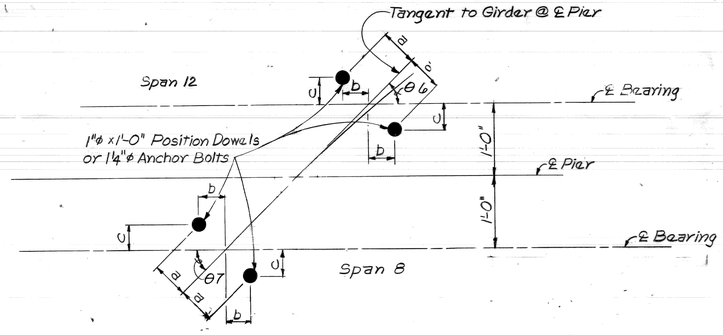
Pier 7-12

PROJECTION TABLE							
Location / Girder	A	B	B-B	C	D	E	F
Pier 1 Span 1	3/4"	3/4"	N.A.	3/4"	3/4"	3/4"	7"
Pier 1, Span 2	1"	1"	N.A.	1"	1"	1"	8'8"
Pier 2	3/4"	3/4"	N.A.	3/4"	3/4"	3/4"	8'8"
Pier 3	2 1/2"	2 1/2"	N.A.	2 1/2"	2 1/2"	2 1/2"	~~9 3/8"~~ 9 3/8" B
Pier 4	3/4"	3/4"	N.A.	3/4"	3/4"	3/4"	9 3/8"
Pier 5	2 1/2"	2 1/2"	N.A.	2 1/2"	2 1/2	2 1/2	8'8"
Pier 6-11	3/4"	3/4"	N.A.	3/4"	3/4"	3/4"	9'8"
Pier 7-12 Span 7	~~5 3/4"~~ 5 7/8" B	1"	N.A.	1"	1"	1"	1"
Pier 7-12 Span 8	4 3/4"	1"	1"	1"	1"	1"	1"
Pier 8, Span 8	6"	3/4"	3/4"	N.A.	N.A.	N.A.	N.A.
Pier 8, Span 9	9 3/4"	3/4"	N.A.	3/4"	3/4"	N.A.	N.A.
Pier 9	8 3/8"	3/4"	N.A.	3/4"	3/4"	N.A.	N.A.
Pier 10	3/4"	3/4"	N.A.	3/4"	3/4"	N.A.	N.A.
Pier 13, Span 8	N.A.	N.A.	N.A.	3/4"	3/4"	3/4"	~~5'6 1/4"~~ 5'6 1/4" B
Pier 13, Span 12	N.A.	N.A.	N.A.	3/4"	3/4"	3/4"	8'4"
Pier 14	N.A.	N.A.	N.A.	1"	1"	1"	8 3/4"



DETAIL E

Pier 8



DETAIL F

Pier 13

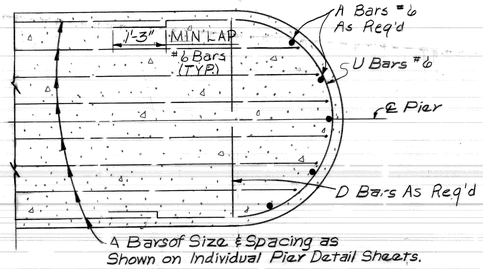
ANGLE TABLE							
ANGLE / GIRDER	θ1	θ2	θ3	θ4	θ5	θ6	θ7
A	N.A.	45°18'39"	38°27'48"	81°37'40"	82°44'12"	N.A.	N.A.
B	N.A.	46°25'12"	35°02'28"	73°28'05"	83°16'14"	N.A.	N.A.
B-B	N.A.	N.A.	41°23'31"	67°07'01"	N.A.	N.A.	N.A.
C	88°24'54"	47°47'07"	47°47'07"	N.A.	83°43'53"	52°39'38"	44°17'29"
D	88°17'22"	48°19'59"	48°19'59"	N.A.	84°07'59"	49°06'25"	44°50'21"
E	88°08'31"	49°12'44"	49°12'44"	N.A.	N.A.	46°25'38"	45°43'05"
F	87°58'00"	50°17'56"	50°17'56"	N.A.	N.A.	46°25'38"	46°48'17"

BEARING LOCATION DIMENSIONS																									
GIRDER	A			B			C			D			E			F									
LOCATION	DIMENSION a																								
Pier 1 Span 1	5"			5"			5"			5"			5"			2 3/4"									
Pier 1 Span 2	6 1/2"			6 1/2"			6 1/2"			6 1/2"			6 1/2"			2 3/4"									N.A.
Pier 2	6 1/2"			6 1/2"			6 1/2"			6 1/2"			6 1/2"			2 3/4"									
Pier 3	5 1/2"			5 1/2"			5 1/2"			5 1/2"			5 1/2"			2 3/4"									
Pier 4	8"			8"			8"			8"			8"			2 3/4"									
Pier 5	6"			6"			6"			6"			6"			2 3/4									
Pier 6-11	6 1/2"			6 1/2"			6 1/2"			6 1/2"			6 1/2"			2 3/4"									
GIRDER	A 15/16 A			A 15/16 B			B-B			C			D			E			F						
LOCATION	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	a	b	c	
Pier 7-12 Span 7	(5/8)	(5/8)	(3/8)	5 1/2"	4"	3 13/16"	N.A.			5 1/2"	4 1/16"	3 11/16"	5 1/2"	4'8"	3 11/16"	5'2"	4 3/16"	3 15/16"	5'2"	4'4"	3 1/2"				
Pier 7-12 Span 8	2 3/4"	1 11/16"	2'8"	2 1/2"	1 7/16"	2 7/16"	2 1/2"	1'8"	1'8"	2 1/2"	1'8"	1 11/16"	2 1/2"	1'8"	1 11/16"	2 1/2"	1'8"	1'8"	2 1/2"	1'5/16"	1'8"				
Pier 8 Span 8	2 3/4"	2 3/4"	3 3/8"	6 1/2"	6 1/4"	1'8"	6 1/2"	6"	2 1/2"	N.A.															
Pier 8 Span 9	2 3/4"	2 3/4"	3 3/8"	4 1/2"	4 1/2"	1/2"	N.A.			4 1/2"	4 1/2"	1/2"	4 1/2"	4 1/2"	7/16"	N.A.									
GIRDER	A			B			C			D															
LOCATION	DIMENSION a																								
Pier 9	2 3/4" ~~2 1/4"~~ A			6 1/2"			6 1/2"			6 1/2"															N.A.
Pier 10	6 1/2"			6 1/2"			6 1/2"			6 1/2"															
GIRDER	C			D			E			F															
LOCATION	a	b	c	a	b	c	a	b	c	a	b	c													
Pier 13 Span 8	5"	4"	3 1/16"	5"	3 3/4"	3 1/4"	5"	3 5/8"	3 1/16"	(5/8)	(5/8)	(3/8)													
Pier 13 Span 12	6"	4 3/16"	4 5/16"	6"	4'4"	4'4"	6"	4 5/16"	4 3/16"	2 3/4"	2"	1'8"													
Pier 14	8 1/2"	8 1/2"	1'4"	8 1/2"	8 1/2"	1/4"	8 1/2"	8 1/2"	1/4"	2 3/4"	2 3/4"	1/8"													

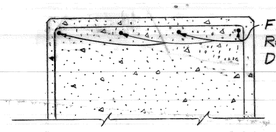
A 2 3/4"

B 2 3/4"
A 2"
A 1'8"

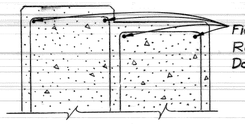
N.A.



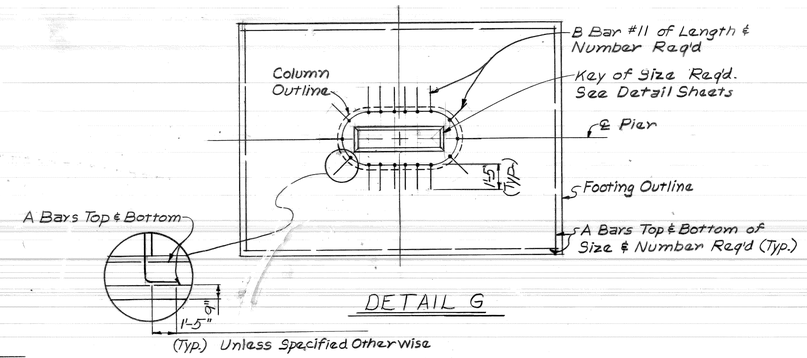
END CAP DETAIL



TYPICAL SECTION THRU LEVEL BOLSTER



TYPICAL SECTION THRU STEPPED BOLSTER

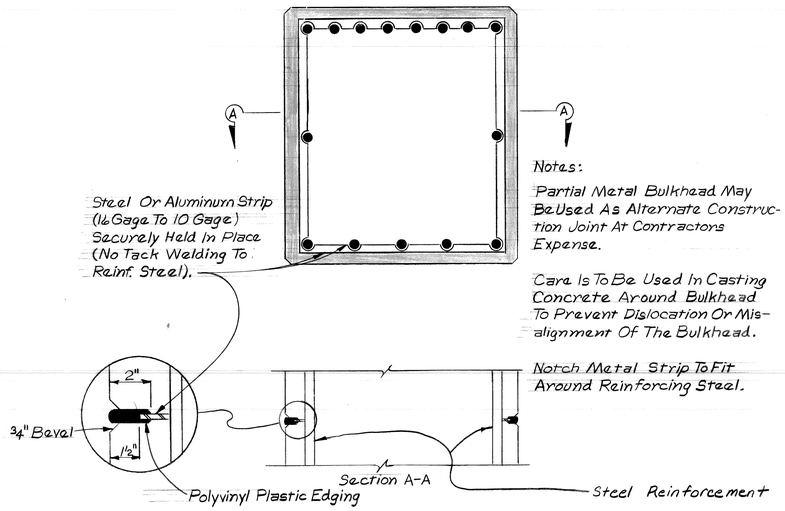


DETAIL G

Work This Sheet With Sheets# S34 thru S46, & S48

DATE: August, 1979

DSGN BY: MH, HGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: MH, D.E.	A Change Anchor Bolt Projection, Change Bearing Location Dimension 01-02-80 SJP		"JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA."
CK'D BY: RGW			PIER DETAILS TYPICAL SECTIONS, DETAILS, AND QUANTITIES
APP'D BY:			SCALE: NONE DRN. NO: S47



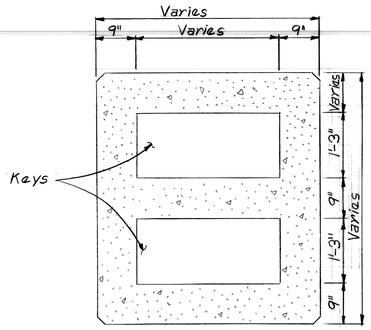
Notes:

Partial Metal Bulkhead May Be Used As Alternate Construction Joint At Contractors Expense.

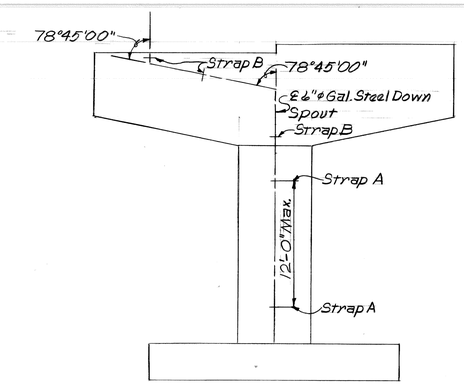
Care Is To Be Used In Casting Concrete Around Bulkhead To Prevent Dislocation Or Misalignment Of The Bulkhead.

Notch Metal Strip To Fit Around Reinforcing Steel.

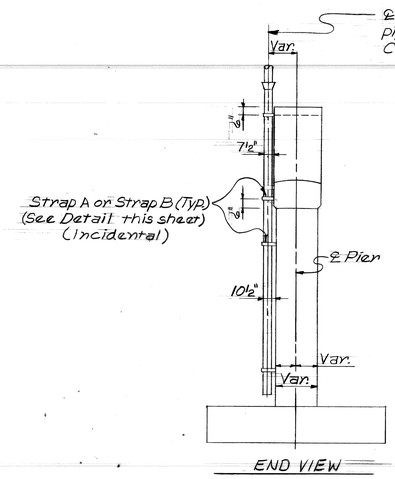
ALTERNATE CONSTRUCTION JOINT



CONSTRUCTION JOINT

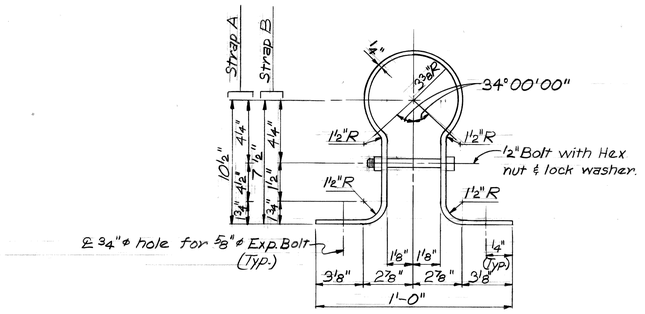


ELEVATION

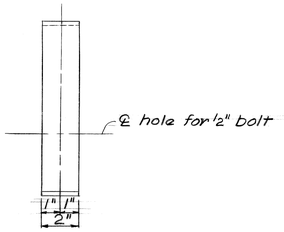


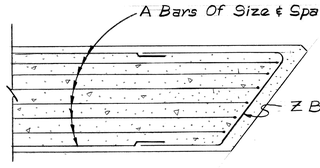
END VIEW

DOWN SPOUT DETAIL



DETAIL - STRAP A & STRAP B





END CAP DETAIL
Pier 8 & Pier 13

MISCELLANEOUS QUANTITIES

Item	Unit	Amount												Total
		Pier1	Pier2	Pier3	Pier4	Pier5	Pier6-11	Pier7-12	Pier8	Pier9	Pier10	Pier13	Pier14	
Unclassified Foundation Excavation	C.Y.	69	74	47	81	47	81	249	62	56	56	64	43	934
Protective Sealant Coating	S.F.	186	N.A.	N.A.	N.A.	N.A.	N.A.	309	128	N.A.	N.A.	213	N.A.	836
Clear Protective Coating For Substructure Concrete	S.F.	881	1,159	1,193	1,157	1,145	1,172	1,472	671	670	625	922	794	11,861
Low Temperature Protection, Substructure Concrete	C.Y.	97	106	88	112	85	112	267	72	60	58	104	43	1,204

SUBSTRUCTURE CONCRETE QUANTITIES

Item	Unit	Pour					
		A	B	C	D	E	F
Pier 1	C.Y.	44.0	6.4	46.7	N.A.	N.A.	N.A.
Pier 2	C.Y.	48.0	11.1	46.8	N.A.	N.A.	N.A.
Pier 3	C.Y.	28.0	12.7	47.3	N.A.	N.A.	N.A.
Pier 4	C.Y.	53.3	10.6	47.4	N.A.	N.A.	N.A.
Pier 5	C.Y.	28.0	10.1	47.1	N.A.	N.A.	N.A.
Pier 6-11	C.Y.	53.3	11.1	47.8	N.A.	N.A.	N.A.
Pier 7-12	C.Y.	89.8	9.9	32.3	89.8	9.9	35.2
Pier 8	C.Y.	39.0	8.2	25.1	N.A.	N.A.	N.A.
Pier 9	C.Y.	34.0	5.7	20.3	N.A.	N.A.	N.A.
Pier 10	C.Y.	34.0	3.9	20.2	N.A.	N.A.	N.A.
Pier 13	C.Y.	40.0	9.5	54.0	N.A.	N.A.	N.A.
Pier 14	C.Y.	9.8	2.6	18.4	9.8	2.6	N.A.
Total Substructure Concrete = 1,204 C.Y.							

MISCELLANEOUS QUANTITIES

Item	Unit	Amount
Steel Reinforcement	lbs.	169,000

NOTES

B.S. denotes Both Sides.

For Bevel and Molding Details, see Standard Sheet R17.

For Drain Casting Details, see Pier Detail Sheets and Standard Sheet DC1.

The tops of Piers 1, 7-12, 8, & 13 shall be given an application of protective sealant coating for concrete after the elastomeric bearings have been placed in final position on the Structure.

Clear protective coating for substructure concrete is to be applied to the complete area of the pier concrete above footings except the tops of Piers 1, 7-12, 8 & 13.

The concrete surface below an elastomeric bearing shall be broom finished and shall be clean and dry at time of installation of the bearing.

Drilling holes for anchor bolts or position dowels will not be permitted.

Adjust the spacing of reinforcing steel as required to permit placing of anchor bolts or position dowels.

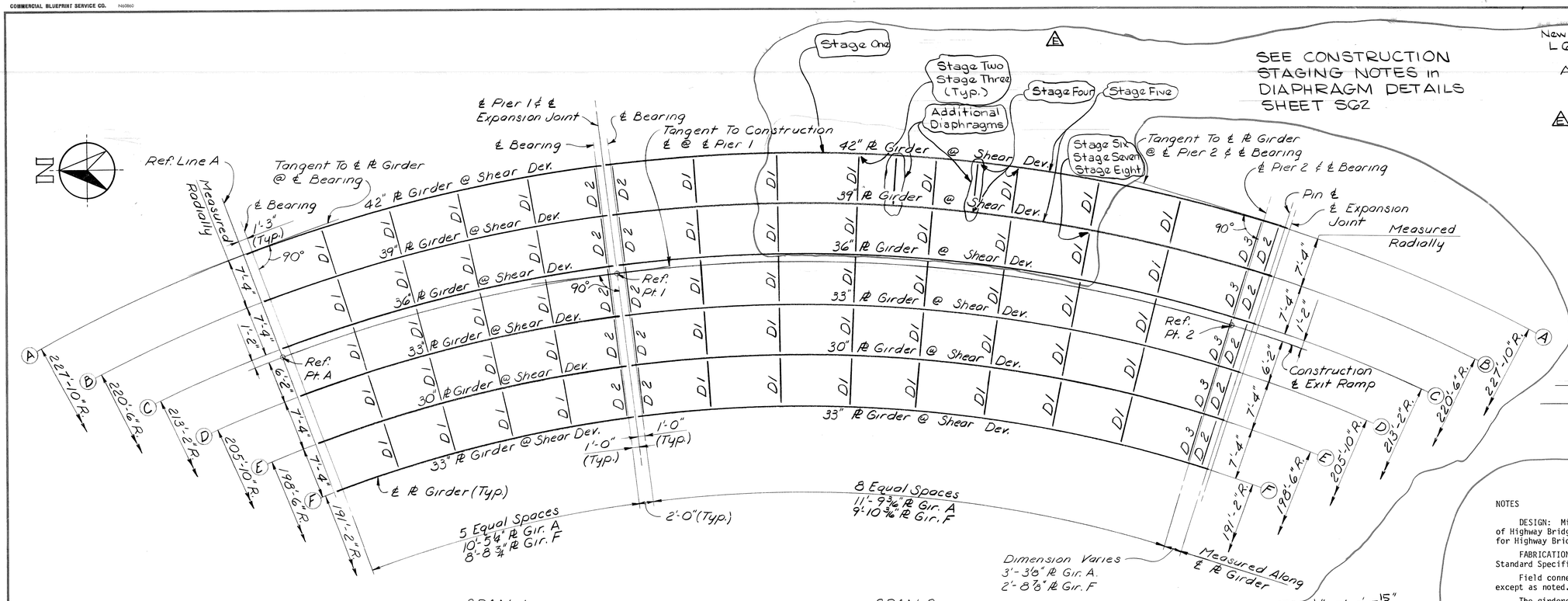
For pile quantities, pile layout and notes pertaining to piles, see Pile Detail Sheets.

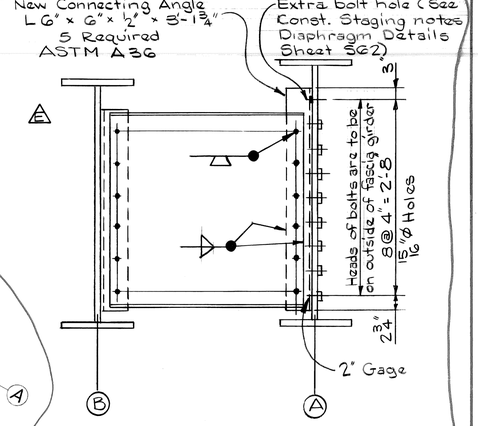
Pipe to be used for downspouts is to be galvanized steel pipe ASTM A53, Standard Grade.

Work This Sheet With Sheets# S34 thru S47

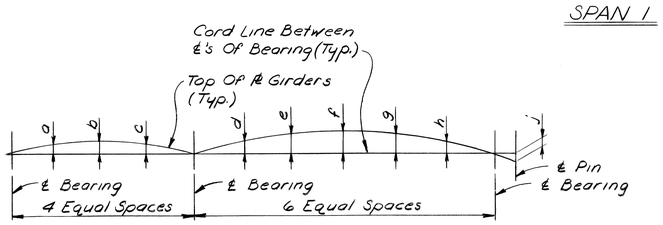
DATE: August, 1979

DSGN BY: RGW, MH DR'N BY: DF CK'D BY: RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	PIER DETAILS MISCELLANEOUS SECTIONS AND DETAILS	SCALE: NONE DRN. NO: S48





EXISTING DIAPHRAGM NEW CONNECTING ANGLE DETAILS



CAMBER DIAGRAM

Stage 1 - Camber measured with Rr girder lying on its side. Heating is to be used, if necessary, to assure camber permanency within the tolerance specified in the AWS Specifications.

Stage 2 - Rr girders erected with diaphragms in place, no other loads applied. Camber includes allowances for: forms, deck concrete, steel reinforcement, V.C., and railings.

CAMBER ORDINATES

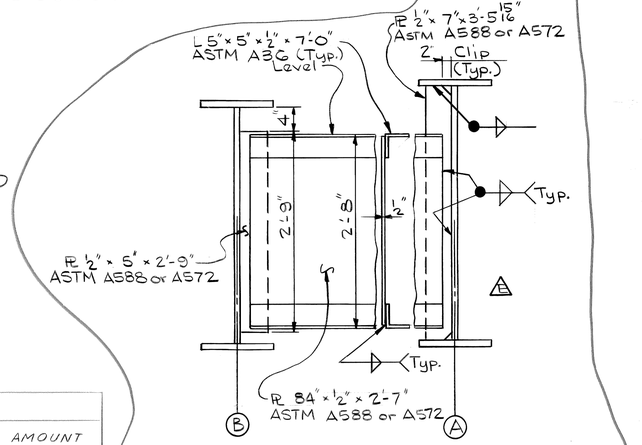
Girder \ Dimension		SPAN 1 a	SPAN 1 b	SPAN 1 c	SPAN 2 d	SPAN 2 e	SPAN 2 f	SPAN 2 g	SPAN 2 h	Pin j
A	Stage 1	1/2"	2"	1/2"	3/8"	5 9/16"	6 1/4"	5 9/16"	3 1/2"	- 1/8"
	Stage 2		1 15/16"				5 1/2"			- 1/16"
B	Stage 1	1/2"	2"	1/2"	3 5/16"	5 9/16"	6"	5 9/16"	3 5/16"	- 1/16"
	Stage 2		1 15/16"				5 5/16"			- 3/8"
C	Stage 1	1 5/16"	1 1/4"	9/16"	3 1/2"	5 9/16"	6 1/4"	5 9/16"	3 1/2"	- 1/2"
	Stage 2		1 11/16"				5 5/8"			- 7/16"
D	Stage 1	15/16"	1 3/4"	15/16"	3 5/16"	5 5/16"	6"	5 5/16"	3 5/16"	- 5/16"
	Stage 2		1 11/16"				5 1/2"			- 1/4"
E	Stage 1	1 5/16"	1 3/4"	1 5/16"	3 9/16"	5 5/8"	5 3/4"	5 1/8"	3 3/16"	+ 1/8"
	Stage 2		1 11/16"				5 9/16"			+ 3/16"
F	Stage 1	1 1/8"	1 1/2"	1 1/8"	2 5/8"	4 1/4"	4 3/4"	4 1/4"	2 5/8"	+ 3/4"
	Stage 2		1 1/16"				4 7/16"			+ 13/16"

ERECTION DIAGRAM

AUTH 2010

STRUCTURAL STEEL QUANTITIES

ITEM	UNIT	AMOUNT
STRUCTURAL STEEL-FURNISHING & FABRICATING (A588 PLATE)	Lbs.	1,170,000
STRUCTURAL STEEL-ERECTED (A588 PLATE)	Lbs.	1,170,000
3/4" Elastomeric Bearing	Sq. Ft.	37
1" Elastomeric Bearing	Sq. Ft.	32
1 1/8" Elastomeric Bearing	Sq. Ft.	5
2" Elastomeric Bearing	Sq. Ft.	12
2 1/4" Elastomeric Bearing	Sq. Ft.	6
3" Elastomeric Bearing	Sq. Ft.	25
3 3/8" Elastomeric Bearing	Sq. Ft.	16
4" Elastomeric Bearing	Sq. Ft.	6
5 1/2" Elastomeric Bearing	Sq. Ft.	6
Shear Developers	Lump	Sum
Field Painting	Tons	585



ADDITIONAL DIAPHRAGM DETAILS

2 Required Span 2
2 Required Span 3
(See Span 3 Erection Diagram)

NOTES

DESIGN: Michigan Department of State Highways Specifications for Design of Highway Bridges - 1958 Edition and current AASHTO Standard Specifications for Highway Bridges. HS25 Loading.

FABRICATION: Michigan Department of State Highways and Transportation Standard Specifications for Highway Construction - 1976 Edition.

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

The girders are to have a parabolic camber with ordinates as shown on the camber diagrams. Heating is to be used, if necessary, to assure camber permanency within the tolerance specified in the AWS Specifications. The dead load deflection of the girders alone, with all steel erected, is as shown on the camber diagram.

Studs shall be omitted from bolted splice plates.

Structural steel shall be painted. Painting of the structural steel shall be in accordance with the Special Provision for Shop Cleaning, Shop Painting, Field Repair and Top Coating Structural Steel.

Anchor bolt and position dowel lengths shown are minimum. Bolts or dowels longer than those shown may be furnished at no additional cost.

The minimum size of weld is to be 1/4 inch unless otherwise shown on the Plans.

Structural steel shall conform to ASTM A-588 except that steel for galvanized portions of bearings may be ASTM A-36.

Steel for pins shall be ASTM A-588, ASTM A-235 (Class G) or ASTM A-108 having a minimum yield point of 50,000 p.s.i.

The fabricator shall fabricate the girders in Span 1 thru 6 straight and curve to the proper radius by heating. The procedure shall conform to the requirements of the current AASHTO Specifications, except that continuous heating will not be allowed. If the Fabricator elects not to use heating for curving the girders to the proper radius in spans 1 thru 6, then an adjusted Camber Table must be obtained from the Design Office of Snell Environmental Group, Inc., 1120 May Street, Lansing, Michigan 48906.

Elastomer for Elastomeric Bearing Pads shall be nominal 50 durometer hardness for expansion bearings and 70 durometer hardness for fixed bearings. The design of these pads is based on a maximum pressure of 500 p.s.i. D.L. and 800 p.s.i. D.L. + L.L.

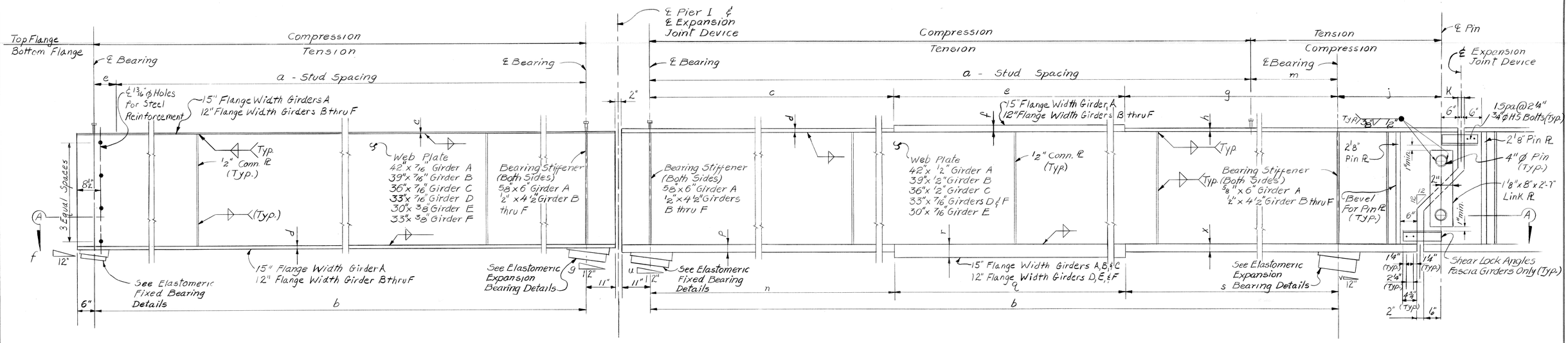
The quantity Structural Steel includes:

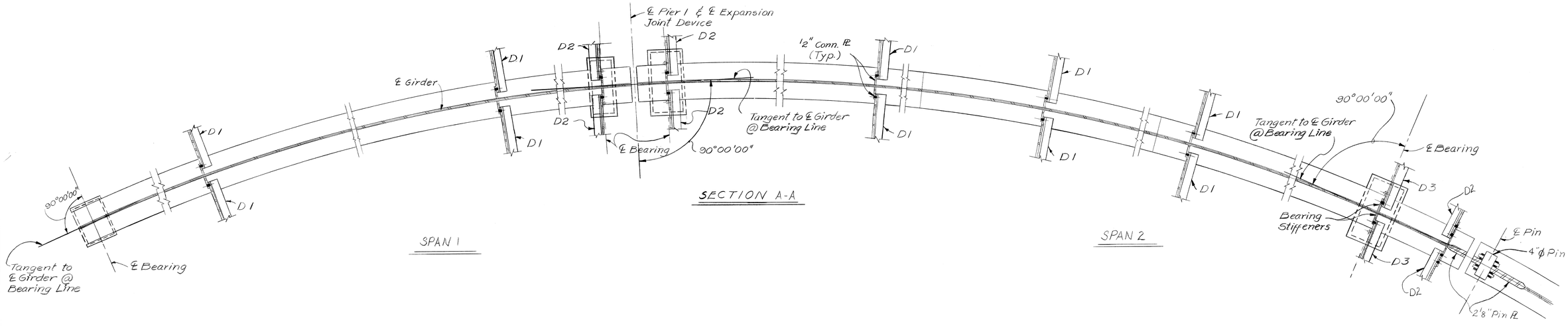
A-588 Steel 1,170,000 lbs. Total

Work This Sheet With Sheets# S50 thru S62

DATE: August, 1979

DSGN BY: SJP, RGW DR'N BY: LDM, MH CK'D BY: SJP, RGW APP'D BY:	REVISIONS	A Add additional diaphragm details SJP 5/22/80	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA. STRUCTURAL STEEL DETAILS ERECTION DIAGRAM AND CAMBERS SPANS 1 AND 2	SCALE: NONE DRN. NO: S49





PL GIRDER DIMENSIONS - SPAN 1

Girder \ Dimen	a	b	c	d	e	f	g
A	62 Spa @ 10" = 51'-8"	52'-2 3/8"	5/8"	7/8"	6 3/8"	5/8"	1/2"
B	54 Spa @ 11" = 49'-6"	50'-5 13/16"			11 13/16"		
C	58 Spa @ 10" = 48'-4"	48'-9 1/4"	1/2"	1 1/8"	5 1/4"		
D	56 Spa @ 10" = 46'-8"	47'-0 3/4"			4 3/4"	11/16"	9/16"
E	60 Spa @ 9" = 45'-0"	45'-4 3/16"			4 3/16"		
F	52 Spa @ 10" = 43'-4"	43'-7 5/8"		7/8"	3 5/8"	3/4"	5/8"

PL GIRDER DIMENSIONS - SPAN 2

Girder \ Dimen	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v
A	100 Spa @ 11" = 91'-8"	94'-1 5/16"	21'-9"	1"	47'-10"	1 5/8	24'-6 5/16"	1"	3'-3 1/8"	6 1/2"	2'-5 5/16"	18'-0"	2"	56'-2"	3 3/8"	19'-11 5/16"	2"	1/2"	5/16"
B	96 Spa @ 11" = 88'-0"	91'-0 9/16"	20'-4"	1'8"	47'-8"	1 7/8"	23'-0 9/16"	1 1/8"	3'-1 7/8"	5 7/8"	3'-0 9/16"	18'-0"	1 7/8"	53'-0"	3"	20'-0 9/16"	1 7/8"		
C	102 Spa @ 10" = 85'-0"	87'-11 7/8"	N/A	N/A	64'-0"	1 1/2"	23'-11 7/8"	1"	3'-0 5/8"	5 5/16"	2'-11 3/8"	16'-9"	1 5/8"	52'-11"	2 3/4"	18'-3 7/8"	1 5/8"		
D	110 Spa @ 9" = 82'-6	84'-11 1/8"			63'-3"	1 1/4"	21'-8 5/8"	3/4"	2'-11 3/8"	4 11/16"	2'-5 5/8"	16'-0"	2"	51'-7"	3 1/4"	17'-4 1/2"	2"		
E	105 Spa @ 9" = 78'-9"	81'-10 3/8"			N/A	N/A	81'-10 3/8"	1"	2'-10 1/8"	4 1/2"	3'-1 3/8"	N/A	N/A	62'-9"	2 7/8"	19'-1 3/8"	1 3/4"	9/16"	
F	91 Spa @ 10" = 75'-10"	78'-9 5/8"					78'-9 5/8"	1/2"	2'-8 7/8"	3 1/2"	2'-11 5/8"			61'-3"	2'8"	17'-6 5/8"	1 1/4"		3/8"

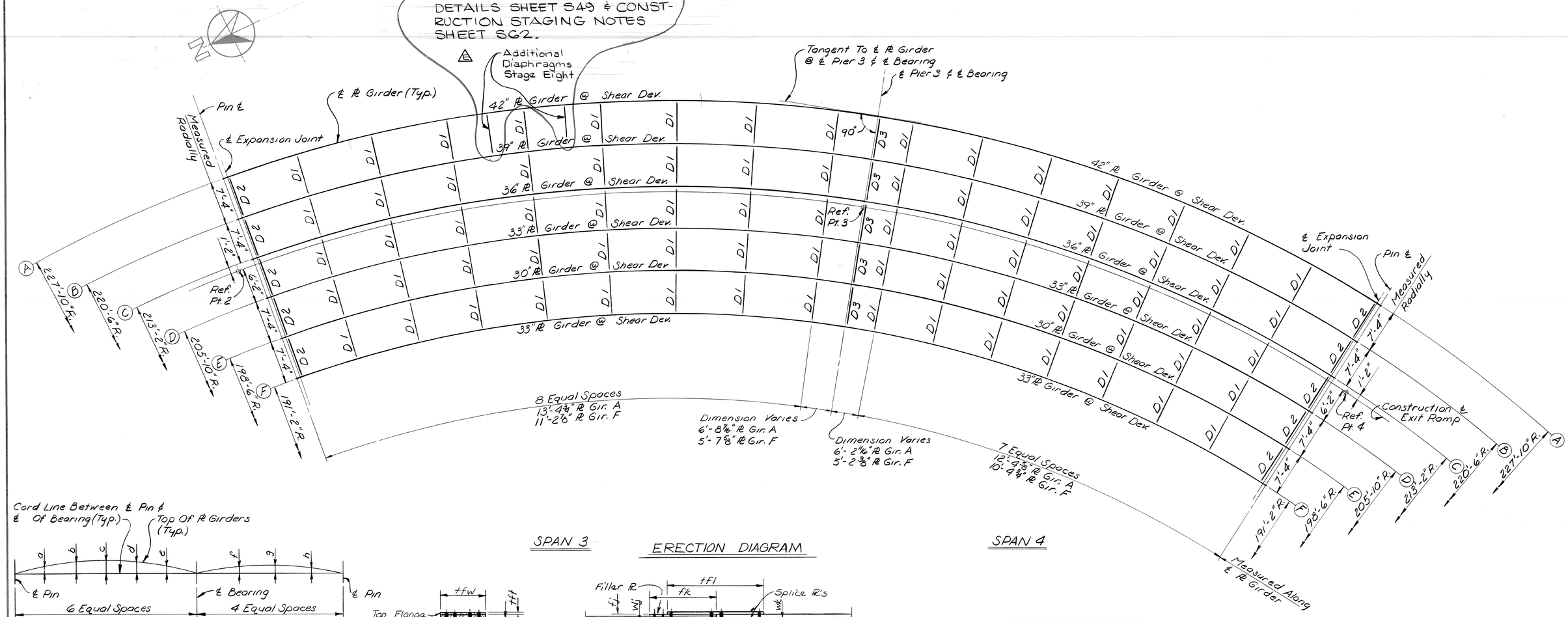
N/A : denotes Not Applicable

Work This Sheet With Sheets# S49 & S51 thru S62

DATE: August, 1979

DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: JB			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: SJP, RGW			STRUCTURAL STEEL DETAILS PL GIRDER DETAILS SPANS 1 AND 2
APP'D BY:			SCALE: NONE
			DRN. NO: S50

SEE ADDITIONAL DIAPHRAGM DETAILS SHEET S49 & CONSTRUCTION STAGING NOTES SHEET SG2.



Cord Line Between ℄ Pin ∤ ℄ Of Bearing (Typ.)

Top Of R Girders (Typ.)

CAMBER DIAGRAM

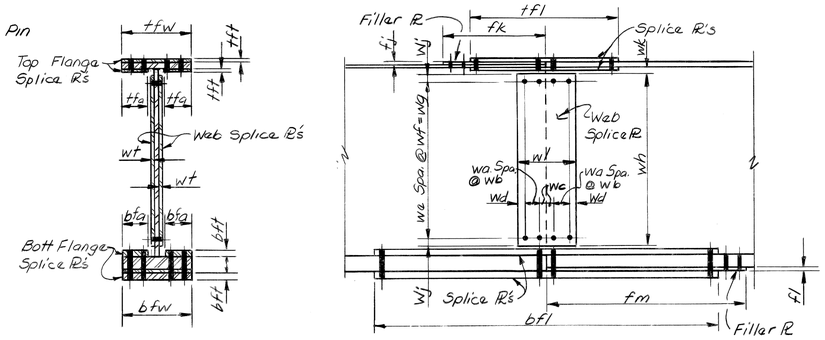
Stage 1 - Camber measured with R girder lying on its side. Heating is to be used, if necessary, to assure camber permanency within the tolerance specified in the AWS Specifications.

Stage 2 - R girders erected with diaphragms in place, no other loads applied. Camber includes allowances for: forms, deck concrete, steel reinforcement, V.C., and railings.

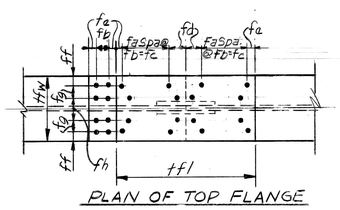
CAMBER ORDINATES

Girder	Dimension	SPAN 3 a	b	c	d	e	SPAN 4 f	g	h
A	Stage 1	3 7/8"	6 3/8"	7 1/4"	6 1/2"	4"	1 5/8"	2 3/4"	2 1/4"
	Stage 2			6 1/2"				2 13/16"	
B	Stage 1	3 3/4"	6 1/8"	7 1/8"	6 1/4"	4"	1 7/8"	3"	2 1/2"
	Stage 2			6 1/2"				3"	
C	Stage 1	3 5/8"	6 3/8"	7 3/8"	6 1/2"	4 1/8"	1 7/8"	3 1/4"	2 5/8"
	Stage 2			6 11/16"				3 3/4"	
D	Stage 1	4"	6 1/2"	7 3/8"	6 5/8"	4 1/8"	2"	3 1/4"	2 5/8"
	Stage 2			6 7/8"				3 3/16"	
E	Stage 1	4"	6 1/2"	7 3/8"	6 5/8"	4 1/8"	2"	3 1/4"	2 5/8"
	Stage 2			6 15/16"				3 1/8"	
F	Stage 1	3 1/2"	5 3/4"	6 5/8"	5 7/8"	3 3/4"	1 3/4"	2 3/4"	2 1/4"
	Stage 2			6 3/8"				2 5/8"	

SPAN 3 ERECTION DIAGRAM

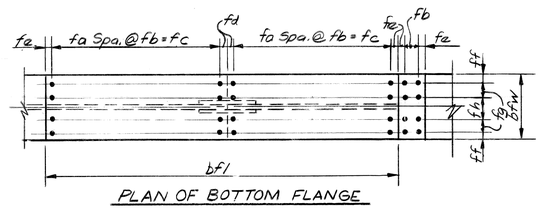


TYPICAL SECTION @ FIELD SPLICE



PLAN OF TOP FLANGE

ELEVATION



PLAN OF BOTTOM FLANGE

FIELD SPLICE DETAILS

SPAN 4

FIELD SPLICE DIMENSIONS

Dim.	Girder	A	B	C	D	E	F
TOP FLANGE	tfa	6 1/2"	5"	5"	5"	5"	5"
	tfl	3'-9"	7'-2"	21'-7"	21'-2"	21'-2"	21'-2"
	tfw	1'-3"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	tft	3/8"	7/8"	3/8"	3/8"	3/8"	3/8"
	fa	5	8	2	2	2	2
	fb	3 1/2"	5"	5"	5"	5"	5"
	fc	1'-5 1/2"	3'-4"	10"	10"	10"	10"
	fd	3 1/2"	1 3/4"	4 1/4"	1 3/4"	1 3/4"	1 3/4"
	fe	1 1/2"	1 1/4"	1 1/2"	1 1/4"	1 1/4"	1 1/4"
	ff	2 1/4"	2"	2"	2"	2"	2"
	fg	2 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
	fh	5"	4 1/2"	4 1/2"	4 1/2"	4 1/2"	4 1/2"
	fk	2'-5"	4'-2 1/2"	1'-11"	1'-8 1/2"	1'-8 1/2"	1'-8 1/2"
	fj	1 3/8"	1 3/8"	1 3/8"	1 1/4"	2 3/4"	1 7/8"
WEB	wa@wb	2@3"	2@2 1/2"	2@2 1/2"	2@2 1/2"	10@2 1/2"	10@2 1/2"
	wc	2"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
	wd	1 1/2"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
	we	10	10	9	9	8	11
	wf	3 1/2"	3 1/4"	3 1/2"	3 1/4"	3 1/4"	2 1/2"
	wg	2'-11"	2'-8 1/2"	2'-7 1/2"	2'-5 1/4"	2'-2"	2'-3 1/2"
	wh	3'-2"	2'-11"	2'-10"	2'-8"	2'-5"	2'-6"
	wj	1 1/2"	1/4"	1 1/4"	1 3/8"	1 1/2"	1 1/4"
	wk	2"	2"	1"	1 1/2"	1 1/2"	1 1/2"
	wl	1'-7"	1'-4"	1'-4"	1'-4"	11"	11"
	wt	3 3/8"	3 3/8"	3 3/8"	3 3/8"	3 3/8"	3 3/8"
BOTT FLANGE	bfa	6 1/2"	6 1/2"	6 1/2"	6 1/2"	6 1/2"	5"
	bfl	4'-7"	5'-1"	4'-8"	4'-8"	4'-8"	3'-5"
	bft	1"	1"	1"	7/8"	7/8"	7/8"
	bfw	1'-3"	1'-3"	1'-3"	1'-3"	1'-3"	1'-0"
	fa	8	11	10	10	10	7
	fb	3"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	fc	2'-0"	2'-3 1/2"	2'-1"	2'-1"	2'-1"	1'-5 1/2"
	fd	2"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
	fe	1 1/2"	1 1/4"	1 1/2"	1 1/4"	1 1/4"	1 1/4"
	ff	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 1/2"
	fg	3"	3"	3"	3"	3"	2"
	fh	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5"
	fl	1/8"	1/4"	N/A.	1/8"	1/8"	1/4"
	fm	2'-9 1/2"	2'-11 1/2"	N/A.	2'-9"	2'-9"	2'-11 1/2"
Bolt Size		7/8" ø	3/4" ø	3/4" ø	3/4" ø	3/4" ø	3/4" ø

Work This Sheet With Sheets # S49, S50 & S52 thru S62

DATE: August, 1979

DSGN BY:	SJP, RGW
DR'N BY:	LDM, MH
CK'D BY:	SJP, RGW
APP'D BY:	

REVISIONS: Ⓔ Add additional diaphragms SJP 5/22/80

CITY OF DETROIT, MICHIGAN

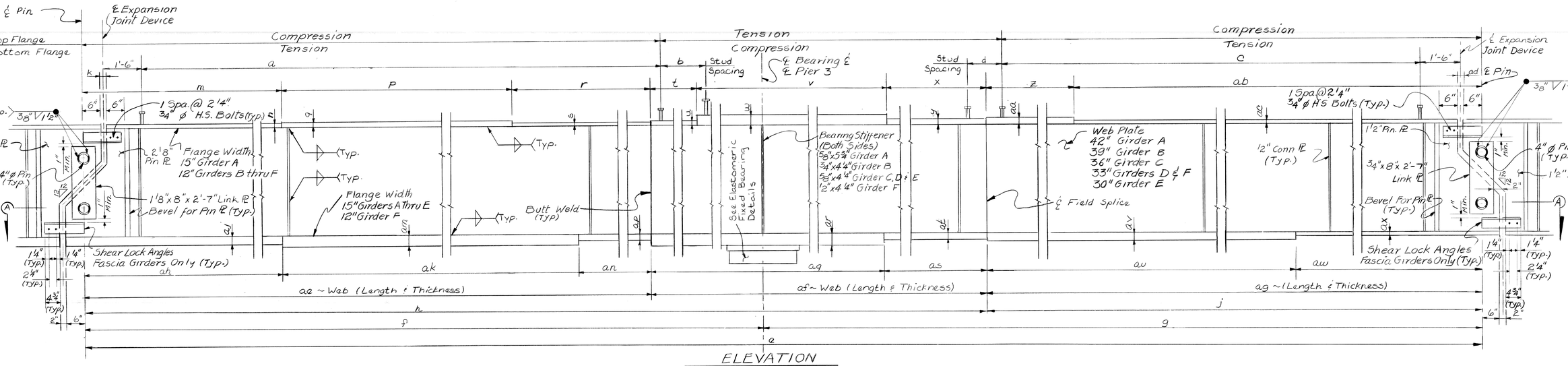
Snell Environmental Group
LANSING INDIANAPOLIS AKRON

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.

STRUCTURAL STEEL DETAILS
ERECTION DIAGRAM, CAMBERS, AND GIRDER SPLICES SPANS 3 AND 4

SCALE: NONE

DRN. NO: S51

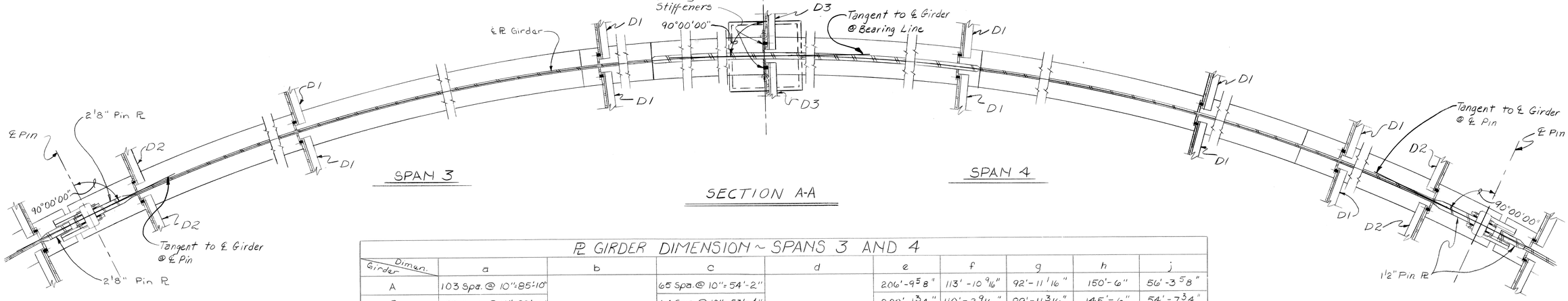


ELEVATION

Dimensions are measured along respective Girder ℄'s

SPAN 3

SPAN 4



SECTION A-A

℄ GIRDER DIMENSION ~ SPANS 3 AND 4

Girder \ Dimen.	a	b	c	d	e	f	g	h	j
A	103 Spa. @ 10" = 85'-10"	5 Spa. @ 6" = 2'-6"	65 Spa. @ 10" = 54'-2"	5 Spa. @ 6" = 2'-6"	206'-9 5/8"	113'-10 9/16"	92'-11 1/16"	150'-6"	56'-3 5/8"
B	99 Spa. @ 10" = 82'-6"		64 Spa. @ 10" = 53'-4"		200'-1 3/4"	110'-2 9/16"	89'-11 3/16"	145'-6"	54'-7 3/4"
C	95 Spa. @ 10" = 79'-2"		69 Spa. @ 9" = 51'-9"		193'-5 13/16"	106'-6 9/16"	86'-11 1/4"	140'-2"	53'-3 13/16"
D	100 Spa. @ 9" = 75'-0"		68 Spa. @ 9" = 51'-0"		186'-9 15/16"	102'-10 9/16"	83'-11 3/8"	134'-0"	52'-9 15/16"
E	95 Spa. @ 9" = 71'-3"		76 Spa. @ 8" = 50'-8"		180'-2 1/8"	99'-2 5/8"	80'-11 1/2"	123'-0"	57'-2 1/8"
F	92 Spa. @ 9" = 69'-0"		69 Spa. @ 9" = 51'-9"		173'-6 1/4"	95'-6 5/8"	77'-11 5/8"	118'-5"	55'-1 1/4"

N/A : Denotes Not Applicable

℄ GIRDER DIMENSIONS ~ SPANS 3 AND 4 (CONTINUED)

Girder \ Dimen.	k	m	n	p	q	r	s	t	u	v	w	x	y	z	aa	ab	ac	ad	ae	af	ag	ah	aj	ak	am	an	ap	aq	ar	as	at	au	av	aw	ax
A	6 1/2"	21'-9 1/2"	1"	44'-0"	1 1/2"	21'-9"	1"	11'-9"	1 3/8"	30'-3"	2 3/4"	20'-11 1/2"	1 1/2"	6'-9"	1 5/8"	49'-6 5/8"	1"	6 1/2"	87'-6 1/2" x 1 2"	62'-11 1/2" x 9/16"	56'-3 5/8" x 1 2"	19'-4 1/2"	2 1/8"	53'-3"	3 3/8"	14'-11"	2 1/4"	45'-1"	3 3/8"	17'-10 1/2"	2 1/8"	32'-0"	2 1/4"	24'-3 5/8"	1 3/8"
B	5 7/8"	83'-9 9/16"	1 3/4"					11'-7"	1 3/4"	29'-11"	3 3/8"	20'-2 7/16"	1 7/8"	5'-6"	2"	49'-1 3/4"	1 1/4"	5 7/8"	83'-9 9/16" x 1 2"	61'-8 7/16" x 1 2"	54'-7 3/4" x 7/16"	18'-5 9/16"	1 7/8"	65'-4"	3"			42'-11"	3 1/8"	18'-9 7/16"	2 1/8"	33'-2"	2 3/8"	21'-5 3/4"	1 1/2"
C	5 5/16"	80'-1 9/16"	1 3/8"	N/A	N/A	N/A	N/A	11'-4"	1 5/8"	29'-4"	3 1/4"	19'-4 7/16"	1 3/4"			53'-3 13/16"	5/8"	5 5/16"	80'-1 9/16" x 7/16"	60'-0 7/16" x 1 2"	53'-3 13/16" x 7/16"	16'-11 9/16"	1 5/8"	63'-2"	2 3/4"	N/A	N/A	41'-10"	3"	18'-2 7/16"	2"	36'-0"	2"	17'-3 15/16"	1 1/4"
D	4 11/16"	76'-7 9/16"	1 1/8"					12'-0"	1 5/8"	27'-6"	3 1/4"	17'-10 7/16"	1 3/4"	N/A	N/A	52'-9 15/16"	1/2"	4 11/16"	76'-7 9/16" x 7/16"	57'-4 7/16" x 1 2"	52'-9 15/16" x 7/16"	16'-8 9/16"	1 1/2"	59'-11"	2 3/8"			39'-7"	3"	17'-9 7/16"	2"	37'-6"	1 7/8"	15'-3 15/16"	1 1/8"
E	4 1/8"	72'-10 13/16"	7/8"					11'-11 13/16"	1 5/8"	38'-1 3/8"	3 1/4"	N/A	N/A			57'-2 1/8"	1/2"	4 1/8"	72'-10 13/16" x 7/16"	50'-1 3/16" x 7/16"	57'-2 1/8" x 3/8"	16'-1 13/16"	1 3/8"	56'-9"	2 1/4"			50'-1 3/16"	3"	N/A	N/A	42'-6"	1 7/8"	14'-8 1/8"	1 1/8"
F	3 1/2"	70'-3 9/16"	1/2"					15'-7 1/16"	1 1/4"	32'-6 3/8"	2 3/8"					55'-1 1/4"	1/2"	3 1/2"	70'-3 9/16" x 7/16"	48'-1 7/16" x 1 2"	55'-1 1/4" x 7/16"	16'-1 7/16"	2 1/8"	N/A	N/A			48'-1 7/16"	3"			N/A	N/A	55'-1 1/4"	1 3/4"

Work This Sheet With Sheets # S49 thru S51 & S53 thru S62

DATE: August, 1979

DSGN BY:	SJP, RGW
DR'N BY:	JB
CK'D BY:	SJP, RGW
APP'D BY:	

REVISIONS

CITY OF DETROIT, MICHIGAN

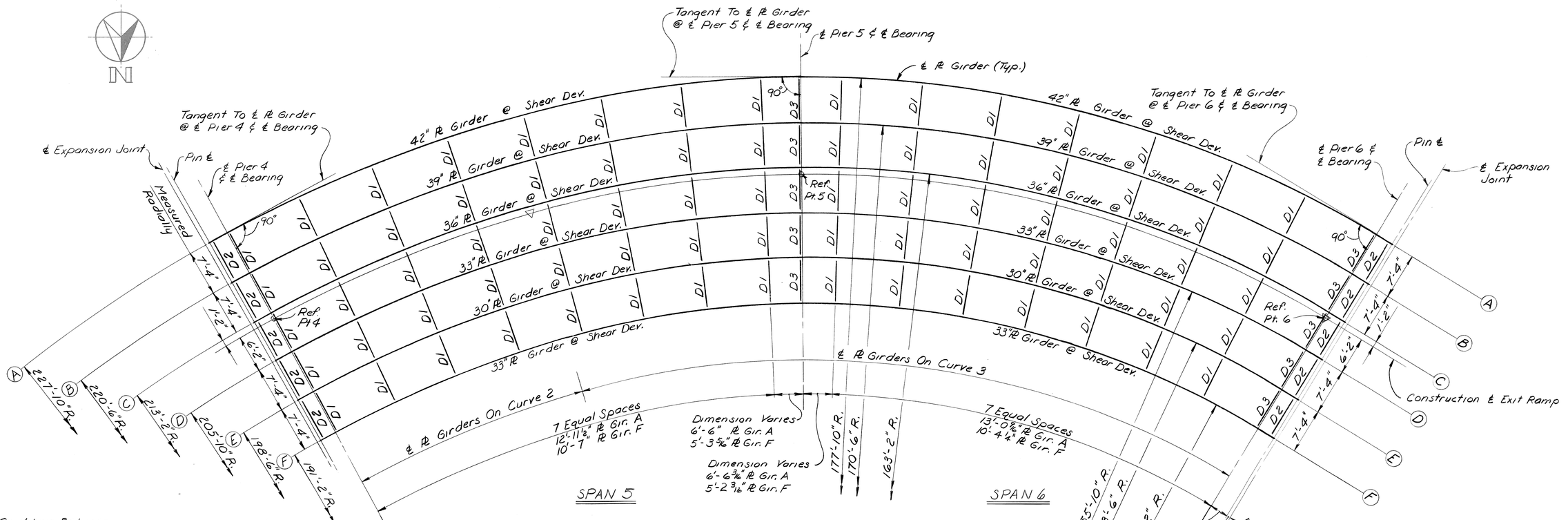
Snell Environmental Group
LANSING INDIANAPOLIS AKRON

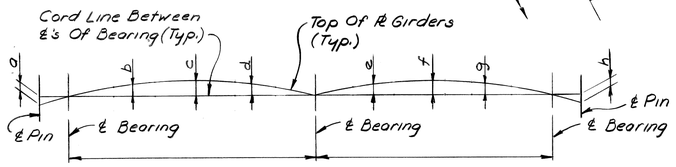
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.

STRUCTURAL STEEL DETAILS
℄ GIRDER DETAILS SPANS 3 AND 4

SCALE: NONE

DRN. NO: S52





CAMBER DIAGRAM

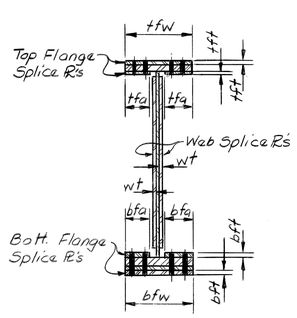
Stage 1 - Camber measured with ℞ girder lying on its side. Heating is to be used, if necessary, to assure camber permanency within the tolerance specified in the AWS Specifications.

Stage 2 - ℞ girders erected with diaphragms in place, no other loads applied. Camber includes allowances for: forms, deck concrete, steel reinforcement, V.C., and railings.

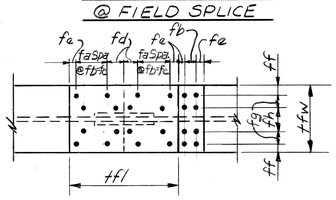
CAMBER ORDINATES

Girder	Dimension	Pin a	SPAN 5 b	c	d	e	SPAN 6 f	g	Pin h
A	Stage 1	3/16"	1'2"	1'3⅞"	⅞"	2⅜"	3¾"	3"	7/16"
	Stage 2	1/8"		1'1⅞"			3½"		7/16"
B	Stage 1	-5/16"	1'2"	1'3¼"	1"	2"	3¼"	2⅝"	-1/8"
	Stage 2	-5/16"		1'2"			3"		-1/8"
C	Stage 1	-3/8"	1'2"	1'3⅛"	1"	1¼"	2'4"	1'3⅛"	5/16"
	Stage 2	-3/8"		1'9⅛"			2"		5/16"
D	Stage 1	-1/4"	1'4"	1'2"	¾"	¾"	1'2"	1'4"	3/16"
	Stage 2	-1/4"		1'5/16"			1'5/16"		3/16"
E	Stage 1	1/4"	1'4"	1'2"	¾"	-1/8"	½"	1'4"	1/16"
	Stage 2	1/4"		1'5/16"			5/16"		1/16"
F	Stage 1	1/8"	⅜"	¾"	⅜"	0"	0"	0"	0"
	Stage 2	1/8"		5/8"			-1/8"		0"

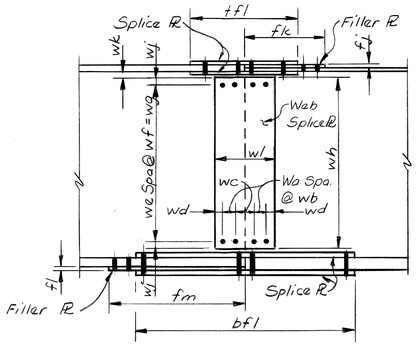
ERECTION DIAGRAM



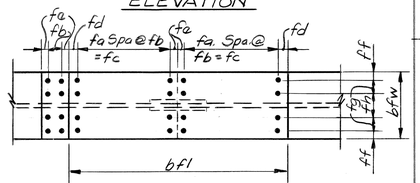
TYPICAL SECTION @ FIELD SPLICE



PLAN OF TOP FLANGE



ELEVATION



PLAN OF BOTTOM FLANGE

FIELD SPLICE DIMENSIONS

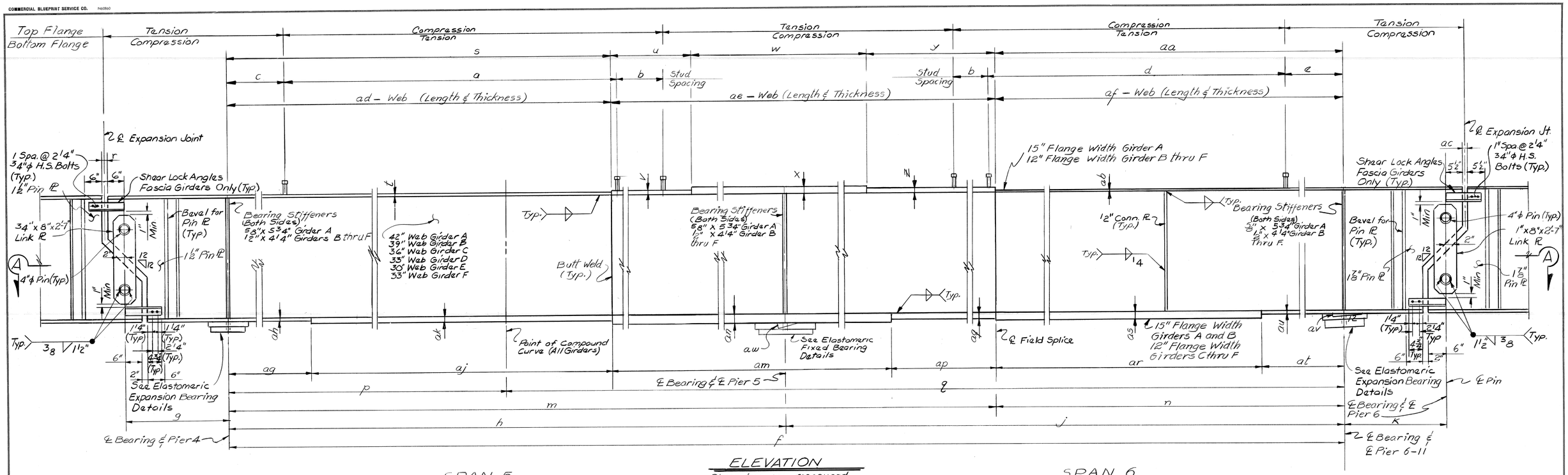
Dim.	Girder	A	B	C	D	E	F
TOP FLANGE	tfa	6½"	5"	5"	5"	5"	5"
	tf1	2'-0"	3'-0"	2'-7"	2'-7"	2'-2"	2'-2"
	tfw	1'-3"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
	tf2	3⅜"	3⅜"	3⅜"	3⅜"	3⅜"	3⅜"
	fa & fb	2@3½"	3@5"	2@5"	2@5"	2@5"	2@5"
	fc	7"	1'-3"	10"	10"	10"	10"
	fd	3½"	1'3⅜"	4'4"	4'-4"	1'3⅜"	1'3⅜"
	fe	1'½"	1'4"	1'4"	1'4"	1'4"	1'4"
	ff	2'4"	2"	2"	2"	2"	2"
	fg	2'3⅜"	1'3⅜"	1'3⅜"	1'3⅜"	1'3⅜"	1'3⅜"
	fh	5"	4'½"	4'½"	4'½"	4'½"	4'½"
	fk	1'-6½"	2'-1'½"	1'-11"	1'-11"	1'-8½"	1'-8½"
	fj	⅜"	5⅜"	1"	1'⅜"	1'⅜"	1'4"
WEB	wa@wb	2@3"	2@2½"	1@2½"	1@2½"	1@2½"	1@2½"
	wc	4"	3½"	3½"	3½"	3½"	3½"
	wd	1'2"	1'4"	1'4"	1'4"	1'4"	1'4"
	we	9	9	11	10	9	10
	wf	4"	3¾"	2¾"	2¾"	2¾"	2¾"
	wg	3'0"	2'-9¾"	2'-6¼"	2'-3½"	2'-0¾"	2'-3½"
	wh	3'-3"	3'-1"	2'-9"	2'-6"	2'-4"	2'-6"
	wj	1'2"	1'5⅜"	1'3⅜"	1'4"	1'2"	1'4"
	wk	1'2"	1"	1'2"	1'2"	1"	1'2"
	wl	1'-7"	1'-4''	11"	11"	11"	11"
	wt	3⅜"	3⅜"	3⅜"	3⅜"	3⅜"	3⅜"
BOTTOM FLANGE	bfa	6'2"	6'2"	5"	5"	5"	5"
	bf1	3'-1"	5'-2½"	4'-8"	4'-8"	4'-8"	3'-10"
	bf2	3⅜"	1'3⅜"	1'4"	1'4"	1'4"	1"
	bfw	1'-3"	1'-3"	1'-0"	1'-0"	1'-0"	1'-0"
	fg	5"	12"	10"	10"	10"	8"
	fb	3"	2'-5"	2'2"	2'2"	2'2"	2'2"
	fc	1'3"	2'-2"	2'-1"	2'-1"	2'-1"	1'-8"
	fd	2"	1'3⅜"	1'3⅜"	1'3⅜"	1'3⅜"	1'3⅜"
	fe	1'2"	1'4"	1'4"	1'4"	1'4"	1'4"
	ff	1'3⅜"	1'3⅜"	1'2"	1'2"	1'2"	1'2"
	fg	3"	3"	2"	2"	2"	2"
	fh	5'2"	5'2"	5"	5"	5"	5"
	fl	5⅜"	3⅜"	7⅜"	7⅜"	3¼"	1'4"
	fm	2'-0'2"	3'-2"	2'-9"	2'-9"	2'-0"	2'-4"
Bolt Size		⅞" ø	3'4" ø	3'4" ø	3'4" ø	3'4" ø	3'4" ø

FIELD SPLICE DETAILS

Work This Sheet With Sheets# S49 thru S52 & S54 thru S62

DATE: August, 1979

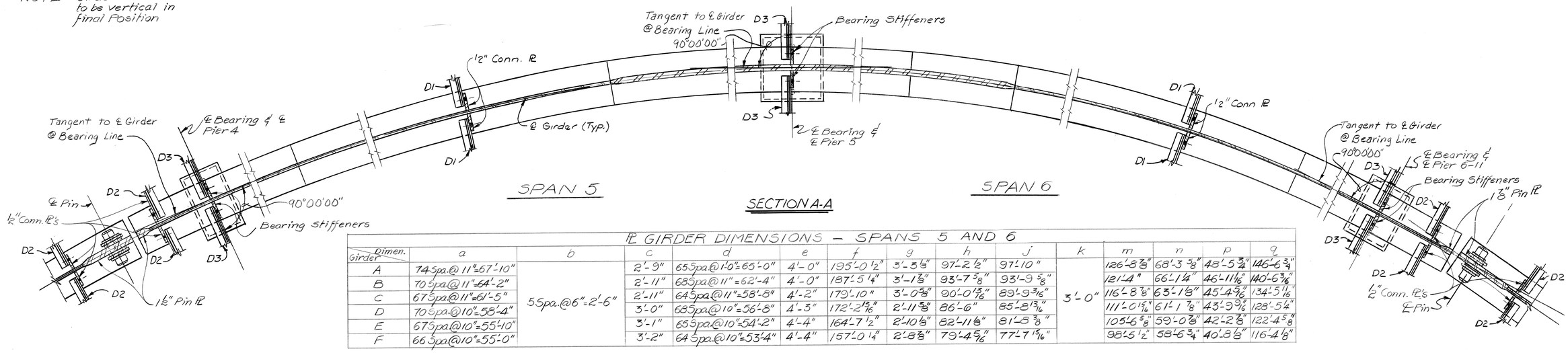
DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.
DR'N BY: LDM, MH		Snell Environmental Group LANSING INDIANAPOLIS AKRON	STRUCTURAL STEEL DETAILS ERECTION DIAGRAM, CAMBERS, AND GIRDER SPLICES SPANS 5 AND 6
CK'D BY: SJP, RGW			SCALE: NONE
APP'D BY:			DRN. NO: S53



ELEVATION

Dimensions are measured along respective girder ℄'s

NOTE: Girder ends are to be vertical in final position



℄ GIRDER DIMENSIONS – SPANS 5 AND 6

Girder \ Dimen.	a	b	c	d	e	f	g	h	j	k	m	n	p	q
A	74 Spa. @ 11" = 67'-10"	5 Spa. @ 6" = 2'-6"	2'-9"	65 Spa. @ 1'-0" = 65'-0"	4'-0"	195'-0 1/2"	3'-3 5/8"	97'-2 1/2"	97'-10"	3'-0"	126'-8 7/8"	68'-3 5/8"	48'-5 3/4"	146'-6 3/4"
B	70 Spa. @ 11" = 64'-2"		2'-11"	62 Spa. @ 11" = 62'-4"	4'-0"	187'-5 1/4"	3'-1 1/8"	93'-7 5/8"	93'-9 5/8"		121'-4"	66'-1/4"	46'-11 1/16"	140'-6 3/16"
C	67 Spa. @ 11" = 61'-5"		2'-11"	64 Spa. @ 11" = 58'-8"	4'-2"	179'-10"	3'-0 5/8"	90'-0 1/16"	89'-9 3/16"		116'-8 7/8"	63'-1 7/8"	45'-4 5/16"	134'-5 11/16"
D	70 Spa. @ 10" = 58'-4"		3'-0"	68 Spa. @ 10" = 56'-8"	4'-3"	172'-2 13/16"	2'-11 5/8"	86'-6"	85'-8 13/16"		111'-0 15/16"	61'-1 7/8"	43'-3 9/16"	128'-5 1/4"
E	67 Spa. @ 10" = 55'-10"		3'-1"	65 Spa. @ 10" = 54'-2"	4'-4"	164'-7 1/2"	2'-10 1/8"	82'-11 7/8"	81'-8 3/8"		105'-6 5/8"	59'-0 7/8"	42'-2 7/8"	122'-4 5/8"
F	66 Spa. @ 10" = 55'-0"		3'-2"	64 Spa. @ 10" = 53'-4"	4'-4"	157'-0 1/4"	2'-8 3/8"	79'-4 5/16"	77'-7 15/16"		98'-5 1/2"	58'-6 3/4"	40'-3 5/8"	116'-4 1/8"

℄ GIRDER DIMENSIONS - SPANS 5 AND 6 (CONTINUED)

Girder \ Dimen.	r	s	t	u	v	w	x	y	z	aa	ab	ac	ad	ae	af	ag	ah	aj	ak	am	an	ap	aq	ar	as	at	au	av	aw
A	6 1/2"	70'-1 1/2"	3/4"	11'-8"	1 1/8"	32'-5"	2 1/4"	12'-6 3/8"	1 5/8"	68'-3 5/8"	3/4"	3"	70'-1 1/2" x 1/2"	56'-7 3/8" x 1/2"	68'-3 5/8" x 1/2"	16'-9 1/2"	1 3/8"	53'-4"	2 1/4"	46'-11"	2 3/8"	9'-8 3/8"	1/2"	50'-10"	2 3/8"	17'-5 5/8"	1 3/8"	3/16"	0"
B	5 5/8"	67'-1 1/2"	7/8"	11'-1"	1 3/8"	31'-8"	2 3/4"	11'-5 1/2"	1 3/8"	66'-1/4"	3/4"		67'-1 1/2" x 1/2"	54'-2 1/2" x 1/2"	66'-1/4" x 1/2"	16'-3 1/2"	1 3/8"	50'-10"	2 1/4"	54'-2 1/2"	2 3/8"			50'-0"	2 1/4"	16'-1/4"	1 3/8"	3/16"	0"
C	5 5/16"	63'-10 3/4"	3/4"			36'-7"	2 3/8"		1 3/8"	63'-1/8"	5/8"		63'-10 3/4" x 7/16"	52'-10 1/8" x 1/2"	63'-1 5/8" x 7/16"	15'-1 3/4"	1 3/8"	48'-9"	2 3/8"	52'-10 1/8"	3 3/8"			48'-4"	2 1/2"	14'-9 1/8"	1 1/2"	1/8"	1/8"
D	4 11/16"	61'-3 7/16"	5/8"	N/A	N/A	49'-9"	2 1/2"	N/A	N/A	61'-2 3/16"	5/8"		61'-3 5/16" x 7/16"	49'-9" x 1/2"	61'-1 7/8" x 7/16"	61'-3 5/16"	2 3/8"	N/A	N/A	49'-9"	3/4"	N/A	N/A	45'-5"	2 3/8"	15'-8 5/8"	1 1/2"	0"	0"
E	4 1/8"	58'-11 5/8"	1/2"			46'-7 1/2"	2 3/8"			59'-0 5/8"	1/2"		58'-11 5/8" x 7/16"	46'-7 1/2" x 7/16"	59'-0 5/8" x 7/16"	13'-1 5/8"	1 3/8"	45'-10"	2 3/8"	46'-7 1/2"	3 5/8"			45'-6"	2 3/8"	13'-6 3/8"	1 3/8"		1/8"
F	3 1/2"	57'-11 1/4"	1/2"			40'-6 1/4"	1 3/4"			58'-6 3/4"	1/2"		57'-11 1/4" x 7/16"	40'-6 1/4" x 7/16"	58'-6 3/4" x 7/16"	57'-11 1/4"	1 7/8"	N/A	N/A	40'-6 1/4"	2 5/8"			N/A	N/A	58'-6 3/4"	1 7/8"		0"

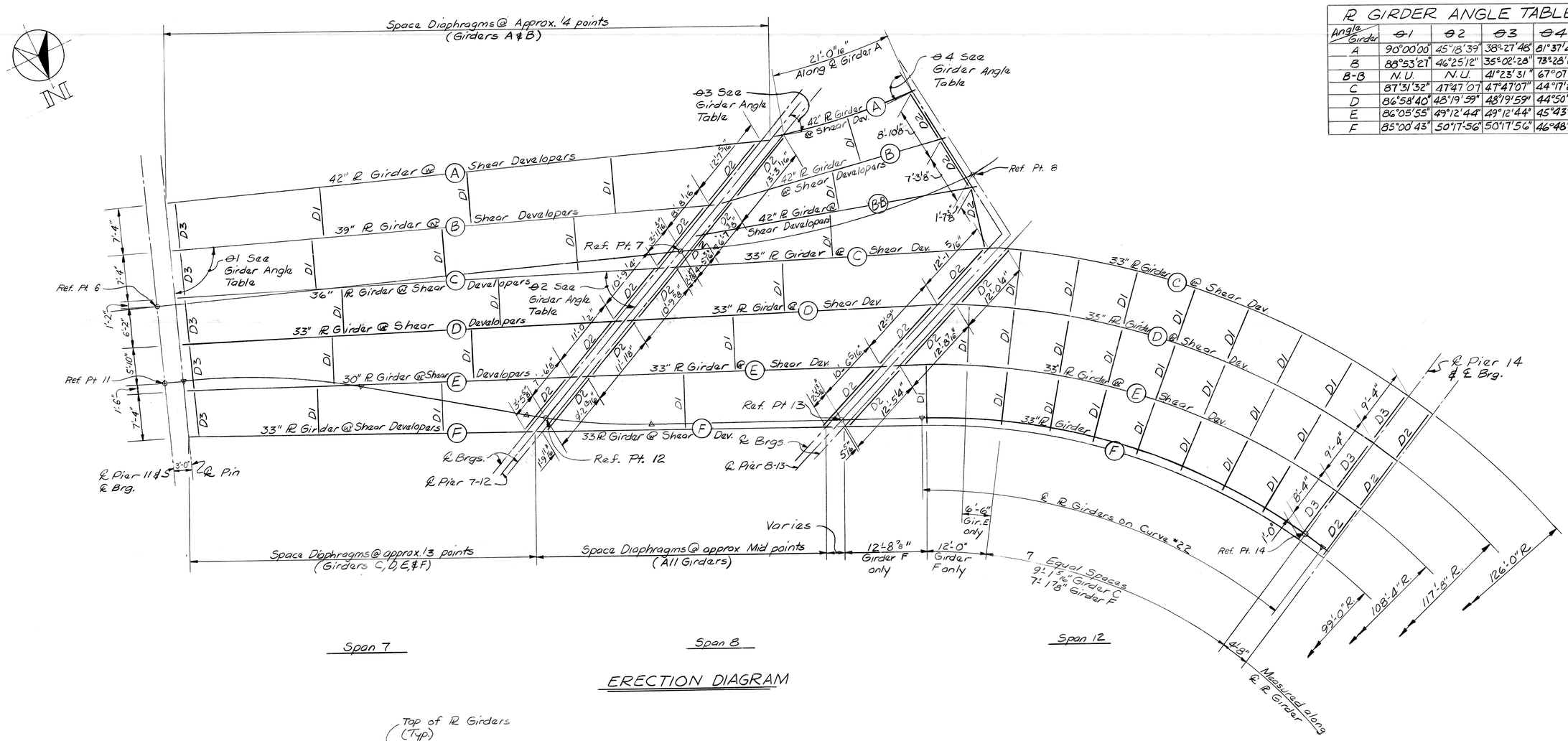
*Work This Sheet With Sheets# S49 thru S53 & S55 thru S62

DATE: August, 1979

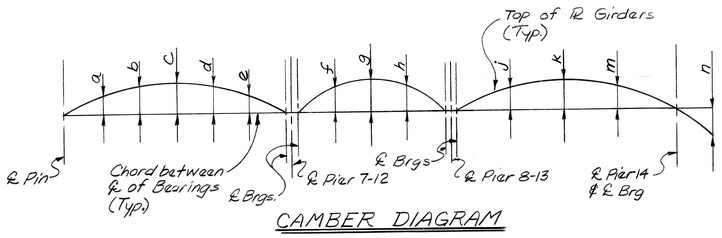
DSGN BY: SJP,RGW DR'N BY: MH CK'D BY: SJP, RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	STRUCTURAL STEEL DETAILS ℄ GIRDER DETAILS SPANS 5 AND 6	SCALE: NONE DRN. NO: S54	

R GIRDER ANGLE TABLE

Angle / Girder	θ1	θ2	θ3	θ4
A	90°00'00"	45°18'39"	38°27'48"	81°37'40"
B	88°53'27"	46°25'12"	35°02'28"	73°28'05"
B-B	N.U.	N.U.	41°23'31"	67°07'01"
C	87°31'32"	47°47'07"	47°47'07"	44°17'29"
D	86°58'40"	48°19'59"	48°19'59"	44°50'21"
E	86°05'55"	49°12'44"	49°12'44"	45°43'05"
F	85°00'43"	50°17'56"	50°17'56"	46°48'17"



ERECTION DIAGRAM



CAMBER DIAGRAM

Stage 1 - Camber is measured with ℝ Girder lying on its side. Heating is to be used, if necessary, to assure camber permanancy within the tolerance specified in the A.W.S. Specifications.

Stage 2 - ℝ Girders erected with diaphragms in place, no other loads applied. Camber includes allowances for forms, deck concrete, steel reinforcement, V.C. and railings

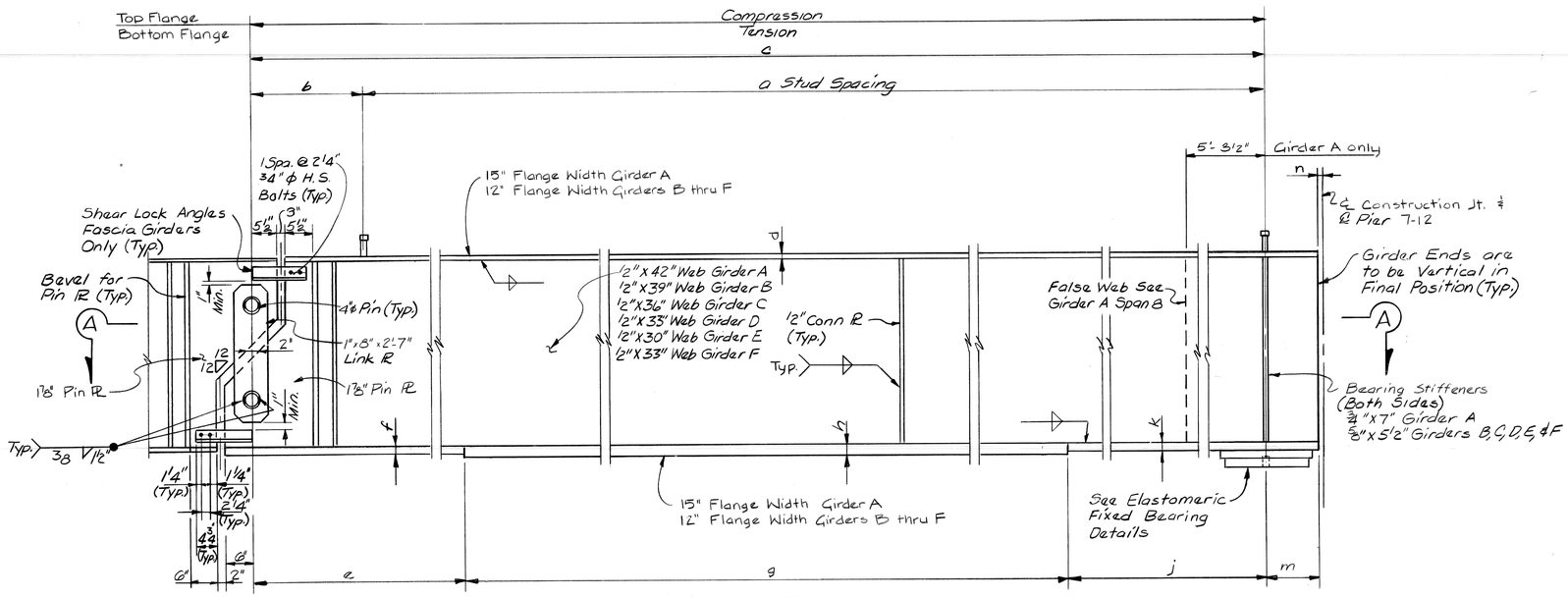
CAMBER ORDINATES

Girder	Dimension	Span 7 a	b	c	d	e	Span 8 f	g	h	Span 12 j	k	m	Pin n
A	Stage 1	2 4"	3 9/16"	4"	3 5/16"	2 4"	0	0	0	Not Used			
	Stage 2			3 3/8"				0					
B	Stage 1	2 1/16"	3 5/16"	3 3/4"	3 5/16"	2 1/16"	3/16"	1/4"	3/16"				
	Stage 2			3 3/16"				1/4"					
B-B	Stage 1	Not Used					3/16"	1/4"	3/16"				
	Stage 2							3/16"					
C	Stage 1	1 1/16"	2 1/16"	3"	2 1/16"	1 1/16"	3/4"	1"	3/4"	2 3/8"	3 1/4"	2 3/8"	1/4"
	Stage 2			2 13/16"				15/16"			2 15/16"		3/16"
D	Stage 1	1 3/8"	2 1/4"	2 1/2"	2 1/4"	1 3/8"	9/16"	3/4"	9/16"	2 1/4"	3"	2 1/4"	1/4"
	Stage 2			2 3/16"				11/16"			2 11/16"		3/16"
E	Stage 1	1/8"	1 3/4"	2"	1 3/4"	1/8"	3/16"	3/4"	9/16"	1/4"	1 3/4"	1/4"	1/2"
	Stage 2			1 3/4"				11/16"			1 1/2"		7/16"
F	Stage 1	1 1/16"	1/8"	1/4"	1/8"	1 1/16"	9/16"	3/4"	9/16"	-1/8"	-1 1/2"	-1/8"	-1/4"
	Stage 2			1/8"				1 1/16"			-1 1/2"		-1/4"

Work This Sheet With Sheets #: S49 thru S54 & S56 thru S62

DATE: August, 1979

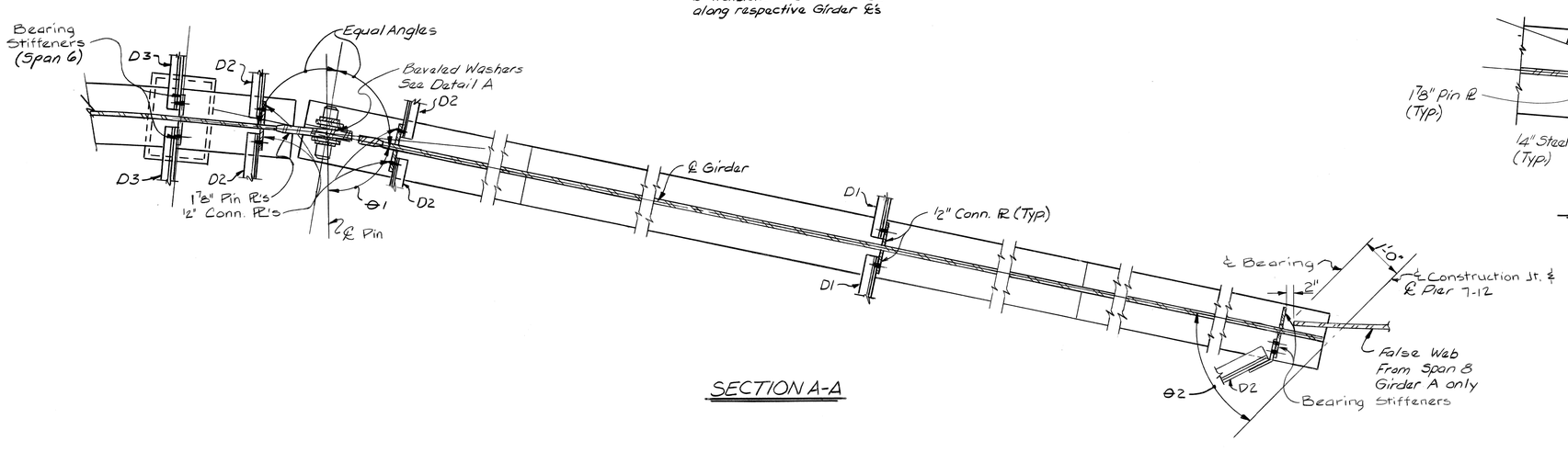
DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: LDM, MH			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: SJP, RGW			STRUCTURAL STEEL DETAILS ERECTION DIAGRAM AND CAMBERS SPANS 7, 8, AND 12
APP'D BY:			SCALE: NONE / DRN. NO: S55



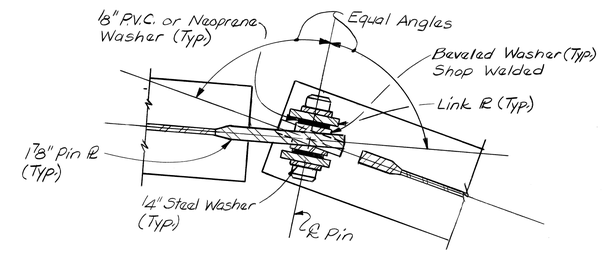
SPAN 7

ELEVATION

Dimensions are measured along respective Girder ℄s



SECTION A-A



DETAIL A

℞ GIRDER DIMENSIONS ~ SPAN 7

Girder \ Dimen.	a	b	c	d	e	f	g	h	j	k	θ1	θ2	m	n
A	100 Spa. @ 11" = 91'-8"	1'-5 7/16"	93'-1 7/16"	7/8"	18'-5 7/16"	1 1/8"	56'-2"	2 1/8"	18'-6"	1 1/8"	90°00'00"	45°18'59"	1'-3 1/2"	1 7/16"
B	99 Spa. @ 10" = 82'-6"	1'-9 1/4"	84'-3 1/4"	3/4"	16'-2 1/4"	1 1/4"	51'-10"	2 3/8"	16'-3"	1 1/4"	88°58'27"	46°25'12"	1'-3 3/16"	1 3/8"
C	99 Spa. @ 9" = 74'-3"	1'-2 9/16"	75'-5 9/16"	5/8"	13'-10 9/16"	1"	47'-8"	2"	13'-11"	1"	87°31'32"	47°47'07"	1'-2 7/8"	1 3/8"
D	89 Spa. @ 9" = 66'-9"	1'-1 15/16"	67'-10 15/16"	5/8"	N/A	N/A	67'-10 15/16"	1 3/4"	N/A	N/A	86°58'40"	48°19'59"	1'-2 3/4"	1 5/16"
E	88 Spa. @ 8" = 58'-8"	1'-6 5/16"	60'-2 5/16"	5/8"	N/A	N/A	60'-2 5/16"	1 1/2"	N/A	N/A	86°05'55"	49°12'44"	1'-2 1/2"	1 5/16"
F	77 Spa. @ 8" = 51'-4"	1'-2 3/8"	52'-6 3/8"	1/2"	N/A	N/A	52'-6 3/8"	1"	N/A	N/A	85°00'43"	50°17'56"	1'-2 5/16"	1 5/16"

NOTE: N/A denotes Not Applicable

Work This Sheet With Sheets #: S49 thru S55 & S57 thru S62

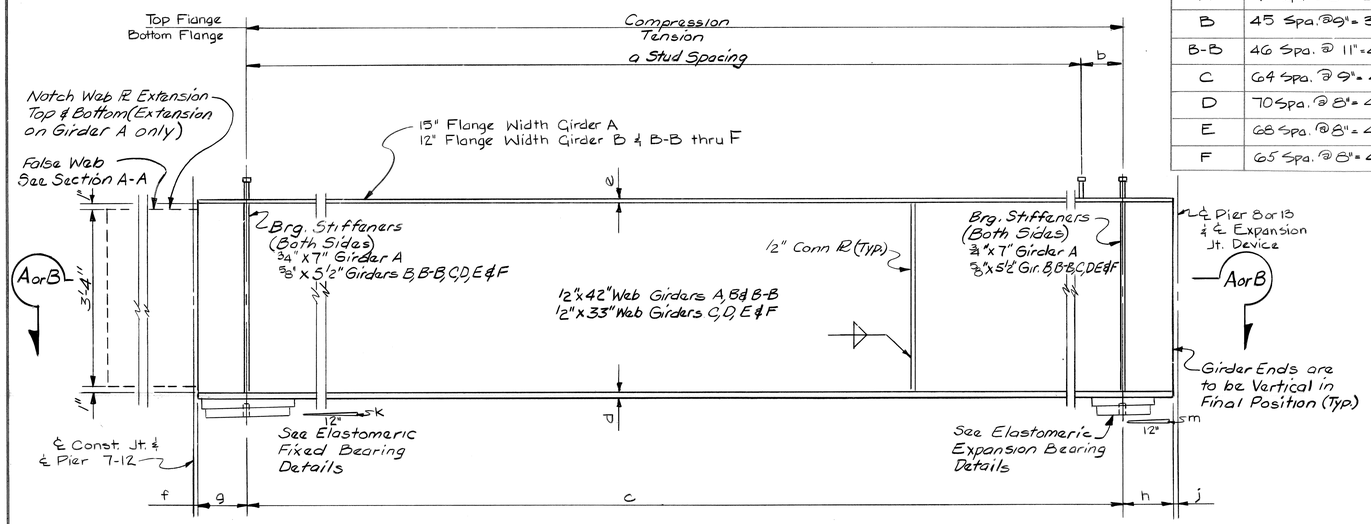
DATE: August, 1979

DSGN BY: SJP, RGW DR'N BY: MH CK'D BY: SJP, RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA.	STRUCTURAL STEEL DETAILS ℞ GIRDER DETAILS SPAN 7 SCALE: NONE DRN. NO: S56

℄ GIRDER DIMENSIONS.~SPAN 8

Girder \ Dimen.	a	b	c	d	e	⌀1	⌀2	⌀3	⌀4	f	g	h	j	k	m
A	41 Spa. @ 6" = 20'-6"	6 1/16"	21'-0 11/16"	5/8"	5/8"	45°18'39"	38°27'48"	81°37'40"	N/A	1 5/8"	1'-5 11/16"	10 1/16"	2 1/16"	3/16"	3/16"
B	45 Spa. @ 9" = 33'-9"	7 1/2"	34'-4 1/2"	1/2"	1/2"	46°25'12"	35°02'28"	73°28'05"	N/A	1 3/4"	1'-7 3/16"	10 5/16"	2 3/16"	1/8"	1/8"
B-B	46 Spa. @ 11" = 42' 2"	4 15/16"	42'-6 15/16"	1/2"	1/2"	N/A	41°23'31"	67°07'01"	N/A	1 1/2"	1'-4 5/8"	10 3/4"	2 1/4"	1/8"	0"
C	64 Spa. @ 9" = 48'-0"	10 1/16"	48'-10 1/16"	3/4"	1/2"	47°47'07"	47°47'07"	N/A	44°17'29"	1 3/8"	1'-2 7/8"	1'-3 1/2"	1 1/16"	0"	0"
D	70 Spa. @ 8" = 46'-8"	9 3/16"	47'-5 3/16"	7/8"	1/2"	48°19'59"	48°19'59"	N/A	44°50'21"	1 5/16"	1'-2 3/4"	1'-3 5/16"	1 1/16"	0"	0"
E	68 Spa. @ 8" = 45'-4"	5 1/4"	45'-9 1/4"	3/4"	1/2"	49°12'44"	49°12'44"	N/A	45°43'05"	1 5/16"	1'-2 1/2"	1'-3 1/8"	1 5/8"	0"	0"
F	65 Spa. @ 8" = 43'-4"	8 5/16"	44'-0 5/16"	3/4"	1/2"	50°17'56"	50°17'56"	N/A	46°48'17"	1 5/16"	1'-2 5/16"	1'-2 13/16"	1 5/8"	0"	0"

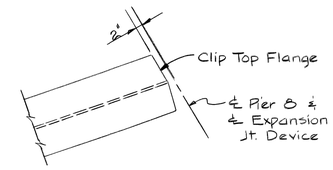
NOTE: N/A denotes Not Applicable



SPAN 8

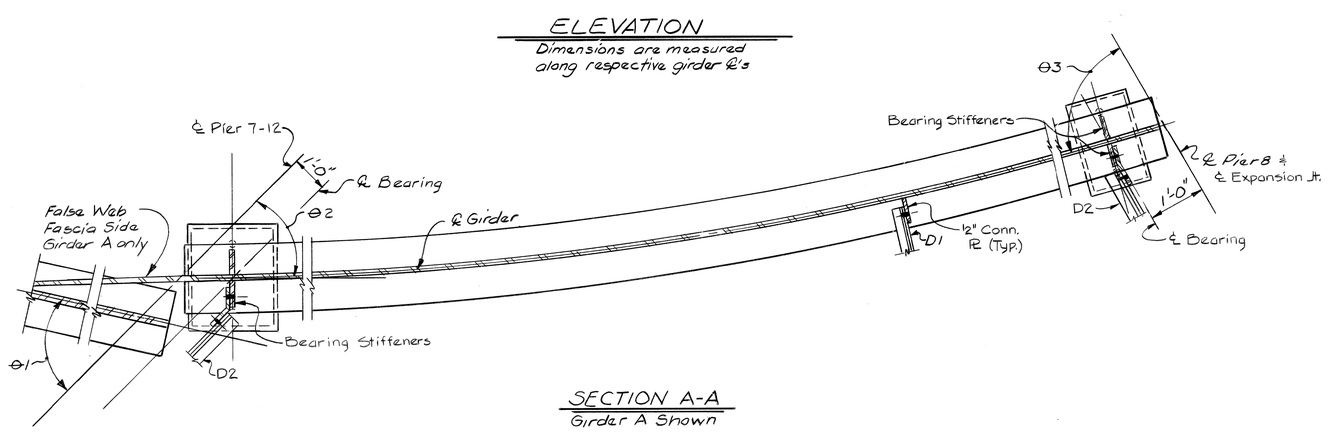
ELEVATION

Dimensions are measured along respective girder ℟'s



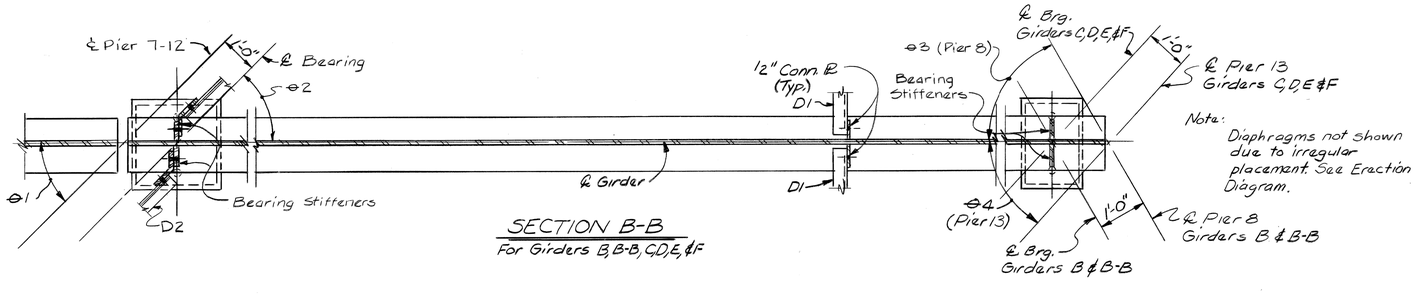
PARTIAL PLAN OF TOP FLANGE

(Girders A, B & B-B)



SECTION A-A

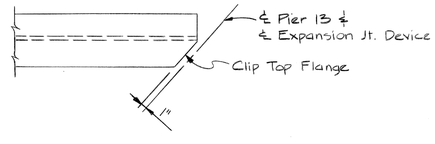
Girder A Shown



SECTION B-B

For Girders B, B-B, C, D, E, & F

Note: Diaphragms not shown due to irregular placement. See Erection Diagram.



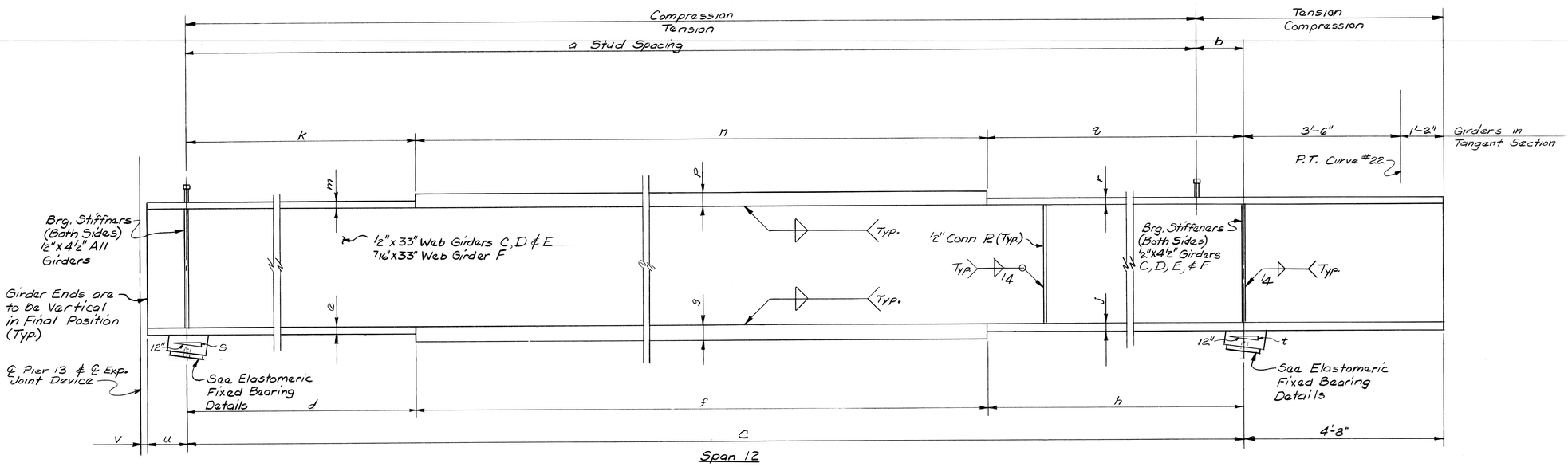
PARTIAL PLAN OF TOP FLANGE

(Girders C, D, E & F)

Work This Sheet With Sheets #: S49 thru S56 & S58 thru S62

DATE: August, 1979

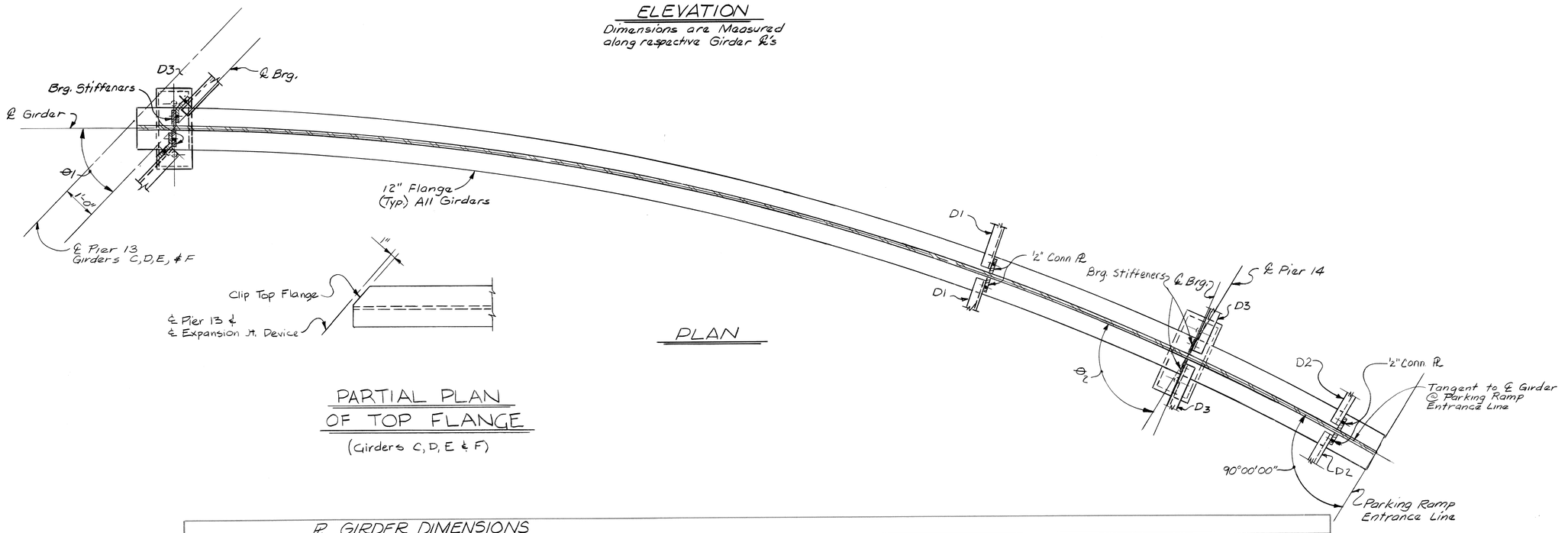
DSGN BY: SJP, RGW DR'N BY: MH CK'D BY: SJP, RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	STRUCTURAL STEEL DETAILS ℄ GIRDER DETAILS SPAN 8	SCALE: NONE DRN. NO: S57



Span 12

ELEVATION

Dimensions are Measured along respective Girder ℄'s



PLAN

PARTIAL PLAN OF TOP FLANGE

(Girders C, D, E & F)

℄ GIRDER DIMENSIONS

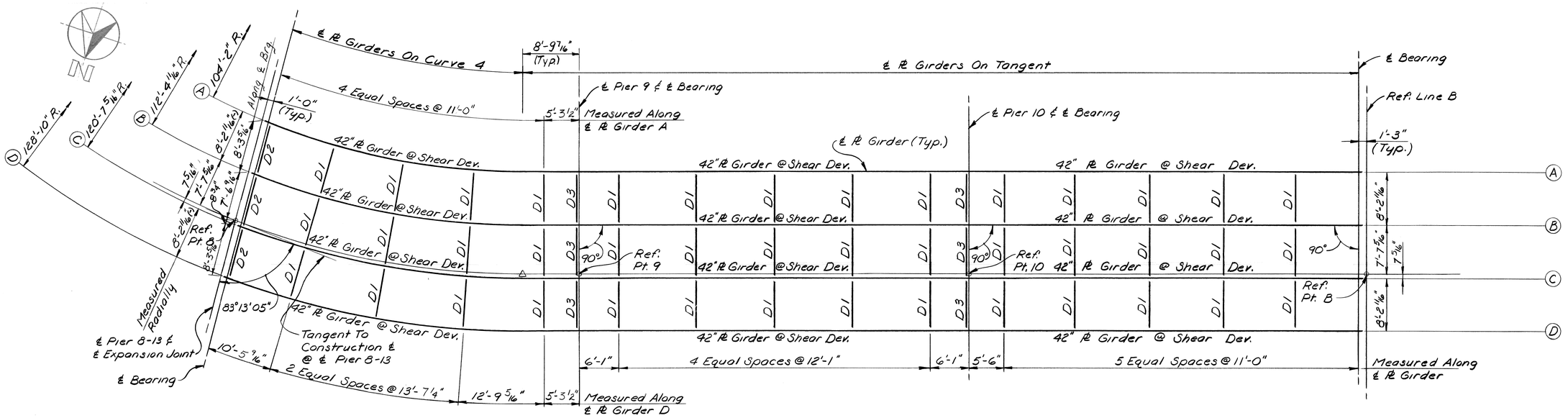
Girder / Dim.	a	b	c	d	e	θ1	θ2	f	g	h	j	k	m	n	P	q	r	s	t	u	v
C	115 Spa. @ 7" = 67'-1"	6 3/8"	67'-7 3/8"	13'-1 3/8"	1 7/8"	52°39'38"	88° 25'11"	41'-5"	3 5/8"	13'-1"	1 7/8"	N/A	N/A	67'-7 3/8"	1 3/4"	N/A	N/A	5/16"	1/8"	1'-0 3/8"	2 1/16"
D	119 Spa. @ 7" = 69'-5"	3 3/16"	69'-8 3/16"	13'-0 3/16"	1 7/8"	49°06'25"	88°17'40"	43'-8"	3 5/8"	13'-0"	1 7/8"	N/A	N/A	69'-8 3/16"	1 5/8"	N/A	N/A	5/16"	3/16"	1'-1"	2 5/8"
E	144 Spa @ 6" = 72'-0"	2 3/8"	72'-2 3/8"	12'-11 3/8"	1 3/4"	46°25'38"	88°08'50"	46'-2"	3"	13'-1"	1 3/4	N/A	N/A	72'-2 3/8"	1 1/8"	N/A	N/A	1/4"	1/4"	1'-1 1/16"	3"
F	N/A	N/A	74'-10"	12'-10"	2"	46°25'38"	87°58'21"	49'-3"	3 1/4"	12'-9"	2"	17'-2"	1 7/8"	39'-4"	2 3/8"	18'-4"	1 3/8"	3/16"	5/16"	1'-1 1/16"	3"

NOTE : N/A denotes Not Applicable

Work This Sheet With Sheets # S49 thru S57 & S59 thru S62

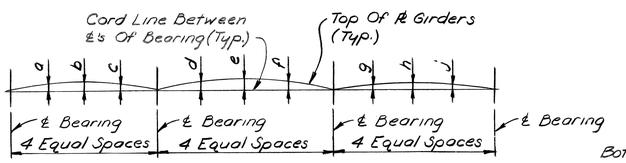
DATE: August, 1979

DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: MH			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: SJP, RGW			STRUCTURAL STEEL DETAILS ℄ GIRDER DETAILS SPAN 12
APP'D BY:			SCALE: NONE
			DRN. NO: S58



SPAN 9 SPAN 10 SPAN 11

ERECTION DIAGRAM



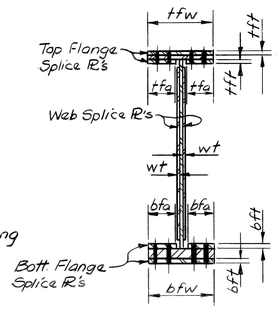
CAMBER DIAGRAM

Stage 1 - Camber measured with R girder lying on its side. Heating is to be used, if necessary, to assure camber permanency within the tolerance specified in the AWS Specifications.

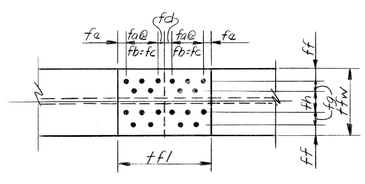
Stage 2 - R girders erected with diaphragms in place, no other loads applied. Camber includes allowances for: Forms, deck concrete, steel reinforcement, V.C., and railings.

CAMBER ORDINATES

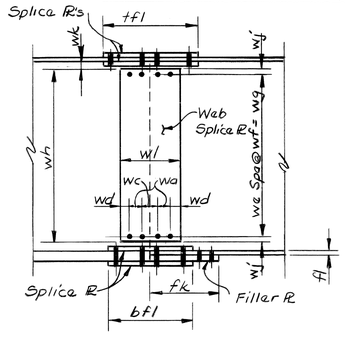
Girder \ Dimension		SPAN 9 a	b	c	SPAN 10 d	e	f	SPAN 11 g	h	j
A	Stage 1	3/4"	1"	3/4"	1/2"	2"	1/2"	5/8"	1"	3/4"
	Stage 2		1"			2"			15/16"	
B	Stage 1	1"	1 1/4"	7/8"	5/8"	2 1/8"	1 3/8"	5/8"	1"	3/4"
	Stage 2		1 1/4"			2"			13/16"	
C	Stage 1	1 3/8"	1 3/4"	1 1/4"	1/2"	2"	1 3/8"	5/8"	1"	3/4"
	Stage 2		1 11/16"			2"			15/16"	
D	Stage 1	1 3/8"	1 3/4"	1 1/4"	1/2"	2"	1/2"	5/8"	1"	3/4"
	Stage 2		1 11/16"			2"			13/16"	



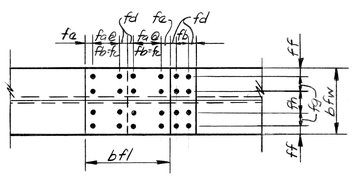
TYPICAL SECTION @ SPLICE PLATE



PLAN OF TOP FLANGE



ELEVATION



PLAN OF BOTTOM FLANGE

FIELD SPLICE DETAILS

Field Splices shall be bolted with 7/8" ø High Strength Bolts.

FIELD SPLICE DIMENSIONS

Dimension \ Girder		A	B	C	D
TOP FLANGE	tfa	6 1/2"	6 1/2"	6 1/2"	6 1/2"
	tfl	1'-9"	1'-9"	1'-9"	1'-9"
	tft	3/8"	3/8"	3/8"	3/8"
	tfw	1'-3"	1'-3"	1'-3"	1'-3"
	fa	2	2	2	2
	fb	3 1/2"	3 1/2"	3 1/2"	3 1/2"
	fc	7"	7"	7"	7"
	fd	1 1/2"	1 1/2"	1 1/2"	1 1/2"
	fe	2"	2"	2"	2"
	ff	2 1/4"	2 1/4"	2 1/4"	2 1/4"
	fg	2 3/4"	2 3/4"	2 3/4"	2 3/4"
	fh	5"	5"	5"	5"
WEB	wa	3"	3"	3"	3"
	wc	4"	4"	4"	4"
	wd	1 1/2"	1 1/2"	1 1/2"	1 1/2"
	we	7	8	9	9
	wf	5 1/4"	4 1/2"	4"	4"
	wg	3'-0 3/4"	3'-0"	3'-0"	3'-0"
	wh	3'-4"	3'-3"	3'-3"	3'-3"
	wj	1 5/8"	1 1/2"	1 1/2"	1 1/2"
	wk	1"	1 1/2"	1 1/2"	1 1/2"
	wl	1'-1"	1'-1"	1'-1"	1'-1"
	wt	3/8"	3/8"	3/8"	3/8"
BOTTOM FLANGE	bfa	6 1/2"	6 1/2"	6 1/2"	6 1/2"
	bfl	1'-7"	1'-7"	1'-7"	1'-7"
	bft	3/8"	3/8"	3/8"	3/8"
	bfw	1'-3"	1'-3"	1'-3"	1'-3"
	fa	2	2	2	2
	fb	3"	3"	3"	3"
	fc	6"	6"	6"	6"
	fd	1 1/2"	1 1/2"	1 1/2"	1 1/2"
	fe	2"	2"	2"	2"
	ff	1 3/4"	1 3/4"	1 3/4"	1 3/4"
	fg	3"	3"	3"	3"
	fh	5 1/2"	5 1/2"	5 1/2"	5 1/2"
	fk	1'-3 1/2"	1'-3 1/2"	1'-3 1/2"	1'-3 1/2"
	fl	1 1/4"	1 1/8"	1 1/8"	1 1/4"

Work This Sheet With Sheets# S49 thru S58 & S60 thru S62

DATE: August, 1979

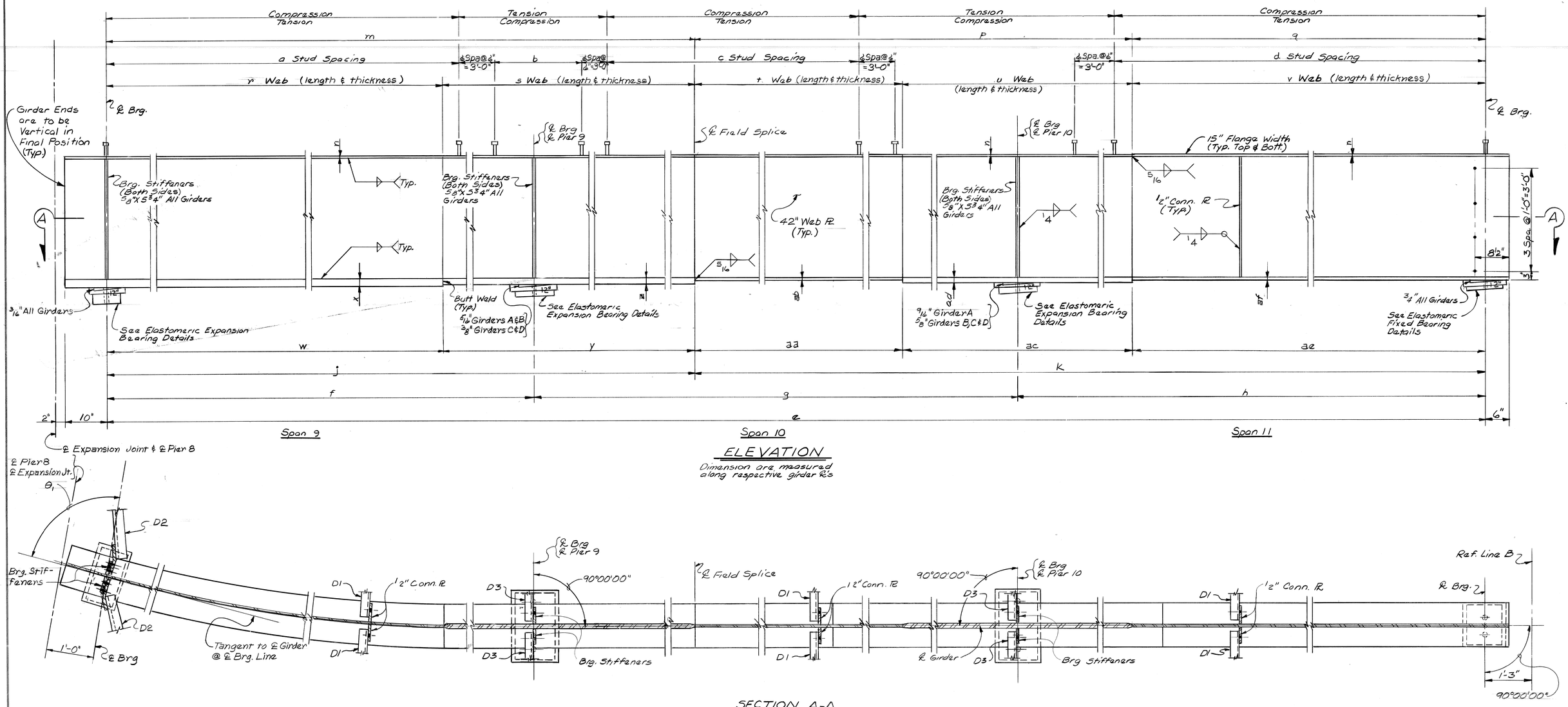
DSGN BY: SJP,RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: LDM,MH			
CK'D BY: SJP, RGW			
APP'D BY:			

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.

STRUCTURAL STEEL DETAILS
ERECTION DIAGRAM, CAMBERS, AND GIRDER SPLICES
SPANS 9, 10, AND 11

SCALE: NONE

DRN. NO: S59



ELEVATION

Dimension are measured along respective girder ℄s

SECTION A-A

℄ GIRDER DIMENSIONS ~ SPANS 9, 10 & 11

Girder \ Dimen.	a	b	c	d	e	f	g	h	j	k
A	64 Spa @ 7"= 37'-4"	17'-8"	65 Spa @ 6"= 32'-6"	57 Spa. @ 10"= 47'-6"	170'-3 1/2"	49'-3 1/2"	60'-6"	60'-6"	61'-5"	108'-10 1/2"
B	60 Spa. @ 8"= 40'-0"	18'-6 1/2"	53 Spa. @ 7"= 30'-11"		172'-5 5/16"	51'-5 5/16"			64'-7"	107'-10 5/16"
C	64 Spa. @ 8"= 42'-8"	19'-6"	50 Spa. @ 7"= 29'-2"	58 Spa. @ 10"= 48'-4"	174'-7 1/8"	53'-7 1/8"			68'-2"	106'-5 1/8"
D	67 Spa. @ 8"= 44'-8"	21'-1"	55 Spa. @ 6"= 27'-6"		176'-8 3/8"	55'-8 3/8"			70'-11"	105'-9 3/8"

℄ GIRDER DIMENSIONS ~ SPANS 9, 10 & 11 CONTINUED

Girder \ Dimen.	m	n	p	q	r	s	t	u	v	w	x	y	z	aa	ab	ac	ad	ae	af	θ1
A	61'-5"	5/8"	61'-7 1/2"	47'-3"	37'-0" x 7/16"	24'-5" x 1/2"	33'-2 1/2" x 3/8"	28'-5" x 1/2"	47'-3" x 7/16"	37'-0"	3/4"	24'-5"	7/8"	33'-2 1/2"	5/8"	28'-5"	3/4"	47'-3"	5/8"	82°44'12"
B	64'-7"		60'-4 5/16"	47'-6"	39'-9" x 7/16"	24'-10" x 1/2"	32'-5 5/16" x 3/8"	28'-2" x 1/2"	47'-6" x 7/16"	39'-9"	7/8"	24'-10"	3/4"	32'-2 5/16"		28'-2"		47'-6"		83°12'14"
C	68'-2"		58'-8 1/8"	47'-9"	42'-3" x 7/16"	25'-11" x 1/2"	30'-10 1/8" x 3/8"	27'-10" x 1/2"	47'-9" x 7/16"	42'-3"	1"	25'-11"		30'-10 1/8"		27'-10"		47'-9"		83°43'53"
D	70'-11"		57'-8 7/8"	48'-1"	44'-7" x 1/2"	26'-4" x 1/2"	30'-0 7/8" x 3/8"	27'-8" x 1/2"	48'-1" x 7/16"	44'-7"	1 1/8"	26'-4"	7/8"	30'-0 7/8"		27'-8"		48'-1"		84°07'59"

Work This Sheet With Sheets# S49 thru S59, S61 & S62

DATE: August, 1979

DSGN BY:	SJP, RGW
DR'N BY:	MH
CK'D BY:	SJP, RGW
APP'D BY:	

REVISIONS

CITY OF DETROIT, MICHIGAN

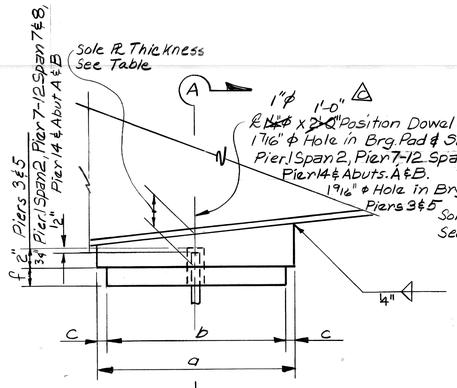
Snell Environmental Group
LANSING INDIANAPOLIS AKRON

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.

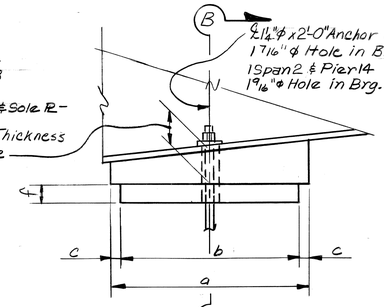
STRUCTURAL STEEL DETAILS
℄ GIRDER DETAILS SPAN 9, 10, AND 11

SCALE: NONE

DRN. NO: S60

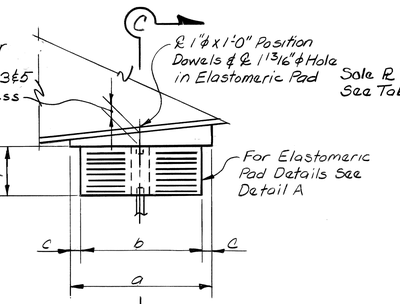


ELEVATION

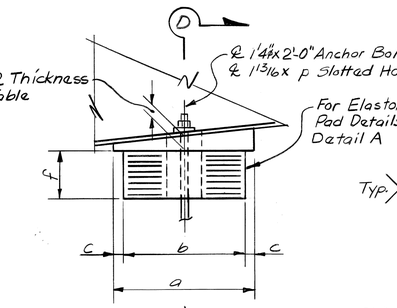


ELEVATION

Showing Bolts Through Sole R & Brg. Pad (Typical Girder F - Pier 1 Span 2, Piers 3, 5 & 14, Girder A Pier 7-12 Span 7 & 8)

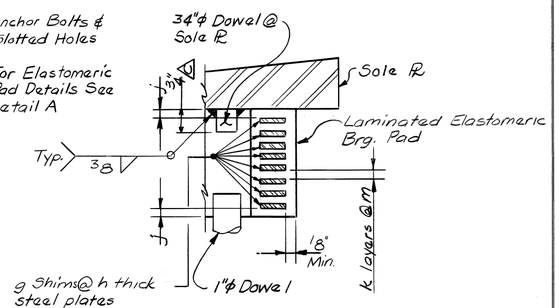


ELEVATION

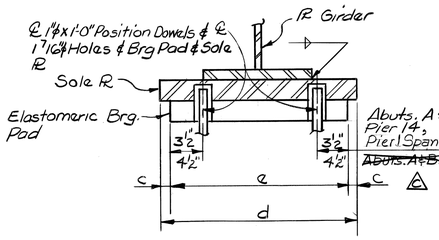


ELEVATION

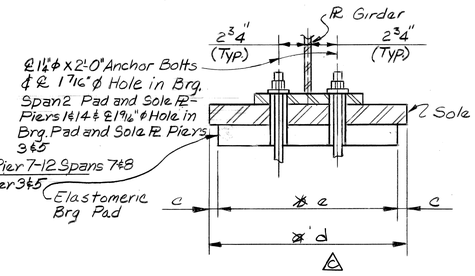
Showing Bolts Through Sole R & Brg. Pad (Typical Girder F - Pier 1 Span 1, Piers 2, 4, 6 & 13 Span 8 & 12, Pier 8 Span 8 & 9 & Pier 9)



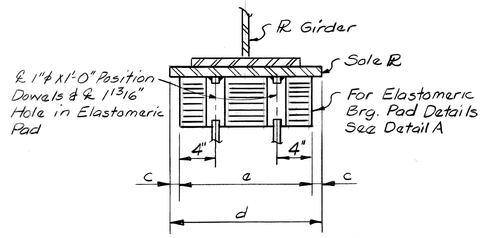
DETAIL A



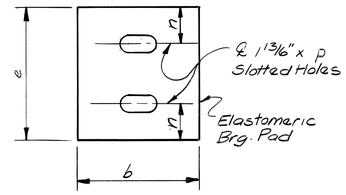
SECTION A-A



SECTION B-B

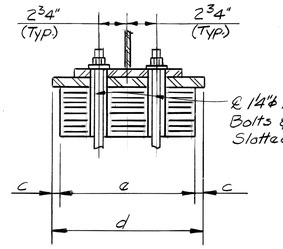


SECTION C-C



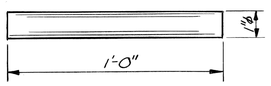
BEARING PAD PLAN

Showing Slotted Holes, Girder & Sole R removed

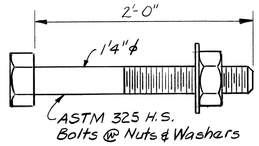


SECTION D-D

FIXED BEARING DETAILS



POSITION DOWEL DETAIL



ANCHOR BOLT DETAIL

FIXED BEARING DIMENSIONS

Location \ Dimension	a	b	c	d	e	f
Abut A	11"	10"	12"	1'-1"	1'-0"	34"
Pier 1, Span 2	11"	10"	12"	1'-9"	1'-8"	34"
Pier 3	1'-10"	1'-8"	1"	1'-10"	1'-8"	1"
Pier 5	1'-8"	1'-6"	1"	1'-11"	1'-9"	1"
Pier 7, Span 7	11"	10"	12"	1'-7"	1'-6"	34"
* Pier 7 Span 8	11"	10"	12"	1'-4"	1'-0"	34"
Abut. B	10"	9"	12"	1'-4"	1'-3"	34"
Pier 14	11"	10"	12"	2'-1"	2'-0"	34"

* Note: Dim C in Section A-A - 2"

EXPANSION BEARING DIMENSIONS

Location \ Dimension	a	b	c	d	e	f	g	h	j	k	m	n	p
Pier 1, Span 1	9"	7"	1"	1'-8"	1'-6"	1 5/8"	3	3 3/32"	11/32"	2	11/32"	6 1/4"	2"
Pier 2	1'-8"	1'-6"	"	1'-7"	1'-9"	3 5/8"	4	3/16"	1/2"	3	5/8"	7 3/4"	3"
Pier 4	1'-2"	1'-0"	1"	2'-2"	2'-0"	3"	4	1/8"	1/2"	3	1/2"	9 1/4"	3"
Pier 6-11	1'-5"	1'-3"	1"	1'-11"	1'-9"	3"	4	1/8"	1/2"	3	1/2"	7 3/4"	3"
Pier 8, Span 8	7"	5"	1"	1'-11"	1'-9"	2"	5	3/32"	1/4"	4	1/4"	7 3/4"	2"
Pier 8, Span 9	1'-3 1/2"	1'-1 1/2"	1"	1'-7"	1'-5"	5 1/2"	8	1/8"	1/2"	7	1/2"	5 3/4"	5"
Pier 9	1'-1"	11"	1"	1'-11"	1'-9"	4"	6	1/8"	3/8"	5	1/2"	7 3/4"	4"
Pier 10	1'-1 1/2"	1'-1/2"	1"	1'-11"	1'-9"	2"	3	1/8"	3/8"	2	7/16"	7 3/4"	2"
Pier 13, Span 8	9"	7"	1"	1'-8"	1'-6"	2"	5	3/32"	1/4"	4	1/4"	6 1/4"	2"
Pier 13, Span 12	1'-0"	10"	1"	1'-10"	1'-8"	2 1/4"	3	1/8"	7/16"	2	1/2"	7 1/4"	2"

EXPANSION BEARING DETAILS

SOLE PLATE THICKNESS TABLE

Girder Location	A	B	B-B	C	D	E	F
Abut A	2 3/4"	2"	N.U.	1 1/2"	1"	1"	1 1/2"
Pier 1, Span 1	3"	2 1/2"	do	2"	1 1/2"	1 1/2"	2"
Pier 1, Span 2	1 1/4"	2 3/4"	do	2 1/2"	1 3/4"	1 1/4"	2 3/4"
Pier 2	2 1/4"	1 3/4"	do	1 3/4"	1 1/4"	1 1/2"	1 1/2"
Pier 3	2 1/2"	2 3/4"	do	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Pier 4	2"	2 3/4"	do	2"	2"	2"	2"
Pier 5	2 1/2"	2 1/2"	do	2 3/4"	2 1/2"	2 3/4"	2 1/2"
Pier 6-11	1 3/4"	2 1/2"	do	1 3/4"	2 1/2"	2"	1 3/4"
Pier 7, Span 7	1 1/4"	1"	do	1"	2 1/4"	1"	1 1/4"
Pier 7, Span 8	1"	1"	2 1/4"	1"	2 1/2"	1 3/4"	1"
Pier 8 Span 8	1"	1"	1"	N.U.	N.U.	N.U.	N.U.
Pier 8 Span 9	1"	1"	N.U.	1"	1"	N.U.	N.U.
Pier 9	1"	2 1/4"	N.U.	1"	1"	do	do
Pier 10	1"	2 1/4"	do	1"	1"	do	do
Pier 13, Span 8	N.U.	N.U.	do	1"	1"	2 3/4"	1"
Pier 13 Span 12	do	do	do	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Abut B	1"	2 1/2"	do	1"	1'	N.U.	N.U.
Pier 14	N.U.	N.U.	do	1 1/2"	2 1/2"	1 1/2"	1 1/2"

Note: N.U. denotes Not Used.

NOTES:

For sole plate bevels, see individual girder elevations.

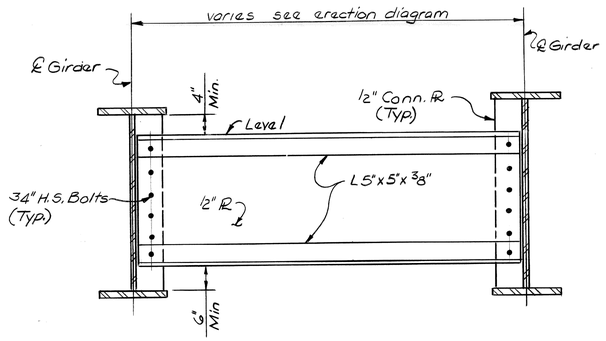
Steel sole plates, anchor bolts and position dowels are included in the quantity "Structural Steel".

Holes in bearings shall be centered on anchor bolts or dowels.

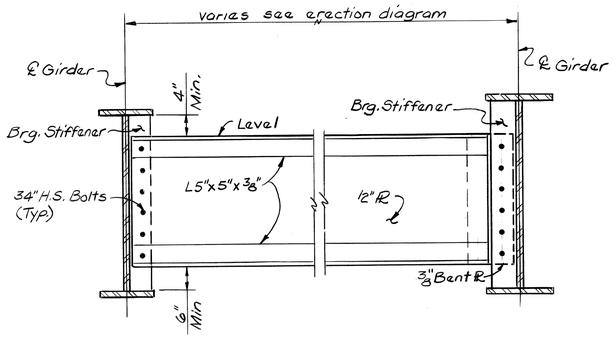
Work This Sheet With Sheets# S49 thru S60 & S62

DATE: August, 1979

DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group — LANSING INDIANAPOLIS AKRON
DR'N BY: MH	A Revise Dimensions SJP 1-22-1980		JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE - RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: SJP, RGW			STRUCTURAL STEEL DETAILS BEARING DETAILS
APP'D BY:			SCALE: NONE / DRN. NO: S61



DIAPHRAGM D1



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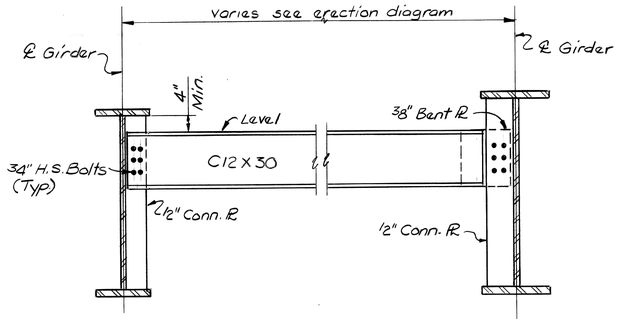
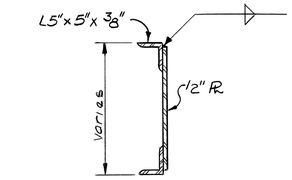
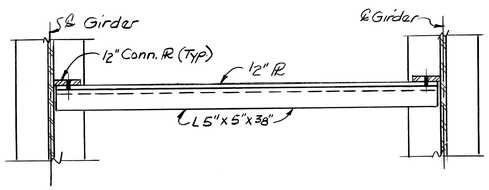


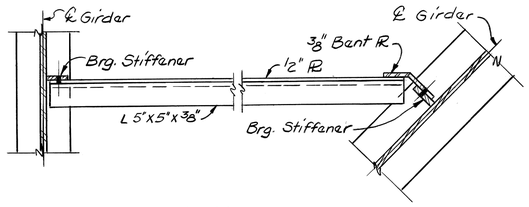
DIAPHRAGM D2



SECTION THRU DIAPHRAGM D1 or D3



PLAN of D1



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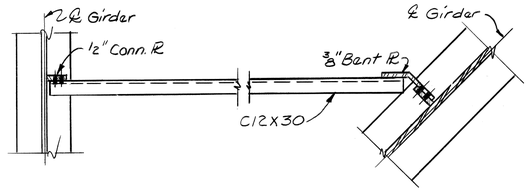

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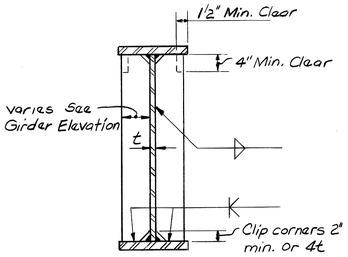
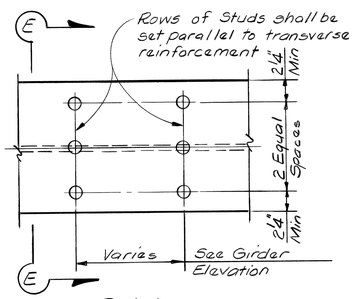
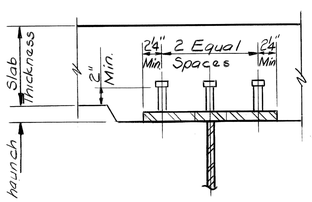


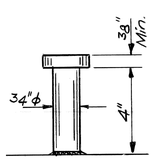
BEARING STIFFNER DETAIL



PLAN



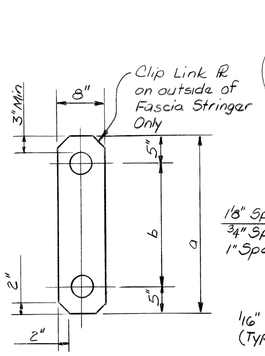
SECTION E-E



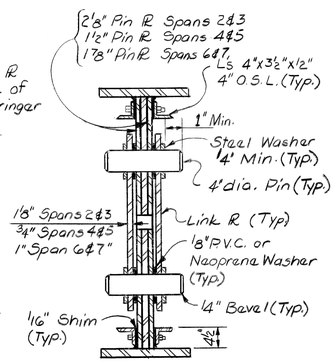
DETAIL OF STUD

STUD SHEAR DEVELOPER DETAILS

NOTES:
Furnishing of studs and welding of studs to girder flanges is included in the bid item "Shear Developers."



LINK ℝ DETAIL



SECTION AT PIN

LINK PLATE DIMENSIONS					
Girder Depth Dimension	42"	39"	36"	33"	30"
a	31"	28"	25"	22"	19"
b	21"	18"	15"	12"	9"

SEE SPAN 2 or SPAN 3 ERECTION DIAGRAM

CONSTRUCTION STAGING

(For Additional Diaphragms in Span 2 & Span 3)

Span 2 Construction

Stage One: Shore the compression (top) flange of Girder A at 1/4 points between centerline bearing to centerline bearing to resist a minimum of 1-1/4 Tons each.

Stage Two: Remove the bolts on existing 5 interior diaphragms (See Span 2 Erection Diagram), Girder A only and remove connection angle.

Stage Three: Replace connection angle with new L6" x 6" x 1/2" (See Existing Diaphragm Details). Ream holes and bolt new connection angle to Girder A, replacing 3/4" Ø bolts with 7/8" Ø H.S. bolts. Extra bolt hole in new connection angle is to be above top of bent plate. Drill new hole in web and align with extra bolt hole in new connection angle and place 7/8" Ø bolt.

Stage Four: Weld existing bent plates to new connecting angles. Position additional diaphragms (See Span 2 Erection Diagram) and weld new connection plate to the girders.

Stage Five: Remove Girder A shoring. Shore the compression (top) flange of Girder B at 1/4 points between centerline bearing to centerline bearing to resist 1-1/4 Tons each.

Stage Six: Remove the bolts on existing 5 interior diaphragms (See Span 2 Erection Diagram), that are fastening the bent plate to the connecting angle.

Stage Seven: Ream holes through bent plate and connecting angle and replace 3/4" Ø bolts. If a significant movement occurs, that makes reaming the holes impractical, the reconnection shall be accomplished by plug welding utilizing the existing bolt holes and fillet welding bent plate to connecting angle. The use of the latter procedure is to be determined in the field by the Engineer.

Stage Eight: Remove Girder B shoring.

Span 3 Construction

Stage Nine: Position additional diaphragms between Girder A and Girder B (See Span 3 Erection Diagram) and weld connecting plates to the girders.

Work This Sheet With Sheets# S49 thru S61

DATE: August, 1979

DSGN BY:	SJP, RGW
DR'N BY:	MH
CK'D BY:	SJP, RGW
APP'D BY:	

REVISIONS: E Add Construction Staging Notes SJP/5/22/80

CITY OF DETROIT, MICHIGAN

Snell Environmental Group
LANSING INDIANAPOLIS AKRON

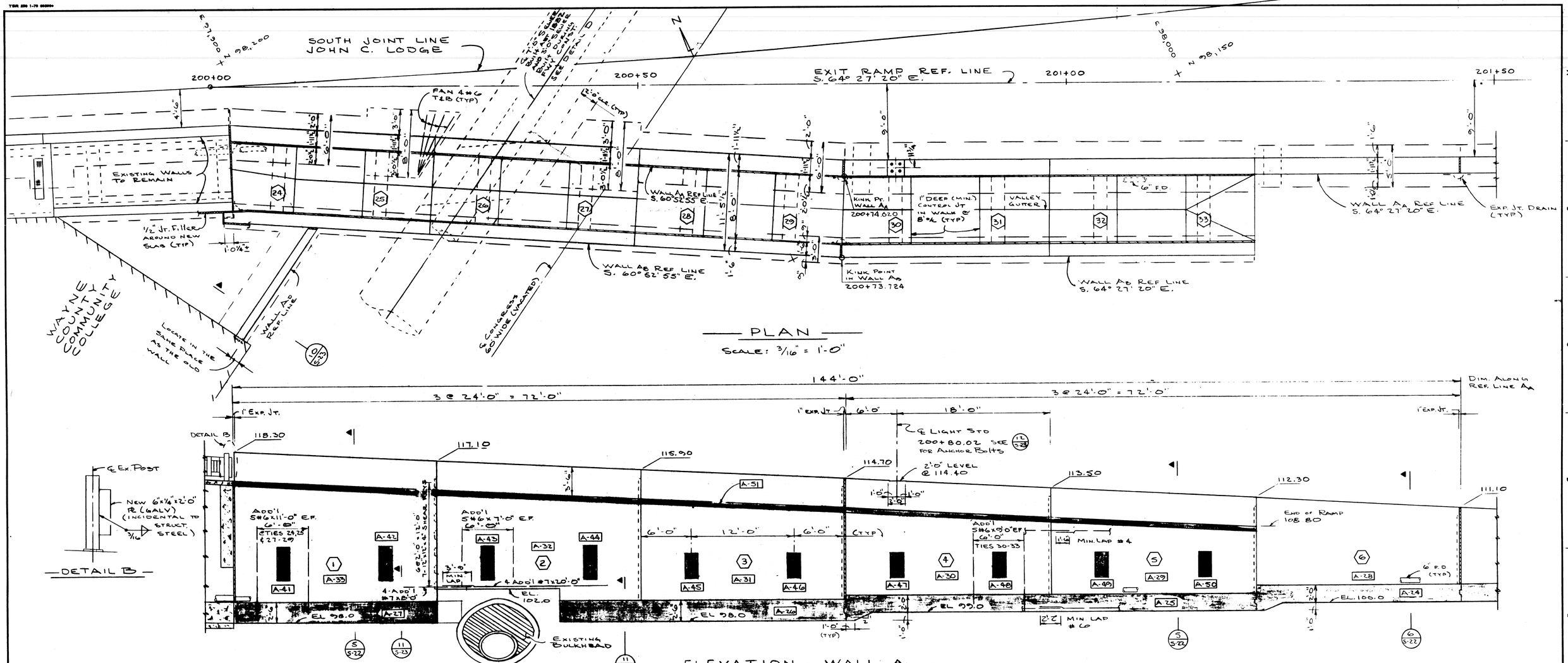
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.

STRUCTURAL STEEL DETAILS
DIAPHRAGM AND MISCELLANEOUS DETAILS

SCALE: NONE

DRN. NO: S62

TSR 230 I-75 00000

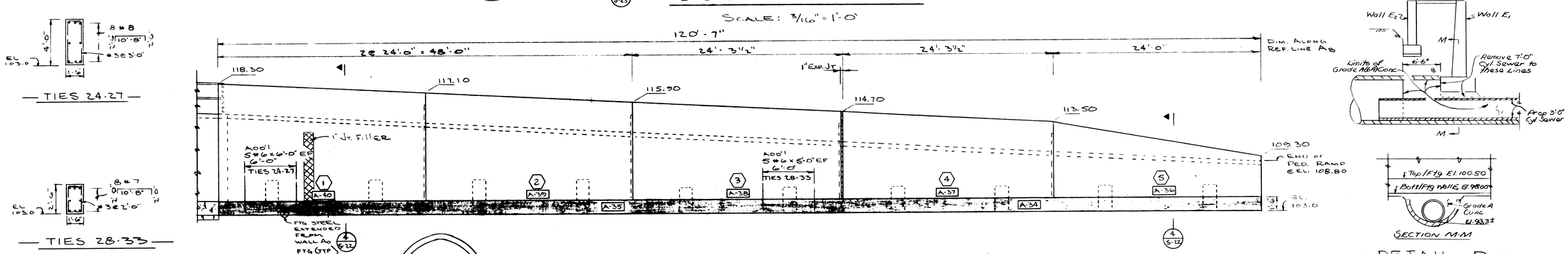


PLAN

SCALE: 3/16" = 1'-0"

ELEVATION - WALL A_A

SCALE: 3/16" = 1'-0"



ELEVATION - WALL A_B

SCALE: 3/16" = 1'-0"

DETAIL D

SCALE: 1/8" = 1'-0"
(FROM ORIG. FWY. DRWGS.)

TIES 24-27

TIES 28-33

REFERENCE DRAWINGS

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE

REVISIONS LOCATED BY COORDINATES ON SHEET

DESIGNED BY	R. Harber
DRAWN BY	R. Harber
TRACED BY	—
CHECKED BY	M. Jones

APPROVED:

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

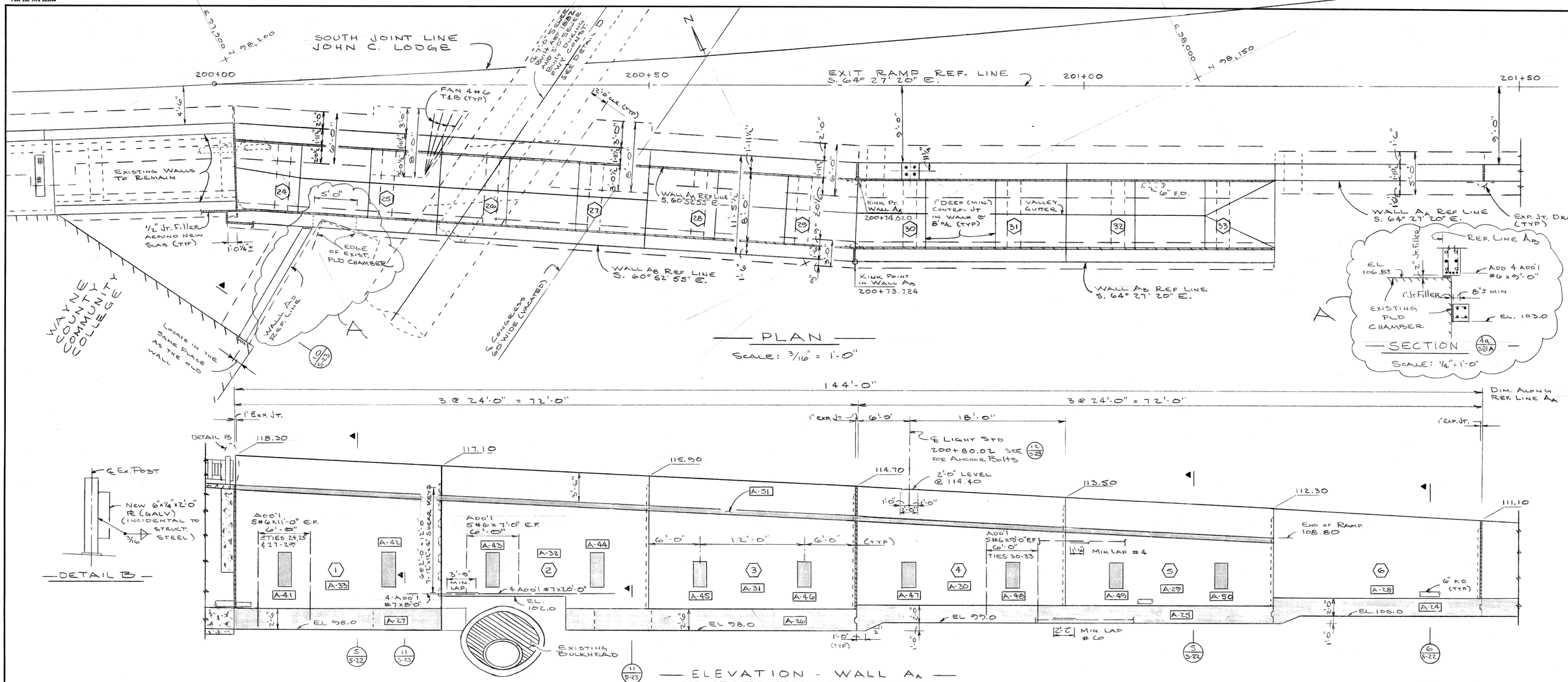
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

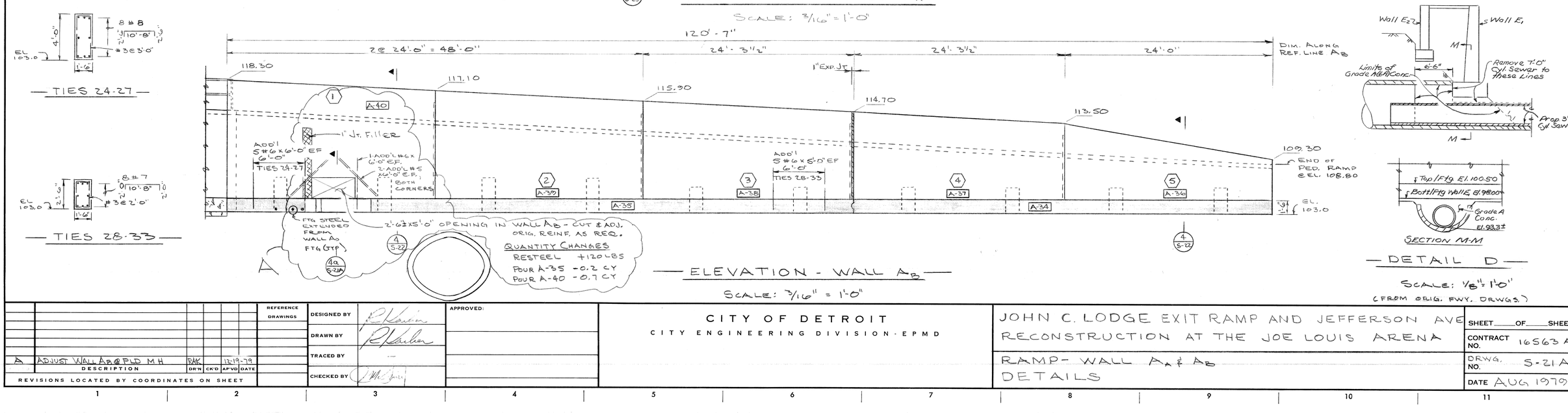
RAMP - WALL A_A & A_B DETAILS

SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563A
DRWG. NO. S-21
DATE AUG 1979

1 2 3 4 5 6 7 8 9 10 11

TSR 250 1-79 69399





A	ADJUST WALL AB @ PLD MH	RAK			12-19-79	
	DESCRIPTION	DR'N	CK'D	AP'VD	DATE	

REVISIONS LOCATED BY COORDINATES ON SHEET

REFERENCE DRAWINGS

DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY

APPROVED:

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

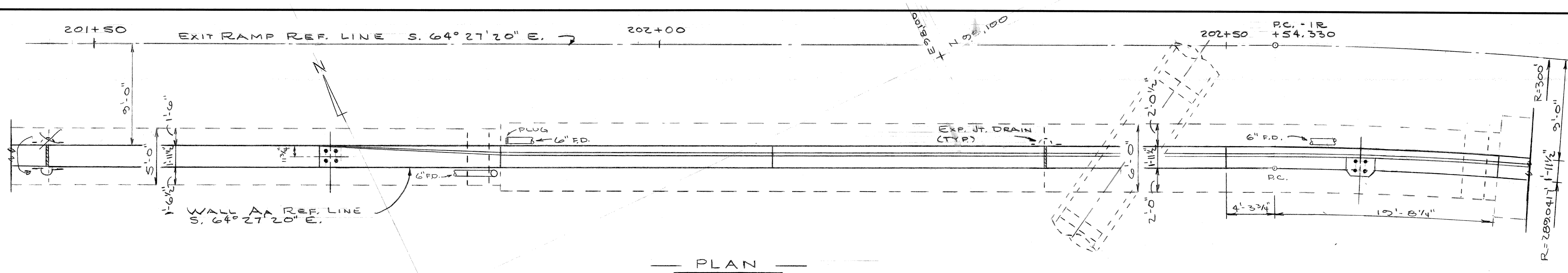
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - WALL AA & AB DETAILS

SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563 A
DRWG. NO. S-21A
DATE AUG 1979

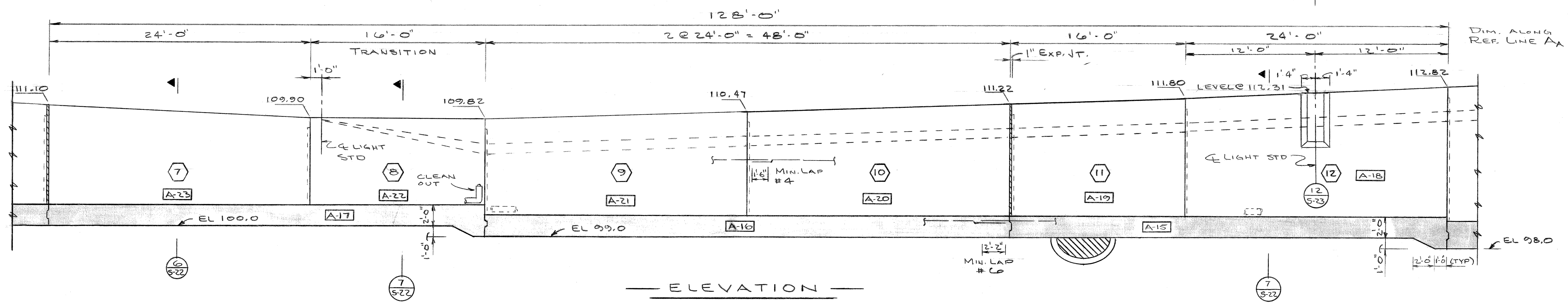
1 2 3 4 5 6 7 8 9 10 11

A B C D E F G



— PLAN —

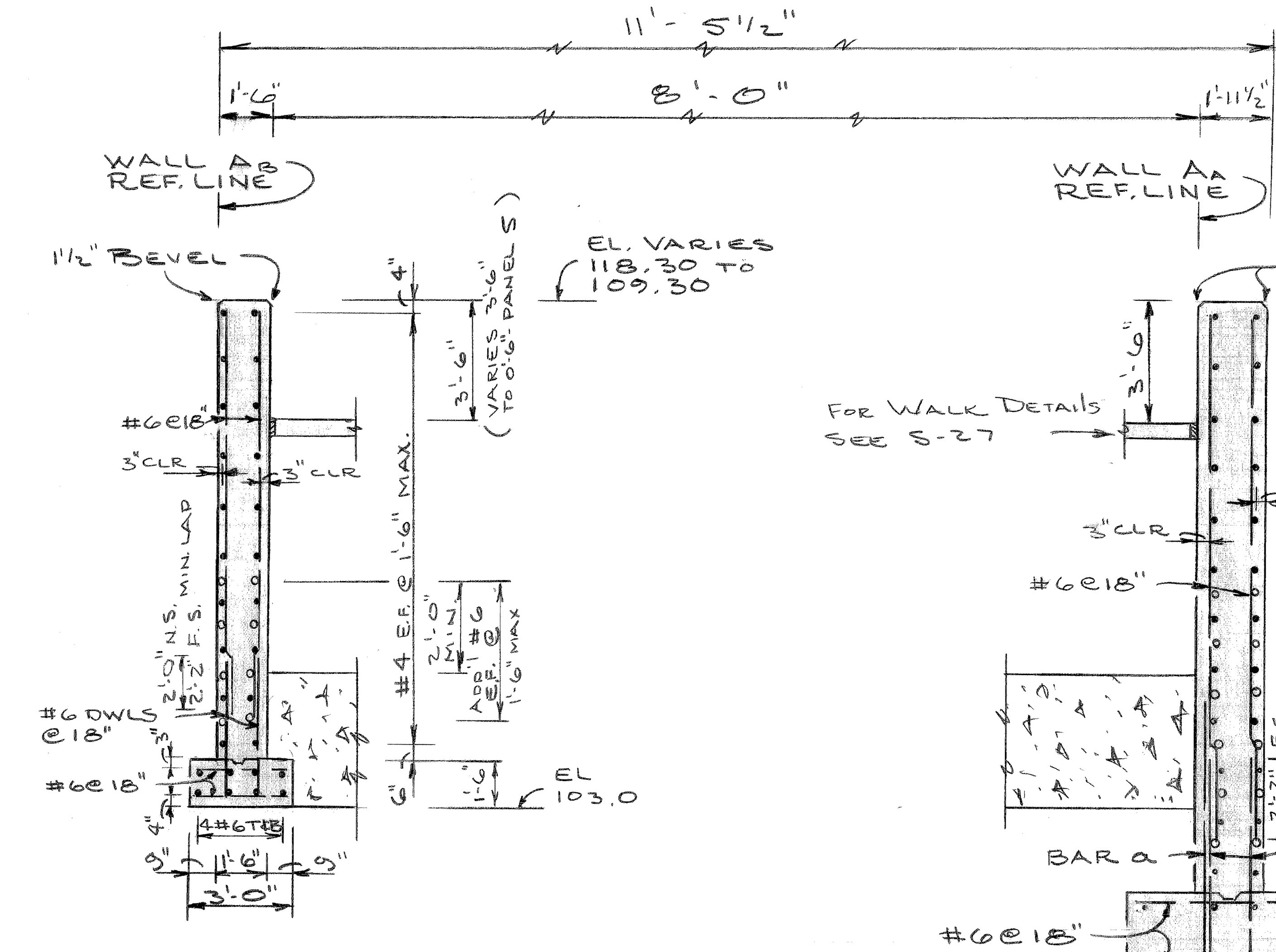
SCALE: 3/16" = 1'-0"



— ELEVATION —

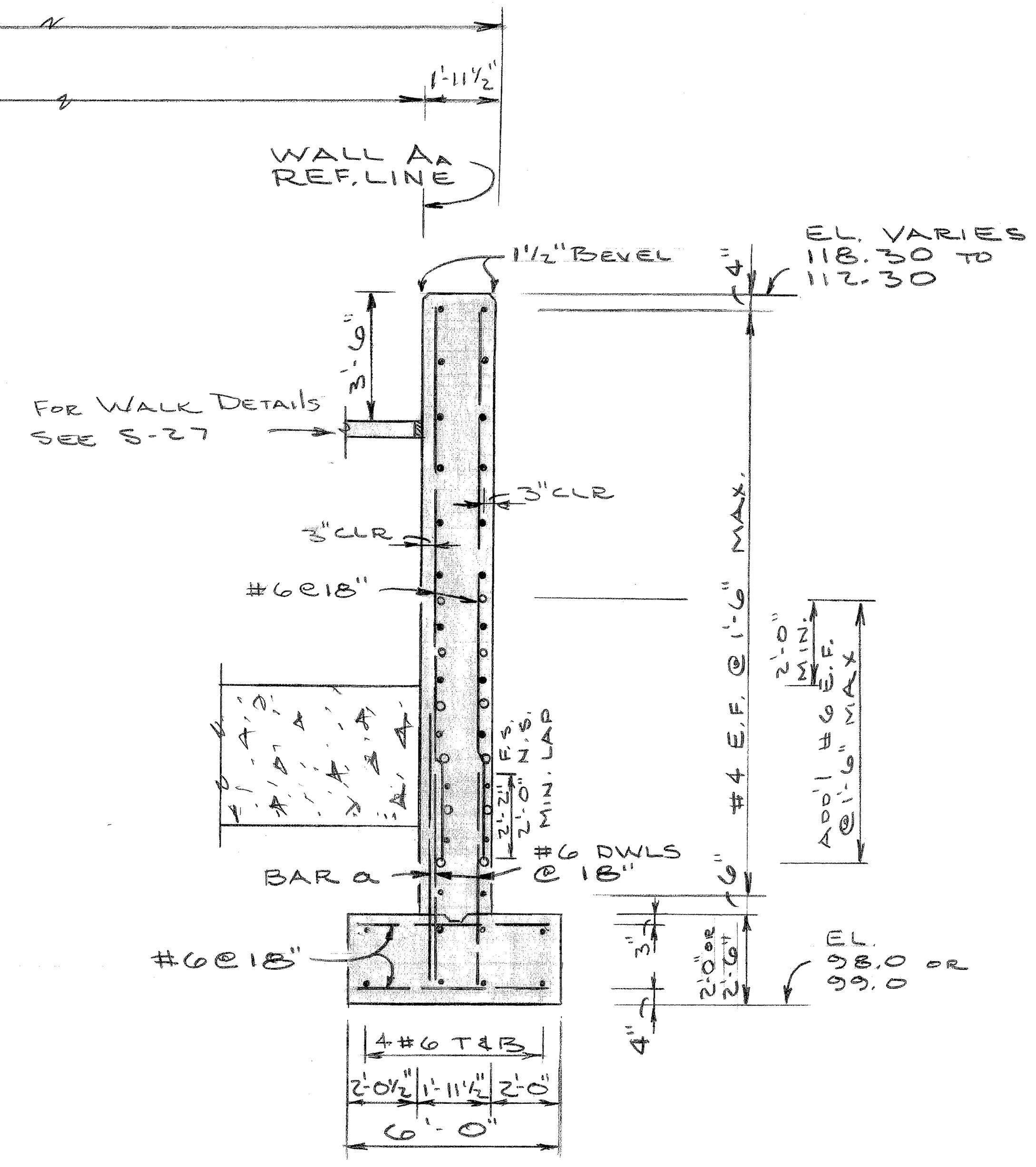
SCALE: 3/16" = 1'-0"

ADDITIONAL REINFORCEMENT (ALL SPACING @ 18")				
WALL	a	b	c	d
A_A 1-3	#6 × 7'-0"	–	–	–
A_A 4-12	–	–	–	–
A_A 13-14	#6 × 5'-0"	–	–	–
A_A 15-16	#6 × 7'-0"	–	–	#6 × 4'-0"
A_A 17	#7 × 9'-0"	#7 × 6'-0"	#6 × 6'-0"	#6 × 5'-0"
A_B 1-5	–	–	–	–
A_C 1	–	–	–	–
A_C 2	#6 × 7'-0"	–	–	#6 × 4'-0"
A_C 3	#7 × 9'-0"	#7 × 6'-0"	#6 × 6'-0"	#6 × 5'-0"



— SECTION 4/S-21 —

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



— SECTION 5/S-21 —

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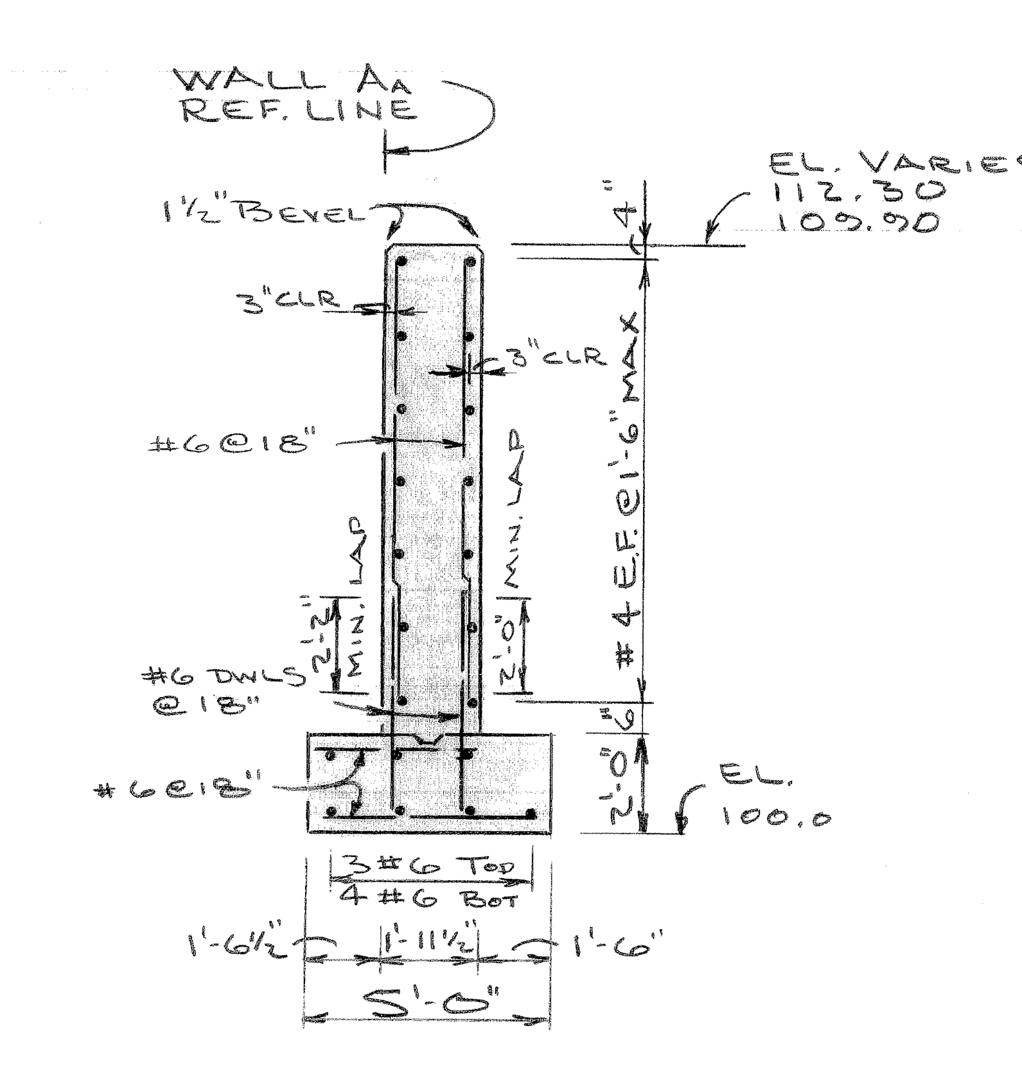
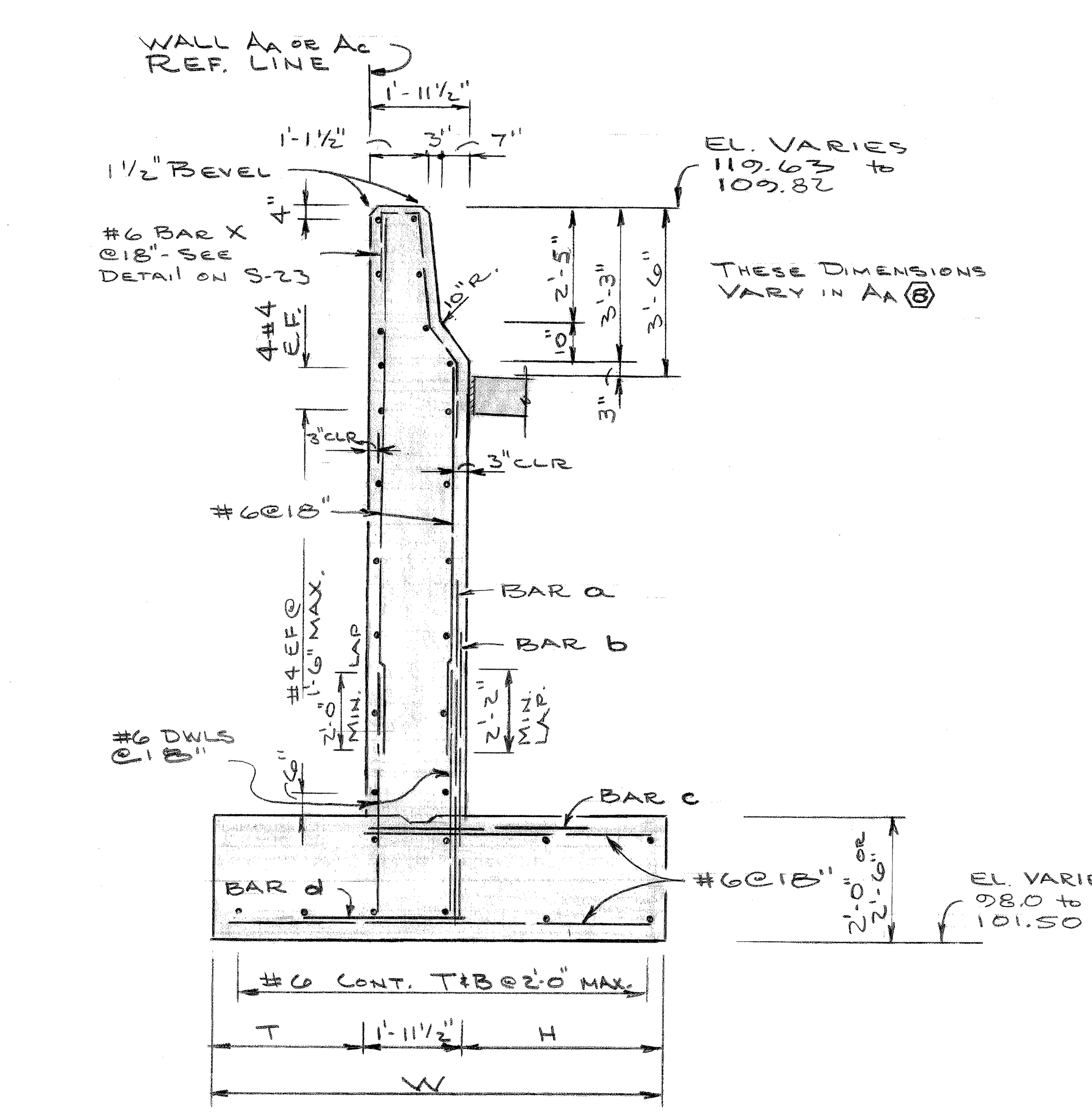


— SECTION 6/S-21 22 —

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



— SECTION 7/S-22 23, 24 —

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

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

REFERENCE DRAWINGS

DESIGNED BY: R. Kaiser
DRAWN BY: R. Kaiser
TRACED BY: —
CHECKED BY: [signature]

APPROVED:

STRUCTURAL ENGINEER

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - WALL A_A DETAILS

SHEET ___ OF ___ SHEETS
CONTRACT NO. 16563 A
DRWG. NO. S-22
DATE AUG 1979

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G

	DESCRIPTION	DR'N	CK'D	AP'VD	DATE	REFERENCE DRAWINGS
	REVISIONS LOCATED BY COORDINATES ON SHEET					

DESIGNED BY R Kaulen
DRAWN BY R Kaulen
TRACED BY —
CHECKED BY J. McGuire

APPROVED:

STRUCTURAL ENGINEER

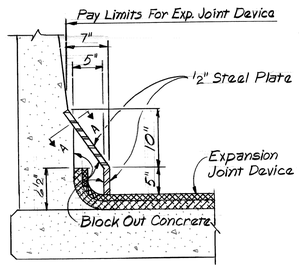
CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C LODGE EXIT RAMP AND JEFFERSON AVE.
RECONSTRUCTION AT THE JOE LOUIS ARENA

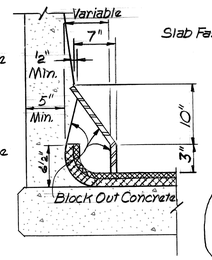
RAMP - WALL AA
DETAILS

SHEET ___ OF ___ SHEETS
CONTRACT NO. 16563A
DRWG NO. S-23
DATE AUG 1979

1 2 3 4 5 6 7 8 9 10 11

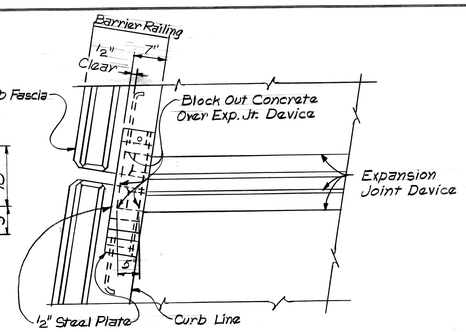


90° Crossing

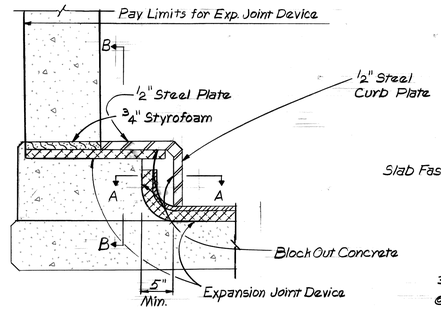


Skewed Crossing

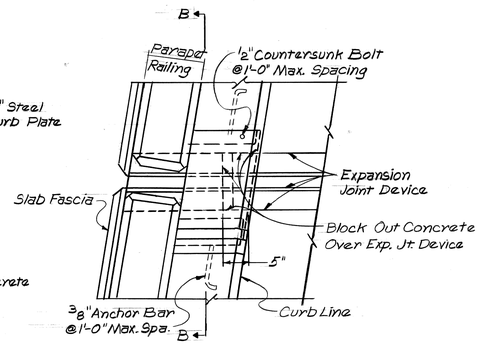
ELEVATION AT BARRIER RAILING



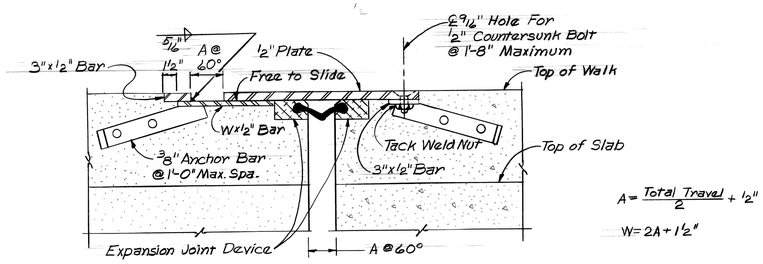
PLAN AT BARRIER RAILING



ELEVATION AT PARAPET RAILING
(Applicable to Sidewalks and Brush Blocks)



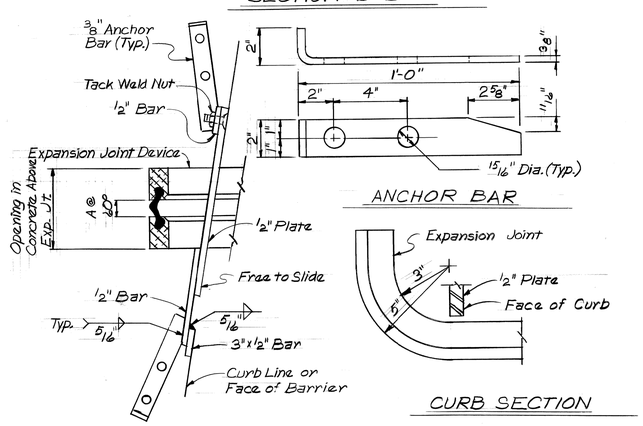
PLAN AT PARAPET RAILING
(Sidewalk Shown, Brush Block Similar)



$A = \frac{\text{Total Travel}}{2} + 1/2"$

$W = 2A + 1/2"$

SECTION B-B



ANCHOR BAR

CURB SECTION

SECTION A-A

MISCELLANEOUS QUANTITY		
Item	Unit	Amount
Expansion Joint Device 2" Min. Travel	Lineal Feet	71
Expansion Joint Device 3" Min. Travel	Lineal Feet	191

NOTES:

JOINT TYPES

THE EXPANSION JOINT DEVICE SHALL BE OF A TYPE THAT INCLUDES A CONTINUOUS NEOPRENE SEAL ACROSS THE DECK. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR HAS THE OPTION OF USING ANY OF THE DEVICES LISTED BELOW:

DEVICE	MANUFACTURER
ACME STRIP SEAL	ACME HIGHWAY PRODUCTS
ALU - STRIP	WATSON BOWMAN, INC.
ONFLEX	STRUCTURAL ACCESSORIES, INC.
PRO - SPAN	FEL - PRO INC.
UNIDAM	ROYSTON LABORATORIES, INC.
WABO - MAURER STRIP SEAL	WATSON BOWMAN, INC.
FEL-SPAN C.S.	FEL-PRO INC.

SEE SHOP DRWGS

THE MODEL OF THE JOINT TYPE SELECTED SHALL BE SUITABLE TO ACCOMMODATE THE TOTAL MOVEMENT NOTED ON THE PLANS.

COMPLETE WORKING DRAWINGS OF ALL DETAILS OF FABRICATION OF THE EXPANSION JOINT DEVICE SHALL BE SUBMITTED FOR REVIEW IN ACCORDANCE WITH STANDARD SPECIFICATION 1.05.02.

FABRICATION AND INSTALLATION

THE EXPANSION JOINT SHALL BE BENT IN THE SHOP TO CONFORM TO THE CONTOUR OF THE ROADWAY SLAB. IT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SUBJECT TO NOTES HEREIN AND THE APPROVAL OF THE ENGINEER.

WHERE THE DEVICE IS TO BE INSTALLED ON CAST CONCRETE, THE SURFACE LAITANCE SHALL BE REMOVED BY SANDBLASTING AND ANY VOIDS FILLED WITH EPOXY MORTAR PRIOR TO BEDDING.

WHERE THE SEALING GLAND IS LOCKED INTO A METAL EXTRUSION, A LUBRICANT-ADHESIVE CONFORMING TO STANDARD SPECIFICATION 8.16.04 - D-2 SHALL BE REQUIRED BETWEEN THE SEAL AND METAL EXTRUSION.

A SEALANT SHALL BE USED BETWEEN THE SEAT AND THE ANCHORED PORTION OF THE SEALING GLAND, AND ALSO BETWEEN THE SEAT AND HOLD DOWN DEVICE. THE SEALANT SHALL CONFORM TO FEDERAL SPECIFICATION MMMG-650B GRADE B. TT-S-00230C TYPE 11, OR SHALL BE AN APPROVED EQUAL.

THE VOID FORMED BETWEEN THE VERTICAL EDGE OF THE HOLD DOWN DEVICE AND THE BLOCK OUT SHALL BE FILLED WITH A SEALANT IF LESS THAN ½ INCH IN WIDTH OR WITH AN EPOXY MORTAR IF GREATER THAN ½ INCH. THE SEALANT SHALL CONFORM TO FEDERAL SPECIFICATION TT-S-00230C TYPE 11 OR SHALL BE AN APPROVED FLEXIBLE EPOXY.

ALL BOLT CAVITIES IN THE HOLD DOWN DEVICES SHALL BE FILLED WITH AN EPOXY MORTAR IF THE CAVITIES ARE CONTINUOUS OR WITH AN APPROVED FLEXIBLE EPOXY IF THEY ARE NOT CONTINUOUS.

THE AREA OF THE HOLD DOWN DEVICE AND SEALING GLAND WHICH WILL BE IN CONTACT WITH A SEALANT SHALL BE CLEANED WITH TOLUENE OR OTHER APPROVED SOLVENT.

ALL SURFACES IN CONTACT WITH THE EPOXY MORTAR SHALL BE LIGHTLY SAND BLASTED AND PRIMED WITH THE BINDER PRIOR TO PLACING THE MORTAR.

THE EPOXY MORTAR SHALL CONFORM TO STANDARD SPECIFICATION 4.50.20.

THE PRO-SPAN DEVICE MUST INCORPORATE A CAST-IN-PLACE METAL SEAT.

DETAILS AT CURBS OR BARRIERS

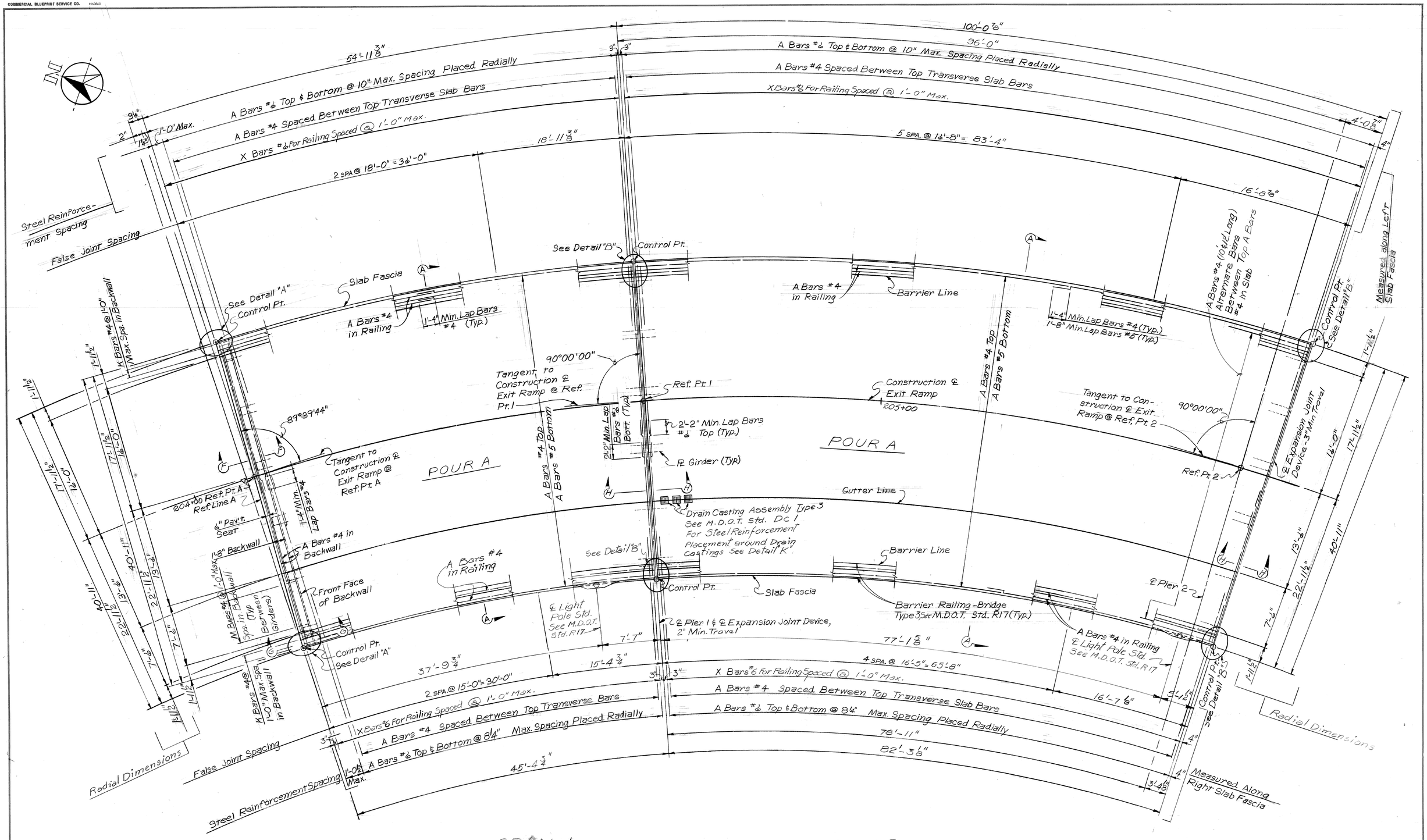
THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

MATERIALS

THE COST OF ALL MATERIALS AND LABOR REQUIRED FOR PROPER INSTALLATION OF THE EXPANSION JOINT AND THE TERMINAL ASSEMBLIES AT THE CURBS, SIDEWALKS, OR BARRIERS IS INCLUDED IN THE PAYMENT FOR THE EXPANSION JOINT DEVICE.

DATE: August, 1979

DSGN BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	EXPANSION JOINT DETAIL FEL-PRO TYPE
DR'N BY:					SCALE: NONE
CK'D BY:					DRN. NO: S63
APP'D BY:					



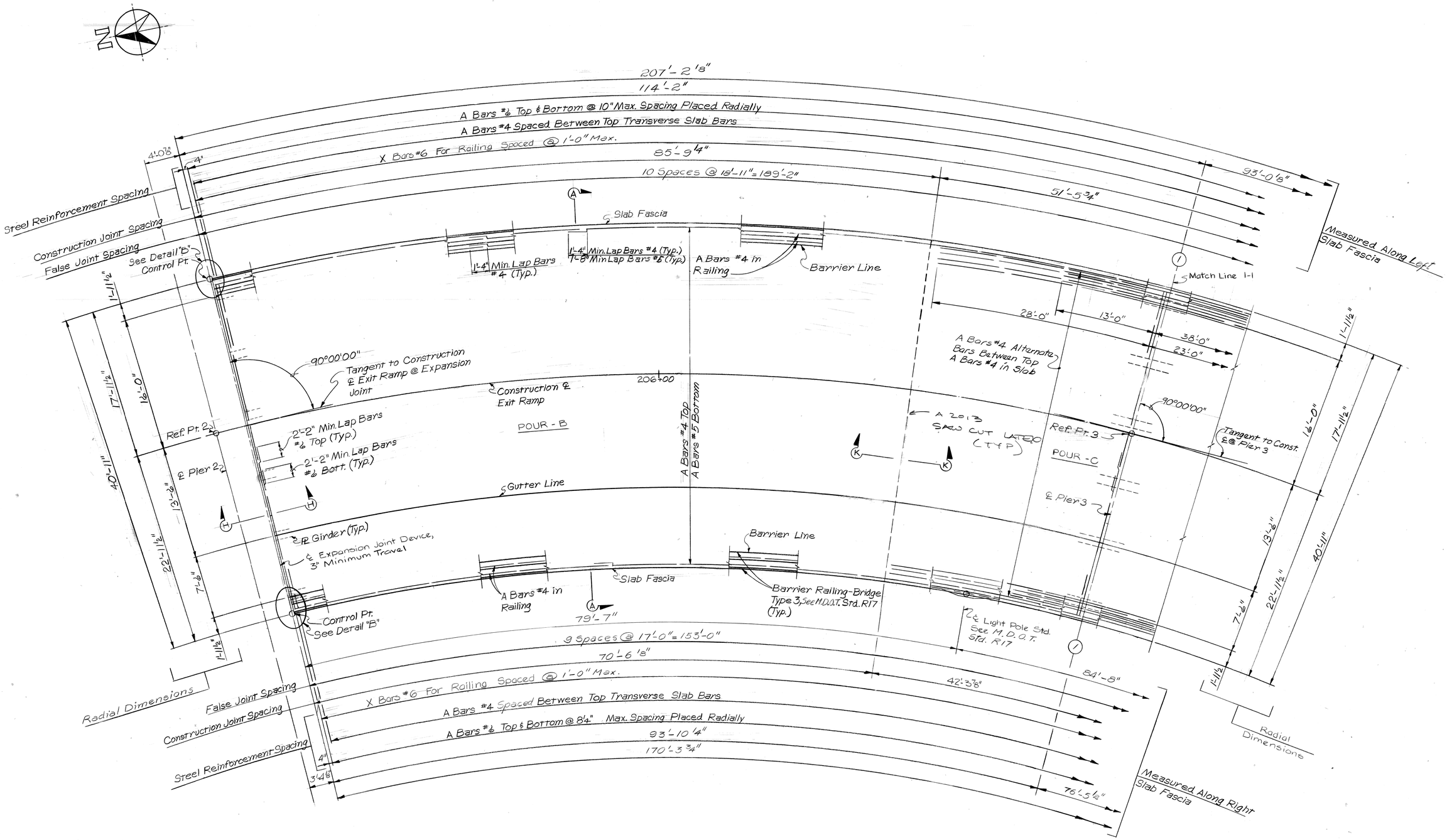
SPAN 1 SPAN 2

PLAN OF SLAB

Work This Sheet With Sheets # 565 thru 582

DATE: August, 1979

DSGN BY: SJP,RGW DR'N BY: DE CK'D BY: SJP, RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA.	SUPERSTRUCTURE DETAILS PLAN OF SLAB – SPANS 1 AND 2	SCALE: NONE DRN. NO: S64



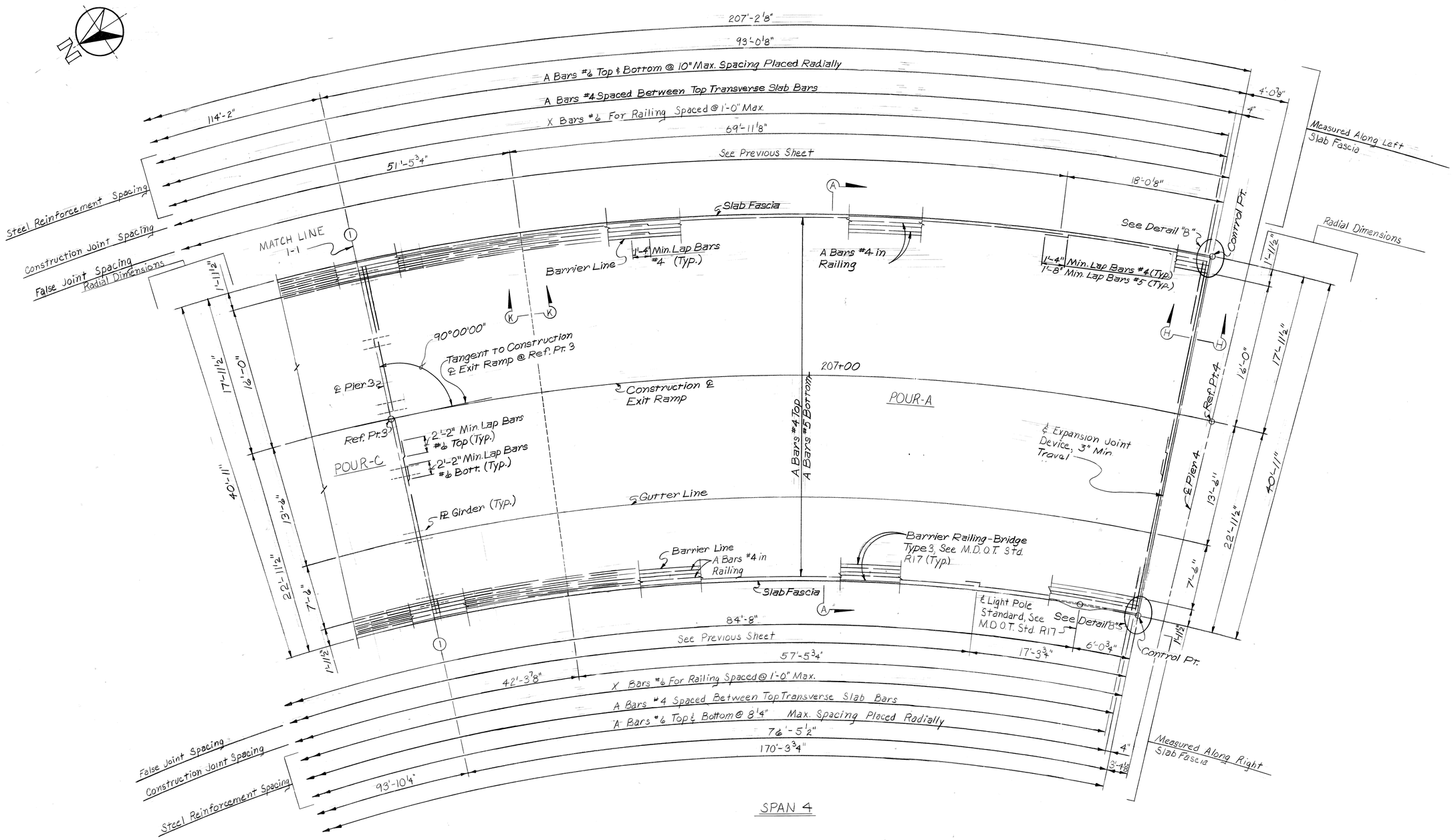
SPAN 3

PLAN OF SLAB

Work This Sheet With Sheets #: S64 & S66 thru S82

DATE: August, 1979

DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group — LANSING INDIANAPOLIS AKRON
DR'N BY: DE			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: SJP, RGW			SUPERSTRUCTURE DETAILS PLAN OF SLAB – SPAN 3
APP'D BY:			SCALE: NONE
			DRN. NO: S65



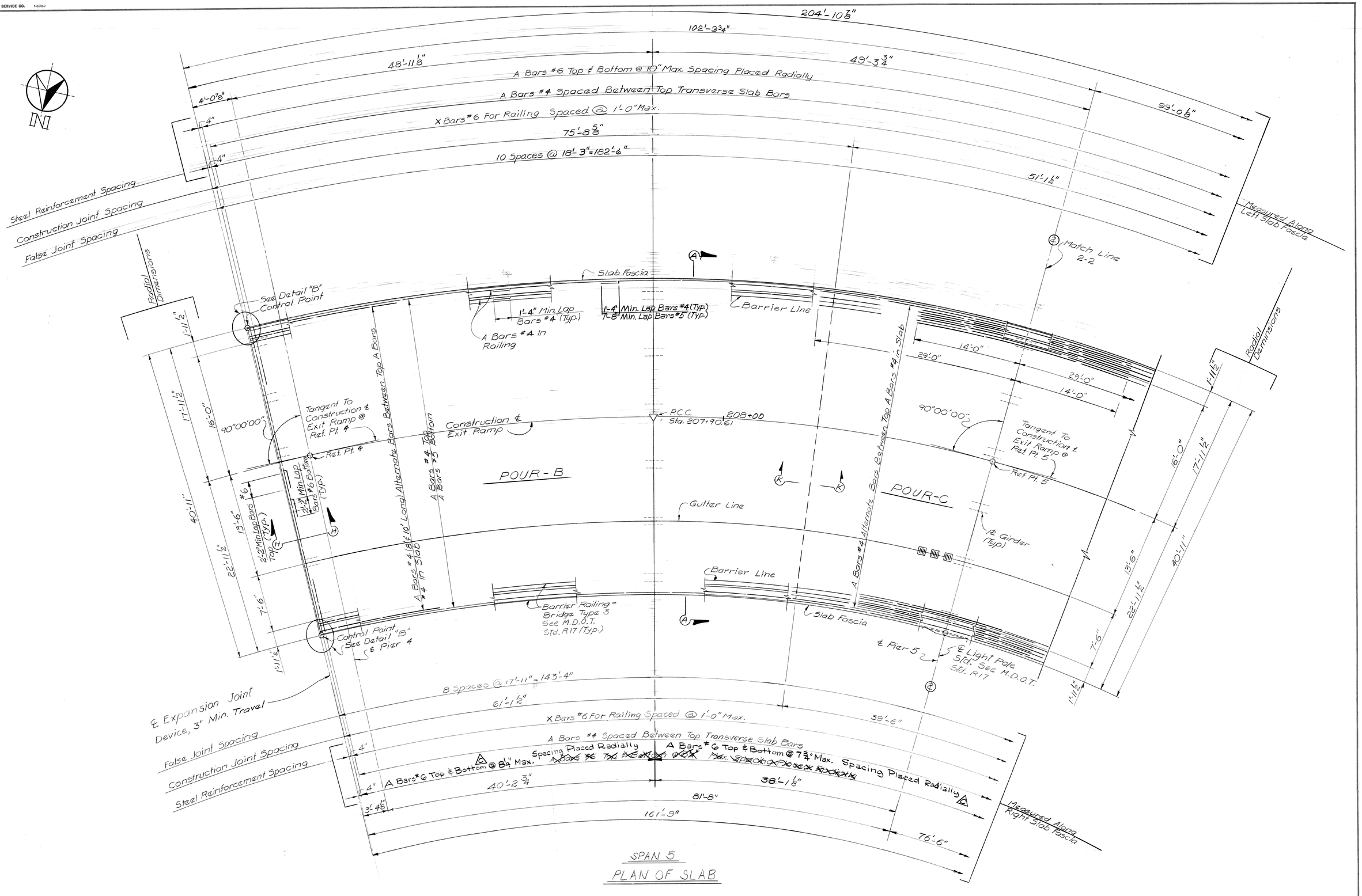
SPAN 4

PLAN OF SLAB

Work This Sheet With Sheets # S64, S65 & S67 thru S82

DATE: August, 1979

DSGN BY: SJP,RGW DR'N BY: DE CK'D BY: SJP, RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA	SUPERSTRUCTURE DETAILS PLAN OF SLAB – SPAN 4	SCALE: NONE DRN. NO: S66	

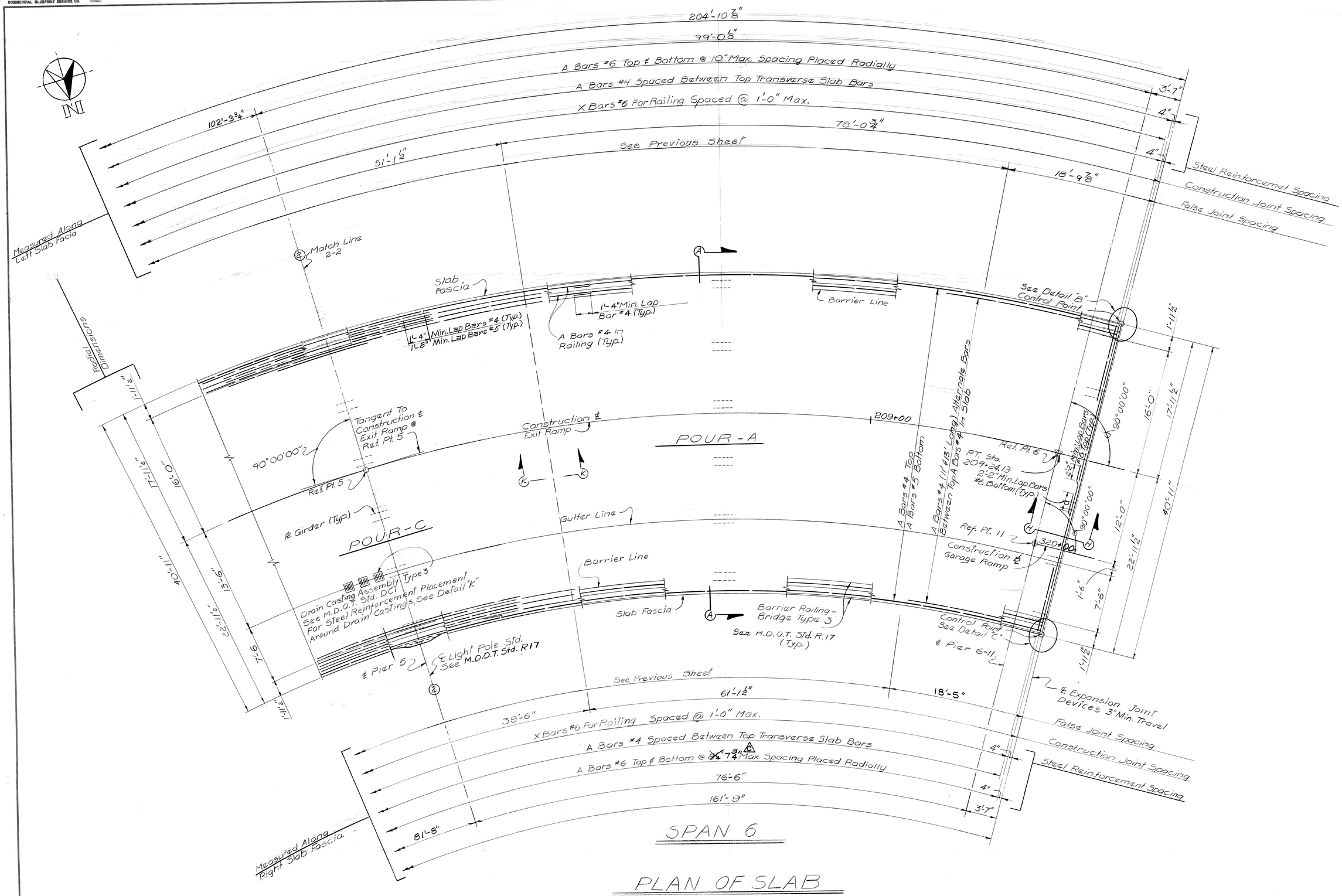


SPAN 5

PLAN OF SLAB

Work This Sheet With Sheets# S64 thru S66 & S68 thru S82 DATE: August, 1979

DSGN BY: SJP, RGW DR'N BY: RD CK'D BY: SJP, RGW APP'D BY:	REVISIONS	⚠ Revise Dimensions SJP 1-22-1980	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA.	SUPERSTRUCTURE DETAILS PLAN OF SLAB – SPAN 5	SCALE: NONE DRN. NO: S67

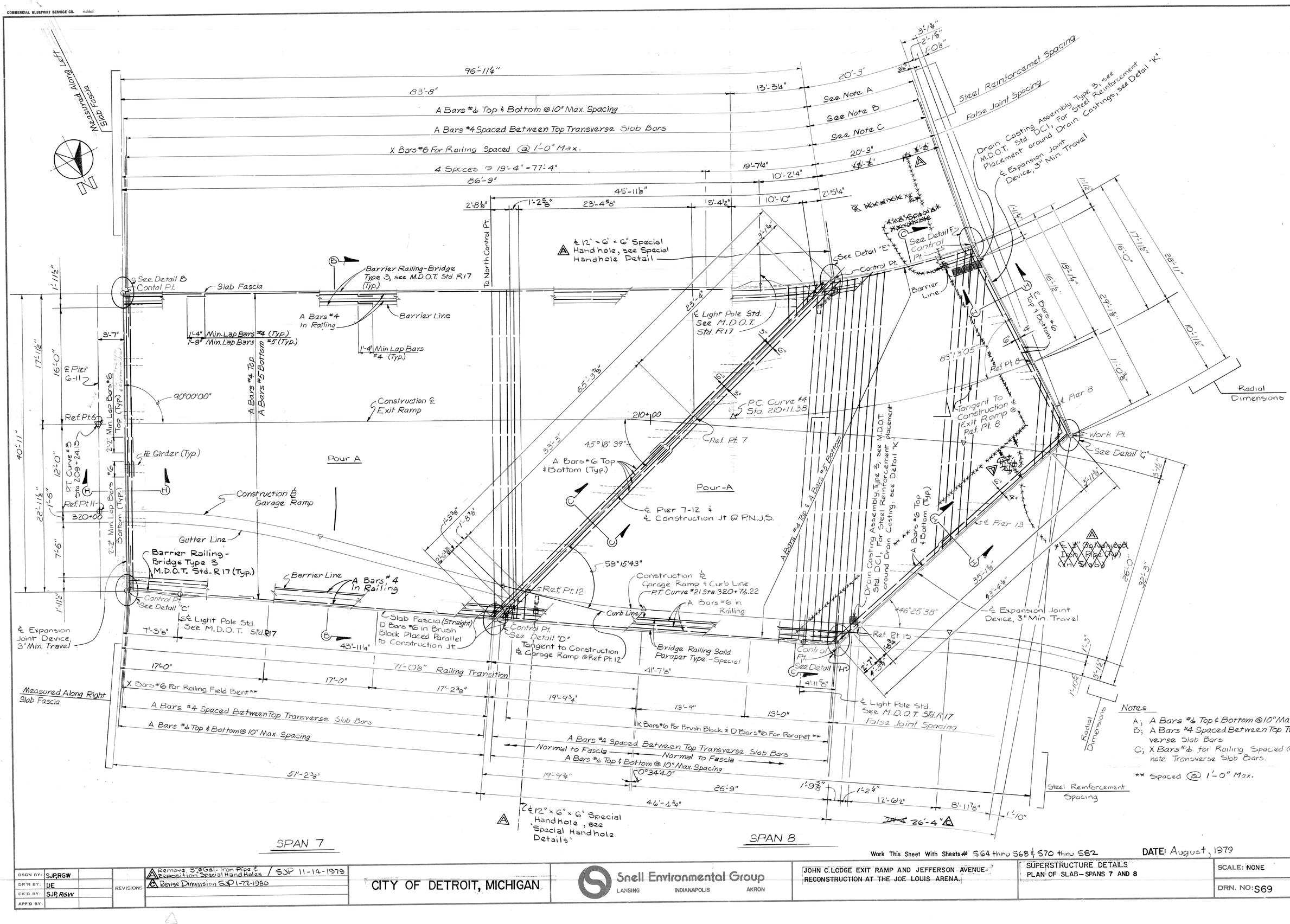


SPAN 6

PLAN OF SLAB

Work This Sheet With Sheets# S64 thru S67 & S69 thru S82 DATE: August, 1979

DSGN BY: SJP,RGW DR'N BY: RD CK'D BY: SJP, RGW APP'D BY:	REVISIONS	A Revise Dimension SJP 1-22-1980	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	SUPERSTRUCTURE DETAILS PLAN OF SLAB – SPAN 6	SCALE: NONE DRN. NO: S68



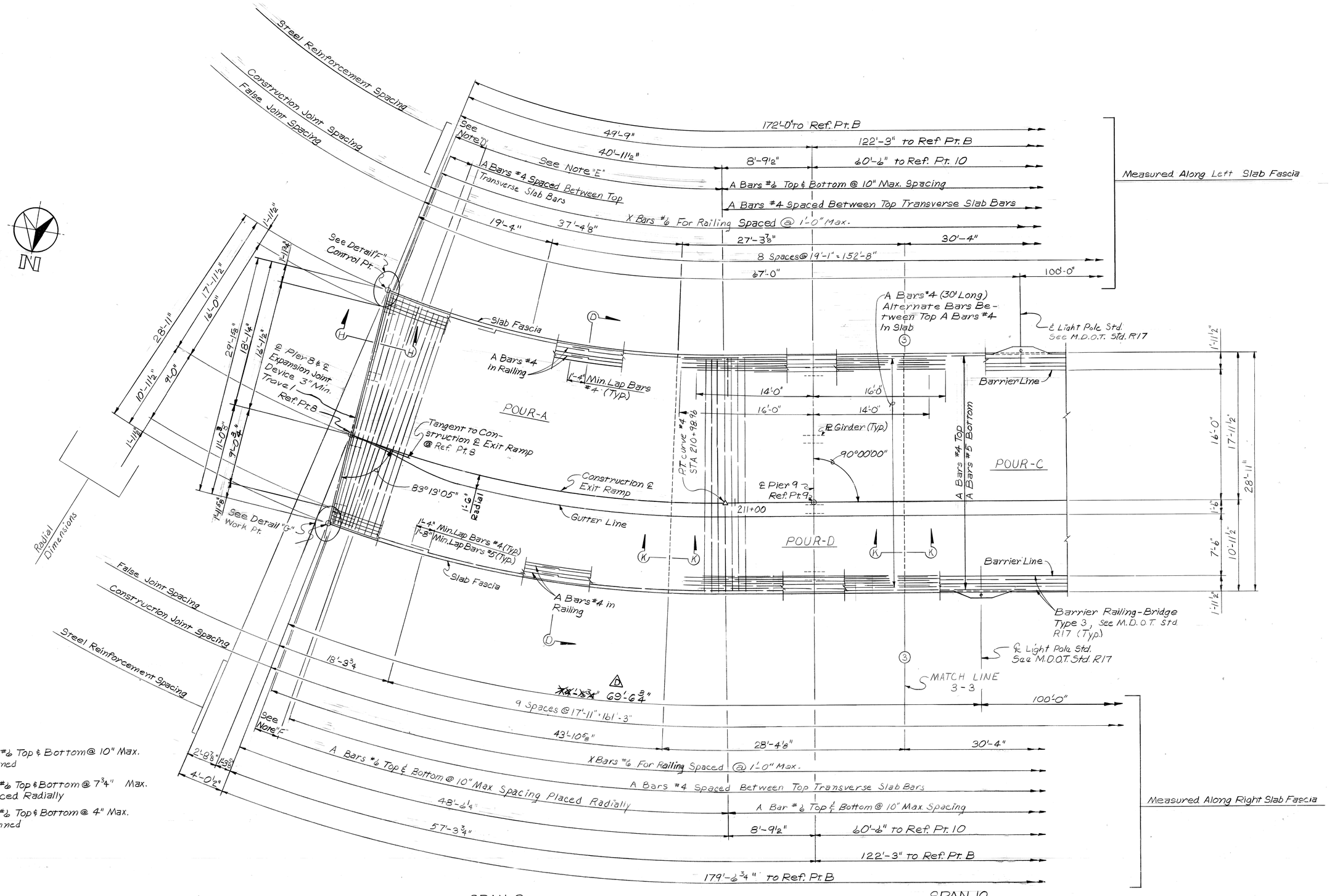
Notes

A; A Bars #6 Top & Bottom @ 10" Max. Spacing
B; A Bars #4 Spaced Between Top Transverse Slab Bars
C; X Bars #6 for Railing Spaced @ Alternate Transverse Slab Bars.

** Spaced @ 1'-0" Max.

Work This Sheet With Sheets# S64 thru S68 & S70 thru S82 DATE: August, 1979

DSGN BY: SJP,RGW DR'N BY: DE CK'D BY: SJP, RGW APP'D BY:	REVISIONS	Remove 3"@Gal. Iron Pipe & Reposition Special Hand Holes / SJP 11-14-1979 Revise Dimension SJP 1-22-1980	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	SUPERSTRUCTURE DETAILS PLAN OF SLAB—SPANS 7 AND 8	SCALE: NONE DRN. NO: S69



Notes:

D; A Bars #6 Top & Bottom @ 10" Max. Spacing Fanned

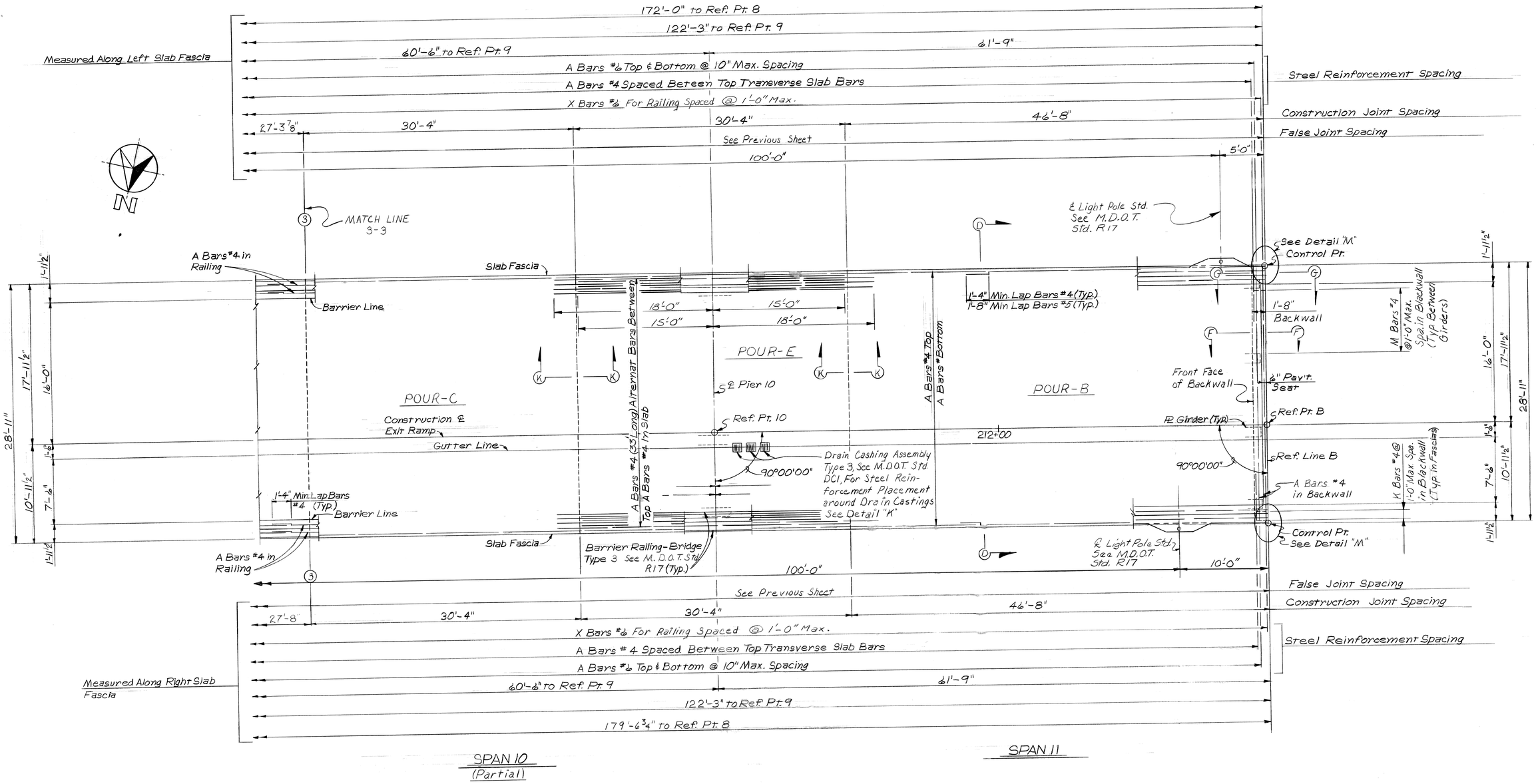
E; A Bars #6 Top & Bottom @ 7¾" Max. Spacing Placed Radially

F; A Bars #6 Top & Bottom @ 4" Max. Spacing Fanned

SPAN 9 — PLAN OF SLAB — SPAN 10 (Partial)

Work This Sheet With Sheets #S64 thru S69 & S71 thru S82 DATE: August, 1979

DSGN BY: SJP, RGW DR'N BY: DE CK'D BY: SJP, RGW APP'D BY:	REVISIONS	Δ Change Dimension SJP 3-21-80	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA	SUPERSTRUCTURE DETAILS PLAN OF SLAB — SPANS 9 AND 10 (PARTIAL)	SCALE: NONE DRN. NO: S70



PLAN OF SLAB

Work This Sheet With Sheets# S64 thru S70 & S72 thru S82

DATE: August, 1979

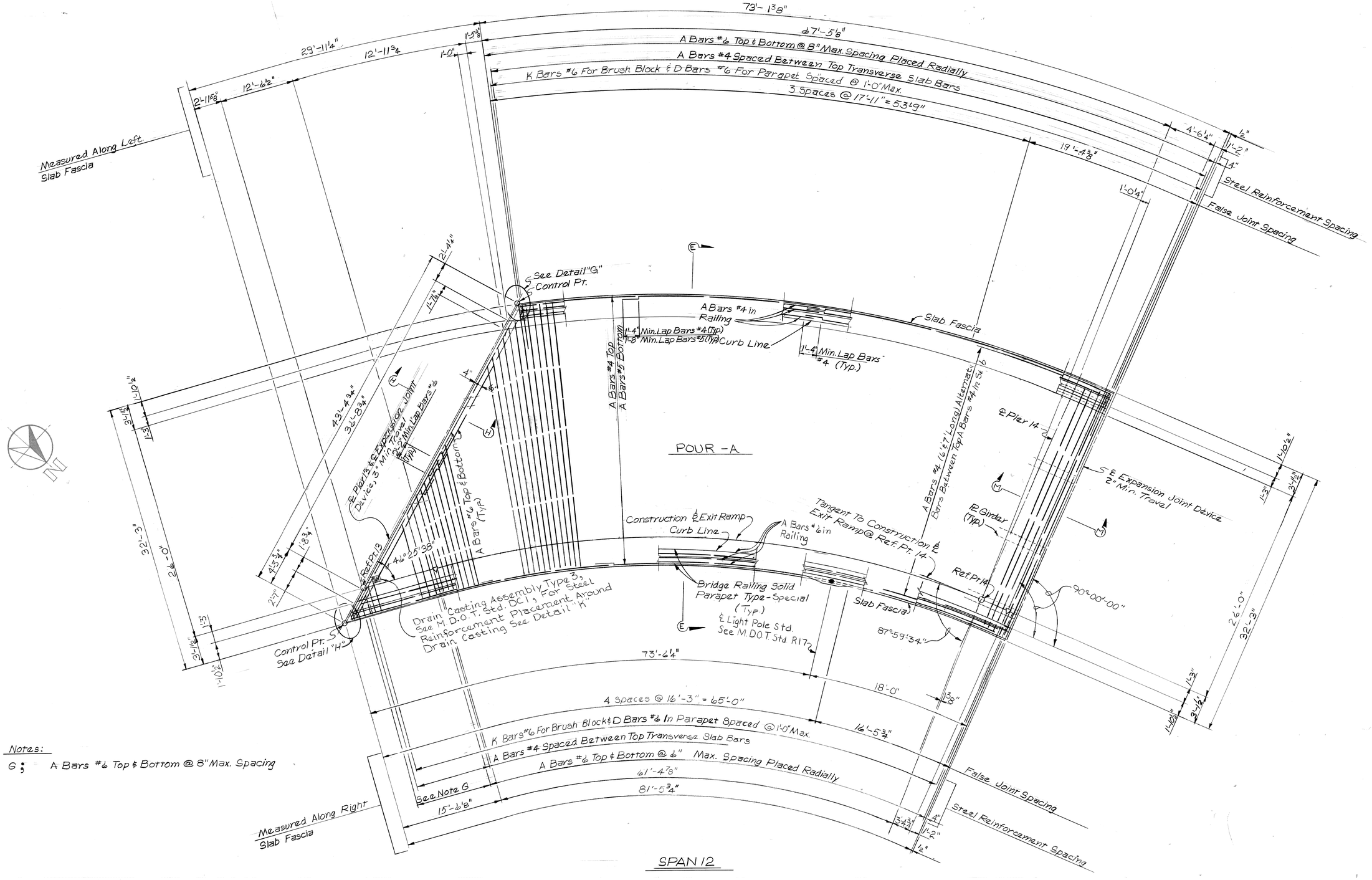
DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: DE			
CK'D BY: SJP, RGW			
APP'D BY:			

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA.

SUPERSTRUCTURE DETAILS
PLAN OF SLAB – SPANS 10 (PARTIAL) AND 11

SCALE: NONE

DRN. NO: S71



Notes:

G ; A Bars #6 Top & Bottom @ 8" Max. Spacing

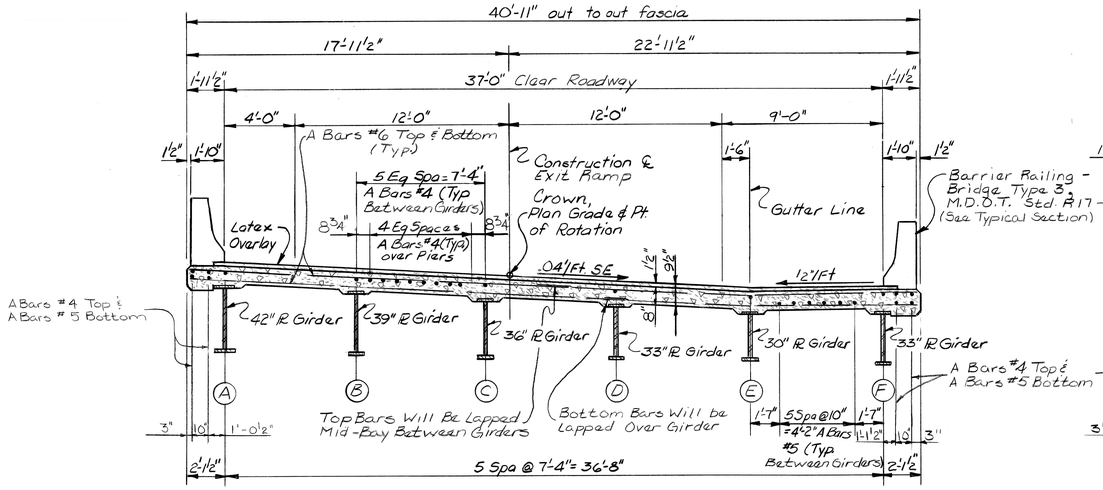
SPAN 12

PLAN OF SLAB

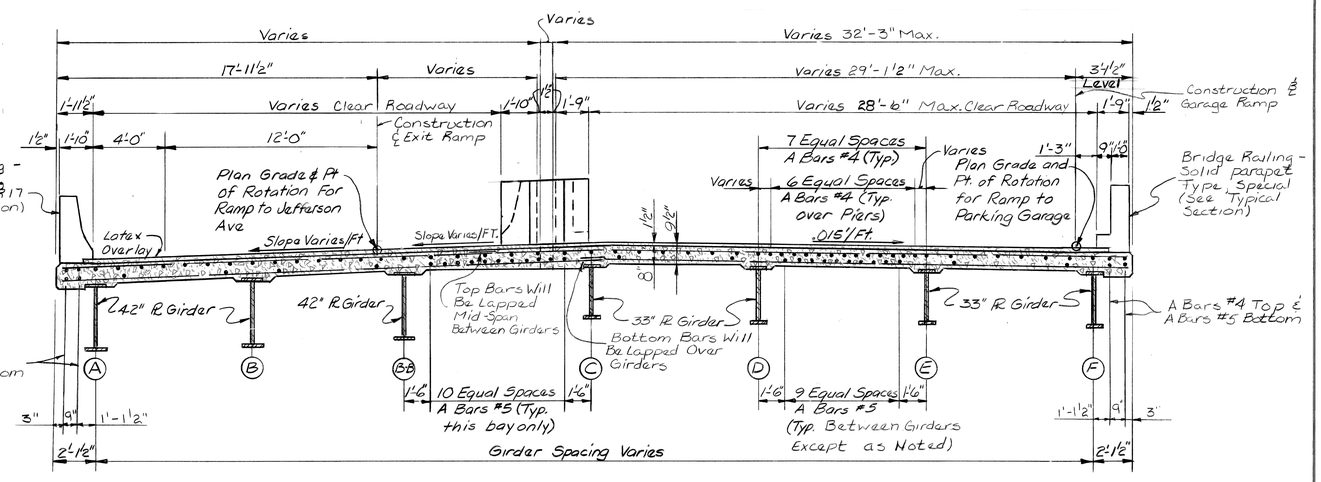
Work This Sheet With Sheets# S64 thru S71 & S73 thru S82

DATE: August, 1979

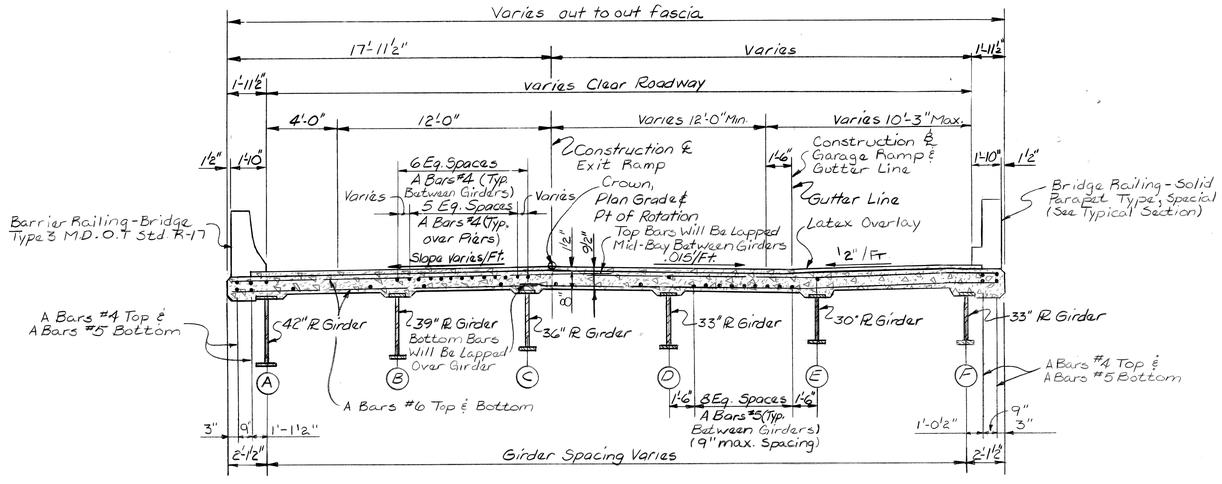
DSGN BY: SJP, RGW DR'N BY: DE CK'D BY: SJP, RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA.	SUPERSTRUCTURE DETAILS PLAN OF SLAB—SPAN 12	SCALE: NONE DRN. NO: S72



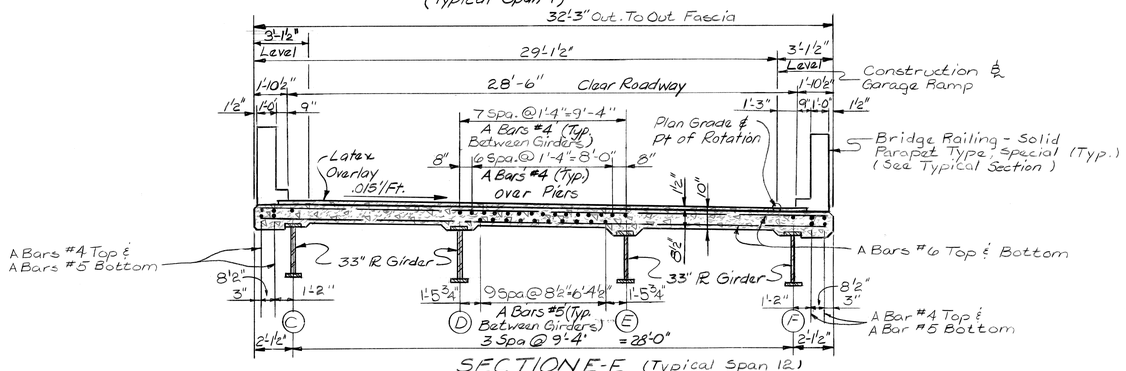
SECTION A-A
(Typical Spans 1-6)



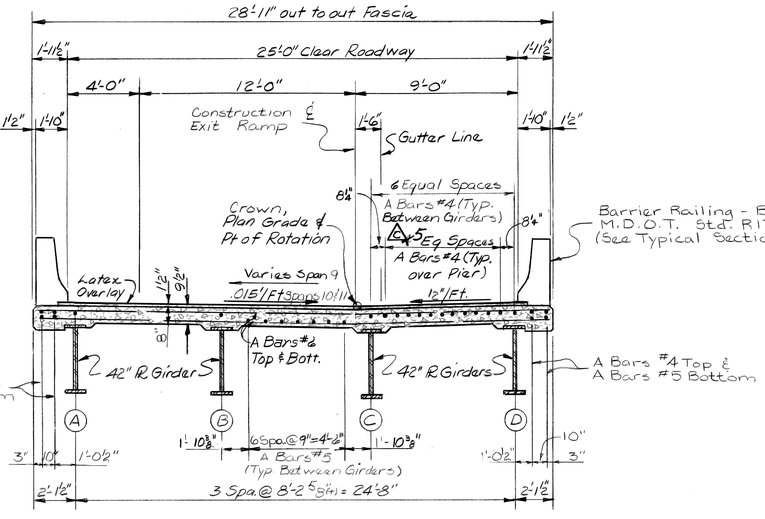
SECTION C-C
(Typical Span 8)



SECTION B-B
(Typical Span 7)



SECTION E-E (Typical Span 12)

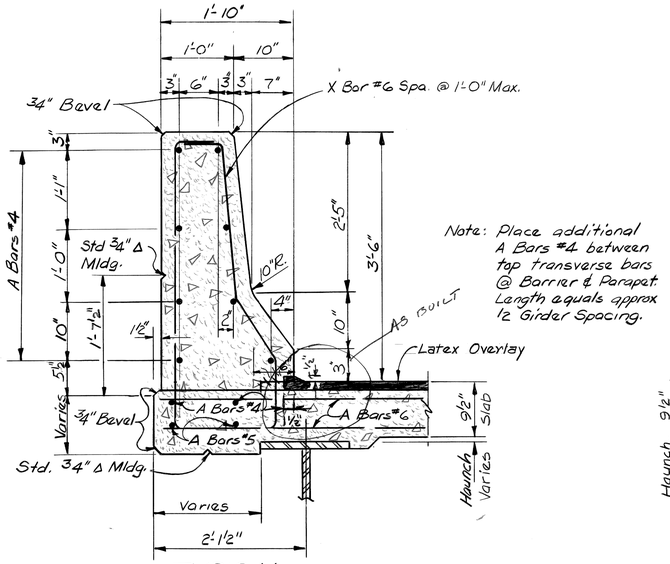


SECTION D-D
(Typical Spans 9, 10 & 11)

Work This Sheet With Sheets # S64 thru S72 & S74 thru S82

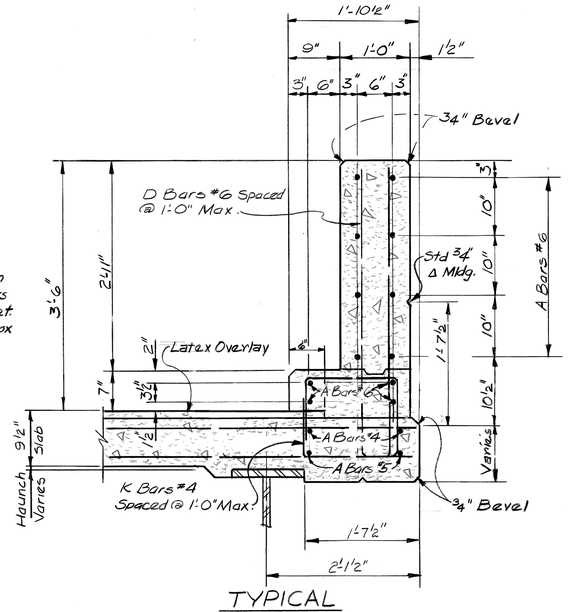
DATE: August, 1979

DSGN BY: SJP,RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA.
DR'N BY: MH	A Revise Dimension SJP 1-22-1980	Snell Environmental Group LANSING INDIANAPOLIS AKRON	SUPERSTRUCTURE DETAILS DECK SECTIONS
CK'D BY: SJP, RGW			SCALE: NONE
APP'D BY:			DRN. NO: S73

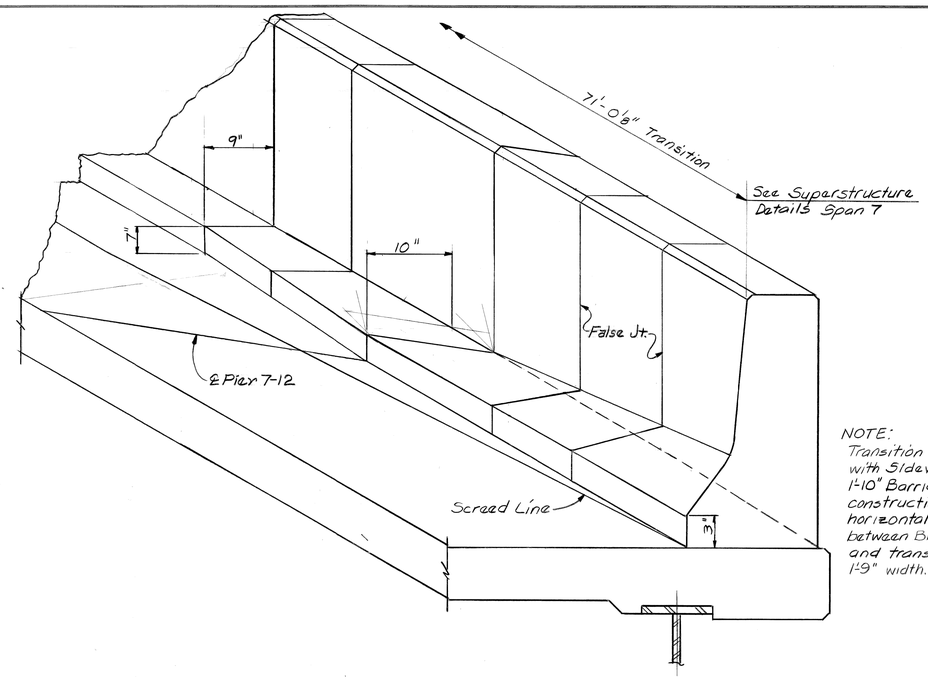


TYPICAL
SECTION AT BARRIER TYPE 3

Note: Place additional A Bars #4 between top transverse bars @ Barrier & Parapet. Length equals approx 12 Girder Spacing.

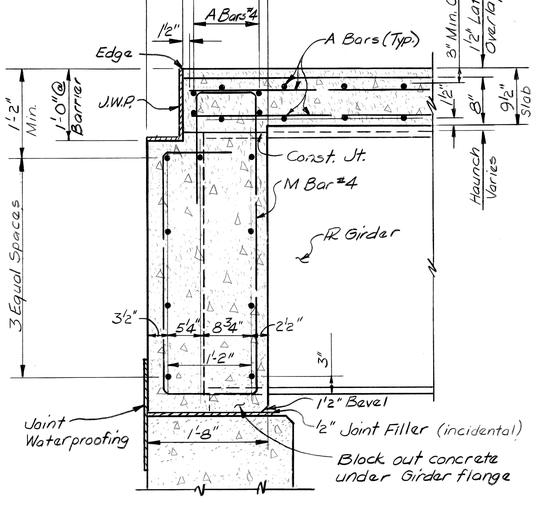


TYPICAL
SECTION AT SOLID PARAPET

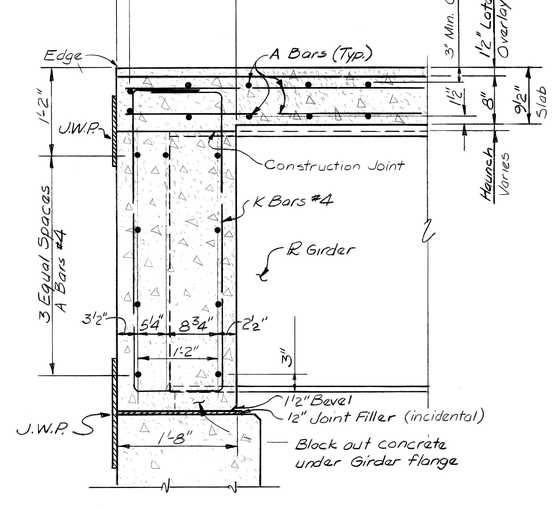


NOTE:
Transition Barrier to Parapet with Sidewalk shape, maintaining 1'-10" Barrier width in 51'-2½" (to construction joint). Then add horizontal construction joint between Brush Block and parapet and transition Brush Block to 1'-9" width.

VIEW OF TRANSITION FROM BARRIER TO PARAPET

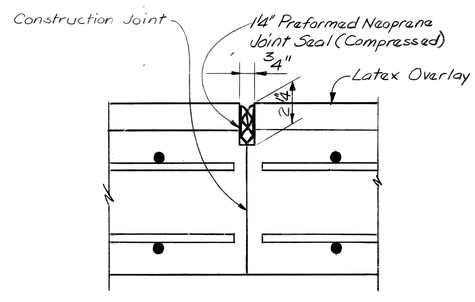


SECTION F-F

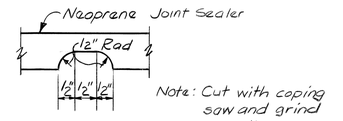


Note: Cast Lower Portion of Backwall Prior to Placing Deck Reinforcement.

SECTION G-G

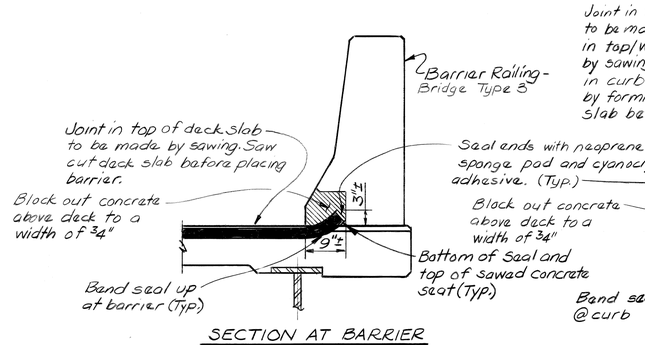


SECTION J-J

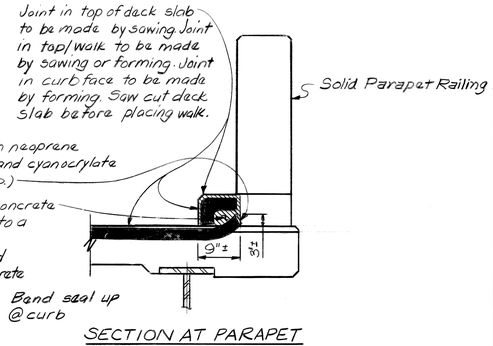


Note: Cut with coping saw and grind smooth.

TYPICAL NOTCH



SECTION AT BARRIER



SECTION AT PARAPET

Work This Sheet With Sheets # S64 thru S73 & S75 thru S82

CONSTRUCTION JOINT DETAILS

DATE: August, 1979

DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE RECONSTRUCTION AT THE JOE LOUIS ARENA	SUPERSTRUCTURE DETAILS SECTIONS AND DETAILS	SCALE: NONE
DR'N BY: MH						DRN. NO: S74
CK'D BY: SJP, RGW						
APP'D BY:						

DETAIL A

DETAIL M

DETAIL E

DETAIL B

DETAIL C

DETAIL D

DETAIL H

DETAIL F

SECTION M-M

SECTION N-N

* Note: For dimensions see Structural Steel Details and Exp. Jt Device Detail Sheet.

SECTION H-H

Note: Face of Concrete Pilasters to be Flush

SECTION P-P

DETAIL H

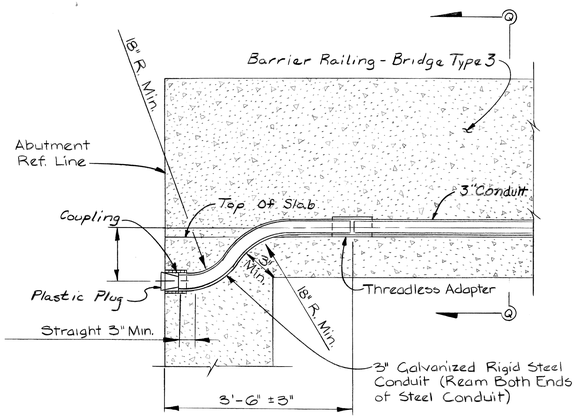
DRN. NO: 515	SCALE: NONE	SUPERSTRUCTURE DETAILS SECTIONS AND DETAILS	10HN C.LODGE EXIT RAMP AND JEFFERSON AVENUE- RECONSTRUCTION AT THE JOE LOUIS ARENA.	Work This Sheet With Sheets #s 274 thru 282 DATE: August, 1979	Snell Environmental Group LANSING INDIANAPOLIS AKRON	CITY OF DETROIT, MICHIGAN

REVISIONS			
		DSGN BY:	SLP,RGW
		DR'N BY:	MH
		CK'D BY:	SLP, RGW
		APP'D BY:	

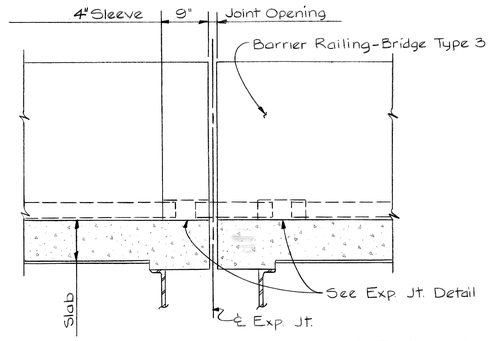
SUPERSTRUCTURE LATEX-MODIFIED SURFACING MIXTURE QUANTITIES

Location	Span 1	Span 2	Span 3&4	Span 5&6	Span 7	Span 8	Span 9,10&11	Span 12	Total
Cubic Yards	8.8	16.1	33.5	32.2	14.2	10.2	21.2	34.8	147

The actual quantity of Latex Modified Surfacing Mixture concrete placed on the deck was _____ cubic yards. This information is to be filled in by the Engineer when submitting as Constructed Plans.

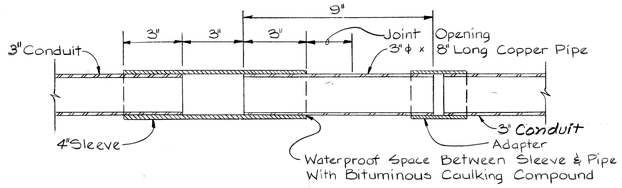


SECTION @ BACKWALL



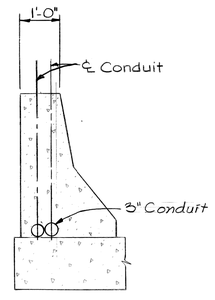
SECTION @ TRANSVERSE EXP. JT.

Sleeves, Copper Pipe, Adapters, Couplings, Galvanized Steel Conduit, Bushings, Plugs And Waterproofing Are Incidental to 3" Conduit.

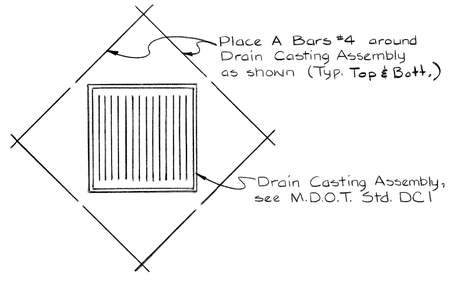


EXPANSION JOINT DETAIL

NOTE: For Details of Barrier Railing Light Standard, See M.D.O.T. Std. R17.



SECTION Q-Q



TYPICAL DETAIL "K"

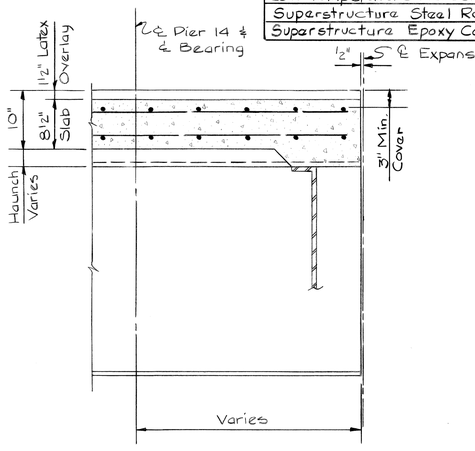
SUPERSTRUCTURE CONCRETE QUANTITIES

Location	Pour	Span 1	Span 2	Spans 3&4	Spans 5&6	Span 7	Span 8	Spans 9,10&11	Span 12
	A	62.5	99.7	70.5	75.7	84.2	59.3	31.3	65.9
	B			85.2	74.4			42.7	
	C	N/A		53.2	50.8	N/A	N/A	23.3	N/A
	D			N/A	N/A			20.9	
	E							23.3	
Sub-Totals		162.2		208.9	200.9	84.2	59.3	141.5	65.9
Grand Total									923 Cu.Yds.

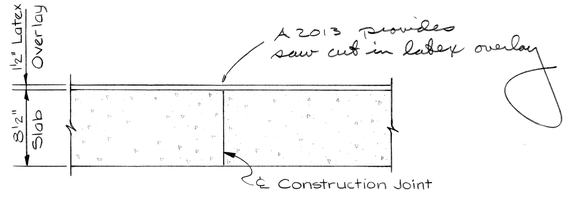
N/A Denotes Not Applicable

MISCELLANEOUS QUANTITIES

item	unit	amount
Forming, Finishing, & Curing of Superstructure Concrete	Lump Sum	Lump Sum
Joint Waterproofing	Sq. Ft.	227
Constructing Bridge Deck Surface	Sq. Yds.	3,516
Barrier Railing - Bridge Type 3	Lin. Ft.	1495
Bridge Railing, Solid Parapet Type-Special	Lin. Ft.	179
Drain Casting Assembly-Type 3	Each	5
1/4" Preformed Neoprene Joint Sealer	Lin. Ft.	60
3"ϕ Conduit	Lin. Ft.	1725
Light Standard Anchor Assembly - Placed	Each	13
3"ϕ Galvanized Iron Pipe	Lin. Ft.	74
Low Temperature Protection-Superstructure	Cu. Yds	1070
Superstructure Steel Reinforcement	Lbs.	162,000
Superstructure Epoxy Coated Steel Reinforcement	Lbs	89,000



SECTION M-M



SECTION K-K

NOTES

J.W.P. denotes Joint Waterproofing.

For details of bevels, moldings, and bridge railings, see Standard Sheet R17. For details of drain castings see Standard Sheet DC1.

Edge denotes edging with an approved tool.

Exposed construction joints and false joints in barrier railing are to be grooved with an approved tool.

Barrier Railing pours shall not be cast until slab concrete has attained at least 50% of its strength as determined by Table 7.01-4 of the Standard Specifications.

Screeds affected by loads in other spans are to be set to the elevations shown before casting any concrete. Concrete in the suspended spans is to be cast before the concrete in the anchor spans.

Alphabetical designation of pours in continuous spans 3 and 4, 5 and 6, 9, 10, and 11, is to be used as a pour sequence.

Screed elevations are based on the condition that no slab concrete has been cast and that formwork, steel reinforcement and shear developers are in place.

Bottom of slab elevations are at right angles to the girder centerline and are based on the condition that all structural steel has been erected, but no other loads applied. These elevations include allowances for deflections due to forms, steel reinforcement, deck concrete and railings.

The Contractor is to provide a sawed joint 1/2 inch deep by 1/8 inch wide (min.) in the top of slab over and parallel to the centerline of piers. The joint is to be sawed before casting of barrier railings and prior to placing Latex Overlay. The joint is to be filled with Hot-Poured Joint Sealant. The Hot-Poured Joint Sealant is to be poured in such a manner that the adjacent concrete deck surface is kept clean so as not to interefere with the bonding of the Latex Overlay to the concrete deck surface.

Transverse strike-off finishing machine is to be used in placing deck concrete and Latex Overlay.

For name plate mounting details, see Standard Sheet R17. For location of name plate, see General Plan of Structure, Bridge Plan and Elevations Sheet S9.

Bridge Railing is to be concrete barrier railing-bridge type 3. See Railing Standard R17.

Linseed oil compound shall not be applied to the top surface of the bridge deck.

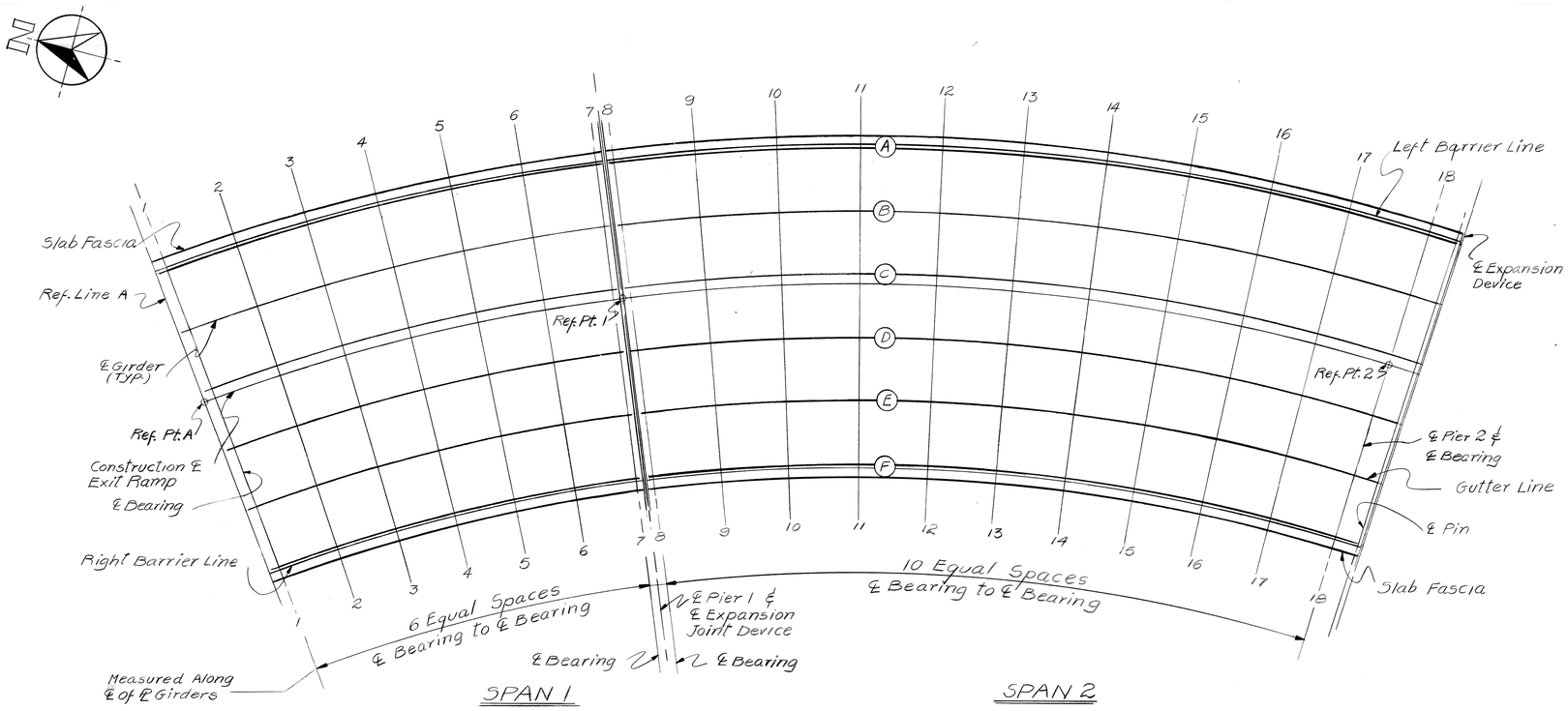
The top mat of Steel Reinforcement for the deck is to be Epoxy Coated.

Pipe to be used for downspouts is to be galvanized pipe ASTM A53, Standard Grade.

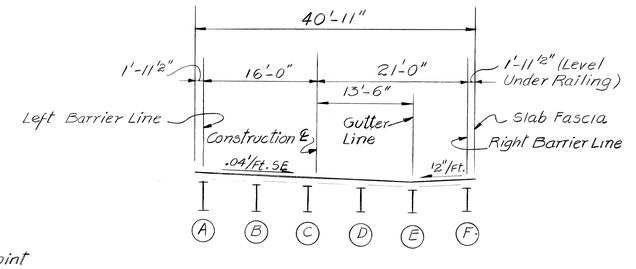
Expansion Joint Device is tobe Type and Size as manufactured by the Manufeacturing Company. It shall be bent in the shop to conform with the top of roadway slab.

Work This Sheet With Sheets# S64 thru S75 & S77 thru S82 DATE: August, 1979

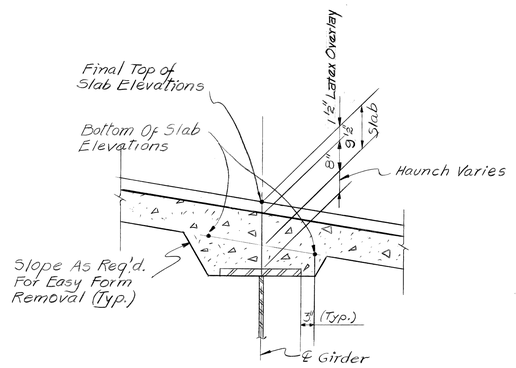
DSGN BY: SJP, RGW DR'N BY: MH CK'D BY: SJP, RGW APP'D BY:	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.	SUPERSTRUCTURE DETAILS SECTION, DETAILS, AND QUANTITIES SCALE: NONE DRN. NO: S76



PLAN OF SLAB FOR SCREED & BOTTOM OF SLAB ELEVATIONS



SCREED TEMPLATE



BOTTOM OF SLAB ELEVATIONS

Line		1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18
Girder A	Right	116.29	116.77	117.23	117.65	118.04	118.39	118.72	118.80	119.27	119.72	120.13	120.50	120.83	121.12	121.37	121.58	121.76	121.92
Girder B	Left	116.06	116.55	117.00	117.43	117.81	118.16	118.49	118.57	119.04	119.49	119.89	120.26	120.59	120.88	121.13	121.35	121.53	121.69
	Right	116.00	116.49	116.94	117.37	117.75	118.10	118.43	118.51	118.98	119.43	119.83	120.20	120.53	120.82	121.07	121.29	121.47	121.63
Girder C	Left	115.77	116.25	116.71	117.13	117.51	117.87	118.19	118.28	118.75	119.19	119.60	119.97	120.30	120.59	120.84	121.05	121.24	121.40
	Right	115.71	116.19	116.65	117.07	117.45	117.81	118.13	118.22	118.69	119.13	119.54	119.91	120.24	120.53	120.78	120.99	121.18	121.34
Girder D	Left	115.47	115.95	116.41	116.83	117.22	117.57	117.90	117.99	118.46	118.89	119.30	119.67	120.00	120.28	120.54	120.75	120.94	121.10
	Right	115.41	115.89	116.35	116.77	117.16	117.51	117.84	117.93	118.40	118.83	119.24	119.61	119.94	120.22	120.48	120.69	120.88	121.04
Girder E	Left	115.18	115.66	116.11	116.54	116.92	117.27	117.60	117.70	118.16	118.59	118.99	119.36	119.69	119.98	120.23	120.45	120.64	120.81
	Right	115.18	115.66	116.12	116.54	116.92	117.28	117.60	117.70	118.16	118.59	118.99	119.36	119.69	119.98	120.23	120.45	120.64	120.81
Girder F	Left	115.42	115.90	116.35	116.76	117.15	117.51	117.85	117.95	118.39	118.81	119.20	119.56	119.89	120.18	120.44	120.67	120.87	121.05

SCREED ELEVATIONS

Screed Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18
Left Barrier Line	117.00	117.48	117.94	118.36	118.74	119.10	119.43	119.51	119.97	120.41	120.82	121.18	121.51	121.80	122.06	122.27	122.46	122.63
Gutter Line	115.82	116.29	116.75	117.17	117.55	117.91	118.24	118.34	118.79	119.21	119.61	119.97	120.30	120.59	120.85	121.07	121.27	121.45
Right Barrier Line	116.13	116.60	117.05	117.46	117.85	118.21	118.55	118.65	119.09	119.50	119.89	120.25	120.57	120.87	121.13	121.36	121.57	121.76

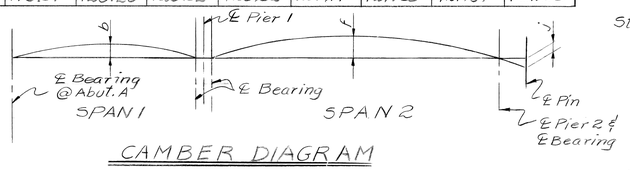
FINAL TOP OF SLAB ELEVATIONS

Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18
Girder A ℄	117.11	117.55	117.98	118.39	118.79	119.17	119.54	119.63	120.02	120.38	120.73	121.07	121.39	121.69	121.97	122.25	122.50	122.75
Girder B ℄	116.82	117.26	117.69	118.10	118.49	118.86	119.25	119.34	119.72	120.09	120.44	120.78	121.09	121.39	121.68	121.95	122.21	122.45
Girder C ℄	116.53	116.97	117.39	117.80	118.20	118.58	118.95	119.04	119.43	119.80	120.15	120.48	120.80	121.10	121.39	121.66	121.92	122.16
Girder D ℄	116.23	116.67	117.10	117.51	117.90	118.29	118.66	118.75	119.14	119.51	119.86	120.19	120.51	120.81	121.09	121.37	121.62	121.87
Girder E ℄	115.94	116.38	116.80	117.21	117.61	117.99	118.36	118.46	118.85	119.21	119.56	119.90	120.21	120.52	120.80	121.07	121.33	121.57
Girder F ℄	116.25	116.68	117.11	117.52	117.91	118.30	118.67	118.77	119.15	119.52	119.87	120.20	120.52	120.82	121.11	121.38	121.64	121.88

CAMBER ORDINATES

	Girder / Dim.	A	B	C	D	E	F
Stage 2	b	1 15/16"	1 15/16"	1 11/16"	1 11/16"	1 11/16"	1 7/16"
	f	5 1/2"	5 5/16"	5 5/8"	5 1/2"	5 1/8"	4 7/16"
	J	1/8"	3/8"	7/16"	5/16"	-3/16"	-3/4"
Stage 3	b	1 7/8"	1 7/8"	1 5/8"	1 5/8"	1 5/8"	1 3/8"
	f	5 5/16"	5"	5 5/16"	5 1/8"	4 15/16"	4 5/16"
	J	1/8"	3/8"	7/16"	5/16"	-3/16"	-3/4"
Stage 4	b	1 7/16"	1 3/8"	1 1/8"	1 1/8"	1 1/8"	1 1/16"
	f	3"	2 7/8"	3 5/16"	2 3/4"	2 7/8"	2 1/16"
	J	0"	1/4"	5/16"	3/16"	-1/4"	-3/4"

TYPICAL SECTION AT GIRDER



CAMBER DIAGRAM

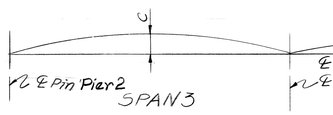
Stage 2 - ℄ girders erected with diaphragms in place, no other loads applied. Camber ordinates includes allowances for: forms, deck concrete steel reinforcement, Vertical Curve and railings.

Stage 3 - Forms, shear developers and steel reinforcement in place, all spans complete. Camber ordinates includes allowance for Deck concrete, Vertical Curve and railings.

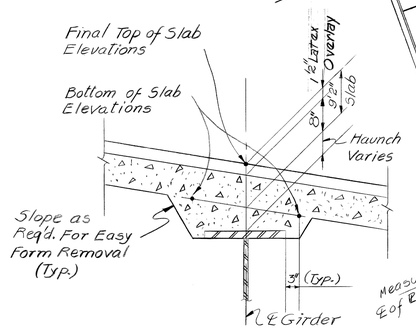
Stage 4 - Deck concrete and railing cast, all spans complete. Camber ordinates includes allowance for Vertical Curve.

Work This Sheet With Sheets# S64 thru S76 & S78 thru S82 DATE: August, 1979

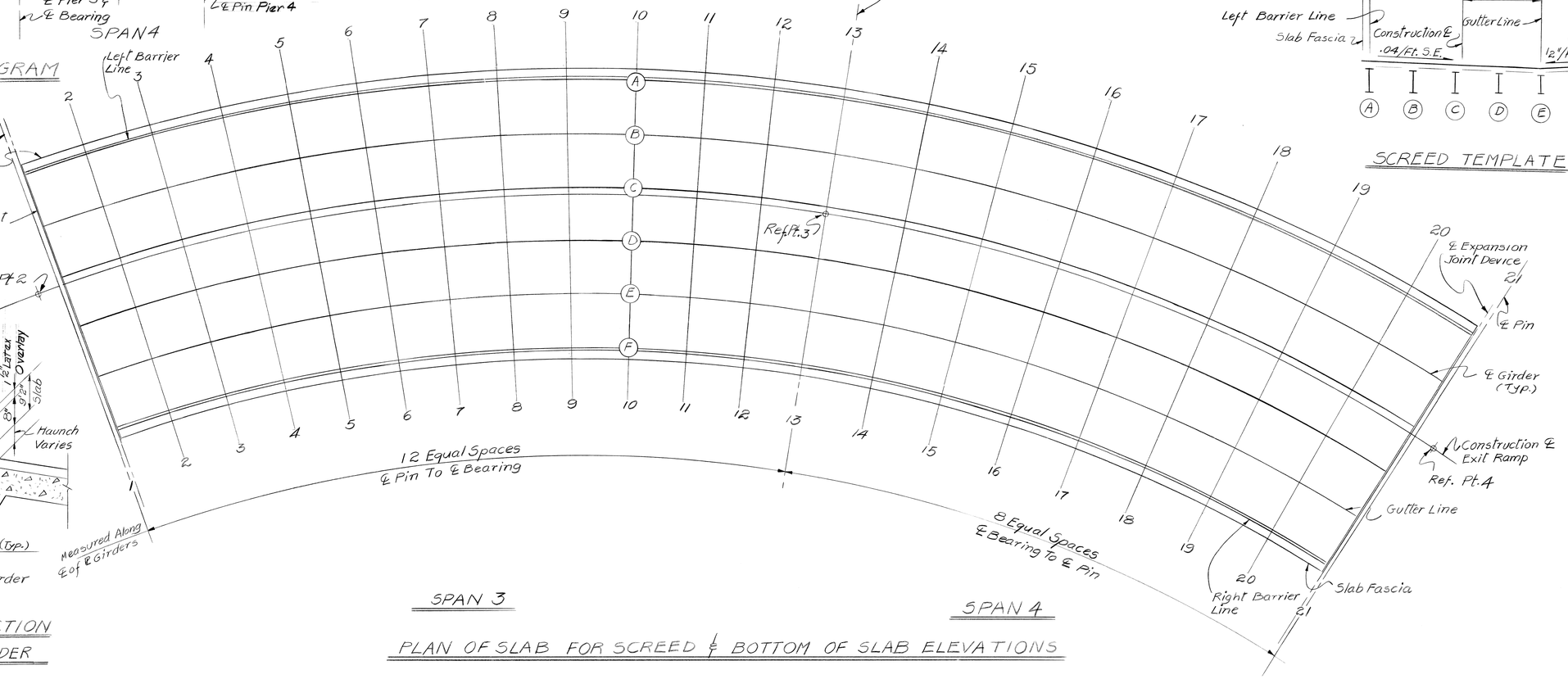
DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: JB			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA
CK'D BY: SJP, RGW			SUPER STRUCTURE DETAILS BOTTOM OF SLAB, SCREED, TOP OF SLAB FINAL ELEVATIONS AND CAMBERS. SPANS 1 AND 2
APP'D BY:			SCALE: NONE
			DRN. NO: S77



CAMBER DIAGRAM

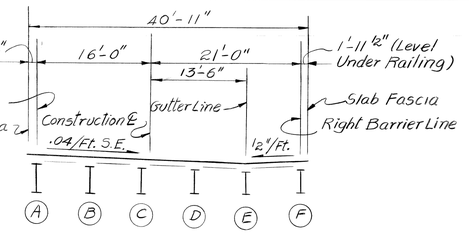


TYPICAL SECTION AT GIRDER



SPAN 3 SPAN 4

PLAN OF SLAB FOR SCREED & BOTTOM OF SLAB ELEVATIONS



SCREED TEMPLATE

BOTTOM OF SLAB ELEVATIONS

Line		1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20	21-21
Girder A	Right	122.00	122.30	122.58	122.82	123.04	123.23	123.39	123.50	123.58	123.63	123.64	123.63	123.59	123.62	123.64	123.65	123.63	123.57	123.50	123.41	123.31
Girder B	Left	121.78	122.07	122.34	122.59	122.80	122.99	123.14	123.26	123.34	123.39	123.40	123.40	123.36	123.39	123.42	123.42	123.40	123.34	123.27	123.18	123.09
	Right	121.72	122.01	122.28	122.53	122.74	122.93	123.08	123.20	123.28	123.33	123.34	123.34	123.30	123.33	123.36	123.36	123.34	123.28	123.21	123.12	123.03
Girder C	Left	121.49	121.77	122.04	122.28	122.50	122.68	122.83	122.95	123.03	123.08	123.10	123.10	123.07	123.10	123.13	123.15	123.13	123.08	123.00	122.90	122.79
	Right	121.43	121.71	121.98	122.22	122.44	122.62	122.77	122.89	122.97	123.02	123.04	123.04	123.01	123.04	123.07	123.09	123.07	123.02	122.94	122.84	122.73
Girder D	Left	121.20	121.48	121.75	121.99	122.20	122.39	122.54	122.65	122.74	122.79	122.81	122.80	122.78	122.81	122.84	122.86	122.84	122.79	122.71	122.61	122.50
	Right	121.14	121.42	121.69	121.93	122.14	122.33	122.48	122.59	122.68	122.73	122.75	122.74	122.72	122.75	122.78	122.80	122.78	122.73	122.65	122.55	122.44
Girder E	Left	120.91	121.20	121.46	121.71	121.92	122.11	122.26	122.38	122.46	122.51	122.52	122.52	122.48	122.52	122.56	122.57	122.55	122.50	122.42	122.32	122.21
	Right	120.91	121.20	121.47	121.71	121.93	122.11	122.26	122.38	122.46	122.51	122.53	122.52	122.49	122.52	122.56	122.57	122.56	122.50	122.42	122.32	122.21
Girder F	Left	121.15	121.43	121.69	121.93	122.14	122.32	122.47	122.58	122.67	122.72	122.75	122.75	122.73	122.77	122.79	122.80	122.77	122.72	122.64	122.55	122.45

SCREED ELEVATIONS

Screed Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20	21-21
Left Barrier Line	122.71	123.01	123.28	123.53	123.75	123.93	124.09	124.20	124.28	124.33	124.34	124.33	124.30	124.33	124.35	124.35	124.33	124.28	124.20	124.12	124.02
Gutter Line	121.54	121.83	122.10	122.34	122.56	122.74	122.89	123.01	123.09	123.14	123.16	123.15	123.12	123.16	123.19	123.20	123.18	123.13	123.05	122.95	122.85
Right Barrier Line	121.86	122.14	122.39	122.63	122.83	123.01	123.16	123.28	123.37	123.42	123.45	123.45	123.43	123.47	123.50	123.50	123.47	123.41	123.34	123.25	123.16

FINAL TOP OF SLAB ELEVATIONS

Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20	21-21
Girder A ℄	122.82	123.05	123.25	123.44	123.62	123.77	123.91	124.03	124.14	124.24	124.31	124.37	124.42	124.45	124.46	124.44	124.40	124.34	124.28	124.21	124.15
Girder B ℄	122.53	122.75	122.96	123.15	123.32	123.48	123.62	123.74	123.85	123.94	124.02	124.08	124.13	124.16	124.17	124.15	124.11	124.05	123.98	123.92	123.85
Girder C ℄	122.24	122.46	122.67	122.86	123.03	123.19	123.33	123.45	123.56	123.65	123.73	123.79	123.83	123.87	123.87	123.86	123.82	123.76	123.69	123.63	123.56
Girder D ℄	121.95	122.17	122.38	122.57	122.74	122.89	123.03	123.16	123.26	123.36	123.43	123.49	123.54	123.57	123.58	123.56	123.52	123.46	123.40	123.33	123.27
Girder E ℄	121.66	121.88	122.09	122.28	122.45	122.60	122.74	122.86	122.97	123.06	123.14	123.20	123.25	123.28	123.29	123.27	123.23	123.17	123.11	123.04	122.98
Girder F ℄	121.97	122.19	122.40	122.58	122.75	122.91	123.05	123.17	123.28	123.37	123.45	123.51	123.55	123.58	123.59	123.58	123.54	123.48	123.41	123.35	123.28

CAMBER ORDINATES

Stage	Girder / Dim.	A	B	C	D	E	F
Stage 2	C	6½"	6½"	6 13/16"	6⅜"	6 9/16"	6⅜"
	G	2 13/16"	3"	3 5/16"	3 3/16"	3 1/8"	2 15/16"
Stage 3	C	6 3/16"	6 9/16"	6½"	6 9/16"	6 11/16"	6⅛"
	G	2 3/4"	3"	3 1/8"	3 1/16"	3 1/16"	2 9/16"
Stage 4	C	4 7/16"	4 9/16"	5"	5 1/16"	5 1/4"	4 15/16"
	G	2 3/16"	2 3/8"	2 1/4"	2 1/8"	2 1/16"	1 7/8"

Stage 2 - ℄ girders erected with diaphragms in place, no other loads applied. Camber ordinates includes allowances for: forms, deck concrete steel reinforcement, Vertical Curves and railings

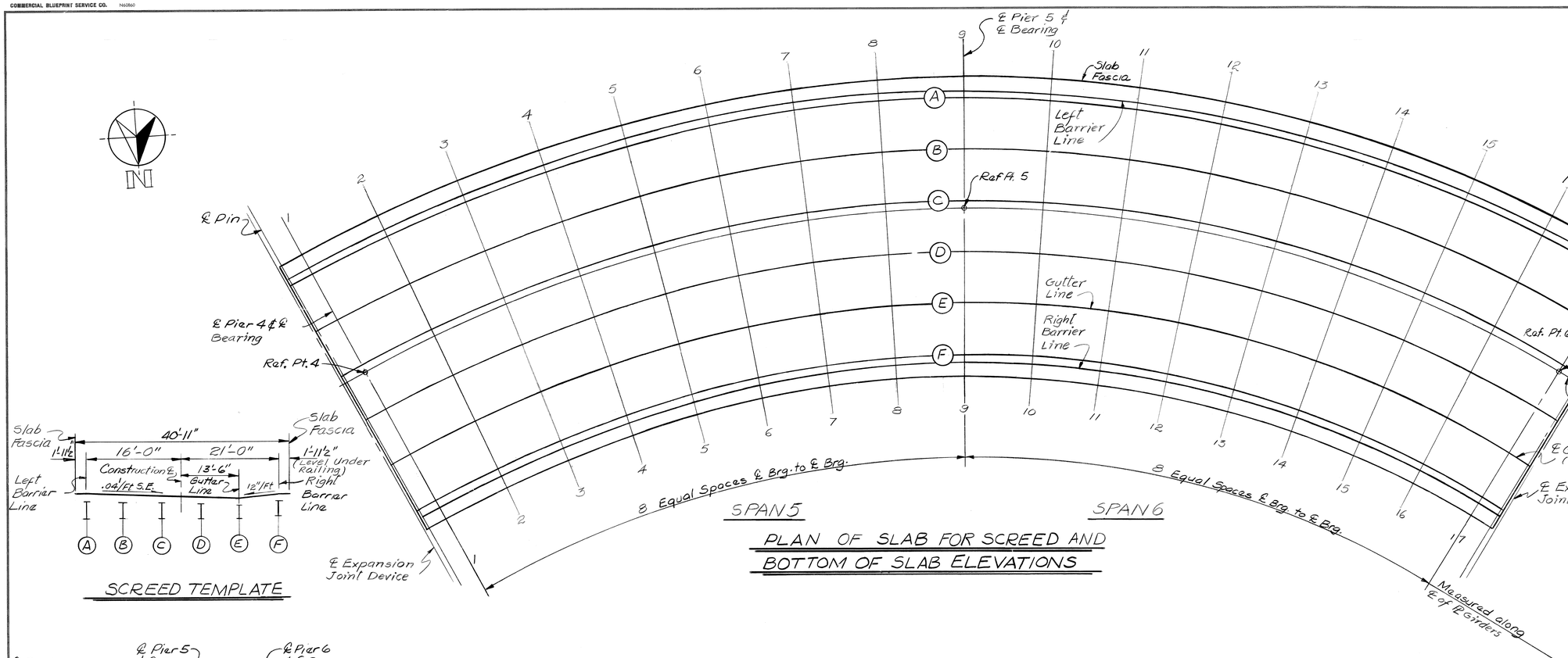
Stage 3 - Forms, shear developers and steel reinforcement in place, all spans complete. Camber ordinates includes allowance for Deck Concrete, Vertical Curve and railings.

Stage 4 - Deck concrete and railing cast, all spans complete. Camber ordinates includes allowance for Vertical Curve.

Work This Sheet With Sheets# S64 thru S77 & S79 thru S82

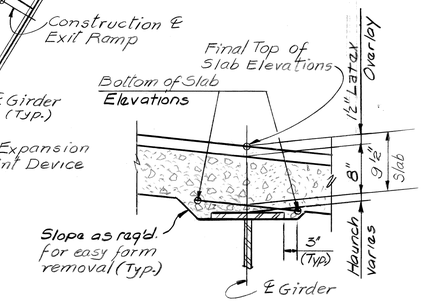
DATE: August, 1979

DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: JB			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: SJP, RGW			SUPER STRUCTURE DETAILS BOTTOM OF SLAB, SCREED, TOP OF SLAB FINAL ELEVATIONS AND CAMBERS SPANS 3 AND 4
APP'D BY:			SCALE: NONE
			DRN. NO: S78

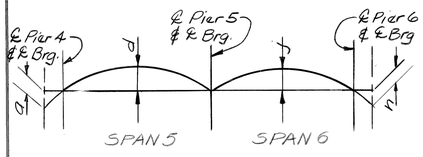


PLAN OF SLAB FOR SCREED AND BOTTOM OF SLAB ELEVATIONS

SCREED TEMPLATE



TYPICAL SECTION AT GIRDER



CAMBER DIAGRAM

Stage 2: ℄ Girder erected with diaphragms in place, no other loads applied. Camber ordinates include allowance for forms, deck concrete, steel reinforcement sidewalks, railings, Vertical Curve and Railings.

Stage 3: Forms, shear developers and steel reinforcement in place, all spans complete. Camber ordinates include allowance for deck concrete, Vertical Curve and Railings.

Stage 4: Deck concrete, and railings cast, all spans complete. Camber ordinates include allowance for Vertical Curve.

CAMBER ORDINATES

	Girder / Dim	A	B	C	D	E	F
Stage 2	a	3/16"	-5/16"	-7/16"	-5/16"	3/16"	1/8"
	d	1 7/16"	1 1/2"	1 3/16"	1 5/16"	1 5/16"	5/8"
	j	3 1/2"	3"	2"	1 5/16"	5/16"	-1/8"
	n	7/16"	-1/8"	1/4"	3/16"	1/16"	0"
Stage 3	a	1/8"	-3/8"	-7/16"	-5 1/16"	3/16"	1/16"
	d	1 1/4"	1 5/16"	1 3/8"	1 1/16"	1 5/16"	1/2"
	j	3 3/8"	2 3/8"	1 7/8"	1 3/16"	3/16"	-3/16"
	n	7/16"	-1/8"	1/4"	3/16"	0"	0"
Stage 4	a	1/16"	-7/16"	-1/2"	-7/16"	1/16"	0"
	d	7/16"	9/16"	3/4"	7/16"	7/16"	1/16"
	j	2 1/8"	1 3/8"	1 1/16"	1/8"	-3/4"	-1 5/16"
	n	1/4"	-3/16"	1/8"	0"	-1/8"	-1/8"

BOTTOM OF SLAB ELEVATIONS

Line		1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17
Girder A	Right	123.20	123.28	123.24	123.19	123.12	123.03	122.93	122.84	122.77	122.72	122.68	122.65	122.61	122.54	122.38	122.19	122.00
Girder B	Left	123.07	123.04	123.01	122.95	122.88	122.79	122.70	122.61	122.54	122.49	122.45	122.42	122.38	122.31	122.18	122.02	121.86
	Right	123.01	122.98	122.95	122.89	122.82	122.73	122.64	122.55	122.48	122.43	122.39	122.36	122.32	122.25	122.13	121.98	121.82
Girder C	Left	122.78	122.75	122.71	122.65	122.58	122.50	122.41	122.32	122.25	122.19	122.16	122.13	122.09	122.02	121.92	121.81	121.68
	Right	122.72	122.69	122.65	122.59	122.52	122.44	122.35	122.26	122.19	122.13	122.10	122.07	122.03	121.96	121.87	121.76	121.64
Girder D	Left	122.49	122.45	122.41	122.36	122.29	122.20	122.12	122.03	121.95	121.90	121.86	121.83	121.78	121.72	121.66	121.59	121.50
	Right	122.43	122.39	122.35	122.30	122.23	122.14	122.06	121.97	121.89	121.84	121.80	121.77	121.72	121.66	121.61	121.54	121.47
Girder E	Left	122.19	122.16	122.12	122.07	122.00	121.91	121.82	121.74	121.66	121.60	121.56	121.53	121.48	121.42	121.40	121.37	121.32
	Right	122.20	122.16	122.12	122.07	122.00	121.91	121.82	121.74	121.66	121.61	121.57	121.53	121.48	121.43	121.41	121.38	121.34
Girder F	Left	122.44	122.40	122.35	122.30	122.23	122.15	122.06	121.98	121.90	121.84	121.79	121.75	121.69	121.63	121.62	121.60	121.58

SCREED ELEVATIONS

Screed Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17
Left Barrier Line	124.01	123.98	123.94	123.89	123.81	123.73	123.64	123.55	123.48	123.42	123.39	123.35	123.31	123.23	123.07	122.88	122.69
Gutter Line	122.83	122.79	122.75	122.69	122.62	122.54	122.46	122.37	122.29	122.24	122.20	122.16	122.11	122.05	122.04	122.01	121.97
Right Barrier Line	123.15	123.10	123.05	122.99	122 93	122.85	122.77	122.68	122.61	122.55	122.49	122A4	122.39	122.33	122.32	122.31	122.29

TOP OF SLAB FINAL ELEVATIONS

Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17
Girder A ℄	124.13	124.06	123.99	123.93	123.86	123.80	123.73	123.66	123.59	123.53	123.46	123.39	123.33	123.25	123.11	122.96	122.81
Girder B ℄	123.84	123.77	123.70	123.63	123.57	123.50	123.44	123.37	123.30	123.23	123.16	123.10	123.03	122.96	122.85	122.74	122.63
Girder C ℄	123.54	123.47	123.41	123.34	123.28	123.21	123.14	123.08	123.01	122.94	122.87	122.81	122.74	122.67	122.60	122.53	122.45
Girder D ℄	123.25	123.18	123.11	123.05	122.98	122.92	122.85	122.78	122.71	122.65	122.58	122.51	122.45	122.38	122.35	122.31	122.28
Girder E ℄	122.96	122.89	122.82	122.75	122.69	122.62	122.56	122.49	122.42	122.35	122.28	122.22	122.15	122.10	122.10	122.10	122.10
Girder F ℄	123.26	123.19	123.13	123.06	122.99	122.93	122.86	122.79	122.73	122.66	122.59	12252	122A6	122.40	122.40	122.40	122.40

Work This Sheet With Sheets# S64 thru S78 & S80 thru S82 DATE: August, 1979

DSGN BY:	SJP, RGW		
DR'N BY:	MH	6-3-79	
CK'D BY:	SJP, RGW		
APP'D BY:			

REVISIONS

CITY OF DETROIT

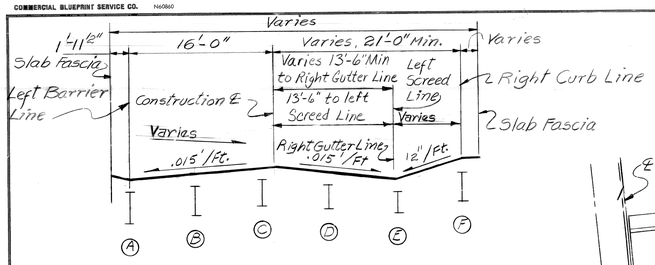
Snell Environmental Group
LANSING INDIANAPOLIS AKRON

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-
RECONSTRUCTION AT THE JOE LOUIS ARENA

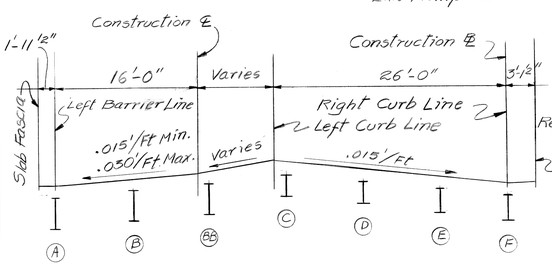
SUPER STRUCTURE DETAILS
BOTTOM OF SLAB, SCREED, TOP OF SLAB FINAL ELEVATIONS AND CAMBERS
SPANS 5 AND 6

SCALE: NONE

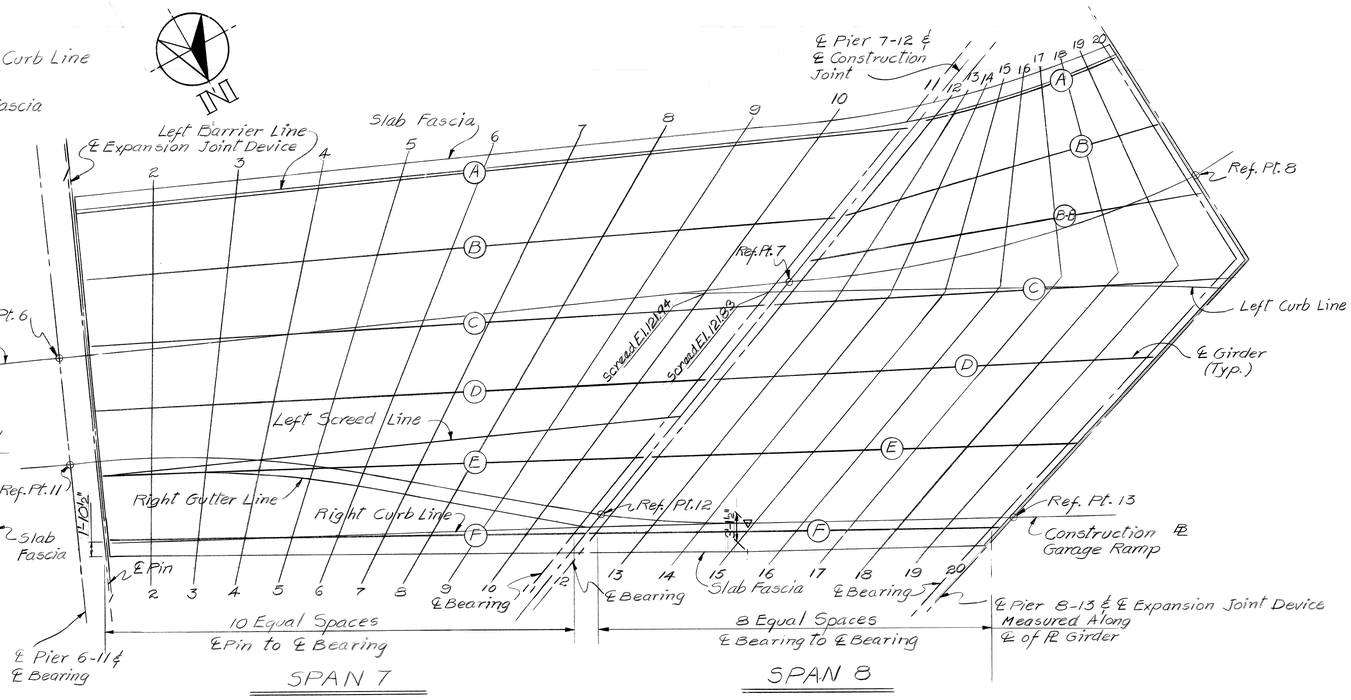
DRN. NO: S79



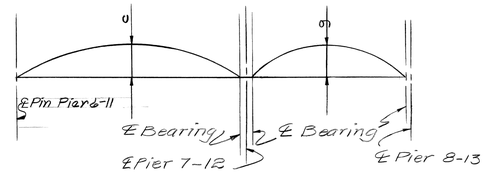
SCREED TEMPLATE (SPAN 7)



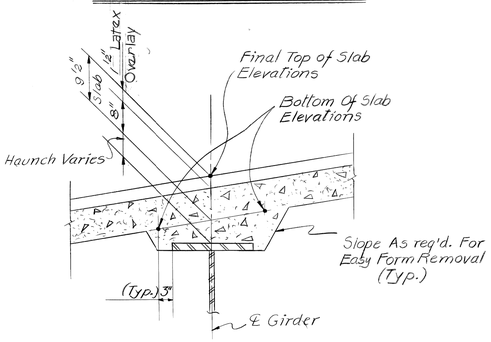
SCREED TEMPLATE (SPAN 8)



PLAN OF SLAB FOR SCREED AND BOTTOM OF SLAB ELEVATIONS



CAMBER DIAGRAM



TYPICAL SECTION AT GIRDER

BOTTOM OF SLAB ELEVATIONS

Line		1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20
Girder A	Right	121.96	121.93	121.89	121.85	121.75	121.64	121.51	121.35	121.17	120.98	120.76	120.70	120.66	120.63	120.58	120.54	120.49	120.44	120.40	120.36
Girder B	Left	121.83	121.82	121.81	121.78	121.73	121.66	121.56	121.44	121.31	121.16	121.00	120.96	120.91	120.86	120.81	120.76	120.71	120.65	120.60	120.56
	Right	121.79	121.79	121.78	121.76	121.72	121.65	121.56	121.45	121.32	121.17	121.02	120.99	120.94	120.89	120.85	120.80	120.75	120.70	120.65	120.60
GirderBB	Left	NOT APPLICABLE											121.07	121.04	121.00	120.97	120.94	120.91	120.88	120.84	120.82
	Right												121.10	121.06	121.03	121.00	120.98	120.95	120.92	120.90	120.88
Girder C	Left	121.66	121.67	121.68	121.67	121.65	121.61	121.56	121.48	121.38	121.26	121.14	121.17	121.19	121.~~21~~22	121.~~24~~27	121.~~28~~30	121.~~29~~31	121.~~32~~31	121.~~36~~32	121.~~38~~39
	Right	121.63	121.64	121.66	121.65	121.63	121.59	121.53	121.45	121.35	121.24	121.12	121.15	121.16	121.~~20~~20	121.~~22~~25	121.~~25~~28	121.~~28~~30	121.~~32~~32	121.~~35~~35	121.~~36~~39
Girder D	Left	121.49	121.52	121.54	121.54	121.52	121.48	121.43	121.36	121.27	121.18	121.07	121.06	121.07	121.09	121.~~09~~11	121.~~09~~12	121.~~09~~14	121.~~09~~15	121.~~08~~11	121.12
	Right	121.46	121.49	121.51	121.52	121.50	121.46	121.40	121.33	121.25	121.15	121.05	121.04	121.05	121.07	121.~~07~~09	121.~~07~~10	121.~~07~~12	121.~~08~~12	121.~~08~~09	121.10
Girder E	Left	121.34	121.37	121.38	121.41	121.38	121.34	121.29	121.23	121.16	121.08	121.00	120.98	120.96	120.97	120.97	120.97	120.~~96~~97	120.~~96~~96	120.~~96~~93	120.90
	Right	121.35	121.40	121.43	121.42	121.38	121.34	129.29	121.23	121.15	121.07	120.98	120.96	120.94	120.95	120.95	120.94	120.~~95~~95	120.~~94~~94	120.~~94~~91	120.88
Girder F	Left	121.59	121.63	121.64	121.64	121.60	121.52	121.42	121.31	121.19	121.07	120.95	120.91	120.89	120.87	120.85	120.~~84~~86	120.~~84~~85	120.81	120.78	120.75

SCREED ELEVATIONS

Screed Line	SPAN 7 1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11
Left Barrier Line	122.65	122.60	122.55	122.48	122.39	122.27	122.14	121.98	121.81	121.61	121.40
Construction ℄	122.29	122.30	122.31	122.30	122.28	122.25	122.19	122.12	122.03	121.93	121.82
Left Screed Line	121.98	122.02	122.05	122.07	122.05	122.02	121.97	121.92	121.85	121.78	121.70
Right Gutter Line	121.98	122.02	122.05	122.06	122.04	121.99	121.93	121.86	121.78	121.69	121.59
Right Curb Line	122.29	122.32	122.33	122.33	122.28	122.19	122.09	121.98	121.86	121.74	121.61

Screed Line	SPAN 8 12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20
Left Barrier Line	121.35	121.31	121.27	121.23	121.18	121.13	121.08	121.04	121.00
Construction ℄	121.81	121.78	121.75	121.73	121.69	121.65	121.60	121.53	121.45
Left Curb Line	121.85	121.86	121.~~87~~89	121.~~87~~93	121.~~86~~96	121.~~87~~98	~~122.00~~	~~122.05~~	122.~~04~~05
Right Curb Line	121.57	121.55	121.53	121.51	121.50	121.49	121.47	121.44	121.41
								122.02 Δ1	

TOP OF SLAB FINAL ELEVATIONS

Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20
Girder A ℄	122.77	122.65	122.53	122.40	122.28	122.16	122.04	121.91	121.79	121.67	121.54	121.48	121.43	121.40	121.35	121.31	121.26	121.20	121.17	121.13
Girder B ℄	122.60	122.52	122.43	122.35	122.27	122.18	122.11	122.03	121.95	121.87	121.80	121.76	121.71	121.66	121.61	121.56	121.51	121.46	121.41	121.37
GirderB-B ℄	NOT APPLICABLE											121.88	121.83	121.79	121.76	121.73	121.70	121.67	121.65	121.64
Girder C ℄	122.43	122.38	122.33	122.27	122.22	122.17	122.12	122.07	122.02	121.97	121.92	121.95	121.94	121.93	121.92	121.92	121.93	121.96	122.05	122.11
Girder D ℄	122.27	122.24	122.21	122.18	122.13	122.08	122.04	121.99	121.95	121.90	121.85	121.84	121.83	121.82	121.81	121.80	121.80	121.80	121.84	121.91
Girder E ℄	122.10	122.10	122.09	122.07	122.04	121.99	121.95	121.91	121.87	121.83	121.78	121.76	121.72	121.71	121.70	121.69	121.68	121.67	121.66	121.68
Girder F ℄	122.40	122.41	122.41	122.39	122.33	122.24	122.14	122.04	121.94	121.84	121.74	121.71	121.67	121.62	121.59	121.58	121.57	121.56	121.55	121.54

CAMBER ORDINATES

	Girder / Dim.	A	B	BB	C	D	E	F
Stage 2	c	3 3/8"	3 3/16"	N.A.	2 9/16"	2 3/16"	1 3/4"	1'-1/8"
	g	0"	1/4"	3/16"	15/16"	11/16"	11/16"	11/16"
Stage 3	c	2 7/8"	2 3/4"	N.A.	2 3/16"	1 7/8"	1 1/2"	1"
	g	0"	3/16"	3/16"	13/16"	9/16"	9/16"	5/8"
Stage 4	c	0"	1/16"	N.A.	-1/8"	1/16"	1/16"	1/16"
	g	0"	1/8"	-1/16"	1/16"	-1/8"	-1/16"	1/16"

Note: Grades are very flat in this area and difficult to get positive drainage

Stage 2 - ℄ girders erected with diaphragms in place, no other loads applied. Camber ordinates includes allowances for: forms, deck concrete steel reinforcement, Vertical Curves and railings

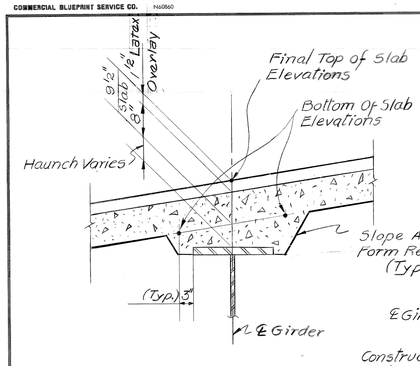
Stage 3 - Forms, shear developers and steel reinforcement in place, all spans complete. Camber ordinate includes allowance for Deck Concrete, Vertical Curve and railings railings.

Stage 4 - Deck concrete and railing cast all spans complete. Camber ordinates includes allowance for Vertical Curve.

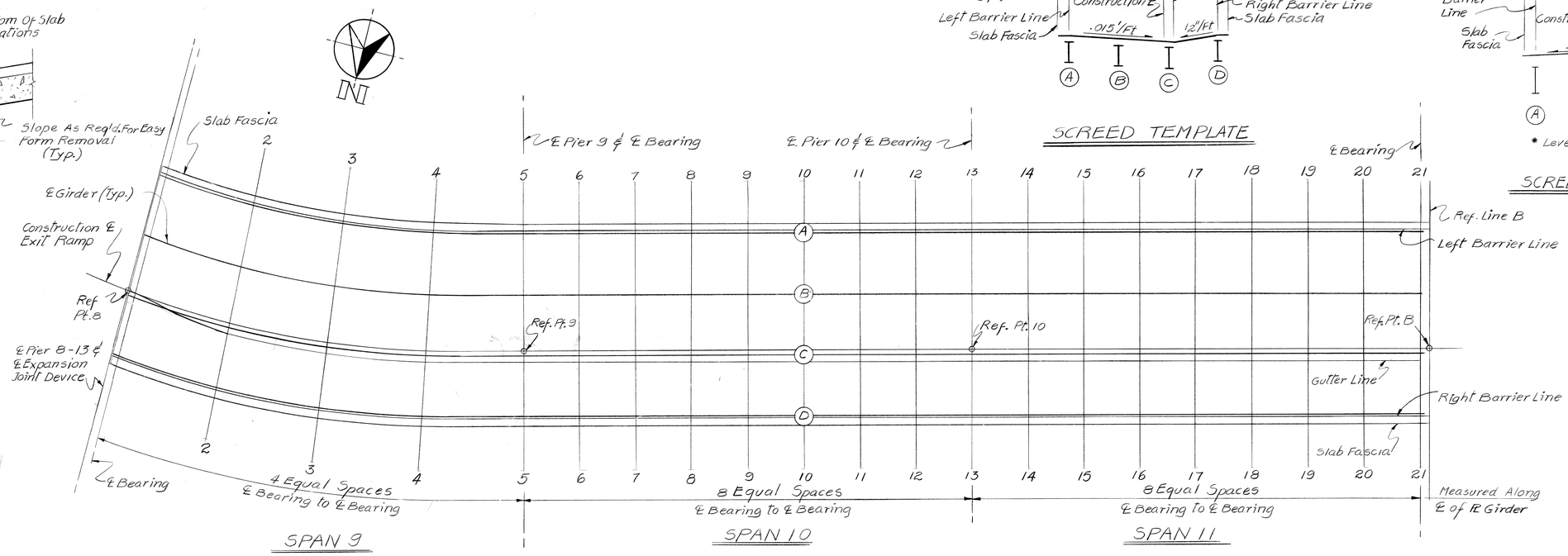
Work This Sheet With Sheets# S64 thru S79, S81 & S82

DATE: August, 1979

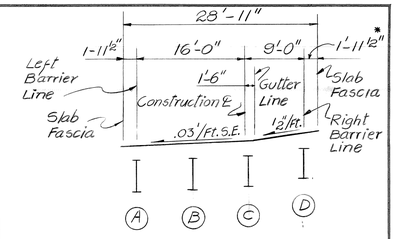
DSGN BY: SJP RGW	Δ1 Revise Bott. of Slab & Screed Elevations SJP 3-21-80	CITY OF DETROIT	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: JB			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA
CK'D BY: SJP RGW			SUPER STRUCTURE DETAILS BOTTOM OF SLAB, SCREED, TOP OF SLAB FINAL ELEVATIONS AND CAMBERS. SPANS 7 AND 8
APP'D BY:	REVISIONS		SCALE: NONE; DRN. NO: S80



TYPICAL SECTION AT GIRDER



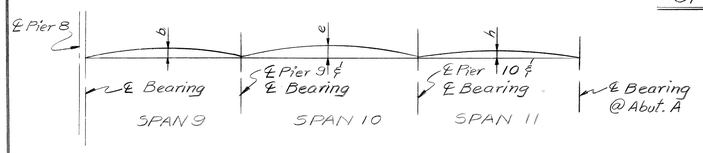
SCREED TEMPLATE



* Level Under Railing

SCREED TEMPLATE

PLAN OF SLAB FOR SCREED & BOTTOM OF SLAB ELEVATIONS



CAMBER DIAGRAM

BOTTOM OF SLAB ELEVATIONS

Line		1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20	21-21
Girder A	Right	120.33	120.12	119.92	119.65	119.35	119.15	118.93	118.69	118.43	118.15	117.84	117.52	117.17	116.77	116.35	115.92	115.47	115.02	114.56	114.09	113.62
Girder B	Left	120.51	120.30	120.07	119.77	119.42	119.19	118.96	118.70	118.42	118.11	117.78	117.44	117.07	116.67	116.25	115.82	115.37	114.92	114.46	113.99	113.52
	Right	120.56	120.35	120.11	119.80	119.44	119.21	118.96	118.70	118.41	118.10	117.77	117.42	117.04	116.64	116.23	115.79	115.34	114.89	114.43	113.96	113.49
Girder C	Left	120.74	120.54	120.27	119.92	119.51	119.26	118.99	118.70	118.39	118.06	117.71	117.33	116.95	116.55	116.13	115.70	115.25	114.79	114.33	113.87	113.40
	Right	120.87	120.59	120.31	119.95	119.53	119.27	119.00	118.70	118.39	118.05	117.69	117.31	116.92	116.52	116.10	115.67	115.22	114.77	114.31	113.84	113.37
Girder D	Left	121.12	120.85	120.58	120.23	119.80	119.54	119.26	118.97	118.66	118.32	117.96	117.58	117.19	116.79	116.37	115.94	115.49	115.04	114.58	114.11	113.64

SCREED ELEVATIONS

Screed Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20	21-21
Left Barrier Line	120.97	120.75	120.56	120.30	120.00	119.80	119.59	119.35	119.10	118.82	118.52	118.20	117.85	117.45	117.03	116.60	116.15	115.70	115.23	114.77	114.30
Gutter Line	121.50	121.25	120.97	120.62	120.19	119.94	119.66	119.37	119.05	118.72	118.36	117.98	117.59	117.19	116.77	116.33	115.88	115.43	114.97	114.50	114.04
Right Barrier Line	121.93	121.56	121.28	120.94	120.51	120.25	119.97	119.68	119.37	119.03	118.67	118.29	117.90	117.50	117.08	116.64	116.20	115.74	115.28	114.82	114.35

FINAL TOP OF SLAB ELEVATIONS

Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10	11-11	12-12	13-13	14-14	15-15	16-16	17-17	18-18	19-19	20-20	21-21
Girder A ℄	121.10	120.88	120.68	120.42	120.13	119.93	119.71	119.47	119.21	118.94	118.64	118.33	117.97	117.56	117.14	116.69	116.24	115.78	115.33	114.88	114.42
Girder B ℄	121.33	121.11	120.87	120.57	120.22	119.99	119.74	119.48	119.19	118.89	118.56	118.22	117.85	117.44	117.01	116.57	116.11	115.66	115.21	114.75	114.30
Girder C ℄	121.59	121.34	121.06	120.72	120.31	120.05	119.78	119.49	119.17	118.84	118.49	118.12	117.73	117.32	116.89	116.44	115.99	115.54	115.08	114.63	114.18
Girder D ℄	121.94	121.66	121.38	121.04	120.63	120.37	120.09	119.79	119.48	119.14	118.78	118.41	118.02	117.61	117.18	116.74	116.28	115.83	115.38	114.92	114.47

CAMBER ORDINATES

Girder / Dim.		A	B	C	D
Stage 2	b	1"	1¼"	1 1/16"	1 1/16"
	e	2"	2¼"	2"	2"
	h	15/16"	15/16"	15/16"	15/16"
Stage 3	b	15/16"	1 3/16"	1 1/16"	1⅝"
	e	2"	2 ¼"	2"	2"
	h	⅞"	⅞"	⅞"	⅞"
Stage 4	b	⅞"	1 1/16"	1½"	1⅜"
	e	1⅛"	2 1/8"	1⅛"	1⅛"
	h	½"	½"	½"	½"

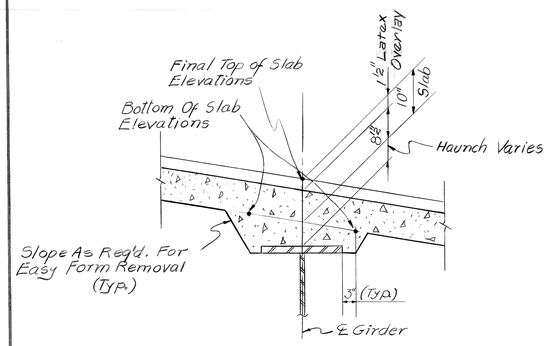
Stage 2 - ℄ girders erected with diaphragms in place, no other loads applied. Camber ordinates includes allowances for: forms, deck concrete steel reinforcement, Vertical Curves and railings

Stage 3 - Forms, shear developers and steel reinforcement in place, all spans complete. Camber ordinates includes allowance for Deck Concrete, Vertical Curve and railings.

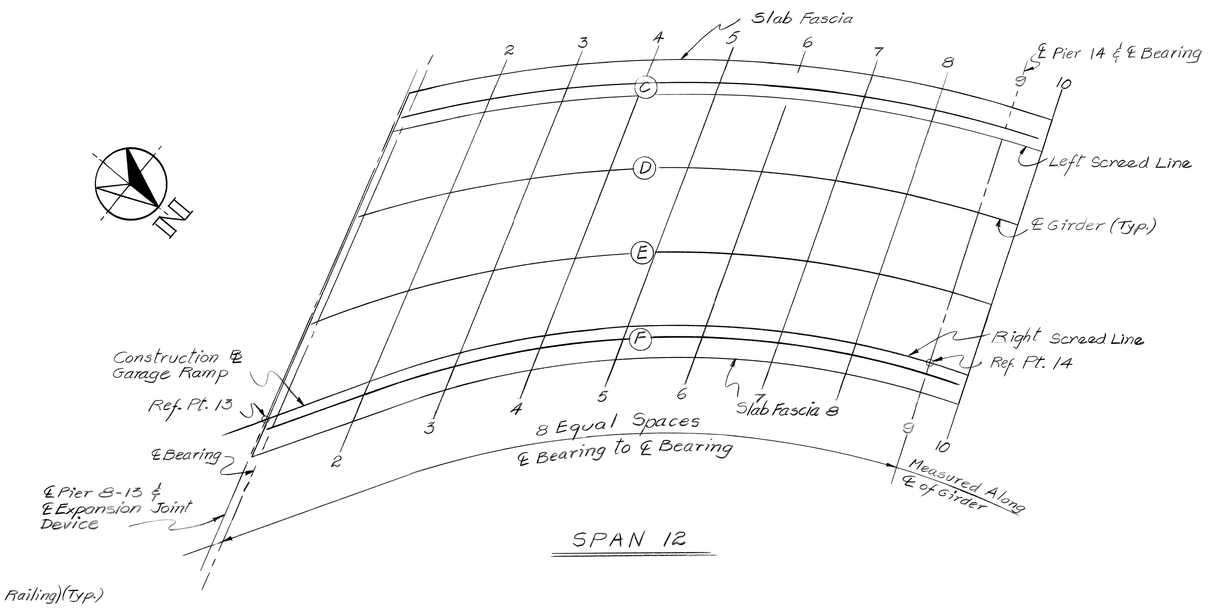
Stage 4 - Deck concrete and railing cast, all spans complete. Camber ordinates includes allowance for Vertical Curve.

Work This Sheet With Sheets# S64 thru S80 & S82 DATE: August, 1979

DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: JB			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA.
CK'D BY: SJP, RGW			SUPER STRUCTURE DETAILS BOTTOM OF SLAB, SCREED, TOP OF SLAB FINAL ELEVATIONS AND CAMBERS SPANS 9, 10 AND 11
APP'D BY:			SCALE:
			DRN. NO: S81

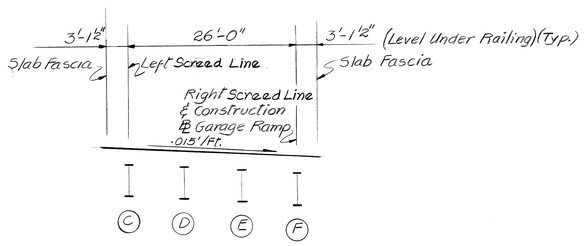


TYPICAL SECTION AT GIRDER



SPAN 12

PLAN OF SLAB FOR SCREED & BOTTOM OF SLAB ELEVATIONS



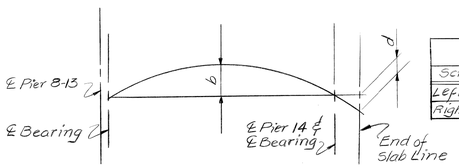
SCREED TEMPLATE

BOTTOM OF SLAB ELEVATIONS

Line		1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10
Girder C	Right	121.35	121.57	121.82	122.08	122.29	122.46	122.58	122.67	122.72	122.77
Girder D	Left	121.12	121.31	121.55	121.83	122.08	122.28	122.43	122.54	122.60	122.64
	Right	121.10	121.29	121.53	121.80	122.05	122.25	122.41	122.51	122.58	122.62
Girder E	Left	120.88	121.03	121.24	121.51	121.80	122.05	122.23	122.37	122.46	122.47
	Right	120.86	121.01	121.22	121.48	121.78	122.02	122.21	122.35	122.44	122.45
Girder F	Left	120.70	120.75	120.88	121.10	121.40	121.71	121.96	122.17	122.32	122.36

CAMBER ORDINATES

	Dim. \ Girder	C	D	E	F
Stage 2	b	2 15/16"	2 11/16"	1 1/2"	-1/2"
	d	3/16"	3/16"	7/16"	-1/4"
Stage 3	b	2 3/4"	2 1/2"	1 9/16"	-1/2"
	d	3/16"	1/8"	3/8"	-1/4"
Stage 4	b	1 5/8"	1 3/8"	1/4"	-1 9/16"
	d	-3/16"	-1/4"	-1/8"	-1 1/16"



SPAN 12

CAMBER DIAGRAM

SCREED ELEVATIONS

Screed Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10
Left Barrier Line	122.05	122.26	122.50	122.76	122.97	123.14	123.28	123.37	123.43	123.48
Right Barrier Line	121.41	121.47	121.61	121.83	122.12	122.43	122.68	122.88	123.03	123.07

FINAL TOP OF SLAB ELEVATIONS

Line	1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8	9-9	10-10
Girder C ℄	122.19	122.36	122.57	122.80	123.01	123.18	123.33	123.46	123.55	123.63
Girder D ℄	121.94	122.09	122.29	122.55	122.79	123.00	123.17	123.31	123.42	123.50
Girder E ℄	121.70	121.82	121.99	122.23	122.52	122.77	122.98	123.15	123.28	123.34
Girder F ℄	121.54	121.58	121.71	121.93	122.23	122.54	122.79	123.00	123.15	123.20

Stage 2 – PC girders erected with diaphragms in place, no other loads applied. Camber ordinates includes allowances for: forms, deck concrete steel reinforcement, Vertical Curve and railings.

Stage 3 – Forms, shear developers and steel reinforcement in place, all spans complete. Camber ordinates includes allowance for Deck Concrete, Vertical Curve and railings.

Stage 4 – Deck concrete and railing cast all spans complete. Camber ordinates includes allowance for Vertical Curve.

Work This Sheet With Sheets # S64 thru S81

DATE: August, 1979

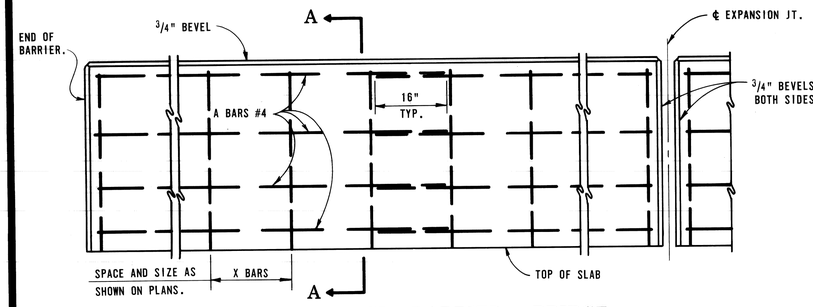
DSGN BY: SJP, RGW	REVISIONS	CITY OF DETROIT	Snell Environmental Group LANSING INDIANAPOLIS AKRON
DR'N BY: JB			
CK'D BY: SJP, RGW			
APP'D BY:			

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTRUCTION AT THE JOE LOUIS ARENA

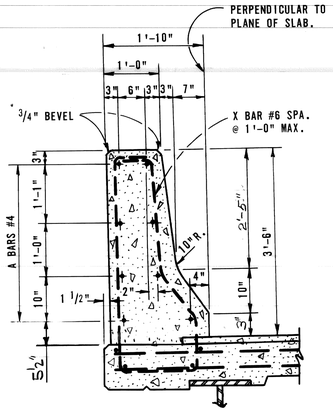
SUPER STRUCTURE DETAILS
BOTTOM OF SLAB, SCREED, TOP OF SLAB FINAL ELEVATIONS AND CAMBERS
SPAN 12

SCALE: NONE

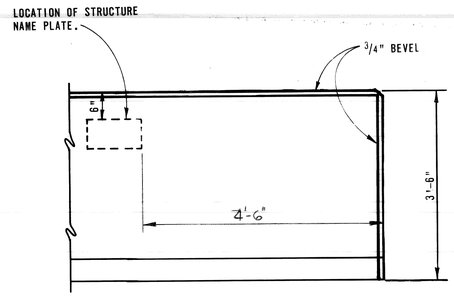
DRN. NO: S82



CONCRETE BARRIER - BRIDGE
OUTSIDE ELEVATION



SECTION A - A



LOCATION OF
GUARD RAIL ANCHORAGE

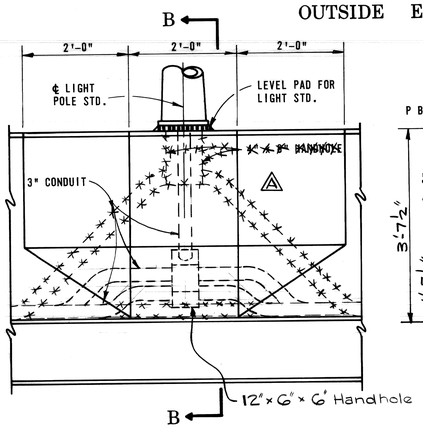
NOTES:

CONCRETE BARRIER - BRIDGE OF THE TYPE CALLED FOR WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAL FOOT. WHICH PRICE INCLUDES PAYMENT IN FULL FOR ALL WORK AND MATERIAL ABOVE TOP OF SLAB, EXCEPT STEEL REINFORCEMENT WHICH WILL BE PAID FOR SEPARATELY. LENGTH OF RAIL IS MEASURED FROM END TO END OF BARRIER WITH NO DEDUCTION FOR EXPANSION JOINTS.

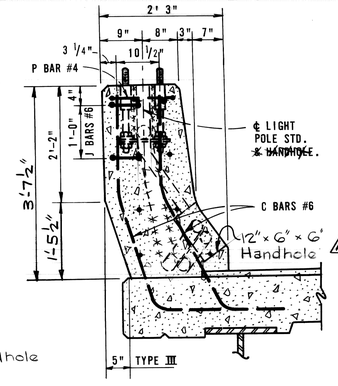
THE STEEL PLATE AND THE NECESSARY MOUNTING HARDWARE LOCATED AT THE LIGHT STANDARD ARE INCIDENTAL TO THE BARRIER. THE PLATE AND ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A123. ALL WORK AND MATERIAL REQUIRED FOR PREPARATION AND GALVANIZING ARE INCIDENTAL.

A RUBBED SURFACE FINISH IS NOT REQUIRED ON THE BARRIER RAILING.

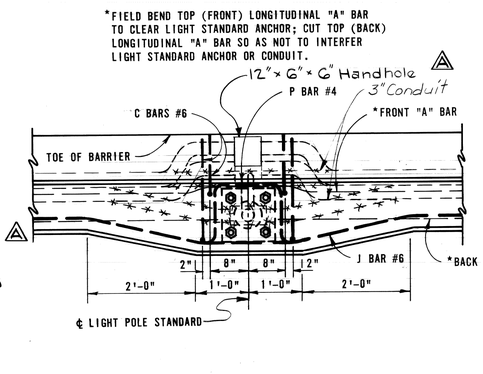
CONCRETE BARRIER - BRIDGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 6.12 OF THE STANDARD SPECIFICATIONS.



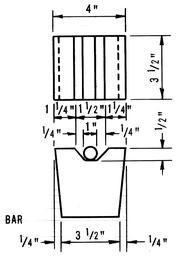
LIGHT STANDARD
ELEVATION VIEW



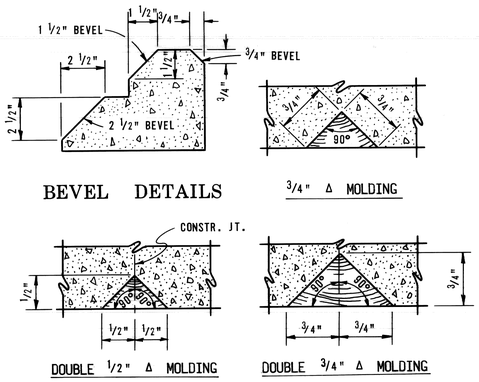
SECTION B - B



LIGHT STANDARD
PLAN VIEW

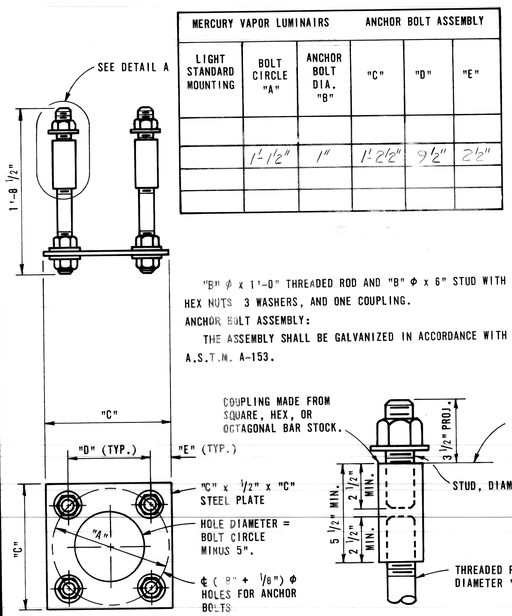


BAR CHAIR
DETAILS



BEVEL DETAILS

MOLDING DETAILS



MERCURY VAPOR LUMINAIRS			ANCHOR BOLT ASSEMBLY		
LIGHT STANDARD MOUNTING	BOLT CIRCLE "A"	ANCHOR BOLT DIA. "B"	"C"	"D"	"E"
	1'-1 1/2"	1"	1'-2 1/2"	9 1/2"	2 1/2"

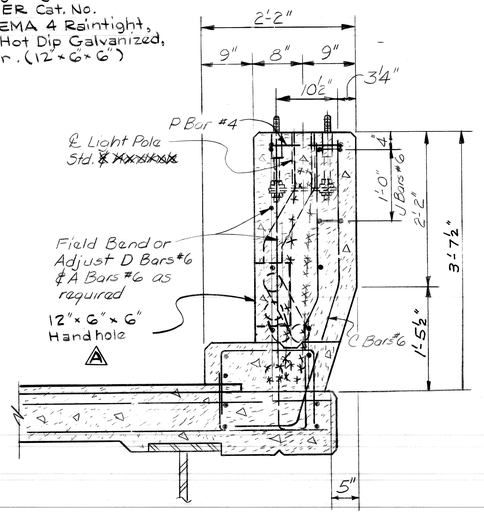
"B" Φ x 1'-0" THREADED ROD AND "B" Φ x 6" STUD WITH 3 HEX NUTS 3 WASHERS, AND ONE COUPLING.

ANCHOR BOLT ASSEMBLY:
THE ASSEMBLY SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153.

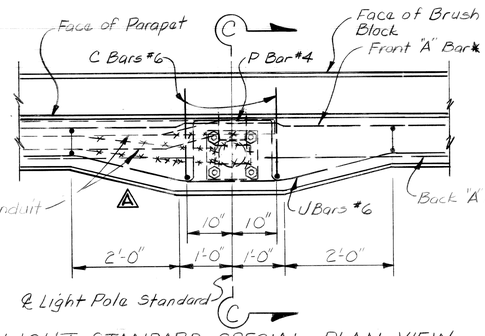
ANCHOR BOLT
ASSEMBLY

DETAIL A

NOTE: For Handhole
⚠ Use Spring City Electrical Mfg. Type ER Cat. No. 120606 NEMA 4 Raintight, Cast Iron Hot Dip Galvanized, with cover. (12"×6"×6")

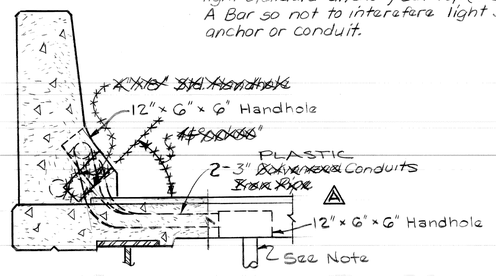


SECTION C-C



LIGHT STANDARD-SPECIAL PLAN VIEW

* Field Bend Top (Front) Longitudinal "A" Bar to clear light standard anchor; cut top (back) longitudinal A Bar so not to interfere light standard anchor or conduit.



SPECIAL HANDHOLE DETAIL
(See Span 8 Superstructure Details)

⚠ The handholes shall be placed in the bottom of the slab span 8 at opposite slab fascias and towards the interior of the fascia girders. The slab steel reinforcement shall be adjusted, as required, to permit placement of the handholes. The handholes will be placed over the north half of the pier cap of Pier 7-12. Vertical pieces of conduit will extend from the bottom of the slab, at the handholes, to the top of the pier cap and shall be connected by a horizontal length of conduit that is securely fastened to the top of the pier cap of Pier 7-12. Installation shall meet the approval of the Engineer.

REVISIONS
⚠ New Handhole Detail, Reposition Handhole Add Notes/ SJP 11-15-79

DATE: August, 1979

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

BARRIER RAILING, LIGHT STANDARD, BAR CHAIR, MOLDING AND BEVEL DETAILS

APPROVED: K.C. Traker 4/24/79
DESIGN SUPERVISING ENGINEER — DATE

APPROVED: W.D.B. 4/24/79
ENGINEER - BRIDGE DESIGN — DATE

SQUAD BOSS	W.D.B.	11-13-78
DRAWN BY	J.L.R.	11-13-78
REVISED BY	K.G.K.	11-13-78
CHECKED BY	W.D.B.	11-13-78

SHEET OF

DRN. NO. S83

R-17-B (11-13-78)

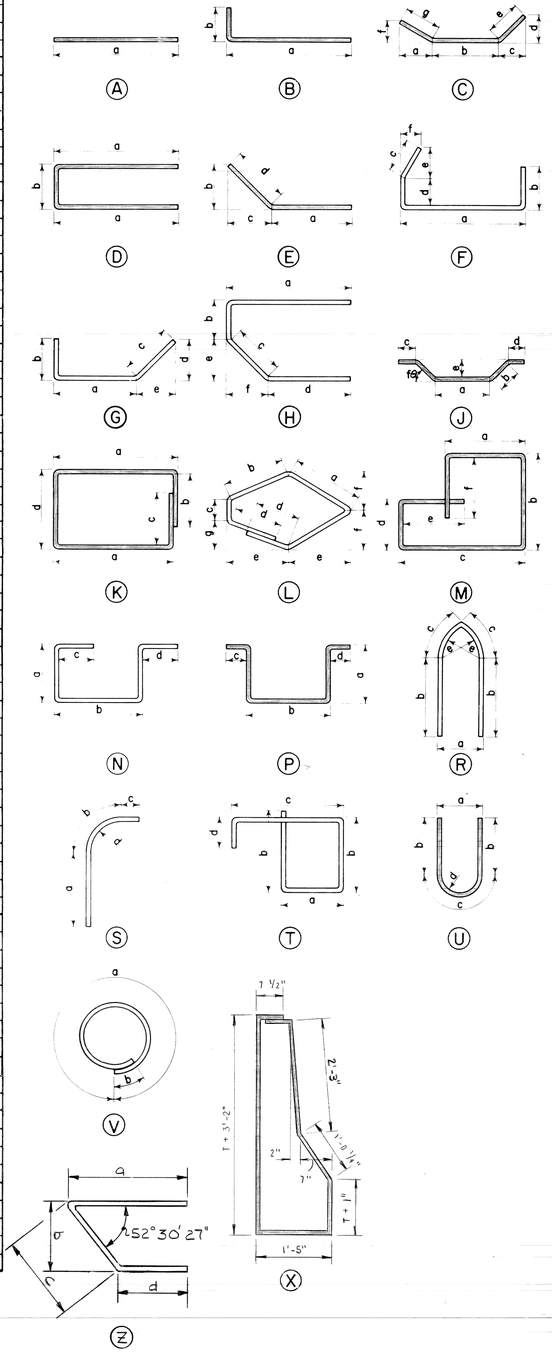
COMMERCIAL BLUEPRINT SERVICE CO.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR BENDING DIAGRAM



Note:- All bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.

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.

DATE: August, 1979

DSGN BY		REVISIONS	
DR'N BY			
CK'D BY			
APP'D BY			

CITY OF DETROIT, MICHIGAN

Snell Environmental Group
LANSING INDIANAPOLIS AKRON

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTUCTION AT THE JOE LOUIS ARENA.

STEEL REINFORCEMENT DETAILS
BAR BENDING DIAGRAM

SCALE: NONE

DRN. NO: S84

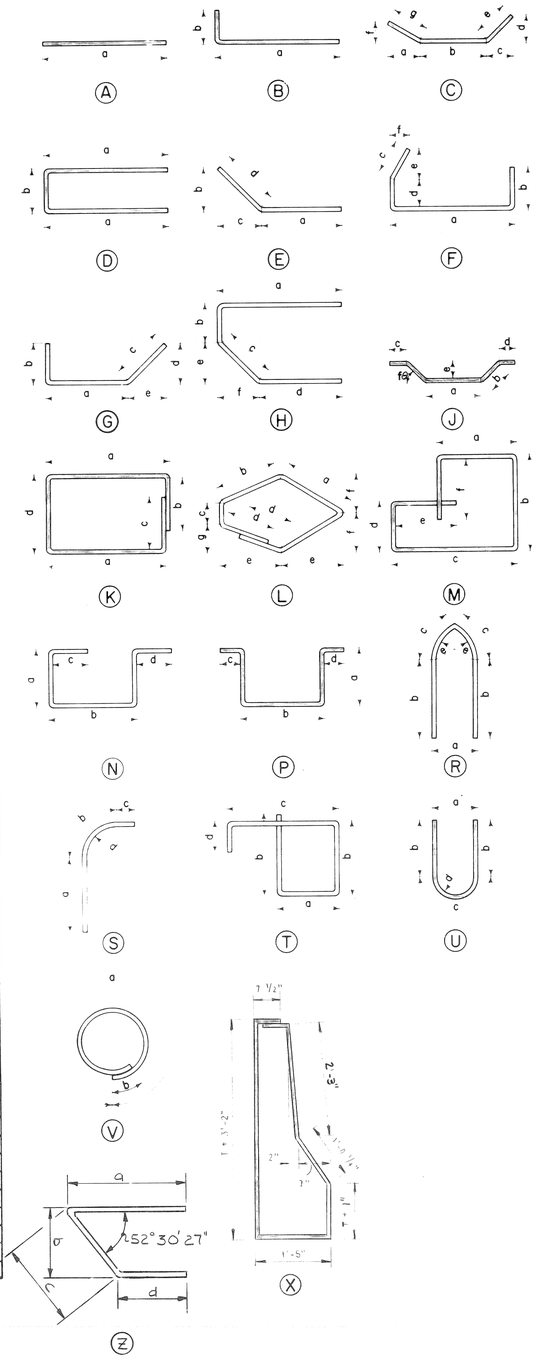
COMMERCIAL BLUEPRINT SERVICE CO.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR BENDING DIAGRAM



Note:- All bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.

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.

DATE: August, 1979

DRWN BY / CHKD BY / APP'D BY	REVISIONS	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTUCTION AT THE JOE LOUIS ARENA.	STEEL REINFORCEMENT DETAILS BAR BENDING DIAGRAM	SCALE: NONE	DRN. NO: S84

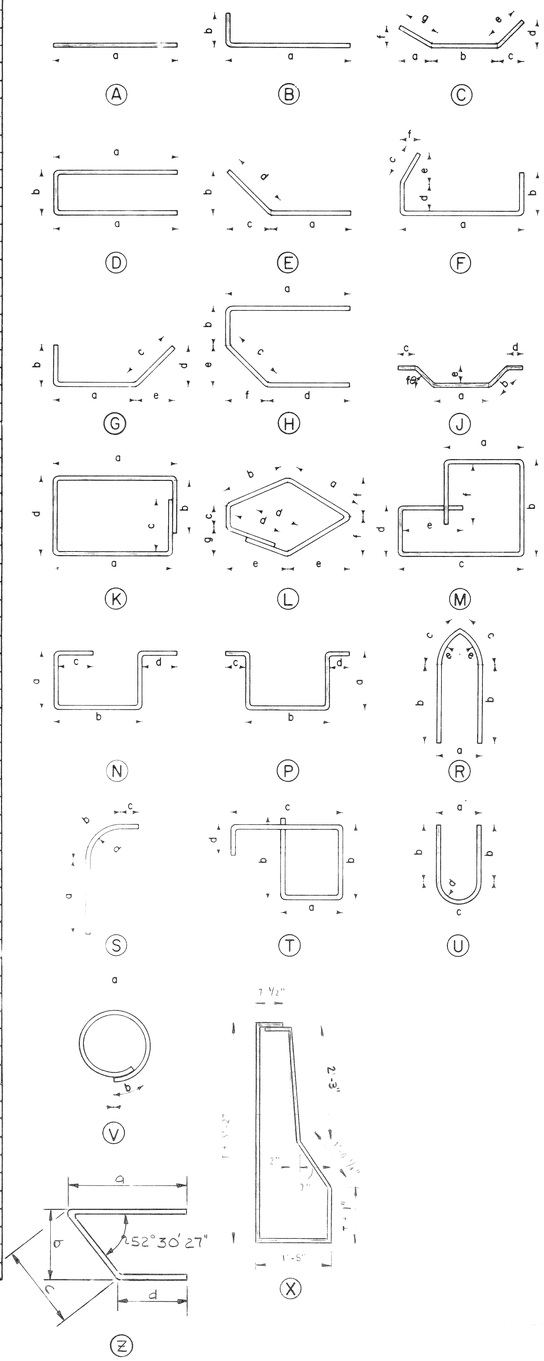
COMMERCIAL BLUEPRINT SERVICE CO.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.

BAR BENDING DIAGRAM

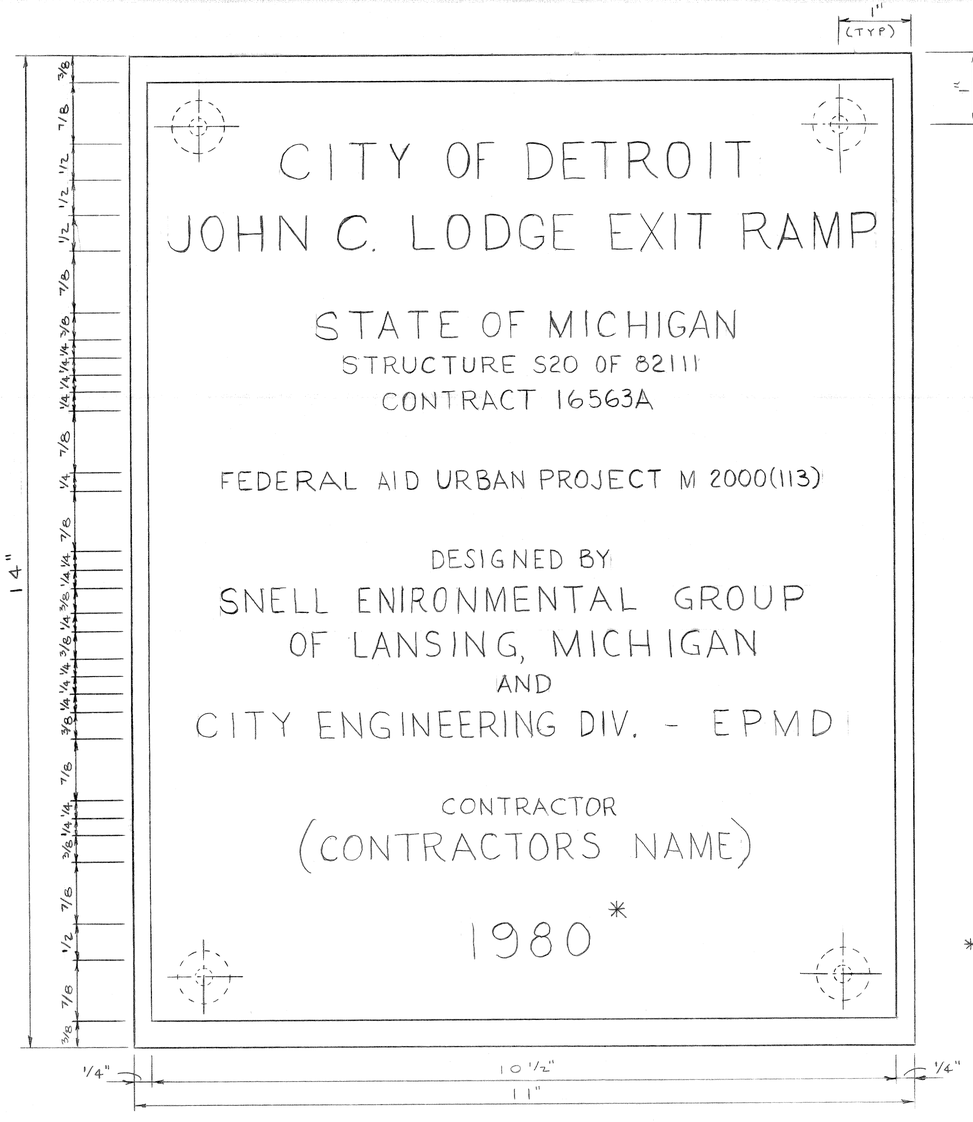


Note:- All bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.

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.

DATE: August, 1979

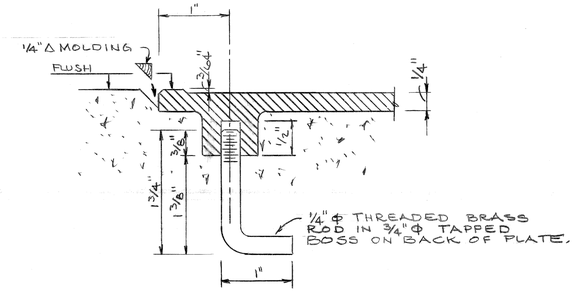
DESIGNED BY DRAWN BY CHECKED BY APPROVED BY	REVISION	CITY OF DETROIT, MICHIGAN	Snell Environmental Group LANSING INDIANAPOLIS AKRON	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVENUE-RECONSTUCTION AT THE JOE LOUIS ARENA.	STEEL REINFORCEMENT DETAILS BAR BENDING DIAGRAM	SCALE: NONE DRN. NO: S84



NAME PLATE

FULL SCALE

* OR YEAR SUPERSTRUCTURE IS COMPLETED



ANCHORAGE DETAIL

NOTES:

SET NAME PLATE FLUSH WITH FACE OF CONCRETE AND FRAME WITH 1/4" Δ MOLDING TO FORM A REVEAL AROUND THE PLATE.

SEE THE SPECIAL PROVISION IN THE PROPOSAL FOR ADDITIONAL DETAILS.

QUANTITY	UNIT
NAME PLATE	1 EACH

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE

REVISIONS LOCATED BY COORDINATES ON SHEET

REFERENCE DRAWINGS

DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY

APPROVED:

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA

BRIDGE NAME PLATE DETAILS

SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563 A
DRWG NO. S-85
DATE AUG 1979

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G

QUANTITY SHEET – E

BRIDGE ITEMS	AS PER PLANS TOTALS	AS PER PLANS UNITS	S-9	S-15	S-27	S-28	S-33	S-43	S-49	S-63	S-116	S-85	AS CONSTRUCTED TOTALS	AS CONSTRUCTED UNITS	S-9	S-15	S-27	S-28	S-33	S-43	S-49	S-105	S-76	S-85
REMOVAL OF PORTIONS OF STRUCTURES	1	L.S.		1									1 //	L.S.		1								
UNCLASSIFIED FOUNDATION EXCAVATION	3582	C.Y.			2648				934				3820 //	C.Y.			2792				1028			
STRUCTURE BACKFILL (CIP)	3730	C.Y.			3730								5212 //	C.Y.			5212							
TEMPORARY STEEL SHEET PILING	275	S.F.		275									0 //	S.F.		0								
STEEL PILES, FURNISHED AND DRIVEN (12")	7630	L.F.				7630							7720 //	L.F.				7720						
SPLICES, STEEL PILES (12")	187	EA.				187							80 //	EA.				80						
C.I.P. CONCRETE PILES, FURNISHED AND DRIVEN, 75 TON	950	L.F.					950						996 //	L.F.					996					
C.I.P. CONCRETE PILES, FURNISHED AND DRIVEN, 100 TON	2565	L.F.					2565						2733 //	L.F.					2733					
C.I.P. CONCRETE PILES, FURNISHED AND DRIVEN, 200 TON	4725	L.F.					4725						4681 //	L.F.					4681					
CONCRETE GRADE X	3	C.Y.			3								0 //	C.Y.			0							
SUBSTRUCTURE CONCRETE	3017	C.Y.			1813				1204				3022 //	C.Y.			1816				1206			
SUPERSTRUCTURE CONCRETE	923	C.Y.									923		941 //	C.Y.									941	
FORMING, FINISHING AND CURING SUBSTRUCTURE CONCRETE	1	L.S.									1		1 //	L.S.									1	
STEEL REINFORCEMENT	501,128	LBS.			170,128				169,000		162,372		497,743 //	LBS.			174,861				169,000		153,882	
STEEL REINFORCEMENT, EPOXY COATED	89000	LBS.									89,000		97,486 //	LBS.									97,486	
SUPERSTRUCTURE FURNISHED, SUBSTRUCTURE ERECTED	3017	C.Y.			1813						1070		3017 //	C.Y.			1813				1204			
LOW SUBSTRUCTURE FURNISHED, WINGWALLS ERECTED	1070	C.Y.											0 //	C.Y.									0	
CLEAR PROTECTIVE COATING FOR SUBSTRUCTURE CONCRETE	12687	S.F.			826				11861				12900 //	S.F.			884				12016			
PROTECTIVE SEALANT COATING FOR CONCRETE	836	S.F.							836				798 //	S.F.							798			
1¼" PREFORMED NEOPRENE JOINT SEAL	60	L.F.									60		60 //	L.F.									60	
EXPANSION JOINT DEVICE - 2" MINIMUM TRAVEL	71	L.F.								71			71 //	L.F.								71		
EXPANSION JOINT DEVICE - 3" MINIMUM TRAVEL	191	L.F.								191			189 //	L.F.								189		
LIGHT STANDARD ANCHOR ASSEMBLY - PLATE 5	13	EA.									13		13 //	EA.									13	
RPA-N CASTING ASSEMBLY - TYPE 3	5	EA.									5		5 //	EA.									5	
EXPANSION JOINT DRAIN	17	EA.			17								17 //	EA.			17							
3" CONDUIT	1725	L.F.									1735		1014 //	L.F.									1014	
CONSTRUCTING BRIDGE DECK SURFACE	3516	S.Y.									3516		3513 //	S.Y.									3513	
LATEX MODIFIED SURFACING MIXTURE	147	C.Y.									147		169.4 //	C.Y.									169.4	
SLEEVE PLATE	1	EA.										1	1 //	EA.										1
3" GALVANIZED IRON PIPE	74	L.F.									74		0 //	L.F.									0	
STRUCTURAL STEEL, FURNISHING AND FABRICATING ASSEMBLATE	1,170,000	LBS.						1,170,000					1,141,216 //	LBS.						1,141,216				
STRUCTURAL STEEL, ERECTION (ASSEMBLATE)	1,170,000	LBS.						1,170,000					1,141,216 //	LBS.						1,141,216				
3/4 ELASTOMERIC BEARING	37	S.F.						37					37 //	S.F.						37				
1" ELASTOMERIC BEARING	32	S.F.						32					32 //	S.F.						32				
2" ELASTOMERIC BEARING	12	S.F.						12					12 //	S.F.						12				
3" ELASTOMERIC BEARING	25	S.F.						25					25 //	S.F.						25				
4" ELASTOMERIC BEARING	6	S.F.						6					6 //	S.F.						6				
EXPANSION DEVELOPERS	1	L.S.						1					1 //	L.S.						1				
FIELD PAINTING	585	TONS						545					570.6 //	TONS						570.6				
15/8" ELASTOMERIC BEARING	5	S.F.						5					5 //	S.F.						5				
1/4" ELASTOMERIC BEARING	6	S.F.						6					6 //	S.F.						6				
2 5/8" ELASTOMERIC BEARING	16	S.F.						16					16 //	S.F.						16				
5" ELASTOMERIC BEARING	6	S.F.						6					6 //	S.F.						6				
1/2" WATERPROOFING	700	S.F.			473						227		623 //	S.F.			410						213	
2" FIBER JOINT FILLER	540	S.F.	540										540 //	S.F.	540									
BRIDGE RAILING S-3 (MODIFIED TYPE - SPECIAL)	179	L.F.									179		180 //	L.F.									180	
8" CLASS A SEWER - TRENCH DETAIL 9	83	L.F.			83								84 //	L.F.			84							
48" BULKHEAD	4	EA.			4								15 //	EA.			15							
FOUNDATION DRAINS 6"	1663	L.F.	255		1408								1663 //	L.F.	255	1408								
5" CONCRETE SIDEWALK	1165	S.F.			1165								1141 //	S.F.			1141							
CONCRETE BARRIER - BRIDGE, TYPE 3	1495	L.F.									1495		1571 //	L.F.									1571	

CHECKED
CONTRACT SECTION
DATE 5/13/82

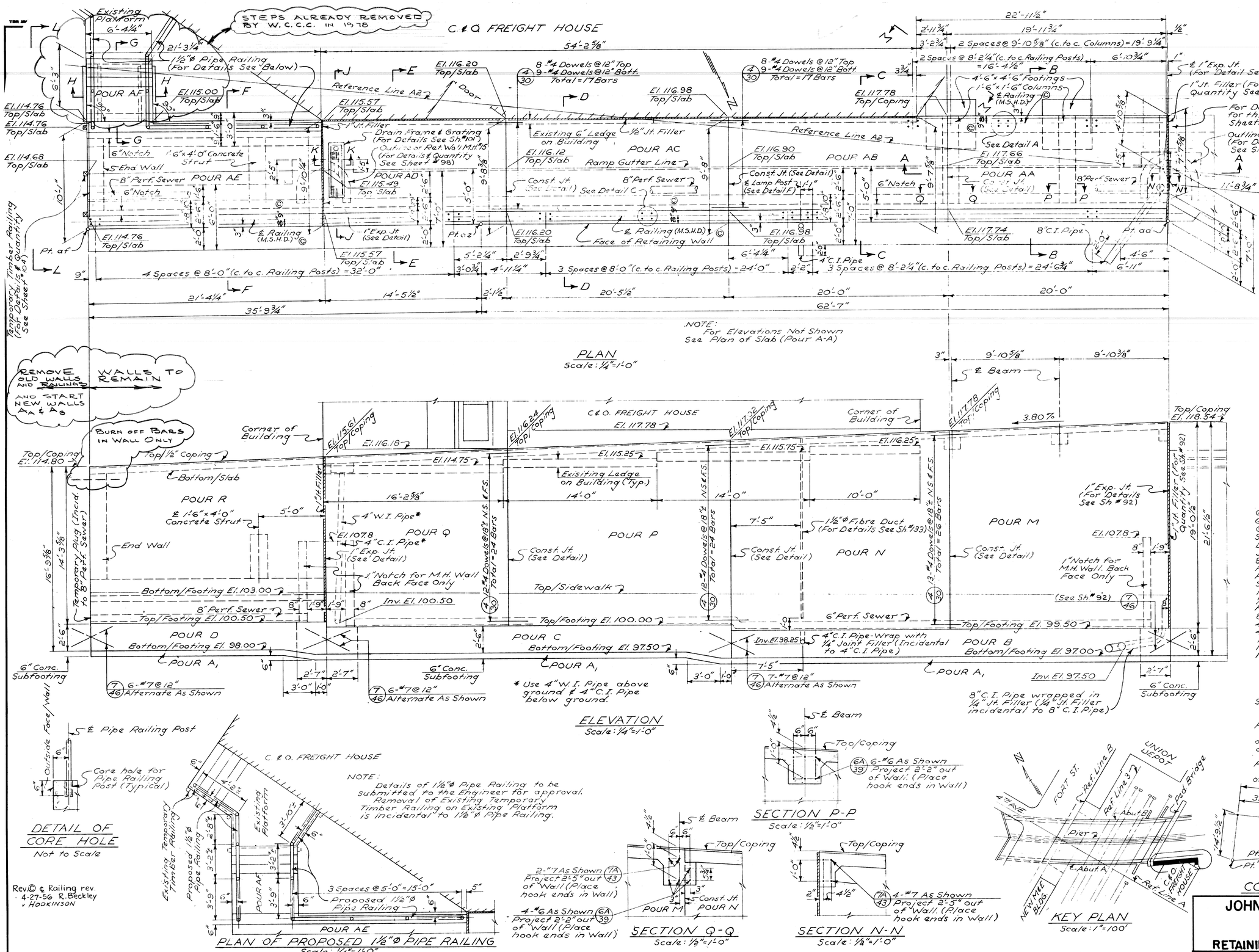
EXTRAS TO PLAN

Auth 2005 Bridge Lighting Handholes	Install approved cast iron handhole @ each light standard on barrier railing - 13 UNIT	=	$ 24,043.34	(show on "as constructed" plans)
Auth 2009 - Pier downspout Cleanouts	Install C.I. Cleanouts @ Piers 10-13-8-5-1 5@ $ 455.00 ea.		$ 2275.00	(show on "as constructed" plans)
Auth 2010 - Str. Steel addition	Install additional Str. Steel - Span 2 1 UNIT	=	$ 21,327.47	(show on "as constructed" plans)
Auth 2013 - Saw-cutting latex overlay @ Pier Tops & Construction Joints	Saw Joints in latex overlay @ piers & construction Joints 509 LFT @ 5.56 =		$ 2830.04	(show on "as constructed" plans)

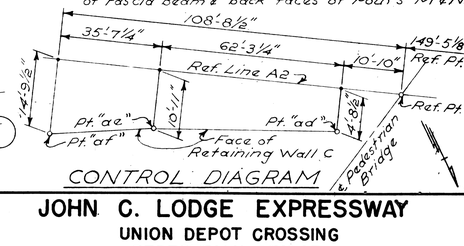
PLAN ESTIMATE BY _____ DATE AUG 1979 CHECKED BY L.G. DATE 8-79 DATA COMPLETED _____ PROJ. ENG DATE _____ HISTORY CHECKED ENTERED ON PLANS BY Charlie DATE _____

S-86 SHEET NO.

CONTRACT 16563R



NOTE: Details of 1½"ø Pipe Railing to be submitted to the Engineer for approval. Removal of Existing Temporary Timber Railing on Existing Platform is incidental to 1½"ø Pipe Railing.



CONCRETE POURS					
POUR	GRADE	CU. YDS.	POUR	GRADE	CU. YDS.
A,	A(6A)	12.6	N	A(6B)	27.4
A_2	"	0.4	P	"	26.0
A_3	"	0.4	Q	"	20.2
A_4	"	1.2	R	"	23.9
B	"	26.3	S	"	12.4
C	"	24.7	T	"	1.4
D	"	12.7	U	"	2.4
E	"	1.9	V	"	1.4
F	"	1.9	W	"	1.4
G	"	3.5	AA	"	5.6
H	"	0.3	AB	"	3.6
J	A(6A)	0.3	AC	"	3.7
K	A(6B)	1.2	AD	"	3.2
L	"	1.2	AE	"	3.3
M	A(6B)	28.4	AF	A(6B)	0.9

QUANTITIES

Grade A(6A) Concrete-Substructure	86.2 C.Y.
Grade A(6B) Concrete-Substructure	147.3 C.Y.
Grade A(6B) Concrete-Superstructure	20.3 C.Y.
Steel Reinforcement	15060. Lbs.
Dampproofing	790 S.F.
Joint Waterproofing	43 S.F.
8"Perforated Sewer	108 ~~94~~ L.F.
Rubbed Surface Finish	1380 ~~2010~~ S.F.
Porous Backfill, Grade B (L.M.)	~~710~~ C.Y.
Sand-Gravel Backfill (L.M.)	~~242~~ ~~240~~ C.Y.
1" Joint Filler	35 S.F.
½" Joint Filler	65 S.F.
Hot-Poured Rubber-Type Filler	41 L.F.
8"C.I. Pipe	10 L.F.
4"C.I. Pipe	15 L.F.
4"W.I. Pipe	12 L.F.
Anchor Dowels	12 Ea.
1½"ø Pipe Railing	40 L.F.
1½"ø Fibre Ducts	20 L.F.

GENERAL NOTES

For Limits of Unclassified Excavation See Sheet # 91.
For Details of Bridge Railing See Sheet # ~~104~~ 102.
Use Pipe Fittings for all bends in Perforated Sewer.
Treat existing concrete with Ironite or equal before pouring new concrete against it.
Anchor Dowels to be fabricated from Reinforcing Bars.
Rubbed Surface Finish shall include bottom of Fascia Beam & back faces of Pours M & N.

Rev. © ℄ Railing rev.
· 4-27-56 R. Beckley
· HOPKINSON

JOHN C. LODGE EXPRESSWAY
UNION DEPOT CROSSING
PEDESTRIAN BRIDGE
RETAINING WALL "C" AND RAMP DETAILS

										REFERENCE DRAWINGS	
										DESIGNED BY	
										DRAWN BY	
										TRACED BY	
COOR'D	DESCRIPTION				DR'N	CK'D	AP'VD	DATE		CHECKED BY	J.M. RAK
REVISIONS LOCATED BY COORDINATES ON SHEET											

APPROVED:

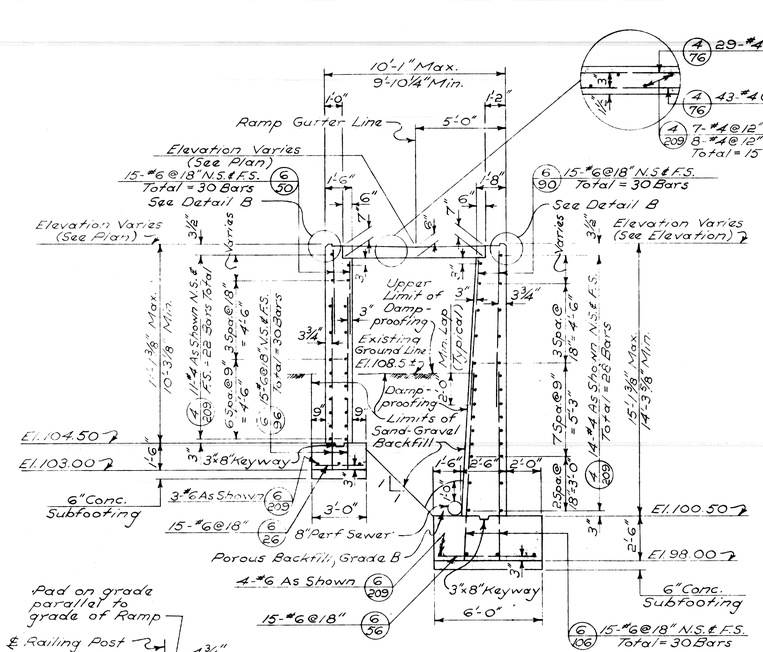
CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA

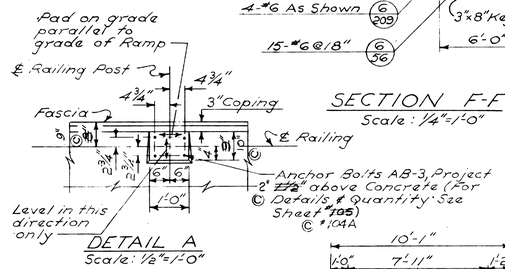
RAMP - REFERENCE DRAWING
RETAINING WALL C AND RAMP DETAILS

SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563A
DRWG. NO. SR-1
DATE AUG 1979

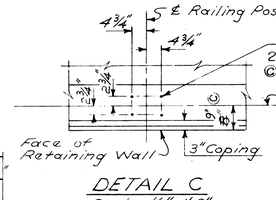
TSR 220 1-75 66899



DETAIL A
Scale: ½"=1'-0"



SECTION F-F
Scale: ¼"=1'-0"



DETAIL C
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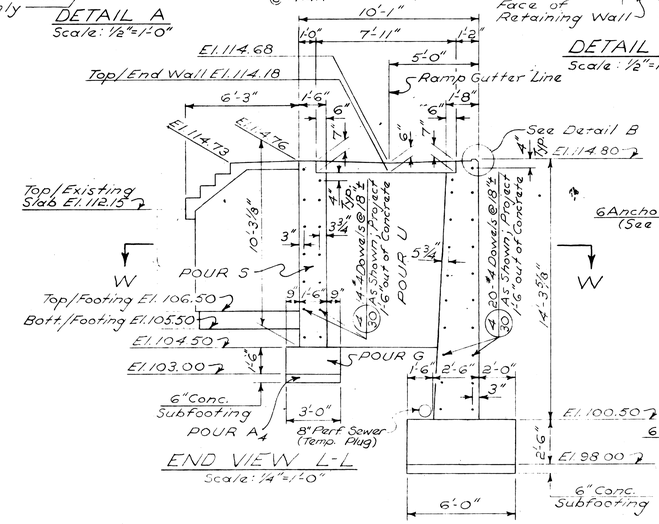
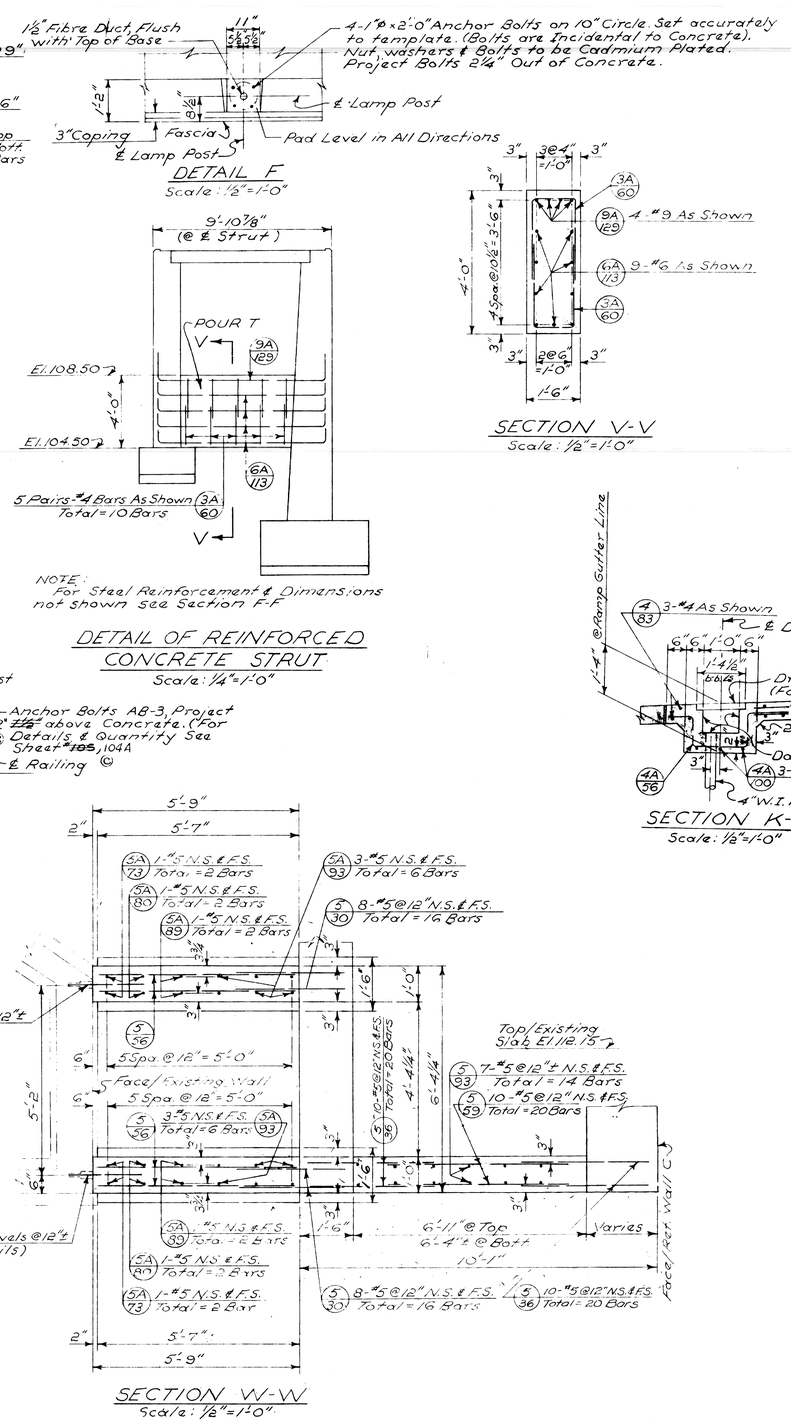


END VIEW L-L
Scale: ¼"=1'-0"



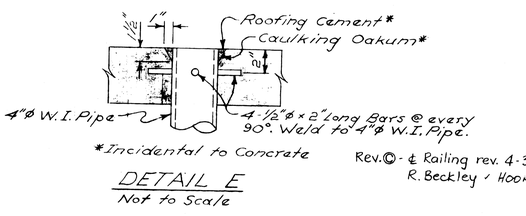
SECTION W-W
Scale: ½"=1'-0"

DETAIL F
Scale: ½"=1'-0"

DETAIL OF REINFORCED CONCRETE STRUT
Scale: ¼"=1'-0"

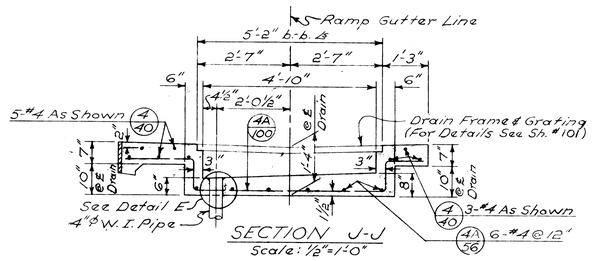
SECTION V-V
Scale: ½"=1'-0"

SECTION K-K
Scale: ½"=1'-0"



DETAIL E
Not to Scale

Rev. © - ℄ Railing rev. 4-30-56
R. Beckley / HOOKINSON.



SECTION J-J
Scale: ½"=1'-0"

JOHN C. LODGE EXPRESSWAY
UNION DEPOT CROSSING PEDESTRIAN BRIDGE
RETAINING WALL "C" AND RAMP DETAILS (CONT'D.)

COOR'D	DESCRIPTION			DR'N	CK'D	AP'VD	DATE				

REVISIONS LOCATED BY COORDINATES ON SHEET

REFERENCE DRAWINGS

DESIGNED BY	
DRAWN BY	
TRACED BY	
CHECKED BY	J.M. R.K.

APPROVED:

CITY OF DETROIT
CITY ENGINEERING DIVISION · EPMD

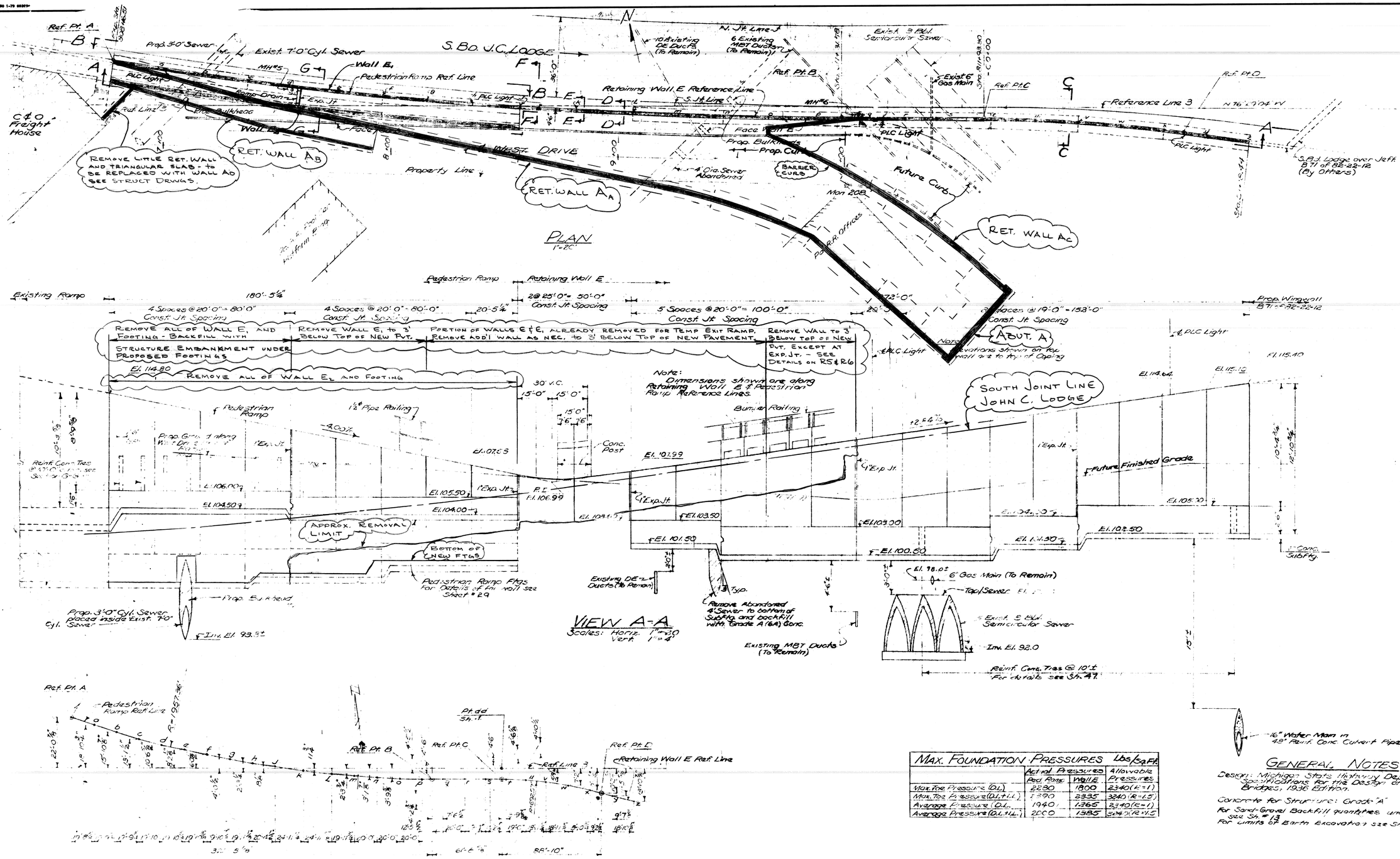
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - REFERENCE DRAWING
RETAINING WALL C AND RAMP DETAILS

SHEET ____ OF ____ SHEETS	
CONTRACT NO.	16563A
DRWG NO.	SR-2
DATE	AUG 1979

1 2 3 4 5 6 7 8 9 10 11

TBR 250 1-79 80829



MAX. FOUNDATION PRESSURES Lbs/Sq.Ft.	Actual Pressures		Allowable Pressures
	Ref. Point	Wall E	
Max. Toe Pressure (D.L.)	2280	1800	2340 (E=1)
Max. Toe Pressure (D.L.+L.L.)	3390	3335	3240 (E=1.5)
Average Pressure (D.L.)	1940	1365	2340 (E=1)
Average Pressure (D.L.+L.L.)	2000	1585	2340 (E=1.5)

GENERAL NOTES

Design: Michigan State Highway Department Specifications for the Design of Highway Bridges, 1936 Edition.

Concrete for Structure: Grade "A"

For Sand-Gravel Backfill quantities under: Paved Shoulder see Sh. #13
For limits of Earth Excavation see Sh. #13 & #16-#18

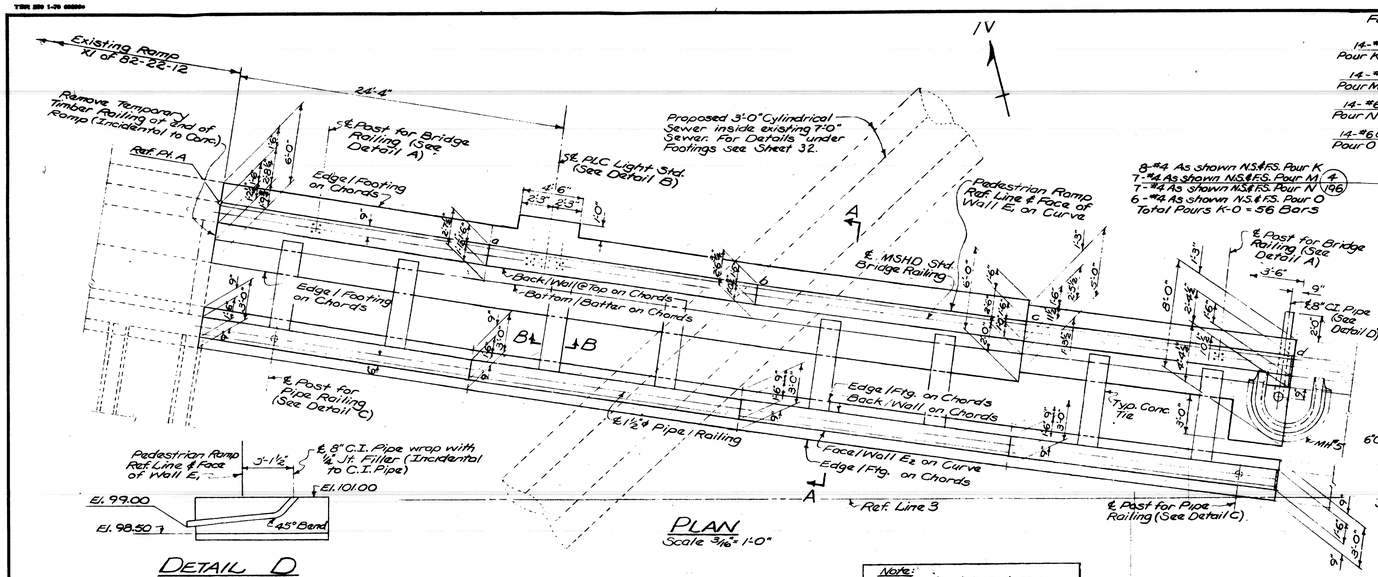
COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE	REFERENCE DRAWINGS	DESIGNED BY		APPROVED:	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD	JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA	SHEET ____ OF ____ SHEETS
							DRAWN BY					CONTRACT NO. 16563A
							TRACED BY				RAMP - REFERENCE DRAWING GENERAL PLAN OF PED. RAMP AND WALL E	DRWG NO. SR-3
							CHECKED BY	J.M. RAK				DATE AUG 1979

REVISIONS LOCATED BY COORDINATES ON SHEET

1 2 3 4 5 6 7 8 9 10 11

A B C D E F G

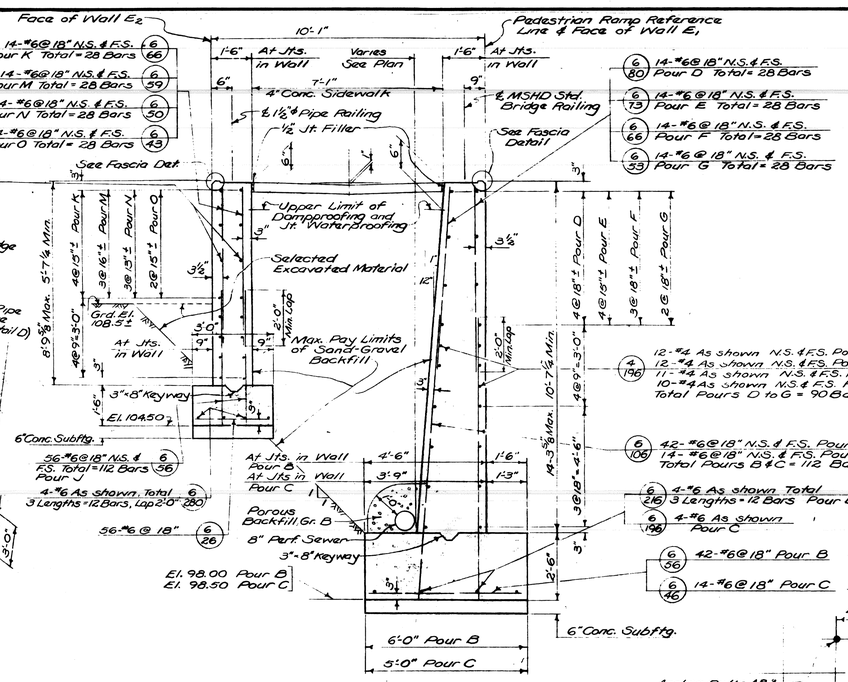
TSR 250 1-79 60000



PLAN
Scale 3/16" = 1'-0"

DETAIL D
Not to Scale

Note: For Joint layout see "Control Diagram" on Sheet 28



TYPICAL RAMP SECTION
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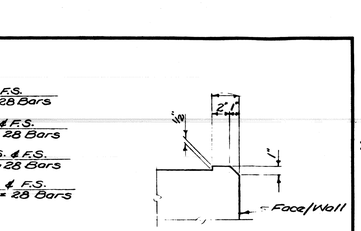
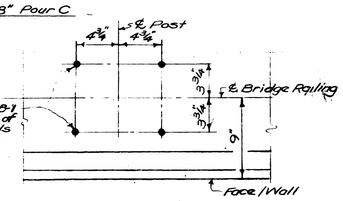
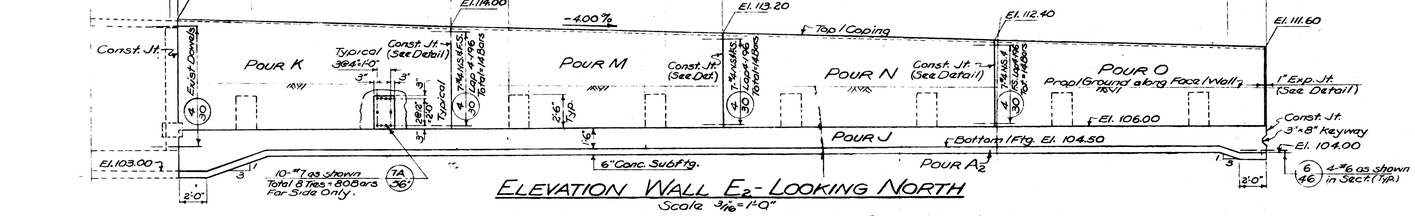


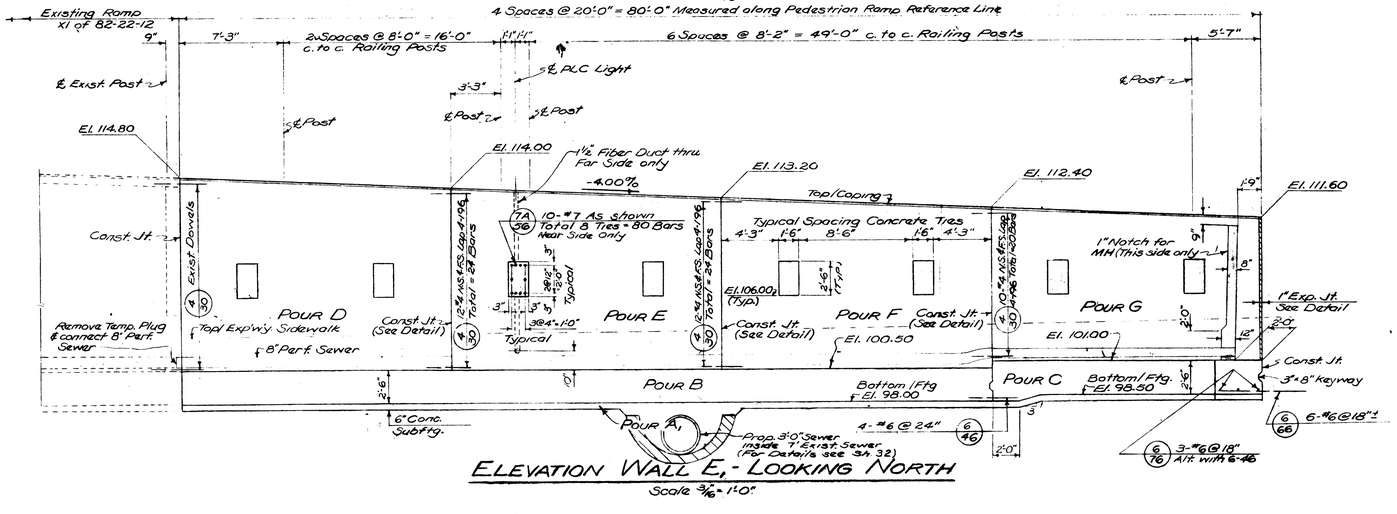
FASCIA DETAIL
Scale 1½" = 1'-0"



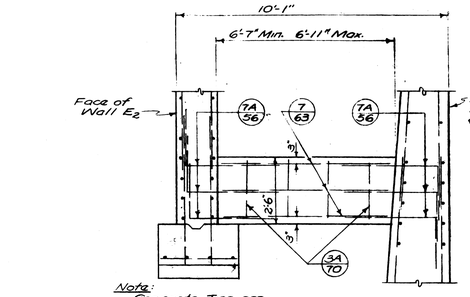
DETAIL A
Scale 1½" = 1'-0"



ELEVATION WALL E₂ - LOOKING NORTH
Scale 3/16" = 1'-0"

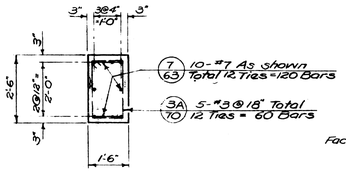


ELEVATION WALL E₁ - LOOKING NORTH
Scale 3/16" = 1'-0"

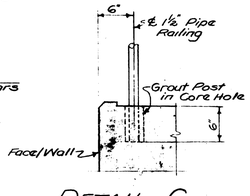


Note: Concrete Ties are Pour H.

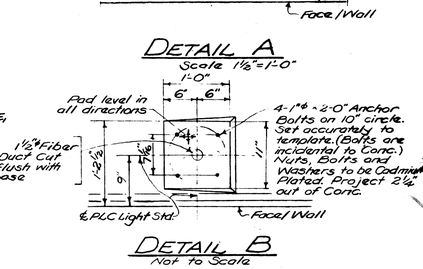
SECTION A-A
Scale 3/16" = 1'-0"



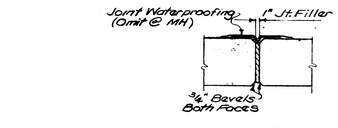
SECTION B-B
Scale 3/16" = 1'-0"



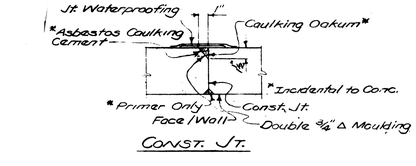
DETAIL C
Not to Scale



DETAIL B
Not to Scale



EXP. JT.



CONST. JT.

GENERAL NOTES

Limits of Unclassified Excavation shall be vertical planes along neat lines of footing from bottom of Subftg. to limits of Earth Excavation or Natural Ground.
All Vert. Joints to be placed on Radial Lines.
For Details of Railing see Sh. 44 & 45.
Use Pipe Fittings for all bends in 8" Perforated Sewer.
Treat Existing Conc. with Ironite or equal before pouring against it.

JOHN C LODGE EXPRESSWAY
CIVIC CENTER AREA
PEDESTRIAN RAMP DETAILS

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

REFERENCE DRAWINGS

DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY J.M. RAK

APPROVED:

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

RAMP - REFERENCE DRAWING
PED. RAMP DETAILS

SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563A
DRWG NO. SR-4
DATE AUG 1979

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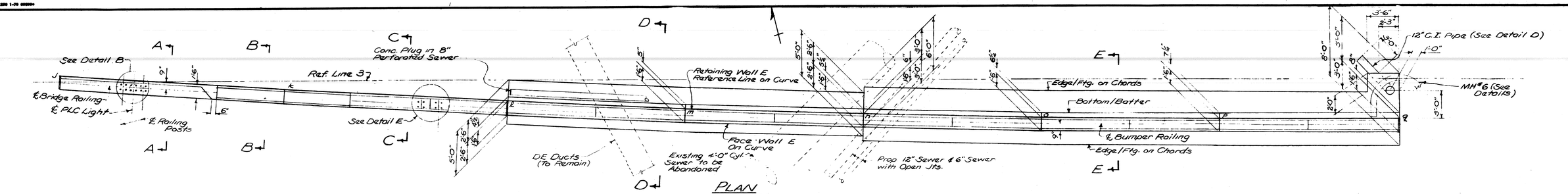
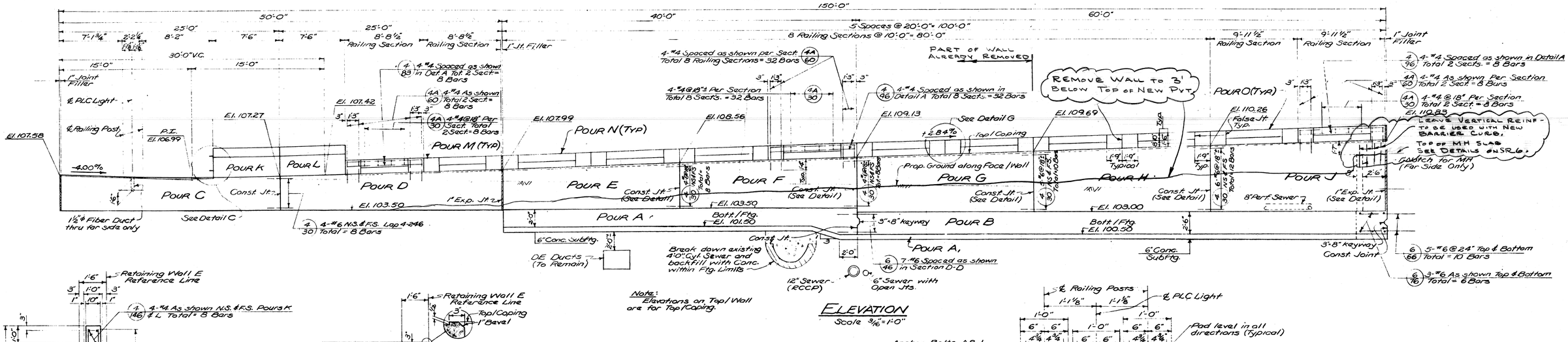
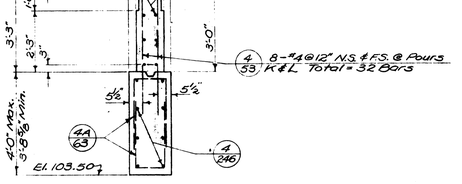
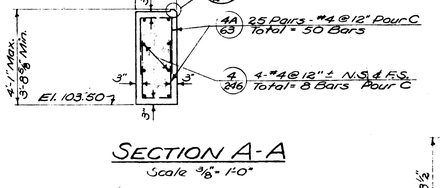


PLAN
Scale 3/16" = 1'-0"





SECTION B-B
Scale 3/8" = 1'-0"



SECTION A-A
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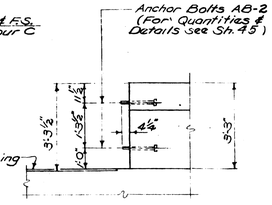
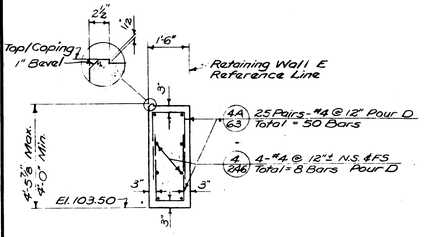


DETAIL C
Not to Scale



SECTION C-C
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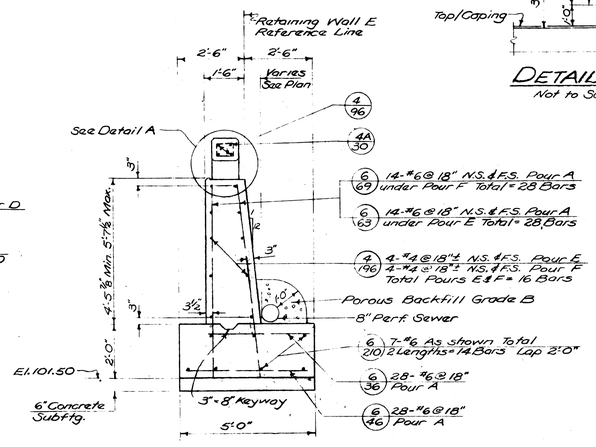

SECTION D-D
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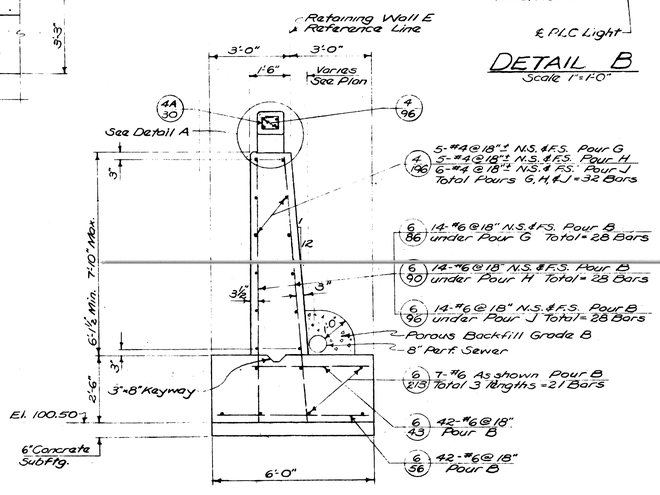

SECTION E-E
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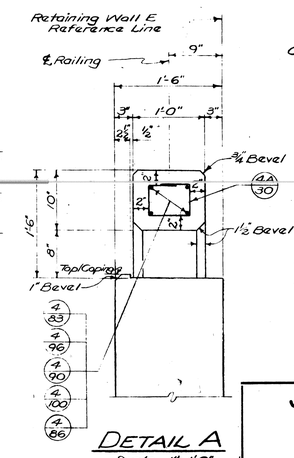
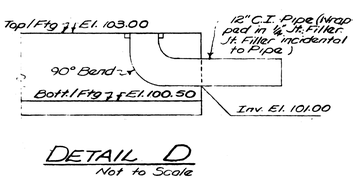


DETAIL B
Scale 1" = 1'-0"

DETAIL A
Scale 1" = 1'-0"



DETAIL D
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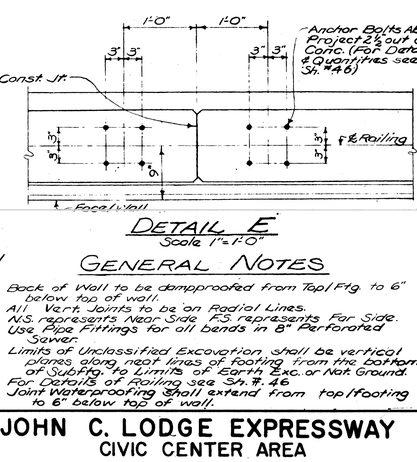


DETAIL E
Scale 1" = 1'-0"

GENERAL NOTES

Back of Wall to be dampproofed from Top/Ftg. to 6" below top of wall.
All Vert. Joints to be on Radial Lines.
N.S. represents Near Side F.S. represents Far Side.
Use Pipe Fittings for all bends in 8" Perforated Sewer.
Limits of Unclassified Excavation shall be vertical planes along neat lines of footing from the bottom of Subftg. to Limits of Earth Exc. or Nat. Ground.
For Details of Railing see Sh. # 46
Joint Waterproofing shall extend from top/footing to 6" below top of wall.

JOHN C. LODGE EXPRESSWAY
CIVIC CENTER AREA
RETAINING WALL E DETAILS

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

REFERENCE DRAWINGS

DESIGNED BY
DRAWN BY
TRACED BY
CHECKED BY J.M. RAK

APPROVED:

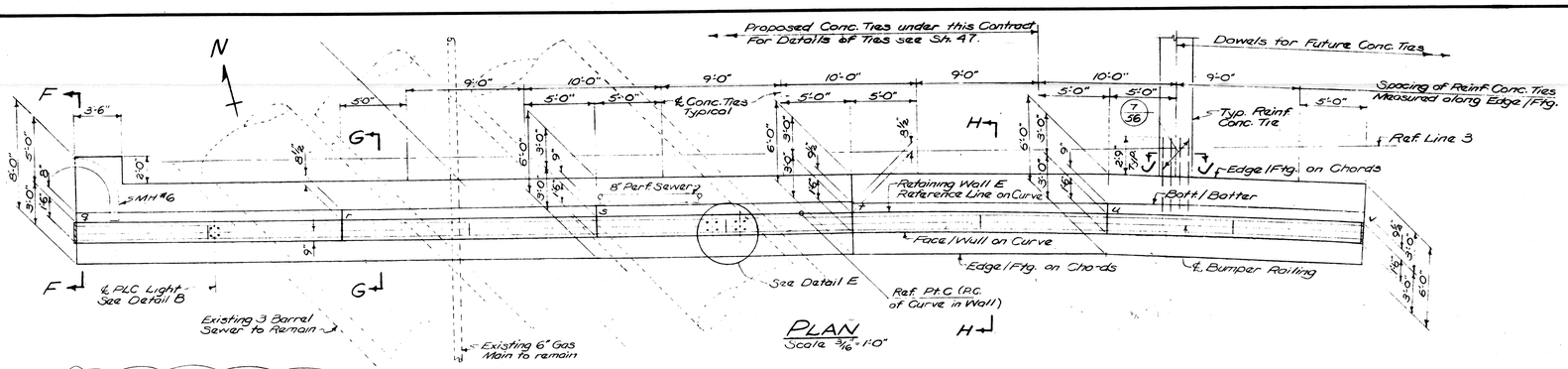
CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

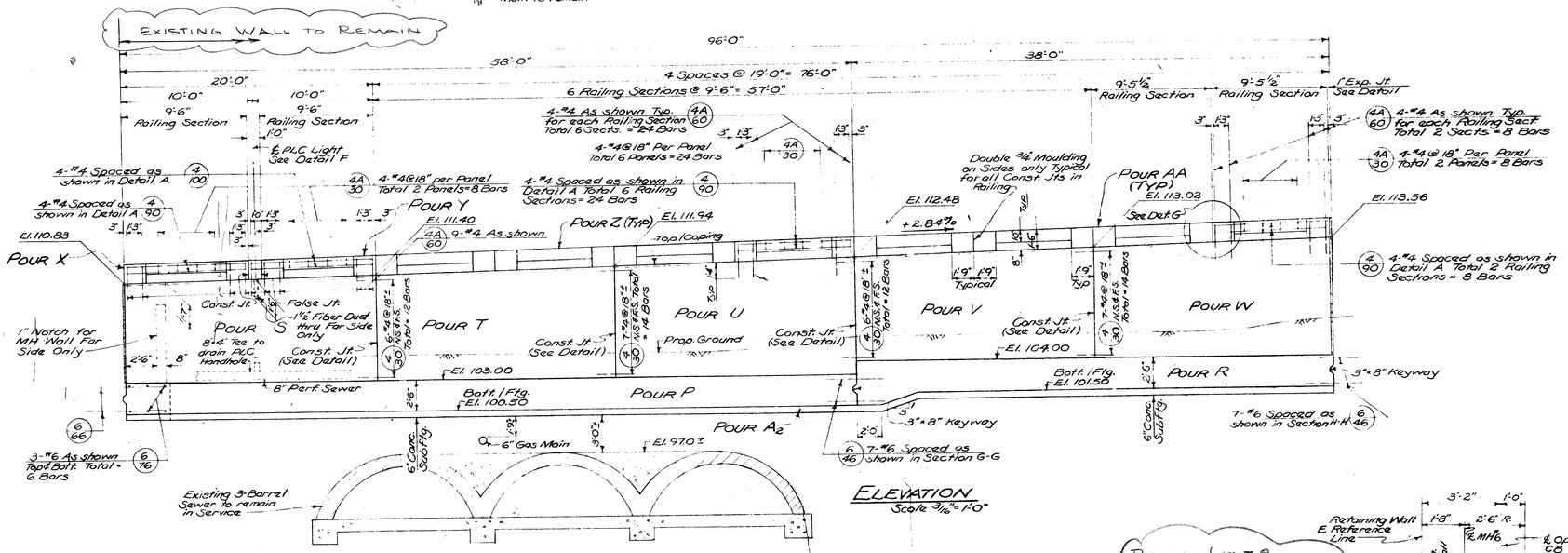
JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA

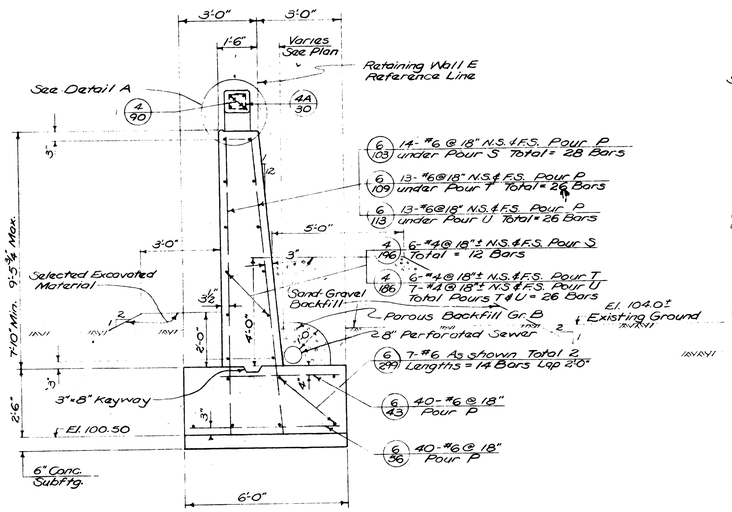
RAMP - REFERENCE DRAWING
WALL E DETAILS

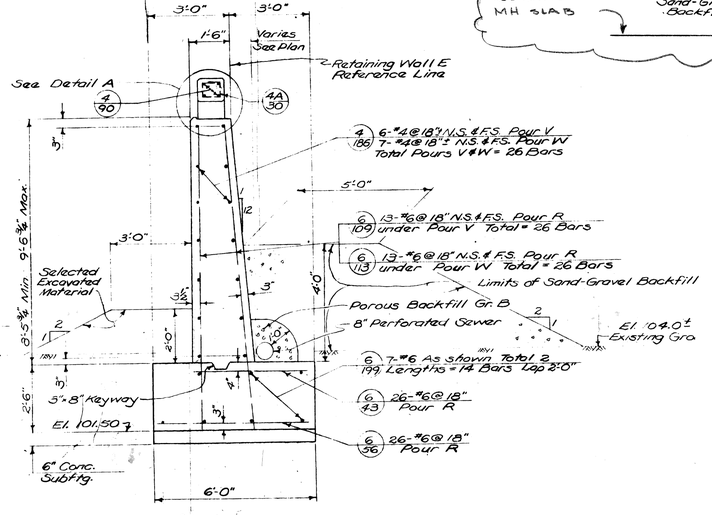
SHEET ____ OF ____ SHEETS
CONTRACT NO. 16563A
DRWG NO. SR-5
DATE AUG 1979

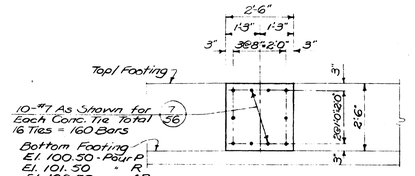
TSR 200 1-79 65000

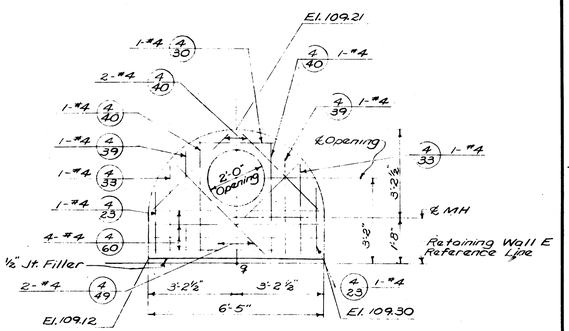




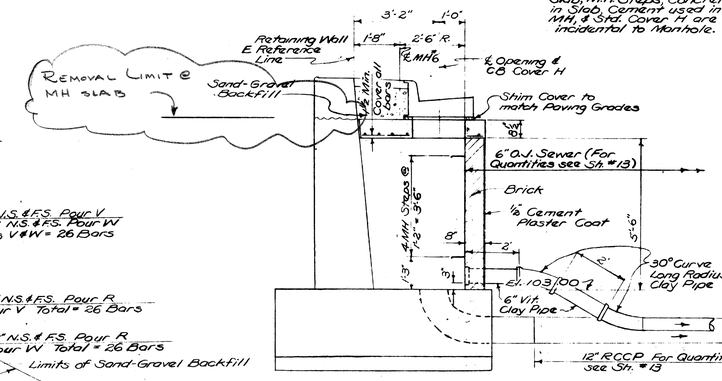


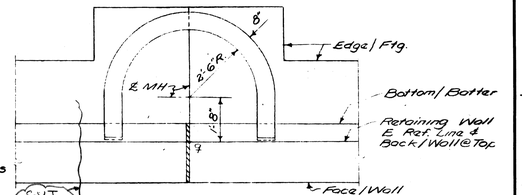






Note:
Reinforcing bars in M.H. Slab, M.H. Steps, Concrete in Slab, Cement used in MH, & Std. Cover H are incidental to Manhole.





DETAILS OF MANHOLE #6

JOHN C. LODGE EXPRESSWAY
CIVIC CENTER AREA
RETAINING WALL E DETAILS (Cont'd)

REFERENCE DRAWINGS	DESIGNED BY	APPROVED:	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD
	DRAWN BY		JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA
	TRACED BY		RAMP - REFERENCE DRAWING WALL E DETAILS
COOR'D / DESCRIPTION / DR'N / CK'D / AP'VD / DATE	CHECKED BY J.M. R.K.K.		SHEET ____ OF ____ SHEETS CONTRACT NO. 16563A DR'WG NO. SR-60 DATE AUG 1979

REVISIONS LOCATED BY COORDINATES ON SHEET

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11