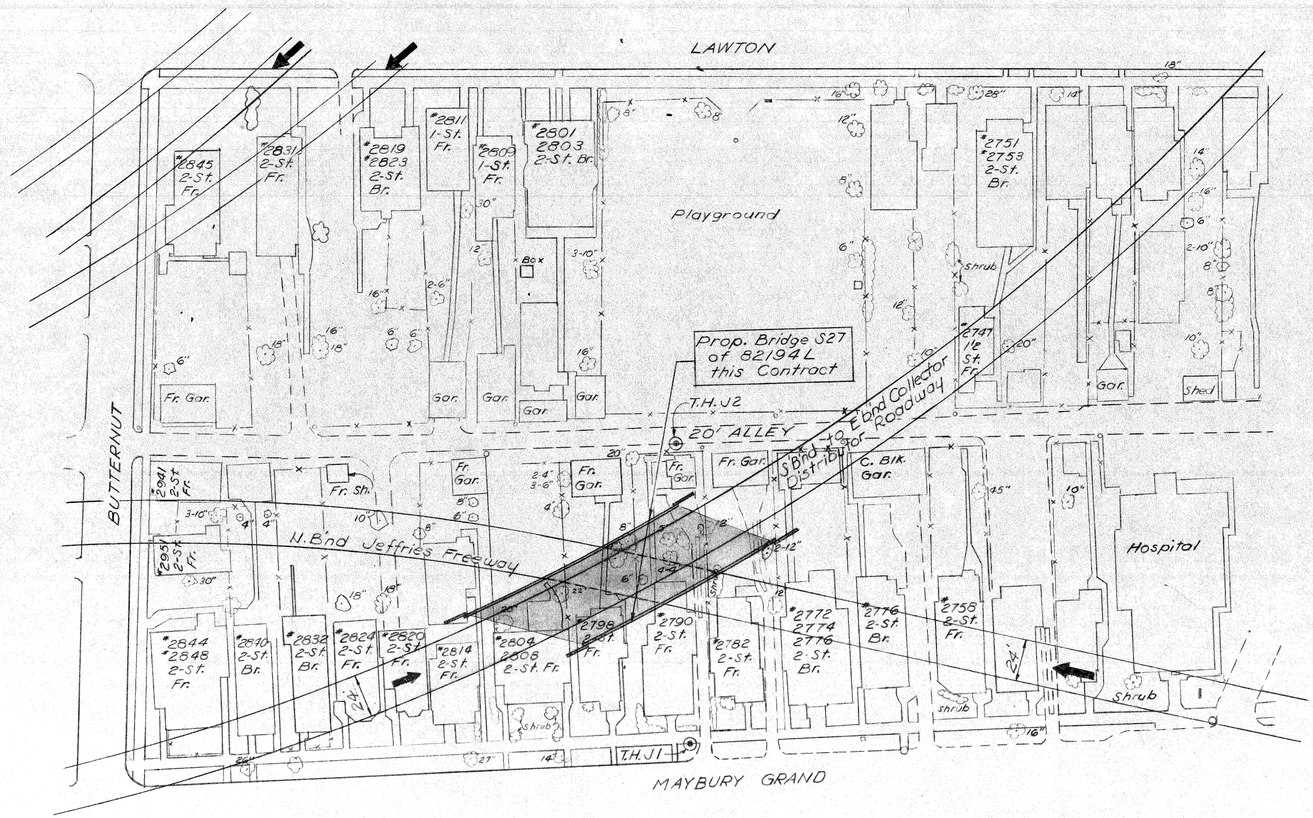


SURVEY PLAN

Scale : 1"=40'

UTILITY LEGEND

- Sewer Inlet or Catchbasin
- Sewer Manhole
- Water Gate Well & Valve
- P.L.C. Manhole
- Det. Edison Co. Manhole
- M.B.T. Manhole
- D.F.D. Manhole
- D.S.R. Pole
- M.B.T. Pole
- Traffic Signal
- D.F.D. Alarm Box
- Fire Hydrant
- D.E. Pole
- P.L.C. Lightpole
- Police Box
- Traffic Signal Box
- D.E. Manhole (Steam)
- Test Hole for Soil Profile
- 8" Tree
- —x—x— Fence
- Sign

GENERAL NOTES

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

Bench Marks are referenced to City of Detroit Datum.

The work covered by these plans includes construction of the proposed bridge and placing sand gravel material and Slope Protection to the limits shown.

All other work is included in the Road Plans which are a part of this contract.

Removal of Fences and Buildings is not 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.

Work this sheet with sheets No. 2 thru 6.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR
CROSSING THE N'BND. JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF SITE

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN - CONSULTANTS

SQUAD BOSS	Freitag	2/66
DRAWN BY	J.A.S.	2/66
TRACED BY	J.A.S.	2/66
CHECKED BY	E Nolan	2/66

SHT 1 OF 6

S27 of 82194L

LOG OF SOIL BORINGS

T.H. J1

El. 594.67 Bottom of Ftg - Abut. A

598.9

* N= 1-3-3 S= 1152 — Topsoil

Medium varicolored sandy clay. Trace of gravel.

590

* N=3-3-4 S= 790

El. 583.33 Bott. of Ftg. - Pier #1

S=230

580

S=290

S=260

570

Medium gray sandy (fine) clay.

S=205

S=410

560

S=375

S=405

550

S=345

End of Boring

Water level at 5.9' below T.H. Elevation 1/2 hour after completion.

* Core Sampler driven 6"-6"-6"

T.H. J2

600.6

600

El. 595.58 Bott. of Ftg - Abut. B — * N= 2-3-4 — Fill, cinders and concrete.

Stiff brown sandy clay.

Firm brown fine medium sand.

Medium varicolored firm sandy clay.

* N=4-5-6 S=1008

590

Medium varicolored sandy clay. Trace of gravel.

S=725

El. 583.75 Bott. of Ftg - Pier # 2

580

S=420

S=375

570

Medium gray sandy clay. Trace of gravel.

S=410

S=315

S=345

560

S=350

550

S=175 N=2

N=2

540

N=4

530

N=4 S=410

N=4

520

Soft gray sandy clay. Trace of gravel. Sand partings.

S=330 N=5

510

S=110 N=5

500

S=580 N=9

490

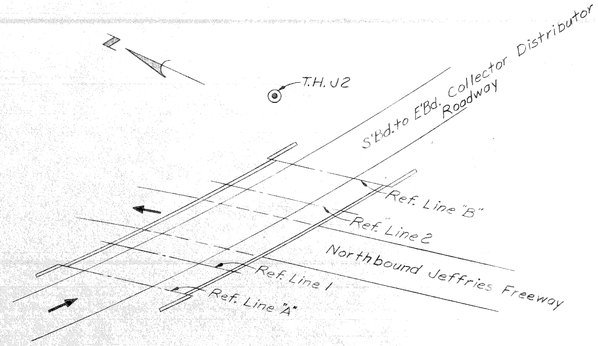
Medium gray very sandy clay. Some gravel. Hardpan.

480

End of Boring

Water level at 7.5' below T.H. Elevation 1/2 hour after completion.

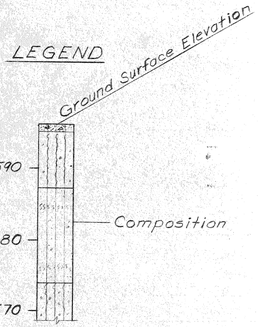
* Core Sampler driven 6"-6"-6"

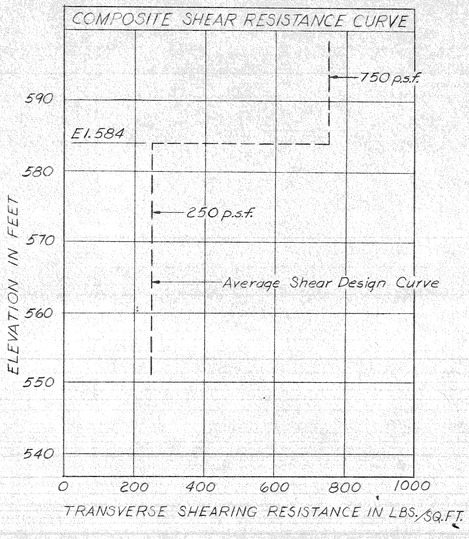


SOIL BORING LOCATION SKETCH

No Scale

LEGEND





NOTES:

N Indicates the number of blows required to drive core sampler 12" (or as noted) using a 140 lb. hammer falling 30". Where blow count is not shown, sampler was either pushed, hand driven or levered.

S Indicates Transverse Shearing Resistance in lbs. per sq. ft. as determined by M.S.H.D. Standard Test.

All elevations are based on W.C.R.C. precise datum. To obtain elevations based on City of Detroit Datum subtract 479.76.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR
CROSSING THE N'BND. JEFFRIES FREEWAY IN DETROIT

LOG OF SOIL BORINGS

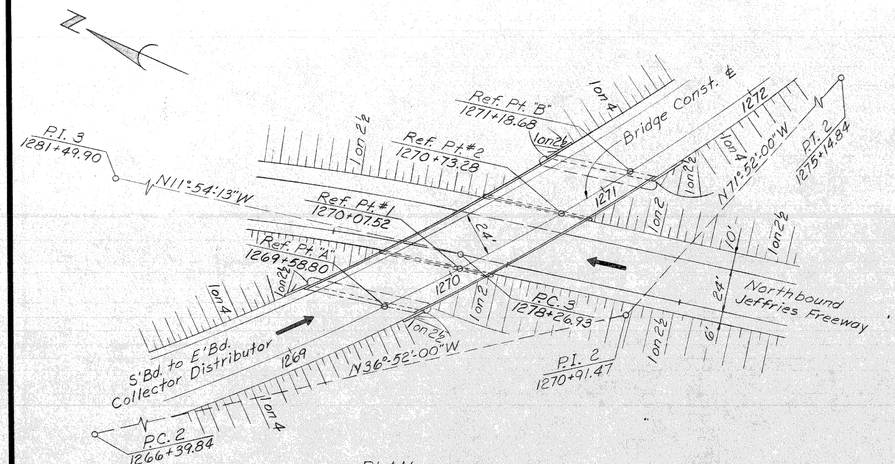
APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN - CONSULTANTS

CITY OF DETROIT

SQUAD BOSS	A. Freiberg	4-66
DRAWN BY	D. Romes	2-66
TRACED BY		
CHECKED BY	A. Freiberg	4-66
SHEET	2 OF 6	

S27 of 82194L



PLAN
Scale: 1"=40'

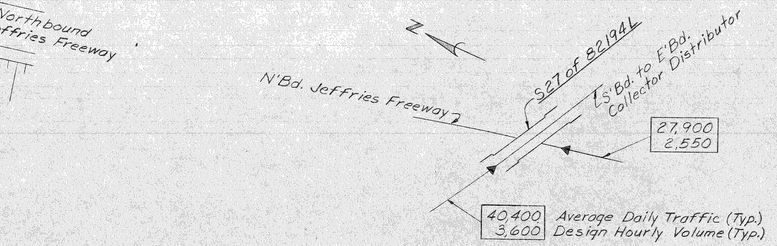
CURVE DATA

S'Bd. to E'Bd. Collector Distributor - Curve 2

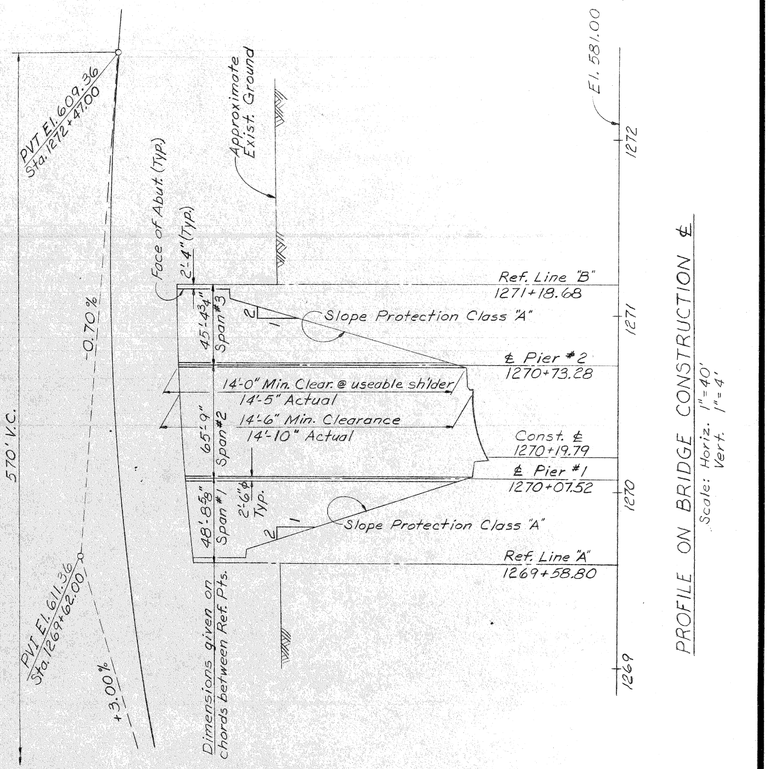
Δ = 35°00'00"
D = 4°00'00"
R = 1432.39'
T = 451.63'
L = 875.00'
E = 69.51'
PC = 1266+39.84
PI = 1270+91.47
PT = 1275+14.84
Rate of Superelevation
r = 0.05'/' on Bridge

N'Bd. Jeffries Freeway Curve 3

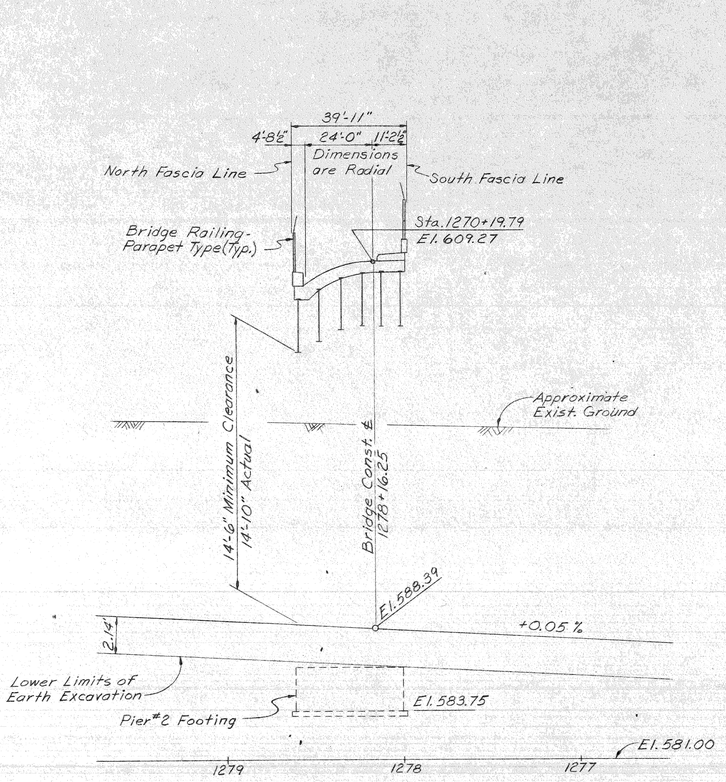
Δ = 29°58'43"
D = 4°45'00"
R = 1206.23'
T = 322.97'
L = 631.13'
E = 42.49'
PC = 1278+26.93
PI = 1281+49.90
PT = 1284+58.06
Rate of Superelevation
r = 0.06'/' max.



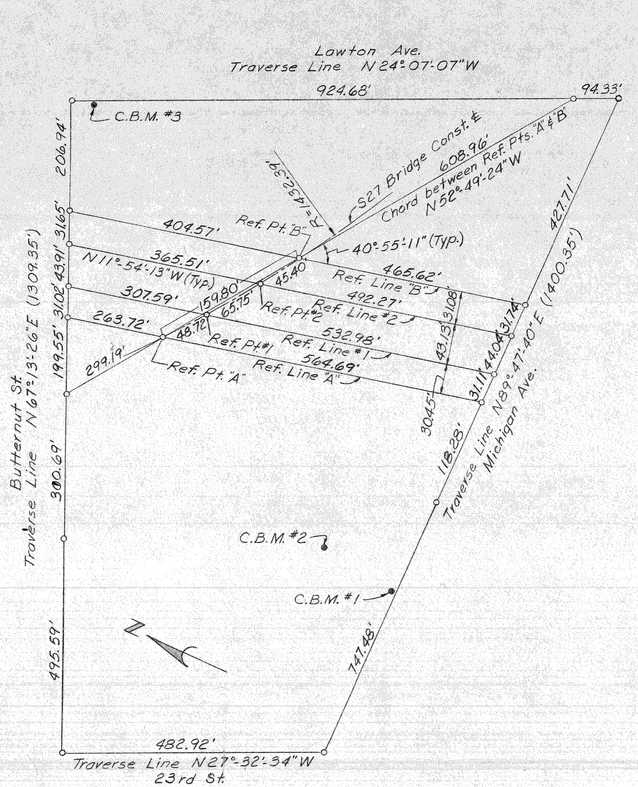
TRAFFIC COUNTS
Estimated Traffic - 1990



PROFILE ON BRIDGE CONSTRUCTION ℄
Scale: Horiz. 1"=40'
Vert. 1"=4'



PROFILE ON N'BD. JEFFRIES FREEWAY
Scale: Horiz. 1"=40'
Vert. 1"=4'



ALIGNMENT DIAGRAM
No Scale

Work this sheet with sheet No. 4

CONSTRUCTION BENCH MARKS

C.B.M. #1 Arrow on hydrant. N.E. corner Michigan and Tillman. Elevation 121.75.*
C.B.M. #2 Arrow on hydrant. W. side of Williams, 345' S. of Butternut. Elevation 121.49.*
C.B.M. #3 Arrow on hydrant. N.E. corner Lawton and Butternut. Elevation 123.08.*

Notes:

C.B.M. Denotes construction bench mark.
o Denotes Reference Point or point of intersection.

* C.B.M. El's. are based on City of Detroit Datum. To obtain elevations based on W.C.R.C. precise datum add 479.755.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR CROSSING THE N'BND. JEFFRIES FREEWAY IN DETROIT

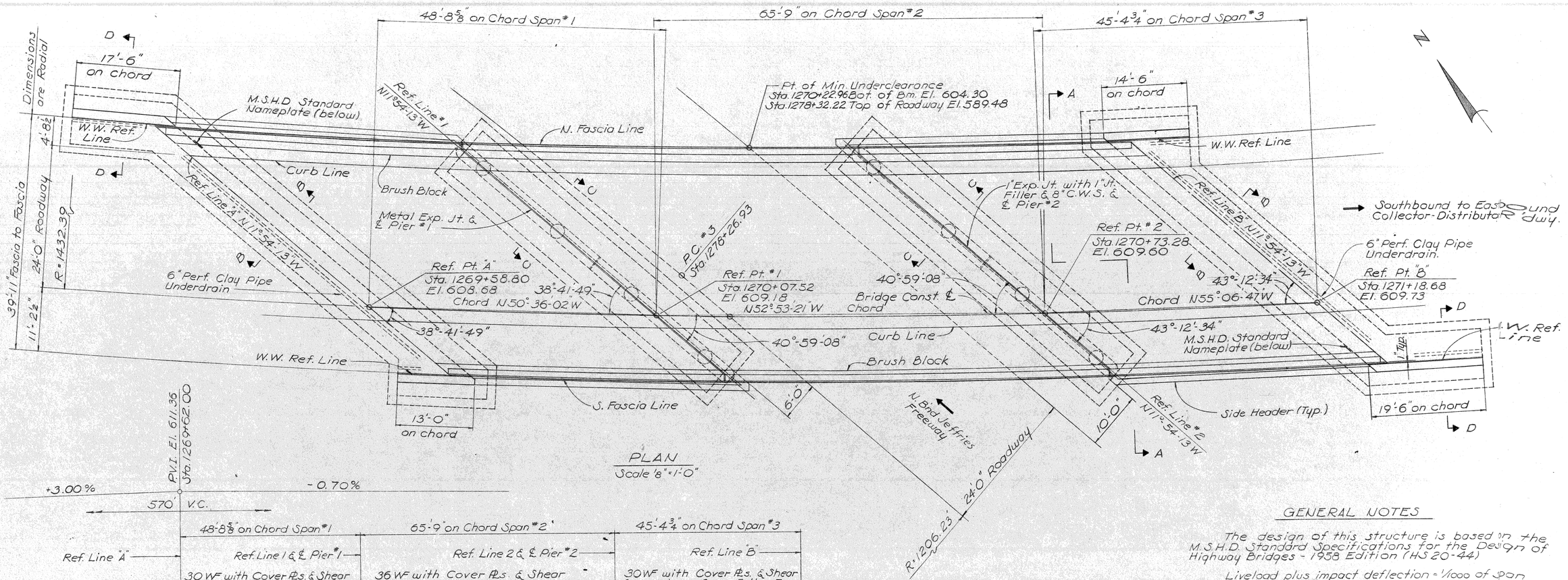
GENERAL DRAWING

SQUAD BC'S	Afriberg	4-6
DRAWN BY	D. Romes	2-61
TRACED BY		
CHECKED BY	Afriberg	4-6
SHEET	3 OF 6	

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN - CONSULTANTS

S27 of 82194



PLAN
Scale 1/8" = 1'-0"

ELEVATION
Scale 1/8" = 1'-0"

GENERAL NOTES

The design of this structure is based on the M.S.H.D. Standard Specifications for the Design of Highway Bridges - 1958 Edition (HS 20-44)

Liveload plus impact deflection = 1/1000 of span length.

Top of roadway slab and tops of curbs are parallel to the vertical curve.

Tamped Clay is incidental to unclassified excavation.

Grouted Rip-Rap shall not be used for Slope Protection - Class A.

For details of Slope Protection Class A, see Standard Sheet SP2.

This structure is on a horizontal curve. The fascia lines & curb lines are parallel to the curve. Rate of superelevation is a constant 0.05 ft. per ft.

Work this sheet with sheet Nos. 3, 5 & 6

MISCELLANEOUS QUANTITIES

Item	Amount	Unit
Slope Protection - Class A		Sq. Yds.
Sand-Gravel Material		Cu. Yds.

FOOTING PRESSURE p.s.f.

	Average D.L.	Allowable R=1.0	Maximum D.L+L.L.	Allowable R=1.5
Abutments	1700	5700	2600	8150
Piers	1750	2500	2300	3400
Wingwalls	1600	5700	3350	8150

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR CROSSING THE N'BND. JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

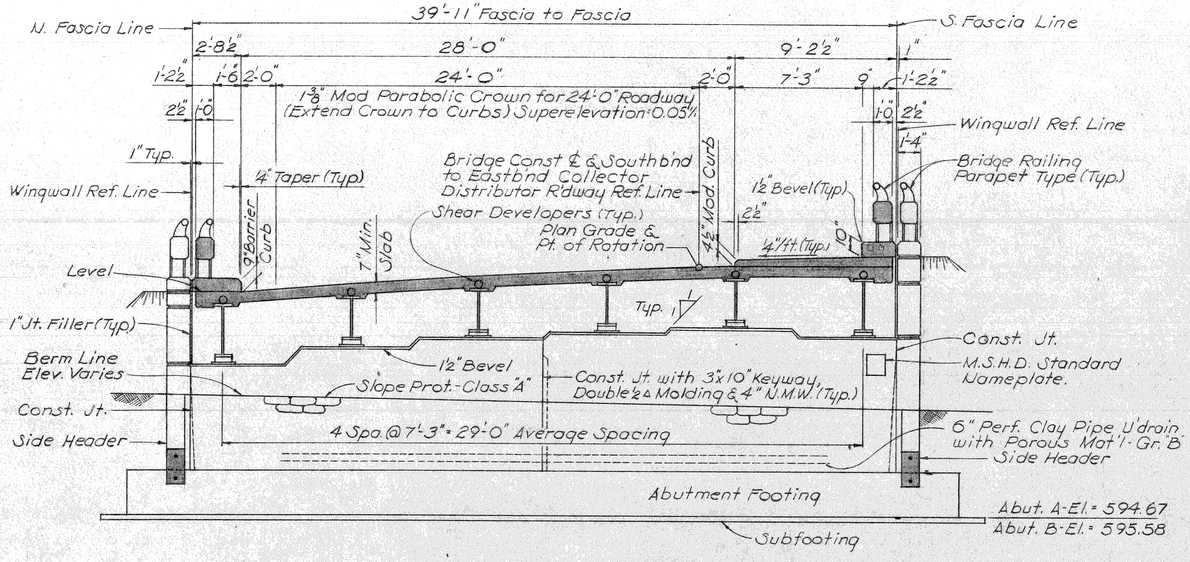
CITY OF DETROIT

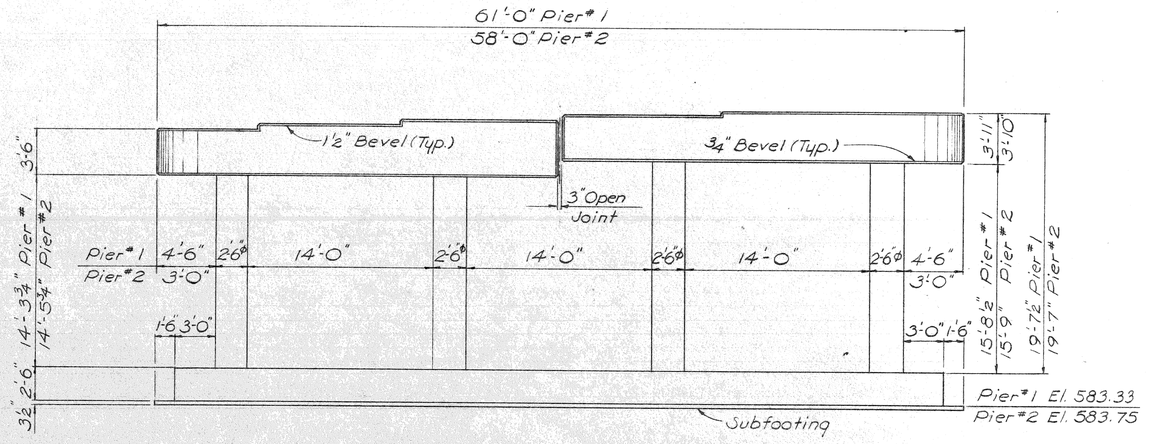
SQUAD BOSS	A. Freiberg	4-66
DRAWN BY	Roberts	3.66
TRACED BY	Roberts	3.66
CHECKED BY	A. Freiberg	4-66
SHEET	4 OF	0

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN - CONSULTANTS

S27 of 82194L

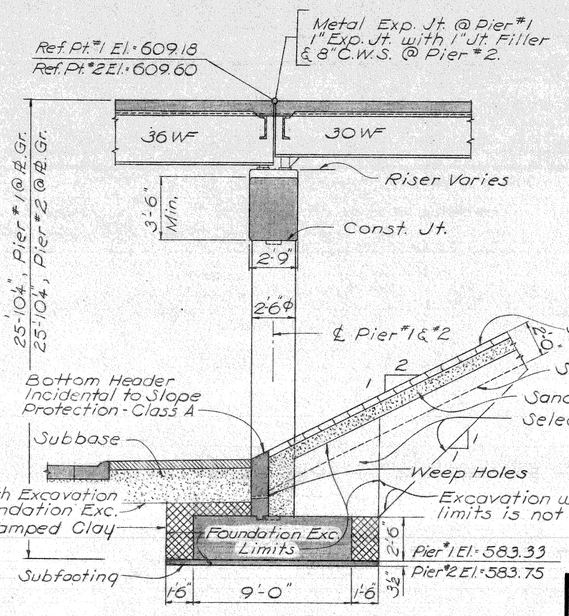




ELEVATION PIER #1 & #2
Scale 3/16" = 1'-0"

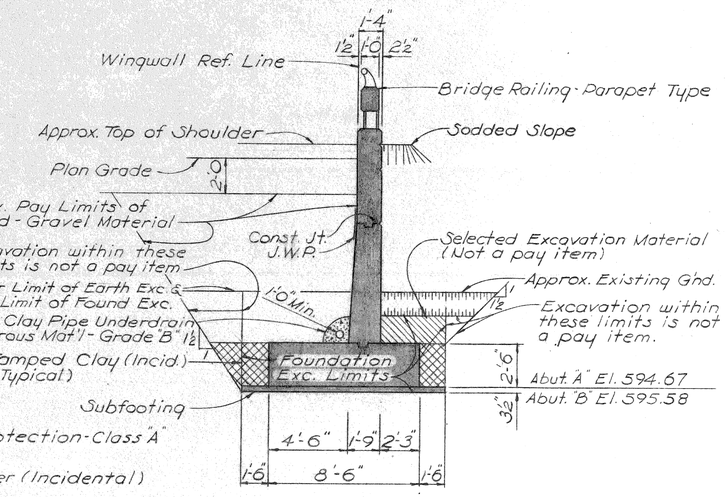
Note:
All dimensions are Radial to Bridge Const. ℄.

SECTION A-A
Scale 4" = 1'-0"



SECTION C-C
Scale 4" = 1'-0"

SECTION B-B
Scale 4" = 1'-0"



SECTION D-D
Scale 4" = 1'-0"

Work this sheet with Sheet No. 4

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR
CROSSING THE N'BND. JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

APPROVED _____ DESIGN SUPERVISING ENGINEER

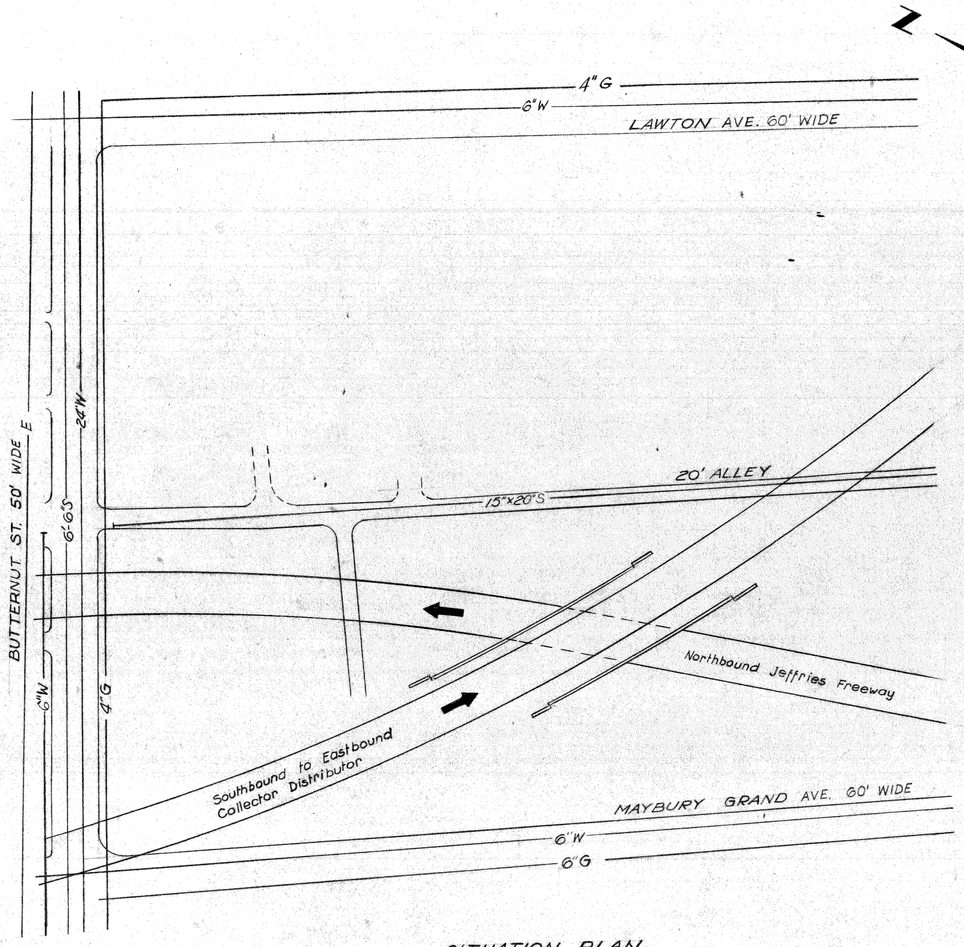
APPROVED _____ ENGINEER OF DESIGN – CONSULTANTS

CITY OF DETROIT

SQUAD BOSS	A. Freiberg	4-66
DRAWN BY	Roberts	3/66
TRACED BY	Roberts	3/66
CHECKED BY	A. Freiberg	4-66

SHEET 5 OF 6

S27 of 82194L



SITUATION PLAN
Scale: 1"=40'

LEGEND

UTILITY	DESIGNATION: EXISTING	DELETE OR ABANDON	NEW WORK BY OTHERS	NEW WORK BY CONTRACTOR
PUBLIC LIGHTING COMM.	—L—			
DETROIT WATER DEPT.	—W—			
EXPWY. & CITY OF DETROIT SEWERS	—S—			
MICH. CONSOL. GAS CO.	—G—			
MICH. BELL TELEPHONE CO.	—T—			
DETROIT EDISON CO.	—E—			
DETROIT FIRE DEPT.	—F—			

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 1002 (46)

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR
CROSSING THE N'BND. JEFFRIES FREEWAY IN DETROIT

EXISTING UTILITIES AND PROPOSED ALTERATIONS

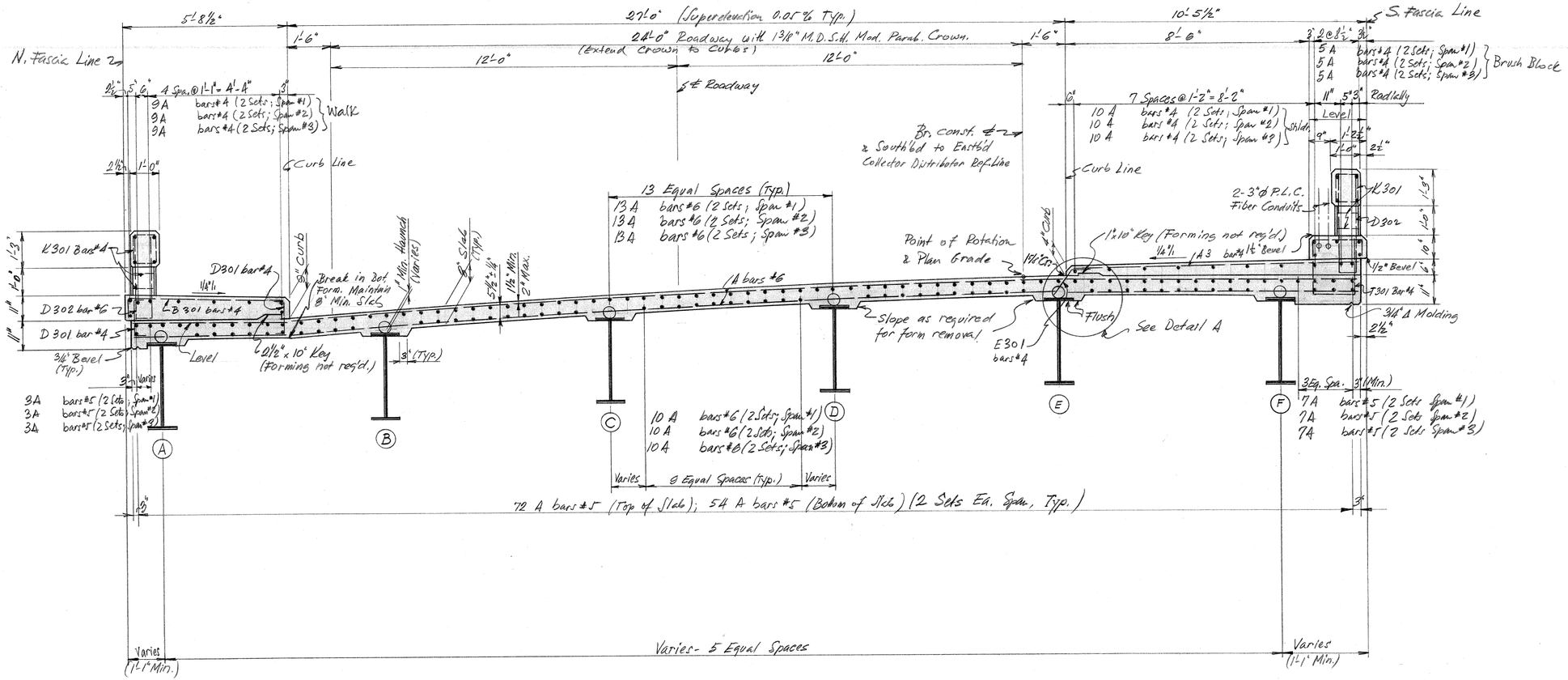
REVISIONS

NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT

SQUAD BOSS	A. Fitzberg	4-66
DRAWN BY	F.A.S.	3/66
TRACED BY	F.A.S.	3/66
CHECKED BY	G. Molnar	4-66
SHEET	5 OF 5	

S27 of 82194L



#6 @ 7" Main
#5 @ 1' Distr. } Steel

S27
CROSS SECTION

G.Z.M. 11/2/67.

LOG OF SOIL BORINGS

T.H. J1

119.1 (City Datum)
598.9 (W.C.R.C. Datum)

El. 594.67 Bottom of Ftg - Abut. A

* N= 1-3-3 / S= 1152

* N=3-3-4 / S= 790

El. 583.33 Bott. of Ftg. - Pier #1

S=230
S=290
S=260
S=205
S=410
S=375
S=405
S=345

590
580
570
560
550

Topsoil

Medium varicolored sandy clay. Trace of gravel.

Medium gray sandy (fine) clay.

End of Boring

Water level at 5.9' below T.H. Elevation 1/2 hour after completion.

* Core Sampler driven 6"-6"-6"

T.H. J2

120.8 (City Datum)
600.6' (W.C.R.C. Datum)

El. 595.58 Bott. of Ftg - Abut. B

* N=2-3-4

* N=4-5-6 / S=1008

El. 583.75 Bott. of Ftg - Pier # 2

S=725
S=420
S=375
S=410
S=315
S=345
S=350
S=175 / N=2
N=2
N=4
N=4 / S=410
N=4
S=330 / N=5
S=110 / N=5
S=580 / N=9

600
590
580
570
560
550
540
530
520
510
500
490
480

Fill, cinders and concrete.
Stiff brown sandy clay.
Firm brown fine medium sand.
Medium varicolored firm sandy clay.
Medium varicolored sandy clay. Trace of gravel.

Medium gray sandy clay. Trace of gravel.

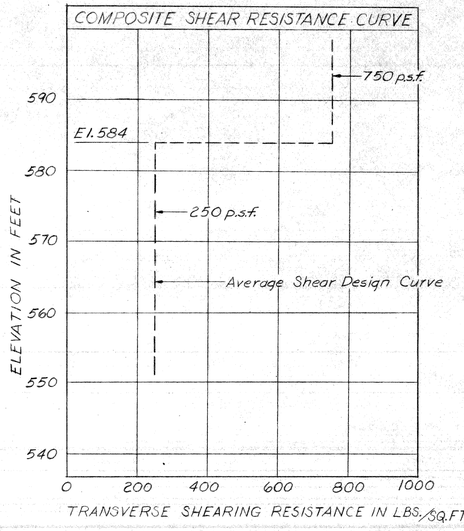
Soft gray sandy clay. Trace of gravel. Sand partings.

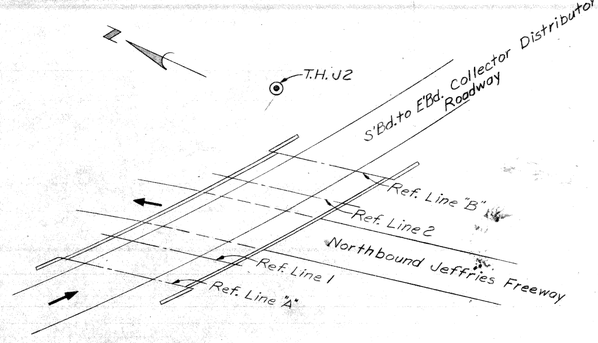
Medium gray very sandy clay. Some gravel. Hardpan.
End of Boring

Water level at 7.5' below T.H. Elevation 1/2 hour after completion.

* Core Sampler driven 6"-6"-6"

COMPOSITE SHEAR RESISTANCE CURVE

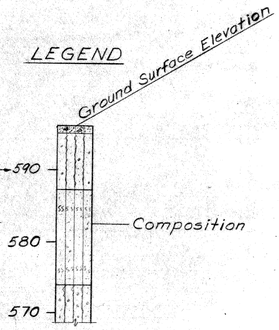




SOIL BORING LOCATION SKETCH

No Scale

LEGEND



NOTES

Consistency classification shown in the boring logs is by the Raymond Concrete Pile Company.

N Indicates the number of blows required to drive core sampler 12" (or as noted) using a 140 lb. hammer falling 30". Where blow count is not shown, sampler was either pushed, hand driven or levered.

S Indicates Transverse Shearing Resistance in lbs. per sq. ft. as determined by M.S.H.D. Standard Test.

All elevations are based on U.S.C.G.S. precise datum. To obtain elevations based on City of Detroit Datum subtract 479.76.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR
OVER THE N'BND. JEFFRIES FREEWAY IN DETROIT

LOG OF SOIL BORINGS

CITY OF DETROIT

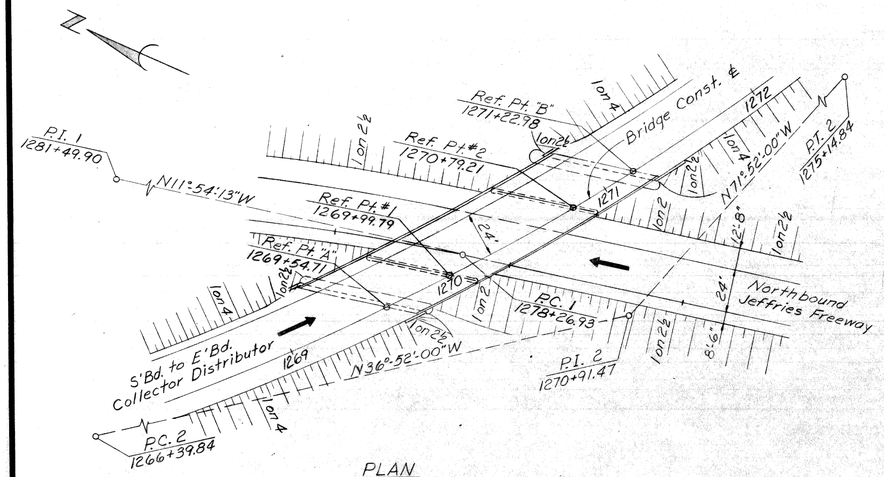
SQUAD BOSS	A. Freiberg	4-66
DRAWN BY	D. Romeo	2-66
TRACED BY	—	—
CHECKED BY	A. Freiberg	4-66

SHEET 3 OF 23

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN – CONSULTANTS

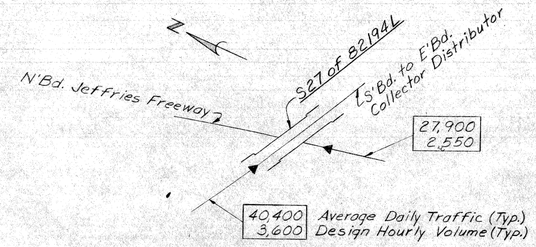
S27 of 82194L



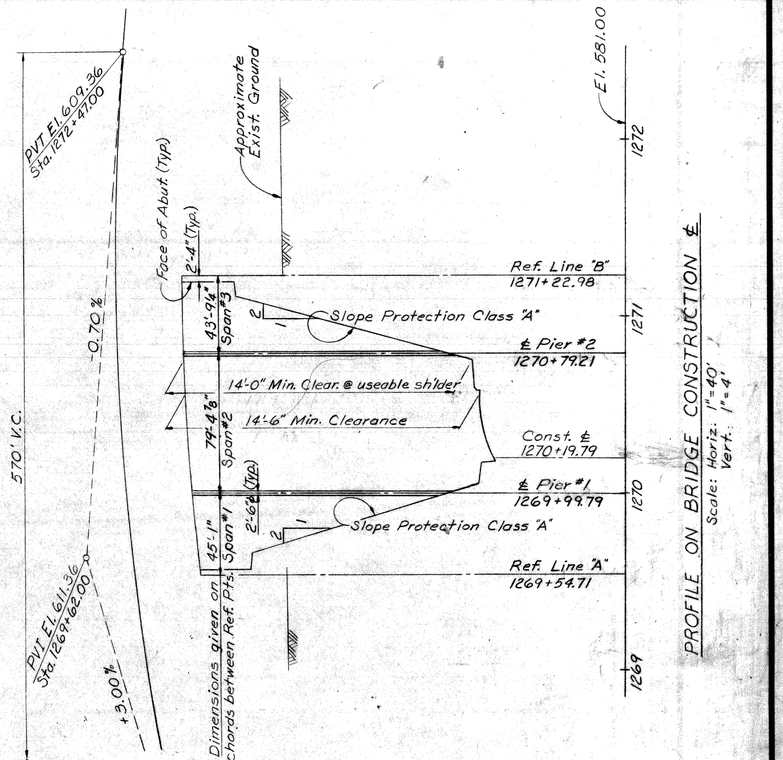
PLAN
Scale: 1"=40'

CURVE DATA

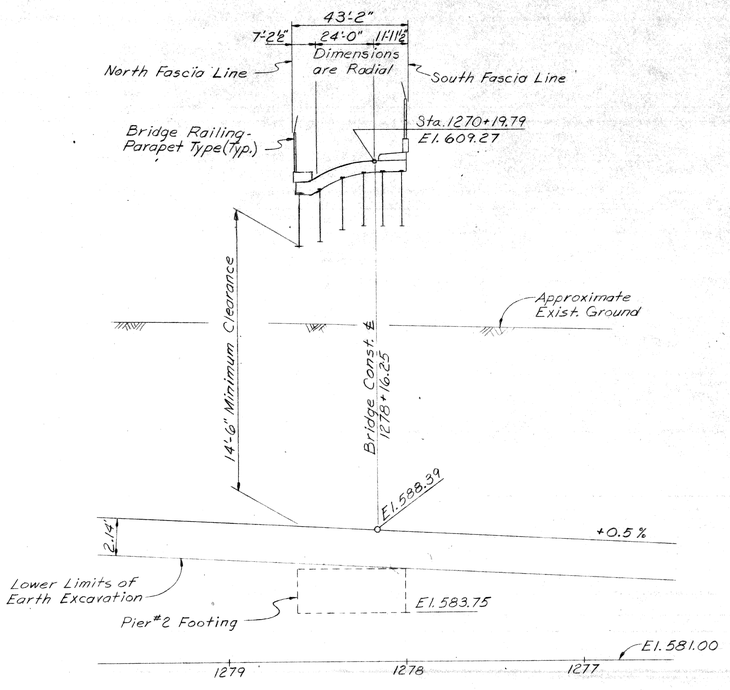
S'Bd. to E'Bd. Collector Distributor - Curve 2	N'Bd. Jeffries Freeway Curve 1
Δ = 35°-00'-00"	Δ = 29°-58'-43"
D = 4°-00'-00"	D = 4°-45'-00"
R = 1432.39'	R = 1206.23'
T = 451.63'	T = 322.97'
L = 875.00'	L = 631.13'
E = 69.51'	E = 42.49'
PC = 1266+39.84	PC = 1278+26.93
PI = 1270+91.47	PI = 1281+49.90
PT = 1275+14.84	PT = 1284+58.06
Rate of Superelevation r = 0.05'/' on Bridge	Rate of Superelevation r = 0.06'/' max.



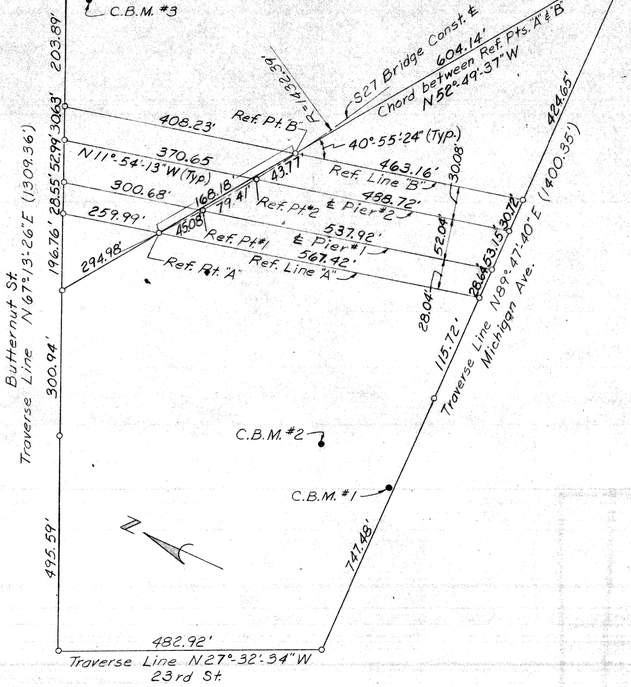
TRAFFIC COUNTS
Estimated Traffic - 1990



PROFILE ON BRIDGE CONSTRUCTION ℄
Scale: Horiz. 1"=40'
Vert. 1"=4'



PROFILE ON N'BD. JEFFRIES FREEWAY
Scale: Horiz. 1"=40'
Vert. 1"=4'



ALIGNMENT DIAGRAM
No Scale

CONSTRUCTION BENCH MARKS

C.B.M. #1 DET. on flange of hyd. N.E. corner Michigan and Tillman. Elevation 121.75.*

C.B.M. #2 Arrow on hydrant. W. side of Williams, 345' S. of Butternut. Elevation 121.49.*

C.B.M. #3 Arrow on hydrant. N.E. corner Lawton and Butternut. Elevation 123.08.*

Notes:

C.B.M. Denotes construction bench mark.

o Denotes Reference Point or point of intersection.

* C.B.M. Els. are based on City of Detroit Datum. To obtain elevations based on U.S.C.G.S. precise datum add 479.755.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR OVER THE N'BND. JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

CITY OF DETROIT

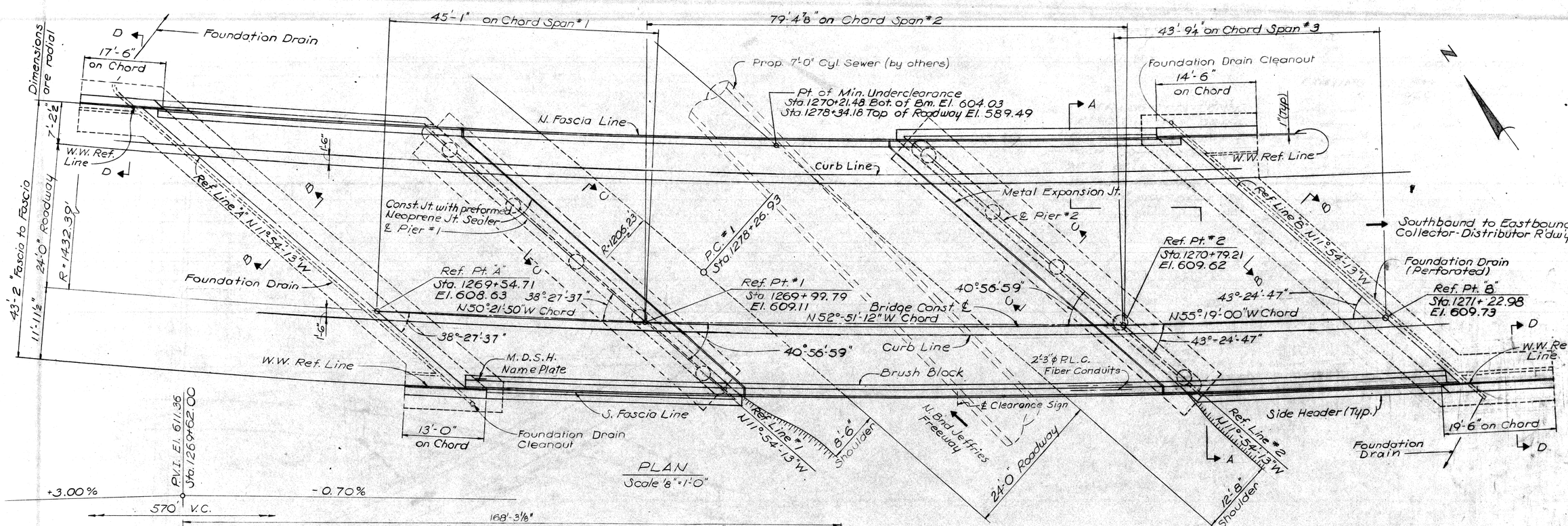
SQUAD BOSS	A. Freiberg	4-66
DRAWN BY	D. Romez	2-66
TRACED BY	—	—
CHECKED BY	A. Freiberg	4-66

SHEET 4 OF 25

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN - CONSULTANTS

S27 of 82194L



MISCELLANEOUS QUANTITIES		
Item	Amount	Unit
Slope Protection - Class A	430	Sq. Yds.
Slope Protection Header	175	Lin. Ft.
Foundation Drain	196	Lin. Ft.

GENERAL NOTES

The design of this structure is based on the M.S.H.D. Standard Specifications for the Design of Highway Bridges - 1958 Edition and current AASHO Standard Specifications for Highway Bridges HS20-44

Liveload plus impact deflection = 1/1000 of Span Length and 1/350 of Cantilever Arm.

Top of roadway slab and tops of curbs are parallel to the vertical curve.

Tamped Clay is incidental to unclassified excavation.

For details of Slope Protection Class A, see Standard Sheet SP 2.

This structure is on a horizontal curve. The fascia lines & curb lines are parallel to the curve. Rate of superelevation is a constant 0.05 ft. per ft. for the 24' Roadway. See Section A-A for Details.

Granular Material Class III is billed in Road Plans.
Estimated Amount is 1280 Cu. Yds. Abutments.
90 Cu. Yds. Slope Protection.

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CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR OVER THE N'BND. JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

CITY OF DETROIT

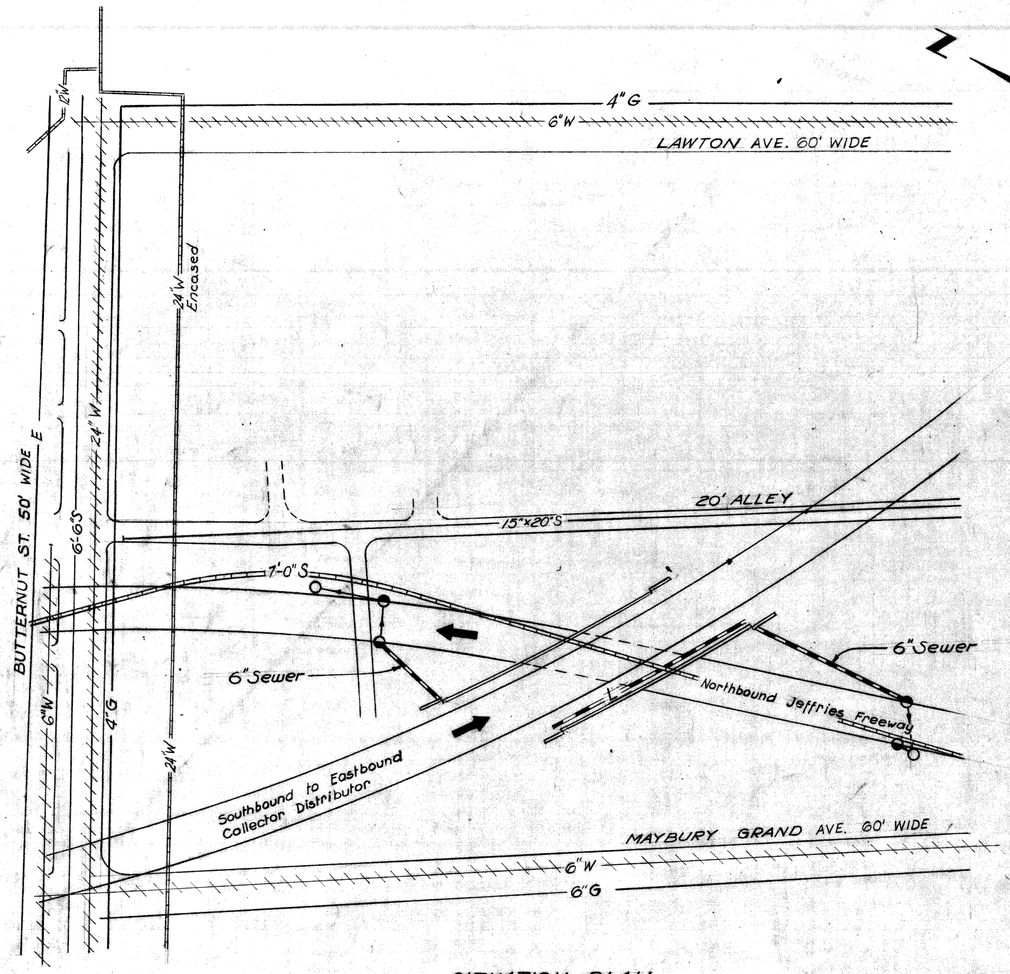
SQUAD BOSS	A. Freiberg	4-66
DRAWN BY	Roberts	3/66
TRACED BY	Roberts	3/66
CHECKED BY	A. Freiberg	4-66

SHEET 5 OF 25

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN – CONSULTANTS

S27 of 82194L



SITUATION PLAN

Scale: 1"=40'

LEGEND

UTILITY	EXISTING	DELETE OR ABANDON	NEW WORK BY OTHERS	NEW WORK BY CONTRACTOR
	DESIGNATION			
PUBLIC LIGHTING COMM.	—L—			L
DETROIT WATER DEPT.	—W—	W	W	
EXPWY. & CITY OF DETROIT SEWERS	—S—		S	S
MICH. CONSOL. GAS CO.	—G—			
MICH. BELL TELEPHONE CO.	—T—			
DETROIT EDISON CO.	—E—			
DETROIT FIRE DEPT.	—F—			

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BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 1002 (46)

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR
OVER THE N'BND. JEFFRIES FREEWAY IN DETROIT

EXISTING UTILITIES AND PROPOSED ALTERATIONS

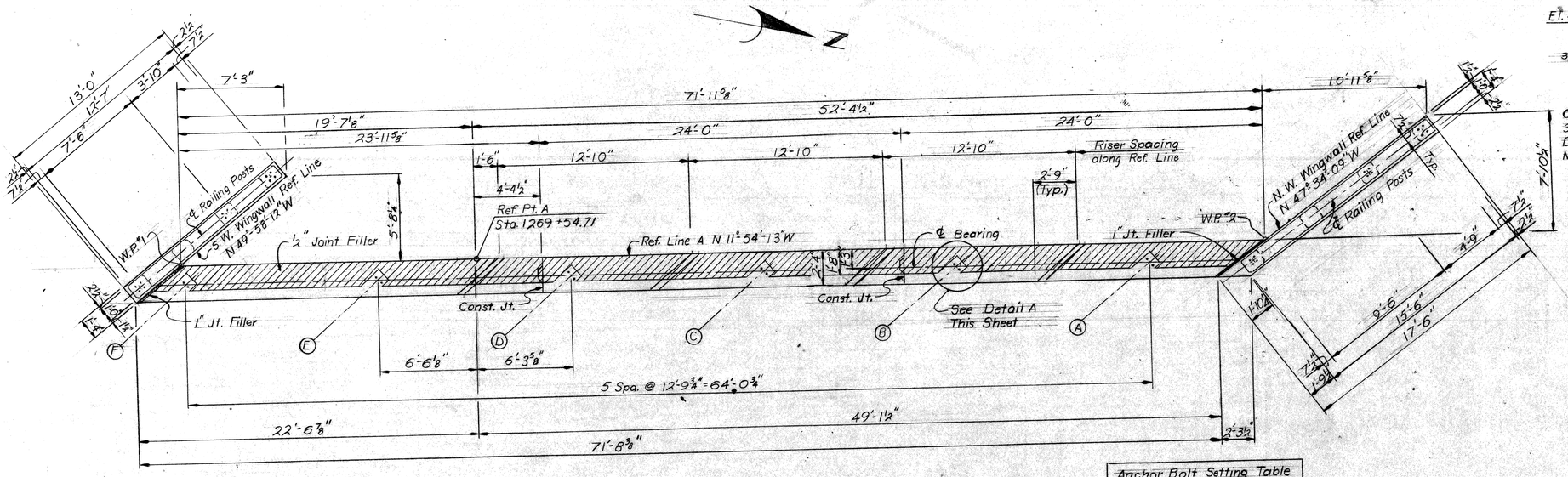
REVISIONS

NO.	DESCRIPTION	DATE	BY

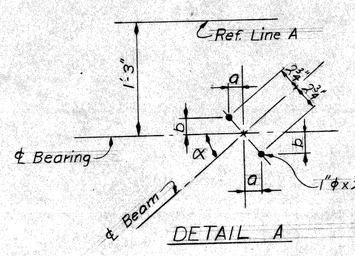
CITY OF DETROIT

SQUAD BOSS	A. Pic'berg	4-66
DRAWN BY	J.A.S.	3766
TRACED BY	J.A.S.	3766
CHECKED BY	G. Molnar	4-66
SHEET	7 OF 25	

S27 of 82194L

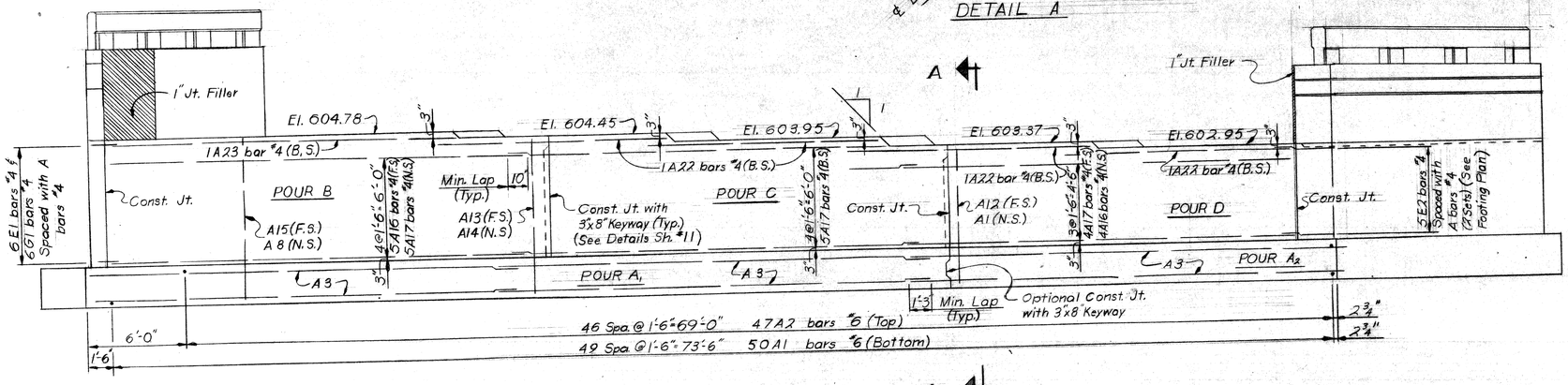


PLAN OF TOP

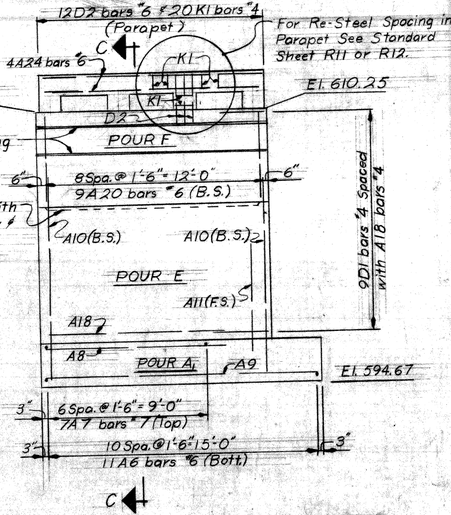


DETAIL A

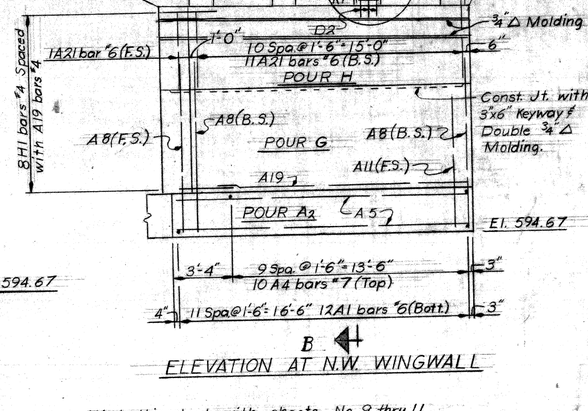
Anchor Bolt Setting Table				
Beam	Angle α	a	b	Proj
A	39°-24'-55"	1¾"	2'8"	4⅜"
B	39°-48'-16"	1¾"	2'8"	5½"
C	40°-12'-01"	1¾"	2'8"	5½"
D	40°-36'-10"	1 13/16"	2'6"	5⅝"
E	41°-00'-42"	1 13/16"	2'6"	5½"
F	41°-25'-39"	1 13/16"	2'6"	6¾"



ELEVATION



ELEVATION AT S.W. WINGWALL



ELEVATION AT N.W. WINGWALL

Work this sheet with sheets No. 9 thru 11.

PLANS PREPARED BY
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DEPARTMENT OF PUBLIC WORKS
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BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT A DETAILS

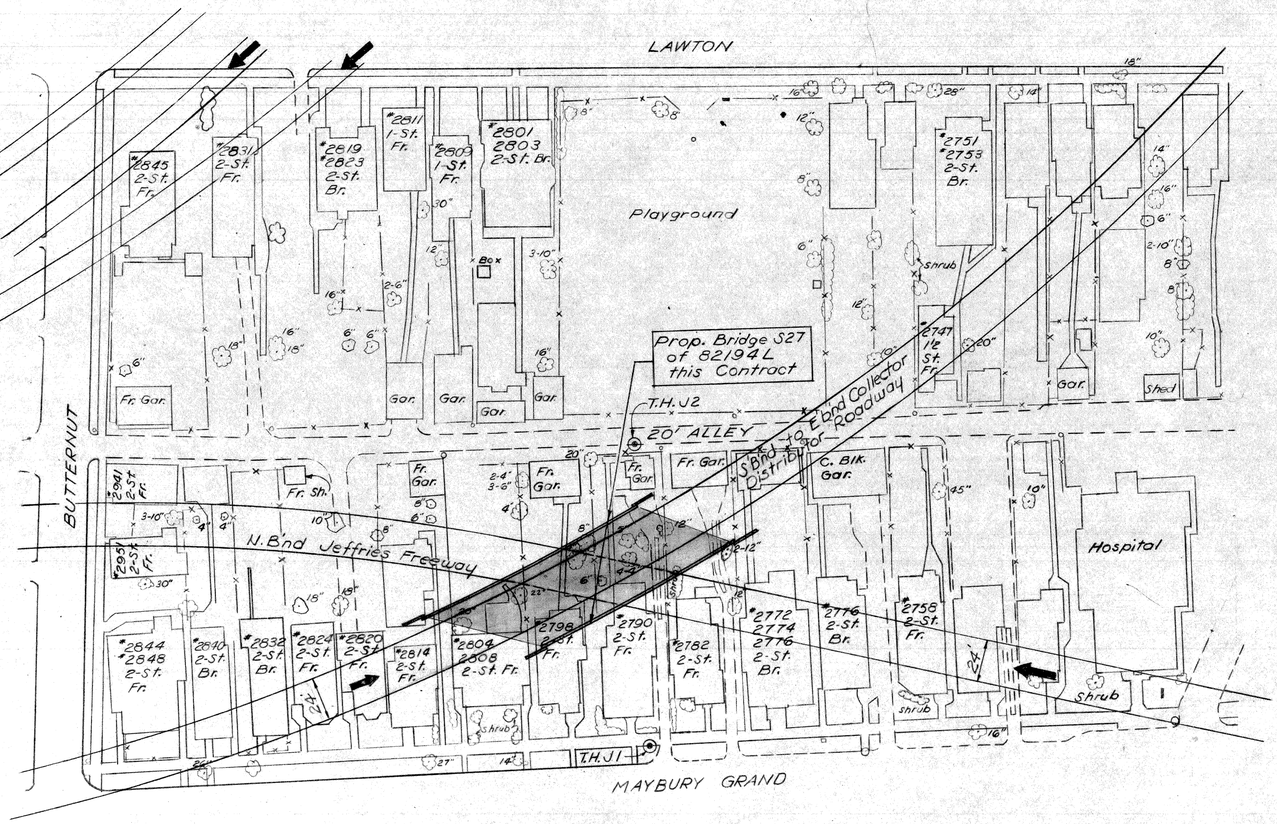
CITY OF DETROIT

SQUAD BOSS	S. Fuller	2-68
DRAWN BY	DJB	12-67
TRACED BY	L.G.	12-67
CHECKED BY	A. Freiberg	2-68
SHEET	8 of 25	

REVISIONS

NO.	DESCRIPTION	DATE	BY

S27 of 82194L



SURVEY PLAN

Scale : 1"=40'

UTILITY LEGEND

- Sewer Inlet or Catchbasin
- Sewer Manhole
- Water Gate Well & Valve
- P.L.C. Manhole
- Det. Edison Co. Manhole
- M.B.T. Manhole
- D.F.D. Manhole
- D.S.R. Pole
- M.B.T. Pole
- Traffic Signal
- D.F.D. Alarm Box
- Fire Hydrant
- D.E. Pole
- P.L.C. Lightpole
- Police Box
- Traffic Signal Box
- D.E. Manhole (Steam)
- Test Hole for Soil Profile
- 8" Tree
- Fence
- Sign

GENERAL NOTES

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

Bench Marks are referenced to City of Detroit Datum.

The work covered by these plans includes construction of the proposed bridge and placing Slope Protection to the limits shown.

All other work is included in the Road Plans which are a part of this contract.

Removal of Fences and Buildings is not 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 these utilities not requiring relocation will not be disturbed.

Unsuitable material under Abutments A & B shall be removed and backfilled with Granular Material Class III Compacted to 100% of its maximum unit weight.

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

PLANS PREPARED BY
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BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR
OVER THE N'BND. JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF SITE

CITY OF DETROIT

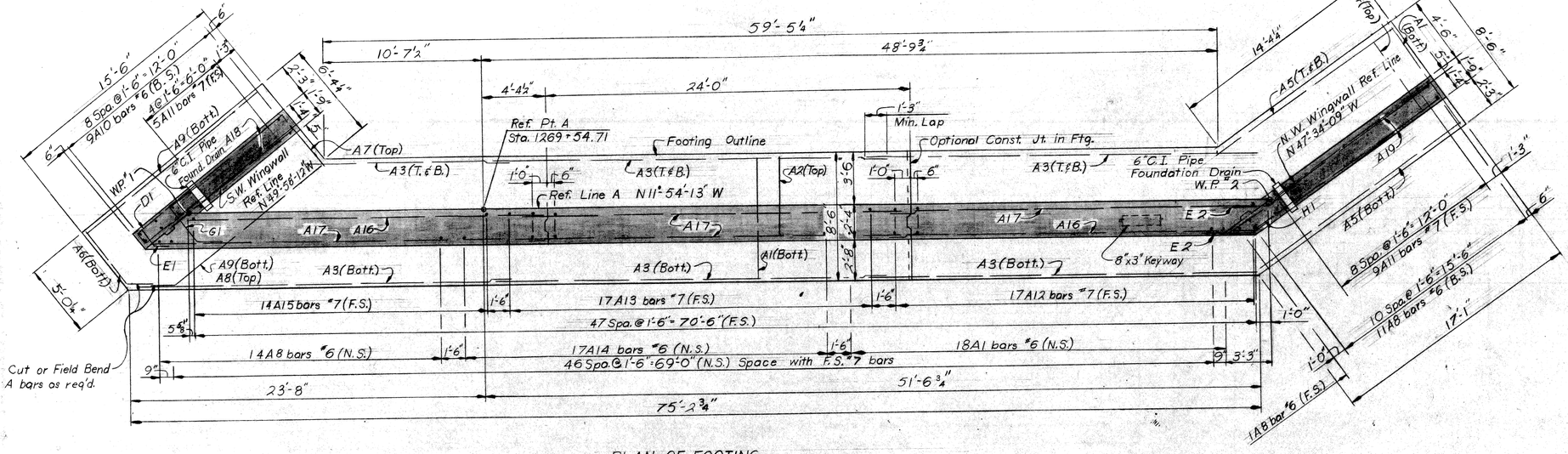
SQUAD BOSS	A. Freiberg	4/66
DRAWN BY	J.A.S.	2/66
TRACED BY	J.A.S.	2/66
CHECKED BY	G. Holman	4/66

SHEET 2 OF 25

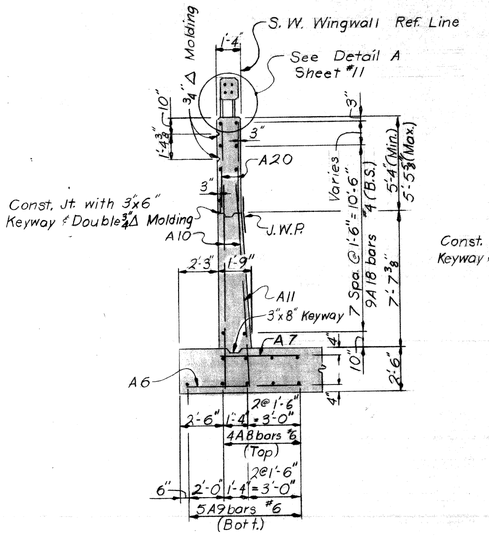
APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN - CONSULTANTS

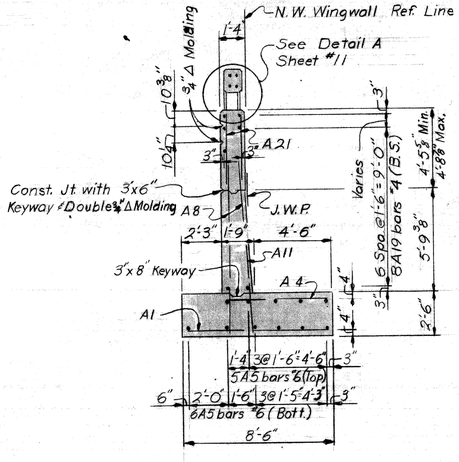
S27 of 82194L



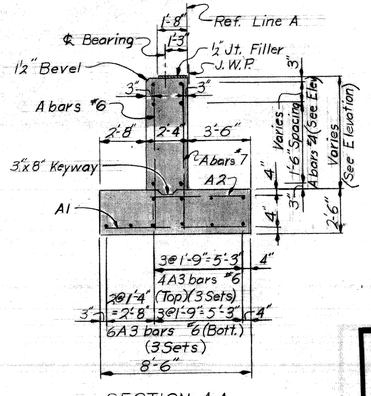
PLAN OF FOOTING



SECTION C-C



SECTION B-B



SECTION A-A

CONCRETE QUANTITIES

Pour	Location	Abutment A		Abutment B	
		A(6A)	A(6AA)	A(6A)	A(6AA)
A_1	Footing	44.0		39.2	
A_2	Footing	29.5		30.5	
B	Abut. Wall		16.6		11.9
C	Abut. Wall		14.3		12.5
D	Abut. Wall		11.8		14.1
E	Wing Wall		5.6		5.3
F	Wing Wall		3.5		3.4
G	Wing Wall		5.4		8.4
H	Wing Wall		3.7		4.9
Total (Cu. Yds.)		73.5	60.9	69.7	60.5

Note: Parapet Concrete = 3.5 Cu. Yds. A(6AA). Incidental to Bridge Parapet and not a pay item.

MISCELLANEOUS QUANTITIES

Item	Amount			Unit
	Abut. A	Abut. B	Total	
Unclassified Excavation	217	170	387	Cu. Yds.
Low Temp. Protection Substr.	134	130	264	Cu. Yds.
½" Joint Filler	120	102	222	Sq. Ft.
1" Joint Filler	40	34	74	Sq. Ft.
Non-metallic Waterstop	20.2	21.3	41.5	Sq. Ft.
Bridge Railing - Parapet Type	28.1	32.0	60.1	Lin. Ft.
Foundation Drain	96	90	186	Lin. Ft.
Joint Waterproofing	35	42	77	Sq. Ft.

GENERAL NOTES:

J.W.P. denotes Joint Waterproofing.
N.S., F.S., and B.S. denotes Near Side, Far Side, and Both sides respectively.
For bevel, molding, and bridge parapet details, see standard sheet R11 or R12.
Anchor bolts shall be set accurately to a template.
Field bend reinforcement to clear drain holes.
Bridge railing is to be either aluminum or steel tubular railing on concrete parapet. See Railing Standard R11 or R12.
Maximum average foundation pressure D.L. only = 1600 #/sq. ft.
Maximum foundation pressure D.L. and L.L. = 3350 #/sq. ft.
Anchor bolts to be furnished with Structural Steel.

Work this sheet with sheets No. 8, 10 & 11

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JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT A DETAILS

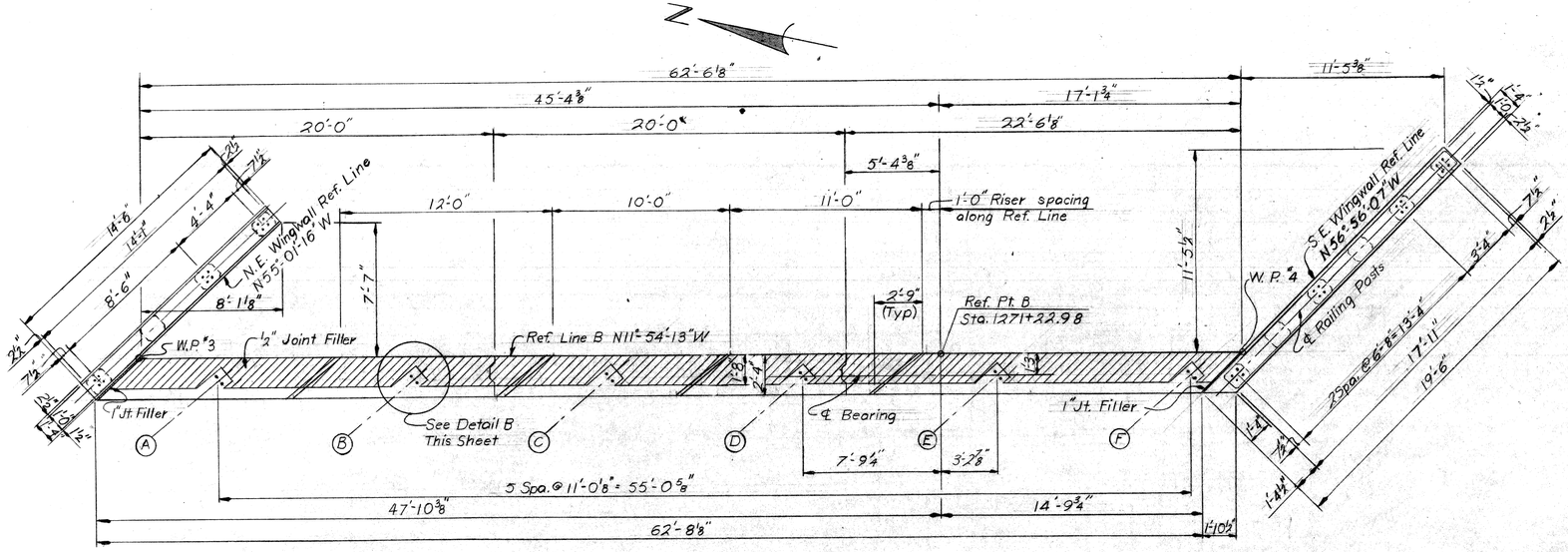
CITY OF DETROIT

SQUAD BOSS	Spurlock	2-68
DRAWN BY	D.J.R.	12-67
TRACED BY	L.G.	12-67
CHECKED BY	A. Freiberg	2-68
SHEET	9 OF 25	

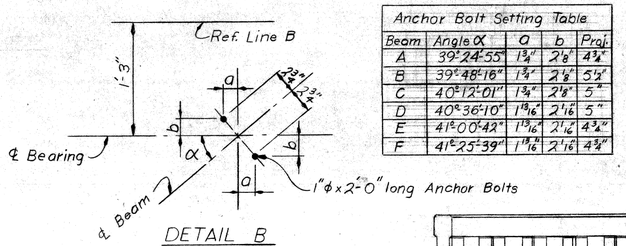
REVISIONS

NO.	DESCRIPTION	DATE	BY

S27 of 82194L

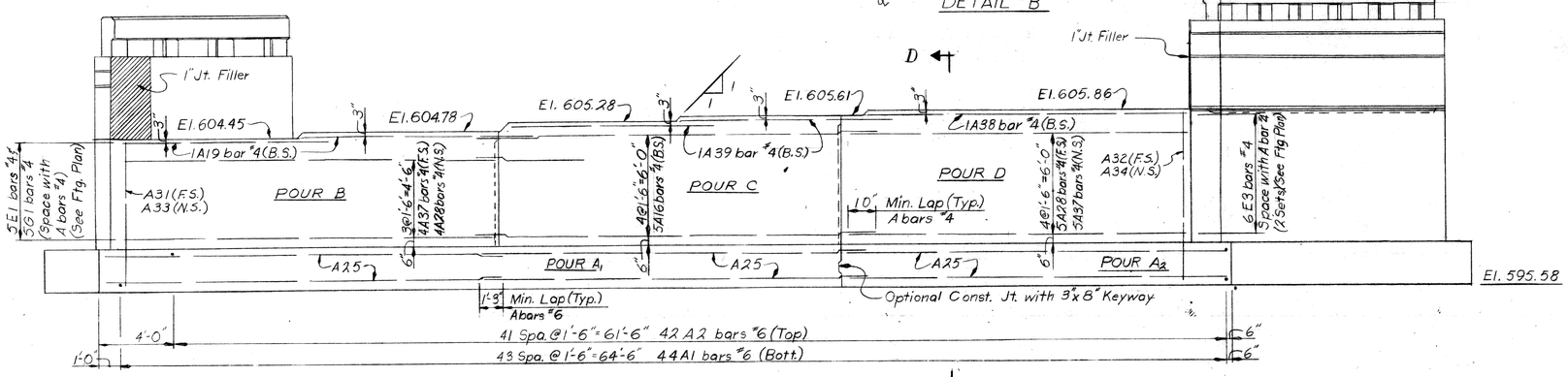


PLAN OF TOP

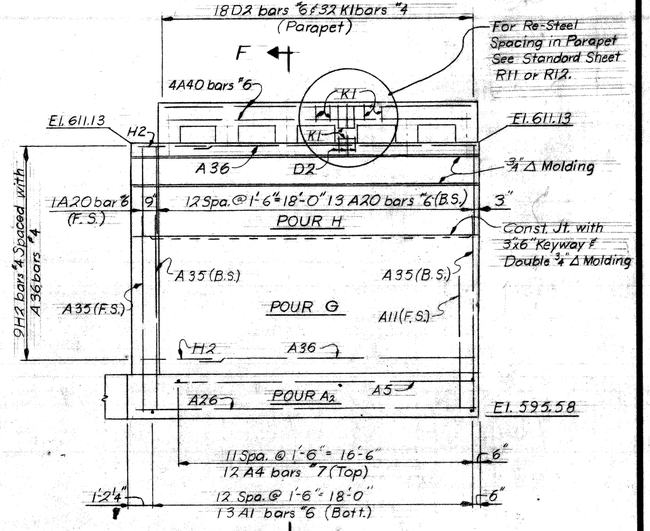


DETAIL B

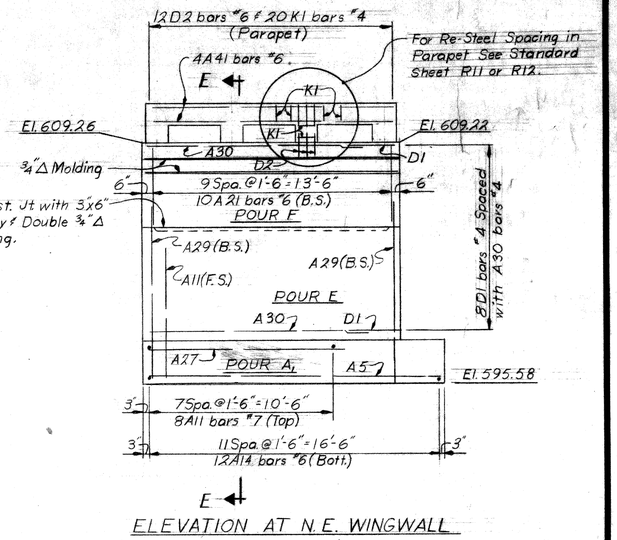
Anchor Bolt Setting Table				
Beam	Angle α	a	b	Proj.
A	39°-24'-55"	1 3/4"	2'-8"	4 3/4"
B	39°-48'-16"	1 3/4"	2'-8"	5 1/4"
C	40°-12'-01"	1 3/4"	2'-8"	5"
D	40°-36'-10"	1 15/16"	2'-10"	5"
E	41°-00'-42"	1 15/16"	2'-10"	4 3/4"
F	41°-25'-39"	1 15/16"	2'-10"	4 3/4"



ELEVATION



ELEVATION AT S.E. WINGWALL



ELEVATION AT N.E. WINGWALL

Work this sheet with sheets No. 8, 9 & 11.

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APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT B DETAILS

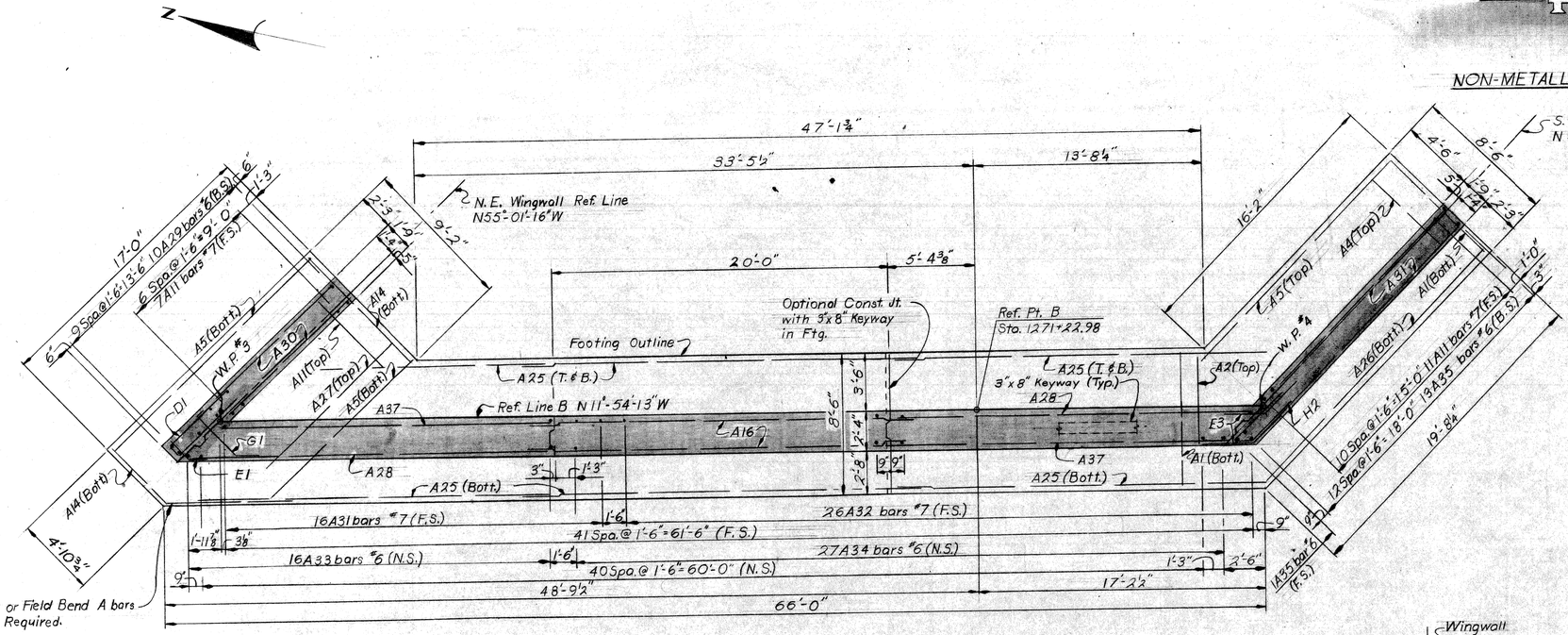
CITY OF DETROIT

SQUAD BOSS	Sivan	2-68
DRAWN BY	D.J.R.	12-67
TRACED BY	L.G.	12-67
CHECKED BY	A. Frolov	2-68
SHEET	10 of 25	

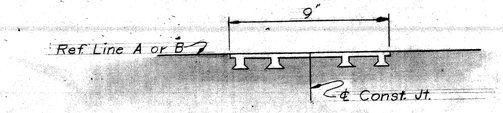
REVISIONS

NO.	DESCRIPTION	DATE	BY

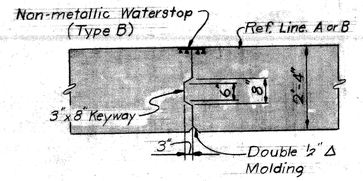
S27 of 82194L



PLAN OF FOOTING

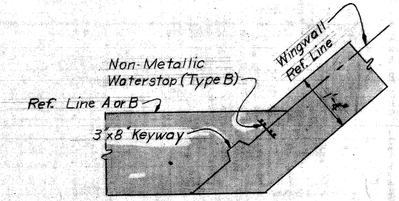


NON-METALLIC WATERSTOP-TYPE B



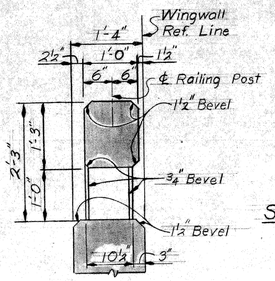
CONSTRUCTION JOINT
(Typ. except at Wingwalls)

Notes: Stop all Keyways 1'-0" below top of wall. Stop all N.M.W.S. at Bridge Seat.



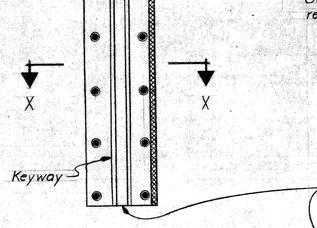
CONSTRUCTION JOINT AT WINGWALLS

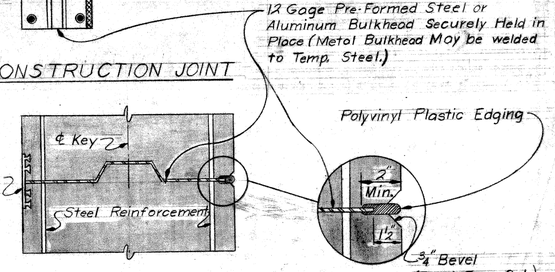
Notes:
The metal bulkhead may be used as alternate construction joint at contractors expense.
Care is to be used in casting concrete around bulkhead to prevent dislocation or misalignment of the bulkhead.
Cut holes in metal bulkhead for reinforcing steel.



DETAIL A

Note: For Re-steel spacing in parapet, see st'd. sheet R11 or R12.

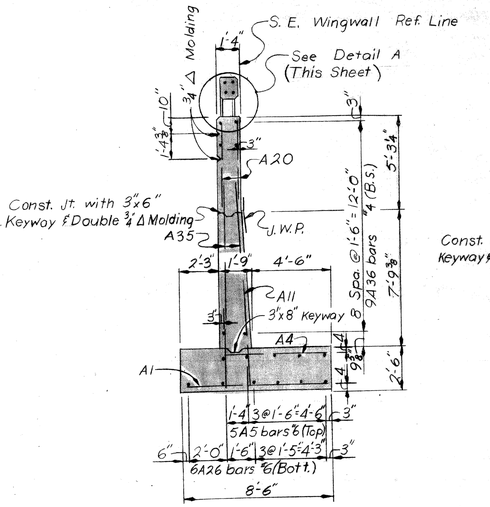




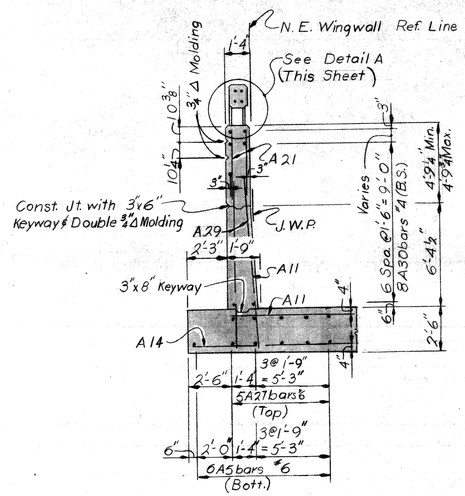
SECTION AT CONSTRUCTION JOINT

SECTION X-X

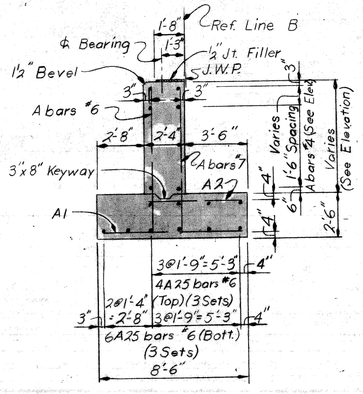
METAL BULKHEAD FOR ABUTMENT CONST. JT.



SECTION F-F



SECTION E-E



SECTION D-D

Work this sheet with sheets No. 8 thru 10.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

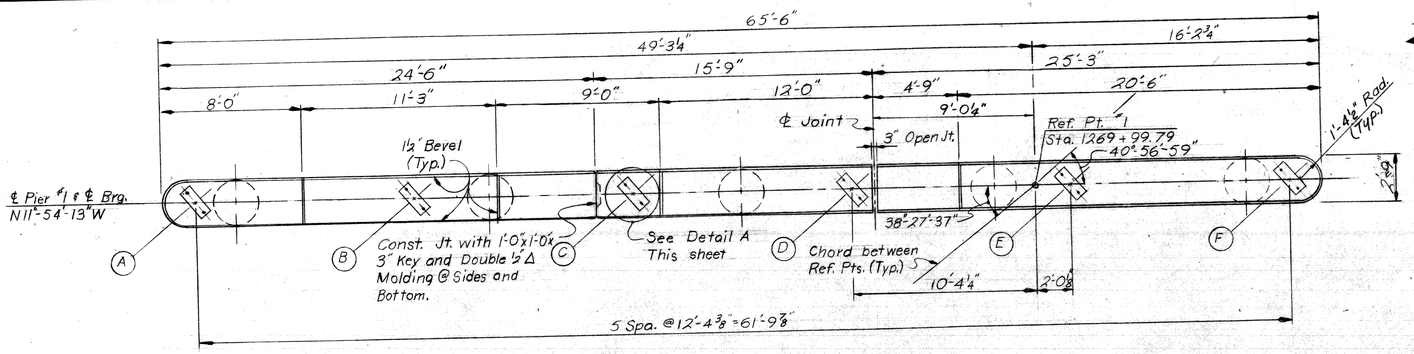
ABUTMENT B DETAILS

CITY OF DETROIT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

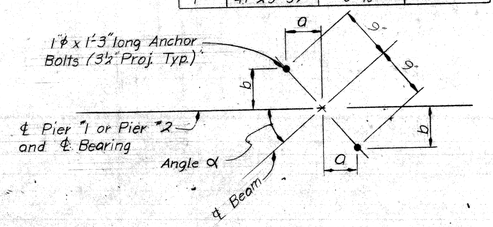
SQUAD BOSS	Stuen	2-68
DRAWN BY	D.J.R.	12-67
TRACED BY	L.G.	12-67
CHECKED BY	A.Freiberg	2-68
SHEET	11 OF 25	

S27 of 82194L

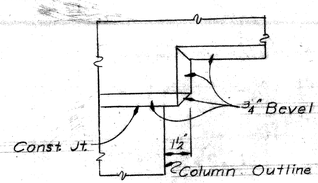


PLAN OF TOP

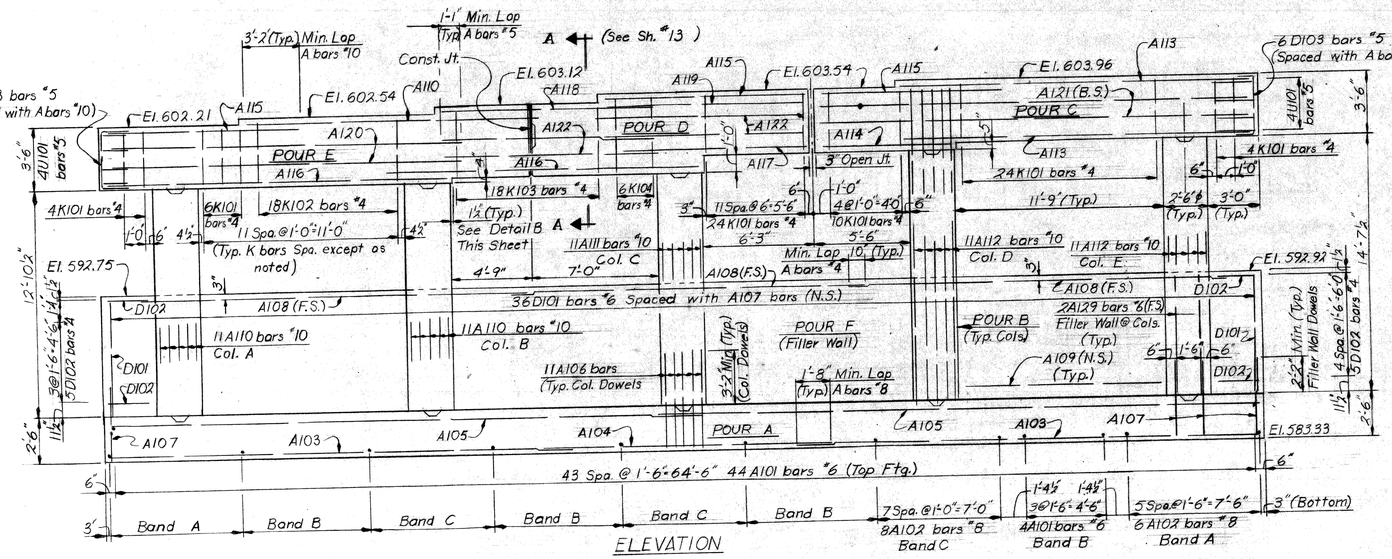
ANCHOR BOLT SETTING TABLE			
Beam	Angle α	a	b
A	39°-24'-55"	5 11/16"	6 15/16"
B	39°-48'-16"	5 3/4"	6 15/16"
C	40°-12'-01"	5 13/16"	6 7/8"
D	40°-36'-10"	5 7/8"	6 13/16"
E	41°-00'-42"	5 7/8"	6 13/16"
F	41°-25'-39"	5 15/16"	6 3/4"



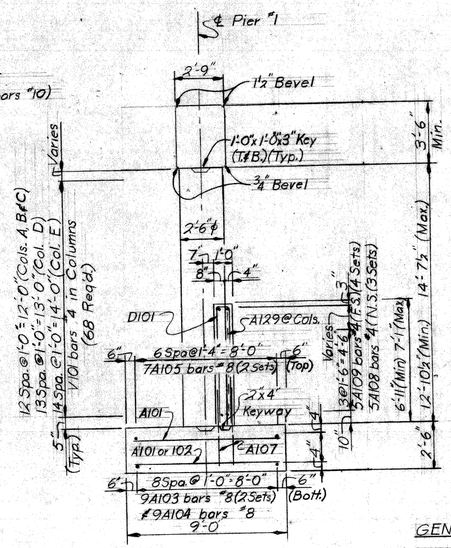
DETAIL A



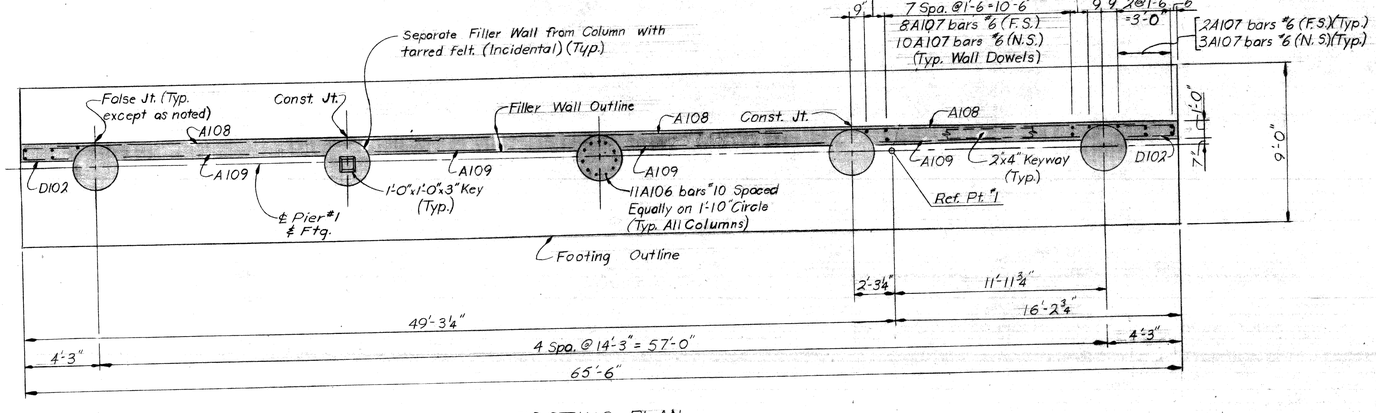
DETAIL B
(For step at bottom of Pier Cap)



ELEVATION



END ELEVATION



FOOTING PLAN

CONCRETE QUANTITIES (CU. Yds.)					
		Pier "1		Pier "2	
Pour	Location	A(6A)	A(6AA)	A(6A)	A(6AA)
A	Footing	34.5		32.1	
B	Columns		12.3		12.5
C	Pier Cap		9.0		8.3
D	Pier Cap		6.4		6.2
E	Pier Cap		9.3		8.3
F	Filler Wall		15.6		14.0
	Total	34.5	52.6	32.1	49.3

MISCELLANEOUS QUANTITIES				
	Amount			
Item	Pier "1	Pier "2	Total	Unit
Unclassified Excavation	262	253	515	Cu. Yds.
Low Temperature Protection-Substr.	107	102	209	Cu. Yds.

GENERAL NOTES:

N.S., F.S. and B.S. denote Near Side, Far Side and Both Sides, respectively.

For bevel and molding details, see standard sheet R11 or R12.

Anchor bolts shall be accurately set to a template.

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

Anchor bolts are furnished with structural steel.

Maximum average foundation pressure D.L. only = 1950 p.s.f., maximum foundation pressure D.L. and L.L. = 2550 p.s.f.

Work this sheet with sheet No. 13

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

APPROVED H Coats STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

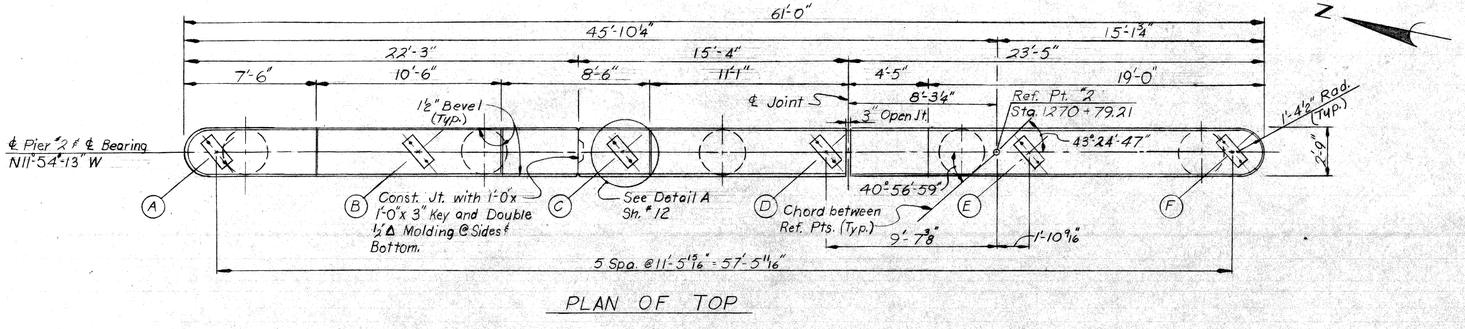
PIER No. 1 DETAILS

CITY OF DETROIT

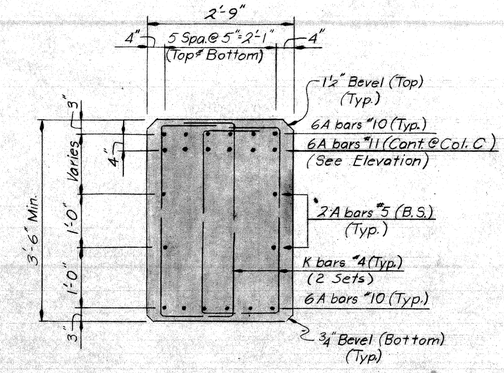
REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	STURM	2-68
DRAWN BY	D.J.R.	1-68
TRACED BY	L.G.	1-68
CHECKED BY	A.Freiberg	2-68
SHEET	12 OF 25	

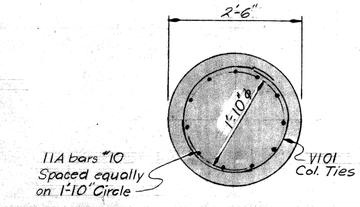
S27 of 82194L



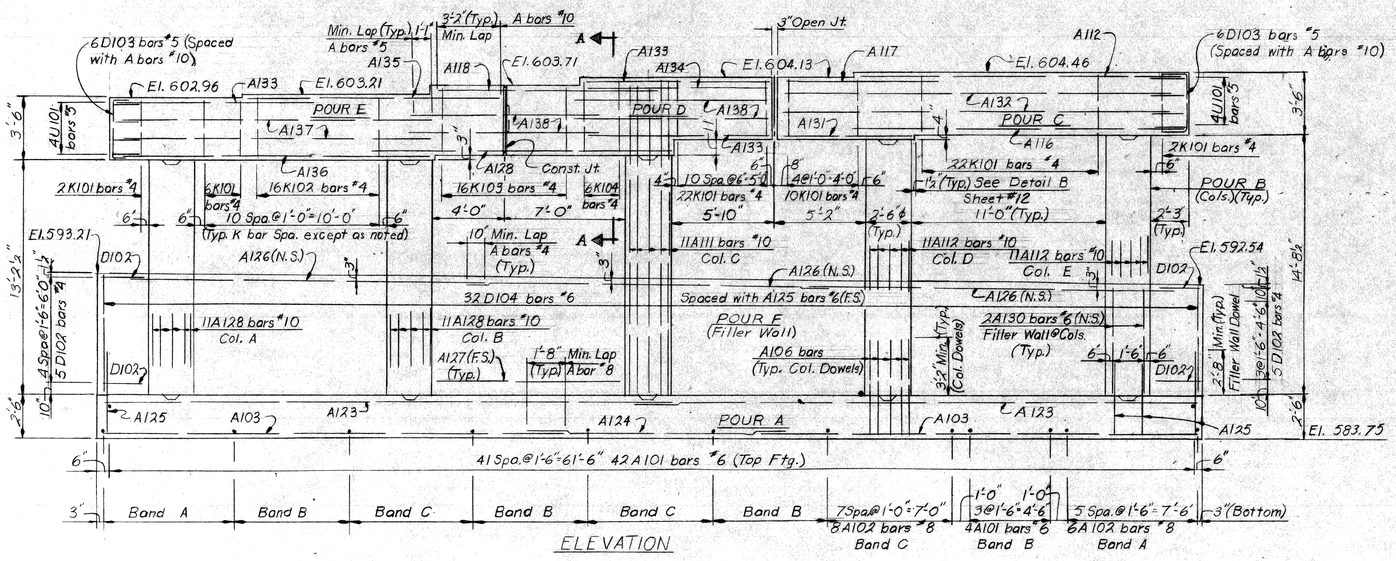
PLAN OF TOP



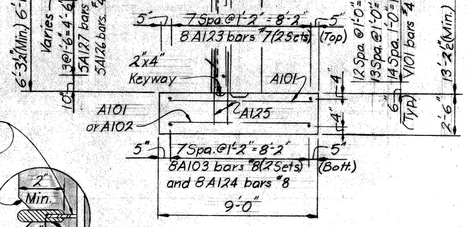
SECTION A-A



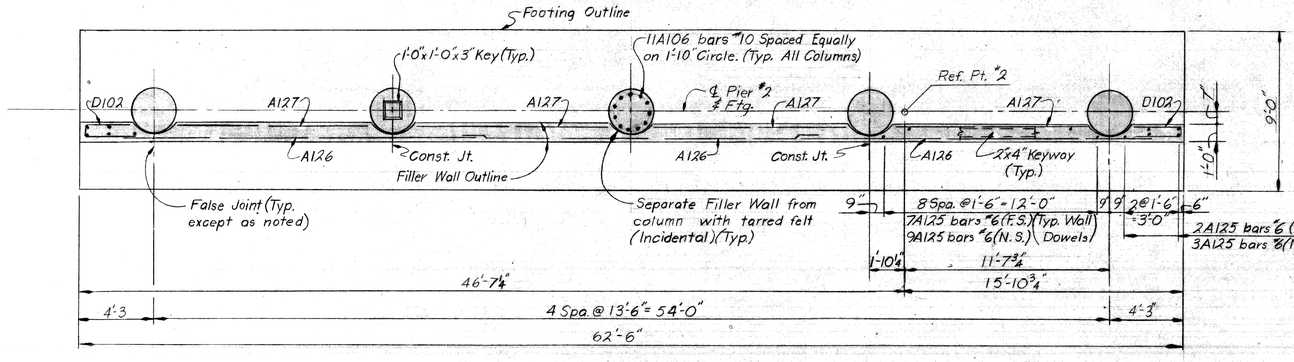
TYPICAL SECTION THRU PIER COLUMN



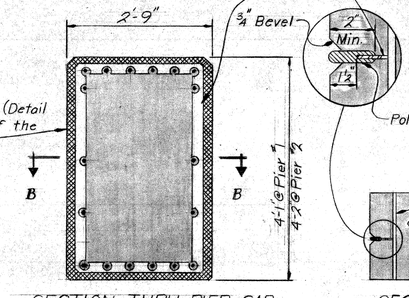
ELEVATION



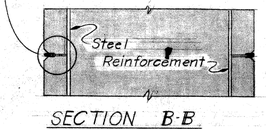
END ELEVATION



FOOTING PLAN



SECTION THRU PIER CAP



SECTION B-B

Notes:
Partial Metal Bulkhead may be used as alternate construction joint at contractor's 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.

PARTIAL METAL BULKHEAD FOR PIER CAP CONSTRUCTION JOINT

Work this Sheet with Sheet No. 12

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

APPROVED H. Conrad STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PIER No. 2 DETAILS

CITY OF DETROIT

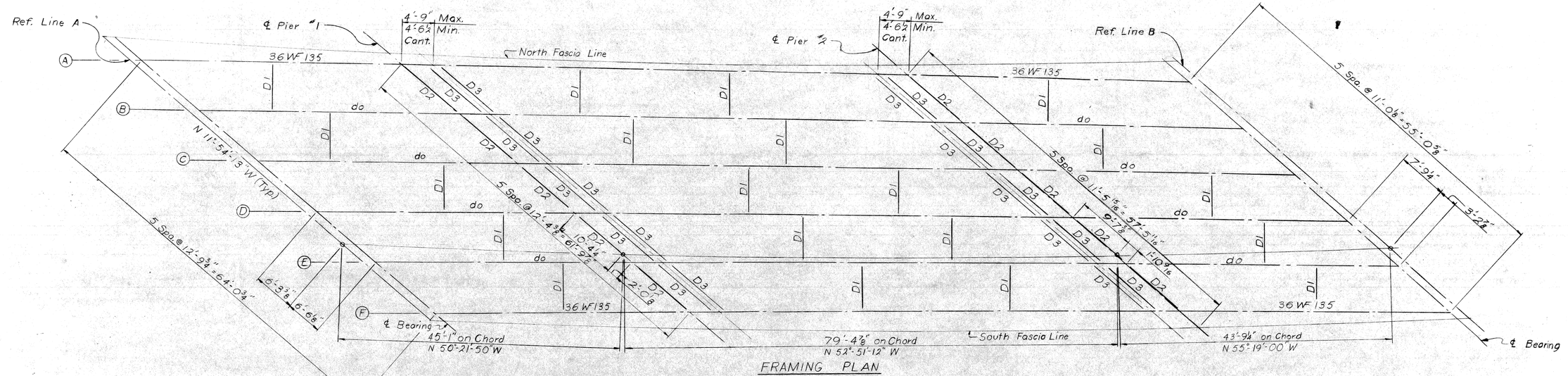
SQUAD BOSS	Strum	2-68
DRAWN BY	D.J.R.	1-68
TRACED BY	L.G.	1-68
CHECKED BY	A. Freiberg	2-68

SHEET 13 of 25

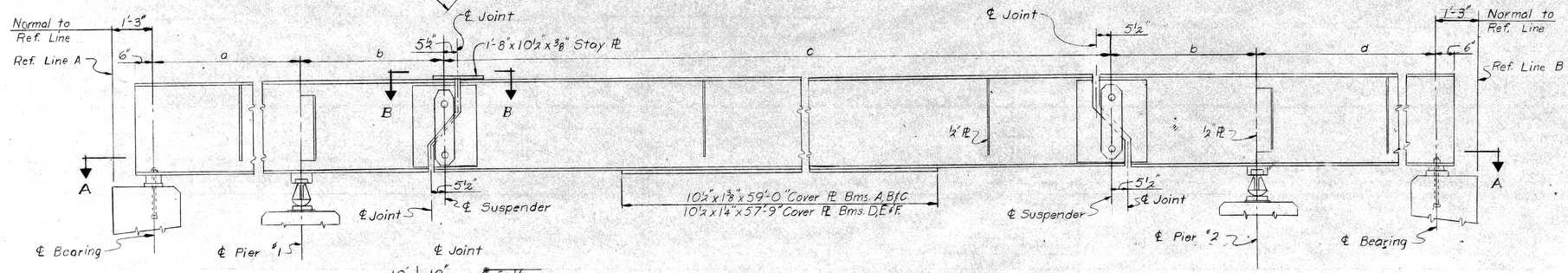
REVISIONS

NO.	DESCRIPTION	DATE	BY

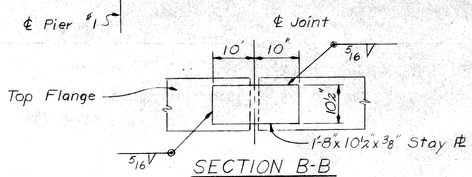
S27 of 82194L



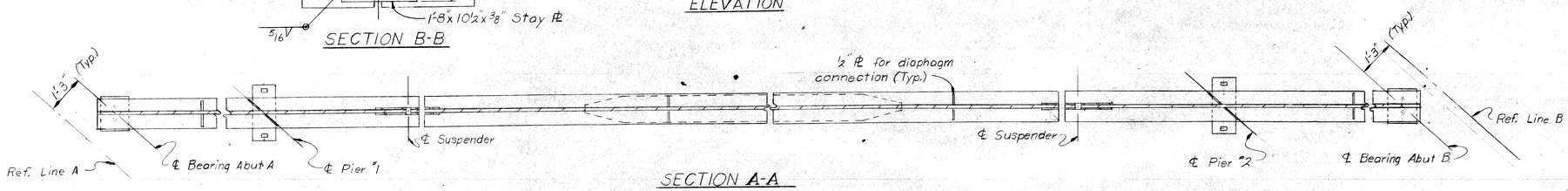
FRAMING PLAN



ELEVATION



SECTION B-B



SECTION A-A

VARIABLE DIMENSIONS						
Dimension	A	B	C	D	E	F
a	42'-2⅜"	41'-10⅛"	41'-6⅛"	41'-2"	40'-9⅞"	40'-5⅞"
b	4'-9"	4'-8½"	4'-8"	4'-7½"	4'-7"	4'-6½"
c	72'-5⅜"	71'-10½"	71'-3⅜"	70'-8⅝"	70'-1¾"	69'-6⅞"
d	45'-4⅜"	45'-0½"	44'-8"	44'-3⅜"	43'-11¼"	43'-6⅞"

Work Sheets 14, 15, 16 together

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 1002 (46)

MICHIGAN STATE HIGHWAY DEPARTMENT

STRUCTURAL STEEL DETAILS

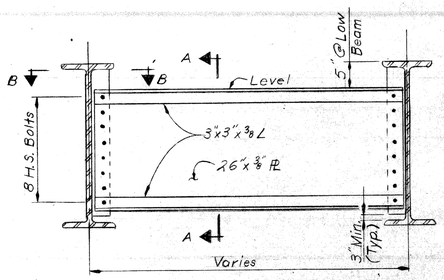
CITY OF DETROIT

SQUAD BOSS	Stuhan	2-68
DRAWN BY	Altenberg	2-68
TRACED BY	J.G.	1-68
CHECKED BY	J.H.S.	2-68
SHEET 16 OF 25		

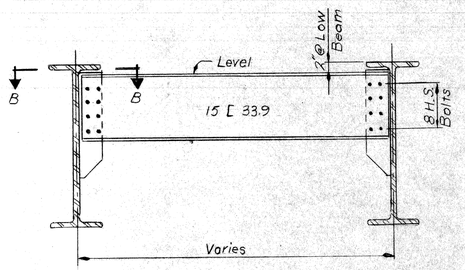
REVISIONS

NO.	DESCRIPTION	DATE	BY

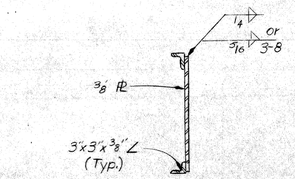
S27 of 82194L



DIAPHRAGM D1 & D2

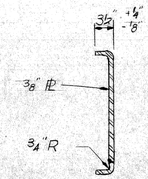


DIAPHRAGM D3

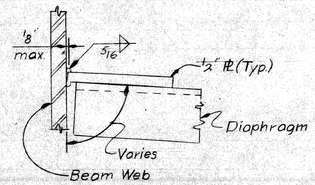


Note: A continuous ¼" weld may be used in all cases instead of the 5/16" intermittent weld at the fabricators option.

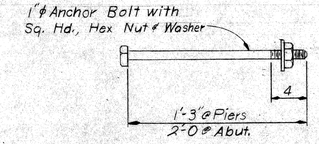
SECTION A-A



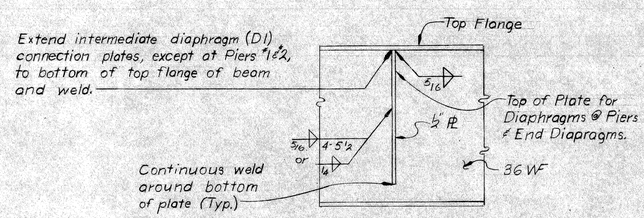
ALTERNATE



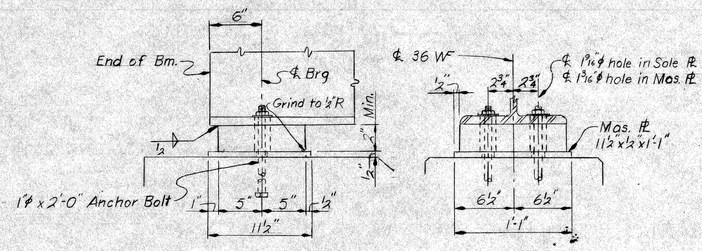
SECTION B-B

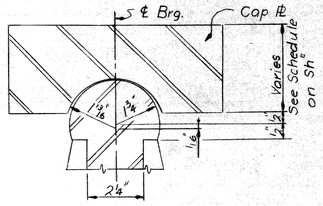


ANCHOR BOLT DETAIL

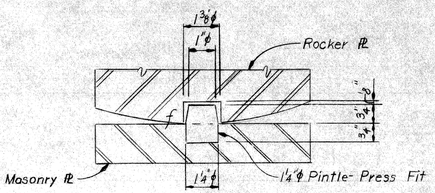


INTERMEDIATE DIAPHRAGM CONNECTION DETAILS

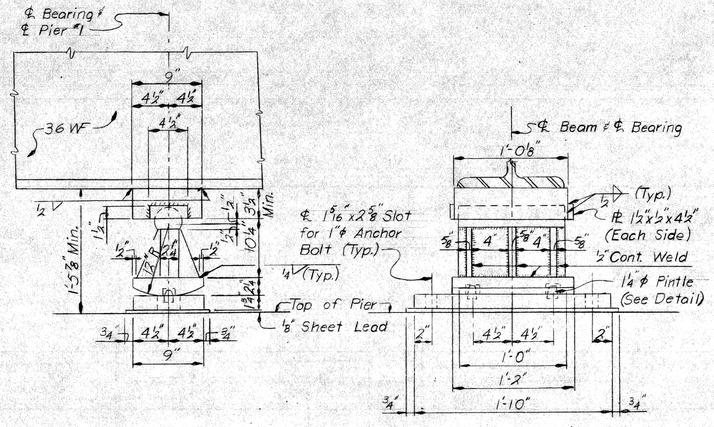




CAP DETAIL
(For Exp. Rockers)



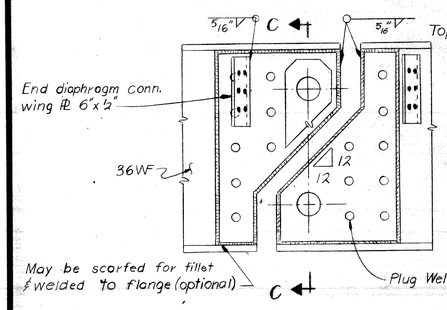
PINTLE DETAIL



ELEVATION

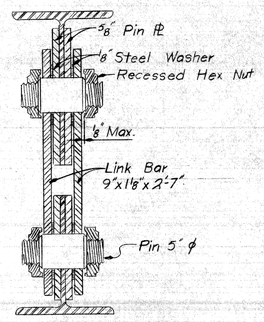
END VIEW

EXPANSION ROCKER DETAILS
(At Piers)



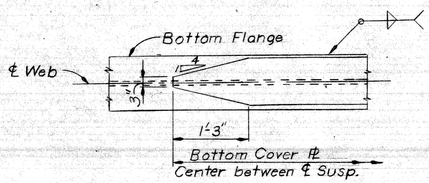
ELEVATION

Note:
Size and spacing of the plug welds shall be according to the A. W. S. current specifications.



SECTION C-C

SUSPENDER DETAILS



BOTTOM COVER PLATE DETAIL

STRUCTURAL STEEL NOTES

Design: Michigan State Highway Department's Specifications for Design of Highway Bridges - 1958 edition & current A.A.S.H.O. Standard Specificotions for Highway Bridges. (HS20-44 Loading).

Fabrication: Michigan State Highway Department's Standard Specifications for Road and Bridge Construction - 1967 edition.

Shop connections shall be welded as shown on the Plans.

Field connections shall be bolted with ¾"ϕ high-strength bolts, except as noted.

Sole plates 3" or more in thickness may be built up by welding together plates not less than 1½" in thickness. Edges must be beveled ¼" and welded with a continuous weld for the full perimeter. Welds shall be ground flush with faces of plates.

The bottom surfaces of sole plates, curved bearing surfaces of rockers and the top surfaces of masonry plates, shall be coated in accordance with the requirements for machine finished surfaces. Structural steel shall be upainted A.S.T.M. - A-441 (Modified)

The quantity structural steel - Furnishing and Fabricating includes:
Steel *
Lead
Total
* The quantity Steel includes the weight of metal expansion joints as detailed on sh."

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

For beam camber, see Camber Table on sheet No. 16
Camber is to be measured with the beam lying on its side.
Allowable camber tolerance for rolled beams is ±¼"
Heating is to be used, if necessary, to assure camber permanency within the above tolerance.

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

QUANTITIES

Structural Steel-Furnishing and Fabricating	196,800
Structural Steel-Erection	196,800
Shear Developers	Lump Sum

Work this Sheet with Sheets No. 14, 16

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

APPROVED J. J. Court
STRUCTURAL ENGINEER

JOB No.
PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

CITY OF DETROIT

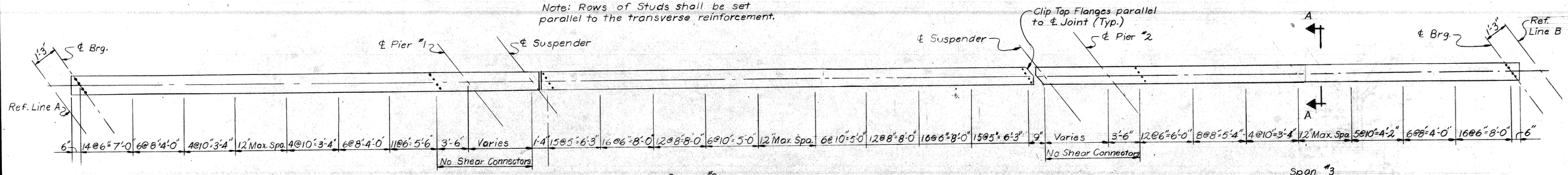
SQUAD BOSS	STUM	2-68
DRAWN BY	A.F.	2-68
TRACED BY	L.G.	1-69
CHECKED BY	J.J.C.	2-68
SHEET 15 OF 25		

REVISIONS

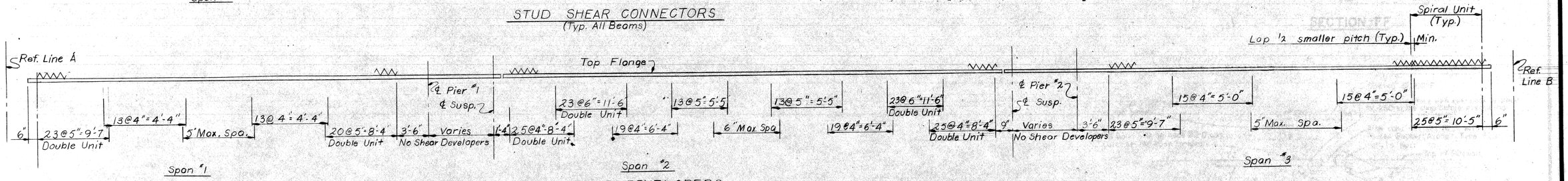
NO.	DESCRIPTION	DATE	BY

S27 of 82194L

Note: Rows of Studs shall be set parallel to the transverse reinforcement.

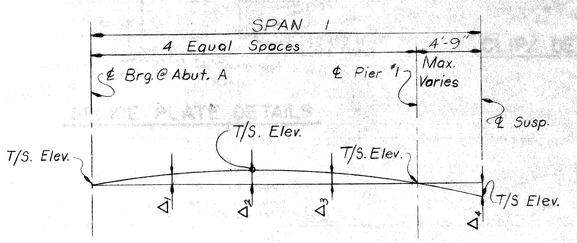


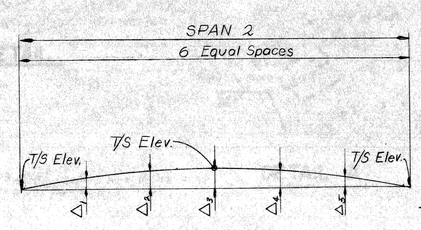
STUD SHEAR CONNECTORS
(Typ. All Beams)

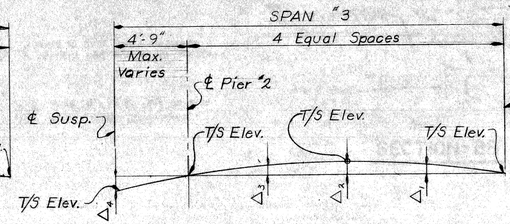


SPIRAL SHEAR DEVELOPERS

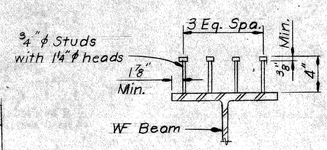
Note:
Either Spiral Shear Developers or Stud Shear Connectors may be used at the option of the contractor.
The weight of Shear Developers is not included in the weight of Structural Steel.
Welding of Shear Developers is incidental to "Shear Developers."



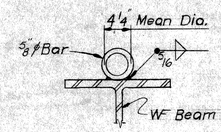




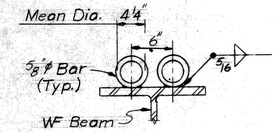
CAMBER DIAGRAM



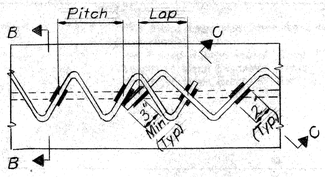
SECTION A-A



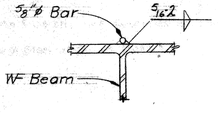
SECTION B-B



SECTION AT DOUBLE SPIRAL



PART PLAN OF BEAM



SECTION C-C

SCHEDULE OF TOP OF STEEL ELEVATIONS, CAMBERS AND BEARING PLATE THICKNESS

	SPAN #1							SPAN #2									SPAN #3							SOLE & CAP PLATE THICKNESS TABLE (in.)				
	Top of Steel Elevation			Camber (in.)				Top of Steel Elevation			Camber (in.)						Top of Steel Elevation			Camber (in.)								
Beam	℄ Brg. @ Abut.	℄ Span	℄ Pier #1	Δ_1	Δ_2	Δ_3	Δ_4	Pier #1 ℄ Susp.	℄ Beam	Pier #2 ℄ Susp.	Δ_1	Δ_2	Δ_3	Δ_4	Δ_5		℄ Pier #2	℄ Span	℄ Brg. @ Abut. B	Δ_1	Δ_2	Δ_3	Δ_4	Abut A	Pier #1	Pier #2	Abut B	Beam
A	606.12	606.44	606.68	3/8"	1/2"	1/4"	-1/8"	606.73	607.25	607.38	1 3/8"	2 3/8"	2 5/8"	2 1/4"	1 3/8"		607.41	607.56	607.62	1/2"	5/8"	3/8"	-1/8"	2"	3 3/4"	3 1/2"	2"	A
B	606.60	606.83	607.01	1/4"	3/8"	1/4"	-1/8"	607.05	607.56	607.66	1 3/8"	2 3/8"	2 3/4"	2 3/8"	1 3/8"		607.70	607.89	608.01	3/8"	1/2"	1/4"	-1/8"	2 3/4"	3 3/4"	4"	2 3/4"	B
C	607.18	607.41	607.57	1/4"	3/8"	1/4"	-1/8"	607.60	608.07	608.16	1 3/8"	2 3/8"	2 5/8"	2 1/4"	1 3/8"		608.20	608.37	608.47	3/8"	1/2"	1/4"	-1/8"	2 3/4"	3 1/2"	4"	2 1/4"	C
D	607.66	607.57	608.03	1/4"	3/8"	1/4"	-1/8"	608.06	608.52	608.57	1 3/8"	2 3/8"	2 3/4"	2 3/8"	1 3/8"		608.60	608.74	608.80	3/8"	1/2"	3/8"	-1/8"	2 1/2"	4"	3 3/4"	2 1/4"	D
E	608.01	608.25	608.41	3/8"	1/2"	3/8"	-1/4"	608.43	608.84	608.88	1 3/8"	2 3/8"	2 5/8"	2 3/8"	1 3/8"		608.91	609.02	609.03	1/2"	5/8"	1/2"	-1/4"	2 3/4"	3 1/2"	3 1/2"	2"	E
F	608.12	608.33	608.49	1/4"	3/8"	1/4"	-1/8"	608.52	608.93	608.93	1 3/8"	2 3/8"	2 3/4"	2 3/8"	1 3/8"		608.95	609.03	609.03	3/8"	1/2"	1/4"	-1/8"	4	4 1/2"	4"	2"	F

Work this Sheet with Sheets 14 & 15.

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APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

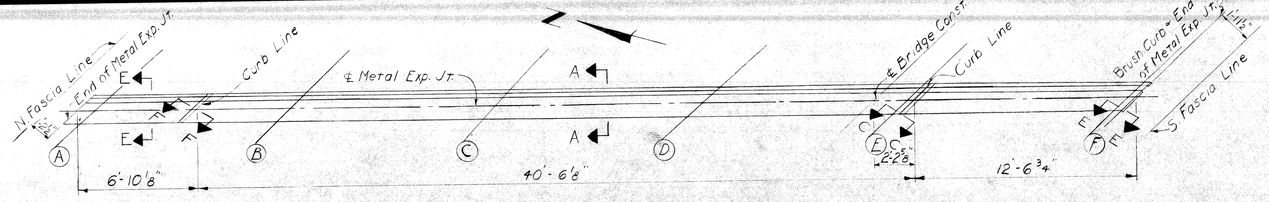
CITY OF DETROIT

SQUAD BOSS	Swam 2-68
DRAWN BY	A. Feinberg 2-68
TRACED BY	L.G. 1-68
CHECKED BY	D.J.R. 1-68
SHEET 16 OF 25	

REVISIONS

NO.	DESCRIPTION	DATE	BY

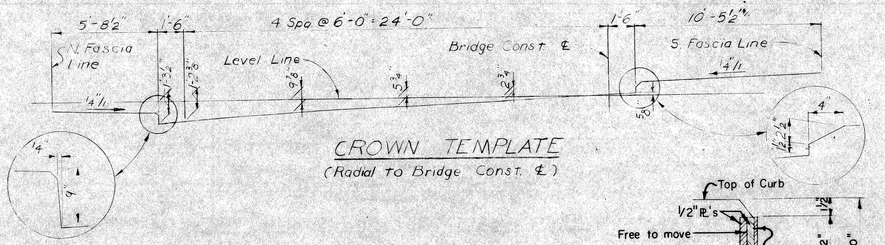
S27 of 82194L



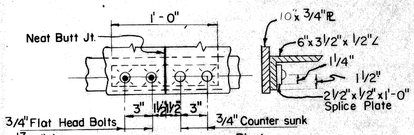
PLAN

Note: Elevations shown are for the condition that Forms, Sheer Developers and Re-steel are in place

ELEVATION

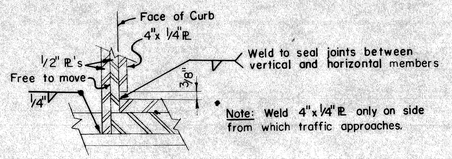


CROWN TEMPLATE
(Radial to Bridge Const. ℄)

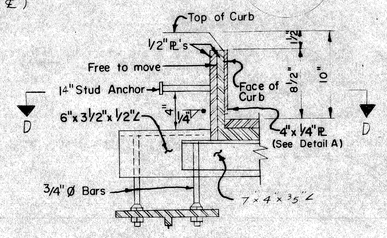


SPLICE PLATE DETAILS

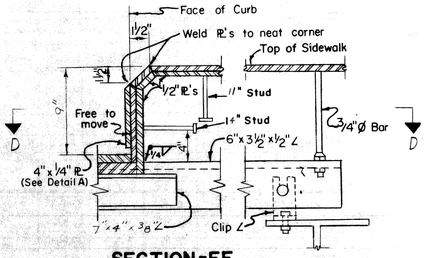
CLIP ∠ DETAIL



DETAIL A



SECTION - BB



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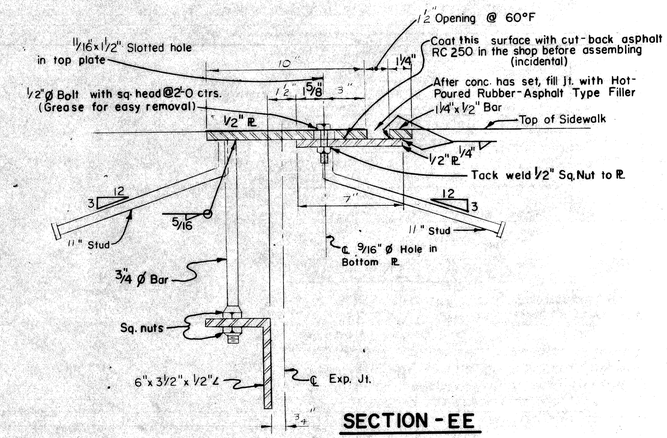
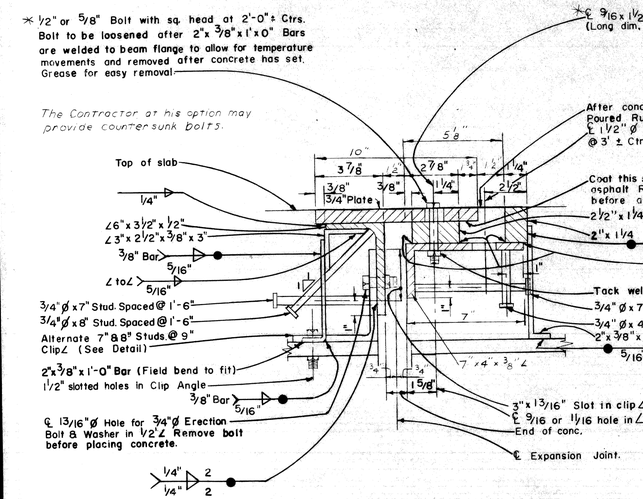
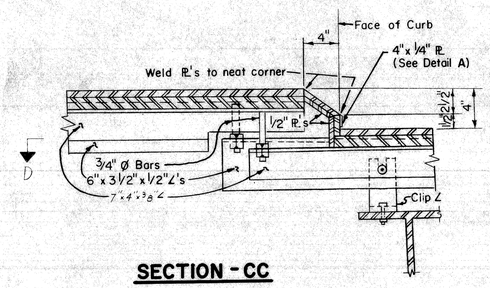


SECTION - EE



SECTION - AA



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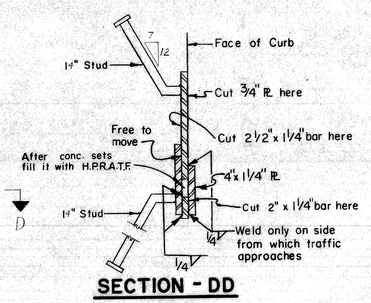
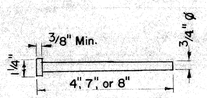
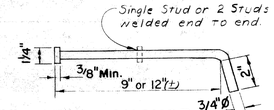


SECTION - DD



STUD ANCHOR
(ROADWAY)



STUD ANCHOR
(CURB & SIDEWALK)

Note: 5/8" ø Studs may be used instead of 3/4" ø Studs. The spacing of 5/8" ø studs shall be 83% of that shown for 3/4" ø studs.

NOTES:

The Metal Expansion Joint shall be bent in the shop to conform with the contour of the top of roadway slab.

Hot-Poured Rubber-Asphalt Type Filler is included in the Superstructure Quantities on sheet #18.

Weight of Metal Expansion Joints 4400 lbs.

Weight of Metal Expansion Joint is included in Structural Steel weight on sheet #15.

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APPROVED _____ STRUCTURAL ENGINEER

JOB NO. (N 1)12 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

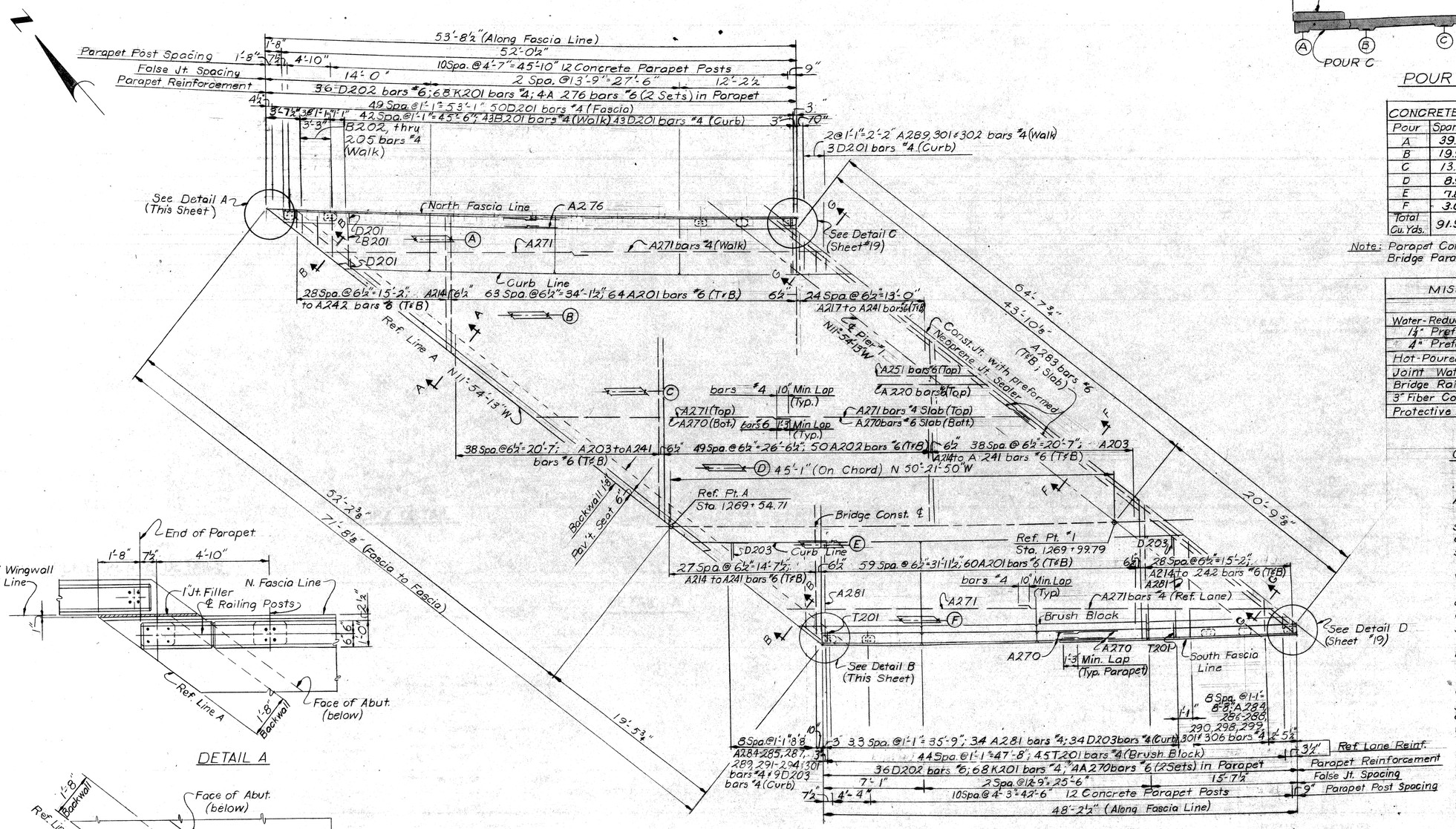
METAL EXPANSION JOINT DETAILS

REVISIONS

NO.	DESCRIPTION	DATE	BY

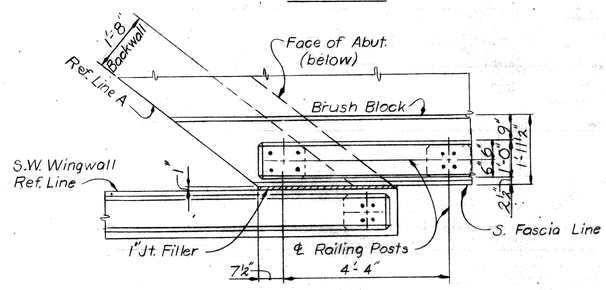
ROAD BOSS	STUEN	2-68
DRAWN BY	A. Hopkins	1-6-68
TRACED BY	—	—
CHECKED BY	EWS	2-68
SHEET 17 OF 25		

S27 of 82194L

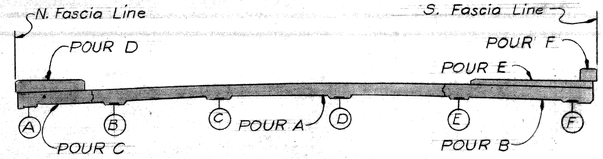


SPAN "1"

DETAIL A



DETAIL B



POUR DIAGRAM

CONCRETE QUANTITIES			
Pour	Span #1	Span #2	Span #3
A	39.3	43.4	37.2
B	19.9	22.7	19.3
C	13.0	13.7	12.2
D	8.9	12.1	8.4
E	7.8	10.7	7.5
F	3.0	4.1	2.9
Total Cu. Yds.	91.9	106.7	87.5

Note: Parapet Concrete = 19.0 Cu. Yds. Grade A(6AA) incidental to Bridge Parapet and not a pay item.

MISCELLANEOUS QUANTITIES		
Item	Unit	Amount
Water-Reducing Retarding Admixture	Gal.	32
1½" Preformed Neoprene Joint Sealer	Lin. Ft.	66.9
4" Preformed Neoprene Joint Sealer	Lin. Ft.	2.2
Hot-Poured Rubber-Asphalt Type Filler	Lin. Ft.	61
Joint Waterproofing	Sq. Ft.	225
Bridge Railing - Parapet Type	Lin. Ft.	337.0
3" Fiber Conduit	Lin. Ft.	338
Protective Treatment for Bridge Deck	Sq. Ft.	7335

GENERAL NOTES:

J.W.P. denotes Joint Waterproofing.

H.P.R.A.T.F. denotes Hot-Poured Rubber Asphalt Type Filler.

Bridge Railing is to be either aluminum or steel tubular railing on concrete parapet. For details of bevels, moldings and Bridge Railing, see Standard Sheet R11 or R12.

Edge or groove denotes edging or grooving with approved tool.

Sidewalk and shoulder pours shall not be cast until concrete has attained at least 50% of its design strength as determined by Section 5.01.05 of the Standard Specifications.

Alphabetical designation of pours is not to be construed as a pour sequence.

The contractor is to provide a sawed joint ½" deep by 6" wide (min.) in the top of slab over and parallel to the centerline of piers. The joint is to be sawed before casting of sidewalk and shoulder and is to be filled with Hot-Poured Rubber Asphalt Type Filler. (Incidental)

For name plate mounting details see Standard Sheet R11 or R12. For location of name plate see sheet # 4.

Protective Treatment for Bridge Decks is to be applied to the entire deck surface between fascia lines.

P.L.C. denotes Public Lighting Commission.

Work this Sheet with Sheets No. 19 thru 23.

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APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

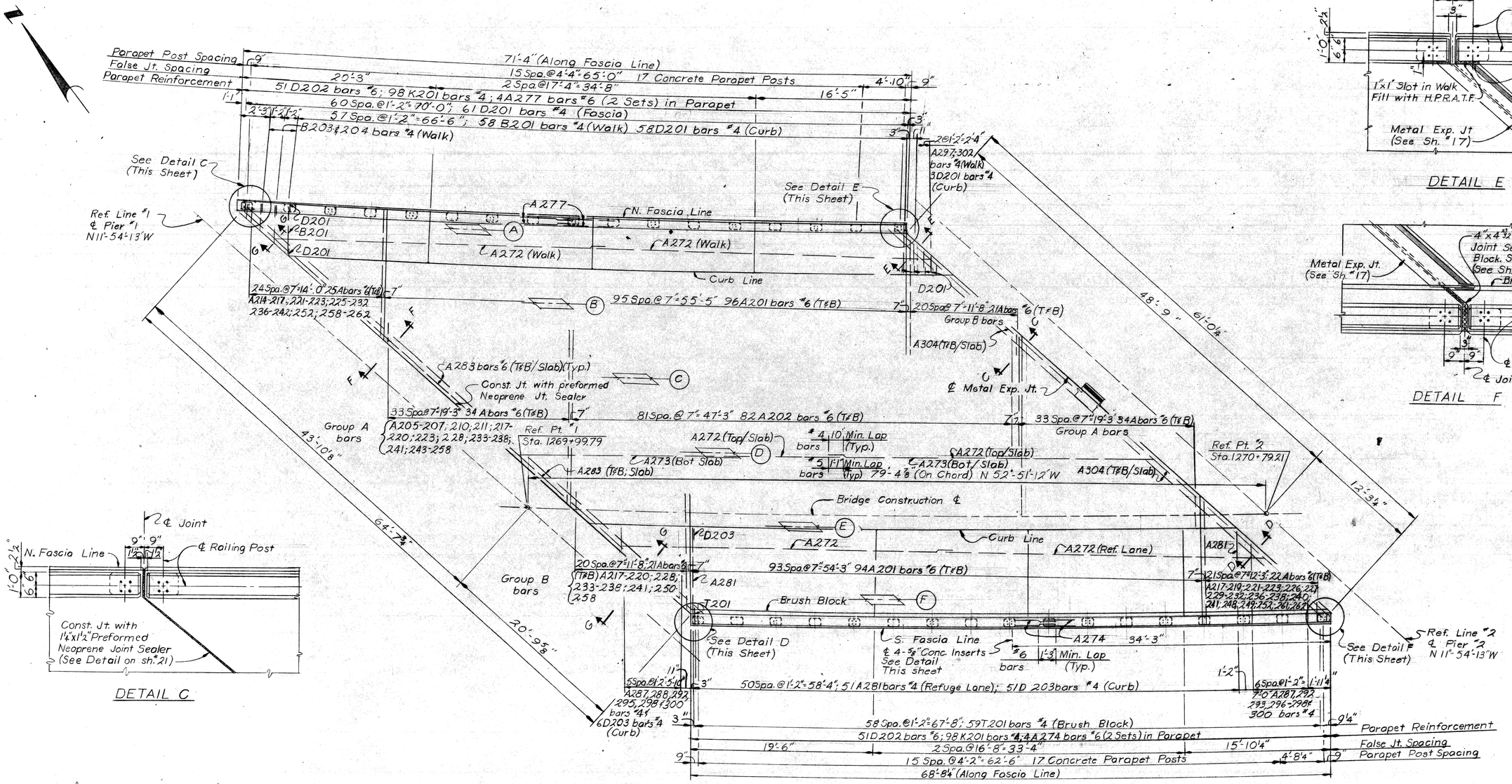
SUPERSTRUCTURE DETAILS

CITY OF DETROIT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	Sieban	2-68
DRAWN BY	G. Molnar	11/1968
TRACED BY	A.G.	1-68
CHECKED BY	D.J.R.	1-68
SHEET 18 OF 25		

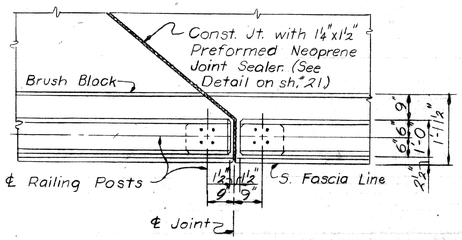
S27 of 82194L



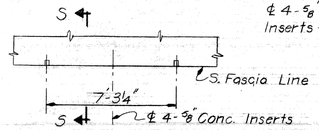
DETAIL E

DETAIL F

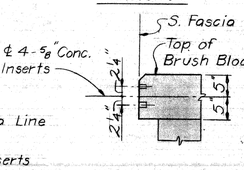
DETAIL C



DETAIL D



PLAN



SECTION S-S

CLEARANCE SIGN MOUNTING DETAILS

SPAN #2

Notes:

Inserts are to be ⅝" Truscon threaded inserts or approved equal and are to be provided with a suitable Setting plug.

Furnishing and placing concrete inserts is incidental to superstructure concrete.

Clearance sign and mounting brackets are to be furnished and installed by others.

Work this Sheet with Sheets No. 18 thru 23.

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JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

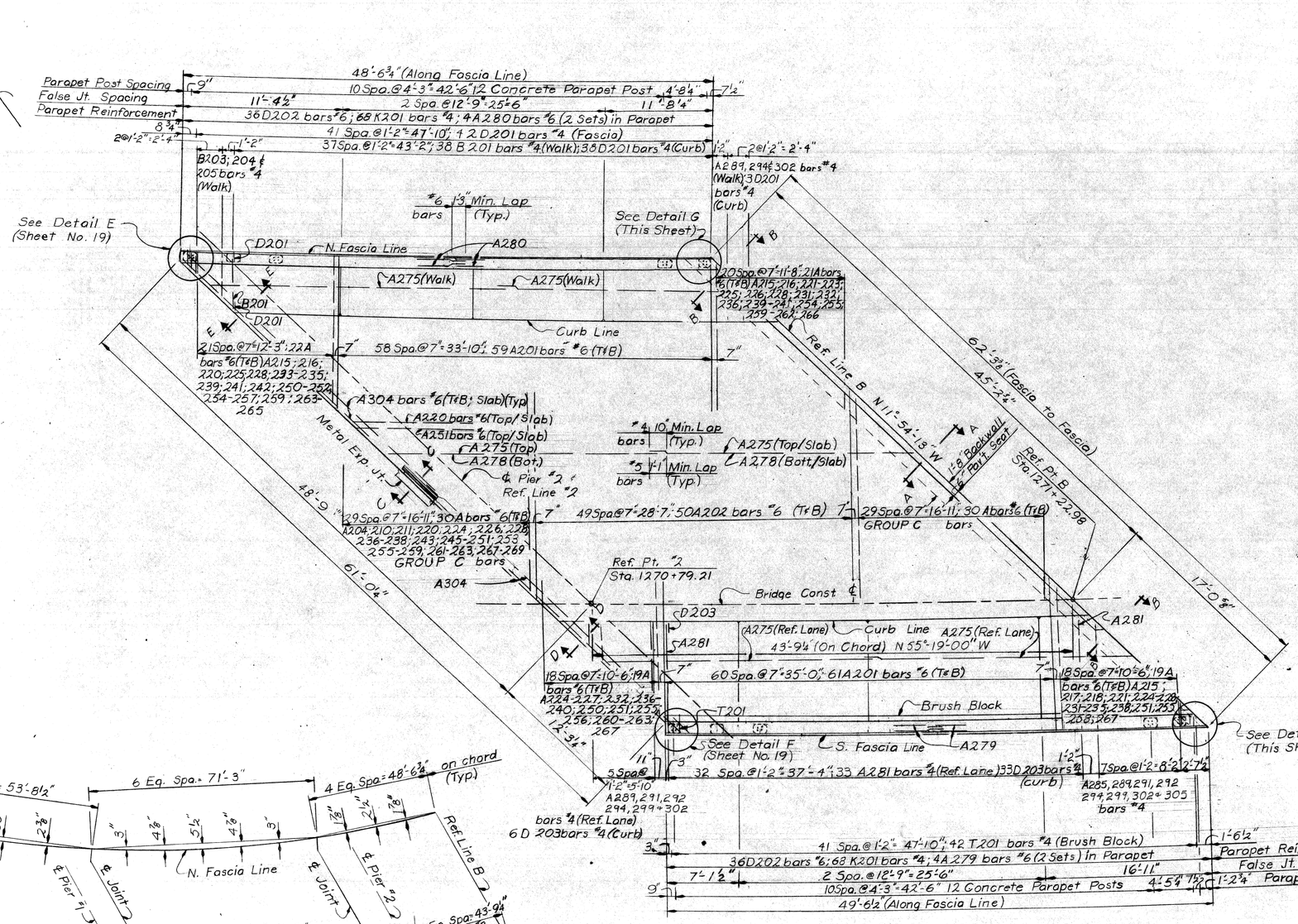
CITY OF DETROIT

SQUAD BOSS	Stuem 2-68
DRAWN BY	G. Mahar 11/1968
TRACED BY	L.G. 1-68
CHECKED BY	D.J.R. 1-68
SHEET 19 OF 23	

REVISIONS

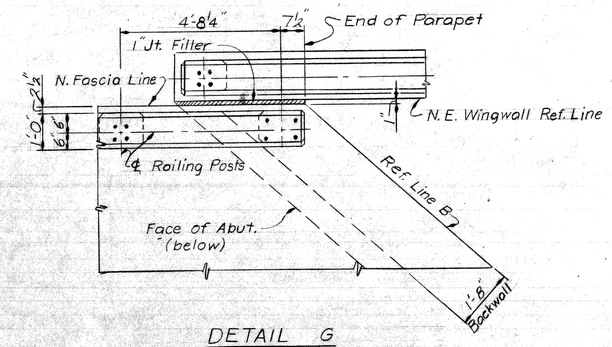
NO.	DESCRIPTION	DATE	BY

S27 of 82194L

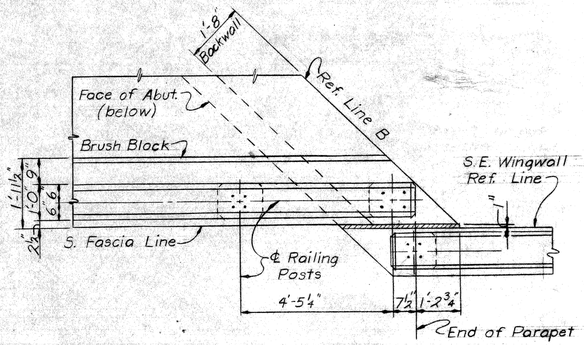


SPAN "3"

HORIZONTAL CURVE ORDINATES



DETAIL G



DETAIL H

Work this Sheet with Sheets No. 18 thru 23.

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CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

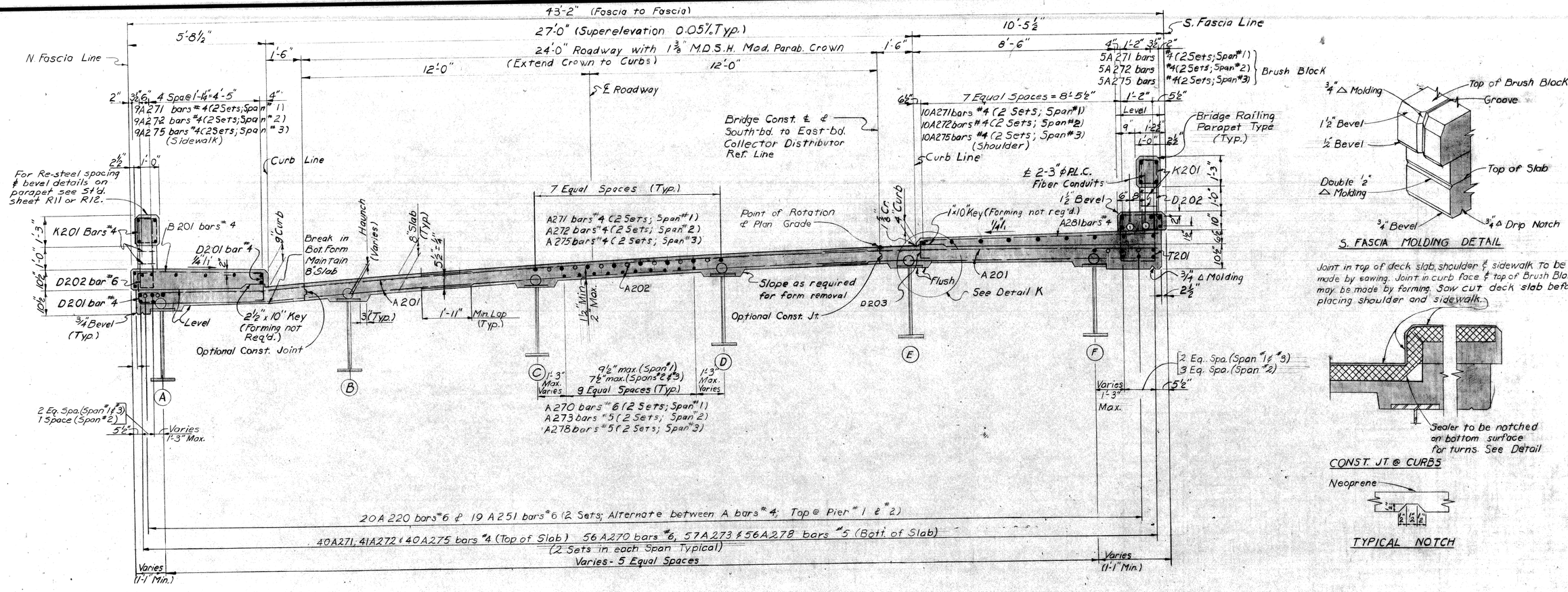
SQUAD BOSS	Stuem	7-68
DRAWN BY	G. Molnar	11/1968
TRACED BY	Z. G.	1-68
CHECKED BY	D. J. R.	1-68

SHEET 20 OF 23

REVISIONS

NO.	DESCRIPTION	DATE	BY

S27 of 82194L



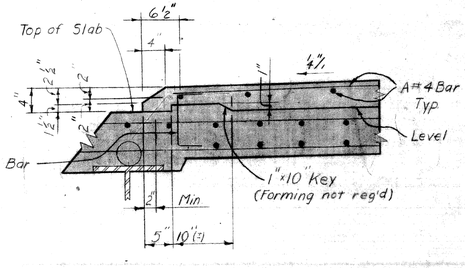
CROSS SECTION

S. FASCIA MOLDING DETAIL

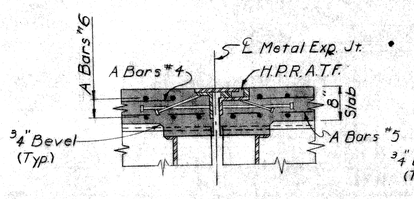
Joint in top of deck slab, shoulder & sidewalk to be made by sawing. Joint in curb face & top of Brush Block may be made by forming. Saw cut deck slab before placing shoulder and sidewalk.

CONST. JT. @ CURBS

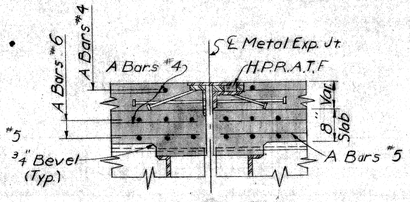
TYPICAL NOTCH



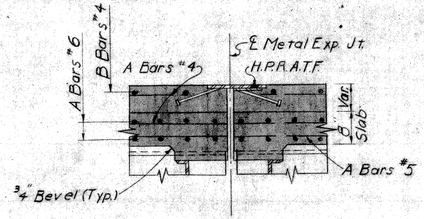
DETAIL K



SECTION C-C



SECTION D-D



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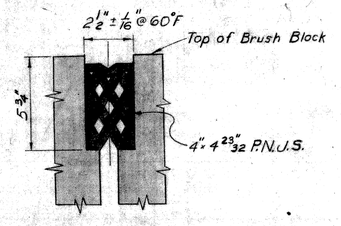
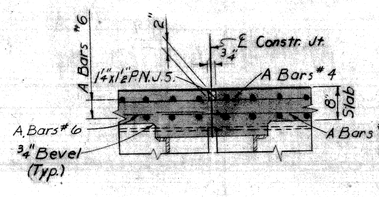
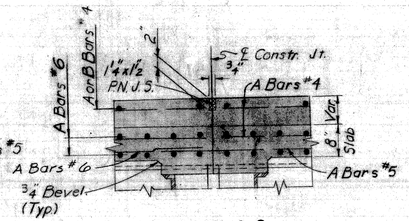


SECTION THRU BRUSH BLOCK AT METAL EXP. JT.



SECTION F-F



SECTION G-G

Work this Sheet with Sheets No. 18 thru 23

PLANS PREPARED BY
CITY OF DETROIT
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CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED J. J. Court
STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

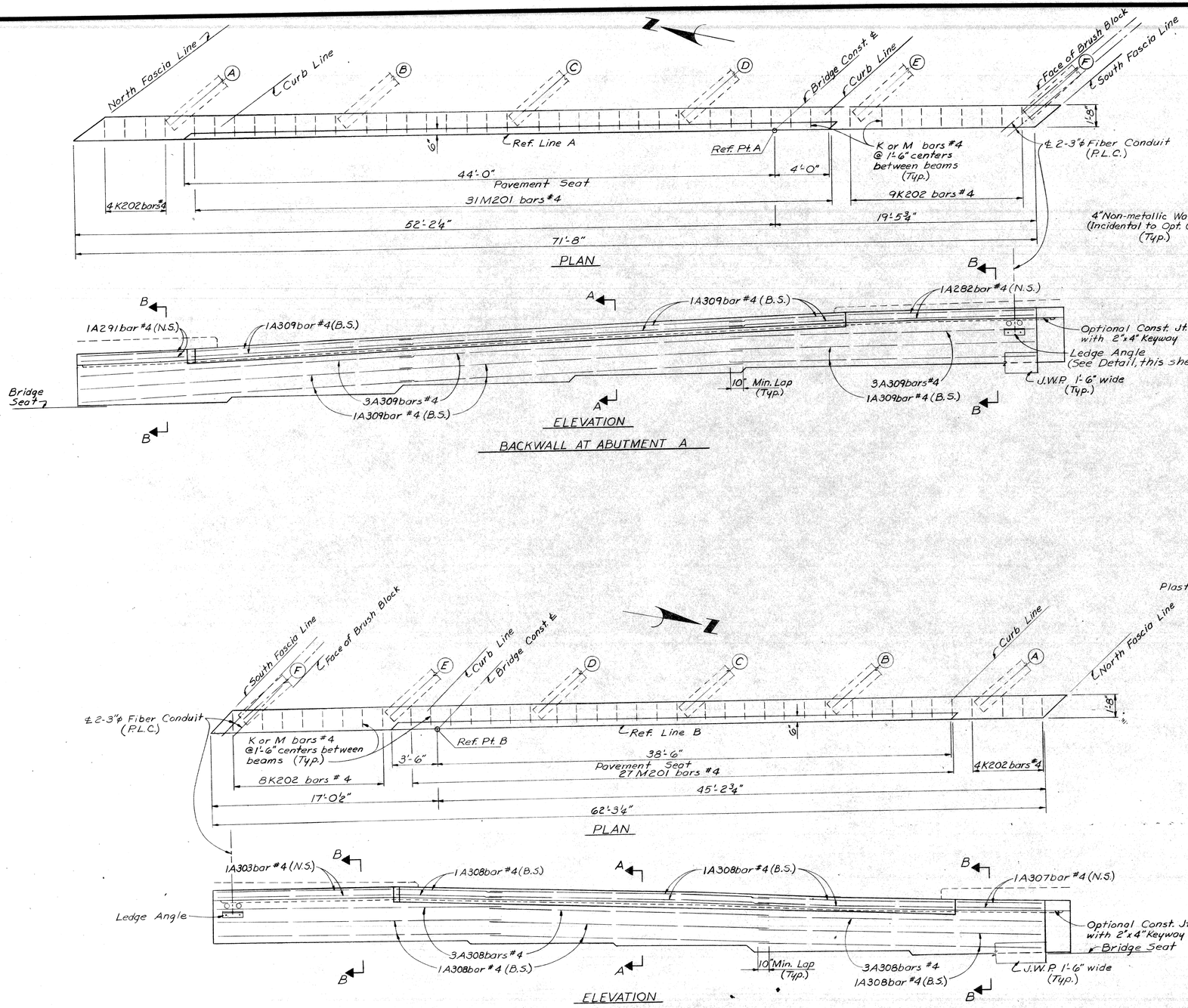
CITY OF DETROIT

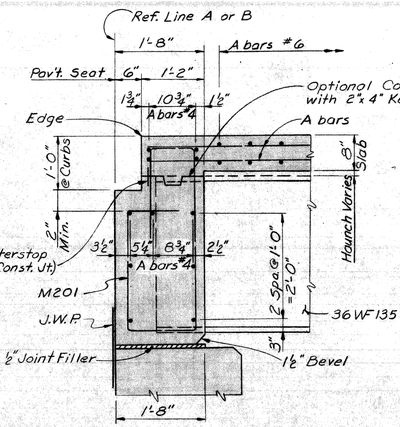
REVISIONS			
NO.	DESCRIPTION	DATE	BY

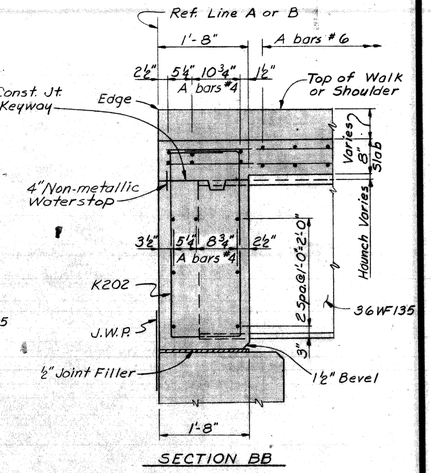
SQUAD BOSS	S. Stratas	2-68
DRAWN BY	G. Molnar	11/1968
TRACED BY	O. Hopkins	11/1968
CHECKED BY	D.J.R.	2-68

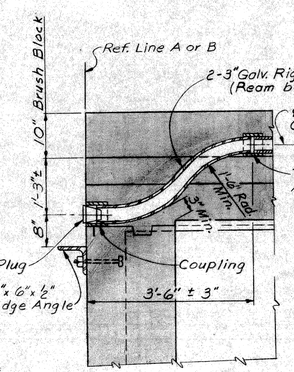
SHEET 21 OF 25

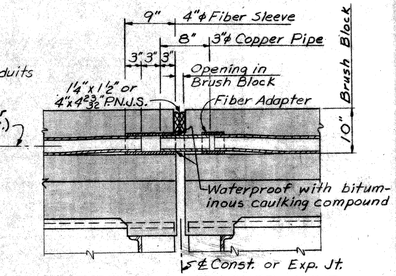
S27 of 82194L

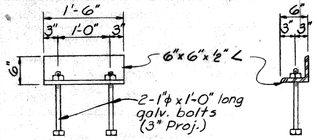












NOTE: Waterproofing, Couplings, Galvanized steel conduit, 4"ϕ Fiber Sleeves, Copper Pipe, Adapters & Plastic Plugs are incidental to 3"ϕ Fiber Conduit. Bolts and Ledge Angles are included in Structural Steel Weight. The contractor will furnish and place all of the materials.

DETAILS OF P.L.C. CONDUIT IN BRUSH BLOCK

Note:
N.S. denotes Near Side.
B.S. denotes Both Sides.

Work this sheet with sheet nos. 18 thru 23.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

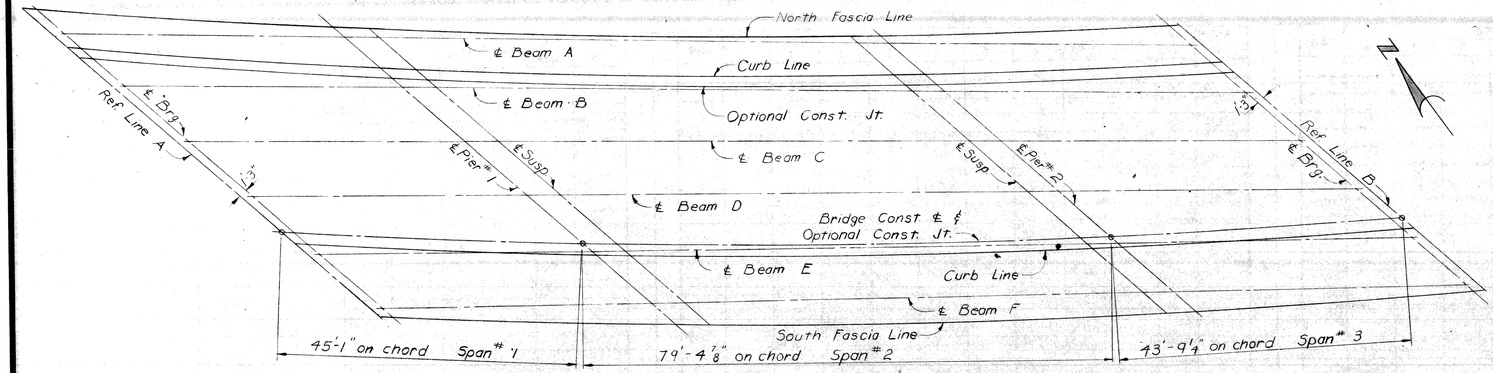
SQUAD BOSS	Sriram	2-68
DRAWN BY	D.V.R.	12-67
TRACED BY	–	–
CHECKED BY	J.W.S	2-68

SHEET 22 OF 25

REVISIONS

NO.	DESCRIPTION	DATE	BY

S27 of 82194L



PLAN OF SLAB

Ref. Line A ℄ Brg.	4 Equal Spaces			℄ Pier 1	Varies	℄ Joint	6 Equal Spaces					℄ Joint	Varies	℄ Pier	4 Equal Spaces			Ref. Line B	
606.89	607.06	607.21	607.35	607.49		607.54	607.72	607.87	607.99	608.07	608.12	608.15	608.17	608.25	608.31	608.35	608.38	on N. Curb Line
607.01	607.17	607.33	607.47	607.61		607.66	607.83	607.99	608.11	608.19	608.23	608.26	608.29	608.35	608.41	608.46	608.48	on Const. Jt.
608.63	608.78	608.90	609.01	609.11		609.14	609.29	609.42	609.50	609.57	609.59	609.58	609.62	609.68	609.71	609.73	609.73	on Bridge Const. ℄
608.71	608.85	608.97	609.08	609.18		609.21	609.35	609.48	609.57	609.63	609.65	609.64	609.68	609.74	609.77	609.79	609.78	on S. Curb Line

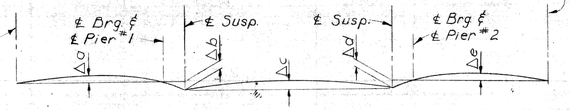
SCREED ELEVATIONS

Ref. Line A ℄ Brg.	4 Equal Spaces			℄ Pier # 1	Varies	℄ Susp.	6 Equal Spaces					℄ Susp.	Varies	℄ Pier # 2	4 Equal Spaces			℄ Brg.	Ref. Line B
606.21	606.37	606.52	606.64	606.76		606.81	607.02	607.20	607.32	607.40	607.45	607.46	607.49	607.51	607.65	607.69	607.70	on Beam A
606.69	606.81	606.92	607.01	607.10		607.13	607.34	607.51	607.64	607.71	607.74	607.74	607.78	607.88	607.97	608.04	608.09	on Beam B
607.27	607.39	607.50	607.58	607.66		607.70	607.89	608.05	608.16	608.23	608.26	608.25	608.28	608.37	608.46	608.51	608.55	on Beam C
607.74	607.85	607.96	608.04	608.12		608.15	608.34	608.49	608.60	608.66	608.67	608.65	608.68	608.76	608.82	608.87	608.89	on Beam D
608.09	608.22	608.34	608.43	608.50		608.53	608.71	608.85	608.95	609.00	609.00	608.98	609.00	609.07	609.11	609.14	609.12	on Beam E
608.20	608.32	608.43	608.51	608.59		608.62	608.79	608.93	609.03	609.06	609.06	609.02	609.04	609.08	609.12	609.13	609.12	on Beam F

BOTTOM OF SLAB ELEVATIONS

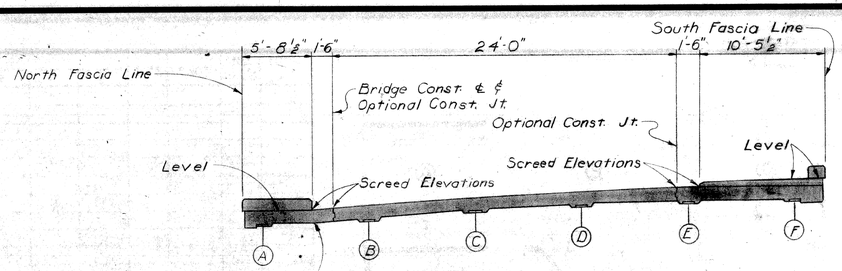
CAMBER ORDINATES (Inches)

	Structural Steel Erected No other loads applied					Forms, Shear Developers and Reinf. Steel in place					Deck Slab, Shoulder, Sidewalk Brush Block & Railing in place				
Beam	Δ a	Δ b	Δ c	Δ d	Δ e	Δ a	Δ b	Δ c	Δ d	Δ e	Δ a	Δ b	Δ c	Δ d	Δ e
A	1/2"	-1/8"	2 1/4"	-1/8"	5/8"	3/8"	-1/8"	1 3/4"	-1/8"	1/2"	1/4"	0"	5/8"	0"	1/4"
B	3/8"	-1/8"	2 3/4"	-1/8"	1/2"	1/4"	-1/8"	1 3/4"	-1/8"	3/8"	1/8"	0"	3/8"	0"	1/8"
C	3/8"	-1/8"	2 1/4"	-1/8"	1/2"	1/4"	-1/8"	1 5/8"	-1/8"	3/8"	1/8"	0"	1/4"	0"	1/8"
D	3/8"	-1/8"	2 3/8"	-1/8"	1/2"	1/4"	-1/8"	1 7/8"	-1/8"	3/8"	1/8"	0"	3/8"	0"	1/8"
E	1/2"	-1/4"	2 3/8"	-1/4"	5/8"	3/8"	-1/4"	1 3/4"	-1/4"	1/2"	1/4"	-1/8"	3/8"	-1/8"	1/4"
F	3/8"	-1/8"	2 1/2"	-1/8"	1/2"	1/4"	-1/8"	1 7/8"	-1/8"	3/8"	1/8"	-1/8"	5/8"	-1/8"	1/4"

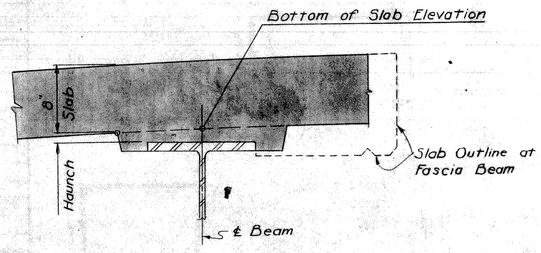


CAMBER DIAGRAM

(For loading cases shown in table)



SCREED LOCATION



TYPICAL SECTION AT EACH BEAM

GENERAL NOTES:

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

Concrete in the suspended span is to be cast before the concrete in the anchor spans.

Bottom of slab elevations are based on the condition that all structural steel has been erected, but no other loads applied. The elevations include allowances for deflections due to forms, steel reinforcement, shear developers in place, deck concrete, shoulder, sidewalk and railing.

Screed elevations are based on the condition that no deck concrete has been cast and that form work, steel reinforcement and shear developers are in place. Screeds affected by loads in other spans are to be set to the elevations shown before casting any concrete.

Work this sheet with sheet nos. 18 thru 22.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

SQUAD BOSS	Stuart	7-68
DRAWN BY	A.H.	1-68
TRACED BY	—	—
CHECKED BY	D.J.R	2-68
SHEET 23 OF 25		

REVISIONS

NO.	DESCRIPTION	DATE	BY

S27 of 82194L

ABUTMENTS AND WINGWALLS

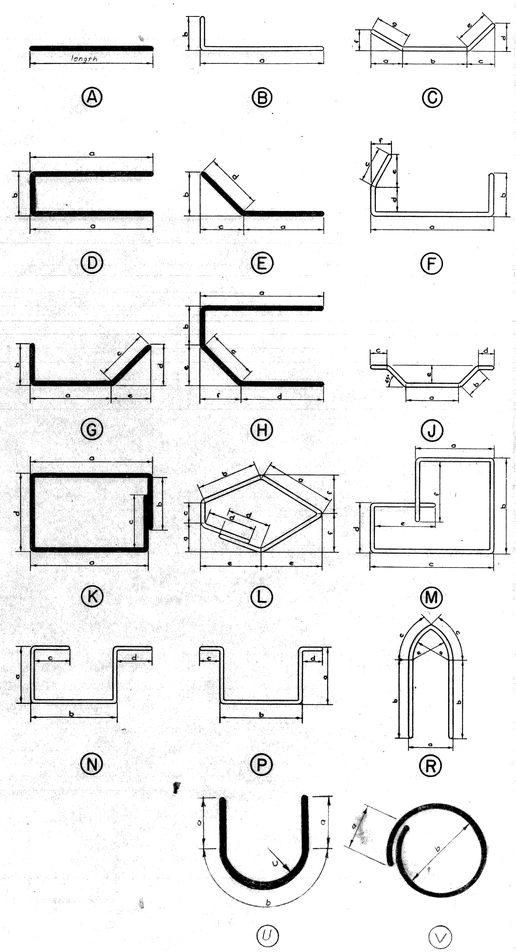
BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D.	TOTAL WT.
A1								#6	8'-0"	137	1646
A2								#6	5'-3"	89	702
A3								#6	26'-0"	30	1172
A4								#7	6'-0"	22	270
A5								#6	16'-6"	22	545
A6								#6	6'-6"	11	107
A7								#7	4'-6"	7	64
A8								#6	9'-9"	41	600
A9								#6	15'-0"	9	203
A10								#6	11'-6"	18	311
A11								#7	7'-6"	40	613
A12								#7	7'-10"	17	272
A13								#7	8'-10"	17	307
A14								#6	8'-10"	29	385
A15								#7	9'-7"	14	274
A16								#4	23'-6"	13	298
A17								#4	25'-0"	13	317
A18								#4	8'-0"	18	96
A19								#4	13'-6"	20	180
A20								#6	5'-0"	45	338
A21								#6	4'-3"	43	274
A22								#4	14'-0"	8	75
A23								#4	20'-6"	2	27
A24								#6	12'-0"	4	72
A25								#6	22'-6"	30	1014
A26								#6	19'-6"	6	176
A27								#6	10'-9"	5	81
A28								#6	21'-9"	9	294
A29								#6	10'-3"	20	308
A30								#4	10'-4"	16	110
A31								#7	8'-4"	16	273
A32								#7	9'-3"	26	432
A33								#6	8'-4"	16	200
A34								#6	9'-3"	27	375
A35								#6	11'-3"	27	456
A36								#4	15'-3"	18	189
A37								#4	19'-6"	9	117
A38								#4	17'-6"	2	23
A39								#4	12'-0"	4	32
A40								#6	17'-5"	4	105
A41								#6	13'-7"	4	82
D1	4'-6"	11"						#4	9'-10"	17	112
D2	2'-10⅜"	7¼"						#6	6'-3"	54	507
E1	1'-2"	10½"	9"	1'-2"				#4	2'-4"	11	17
E2	2'-6"	1'-5½"	2'-0⅜"	2'-6"				#4	5'-0"	10	33
E3	2'-6"	1'-9¼"	1'-9¼"	2'-6"				#4	5'-0"	12	40
G1	3'-0"	6"	1'-6"	1'-2"	11"			#4	5'-0"	11	37
H1	4'-6"	0"	1'-6¾"	3'-2⅜"	11"	1'-3¼"		#4	9'-3"	8	49
H2	4'-0"	0"	1'-3½"	3'-1"	11"	11"		#4	8'-4"	9	50
K1	10¾"	6¼"	6"	8¼"				#4	3'-5"	92	210
									Total Abuts. & Wingwalls =		14,530

PIERS

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D.	TOTAL WT.
A101								#6	8'-6"	118	1507
A102								#8	8'-6"	72	1634
A103								#8	26'-5"	31	2393
A104								#8	15'-11"	9	382
A105								#8	33'-6"	14	1252
A106								#10	5'-6"	110	2603
A107								#6	4'-6"	82	554
A108								#4	21'-3"	15	213
A109								#4	11'-9"	20	157
A110								#10	15'-9"	28	1898
A111								#10	17'-0"	22	1609
A112								#10	17'-6"	50	3765
A113								#10	19'-0"	12	981
A114								#10	7'-7"	6	136
A115								#10	11'-7"	18	897
A116								#10	18'-9"	13	1452
A117								#10	11'-0"	12	568
A118								#10	12'-3"	12	633
A119								#11	11'-7"	6	369
A120								#5	20'-0"	4	83
A121								#5	23'-9"	4	99
A122								#5	10'-6"	8	88
A123								#7	31'-6"	16	1030
A124								#8	13'-0"	8	278
A125								#6	5'-0"	74	556
A126								#4	19'-6"	15	195
A127								#4	11'-0"	20	147
A128								#10	16'-3"	28	1958
A129								#6	6'-9"	10	101
A130								#6	6'-0"	10	90
A131								#10	7'-4"	6	189
A132								#5	22'-3"	4	93
A133								#10	10'-9"	18	833
A134								#11	10'-9"	6	343
A135								#10	14'-5"	6	372
A136								#10	17'-0"	6	439
A137								#5	17'-6"	4	73
A138								#5	10'-9"	8	90
D101	6'-8"	7½"						#6	13'-10"	36	748
D102	2'-6¼"	6½"						#4	5'-6"	20	73
D103	2'-0"	3'-1¼"						#5	7'-0"	24	175
D104	6'-0"	7½"						#6	12'-6"	32	601
K101	3'-2¼"	1'-2"	1'-2"	1' 5½"				#4	10'-1"	136	916
K102	3'-5¼"	1'-2"	1'-2"	1' 5½"				#4	10'-7"	34	240
K103	3'-8¼"	1'-2"	1'-2"	1' 5½"				#4	11'-1"	34	252
K104	4'-1¼"	1'-2"	1'-2"	1' 5½"				#4	11'-11"	12	96
U101	1'-6"	3'-5"	1'-0¾"					#5	6'-5"	16	107
V101	10"	1'-11½"						#4	7'-3"	136	659
									Total Piers =		33,977

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

BAR BENDING DIAGRAM



Note:—
All right angle bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.
All bar numbers shown on this sheet are to be prefixed S-27
Steel for reinforcement shall be intermediate or hard grade only.

Tolerances in cutting and bending bars are as established in Manual of Standard Practice of the Concrete Reinforcing Steel Institute and Detailing Manual of the American Concrete Institute
Sheet Total Steel Reinforcement 48,507 #

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS
APPROVED J. H. Conrad STRUCTURAL ENGINEER

JOB No.
PW 1002 146

MICHIGAN STATE HIGHWAY DEPARTMENT

STEEL REINFORCEMENT DETAILS

CITY OF DETROIT

REVISIONS NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	Symon	2-68
DRAWN BY	A.H.	2-68
TRACED BY	—	—
CHECKED BY	J.H.J.	2-68

SHEET 24 OF 25

S27 of 821941

SUPERSTRUCTURE

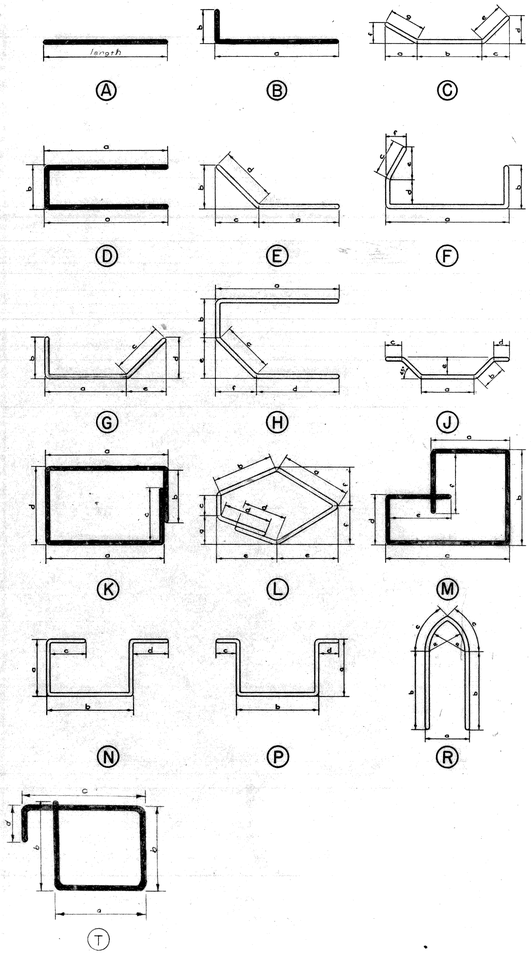
BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D.	TOTAL WT.,
A201								#6	14'-0"	868	18 252
A202								#6	18'-9"	364	10.251
A203								#6	18'-3"	4	110
A204								#6	17'-9"	8	213
A205								#6	17'-6"	8	210
A206								#6	17'-0"	8	204
A207								#6	16'-6"	8	198
A208								#6	16'-3"	4	98
A209								#6	15'-9"	4	95
A210								#6	15'-6"	12	279
A211								#6	15'-0"	12	270
A212								#6	14'-9"	4	89
A213								#6	14'-3"	4	86
A214								#6	13'-4"	12	248
A215								#6	13'-3"	18	358
A216								#6	12'-9"	16	306
A217								#6	12'-6"	28	526
A218								#6	12'-0"	24	433
A219								#6	11'-6"	22	380
A220								#6	11'-0"	66	1090
A221								#6	10'-9"	20	323
A222								#6	10'-3"	18	277
A223								#6	9'-9"	22	322
A224								#6	9'-6"	20	285
A225								#6	9'-0"	22	297
A226								#6	8'-6"	26	332
A227								#6	8'-0"	20	240
A228								#6	7'-9"	32	372
A229								#6	7'-6"	16	180
A230								#6	7'-0"	16	168
A231								#6	6'-6"	20	195
A232								#6	6'-0"	22	196
A233								#6	5'-9"	24	207
A234								#6	5'-3"	24	189
A235								#6	4'-9"	24	171
A236								#6	4'-6"	32	216
A237								#6	4'-0"	30	180
A238								#6	3'-6"	32	168
A239								#6	3'-3"	20	98
A240								#6	2'-9"	20	83
A241								#6	2'-6"	28	105
A242								#6	2'-0"	8	24
A243								#6	18'-6"	8	222
A244								#6	18'-0"	9	108
A245								#6	16'-0"	8	192
A246								#6	14'-6"	8	174
A247								#6	14'-0"	8	168
A248								#6	13'-6"	10	203
A249								#6	13'-0"	10	195
A250								#6	10'-6"	16	252
A251								#6	10'-0"	56	841
A252								#6	9'-3"	14	195
A253								#6	8'-9"	12	158
A254								#6	8'-3"	12	149
A255								#6	7'-3"	20	218
A256								#6	6'-9"	16	162
A257								#6	6'-3"	14	131
A258								#6	3'-0"	16	72
A259								#6	11'-9"	10	176
A260								#6	11'-3"	6	101
A261								#6	5'-6"	12	99
A262								#6	5'-0"	12	90
A263								#6	12'-3"	8	147
A264								#6	4'-3"	2	13
A265								#6	3'-3"	2	10
A266								#6	3'-9"	2	11
A267								#6	2'-3"	8	27
A268								#6	16'-9"	4	101
A269								#6	17'-3"	4	104
A270								#6	25'-6"	120	4596
A271								#4	25'-3"	128	2159
A272								#4	36'-6"	130	3170
A273								#5	37'-6"	114	4459
A274								#6	34'-9"	8	418
A275								#4	25'-9"	128	2202
A276								#6	26'-6"	8	318
A277								#6	36'-0"	8	433
A278								#5	26'-0"	112	3037

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D.	TOTAL WT.
A279								#6	25'-3"	8	303
A280								#6	24'-6"	8	294
A281								#4	9'-9"	118	768
A282								#4	14'-9"	2	20
A283								#6	33'-6"	16	805
A284								#4	9'-6"	2	13
A285								#4	8'-3"	2	11
A286								#4	7'-0"	1	5
A287								#4	5'-9"	4	15
A288								#4	4'-6"	2	6
A289								#4	3'-3"	5	11
A290								#4	8'-9"	1	6
A291								#4	7'-6"	5	25
A292								#4	6'-6"	5	22
A293								#4	5'-0"	2	7
A294								#4	9'-0"	4	11
A295								#4	2'-9"	1	2
A296								#4	8'-6"	1	6
A297								#4	3'-0"	2	4
A298								#4	7'-9"	3	16
A299								#4	5'-3"	3	11
A300								#4	3'-9"	2	5
A301								#4	2'-6"	3	5
A302								#4	2'-0"	5	7
A303								#4	13'-0"	2	17
A304								#6	31'-0"	16	745
A305								#4	9'-3"	1	6
A306								#4	3'-6"	1	2
A307								#4	6'-0"	2	8
A308								#4	21'-3"	33	468
A309								#4	24'-3"	33	535

BAR	DIMENSIONS a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D.	TOTAL WT.
B201	5'-3½"	7"						#4	5'-10"	139	542
B202	4'-3½"	7"						#4	4'-10"	1	3
B203	3'-6½"	7"						#4	4'-1"	3	8
B204	2'-9½"	7"						#4	3'-4"	3	7
B205	2'-0½"	7"						#4	2'-7"	2	3
D201	6"	1'-2"						#4	2'-1"	301	419
D202	2'-10⅜"	7'4"						#6	6'-3"	246	2309
D203	6"	9"						#4	1'-8"	139	155
K201	10¾"	6'4"	6"	8'4"				#4	3'-5"	468	1068
K202	3'-4"	1'-0½"	1'-1"	1'-3½"				#4	10'-0"	25	167
M201	10'4"	3'-4"	1'-3½"	2'-5"	11'4"	1'-5"		#4	10'-2"	58	394
T201	1'-3½"	1'-2"	1'-7½"	7"				#4	5'-8"	146	553

Total Superstructure: 73,224

BAR BENDING DIAGRAM



Note:—
All right angle bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.
All bar numbers shown on this sheet are to be prefixed S-27

Steel for reinforcement shall be intermediate or hard grade only.

Tolerances in cutting and bending bars are as established in Manual of Standard Practice of the Concrete Reinforcing Steel Institute and Detailing Manual of the American Concrete Institute.

Sheet Total Steel Reinforcement 73,224 #
Grand Total Steel Reinforcement 121,731 #

PLANS PREPARED BY
CITY OF DETROIT
DEPT. OF PUBLIC WORKS
BUREAU OF ENGINEERING
APPROVED J. J. Court STRUCTURAL ENGINEER

JOB NO. PW 1002 145

MICHIGAN STATE HIGHWAY DEPARTMENT

STEEL REINFORCEMENT DETAILS

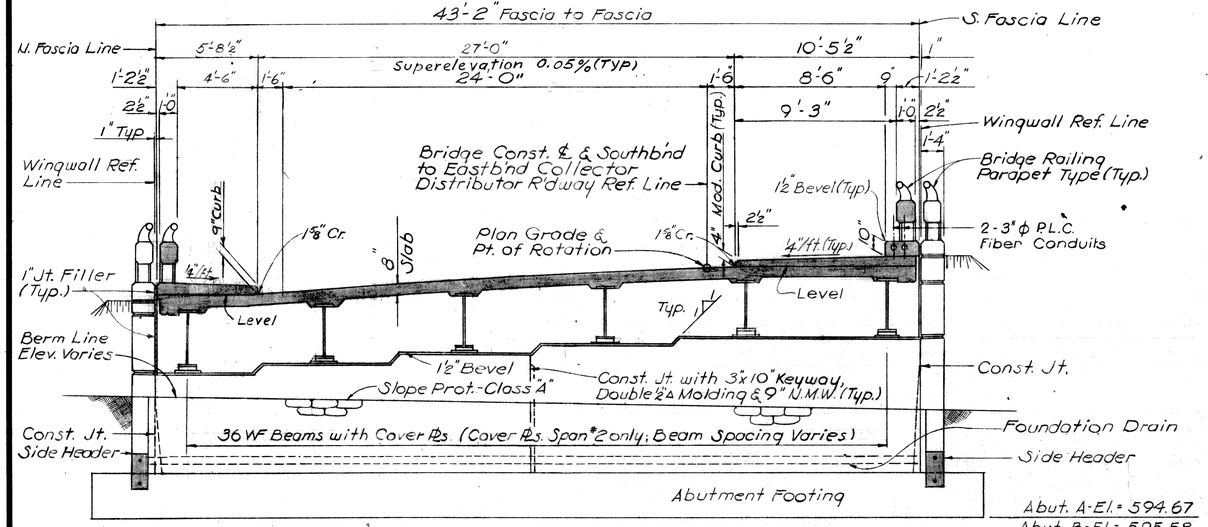
CITY OF DETROIT

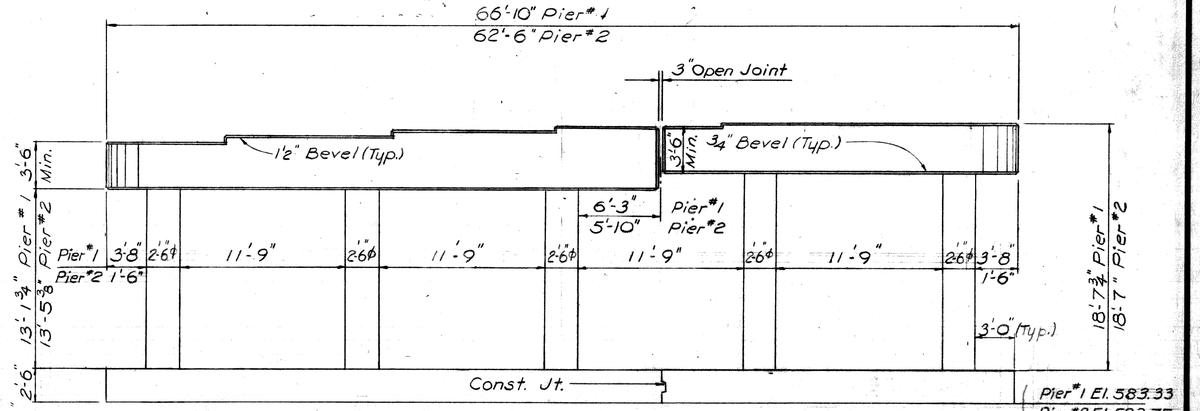
REVISIONS NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	Swan	2-68
DRAWN BY	A.H.	2-68
TRACED BY		
CHECKED BY	DJR	2-68

SHEET 25 OF 25

S27 of 82194L

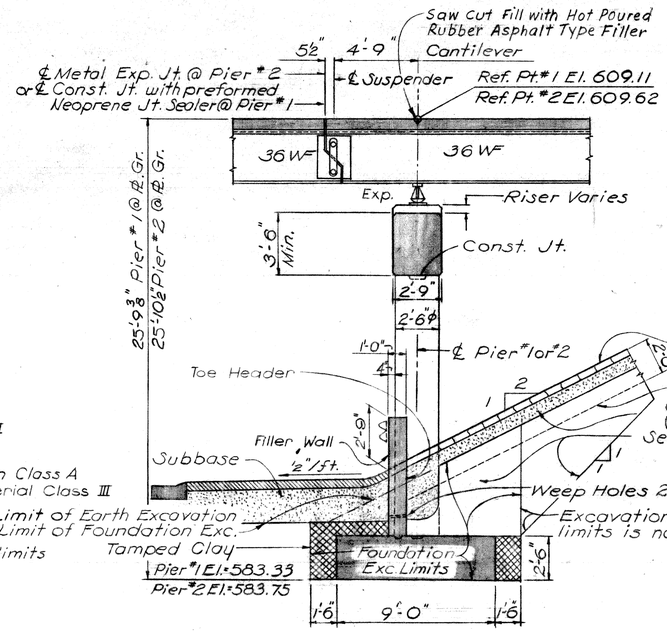




ELEVATION PIER #1 & #2
Scale 3/16" = 1'-0"

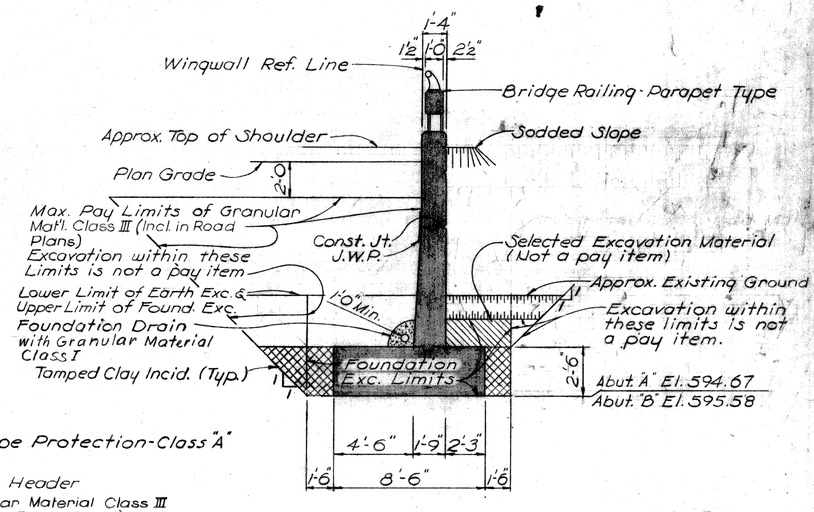
Note:
All dimensions are Radial to Bridge Const. ℄.

SECTION A-A
Scale 4" = 1'-0"



SECTION C-C
Scale 4" = 1'-0"

SECTION B-B
Scale 4" = 1'-0"



SECTION D-D
Scale 4" = 1'-0"

Note: Granular Material Class I incidental to Foundation Drain

Note: Tamped Clay and Selected Excavated Material are Incidental to Unclassified Excavation.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 1002 (46)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

S'BND. TO E'BND. COLLECTOR DISTRIBUTOR OVER THE N'BND. JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

CITY OF DETROIT

SQUAD BOSS	A. Freiberg	4-66
DRAWN BY	Roberts	3/66
TRACED BY	Roberts	3/66
CHECKED BY	A. Freiberg	4-66
SHEET	6 OF 23	

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ ENGINEER OF DESIGN — CONSULTANTS

S27 of 82194L