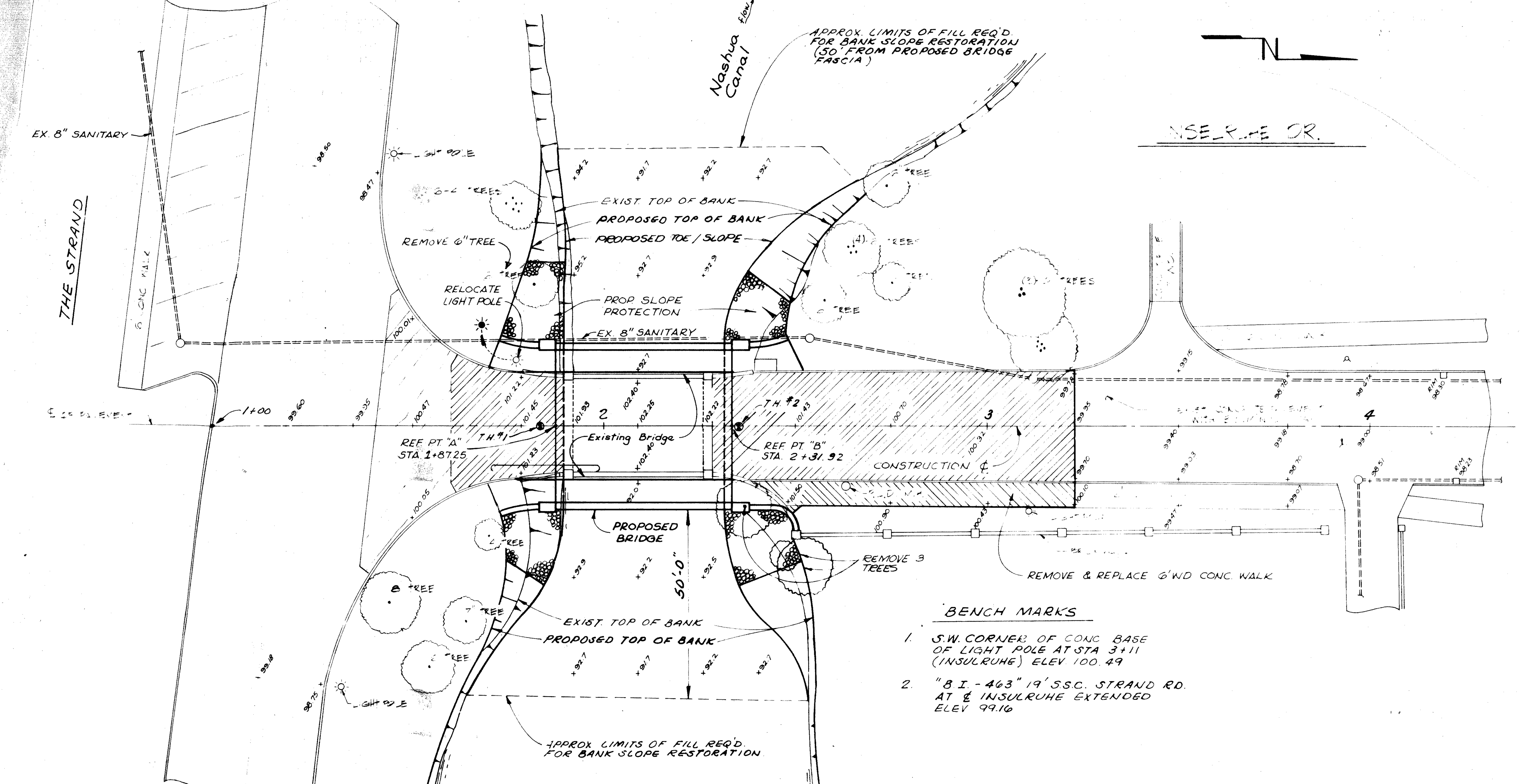
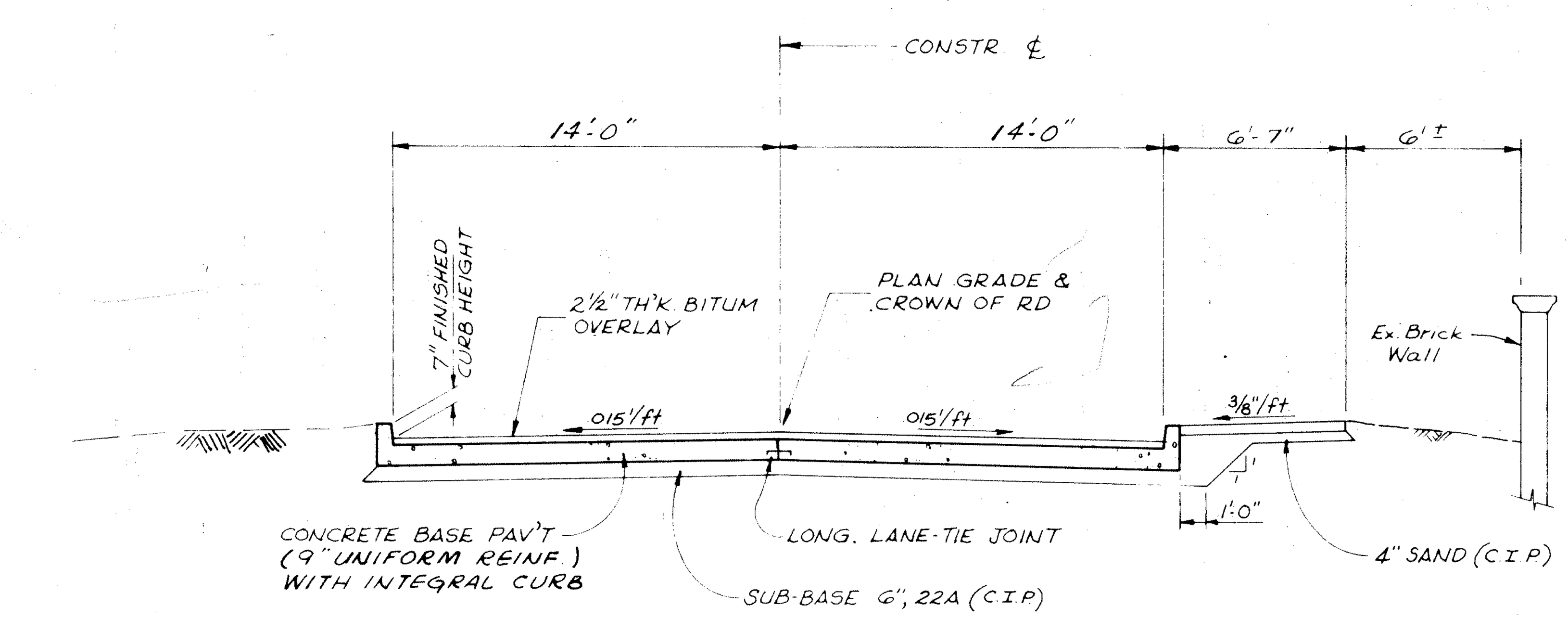


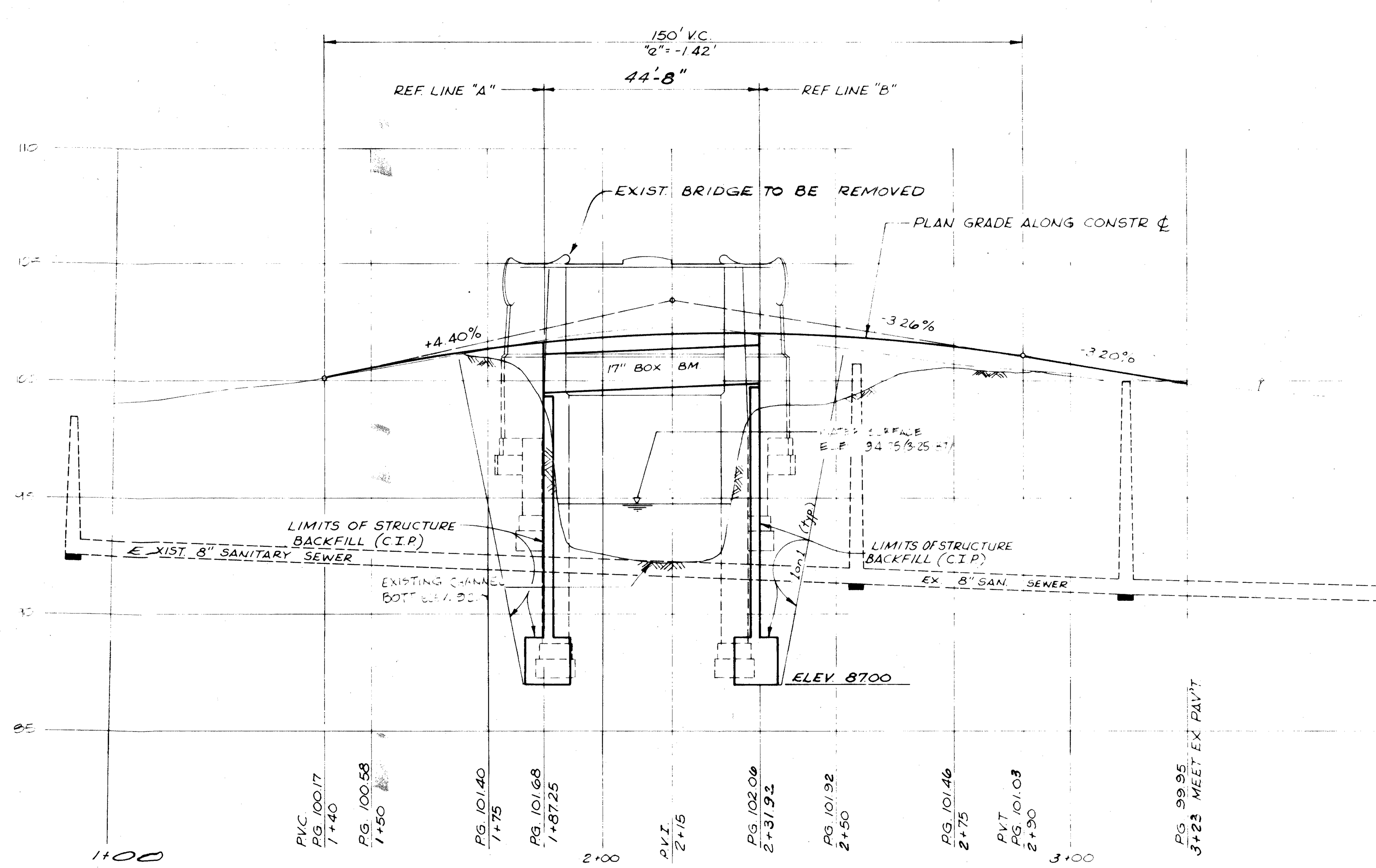
SITUATION PLAN
1" = 20'

BENCH MARKS

1. S.W. CORNER OF CONC BASE OF LIGHT POLE AT STA 3+11 (INSULRUHE) ELEV 100.49
2. "B I - 463" 19' S.S.C. STRAND RD. AT ℄ INSULRUHE EXTENDED ELEV 99.16



TYPICAL APPROACH SECTION
STA 2+31.92 to STA 3+25
Scale 3/16" = 1'-0"



PROFILE

NOTES

1. 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.
2. For protection of underground utilities, the Contractor shall dial 1-800-482-7171 a minimum of 48 hrs 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.
3. For detailed pavement grades, see sheet R-2.
4. All elevations are based on City of Detroit datum.
5. Insulruhe Road will be closed to all public traffic during construction.
6. For construction signing and barricading, see sheet R-

LEGEND

Symbol	Description
(stippled box)	Exist. bridge to be demolished.
(hatched box)	Remove existing concrete pavement with bituminous overlay, including curbs
(cross-hatched box)	Remove and replace concrete sidewalk
(light-hatched box)	Remove and replace bituminous cap only
○	Existing manhole
☼	Exist. P.L.D. Light pole
—I—I—	Exist. P.L.D. Underground conduit
+99.90	Exist. ground elevation

11/14/88	OWNERS REVIEW

Sheet Title: SITE PLAN

Project: CITY OF DETROIT
INSELRUHE BRIDGE RECONSTRUCTION

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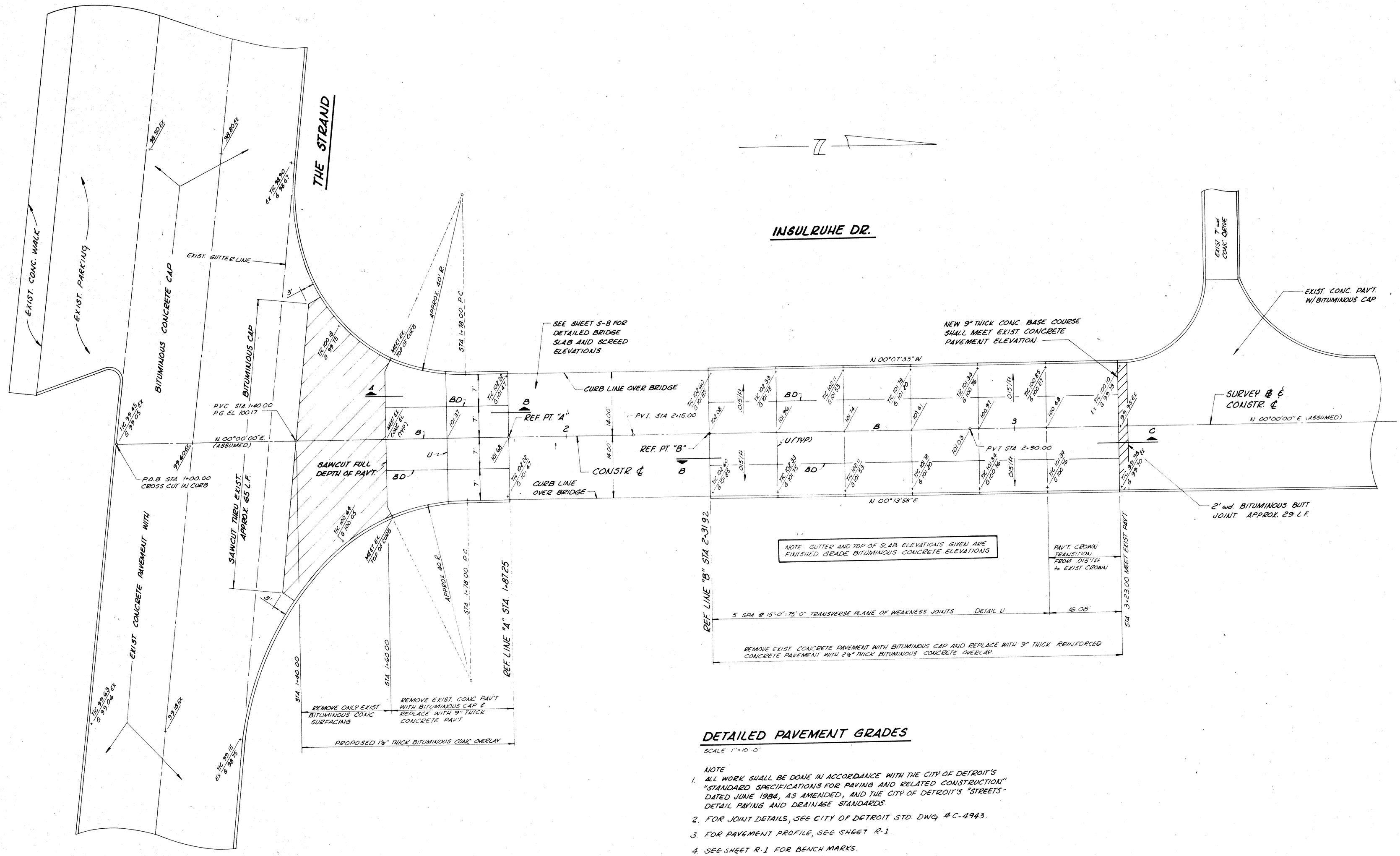
CHECKED BY	S.O.
DATE	
PROJECT NO.	8605
SHEET NO.	R-1



DETAILED PAVEMENT GRADES

SCALE 1" = 10'-0"

NOTE

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF DETROIT'S "STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION" DATED JUNE 1984, AS AMENDED, AND THE CITY OF DETROIT'S "STREETS - DETAIL PAVING AND DRAINAGE STANDARDS."
2. FOR JOINT DETAILS, SEE CITY OF DETROIT STD. DWG. # C-4943.
3. FOR PAVEMENT PROFILE, SEE SHEET R-1
4. SEE SHEET R-1 FOR BENCH MARKS.

Sheet Title: DETAILED PAVEMENT GRADES

1/14/88 OWNERS REVIEW

Project: CITY OF DETROIT
INSELRUHE BRIDGE
RECONSTRUCTION

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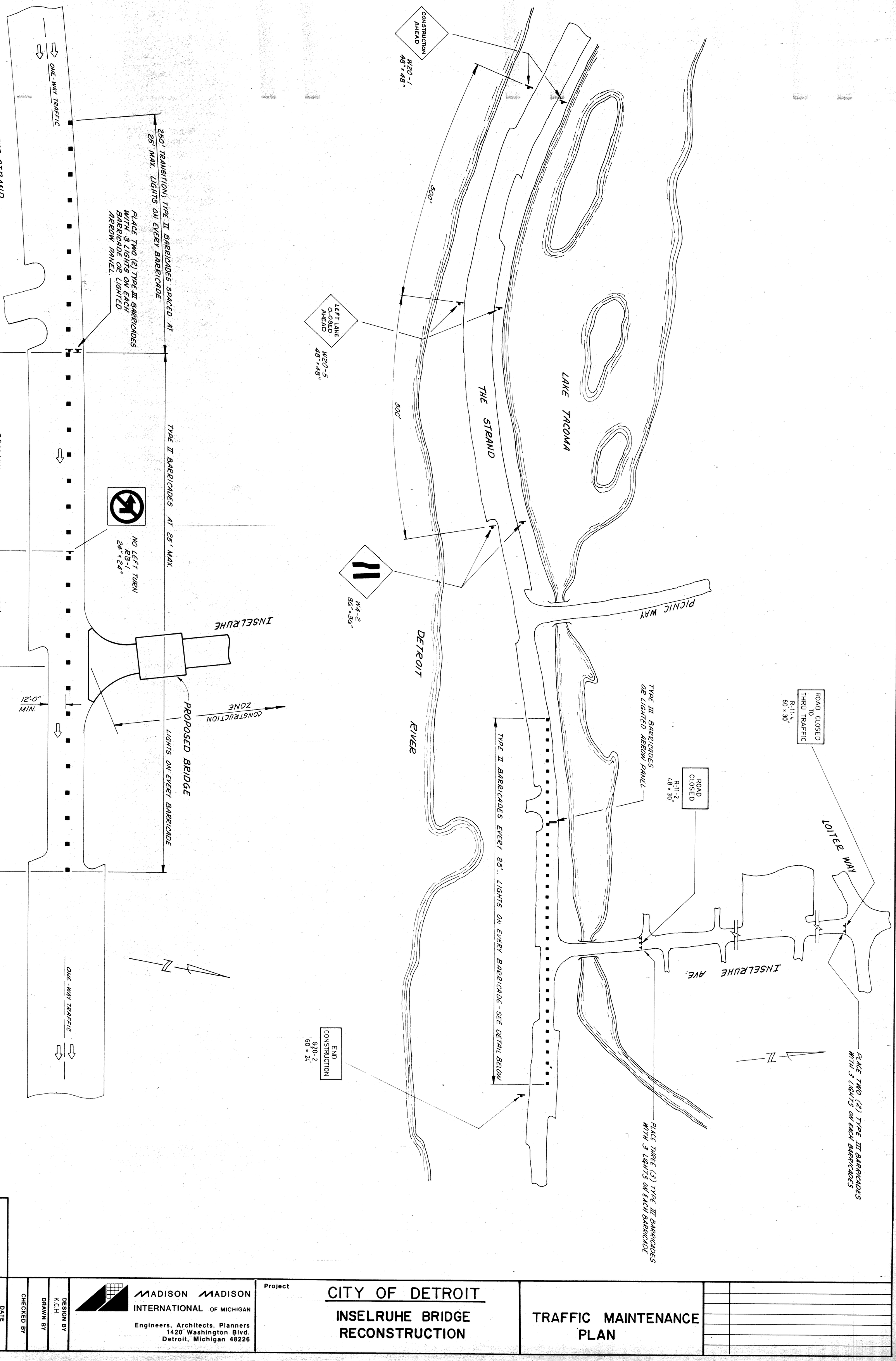
PROJECT NO.: 8605
SHEET NO.: R-2



STAGE II

DATE	
PROJECT NO.	8605
SHEET NO.	R-3
DESIGN BY	K.C.H.
DRAWN BY	
CHECKED BY	

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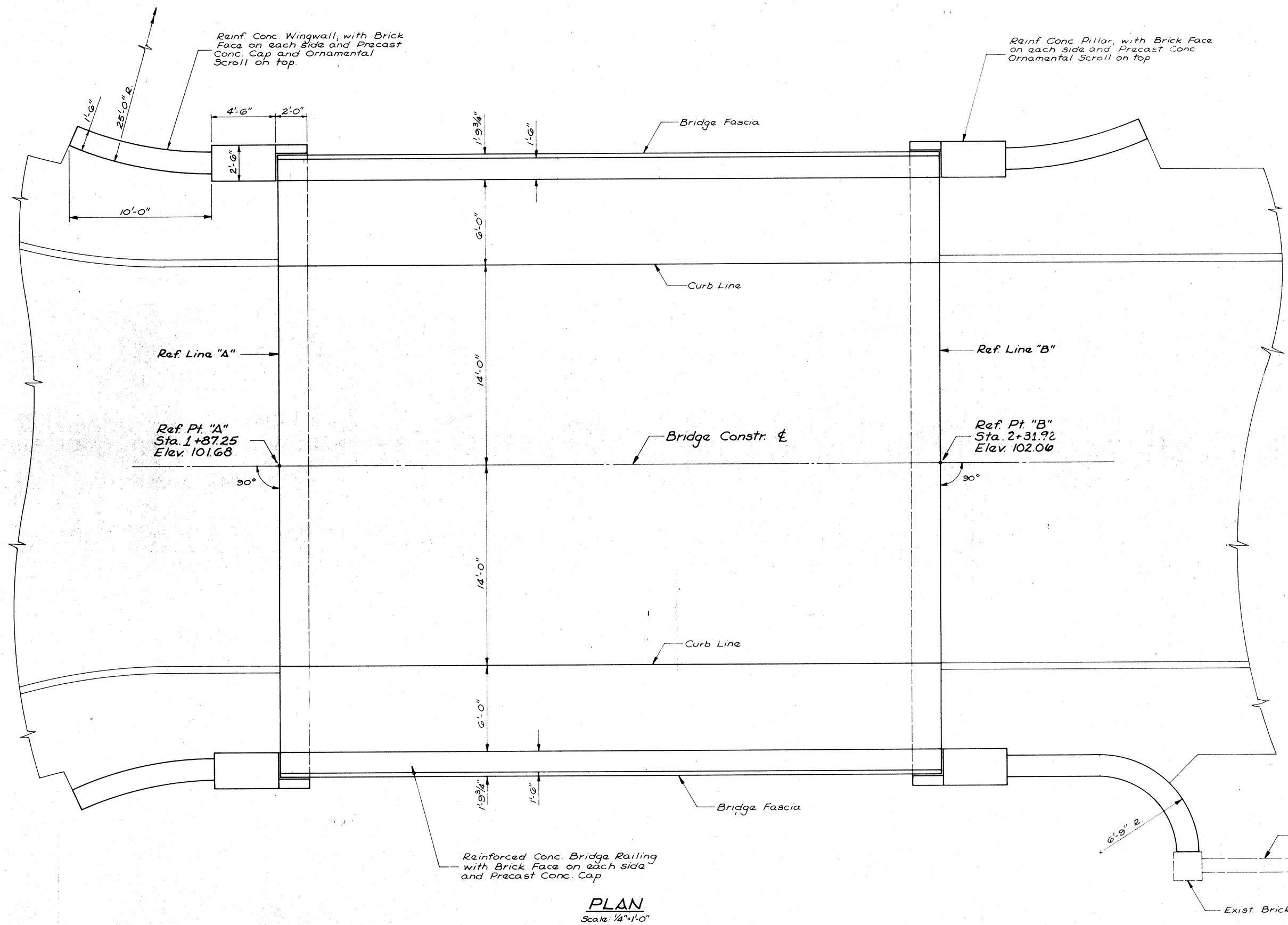
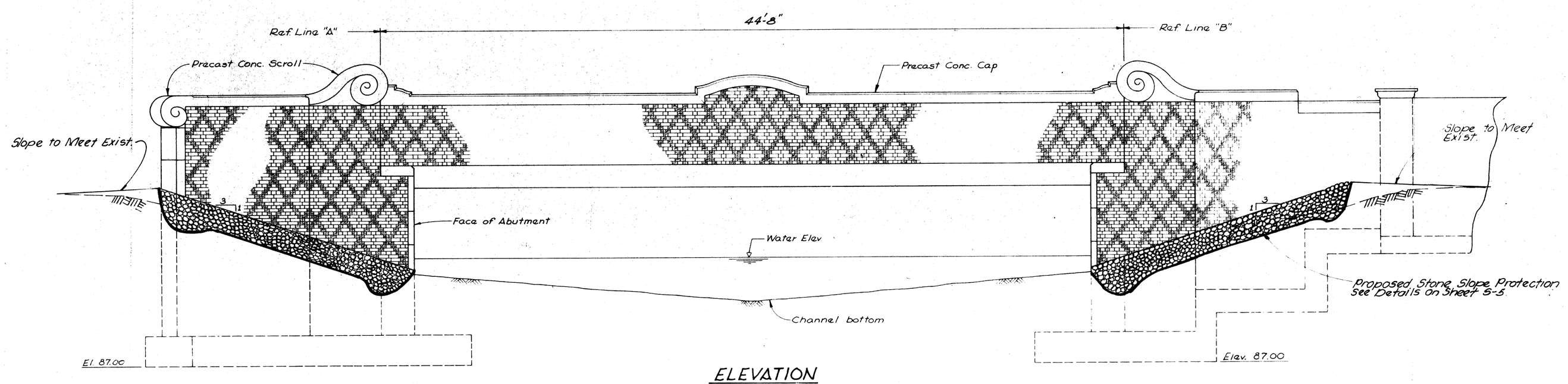
Project

CITY OF DETROIT
INSELRUHE BRIDGE RECONSTRUCTION

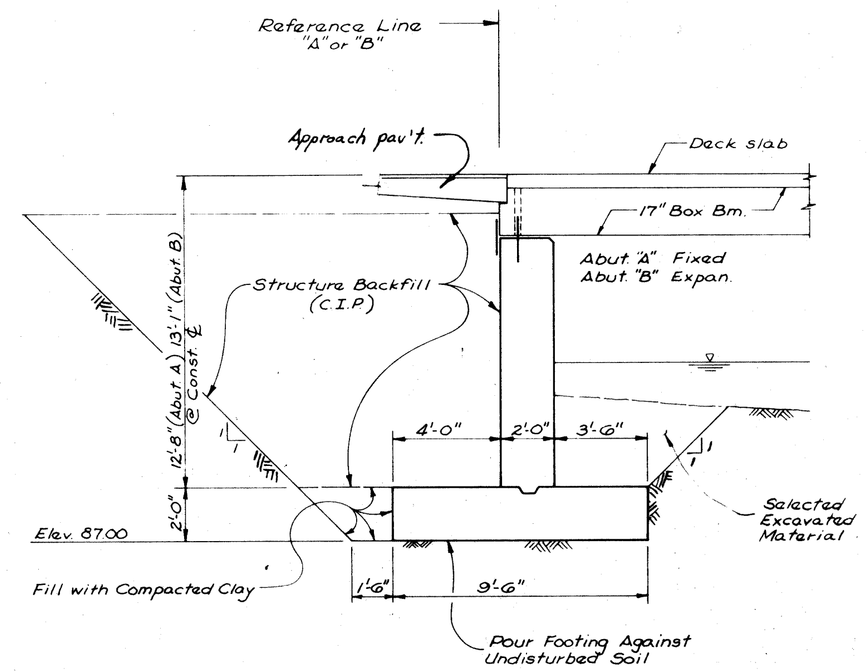
TRAFFIC MAINTENANCE PLAN



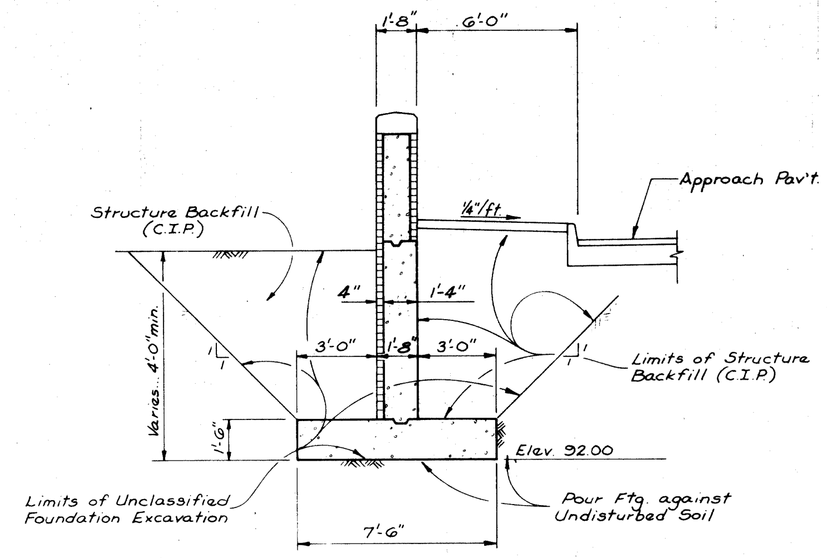
PLAN
Scale: 1/4"=1'-0"



ELEVATION



TYPICAL ABUTMENT SECTION
Abut "A" shown ; Abut "B" reverse
Scale: 1/4"=1'-0"



TYPICAL WINGWALL SECTION
Scale: 1/4"=1'-0"

General Notes :

1. The design of this structure is based on current AASHTO Standard Specifications for Highway Bridges, HS-20 Loading.
2. Except where otherwise indicated on these structure sheets or in the proposal and supplemental specifications contained herein, all materials and workmanship for the bridge shall be in accordance with the Michigan Department of Transportation Standard Specifications for construction (1984 Edition.) Roadways, curbs, sidewalks and site restoration shall conform to City of Detroit standards.
3. Live Load plus impact deflection does not exceed 1/1000 of the span length.
4. The Load Factor Method of design was used for this structure.
5. The superstructure is designed to allow for a future wearing surface dead load of 25 p.s.f. on the roadway surface.
6. The design of the structural members is based on material of the following grades and stresses:
   Concrete: Grade 45D ——— f'_c = 4,000 p.s.i.
   Steel Reinforcement ——— f_y = 60,000 p.s.i.

Project
CITY OF DETROIT
INSELRUHE BRIDGE
RECONSTRUCTION

Sheet Title
GENERAL PLAN
OF STRUCTURE

11/4/88 ENGR'S REVIEW

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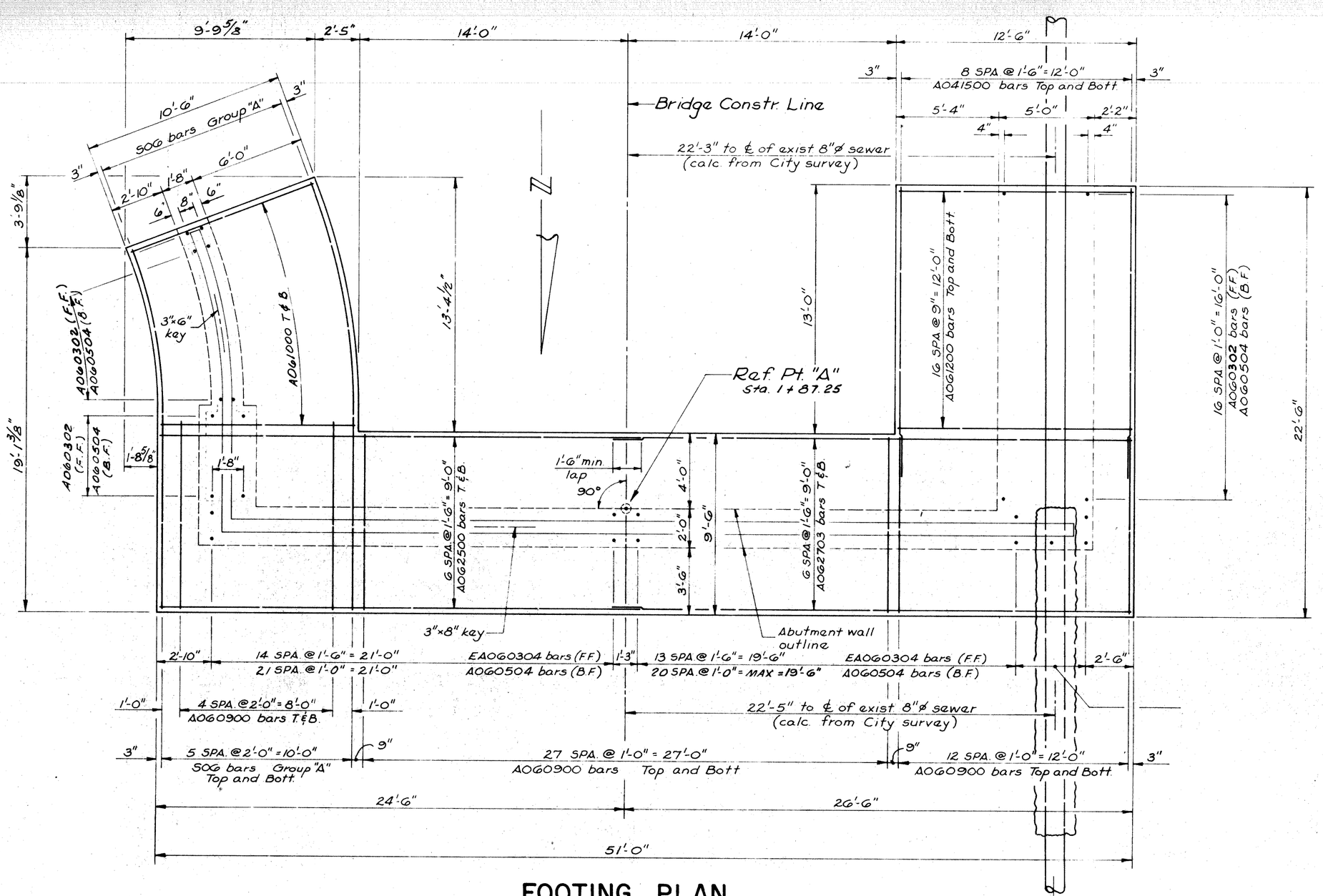
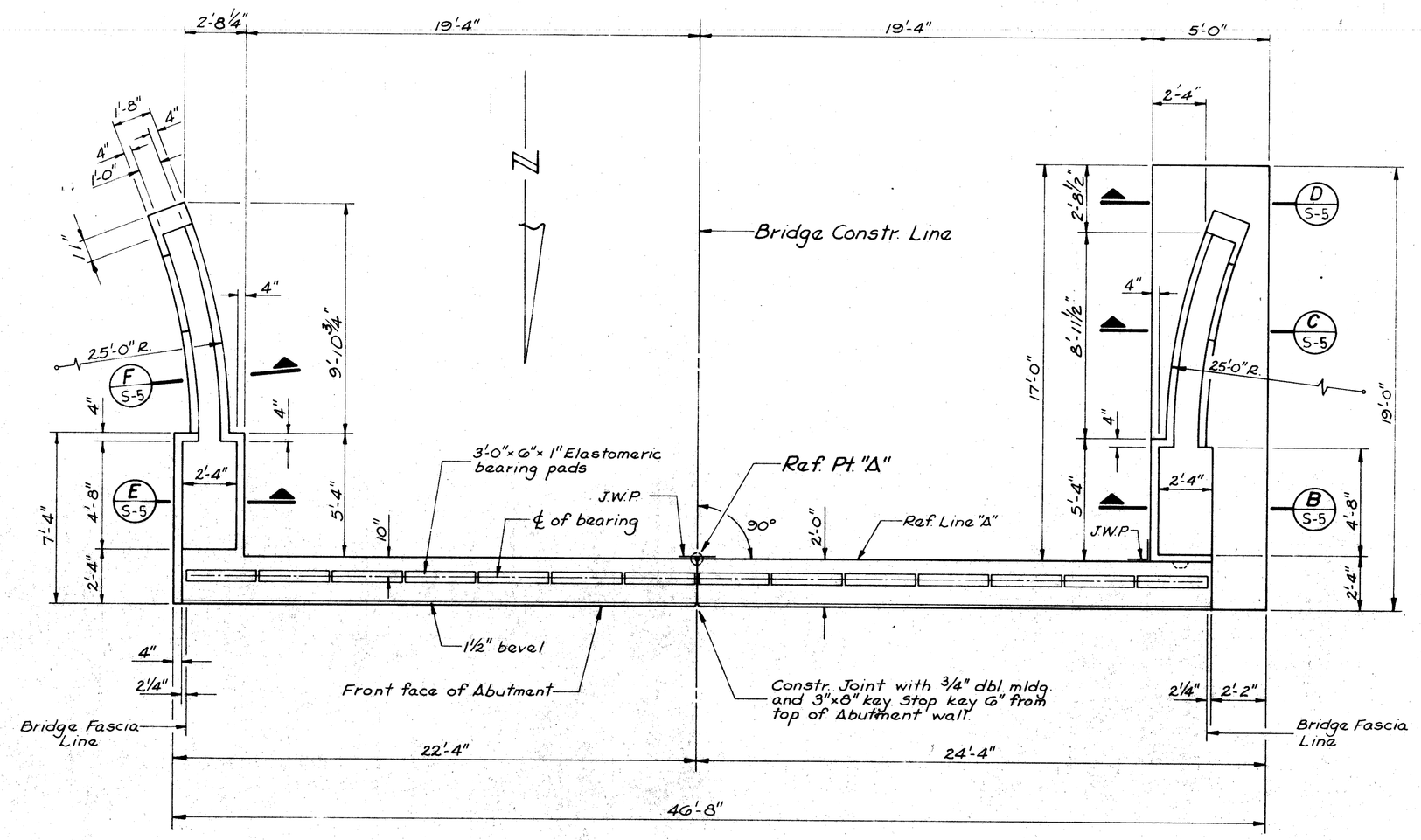
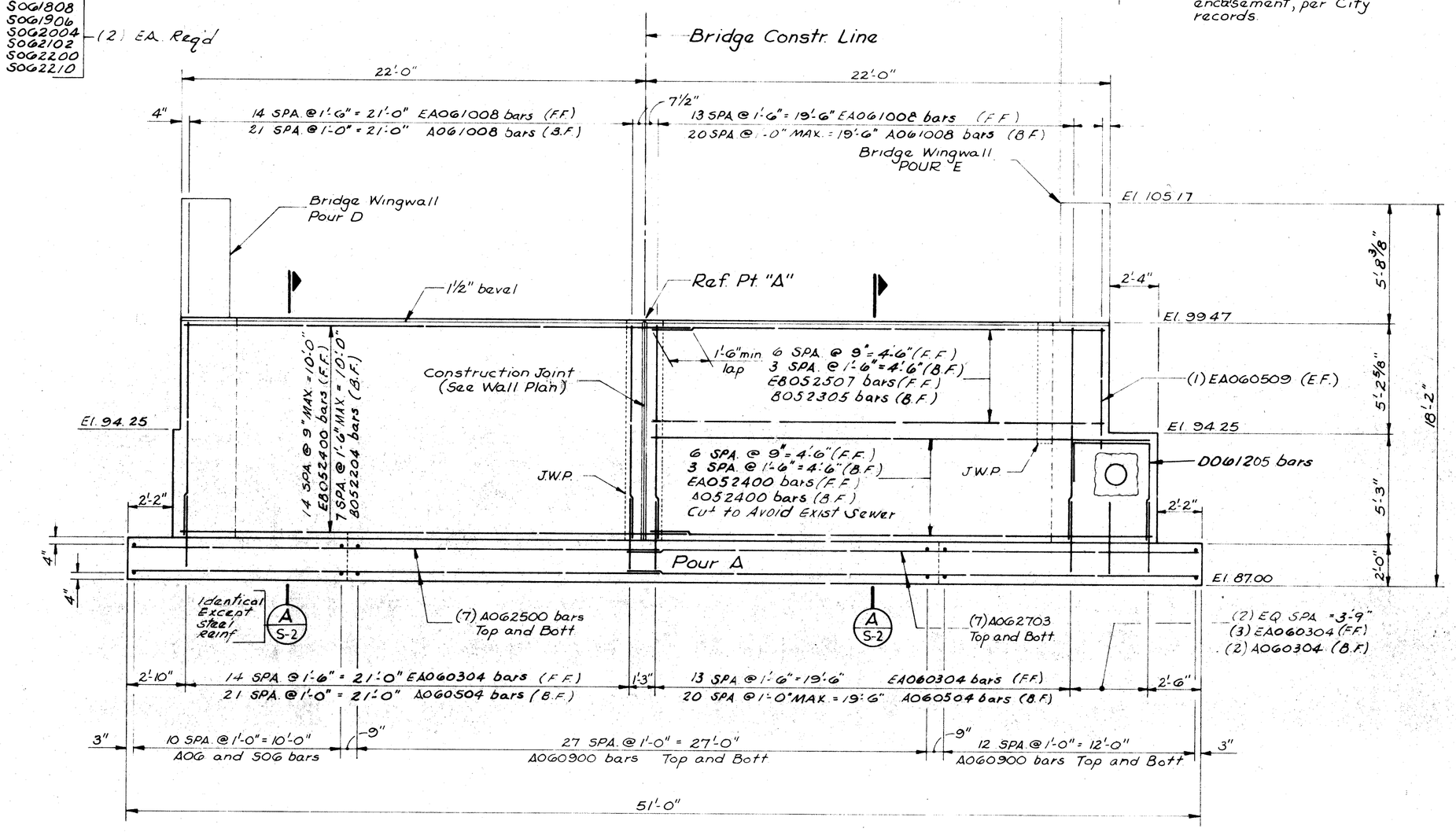
DATE	
PROJECT NO.	8605
SHEET NO.	S-1



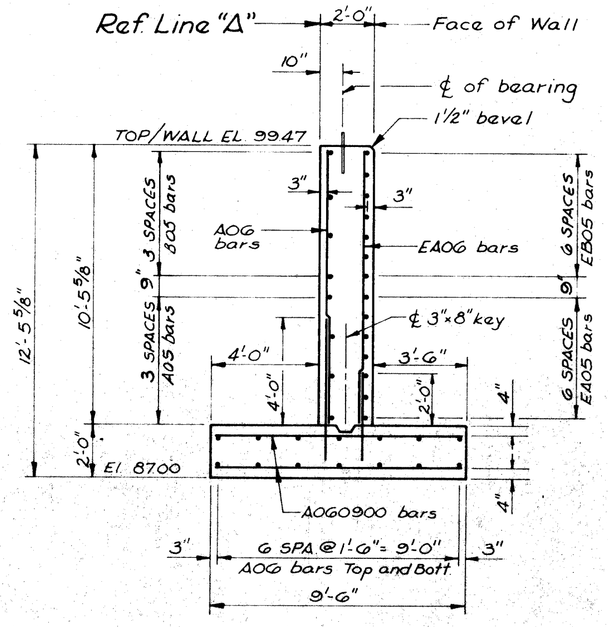
FOOTING PLAN
1/4" = 1'-0"



WALL PLAN
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



SECTION
1/4" = 1'-0"

General Notes : (Abutments "A and B")

(F.F.) denotes front face (or outside face)
(B.F.) denotes back face (or inside face)
(E.F.) denotes each face
J.W.P. denotes Joint Waterproofing
The concrete surface below the elastomeric bearing pads shall be broom finished and shall be clean and dry at the time the bearing pads are installed.
Bars with the prefix "E" shall be Epoxy coated.
Maximum average foundation pressure DL only = 2170 p.s.f.
Maximum foundation pressure DL + L.L = 2950 p.s.f.
The top and front face of the Abutments shall be given an application of protective sealant coating for concrete after the elastomeric bearing pads have been placed.
Shore and support existing 8" sanitary sewer before and during construction.

11/4/88 OWNERS REVIEW

Sheet Title: ABUTMENT "A" PLAN AND SECTIONS

Project: CITY OF DETROIT
INSELRUHE BRIDGE
RECONSTRUCTION

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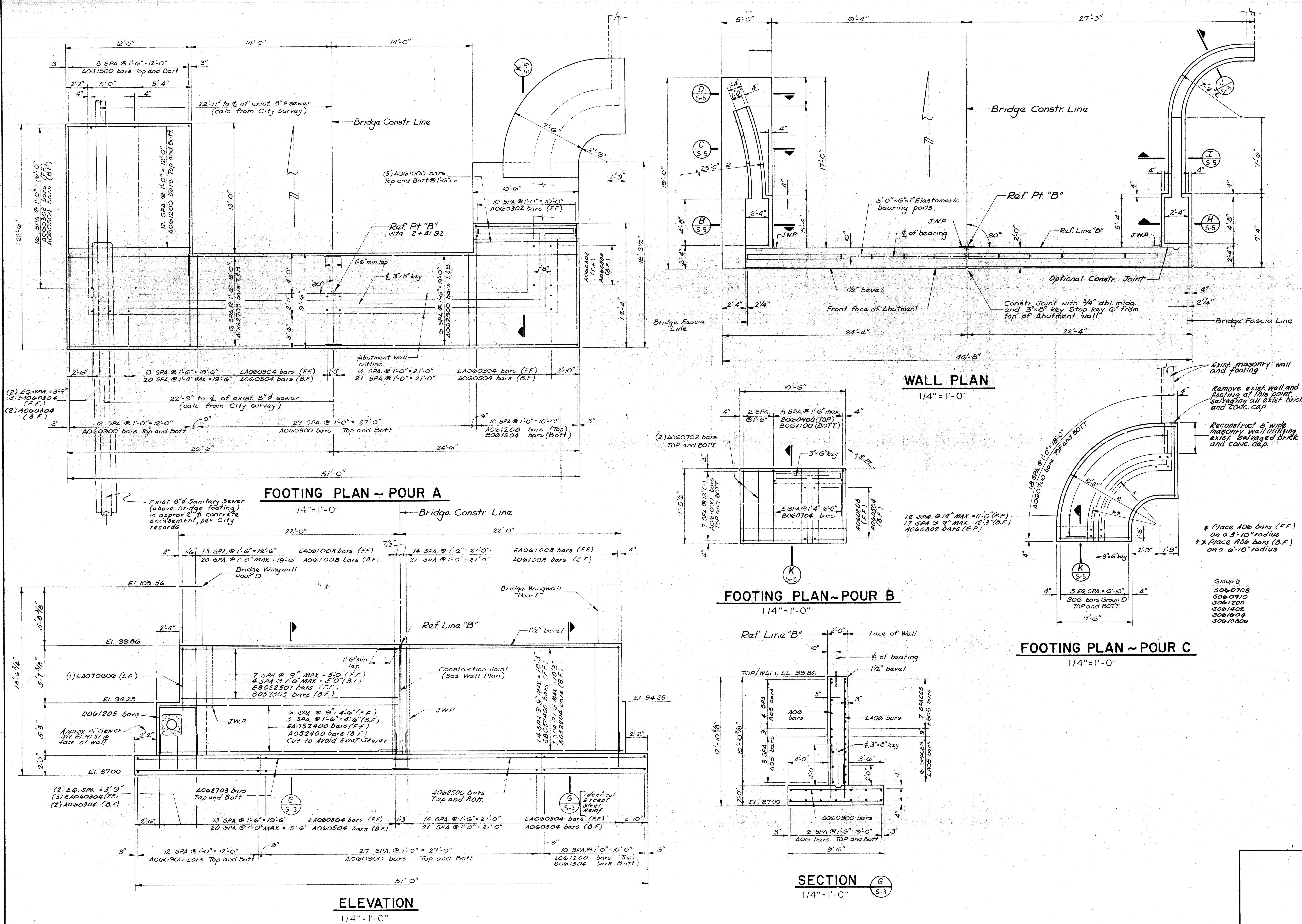
PROJECT NO. 8605
SHEET NO. S-2



Sheet Title

ABUTMENT "B"
PLAN AND SECTIONS

Project

CITY OF DETROIT
INSELRUHE BRIDGE RECONSTRUCTION

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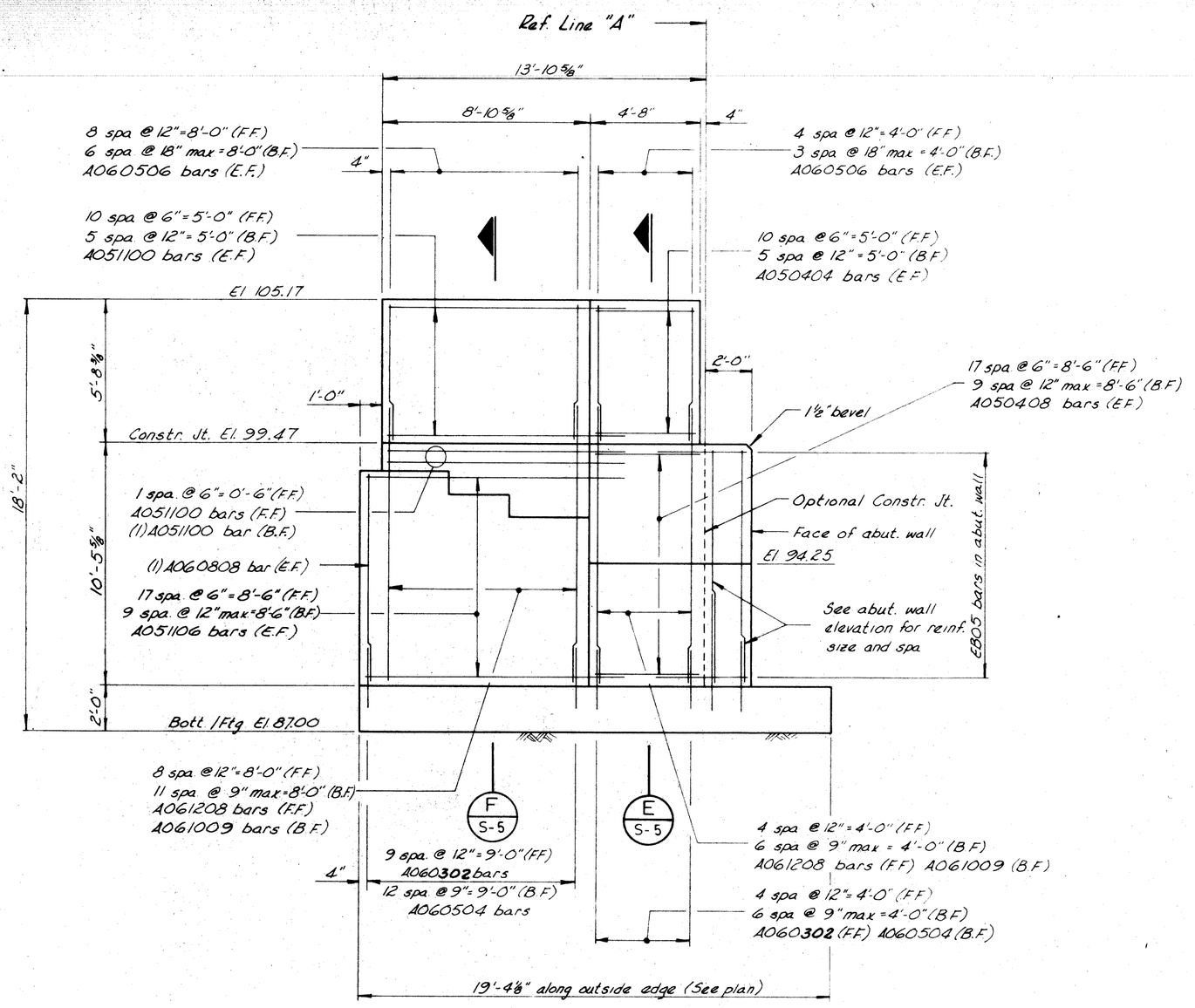
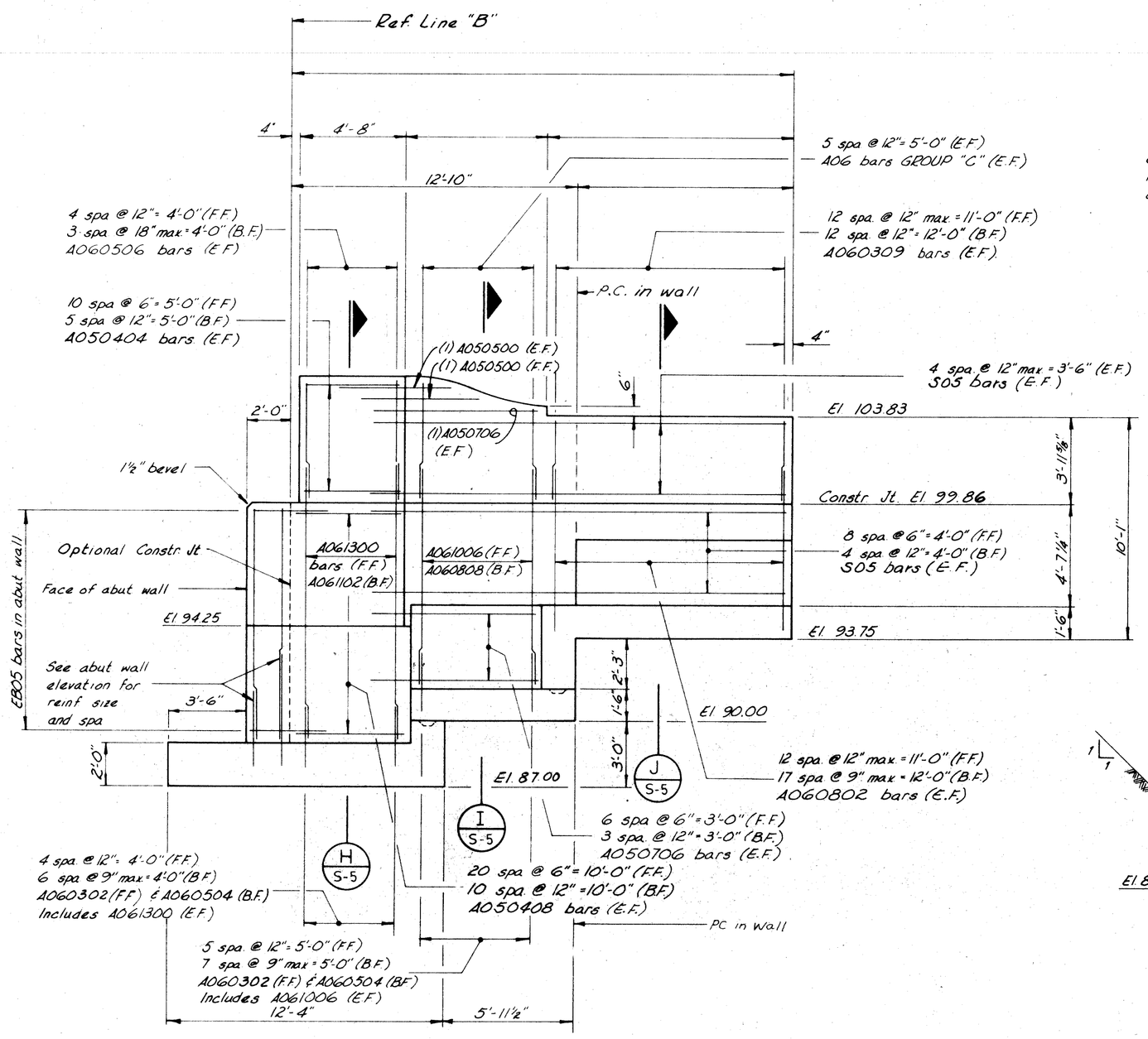
SHEET NO.	S-3

11/14/88 OWNERS REVIEW



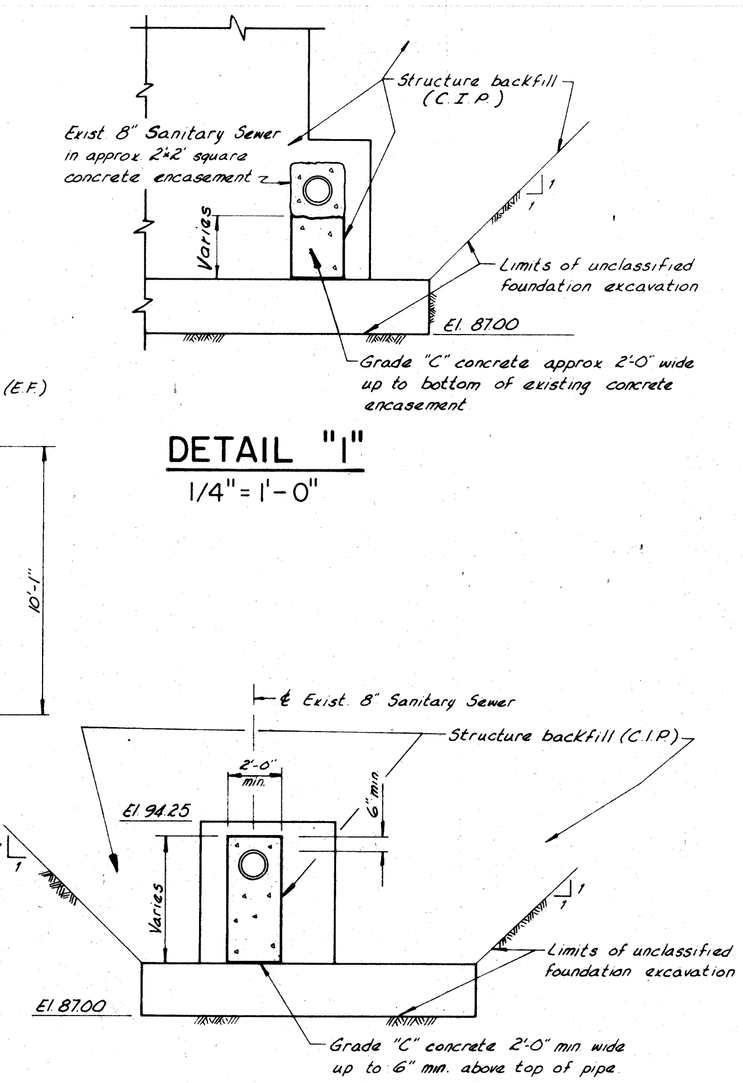
SOUTHEAST WINGWALL ELEVATION

1/4" = 1'-0"



NORTHEAST WINGWALL ELEVATION

1/4" = 1'-0"

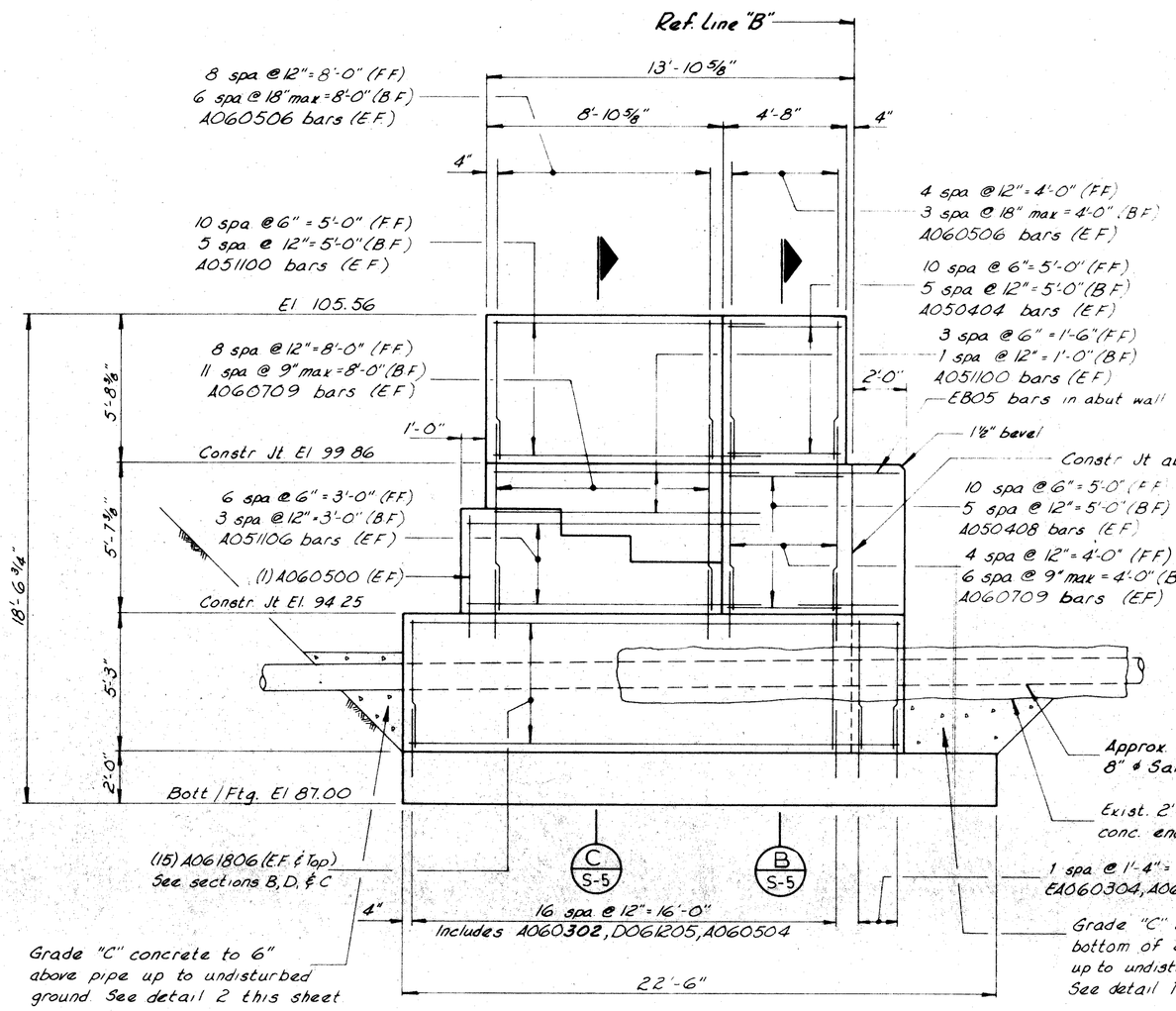


DETAIL "1"

1/4" = 1'-0"

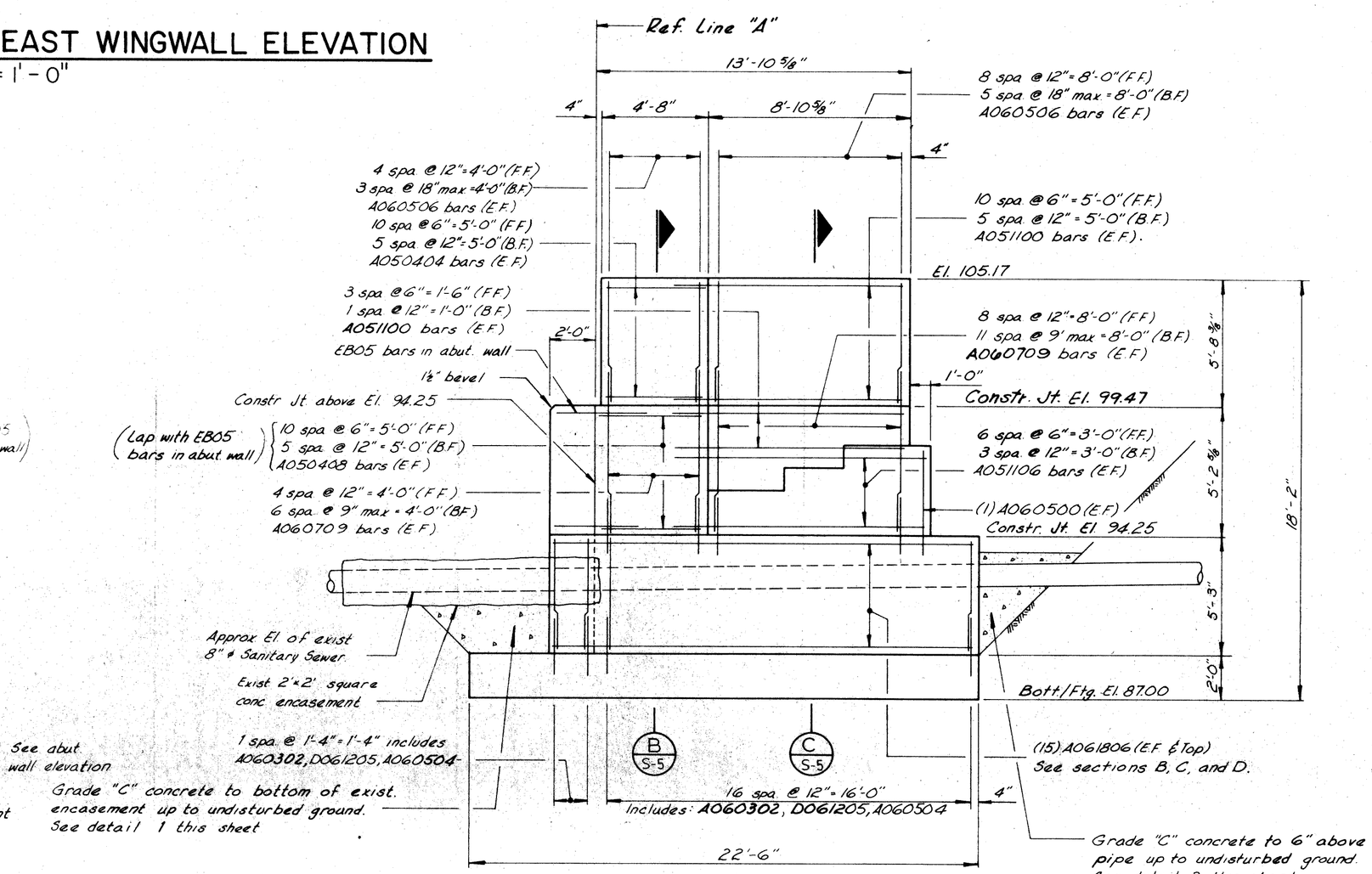
DETAIL "2"

1/4" = 1'-0"



NORTHWEST WINGWALL ELEVATION

1/4" = 1'-0"



SOUTWEST WINGWALL ELEVATION

1/4" = 1'-0"

Project	CITY OF DETROIT INSELRUHE BRIDGE RECONSTRUCTION
Sheet Title	WINGWALLS, SECTIONS AND DETAILS
11/4/88	OWNERS REVIEW

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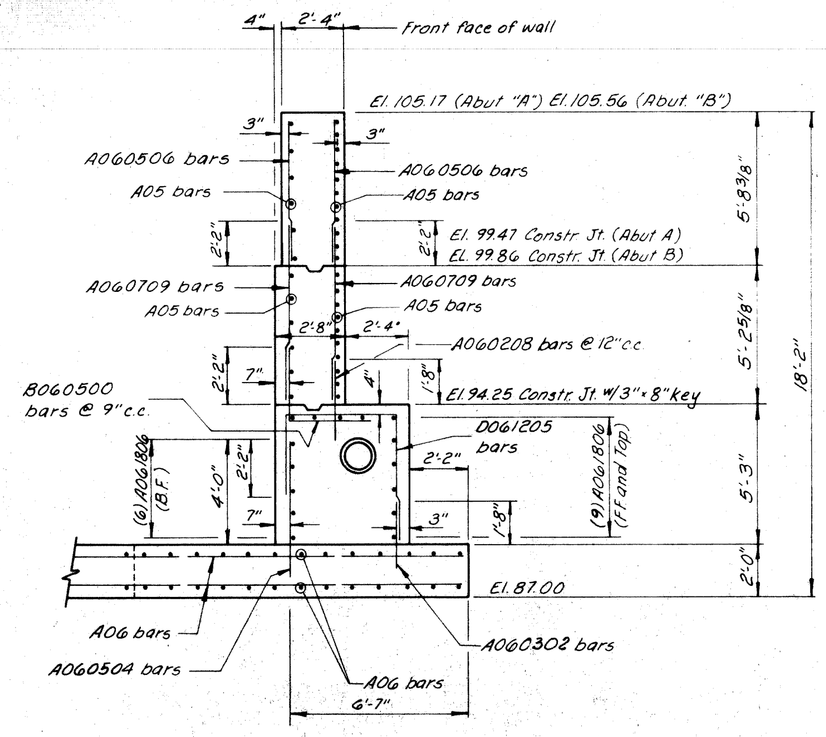
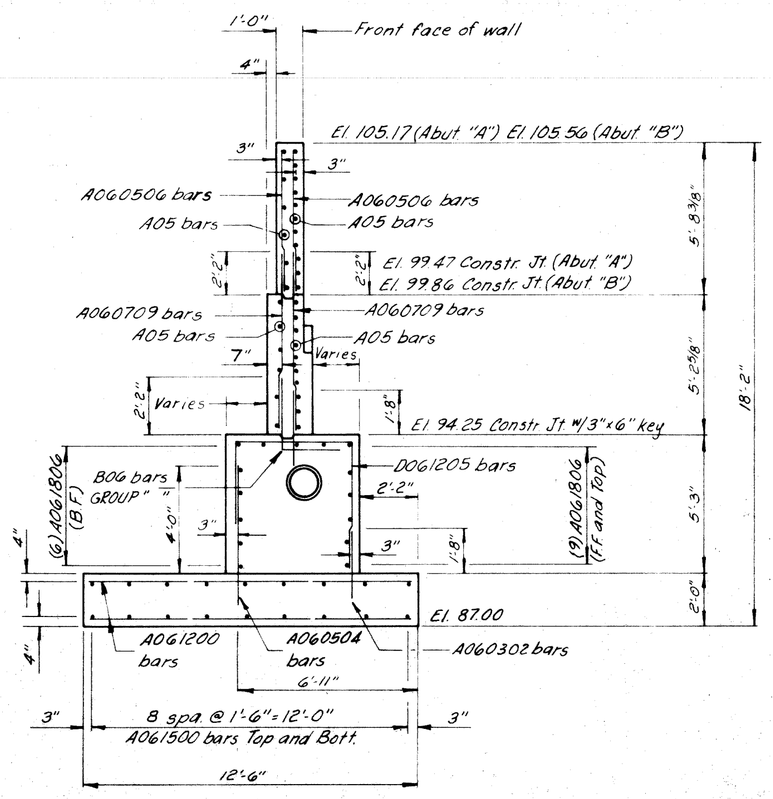
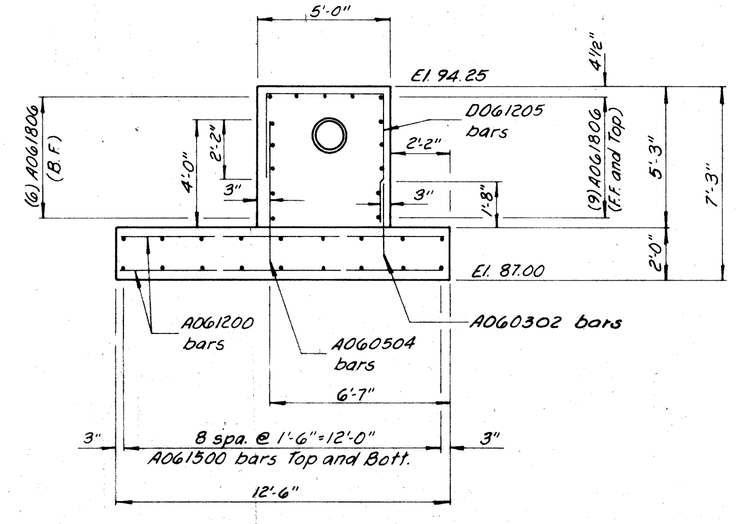
DATE	
PROJECT NO.	8605
SHEET NO.	S-4



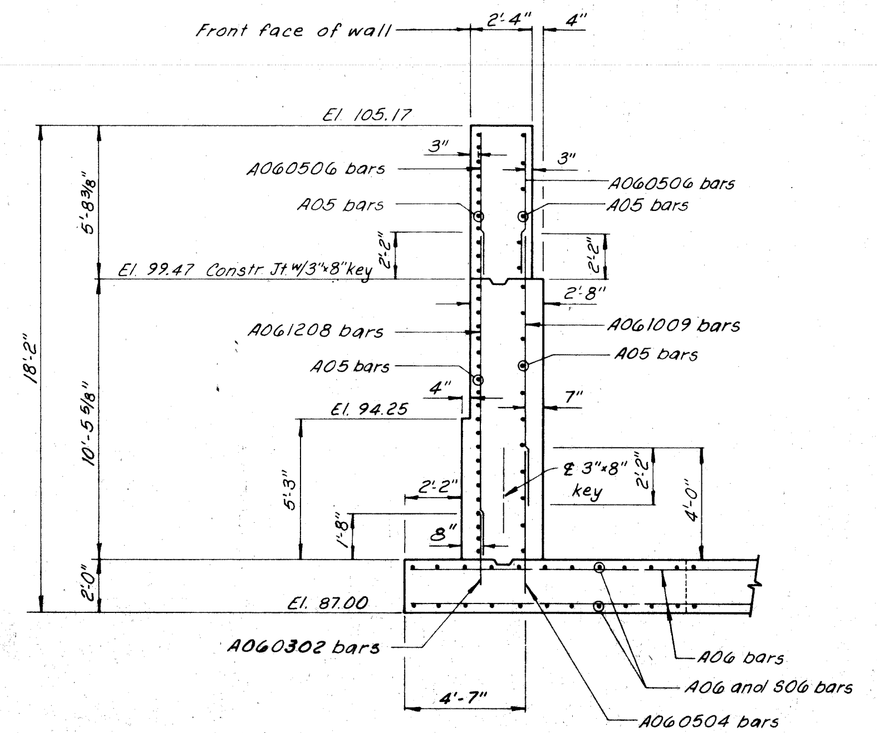
SECTION B
1/4"=1'-0" S-3



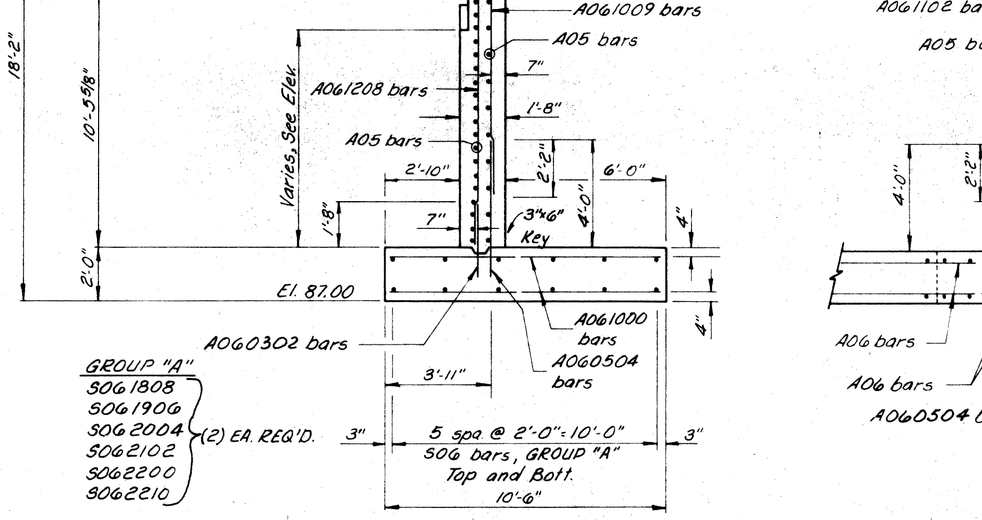
SECTION C
1/4"=1'-0" S-3



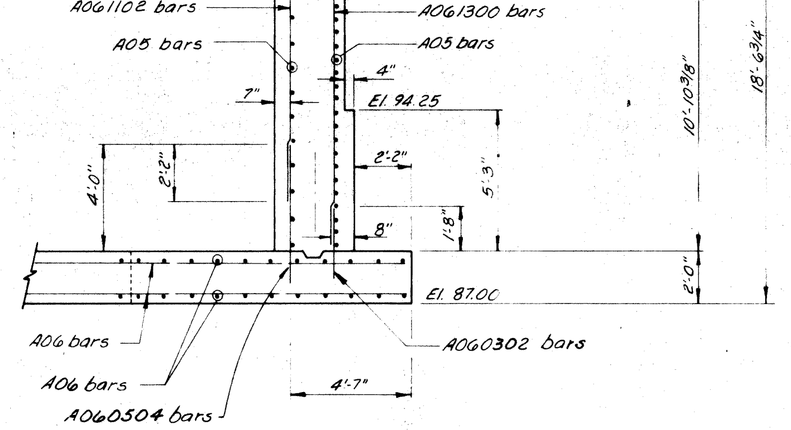
SECTION D
1/4"=1'-0" S-3



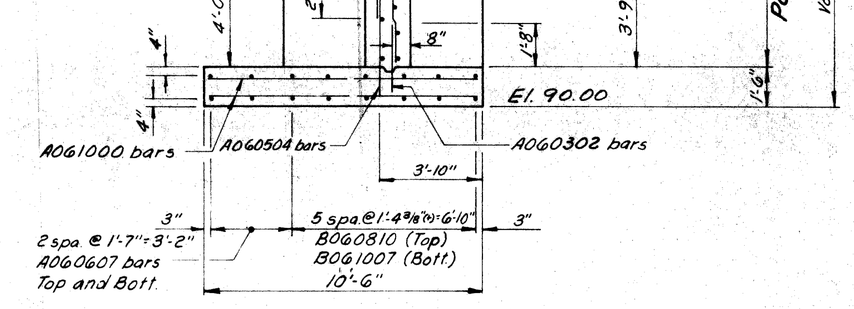
SECTION E
1/4"=1'-0" S-2



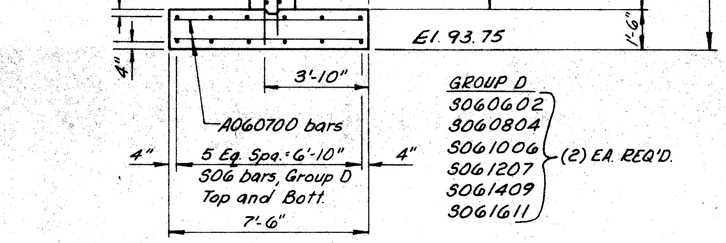
SECTION F
1/4"=1'-0" S-2



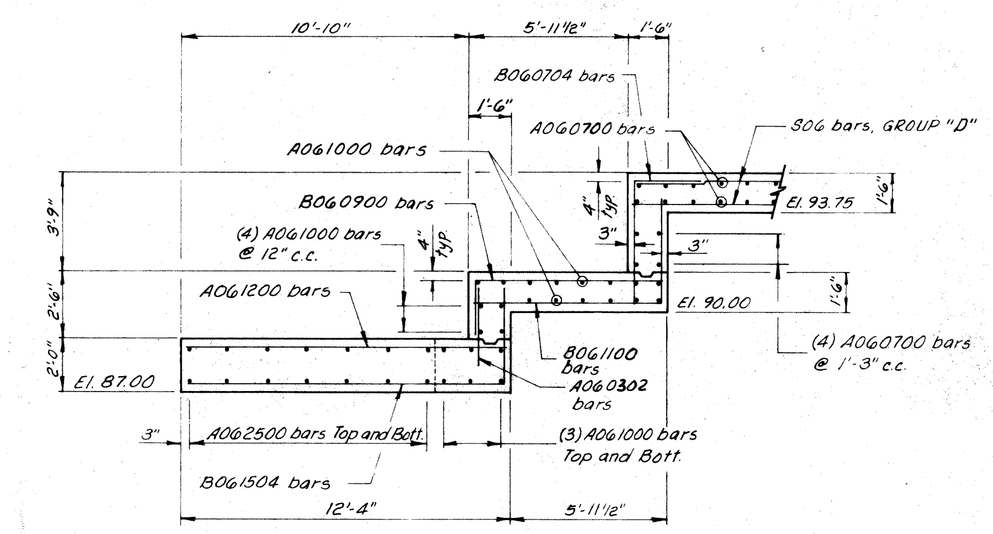
SECTION H
1/4"=1'-0" S-3



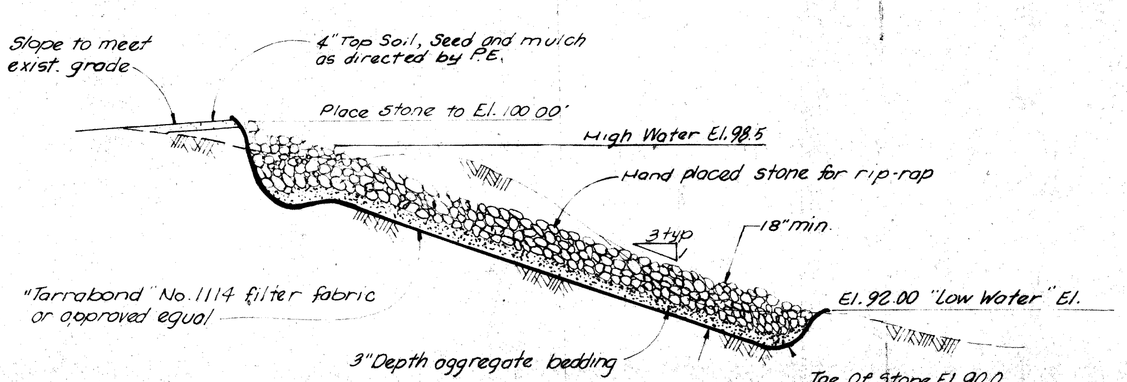
SECTION I
1/4"=1'-0" S-3



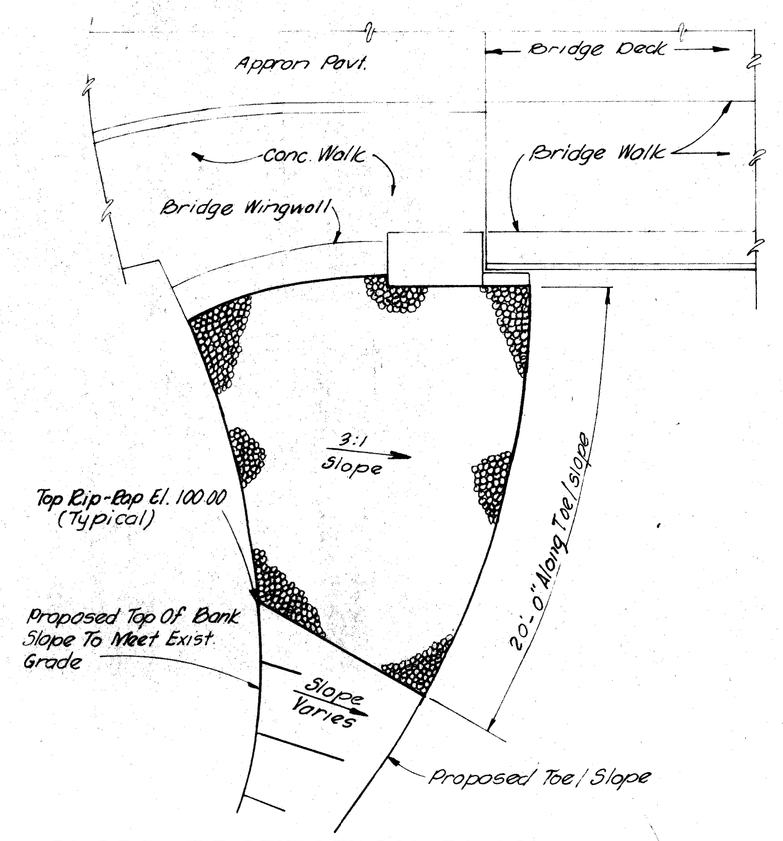
SECTION J
1/4"=1'-0" S-3



SECTION K
1/4"=1'-0" S-3



SLOPE PROTECTION SECTION
NO SCALE



SLOPE PROTECTION PLAN
S.E. CORNER... OTHER CORNERS ARE SIMILAR

Sheet Title: WINGWALL SECTIONS AND DETAILS

Project: CITY OF DETROIT
INSELRUHE BRIDGE
RECONSTRUCTION

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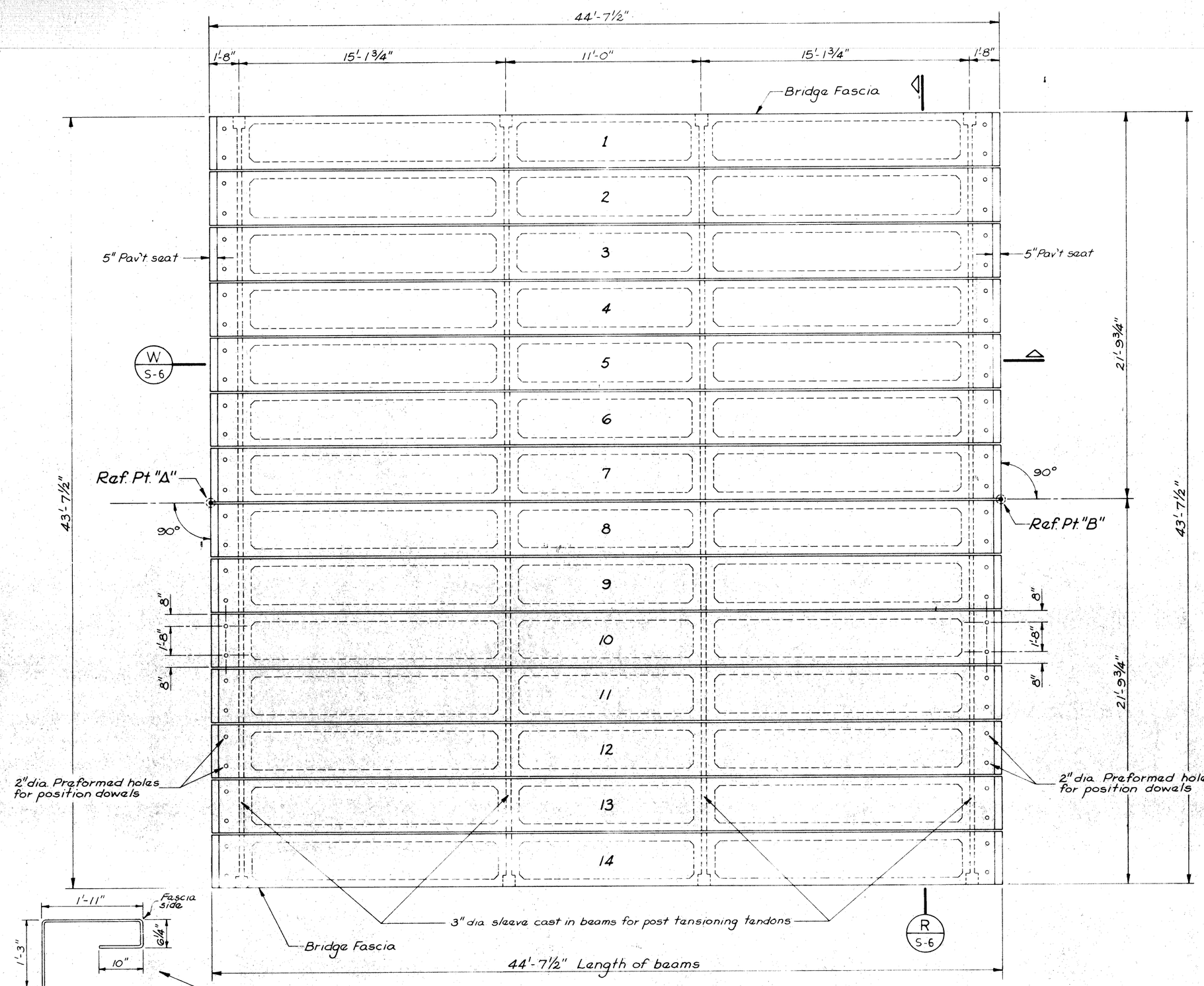
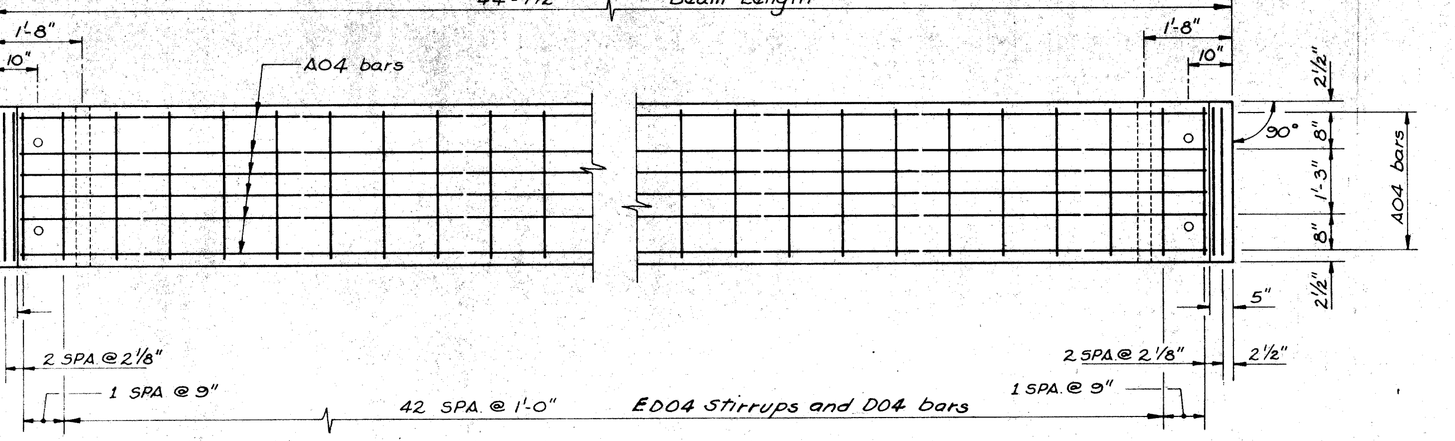
DATE	
PROJECT NO.	8605
SHEET NO.	S-5

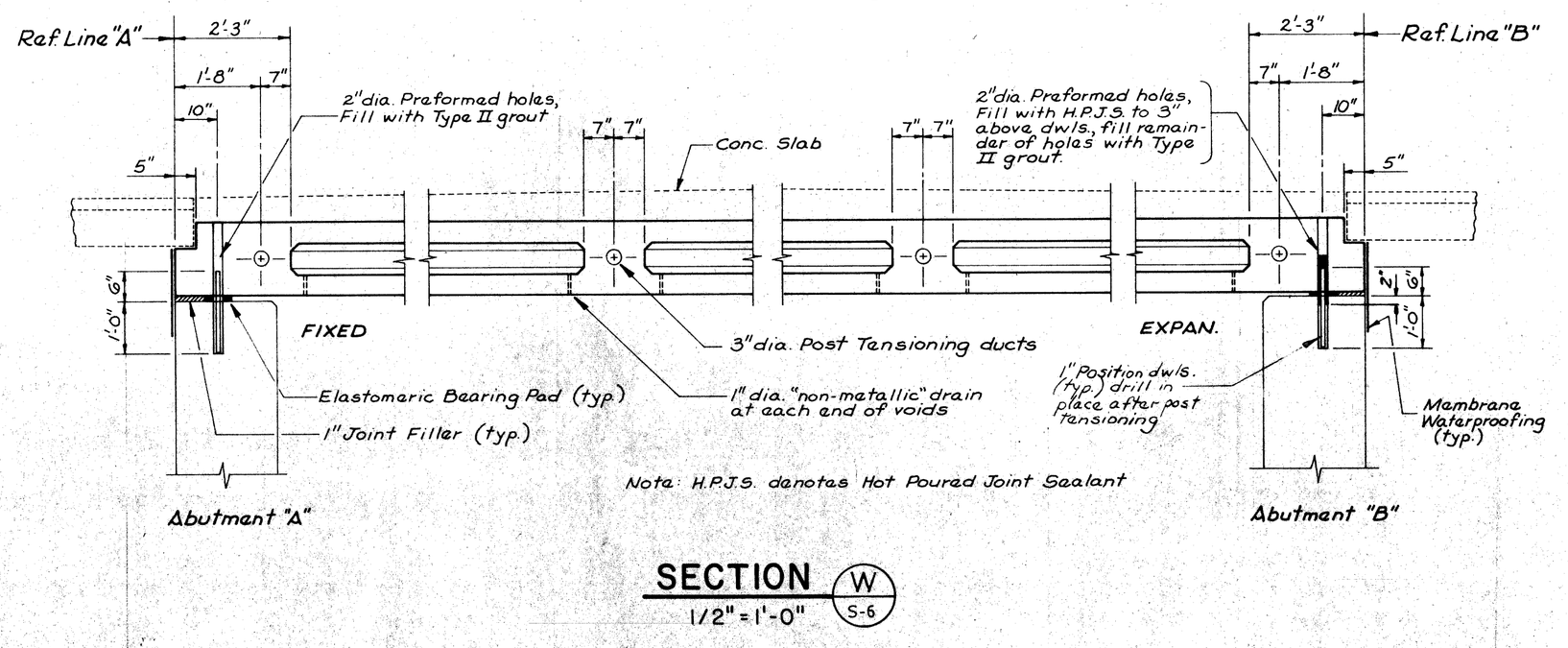
11/7/86 CHANGES REVIEW



ERECTION DIAGRAM
1/4" = 1'-0"



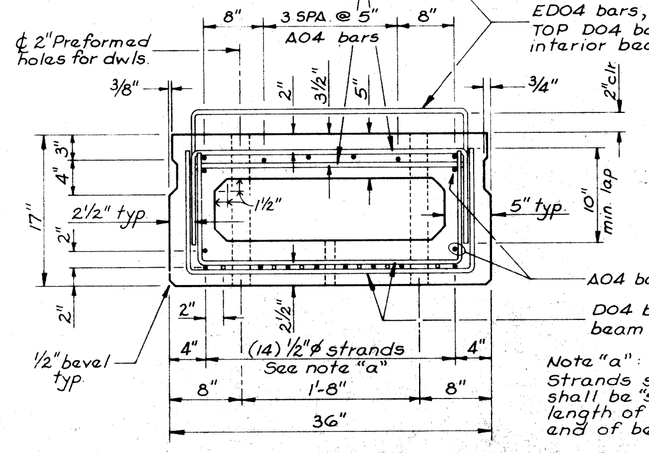
SECTION
1/4" = 1'-0"
R S-6



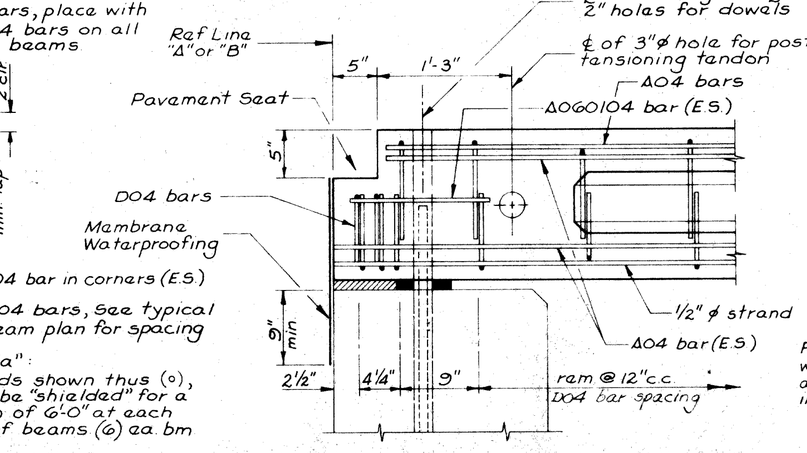
SECTION
1/2" = 1'-0"
W S-6

TYPICAL BEAM PLAN
1/2" = 1'-0"

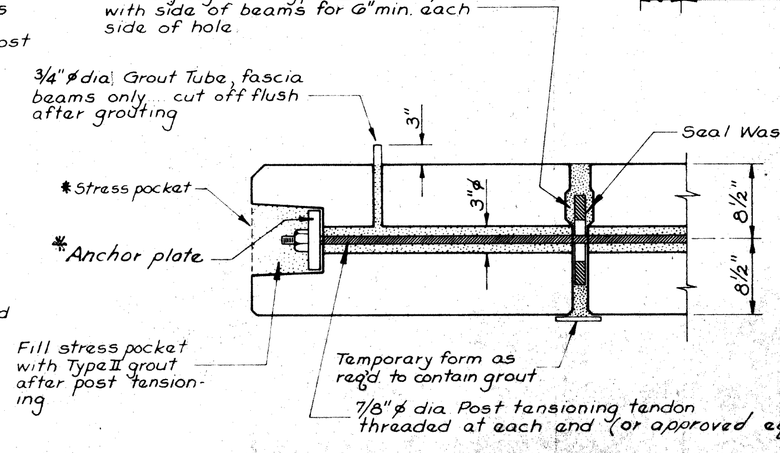
1. Precast, prestressed concrete box beams shall be manufactured and erected in accordance with Section 505 of the M.D.O.T. Standard Specifications.
2. Prestressing strands shall be ½" diameter, with a cross-sectional area of 0.1531 sq. inches, meeting the requirements of ASTM A416, Grade 270. Initial prestress shall be 28.92 kips per strand.
3. The estimated camber of each beam is 2 inches. This camber is due to prestressing and dead load of beam only.
4. Post Tensioning force shall be 82.5 kips per tendon.
5. The approximate weight of each beam is 4451b./Ft.
6. Heavy equipment shall not be allowed on any beams which are being grouted or which have been grouted but not yet post tensioned.
7. Elastomer for Elastomeric bearing pads shall be nominal 50 durometer hardness. 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.
8. Beams with "honeycomb" to such extent as to affect the strength or resistance to deterioration will not be accepted.
9. The design of the structural members is based on material of the following grades and stresses
   - Concrete: Grade 45D ——— f'_c = 4,000 p.s.i.
   - Steel Reinforcement ——— f_y = 60,000 p.s.i.
   - Steel Reinforcement: Stirrups for Prestressed Beams ——— f_y = 40,000 p.s.i.
   - Prestressed Concrete ——— f'_c = 5,000 p.s.i. (28 day min. strength)
   - Prestressing Strands ——— f'_s = 270,000 p.s.i.
10. Position dowels shall be steel meeting the requirements of ASTM-A36.
11. Tack welding of steel reinforcement is prohibited.
12. The compressive strength of the beam concrete at the time of prestressing force release shall not be less than 3500 p.s.i.
13. The top surface of all box beams shall be intentionally roughened.
14. The Contractor shall provide details of the beam lifting devices he intends to use.



TYPICAL BEAM SECTION
1" = 1'-0"



SECTION THRU END BLOCKS
1" = 1'-0"

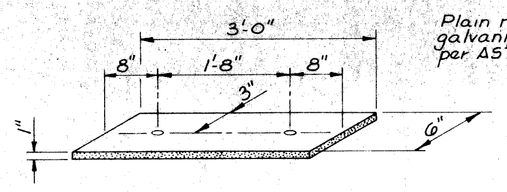


POST TENSIONING DETAIL
1" = 1'-0"

a. Fill all voids between each beam with Type II grout for the full depth of beams prior to post tensioning. Plug ends of beams before grouting.

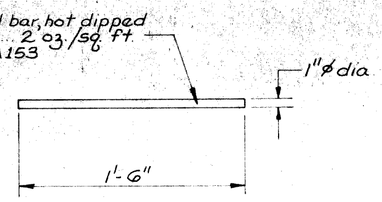
b. Grout tube, tendons, washers, bolts, seal washers, temporary forms, 1" joint filler and Type II grout will not be paid for separately, but will be included in the pay item "Post-Tensioning"

*c. Stress pockets and anchor plates shall be as required for the post-Tensioning system provided

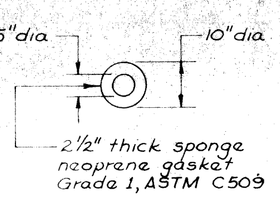


ELASTOMERIC BEARING PAD DETAIL

Plain round bar, hot dipped galvanized 2 oz./sq. ft. per ASTM A153



POSITION DOWEL



SEAL WASHER

Fascia Beam Stirrup

D04 bars, alternate above and below longitudinal bars

CITY OF DETROIT
INSELRUHE BRIDGE
RECONSTRUCTION

Project

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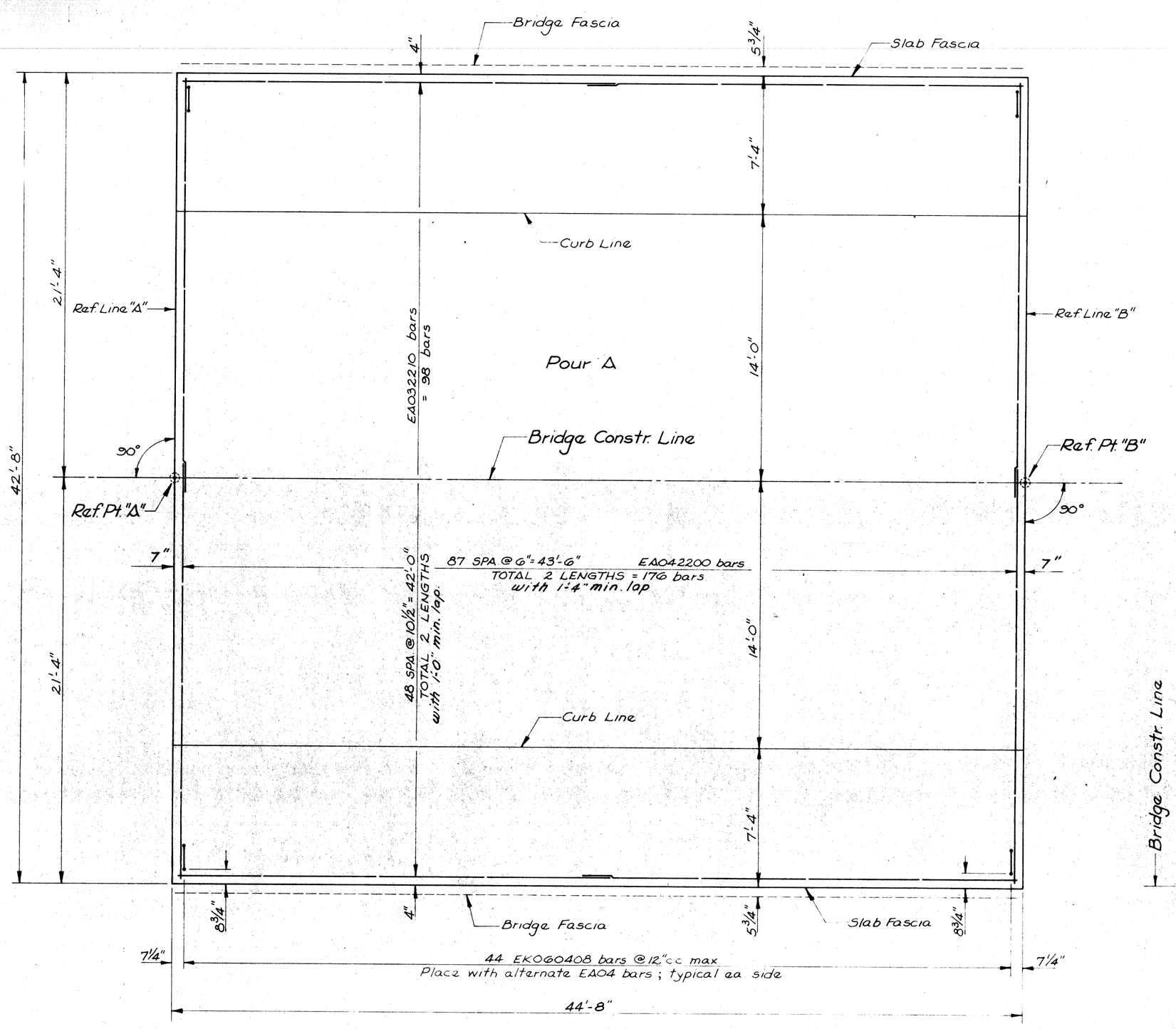
Engineers, Architects, Planners
1420 Washington Blvd.
Detroit, Michigan 48226

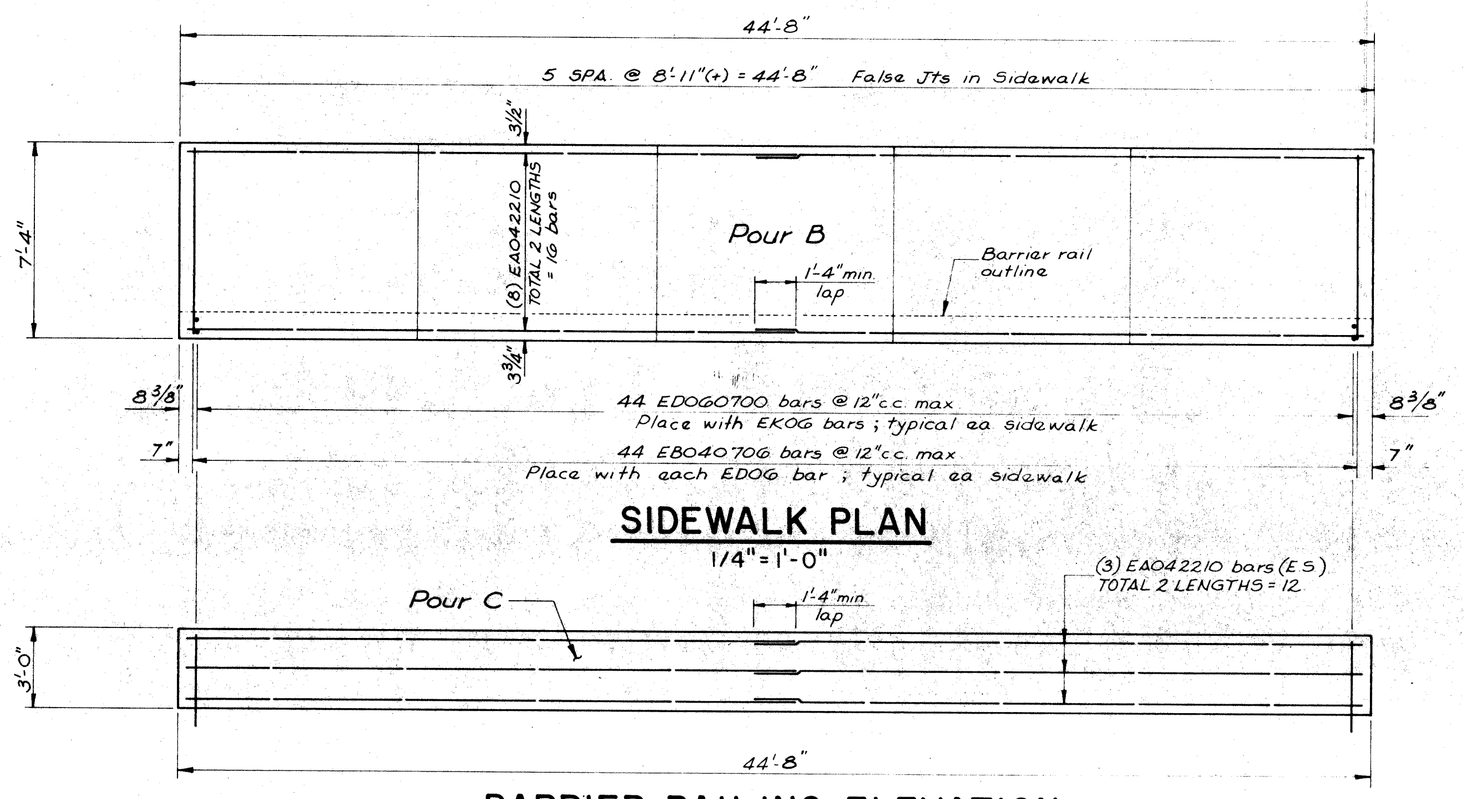
Sheet Title
SUPERSTRUCTURE DETAILS

11/4/83 OWNERS REVIEW

DESIGN BY	K.C.H./S.O.
DRAWN BY	K.C.H.
CHECKED BY	K.C.H. /S.O.
DATE	
PROJECT NO.	8605
SHEET NO.	S-6

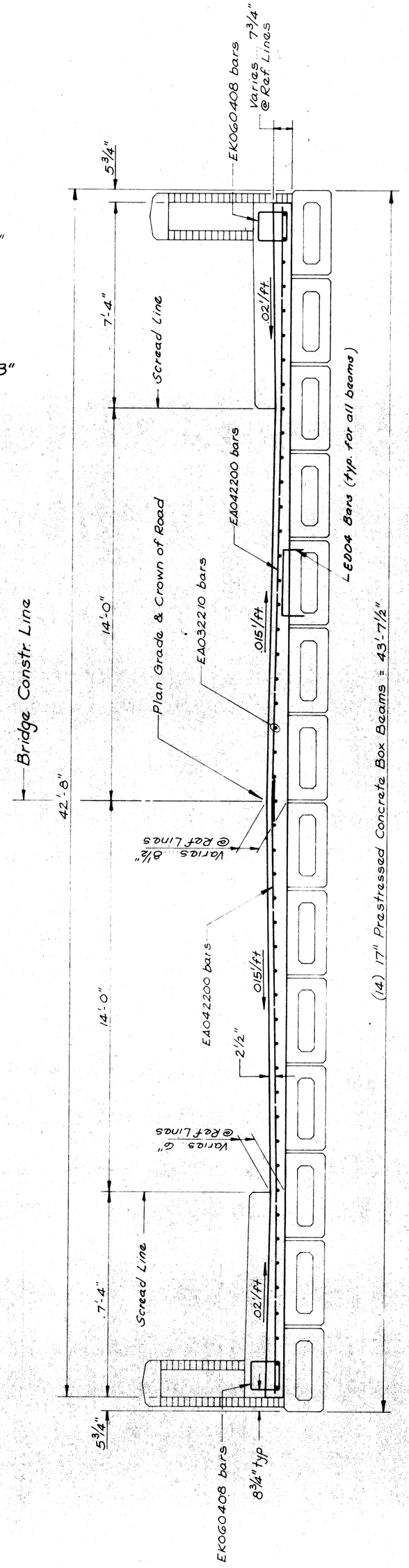


PLAN OF SLAB
1/4" = 1'-0"

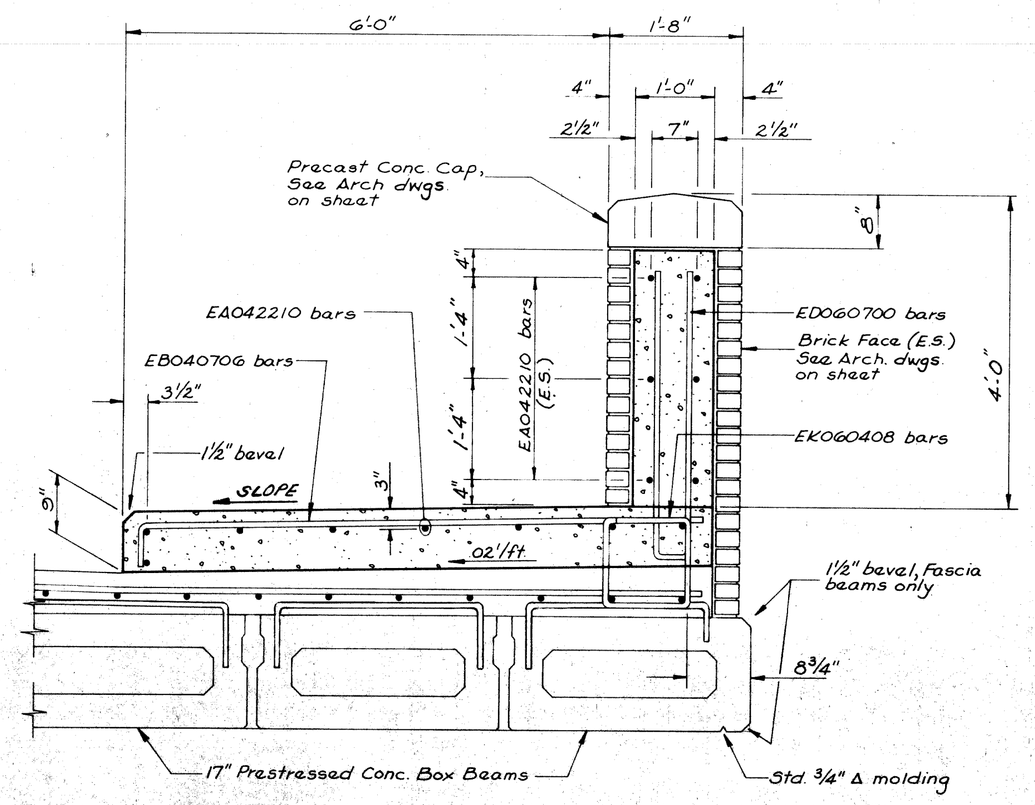


SIDEWALK PLAN
1/4" = 1'-0"

BARRIER RAILING ELEVATION
1/4" = 1'-0"



TYPICAL DECK SECTION
3/8" = 1'-0"



TYPICAL SIDEWALK SECTION
3/4" = 1'-0"

11/14/88 OWNERS REVIEW

Sheet T1.1a

PLAN OF SLAB AND SECTIONS

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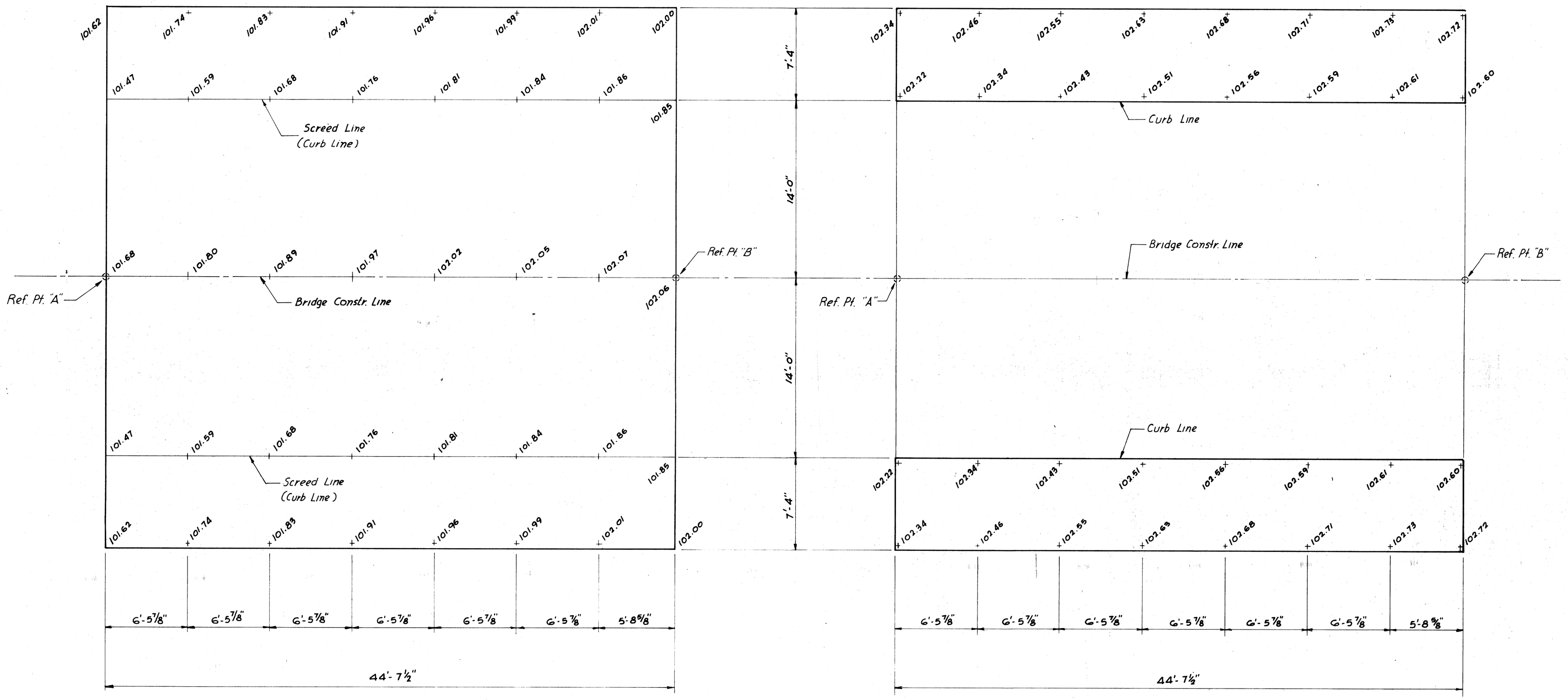
DATE
PROJECT NO. 8605
SHEET NO. S-7



SLAB AND SCREED DETAILS

1/4" = 1'-0"

NOTES:

1. FOR SLAB AND SIDEWALK STEEL REINFORCEMENT DETAILS, SEE SHEET S-7.
2. THE BRIDGE CONSTRUCTION LINE IS ALONG A VERTICAL CURVE. FOR PROFILE DATA SEE SHEET R-1.
3. ALL ELEVATIONS ARE BASED ON CITY OF DETROIT DATUM.
4. SIDEWALK POUR SHALL NOT BE CAST UNTIL SLAB CONCRETE HAS ATTAINED AT LEAST 75% OF ITS DESIGN STRENGTH AS DETERMINED BY TABLE 7.01-4 OF THE STANDARD SPECIFICATIONS.

SIDEWALK ELEVATIONS

1/4" = 1'-0"

11/19/01 OWNERS REVIEW

Sheet Title
SLAB AND SCREED DETAILS AND SIDEWALK ELEVATIONS

Project
CITY OF DETROIT
INSELRUHE BRIDGE RECONSTRUCTION

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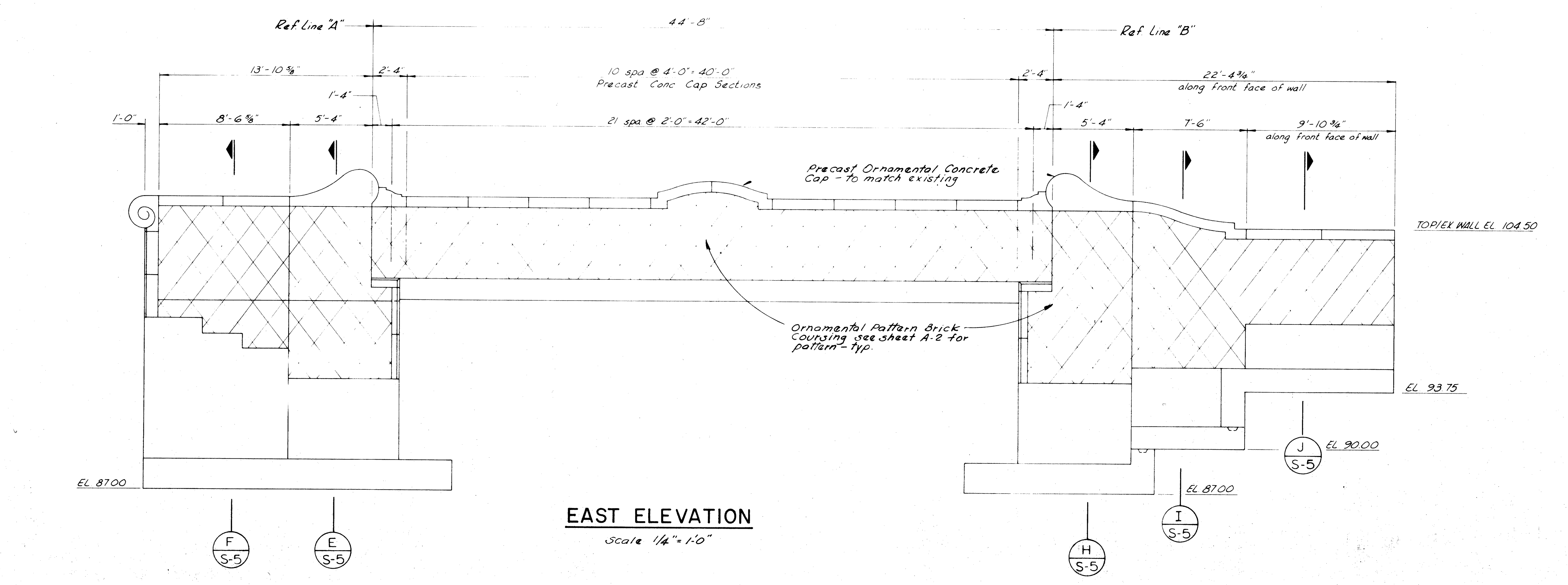
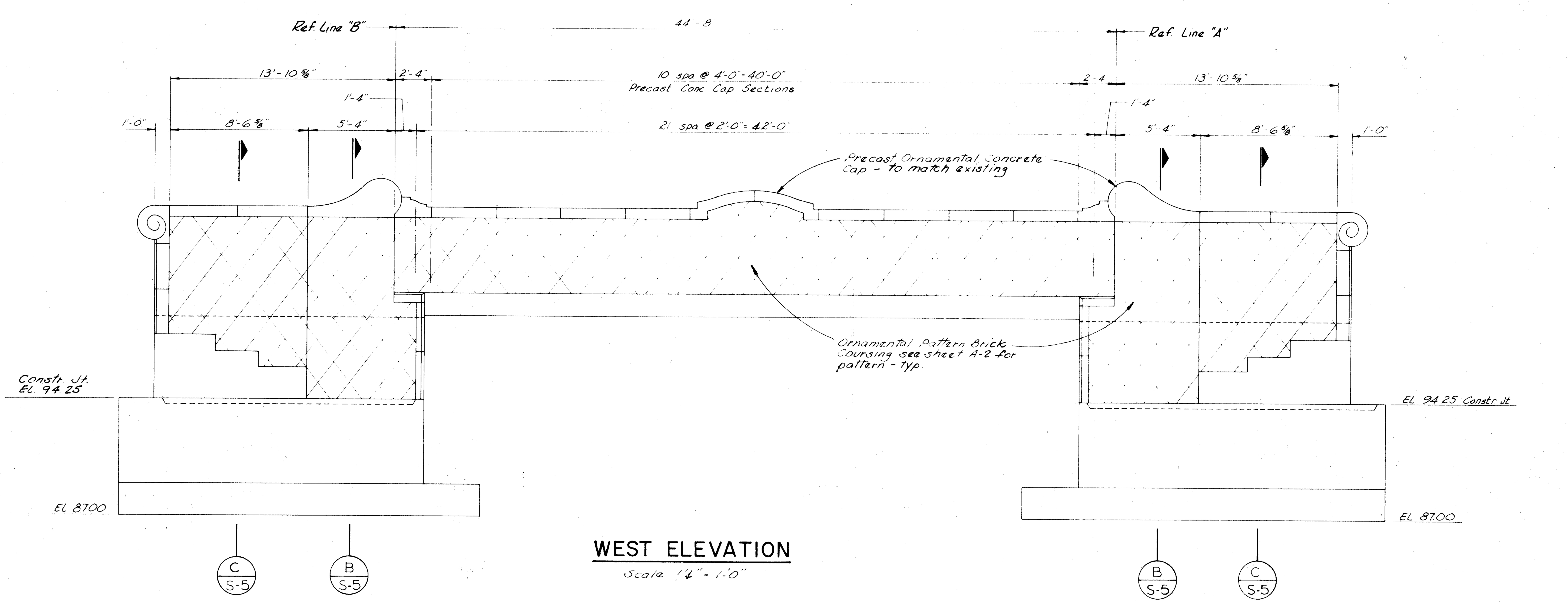
SHEET NO. S-8

AUG 14 1995



EAST ELEVATION

Scale 1/4" = 1'-0"



WEST ELEVATION

Scale 1/4" = 1'-0"

11/14/88 OWNERS REVIEW

Sheet Title: ARCHITECTURAL DETAILS

Project: CITY OF DETROIT
INSELRUHE BRIDGE RECONSTRUCTION

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DESIGN BY	K.C.H.
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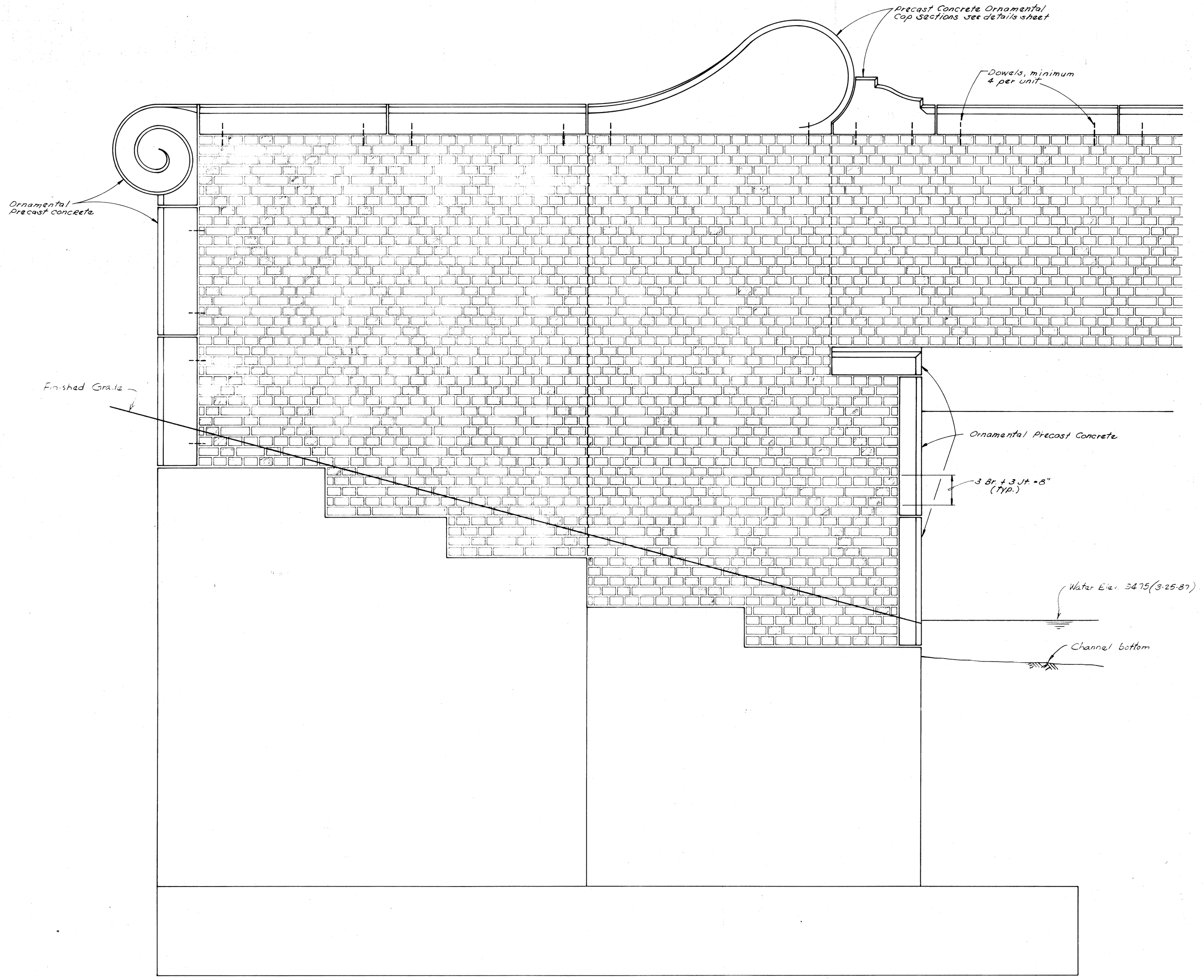
CHECKED BY	D.L.M.
DATE	
PROJECT NO.	8605
SHEET NO.	A-1

AUG 1 1 1989



TYP. WING WALL ELEVATION DETAIL

Scale 1" = 1'-0"

7/1/88 OWNERS REVIEW

Sheet Title: ARCHITECTURAL DETAILS

CITY OF DETROIT
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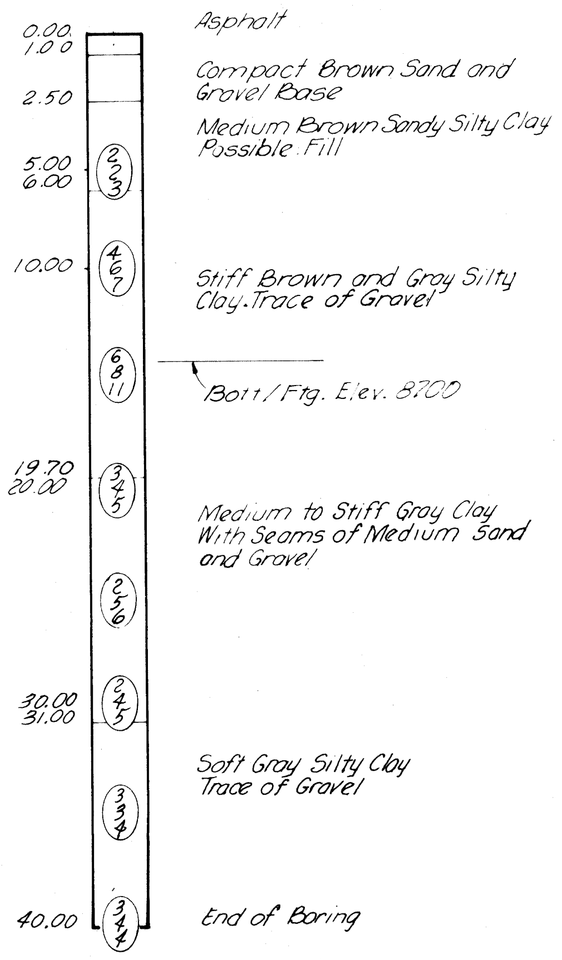
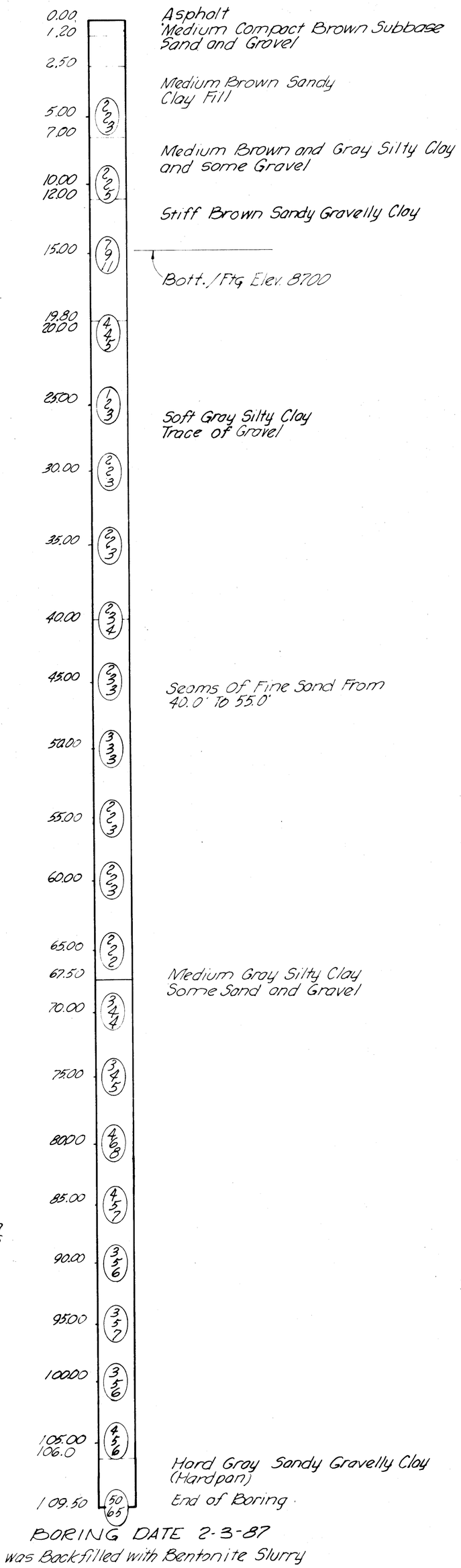
DESIGN BY	K.C.H.
DRAWN BY	
CHECKED BY	O.L.M.
DATE	
PROJECT NO.	8605
SHEET NO.	A-2

TEST HOLE NO. 1



BORING DATE 2-2-87
Encountered Water in Sand Seams at 20.00'. Boring Dry at Completion Backfilled With Excavated Materials

TEST HOLE NO. 2



BORING DATE 2-3-87
Boring was Backfilled with Bentonite Slurry

Notes:

(0 0 0) 1st 6" 2nd 6" 3rd 6"

1. Number In Circle Denotes Number Of Blows Required To Drive A 2.00" O.D. x 1.50" I.D. Split Spoon Sampler 3 Successive 6 Increments Using A 140# Hammer Falling 30".
2. The Soil Boring Logs Represent Point Information. Presentation Of This Information In No Way Implies That Subsurface Conditions Are The Same At Locations Other Than The Exact Location Of The Boring.

SOIL BORING LOGS NO. 1 and 2

Project
CITY OF DETROIT
INSELRUHE BRIDGE RECONSTRUCTION

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Detroit, Michigan 48226

DESIGN BY	
DRAWN BY	C W
CHECKED BY	S.O
DATE	
PROJECT NO.	8605
SHEET NO.	SB-1