

J.J. 1/2/98

# CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS IN CO-OPERATION WITH

## MICHIGAN DEPARTMENT OF TRANSPORTATION & FHWA CONTROL SECTION STU 82400 JOB NO. 46555A FEDERAL PROJECT NO. 9882(069)

### INDEX OF SHEETS

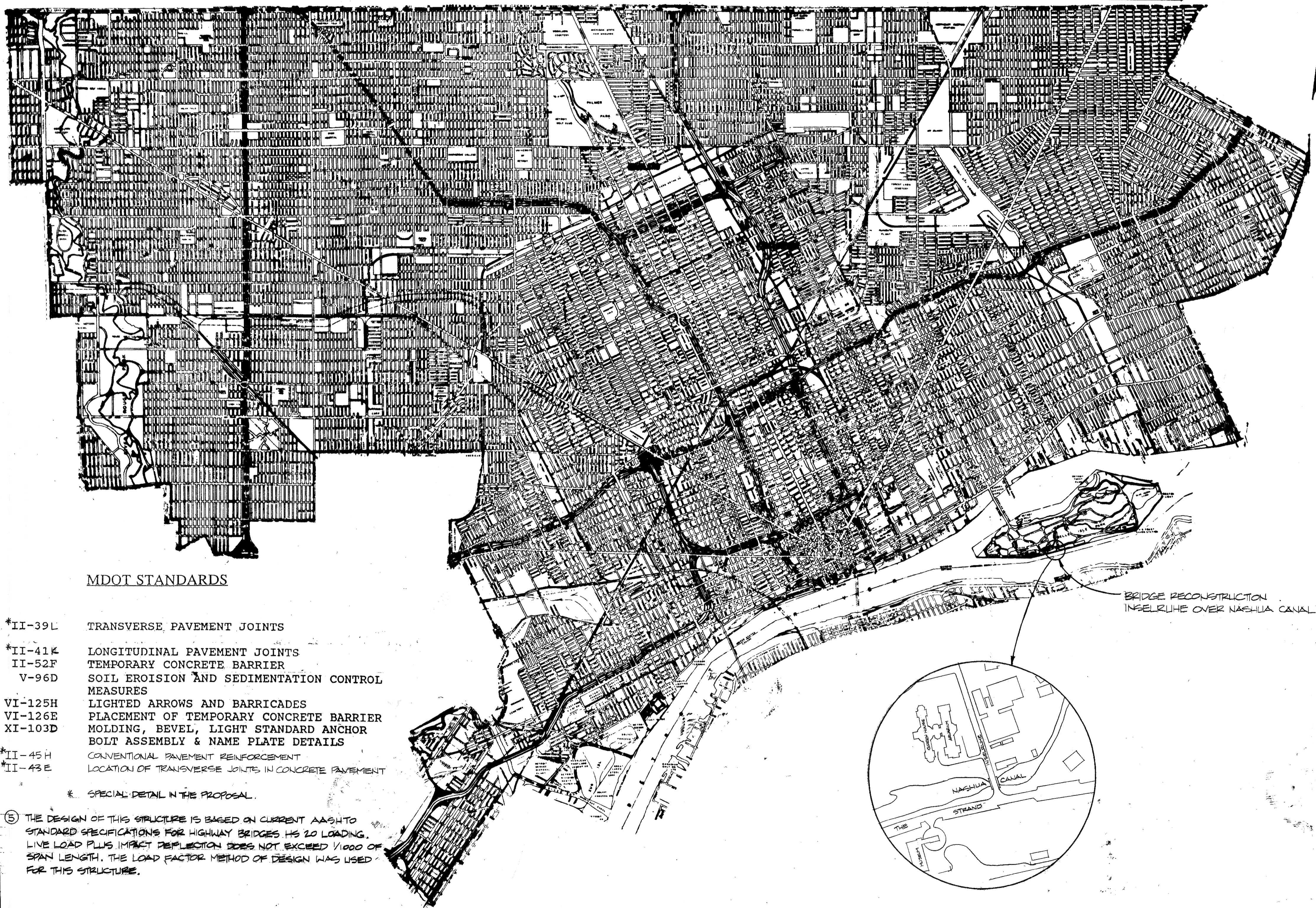
- INSELRUHE BRIDGE RECONSTRUCTION
- T-2 BRIDGE TITLE SHEET
- R-1 SUMMARY OF QUANTITIES
- R-2 SITE PLAN
- R-3 DETAILED PAVEMENT GRADES
- S-1 GENERAL PLAN OF STRUCTURE
- S-2 ABUTMENT "A" PLAN AND SECTIONS
- S-3 ABUTMENT "B" PLAN AND SECTIONS
- S-4 WINGWALLS, SECTIONS AND DETAILS
- S-5 WINGWALL SECTIONS AND DETAILS
- S-6 SUPERSTRUCTURE DETAILS
- S-7 PLAN OF SLAB AND SECTIONS
- S-8 SLAB AND SCREED DETAILS AND SIDEWALK ELEVATIONS
- S-9 SUMMARY OF STEEL REINFORCEMENT
- A-1 ARCHITECTURAL DETAILS
- A-2 ARCHITECTURAL DETAILS
- SB-1 SOIL BORING LOG
- T-1 TRAFFIC PLAN
- U-1 SANITARY SEWER LINE RELOCATION - PLAN, PROFILE & DETAIL
- U-2 CONDUIT CONSTRUCTION
- U-3 MISCELLANEOUS CONDUIT SECTIONS
- U-4 TWO-WAY MANHOLE
- U-5 FOUR-WAY MANHOLE
- U-6 FOUNDATIONS

- 1 EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 1990 EDITION.
- 2 THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AASHTO; A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS, 1990.
- 3 ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.
- 4 THE DESIGN OF STRUCTURAL MEMBERS IS BASED ON MATERIAL HAVING THE FOLLOWING GRADES AND STRESSES:

CONCRETE GRADE 355	f'c =	3,000 PSI
CONCRETE GRADE 45D (SUPERSTRUCTURE)	f'c =	4,000 PSI
PRESTRESSED CONCRETE	f'c =	5,000 PSI
STEEL REINFORCEMENT		
(PRESTRESSED BEAM STIRRUPS)	f'y =	40,000 PSI
STEEL REINFORCEMENT	f'y =	60,000 PSI
PRESTRESSING STRANDS	f's =	270,000 PSI

5 SEE NOTE BELOW

INSELRUHE AVE OVER NASHUA CANAL, BELLE ISLE  
PART 1 & 2



CITY OF DETROIT  
BRIDGE NO. BW-211  
MDOT STRUCTURE  
B10 OF 82-25-82

### TRAFFIC COUNT - INSELRUHE AVE.

DESIGN SPEED	-	25 MPH
POSTED SPEED	-	25 MPH
ADT (1990)	-	1200
ADT (2010)	-	2170
DESIGN LOADING	-	HS 20

ITEM NO. HH1859

CONTRACT FOR BRIDGE RECONSTRUCTION, APPROACH WORK AND MISCELLANEOUS CONSTRUCTION

LOCAL AUTHORITY APPROVAL  
CITY OF DETROIT  
CITY ENGINEERING DIVISION, DPW

APPROVED BY William R. Talley 6/10/98  
LEAD ENGINEER DATE

APPROVED BY [Signature] 7/7/98  
CITY ENGINEER DATE

PREPARED UNDER SUPERVISION OF

Jessy S. Jacob 38198  
REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO.

CITY OF DETROIT  
ORGANIZATION

DETROIT, MICHIGAN  
ADDRESS

STATE OF MICHIGAN  
BHAU PATEL  
ENGINEER  
No. 28263  
LICENSED PROFESSIONAL ENGINEER

STATE OF MICHIGAN  
JESSY S. JACOB  
ENGINEER  
No. 38198  
LICENSED PROFESSIONAL ENGINEER

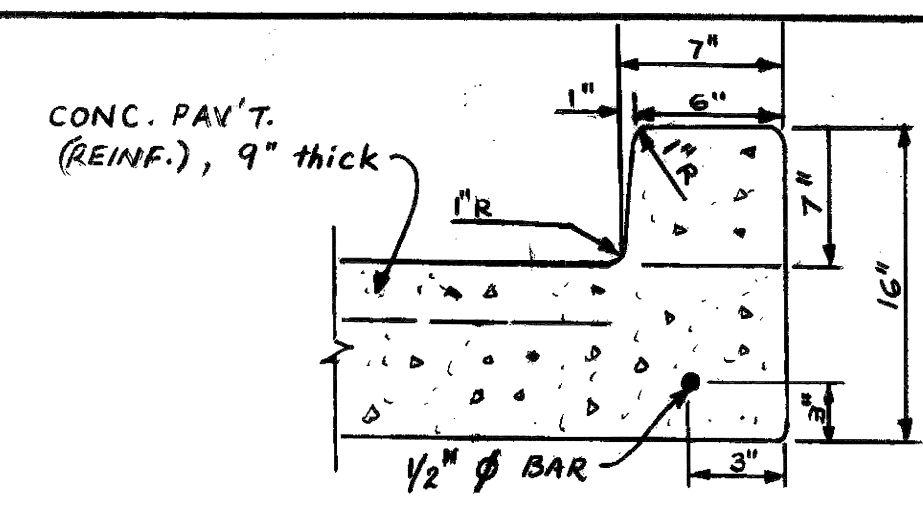
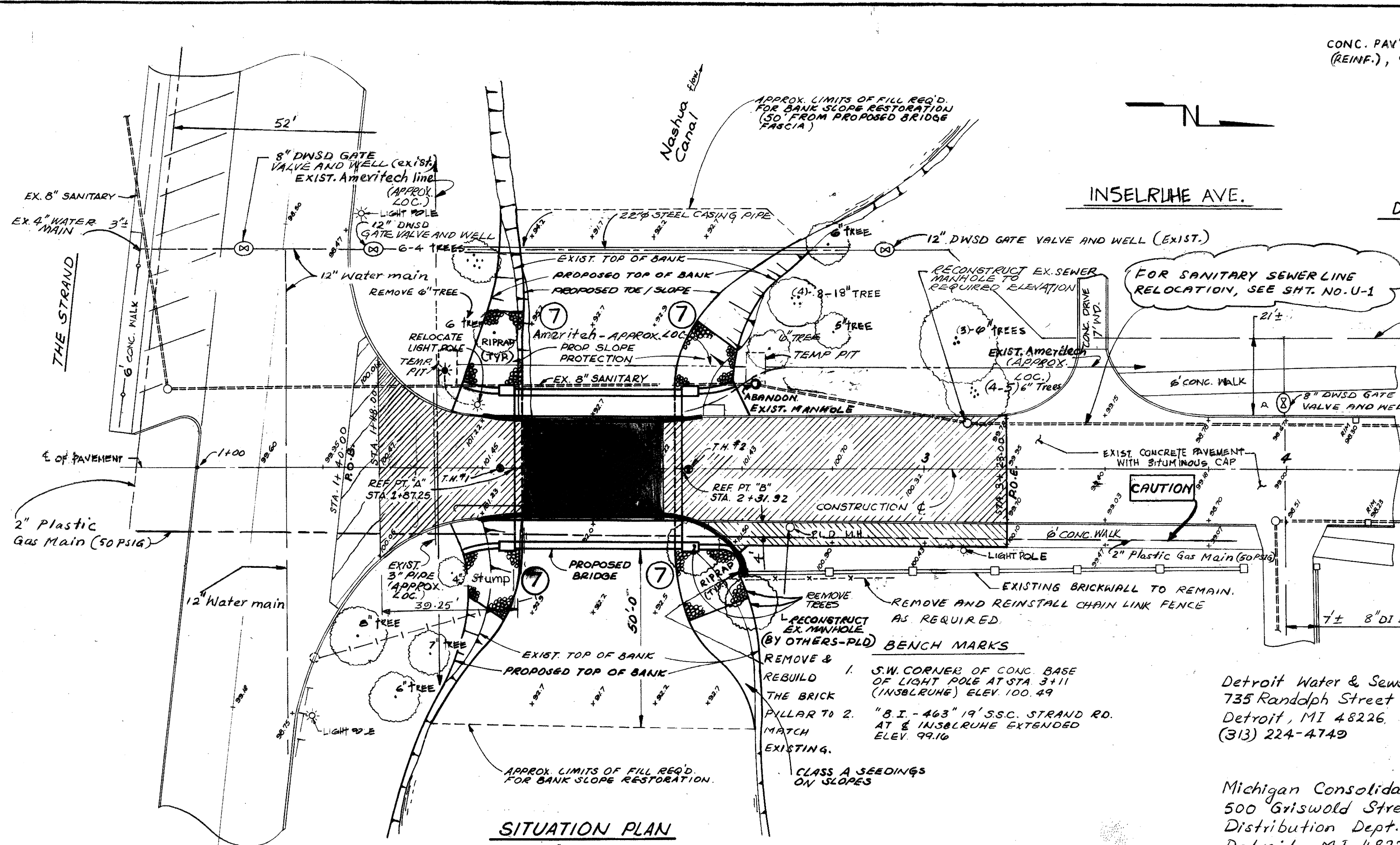
MADISON MADISON INTERNATIONAL OF MICHIGAN  
ENGINEERS, ARCHITECTS, PLANNERS  
1420 WASHINGTON BOULEVARD, DETROIT MI 48226  
(313) 963-0700

- ### MDOT STANDARDS
- \*II-39L TRANSVERSE PAVEMENT JOINTS
  - \*II-41K LONGITUDINAL PAVEMENT JOINTS
  - II-52F TEMPORARY CONCRETE BARRIER
  - V-96D SOIL EROSION AND SEDIMENTATION CONTROL MEASURES
  - VI-125H LIGHTED ARROWS AND BARRICADES
  - VI-126E PLACEMENT OF TEMPORARY CONCRETE BARRIER MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY & NAME PLATE DETAILS
  - XI-103D CONVENTIONAL PAVEMENT REINFORCEMENT
  - \*II-45H LOCATION OF TRANSVERSE JOINTS IN CONCRETE PAVEMENT
  - \*II-43E
- \* SPECIAL DETAIL IN THE PROPOSAL.

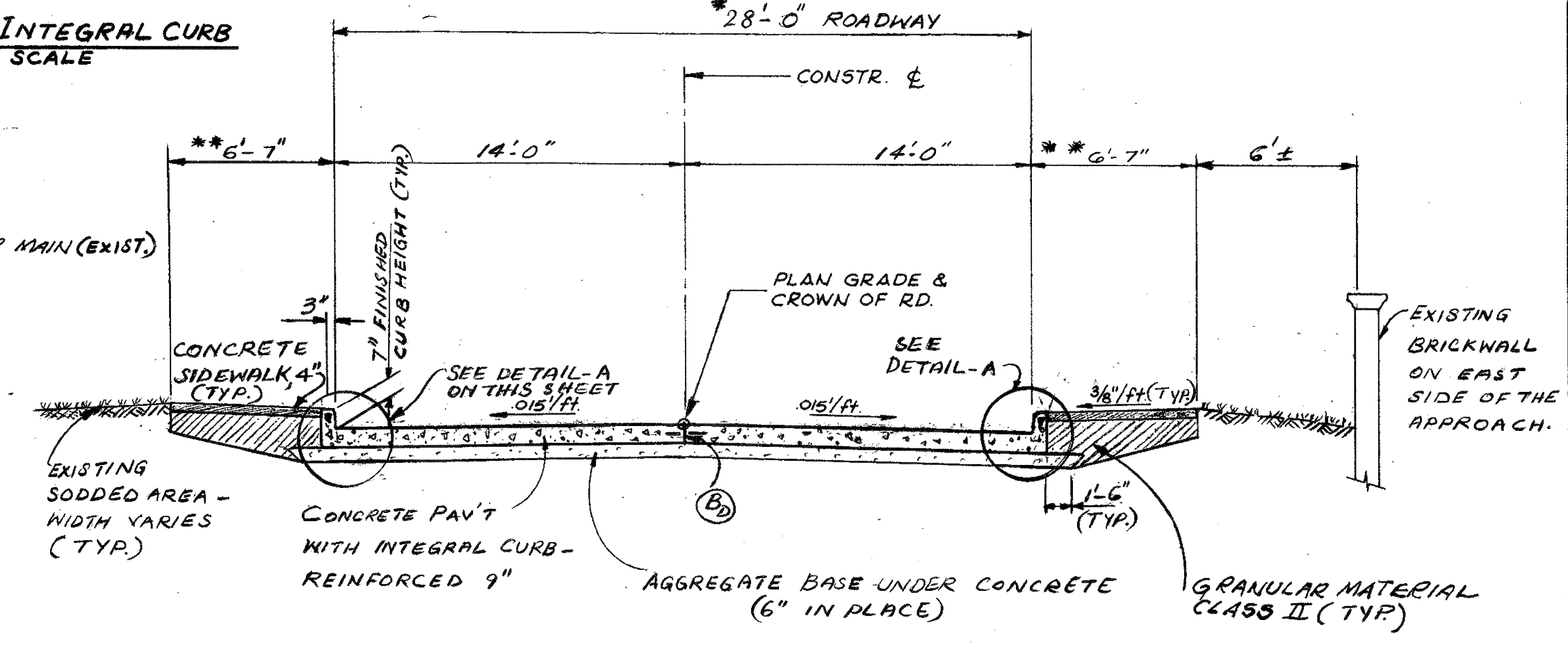
5 THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, HS 20 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.

CONTROL SECTION STU 82400 FEDERAL PROJECT NO. 9882 (069) ITEM NO. HH 1859





\* PAVEMENT WIDTH VARIES FROM 28'0" AT STA. 1+78.00 TO EXISTING WIDTH AT STA. 1+48.00 - SEE PAVEMENT PLAN ON SHEET NO. R-3.  
 \*\* NO SIDEWALK FROM STA. 1+72.00 TO STA. 1+48.00 - SEE PAVEMENT PLAN ON SHEET NO. R-3.



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

**QUANTITIES**

REMOVAL OF STRUCTURES	L.S.	Misc. Reconstructing Drainage Structure, Case 2	1 Each.
REMOVING PAVEMENT	416 Y.D.	Rebuilding Brick Pillar	L.S.
REMOVING SIDEWALK	61 S.Y.D.	Channel Excavation	140 C.Y.D.
CLEARING	1 ACRE	Removing Tree, 8-18"	5 Each.
Cofferdams	L.S.	Remove and Reinstall Chain Link Fence	L.S.
EARTH EXCAVATION	2500 C.Y.D.	Misc. Mobilization, Max. 28,000 L.S.	
GRANULAR MATERIAL, CLASS II	25 C.Y.D.		
EMBANKMENT (C.I.P.)	16 C.Y.D.		
Riprap, Heavy	2805 Y.D.		
Water	1 Unit		
UNCLASSIFIED FOUNDATION EXCAVATION	1700 C.Y.D.		
STRUCTURE BACKFILL (C.I.P.)	890 C.Y.D.		
CLASS A SEEDING	10 LBS.		
Topsoil Surface, 3"	400 S.Y.D.		
CHEMICAL FERTILIZER NUTRIENT	20 LBS.		
MULCH	2 TON		
ANCHORING MULCH	1 ACRE		
SILT FENCE	200 L.F.		
FILTER BAG	2 EACH		
Field office	6 Mos.		
Subgrade Undercutting, Type II	10 C.Y.D.		

**UTILITIES**

**Detroit Water & Sewerage Dept. (DWS)**  
735 Randolph Street  
Detroit, MI 48226  
(313) 224-4749

**Michigan Consolidated Gas Company**  
500 Griswold Street  
Distribution Dept. - Noble Bldg.  
Detroit, MI 48226  
(313) 577-7236

**Ameritech**  
Right of Way - Metro  
4000 Allen Rd.  
Allen Park MI 48101  
(313) 389-9830

**Public Lighting Dept. (PLD)**  
9449 Grinnell  
Detroit, MI 48213  
(313) 267-7228

**NOTES - CONTINUED ON SHEET NO. R-3**

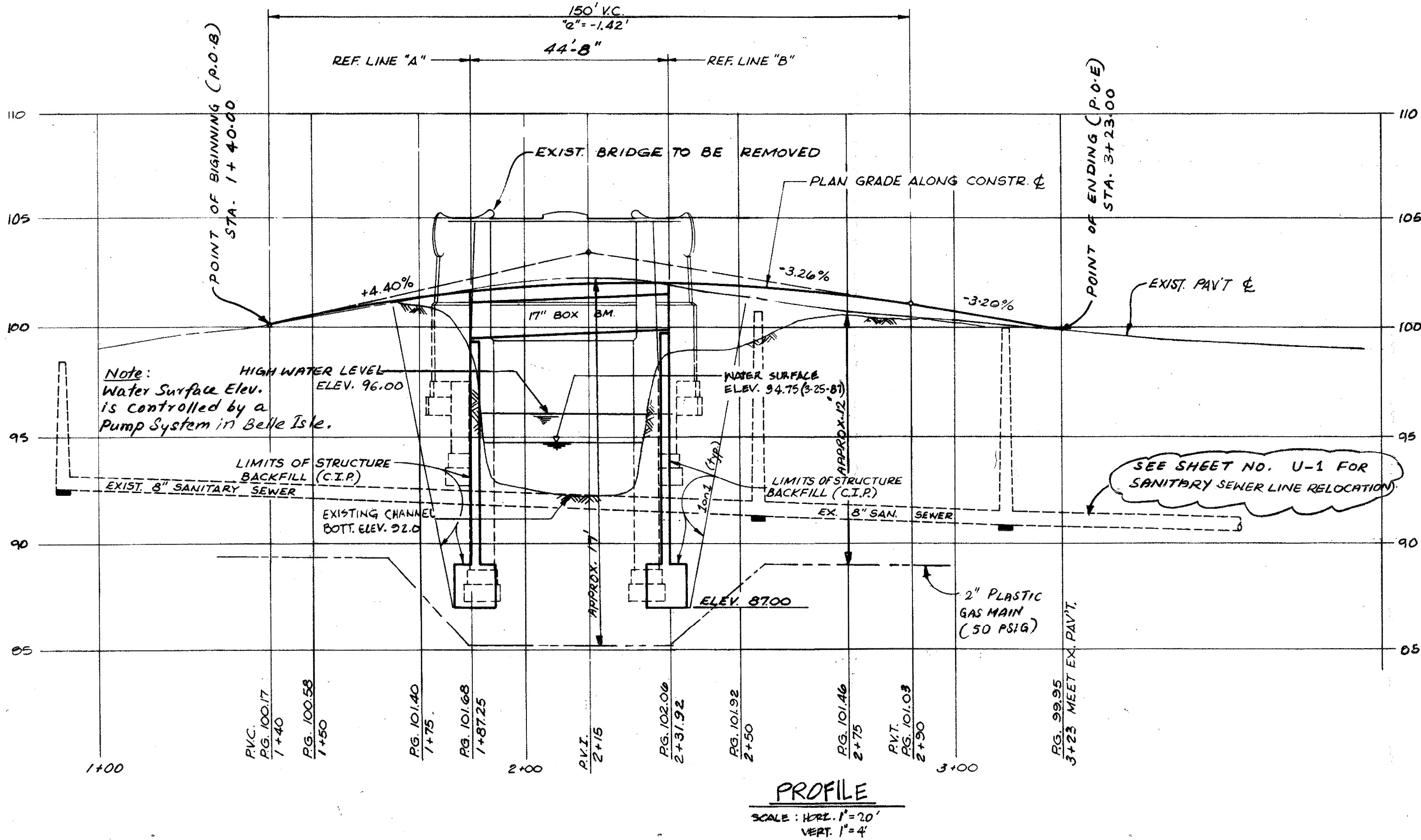
- The Contractor shall locate all active underground utilities prior to starting work and shall conduct his operations in such a manner as to insure that those utilities not requiring relocation will not be disturbed.
- For protection of underground utilities, the Contractor shall dial 1-800-482-7171 a minimum of 3 working days 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.
- For detailed pavement grades, see sheet R-3
- All elevations are based on City of Detroit datum.
- Inselruhe Ave. is closed to all public traffic and will remain closed during construction.
- For construction signing and barricading, see sheet T-1.
- Place Silt Fence as directed by the Engineer.
- The work covered by these plans includes channel excavation, maintaining traffic, construction of the proposed bridge, Sanitary sewer line relocation, and placing slope protection (Riprap) to the limits shown.
- For Hydraulic data see sheet No. A-1

**LEGEND**

- Exist. bridge to be removed.
- Remove existing concrete pavement with bituminous overlay, including curbs.
- Remove existing sidewalk.
- Remove and replace bituminous cap only.
- Existing manhole
- Exist. A.L.D. Light pole
- Exist. A.L.D. Underground conduit
- +99.90 Exist. ground elevation
- Existing Gas Lines
- Existing Ameritech Telephone Ducts
- Existing Water Main
- Existing Sanitary Sewer Line

**INSELRUHE BRIDGE OVER NASHUA CANAL**  
DESCRIPTION OF EXISTING STRUCTURE:

Year Built	1901
Span Length	34'
Number of Span	1
Type of Service	Highway over Waterway
Clear Rdwy. Width	27'
Overall Structure Length	39'
Type of structure	Steel Stringers with Reinforced Concrete deck
Type of railing	Concrete with brick facing & precast capping
Piles	None
Number of lanes	2
Sidewalk	None



**CITY OF DETROIT**  
**INSELRUHE BRIDGE RECONSTRUCTION**

Sheet Title: SITE PLAN

DESIGN BY: K.C.H.  
DRAWN BY: K.C.H./C.J.B.  
CHECKED BY: S.O.  
DATE: June, 1998  
PROJECT NO.: 1882(069)  
SHEET NO.: R-2

REVISIONS:  
11/19/97 Revised by City Engineering  
04/13/98 REV. AS PER OWNER'S REQUEST  
11/14/98 OWNER REVIEW

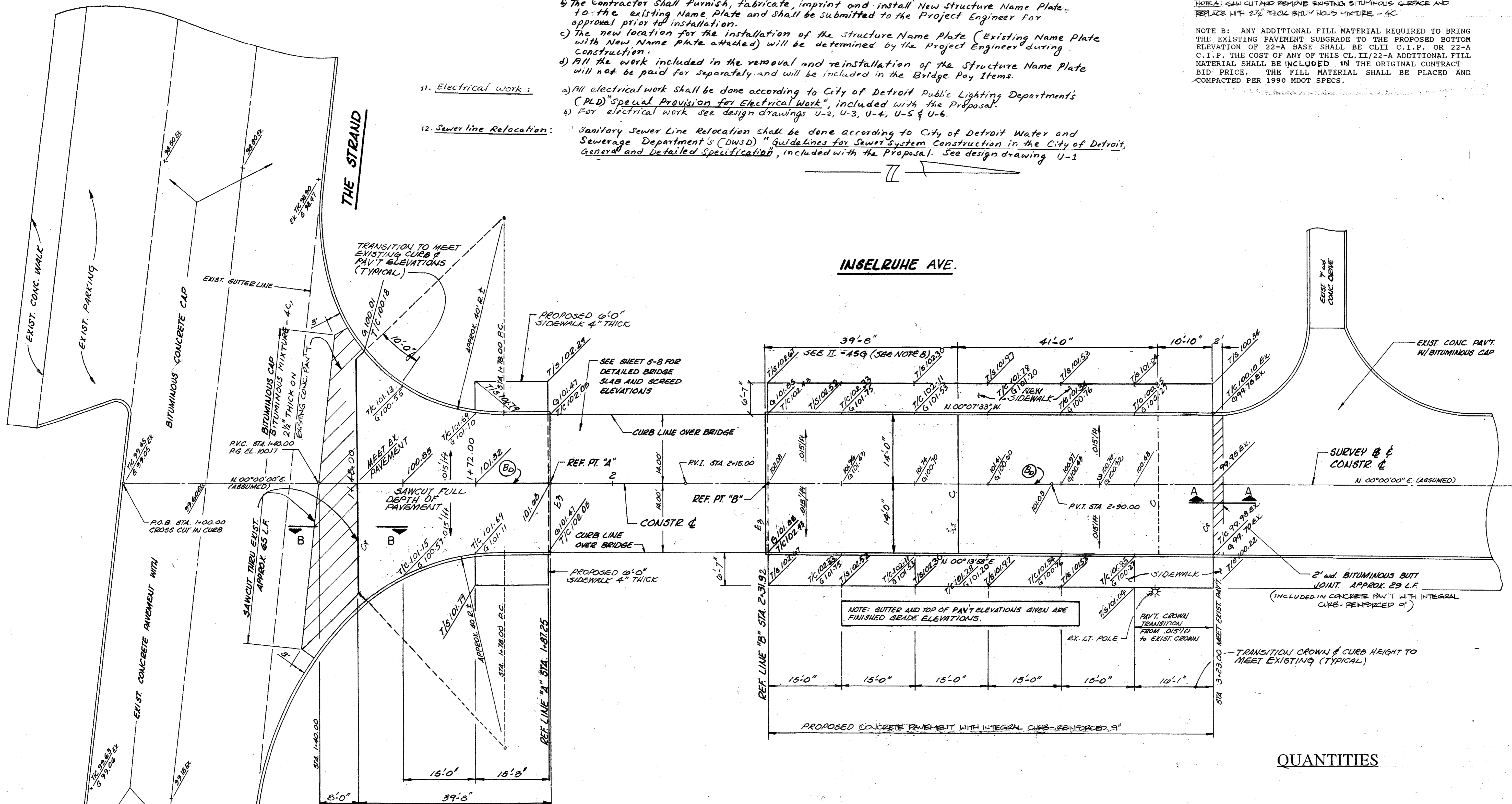
DESIGN BY: MADISON MADISON INTERNATIONAL OF MICHIGAN  
Engineers, Planners Architects, and Surveyors  
Detroit, Michigan 48226

JOB No. 46555 A

10. Structure Name Plate:
  - a) During the removal of the Bridge Structure, the existing Name Plate (appeared to be a Stone) at the North West Side of the Bridge right after the Wing wall, shall be salvaged and stored for reinstallation.
  - b) The Contractor shall furnish, fabricate, imprint and install New Structure Name Plate to the existing Name Plate and shall be submitted to the Project Engineer for approval prior to installation.
  - c) The new location for the installation of the Structure Name Plate (Existing Name Plate with New Name Plate attached) will be determined by the Project Engineer during construction.
  - d) All the work included in the removal and reinstallation of the Structure Name Plate will not be paid for separately and will be included in the Bridge Pay Items.
11. Electrical work:
  - a) All electrical work shall be done according to City of Detroit Public Lighting Department's (PLD) "Special Provision for Electrical Work", included with the Proposal.
  - b) For electrical work see design drawings U-2, U-3, U-4, U-5 & U-6.
12. Sewer line Relocation:
  - a) Sanitary Sewer Line Relocation shall be done according to City of Detroit Water and Sewerage Department's (DWS) "Guidelines for Sewer System Construction in the City of Detroit, General and Detailed Specifications", included with the Proposal. See design drawing U-1

NOTE A: SAW CUT AND REMOVE EXISTING BITUMINOUS SURFACE AND REPLACE WITH 2 1/2" THICK BITUMINOUS MIXTURE - 4C

NOTE B: ANY ADDITIONAL FILL MATERIAL REQUIRED TO BRING THE EXISTING PAVEMENT SUBGRADE TO THE PROPOSED BOTTOM ELEVATION OF 22-A BASE SHALL BE CLII C.I.P. OR 22-A C.I.P. THE COST OF ANY OF THIS CL.II/22-A ADDITIONAL FILL MATERIAL SHALL BE INCLUDED IN THE ORIGINAL CONTRACT BID PRICE. THE FILL MATERIAL SHALL BE PLACED AND COMPACTED PER 1990 MDT SPECS.



**DETAILED PAVEMENT GRADES**

SCALE: 1" = 10'-0"

**NOTE:**

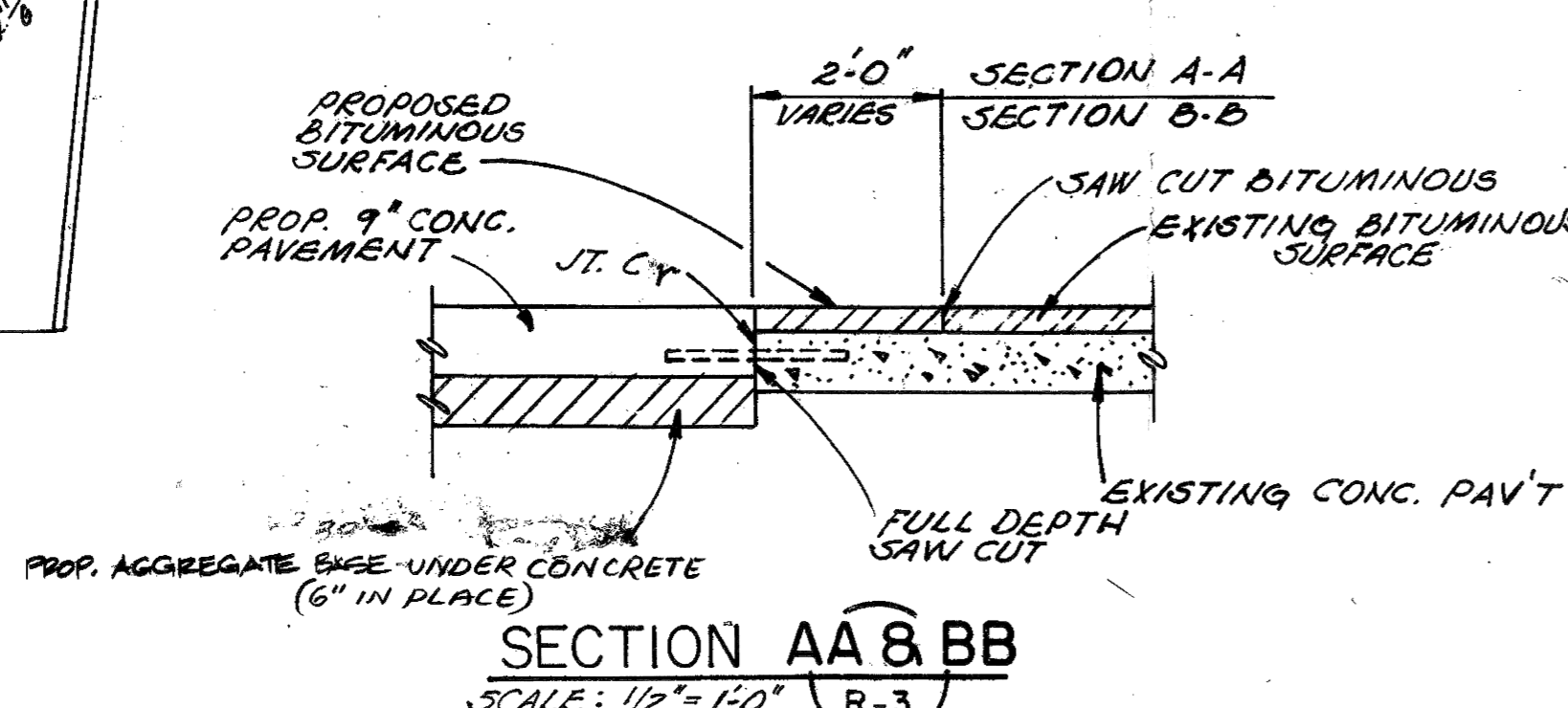
1. FOR JOINT DETAILS, SEE MDT STD PLANS.
2. FOR PAVEMENT PROFILE, SEE SHEET R-2.
3. SEE SHEET R-2 FOR BENCH MARKS.
4. T/S = TOP OF SIDEWALK.
5. (B) OPTIONAL B OR D LONGITUDINAL JOINT.
6. SUBGRADE UNDERCUTTING SHALL BE AS DIRECTED BY THE ENGINEER.
7. TRANSVERSE CONTRACTION JOINTS ON APPROACH SIDEWALKS SHALL BE AT 6' INTERVALS.
8. TYPE B JOINT DENOTES AN MDT LONGITUDINAL BULKHEAD JOINT; TYPE D JOINT DENOTES AN MDT LONGITUDINAL LANE TIE JOINT.
9. FOR PAVEMENT SECTION SEE SHEET NO. R-2.

**QUANTITIES**

BITUMINOUS MIXTURE - 4C ----- 6 TONS  
 AGGREGATE BASE UNDER CONCRETE (6" IN PLACE) --- 490 SQ. YDS.  
 EXPANSION JOINT E3 ----- 58 L.F.  
 CONTRACTION JOINT C ----- 58 L.F.  
 CONTRACTION JOINT C4 ----- 82 L.F.  
 CONCRETE PAVEMENT WITH INTEGRAL CURB - REINF. 9" --- 460 SYD  
 CONCRETE SIDEWALK, 4" ----- 1276 SFT

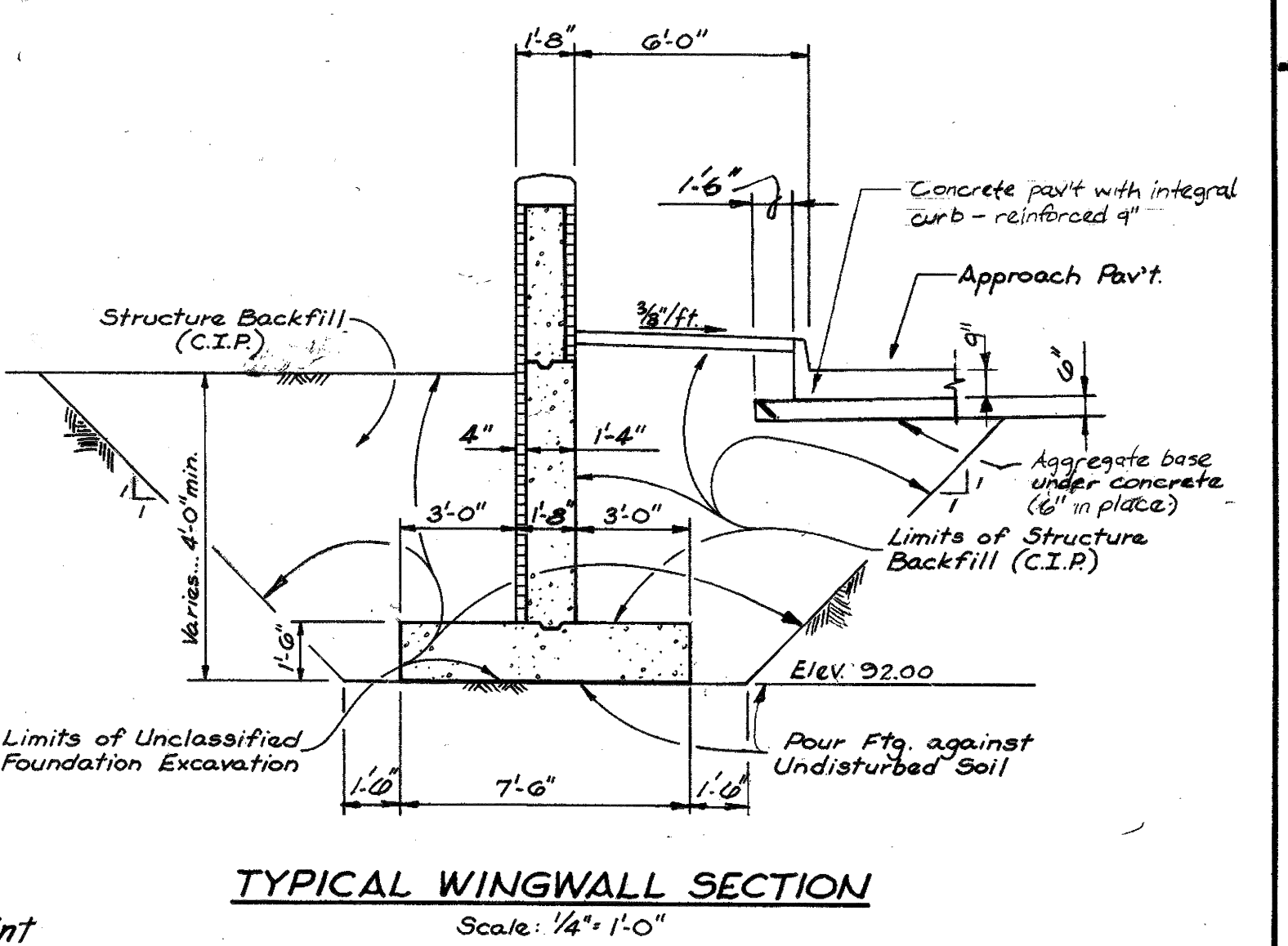
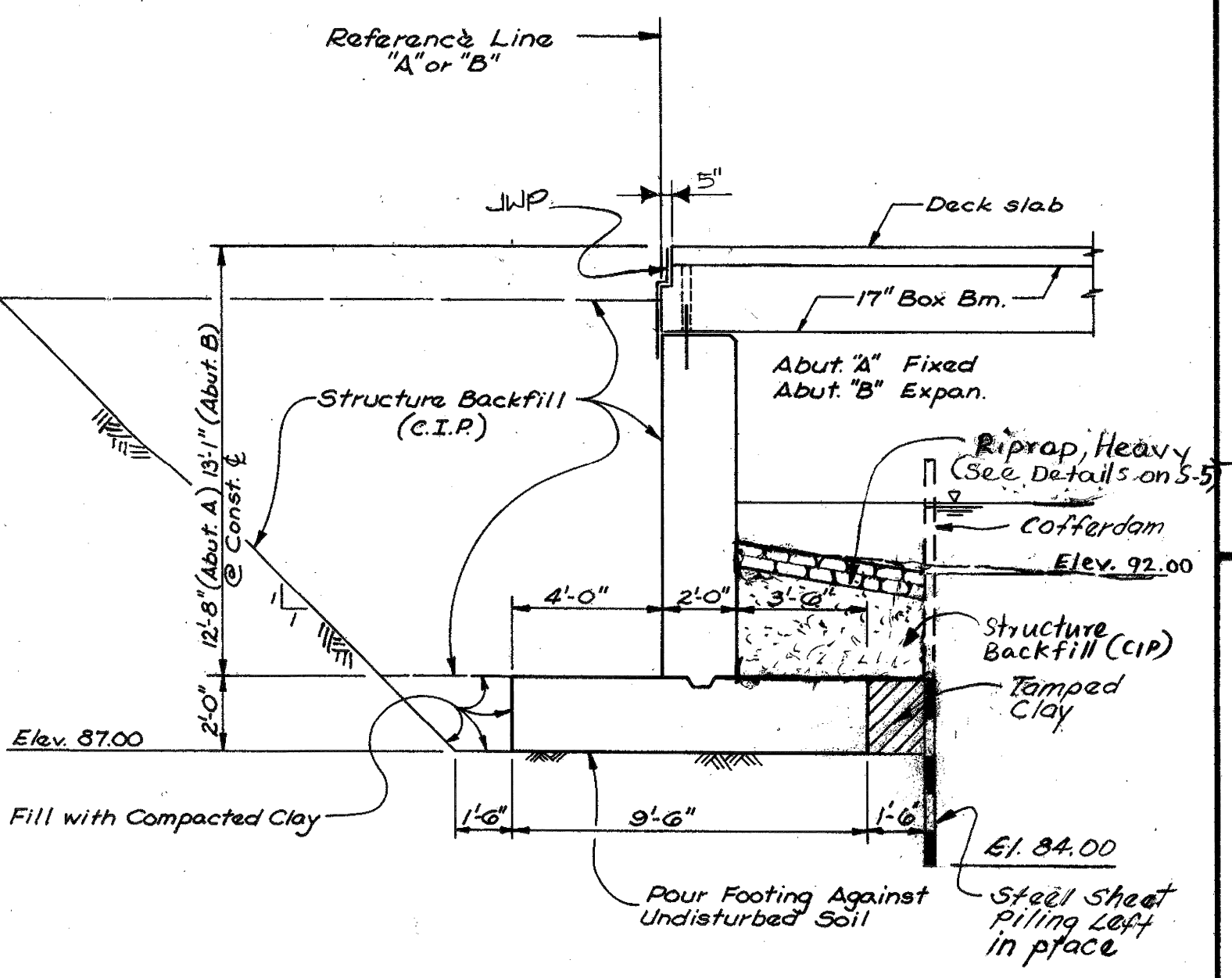
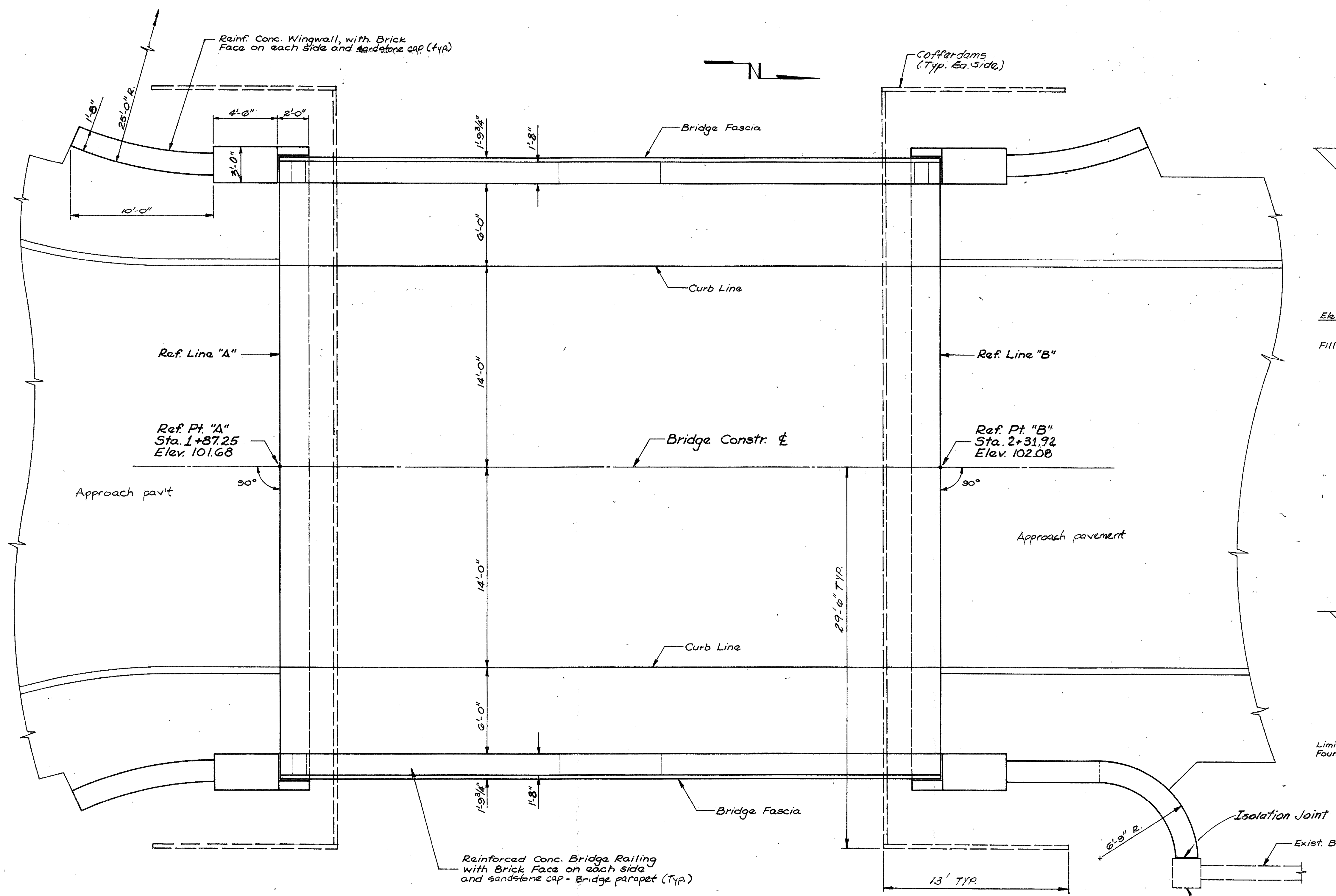
BITUMINOUS APPLICATION CHART				
ITEM	RATE OF APPLICATION PER SQ. YD.	ESTIMATED THICKNESS	ASPHALT PENETRATION	REMARKS
BITUMINOUS MIXTURE - 4C	266 LBS	2 1/2 INCHES	58-28	FOR BITUMINOUS CAP AT NORTH AND SOUTH END OF APPROACH STA. 1+40 TO STA. 1+48 STA. 3+23 TO STA. 3+25

NOTE: A.W.I. NUMBER FOR BITUMINOUS MIXTURE - 4C IS 260

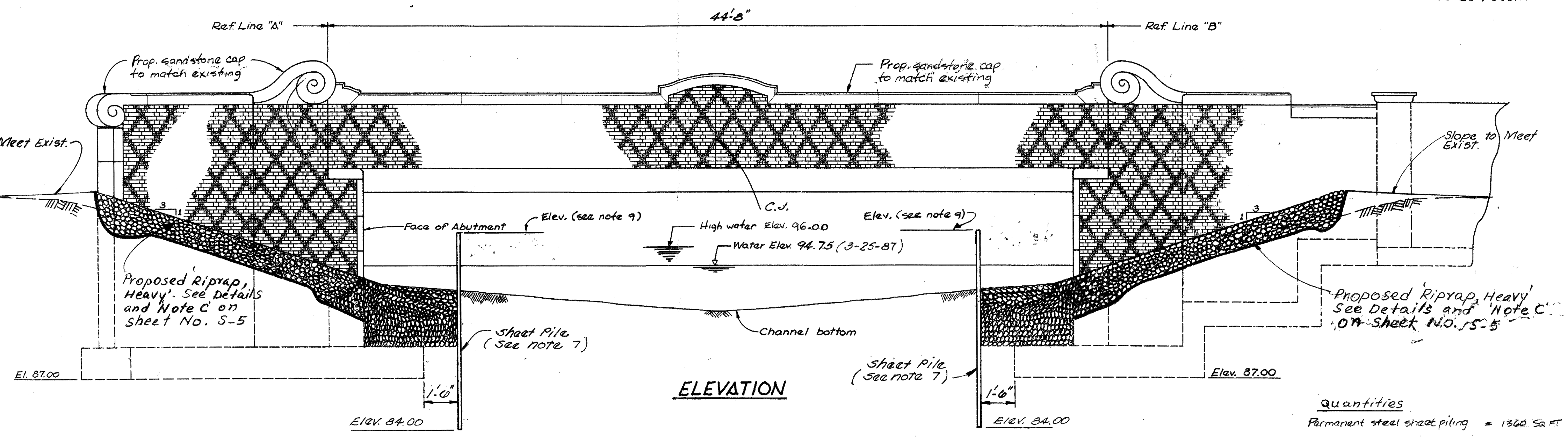


**SECTION AA & BB**  
 SCALE: 1/2" = 1'-0" R-3

SHEET TITLE: DETAILED PAVEMENT GRADES  
 PROJECT: CITY OF DETROIT INSELRUHE BRIDGE RECONSTRUCTION  
 DESIGN BY: MADISON MADISON INTERNATIONAL OF MICHIGAN  
 DRAWN BY: R.A.M.  
 CHECKED BY: K.C.H./S.O.  
 DATE: June, 1998  
 PROJECT NO.: 9882(069)  
 SHEET NO.: R-3  
 ENGINEER: BHAGU PATEL, LICENSED PROFESSIONAL ENGINEER, STATE OF MICHIGAN, LICENSE NO. 9882(069)



- General Notes:**
- The design of this structure is based on current AASHTO Standard Specifications for Highway Bridges, HS-20 Loading.
  - 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 (1990 Edition).
  - Live Load plus impact deflection does not exceed 1/1000 of the span length.
  - The Load Factor Method of design was used for this structure.
  - The superstructure is designed to allow for a future wearing surface dead load of 25 p.s.f. on the roadway surface.
  - The design of the structural members is based on material of the following grades and stresses:  
 Concrete: Grade 35D  $f'_c = 3,000$  p.s.i.  
 Steel Reinforcement  $f_y = 60,000$  p.s.i.
  - Drive the sheet piling to the required elevation shown. After the completion of work, leave the sheet piling in place, but cut off at elevation 92.00± above footing, continue rip rap depth along steel piling.
  - Any water pumped from excavations shall be run through "Geotextile Filter Bags".
  - For cofferdams, Elev. at the top of the steel sheet piling shall be determined by the contractor depending on the water elevation during the construction.
  - See Note No. 4 on Sheet No. S-2 for Subfooting.



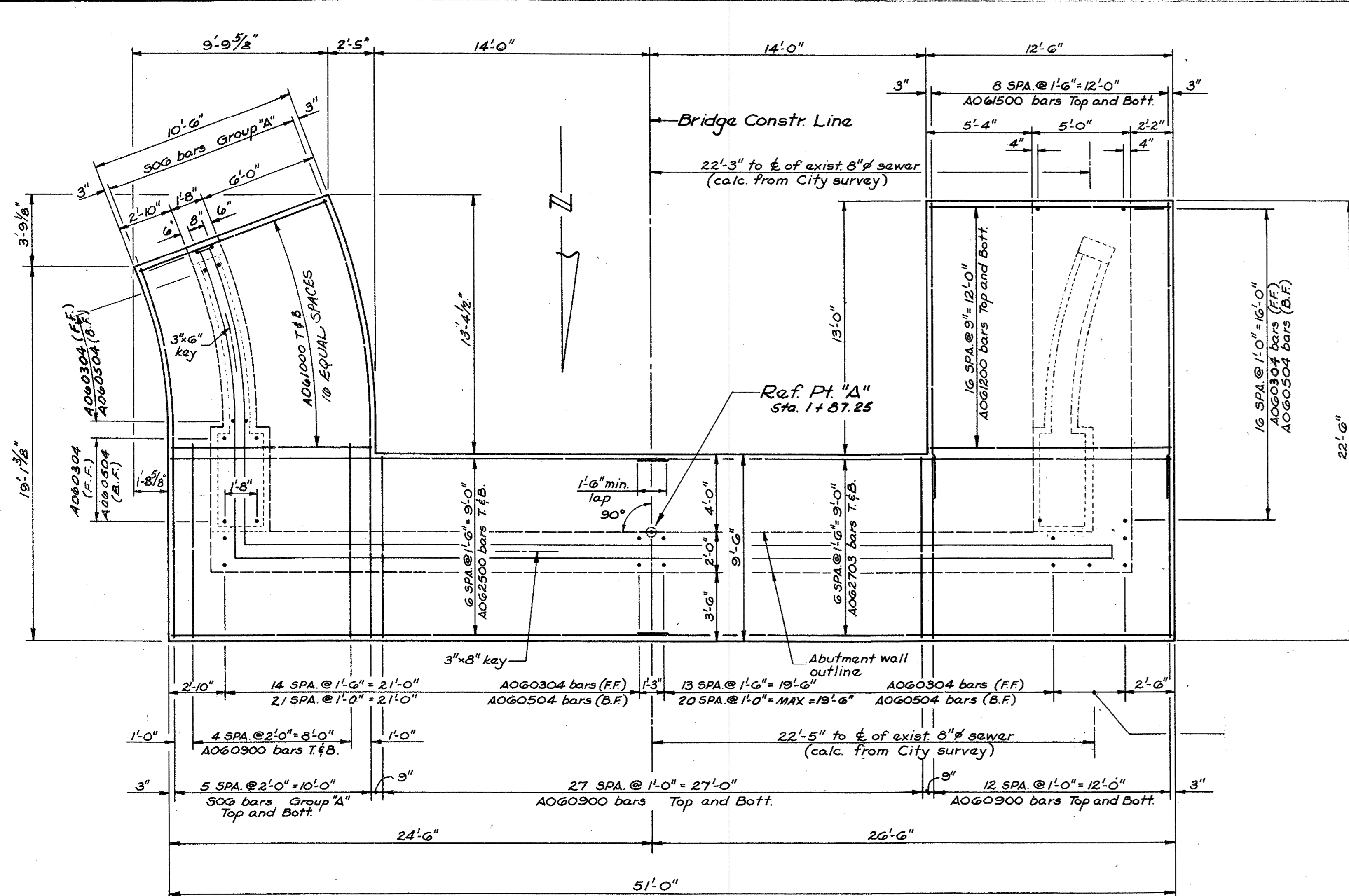
Sheet Title: **GENERAL PLAN OF STRUCTURE**

Project: **CITY OF DETROIT INSELRUHE BRIDGE RECONSTRUCTION**

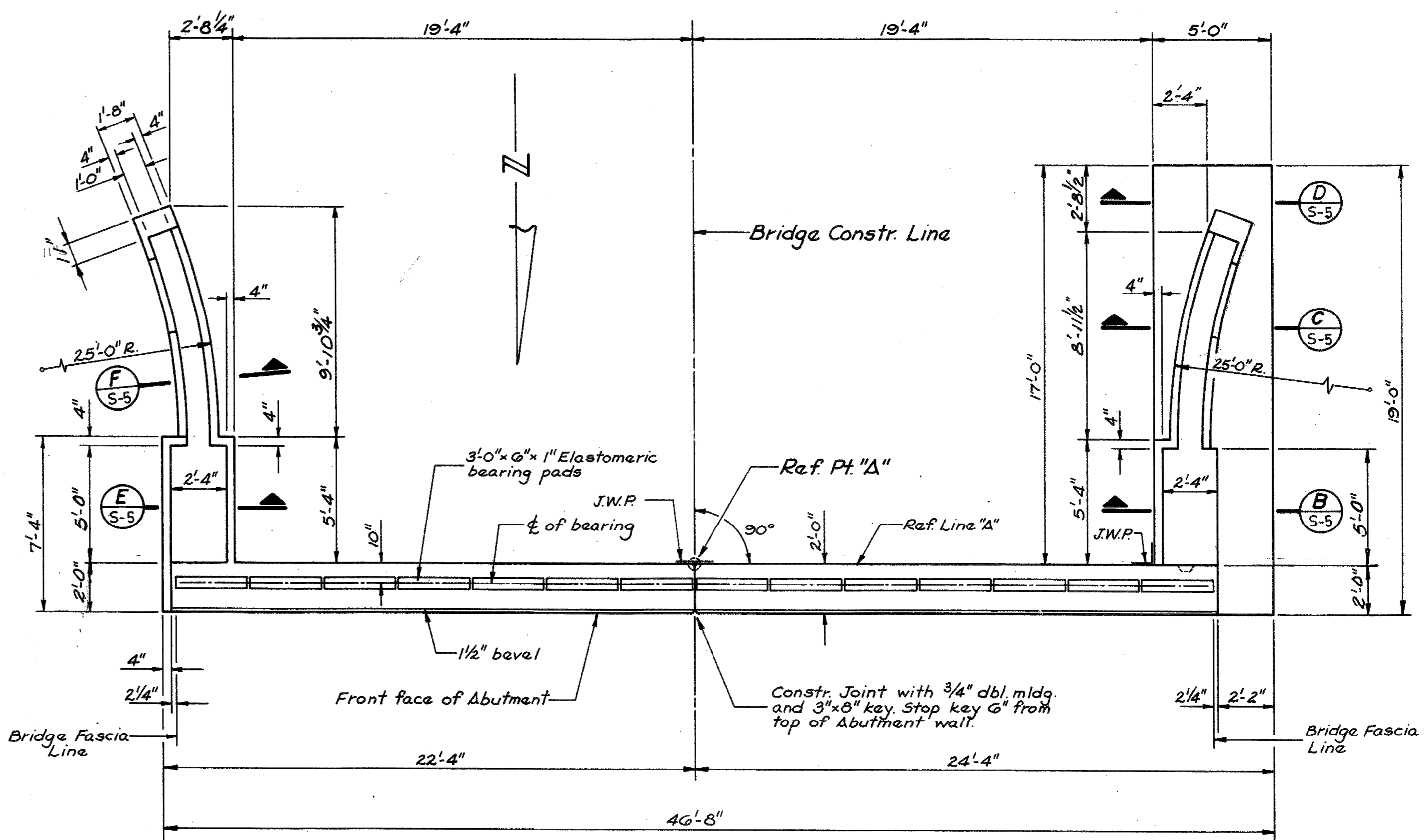
DESIGN BY: KCH/SO  
 DRAWN BY: KCH  
 CHECKED BY: KCH/SO  
 DATE: June, 1998  
 PROJECT NO: 1882(049)  
 SHEET NO: S-1

Job No. 46555 A

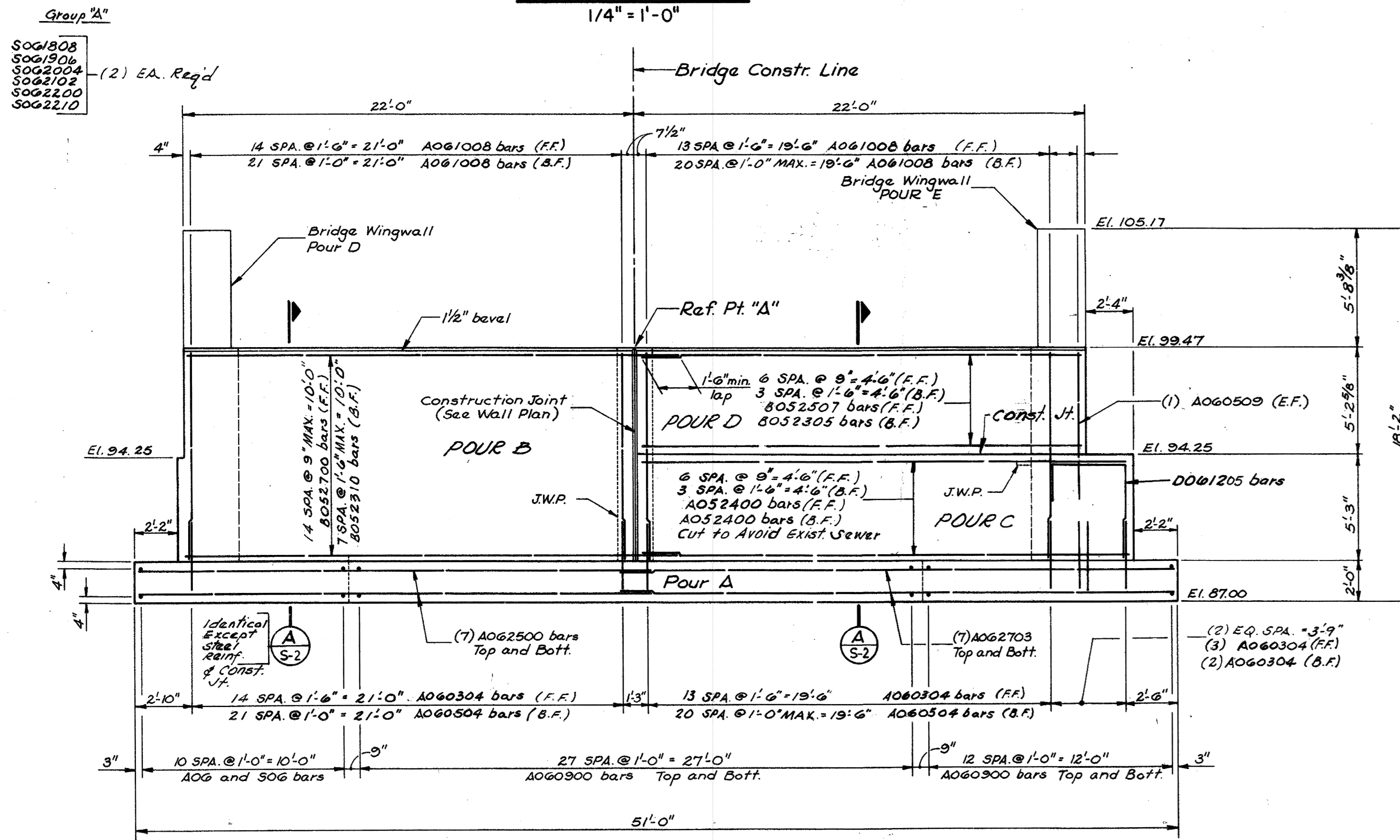
Professional Engineer Seal: MADISON MADISON INTERNATIONAL OF MICHIGAN, Engineers, Architects, Planners, 615 Griswold Street, Detroit, Michigan 48226



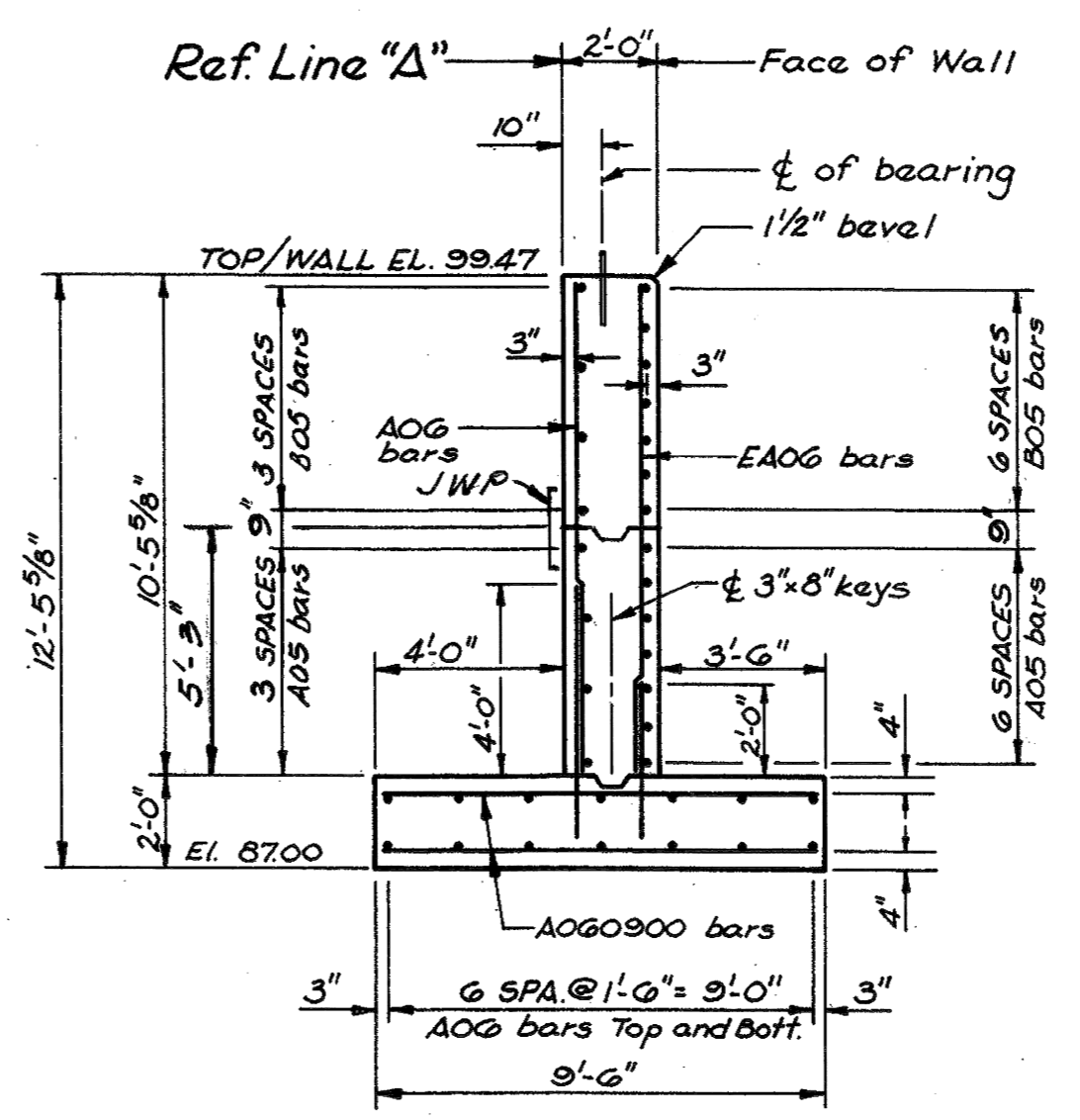
**FOOTING PLAN**  
1/4" = 1'-0"



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



**ELEVATION**  
1/4" = 1'-0"



**SECTION A**  
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.
1. Maximum average foundation pressure DL only = 2170 p.s.f.
  2. Maximum foundation pressure DL + L.L. = 2950 p.s.f.
  3. The top and front face of the Abutments shall be given an application of penetrating water repellent treatment after the elastomeric bearing pads have been placed.
  4. A subfooting of 4" thick shall be cast prior to the construction of the bridge footing as directed by the Engineer. The completed work of subfooting will be measured as "Concrete, Grade 35 S-subfooting" and will be paid at the Contract unit price, "CYD." The top of the subfooting should be at Elev. 87.00

11/198 Revisd by V.L. C.E.D. DAW  
1/1988 DWGERS REVIEW

**ABUTMENT "A"**  
**PLAN AND SECTIONS**

**CITY OF DETROIT**  
**INSELRUHE BRIDGE**  
**RECONSTRUCTION**

Project

**MADISON MADISON**  
INTERNATIONAL OF MICHIGAN  
Engineers, Architects, Planners  
1420 Washington Blvd.  
Detroit, Michigan 48226

DESIGN BY  
KCH/SO

DRAWN BY  
KCH/CJB

CHECKED BY  
S.O.

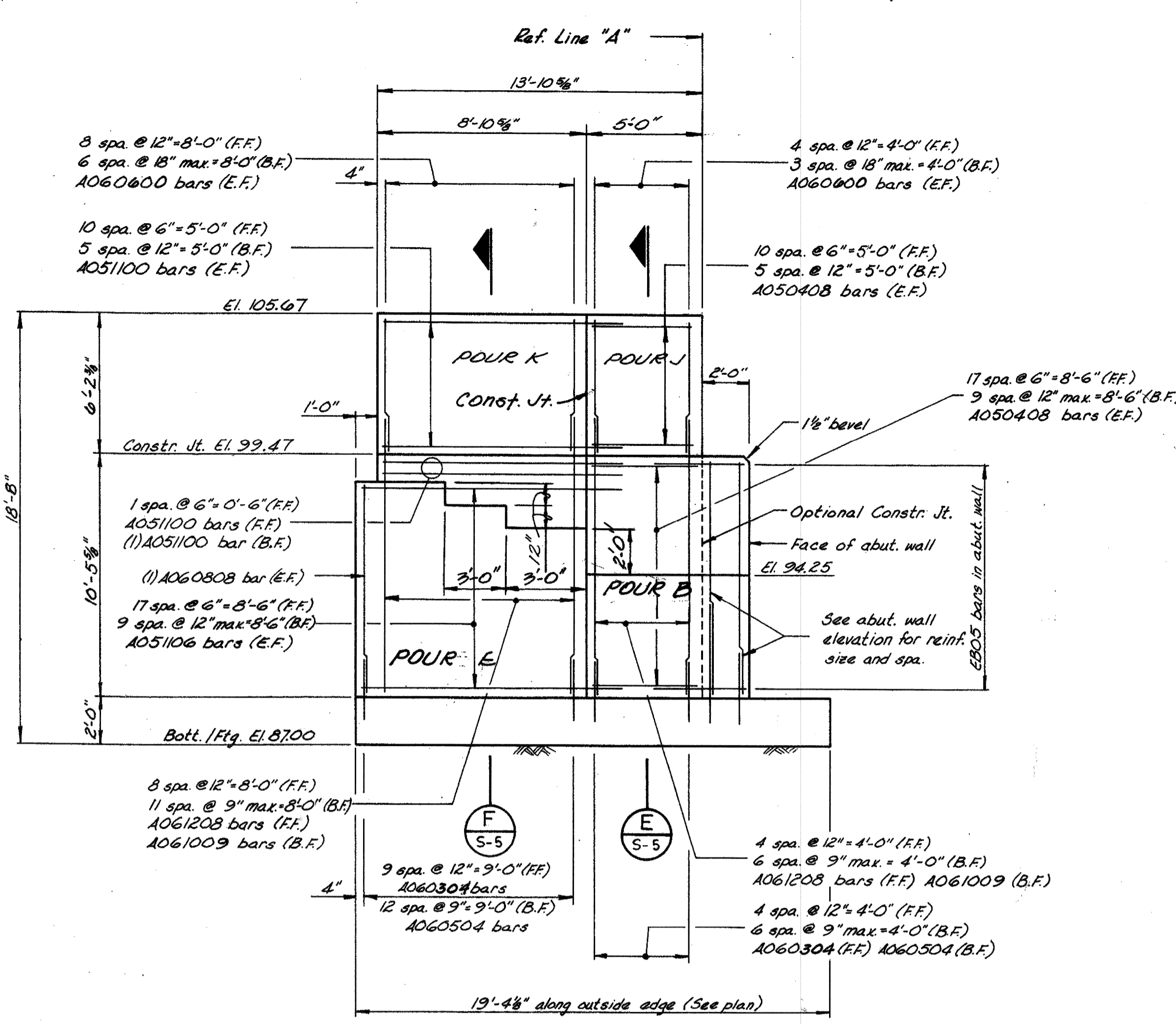
DATE  
June, 1998

PROJECT NO.  
4655(069)

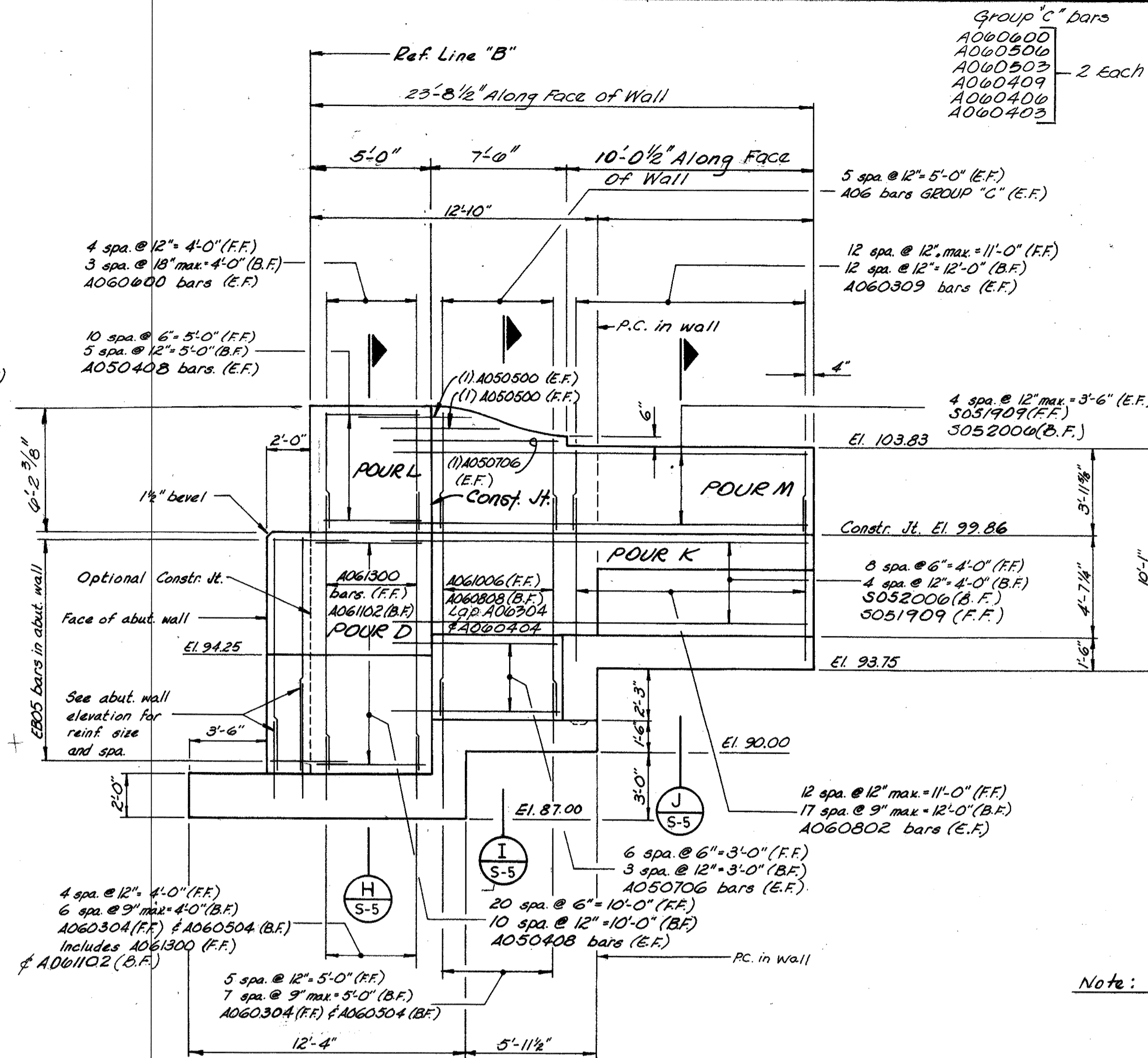
SHEET NO.  
S-2

JOB NO. 46555 A

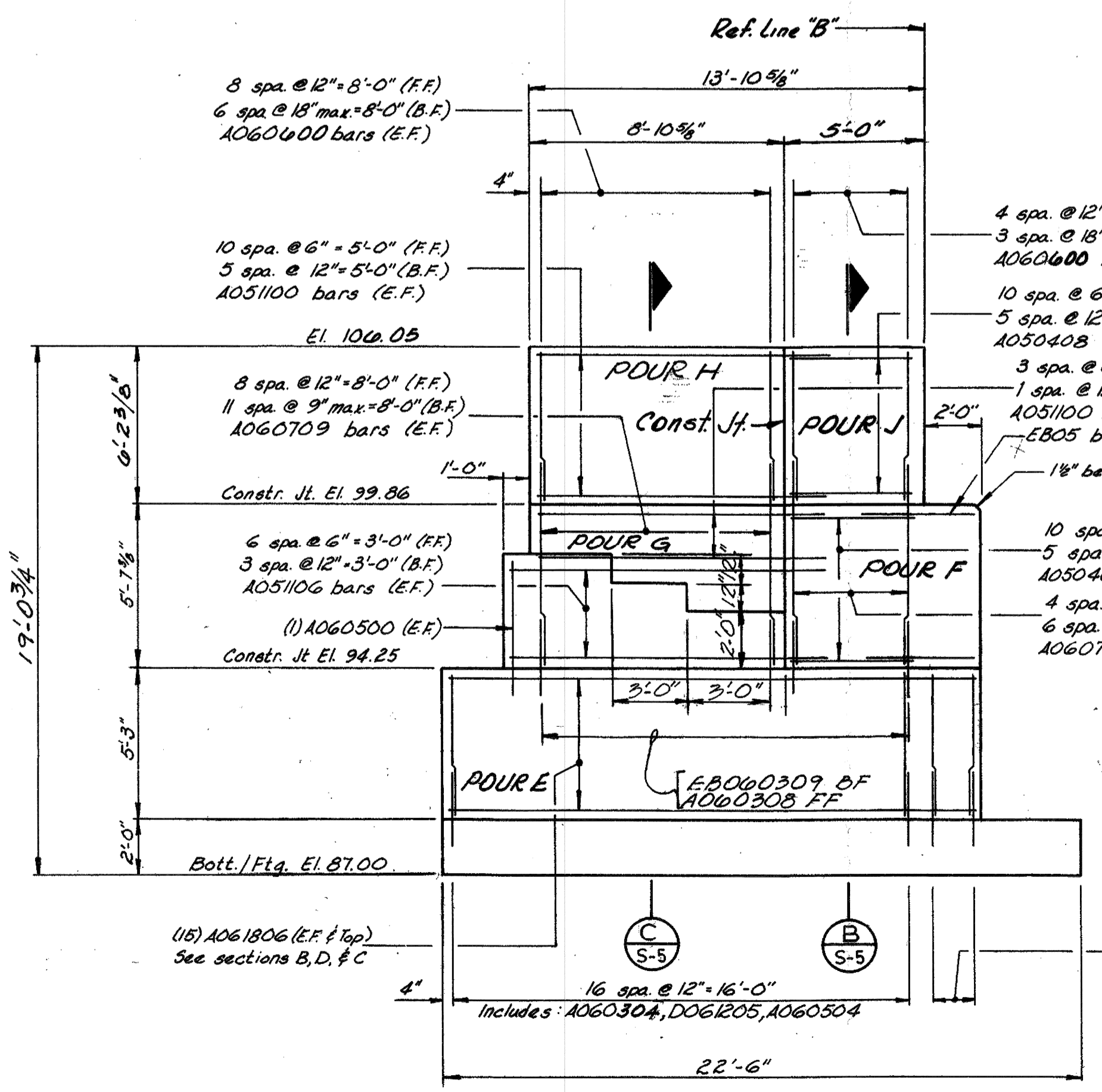




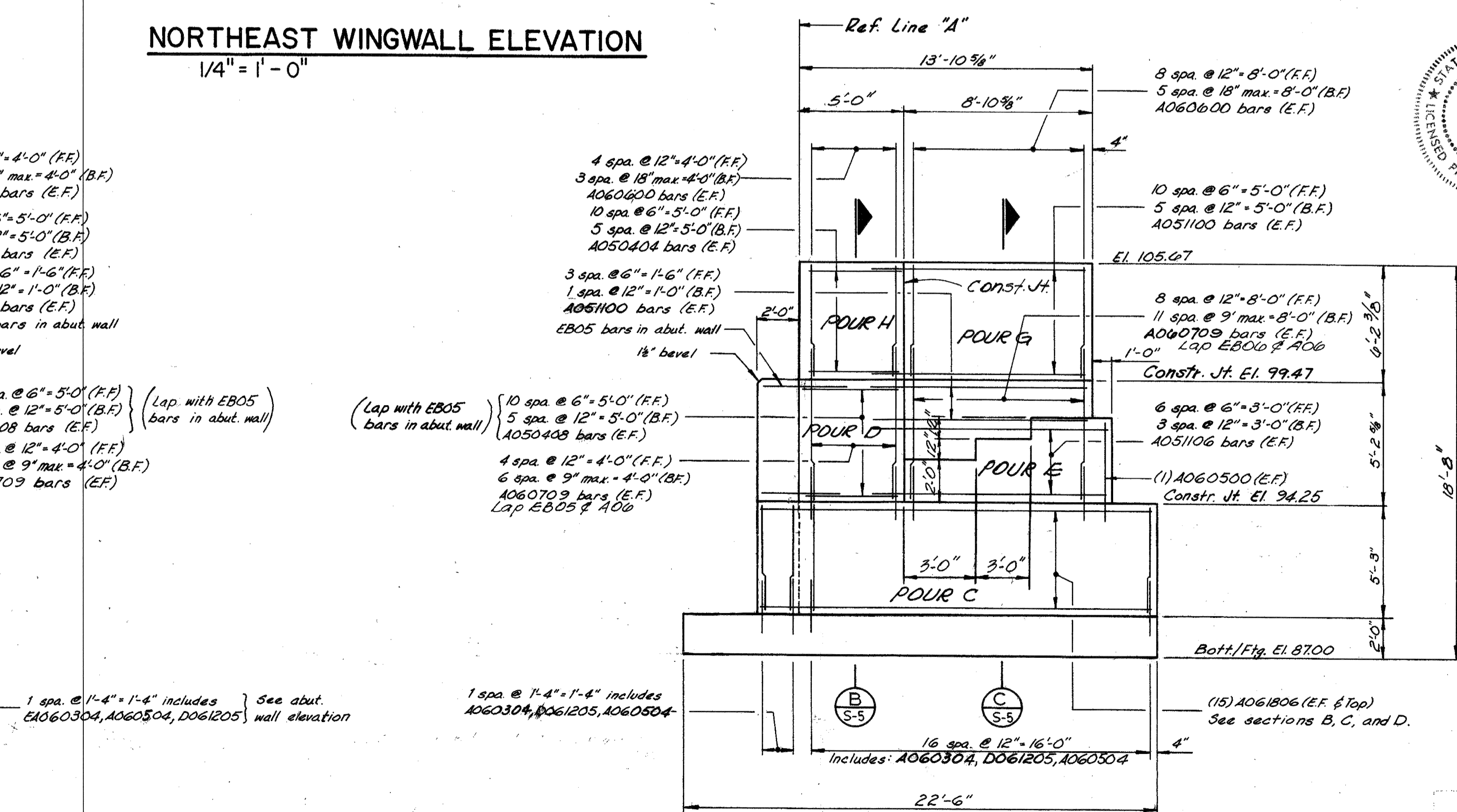
**SOUTHEAST WINGWALL ELEVATION**  
1/4" = 1'-0"



**NORTHEAST WINGWALL ELEVATION**  
1/4" = 1'-0"

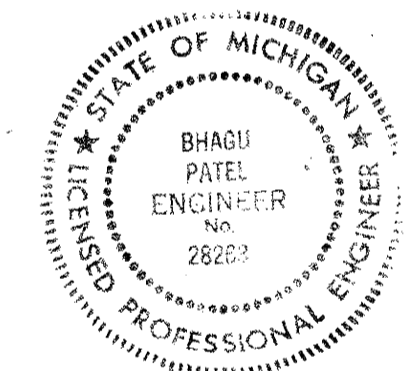


**NORTHWEST WINGWALL ELEVATION**  
1/4" = 1'-0"



**SOUTHWEST WINGWALL ELEVATION**  
1/4" = 1'-0"

Note: See Note No. 4 on Sheet No. S-2 for Subfootings



Sheet Title

**WINGWALLS, SECTIONS AND DETAILS**

City of Detroit

**INSELRUHE BRIDGE RECONSTRUCTION**

Project

**MADISON MADISON INTERNATIONAL OF MICHIGAN**  
Engineers, Architects, Planners  
1420 Washington Blvd.  
Detroit, Michigan 48226

DESIGN BY  
K.C.H./S.O.

DRAWN BY  
K.C.H./L.S.

CHECKED BY  
K.C.H./S.O.

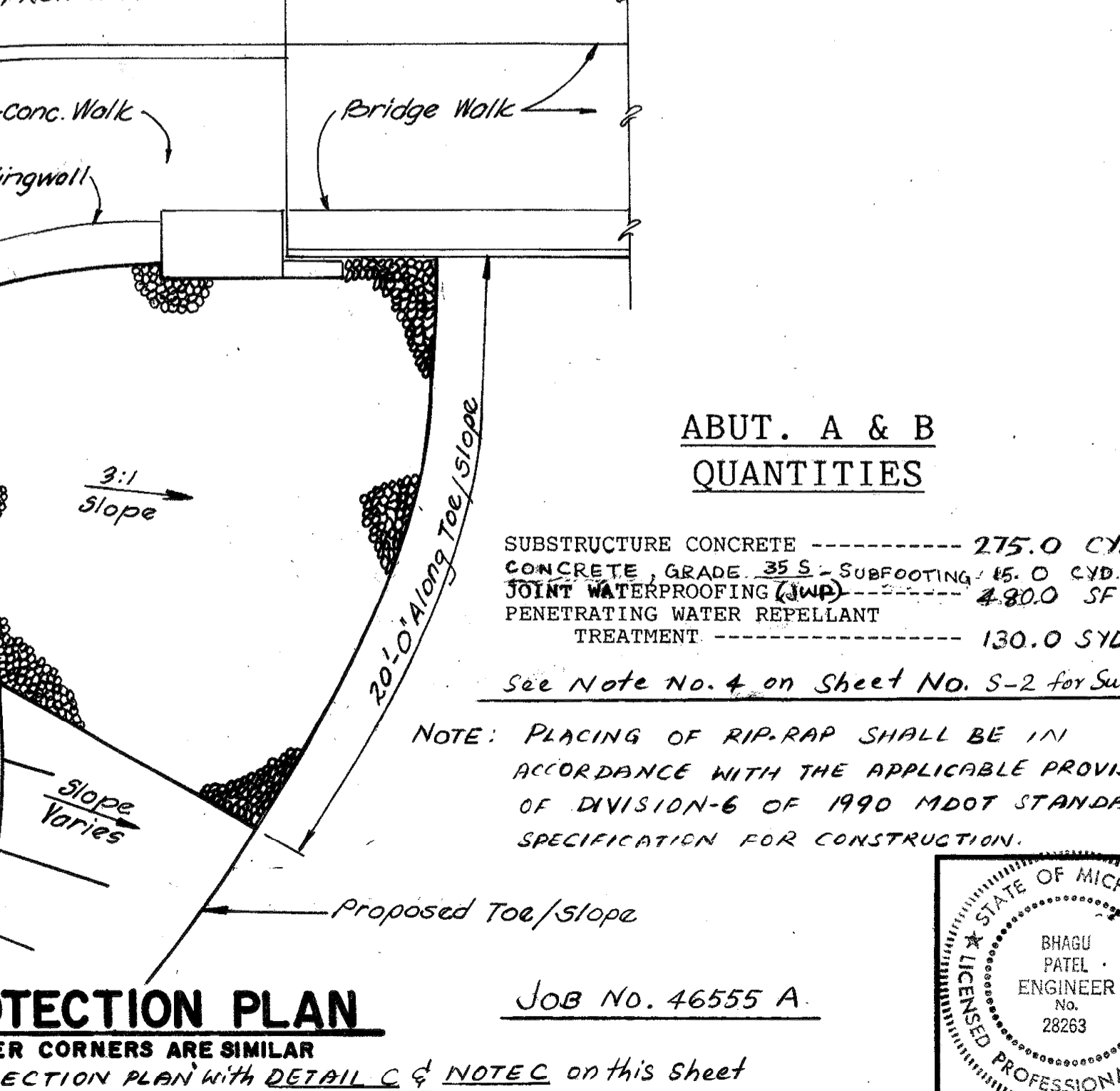
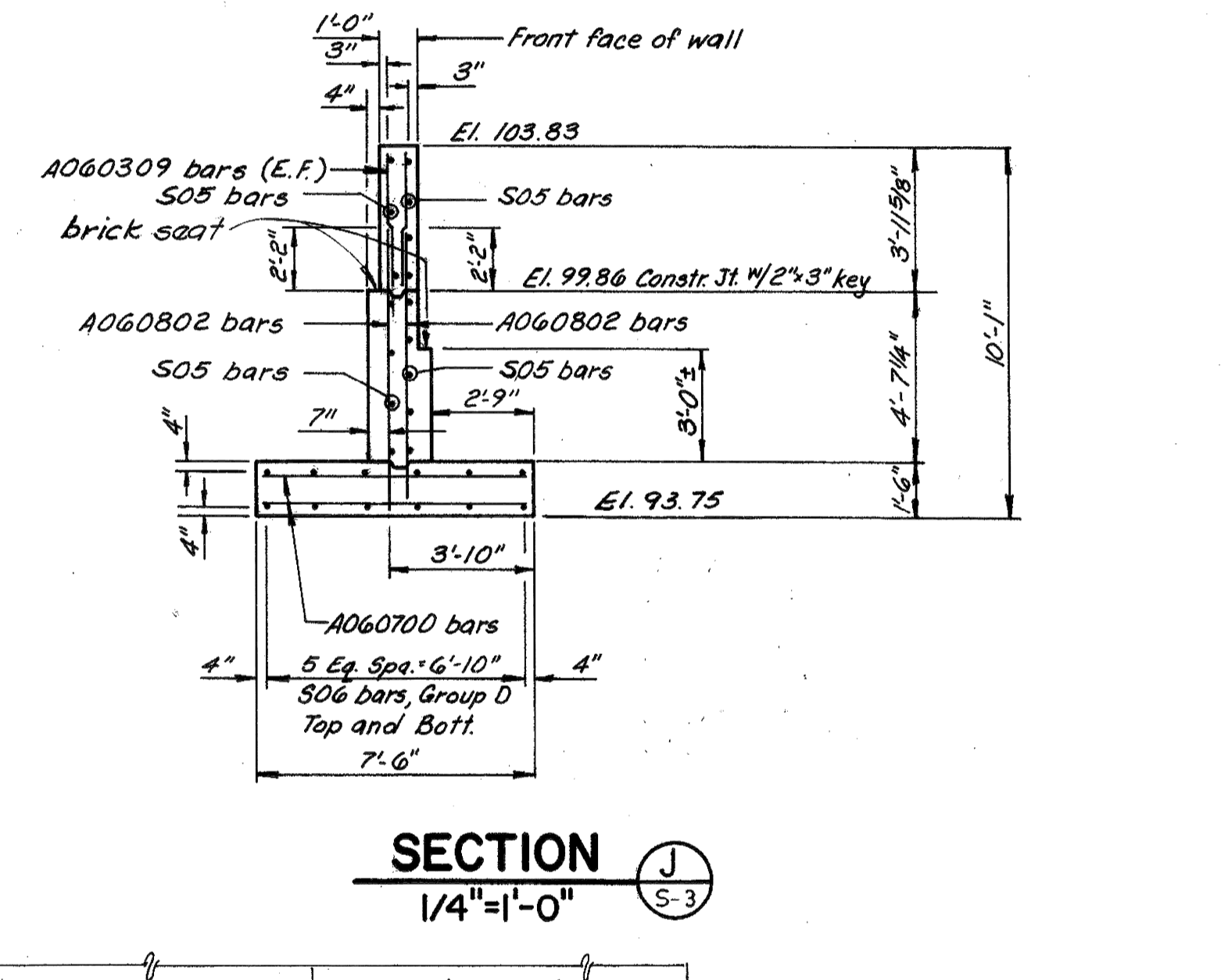
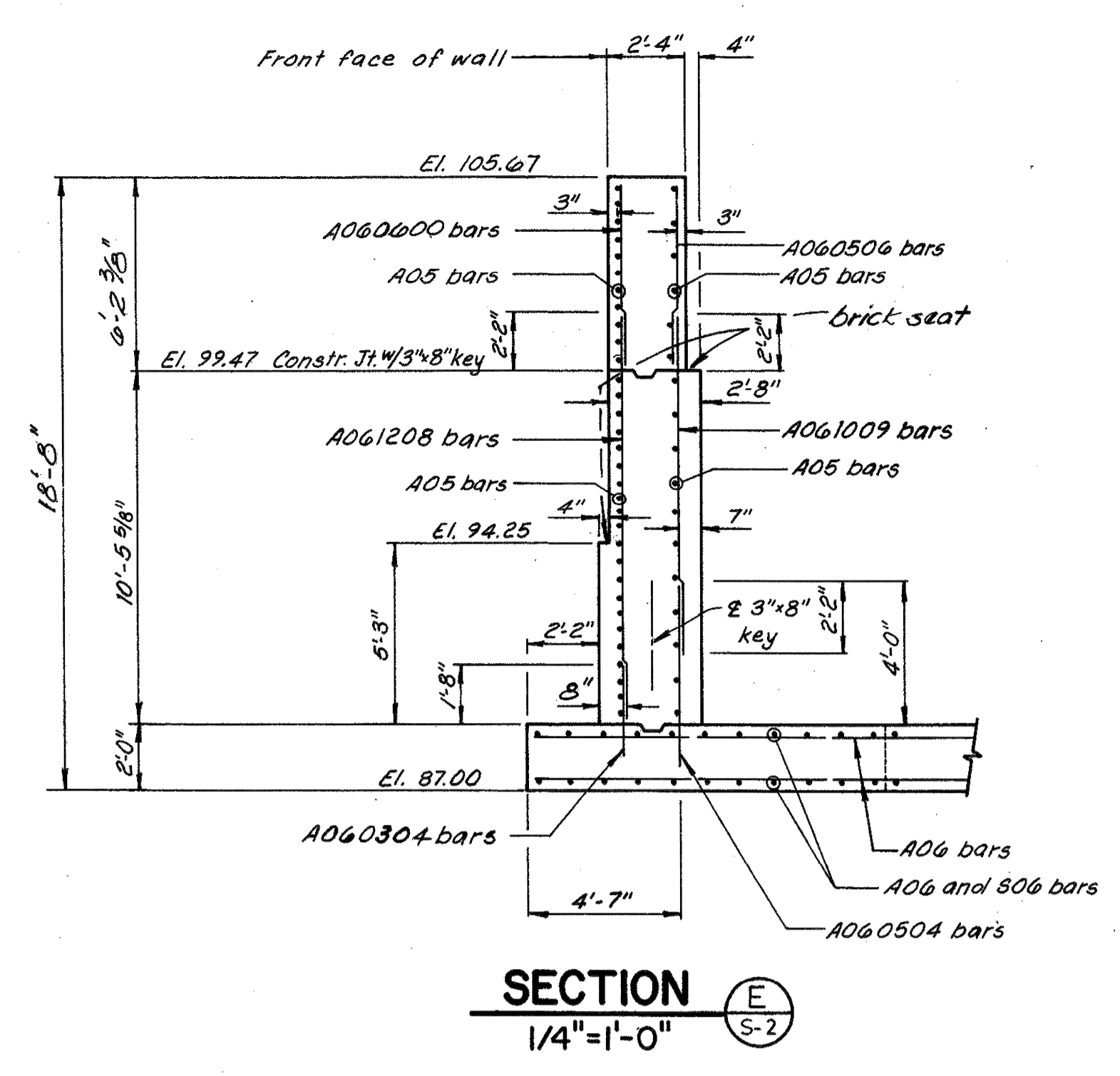
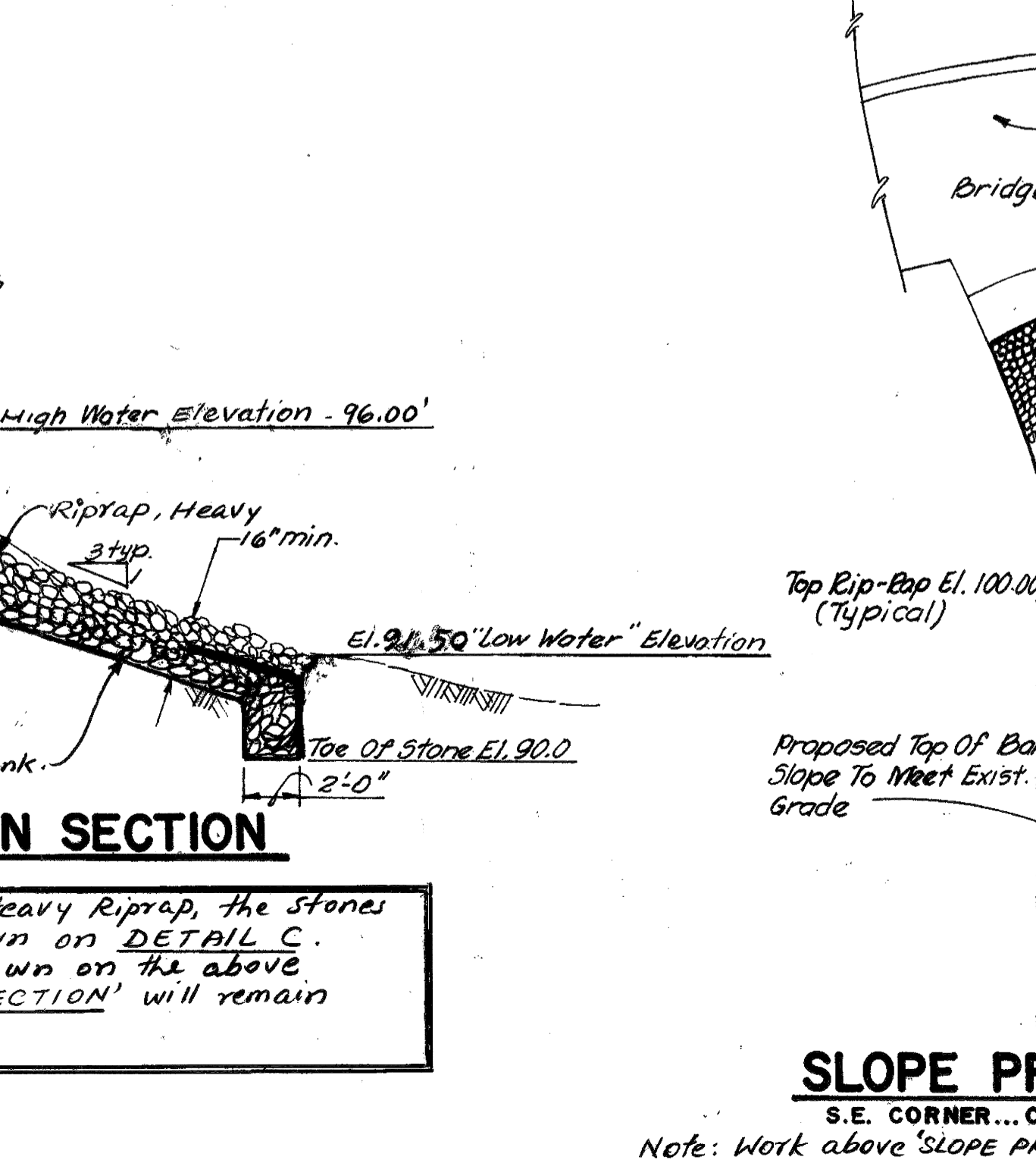
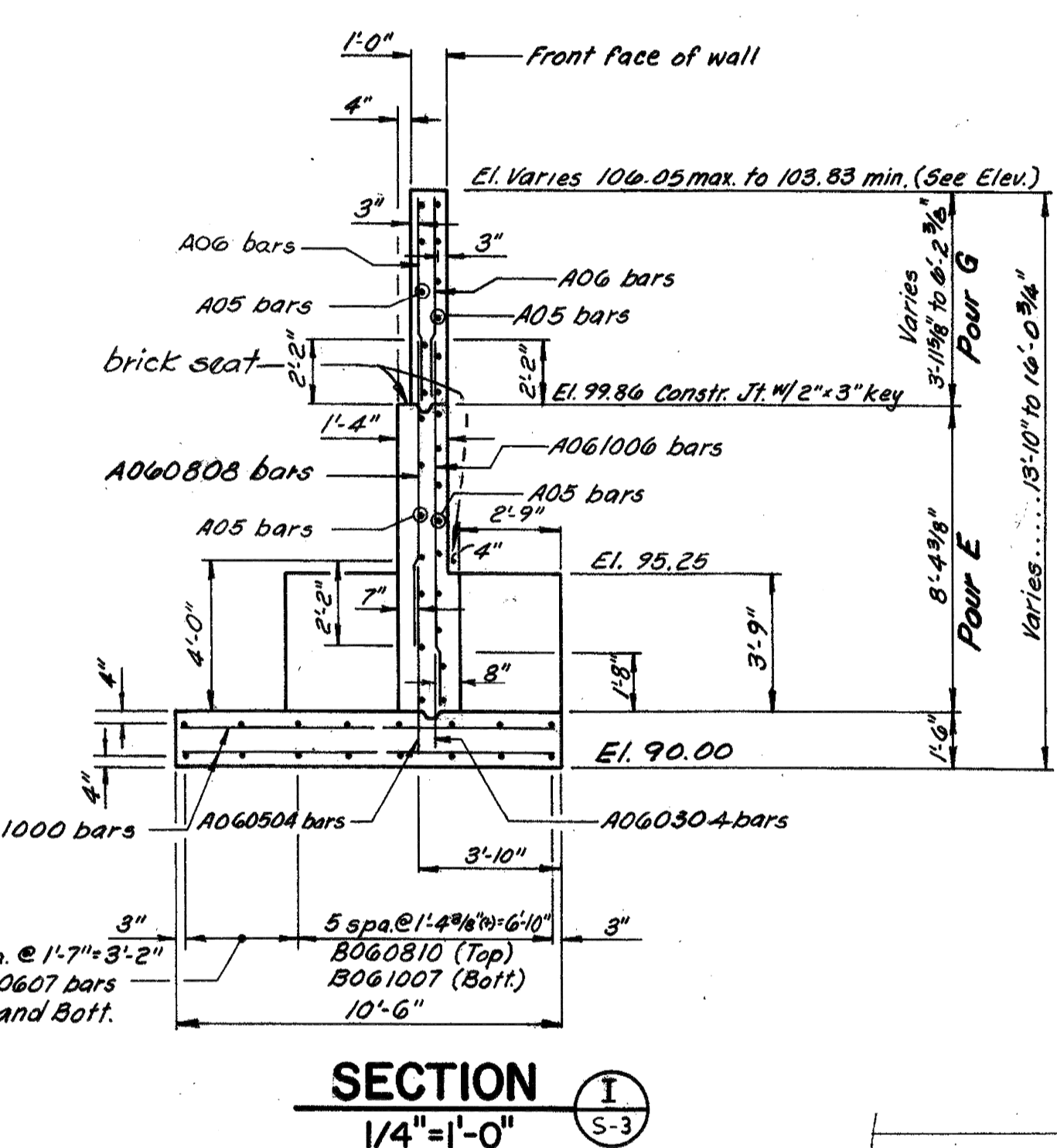
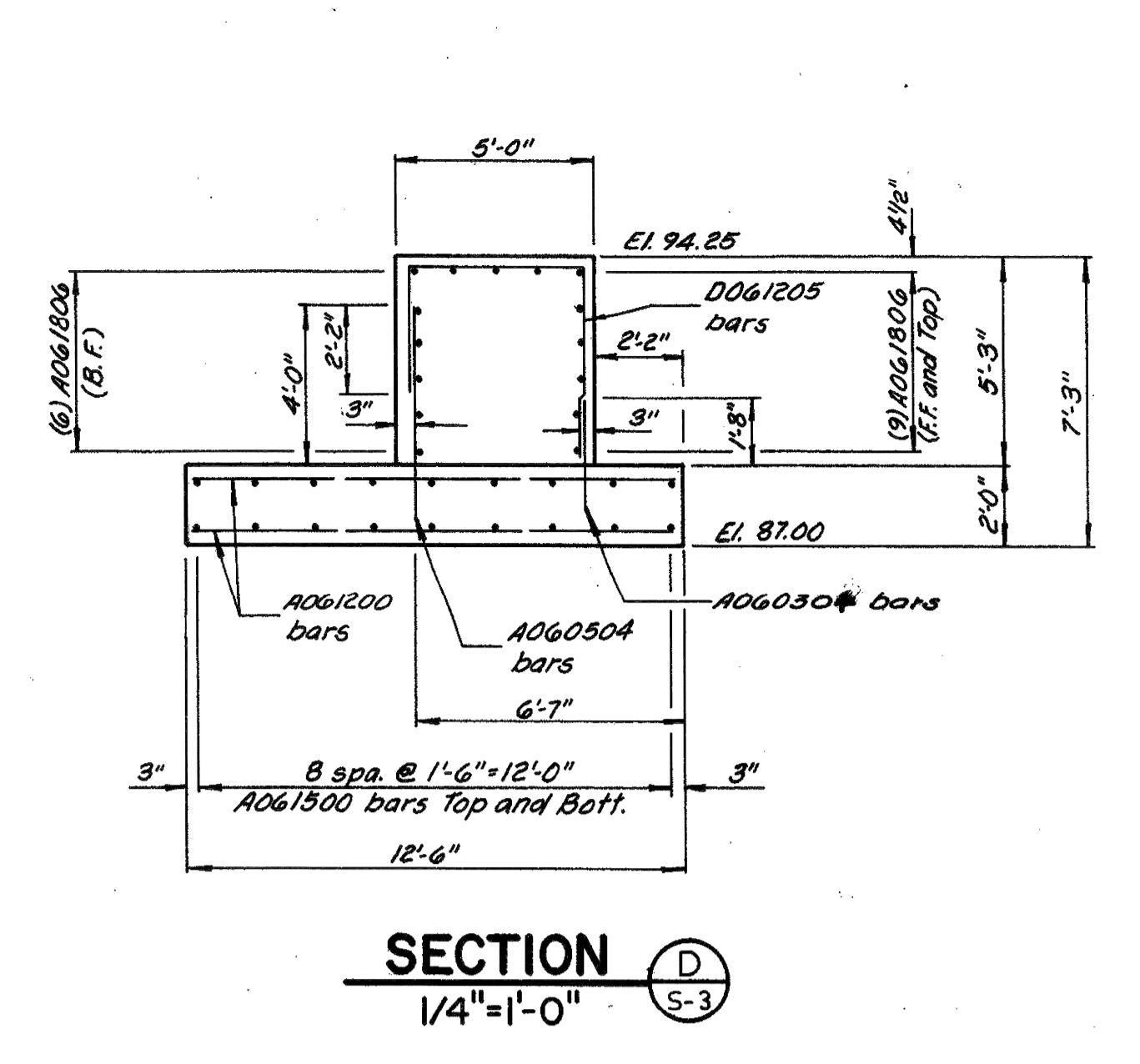
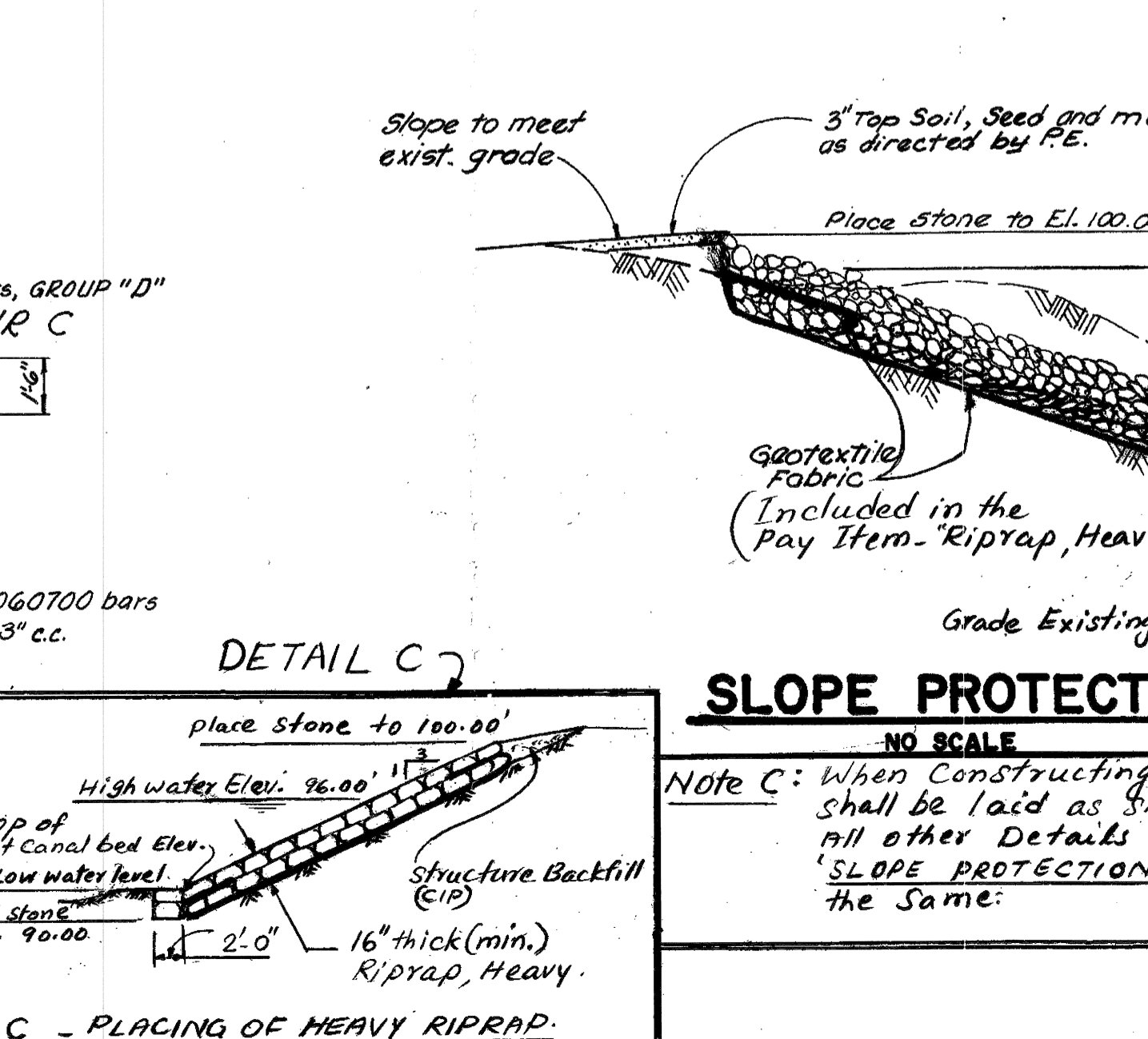
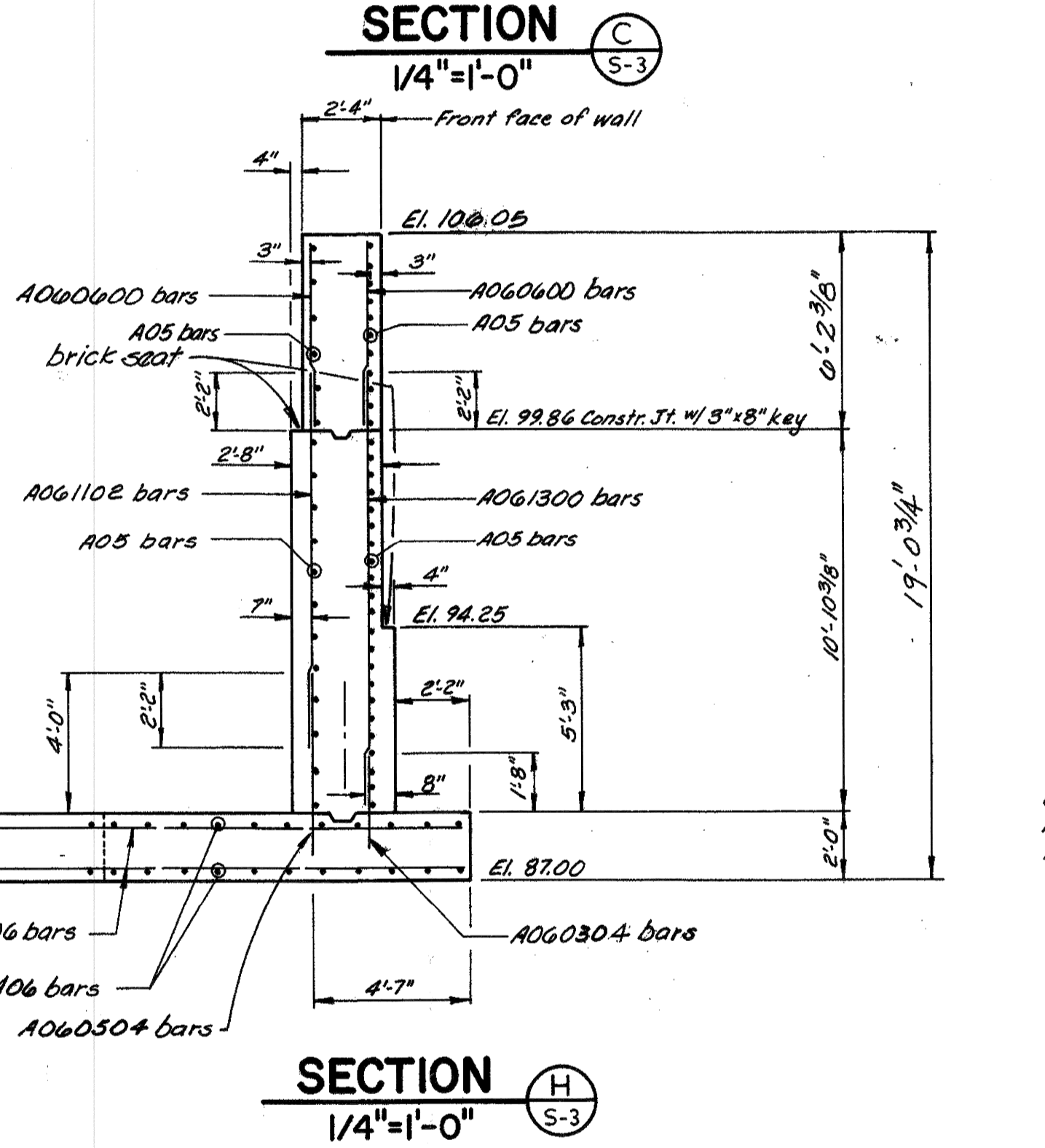
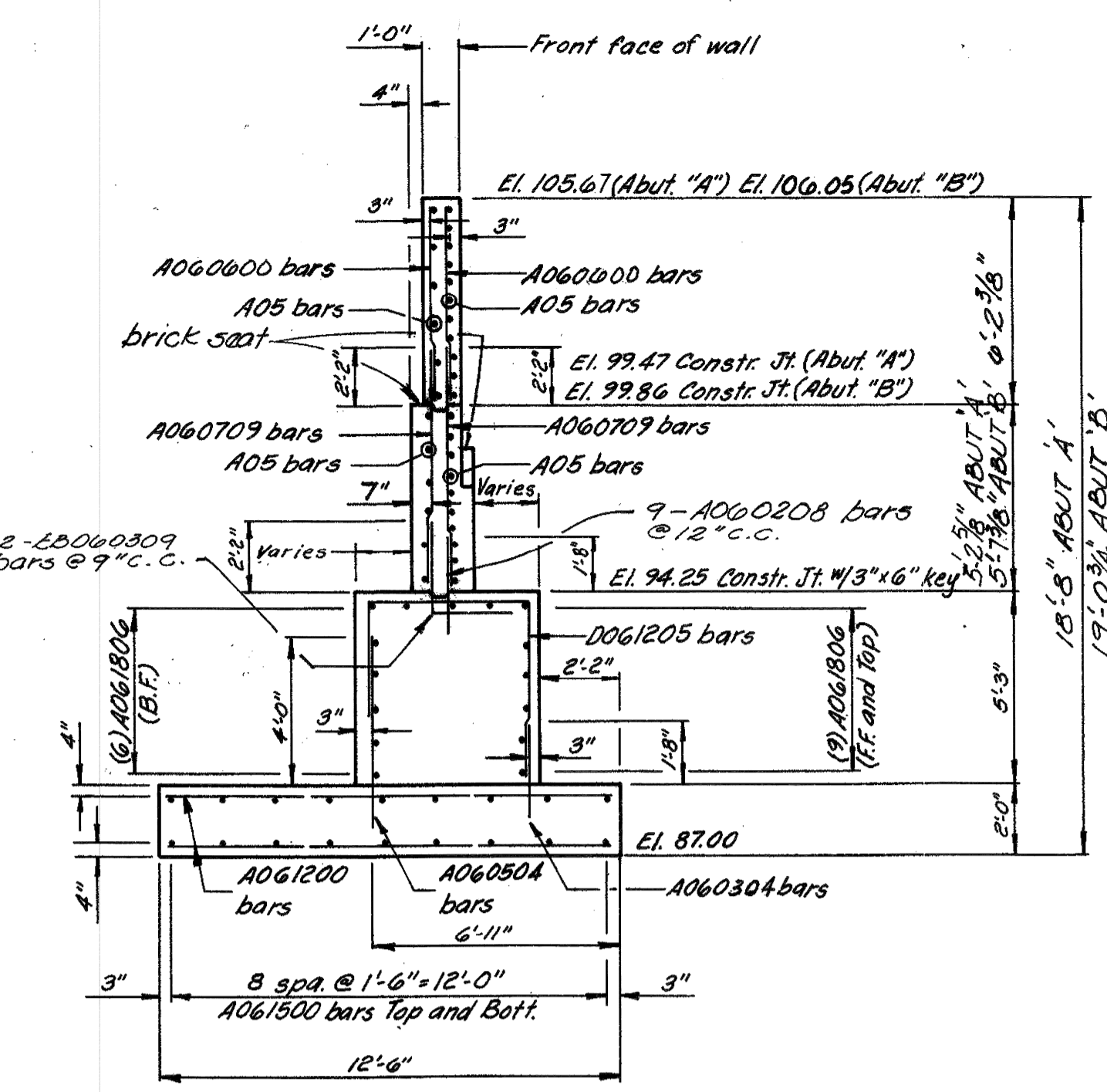
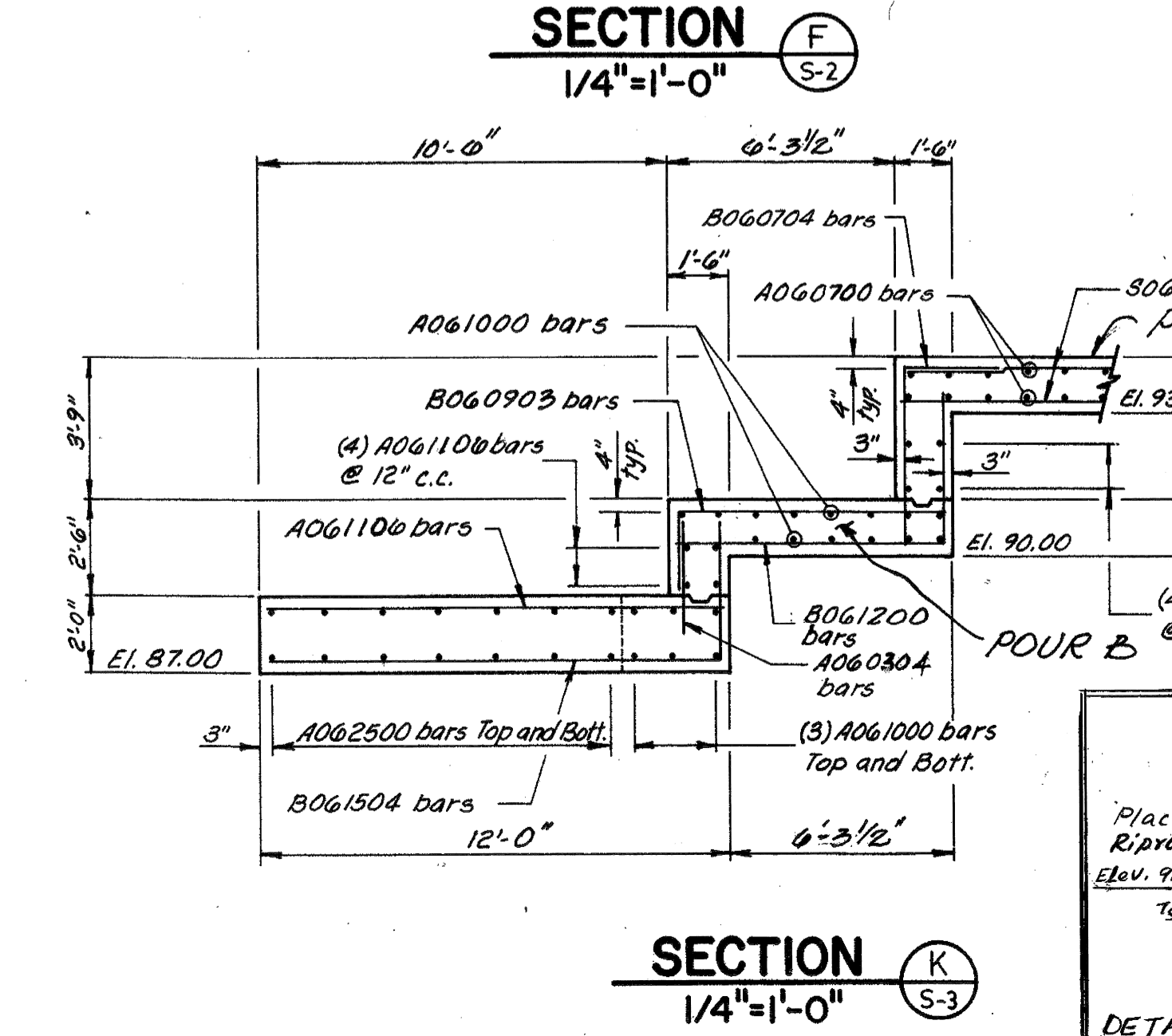
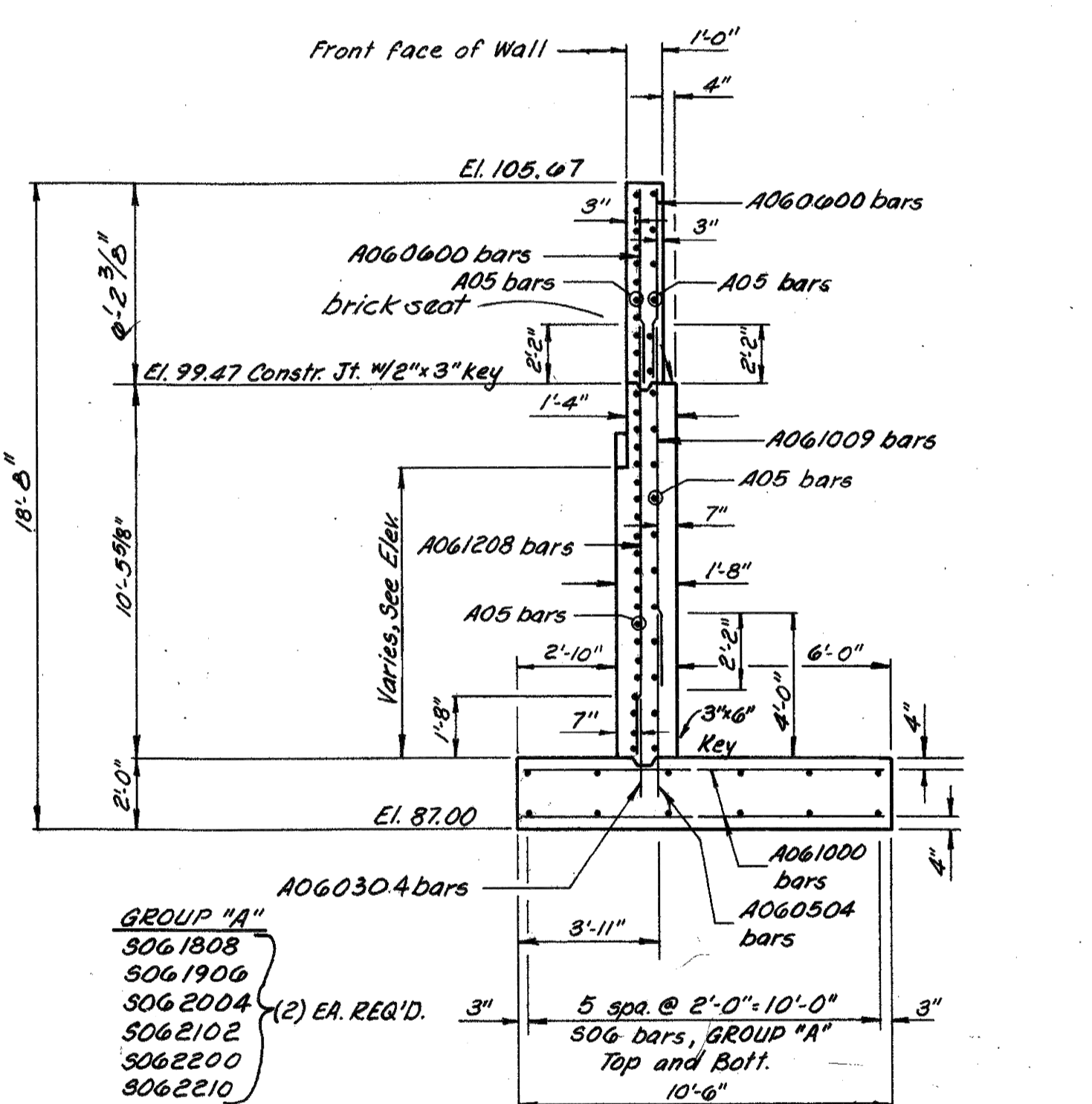
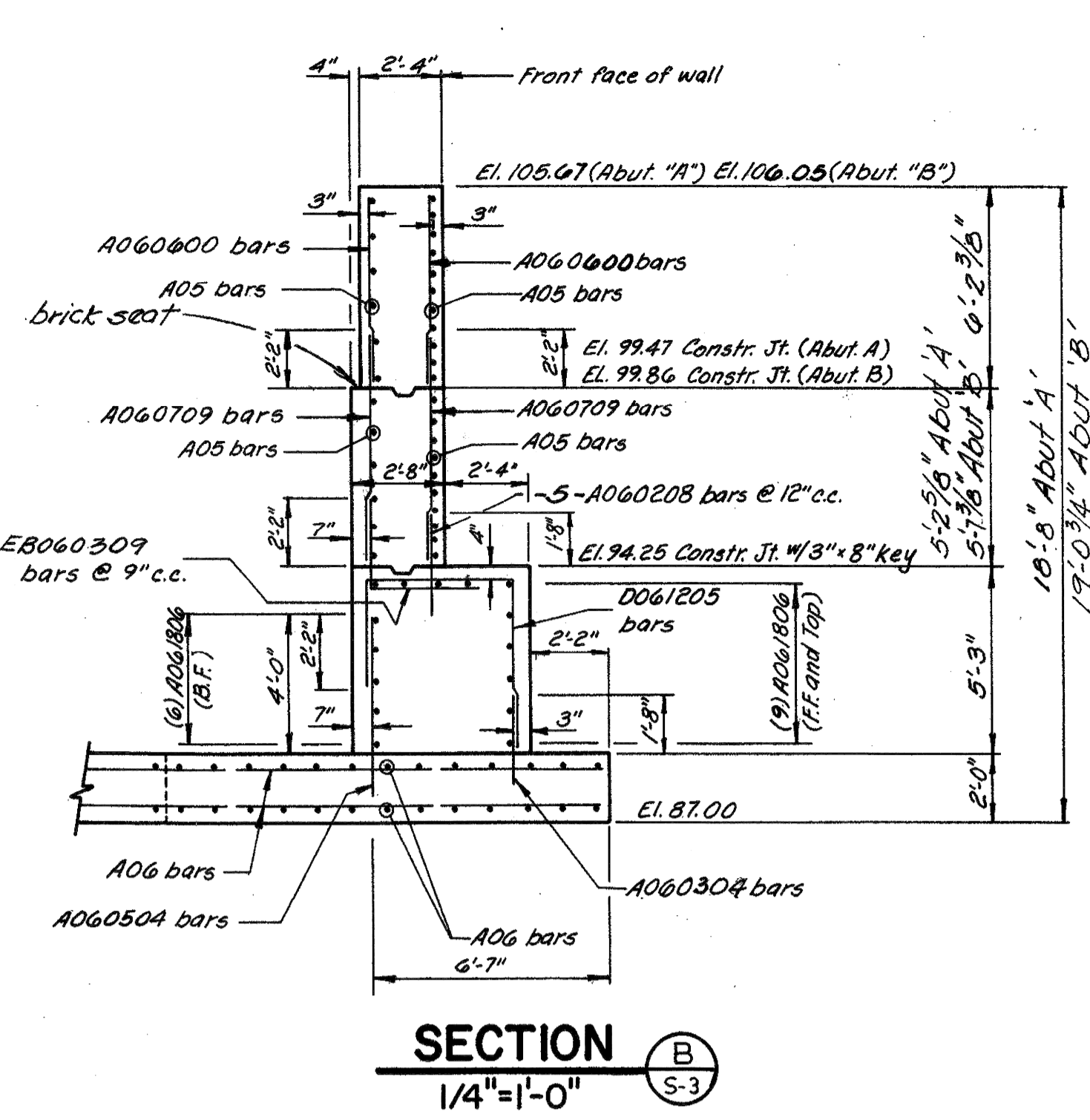
DATE  
June, 1998

PROJECT NO.  
4655 (REV)

SHEET NO.  
S-4

JOB No. 4655 A





Sheet Title

**CITY OF DETROIT**

**WINGWALL SECTIONS AND DETAILS**

**INSELRUHE BRIDGE RECONSTRUCTION**

Project

**MADISON INTERNATIONAL OF MICHIGAN**  
Engineers, Architects, Planners  
1420 Washington Blvd.  
Detroit, Michigan 48226

DESIGN BY  
K.C.H./S.O.

DRAWN BY  
K.C.H./C.S.

CHECKED BY  
K.C.H./S.O.

DATE  
June, 1998

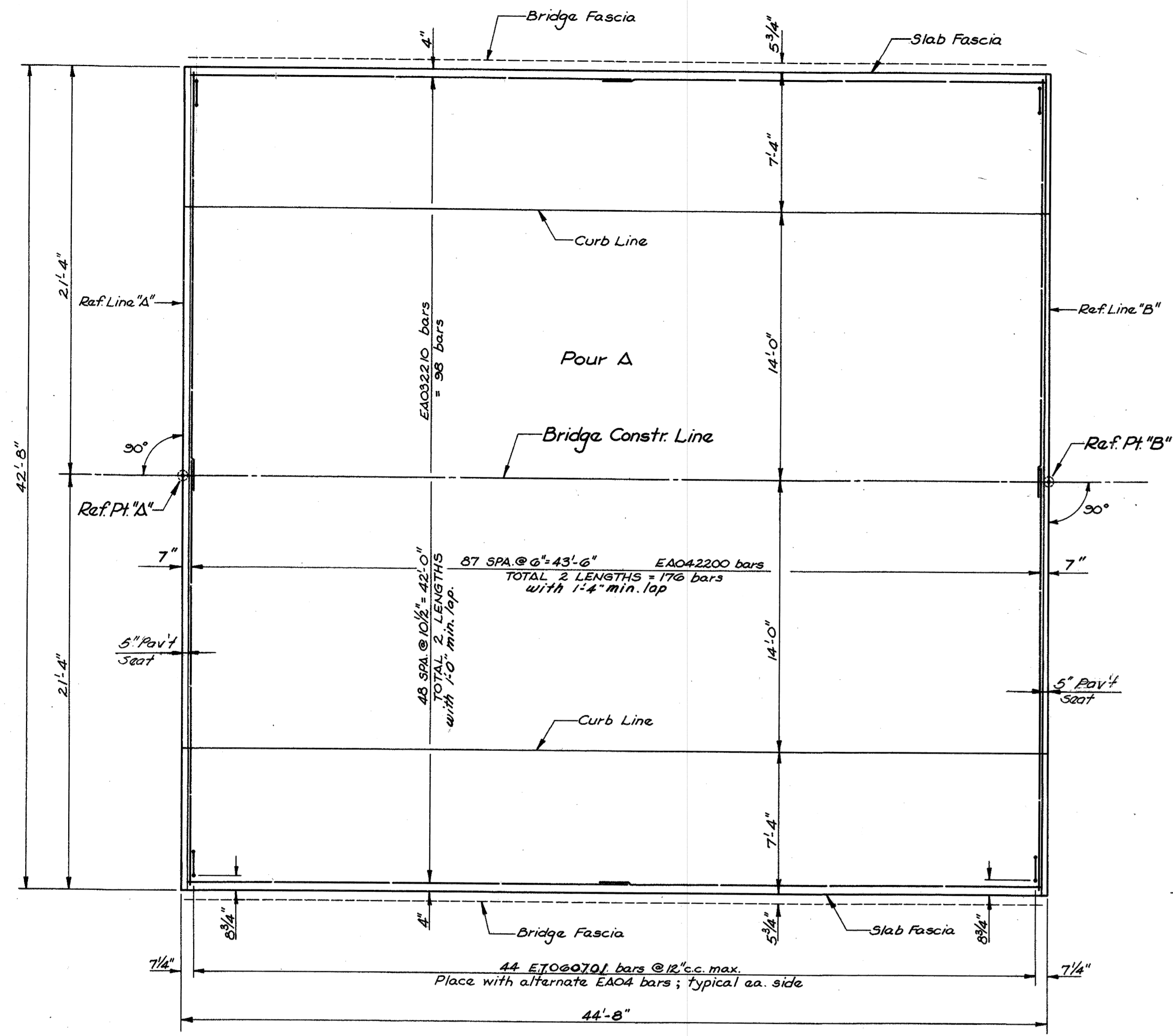
PROJECT NO.  
9882 (069)

SHEET NO.  
S-5

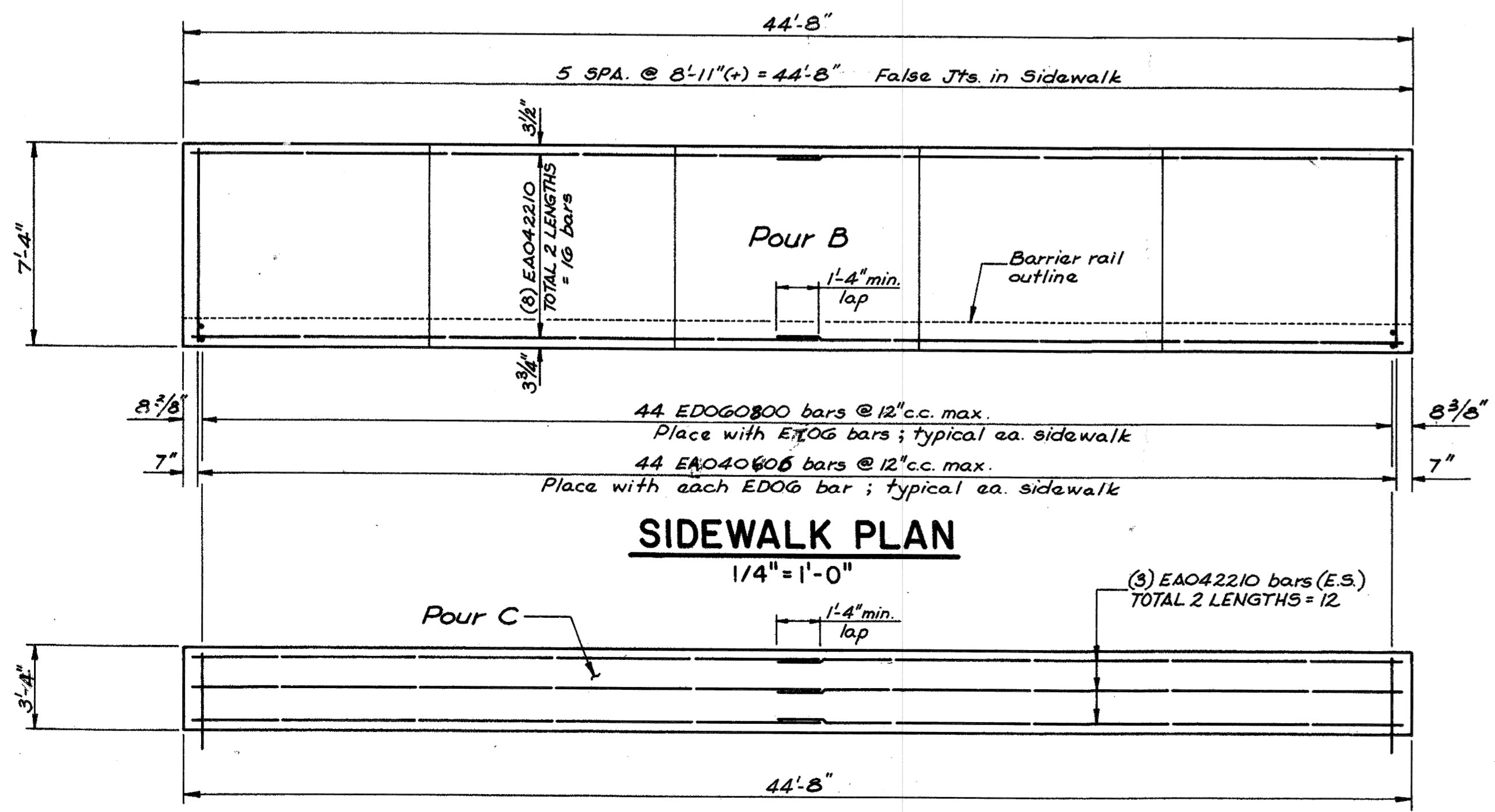
Job No. 46555 A

STATE OF MICHIGAN  
BHAJU PATEL  
ENGINEER  
No. 28283  
PROFESSIONAL ENGINEER

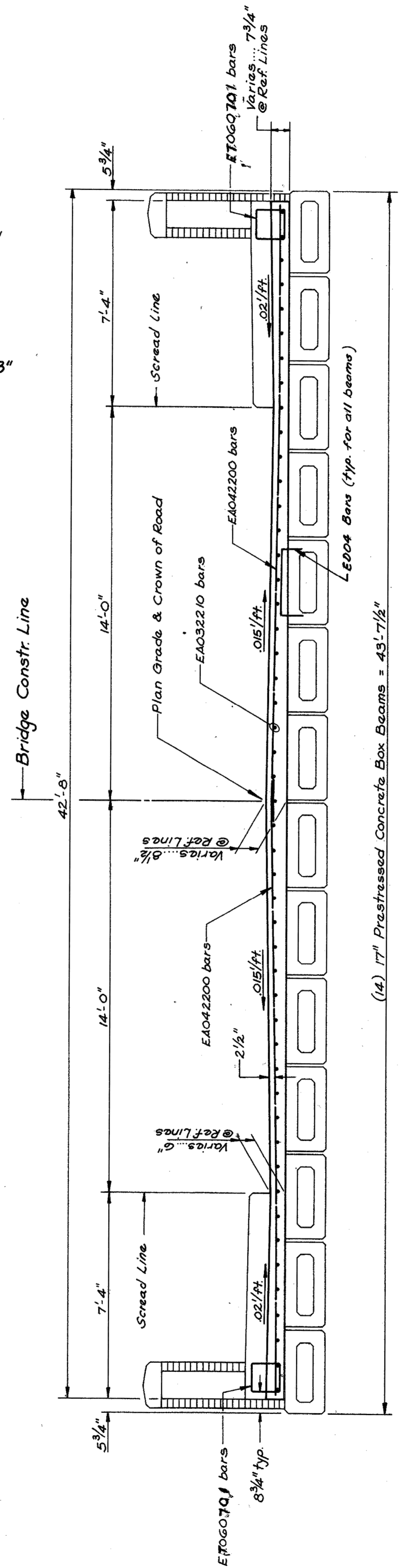




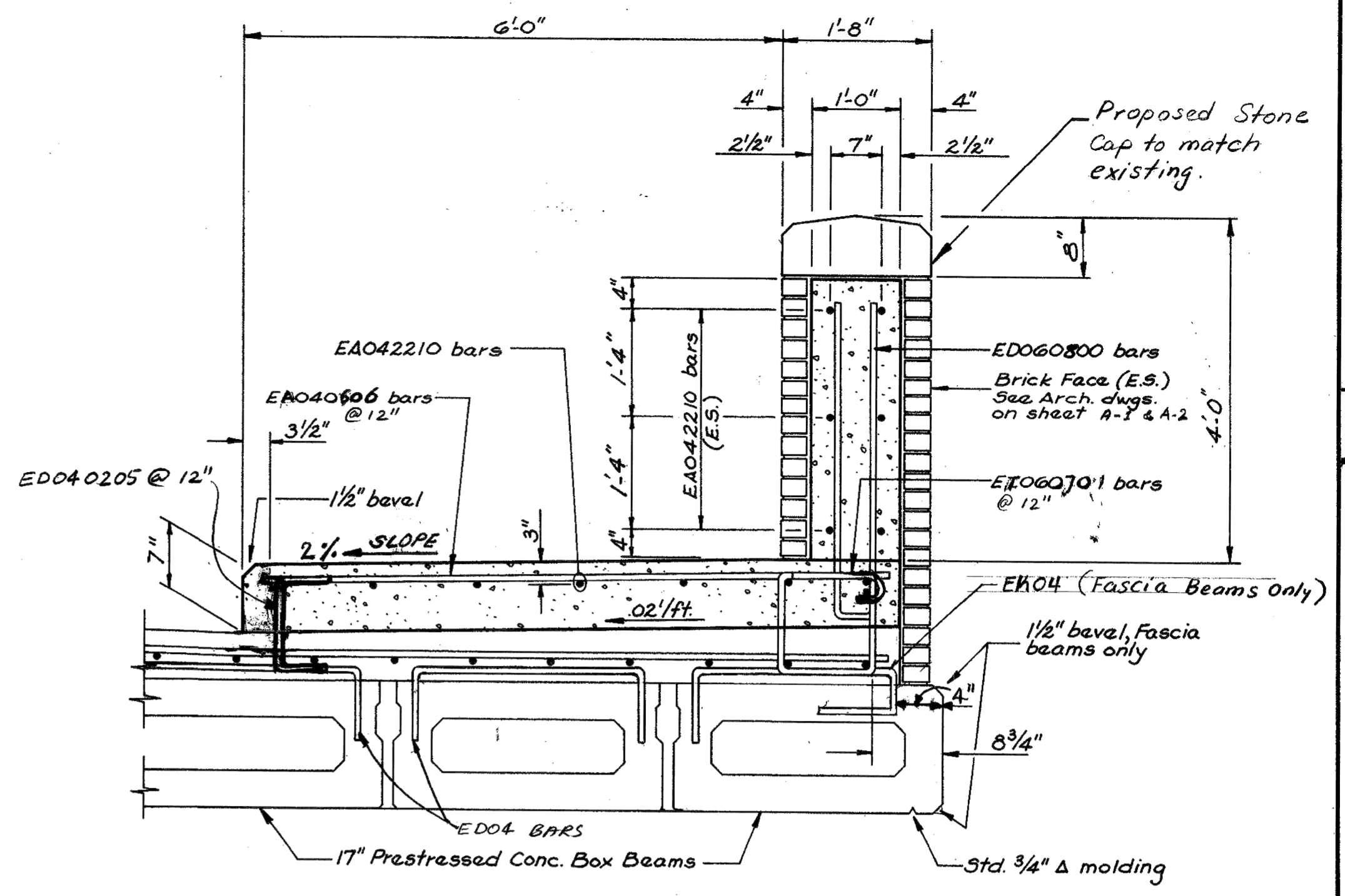
**PLAN OF SLAB**  
1/4" = 1'-0"



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



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



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

CONCRETE POURS	
POUR	AMOUNT
A	41.2 C.Y.
B	2 @ 9.1 C.Y. = 18.2 C.Y.
C	2 @ 5.5 C.Y. = 11.0 C.Y.

QUANTITIES	
ELASTOMERIC BEARING, 1"	42 S.F.
PRESTRESSED CONCRETE DECK, 17"	1949 S.F.
SUPERSTRUCTURE CONCRETE	70.0 C.Y.
FORMING, FINISHING & CURING	L.S.
SUPERSTRUCTURE CONCRETE	L.S.
POST TENSIONING	L.S.

7/17/98 Revised by J. J. CED. OPH  
MADISON DRIVERS REVIEW

**PLAN OF SLAB AND SECTIONS**

**CITY OF DETROIT**  
**INSELRUHE BRIDGE**  
**RECONSTRUCTION**

**MADISON MADISON**  
**INTERNATIONAL OF MICHIGAN**  
Engineers, Architects, Planners  
1420 Washington Blvd.  
Detroit, Michigan 48226

DESIGN BY  
K.C.H.

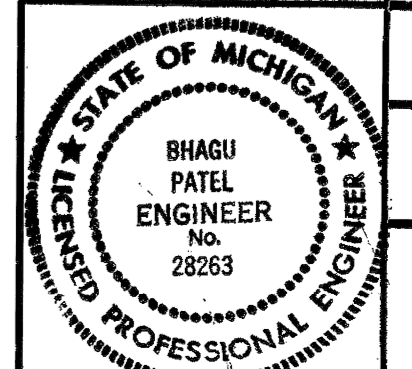
DRAWN BY  
K.C.H.

CHECKED BY  
S.O.

DATE  
June, 1998

PROJECT NO.  
9882(069)

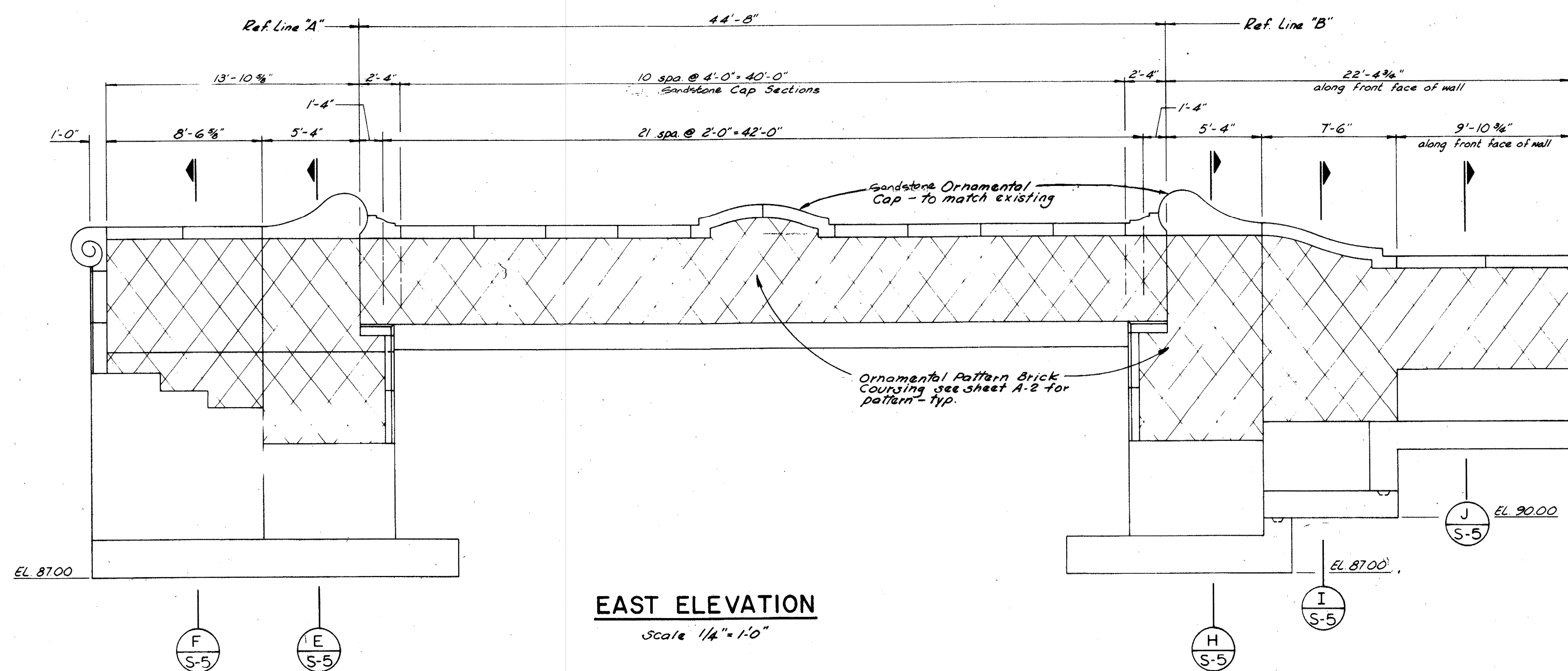
SHEET NO.  
S-7



Job No. 46555A





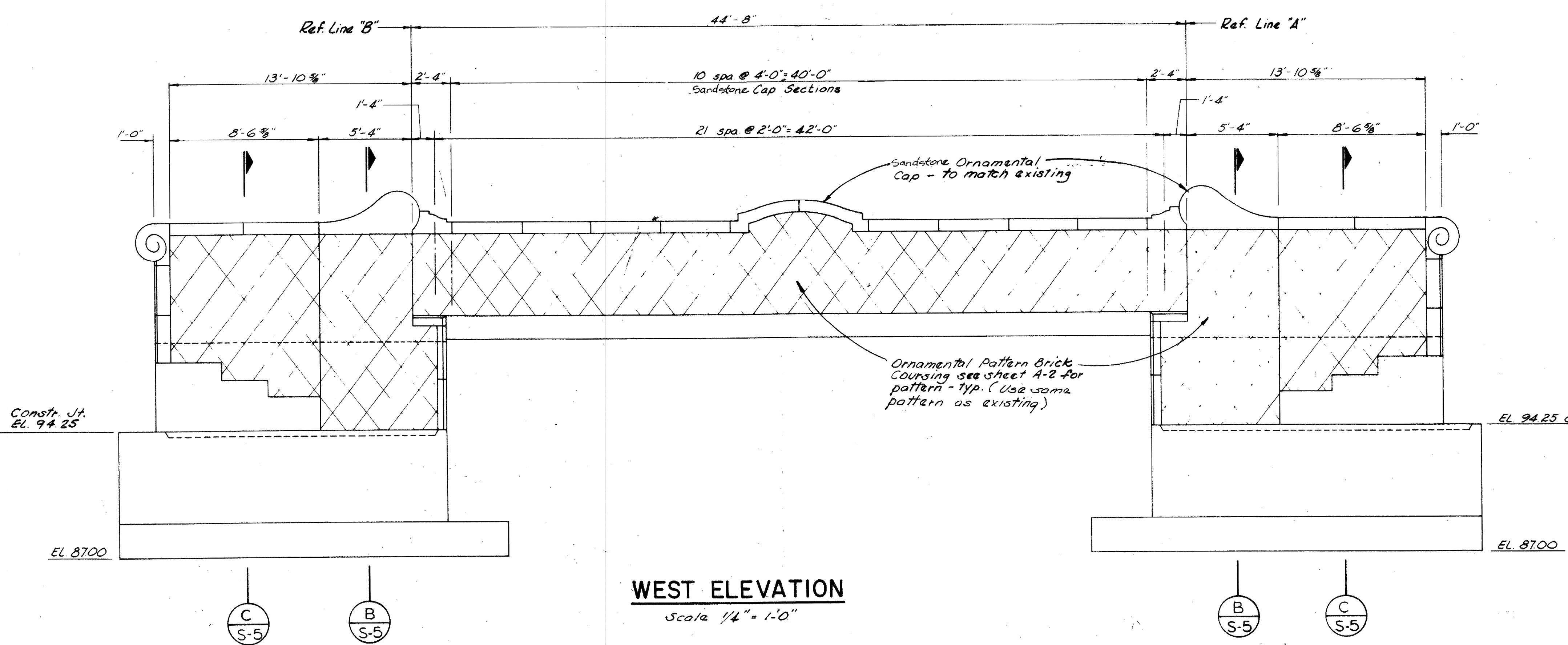


**EAST ELEVATION**  
Scale 1/4" = 1'-0"

TOP/EX WALL EL. 104.50

**HYDRAULIC DATA FOR BELLE ISLE CANALS**

- a) The Belle Isle lake and Canal system has a normal operating Level set in the range of 95.0 to 96.0 feet. The desirable Canal/Lake system water elevation is 95.50 feet.
- b) During low river levels, water is pumped into the Canal/Lake system and during high river levels, water is pumped out of the system.
- c) The Pumps will run continuously during the summer season from late April to October. The water level in the canal system is pumped down to 91.5 feet in the winter season from late October to end of March.
- d) JJR, the consultant for City of Detroit Park and Recreation Department, is currently working in establishing a standard procedure on the operation of the Pumps. They are in the process of testing/validation phase.
- e) Contractor shall contact Park and Recreation Department of City of Detroit through the project Engineer for any other Hydraulic Data for the Nashua Canal.



**WEST ELEVATION**  
Scale 1/4" = 1'-0"

**QUANTITIES**

BRICK FACING	200 STD.
BRIDGE PARAPET	89 L.F.T.
SANDSTONE ORNAMENTAL CAP	L.SUM

7/1/91	Revised by J.J. CED. DPW
10-15-79	REV. AS PER OWNERS REQUEST JS
11/14/84	OWNERS REVIEW

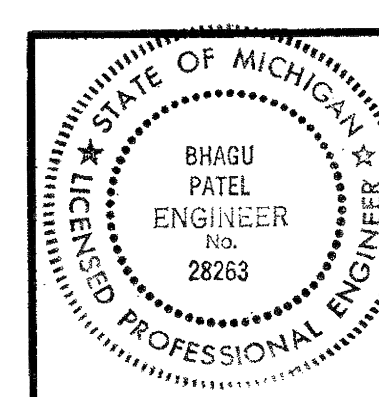
Sheet Title  
**ARCHITECTURAL DETAILS**

Project  
**CITY OF DETROIT  
INSELRUHE BRIDGE  
RECONSTRUCTION**

**MADISON MADISON**  
INTERNATIONAL OF MICHIGAN  
Engineers, Architects, Planners  
1420 Washington  
Detroit, Michigan 48226

DESIGN BY  
K.C.H.  
DRAWN BY  
K.C.H.  
CHECKED BY  
D.L.M.

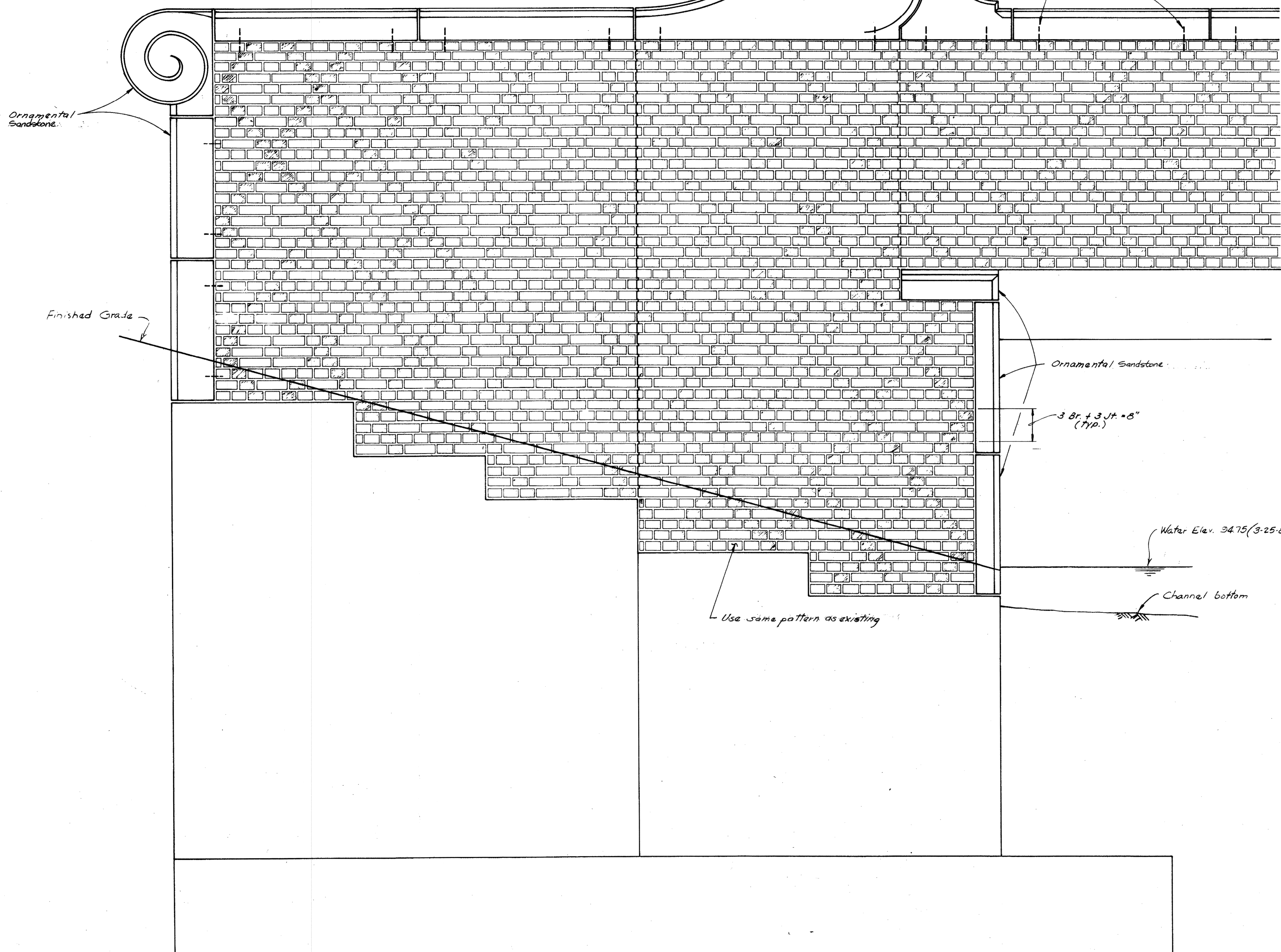
DATE  
June, 1998  
PROJECT NO.  
**7881(049)**  
SHEET NO.  
A-1



Job No. 46555 A

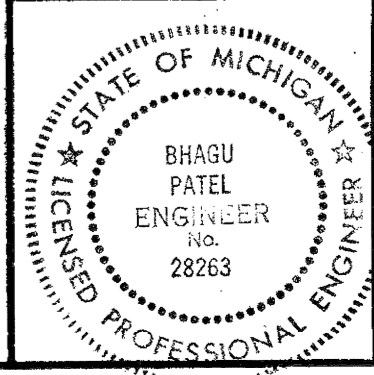
**NOTE:**

1. PRIOR TO THE REMOVAL OF THE EXISTING BRIDGE STRUCTURE, ERECT A SAMPLE WALL PANEL (JOB MOCK-UP) USING THE MATERIALS SPECIFIED FOR MASONRY WORK.
2. OBTAIN ARCHITECT'S ACCEPTANCE OF VISUAL QUALITIES OF THE MOCK-UP BEFORE REMOVAL OF THE EXISTING STRUCTURE.
3. RETAIN MOCK-UP DURING CONSTRUCTION.
4. ALL THE MATERIALS SPECIFIED FOR MASONRY AND SANDSTONE WORK SHALL BE SUBMITTED FOR ARCHITECT / ENGINEER APPROVAL.
5. THE ARCHITECT, MR. ROBERT HAFEL, R.A., OF CITY ENGINEERING DIVISION, DPW, WILL BE THE CONTACT PERSON FOR ALL MASONRY AND SANDSTONE WORK-TELE. NO. (313) 224-3958



**TYP. WING WALL ELEVATION DETAIL**  
Scale 1" = 1'-0"

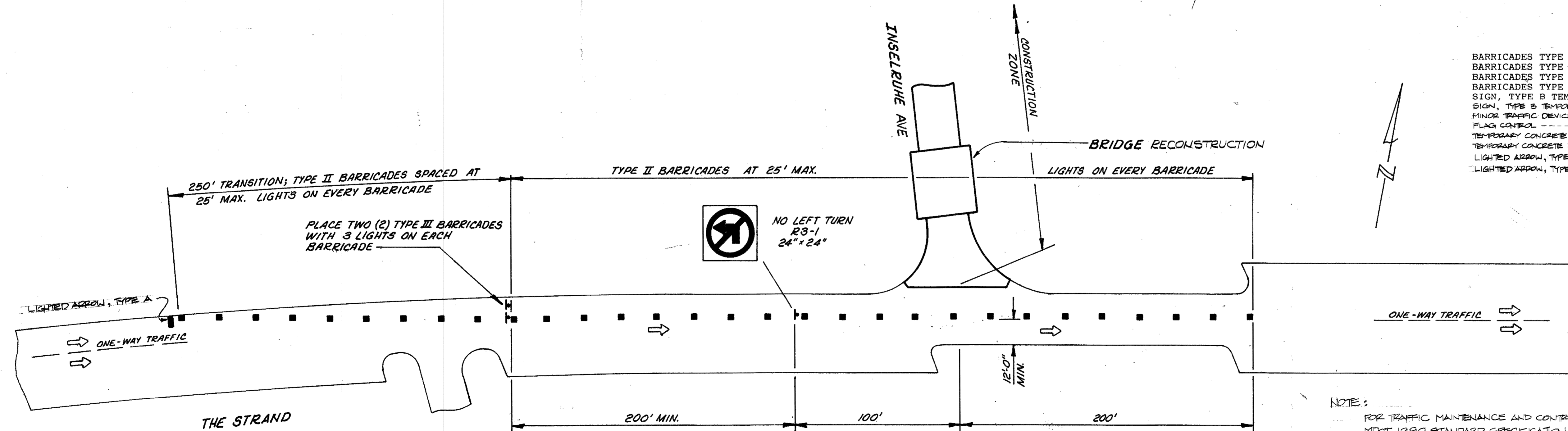
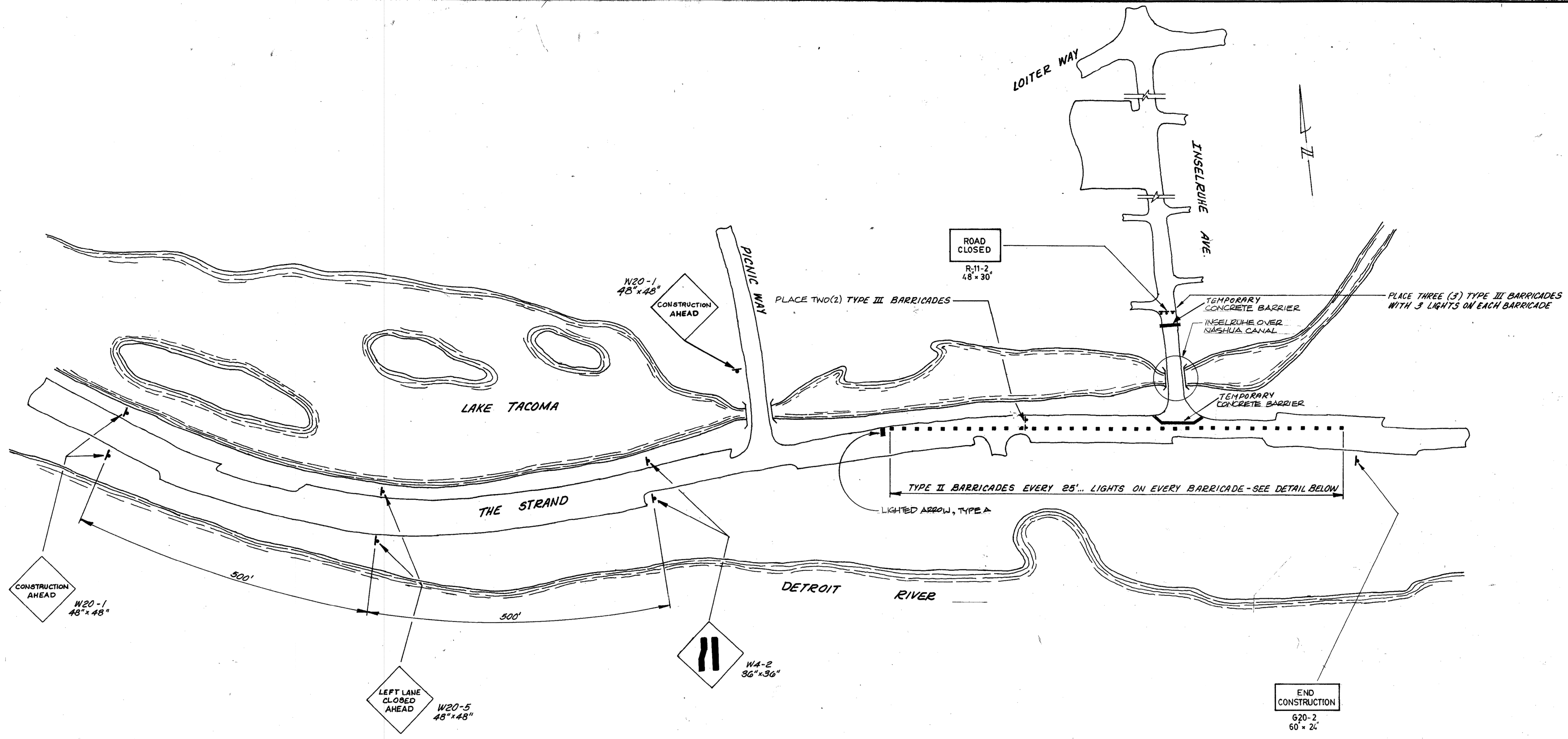
Job No. 46555 A



7/1/98	Revised by J.J. CED, DPM
6/1/98	REV. AS PER OWNERS REQUEST J/S
1/1/98	CHANGES REVIEW
<b>ARCHITECTURAL DETAILS</b>	
<b>CITY OF DETROIT</b>	
<b>INSELRUHE BRIDGE RECONSTRUCTION</b>	
Project	
<b>MADISON MADISON INTERNATIONAL OF MICHIGAN</b> Engineers, Architects, Planners 1420 Washington Blvd. Detroit, Michigan 48226	
DESIGN BY	K.C.H.
DRAWN BY	
CHECKED BY	D.L.M.
DATE	June, 1998
PROJECT NO.	9882 (064)
SHEET NO.	A-2







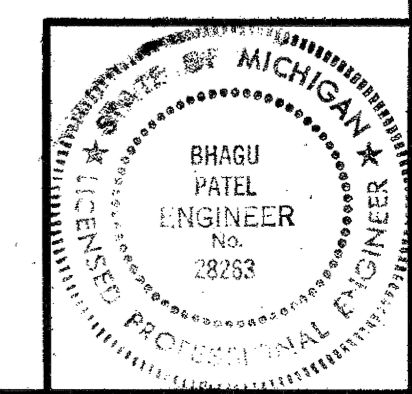
**QUANTITIES**

BARRICADES TYPE II LIGHTED, FURNISHED	31 EA.
BARRICADES TYPE III LIGHTED, OPERATED	31 EA.
BARRICADES TYPE III LIGHTED, FURNISHED	6 EA.
BARRICADES TYPE III LIGHTED, OPERATED	6 EA.
SIGN, TYPE B TEMPORARY - FURNISHED	122 S.F.
SIGN, TYPE B TEMPORARY - OPERATED	122 S.F.
FLUORESCENT TRAFFIC DEVICES	1 L.S.M.
FLUORESCENT TRAFFIC DEVICES	1 L.S.M.
TEMPORARY CONCRETE BARRIER - FURNISHED	150 L.F.T.
TEMPORARY CONCRETE BARRIER - OPERATED	150 L.F.T.
LIGHTED ARROW, TYPE A - FURNISHED	1 EA.
LIGHTED ARROW, TYPE A - OPERATED	1 EA.

NOTE:  
FOR TRAFFIC MAINTENANCE AND CONTROL, REFER TO MDOT 1990 STANDARD SPECIFICATION FOR CONSTRUCTION SECTION 6.31

**STAGE II**

JOB NO.: 46555A



Project	CITY OF DETROIT INSELRUHE BRIDGE RECONSTRUCTION
Design	MADISON MADISON INTERNATIONAL OF MICHIGAN Engineers, Architects, Planners 1420 Washington Blvd. Detroit, Michigan 48226
Design By	K.C.H.
Drawn By	
Checked By	D.L.M.
Date	June, 1998
Project No.	9802(069)
Sheet No.	T-1

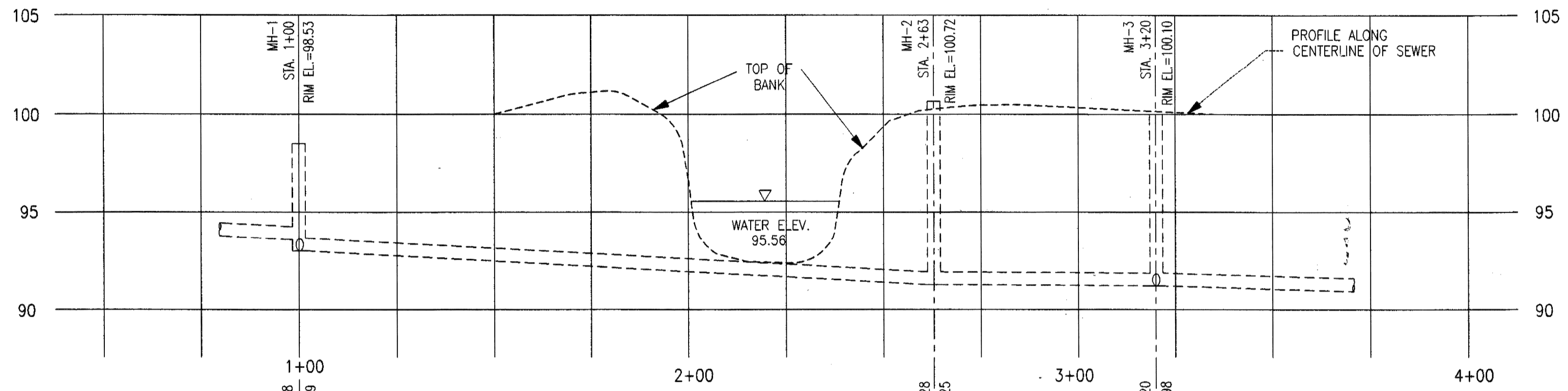
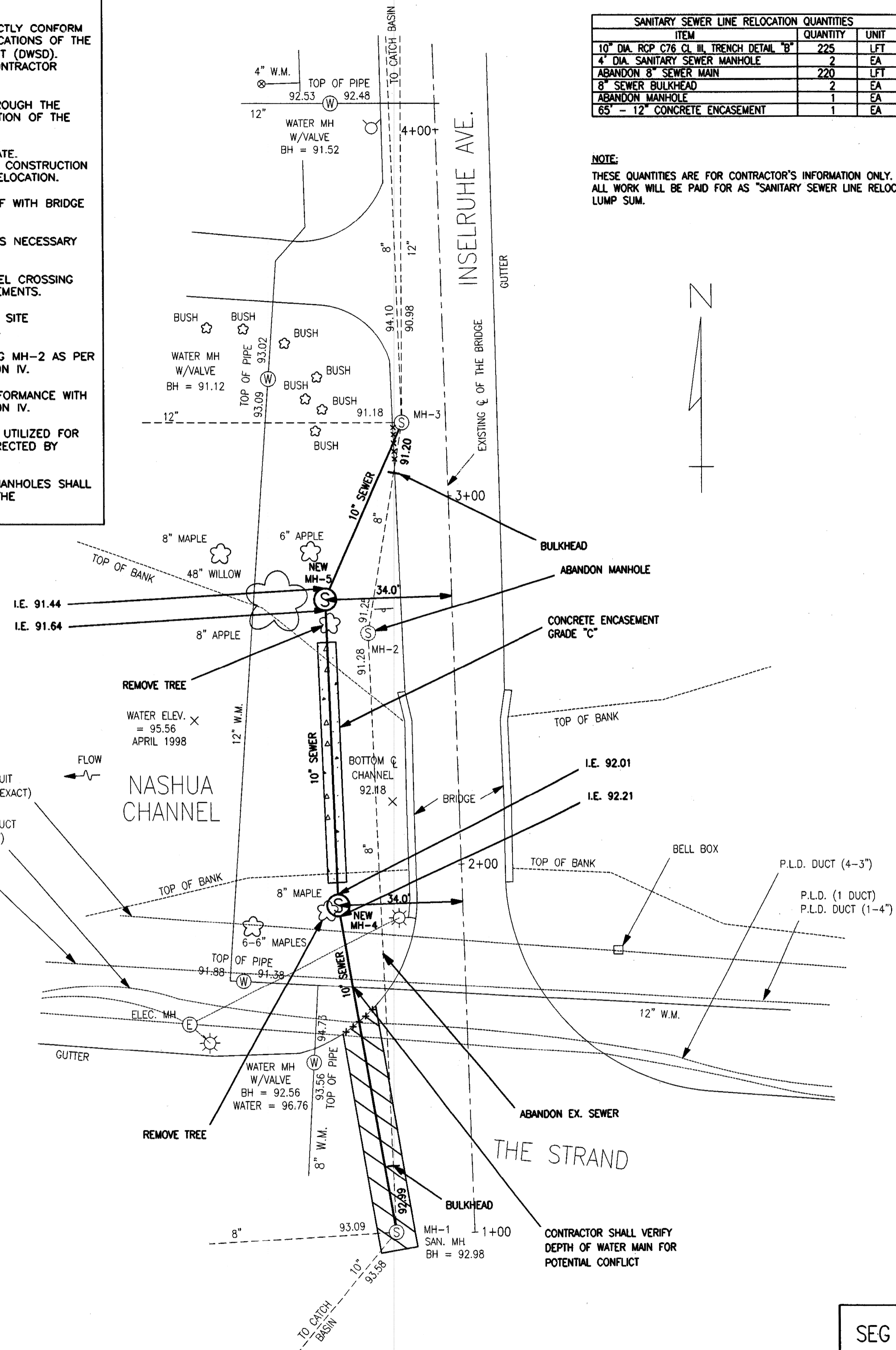
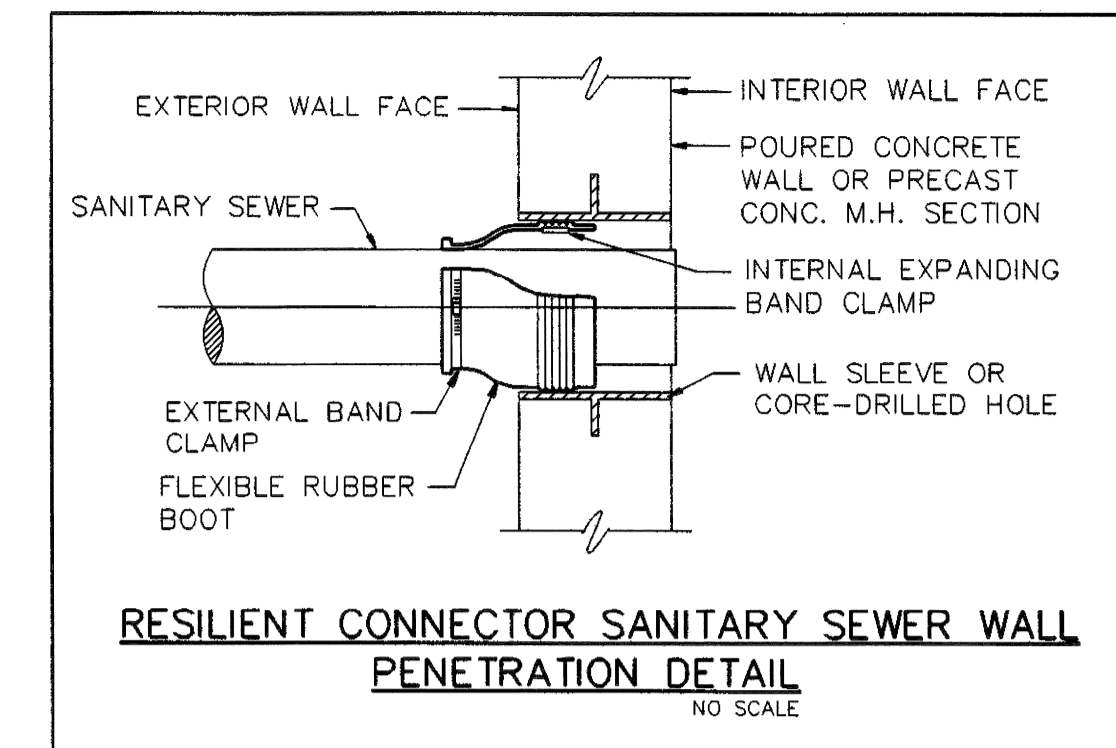
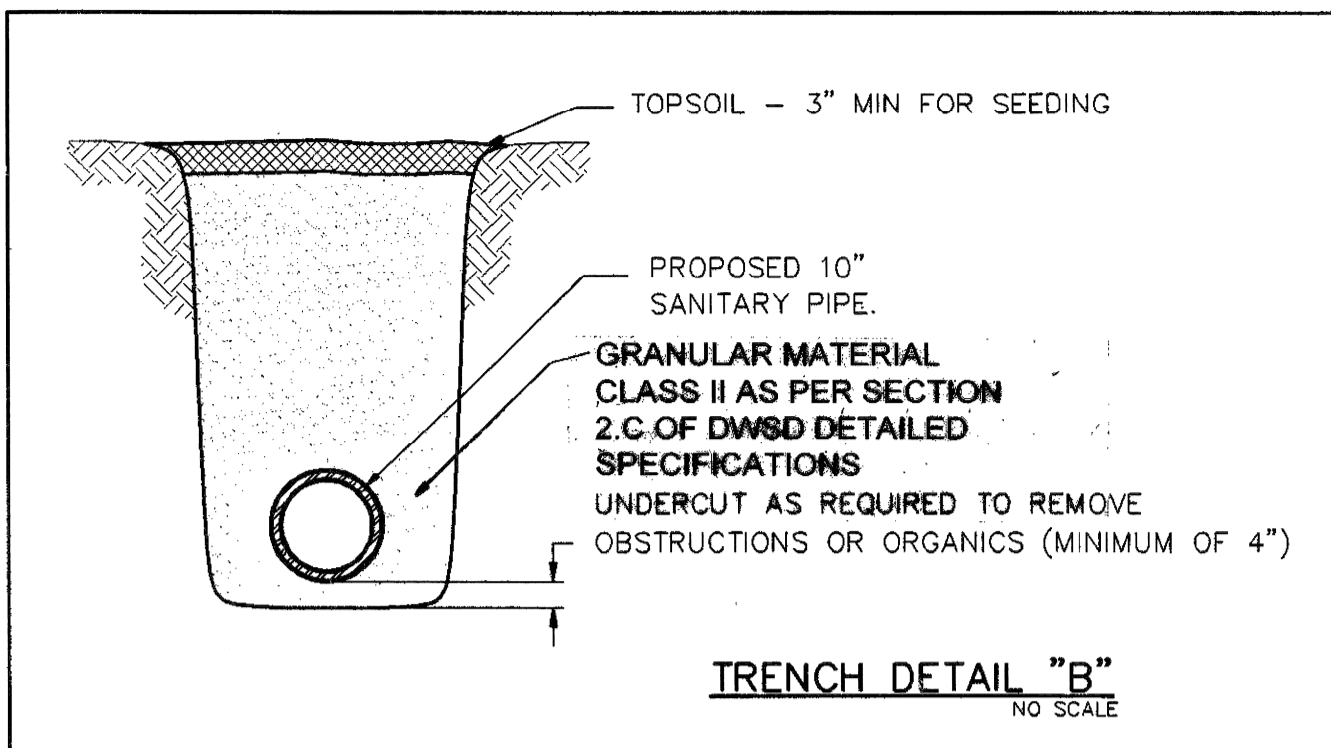
11/97 REV. BY J.J.-CED.  
11-7-88 DOWRIES REVIEW

**GENERAL NOTES**

- SEWER LINE CONSTRUCTION SHALL STRICTLY CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE DETROIT WATER AND SEWERAGE DEPARTMENT (DWS&D). SEWER LINE WORK PERFORMED BY THE CONTRACTOR SHALL REQUIRE INSPECTION BY THE DWS&D.
- CONTRACTOR SHALL MAINTAIN FLOW THROUGH THE EXISTING SANITARY SYSTEM UNTIL INSTALLATION OF THE PROPOSED LINE IS COMPLETE.
- LOCATIONS OF UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY PRIOR TO CONSTRUCTION AND COORDINATE ANY REQUIRED UTILITY RELOCATION.
- CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH BRIDGE RECONSTRUCTION DESIGN PLANS.
- CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY FROM AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL CONSTRUCT CHANNEL CROSSING ACCORDING TO DWS&D AND PERMIT REQUIREMENTS.
- ANY DESIGN CHANGES DUE TO VARYING SITE CONDITIONS MUST BE APPROVED BY DWS&D.
- ABANDON EXISTING SEWER AND EXISTING MH-2 AS PER SECTION 8 OF DWS&D SPECIFICATION DIVISION IV.
- TRENCH EXCAVATION SHALL BE IN CONFORMANCE WITH SECTION 1 OF DWS&D SPECIFICATION DIVISION IV.
- TRENCH DETAIL "B" SHOWN SHALL BE UTILIZED FOR BACKFILL MATERIAL UNLESS OTHERWISE DIRECTED BY DWS&D.
- FINAL RIM ELEVATION OF PROPOSED MANHOLES SHALL CORRESPOND WITH THE FINAL GRADE OF THE SURROUNDING LANDSCAPE.

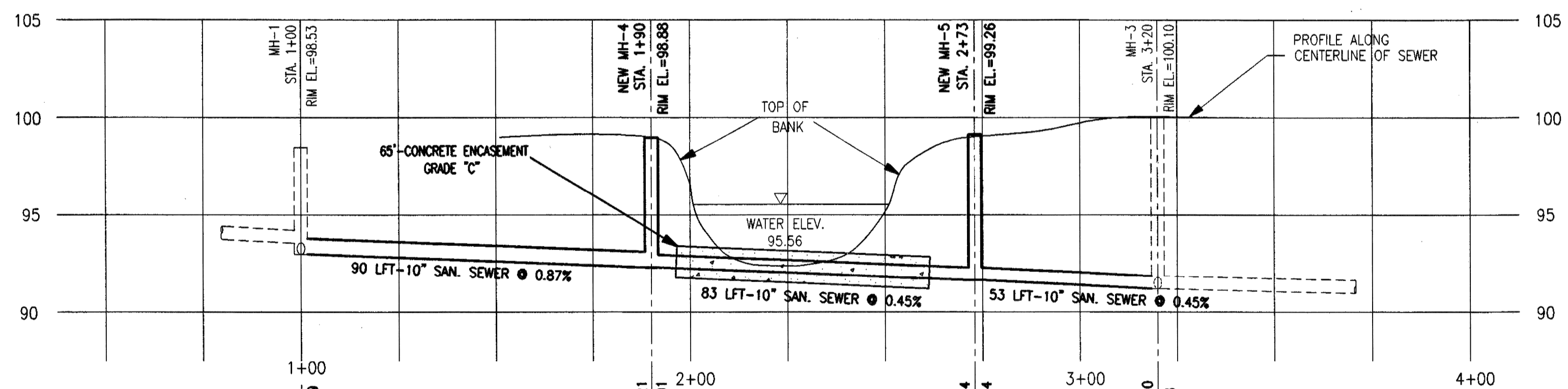
SANITARY SEWER LINE RELOCATION QUANTITIES		
ITEM	QUANTITY	UNIT
10" DIA. RCP C76 CL III TRENCH DETAIL "B"	225	LFT
4" DIA. SANITARY SEWER MANHOLE	2	EA
ABANDON 8" SEWER MAIN	220	LFT
8" SEWER BULKHEAD	2	EA
ABANDON MANHOLE	1	EA
65" - 12" CONCRETE ENCASEMENT	1	EA

**NOTE:**  
THESE QUANTITIES ARE FOR CONTRACTOR'S INFORMATION ONLY. ALL WORK WILL BE PAID FOR AS "SANITARY SEWER LINE RELOCATION", LUMP SUM.



**EXISTING PROFILE**

SCALE 1" = 25' HOR.  
1" = 5' VER.



**PROPOSED PROFILE**

SCALE 1" = 25' HOR.  
1" = 5' VER.

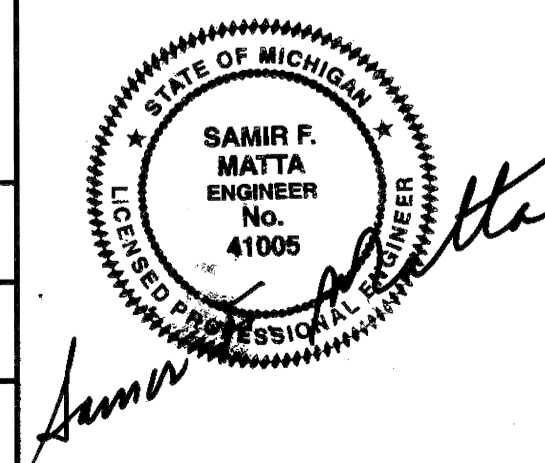
**LEGEND**

- PAVEMENT REMOVAL
- CURB REMOVAL



FOR LOCATIONS OF UNDERGROUND UTILITIES & IF WORKING NEAR OVERHEAD WIRES

**ENGINEER'S APPROVAL**



JOB NO. 46555 A SHEET NO. U-1

**DETROIT WATER AND SEWERAGE DEPARTMENT APPROVAL**

DETROIT WATER AND SEWERAGE DEPARTMENT SEWER FACILITIES ONLY  
Date: 6/19/98 By: *[Signature]*  
Approved for: *[Signature]* - NO PERMIT REQ'D  
Connection to: *(NO DWS&D SEWER INVOLVED)*  
Pipe Class:  
 C-700 or  C-76-Cl III or  Cast Iron  
 Resident Inspector Deposit  
 Sewer Assessment Due

Remarks: CONSTRUCTION TO BE DONE TO DWS&D DIVISION 21, GUIDELINES FOR SEWER SYSTEM CONSTRUCTION WITH THE CITY OF DETROIT - GENERAL AND DETAILED SPECIFICATIONS ONLY, BUT NOT BUILT UNDER DWS&D AUTHORIZATION. INSPECTIONS WILL BE FORWARDED BY DWS&D ONLY UPON PAYMENT OF \$1140 FEE TO ROOM 1401, WATER BOARD BLDG.; OTHERWISE THE PARKS AND RECREATION DEPT. IS FREE TO USE ANY INSPECTOR THEY MAY SO WISH. *[Signature]*  
6-19-98

**SEG ENVIRONMENTAL GROUP, INC.**  
A DLZ COMPANY  
ENGINEERS \* SCIENTISTS \* PLANNERS  
151 W. CONGRESS, SUITE 328, DETROIT, MI 48226  
TELEPHONE (313)961-4040 \* FAX (313)961-4086

CITY OF DETROIT RECREATION DEPARTMENT

SCALE: 1" = 20'

DESIGNED BY: RL  
CHECKED BY: SM

SEG PROJECT NO: 97425260.00

SHEET NO. 1 OF 1  
DATE: 06/18/98

INSELRUHE BRIDGE RECONSTRUCTION  
SANITARY SEWER LINE RELOCATION  
PLAN, PROFILE, & DETAILS

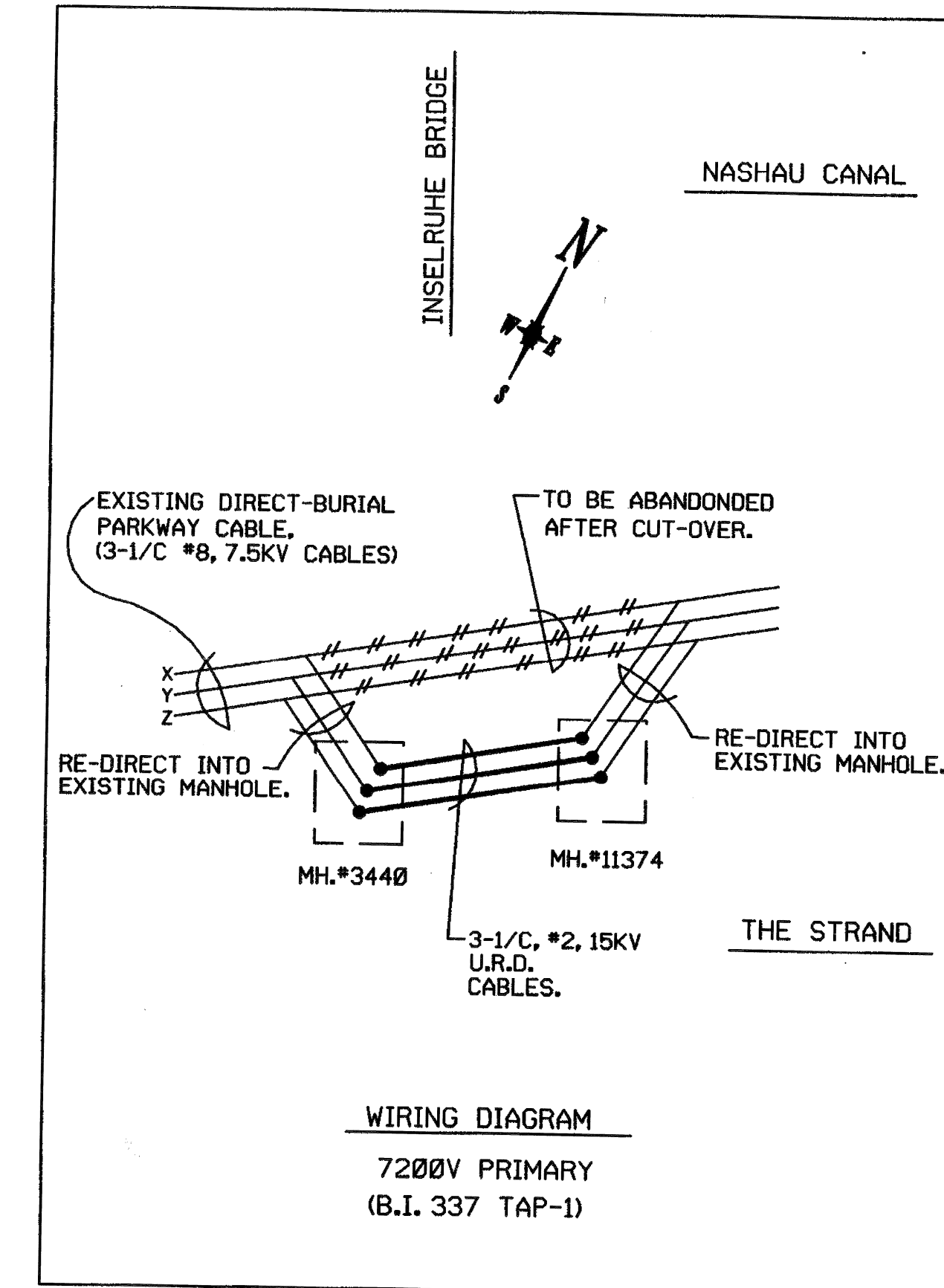
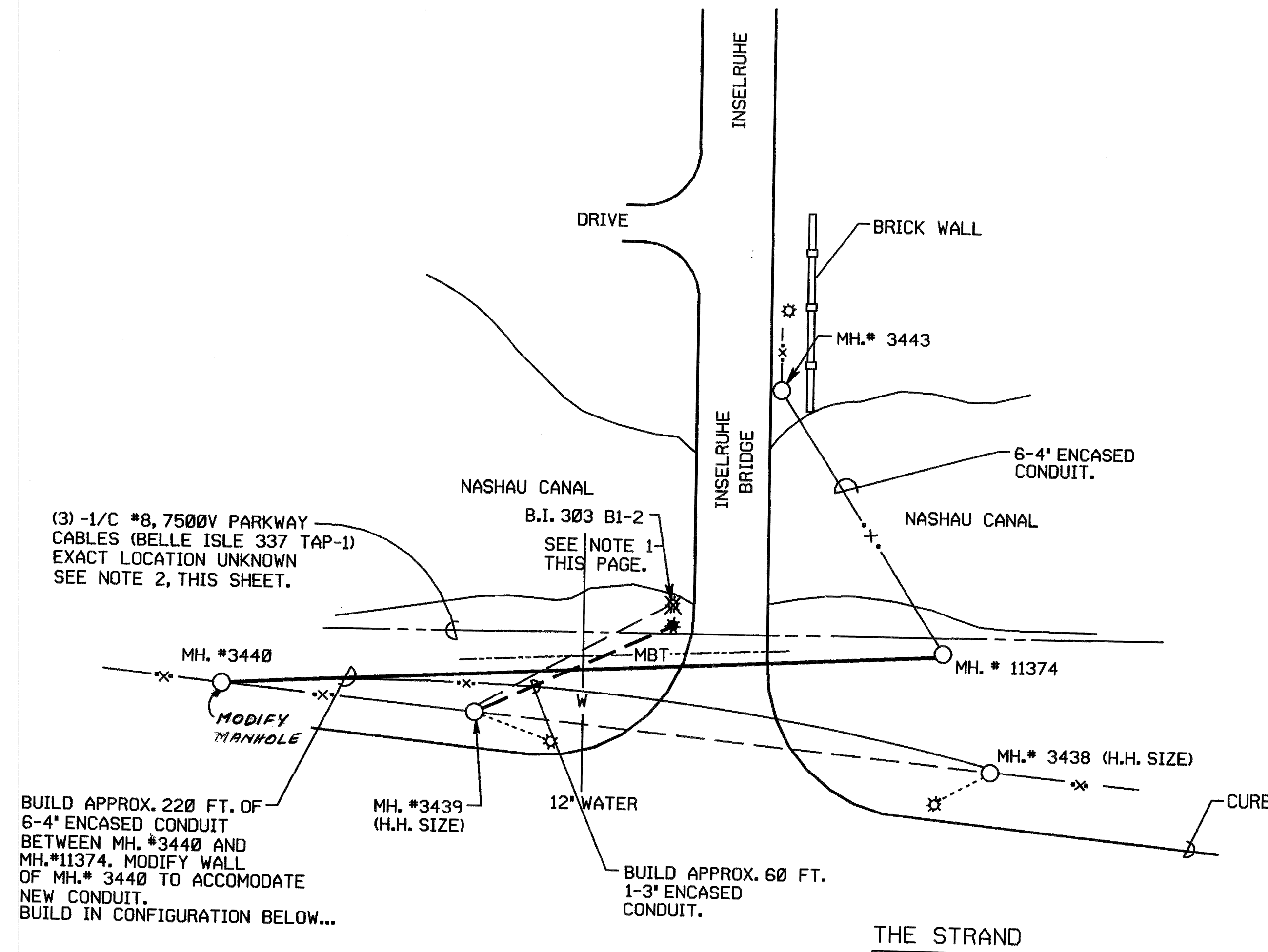
*TRAIL 961-2000*

CAUTION!!  
HIGH VOLTAGE CABLES

CALL MISS DIG  
BEFORE YOU DIG

BELLE ISLE 337-TAP-1  
7200V  
B.I. 303 (408/960V)  
MULTIPLE LIGHTING

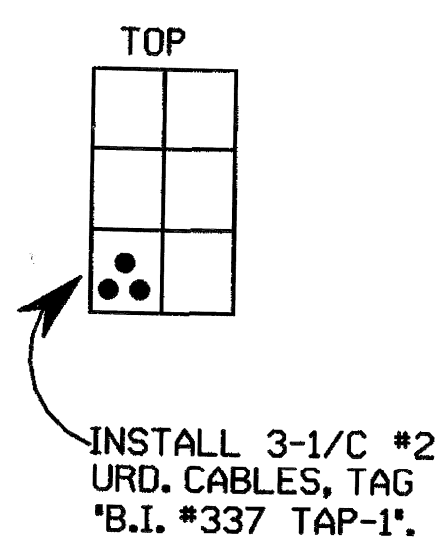
T-B.I. 3&4



PAYMENT ITEM	EST. QUANTITY	ACTUAL QUANTITY
6-4" ENCASED CONDUIT	230 L.F.T.	
MODIFY MANHOLE	1 EACH	
REMOVE FOUNDATION	1 EACH	
DIRECT-BURIAL CONDUIT "PIPE CHASE" IN EXISTING MANHOLE (1-4" SCH. 80, APPROX. 24" LONG.	2 EACH	
3-1/C #2, 15KV U.R.D. CABLES	260 L.F.T.	
LOCATE & RE-DIRECT DIRECT BURIAL CABLES INTO MANHOLE.	2 EACH	
1-3" ENCASED CONDUIT	60 L.F.T.	
STREET LIGHTING FOUNDATION	1 EACH	
3-1/C #6, 2KV STREET LIGHTING CABLES.	60 L.F.T.	
INSTALL CODE 114 STREET LIGHTING STANDARD.	1 EACH	
REMOVE CODE 114 STREET LIGHTING STANDARD.	1 EACH	

NOTES:

- REMOVE AND SALVAGE STREET LIGHTING STANDARD. REBUILD 13 1/2" B.C. FOUNDATION (SELECT NEW LOCATION-PER P.L.D. STREET LIGHTING STAFF- M. LASKOWSKI-(313)-267-7306). BUILD 1-3" ENCASED CONDUIT TO MH. # 3439. CONTACT MICHAEL LASKOWSKI TO ARRANGE FOR STREET LIGHTING SPLICING OF CABLE. INSTALL 3-1/C #6, 2KV STREET LIGHTING CABLES (1-WHITE 2-BLACK). P.L.D. TO RE-CONNECT.
- LOCATE EXISTING PARKWAY CABLE. INSTALL 1-4" SLEEVE INTO MANHOLE #11374 & MANHOLE #3440. EXPOSE SUFFICIENT CABLE FOR RE-DIRECTION INTO MANHOLES (BY P.L.D.) ON CIRCUIT CUT-OVER DAY.
- ALL MATERIALS AND CONSTRUCTION MUST BE TO P.L.D. SPECIFICATIONS. P.L.D. MUST INSPECT AND APPROVE OF ALL P.L.D.-RELATED CONSTRUCTION.
- ALL CONDUIT MUST BE PROPERLY TERMINATED IN MANHOLES, HAVE END BELLS AND MUST HAVE CONDUIT ENTRY POINTS PATCHED. REMOVE ALL CONSTRUCTION DEBRIS FROM MANHOLES.



NOTE: All electrical work shall be done according to City of Detroit Public Lighting Department's (PLD) Special Provision for Electrical Work, included with the proposal.

NOT TO SCALE

CONDUIT CONSTRUCTION NECESSARY TO ACCOMMODATE RECONSTRUCTION OF INSELRUHE BRIDGE; VICINITY OF INSELRUHE & THE STRAND, S.S. OF NASHAU CANAL.

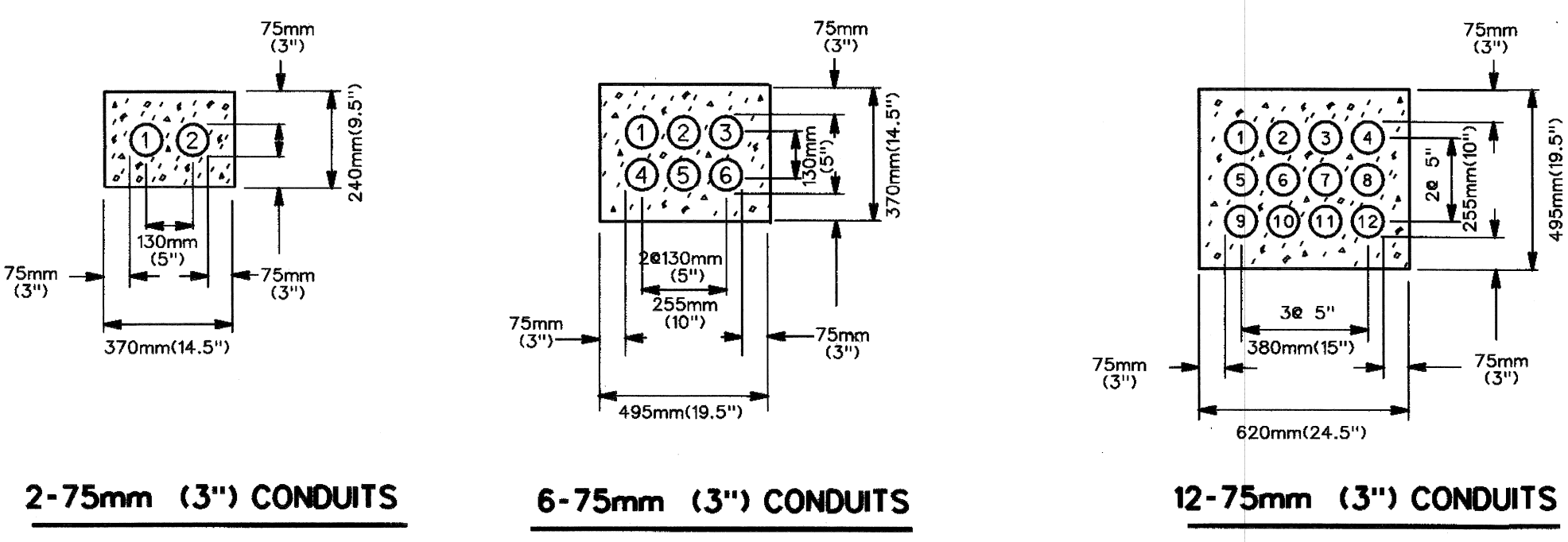
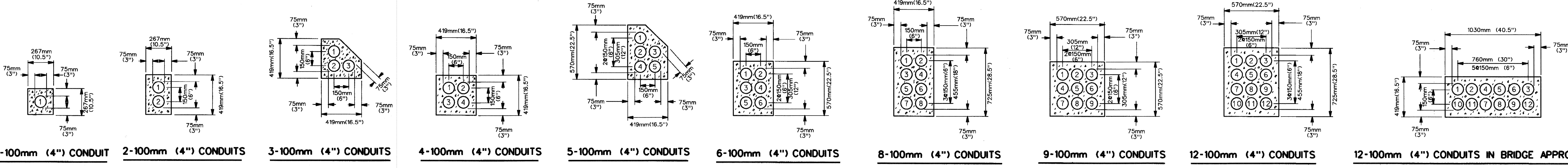
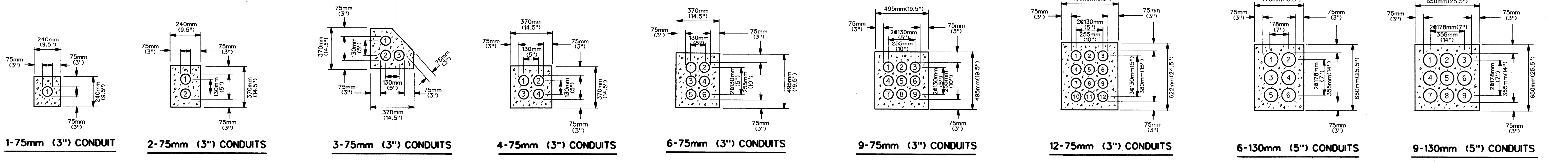
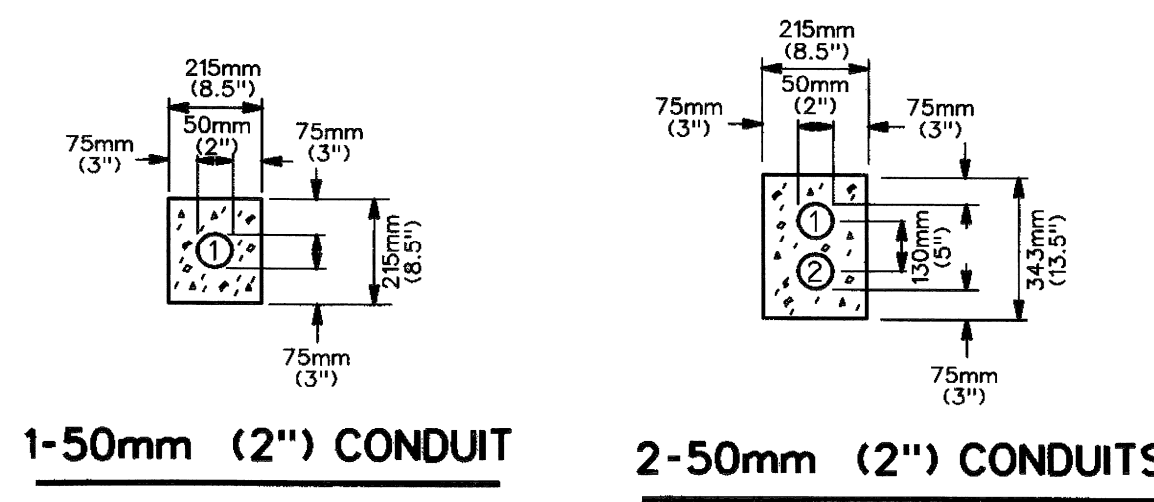
JOB NO. 46555 A. SHEET NO. U-2  
W.O. #1500.14,.44,.45,.458,.52,.528,.53,.54,.58,.73

REVISION	DATE	DESCRIPTION	CHK'D BY

DRAWN BY:  
T.E. GILBERT  
CHECKED BY:  
M.S.  
APPROVED BY:  
Lufey

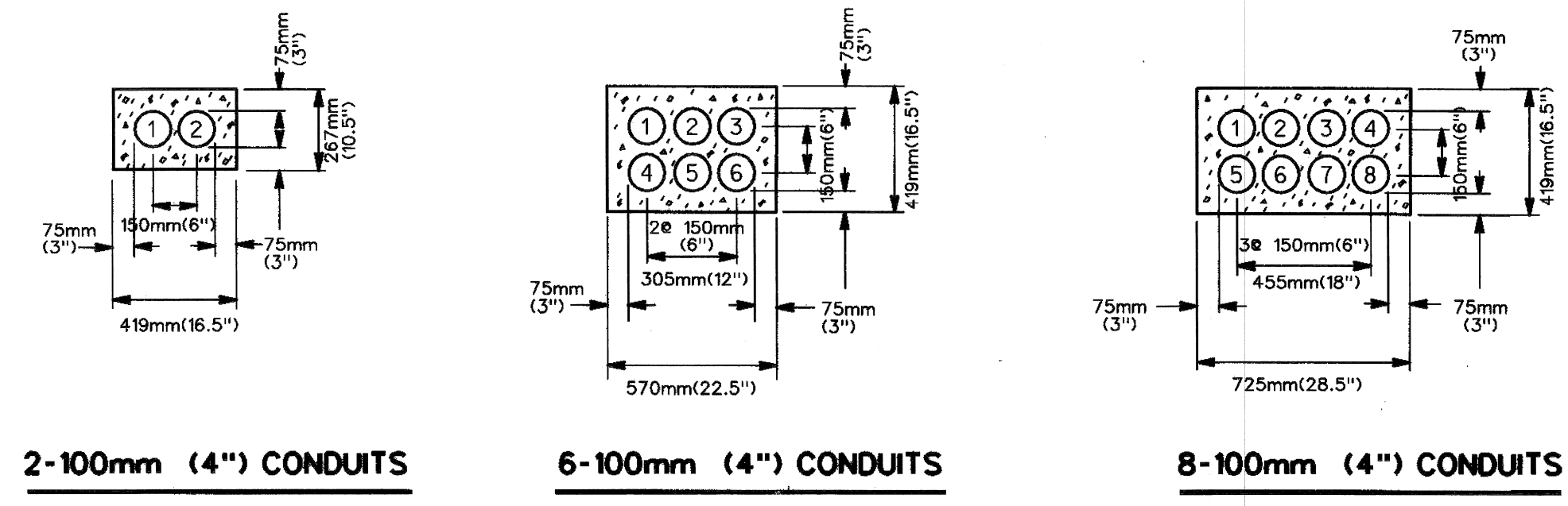
PUBLIC LIGHTING DEPARTMENT  
CITY OF DETROIT

FILE No.: 27-1009  
SHEET No.: 1 OF 5  
DATE: 6/16/98



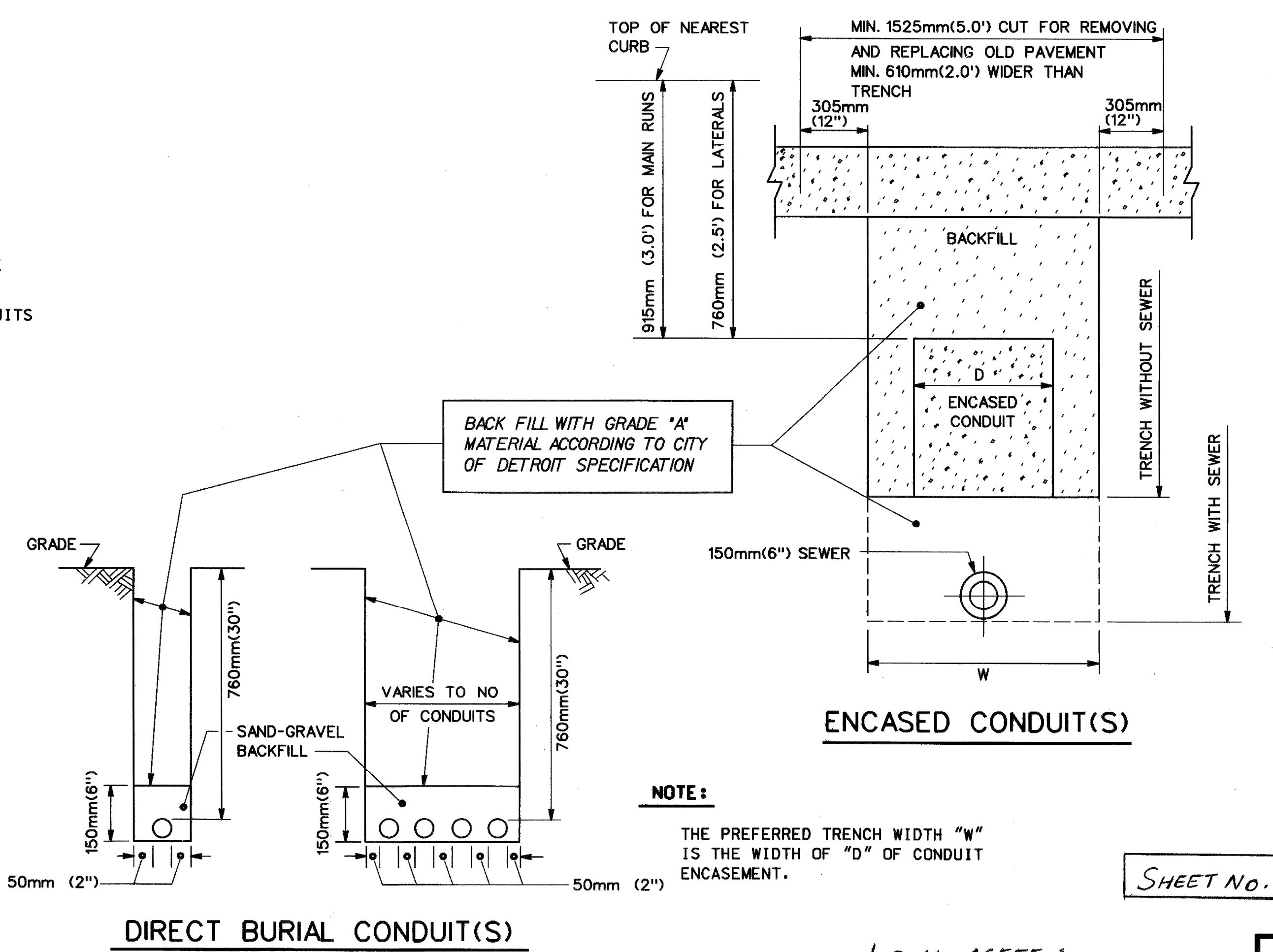
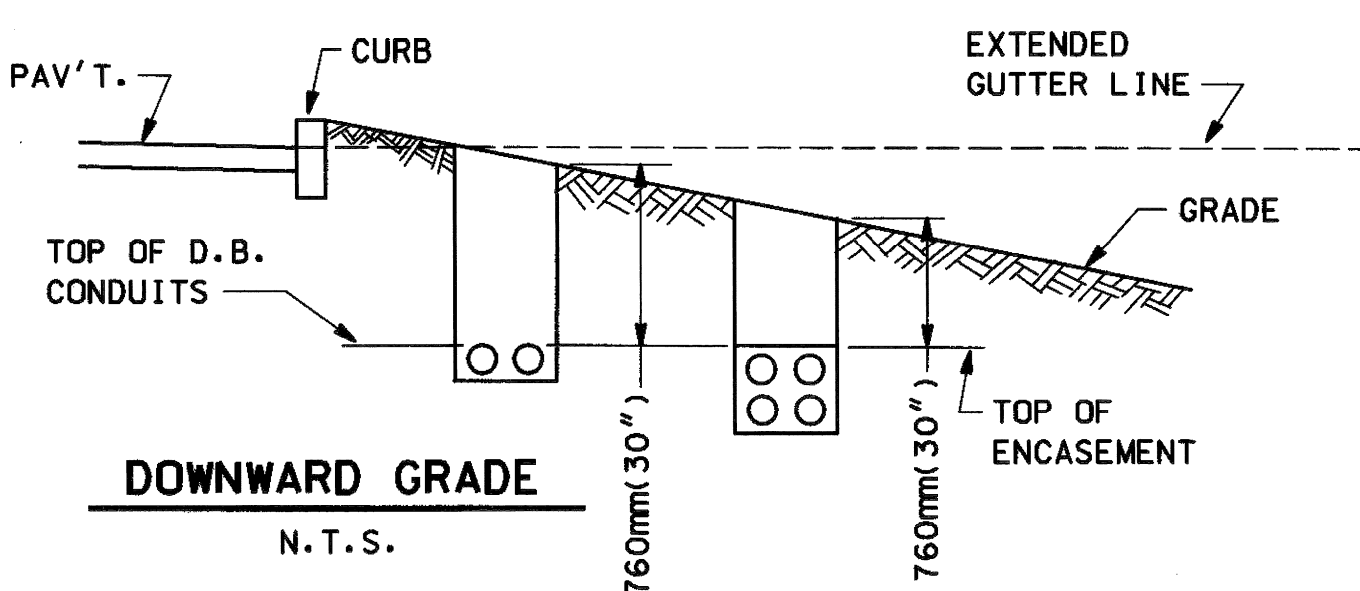
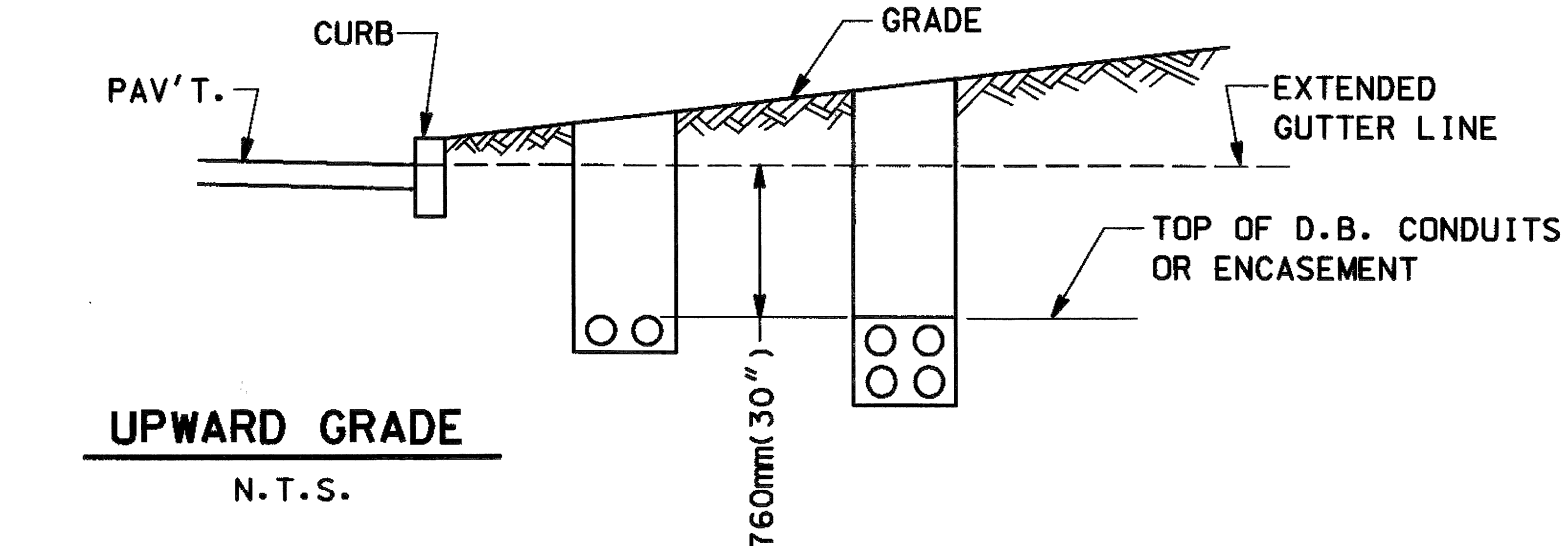
**ALTERNATE ARRANGEMENT OF 75mm (3") CONDUIT**

(TO SUIT FIELD CONDITIONS)  
(TO BE APPROVED BY THE ENGINEER)



**ALTERNATE ARRANGEMENT OF 100mm (4") CONDUIT**

(TO SUIT FIELD CONDITIONS)  
(TO BE APPROVED BY THE ENGINEER)



SHEET No. U-3

Job No. 46555 A

101

REV.	Date	Description	Chkd. by

BELLE ISLE, INSELRUHE BRIDGE  
 MISCELLANEOUS CONDUIT SECTIONS

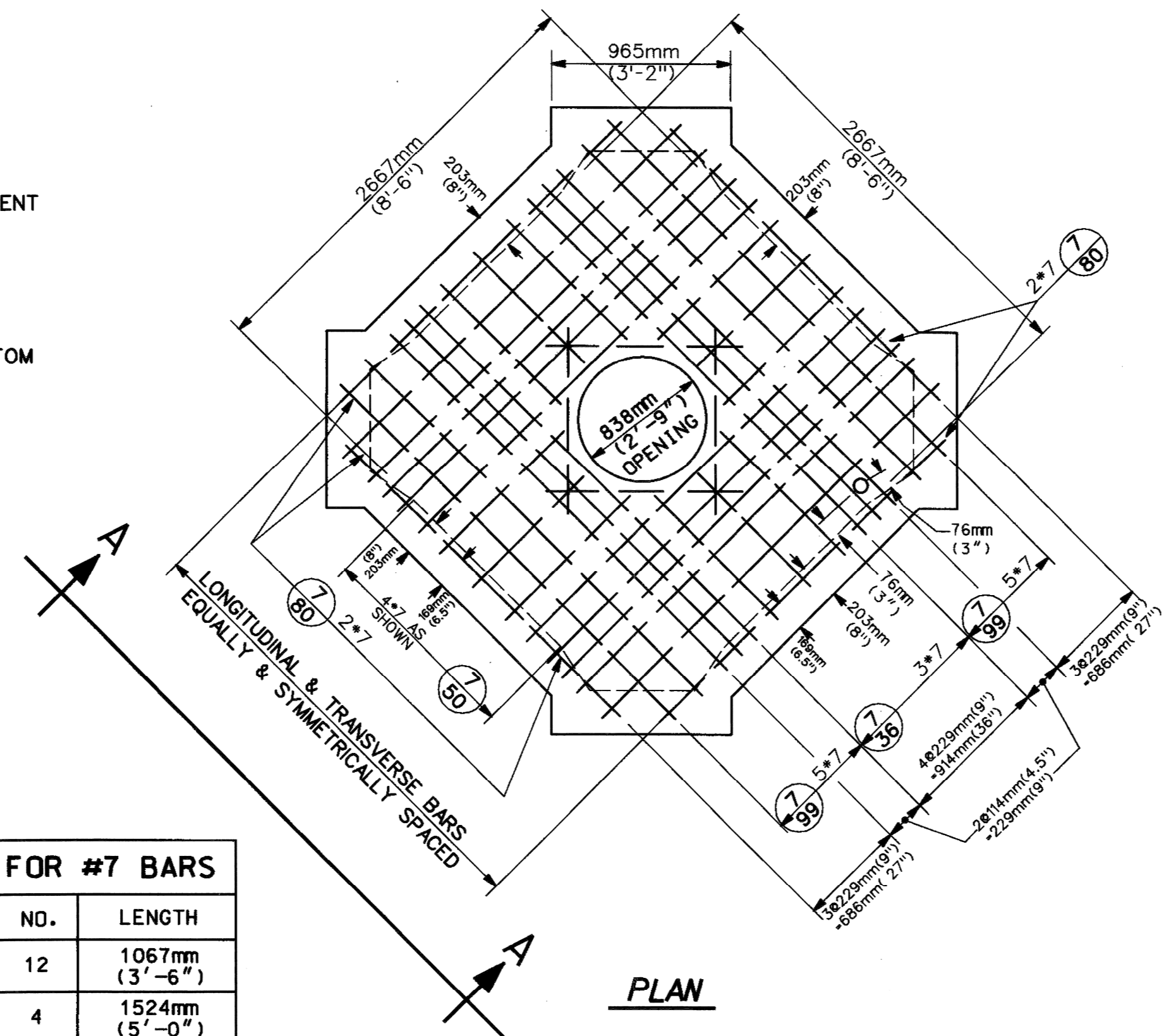
Designed by CEA		Scale No Scale
Drawn by		Checked by
Checked by		Approved by
Drwg. No. OF --		File No. CEA -----

<b>PUBLIC LIGHTING DEPARTMENT</b> 	File No. 27-1009
	Sheet No. 2 of 5
	Date 6-16-98

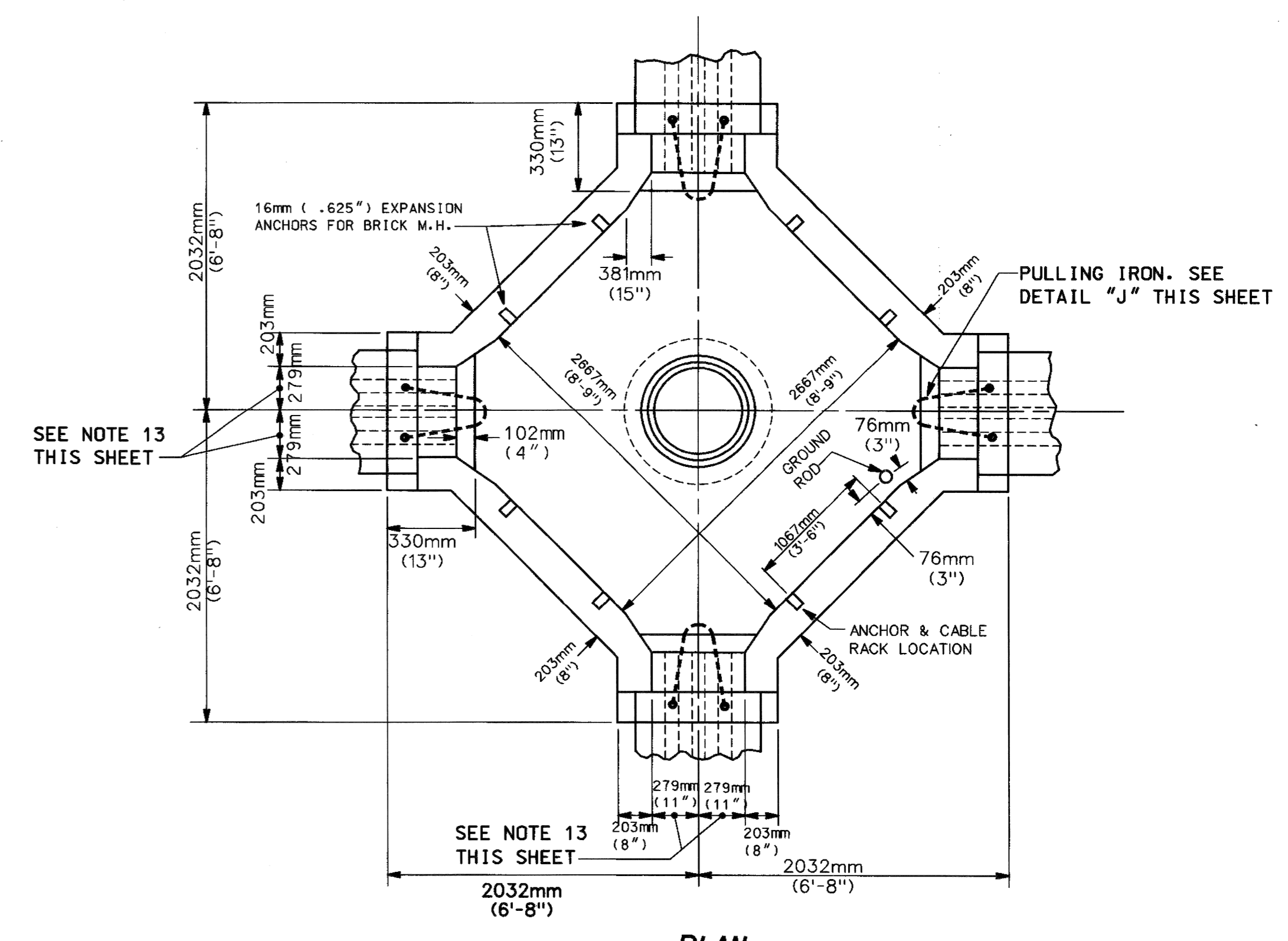


**NOTE:**

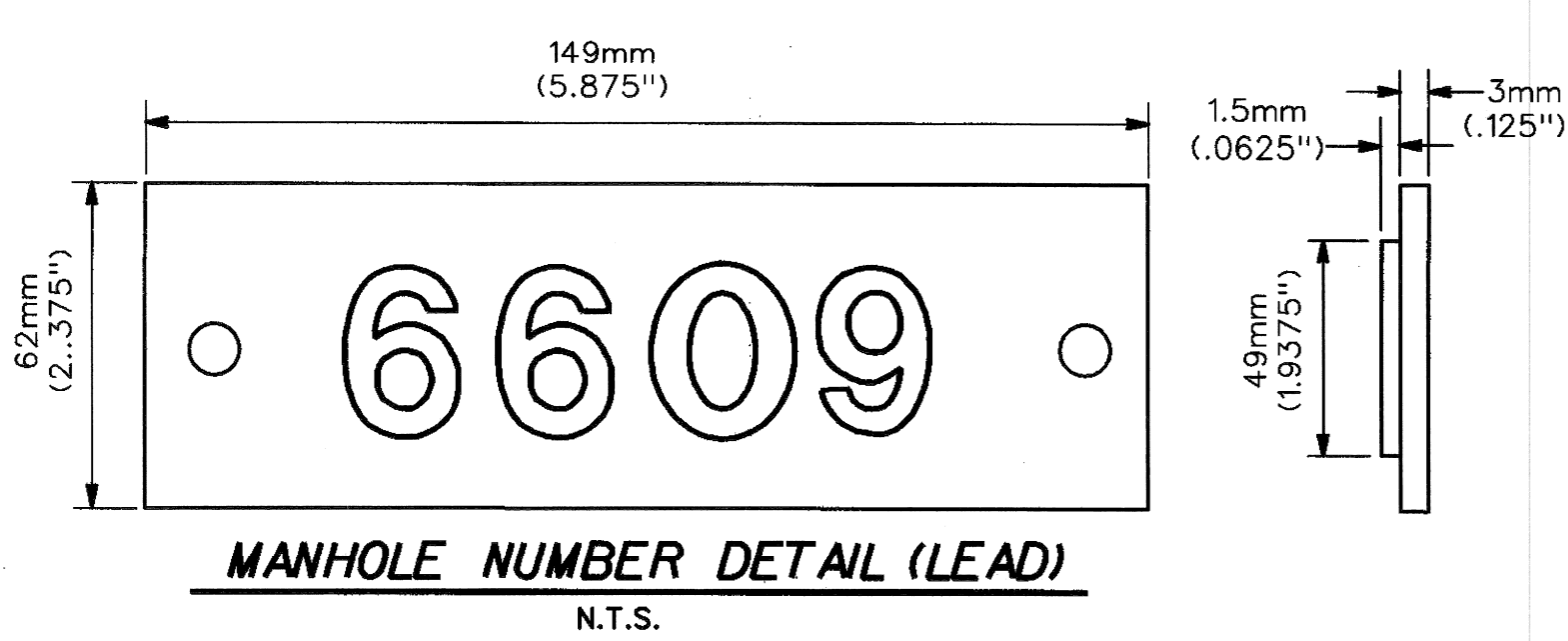
1. THIS DIMENSION NORMALLY 1.98m. (6.5') SEE SPECIFICATIONS FOR UNUSUAL CONDITIONS.
2. WHERE M.H.'S ARE LOCATED BACK OF CURBS, TOP OF M.H. ROOF MUST BE BUILT .660m (26") BELOW CURB GRADE TO PROVIDE FOR FUTURE PAVEMENT.
3. IN EXISTING PAVEMENT, PROVIDE AT LEAST .203m (8") BETWEEN TOP OF ROOF AND BASE OF PAVEMENT
4. BOLTS, RACKS & PULLING IRONS TO BE HOT-DIP GALV.
5. C OF RAILS & UNDER M.H. FRAME FLANGE TO BE APPROX. .457m (18") FROM C'S OF FRAMES.
6. M.H. NUMBER TO BE INSTALLED ON MANHOLE WALL IN CONSPICUOUS PLACE.
7. MOUNTING HEIGHT FOR LOWER BOLTS OF CABLE RACK SHALL BE THE AVERAGE HEIGHT OF THE BOTTOM OF THE LOWEST DUCTS IN MAIN CONDUITS. INSTALL MIN. (2) 1.22m (48") LONG RACKS ON WALLS.
8. .203m (8") THICK CHIMNEYS WHERE SPECIFIED SHALL BE INCLUDED TO APPLICABLE M.H. ITEM.
9. EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT MANHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.
10. 13mm (.5") PLASTER OUTSIDE WALLS OF BRICK MANHOLES.
11. SPACING OF INSERTS AS REQUIRED TO ACCOMMODATE CABLE RACK
12. BELL ENDS ARE REQUIRED ON EACH CONDUIT ENTERING MANHOLE. (TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE)
13. THIS IS A MINIMUM DIMENSION & IS EXPANDABLE TO ACCOMMODATE MAIN DUCT WINDOW.
14. EIGHT HEAVY 1219mm (48") CABLE RACKS, (16) 381mm (15") CABLE ARMS & 32 CABLE ARMS INSULATORS REQUIRED PER MANHOLE, UNLESS SPECIFIED OTHERWISE.
15. CONTRACTOR IS TO INSTALL MANHOLE NO. TAG FURNISHED BY P.L.D. MANHOLE SHALL NOT BE CONSIDERED COMPLETE WITHOUT MANHOLE NO. TAG INSTALLED.



PLAN

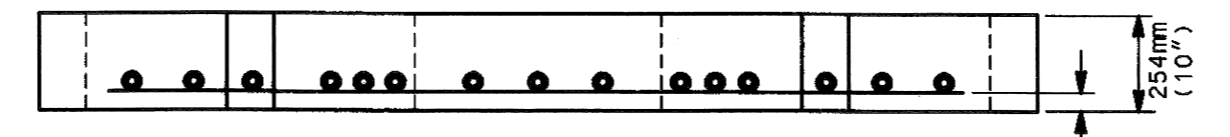


PLAN



MANHOLE NUMBER DETAIL (LEAD)  
N.T.S.

MARK	NO.	LENGTH
36	12	1067mm (3'-6")
50	4	1524mm (5'-0")
80	4	2438mm (8'-0")
99	20	2972mm (9'-9")



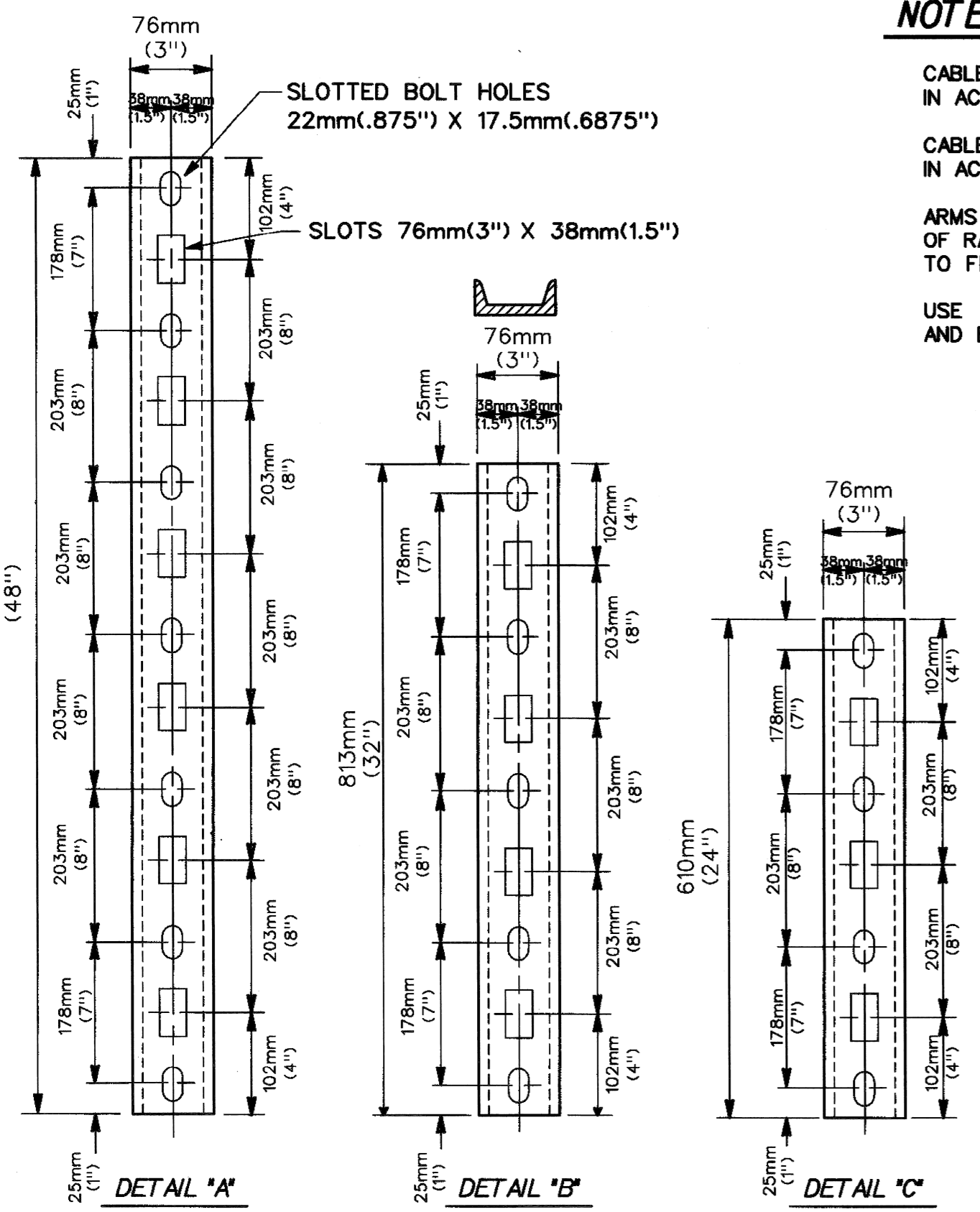
ELEVATION "A-A"  
FOUR-WAY MANHOLE ROOF  
ALTERNATE CONCRETE

**27Kg (60 LB.) "T" RAILS**  
 4 PIECES 3.81m (12.5') LONG  
 4 PIECES 2.9m (9.5') LONG  
 4 PIECES 2.44m (8') LONG  
 4 PIECES 1.98m (6.5') LONG  
 4 PIECES 1.52m (5') LONG  
 4 PIECES 1.07m (3.5') LONG  
 4 PIECES 0.91m (3') LONG

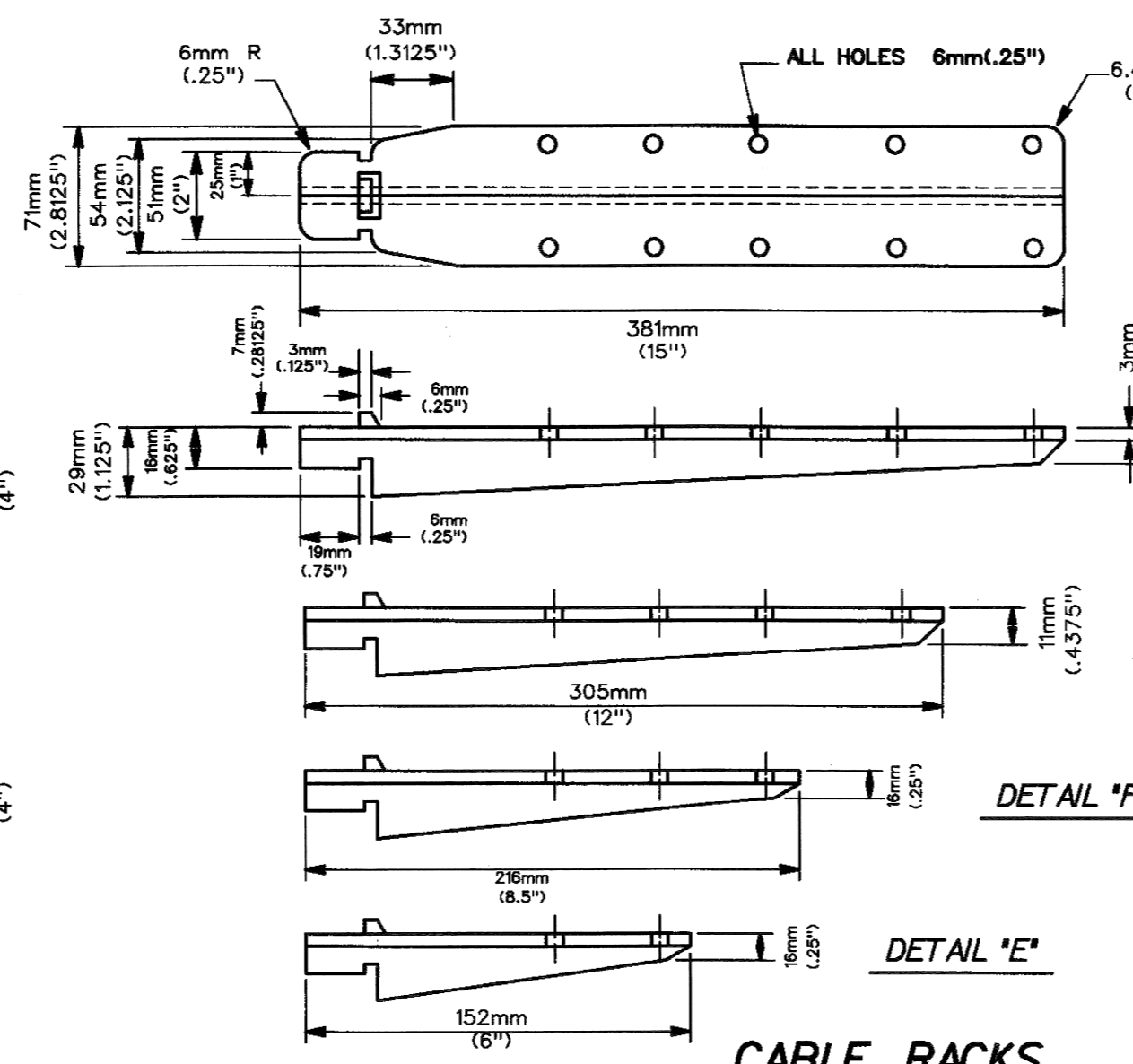
"T" RAIL SPECIFICATIONS  
27Kg (60 LBS.) PER YD. OR HEAVIER  
N.T.S.

**NOTE:**

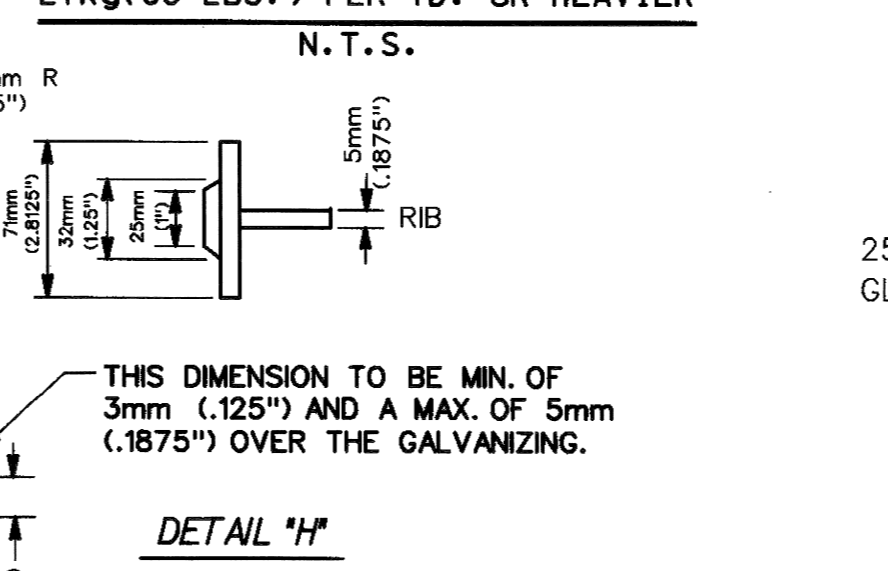
- CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.
- CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.
- ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.
- USE 13mm (.5") GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.



CABLE RACKS  
76mm (3") STD. 4.1" CHANNEL  
N.T.S.



CABLE RACKS  
MALLEABLE CAST IRON  
N.T.S.

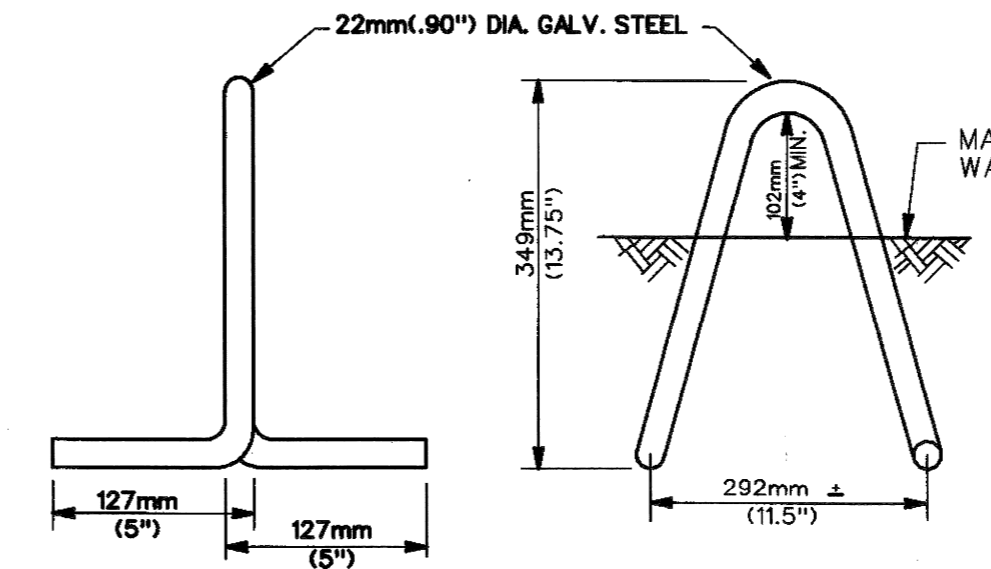


DETAIL "H"

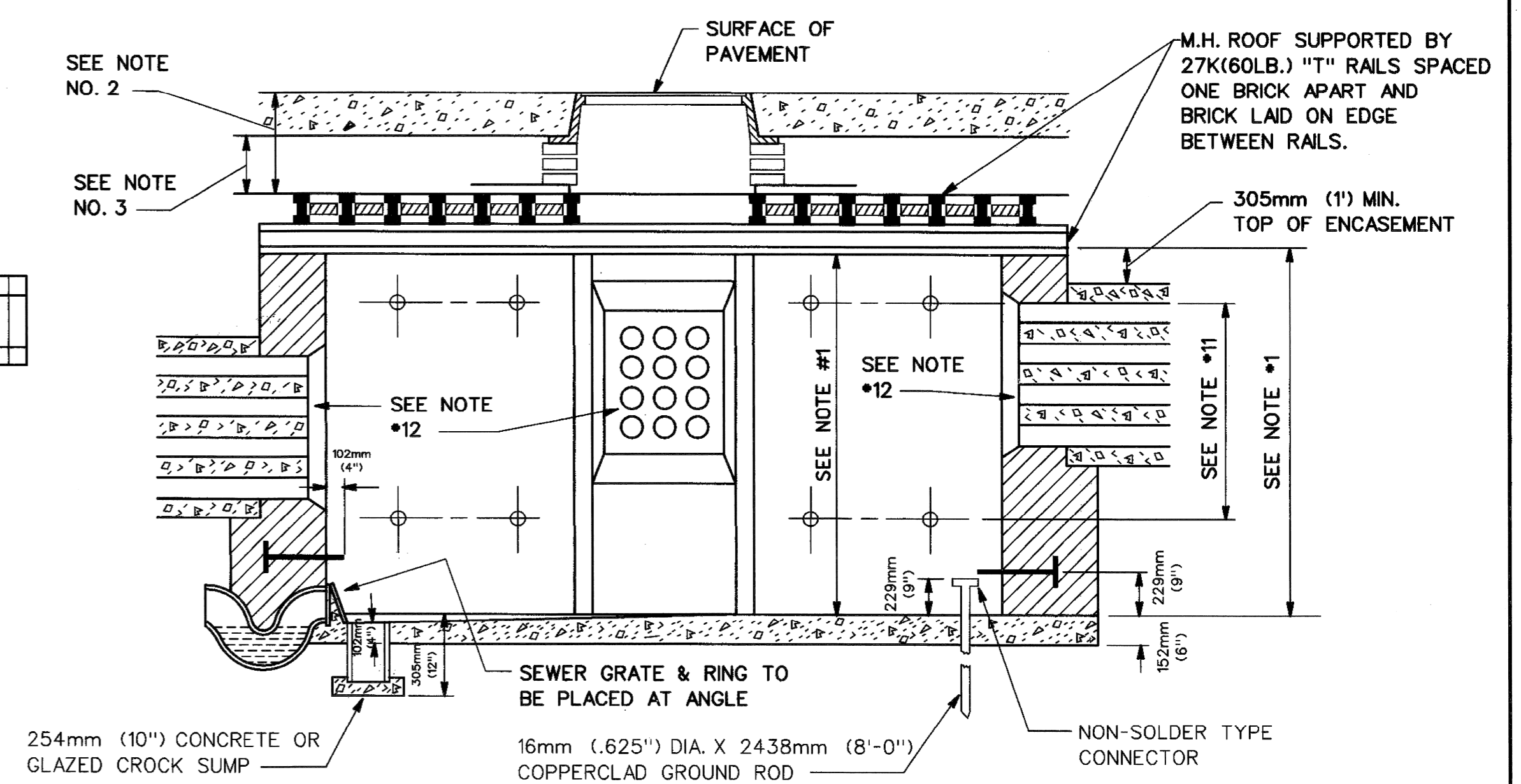
DETAIL "G"

DETAIL "F"

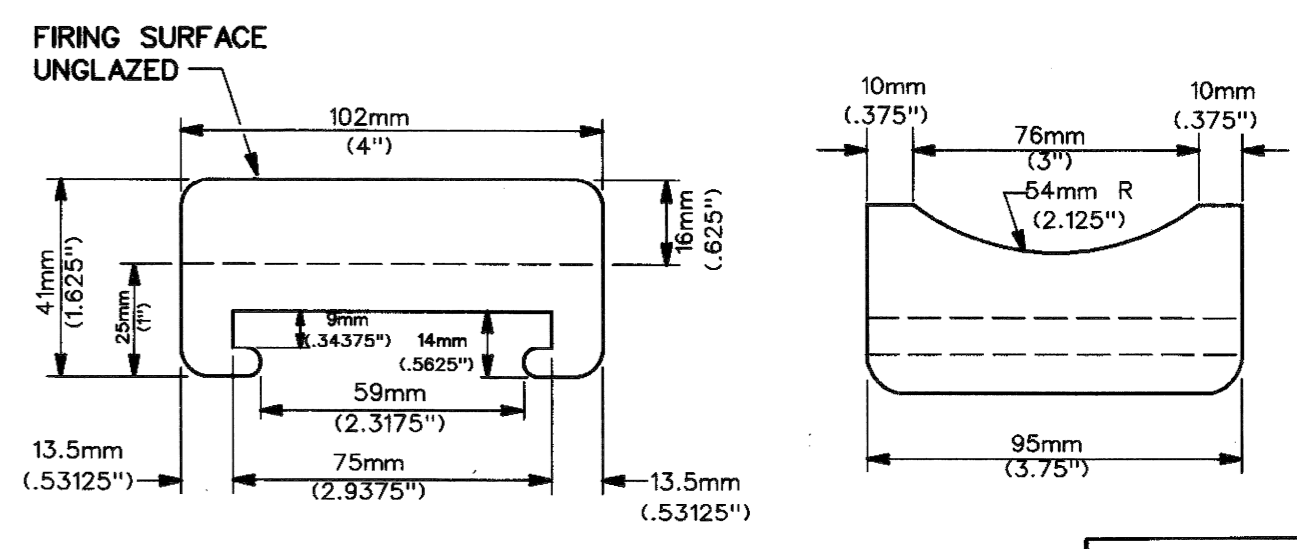
DETAIL "E"



PULLING IRON  
N.T.S.



BRICK-FOUR WAY MANHOLE  
N.T.S.



CABLE ARM INSULATORS  
WHITE GLAZED PORCELAIN DRY PROCESS  
N.T.S.

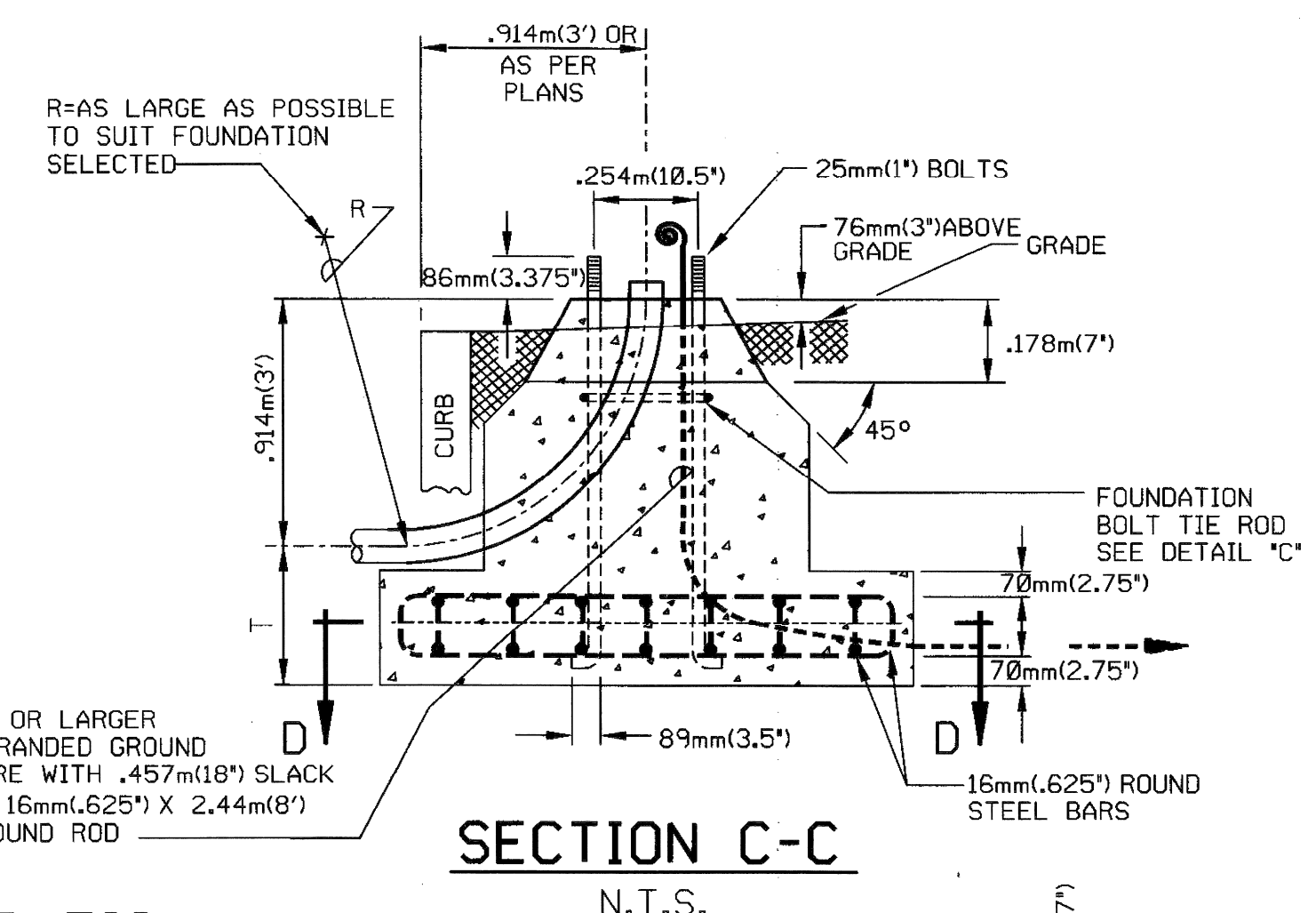
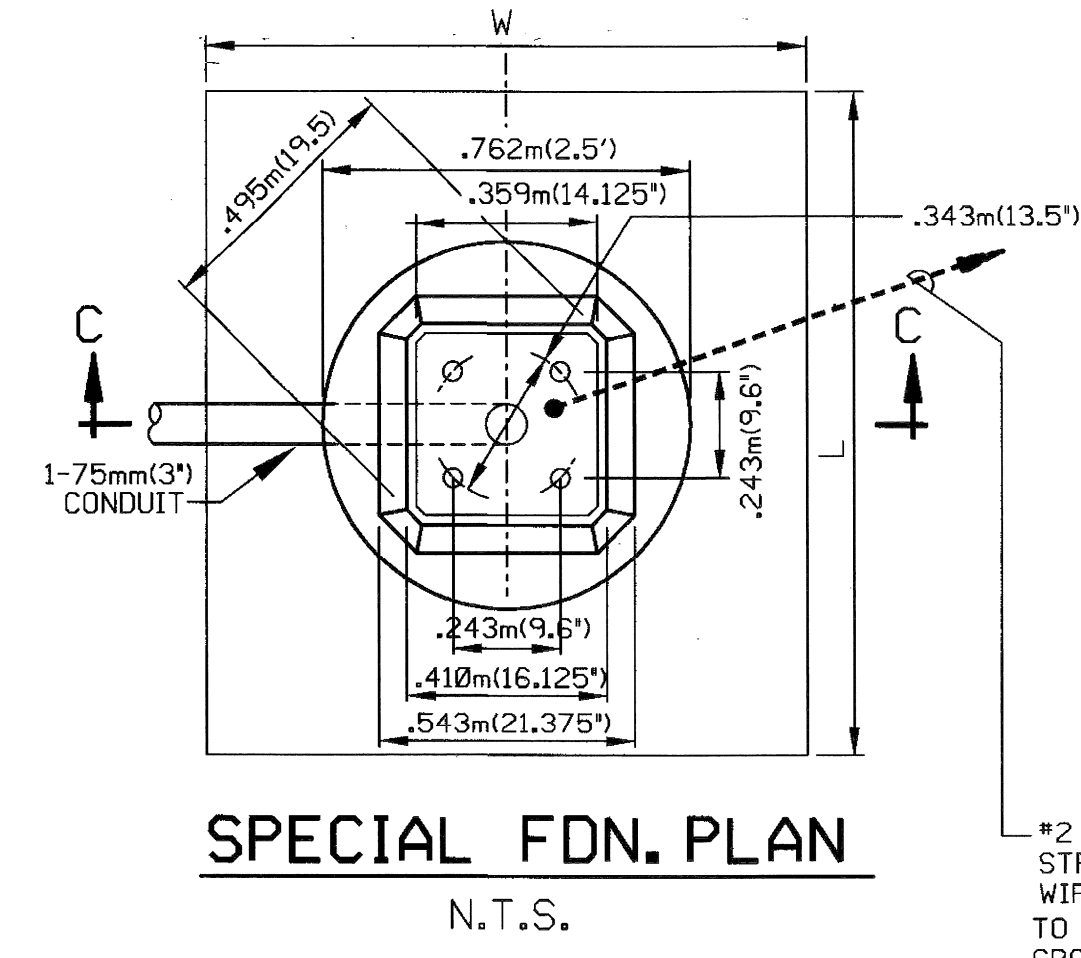
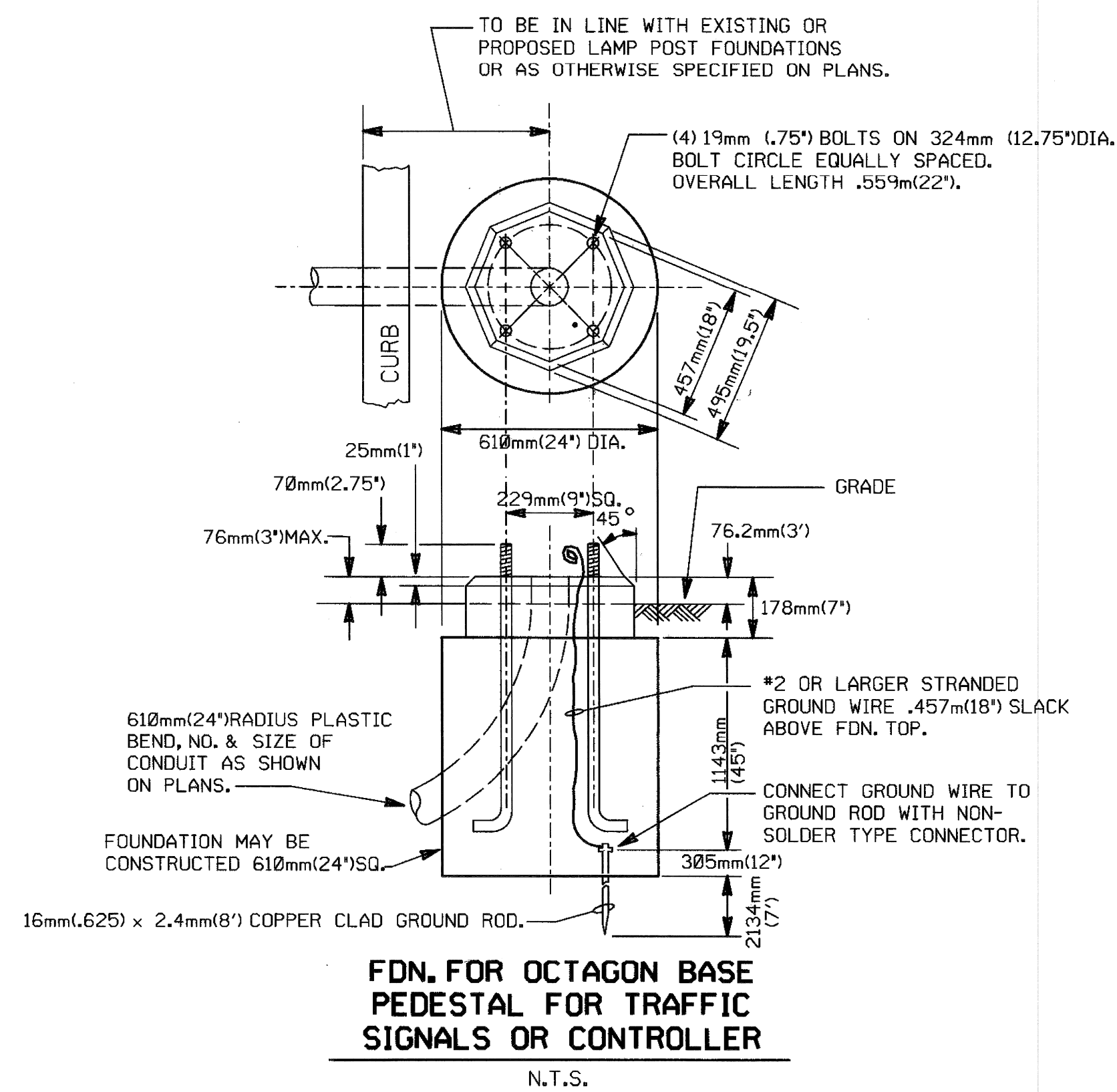
Date	Description	Chkd. by

BELLE ISLE, INSELRUHE BRIDGE  
FOUR-WAY MANHOLE

Designed by CEA	<p>16560 WYOMING AVE. - DETROIT MICHIGAN 48221 TELEPHONE: (313) 341-5797 FAX: 341-0205</p>	Scale No Scale	<p>PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT</p>	File No. 27-1009
Drawn by		Checked by		Sheet No. 4 of 5
Checked by	Drwg. No. OF -- CEA	File No.	Approved by	Date 6-16-98

SHEET No. U-5

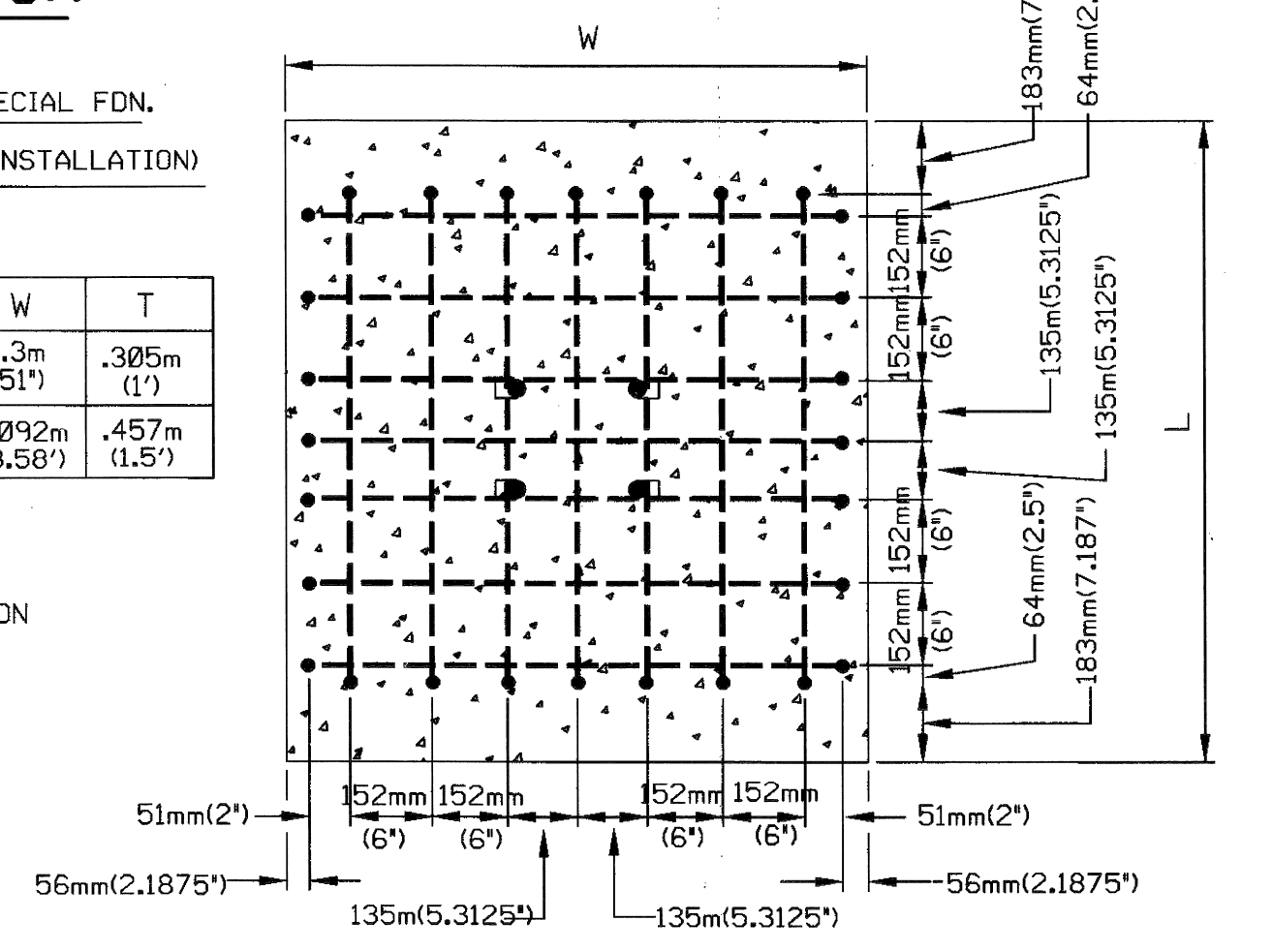
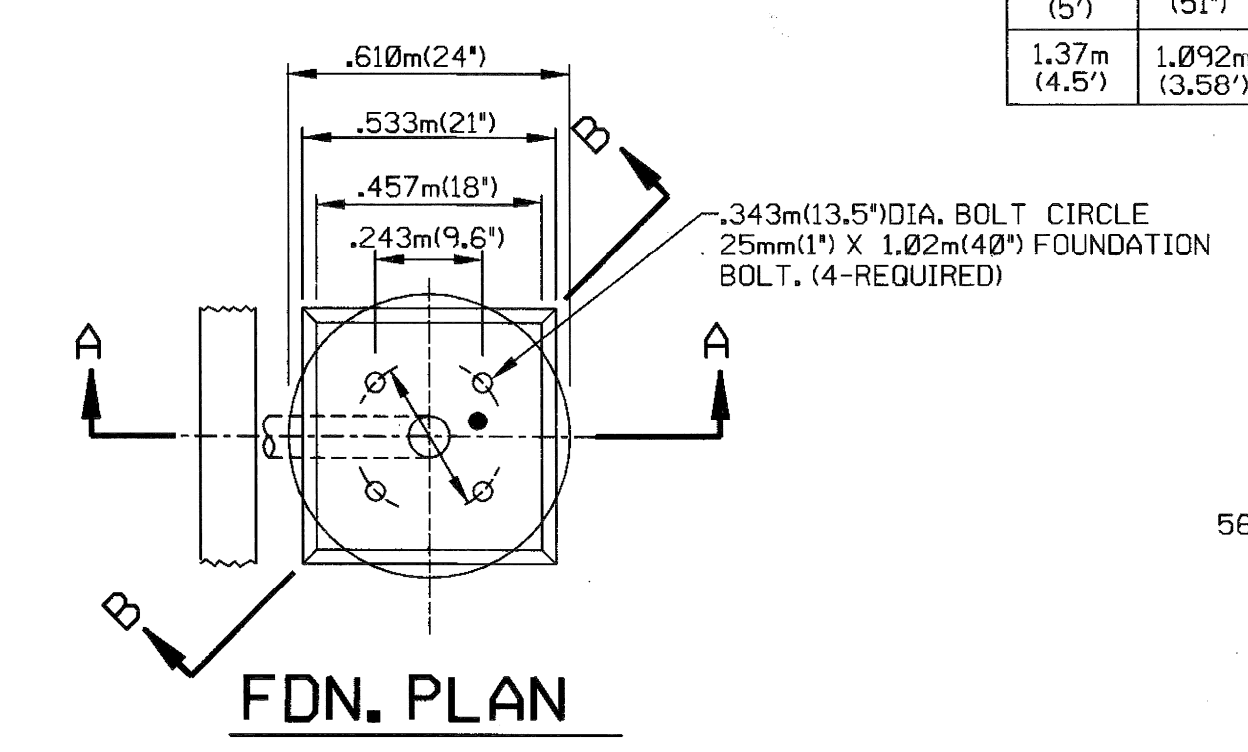
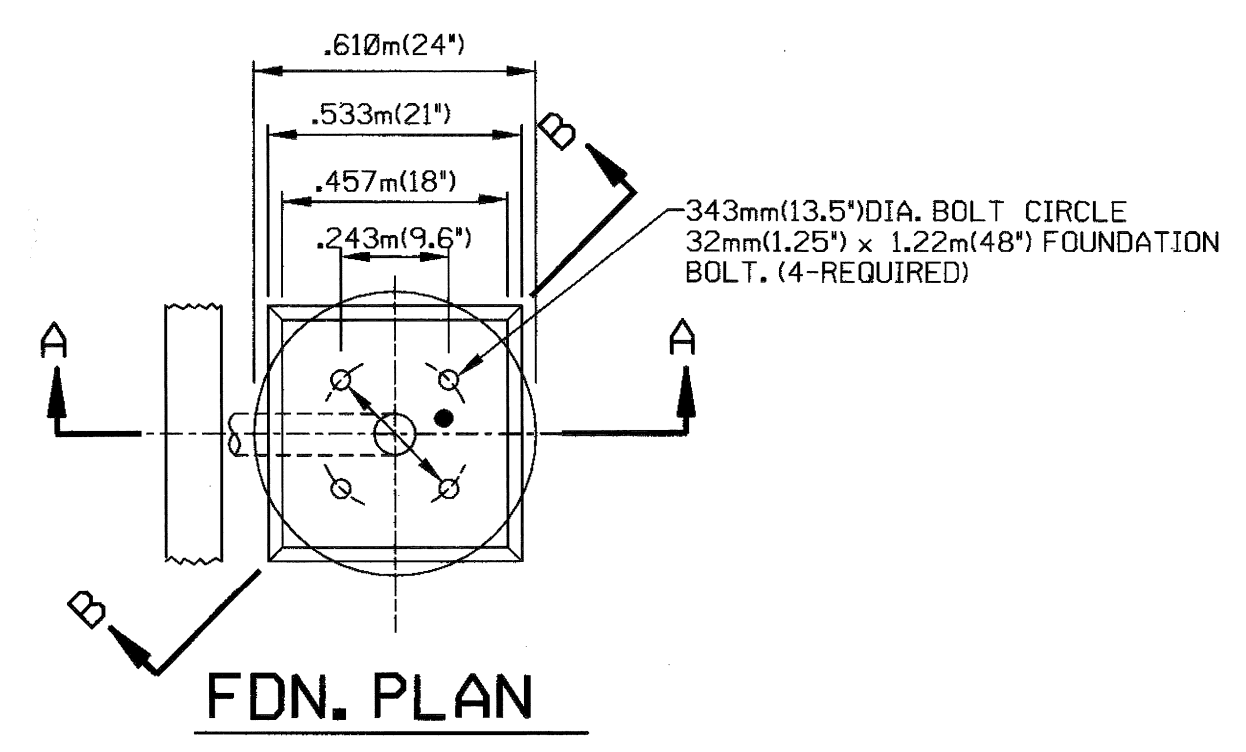
JOB No. 46555 A 106



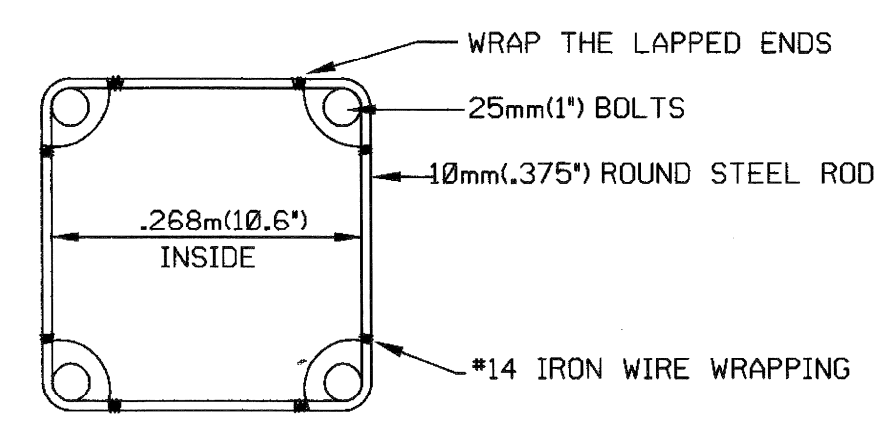
**SPECIAL FOUNDATION**

THERE SHALL BE NO EXTRA PAYMENT FOR SPECIAL FDN.  
(TO BE PAID FOR AS A NORMAL ST. LTG STD. FDN. INSTALLATION)

L	W	T
1.52m (5')	1.3m (5')	.305m (1')
1.37m (4.5')	1.092m (3.58')	.457m (1.5')

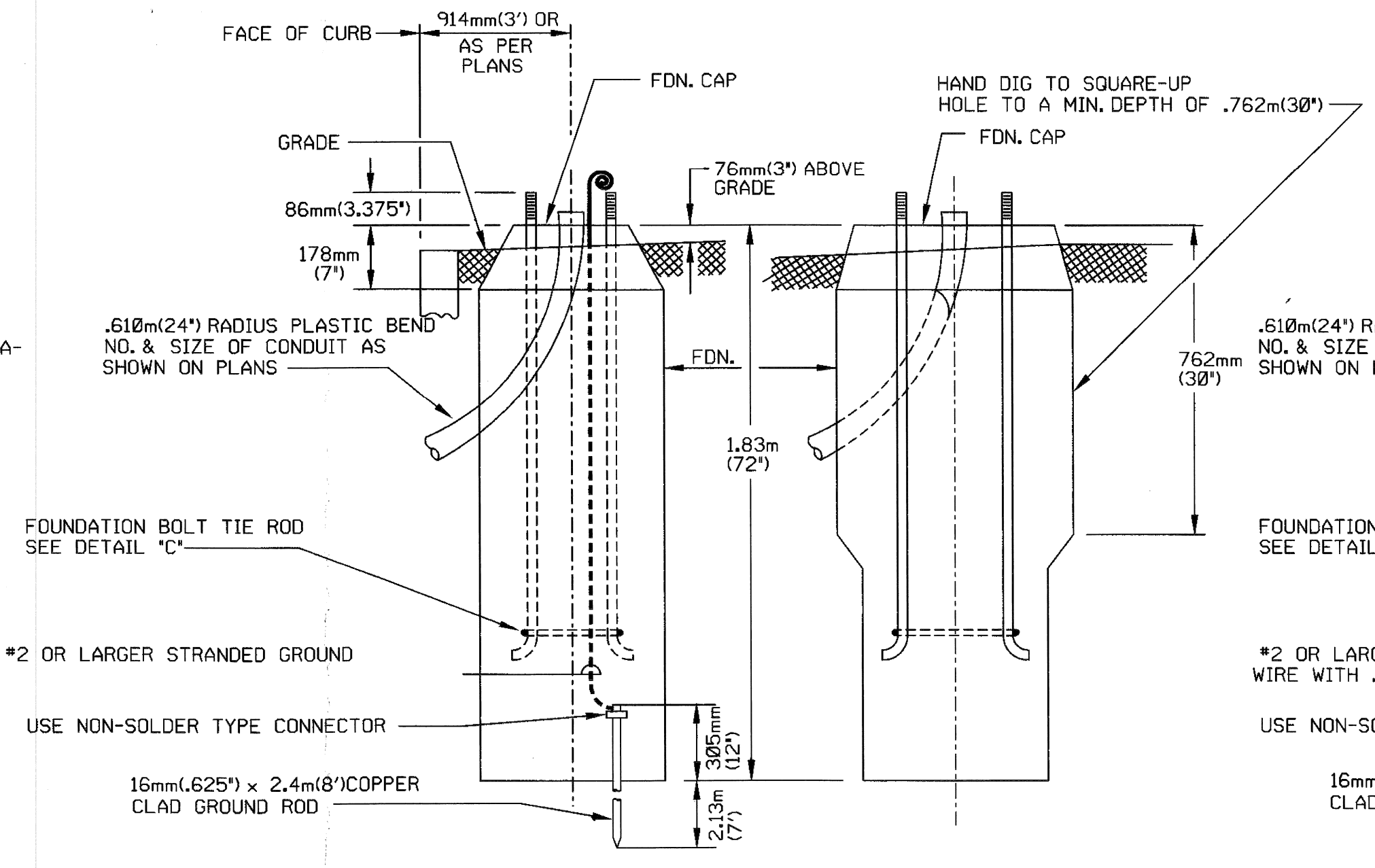
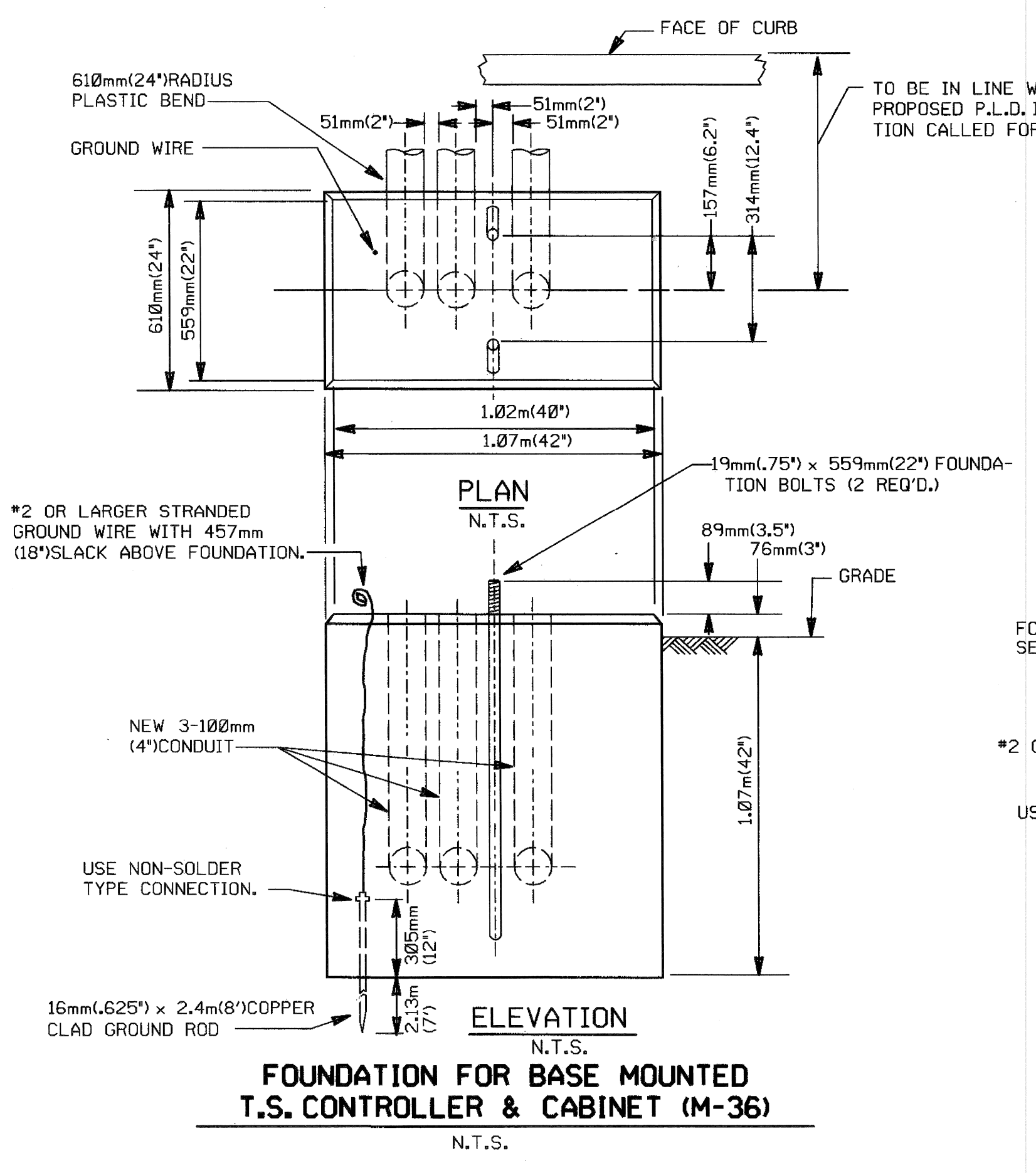


**SECTION D-D**

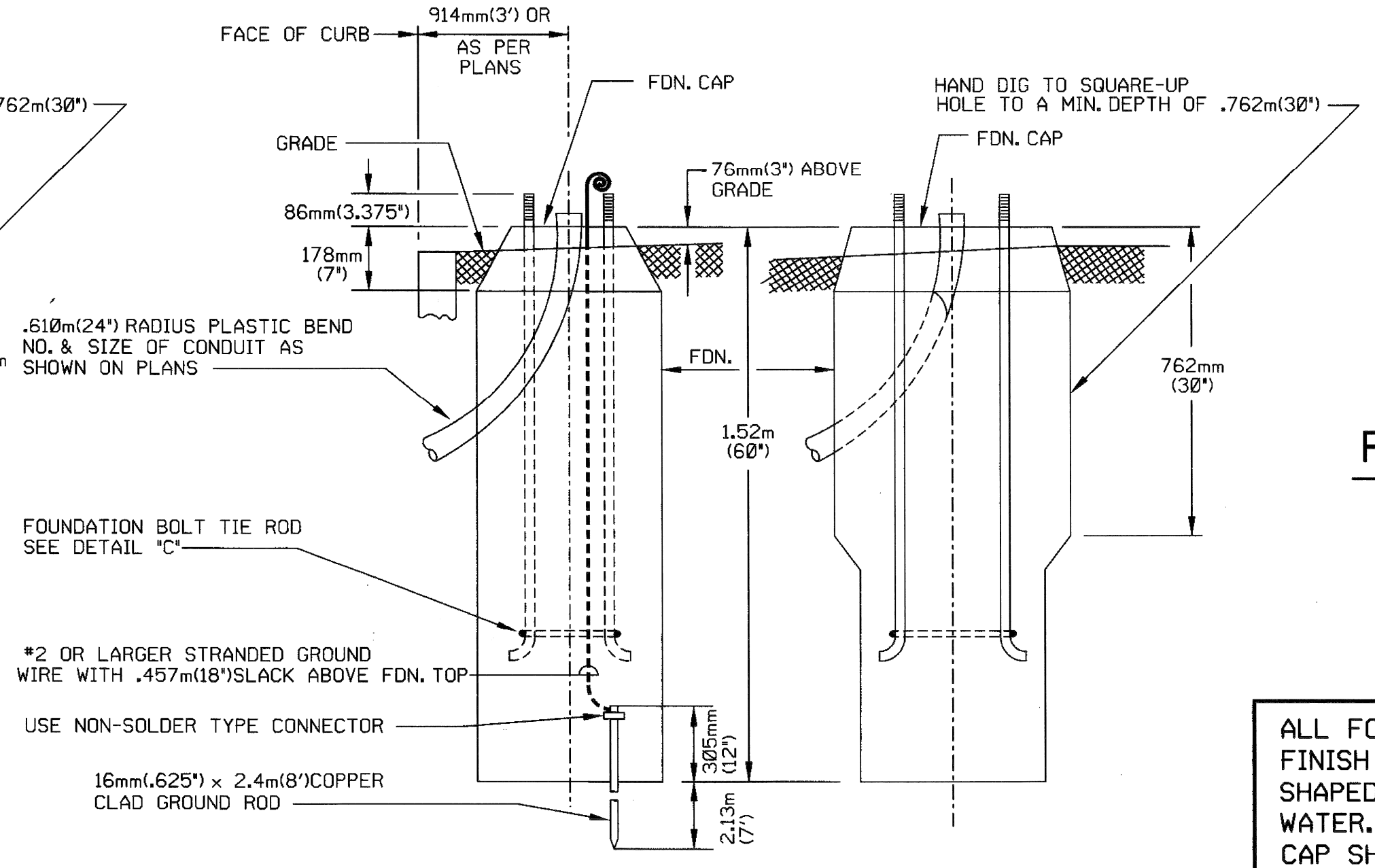


**FDN. BOLT TIE ROD**

ALL FOUNDATION CAPS SHALL HAVE A SMOOTH FINISH WITH BEVELED EDGES & SHALL BE SHAPED TO ALLOW COMPLETE DRAINAGE OF WATER. ANCHOR BOLT PROJECTIONS ABOVE CAP SHALL BE CLEANED OF ALL CONCRETE & FULLY USABLE THEIR FULL LENGTH.



**SECTION B-B**



**SECTION B-B**

**ANCHOR BASE STD. FOUNDATION**  
CODE 118-06,119-06,117-10-10

**ANCHOR BASE STD. FOUNDATION**  
CODE 009-00,010-06,116-02

SHEET No. U-6

Job No. 46555 A.

109

BELLE ISLE, INSELRUHE BRIDGE  
FOUNDATIONS

Designed by CEA		Scale No Scale	<b>PUBLIC LIGHTING DEPARTMENT</b> CITY OF DETROIT	File No. 27-1009
Drawn by		Checked by		Sheet No. 5 of 5
Checked by	Drwg. No. OF -- CEA	File No.	Approved by	Date 6-16-98

REVISIONS	Date	Description	Chkd. by