

1-21-11 LETTING ITEM 042

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

PROPOSED  
HIGHWAY PLANS

F.A.I. ROUTE 74 (I 74)  
SECTION (92-9BR)I-1

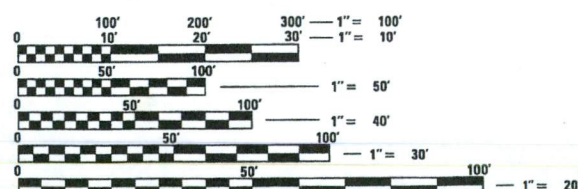
BRIDGE DECK REPAIRS  
OVER STONY CREEK NE OF FITHIAN  
VERMILION COUNTY

C-95-063-98

CURRENT  
TRAFFIC DATA

2010 ADT = 23,900  
2030 ADT = 32,800  
PU + PC % = 73.1  
SU % = 3.1  
MU% = 23.8

DESIGN DESIGNATION  
INTERSTATE



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD  
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT  
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS  
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

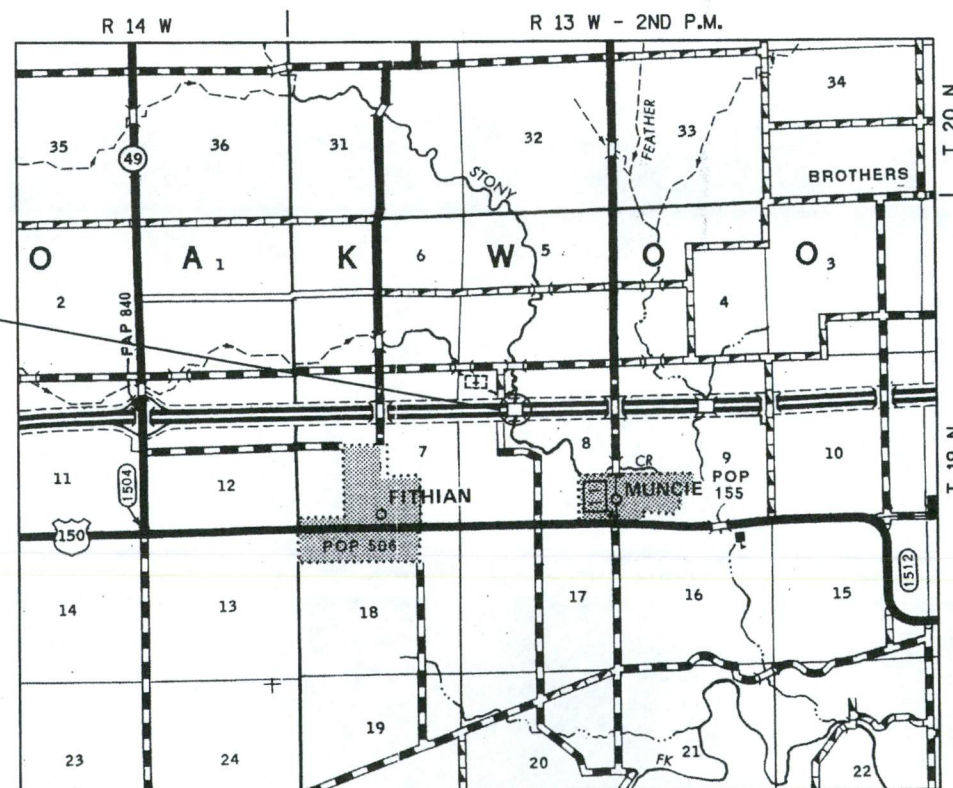
J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811 OAKWOOD TOWNSHIP

PROJECT ENGINEER: TIM BRANDENBURG  
PROJECT MANAGER: GARY SIMS  
217-465-4181

CONTRACT NO. 90963

092-0001 (EB) 0002 (WB)

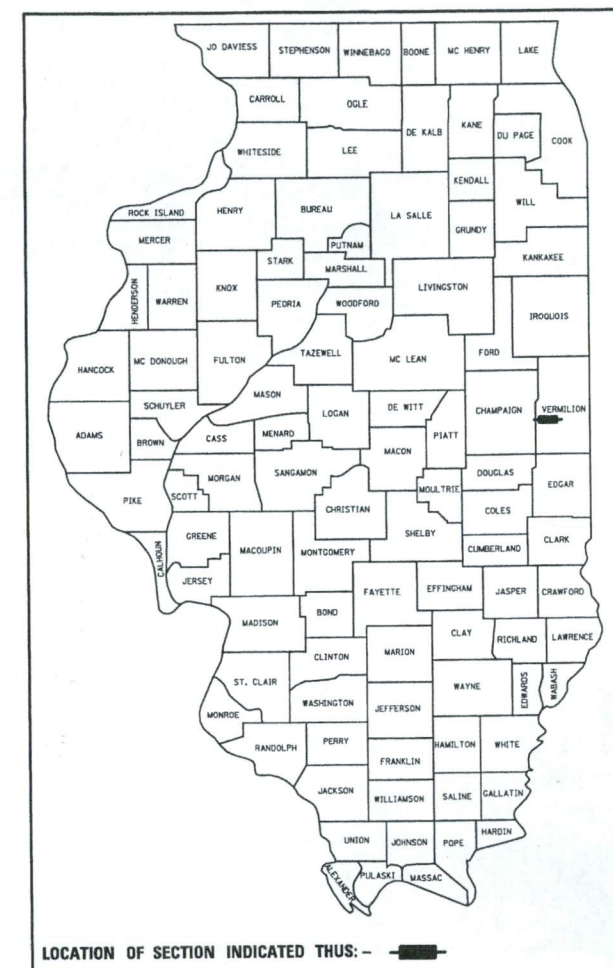
GROSS LENGTH = N.A.  
NET LENGTH = N.A.



EXISTING STRUCTURES  
092-0001 (EB) & 092-0002 (WB)  
F.A.I. 74 OVER STONY CREEK  
STATION 1286+17  
PROPOSED STRUCTURE REPAIRS

| F.A.I. RTE. | SECTION     | COUNTY    | TOTAL SHEETS       | SHEET NO. |
|-------------|-------------|-----------|--------------------|-----------|
| 74          | (92-9BR)I-1 | VERMILION | 15                 | 1         |
|             |             | ILLINOIS  | CONTRACT NO. 90963 |           |

D-95-056-98



LOCATION OF SECTION INDICATED THUS: —

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
SUBMITTED Oct 21 2010  
Deputy Director of Highways, Region Engineer  
Dec 10 2010  
Scott E. Stitt P.E./A  
Acting Engineer of Design and Environment  
Dec 10 2010  
Christine M. Reed  
Director of Highways, Chief Engineer

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OF THE STATE OF ILLINOIS



# GENERAL PLAN & ELEVATION S.N. 092-0001 & 092-0002

THE EXISTING STRUCTURES WERE BUILT IN 1959 BY THE STATE OF ILLINOIS AS F.A.I. ROUTE 5, SECTION 92-9B AT STATION 1286+17.00 IN VERMILION COUNTY. THE STRUCTURES CARRY I-74 OVER STONY CREEK NORTHEAST OF FITHIAN.

THE STRUCTURES WERE IMPROVED IN 1977 WITH F.A.I. ROUTE 74 SECTION DISTRICT 5 BRIDGE DECK WATERPROOFING 1977-2. IMPROVEMENTS WITH THAT SECTION INCLUDED DECK PATCHING, EXPANSION DEVICE RECONSTRUCTION, DRAIN REPAIRS AND INSTALLATION OF A WATERPROOFING MEMBRANE SYSTEM AND H.M.A. OVERLAY. THE STRUCTURE WAS AGAIN IMPROVED IN 1988 WITH F.A.I. 74 SECTION (92-9B). IMPROVEMENTS WITH THAT SECTION INCLUDED FULL AND PARTIAL DEPTH DECK PATCHING, PARAPET RECONFIGURATION, JOINT REPAIR AND REPLACEMENT OF THE WATERPROOFING MEMBRANE SYSTEM AND H.M.A. WEARING SURFACE. THE WEARING SURFACE WAS MODIFIED IN 2001 WITH FAI-74 SECTION (10-8,92-8,9)RS-1 & (92-10)RS-2. WITH THAT SECTION, THE WEARING SURFACE RECEIVED 1" OF MILLING FOLLOWED BY AN ADDITIONAL 1 3/4" OF H.M.A. OVERLAY.

THE SUPERSTRUCTURE CONSISTS OF A 7" R.C. DECK WITH A WATERPROOFING MEMBRANE SYSTEM AND A NOMINAL 2 3/4" H.M.A. WEARING SURFACE SUPPORTED BY SEVEN 40" P.P.C. I-BEAMS. THE SUPERSTRUCTURE IS SUPPORTED BY TWO SOLID SHAFT HAMMERHEAD PIERS ON SPREAD FOOTINGS AND TWO PILE BENT SPILL-THRU ABUTMENTS. THE STRUCTURE MEASURES 154'-7 7/8" FROM BACK TO BACK OF ABUTMENTS. THE DECK HAS A CLEAR WIDTH OF 34'-0" FROM FACE TO FACE OF PARAPET AND AN OUT-TO-OUT WIDTH OF 37'-2".

METHOD OF CONSTRUCTION: STAGE CONSTRUCTION

SEE PROPOSED IMPROVEMENTS ON THIS SHEET.

## PROPOSED WORK

1. REMOVE EXISTING WATERPROOFING MEMBRANE SYSTEM AND H.M.A. WEARING SURFACE ON DECK.
2. VARIABLE-DEPTH MILLING FROM 2" TO 2 3/4" OVER APPROACH PAVEMENTS AND APPROACH ROADWAY.
3. PERFORM FULL AND PARTIAL-DEPTH DECK PATCHING AS DETERMINED BY THE ENGINEER.
4. PLACE PROPOSED WATERPROOFING MEMBRANE SYSTEM AND 1 1/2" H.M.A. WEARING SURFACE OVER DECKS AND 2" H.M.A. OVERLAY OVER APPROACH PAVEMENTS AND APPROACH ROADWAY.
5. REMOVE EXISTING PREFORMED JOINT SEALER AT EXPANSION JOINTS AND REPLACE WITH SILICONE JOINT SEALER.

## TOTAL BILL OF MATERIALS

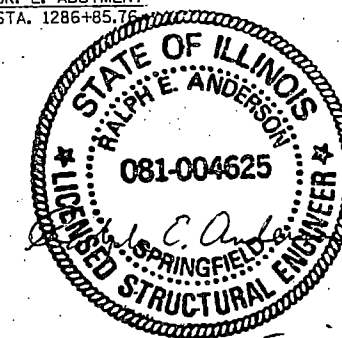
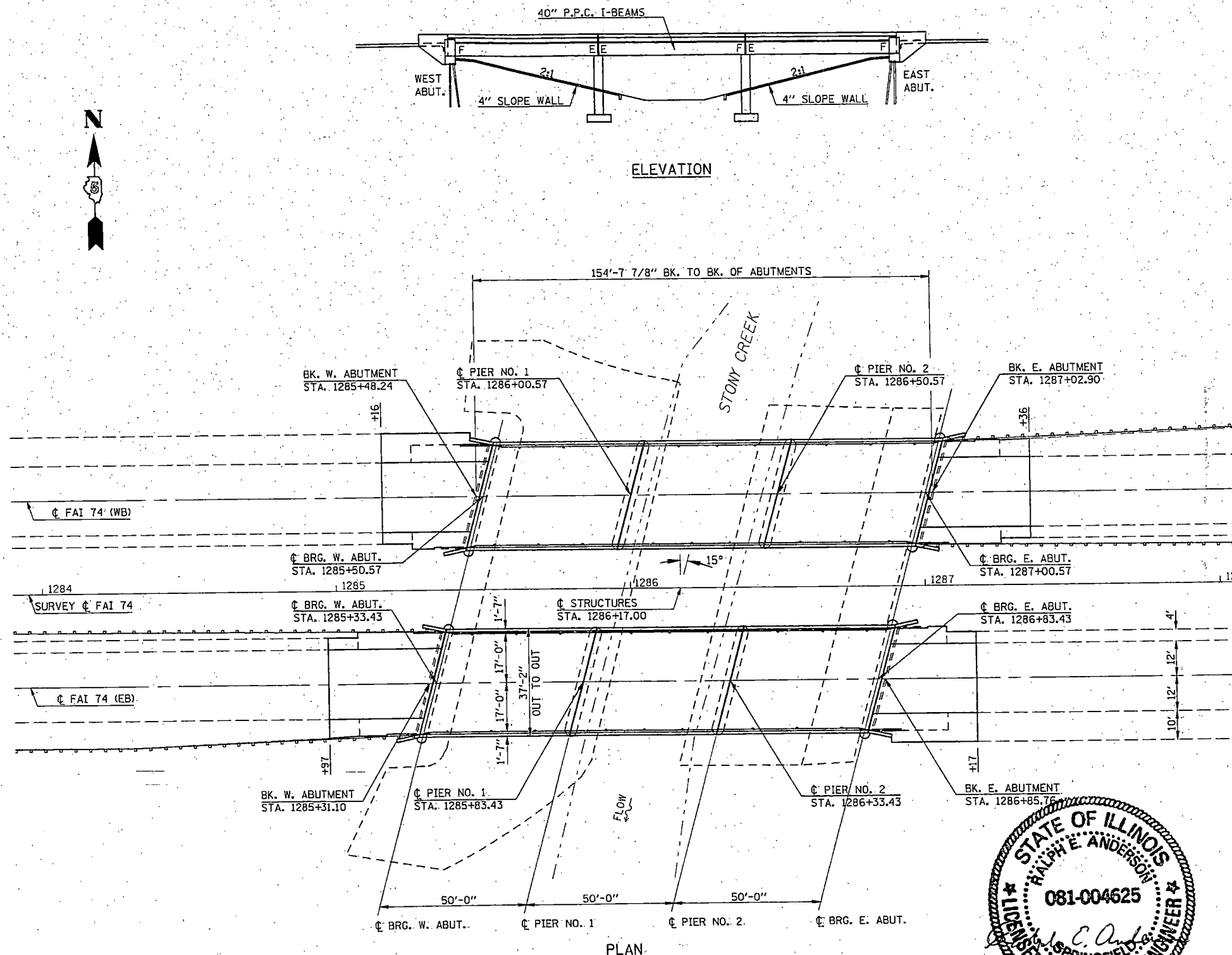
| ITEM                                         | UNIT  | TOTAL  |
|----------------------------------------------|-------|--------|
| H.M.A. SURFACE REMOVAL (DECK)                | SQ YD | 1167.0 |
| H.M.A. SURFACE REMOVAL, VARIABLE DEPTH       | SQ YD | 542.0  |
| POLYMERIZED BITUMINOUS MAT'L (PRIME COAT)    | GAL.  | 55.0   |
| WATERPROOFING MEMBRANE SYSTEM                | SQ YD | 1185.0 |
| POLYMERIZED H.M.A. SURFACE CSE. MIX D, N-105 | TON   | 138.0  |
| HOT-MIX ASPHALT SHOULDERS, 2"                | SQ YD | 192.0  |
| DECK SLAB REPAIR (PARTIAL)                   | SQ YD | 173.0  |
| DECK SLAB REPAIR (FULL-DEPTH, TYPE I)        | SQ YD | 15.0   |
| DECK SLAB REPAIR (FULL-DEPTH, TYPE II)       | SQ YD | 30.0   |
| SILICONE JOINT SEALER, 1.5"                  | FOOT  | 149.0  |

## GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

SEE SPECIAL PROVISION "DECK SLAB REPAIR" FOR ADDITIONAL REQUIREMENTS PERTAINING TO DECK SLAB REPAIR AND H.M.A. SURFACE REMOVAL (DECK).

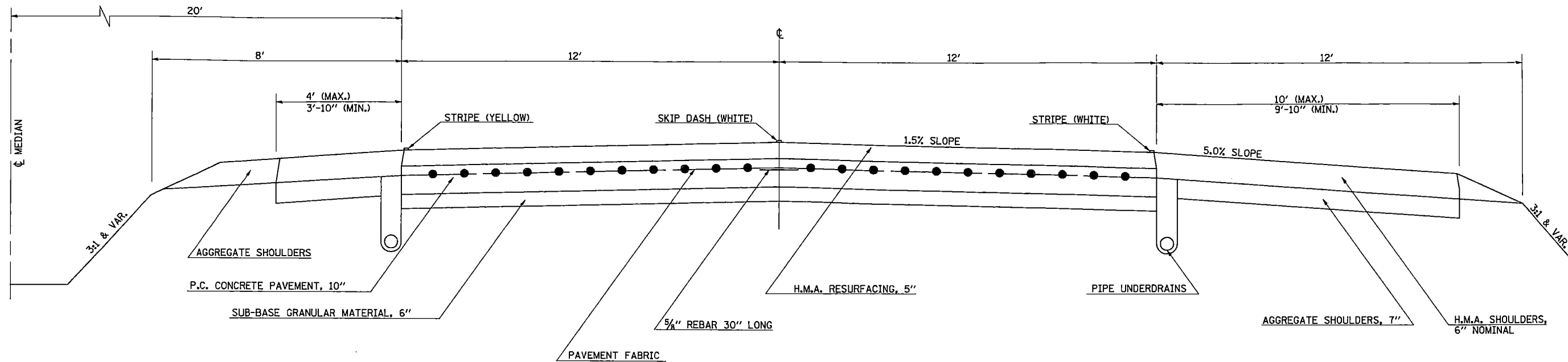
THE EXISTING STRUCTURES HAVE BEEN FOUND TO CONTAIN NO ASBESTOS.



|                                           |                            |                |           |                                                   |                                                                 |                         |                       |                     |                     |                           |
|-------------------------------------------|----------------------------|----------------|-----------|---------------------------------------------------|-----------------------------------------------------------------|-------------------------|-----------------------|---------------------|---------------------|---------------------------|
| FILE NAME =                               | USER NAME = simgm          | DESIGNED - GMS | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | GENERAL PLAN & ELEVATION:<br>S.N. 092-0001 (EB) & 092-0002 (WB) | F.A.I.<br>RTE. 74       | SECTION<br>(92-9B)1-1 | COUNTY<br>VERMILION | TOTAL SHEETS<br>15  | SHEET NO.<br>4            |
| ci:\pw\work\p\dot\atimgm\12187665\1251093 | 3 Bridge Repairs.dgn       | DRAWN - GMS    | REVISED - |                                                   | SCALE: 1" = 40'-0"                                              | SHEET NO. - OF - SHEETS | STA.                  | TO STA.             | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |
|                                           | PLOT SCALE = 1/8" = 40'-0" | CHECKED -      | REVISED - |                                                   |                                                                 |                         |                       |                     | CONTRACT NO. 90963  |                           |
|                                           | PLOT DATE = 10/18/2010     | DATE -         | REVISED - |                                                   |                                                                 |                         |                       |                     |                     |                           |

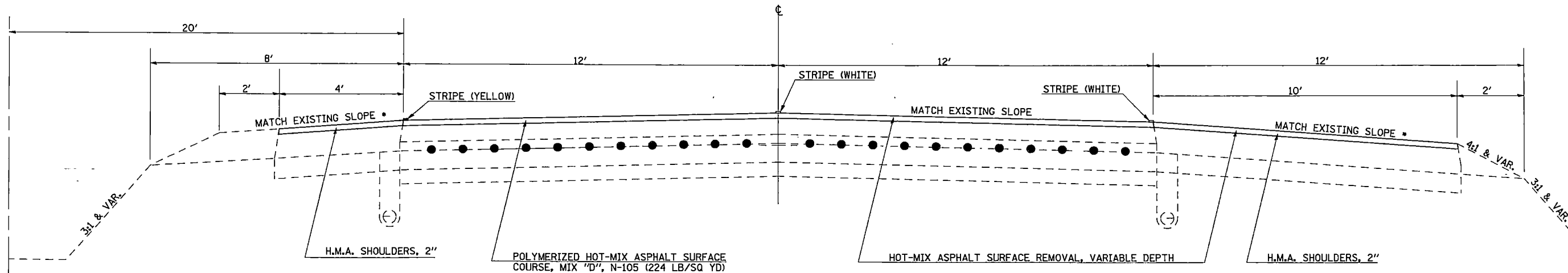
# EXISTING TYPICAL ROADWAY CROSS SECTION

EASTBOUND LOOKING EAST, WESTBOUND LOOKING WEST



# PROPOSED TYPICAL ROADWAY CROSS SECTION

EASTBOUND LOOKING EAST, WESTBOUND LOOKING WEST

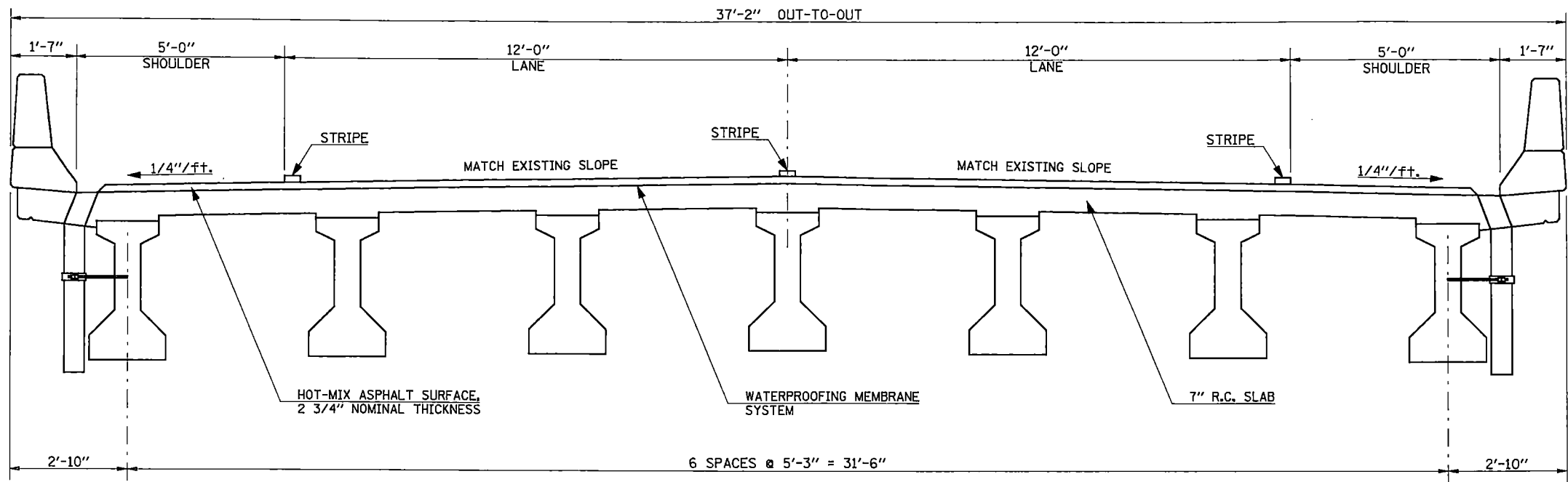


•• ALLOWABLE MINIMUM SHOULDER SLOPE = 4.0%  
ALLOWABLE MAXIMUM SHOULDER SLOPE = 6.0%

|                                                           |             |            |           |                                                   |                                                                      |                         |                     |                           |           |                 |              |
|-----------------------------------------------------------|-------------|------------|-----------|---------------------------------------------------|----------------------------------------------------------------------|-------------------------|---------------------|---------------------------|-----------|-----------------|--------------|
| FILE NAME =                                               | USER NAME = | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | TYPICAL ROADWAY CROSS SECTIONS<br>S.N. 092-0001 (EB) & 092-0002 (WB) |                         | F.A.I.<br>RTE.      | SECTION                   | COUNTY    | TOTAL<br>SHEETS | SHEET<br>NO. |
| ct\pw\work\pwsdot\smgm\0187665\0598963 Bridge Repairs.dgn |             | DRAWN -    | REVISED - |                                                   |                                                                      |                         | 74                  | (92-9BR)-1                | VERMILION | 15              | 5            |
| PLOT SCALE = 40.0001' / IN.                               |             | CHECKED -  | REVISED - |                                                   |                                                                      |                         | CONTRACT NO. 90963  |                           |           |                 |              |
| PLOT DATE = 10/18/2010                                    |             | DATE -     | REVISED - |                                                   |                                                                      |                         | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |           |                 |              |
|                                                           |             |            |           | SCALE:                                            |                                                                      | SHEET NO. - OF - SHEETS | STA.                | TO STA.                   |           |                 |              |

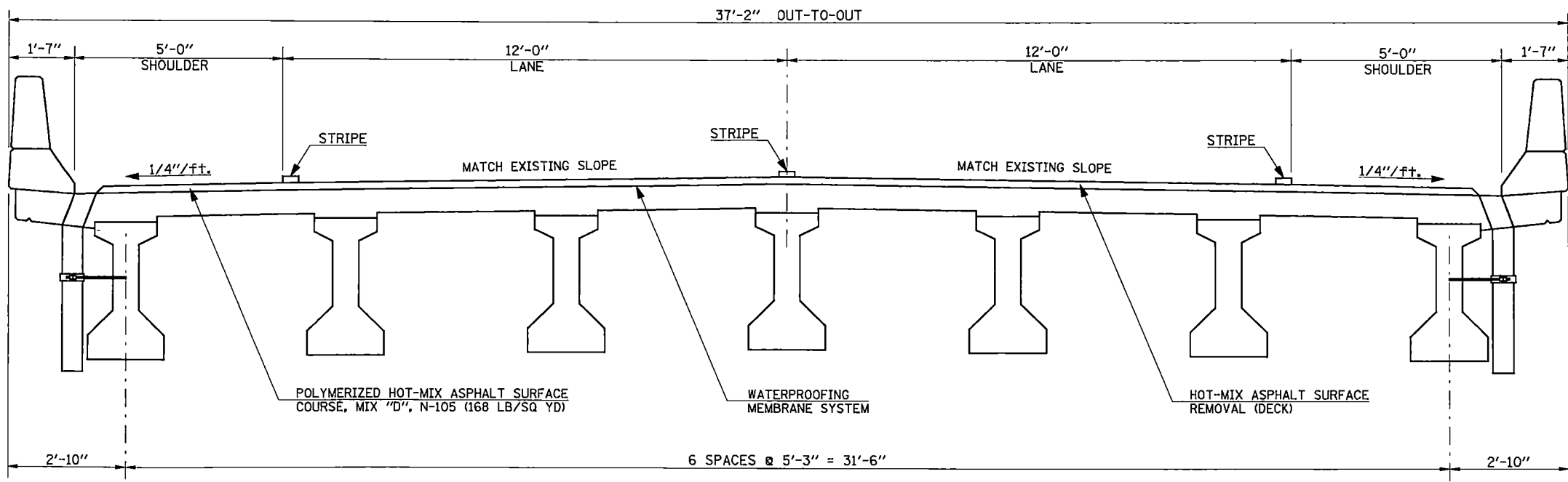
EXISTING DECK CROSS SECTION

EASTBOUND LOOKING EAST, WESTBOUND LOOKING WEST



PROPOSED DECK CROSS SECTION

EASTBOUND LOOKING EAST, WESTBOUND LOOKING WEST



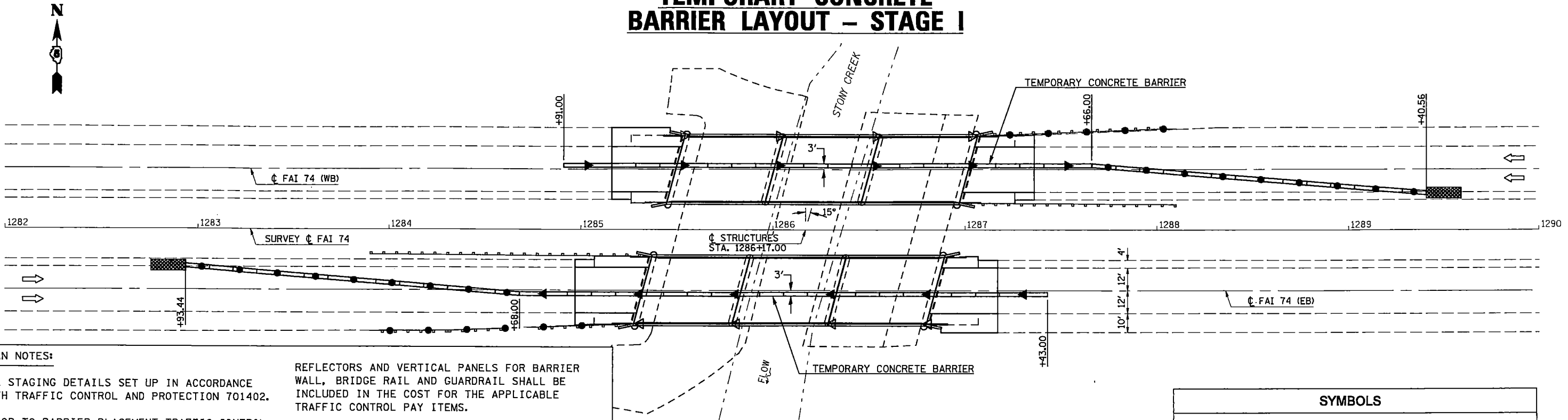
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| FILE NAME =                              | USER NAME = smagn     | DESIGNED - GMS | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | DECK CROSS SECTIONS<br>S.N. 092-0001 (EB) & 092-0002 (WB) |                         |      | F.A.I.<br>RTE.     | SECTION             | COUNTY                    | TOTAL<br>SHEETS | SHEET<br>NO. |
| ct\pw\work\pw\dot\smagn\ld0187665\ld5909 | 63 Bridge Repairs.dgn | DRAWN - GMS    | REVISED - |                                                   |                                                           |                         |      | 74                 | (92-9BRJ)-1         | VERMILION                 | 15              | 6            |
| PLOT SCALE = 40.0001' / IN.              |                       | CHECKED -      | REVISED - |                                                   |                                                           |                         |      | CONTRACT NO. 90963 |                     |                           |                 |              |
| PLOT DATE = 10/18/2018                   |                       | DATE -         | REVISED - |                                                   | SCALE:                                                    | SHEET NO. - OF - SHEETS | STA. | TO STA.            | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |                 |              |



**EASTBOUND LOOKING EAST, WESTBOUND LOOKING WEST**



TEMPORARY CONCRETE  
BARRIER LAYOUT - STAGE I



PLAN NOTES:

ALL STAGING DETAILS SET UP IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION 701402.

PRIOR TO BARRIER PLACEMENT TRAFFIC CONTROL SHALL BE SET UP IN ACCORDANCE WITH STANDARD 701406.

TRAFFIC CONTROL DETAILS NOT SHOWN ARE TO CONFORM WITH STANDARD 701400 AND 701402.

MESSAGE BOARD SHALL BE PLACED TWO WEEKS PRIOR TO CONSTRUCTION AND MAY BE ADJUSTED TO MEET FIELD CONDITIONS.

RESIDENT ENGINEER AND TRAFFIC CONTROL SUPERVISOR SHALL PROVIDE APPROPRIATE MESSAGE FOR CMS.

REFLECTORS AND VERTICAL PANELS FOR BARRIER WALL, BRIDGE RAIL AND GUARDRAIL SHALL BE INCLUDED IN THE COST FOR THE APPLICABLE TRAFFIC CONTROL PAY ITEMS.

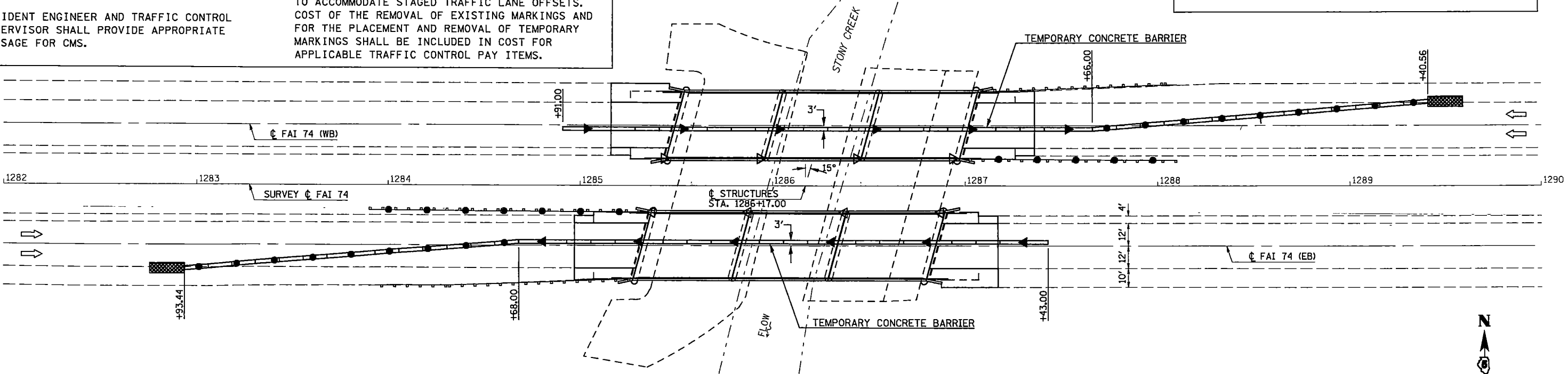
ATTACH VERTICAL PANELS TO THE GUARDRAIL AT 20 FOOT CENTERS AS SHOWN ON THIS SHEET. THIS COST WILL BE INCIDENTAL TO STANDARD 701402.

REFLECTORIZED TEMPORARY MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND ALONG-SIDE THE WORK AREA. THE EDGE LINE SHALL BE YELLOW FOR LEFT LANE CLOSURES. ALSO, THE EXISTING PAVEMENT MARKINGS SHALL BE REMOVED TO ACCOMMODATE STAGED TRAFFIC LANE OFFSETS. COST OF THE REMOVAL OF EXISTING MARKINGS AND FOR THE PLACEMENT AND REMOVAL OF TEMPORARY MARKINGS SHALL BE INCLUDED IN COST FOR APPLICABLE TRAFFIC CONTROL PAY ITEMS.

SYMBOLS

- AMBER MONODIRECTIONAL REFLECTOR 50' CTS
- CRYSTAL MONODIRECTIONAL REFLECTOR 50' CTS
- TEMPORARY CONCRETE BARRIER
- VERTICAL PANELS WITH STEADY BURNING LIGHTS ALONG TAPER 20' CTS
- IMPACT ATTENUATOR

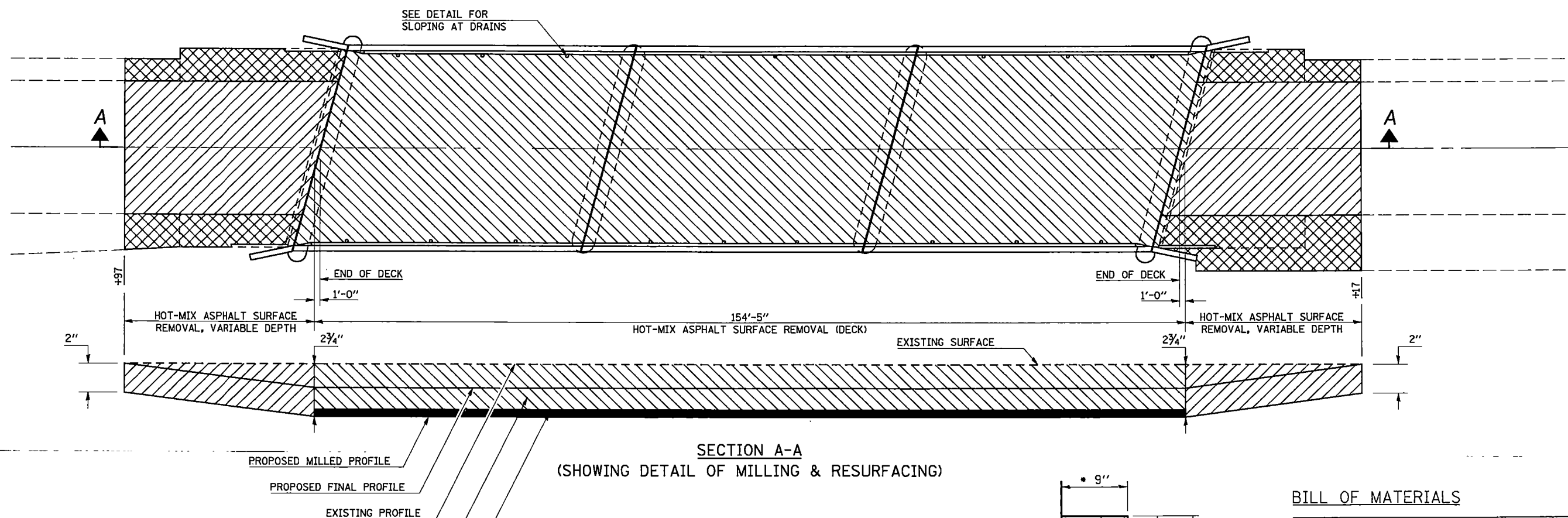
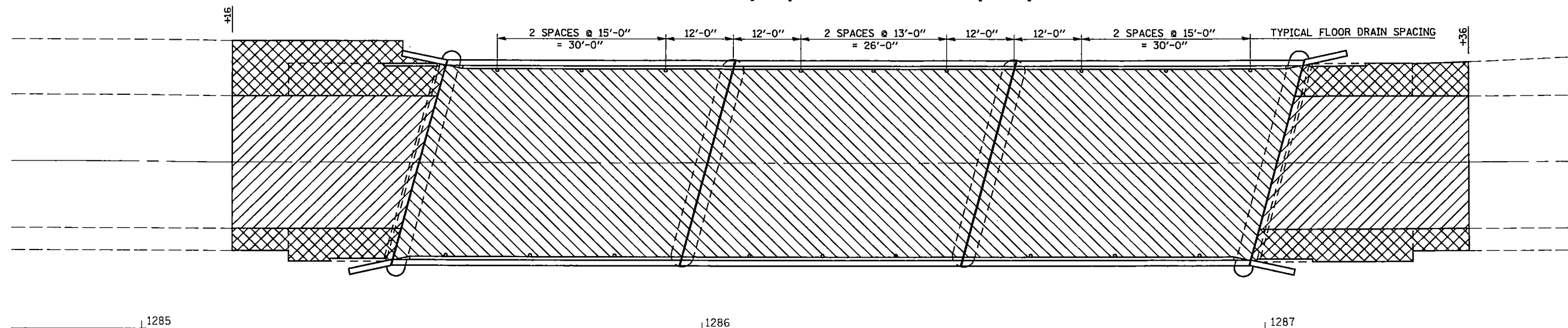
TEMPORARY CONCRETE  
BARRIER LAYOUT - STAGE II



|                                                          |                   |                        |           |                                                   |  |                                                                         |  |                      |                         |                                               |                       |                   |
|----------------------------------------------------------|-------------------|------------------------|-----------|---------------------------------------------------|--|-------------------------------------------------------------------------|--|----------------------|-------------------------|-----------------------------------------------|-----------------------|-------------------|
| FILE NAME =                                              | USER NAME = smagn | DESIGNED - GMS         | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION |  | TEMPORARY CONCRETE BARRIER LAYOUT<br>S.N. 092-0001 (EB) & 092-0002 (WB) |  | F.A.I.<br>RTE.<br>74 | SECTION<br>(92-9BR01-1) | COUNTY<br>VERMILION                           | TOTAL<br>SHEETS<br>15 | SHEET<br>NO.<br>8 |
| c:\pwork\pwork\smagn\d0187665\d592963 Bridge Repairs.dgn |                   | DRAWN - GMS            | REVISED - |                                                   |  |                                                                         |  |                      |                         |                                               |                       |                   |
|                                                          |                   | CHECKED -              | REVISED - |                                                   |  |                                                                         |  |                      |                         |                                               |                       |                   |
|                                                          |                   | DATE -                 | REVISED - |                                                   |  |                                                                         |  |                      |                         |                                               |                       |                   |
| PLOT SCALE = 40.000' / 1" / IN.                          |                   | PLOT DATE = 10/18/2010 |           | SCALE:                                            |  | SHEET NO. - OF - SHEETS                                                 |  | STA. TO STA.         |                         | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |                       |                   |

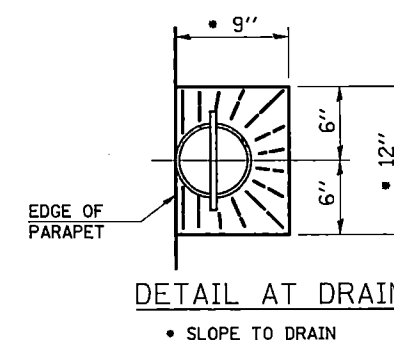


# WEARING SURFACE DETAILS S.N. 092-0001 (EB) & 092-0002 (WB)



## LEGEND

- H.M.A. SURFACE REMOVAL (DECK) & PROPOSED POLYMERIZED H.M.A. SURFACE CSE., MIX D, N 105 (168 LB/SQ YD) & WATERPROOFING MEMBRANE SYSTEM
- H.M.A. SURFACE REMOVAL, VARIABLE DEPTH & PROPOSED POLYMERIZED H.M.A. SURFACE CSE., MIX D, N 105 (224 LB/SQ YD)
- H.M.A. SURFACE REMOVAL, VARIABLE DEPTH & PROPOSED H.M.A. SHOULDERS, 2"
- PROPOSED WATERPROOFING MEMBRANE SYSTEM
- PROPOSED POLYMERIZED H.M.A. SURFACE CSE., MIX D, N 105 (168 LB/SQ YD)

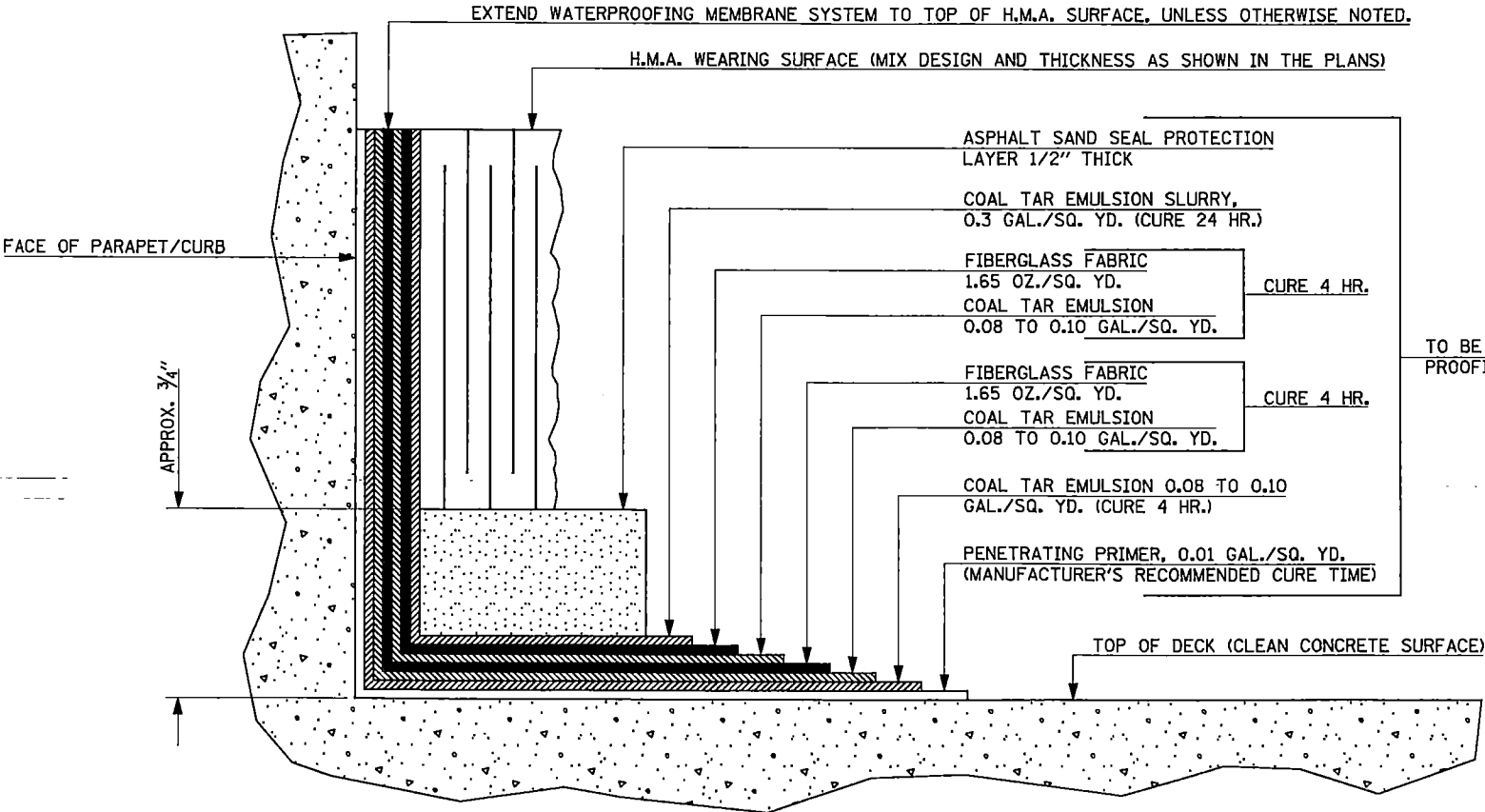
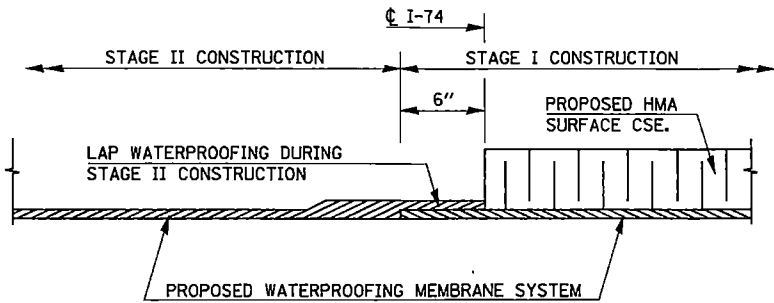
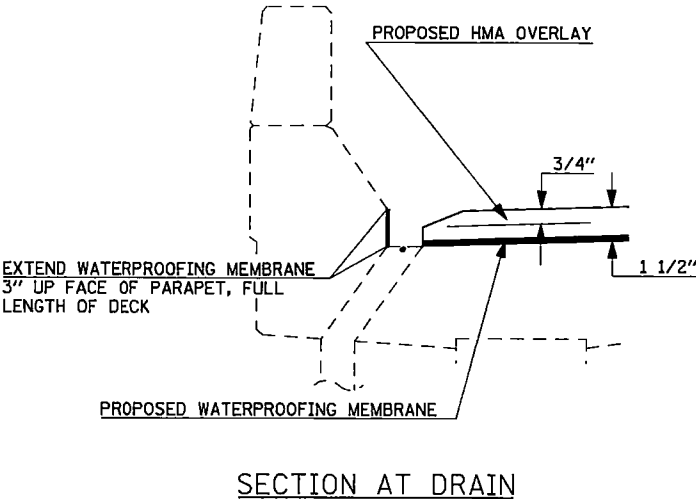


## BILL OF MATERIALS

| ITEM                                                       | UNIT  | TOTAL  |
|------------------------------------------------------------|-------|--------|
| H.M.A. SURFACE REMOVAL (DECK)                              | SQ YD | 1167.0 |
| H.M.A. SURFACE REMOVAL, VARIABLE DEPTH                     | SQ YD | 542.0  |
| WATERPROOFING MEMBRANE SYSTEM                              | SQ YD | 1185.0 |
| POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT)              | GAL   | 55.0   |
| POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N 105 | TON   | 138.0  |
| HOT-MIX ASPHALT SHOULDERS, 2"                              | SQ YD | 192.0  |



**WATERPROOFING MEMBRANE SYSTEM DETAILS**  
**S.N. 092-0001 (EB) & 092-0002 (WB)**

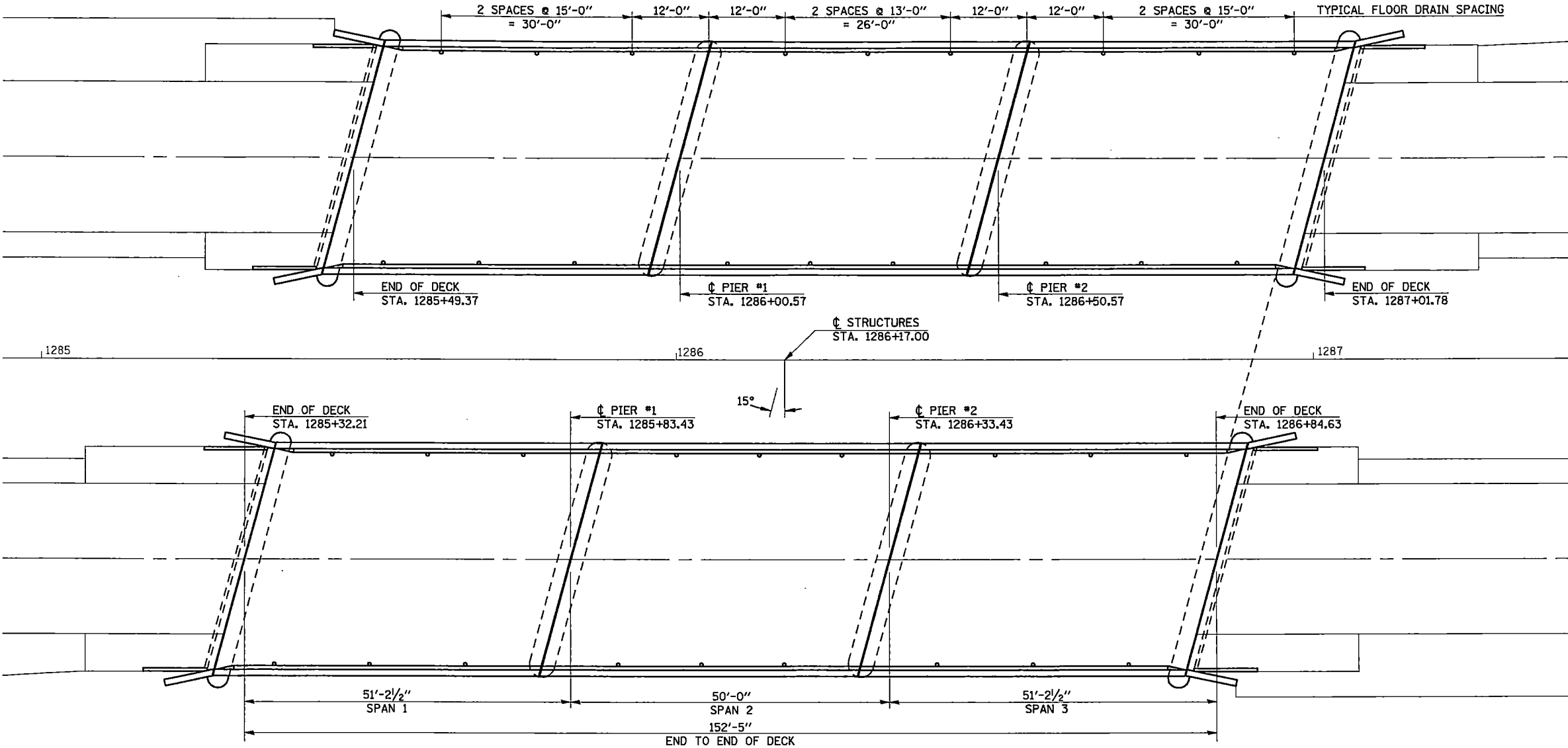


**NOTES**

THIS DETAIL HAS BEEN INCLUDED TO ILLUSTRATE THE ASSOCIATED LAYERS AND CURE TIMES NECESSARY FOR THE PLACEMENT OF THE WATERPROOFING MEMBRANE SYSTEM. THIS DETAIL SHALL SUPPLEMENT, NOT SUPERSEDE, SECTION 581 OF THE STANDARD SPECIFICATIONS.

|                                                           |                                             |                |           |                                                   |                                                                             |                                               |            |           |                 |              |
|-----------------------------------------------------------|---------------------------------------------|----------------|-----------|---------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------|------------|-----------|-----------------|--------------|
| FILE NAME =<br><br>c:\p\work\p\w\dot\sumgm\d0187665\d5929 | USER NAME = sumgm                           | DESIGNED - GMS | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | WATERPROOFING MEMBRANE SYSTEM DETAILS<br>S.N. 092-0001 (EB) & 092-0002 (WB) | F.A.I.<br>RTE.                                | SECTION    | COUNTY    | TOTAL<br>SHEETS | SHEET<br>NO. |
|                                                           | 3 Bridge Repairs.dgn                        | DRAWN - GMS    | REVISED - |                                                   |                                                                             | 74                                            | (92-9BR)-1 | VERMILION | 15              | 10           |
|                                                           | PLOT SCALE = 1/8" = 1' IN.                  | CHECKED -      | REVISED - |                                                   |                                                                             | CONTRACT NO. 90963                            |            |           |                 |              |
|                                                           | PLOT DATE = 10/18/2018                      | DATE -         | REVISED - |                                                   |                                                                             | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |            |           |                 |              |
|                                                           | SCALE: SHEET NO. - OF - SHEETS STA. TO STA. |                |           |                                                   |                                                                             |                                               |            |           |                 |              |

AS-BUILT PATCHING PLAN  
S.N. 092-0001 (EB) & 092-0002 (WB)



NOTES

AREA OF DECK SLAB REPAIR HAS BEEN ESTIMATED. THE ACTUAL QUANTITY AND LOCATIONS SHALL BE DETERMINED BY THE ENGINEER AFTER THE EXISTING H.M.A. WEARING SURFACE AND WATERPROOFING MEMBRANE ARE REMOVED. THE ENGINEER SHALL SHOW THE ACTUAL LOCATIONS OF THE DECK REPAIRS ON THIS SHEET.

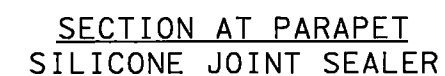
CARE SHALL BE TAKEN TO PREVENT DAMAGE TO THE EXISTING FLOOR DRAINS. IF THE EXISTING DRAINS ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND INSTALLING AN APPROVED REPLACEMENT AT NO ADDITIONAL COST TO THE DEPARTMENT.

BILL OF MATERIALS

| ITEM                                   | UNIT  | TOTAL |
|----------------------------------------|-------|-------|
| DECK SLAB REPAIR (PARTIAL)             | SQ YD | 173.0 |
| DECK SLAB REPAIR (FULL-DEPTH, TYPE I)  | SQ YD | 15.0  |
| DECK SLAB REPAIR (FULL-DEPTH, TYPE II) | SQ YD | 30.0  |

|                                                              |             |                             |           |                                                   |                                                              |                         |      |         |                |             |                     |                 |                  |
|--------------------------------------------------------------|-------------|-----------------------------|-----------|---------------------------------------------------|--------------------------------------------------------------|-------------------------|------|---------|----------------|-------------|---------------------|-----------------|------------------|
| FILE NAME =                                                  | USER NAME = | DESIGNED -                  | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | AS-BUILT PATCHING PLAN<br>S.N. 092-0001 (EB) & 092-0002 (WB) |                         |      |         | F.A.T.<br>RTE. | SECTION     | COUNTY              | TOTAL<br>SHEETS | SHEET<br>NO.     |
| c:\pw\work\pw\dot\sumagm\d2187665\d592963 Bridge Repairs.dgn |             | DRAWN -                     | REVISED - |                                                   | SCALE:                                                       | SHEET NO. - OF - SHEETS | STA. | TO STA. | 74             | (92-9BRI-1) | VERMILION           | 15              | 11               |
|                                                              |             | PLOT SCALE = 48.0001' / IN. | CHECKED - |                                                   |                                                              |                         |      |         |                |             | CONTRACT NO. 90963  |                 |                  |
|                                                              |             | PLOT DATE = 10/10/2010      | DATE -    |                                                   |                                                              |                         |      |         |                |             | FED. ROAD DIST. NO. | ILLINOIS        | FED. AID PROJECT |

## ( EXPANSION JOINTS OVER PIERS)



THE EXISTING PREFORMED JOINT SEALS SHALL BE REMOVED AND THE STEEL JOINT ARMOR SHALL BE CLEANED PRIOR TO THE INSTALLATION OF THE PROPOSED SILICONE JOINT SEALER. COST INCLUDED WITH SILICONE JOINT SEALER, 1.5"

| ITEM                        | UNIT | TOTAL |
|-----------------------------|------|-------|
| SILICONE JOINT SEALER, 1.5" | FOOT | 149.  |
|                             |      |       |
|                             |      |       |

|                                                         |                  |                |           |                                                               |                                                        |                         |           |         |                     |                           |        |              |           |
|---------------------------------------------------------|------------------|----------------|-----------|---------------------------------------------------------------|--------------------------------------------------------|-------------------------|-----------|---------|---------------------|---------------------------|--------|--------------|-----------|
| FILE NAME =                                             | USER NAME = smgm | DESIGNED - GMS | REVISED - | <div>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</div> | JOINT REPAIR DETAILS<br>S.N. 0001 (EB) & 092-0002 (WB) |                         |           |         | F.A.I. RTE.         | SECTION                   | COUNTY | TOTAL SHEETS | SHEET NO. |
| c:\pwork\pwork\smgm\d2107665\d592963 Bridge Repairs.dgn |                  | DRAWN - GMS    | REVISED - |                                                               | 74                                                     | (92-9BR)-1              | VERMILION | 15      | 12                  |                           |        |              |           |
| PLOT SCALE = 40.0001' / IN.                             |                  | CHECKED -      | REVISED - |                                                               | CONTRACT NO. 90963                                     |                         |           |         |                     |                           |        |              |           |
| PLOT DATE = 10/18/2010                                  |                  | DATE -         | REVISED - |                                                               | SCALE:                                                 | SHEET NO. - OF - SHEETS | STA.      | TO STA. | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |        |              |           |



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PLANS FOR PROPOSED  
FEDERAL AID INTERSTATE HIGHWAY

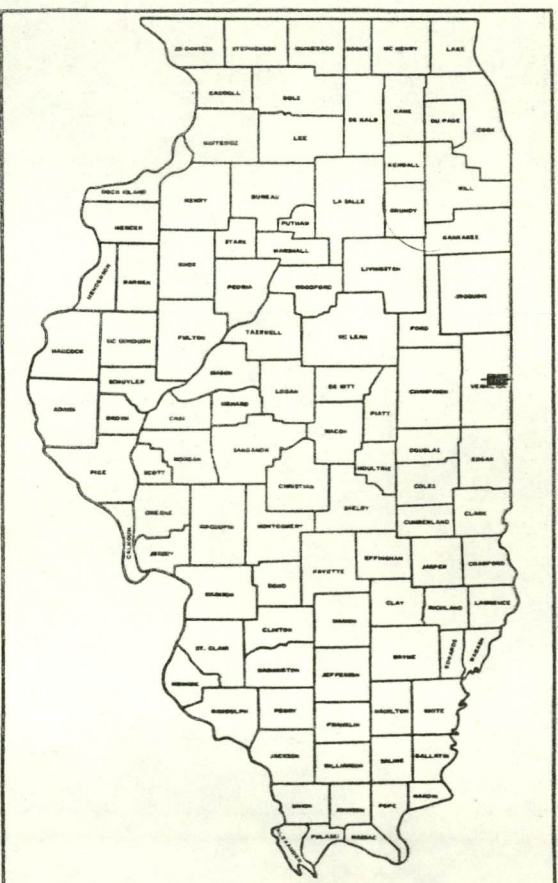
FOR INDEX OF SHEETS, SEE SHEET NO. 5  
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 7

PLAN 1" = 20'  
PROFILE HOR.  
PROFILE VERT.  
CROSS-SECTIONS

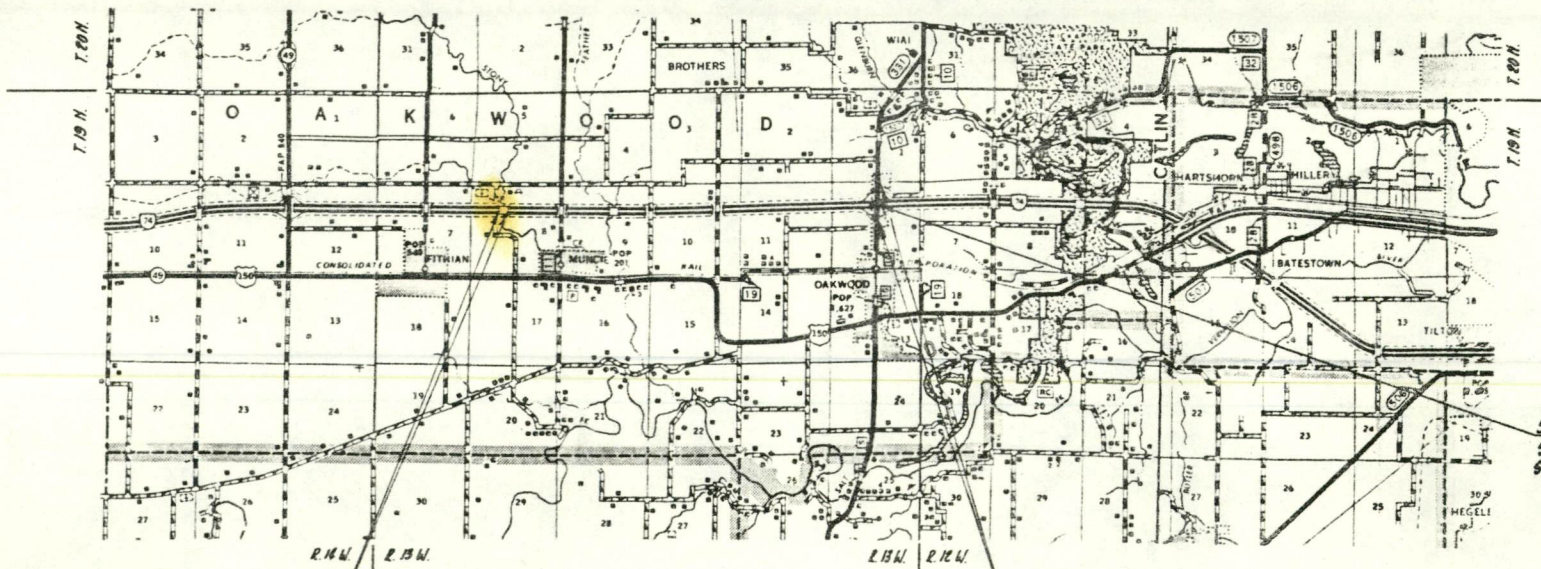
F.A.I. ROUTE 74  
SECTION (92-9B)I & (92-10HB)I  
VERMILION COUNTY  
PROJECT ACIR-74-6(121)202

BRIDGE WIDENING  
C-95-018-88

| # (92-9B)I & (92-10HB)I |         |           |                 |
|-------------------------|---------|-----------|-----------------|
| F.A.I. DIST.            | SECTION | COUNTY    | TOTAL SHEET NO. |
| 74                      | #       | VERMILION | 42              |
| P-95-046-87             |         |           |                 |



LOCATION OF SECTION INDICATED THUS: —



STATION EQUATION  
STATION 50+00 (F.A.I. 330) =  
STATION 1507+06 (F.A.I. 74)

SECTION (92-9B)I & PROJECT  
BEGINS @ STATION 1285 + 39.68  
SECTION (92-9B)I & PROJECT  
ENDS @ STATION 1286 + 34.33

SECTION (92-10HB)I  
BEGINS @ STATION 46 + 9.17 - F.A.I. 331 (C.H. 10)  
SECTION (92-10HB)I  
ENDS @ STATION 52 + 89.9 - F.A.I. 331 (C.H. 10)

TOTAL LENGTH OF SECTION (92-9B)I = 154.65 FEET - 0.029 MILES  
NET LENGTH OF SECTION (92-9B)I = 154.65 FEET - 0.029 MILES  
TOTAL LENGTH OF SECTION (92-10HB)I = 531.6 FEET - 0.112 MILES  
NET LENGTH OF SECTION (92-10HB)I = 531.6 FEET - 0.112 MILES  
TOTAL LENGTH OF PROJECT = 154.65 FEET - 0.029 MILES  
NET LENGTH OF PROJECT = 154.65 FEET - 0.029 MILES

TOLL FREE J.U.L.I.E. TELEPHONE NO.  
1-800-892-0123  
OAKWOOD TOWNSHIP

DESIGN DESIGNATION

092-0001(EB) & 0002(WB)  
CONTRACT NO. 42966

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED October 8, 1987

EXAMINED 10-30-87 DISTRICT ENGINEER

PASSED 10/30/87 ENGINEER OF PLANS AND CONTRACTS

APPROVED 10/30/87 ENGINEER OF DESIGN

DIRECTOR DIVISION OF HIGHWAYS

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

5-141







## SECTION (92-9B)I

| ROUTE NO. | SECTION  | COUNTY    | TOTAL SHEETS | SHEET NO. |
|-----------|----------|-----------|--------------|-----------|
| 17        | (92-9B)I | VERMILION | 42           | 8         |

TRAFFIC BARRIER TERMINAL REMOVAL, DOUBLE RAIL:

| STATION    | TO | STATION    | EACH   |
|------------|----|------------|--------|
| RT 1284+04 |    | RT 1284+29 | 1      |
| LT 1288+05 |    | LT 1288+30 | 1      |
|            |    | TOTAL:     | 2 EACH |

TRAFFIC BARRIER TERMINAL REMOVAL, TYPE 8:

| STATION        | TO | STATION        | EACH   |
|----------------|----|----------------|--------|
| MED RT 1285+29 |    | MED RT 1285+54 | 1      |
| RT 1285+28     |    | RT 1285+49     | 1      |
| MED LT 1286+80 |    | MED LT 1287+05 | 1      |
| LT 1286+85     |    | LT 1287+10     | 1      |
|                |    | TOTAL:         | 4 EACH |

BITUMINOUS SHOULDER REMOVAL:

| STATION           | TO | STATION        | SQ. YDS.       |
|-------------------|----|----------------|----------------|
| MED RT 1285+07    |    | MED RT 1285+27 | 13.0           |
| RT 1285+07        |    | RT 1285+35.23  | 18.0           |
| MED LT 1285+25    |    | MED LT 1285+45 | 13.0           |
| LT 1285+25        |    | LT 1285+52.57  | 18.0           |
| MED RT 1286+87    |    | MED RT 1287+07 | 13.0           |
| RT 1286+79.3      |    | RT 1287+07     | 18.0           |
| MED LT 1286+97.73 |    | MED LT 1287+26 | 13.0           |
| LT 1287+06        |    | LT 1287+26     | 18.0           |
|                   |    | TOTAL:         | 124.0 SQ. YDS. |

SECTION (92-9B)I & PROJECT 12-74-6(121)202  
BEGINS STATION 1285+39.68

PIPE CULVERT, TYPE 2, R.C.C.P., 18" x 8"  
U.S.F.L. 85' LT & MEDIUM - ELEV. 646.00  
D.S.F.L. - MATCH EXISTING PIPE CULVERT

PIPE CULVERT, TYPE 1, R.C.C.P., 15" x 11.8"  
U.S.F.L. STA 1285+82 - ELEV. 647.00  
D.S.F.L. STA 1285+00 - ELEV. 646.00

INLET BOX SPECIAL  
WITH 15" I.D. CULVERT PIPE  
& MEDIUM STATION 1285+80  
FLOWLINE 15" = 647.00  
FOR DETAILS SEE SHEET NO.

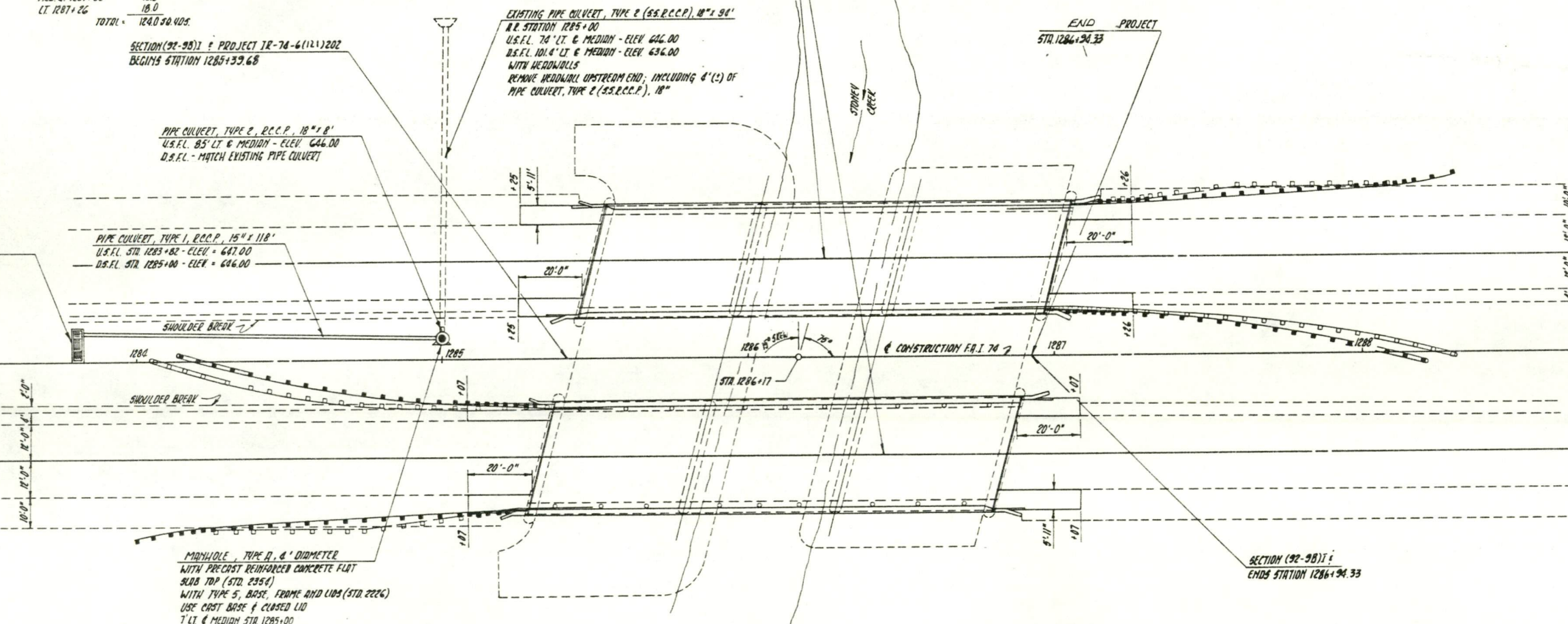
MANHOLE, TYPE A, 4' DIAMETER  
WITH PRECAST REINFORCED CONCRETE FLAT  
SLAB TOP (STD. 2354)  
WITH TYPE 5, BASE, FRAME AND LIDS (STD. 2226)  
USE CAST BASE & CLOSED LID  
7' LT & MEDIUM STA 1285+00

EXISTING PIPE CULVERT, TYPE 2 (S.S.R.C.C.P.), 18" x 96"  
R.R. STATION 1285+00  
U.S.F.L. 74' LT & MEDIUM - ELEV. 646.00  
D.S.F.L. 101.4' LT & MEDIUM - ELEV. 636.00  
WITH HEADWALLS  
REMOVE HEADWALL UPSTREAM END, INCLUDING 4' (2') OF  
PIPE CULVERT, TYPE 2 (S.S.R.C.C.P.), 18"

EXISTING STRUCTURES  
S.N. 092-0001 (E.B.) & S.N. 092-0002 (W.B.)  
STRUCTURES CONSIST OF THREE SIMPLE SPAN PPC I-BEAM AND  
REINFORCED CONCRETE DECK SUPERSTRUCTURE WITH SOLID SHAFT  
HAMMERHEAD PIER AND PILE BENT SPILL THRU ABUTMENTS.  
OVERALL LENGTH IS 154' 7 7/8" & CLEAR ROADWAY WIDTH IS 30'-0"

BENCH MARK: THE CONTRACTOR SHALL USE THE DOWNSTREAM END OF  
THE EXISTING 18" R.C.C.P. AT R.R. STATION 1285+00.  
101.4' LT & MED. STA. 1285+00; ELEV. 636.00

N  
SCALE 1" = 20'



TRAFFIC BARRIER TERMINAL, TYPE 4:

| STATION          | TO | STATION          | EACH   |
|------------------|----|------------------|--------|
| MED RT 1285+15   |    | MED RT 1285+50.8 | 1      |
| RT 1285+01       |    | RT 1285+40.8     | 1      |
| MED LT 1286+83.2 |    | MED LT 1287+23   | 1      |
| LT 1286+92.2     |    | LT 1287+32       | 1      |
|                  |    | TOTAL:           | 4 EACH |

TRAFFIC BARRIER TERMINAL, TYPE 4:

| STATION        | TO | STATION        | EACH   |
|----------------|----|----------------|--------|
| MED RT 1284+15 |    | MED RT 1284+40 | 1      |
| LT 1287+98     |    | LT 1288+23     | 1      |
|                |    | TOTAL:         | 2 EACH |

TRAFFIC BARRIER TERMINAL, TYPE 1:

| STATION    | TO | STATION    | EACH   |
|------------|----|------------|--------|
| RT 1284+01 |    | RT 1284+26 | 1      |
| LT 1288+07 |    | LT 1288+32 | 1      |
|            |    | TOTAL:     | 2 EACH |

P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT (W/10' CURB):

| STATION           | TO | STATION        | SQ. YDS.       |
|-------------------|----|----------------|----------------|
| MED RT 1285+07    |    | MED RT 1285+27 | 13.0           |
| RT 1285+07        |    | RT 1285+35.23  | 18.0           |
| MED LT 1285+25    |    | MED LT 1285+45 | 13.0           |
| LT 1285+25        |    | LT 1285+52.57  | 18.0           |
| MED RT 1286+87    |    | MED RT 1287+07 | 13.0           |
| RT 1286+79.3      |    | RT 1287+07     | 18.0           |
| MED LT 1286+97.73 |    | MED LT 1287+26 | 13.0           |
| LT 1287+06        |    | LT 1287+26     | 18.0           |
|                   |    | TOTAL:         | 124.0 SQ. YDS. |

PIPE CULVERT, TYPE 1 R.C.C.P. 18":

| STATION                | TO | STATION                     | LIN. FT. |
|------------------------|----|-----------------------------|----------|
| 8.5' LT & MED. 1285+00 |    | (1) 12.5' LT & MED. 1285+00 | 8        |

PIPE CULVERT, TYPE 1 R.C.C.P. 15":

| STATION                  | TO | STATION             | LIN. FT. |
|--------------------------|----|---------------------|----------|
| (2) 10' LT & MED 1285+80 |    | 7' LT & MED 1285+00 | 188      |

MANHOLE, TYPE A, (4' DIA), TYPE 5 BASE, FRAME AND LIDS:  
TOP MANHOLE DEPTH  
7' LT & MED 1285+00 648.45 2.45  
WITH PRECAST REINFORCED CONCRETE FLAT TOP SLAB (STD. 2354)

STEEL PLATE BEAM GUARDRAIL REMOVAL:

| STATION        | TO | STATION        | LIN. FT.     |
|----------------|----|----------------|--------------|
| MED RT 1284+29 |    | MED RT 1285+29 | 100          |
| RT 1284+49     |    | RT 1285+24     | 75           |
| MED LT 1287+05 |    | MED LT 1288+05 | 100          |
| LT 1287+10     |    | LT 1287+83     | 75           |
|                |    | TOTAL:         | 350 LIN. FT. |

TERMINAL SECTION REMOVAL, SINGLE RAIL:

| STATION    | TO | STATION    | EACH   |
|------------|----|------------|--------|
| RT 1284+24 |    | RT 1284+49 | 1      |
| LT 1287+85 |    | LT 1288+10 | 1      |
|            |    | TOTAL:     | 2 EACH |

STEEL PLATE BEAM GUARDRAIL, TYPE A:

| STATION        | TO | STATION        | LIN. FT.       |
|----------------|----|----------------|----------------|
| MED RT 1284+40 |    | MED RT 1285+15 | 75.0           |
| RT 1284+24     |    | RT 1285+01     | 75.0           |
| MED LT 1287+23 |    | LT 1287+98     | 75.0           |
| LT 1287+32     |    | LT 1288+07     | 75.0           |
|                |    | TOTAL:         | 300.0 LIN. FT. |

INLET BOX SPECIAL:

| STATION | EACH |
|---------|------|
| 1285+80 | 1    |

CONCRETE HEADWALL REMOVAL:

| STATION              | EACH |
|----------------------|------|
| 74' LT & MED 1285+00 | 1    |

| DESIGNED BY | NAME   | DATE |
|-------------|--------|------|
| CHECKED BY  | J.D.G. | 9-87 |
| DRAFTED BY  | P.M.H. | 9-87 |

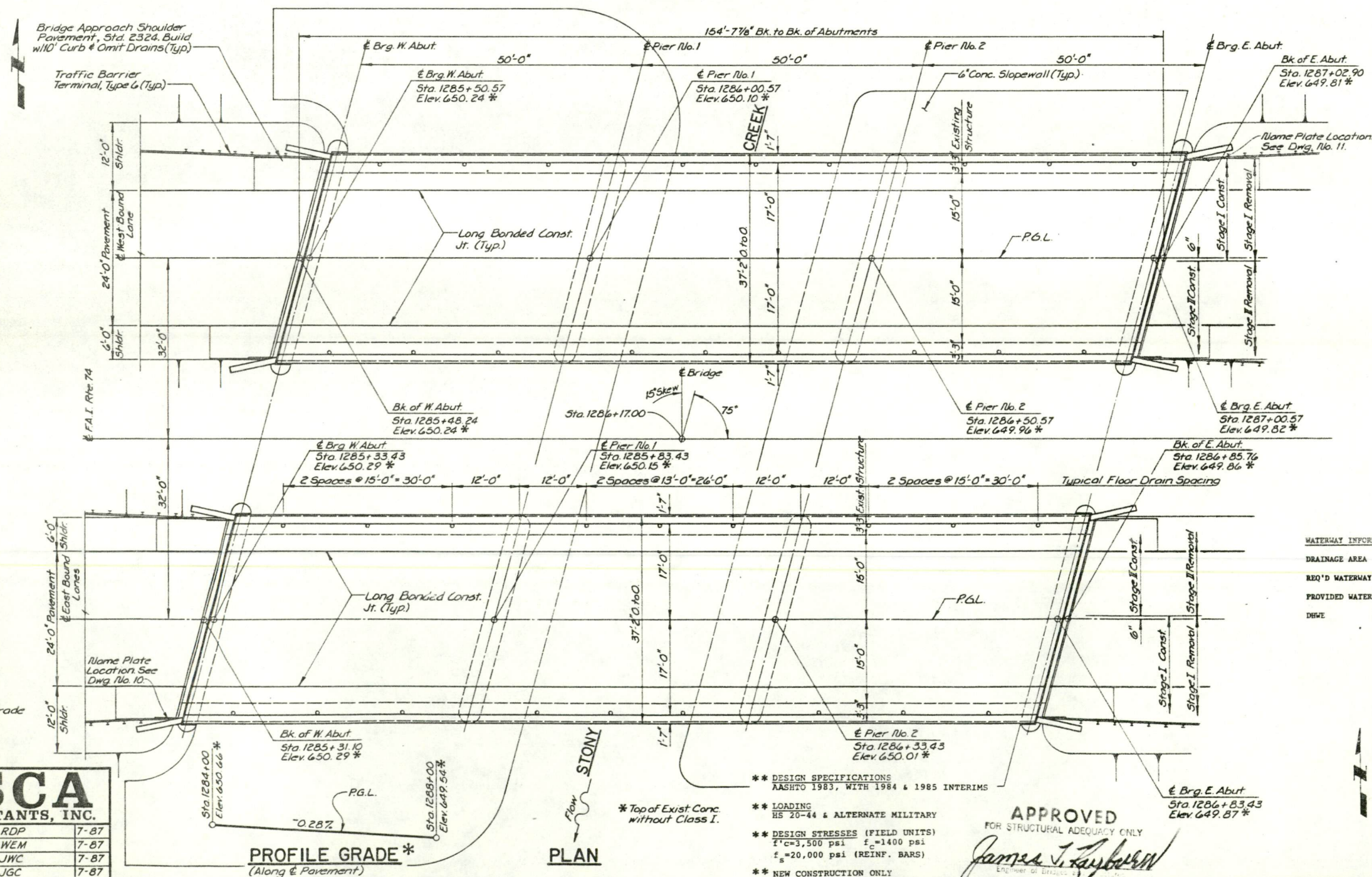
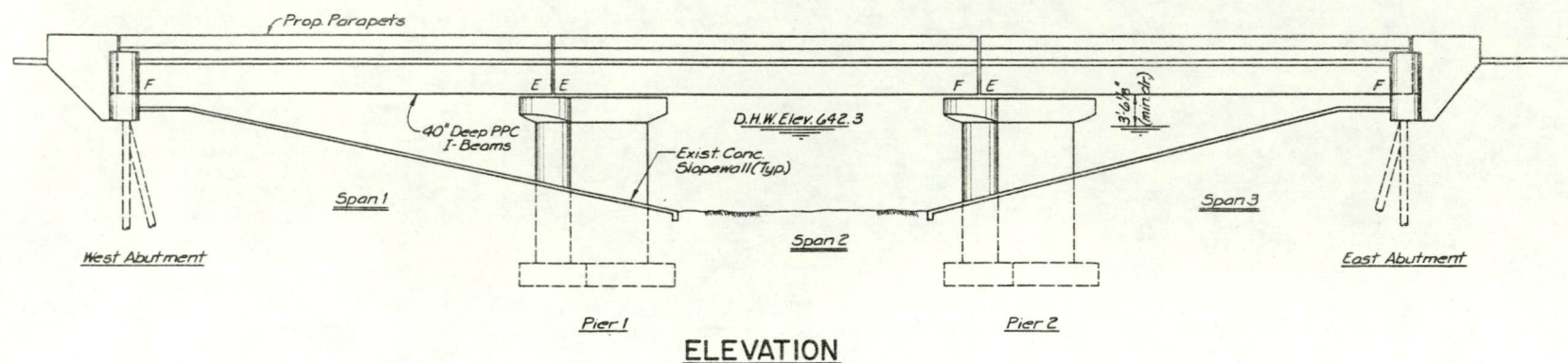


BENCH MARK: NONE  
 EXISTING STRUCTURE:  
 STRUCTURE NO'S. 092-0001 & 092-0002 WERE BUILT IN 1959 AS FAI 5, SECTION 92-9B. REPAIRS PERFORMED IN 1977 INCLUDED DECK PATCHING, EXPANSION DEVICE RECONSTRUCTION, INSTALLATION OF WATERPROOFING MEMBRANE SYSTEM AND BITUMINOUS OVERLAY. EACH STRUCTURE CONSISTS OF A THREE SIMPLE SPAN PPC I-BEAM AND REINFORCED CONCRETE DECK SUPERSTRUCTURE WITH SOLID SHAFT HAMMERHEAD PIERS AND PILE BENT SPILL THRU ABUTMENTS. OVERALL LENGTH IS 154'-7 7/8" AND CLEAR ROADWAY WIDTH IS 30'-0". TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. SALVAGE NAME PLATE ON HANDRAIL AND INCORPORATE INTO NEW CONSTRUCTION.

|                     |         |                  |              |           |
|---------------------|---------|------------------|--------------|-----------|
| ROUTE NO.           | SECTION | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 92-9B               | 92-9B   | VERMILION        | 42           | 19        |
| STA.                | TO STA. | ILLINOIS PROJECT |              |           |
| FED. ROAD DIST. NO. |         |                  |              |           |

## GENERAL NOTES

- ALL NEW STRUCTURAL STEEL SHALL BE SHOP PAINTED WITH TWO COATS OF THE ZINC-SILICATE AND VINYL PAINT SYSTEM.
- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42, OR M-53 GRADE 60.
- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
- EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND 3/4" Ø X 12" HOOKED BOLTS.
- PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH WATERPROOFING MEMBRANE SYSTEM IS APPLIED.

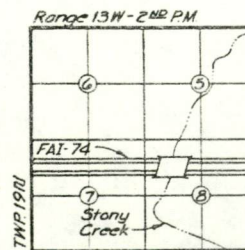


## TOTAL BILL OF MATERIAL

| ITEM                                     | UNIT     | SUPER-STRUCTURE | SUB-STRUCTURE | TOTAL  |
|------------------------------------------|----------|-----------------|---------------|--------|
| Bituminous Conc. Surface Course, Class I | Ton      | 132             | -             | 132    |
| Concrete Removal                         | Cu. Yd.  | 128             | 9             | 137    |
| Expansion Bolts, 3/4\"                   | Each     | -               | 10            | 10     |
| Handrail Removal                         | Lin. Ft. | 675             | -             | 675    |
| Floor Drains                             | Each     | 30              | -             | 30     |
| Preformed Joint Seal, 2 1/2\"            | Lin. Ft. | 153             | -             | 153    |
| Protective Coat                          | Sq. Yd.  | 248             | 13            | 261    |
| Class X Concrete                         | Cu. Yd.  | -               | 6.6           | 6.6    |
| Structural Steel                         | Lbs.     | 9130            | -             | 9130   |
| Reinforcement Bars                       | Lbs.     | 14,740          | 140           | 14,880 |
| Reinforcement Bars (Epoxy Coated)        | Lbs.     | 12,100          | 440           | 12,540 |
| Deck Slab Repair (Full Depth, Type I)    | Sq. Yd.  | 22              | -             | 22     |
| Deck Slab Repair (Partial Depth)         | Sq. Yd.  | 106             | -             | 106    |
| Waterproofing Membrane System            | Sq. Yd.  | 1,152           | -             | 1,152  |
| Bituminous Conc. Surface Removal         | Sq. Yd.  | 881             | -             | 881    |
| Repair Concrete Structures               | Sq. Ft.  | 205             | 152           | 357    |
| Jack & Reposition Bearings               | Each     | -               | 14            | 14     |
| Class X Concrete Superstructure          | Cu. Yd.  | 154.3           | -             | 154.3  |

## WATERWAY INFORMATION

|                             |             |
|-----------------------------|-------------|
| DRAINAGE AREA               | 50 SQ. MI.  |
| REQ'D WATERWAY AREA (50 YR) | 725 SQ. FT. |
| PROVIDED WATERWAY AREA      | 725 SQ. FT. |
| DHWE                        | 642.3       |



**GENERAL PLAN & ELEVATION**  
 FAI 74 OVER STONY CREEK  
 FAI RTE. 74 SECTION (92-9B)I  
 VERMILION COUNTY  
 STATION 1286+17.00  
 STRUCTURE NO. 092-0001 (EB)  
 STRUCTURE NO. 092-0002 (WB)

**LEGEND**  
 F = Fixed Brg.  
 E = Exp. Brg.  
 PGL = Profile Grade Line

**ESCA**  
 CONSULTANTS, INC.  
 DESIGNED BY: RDP 7-87  
 DRAWN BY: WEM 7-87  
 CHECKED BY: JWC 7-87  
 APPROVED BY: JGC 7-87

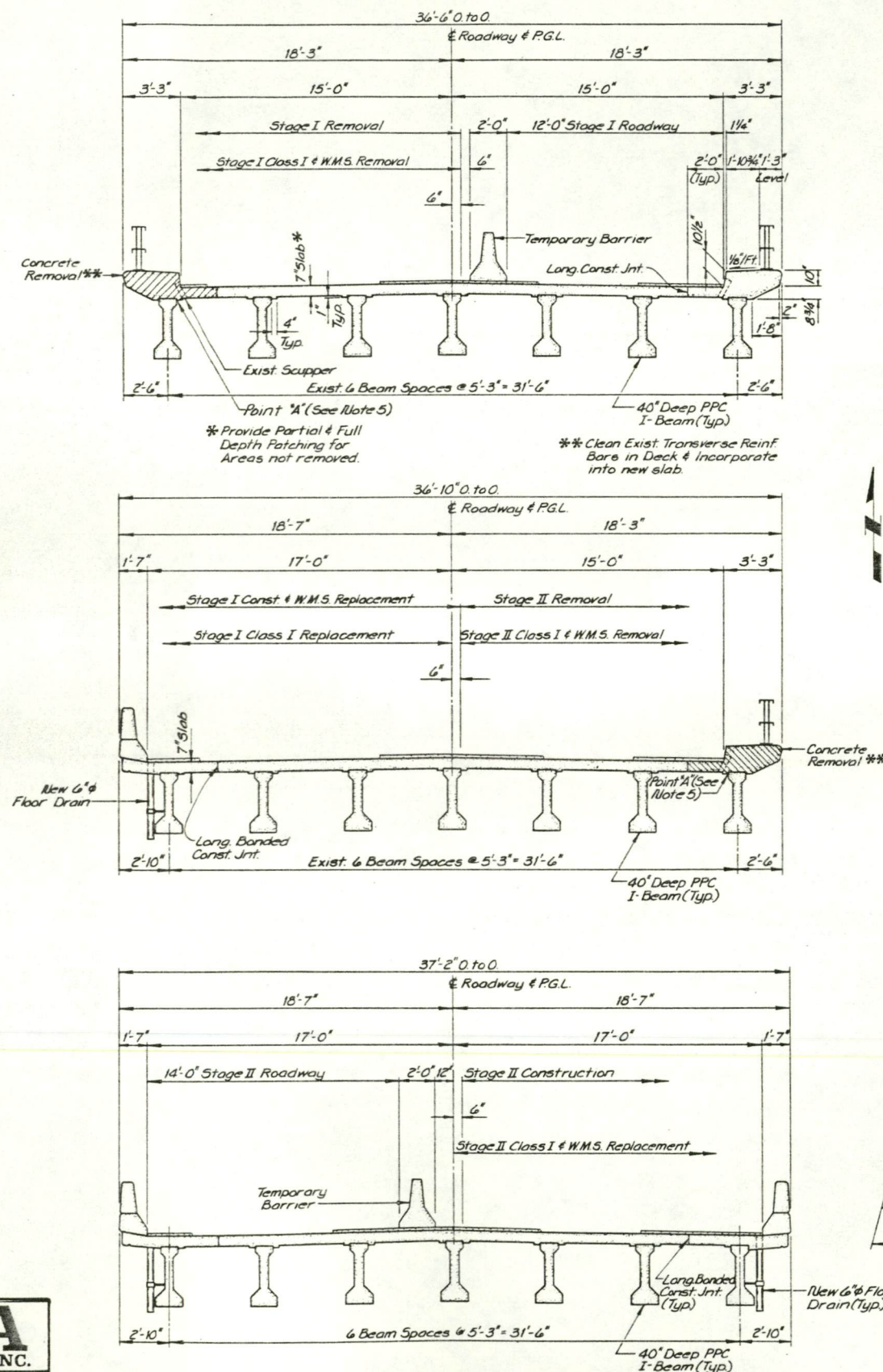
**DESIGN SPECIFICATIONS**  
 AASHTO 1983, WITH 1984 & 1985 INTERIMS  
**LOADING**  
 HS 20-44 & ALTERNATE MILITARY  
**DESIGN STRESSES (FIELD UNITS)**  
 $f'_c = 3,500$  psi  $f_s = 1400$  psi  
 $f_s = 20,000$  psi (REIN. BARS)  
**NEW CONSTRUCTION ONLY**

**APPROVED**  
 FOR STRUCTURAL ADEQUACY ONLY

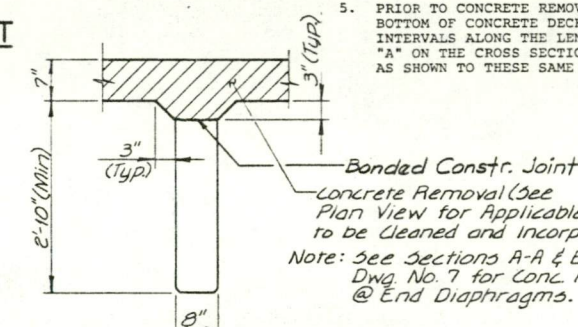
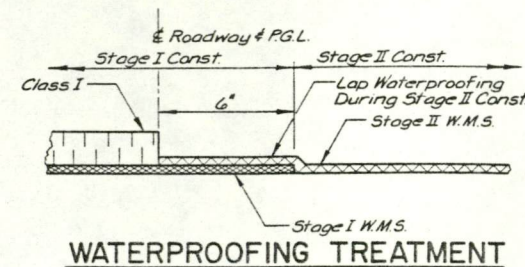
James J. Taylor  
 Engineer of Bridges



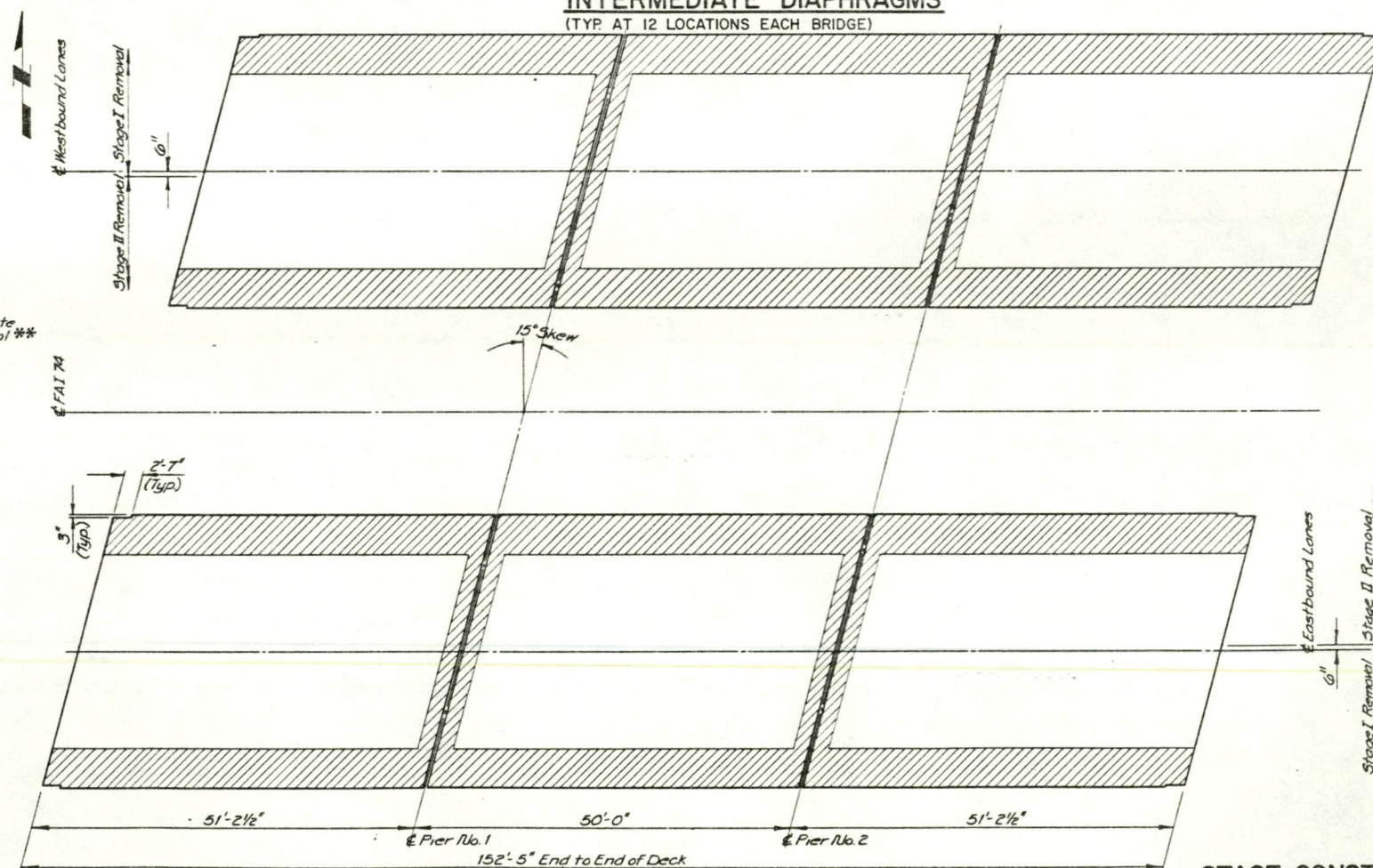
| ROUTE NO.           | SECTION          | COUNTY    | TOTAL SHEETS | SHEET NO. |
|---------------------|------------------|-----------|--------------|-----------|
|                     |                  | Vermilion | 42           | 20        |
| STA.                | TO STA.          |           |              |           |
| FED. ROAD DIST. NO. | ILLINOIS PROJECT |           |              |           |



CROSS SECTIONS SHOWING STAGE REMOVAL & CONST.  
(LOOKING EAST, WESTBOUND LANE; LOOKING WEST, EASTBOUND LANE)



CONC. REMOVAL AT INTERMEDIATE DIAPHRAGMS  
(TYP AT 12 LOCATIONS EACH BRIDGE)



SUPERSTRUCTURE CONCRETE REMOVAL PLAN

BILL OF MATERIAL  
(SUPERSTRUCTURE)

| ITEM             | UNIT   | QUANTITY |
|------------------|--------|----------|
| Concrete Removal | Cu Yd. | 128      |

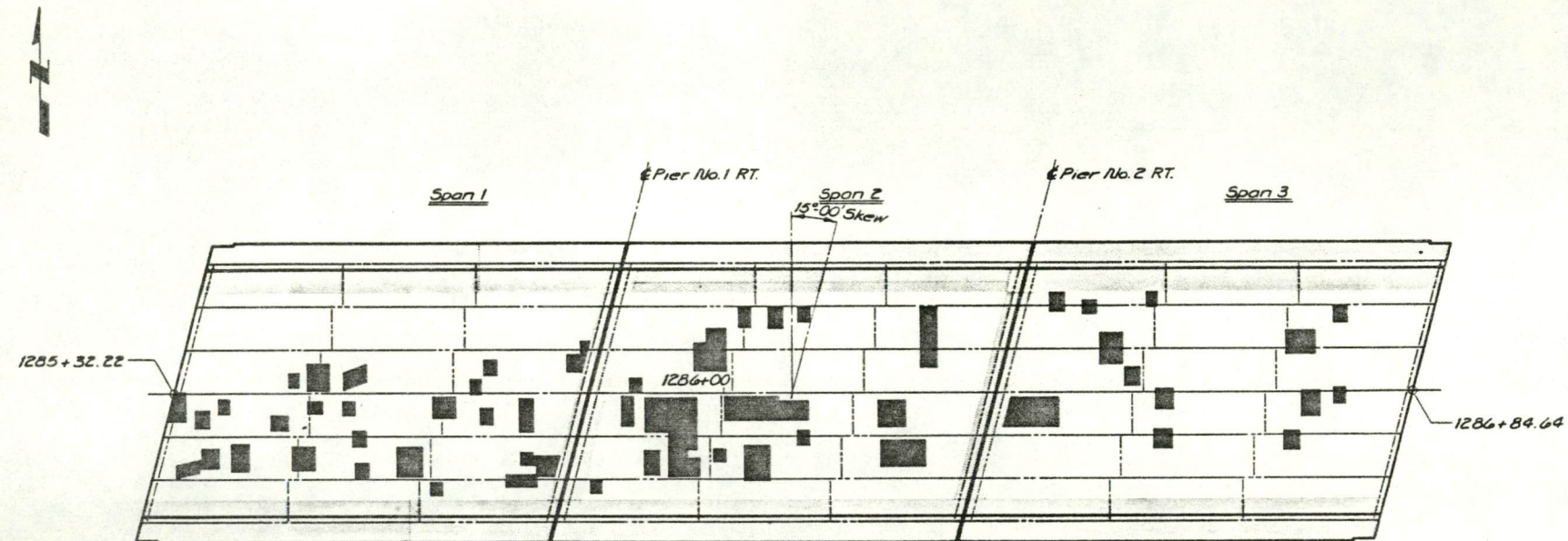
STAGE CONSTRUCTION DETAILS

FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B) I  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)

**ESCA**  
CONSULTANTS, INC.

DESIGNED BY: RDP 7-87  
DRAWN BY: WEM 7-87  
CHECKED BY: JWC 7-87  
APPROVED BY: JGC 7-87





DECK PLAN  
(EASTBOUND BRIDGE)

# BILL OF MATERIAL

| ITEM                                   | UNIT    | QUANTITY |
|----------------------------------------|---------|----------|
| *Deck Slab Repair (Full Depth, Type I) | Sq. Yd. | 11       |
| Deck Slab Repair (Partial Depth)       | Sq. Yd. | 83       |

\*Estimated Quantity

**ESCA**  
CONSULTANTS, INC.

|              |     |      |
|--------------|-----|------|
| DESIGNED BY: | RDP | 1-87 |
| DRAWN BY:    | WEM | 1-87 |
| CHECKED BY:  | JWC | 1-87 |
| APPROVED BY: | JGC | 1-87 |

**LEGEND**

Concrete Removal

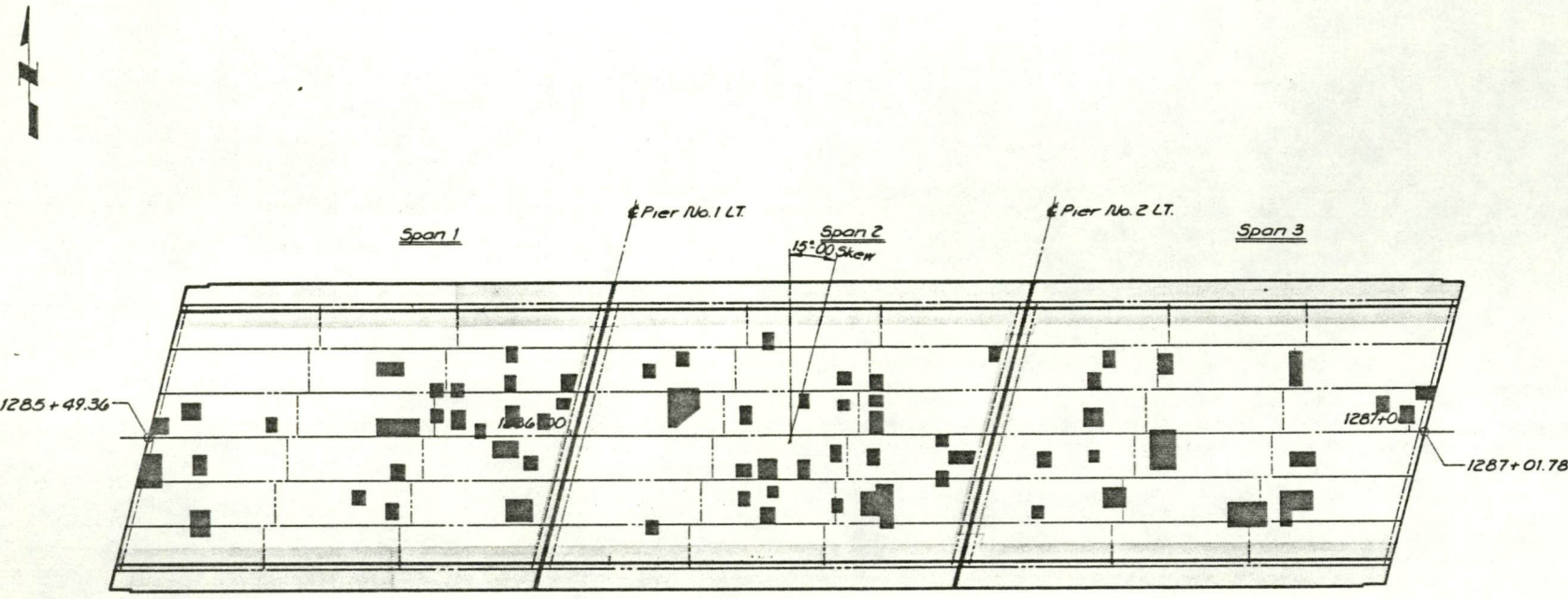
Partial Depth Patch

**EASTBOUND LANES  
DECK SLAB REPAIR**  
FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B)I  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)



| ROUTE NO.           | SECTION | COUNTY          | TOTAL SHEETS | SHEET NO. |
|---------------------|---------|-----------------|--------------|-----------|
|                     |         | VERMILION       | 42           | 22        |
| STA.                |         | TO STA.         |              |           |
| FED. ROAD DIST. NO. |         | ILLINOIS        | PROJECT      |           |
|                     |         | Dwg No. 4 of 14 |              |           |

Section (92-9B)I & (92-10HB)I



DECK PLAN  
(WESTBOUND BRIDGE)

BILL OF MATERIAL

| ITEM                                    | UNIT   | QUANTITY |
|-----------------------------------------|--------|----------|
| * Deck Slab Repair (Full Depth, Type I) | Sq Yd. | 11       |
| Deck Slab Repair (Partial Depth)        | Sq Yd. | 83       |

\* Estimated Quantity

ESCA

CONSULTANTS, INC.

|              |     |      |
|--------------|-----|------|
| DESIGNED BY: | RDP | 1-87 |
| DRAWN BY:    | WEM | 1-87 |
| CHECKED BY:  | JWC | 1-87 |
| APPROVED BY: | JGC | 1-87 |

LEGEND

Concrete Removal

Partial Depth Patch

WESTBOUND LANES

DECK SLAB REPAIR

FAI 74 OVER STONY CREEK

FAI RTE. 74 SECTION (92-9B)I

VERMILION COUNTY

STATION 1286+17.00

STRUCTURE NO. 092-0001 (EB)

STRUCTURE NO. 092-0002 (WB)



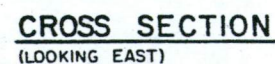
Section (92-9B)I & (92-10HB)I

1. SEE DWG. NO.'S 7 & 8 FOR SUPERSTRUCTURE DETAILS, BILL OF MATERIAL AND SECTIONS A-A & B-B.
2. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
3. BARS INDICATED THUS: 4 X 2- #5, ETC., INDICATES 4 LINES OF BARS WITH 2 LENGTHS PER LINE.
4. EXISTING REINFORCEMENT WHICH EXTENDS INTO CONCRETE REMOVAL AREA BEYOND BONDED JOINTS SHALL BE CLEANED AND INCORPORATED INTO THE NEW CONSTRUCTION. COST INCIDENTAL.
5. ANY EXISTING REINFORCEMENT TO BE INCORPORATED INTO THE NEW CONSTRUCTION WHICH IS DAMAGED OR REMOVED DURING THE CONTRACTOR'S CONCRETE REMOVAL OPERATIONS SHALL BE REPLACED. CONFIGURATION (SIZE, SPACING, LAP LENGTH, ETC.) OF THE REPLACEMENT REINFORCEMENT IS SUBJECT TO THE APPROVAL OF THE ENGINEER. COST INCIDENTAL.
6. JOINTS IN PARAPET NOT SHOWN. SEE DWG. NO. 7 FOR DETAILS.



### Minimum Bar Laps

- #5 Bar : 1'9"  
#6 Bar : 2'1"  
#7 Bar : 2'9"



**ESCA**  
CONSULTANTS, INC.

|              |     |      |
|--------------|-----|------|
| DESIGNED BY: | RDP | 9/87 |
| DRAWN BY:    | GGB | 9/87 |
| CHECKED BY:  | JWC | 9/87 |
| APPROVED BY: | JGC | 9/87 |

**EASTBOUND LANES**  
**SUPERSTRUCTURE**  
**FAI 74 OVER STONY CREEK**  
**FAI RTE. 74 SECTION (92-9B)I**  
**VERMILION COUNTY**  
**STATION 1286+17.00**  
**STRUCTURE NO. 092-0001 (EB)**  
**STRUCTURE NO. 092-0002(WB)**





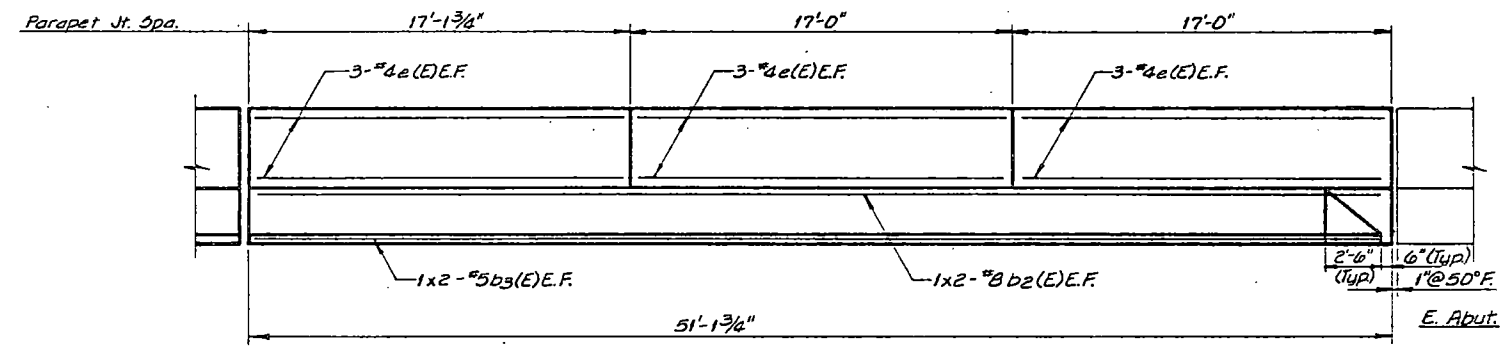
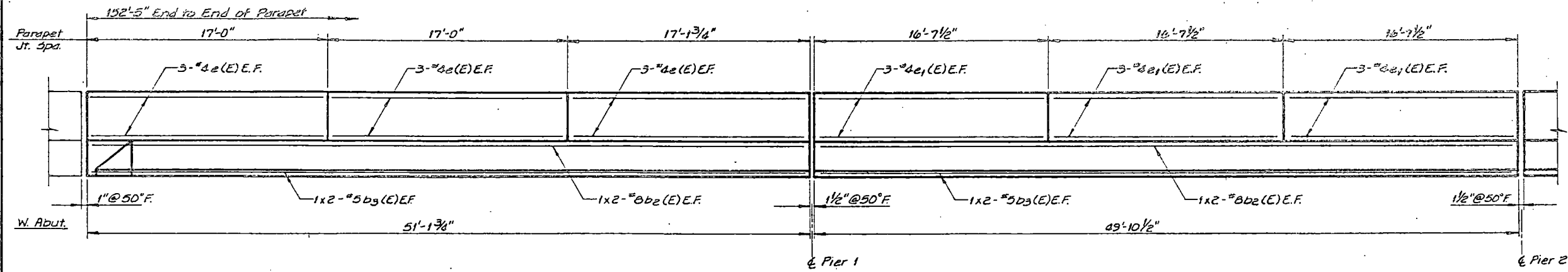


| ROUTE NO.           | SECTION  | COUNTY    | TOTAL SHEETS     | SHEET NO. |
|---------------------|----------|-----------|------------------|-----------|
|                     |          | Vermilion | 42               | 25        |
| STA.                | TO STA.  |           |                  |           |
| FED. ROAD DIST. NO. | ILLINOIS | PROJECT   | Dwg. No. 7 of 12 |           |

Section (92-9B) I & (92-10HB) I

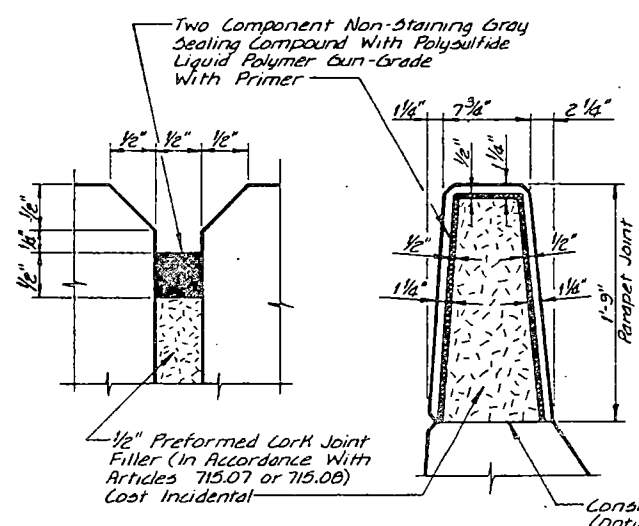
### NOTES

1. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
2. BARS INDICATED THUS: 1 X 2-#8, ETC., INDICATES 1 LINE OF BARS WITH 2 LENGTHS PER LINE.
3. SEE DWG. NO.'S 5 & 6 FOR LOCATION OF SECTIONS A-A & B-B.
4. PROVIDE BONDED CONSTRUCTION JOINT PER ARTICLE 504.13 (a) (2) OF THE STD. SPEC'S. BETWEEN EXISTING DIAPHRAGMS AND NEW SLAB, AND BETWEEN NEW & EXISTING SLABS.
5. ALL STUDS SHALL BE AUTOMATICALLY END WELDED GRANULAR OR SOLID FLUX FILLED HEADED CONFORMING TO ARTICLE 710.38 OF THE STANDARD SPECIFICATIONS.

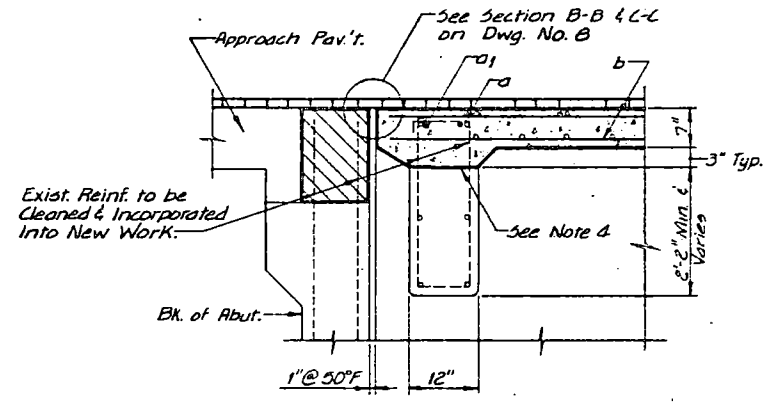


Minimum Bar Laps  
#5 Bar: 1'-9"  
#8 Bar: 5'-1"

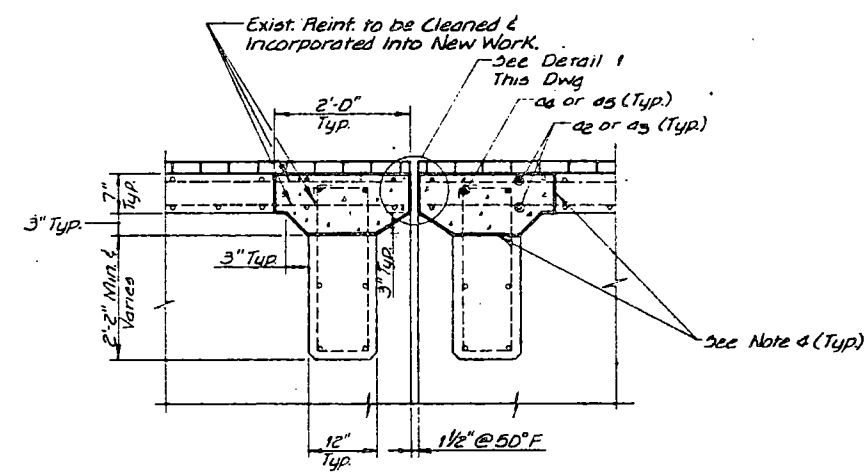
### INSIDE ELEVATION OF PARAPET



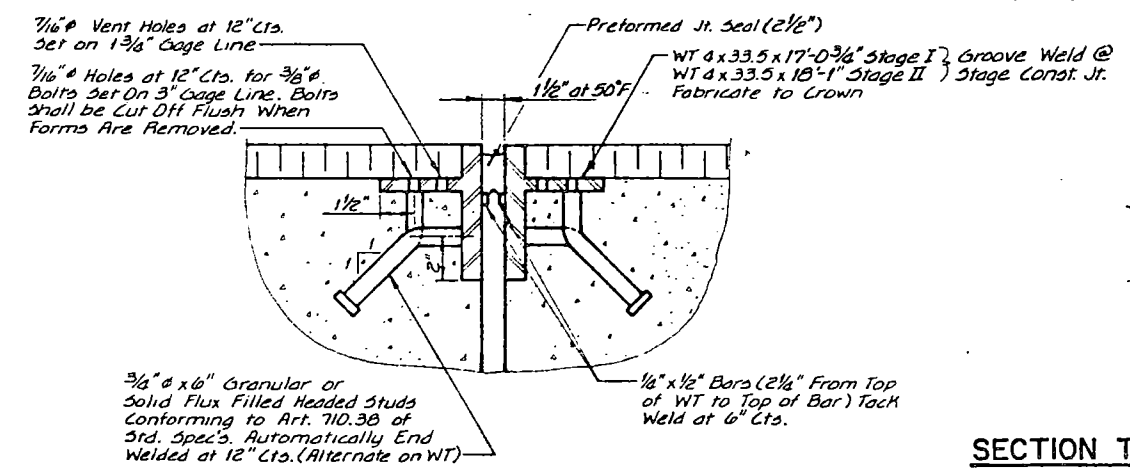
### DETAILS OF PARAPET JOINT



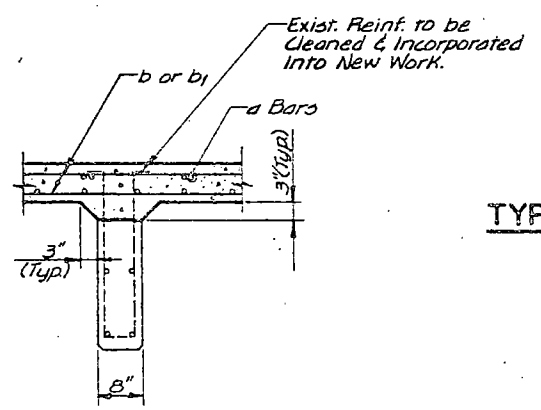
### SECTION A-A (ABUTMENTS)



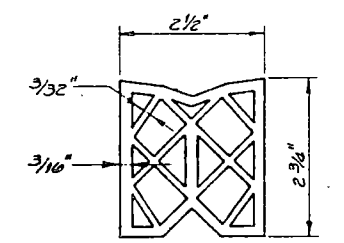
### SECTION B-B (PIERS)



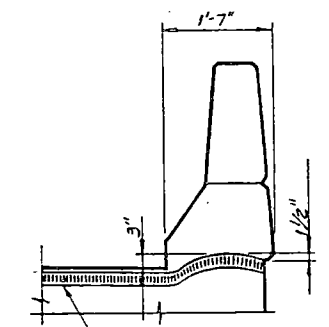
### DETAIL 1



### SECTION THRU INTERMEDIATE DIAPHRAGM (IN CONCRETE REMOVAL AREA)



### PREFORMED JOINT SEAL (2 1/2")



### TYPICAL END OF SEAL TREATMENT

**ESCA**  
CONSULTANTS, INC.

|              |     |      |
|--------------|-----|------|
| DESIGNED BY: | ADP | 9/87 |
| DRAWN BY:    | GGB | 9/87 |
| CHECKED BY:  | JWC | 9/87 |
| APPROVED BY: | JGC | 9/87 |

**SUPERSTRUCTURE DETAILS**  
FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B) I  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)



### NOTES

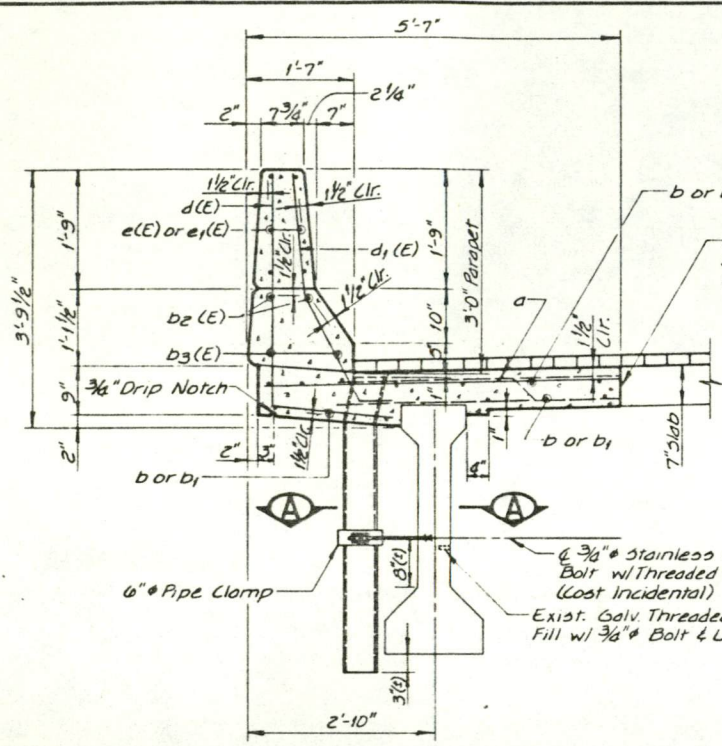
- FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.
- THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.
- THE EXTERIOR SURFACES OF FIBERGLASS FLOOR DRAINS SHALL BE PAINTED WITH ONE COAT OF ALUMINUM PAINT. PAINTING OF THE FIBERGLASS FLOOR DRAINS WILL NOT BE REQUIRED WHEN THE EXTERIOR SURFACES OF THE FURNISHED DRAINS ARE COATED BY THE MANUFACTURER WITH SILVER PIGMENT OR A PIGMENT THAT MATCHES THE COLOR OF THE CONCRETE BEAM.
- THE CLAMPING DEVICE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

### TWO SUPERSTRUCTURES BILL OF MATERIAL

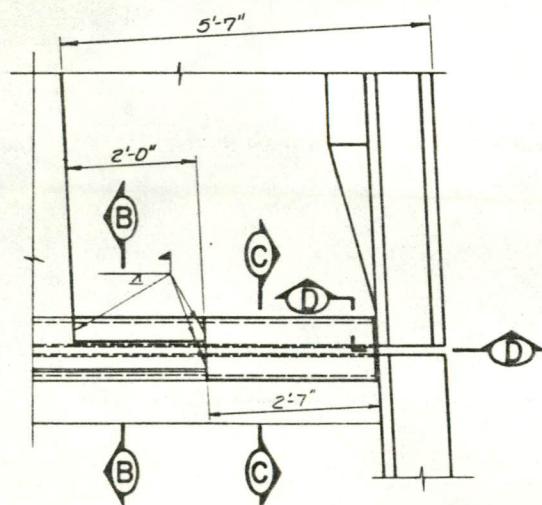
| Bar                               | No.      | Size     | Length  | Shape |
|-----------------------------------|----------|----------|---------|-------|
| a                                 | 452      | #6       | 5'-1"   | —     |
| a <sub>1</sub>                    | 16       | #7       | 5'-3"   | —     |
| a <sub>2</sub>                    | 32       | #5       | 21'-3"  | —     |
| a <sub>3</sub>                    | 32       | #5       | 18'-2"  | —     |
| a <sub>4</sub>                    | 16       | #7       | 22'-3"  | —     |
| a <sub>5</sub>                    | 16       | #7       | 18'-2"  | —     |
| b                                 | 208      | #5       | 26'-3"  | —     |
| b <sub>1</sub>                    | 104      | #5       | 25'-8"  | —     |
| b <sub>2</sub> (E)                | 48       | #8       | 27'-11" | —     |
| b <sub>3</sub> (E)                | 48       | #5       | 26'-3"  | —     |
| d(E)                              | 608      | #4       | 4'-11"  | L     |
| d <sub>1</sub> (E)                | 632      | #5       | 4'-1"   | L     |
| d <sub>2</sub> (E)                | 32       | #5       | 4'-1"   | L     |
| e(E)                              | 144      | #4       | 16'-8"  | —     |
| e <sub>1</sub> (E)                | 72       | #4       | 16'-3"  | —     |
| Item                              | Unit     | Quantity |         |       |
| Reinforcement Bars (Epoxy Coated) | Lbs.     | 12,100   |         |       |
| Reinforcement Bars                | Lbs.     | 14,740   |         |       |
| Class X Conc. Superstructure      | Cu. Yds. | 154.3    |         |       |
| Concrete Removal                  | Cu. Yds. | 128      |         |       |
| P.J.S. 2 1/2"                     | L.F.     | 153      |         |       |

### SUPERSTRUCTURE DETAILS

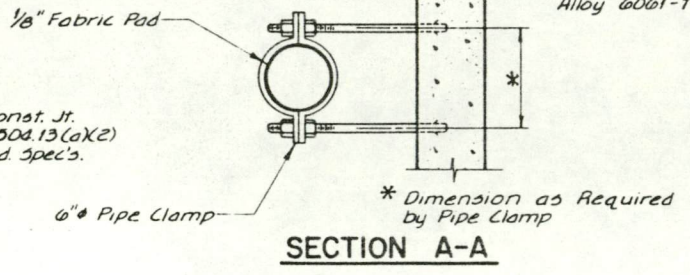
FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B)I  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)



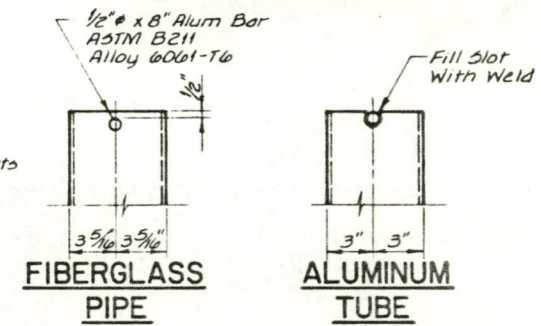
SECTION THRU PARAPET



PLAN AT ABUTS

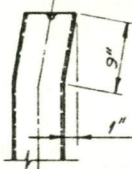


SECTION A-A

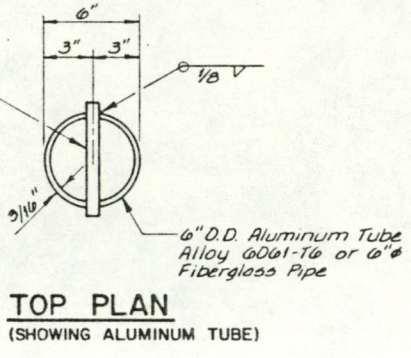


FIBERGLASS PIPE

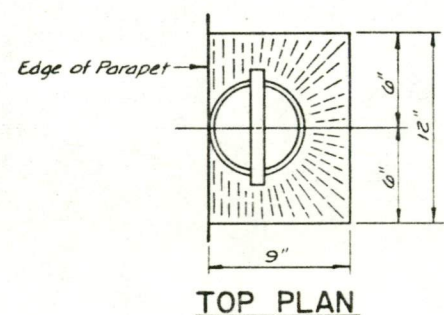
ALUMINUM TUBE



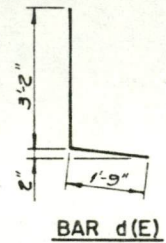
DRAIN TUBE OFFSET



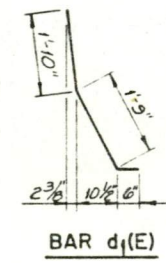
TOP PLAN  
(SHOWING ALUMINUM TUBE)



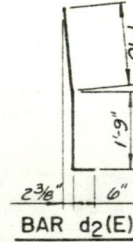
TOP PLAN



BAR d(E)

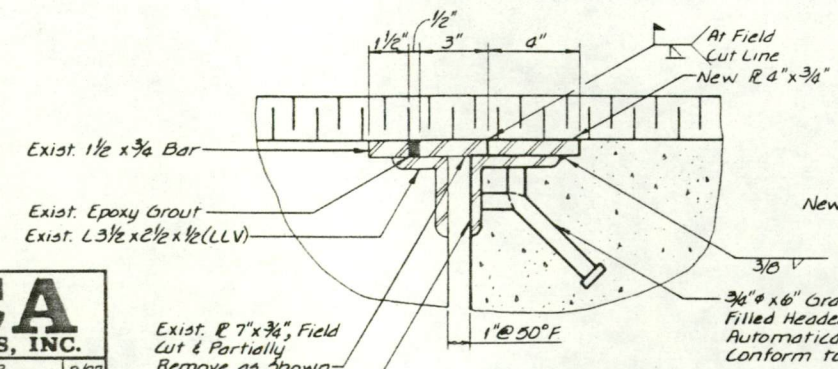


BAR d1(E)

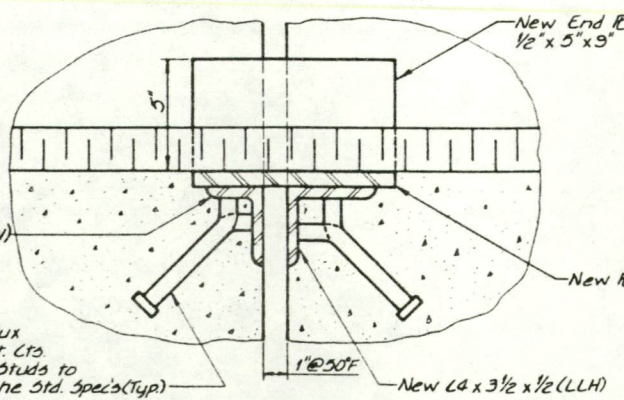


BAR d2(E)

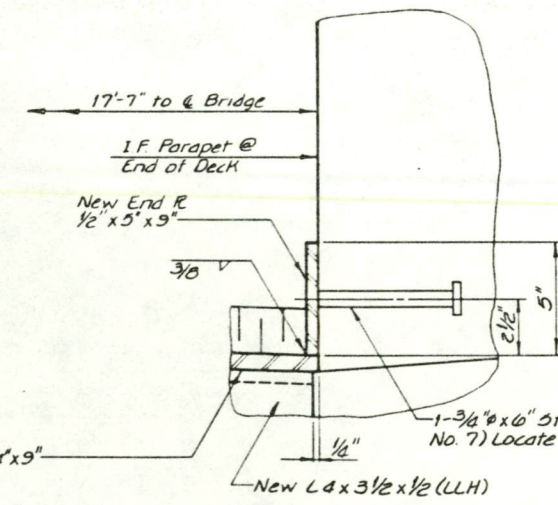
BAR BENDING DETAILS



SECTION B-B



SECTION C-C

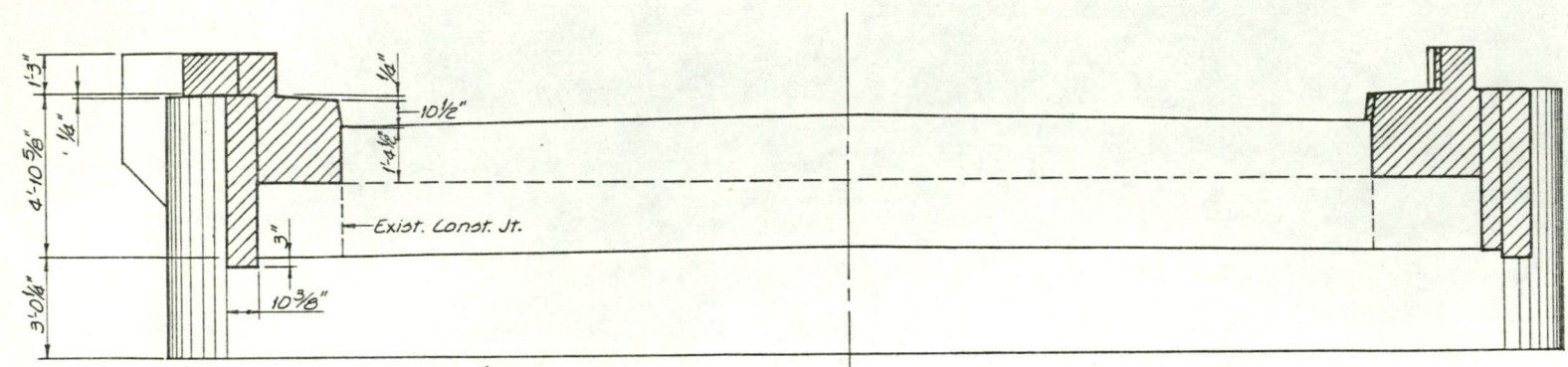


SECTION D-D

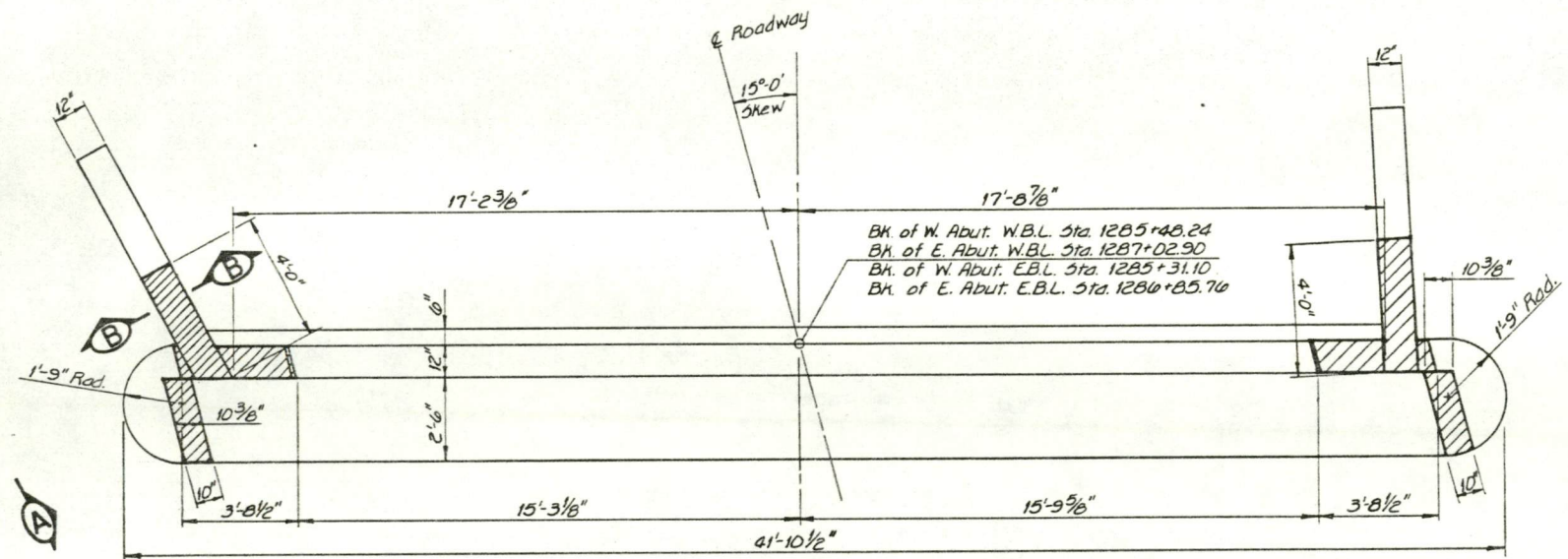
**ESCA**  
CONSULTANTS, INC.

|              |     |      |
|--------------|-----|------|
| DESIGNED BY: | RDP | 9/87 |
| DRAWN BY:    | GGB | 9/87 |
| CHECKED BY:  | JWC | 9/87 |
| APPROVED BY: | JGC | 9/87 |



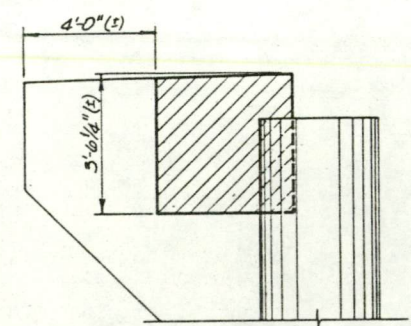
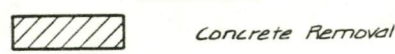


**ELEVATION**

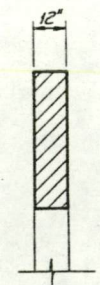


**PLAN**

**LEGEND**



**SECTION A-A**



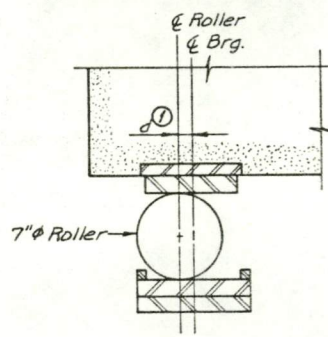
**SECTION B-B**

**NOTES**

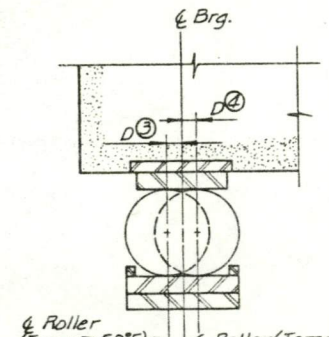
1. FOR STAGE CONSTRUCTION DETAILS SEE DWG. NO. 2.

1. Reposition Roller Only if "d" is Greater Than or Equal to 3/4" @ 50°F as Determined in the Field by the Engineer.
2. Existing Position May be Opposite to That Shown.

3.  $D = 1/8" / 100 \text{ Ft. of Expansion for Every } 20^\circ\text{F Above } 50^\circ\text{F}$
4.  $D = 1/8" / 100 \text{ Ft. of Expansion for Every } 20^\circ\text{F Below } 50^\circ\text{F}$



**EXISTING POSITION**  
(AT 50°F)



**ADJUSTED POSITION**

**ROLLER REPOSITIONING DETAIL**  
(AS REQ'D. AT PIERS 1 & 2)

1. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE ENGINEER PLANS FOR JACKING PRIOR TO COMMENCING ANY WORK AT THE BEARINGS. THE ESTIMATED DEAD LOAD REACTION PER BEARING IS 32 KIPS.
2. DURING EACH STAGE CONSTRUCTION, JACKING AND REPOSITIONING OF BEARINGS SHALL BE DONE AFTER CONCRETE REMOVAL IS COMPLETED AND BEFORE NEW CONCRETE IS POURED. IF NECESSARY, A MAXIMUM OF THREE BEAM ROLLERS PER STAGE MAY BE REPOSITIONED AT ONE TIME.
3. JACKING SHALL BE LIMITED TO 1/8" LIFT.
4. PRIOR TO JACKING, WELD TEMPORARY RETAINER BARS (STEEL) TO BOTTOM PLATE TO PREVENT MOVEMENT OF PROPERLY POSITIONED ROLLERS. AFTER REPOSITIONING, INSTALL RETAINER BARS TO PREVENT MOVEMENT OF REPOSITIONED ROLLERS DURING LOWERING OPERATIONS. AFTER ALL REPOSITIONING WORK IS COMPLETED, REMOVE RETAINER BARS, CLEAN DISTURBED AREAS IN ACCORDANCE WITH METHOD I OF ART. 509.06(b) OF THE SUPPLEMENTAL SPECIFICATIONS, AND PAINT WITH ONE COAT RED LEAD AND TWO COATS ALUMINUM PAINT.
5. ALL WORK AT THE BEARINGS SHALL BE INCLUDED IN "JACK AND REPOSITION BEARINGS." SEE SPECIAL PROVISIONS.
6. MISSING OR LOOSE ANCHOR BOLTS FOR BEARINGS SHALL BE REPLACED OR TIGHTENED, AS DIRECTED BY THE ENGINEER.

**BILL OF MATERIAL**  
(FOUR ABUTMENTS)

| Item             | Unit     | Quantity |
|------------------|----------|----------|
| Concrete Removal | Cu. Yds. | 9        |

**CONCRETE REMOVAL (ABUTMENTS)**

FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B)1  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)

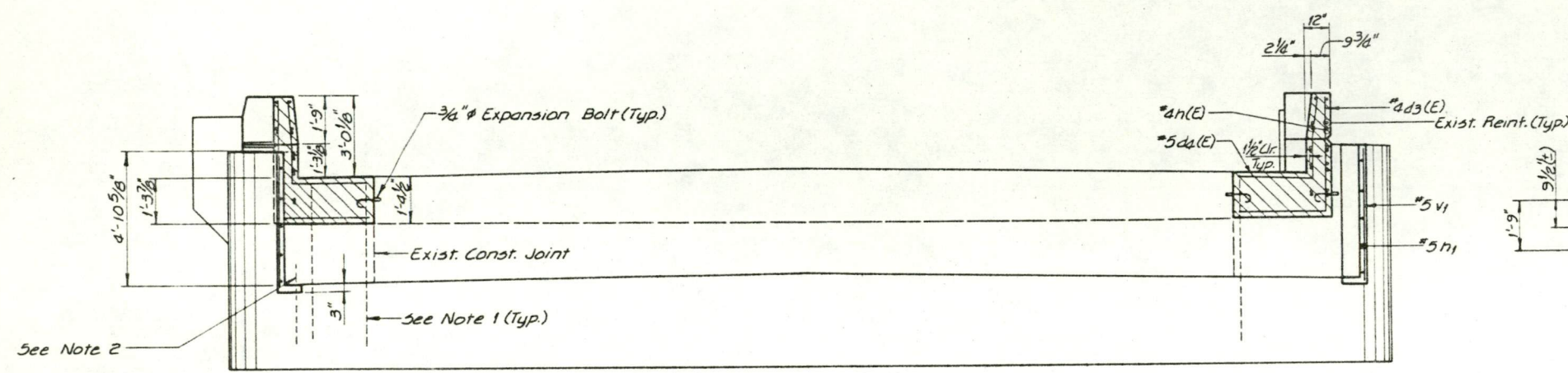
**ESCA**  
CONSULTANTS, INC.

|              |     |      |
|--------------|-----|------|
| DESIGNED BY: | JWC | 9/87 |
| DRAWN BY:    | HDK | 9/87 |
| CHECKED BY:  | RDP | 9/87 |
| APPROVED BY: | JGC | 9/87 |

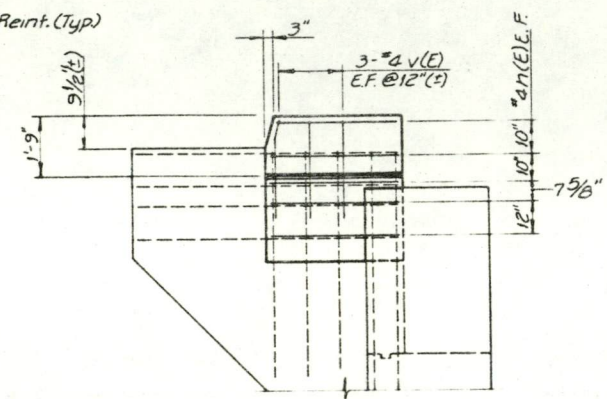


### NOTES

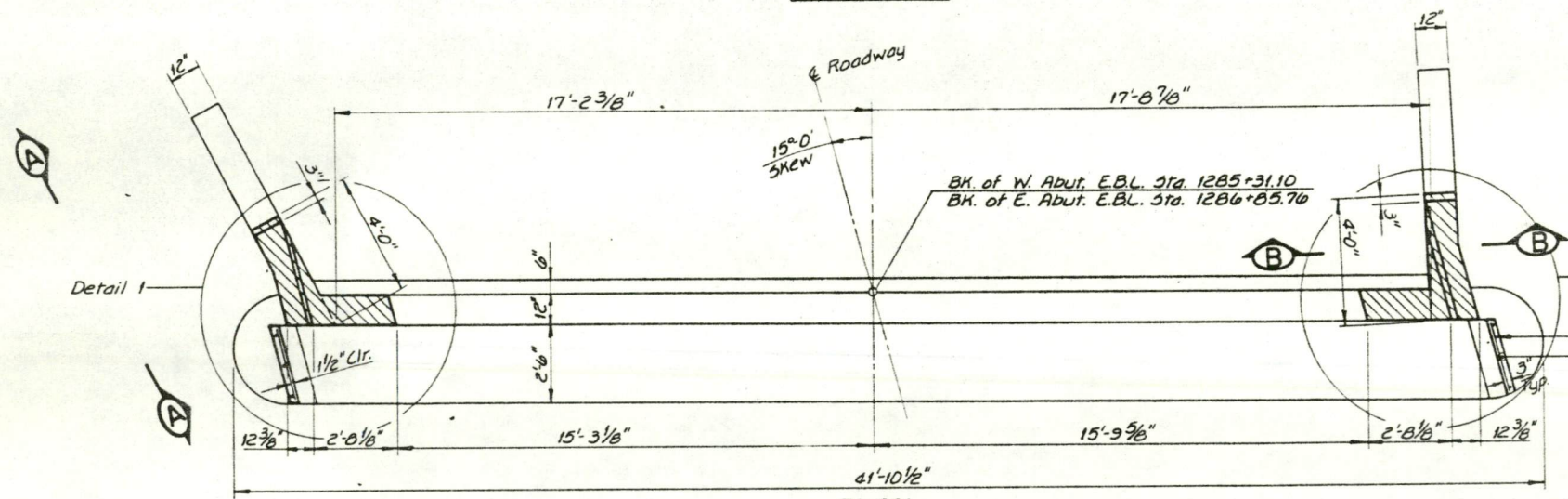
- EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED OR BENT AND REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL.
- CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS AS DIRECTED BY THE ENGINEER TO PROVIDE 1 1/2" CLEAR COVER.
- HATCHED AREAS SHALL BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED.
- EXISTING NAMEPLATE SHALL BE REMOVED, CLEANED AND REINSTALLED. SEE DWG. NO. 1 FOR LOCATION. COST INCIDENTAL TO CLASS X CONCRETE.
- FOR STAGE CONSTRUCTION DETAILS SEE DWG. NO. 2.



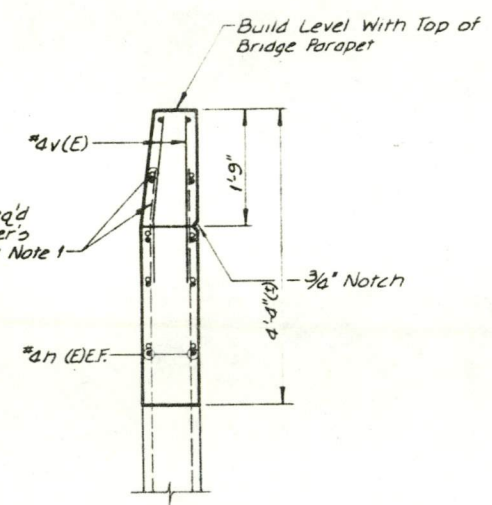
**ELEVATION**



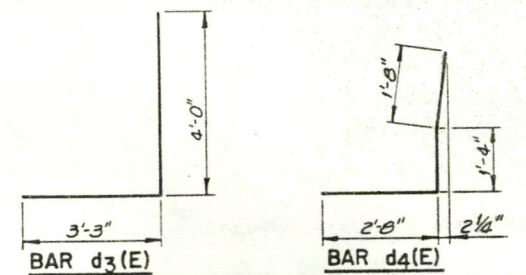
**SECTION A-A**



**PLAN**



**SECTION B-B**

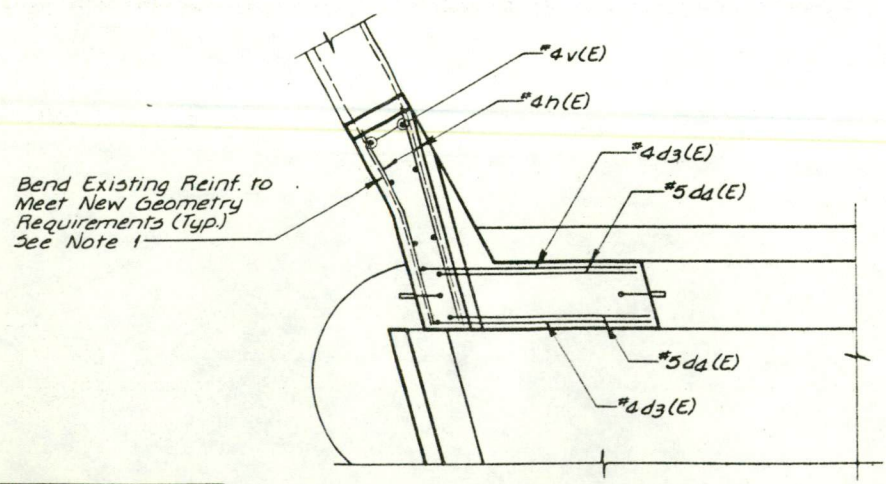


**BAR BENDING DETAILS**

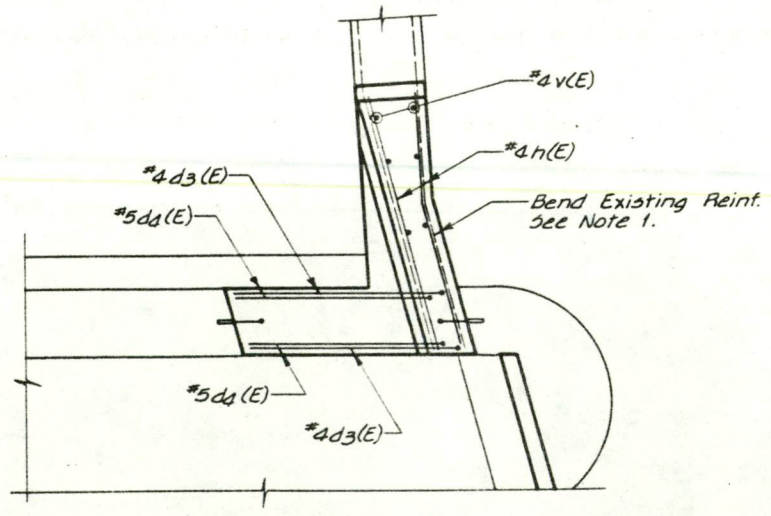
### TWO ABUTMENTS BILL OF MATERIAL

| Bar                               | No     | Size     | Length | Shape |
|-----------------------------------|--------|----------|--------|-------|
| d3(E)                             | 8      | #4       | 7'-3"  | J     |
| d4(E)                             | 8      | #5       | 5'-8"  | J     |
|                                   |        |          |        |       |
| * h(E)                            | 40     | #4       | 3'-6"  | —     |
| h1                                | 20     | #4       | 2'-3"  | —     |
|                                   |        |          |        |       |
| * v(E)                            | 24     | #4       | 2'-8"  | —     |
| v1                                | 12     | #4       | 4'-9"  | —     |
|                                   |        |          |        |       |
| Item                              | Unit   | Quantity |        |       |
| Reinforcement Bars (Epoxy Coated) | Lbs.   | 220      |        |       |
| Reinforcement Bars                | Lbs.   | 70       |        |       |
| Expansion Bolts 3/4"              | Ea.    | 8        |        |       |
| Class X Concrete                  | Cu Yds | 3.3      |        |       |

\* Field Bend as Req'd.



**DETAIL 1**



**DETAIL 2**

**ESCA**  
CONSULTANTS, INC.

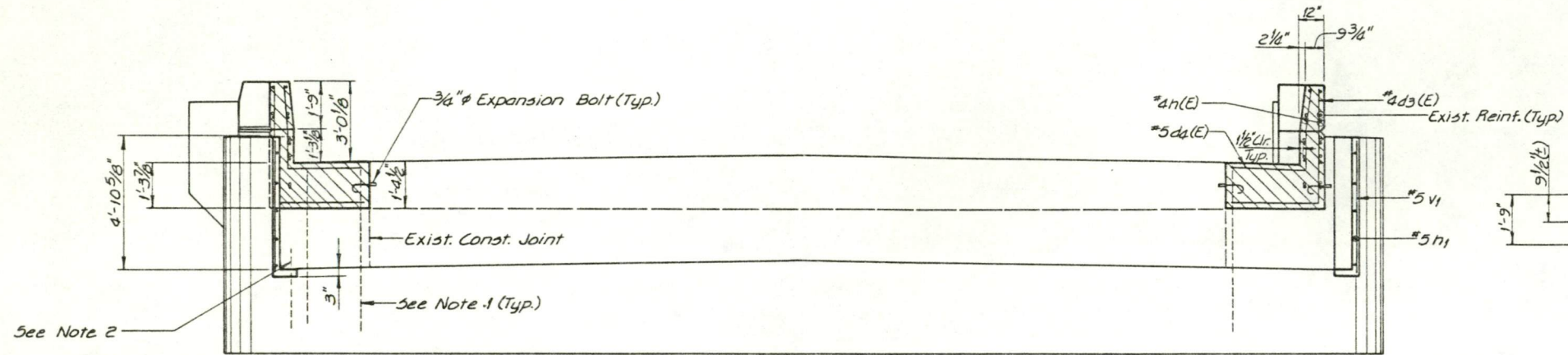
|              |     |      |
|--------------|-----|------|
| DESIGNED BY: | JWC | 9/87 |
| DRAWN BY:    | GGB | 9/87 |
| CHECKED BY:  | RDP | 9/87 |
| APPROVED BY: | JGC | 9/87 |

**EASTBOUND LANES  
ABUTMENTS**  
FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B)I  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)

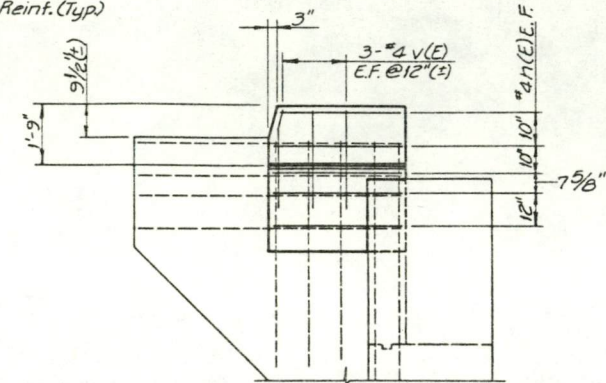


### NOTES

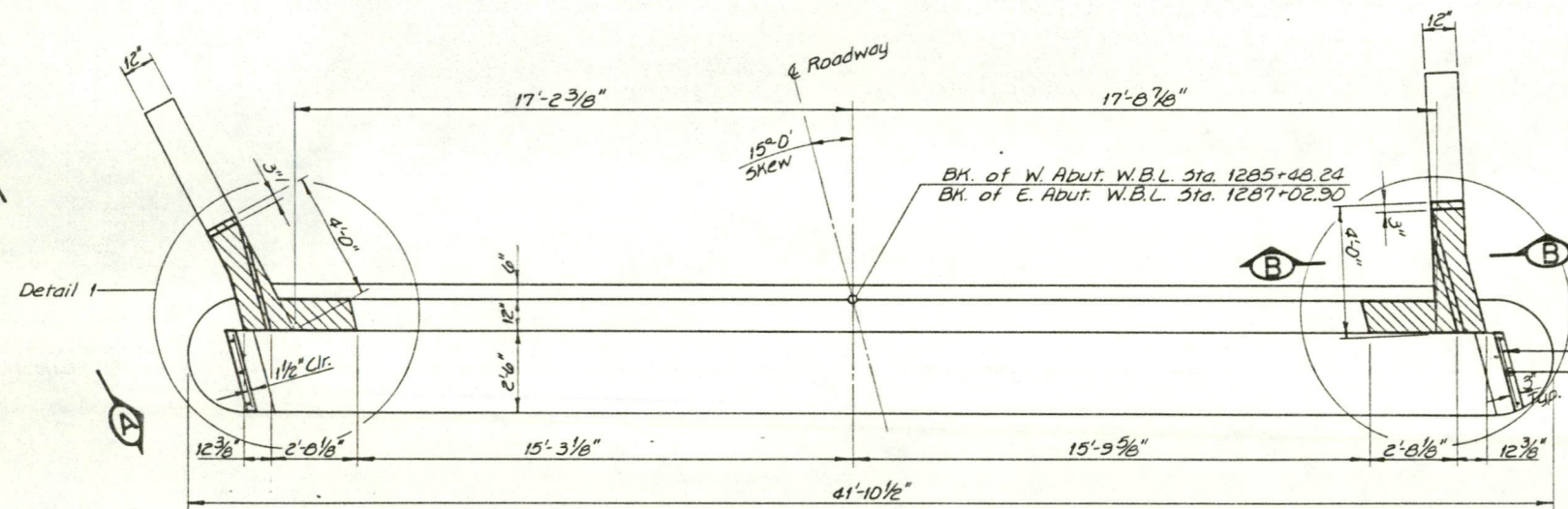
- EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED OR BENT AND REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL.
- CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS AS DIRECTED BY THE ENGINEER TO PROVIDE 1 1/2" CLEAR COVER.
- HATCHED AREAS SHALL BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED.
- EXISTING NAMEPLATE SHALL BE REMOVED, CLEANED AND REINSTALLED. SEE DWG. NO. 1 FOR LOCATION. COST INCIDENTAL TO CLASS X CONCRETE.
- FOR STAGE CONSTRUCTION DETAILS SEE DWG. NO. 2.



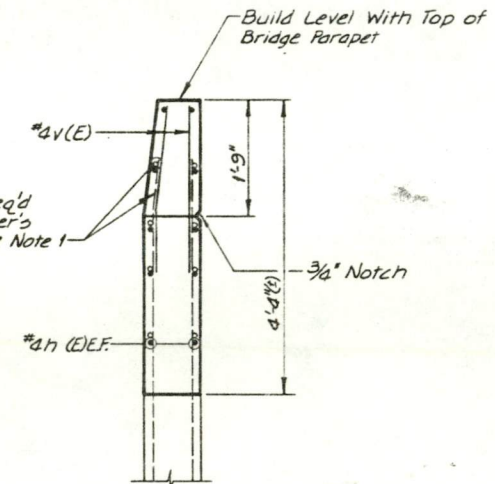
**ELEVATION**



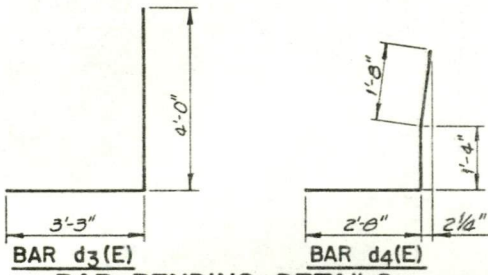
**SECTION A-A**



**PLAN**



**SECTION B-B**

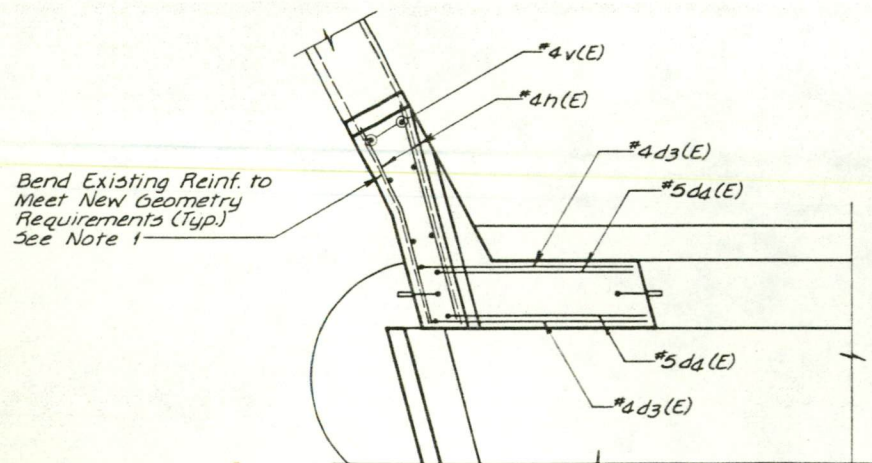


**BAR BENDING DETAILS**

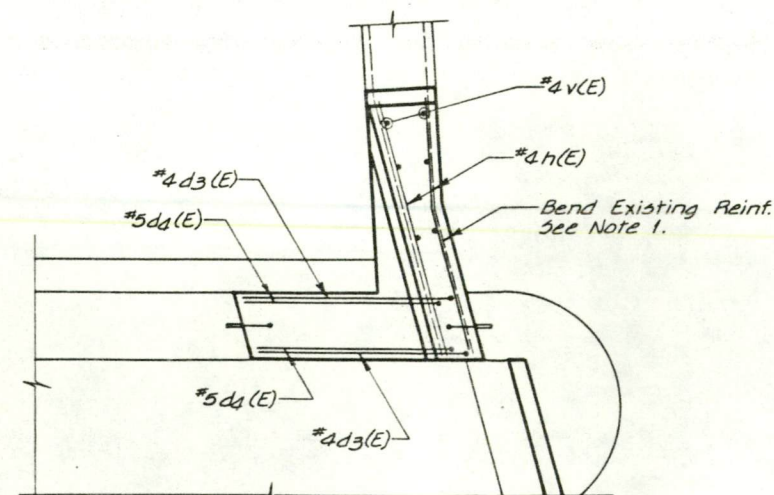
### TWO ABUTMENTS BILL OF MATERIAL

| Bar                               | No.      | Size     | Length | Shape |
|-----------------------------------|----------|----------|--------|-------|
| d3(E)                             | 8        | #4       | 7'-3"  | J     |
| d4(E)                             | 8        | #5       | 5'-8"  | J     |
|                                   |          |          |        |       |
| * n(E)                            | 40       | #4       | 3'-6"  | —     |
| h1                                | 20       | #4       | 2'-3"  | —     |
|                                   |          |          |        |       |
| * v(E)                            | 24       | #4       | 2'-8"  | —     |
| v1                                | 12       | #4       | 4'-9"  | —     |
|                                   |          |          |        |       |
| Item                              | Unit     | Quantity |        |       |
| Reinforcement Bars (Epoxy Coated) | Lbs.     | 220      |        |       |
| Reinforcement Bars                | Lbs.     | 70       |        |       |
| Expansion Bolts 3/4"              | Ea.      | 8        |        |       |
| Class X Concrete                  | Cu. Yds. | 3.3      |        |       |

\* Field Bend as Req'd.



**DETAIL 1**



**DETAIL 2**

**ESCA**  
CONSULTANTS, INC.

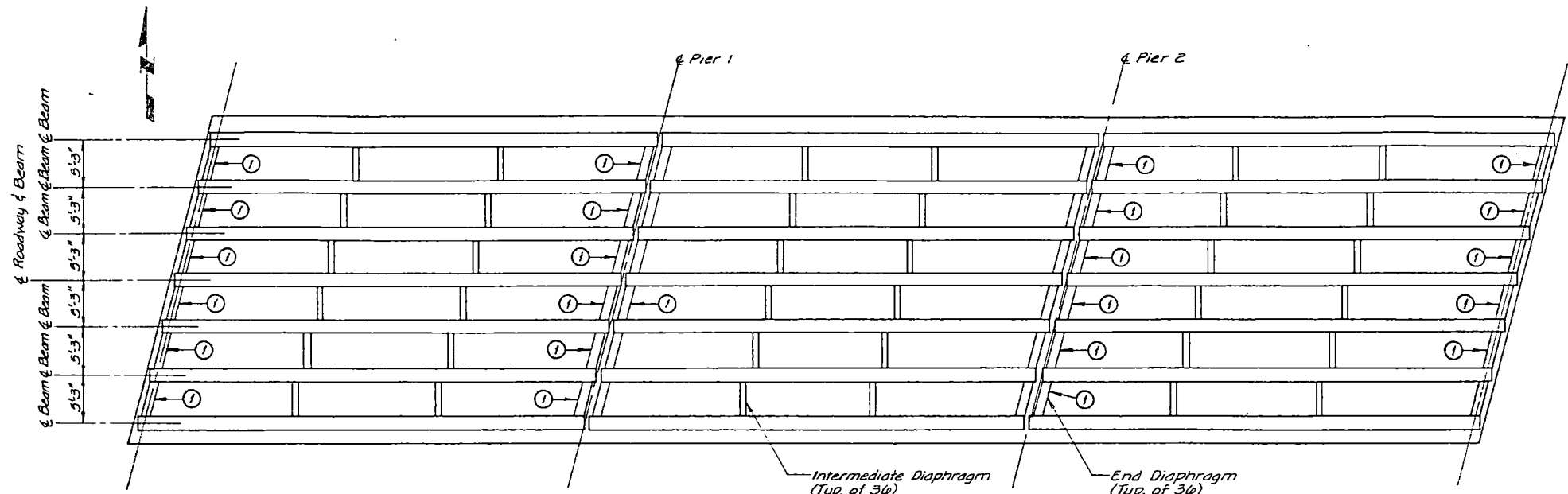
DESIGNED BY: JWC 9/87  
DRAWN BY: GGB 9/87  
CHECKED BY: RDP 9/87  
APPROVED BY: JGC 9/87

**WESTBOUND LANES  
ABUTMENTS**  
FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B)1  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)



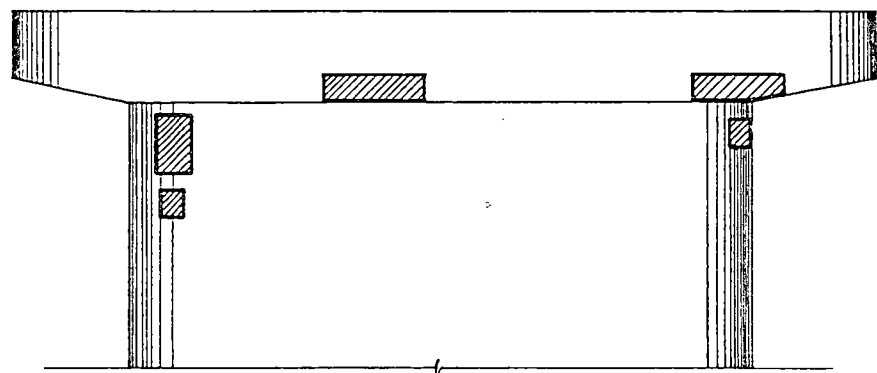
# NOTES

- REPAIR LOCATIONS SHOWN ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL NOT COMMENCE ANY REMOVAL RELATED TO CONCRETE REPAIR UNTIL APPROVED BY THE ENGINEER.
- SEE SPECIAL PROVISIONS FOR CONCRETE REPAIR METHOD.

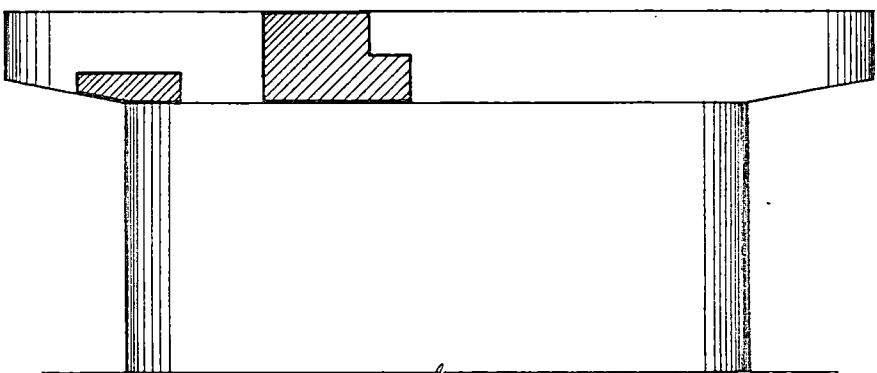


**LOCATION OF SUPERSTRUCTURE  
CONCRETE REPAIR**  
APPROXIMATE REPAIR AREA = 95 S.F.

① Repair Cracked and/or Spalled Diaphragm

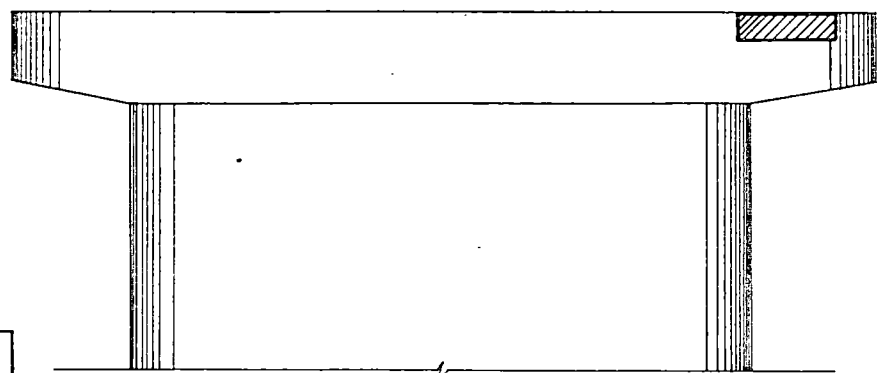


LOOKING EAST

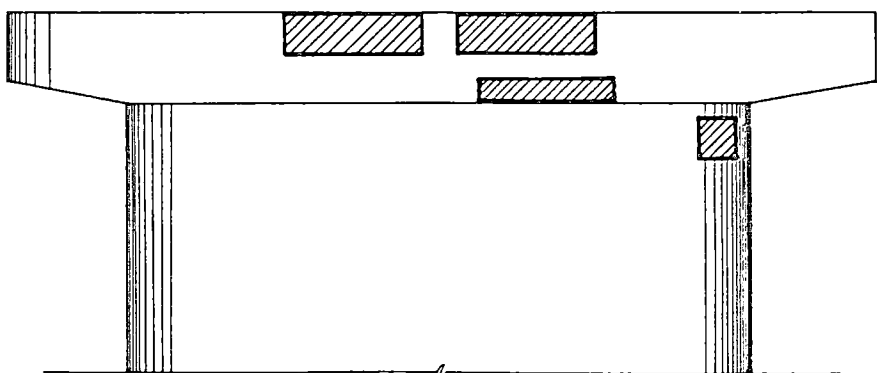


LOOKING WEST

**PIER 1 ELEVATION**  
APPROXIMATE REPAIR AREA = 48 S.F.



LOOKING EAST



LOOKING WEST

**PIER 2 ELEVATION**  
APPROXIMATE REPAIR AREA = 33 S.F.

# BILL OF MATERIAL

| Item                       | Unit    | Quantity |
|----------------------------|---------|----------|
| Repair Concrete Structures | Sq. Ft. | 176      |

# LEGEND

 Concrete Repairs

**ESCA**  
CONSULTANTS, INC.

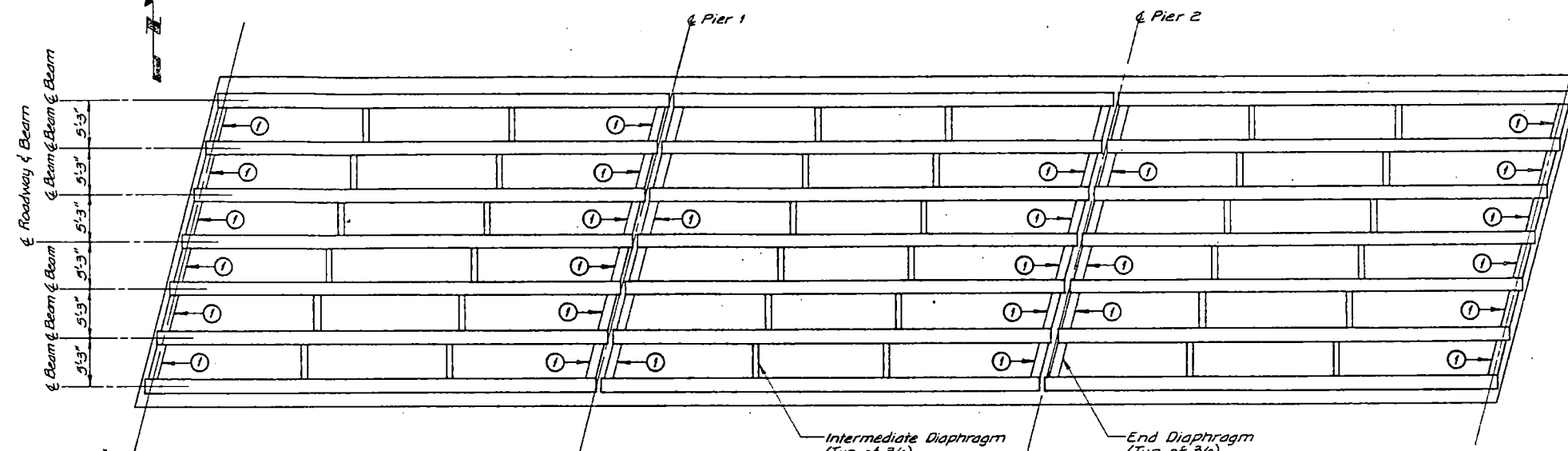
|              |     |       |
|--------------|-----|-------|
| DESIGNED BY: | ADP | 10/87 |
| DRAWN BY:    | KDH | 10/87 |
| CHECKED BY:  | JWC | 10/87 |
| APPROVED BY: | JGC | 10/87 |

**EASTBOUND LANES  
CONCRETE REPAIRS**  
FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B)I  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)



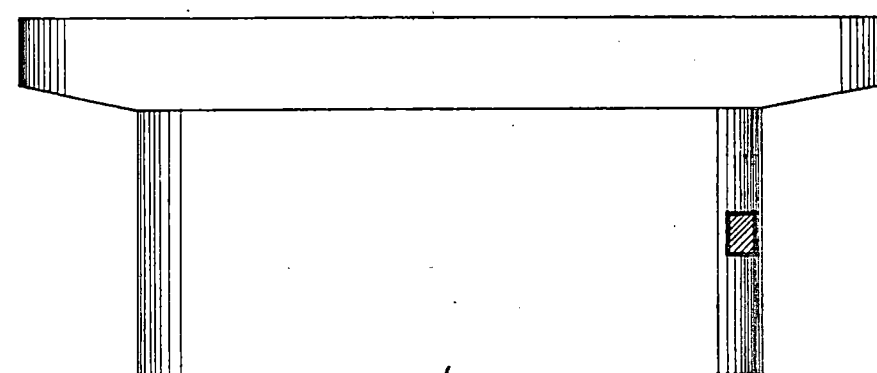
# NOTES

- REPAIR LOCATIONS SHOWN ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL NOT COMMENCE ANY REMOVAL RELATED TO CONCRETE REPAIR UNTIL APPROVED BY THE ENGINEER.
- SEE SPECIAL PROVISIONS FOR CONCRETE REPAIR METHOD.

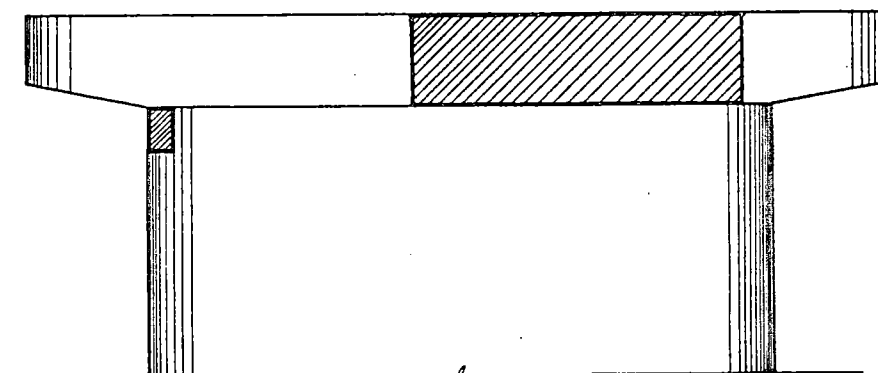


**LOCATION OF SUPERSTRUCTURE  
CONCRETE REPAIR**  
APPROXIMATE REPAIR AREA = 110 SF

① Repair Cracked and/or Spalled Diaphragm

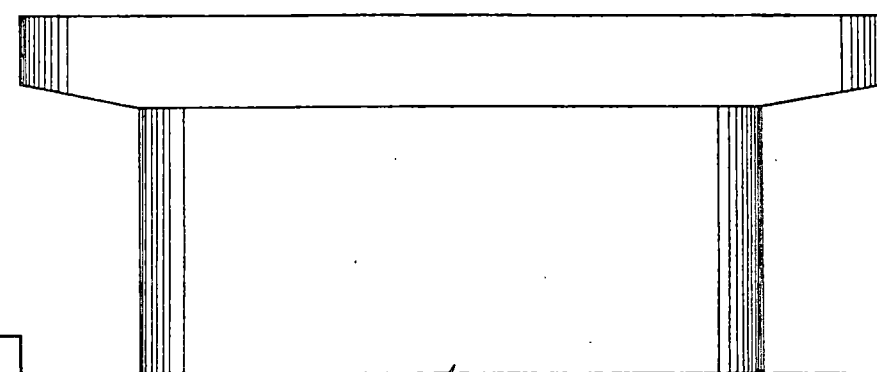


LOOKING EAST

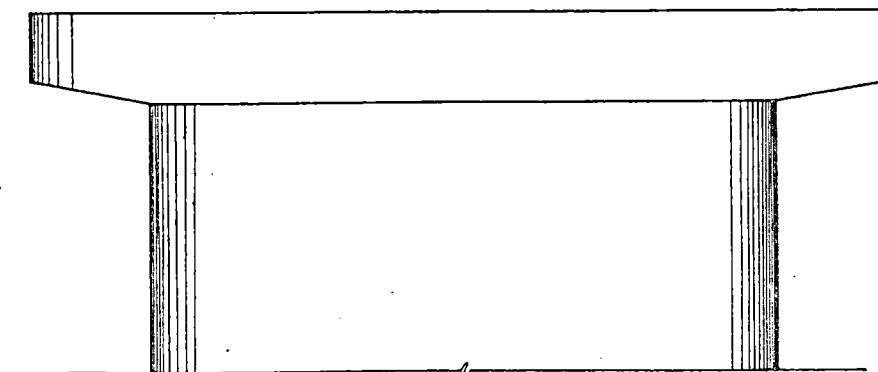


LOOKING WEST

**PIER 1 ELEVATION**  
APPROXIMATE REPAIR AREA = 71 S.F.



LOOKING EAST



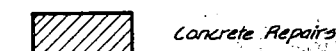
LOOKING WEST

**PIER 2 ELEVATION**  
APPROXIMATE REPAIR AREA = 0 S.F.

# BILL OF MATERIAL

| Item                       | Unit    | Quantity |
|----------------------------|---------|----------|
| Repair Concrete Structures | Sq. Ft. | 181      |

# LEGEND



**ESCA**  
CONSULTANTS, INC.

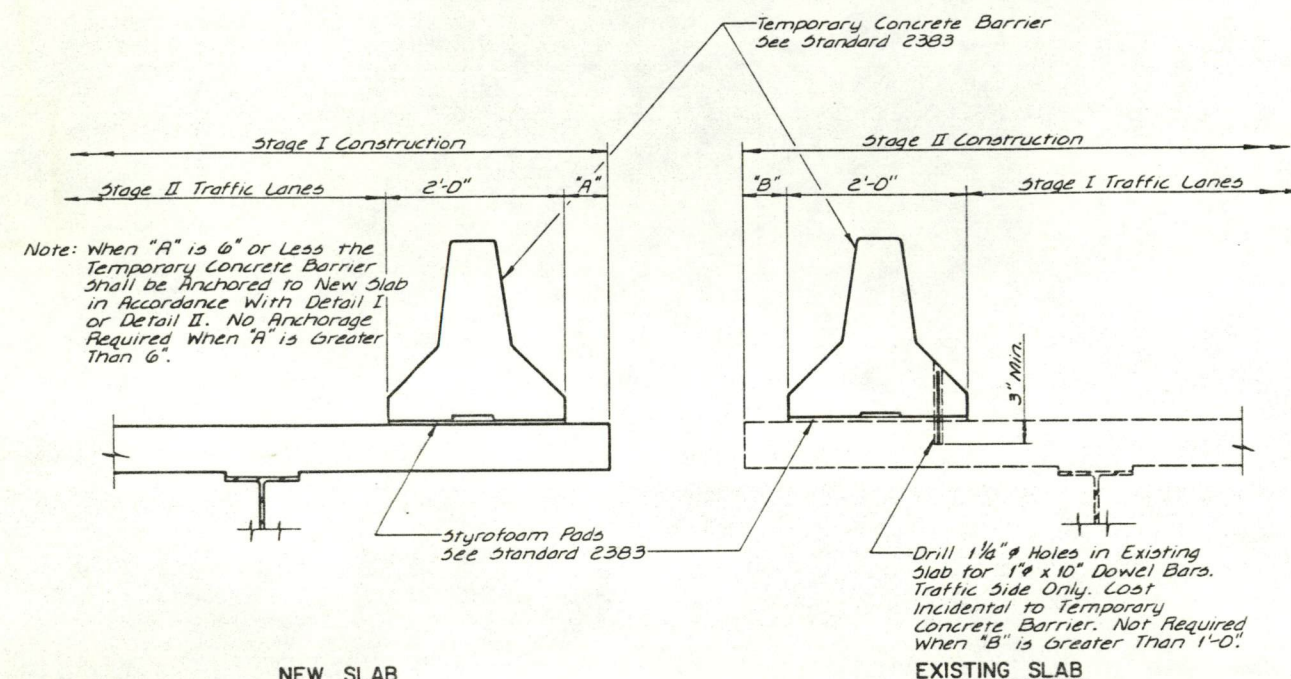
DESIGNED BY: ADP 9/87  
DRAWN BY: HDK 9/87  
CHECKED BY: JWC 9/87  
APPROVED BY: JGC 9/87

**WESTBOUND LANES  
CONCRETE REPAIRS**  
FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B)I  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)

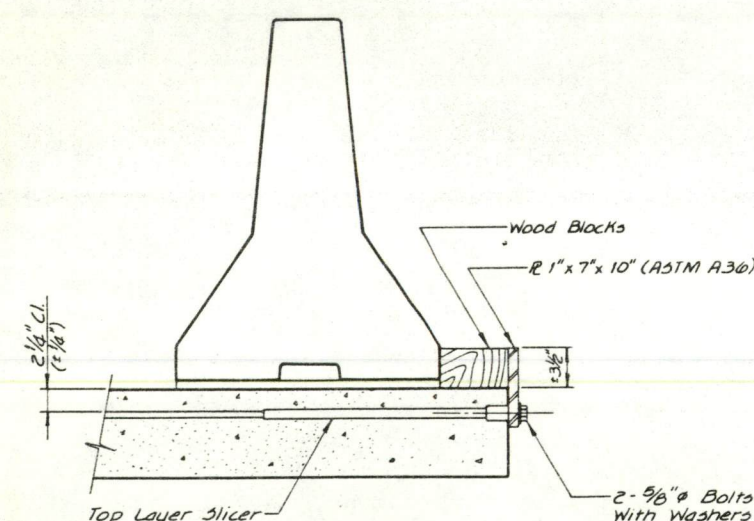


# NOTES

1. DETAIL I-WITH BAR SPLICER OR COUPLERS: CONNECT ONE (1), 1" X 7" X 10" STEEL R TO THE TOP LAYER OF COUPLERS WITH 2-5/8" Ø BOLTS SCREWED TO COUPLER AT APPROXIMATE 1/4 OF EACH 10'-0" BARRIER PANEL.
2. DETAIL II-WITH EXTENDED REINFORCEMENT BARS: CONNECT ONE (1), 1" X 7" X 10" STEEL R TO THE CONCRETE SLAB WITH 2-5/8" Ø EXPANSION ANCHORS OR CAST IN PLACE INSERTS SPACED BETWEEN THE TOP LAYER OF REINFORCEMENT AT APPROXIMATE 1/4 OF EACH 10'-0" BARRIER PANEL.
3. COST OF ANCHORAGE IS INCIDENTAL TO TEMPORARY CONCRETE BARRIER.

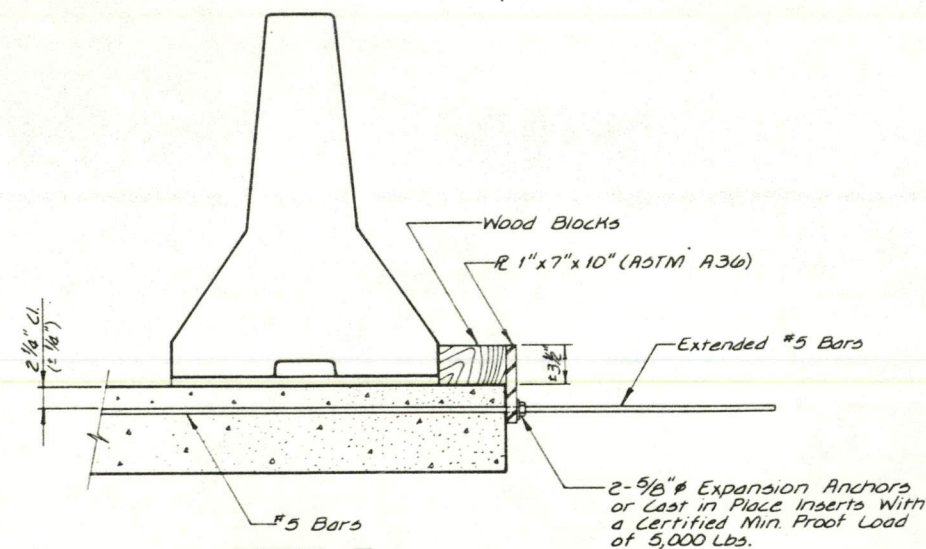


## SECTIONS THRU SLAB



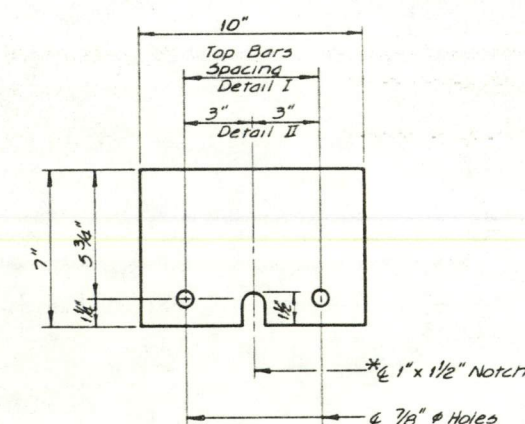
### DETAIL I

Note: The 1" x 7" x 10" Plate Shall Not Be Removed Until Stage II Construction Forms and Reinforcement Bars are in Place.



### DETAIL II

Note: The 1" x 7" x 10" Plate Shall Not Be Removed Until Stage II Construction Forms and All Reinforcement Bars Are in Place and the Concrete is Ready to be Placed.



### 1" x 7" x 10"

\* Required Only With Detail II

## TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

FAI 74 OVER STONY CREEK  
FAI RTE. 74 SECTION (92-9B) I  
VERMILION COUNTY  
STATION 1286+17.00  
STRUCTURE NO. 092-0001 (EB)  
STRUCTURE NO. 092-0002 (WB)

**ESCA**  
CONSULTANTS, INC.

DESIGNED BY: RDP 9/87  
DRAWN BY: GGB 9/87  
CHECKED BY: JWC 9/87  
APPROVED BY: JGC 9/87



STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS  
DIVISION OF HIGHWAYS  
PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY

FAI-74

| FEDERAL AID ROUTE NO.                             | SEC.  | COUNTY    | TOTAL SHEETS | SHEET NO. |
|---------------------------------------------------|-------|-----------|--------------|-----------|
| 5                                                 | 92-9B | VERMILION | 20           | 1         |
| FED. ROAD DIST. NO. 7 ILLINOIS PROJECT 1-05-6(23) |       |           |              |           |

FAI-74

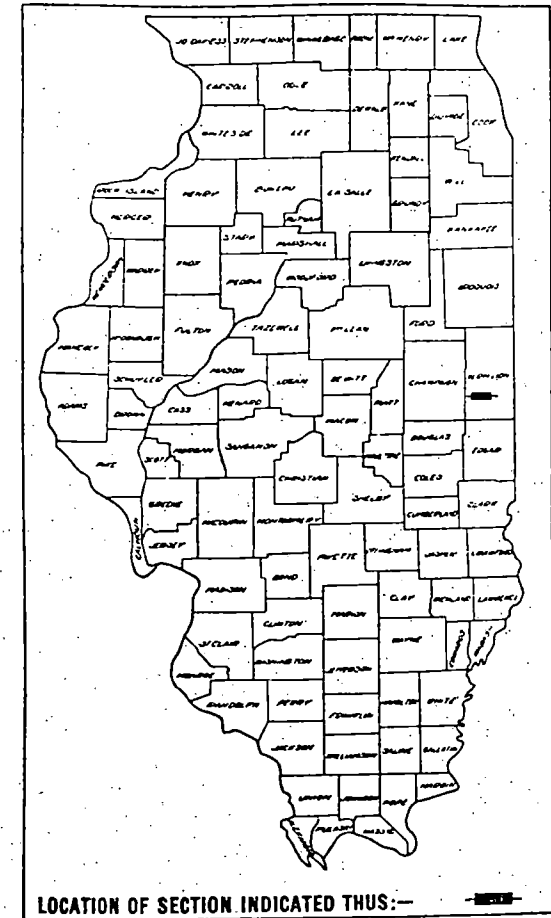
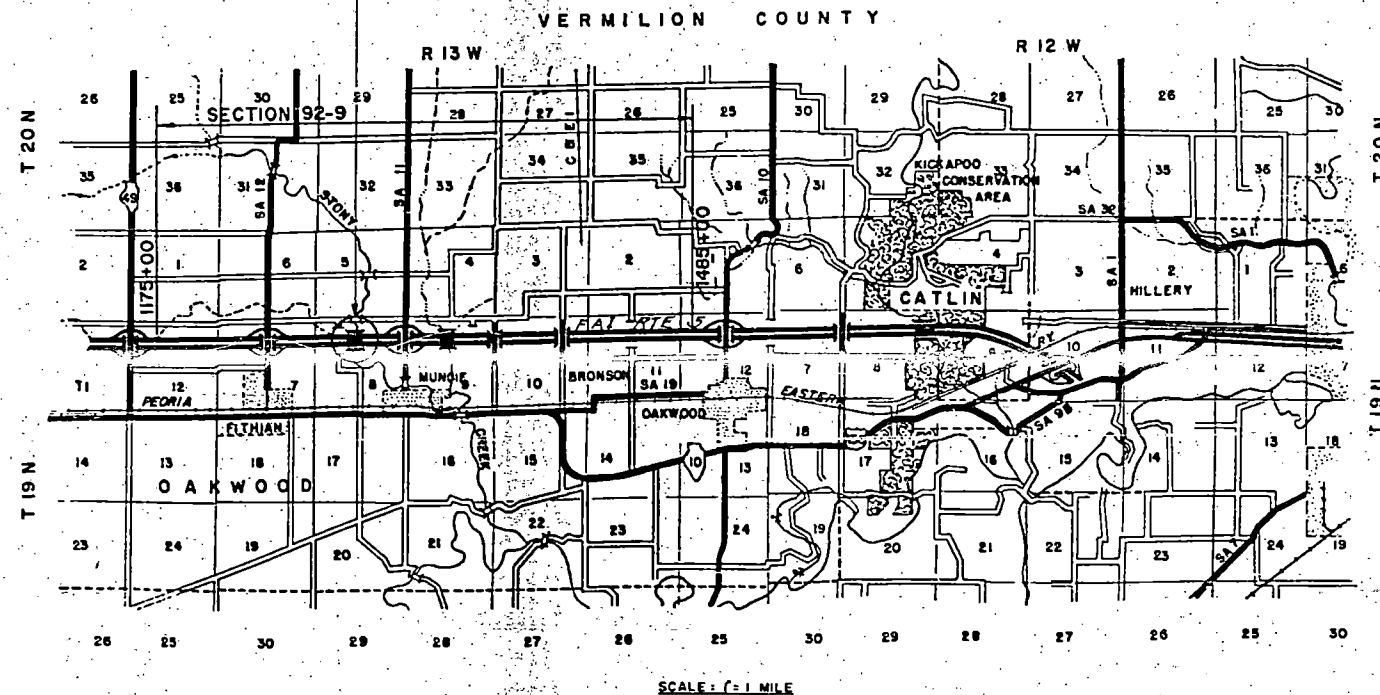
SCALES

|                |        |        |
|----------------|--------|--------|
| PLAN           | 1 INCH | 100 FT |
| PROFILE, HOR.  | 1 INCH | 100 FT |
| PROFILE, VERT. | 1 INCH | 10 FT  |
| CROSS-SECTIONS | 1 INCH | 5 FT   |

F.A.I. ROUTE 5, SECTION 92-9B  
VERMILION COUNTY  
PROJECT 1-05-6(23)



SECTION 92-9B INCLUDES A 3 SPAN PRETENSIONED  
CONCRETE I BEAM TWIN STRUCTURE SPANS: 3 AT 50'-0"  
AT STATION 1286+17



LOCATION OF SECTION INDICATED THUS:—

|                                                                                       |               |
|---------------------------------------------------------------------------------------|---------------|
| STATE OF ILLINOIS<br>DEPARTMENT OF PUBLIC WORKS AND BUILDINGS<br>DIVISION OF HIGHWAYS |               |
| SUBMITTED                                                                             | June 20, 1957 |
| DESIGNED BY                                                                           | J.J. Cychol   |
| PERMITTED                                                                             | Sept 10, 1957 |
| APPROVED                                                                              | Sept 10, 1957 |
| APPROVED                                                                              | Sept 10, 1957 |
| APPROVED                                                                              | Sept 10, 1957 |

EXAMINED SEPT. 6, 1957  
ENGINEER OF BRIDGE & TRAFFIC STRUCTURES

|                                                  |      |
|--------------------------------------------------|------|
| DEPARTMENT OF COMMERCE<br>BUREAU OF PUBLIC ROADS |      |
| APPROVED                                         | DATE |
| DIVISION ENGINEER                                |      |

989

REEL  
5-35

PLANS PREPARED BY  
CONSOER TOWNSEND & ASSOCIATES  
CONSULTING ENGINEERS  
360 EAST GRAND AVE.  
CHICAGO, ILL.

092-0001 + 0002



| INDEX OF SHEETS |                                  |
|-----------------|----------------------------------|
| SHEET NO.       | DRAWING                          |
| 1               | Title Sheet                      |
| 2               | General Notes & Quantities       |
| 3               | FAI-5 Road Plan & Profile        |
| 4               | General Plan & Location          |
| 5               | Boring Logs                      |
| 6               | Floor Plan                       |
| 7               | Superstructure Details           |
| 8               | Superstructure Details           |
| 9               | Superstructure Details           |
| 10              | Structural Steel Joint Details   |
| 11              | Handrail Details                 |
| 12              | Structural Steel Bearing Devices |
| 13              | Abutments                        |
| 14              | Abutments                        |
| 15              | Abutments                        |
| 16              | Piers                            |
| 17              | Piers                            |
| 18              | Pile Details                     |
| 19              | Standards 2113, 2265R            |
| 20              | Standards 2114, 1971S            |

FAI-74

| F.A.I. RTE. NO.             | SECTION | COUNTY    | TOTAL SHEETS | SHEET NO. |
|-----------------------------|---------|-----------|--------------|-----------|
| 5                           | 92-9B   | VERMILION | 20           | 2         |
| FEDERAL ROAD DISTRICT NO. 7 |         | ILLINOIS  | PROJ.        |           |

| SUMMARY OF QUANTITIES                           |          |              |                |        |
|-------------------------------------------------|----------|--------------|----------------|--------|
| ITEM                                            | Unit     | Substructure | Superstructure | Total  |
| Borrow Excavation                               | Cu. Yds. | 3,300        |                | 3,300  |
| Class A Excavation for Structures               | Cu. Yds. | 707          |                | 707    |
| Class B Excavation for Structures               | Cu. Yds. | 645          |                | 645    |
| Test Piles (Metal Shell)                        | Each     | 1            |                | 1      |
| Furnishing Metal Pile Shells                    | Lin. Ft. | 980          |                | 980    |
| Driving and Filling Shells                      | Lin. Ft. | 980          |                | 980    |
| Class X Concrete                                | Cu. Yds. | 487.2        | 343.6          | 830.8  |
| Reinforcement Bars                              | Lbs.     | 31,840       | 56,670         | 88,510 |
| Furnishing and Erecting Structural Steel        | Lbs.     |              | 41,340         | 41,340 |
| Prestressed Concrete Beams (3'-4" Depth)        | Lin. Ft. |              | 2113           | 2113   |
| Furnishing and Erecting Metal Handrail (2 Rail) | Lin. Ft. |              | 676            | 676    |
| Slope Wall                                      | Sq. Yds. | 2090         |                | 2090   |
| Name Plates                                     | Each     |              | 2              | 2      |

#### GENERAL NOTES

Class X Concrete shall be used throughout except in prestressed beams. Construction joints in substructure units shall be made only at the location shown in the plans.

Superstructure Slab shall be poured in one continuous operation for each simple span, between optional bonded construction joints as shown in the plans. Superstructure Slab and Curb outside of bonded construction joints shall be poured in one continuous operation for each simple span. No construction joints other than those shown will be allowed without the written permission of the Engineer.

Exposed Concrete Surfaces shall be rubbed in accordance with Standard Specifications, Section 52.14, including the prestressed concrete beams.

Reveal the Exposed Edges of Concrete with a 1" x 1" moulding where shown in the plans, except as otherwise noted.

All Rollers, Rockers, Bearing Plates, masonry plates, bolts and nuts, lead plates, joint angles, expansion joint plates, angles and anchors shall be fabricated and set in accordance with Article 51.19 of the Standard Specifications and are included for payment as Furnishing and Erecting Structural Steel, except as noted on Sheet #8. All Surfaces of Structural Steel that will be exposed after erection shall receive one coat of red lead shop paint and two field coats of aluminum paint. All paint to be furnished and applied by the Contractor and included in the unit price bid for furnishing and erecting Structural Steel.

All Reinforcement Bars shall be detailed in accordance with recommended practice of the A.C.I. Manual of Standard Practice. Bar coverage shall be 2" unless otherwise noted in the plans.

All Reinforcement Bars included in the prestressed beams shall be included in the unit price bid per lineal foot for Prestressed Concrete Beams (3'-4" Depth). Layout of Slope Walls may be varied to suit ground conditions in the field as directed by the Engineer. All of the earthwork required for the construction of slope walls shall be considered incidental to the contract unit price per square yard for Slope Wall. Superstructure slab shall be finished in accordance with Article 51.18(a) of the Standard Specifications.

HIGHWAY CLASSIFICATION — 800-T-70

#### PRESTRESS CONCRETE & DESIGN DATA

Design Specifications: A.A.S.H.O. 1953 Edition and B.P.R. Criteria for Prestressed Concrete Bridges, 1954

Design Load: H20 - 516-44 Mod.

Deck Slab, Piers, Footings and Abutments

Steel Conventional:

Structural Steel

$f_s = 18,000$  p.s.i.

Reinforcing Steel

$f_s = 20,000$  p.s.i.

Concrete Conventional:

Ultimate Compression

$f_c = 3500$  p.s.i.

Allowable Compression (No Earth Pressure)

$f_c = 1400$  p.s.i.

Allowable Compression (With Earth Pressure)

$f_c = 1000$  p.s.i.

Modular Ratio

$n = 10$

Horizontal Earth Pressure = Equiv. Fluid Press.

$= 90$  p.c.f.

Cast in Place Concrete Piles, Capacity

$= 40$  tons

Prestressed Beams

Steel Prestress:

Ultimate Tensile

$f_s = 250,000$  p.s.i.

Allowable Initial Prestress

$f_{si} = 175,000$  p.s.i.

Allowable Tension for Dead Load, Live Load, and Impact after Creep and Shrinkage

$=$  B.P.R. Criteria

Concrete Prestress:

Ultimate Compression (28 Day Strength)

$f_c = 5000$  p.s.i.

Allowable Compression

$f_c = 2000$  p.s.i.

Minimum Cylinder Strength at Release of Prestressing Force

$f_c = 4000$  p.s.i.

Footings Pressure for Piers (Max Allowable)

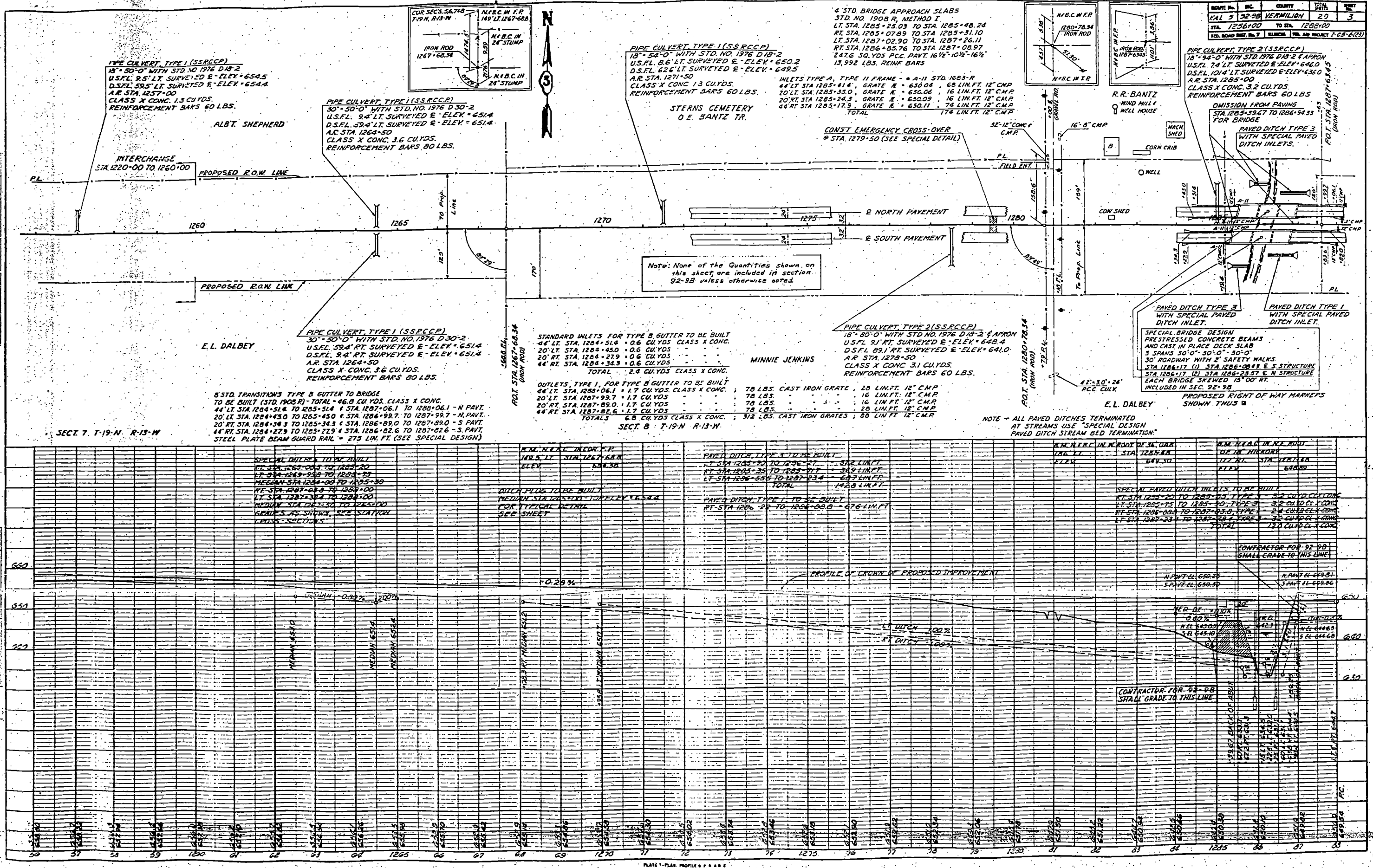
$= 8000$  p.s.i.

|                                        |       |        |         |          |               |
|----------------------------------------|-------|--------|---------|----------|---------------|
| CONSOER, TOWNSEND & ASSOCIATES         |       |        |         |          |               |
| CONSULTING ENGINEERS CHICAGO, ILLINOIS |       |        |         |          |               |
| ILLINOIS DIVISION OF HIGHWAYS          |       |        |         |          |               |
| FAI RT. 5 BRIDGE OVER STONY CREEK      |       |        |         |          |               |
| FAI-5 SECTION 92-9B                    |       |        |         |          |               |
| VERMILION COUNTY STA. 1286+17          |       |        |         |          |               |
| GENERAL NOTES AND QUANTITIES           |       |        |         |          |               |
| DESIGNED                               | DRAWN | TRACED | CHECKED | REVIEWED | DATE          |
| G.E.E.                                 | D.S.  | D.S.   | L.D.B.  | C.W.W.   | H.S.M. 4-8-57 |



PLAN  
DATE  
BY  
CHECKED  
NOTES

PROFILE  
DATE  
BY  
CHECKED  
NOTES











BORING #110

BORING # III

BORING # 112

BORING # 113

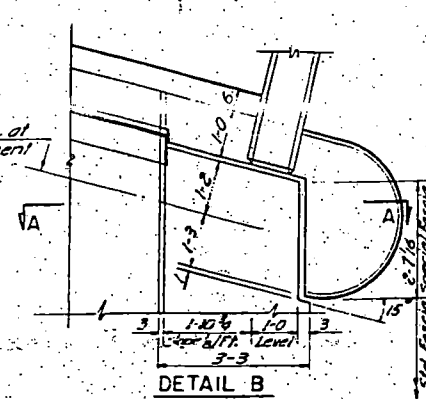
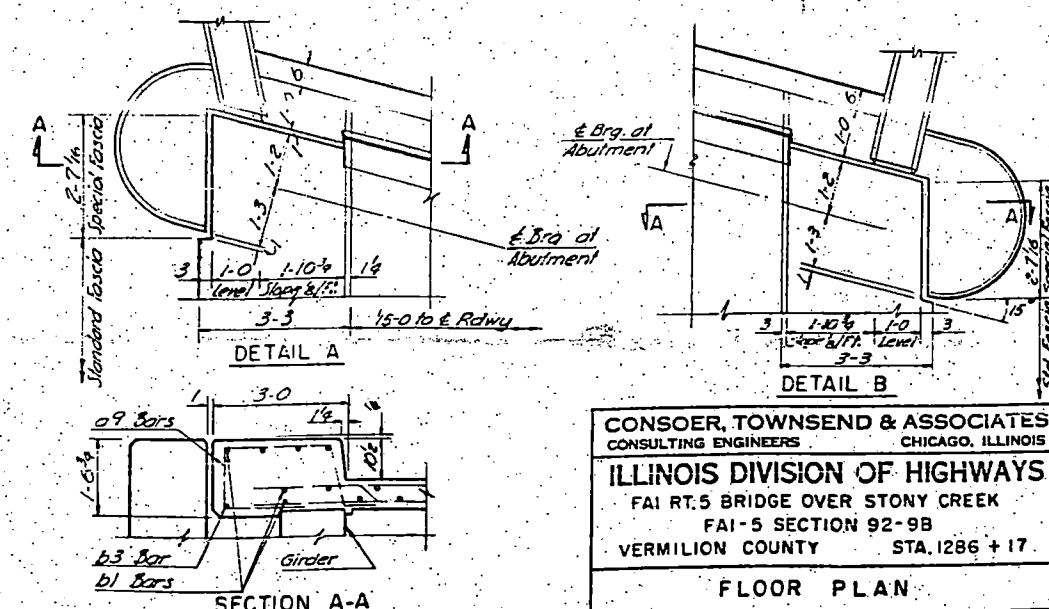
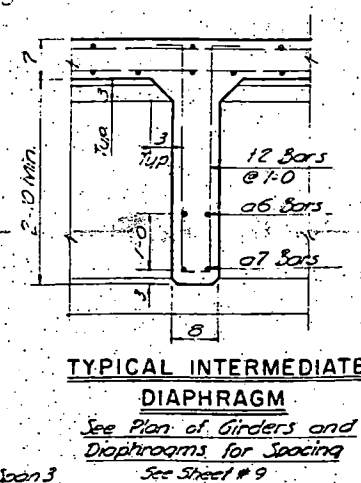
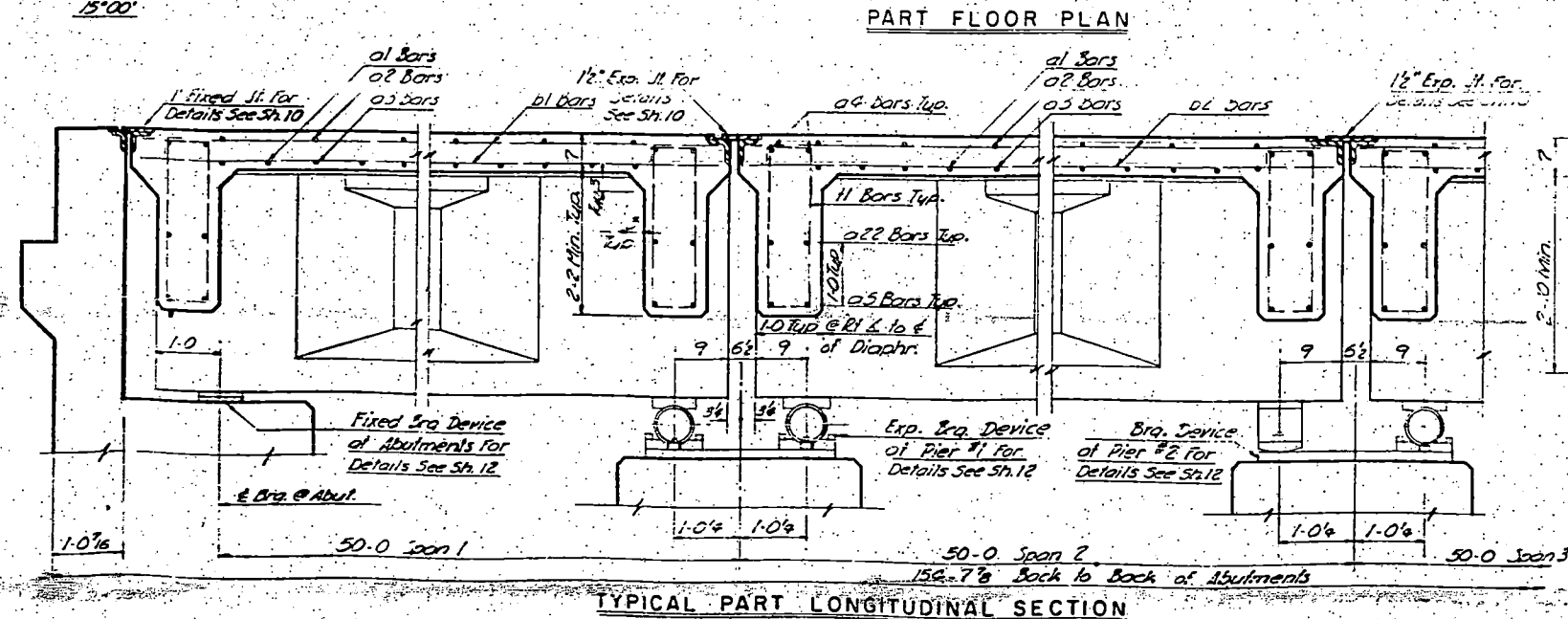
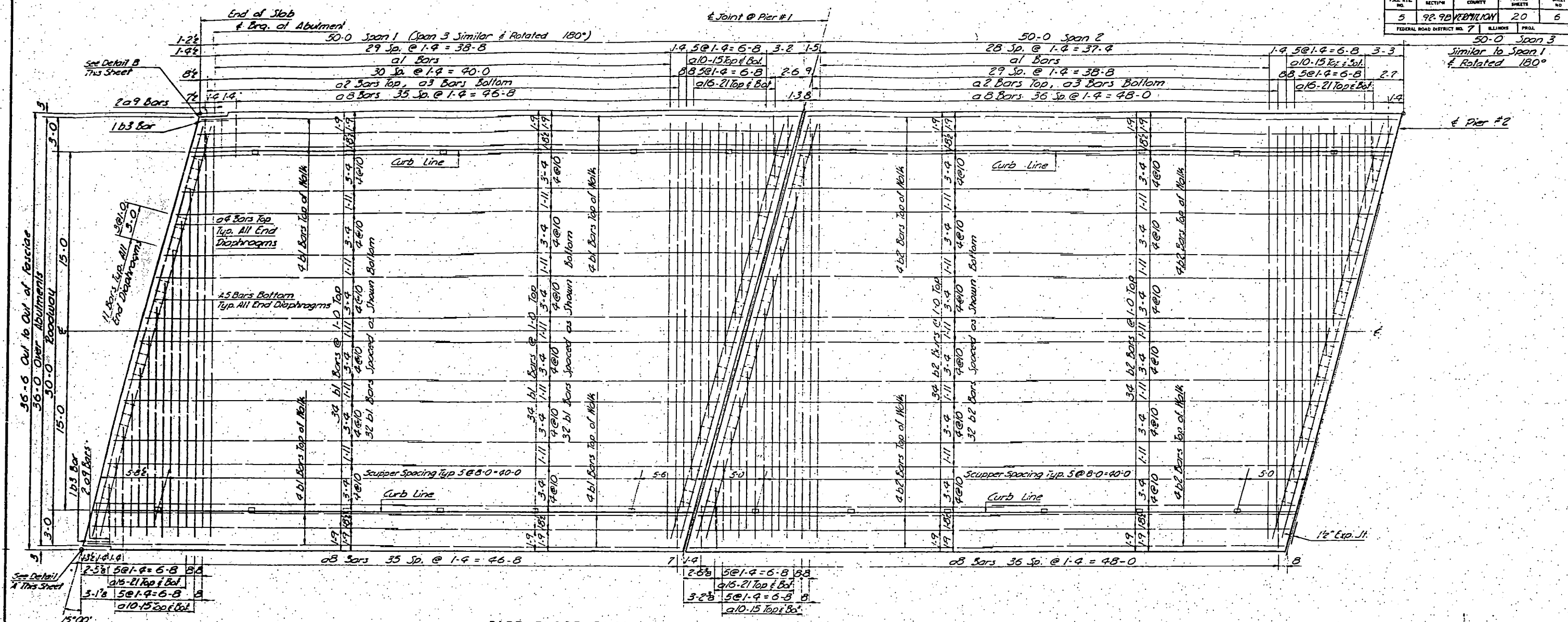
BORING #116

BORING #117

$Q_u$  = Unconfirmed compressive strength (T./Sq. Ft.)



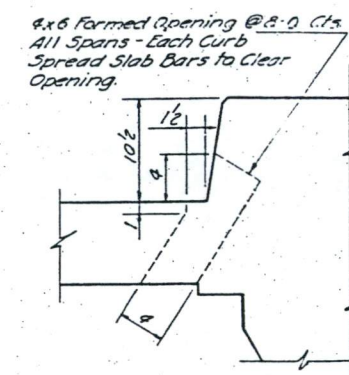
| I.A.I. RTE.<br>NO.          | SECTION | COUNTY    | TOTAL<br>SHEETS | SHEET<br>NO. |
|-----------------------------|---------|-----------|-----------------|--------------|
| 5                           | 92-9B   | VERMILION | 20              | 6            |
| FEDERAL ROAD DISTRICT NO. 7 |         |           | ILLINOIS        | PROJ.        |



|                                   |                 |                   |                               |
|-----------------------------------|-----------------|-------------------|-------------------------------|
| CONSOER, TOWNSEND & ASSOCIATES    |                 | CHICAGO, ILLINOIS |                               |
| CONSULTING ENGINEERS              |                 |                   |                               |
| ILLINOIS DIVISION OF HIGHWAYS     |                 |                   |                               |
| FAI RT. 5 BRIDGE OVER STONY CREEK |                 |                   |                               |
| FAI-5 SECTION 92-9B               |                 |                   |                               |
| VERMILION COUNTY                  |                 | STA. 1286 + 17    |                               |
| FLOOR PLAN                        |                 |                   |                               |
| DESIGNED<br>E.B.                  | DRAWN<br>C.R.B. | TRACED<br>C.R.B.  | CHECKED<br>J.H.<br>LDB<br>CRN |
| REVISED<br>H.S.M. 8-6-57          |                 | DATE<br>REVISED   |                               |



| F.A.J. RTE<br>NO.           | SECTION | COUNTY    | TOTAL<br>SHEETS | SHEET<br>NO |
|-----------------------------|---------|-----------|-----------------|-------------|
| 5                           | 92.9B   | VERMILION | 20              | 7           |
| FEDERAL ROAD DISTRICT NO. 7 |         | ILLINOIS  | PROJ.           |             |

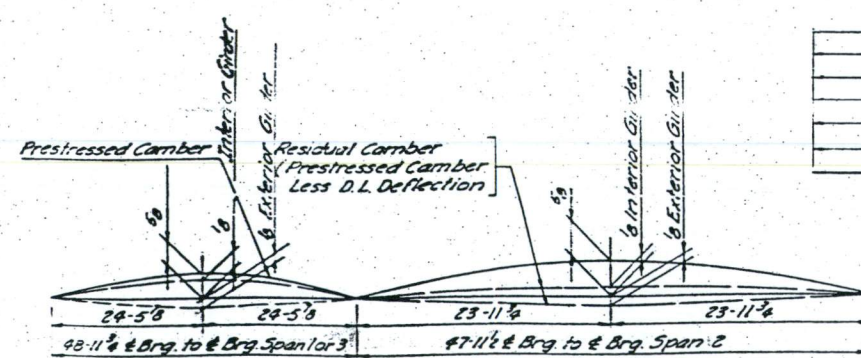


SCUPPER DETAIL

| BAR SCHEDULE |     |      |        |          |      |
|--------------|-----|------|--------|----------|------|
| Bar          | No. | Size | Length | Spacing  | Shor |
| a1           | 178 | 5    | 35-6   | 1-4      | ✓    |
| a2           | 184 | 6    | 34-6   | 1-4      | —    |
| a3           | 184 | 6    | 33-0   | 1-4      | —    |
| a4           | 24  | 7    | 35-9   | As Shown | —    |
| a5           | 144 | 7    | 3-6    | "        | —    |
| a6           | 144 | 4    | 4-6    | "        | —    |
| a7           | 144 | 5    | 3-6    | "        | —    |
| a8           | 436 | 4    | 7-10   | 1-4      | ✓    |
| a9           | 16  | 4    | 8-3    | 1-4      | ✓    |
| a10-15       | 144 | 5    | *      | 1-4      | —    |
| a16-21       | 144 | 6    | *      | 1-4      | —    |
| a22          | 144 | 4    | 3-6    | As Shown | —    |
| b1           | 592 | 4    | 26-0   | As Shown | —    |
| b2           | 296 | 4    | 25-4   | "        | —    |
| b3           | 8   | 4    | 2-3    | "        | —    |

| SUPERSTRUCTURE QUANTITIES               |                |
|-----------------------------------------|----------------|
| Class X Concrete                        | 343.6 Cu. Yds. |
| Reinforcement Bars                      | 56,670 Lbs.    |
| Prestressed Concrete Beams (3'-4")      | 2113 Lin. Ft.  |
| Quantities are for both Superstructures |                |

\* See Bending Diagram



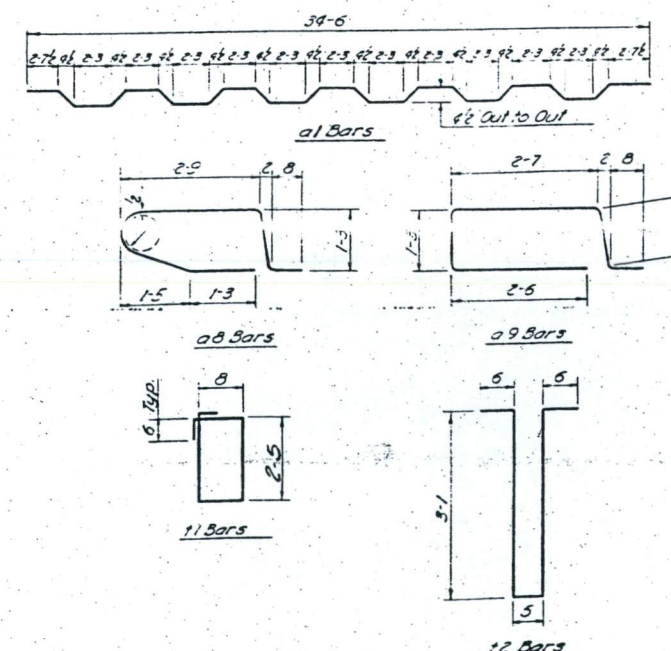
### CAMBER DIAGRAM

|     |      |
|-----|------|
| Q10 | 6-6  |
| Q11 | 11-6 |
| Q12 | 16-6 |
| Q13 | 21-6 |
| Q14 | 26-6 |
| Q15 | 31-6 |

a10-15 Bars  
Cut 24 Each Length

|     |      |
|-----|------|
| 016 | 4.0  |
| 017 | 9.0  |
| 018 | 14.0 |
| 019 | 19.0 |
| 020 | 24.0 |
| 021 | 29.0 |

316" = 21 Bars  
Cut 24 Each Length



### BENDING DIAGRAMS

(All Bar Dimensions Are Out to Out)

**CONSOER, TOWNSEND & ASSOCIATES**  
CONSULTING ENGINEERS CHICAGO, ILLINOIS

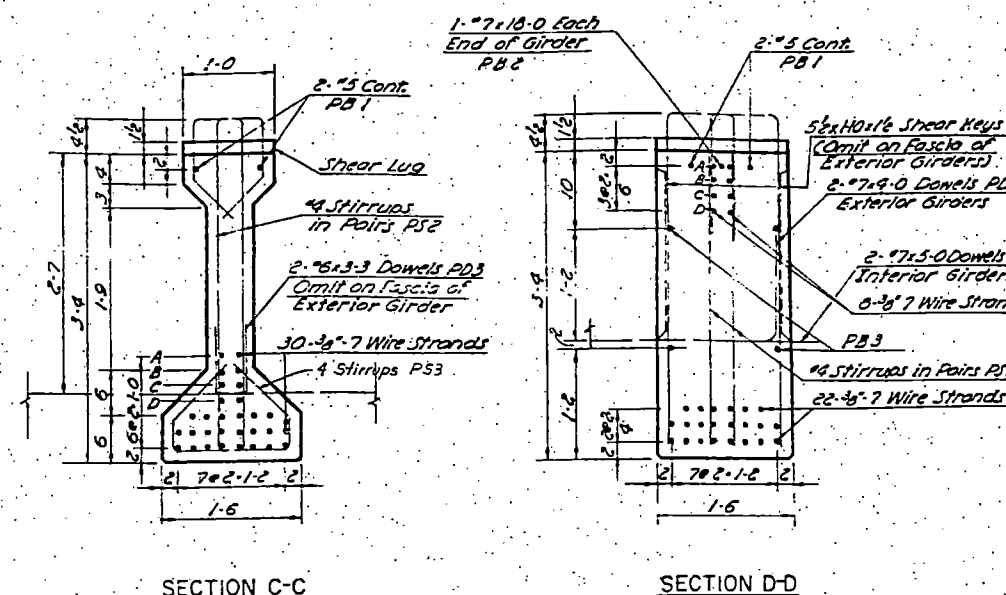
ILLINOIS DIVISION OF HIGHWAYS  
FAI RT. 5 BRIDGE OVER STONY CREEK  
FAI-5 SECTION 92-9B

VERMILION COUNTY STA. 1286+17

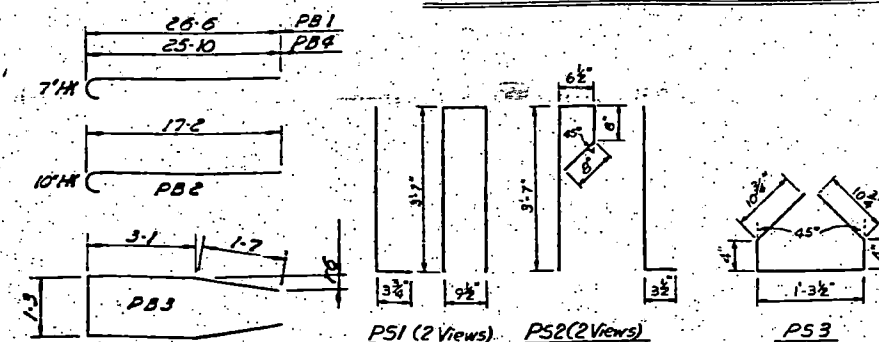
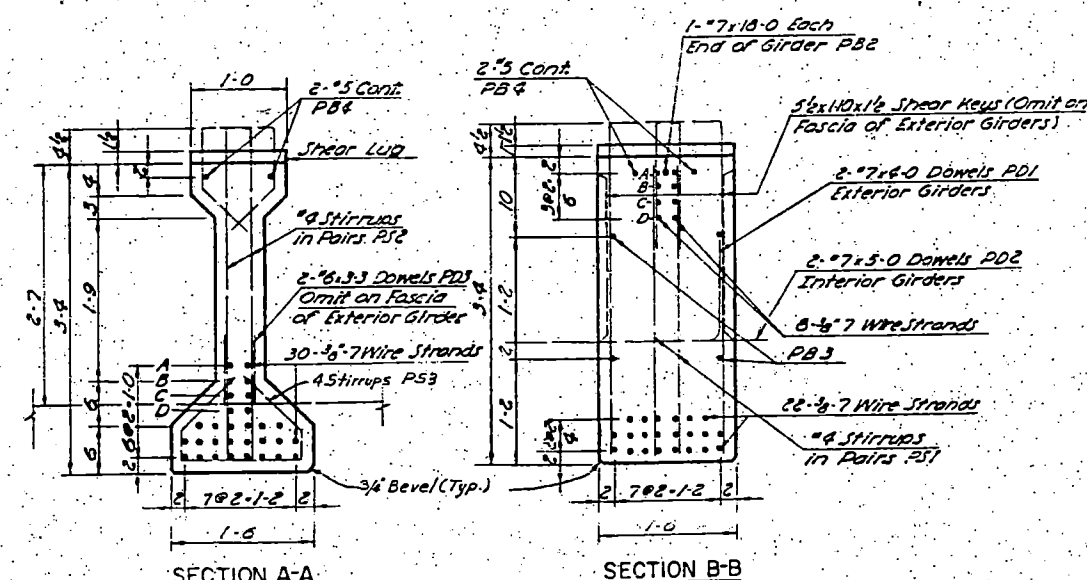
SUPERSTRUCTURE DETAILS

|                  |               |                |                                       |                           |      |          |
|------------------|---------------|----------------|---------------------------------------|---------------------------|------|----------|
| DESIGNED<br>A.K. | DRAWN<br>E.B. | TRACED<br>D.B. | CHECKED<br>C.R.B.<br>L.O.B.<br>C.W.W. | REVIEWED<br>H.S.M. 6-8-57 | DATE | REVIEWED |
|------------------|---------------|----------------|---------------------------------------|---------------------------|------|----------|

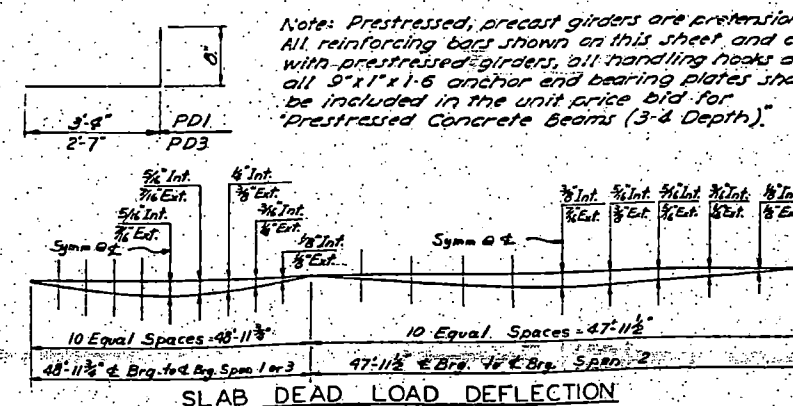


[illegible]

Note: Reinforcing listed is total reinforcing required for 4-G1, 20-G2, 4-G3, 2-G4, 10-G5 & 2-G6 Girders, except the 3" T-strand wires & handling hooks.



Note: Prestressed, precast girders are pretensioned. All reinforcing bars shown on this sheet and cast with prestressed girders, all handling hooks and all 5"x11"x1-6 anchor and bearing plates shall be included in the unit price bid for "Prestressed Concrete Beams (3-4 Depth)".



|                                                        |       |        |                          |                   |               |
|--------------------------------------------------------|-------|--------|--------------------------|-------------------|---------------|
| CONSOER, TOWNSEND & ASSOCIATES<br>CONSULTING ENGINEERS |       |        |                          | CHICAGO, ILLINOIS |               |
| ILLINOIS DIVISION OF HIGHWAYS                          |       |        |                          |                   |               |
| FAI RT. 5 BRIDGE OVER STONY CREEK                      |       |        |                          |                   |               |
| FAI-5 SECTION 92-98                                    |       |        |                          |                   |               |
| VERMILION COUNTY                                       |       |        | STA. 1266+17             |                   |               |
| SUPERSTRUCTURE DETAILS                                 |       |        |                          |                   |               |
| DESIGNED                                               | DRAWN | TRACED | CHECKED                  | REVIEWED          | DATE          |
| A.M.                                                   | J.S.  | J.S.   | R.G.R.<br>J.H.<br>C.N.W. |                   | U.S.N. 4-4-57 |

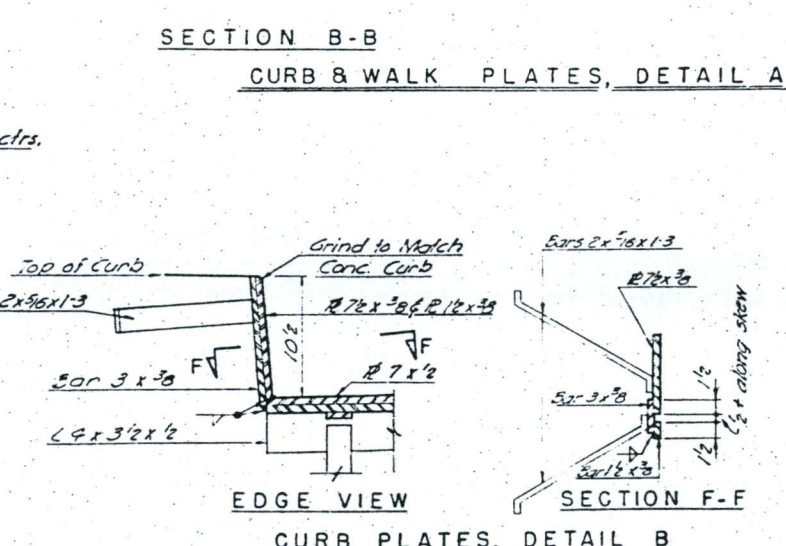
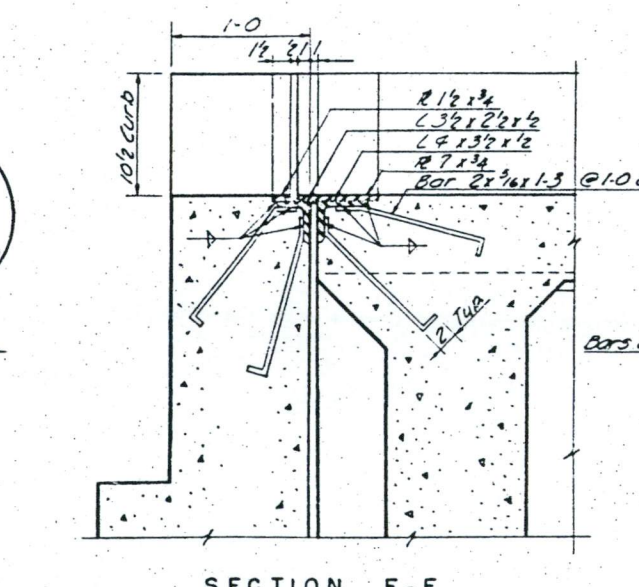
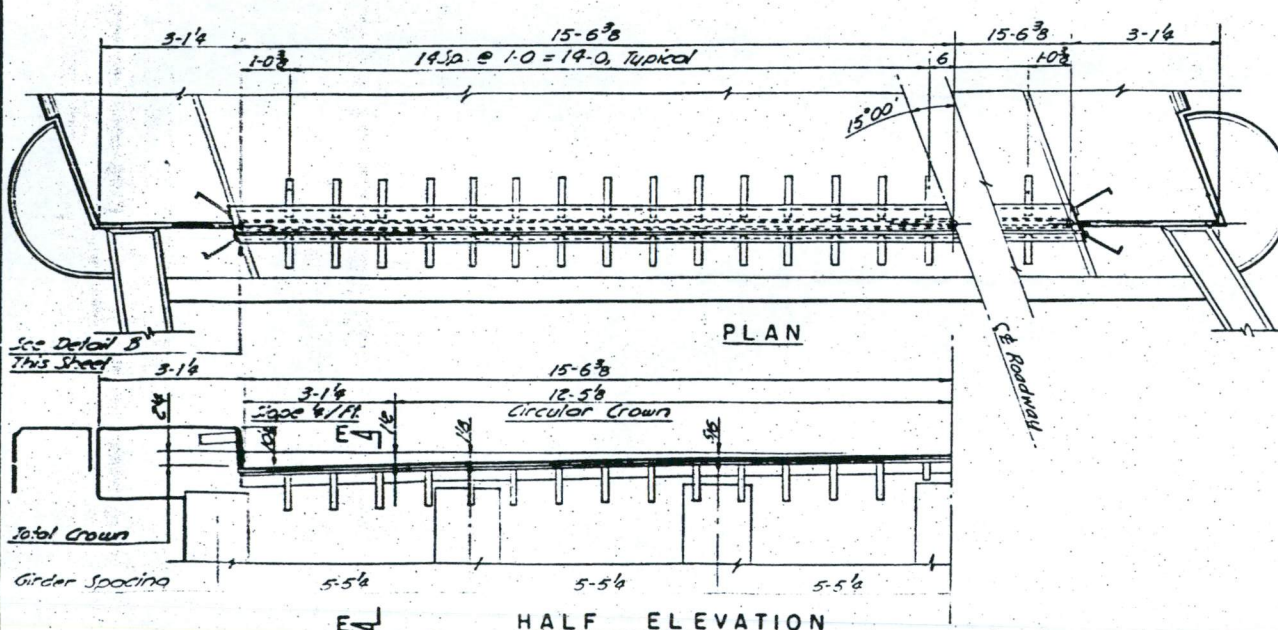
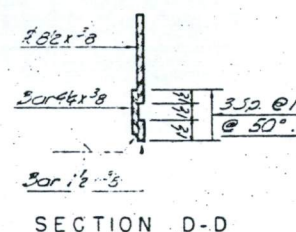
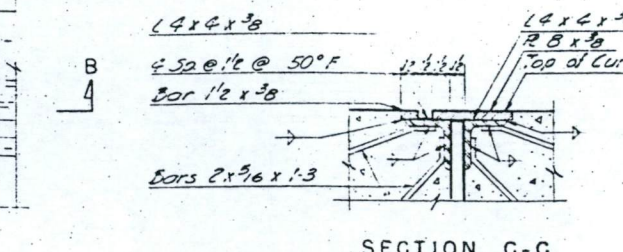
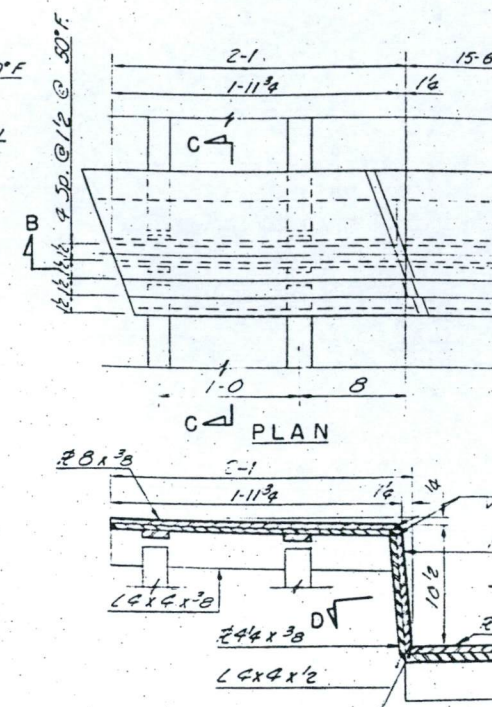
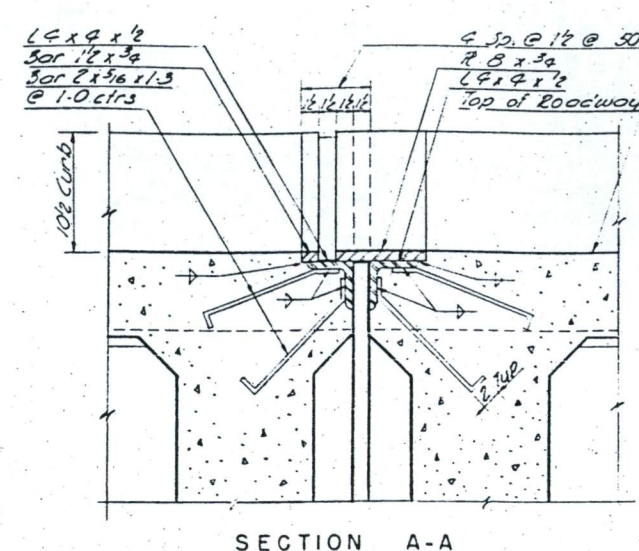
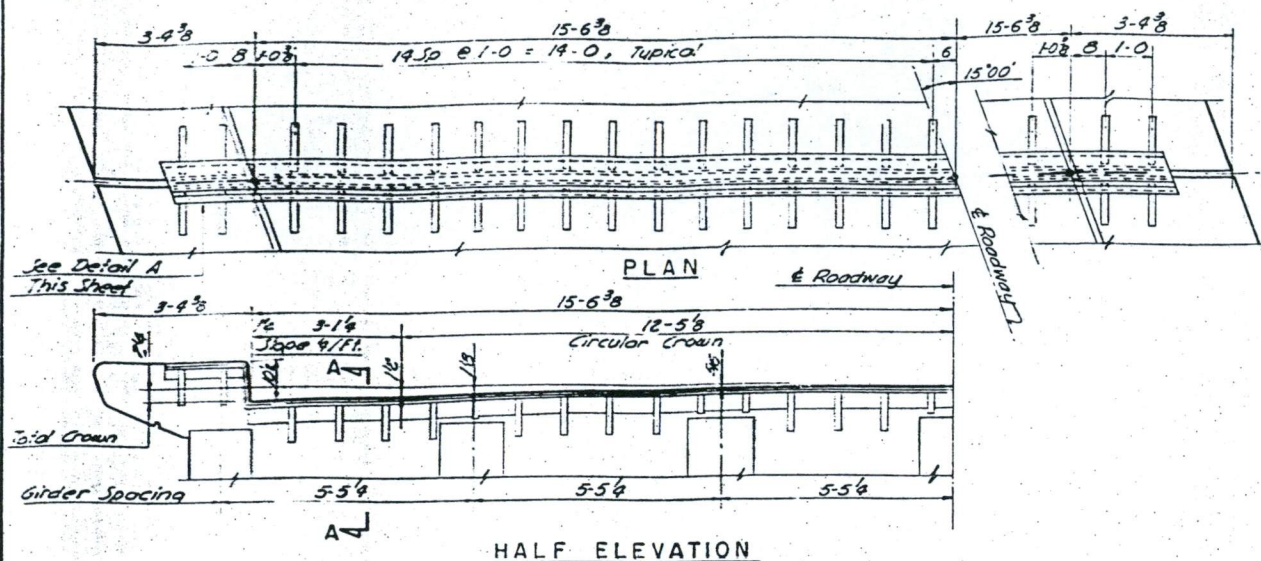






FAI-74

| F.A.I. R.T.E. NO.           | SECTION | COUNTY    | TOTAL SHEETS | SHEET NO. |
|-----------------------------|---------|-----------|--------------|-----------|
| 5                           | 92-98   | VERMILION | 20           | 10        |
| FEDERAL ROAD DISTRICT NO. 7 |         | ILLINOIS  | PROJ.        |           |



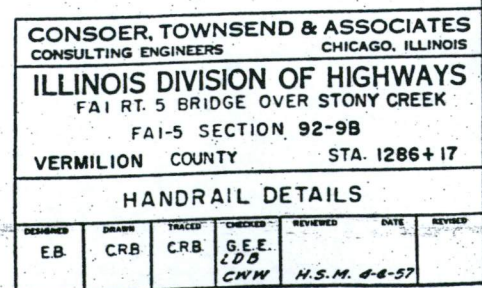
Note: Set curb & walk plates, or curb plates, flush with plane of curb & weld to roadway plates & angles as shown. Grind exposed welds smooth. Anchor bars shall be field bent to clear girders, where required. All welds are 3/8" fillet welds except as otherwise noted.

TOTAL COMPUTED WEIGHT OF JOINT DEVICES  
STRUCTURAL STEEL 14,140 LBS.

|                                                                                         |                              |
|-----------------------------------------------------------------------------------------|------------------------------|
| CONSOER, TOWNSEND & ASSOCIATES<br>CONSULTING ENGINEERS<br>CHICAGO, ILLINOIS             |                              |
| ILLINOIS DIVISION OF HIGHWAYS<br>FAI RT5 BRIDGE OVER STONY CREEK<br>FAI-5 SECTION 92-98 |                              |
| VERMILION COUNTY STA. 1286+17                                                           |                              |
| STRUCTURAL STEEL JOINT DETAILS                                                          |                              |
| DESIGNED<br>EB                                                                          | DRAWN<br>CRB                 |
| TRACKED<br>CRB                                                                          | CHECKED<br>LDB<br>GEE<br>CWN |
| REVIEWED<br>H.S.M. 4-8-57                                                               | DATE<br>REVISED              |



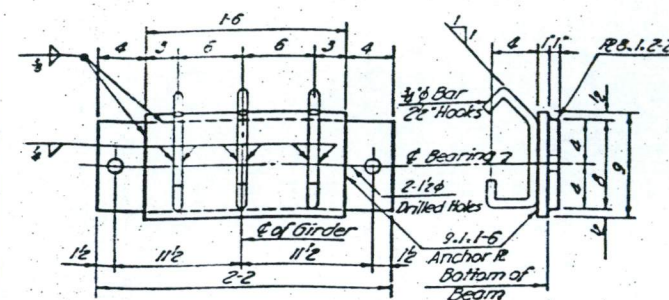
| F.A.I. RTE.<br>NO.          | SECTION | COUNTY    | TOTAL<br>SHEETS | SHEET<br>NO. |
|-----------------------------|---------|-----------|-----------------|--------------|
| 5                           | 92-9B   | VERMILION | 20              | 11           |
| FEDERAL ROAD DISTRICT NO. 7 |         | ILLINOIS  | PROJ.           |              |



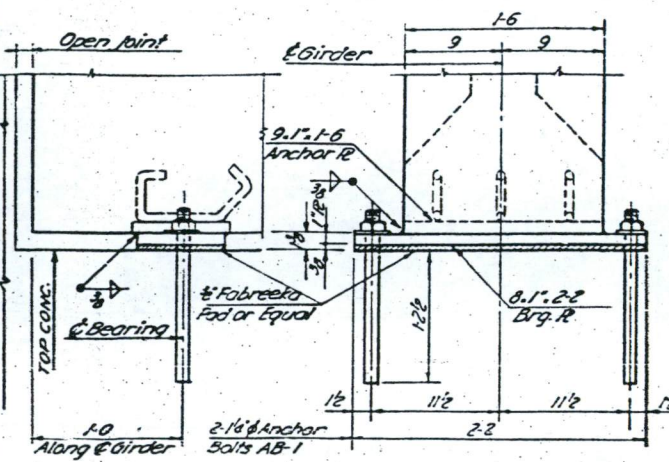


FAI-74

| F.A.S. WTS.                 | SECTION         | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------------------|-----------------|--------|--------------|-----------|
| 5                           | 92-98 VERMILION | 20     | 12           |           |
| FEDERAL ROAD DISTRICT NO. 7 |                 |        |              |           |



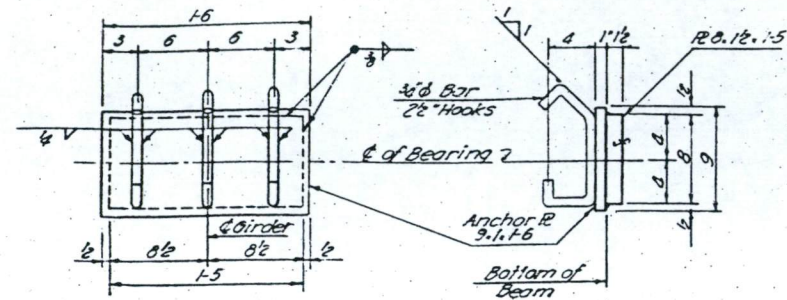
TOP VIEW SIDE VIEW



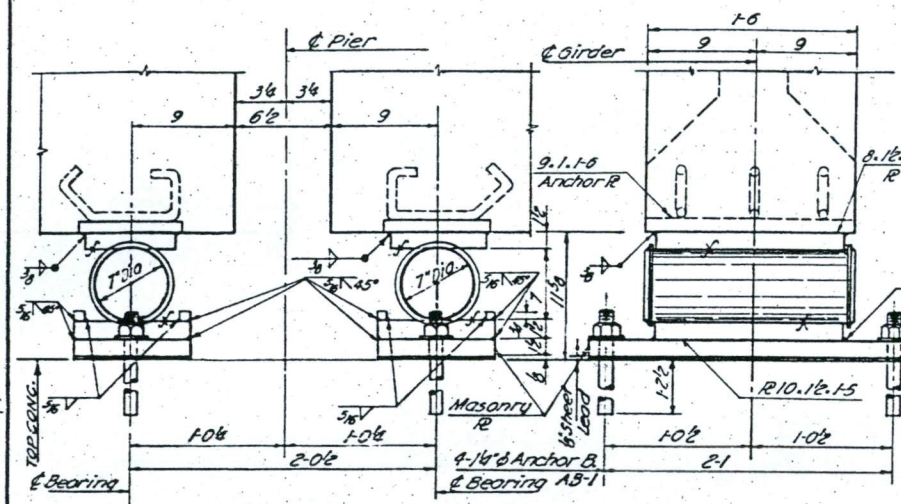
SIDE VIEW FRONT VIEW  
ASSEMBLY

FIXED BEARING AT ABUTMENTS  
FIX

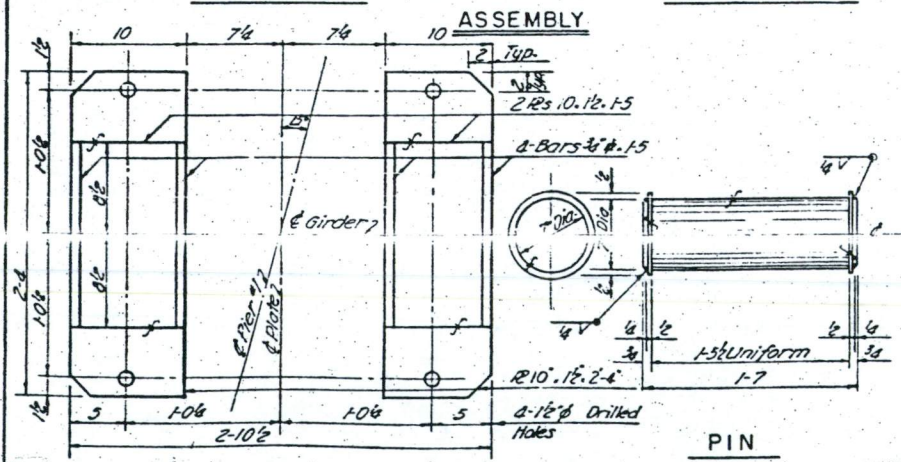
Note: All Prefabricated pads to be included in unit price bid for "Furnishing and Erecting Structural Steel."



TOP VIEW SIDE VIEW



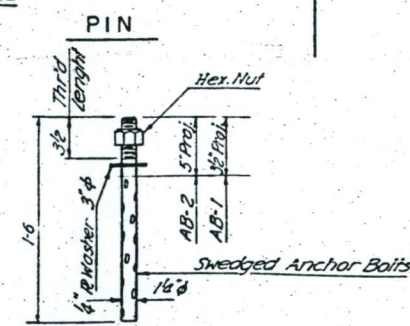
SIDE VIEW FRONT VIEW  
ASSEMBLY



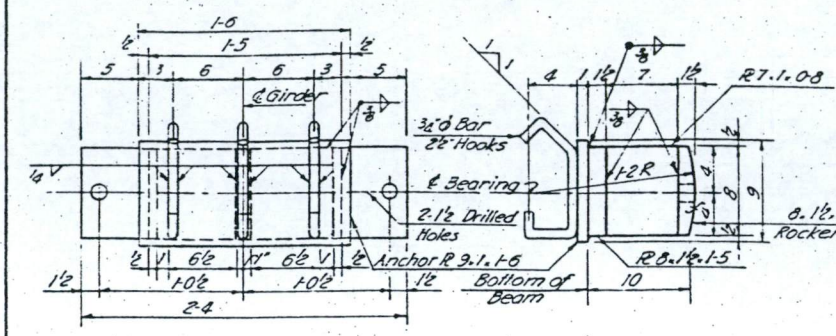
MASONRY PLATE ASSEMBLY

EXPANSION BEARING AT PIER #1

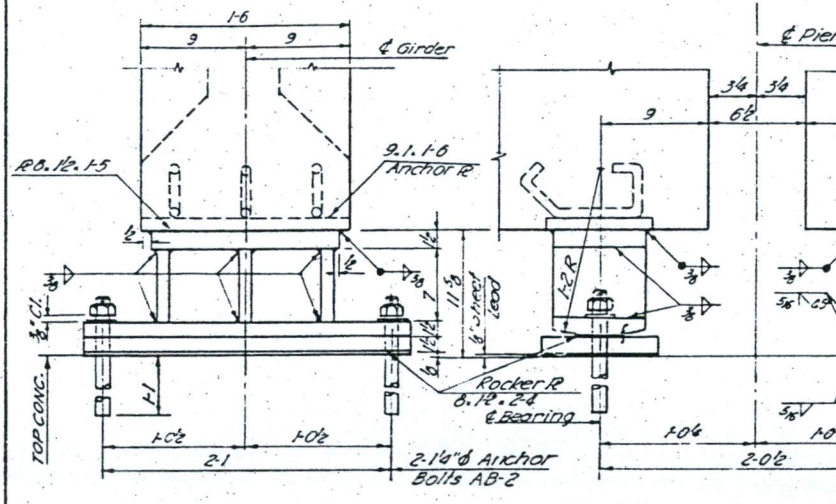
EXP.-EXP.



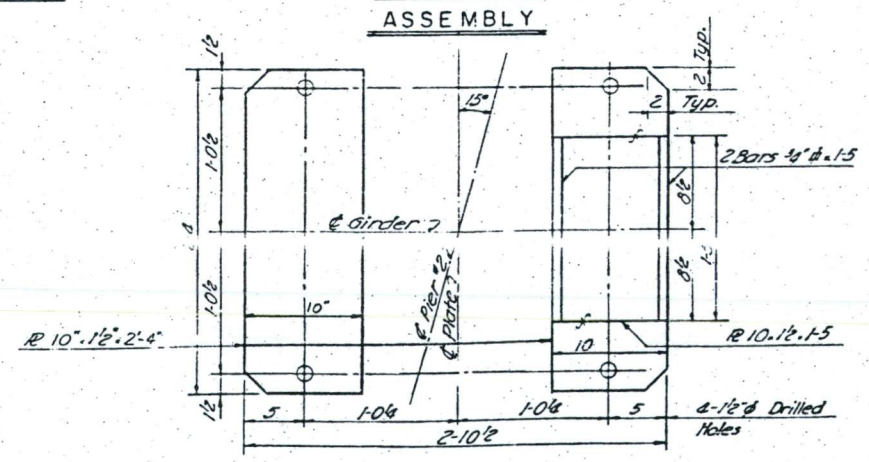
ANCHOR BOLTS AB1 & AB2



TOP VIEW SIDE VIEW



FRONT VIEW SIDE VIEW  
ASSEMBLY



MASONRY PLATE ASSEMBLY

COMBINATION BEARING AT PIER #2

FIX.-EXP.

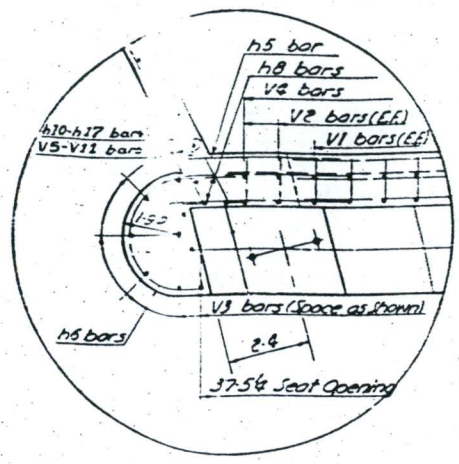
Note: All 9.1.1.6 Anchored Brg. Plates in Prestressed Concrete Beams are included in the unit price bid for "Prestressed Concrete Beams (3'-4" Depth).  
TOTAL COMPUTED WEIGHT OF BEARING DEVICES  
STRUCTURAL STEEL 27,200 LBS.

|                                                                                                     |       |        |                    |          |               |
|-----------------------------------------------------------------------------------------------------|-------|--------|--------------------|----------|---------------|
| CONSOER, TOWNSEND & ASSOCIATES<br>CONSULTING ENGINEERS<br>CHICAGO, ILLINOIS                         |       |        |                    |          |               |
| ILLINOIS DIVISION OF HIGHWAYS<br>FAI RT. 5 BRIDGE OVER STONY CREEK<br>VERMILION COUNTY STA. 1286+17 |       |        |                    |          |               |
| STRUCTURAL STEEL BEARING DEVICES                                                                    |       |        |                    |          |               |
| DESIGNED                                                                                            | DRAWN | TRACED | CHECKED            | REVIEWED | DATE          |
| J.T.                                                                                                | J.T.  | J.T.   | J.H.<br>LDB<br>CNW |          | U.S.M. 8-4-57 |



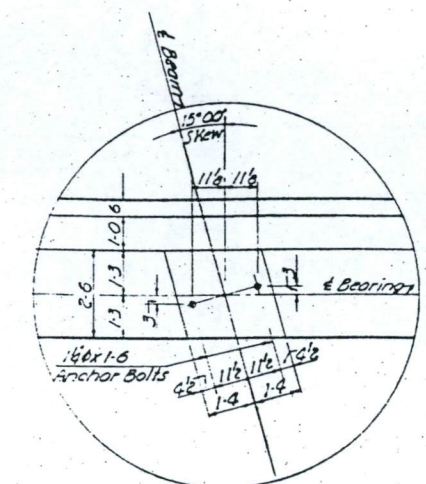
FAI-74

| A.I. R.T. NO.                              | SECTION | COUNTY    | TOTAL SHEETS | SHEET NO. |
|--------------------------------------------|---------|-----------|--------------|-----------|
| 5                                          | 92-9B   | VERMILION | 20           | 13        |
| FEDERAL ROAD DISTRICT NO. 7 ILLINOIS PROJ. |         |           |              |           |



DETAIL A

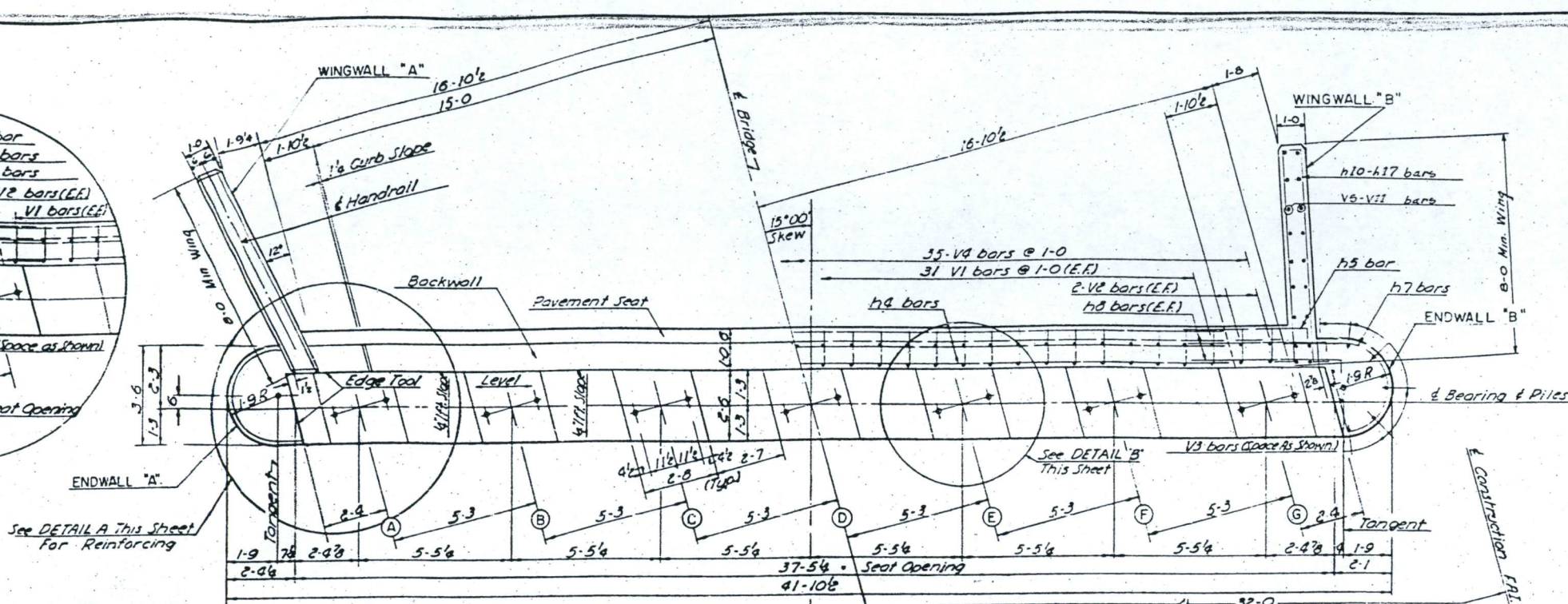
See DETAIL A This Sheet For Reinforcing



DETAIL B

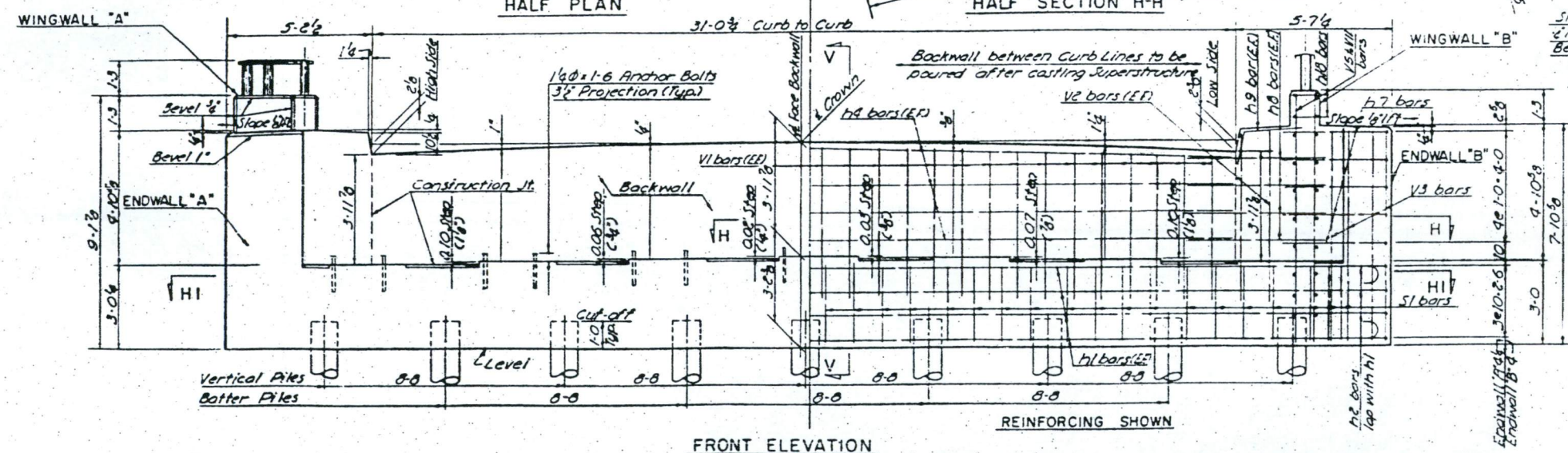
Backwall between curb lines to be poured after casting superstructure slab has been completed. For details of Edge Jt. See Sheet No. 10

12\"/>



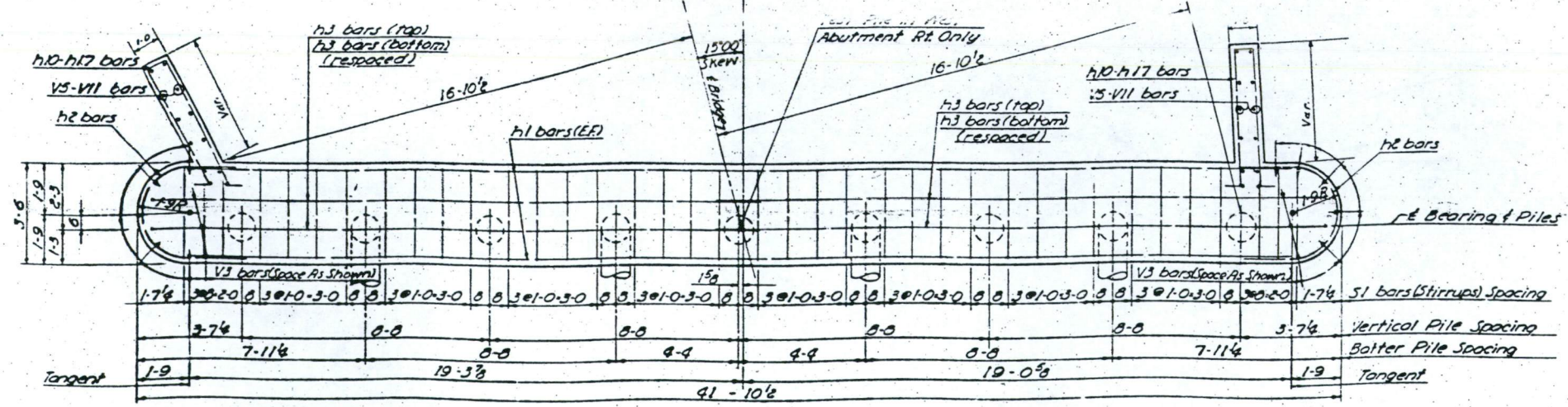
HALF PLAN

HALF SECTION H-H



FRONT ELEVATION

REINFORCING SHOWN



SECTION HI-HI

SECTION V-V

ESTIMATED LENGTHS & QUANTITIES CAST IN PLACE CONCRETE PILES

|              |         |              |
|--------------|---------|--------------|
| W. Abut. Rt. | 8 @ 28' | 224 Lin. Ft. |
| E. Abut. Rt. | 9 @ 28' | 252 Lin. Ft. |
| W. Abut. Lt. | 9 @ 28' | 252 Lin. Ft. |
| E. Abut. Lt. | 9 @ 28' | 252 Lin. Ft. |
| Total        |         | 980 Lin. Ft. |
| Test Pile    |         | 1 each       |

CONSOER, TOW. SEND & ASSOCIATES  
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS  
FAI RT-5 BRIDGE OVER STONY CREEK  
FAI-5 SECTION 92-9B  
VERMILION COUNTY STA. 1286+17

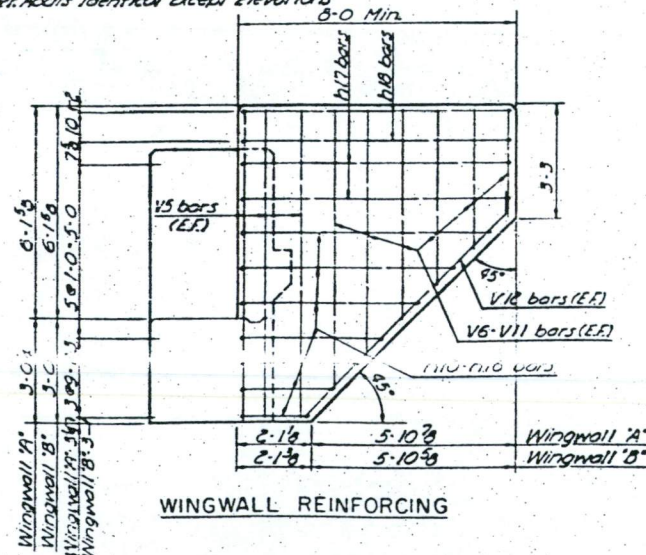
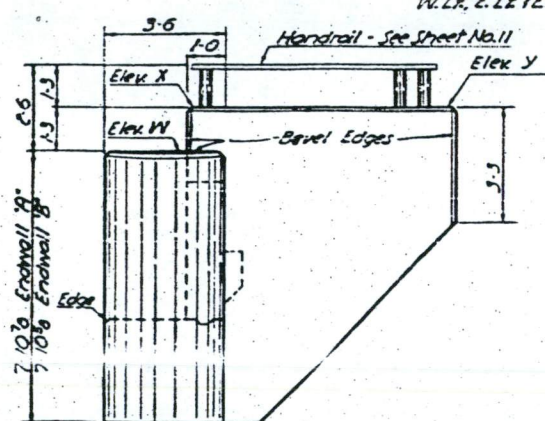
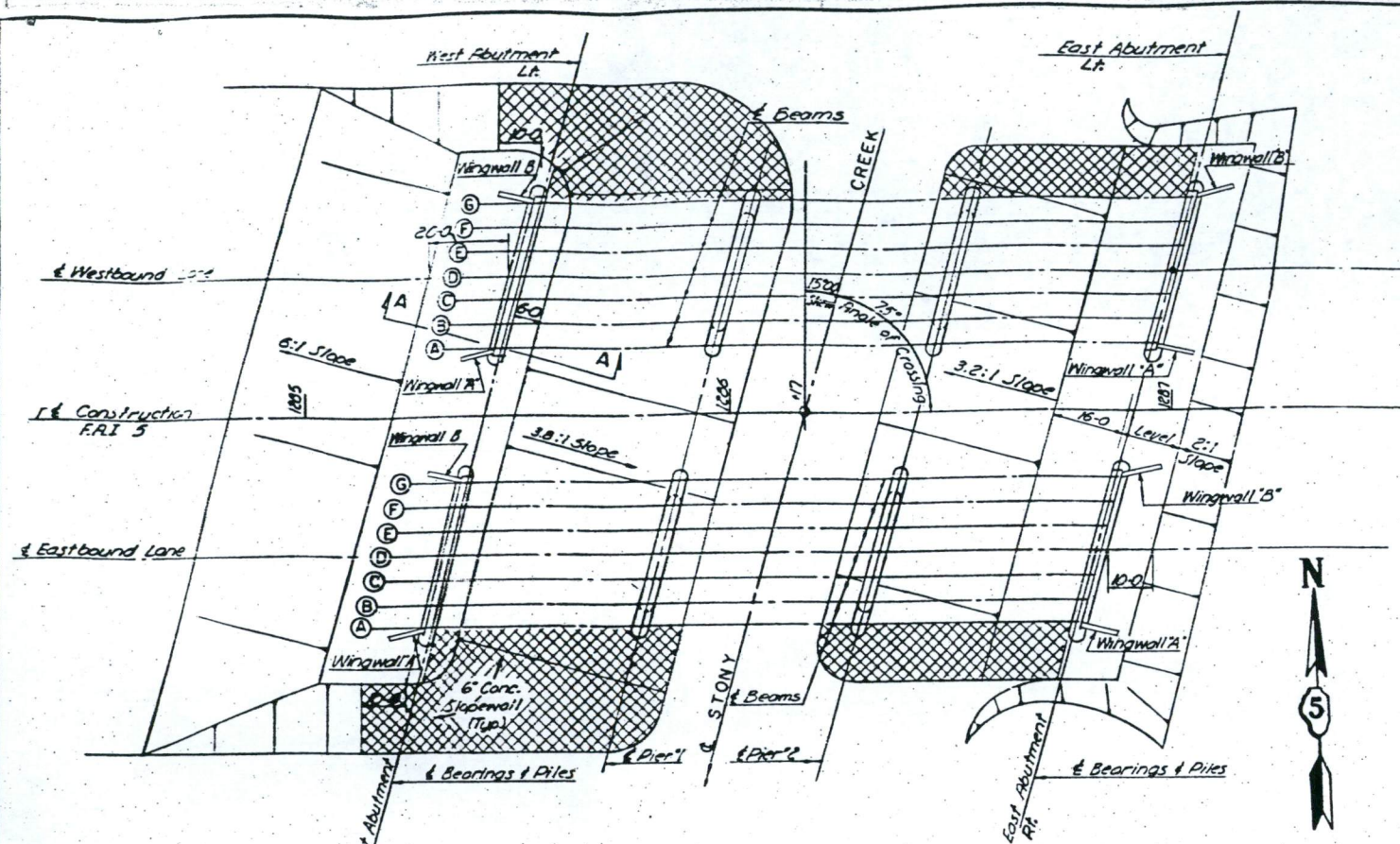
ABUTMENTS

| DESIGNED | DRAWN | TRACED | CHECKED      | REVIEWED | DATE   | REVISION |
|----------|-------|--------|--------------|----------|--------|----------|
| G.E.E.   | J.S.  | J.S.   | J.M. LDB CWW | H.S.M.   | 4-4-57 |          |

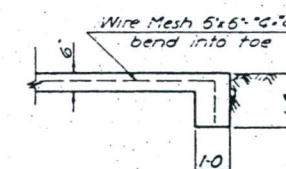
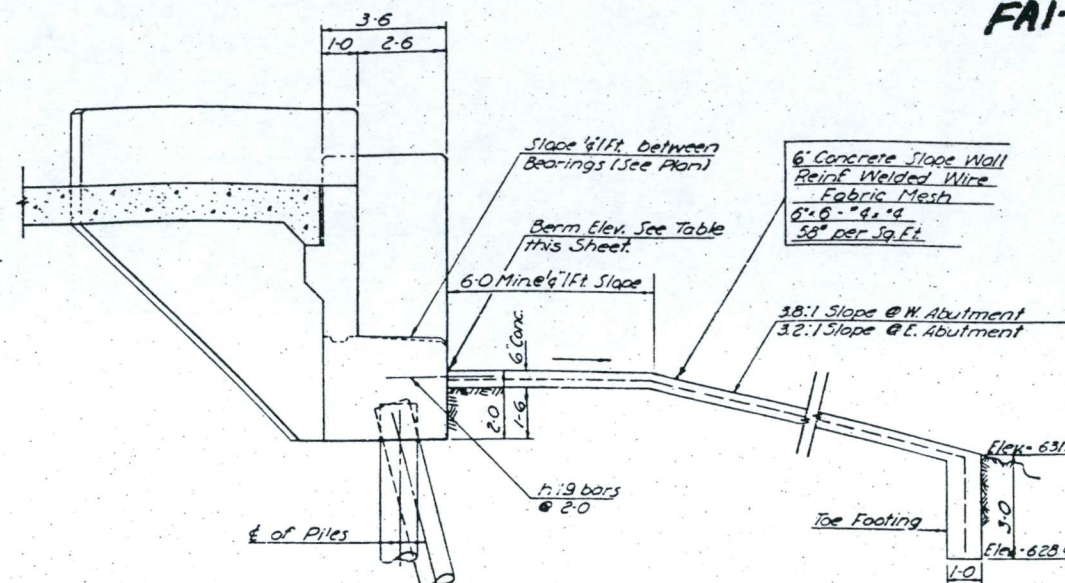


# FAI-74

| F.A.I. R.T. NO.             | SECTION         | COUNTY   | TOTAL SHEETS | SHEET NO. |
|-----------------------------|-----------------|----------|--------------|-----------|
| 5                           | 92-9B VERMILION | ILLINOIS | 20           | 14        |
| FEDERAL ROAD DISTRICT NO. 7 |                 |          |              |           |

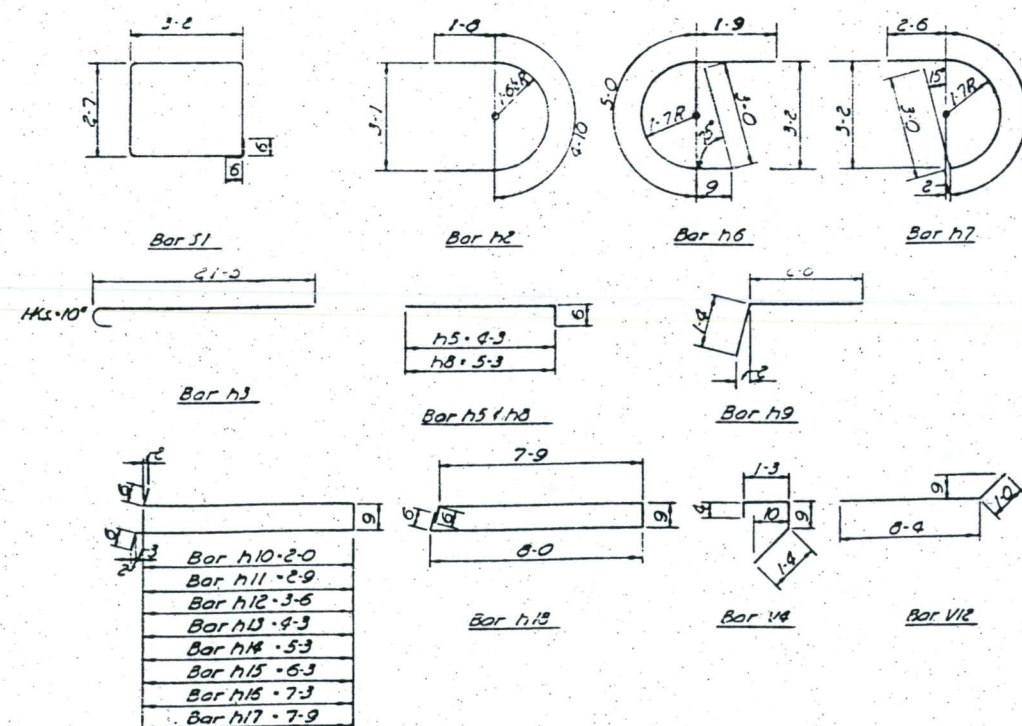


| Abutment      | Berm Elev. | Bottom of Cap Beam | Crown El. @ Face Backwall | Wingwall 'A' |        |        | Wingwall 'B' |        |        | Bearing Seat Elevations - Top of Concrete |        |        |        |        |        |        |
|---------------|------------|--------------------|---------------------------|--------------|--------|--------|--------------|--------|--------|-------------------------------------------|--------|--------|--------|--------|--------|--------|
|               |            |                    |                           | X            | Y      | W      | X            | Y      | W      | A                                         | B      | C      | D      | E      | F      | G      |
| West Abut Rt. | 645.10     | 643.10             | 650.29                    | 652.26       | 652.28 | 651.01 | 652.24       | 652.26 | 650.99 | 646.12                                    | 646.22 | 646.28 | 646.30 | 646.27 | 646.20 | 646.10 |
| West Abut Lt. | 645.05     | 643.05             | 650.29                    | 652.21       | 652.23 | 650.95 | 652.19       | 652.21 | 650.94 | 646.07                                    | 646.17 | 646.23 | 646.25 | 646.22 | 646.15 | 646.05 |
| East Abut Rt. | 645.63     | 642.63             | 649.87                    | 651.24       | 651.26 | 650.59 | 651.82       | 651.80 | 650.57 | 645.70                                    | 645.80 | 645.86 | 645.88 | 645.85 | 645.78 | 645.68 |
| East Abut Lt. | 645.63     | 642.63             | 649.82                    | 651.79       | 651.77 | 650.54 | 651.77       | 651.75 | 650.52 | 645.65                                    | 645.75 | 645.81 | 645.83 | 645.80 | 645.73 | 645.63 |



## SLOPE WALL EDGE FOOTING

Terminate all Edges of Slope Wall with 1-0 x 1-6 Footings as Shown except along Stream Bed.  
See Toe Footing



## BENDING DIAGRAMS

All bar dimensions are out to out

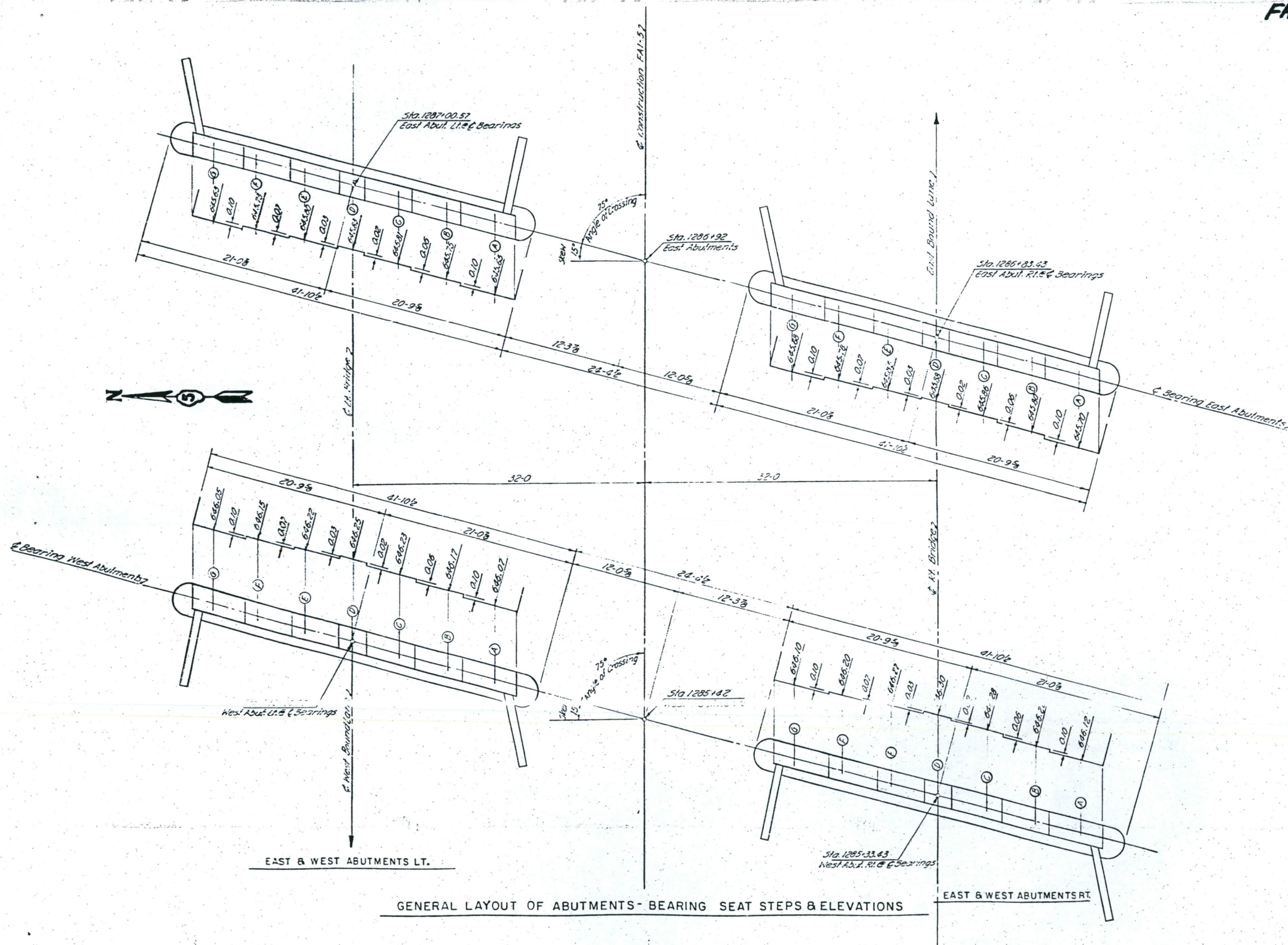
| BAR SCHEDULE                              |     |      |        |          |        |
|-------------------------------------------|-----|------|--------|----------|--------|
| Bar                                       | No. | Size | Length | Spacing  | Shapes |
| h1                                        | 32  | 6    | 35-4   | 10       | —      |
| h2                                        | 32  | 6    | 0-2    | 10       | —      |
| h3                                        | 32  | 7    | 22-3   | As Shown | —      |
| h4                                        | 36  | 5    | 30-9   | 1-0      | —      |
| h5                                        | 8   | 5    | 4-9    | As Shown | —      |
| h6                                        | 20  | 5    | 10-6   | 1-0      | —      |
| h7                                        | 20  | 5    | 10-4   | 1-0      | —      |
| h8                                        | 64  | 5    | 5-5    | 1-0      | —      |
| h9                                        | 16  | 4    | 4-0    | As Shown | —      |
| h10                                       | 8   | 5    | 6-0    | 9        | —      |
| h11                                       | 8   | 5    | 7-6    | 9        | —      |
| h12                                       | 8   | 5    | 9-0    | 9        | —      |
| h13                                       | 8   | 5    | 10-6   | As Shown | —      |
| h14                                       | 8   | 5    | 12-6   | 1-0      | —      |
| h15                                       | 8   | 5    | 14-6   | 1-0      | —      |
| h16                                       | 8   | 5    | 15-6   | 1-0      | —      |
| h17                                       | 16  | 5    | 17-6   | 1-0      | —      |
| h18                                       | 16  | 5    | 17-6   | As Shown | —      |
| h19                                       | 84  | 4    | 3-0    | 2-0      | —      |
|                                           |     |      |        |          |        |
| V1                                        | 248 | 4    | 5-4    | 1-0      | —      |
| V2                                        | 32  | 4    | 6-3    | 1-0      | —      |
| V3                                        | 64  | 4    | 7-6    | As Shown | —      |
| V4                                        | 140 | 4    | 3-8    | 1-0      | —      |
| V5                                        | 48  | 4    | 8-10   | As Shown | —      |
| V6                                        | 16  | 4    | 8-1    | 1-0      | —      |
| V7                                        | 16  | 4    | 7-1    | 1-0      | —      |
| V8                                        | 16  | 4    | 6-1    | 1-0      | —      |
| V9                                        | 16  | 4    | 5-1    | 1-0      | —      |
| V10                                       | 16  | 4    | 4-1    | 1-0      | —      |
| V11                                       | 16  | 4    | 3-1    | As Shown | —      |
| V12                                       | 16  | 4    | 9-4    | As Shown | —      |
|                                           |     |      |        |          |        |
| S1                                        | 152 | 5    | 12-6   | As Shown | —      |
|                                           |     |      |        |          |        |
| Class X Concrete                          |     |      | 115.6  | Cu Yds   |        |
| Reinforcement Bars                        |     |      | 11,510 | Lbs      |        |
| The above Quantities are for four Abutts. |     |      |        |          |        |

| CONSOER, TOWNSEND & ASSOCIATES         |       |        |              |               |
|----------------------------------------|-------|--------|--------------|---------------|
| CONSULTING ENGINEERS CHICAGO, ILLINOIS |       |        |              |               |
| ILLINOIS DIVISION OF HIGHWAYS          |       |        |              |               |
| FAI RT. 5 BRIDGE OVER STONY CREEK      |       |        |              |               |
| FAI-5 SECTION 92-9B                    |       |        |              |               |
| VERMILION COUNTY STA. 1286+17          |       |        |              |               |
| ABUTMENTS                              |       |        |              |               |
| DESIGNED                               | DRAWN | TRACED | CHECKED      | REVIEWED      |
| G.E.                                   | J.S.  | J.S.   | LDB J.H. CNW | H.S.M. 4-6-57 |



FAI-74

| F.A.I. RTE. NO.             | SECTION | COUNTY    | TOTAL SHEETS | SHEET NO. |
|-----------------------------|---------|-----------|--------------|-----------|
| 5                           | 92-9B   | VERMILION | 20           | 15        |
| FEDERAL ROAD DISTRICT NO. 7 |         | ILLINOIS  | PROJ.        |           |

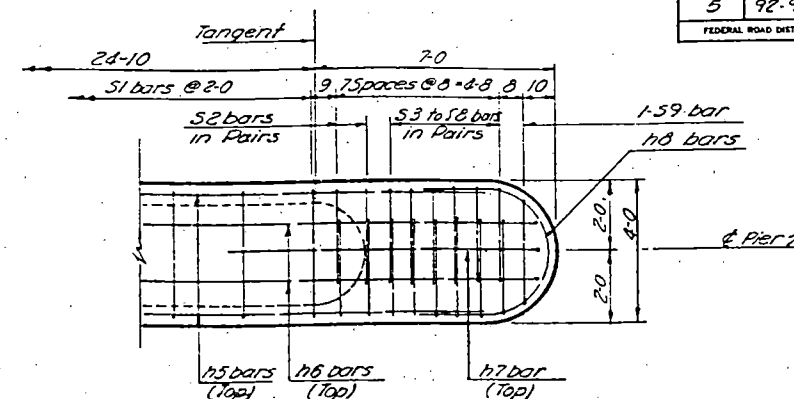


GENERAL LAYOUT OF ABUTMENTS- BEARING SEAT STEPS & ELEVATIONS

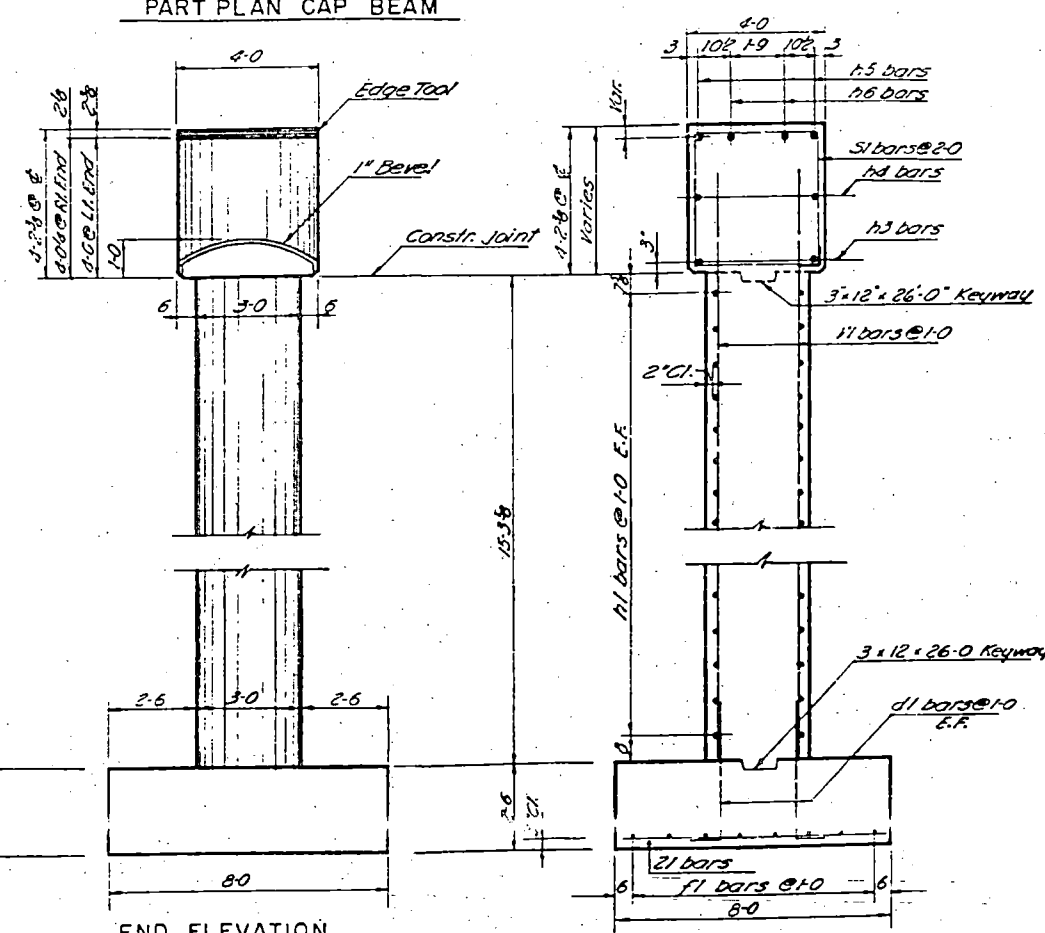
|                                                                          |               |                |                                     |                    |                |
|--------------------------------------------------------------------------|---------------|----------------|-------------------------------------|--------------------|----------------|
| CONSOER, TOWNSEND & ASSOCIATES<br>CONSULTING ENGINEERS CHICAGO, ILLINOIS |               |                |                                     |                    |                |
| ILLINOIS DIVISION OF HIGHWAYS                                            |               |                |                                     |                    |                |
| FAI RT. 5 BRIDGE OVER STONY CREEK                                        |               |                |                                     |                    |                |
| FAI-5 SECTION 92-9B                                                      |               |                |                                     |                    |                |
| VERMILION COUNTY STA. 1286+17                                            |               |                |                                     |                    |                |
| ABUTMENTS                                                                |               |                |                                     |                    |                |
| DESIGNED<br>J.T.                                                         | DRAWN<br>J.T. | TRACED<br>J.T. | CHECKED<br>J.H.<br>L.D.B.<br>C.W.W. | REVIEWED<br>H.S.M. | DATE<br>4-4-57 |



| F.A.I. RTE.<br>NO.          | SECTION | COUNTY    | TOTAL<br>SHEETS | SHEET<br>NO. |
|-----------------------------|---------|-----------|-----------------|--------------|
| 5                           | 92-98   | VERMILION | 20              | 16           |
| FEDERAL ROAD DISTRICT NO. 7 |         | ILLINOIS  | PROJ.           |              |

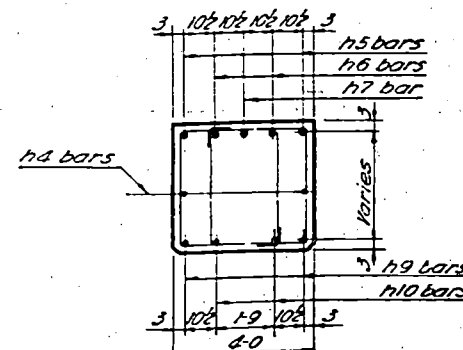


CAP PLAN



SECTION P-P

Pier #1 L. Elev. 623.26  
Pier #1 R. Elev. 623.31  
Pier #2 L. Elev. 623.12  
Pier #2 R. Elev. 623.17



### HALF FOOTING

SECTION F-F

HALF PIER WALL

ILLINOIS DIVISION OF HIGHWAYS

FAI RT5 BRIDGE OVER STONY CREEK  
FAI-5 SECTION 92-9B  
VERMILION COUNTY STA. 1286+ 17

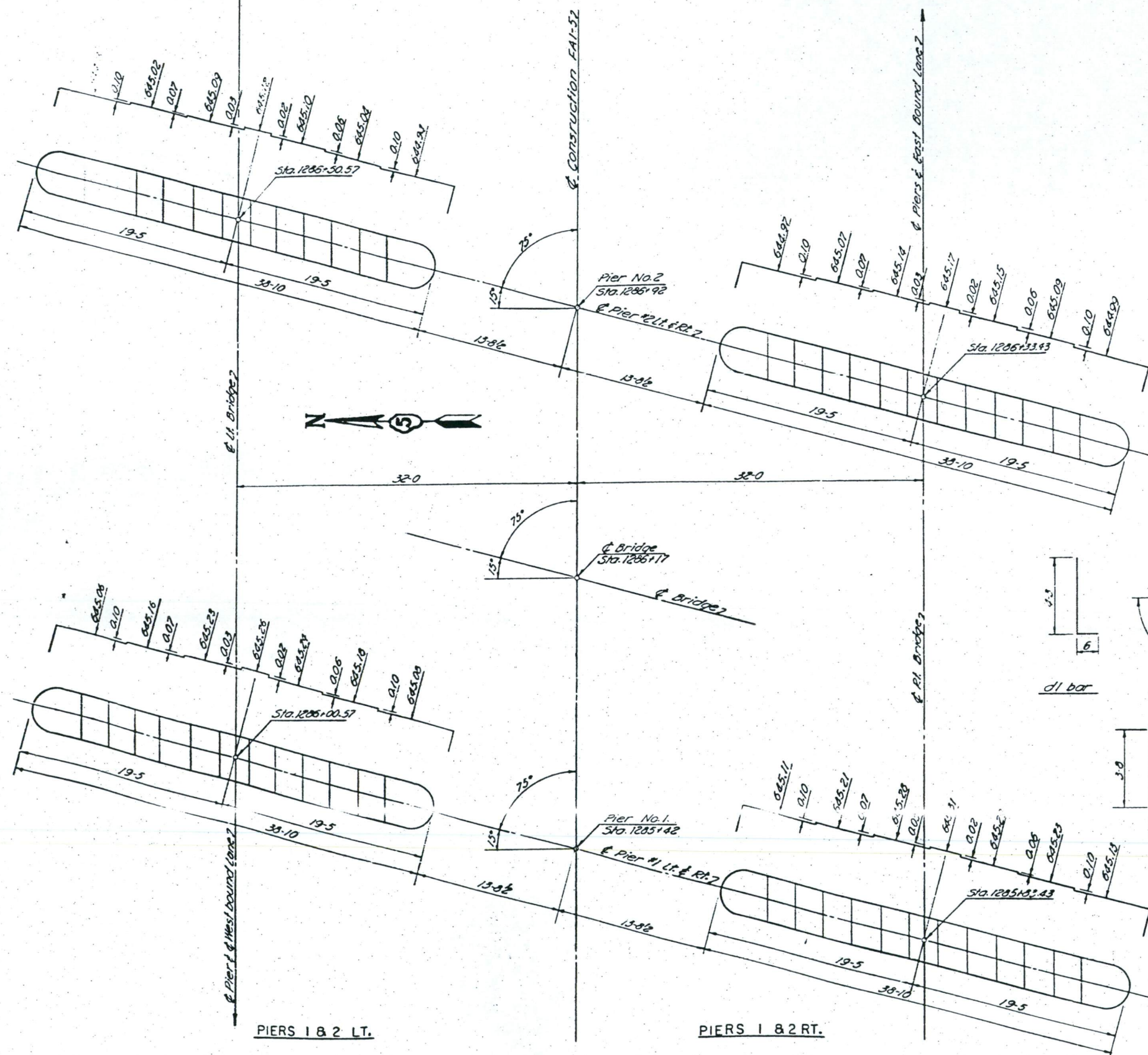
PIERS

|          |       |        |                    |          |               |          |
|----------|-------|--------|--------------------|----------|---------------|----------|
| DESIGNED | DRAWN | TRACED | CHECKED            | REVIEWED | DATE          | REVISION |
| J.W.H.   | J.T.  | J.T.   | J.H.<br>LDB<br>CWN |          | H.S.M. 6-4-57 |          |



FAI-74

| F.A.I. R.T.E. NO.                          | SECTION | COUNTY    | TOTAL SHEETS | SHEET NO. |
|--------------------------------------------|---------|-----------|--------------|-----------|
| 5                                          | 92-98   | VERMILION | 20           | 17        |
| FEDERAL ROAD DISTRICT NO. 7 ILLINOIS PROJ. |         |           |              |           |



PIERS 1 & 2 LT.

PIERS 1 & 2 RT.

GENERAL LAYOUT OF PIERS-BEARING SEAT STEPS & ELEVATIONS

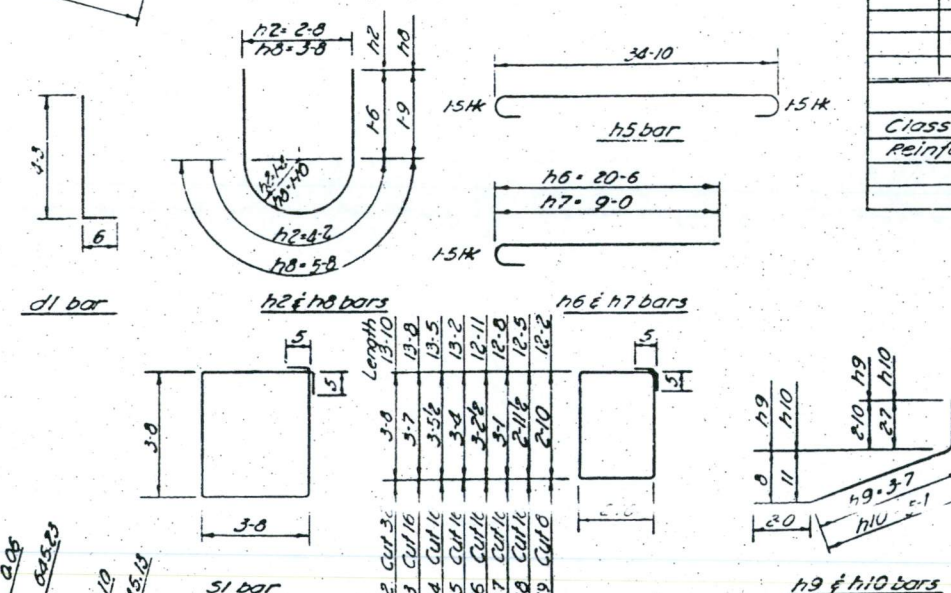
BAR SCHEDULE

| Piers | Bar     | No.   | Size | Length | Spacing  | Shapes |
|-------|---------|-------|------|--------|----------|--------|
| All   | F1      | 32    | 7    | 32-8   | 1-0      | —      |
| "     | Z1      | 136   | 7    | 7-6    | 1-0      | —      |
| "     | D1      | 232   | 5    | 4-9    | 1-0      | —      |
| All   | V1      | 232   | 5    | 18-0   | 1-0      | —      |
| All   | H1      | 120   | 5    | 20-9   | 1-0      | —      |
| "     | H2      | 120   | 5    | 7-2    | 1-0      | —      |
| "     | H3      | 8     | 6    | 27-9   | As shown | —      |
| "     | H4      | 8     | 6    | 34-9   | As shown | —      |
| "     | H5      | 8     | 10   | 37-8   | As shown | —      |
| "     | H6      | 16    | 10   | 21-11  | 1-9      | —      |
| "     | H7      | 8     | 10   | 10-5   | As shown | —      |
| "     | H8      | 16    | 6    | 9-3    | As shown | —      |
| "     | H9      | 16    | 6    | 8-5    | As shown | —      |
| All   | H10     | 16    | 6    | 9-8    | As shown | —      |
| All   | S1      | 56    | 5    | 15-6   | 2-0      | —      |
| All   | S2 & S9 | 136 * | 4    | *      | 8        | —      |

x See Bending Diagram

PIER QUANTITIES

|                    |        |          |
|--------------------|--------|----------|
| Class X Concrete   | 371.6  | Cu. Yds. |
| Reinforcement bars | 20,300 | Lbs.     |



BENDING DIAGRAMS

CONSOER, TOWNSEND & ASSOCIATES  
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS

FAI RT 5 BRIDGE OVER STONY CREEK

FAI-5 SECTION 92-98

VERMILION COUNTY STA. 1286 + 17

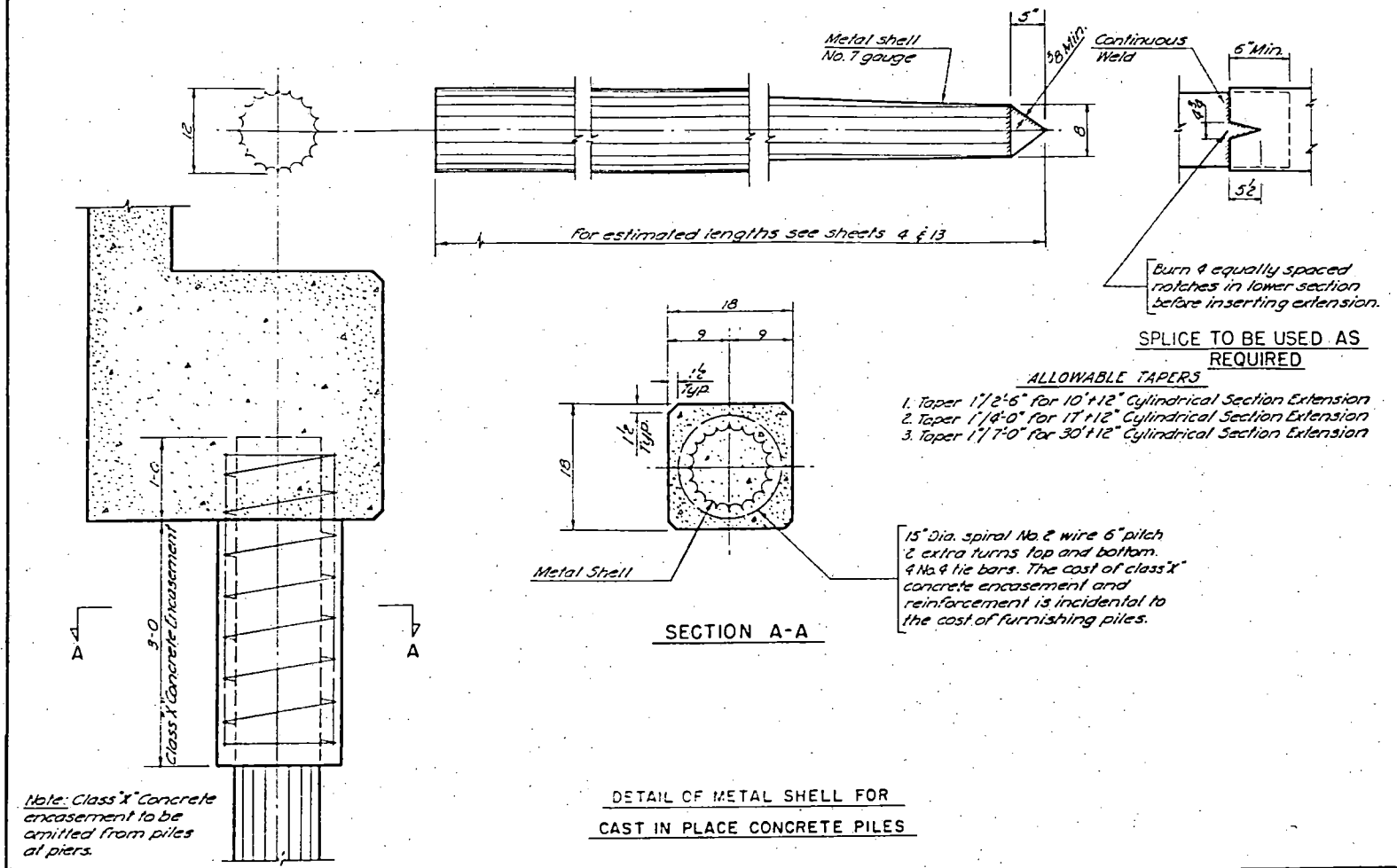
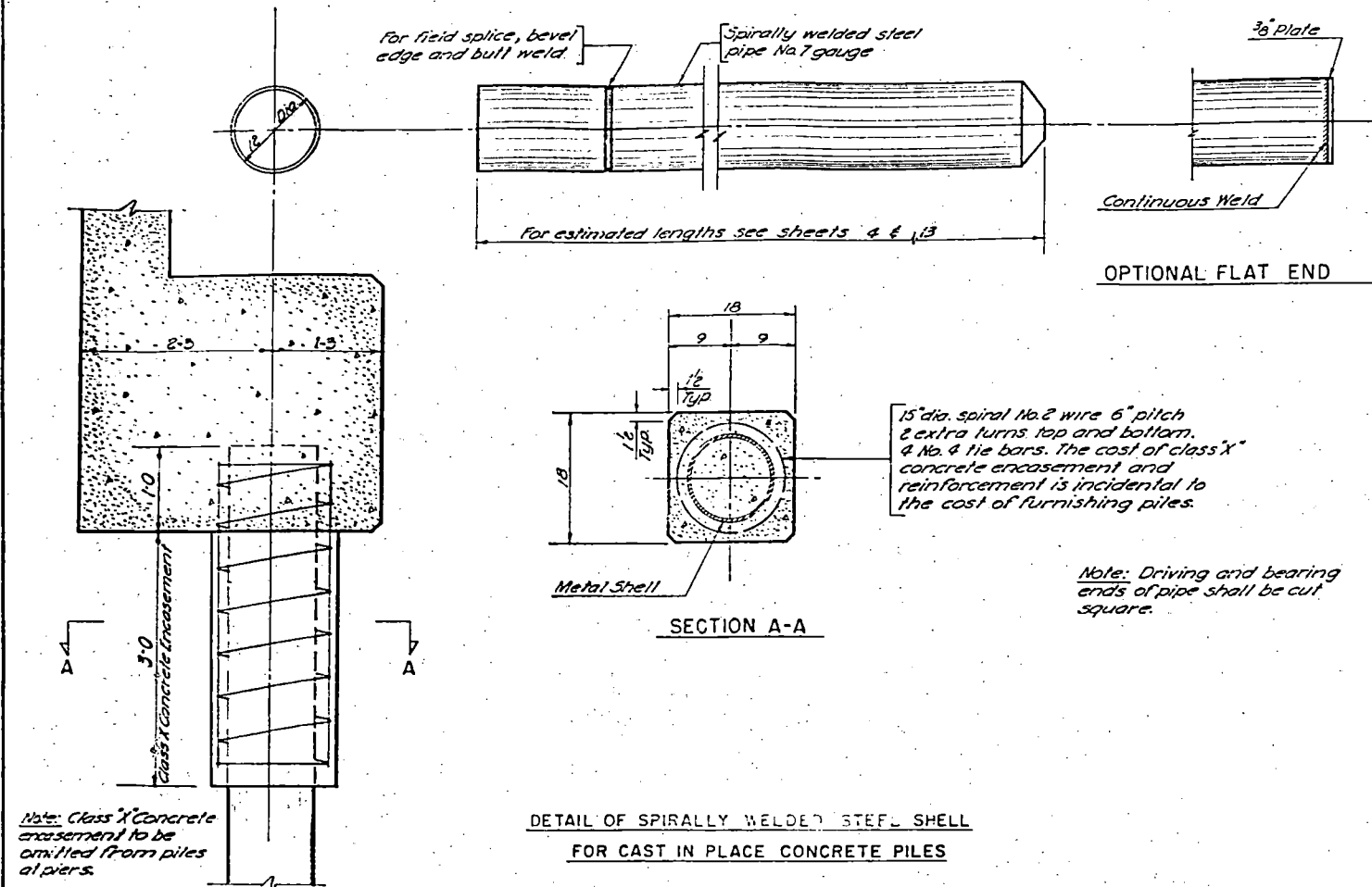
PIERS

| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED | DATE   | REVISION |
|----------|-------|--------|---------|----------|--------|----------|
| J.T.F.   | J.T.  | J.T.   | J.H.    | J.H.     | 4-4-57 |          |
| J.M.H.   |       |        | L.D.B.  | C.W.V.   |        |          |



FAI-74

| F.A.I. RT. NO.                             | SECTION | COUNTY    | TOTAL SHEETS | SHEET NO. |
|--------------------------------------------|---------|-----------|--------------|-----------|
| 5                                          | 92-9B   | VERMILION | 20           | 18        |
| FEDERAL ROAD DISTRICT NO. 7 ILLINOIS PROJ. |         |           |              |           |



|                                        |       |        |         |               |      |
|----------------------------------------|-------|--------|---------|---------------|------|
| CONSOER, TOWNSEND & ASSOCIATES         |       |        |         |               |      |
| CONSULTING ENGINEERS CHICAGO, ILLINOIS |       |        |         |               |      |
| ILLINOIS DIVISION OF HIGHWAYS          |       |        |         |               |      |
| FAI RT. 5 BRIDGE OVER STONY CREEK      |       |        |         |               |      |
| FAI-5 SECTION 92-9B                    |       |        |         |               |      |
| VERMILION COUNTY STA. 1286+17          |       |        |         |               |      |
| PILE DETAILS                           |       |        |         |               |      |
| DESIGNED                               | DRAWN | TRACED | CHECKED | REVIEWED      | DATE |
|                                        | GEE   | BB     | JH      |               |      |
|                                        |       |        | LDB     |               |      |
|                                        |       |        | CWN     |               |      |
|                                        |       |        |         | H.S.M. 4-4-57 |      |