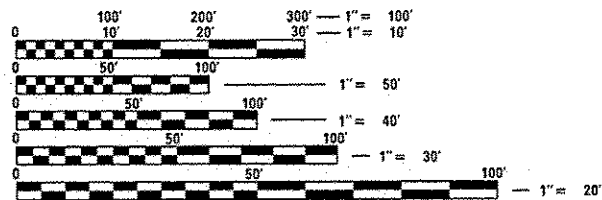


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**PROPOSED**  
**CONTRACT MAINTENANCE**  
F.A.I. ROUTE 72 (I-72)  
SECTION (75) BDGE REP VAR LOCATIONS

BRIDGE REPAIRS  
PIKE COUNTY

C-96-044-15

FOR INDEX OF SHEETS, SEE SHEET NO. 2



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

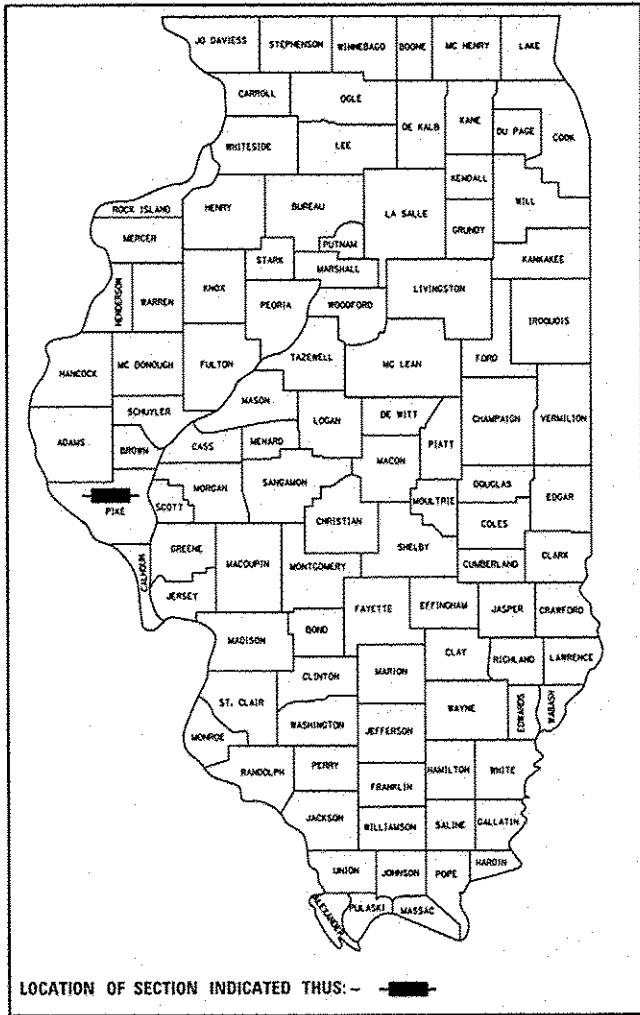
BRIDGE MAINTENANCE ENGINEER (ACTING) – BRANDON DUDLEY (217) 785-9290  
BRIDGE INSPECTION ENGINEER – DAVE COPENBARGER (217) 785-5306

CONTRACT NO. 72H68

GROSS LENGTH = 34.2 MILES  
NET LENGTH = NA

| F.A.I. RTE. | SECTION               | COUNTY   | TOTAL SHEETS       | SHEET NO. |
|-------------|-----------------------|----------|--------------------|-----------|
| 72          | (75) BDGE REP VAR LOC | PIKE     | 37                 | 1         |
|             |                       | ILLINOIS | CONTRACT NO. 72H68 |           |

D-96-044-15



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
SUBMITTED May 12 2015  
Rope 2 Smith  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER  
May 8 2015  
Jim D. Baranzoli, P.E.  
ENGINEER OF DESIGN AND ENVIRONMENT  
May 8 2015  
Chris E. Mann, P.E.  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

1 COVER SHEET  
2 INDEX, STANDARDS, GENERAL NOTES, SIGNATURES, & SUMMARY OF QUANTITIES  
3 SCHEDULE OF QUANTITIES  
4 BRIDGE LOCATION MAP & TYPICAL BRIDGE CROSS SECTION  
5-37 BRIDGE PLANS

701101-04  
701106-02  
701400-08  
701401-09  
701901-04

1. IN ORDER TO EXPEDITE CONSTRUCTION ACTIVITIES OR SHORTEN CURE TIMES, THE CONTRACTOR MAY ELECT TO SUBSTITUTE POLYMER CONCRETE FOR PORTLAND CEMENT CONCRETE IN PATCHING AND CONCRETE REPAIR AREAS, WITH APPROVAL FROM THE ENGINEER. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR SUCH A SUBSTITUTION.
2. PLAN DIMENSIONS AND DETAILS RELATIVE TO 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 THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
3. EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED, AND INCORPORATED INTO THE NEW CONSTRUCTION. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCLUDED WITH CONCRETE REMOVAL.
4. AREAS OF DECK REPAIRS SHOWN ARE ESTIMATED. THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK REPAIRS ON AS-BUILT PLANS.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
DISTRICT 6

EXAMINED FEBRUARY 3<sup>rd</sup> 20 15  
John C. Wynn  
ENGINEER OF OPERATIONS

EXAMINED January 29 20 15  
Ron Ackerman  
ENGINEER OF PROJECT IMPLEMENTATION

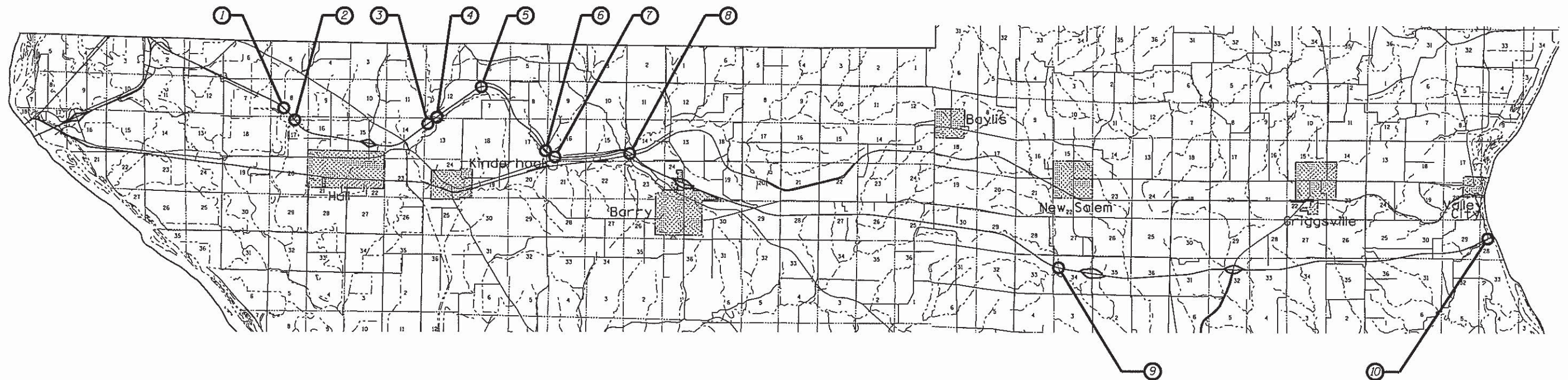
EXAMINED January 30 20 15  
Jeffrey P. Myers  
ENGINEER OF PROGRAM DEVELOPMENT

[illegible]

|                                                                                     |                      |            |           |                                                                                                          |                                                                                                                                              |                             |                          |        |              |           |
|-------------------------------------------------------------------------------------|----------------------|------------|-----------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------|--------|--------------|-----------|
| FILE NAME *                                                                         | USER NAME * ducleybm | DESIGNED - | REVISED - | <p align="center"><b>STATE OF ILLINOIS</b></p> <p align="center"><b>DEPARTMENT OF TRANSPORTATION</b></p> | <p align="center"><b>INDEX OF SHEETS, STANDARDS, GENERAL NOTES,</b></p> <p align="center"><b>SIGNATURES, &amp; SUMMARY OF QUANTITIES</b></p> | F.A.I. RTE.                 | SECTION                  | COUNTY | TOTAL SHEETS | SHEET NO. |
| C:\OPERATIONS\Bridges\Bridgplans\CAD\72H68 - 1-72 joint repairs CM FY16\plan sheets |                      | DRAWN -    | REVISED - |                                                                                                          |                                                                                                                                              | 72                          | (75) BGDG REP VAR LOC    | PIKE   | 37           | 2         |
| PLOT SCALE * 100.0000' / 1"                                                         |                      | CHECKED -  | REVISED - |                                                                                                          |                                                                                                                                              | CONTRACT NO. 72H68          |                          |        |              |           |
| PLOT DATE * Mar-19-2015 10:11:42AM                                                  |                      | DATE -     | REVISED - |                                                                                                          |                                                                                                                                              | ILLINOIS FED. AID PROJECT   |                          |        |              |           |
| Default                                                                             |                      |            |           |                                                                                                          | SCALE: _____                                                                                                                                 | SHEET _____ OF _____ SHEETS | STA. _____ TO STA. _____ |        |              |           |

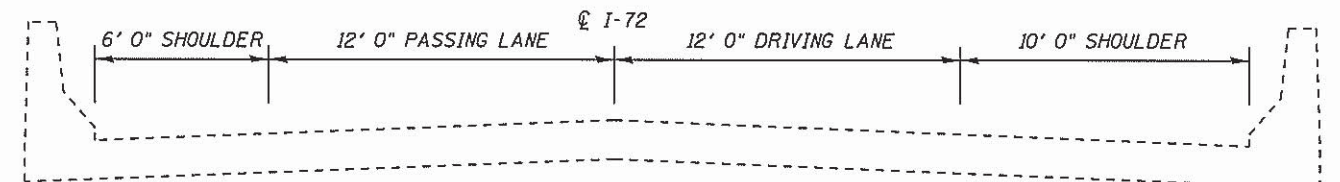
| STRUCTURE REPAIR SCHEDULE |                     |                        |                     |                                           |                               |                                   |                               |                                  |                               |                                 |                                  |                               |                                 |
|---------------------------|---------------------|------------------------|---------------------|-------------------------------------------|-------------------------------|-----------------------------------|-------------------------------|----------------------------------|-------------------------------|---------------------------------|----------------------------------|-------------------------------|---------------------------------|
| SN                        | CONCRETE<br>REMOVAL | CONCRETE<br>STRUCTURES | POLYMER<br>CONCRETE | STRUCT. REPAIR OF<br>CONCRETE (= OR < 5") | DECK SLAB<br>REPAIR (PARTIAL) | APPROACH SLAB<br>REPAIR (PARTIAL) | SILICONE JOINT<br>SEALER - 1" | SILICONE JOINT<br>SEALER - 1.75" | SILICONE JOINT<br>SEALER - 2" | SILICONE JOINT<br>SEALER - 2.5" | SILICONE JOINT<br>SEALER - 2.75" | SILICONE JOINT<br>SEALER - 3" | TRAF. CTRL. &<br>PROT. (701401) |
|                           | (CU YD)             | (CU YD)                | (CU FT)             | (SQ FT)                                   | (SQ YD)                       | (SQ YD)                           | (FOOT)                        | (FOOT)                           | (FOOT)                        | (FOOT)                          | (FOOT)                           | (FOOT)                        | (EACH)                          |
| 075-0084                  | 0.1                 | 0.1                    | 8.5                 | -                                         | -                             | -                                 | 46                            | -                                | -                             | -                               | -                                | 61                            | 0.50                            |
| 075-0085                  | 0.6                 | -                      | 12.8                | -                                         | -                             | -                                 | 46                            | -                                | -                             | -                               | -                                | 92                            | 1.00                            |
| 075-0086                  | -                   | -                      | 9.4                 | -                                         | -                             | 0.7                               | -                             | -                                | -                             | 68                              | -                                | -                             | 0.50                            |
| 075-0090                  | 0.5                 | -                      | 11.4                | -                                         | -                             | -                                 | -                             | -                                | -                             | -                               | -                                | 96                            | 0.34                            |
| 075-0124                  | 2.3                 | 1.6                    | 17.8                | 13.5                                      | -                             | 8.9                               | 15                            | -                                | 128                           | -                               | -                                | -                             | 0.33                            |
| 075-0125                  | 1.0                 | 0.4                    | 17.8                | 20.0                                      | -                             | 3.8                               | 19                            | -                                | 128                           | -                               | -                                | -                             | 1.00                            |
| 075-0094                  | -                   | -                      | -                   | -                                         | 2.7                           | 0.7                               | -                             | -                                | -                             | -                               | -                                | -                             | 0.33                            |
| 075-0096                  | 0.6                 | -                      | 17.6                | 4.0                                       | -                             | 1.2                               | 15                            | -                                | 126                           | -                               | -                                | -                             | 0.50                            |
| 075-0097                  | 0.6                 | -                      | 17.6                | -                                         | -                             | 4.1                               | -                             | -                                | 126                           | -                               | -                                | -                             | 0.50                            |
| 075-0100                  | -                   | -                      | -                   | -                                         | -                             | -                                 | 16                            | 46                               | -                             | -                               | 46                               | -                             | 0.50                            |
| 075-0101                  | 1.0                 | 1.0                    | -                   | -                                         | 0.7                           | 2.8                               | -                             | 46                               | -                             | -                               | 46                               | -                             | 0.50                            |
| 075-0098                  | -                   | -                      | 7.0                 | -                                         | 183.6                         | -                                 | -                             | -                                | -                             | -                               | -                                | 42                            | 1.00                            |
| 075-0099                  | -                   | -                      | 5.7                 | -                                         | -                             | -                                 | -                             | -                                | -                             | -                               | -                                | 42                            | 1.00                            |
| 075-0107                  | 1.4                 | 1.1                    | 6.7                 | -                                         | -                             | 2.3                               | 48                            | -                                | -                             | 48                              | -                                | -                             | 1.00                            |
| 075-0108                  | 0.4                 | 0.2                    | 6.7                 | 2.0                                       | -                             | -                                 | 48                            | -                                | -                             | 48                              | -                                | -                             | 1.00                            |
| 075-0117                  | 0.6                 | -                      | 13.4                | -                                         | -                             | 0.7                               | -                             | -                                | 48                            | 48                              | -                                | -                             | 1.00                            |
| 075-0119                  | -                   | -                      | 5.8                 | -                                         | 3.4                           | 9.0                               | -                             | -                                | -                             | -                               | 42                               | 42                            | 0.34                            |
| 075-0120                  | 0.2                 | 0.1                    | 4.6                 | -                                         | -                             | 0.5                               | 3                             | -                                | -                             | -                               | 42                               | 42                            | 0.33                            |
| 075-0121                  | 0.9                 | 0.4                    | 12.0                | -                                         | -                             | -                                 | -                             | -                                | 59                            | 59                              | -                                | -                             | 0.33                            |
| TOTALS:                   | 10.2                | 4.9                    | 174.8               | 39.5                                      | 190.4                         | 34.7                              | 256                           | 92                               | 615                           | 271                             | 176                              | 417                           | 12                              |





**I-72 IN PIKE COUNTY**

| STRUCTURE LOCATIONS |          |                 |                                     |                               |
|---------------------|----------|-----------------|-------------------------------------|-------------------------------|
| MAP LOCATION        | SN       | FEATURE CARRIED | FEATURE CROSSED                     | LOCATION                      |
| 1                   | 075-0084 | I-72 EB         | PIGEON CREEK                        | 2.43 MI WEST OF HULL INT.     |
| 1                   | 075-0085 | I-72 WB         | PIGEON CREEK                        | 2.43 MI WEST OF HULL INT.     |
| 2                   | 075-0086 | I-72 EB         | WALNUT CREEK / SPRAGUE DITCH        | 2.12 MI WEST OF HULL INT.     |
| 3                   | 075-0090 | I-72 EB         | MCCRANEY CREEK                      | 1.8 MI EAST OF HULL INT.      |
| 4                   | 075-0124 | I-72 EB         | TRIBUTARY TO MCCRANEY CREEK         | 2 MI EAST OF HULL INT.        |
| 4                   | 075-0125 | I-72 WB         | TRIBUTARY TO MCCRANEY CREEK         | 2 MI EAST OF HULL INT.        |
| 5                   | 075-0094 | I-72 EB         | TR 62                               | 3.3 MI EAST OF HULL INT.      |
| 6                   | 075-0096 | I-72 EB         | TR 70A                              | 3.7 MI WEST OF BARRY INT.     |
| 6                   | 075-0097 | I-72 WB         | TR 70A                              | 3.7 MI WEST OF BARRY INT.     |
| 7                   | 075-0100 | I-72 EB         | BEEBE CREEK                         | 3.4 MI WEST OF BARRY INT.     |
| 7                   | 075-0101 | I-72 WB         | BEEBE CREEK                         | 3.4 MI WEST OF BARRY INT.     |
| 8                   | 075-0098 | I-72 EB         | TR 92, TR 149, NSRR, & HADLEY CREEK | 1.5 MI WEST OF BARRY INT.     |
| 8                   | 075-0099 | I-72 WB         | TR 92, TR 149, NSRR, & HADLEY CREEK | 1.5 MI WEST OF BARRY INT.     |
| 9                   | 075-0107 | I-72 WB         | BAY CREEK                           | 0.8 MI WEST OF NEW SALEM INT. |
| 9                   | 075-0108 | I-72 EB         | BAY CREEK                           | 0.8 MI WEST OF NEW SALEM INT. |
| 10                  | 075-0117 | I-72 EB         | NAPOLEON HOLLOW DRAW                | 5.7 MI EAST OF IL 107 INT.    |
| 10                  | 075-0119 | I-72 WB         | NAPOLEON HOLLOW DRAW                | 4.7 MI WEST OF IL 100 INT.    |
| 10                  | 075-0120 | I-72 WB         | NAPOLEON HOLLOW DRAW                | 4.4 MI WEST OF IL 100 INT.    |
| 10                  | 075-0121 | I-72 WB         | NAPOLEON HOLLOW DRAW                | 4.1 MI WEST OF IL 100 INT.    |

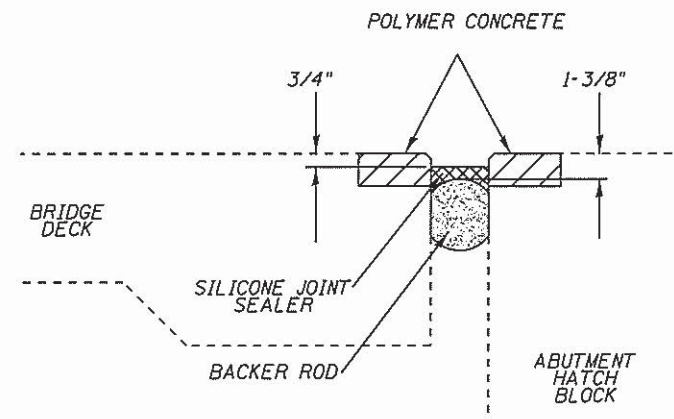


**TYPICAL BRIDGE DECK CROSS SECTION**  
**LOOKING IN DIRECTION OF TRAFFIC**





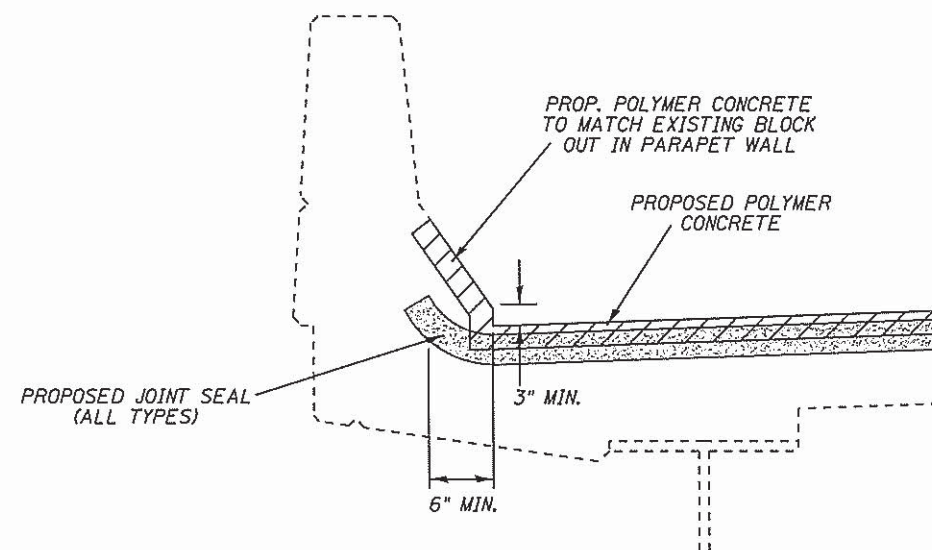




SECTION D-D  
TYPICAL JOINT CROSS SECTION:  
SILICONE JOINT SEALER (ALL SIZES)  
POLYMER NOSING SHOWN - STEEL PLATES SIMILAR

NOTES:

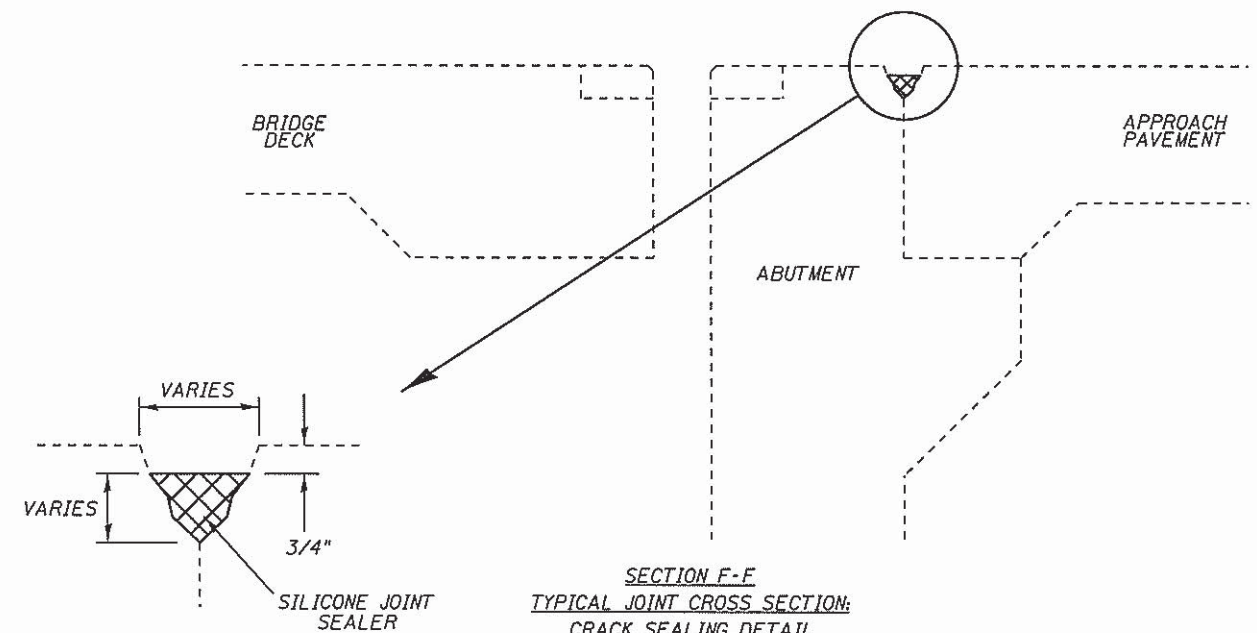
- JOINT WIDTHS SPECIFIED IN PLANS ARE AT 50° F. THE CONTRACTOR SHALL INSTALL BACKER ROD HAVING A DIAMETER 25% GREATER THAN THE JOINT OPENING AT THE TIME OF INSTALLATION.
- DIMENSIONS SHALL BE SIMILAR AT JOINTS WHERE STEEL NOSINGS ARE PRESENT.
- WHERE STEEL NOSINGS ARE PRESENT, THE COST OF REMOVING AND DISPOSING OF EXISTING JOINT SEAL MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR SILICONE JOINT SEALER.



TYPICAL PARAPET CROSS SECTION:  
JOINT SEALER END TREATMENT (ALL TYPES & SIZES)

NOTES:

- THE ENGINEER SHALL SOUND EXISTING POLYMER CONCRETE ON THE PARAPET PRIOR TO REMOVAL. IF IT IS SOUND, THE ENGINEER MAY ELECT TO LEAVE IT IN PLACE.



NOTES:

- CRACKS CALLED OUT FOR SEALING SHALL BE CLEANED OUT WITH COMPRESSED AIR. THE SPECIAL PROVISION FOR SILICONE JOINT SEALER SHALL BE FOLLOWED EXCEPT THAT NO BACKER ROD WILL BE REQUIRED.
- ALL WORK AND MATERIALS DETAILED HERE SHALL BE PAID FOR AT THE BID PRICE FOR SILICONE JOINT SEALER, 1\"/>

|                                                                                        |                      |            |           |                                                   |                                   |                           |                             |                          |                 |              |  |
|----------------------------------------------------------------------------------------|----------------------|------------|-----------|---------------------------------------------------|-----------------------------------|---------------------------|-----------------------------|--------------------------|-----------------|--------------|--|
| FILE NAME =                                                                            | USER NAME = dudleybm | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | TYPICAL JOINT REPAIR APPLICATIONS | F.A.I.<br>RTE.            | SECTION                     | COUNTY                   | TOTAL<br>SHEETS | SHEET<br>NO. |  |
| Q:\OPERATIONS\Bridges\Bridgeplans\CAD\72H68 - 1-72 joint repairs CM FY16\plansheet.dwg |                      | DRAWN -    | REVISED - |                                                   |                                   | 72                        | (75) BOGE REP VAR LOC       | PIKE                     | 37              | 6            |  |
| PLOT SCALE = 1/8" = 1' in.                                                             |                      | CHECKED -  | REVISED - |                                                   |                                   | CONTRACT NO. 72H68        |                             |                          |                 |              |  |
| PLOT DATE = Mar-19-2015 09:59:55AM                                                     |                      | DATE -     | REVISED - |                                                   |                                   | ILLINOIS FED. AID PROJECT |                             |                          |                 |              |  |
| Default                                                                                |                      |            |           |                                                   |                                   | SCALE: _____              | SHEET _____ OF _____ SHEETS | STA. _____ TO STA. _____ |                 |              |  |



075-0085 WBL

Hatched portion of embankment  
backfill by Bridge Contractor  
after Abutment is in place.

| ROUTE NO.             | SECTION | COUNTY  | TOTAL<br>TENTS | TOTAL<br>COST |
|-----------------------|---------|---------|----------------|---------------|
| 1                     |         |         | 79             | 13            |
| FED. ROAD DIST. NO. 7 |         | PLANNED | PROJECT        |               |

Bridge Sheet 1 of 35

### GENERAL NOTES

1. See Proposal for boring data.
2. Layout of stone riprap may be varied in the field to suit ground conditions as directed by the Engineer.
3. All Structural steel shall be shop painted with the zinc-silicate and vinyl paint system.
4. The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M-223, Gr. 50.
5. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-59 Grade 60.
6. The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments. In addition, driving of the abutment piles shall be delayed until 3.0 months after the completion of the bridge piers to their final grade. See Special Provisions.
7. Concrete piles of abutments shall be driven in holes pre-cored through the embankment in accordance with Article 512.09(c) of the Standard Specifications.
8. The contractor shall drive Test Piles in permanent locations as directed by the Engineer before driving the remainder of piles, in accordance with the following:

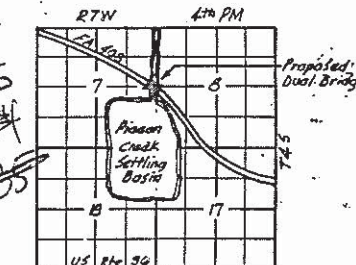
So. Bridae: Pier 1 - 1 TP Matai Shell  
Pier 3 - 1 TP concrete  
Pier 5 - 1 TP Matai Shell

|             | North Bridge | South Bridge |
|-------------|--------------|--------------|
| Elevation A | 480.29       | 479.76       |
| Elevation B | 469.39       | 468.80       |
| Elevation C | 458.18       | 457.54       |
| Elevation D | 458.18       | 457.50       |
| Elevation E | 458.15       | 457.40       |
| Elevation F | 465.34       | 464.54       |
| Elevation G | 481.15       | 480.12       |

## HORIZONTAL CURVE DATA

P.I. Sta. 1210 + 60.63  
 $\Delta$  25° 06' 05"  
 $\Delta$  00° 45' 00"  
R 7637.44'  
T 1,700.72'  
L 3,346.87'  
E 187.02'  
P.C. Sta. 1193 + 59.91  
P.T. Sta. 1227 + 06.78  
SE 0.026%  
Attain SE Sta. 1192 + 26.60 to 1194 + 26.60  
and Sta. 1226 + 40.11 to 1228 + 40.11

### VERTICAL CURVE DATA



### DESIGN STRESSES

| <u>PRECAST UNITS</u>                       | <u>FIELD UNITS</u>                        |
|--------------------------------------------|-------------------------------------------|
| $f'_c = 4000 \text{ psi.}$                 | $f'_c = 3500 \text{ psi.}$                |
| $f_y = 4000 \text{ psi.}$                  |                                           |
| $f_y = 60,000 \text{ psi.}$                | $f_y = 40,000 \text{ psi. (reinf. bars)}$ |
| $f'_s = 270,000 \text{ psi. (27 strands)}$ |                                           |
| $f_{si} = 189,000 \text{ psi. ( " )}$      |                                           |
|                                            | $f_y = 36,000 \text{ psi. (H183)}$        |
|                                            | $f_y = 50,000 \text{ psi. (H223) Gr. 50}$ |

Specifications - 1983 AASHTO + 1984 Interims  
Allow 25# 1/4" R. for future wearing surface  
LOADING HS20-44

## GENERAL PLAN and ELEVATION

FA ROUTE 408-SEC-75-1B-3  
over  
PIGEON CREEK  
PIKE COUNTY  
STA. 1217 + 70.00

### ELEVATION

Notes:

1. For Bridge Approach Pavt., see STD 2353
2. For Bridge Approach Shoulders, see STD 2324, use as a guide, for both bridges. Drains at north side only.
3. For Traffic Barrier Terminals, use STD 2341, Type 6 at approach ends, and STD 2340, Type 5 at departure ends of both bridges.

## NAME PLATE - Std. 2113

(2 Required)  
#075-CCB4 (EB)  
075-CCB6 (WB)

## WATERWAY INFORMATION

| UNIVERSITY INFORMATION |      |                      |        |                   |        |                  |             |          |        |           |     |
|------------------------|------|----------------------|--------|-------------------|--------|------------------|-------------|----------|--------|-----------|-----|
| Drainage Area          |      | 36.8 Sq. mi.         |        | Low divide E. N/A |        | @ Sta. N/A.      |             |          |        |           |     |
| Flowed                 | Feet | O.<br>V <sub>2</sub> | C.R.S. | Opening           |        | Sq. Ft.<br>Ensl. | H.W.<br>Ft. | Head-fp. |        | Headwater |     |
|                        |      |                      |        | Ensl.             | Prng.  |                  |             | Ensl.    | Ft.    | Ensl.     | Ft. |
| Design                 | 50   | 7367                 | -      | 2353              | 475.78 | -                | 0.0         | -        | 475.78 | -         | -   |
| Base                   | 100  | 8454                 | -      | 2454              | 476.4  | -                | 0.0         | -        | 476.4  | -         | -   |
| Overlapping            | -    | -                    | -      | -                 | 476.3  | -                | -           | -        | -      | -         | -   |
| Mex. Calc.             | 500  | 10997                | -      | 3520              | 476.6  | -                | 0.0         | -        | 476.6  | -         | -   |

the Levees overtopped

### PLAN

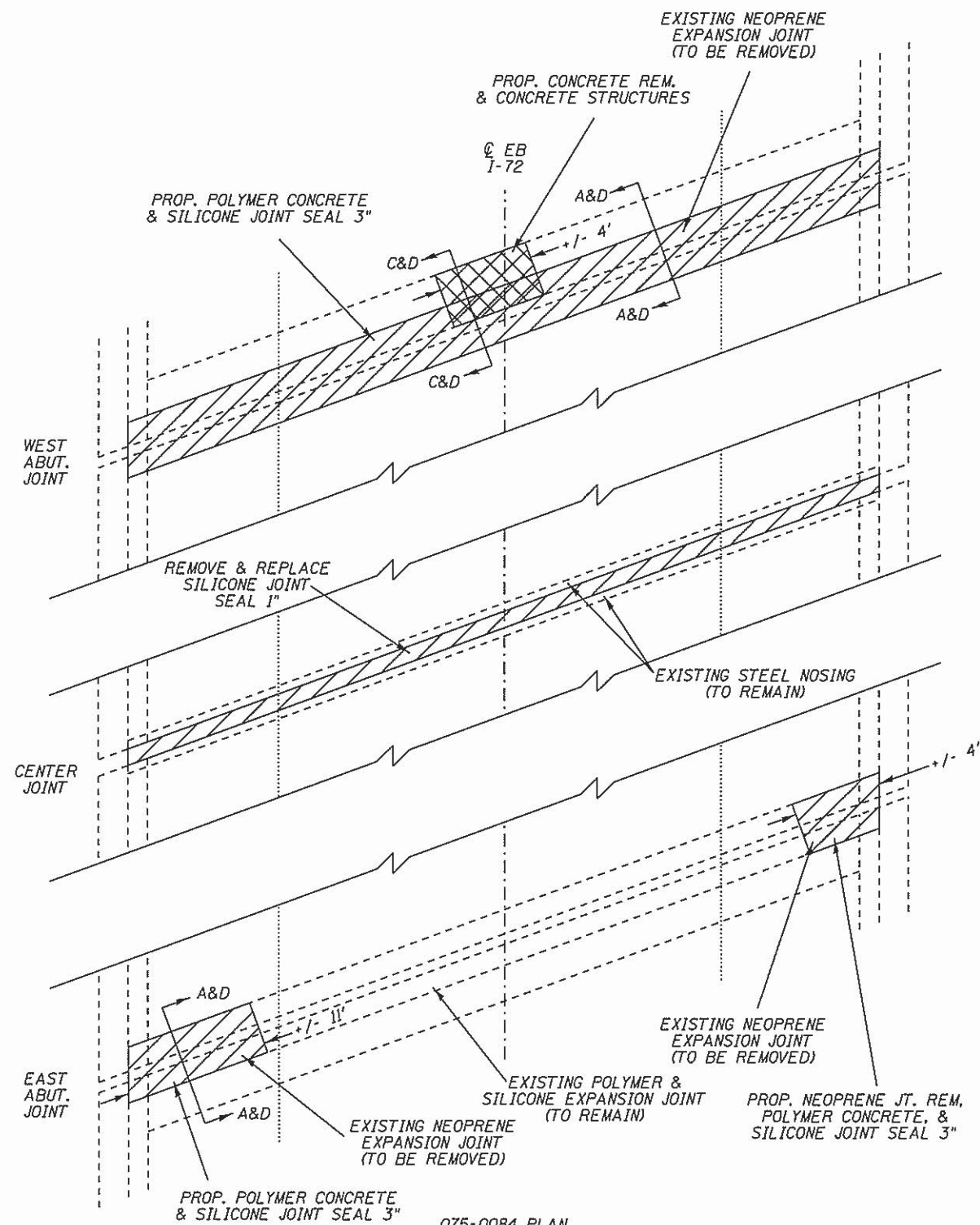
APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

James T. Ryburn  
Engineer of A. U. S. and products

**SANDOVAL, BRANCH & ASSOCIATES, INC.**

|                                                                                     |                                    |                  |                 |                                                   |                                                                |                                 |                       |        |              |           |
|-------------------------------------------------------------------------------------|------------------------------------|------------------|-----------------|---------------------------------------------------|----------------------------------------------------------------|---------------------------------|-----------------------|--------|--------------|-----------|
| FILE NAME =                                                                         | USER NAME = dudleybm               | DESIGNED - _____ | REVISED - _____ | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | EXISTING PLAN SN 075-0084 & 075-0085<br>(FOR INFORMATION ONLY) | F.A.I. RTE.                     | SECTION               | COUNTY | TOTAL SHEETS | SHEET NO. |
| Q:\OPERATIONS\Bridges\Bridgplans\CAD\72H68 - I-72 Joint repairs CM FY16\plansheet.d | DRAWN - _____                      | _____            | _____           |                                                   |                                                                | 72                              | (75) BOGE REP VAR LOC | PIKE   | 37           | 7         |
| PLOT SCALE = 100.0000' / in.                                                        | CHECKED - _____                    | _____            | _____           |                                                   |                                                                | CONTRACT NO. 72H68              |                       |        |              |           |
| Default                                                                             | PLOT DATE = Mar-19-2015 10:00:01AM | DATE - _____     | REVISED - _____ |                                                   |                                                                | ILLINOIS DEP. OF TRANSPORTATION |                       |        |              |           |

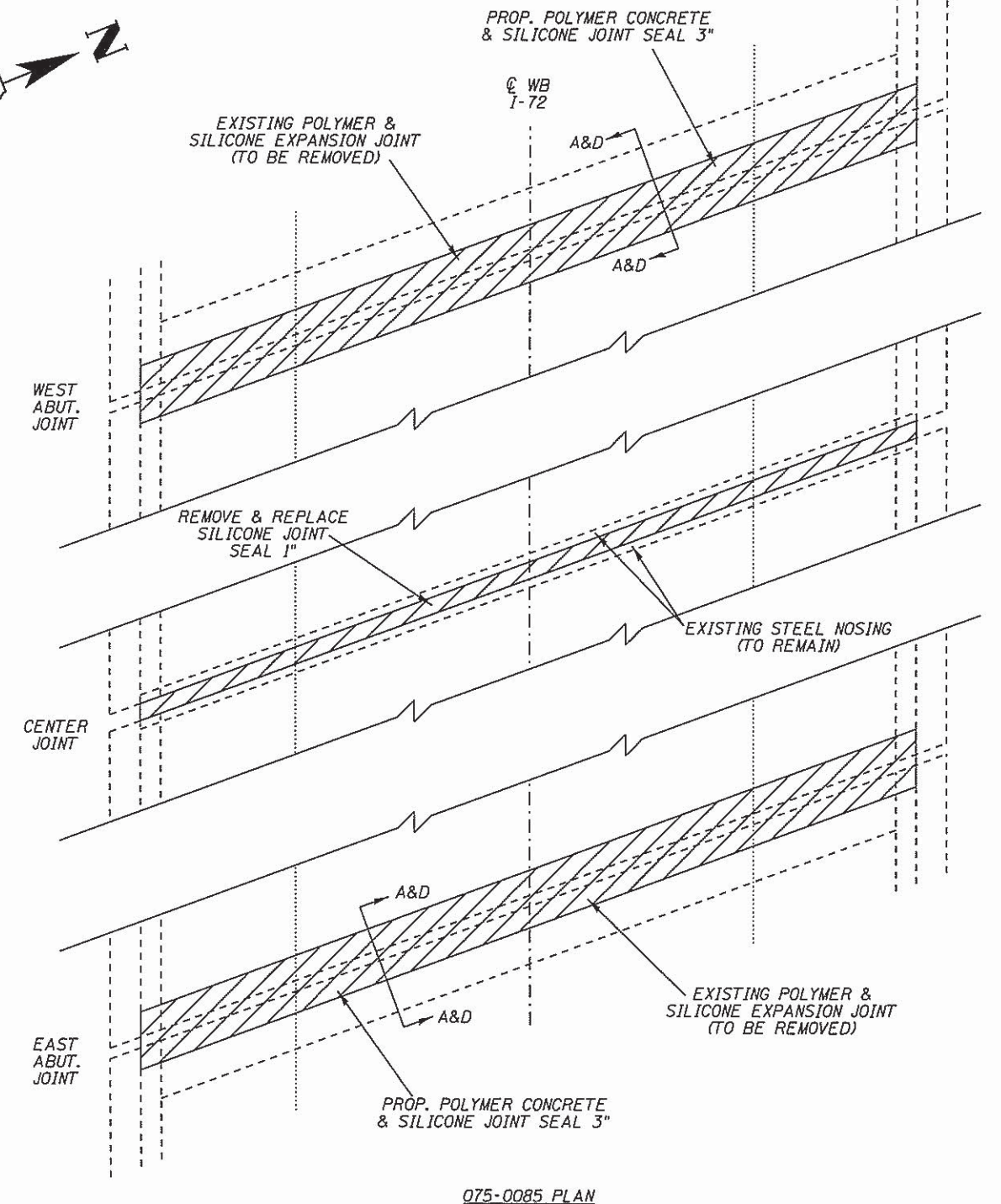
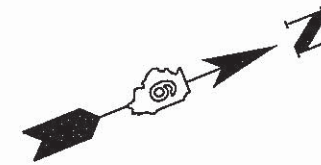




075-0084 PLAN

| ITEM                     | UNIT  | WEST JOINT | CENTER JOINT | EAST JOINT | TOTAL QTY. |
|--------------------------|-------|------------|--------------|------------|------------|
| CONCRETE REMOVAL         | CU YD | 0.1        | -            | -          | 0.1        |
| CONCRETE STRUCTURES      | CU YD | 0.1        | -            | -          | 0.1        |
| POLYMER CONCRETE         | CU FT | 6.4        | -            | 2.1        | 8.5        |
| SILICONE JOINT SEALER 1" | FOOT  | -          | 46           | -          | 46         |
| SILICONE JOINT SEALER 3" | FOOT  | 46         | -            | 15         | 61         |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.



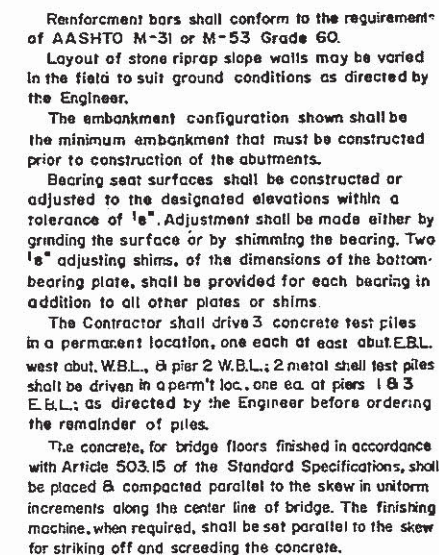
075-0085 PLAN

| ITEM                     | UNIT  | WEST JOINT | CENTER JOINT | EAST JOINT | TOTAL QTY. |
|--------------------------|-------|------------|--------------|------------|------------|
| CONCRETE REMOVAL         | CU YD | 0.3        | -            | 0.3        | 0.6        |
| POLYMER CONCRETE         | CU FT | 6.4        | -            | 6.4        | 12.8       |
| SILICONE JOINT SEALER 1" | FOOT  | -          | 46           | -          | 46         |
| SILICONE JOINT SEALER 3" | FOOT  | 46         | -            | 46         | 92         |



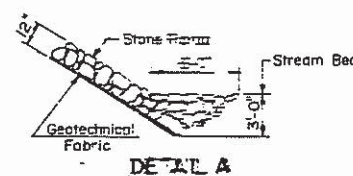
075-0086

|                    |          |               |                    |                    |
|--------------------|----------|---------------|--------------------|--------------------|
| ROUTE NO           | SECTION  | COUNTY        | 1616g<br>Source TP | 5416g<br>Source TP |
| F.A.406            | 75-18-4  | PIKE          | 79                 | 4                  |
| FED ROAD DIST NO 7 | ILLINOIS | PROJECT       |                    |                    |
|                    |          | SHEET 1 OF 23 |                    |                    |



$f'_c = 3500$  psi  
 $F_y = 60,000$  psi (Rebars)  
 $F_y = 50,000$  psi (M-223, Gr.50)  
 $F_y = 36,000$  psi (M-183)

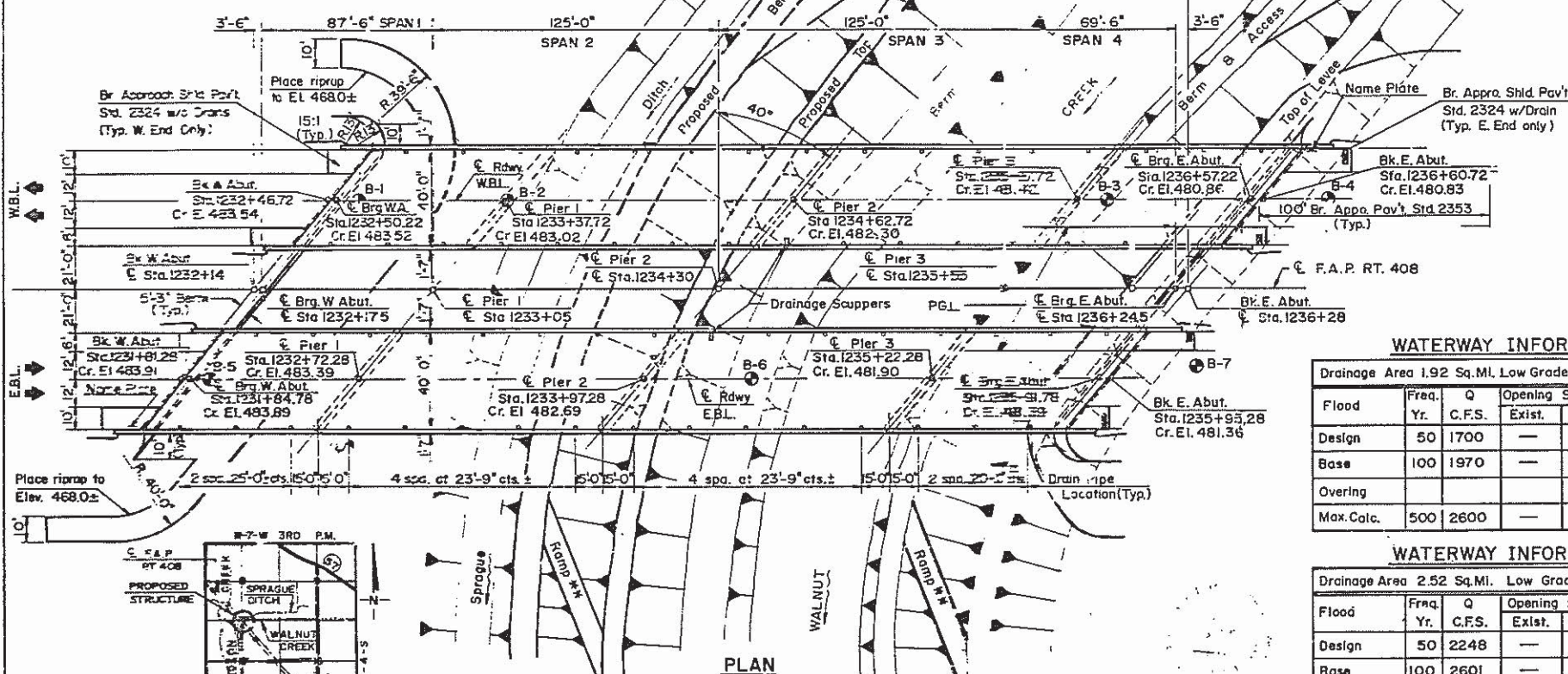
Loading HS 20-44  
Allow 25¢/ft for future W.S.  
Design Specs. - 1983 AASHTO Specs  
8 1984 Interims.



(See Sid 2113)

- \* A1 Right Angles to the Lanes.
- \*\* 12 % Maximum Grade on Ramps

NOTE: Place Riprap on a. prop. embankments, exist. slope B, & any levees disturbed during construction; to extend 10' beyond the outside bridge parapets, except as noted.



| ITEM                                                     | UNIT     | SUPER   | SUB    | TOTAL   |
|----------------------------------------------------------|----------|---------|--------|---------|
| Structure Excavation                                     | Cu.Yds.  |         | 610    | 610     |
| Protective Coat                                          | Sq.Yd.   | 5,076   |        | 5,076   |
| Floor Drains                                             | Each     | 64      |        | 64      |
| Drainage Scuppers                                        | Each     | 2       |        | 2       |
| Class X Concrete                                         | Cu.Yds.  | 1062.5  | 681.4  | 1743.9  |
| Structural Steel                                         | Lump Sum | 1       |        | 1       |
| Stud Shear Connectors                                    | Each     | 6232    |        | 5232    |
| Reinforcement Bars                                       | Lbs.     |         | 59,480 | 59,480  |
| Reinforcement Bars (Epoxy Coated)                        | Lbs.     | 272,490 |        | 272,490 |
| Concrete Piles                                           | Lin.Ft.  |         | 5562   | 5562    |
| Test Piles (Concrete)                                    | Each     |         | 3      | 3       |
| Name Plates                                              | Each     |         | 2      | 2       |
| Neoprene Expansion Joint (2'x2")                         | Lin.Ft.  | 216     |        | 216     |
| Stone Riprap, Specified                                  | Sq.Yds.  |         | 3400   | 3400    |
| Elastomeric Bearing Assembly, Type II                    | Each     | 24      |        | 24      |
| Driving and Filling Shells                               | Lin.Ft.  |         | 4060   | 4060    |
| Metal Shell Piles (14")                                  | Lin.Ft.  |         | 4060   | 4060    |
| Test Piles (Metal Shell, 14")                            | Each     |         | 2      | 2       |
| Geotechnical Fabric for Embankment Protection, Specified | Sq.Yd.   |         | 3400   | 3400    |

| Drainage Area 1.92 Sq.Mi. Low Grade Elev. 47716 at Sta. 1240+00 |           |          |                 |       |             |            |       |               |        |
|-----------------------------------------------------------------|-----------|----------|-----------------|-------|-------------|------------|-------|---------------|--------|
| Flood                                                           | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. |       | Nat. H.W.E. | Head - Ft. |       | Headwater El. |        |
|                                                                 |           |          | Exist.          | Prop. |             | Exist.     | Prop. | Exist.        | Prop.  |
| Design                                                          | 50        | 1700     | —               | 485   | 465.84      | —          | 0.0   | —             | 465.84 |
| Base                                                            | 100       | 1970     | —               | 506   | 466.06      | —          | 0.0   | —             | 466.06 |
| Overing                                                         |           |          |                 |       |             |            |       |               |        |
| Max. Calc.                                                      | 500       | 2600     | —               | 560   | 466.65      | —          | 0.0   | —             | 466.65 |

| Drainage Area 2.52 Sq.Mi. Low Grade Elev. 477.16 at Sta. 1240+00 |           |          |                 |       |            |            |       |               |       |
|------------------------------------------------------------------|-----------|----------|-----------------|-------|------------|------------|-------|---------------|-------|
| Flood                                                            | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. |       | Nat. H.W.E | Head - Ft. |       | Headwater El. |       |
|                                                                  |           |          | Exist.          | Prop. |            | Exist.     | Prop. | Exist.        | Prop. |
| Design                                                           | 50        | 2248     | —               | 831   | 466.6      | —          | 0.0   | —             | 466.6 |
| Base                                                             | 100       | 2601     | —               | 905   | 467.2      | —          | 0.0   | —             | 467.2 |
| Overtopping                                                      |           |          |                 |       |            |            |       |               |       |
| Max. Calc.                                                       | 500       | 3445     | —               | 1021  | 468.1      | —          | 0.0   | —             | 468.1 |

|                                     |
|-------------------------------------|
| Sta. 1234+63 W.B.L. (Inside Gutter) |
| Sta. 1234+28 E.B.L. (Inside Gutter) |

For Scupper detail, see sheets 19 & 20

075-008E

5 F.A.P. RT. 408 OVER WALNUT CREEK &  
SPRAGUE DITCH  
GENERAL PLAN & ELEVATION  
F.A.P. RT. 408. SEC. 75-IB-4  
PIKE COUNTY  
STA. 1234+30  
 SN 075-0086(EB) & SN 075-0087(WB)

HSIONG ASSOCIATES LTD.

|                  |               |             |
|------------------|---------------|-------------|
| DESIGNED: W.J.G. | CHECKED: W.H. |             |
| DRAWN: R.H.H.    | DATE:         | NO. H-010 A |

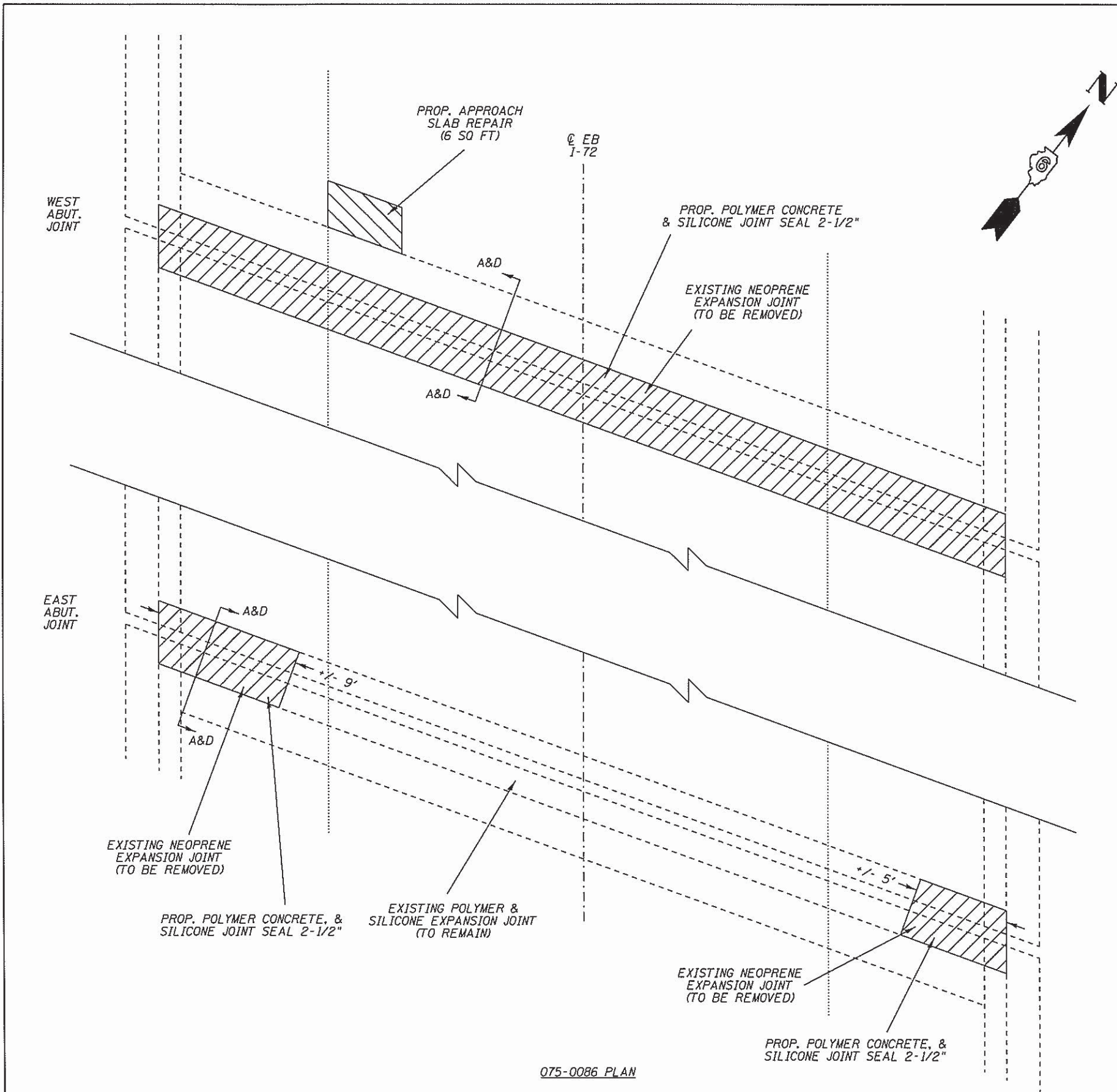
EXISTING PLAN SN 075-0086  
(FOR INFORMATION ONLY)

|                                                                                        |                                    |            |           |
|----------------------------------------------------------------------------------------|------------------------------------|------------|-----------|
| FILE NAME =                                                                            | USER NAME = dudleybm               | DESIGNED = | REVISED = |
| G:\OPERATIONS\Bridges\Bridgeplans\CA07\2168 - I-72 joint repairs CM FY16\plansheet.dwg |                                    | DRAWN =    | REVISED = |
|                                                                                        | PLOT SCALE = 100.0000 ' / in.      | CHECKED =  | REVISED = |
| Default                                                                                | PLOT DATE = Jan-26-2015 01:44:25PM | DATE =     | REVISED = |

|              |                             |                          |
|--------------|-----------------------------|--------------------------|
| SCALE: _____ | SHEET _____ OF _____ SHEETS | STA. _____ TO STA. _____ |
|--------------|-----------------------------|--------------------------|

|                |                       |                           |                 |              |
|----------------|-----------------------|---------------------------|-----------------|--------------|
| F.A.I.<br>RTE. | SECTION               | COUNTY                    | TOTAL<br>SHEETS | SHEET<br>NO. |
| 72             | (75) BDGE REP VAR LOC | PIKE                      | 37              | 9            |
|                |                       | CONTRACT NO. 72H68        |                 |              |
|                |                       | ILLINOIS FED. AID PROJECT |                 |              |



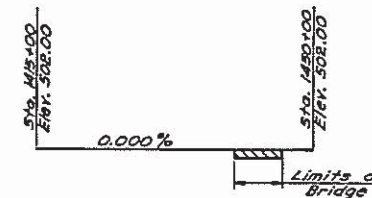
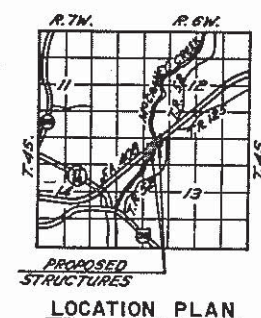


| SN 075-0086 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| POLYMER CONCRETE                     | CU FT | 7.5        | 1.9        | 9.4        |
| SILICONE JOINT SEALER 2-1/2"         | FOOT  | 54         | 14         | 68         |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 0.7        | -          | 0.7        |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.



075-0090 EBL



DESIGN DATA

## DESIGN SPECIFICATIONS

A.A.S.H.T.O. 1983 STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES  
AND 1984 & 1985 INTERIM SPECIFICATIONS.

### CONSTRUCTION SPECIFICATIONS

ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS  
FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED OCTOBER 1, 1983 AND APPLICABLE SUPPLEMENTS.

### LOADING CRITERIA

ROADWAY LIVE LOAD : HS-20-44  
ROADWAY DEAD LOAD : CALCULATED WEIGHT OF STRUCTURE PLUS 25 P.S.F.  
FOR FUTURE WEARING SURFACE.  
LATERAL LOAD : 40 P.C.F. EQUIVALENT FLUID PRESSURE.

## DESIGN STRESSES

CAST IN PLACE REINFORCED CONCRETE  
 $f'_c = 3,500$  P.S.I. (CONCRETE)  
 $f_y = 60,000$  P.S.I. (REINFORCING STEEL)  $f_y = 36,000$  P.S.I. (MISC.)

PRE-CAST PRE-STRESSED CONCRETE  
 $f'_c = 4,000$  P.S.I.  
 $f'_{ci} = 4,000$  P.S.I.  
 $f'_a = 270,000$  P.S.I. (1/2 IN. DIA. STRANDS)  
 $f'_{si} = 189,000$  P.S.I. (1/2 IN. DIA. STRANDS)

FOR ST  
*James*  
 JR.

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY



Bhadrash N. Shah  
BHADRASH N. SHAM  
REGISTERED STRUCTURAL ENGINEER  
STATE OF ILLINOIS LIC. No. 081-004470  
March 3, 1987

PROFILE OF F.A. 408  
(AT MEDIAN EDGE)

075-0090

SN-075-0090 (EASTBOUND)  
SN-075-0091 (WESTBOUND)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
GENERAL PLAN & ELEVATION  
F.A.P. ROUTE 408  
OVER  
MCCRANEY CREEK  
STA. 1443+45.59 - WESTBOUND  
STA. 1443+14.41 - EASTBOUND  
F.A. RT. 408 PIKE COUNTY SECTION 78-28-1  
CHRISTIAN-ROSE AND ASSOC.  
ENGINEERS  
CHICAGO, ILLINOIS

DESIGNED BY: B. SHAH  
DRAWN BY: F. MUNIR  
CHECKED BY: B. SHAH

STATION 1443+14.41  
BUILT 198 BY  
STATE OF ILLINOIS  
F.A. ROUTE 408 SECTION 75-2B-  
~~F.A. PROJECT 408-408-21~~  
LOADING HS 20  
STRUCTURE NO. 075-0090

**NAME PLATE**  
**EASTBOUND LANES**  
**(SEE STD. 2113)**

STATION 1443+45.59  
BUILT 198 BY  
STATE OF ILLINOIS  
F.A. ROUTE 408 SECTION 75-2B-1  
~~F.A. PROJECT 100 111~~  
LOADING HS 20  
STRUCTURE NO. 075-0091

**NAME PLATE**  
**WESTBOUND LANES**  
**(SEE STD. 213)**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SN 075-0090  
(FOR INFORMATION ONLY)

|                           |                       |                    |                 |              |
|---------------------------|-----------------------|--------------------|-----------------|--------------|
| F.A.I.<br>RTE.            | SECTION               | COUNTY             | TOTAL<br>SHEETS | SHEET<br>NO. |
| 72                        | (75) BDGE REP VAR LOC | PIKE               | 37              | 11           |
|                           |                       | CONTRACT NO. 72H68 |                 |              |
| ILLINOIS FED. AID PROJECT |                       |                    |                 |              |







**BENCH MARK:**  
S. 22° 30' 00" G.B. In SW 1/4, Sec. 12, T45, R7W.  
Centered Square On Top of M.W. Concrete  
Wingwall of Bridge At T.R. 52 Over Tributary  
To McCraney Creek, Elev. 509.51.

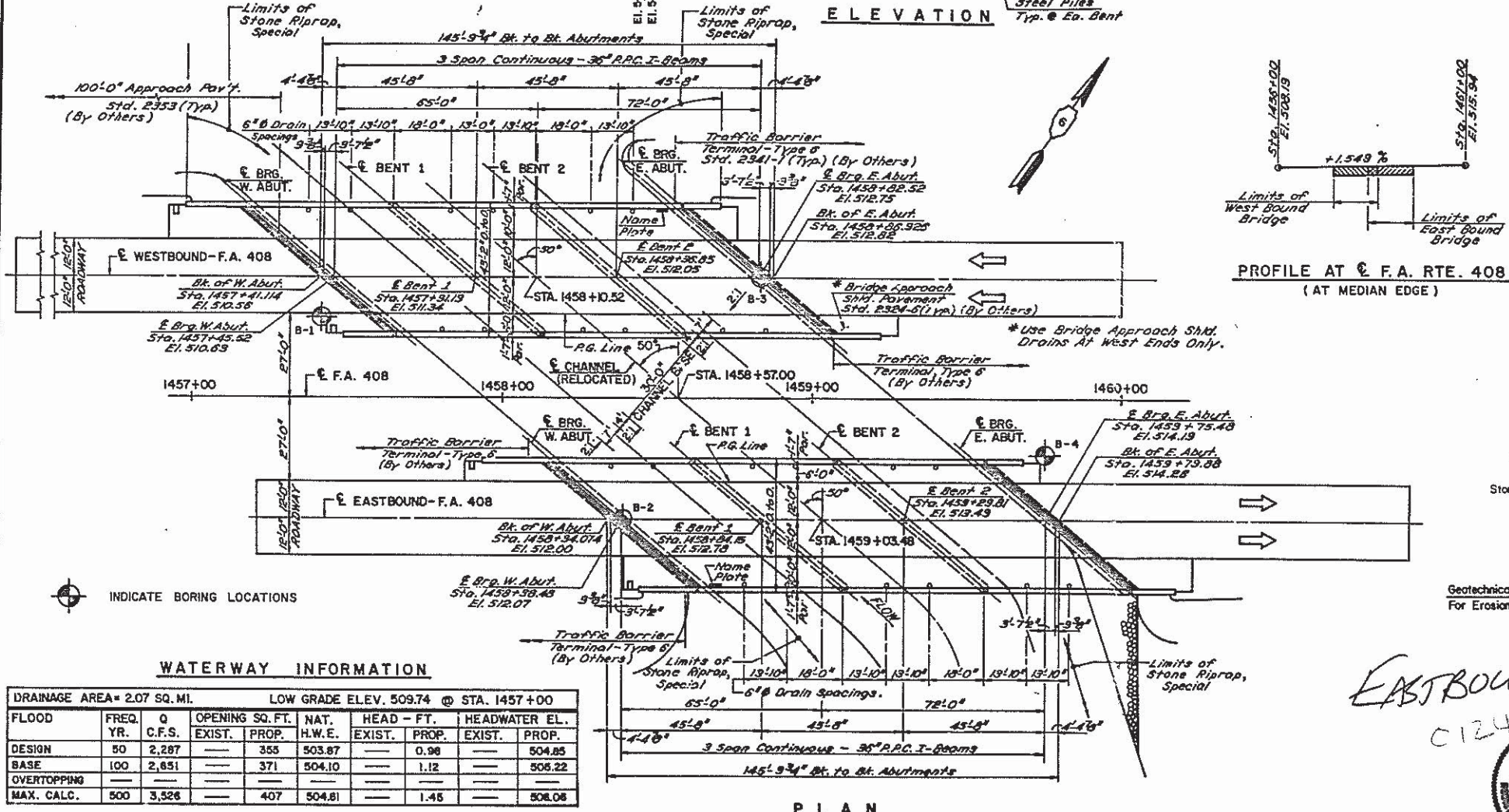
075-0124

STATION 1459+03.48  
BUILT 198 BY  
STATE OF ILLINOIS  
F.A. ROUTE 408 SECTION 75-2B-2  
LOADING HS 20  
STRUCTURE NO. 075-0124

STATION 1458+10.52  
BUILT 198 BY  
STATE OF ILLINOIS  
F.A. ROUTE 408 SECTION 75-2B-2  
LOADING HS 20  
STRUCTURE NO. 075-0125

**NAME PLATE**  
EASTBOUND LANES  
(SEE STD. 2112)

**NAME PLATE**  
WESTBOUND LANES  
(SEE STD. 2112)



| WATERWAY INFORMATION         |           |                                       |                 |             |            |               |        |       |        |
|------------------------------|-----------|---------------------------------------|-----------------|-------------|------------|---------------|--------|-------|--------|
| DRAINAGE AREA = 2.07 SQ. MI. |           | LOW GRADE ELEV. 509.74 @ STA. 1457+00 |                 |             |            |               |        |       |        |
| FLOOD                        | FREQ. YR. | Q C.F.S.                              | OPENING SQ. FT. | NAT. H.W.E. | HEAD - FT. | HEADWATER EL. | EXIST. | PROP. | EXIST. |
| DESIGN                       | 50        | 2,287                                 | 353             | 503.87      | 0.98       | 504.85        |        |       |        |
| BASE                         | 100       | 2,651                                 | 371             | 504.10      | 1.12       | 506.22        |        |       |        |
| OVERTOPPING                  |           |                                       |                 |             |            |               |        |       |        |
| MAX. CALC.                   | 500       | 3,326                                 | 407             | 504.81      | 1.45       | 508.08        |        |       |        |

DESIGNED BY: B. SHAN  
DRAWN BY: F. MUNIR  
CHECKED BY: B. SHAN

| SHEET                                | ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------------------------|-----------|---------|--------|--------------|-----------|
| 31 OF 32                             | F.A. 408  | 75-2B-2 | PIKE   | 110          | 21        |
| PER ROAD DIV. NO. 4 ILLINOIS PROJECT |           |         |        |              |           |

**GENERAL NOTES**

SEE PROPOSAL FOR BORING DATA.  
REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. M-31, M-42 OR M-53 GRADE 60.  
THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.  
LAYOUT OF SLOPE PROTECTION SYSTEM MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.  
THE CONTRACTOR SHALL DRIVE ONE (1) TEST PILE STEEL H.P. 18 X 42 AT EACH ABUTMENT AND ONE (1) TEST PILE STEEL H.P. 12 X 53 AT BENT NO. 1 FOR W.B. AND E.B. LANES IN A PERMANENT LOCATION AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.  
ALL STRUCTURAL STEEL SHALL BE SHOP PAINTED WITH THE ZINC-SILICATE AND VINYL PAINT SYSTEM.  
THE CONCRETE, FOR BRIDGE FLOORS FINISHED IN ACCORDANCE WITH ARTICLE 503.15 OF THE STANDARD SPECIFICATIONS, SHALL BE PLACED AND COMPACTED PARALLEL TO THE SKEW IN UNIFORM INCREMENTS ALONG CENTER LINE OF BRIDGE. THE FINISHING MACHINE, WHEN REQUIRED, SHALL BE SET PARALLEL TO THE SKEW FOR STRIKING OFF AND SCREEDING THE CONCRETE.

**DESIGN DATA**

**DESIGN SPECIFICATIONS**

AASHTO 1983 STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND 1994 & 1995 INTERIM SPECIFICATIONS.

**CONSTRUCTION SPECIFICATIONS**

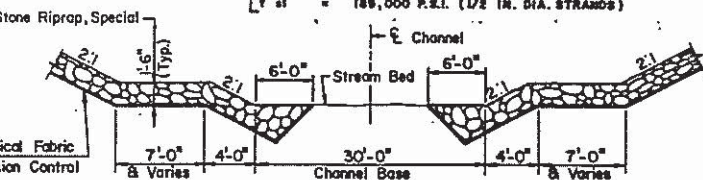
ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED OCTOBER 1, 1993 AND APPLICABLE SUPPLEMENTS.

**LOADING CRITERIA**

ROADWAY LIVE LOAD : HS-20-44  
ROADWAY DEAD LOAD : CALCULATED WEIGHT OF STRUCTURE PLUS 25 P.S.F. FOR FUTURE WEARING SURFACE.  
LATERAL LOAD : 40 P.S.F. EQUIVALENT FLUID PRESSURE.

**DESIGN STRESSES**

| FIELD UNITS |                                                           |  |
|-------------|-----------------------------------------------------------|--|
| 1" x 1"     | 3,500 P.S.I.                                              |  |
| 1" x 1"     | 60,000 P.S.I. (REINFORCING STEEL)                         |  |
| 1" x 1"     | 24,000 P.S.I. (STRUCTURAL STEEL) A.A.S.H.T.O. M-183       |  |
| 1" x 1"     | 80,000 P.S.I. (STRUCTURAL STEEL) A.A.S.H.T.O. M-223 OR 50 |  |
| 1" x 1"     | 8,000 P.S.I.                                              |  |
| 1" x 1"     | 4,000 P.S.I.                                              |  |
| 1" x 1"     | 270,000 P.S.I. (1/2 IN. DIA. STRANDS)                     |  |
| 1" x 1"     | 189,000 P.S.I. (1/2 IN. DIA. STRANDS)                     |  |



**CROSS SECTION OF PROPOSED STREAM BED BETWEEN STRUCTURES**  
075-0125 & 075-0126

EASTBOUND  
C124

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY  
James J. [Signature]  
Engineer of Bridges and Structures



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
GENERAL PLAN  
F.A.P. ROUTE 408  
OVER  
TRIBUTARY TO MCCRANEY CREEK  
STA. 1458 + 10.52 - WESTBOUND  
STA. 1459 + 03.48 - EASTBOUND  
F.A. RT. 408 PRE COUNTY SECTION 75-2B-2  
CHRISTIAN, [Signature] AND ASSOC.  
CHICAGO, ILLINOIS

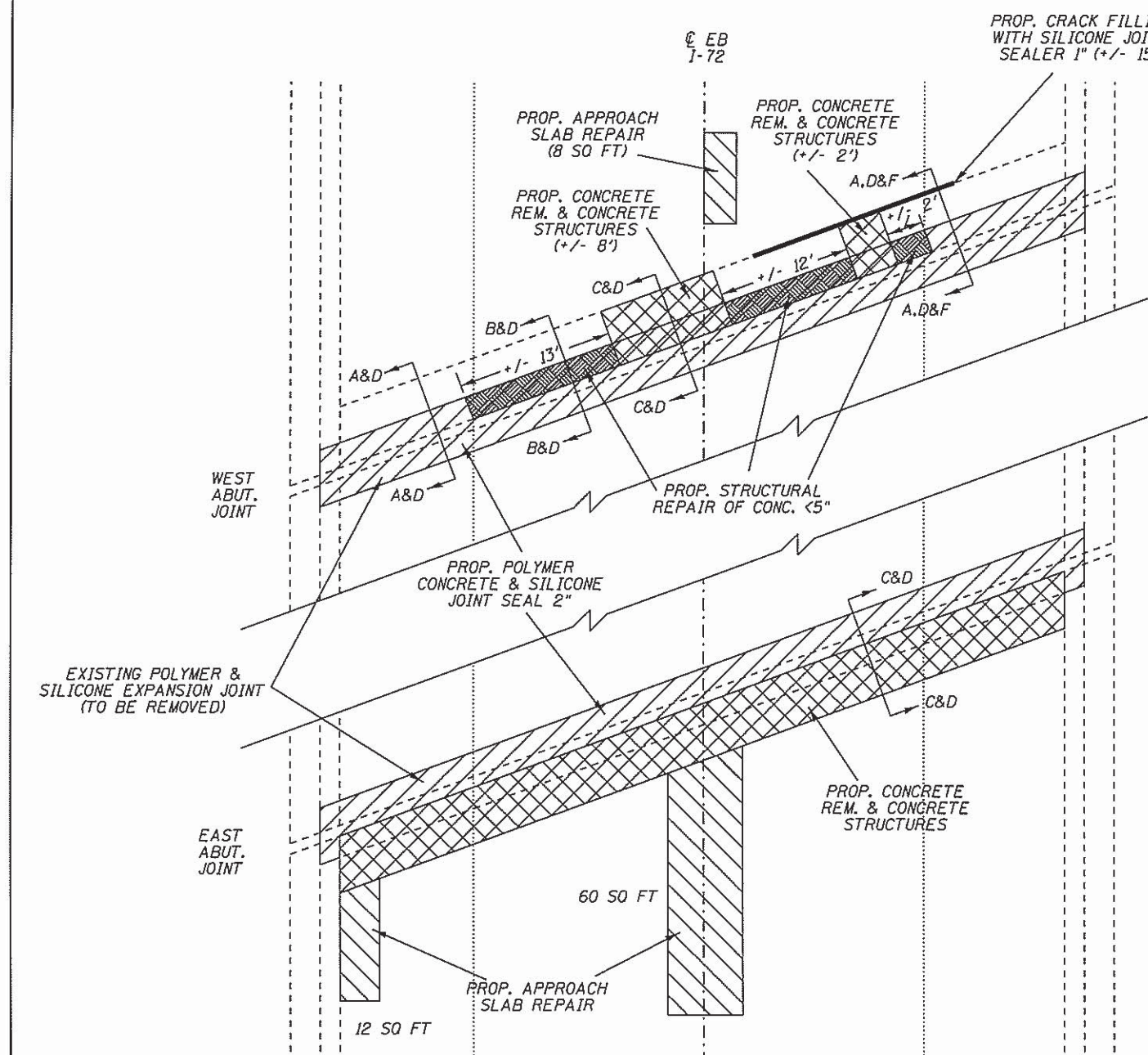
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SN 075-0124 & 075-0125  
(FOR INFORMATION ONLY)  
SCALE: \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

| F.A.J. RTE.               | SECTION              | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------------|--------|--------------|-----------|
| 72                        | (75) BDR REP VAR LOC | PIKE   | 37           | 13        |
| CONTRACT NO. 72H68        |                      |        |              |           |
| ILLINOIS FED. AID PROJECT |                      |        |              |           |

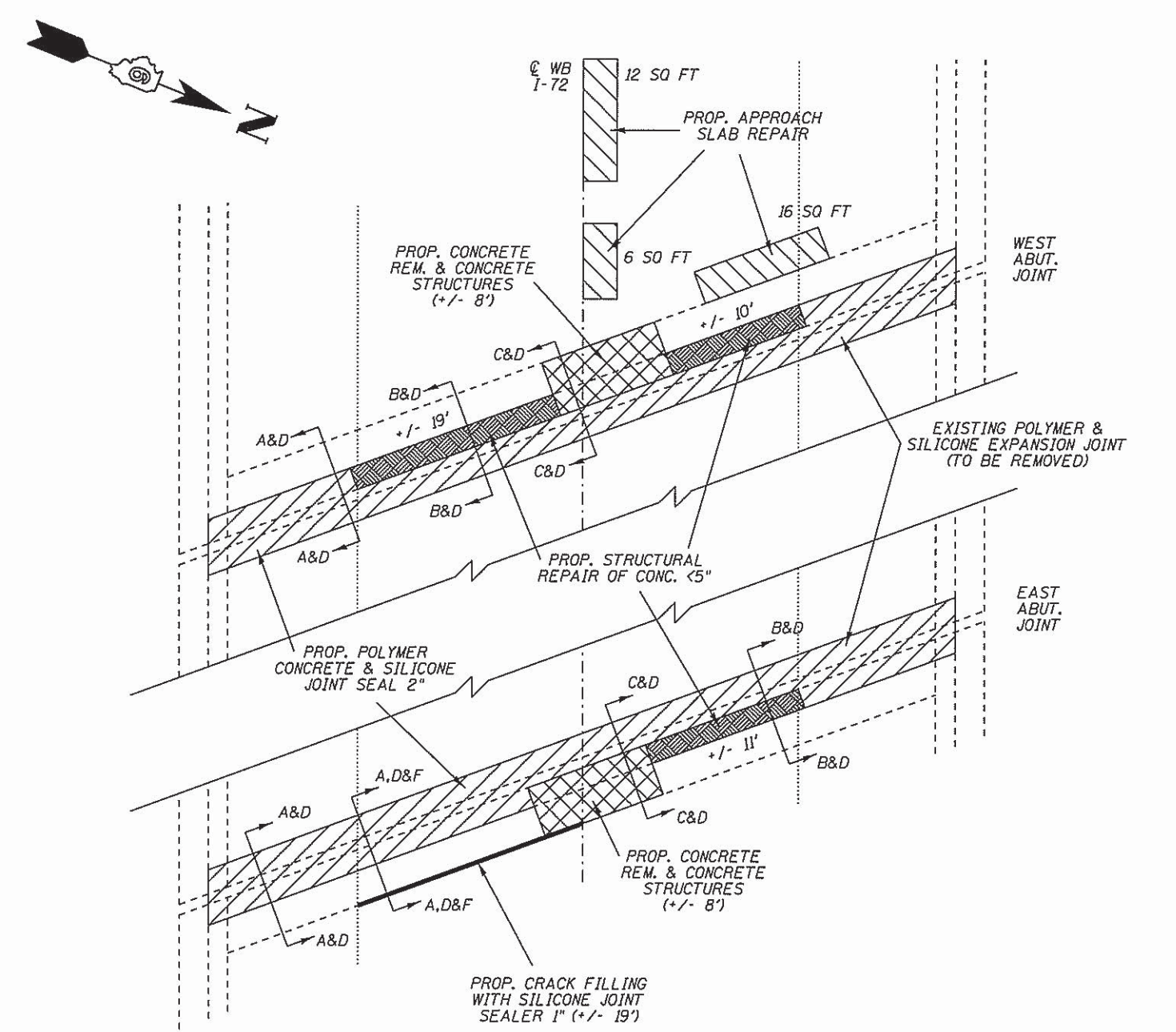
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|-----------------------------------------------------------------------------------|--------------------------------------------|------------|-----------|
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| Default                                                                           | PLOT SCALE = 100,0000 / 1 in.              | CHECKED -  | REVISED - |
|                                                                                   | PLOT DATE = Jan-26-2015 01:45:00PM         | DATE -     | REVISED - |





075-0124 PLAN

| SN 075-0124 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL                     | CU YD | 0.6        | 1.7        | 2.3        |
| CONCRETE STRUCTURES                  | CU YD | 0.2        | 1.4        | 1.6        |
| POLYMER CONCRETE                     | CU FT | 8.9        | 8.9        | 17.8       |
| STRUCT. REPAIR OF CONC. <5"          | SQ FT | 13.5       | -          | 13.5       |
| SILICONE JOINT SEALER 1"             | FOOT  | 15         | -          | 15         |
| SILICONE JOINT SEALER 2"             | FOOT  | 64         | 64         | 128        |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 0.9        | 8.0        | 8.9        |



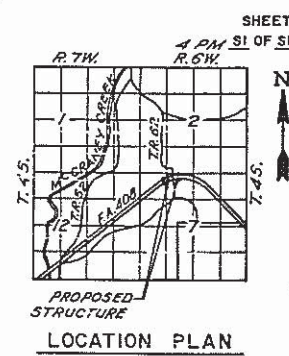
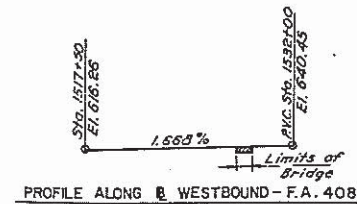
075-0125 PLAN

| SN 075-0125 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL                     | CU YD | 0.5        | 0.5        | 1.0        |
| CONCRETE STRUCTURES                  | CU YD | 0.2        | 0.2        | 0.4        |
| POLYMER CONCRETE                     | CU FT | 8.9        | 8.9        | 17.8       |
| STRUCT. REPAIR OF CONC. <5"          | SQ FT | 14.5       | 5.5        | 20.0       |
| SILICONE JOINT SEALER 1"             | FOOT  | -          | 19         | 19         |
| SILICONE JOINT SEALER 2"             | FOOT  | 64         | 64         | 128        |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 3.8        | -          | 3.8        |

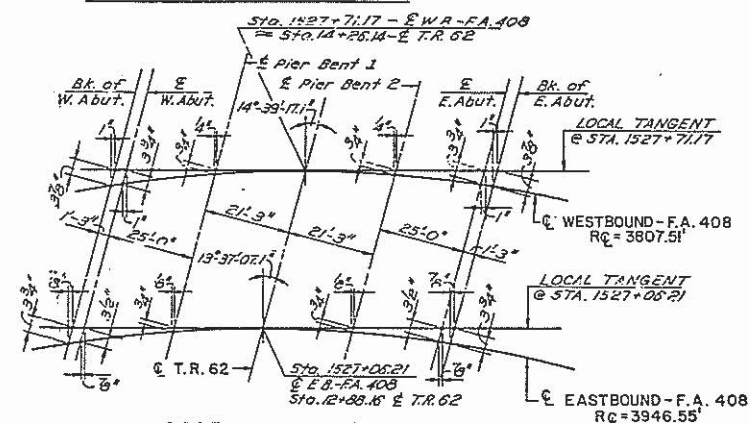
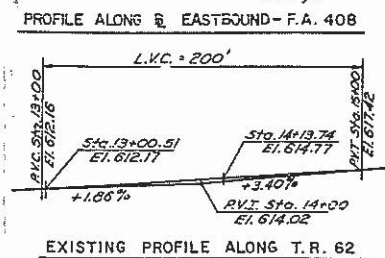
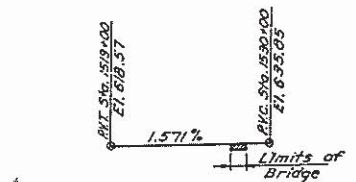
NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.



075-0044



STATION 1527 + 09.12  
BUILT 198 BY  
STATE OF ILLINOIS  
F.A. ROUTE 408 SECTION 75-2HB  
LOADING HS 20  
STRUCTURE NO. 075-0094



STATION 1527+68.03  
BUILT 198 BY  
STATE OF ILLINOIS  
F.A. ROUTE 408 SECTION 75-2HB  
LOADING HS 20  
STRUCTURE NO. 075-0095



DESIGN DATA

## DESIGN SPECIFICATIONS

A.A.S.H.T.O. 1983 STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES  
AND 1984 & 1985 INTERIM SPECIFICATIONS.

## CONSTRUCTION SPECIFICATIONS

ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS  
FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED OCTOBER 1, 1983.

### LOADING CRITERIA

ROADWAY LIVE LOAD : HS-20-44  
ROADWAY DEAD LOAD : CALCULATED WEIGHT OF STRUCTURE PLUS 25 P.S.F.  
FOR FUTURE WEARING SURFACE.

## DESIGN STRESSES

|                                   |                                         |
|-----------------------------------|-----------------------------------------|
| CAST IN PLACE REINFORCED CONCRETE |                                         |
| f'c                               | = 3,500 P.S.I. (CONCRETE)               |
| fy                                | = 60,000 P.S.I. (REINFORCING STEEL)     |
| PRE-CAST PRE-STRESSED CONCRETE    |                                         |
| f'c                               | = 5,000 P.S.I.                          |
| f'ci                              | = 4,000 P.S.I.                          |
| f's                               | = 270,000 P.S.I. (1/2 IN. DIA. STRANDS) |
| f'si                              | = 189,000 P.S.I. (1/2 IN. DIA. STRANDS) |

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

James T. Fisher  
Engineer of Bridges and Structures



Bhadrash N. Shah  
BHADRESH N. SHAH  
REGISTERED STRUCTURAL ENGINEER  
STATE OF ILLINOIS LIC. No. 081-004476

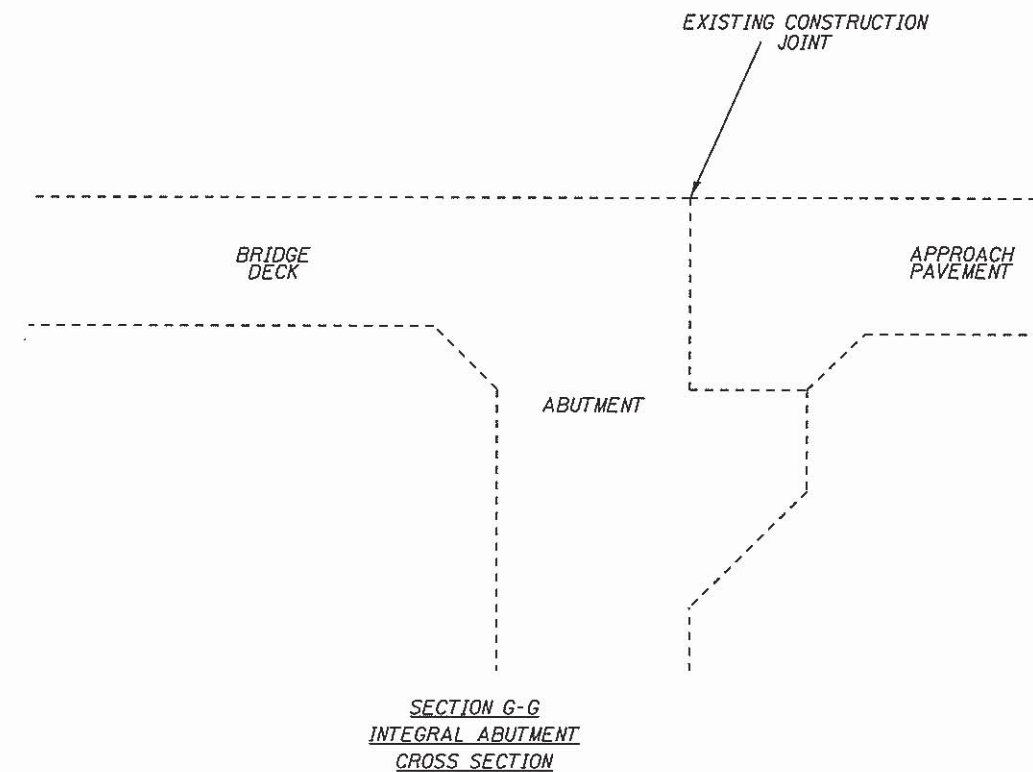
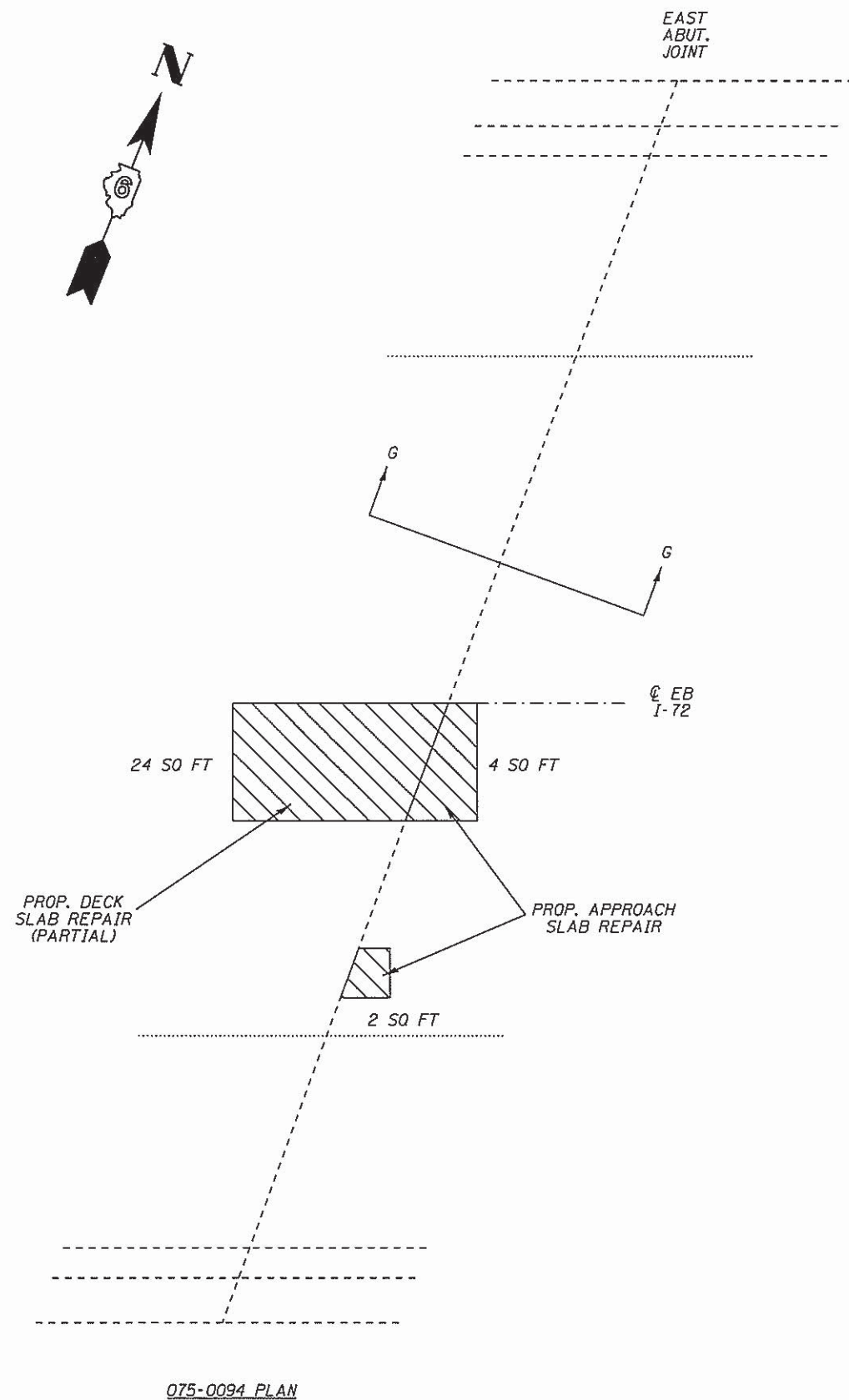
IB-0094

SN-075-0094 (EASTBOUND)  
SN-075-0095 (WESTBOUND)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
GENERAL PLAN & ELEVATION  
F.A.P. ROUTE 408  
OVER  
TOWNSHIP ROAD 62  
STA. 1527+68.03 - WESTBOUND  
STA. 1527+09.12 - EASTBOUND  
F.A. RT. 408 PIKE COUNTY SECTION 75-2NB

|                                                                                        |                                    |                  |                 |                                                   |                                                     |                             |                          |                           |                |         |        |                 |              |
|----------------------------------------------------------------------------------------|------------------------------------|------------------|-----------------|---------------------------------------------------|-----------------------------------------------------|-----------------------------|--------------------------|---------------------------|----------------|---------|--------|-----------------|--------------|
| FILE NAME *                                                                            | USER NAME * dudleybm               | DESIGNED ~ _____ | REVISED ~ _____ | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | EXISTING PLAN SN 075-0094<br>(FOR INFORMATION ONLY) |                             |                          |                           | F.A.I.<br>RTE. | SECTION | COUNTY | TOTAL<br>SHEETS | SHEET<br>NO. |
| G:\OPERATIONS\Bridges\bridgeplans\CAD\72H68 - I-72 joint repairs CM FY15\plansheet.dwg |                                    | DRAWN ~ _____    | REVISED ~ _____ |                                                   | 72                                                  | (75) BQGE REP VAR LOC       | PIKE                     | 37                        | 15             |         |        |                 |              |
| PLOT SCALE = 100.0000 ' / in.                                                          |                                    | CHECKED ~ _____  | REVISED ~ _____ |                                                   | CONTRACT NO. 72H68                                  |                             |                          |                           |                |         |        |                 |              |
| Default                                                                                | PLOT DATE = Jan-26-2015 01:45:36PM | DATE ~ _____     | REVISED ~ _____ |                                                   | SCALE: _____                                        | SHEET _____ OF _____ SHEETS | STA. _____ TO STA. _____ | ILLINOIS FED. AID PROJECT |                |         |        |                 |              |



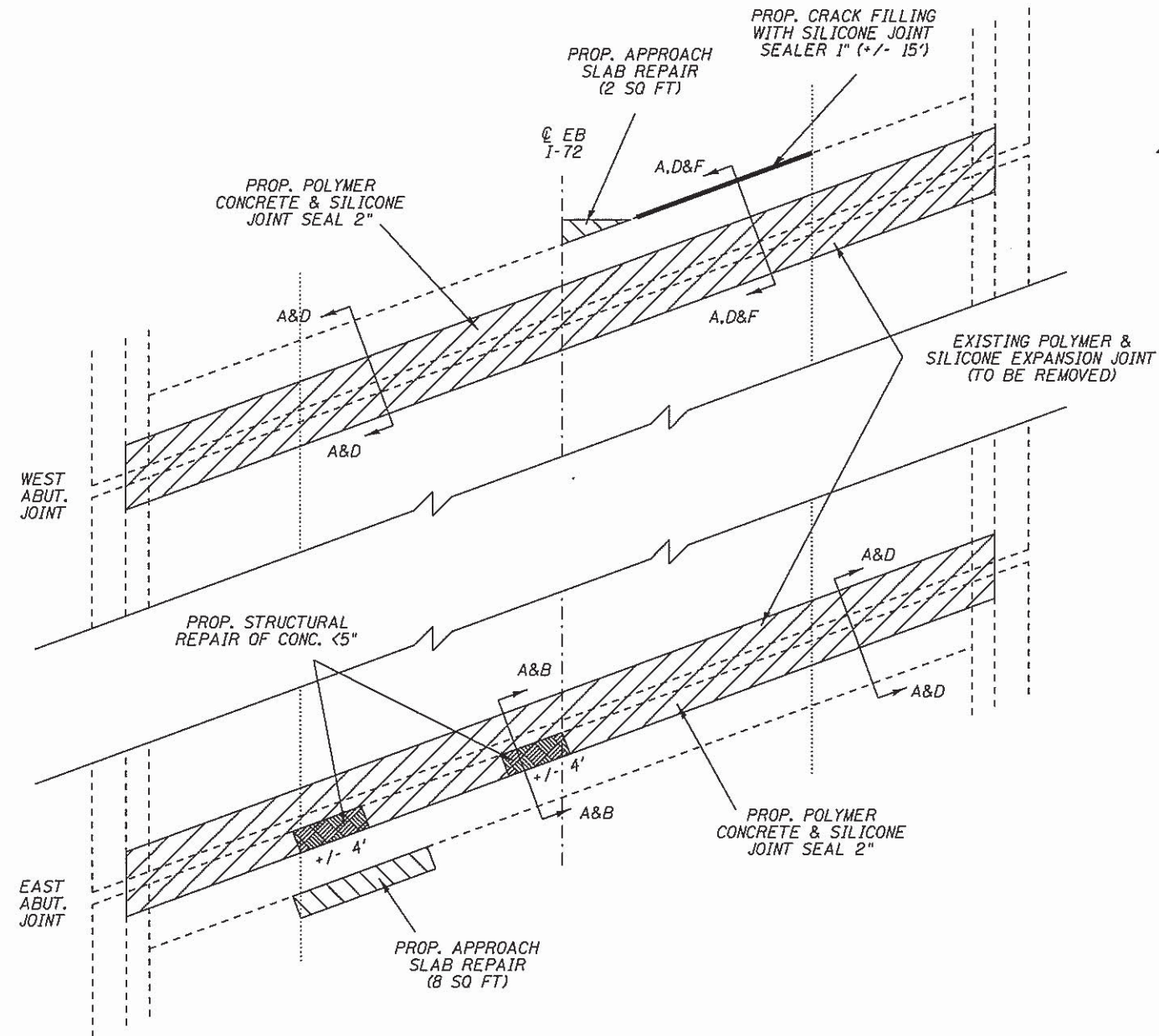


| SN 075-0094 BILL OF MATERIAL         |       |            |            |
|--------------------------------------|-------|------------|------------|
| ITEM                                 | UNIT  | EAST JOINT | TOTAL QTY. |
| DECK SLAB REPAIR (PARTIAL)           | SQ YD | 2.7        | 2.7        |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 0.7        | 0.7        |





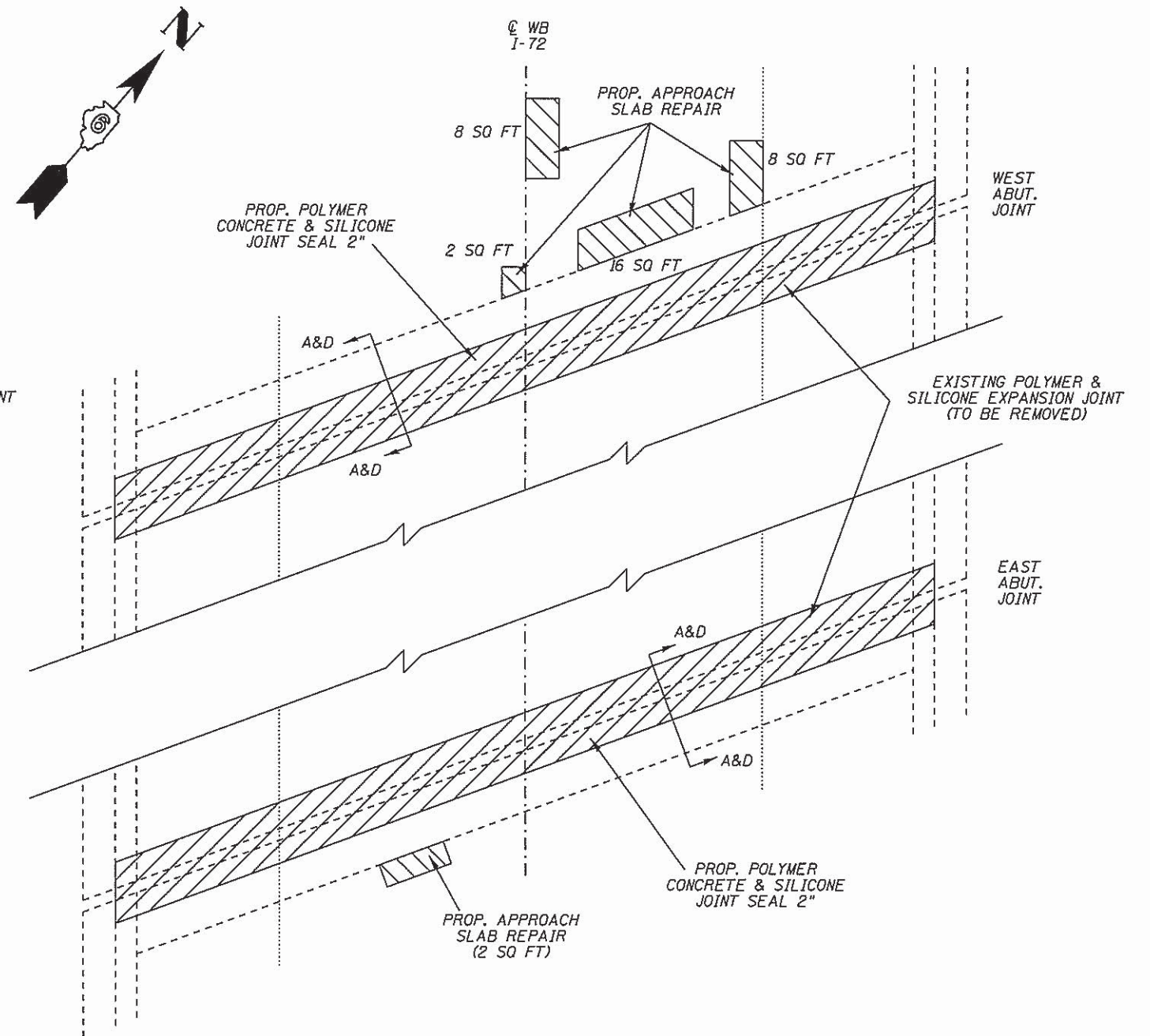




075-0096 PLAN

| SN 075-0096 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL                     | CU YD | 0.3        | 0.3        | 0.6        |
| POLYMER CONCRETE                     | CU FT | 8.8        | 8.8        | 17.6       |
| STRUCT. REPAIR OF CONC. <5"          | SQ FT | -          | 4.0        | 4.0        |
| SILICONE JOINT SEALER 1"             | FOOT  | 15         | -          | 15         |
| SILICONE JOINT SEALER 2"             | FOOT  | 63         | 63         | 126        |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 0.3        | 0.9        | 1.2        |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.



075-0097 PLAN

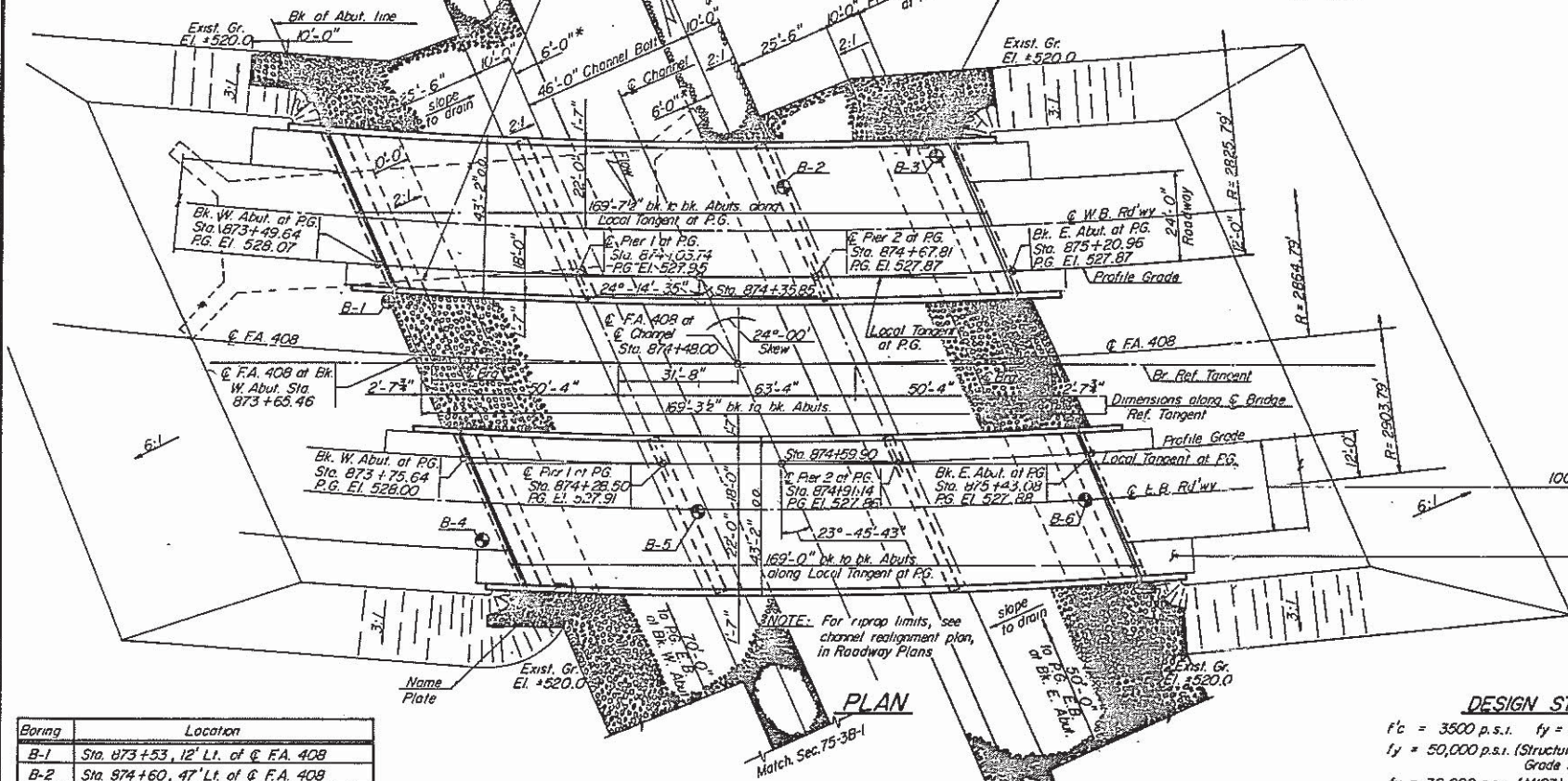
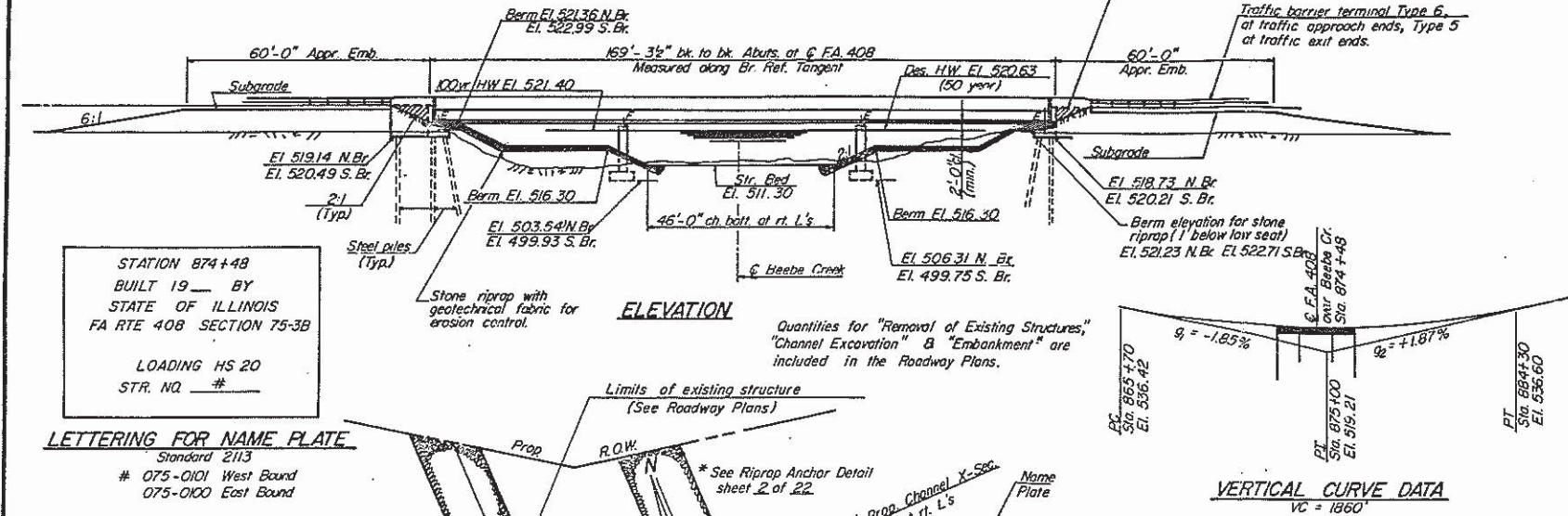
| SN 075-0097 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL                     | CU YD | 0.3        | 0.3        | 0.6        |
| POLYMER CONCRETE                     | CU FT | 8.8        | 8.8        | 17.6       |
| SILICONE JOINT SEALER 2"             | FOOT  | 63         | 63         | 126        |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 3.8        | 0.3        | 4.1        |



075-0100 & 0101

E.M. "C" on N.E. end of existing Rte. 36 bridge over Beebe Creek, 35' L.I. & F.A. 408 Sta. 873+25 El. 526.55.

| ROUTE NO.             | SECTION          | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------------|------------------|--------|--------------|-----------|
| FA 408                | 75-38            | PIKE   | 79           | 32        |
| FED. ROAD DIST. NO. 7 | ILLINOIS PROJECT |        |              |           |

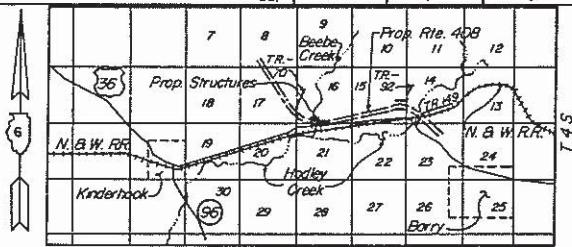


| Boring | Location                           |
|--------|------------------------------------|
| B-1    | Sta. 873+53, 12' Lt. of C.F.A. 408 |
| B-2    | Sta. 874+60, 47' Lt. of C.F.A. 408 |
| B-3    | Sta. 875+03, 54' Lt. of C.F.A. 408 |
| B-4    | Sta. 873+80, 51' Rt. of C.F.A. 408 |
| B-5    | Sta. 874+38, 41' Rt. of C.F.A. 408 |
| B-6    | Sta. 375140, 41' Rt. of C.F.A. 408 |

| HORIZONTAL CURVE DATA |                 |  |  |
|-----------------------|-----------------|--|--|
| PI Sta. 870+81.29     | R=2864.79'      |  |  |
| Δ = 64°-25'-41"       | L = 3221.41'    |  |  |
| D = 2°-00'            | E = 521.24'     |  |  |
| T = 1805.04'          | S.E. = 0052 1/4 |  |  |

| VERTICAL CURVE DATA |  |
|---------------------|--|
| VC = 1860'          |  |

| TOTAL BILL OF MATERIAL             |          |         |        |         |
|------------------------------------|----------|---------|--------|---------|
| ITEM                               | UNIT     | SUPER   | SUB    | TOTAL   |
| Cofferdam Excavation               | c.y.     | 116.0   | —      | 116.0   |
| Class X Concrete-Superstructure    | c.y.     | 394.6   | —      | 394.6   |
| Class X Concrete                   | c.y.     | —       | 606.4  | 606.4   |
| Reinforcement Bars                 | lb.      | —       | 36,750 | 36,750  |
| Reinforcement Bars (Epoxy Coated)  | lb.      | 111,930 | —      | 111,930 |
| Furnish & Erect Structural Steel   | l.s.     | —       | —      | —       |
| Floor Drains                       | ea.      | 20      | —      | 20      |
| Preformed Joint Seal (2 1/2")      | lin. ft. | 96      | —      | 96      |
| Preformed Joint Seal (4")          | lin. ft. | 94      | —      | 94      |
| Elastomeric Brg. Assembly, Type I  | ea.      | 24      | —      | 24      |
| Elastomeric Brg. Assembly, Type II | ea.      | 12      | —      | 12      |
| Steel Piles HP 8x36                | lin. ft. | —       | 1,022  | 1,022   |
| Test Piles Steel HP 8x36           | ea.      | —       | 2      | 2       |
| Name Plates                        | ea.      | 2       | —      | 2       |
| Stone Riprap                       | sq. yd.  | —       | 3,220  | 3,220   |
| Structure Excavation               | c.y.     | —       | 10.4   | 10.4    |
| Protective Coat                    | sq. yd.  | —       | 2.70   | 2.70    |
| Rock Excavation For Structures     | c.y.     | —       | 55     | 55      |
| Cofferdams                         | ea.      | —       | 4      | 4       |



**DESIGN STRESSES**

$f_c = 3500$  p.s.i.  $f_y = 60,000$  p.s.i. (Reinf.)  
 $f_y = 50,000$  p.s.i. (Structural) AASHTO M223  
 Grade 50  
 $f_y = 36,000$  p.s.i. (M183) (Structural)  
 Loading HS 20-44  
 Design specifications - 1983 AASHTO, 1994 & 1995  
 Interim & AASHTO 1980 Guide Specs. for  
 horizontally curved highway bridges, 1981 & 1982 Interim.  
 25 #sq. ft. allowance for future wearing surface.

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY  
*James J. Rayburn*  
Engineer of Bridges and Structures

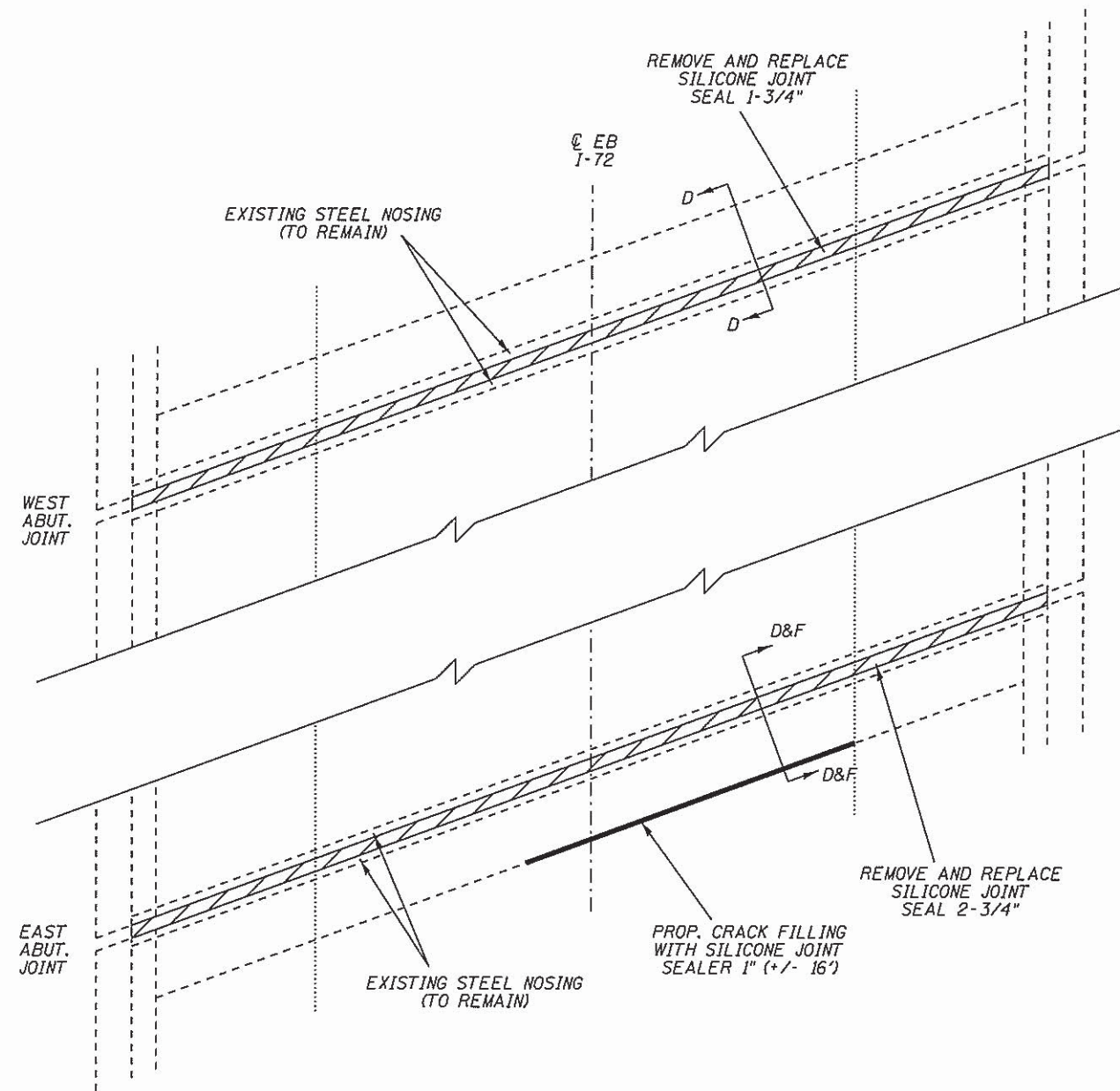
| REVISIONS |    |      |
|-----------|----|------|
| NO.       | BY | DATE |
|           |    |      |
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|             |     |
|-------------|-----|
| DESIGNED BY | PLS |
| DRAWN BY    | PLS |
| CHECKED BY  | PLS |
| APPROVED BY | PLS |

|                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION<br>FA RTE 408 OVER BEEBE CREEK<br>PIKE COUNTY<br>SECTION 75-38<br>STATION 874+48<br>STR. NO. 075-0100 E.B. 075-0101 W.B. |
| SCALE<br>DATE 12/15/06<br>SHEET 32 OF 79 SHEETS                                                                                                                            |

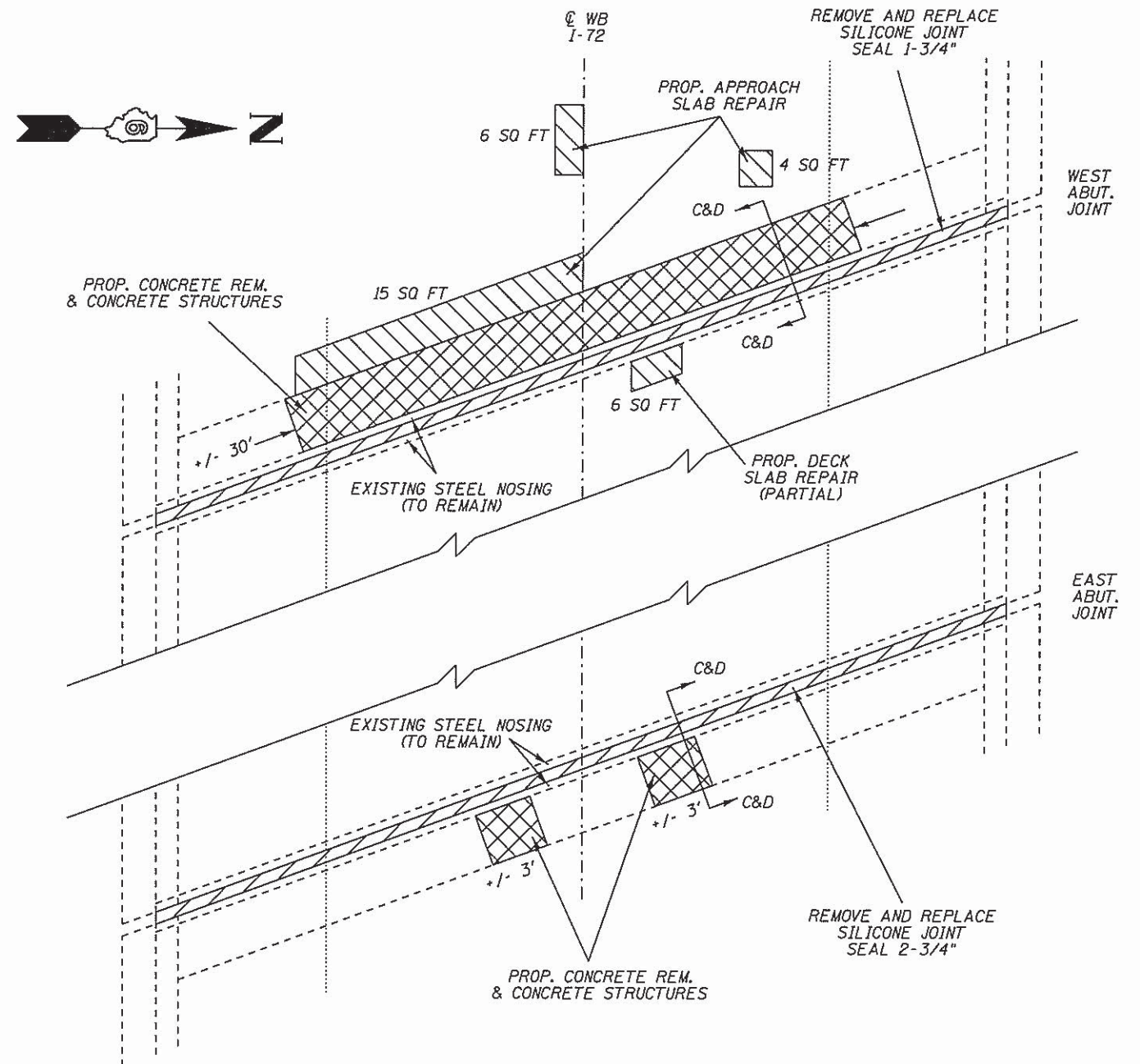
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|-----------------------------------------|--------------------------------------------|------------|-----------|---------------------------------------------------|----------------------------------------------------------------|----------------|-----------------------|--------|-----------------|---------------------------|
| FILE NAME *                             | USER NAME * dudleybm                       | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | EXISTING PLAN SN 075-0100 & 075-0101<br>(FOR INFORMATION ONLY) | F.A.I.<br>RTE. | SECTION               | COUNTY | TOTAL<br>SHEETS | SHEET<br>NO.              |
| D:\OPERATIONS\Bridges\Bridgplans\CAD\72 | H68 - 1-72 joint repairs CM FY16\plansheet | DRAWN -    | REVISED - |                                                   |                                                                | 72             | (75) BDGE REP VAR LOC | PIKE   | 37              | 19                        |
| Default                                 | PLOT SCALE = 100.0000' / in.               | CHECKED -  | REVISED - |                                                   |                                                                | SCALE:         |                       |        |                 | CONTRACT NO. 72H68        |
|                                         | PLOT DATE = Jan-26-2015 01:46:25PM         | DATE -     | REVISED - |                                                   |                                                                | SHEET          | OF                    | SHEETS | STA.            | TO STA.                   |
|                                         |                                            |            |           |                                                   |                                                                |                |                       |        |                 | ILLINOIS FED. AID PROJECT |





075-0100 PLAN

| SN 075-0100 BILL OF MATERIAL |      |            |            |            |
|------------------------------|------|------------|------------|------------|
| ITEM                         | UNIT | WEST JOINT | EAST JOINT | TOTAL QTY. |
| SILICONE JOINT SEALER 1"     | FOOT | -          | 16         | 16         |
| SILICONE JOINT SEALER 1-3/4" | FOOT | 46         | -          | 46         |
| SILICONE JOINT SEALER 2-3/4" | FOOT | -          | 46         | 46         |



075-0101 PLAN

| SN 075-0101 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL                     | CU YD | 0.8        | 0.2        | 1.0        |
| CONCRETE STRUCTURES                  | CU YD | 0.8        | 0.2        | 1.0        |
| SILICONE JOINT SEALER 1-3/4"         | FOOT  | 46         | -          | 46         |
| SILICONE JOINT SEALER 2-3/4"         | FOOT  | -          | 46         | 46         |
| DECK SLAB REPAIR (PARTIAL)           | SQ YD | 0.7        | -          | 0.7        |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 2.8        | -          | 2.8        |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.



EXISTING STRUCTURE- SN 075-0098 (EB) is 43'-2" wide by 1,357'-5" Bk to Bk Abutments, 9 span composite steel plate girder. This structure carries FAI 72 over TR 92, TR 149 and N&W RR.  
SN 075-0099 (WB) is 43'-2" wide by 1,368'-8 5/8" Bk to Bk Abutments, 9 span composite steel plate girder. This structure carries FAI 72 over TR 92, TR 149 and N&W RR.

THIS IMPROVEMENT INCLUDES APPROACH SHOULDER REPAIR, NEOPRENE EXPANSION JOINT SEAL REPLACEMENT, SW APPROACH SHOULDER PAVEMENT PATCHING, JOINT OR CRACK FILLING AND REPLACEMENT OF THE NEOPRENE DRAIN TROUGHS AT THE EAST ABUTMENT.

| TOTAL BILL OF MATERIALS<br>(2 Structures) |         |       |
|-------------------------------------------|---------|-------|
| ITEM                                      | UNIT    | TOTAL |
| STONE RIPRAP, CLASS A-4                   | TON     | 13    |
| FILTER FABRIC FOR USE WITH RIPRAP         | SQ. YD. | 21    |
| JOINT OR CRACK FILLING                    | POUND   | 20    |
| NEOPRENE EXPANSION JOINT, 4"              | FOOT    | 84    |
| * CONTROLLED LOW-STRENGTH MATERIAL        | CU. YD. | 2.4   |
| * FABRIC REINFORCED ELASTOMERIC TROUGH    | FOOT    | 86    |

\*See Special Provisions

SHEET NO. 1  
OF 4

| F.A.I.<br>RTE.                | SECTION               | COUNTY | TOTAL<br>SHEETS | SHEET<br>NO. |
|-------------------------------|-----------------------|--------|-----------------|--------------|
| 72                            | (75) BDGE REP VAR LOC | PIKE   | 37              | 21           |
| DISTRICT 6 RESURFACING 2003-2 |                       |        |                 |              |

### GENERAL NOTES

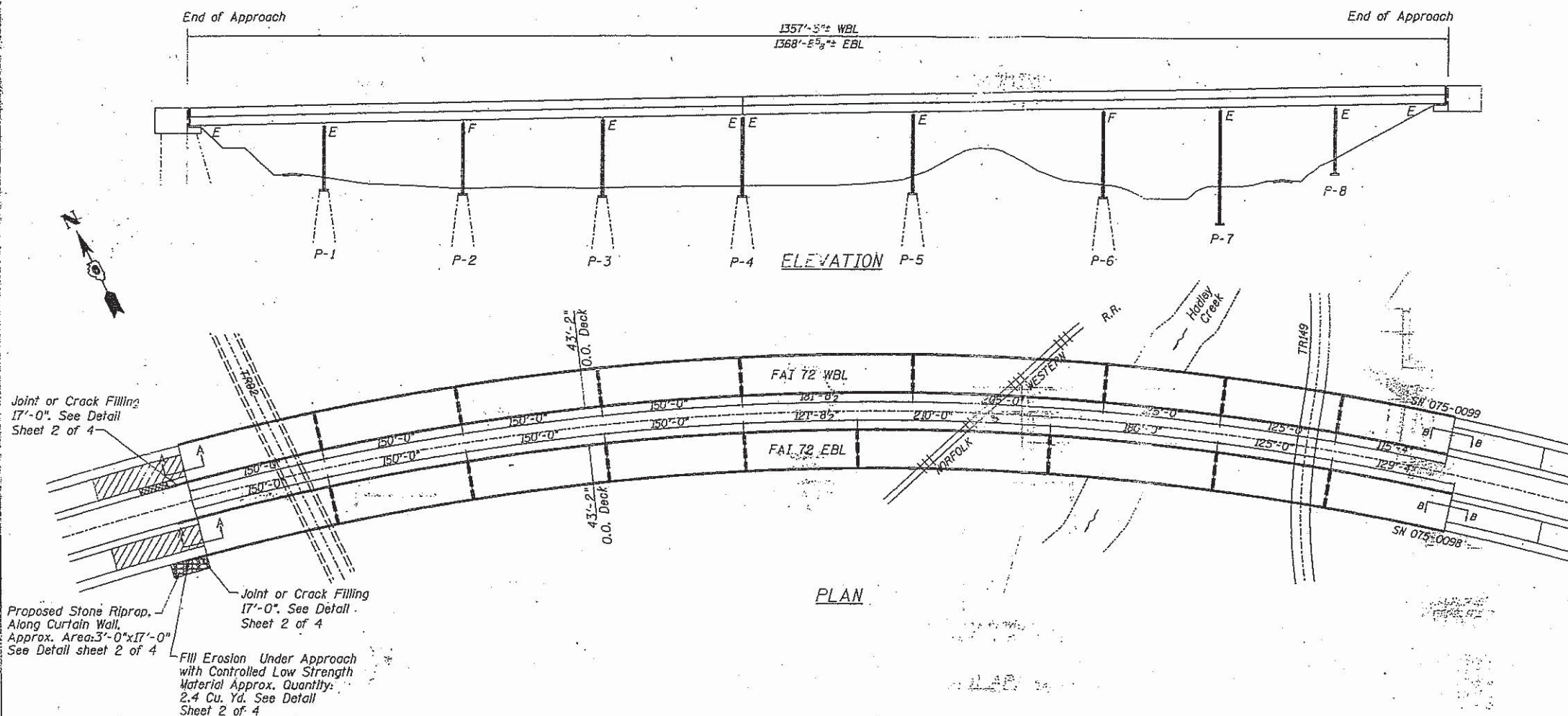
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction 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.

For Section A-A, see Sheet 2 of 4.

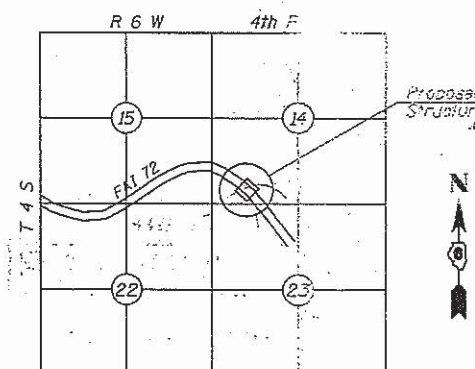
For Section B-B, see Sheet 3 of 4.

Riprap quantities and erosion areas under approach slab are approximate and based on conditions at time of field investigation. The Engineer shall determine final placement and quantity of this work in the field. Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Traffic shall be maintained using Standard 701401 or Standard 701406. Number of drums/cones to be doubled in area near bridge.



- Approach Shoulder Full Depth Patching  
See Plan Sheet 3 of 4. See Roadway Plans for Quantities.
- Bituminous Surface Removal - Butt Joint  
And Resurfacing. See Roadway Plans for Quantities.

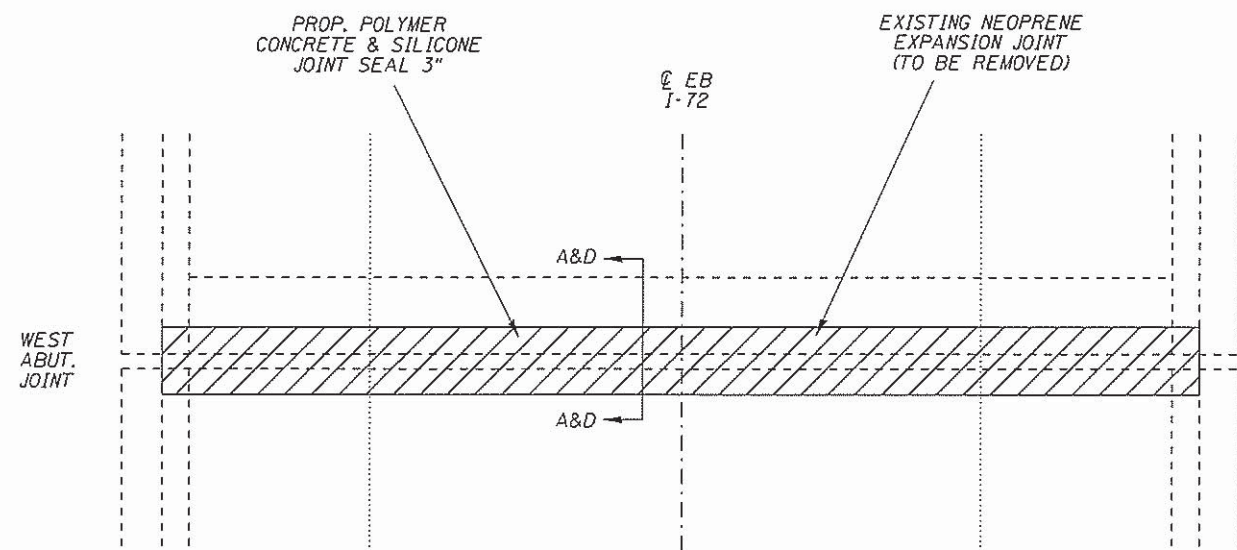
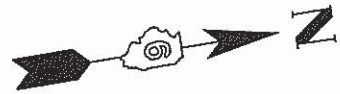


LOCATION SKETCH

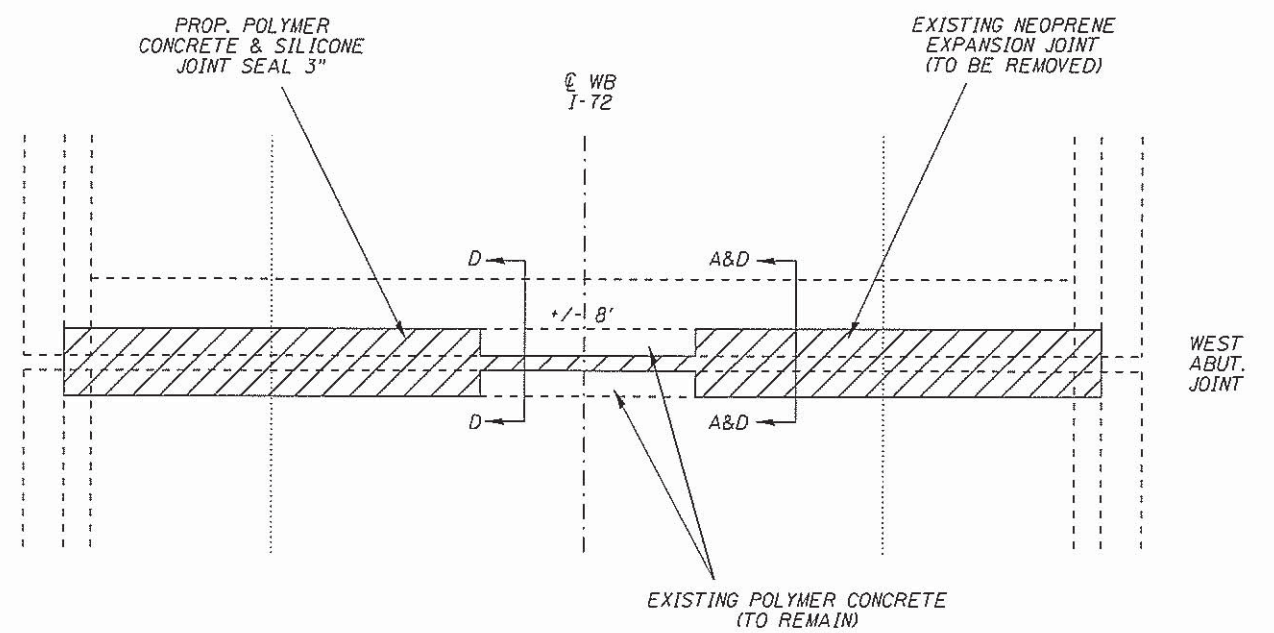
GENERAL PLAN & ELEVATION  
FAI 72 OVER TR 92, TR 149  
AND N&W R.R.  
DISTRICT 6 RESURFACING 2003-2  
PIKE COUNTY  
STATION 974+71.36  
STR NO. 075-0098 - EB  
STR NO. 075-0099 - WB

| FILE NAME *                                                                             | USER NAME * | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION |  | EXISTING PLAN SN 075-0098 & 075-0099<br>(FOR INFORMATION ONLY) |  | F.A.I.<br>RTE.            | SECTION               | COUNTY | TOTAL<br>SHEETS | SHEET<br>NO. |
|-----------------------------------------------------------------------------------------|-------------|------------|-----------|---------------------------------------------------|--|----------------------------------------------------------------|--|---------------------------|-----------------------|--------|-----------------|--------------|
| Q:\OPERATIONS\Bridges\BridgesPlans\CAD\72H68 - I-72 Joint Repairs CH FY15\plansheet.dwg | dudleybm    | DRAWN -    | REVISED - |                                                   |  |                                                                |  | 72                        | (75) BDGE REP VAR LOC | PIKE   | 37              | 21           |
| PLOT SCALE = 1/8" = 1'-0"                                                               |             | CHECKED -  | REVISED - |                                                   |  |                                                                |  | CONTRACT NO. 72H68        |                       |        |                 |              |
| PLOT DATE = Jan-26-2015 01:46:41PM                                                      |             | DATE -     | REVISED - |                                                   |  |                                                                |  | ILLINOIS FED. AID PROJECT |                       |        |                 |              |





075-0098 PLAN



075-0099 PLAN

| SN 075-0098 BILL OF MATERIAL |       |            |       |            |
|------------------------------|-------|------------|-------|------------|
| ITEM                         | UNIT  | WEST JOINT | DECK  | TOTAL QTY. |
| POLYMER CONCRETE             | CU FT | 7.0        | -     | 7.0        |
| SILICONE JOINT SEALER 3"     | FOOT  | 42         | -     | 42         |
| DECK SLAB REPAIR (PARTIAL)   | SQ YD | -          | 183.6 | 183.6      |

| SN 075-0099 BILL OF MATERIAL |       |            |            |  |
|------------------------------|-------|------------|------------|--|
| ITEM                         | UNIT  | WEST JOINT | TOTAL QTY. |  |
| POLYMER CONCRETE             | CU FT | 5.7        | 5.7        |  |
| SILICONE JOINT SEALER 3"     | FOOT  | 42         | 42         |  |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.

SEE PATCHING PLAN FOR PATCH LOCATIONS.

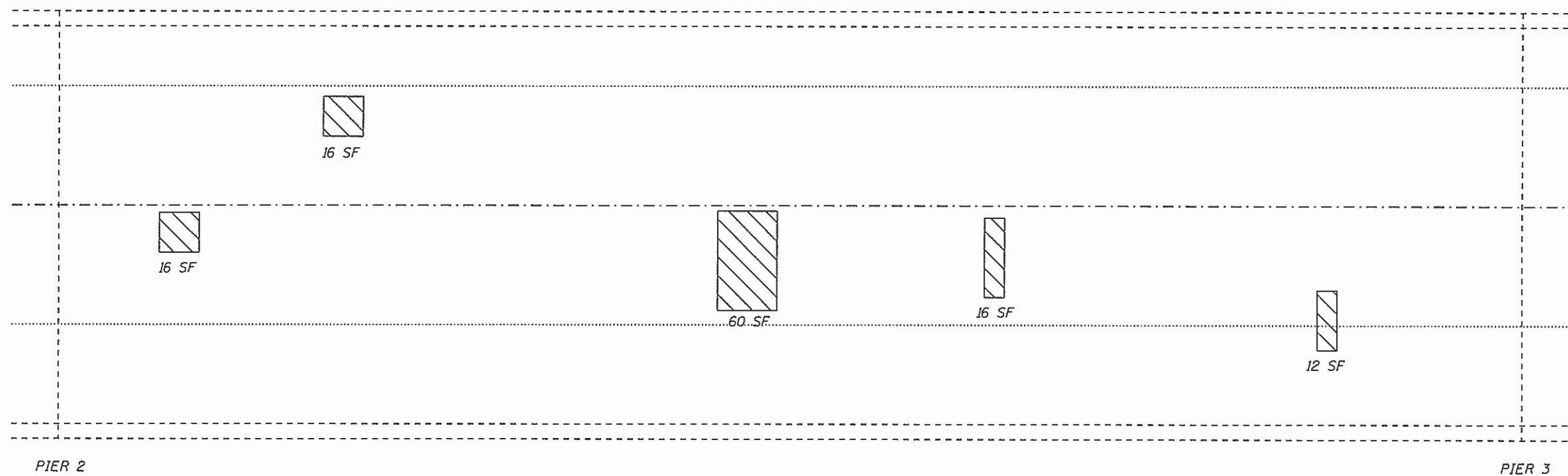
ON SN 075-0098 AND 075-0099, THE TYPICAL  
POLYMER CONCRETE WIDTH IS ESTIMATED  
TO BE +/- 6" INSTEAD OF 5".





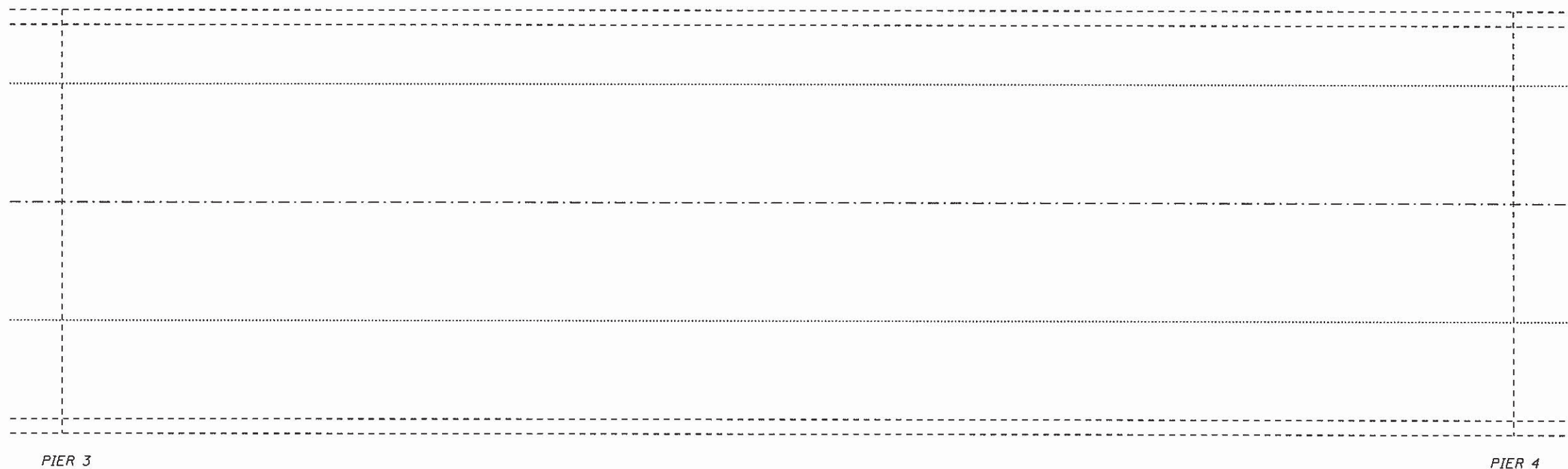
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|---------------------------------------------------------------------------------------|------------------------------------|------------------|-----------------|---------------------------------------------------|--------------------|-----------------------------|--------------------------|---------------------------|--------------------|-----------------------|--------|--------------|-----------|
| FILE NAME *                                                                           | USER NAME * dudleybm               | DESIGNED - _____ | REVISED - _____ | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | DECK PATCHING PLAN |                             |                          |                           | F.A.I. RTE.        | SECTION               | COUNTY | TOTAL SHEETS | SHEET NO. |
| D:\OPERATIONS\Bridges\Bridgplans.CAD\72H68 - I-72 joint repairs CM FY16\plansheet.dgn |                                    | DRAWN - _____    | REVISED - _____ |                                                   | SN 075-0098        |                             |                          |                           | 72                 | (75) BDGE REP VAR LOC | PIKE   | 37           | 23        |
| PLOT SCALE * 100.0000' / in.                                                          |                                    | CHECKED - _____  | REVISED - _____ |                                                   |                    |                             |                          |                           | CONTRACT NO. 72H68 |                       |        |              |           |
| Default                                                                               | PLOT DATE * Mar-19-2015 10:00:32AM | DATE - _____     | REVISED - _____ |                                                   | SCALE: _____       | SHEET _____ OF _____ SHEETS | STA. _____ TO STA. _____ | ILLINOIS FED. AID PROJECT |                    |                       |        |              |           |





SPAN 3 PLAN

SPAN 3 TOTAL = 13.3 SQ YD

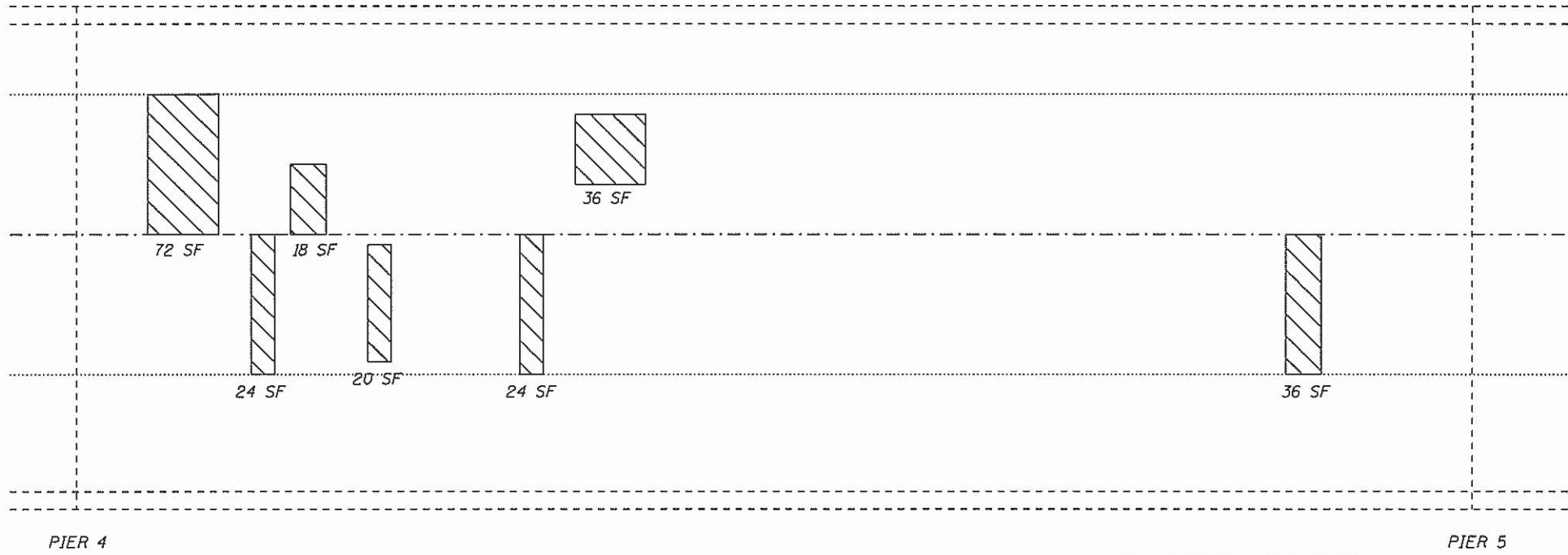


SPAN 4 PLAN

SPAN 4 TOTAL = 0 SQ YD

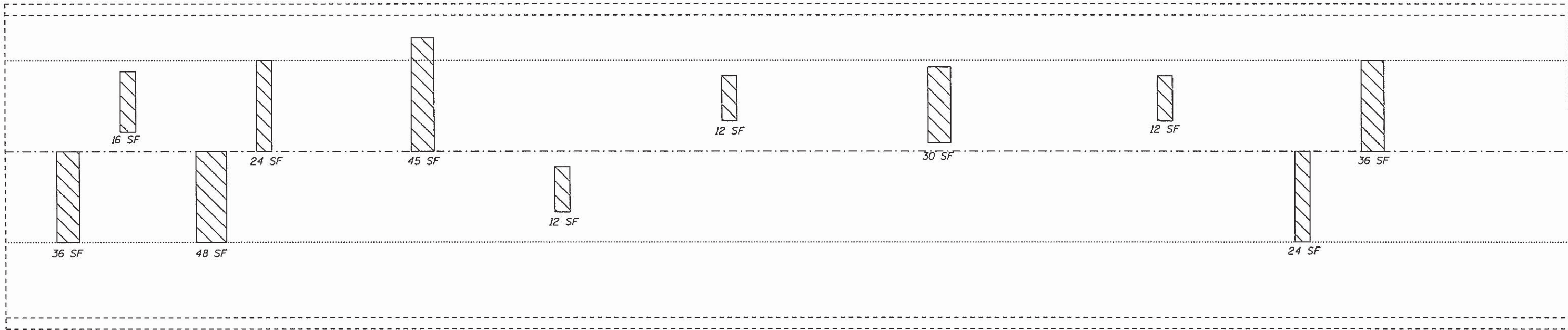
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|------------------------------------------|--------------------------------------------|------------|-----------|---------------------------------------------------|-----------------------------------|-----------------------------|-----------------------|--------------------------|-----------------|--------------|--|
| FILE NAME =                              | USER NAME = dudleybm                       | DESIGNED - | REVISED - | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | DECK PATCHING PLAN<br>SN 075-0098 | F.A.I.<br>RTE.              | SECTION               | COUNTY                   | TOTAL<br>SHEETS | SHEET<br>NO. |  |
| C:\OPERATIONS\Bridges\Bridgeplans\CAD\72 | H68 - I-72 joint repairs CM FY16 plansheet | DRAWN -    | REVISED - |                                                   |                                   | 72                          | (75) BDGE REP VAR LOC | PIKE                     | 37              | 24           |  |
| Default                                  | PLOT SCALE = 100.0000' / 1in.              | CHECKED -  | REVISED - |                                                   |                                   | CONTRACT NO. 72H68          |                       |                          |                 |              |  |
|                                          | PLOT DATE = Mar-19-2015 10:00:33AM         | DATE -     | REVISED - |                                                   |                                   | ILLINOIS FED. AID PROJECT   |                       |                          |                 |              |  |
|                                          |                                            |            |           | SCALE: _____                                      |                                   | SHEET _____ OF _____ SHEETS |                       | STA. _____ TO STA. _____ |                 |              |  |





SPAN 5 PLAN

DECK SLAB  
REPAIR (PARTIAL)



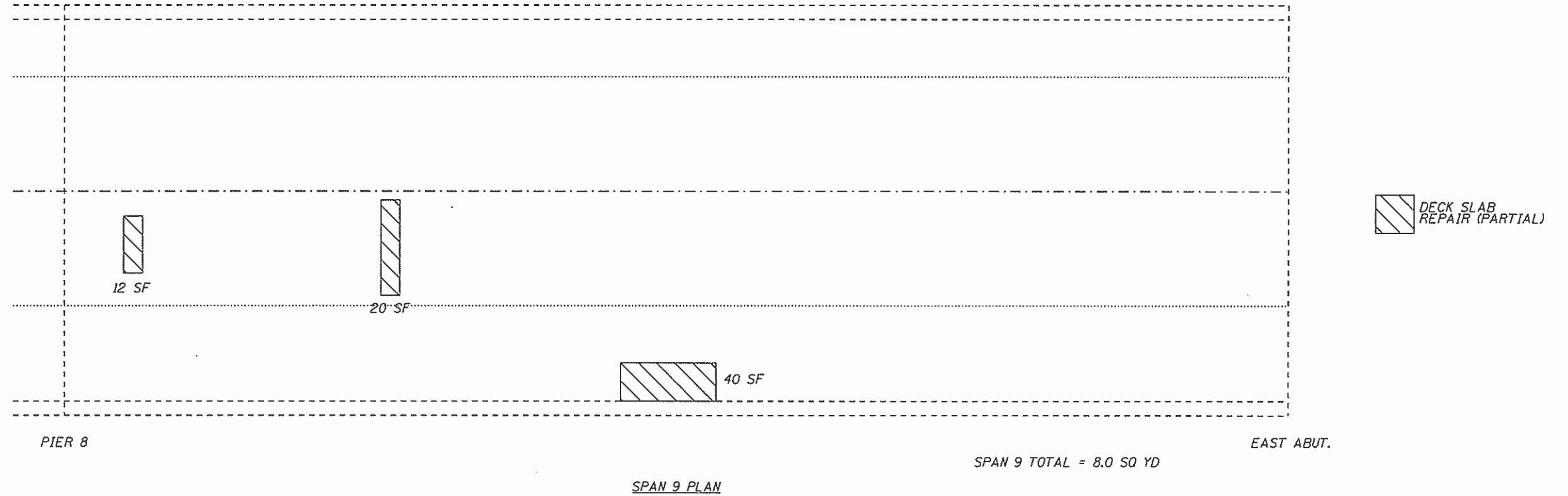
SPAN 6 PLAN

|                                                                                                                  |                                                                                                                                                |                  |                 |                                                   |                                                                                                      |                           |                       |        |                 |              |
|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------|-----------------------|--------|-----------------|--------------|
| FILE NAME =<br>D:\OPERATIONS\Bridges\Bridgeplans\CAD\72H68 - I-72 joint repairs CM FY16\plansheet.dwg<br>Default | USER NAME = dudleybm<br>72H68 - I-72 joint repairs CM FY16\plansheet.dwg<br>PLOT SCALE = 100.0000' / in.<br>PLOT DATE = Mar-19-2015 10:00:34AM | DESIGNED - _____ | REVISED - _____ | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | DECK PATCHING PLAN<br>SN 075-0098<br>SCALE: _____ SHEET ____ OF ____ SHEETS STA. _____ TO STA. _____ | F.A.I.<br>RTE.            | SECTION               | COUNTY | TOTAL<br>SHEETS | SHEET<br>NO. |
|                                                                                                                  |                                                                                                                                                | DRAWN - _____    | REVISED - _____ |                                                   |                                                                                                      | 72                        | (75) BDGE REP VAR LOC | PIKE   | 37              | 25           |
|                                                                                                                  |                                                                                                                                                | CHECKED - _____  | REVISED - _____ |                                                   |                                                                                                      | CONTRACT NO. 72H68        |                       |        |                 |              |
|                                                                                                                  |                                                                                                                                                | DATE - _____     | REVISED - _____ |                                                   |                                                                                                      | ILLINOIS FED. AID PROJECT |                       |        |                 |              |









| SN 075-0098 PATCHING SUMMARY |                                    |
|------------------------------|------------------------------------|
| LOCATION                     | DECK SLAB REPAIR (PARTIAL) - SQ YD |
| SPAN 1                       | 0                                  |
| SPAN 2                       | 0                                  |
| SPAN 3                       | 13.3                               |
| SPAN 4                       | 0                                  |
| SPAN 5                       | 25.6                               |
| SPAN 6                       | 32.8                               |
| SPAN 7                       | 43.9                               |
| SPAN 8                       | 60.0                               |
| SPAN 9                       | 8.0                                |
| TOTAL                        | 183.6                              |

NOTES:

PATCHING SURVEY WAS PERFORMED ON 10-1-2014. PATCHING LOCATIONS AND DIMENSIONS ARE ESTIMATED. THE ENGINEER SHALL BE RESPONSIBLE FOR LOCATING AND MARKING OUT ACTUAL PATCHES.

NO FULL DEPTH REPAIRS ARE ANTICIPATED. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF PEOPLE AND PROPERTY UNDER THE BRIDGE IF FULL DEPTH REPAIRS ARE ENCOUNTERED. SPECIFIC AREAS OF CONCERN SHALL INCLUDE, BUT NOT BE LIMITED TO TR92 (ADT=75), TR149 (ADT=50), AND THE NORFOLK WESERN RAILROAD. THE CONTRACTOR SHALL SUSPEND REMOVAL OPERATIONS OVER THE RAILROAD ANY TIME TRAINS ARE PRESENT. DURING REMOVAL OPERATIONS OVER TOWNSHIP ROADS, THE CONTRACTOR SHALL PROVIDE A FLAGGER ON THE TOWNSHIP ROAD TO PROTECT TRAFFIC. THE FLAGGER SHALL BE IN COMMUNICATION WITH THE REMOVAL CREW AND SHALL ONLY ALLOW TRAFFIC TO PASS WHEN SAFE TO DO SO. THE COSTS OF THE FLAGGER AND ASSOCIATED TRAFFIC CONTROL ON THE TOWNSHIP ROADS WILL BE PAID ACCORDING TO ARTICLE 109.04.

IF FULL DEPTH REPAIRS BECOME NECESSARY, THE CONTRACTOR SHALL PLACE STEEL PLATES OVER FULL DEPTH HOLES OVERNIGHT. THE COST OF FULL DEPTH REPAIRS AND ANY NECESSARY PLATING SHALL BE PAID ACCORDING TO ARTICLE 109.04.

|                                                                                                                   |                                                                                                                                                 |                  |                 |                                                   |                                                                                                        |                           |                       |        |                 |              |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------|-----------------------|--------|-----------------|--------------|
| FILE NAME =<br>D:\OPERATIONS\Bridges\B-ridgeplans\CAD\72H68 - I-72 Joint repairs CM FY16\plansheet.dwg<br>Default | USER NAME = dudleybm<br>72H68 - I-72 Joint repairs CM FY16\plansheet.dwg<br>PLOT SCALE = 100.0000' / 1" =<br>PLOT DATE = Mar-19-2015 10:00:38AM | DESIGNED - _____ | REVISED - _____ | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | DECK PATCHING PLAN<br>SN 075-0098<br>SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____ | F.A.I.<br>RTE.            | SECTION               | COUNTY | TOTAL<br>SHEETS | SHEET<br>NO. |
|                                                                                                                   |                                                                                                                                                 | DRAWN - _____    | REVISED - _____ |                                                   |                                                                                                        | 72                        | (75) BOGE REP VAR LOC | PIKE   | 37              | 27           |
|                                                                                                                   |                                                                                                                                                 | CHECKED - _____  | REVISED - _____ |                                                   |                                                                                                        | CONTRACT NO. 72H68        |                       |        |                 |              |
|                                                                                                                   |                                                                                                                                                 | DATE - _____     | REVISED - _____ |                                                   |                                                                                                        | ILLINOIS FED. AID PROJECT |                       |        |                 |              |



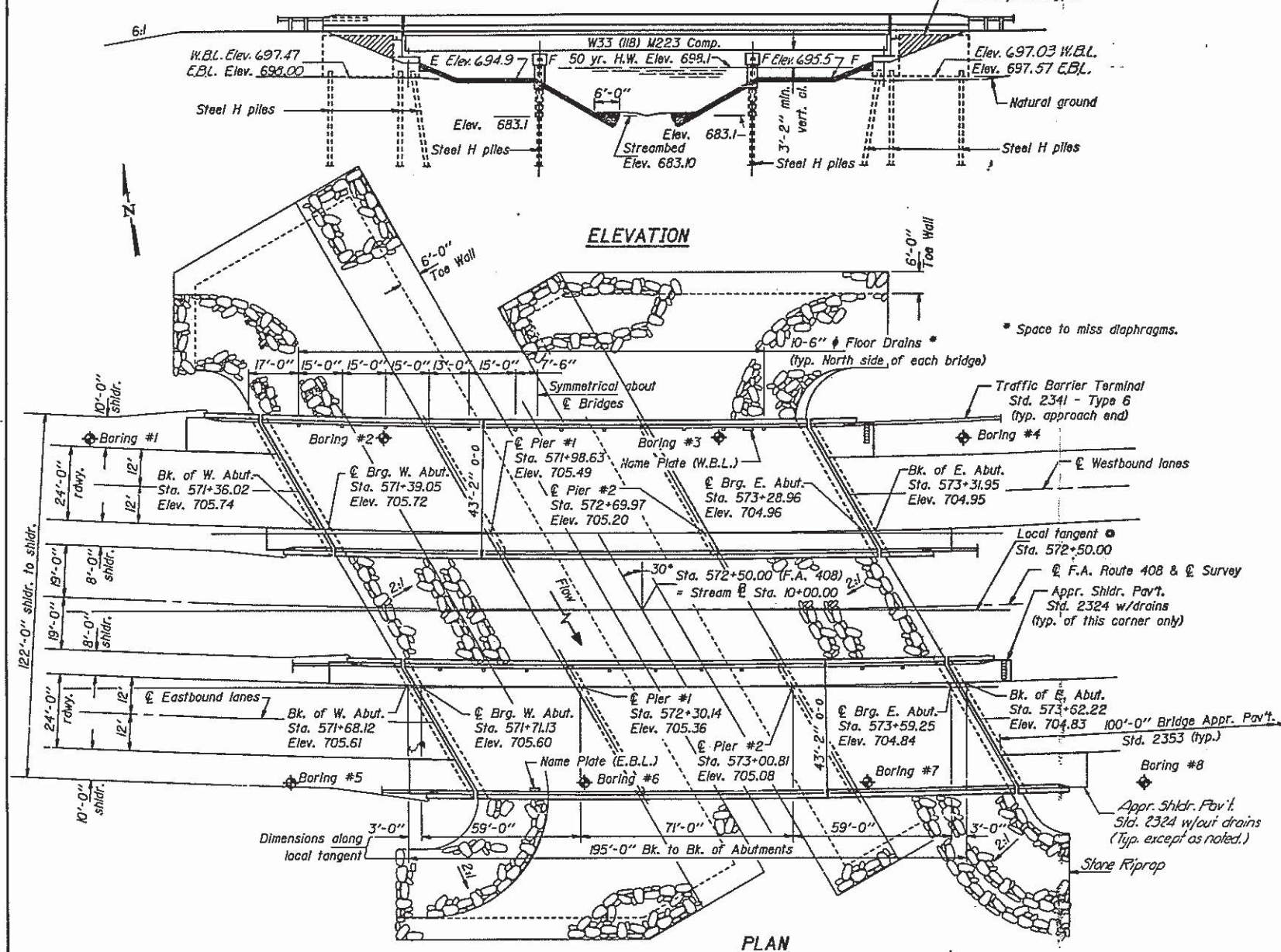
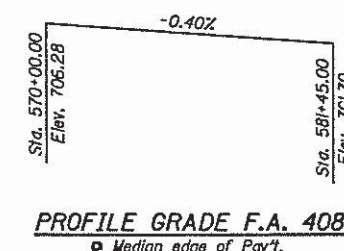
075-0107

Benchmark: #48A Log Bolt in South Side 28' River Birch 102' Lt. Sta. 570+15.00 Elev. 696.81  
No Existing Structure.

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

This portion of embankment backfill  
by bridge contractor after abutments  
are in place (Typ.).

| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|---------|--------|--------------|-----------|
| 75        | 48-1    | PIKE   | 42           | 10        |
| 75        | 48-1    | PIKE   | 42           | 10        |

WB  
075-0107EB  
075-0108

## CURVE DATA

P.I. Sta. 561+17.77  
 $\Delta = 26^\circ-28'-52''$   
 $D = 0^\circ-45'-0''$   
 $R = 7639.44'$   
 $T = 1797.52'$   
 $L = 3530.81'$   
 $E = 208.63'$   
P.C. Sta. 543+20.25  
P.T. Sta. 578+51.06  
S.E. = 0.0261'

## DESIGN SPECIFICATIONS

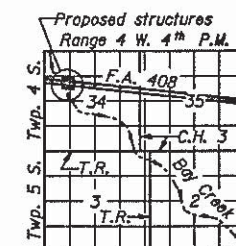
1983 AASHTO and 1984 & 1985 Interims

## LOADING HS20-44

Allow 25#/sq. ft. for future wearing surface.

## DESIGN STRESSES

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)  
 $f_y = 50,000$  psi Struct. (AASHTO M223 Grade 50)



## LOCATION SKETCH

## GENERAL PLAN

F.A. ROUTE 408 OVER BAY CREEK  
F.A. ROUTE 408 SECTION 75-4B-1  
PIKE COUNTY  
STATION 572+50.00  
STRUCTURE NUMBER 075-0107 (WB)  
STRUCTURE NUMBER 075-0108 (EB)

|          |               |
|----------|---------------|
| DESIGNED | Dec. 30, 1987 |
| CHECKED  |               |
| DRAWN    | P.W.S.        |
| CHECKED  |               |

|          |               |
|----------|---------------|
| EXAMINED | Dec. 30, 1987 |
| PASSED   |               |
| APPROVED |               |

## WATERWAY INFORMATION

| Drainage Area = 12.8 Sq. Mi. Low Grade Elev. 701.0 Sta. 584+00.00 |       |        |         |         |        |        |       |           |        |
|-------------------------------------------------------------------|-------|--------|---------|---------|--------|--------|-------|-----------|--------|
| Flood                                                             | Freq. | Q      | Opening | Sq. Ft. | Nat.   | Head   | - Ft. | Headwater | EL.    |
|                                                                   | Yr.   | C.F.S. | Exlst.  | Prop.   | H.W.E. | Exlst. | Prop. | Exlst.    | Prop.  |
| Design                                                            | 50    | 5590   | -       | 960     | 698.1  | -      | 0.71  | -         | 698.81 |
| Base                                                              | 100   | 6870   | -       | 1076    | 698.9  | -      | 0.97  | -         | 699.87 |
| Overtopping                                                       | -     | -      | -       | -       | -      | -      | -     | -         | -      |
| Max. Calc.                                                        | 500   | 9400   | -       | 1256    | 700.17 | -      | 1.46  | -         | 701.63 |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

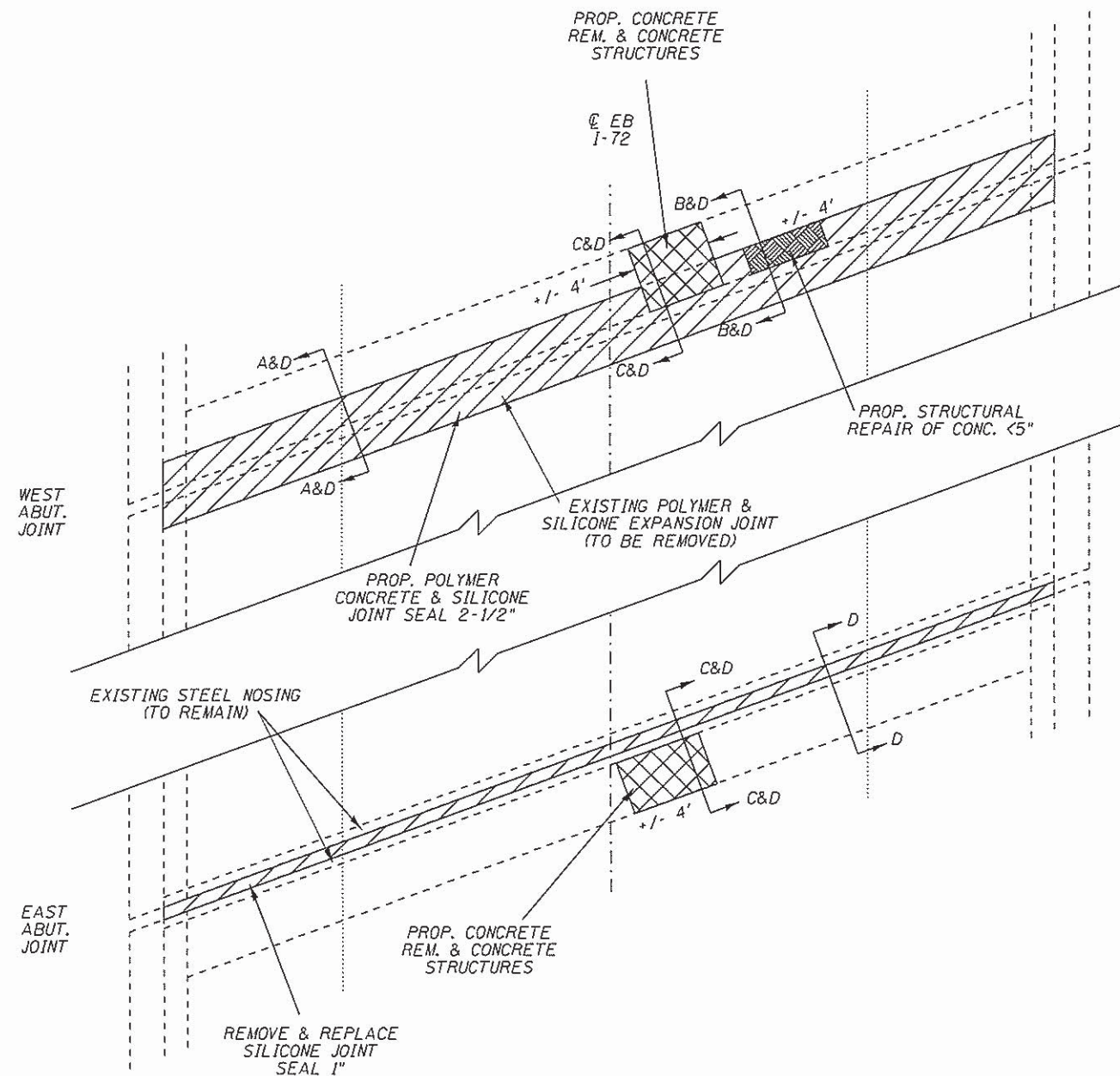
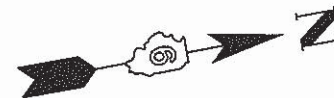
EXISTING PLAN SN 075-0107 & 075-0108  
(FOR INFORMATION ONLY)

SCALE: \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

| F.A.I. RTE.        | SECTION               | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-----------------------|--------|--------------|-----------|
| 72                 | (75) BDGE REP VAR LOC | PIKE   | 37           | 28        |
| CONTRACT NO. 72H68 |                       |        |              |           |

ILLINOIS FED. AID PROJECT

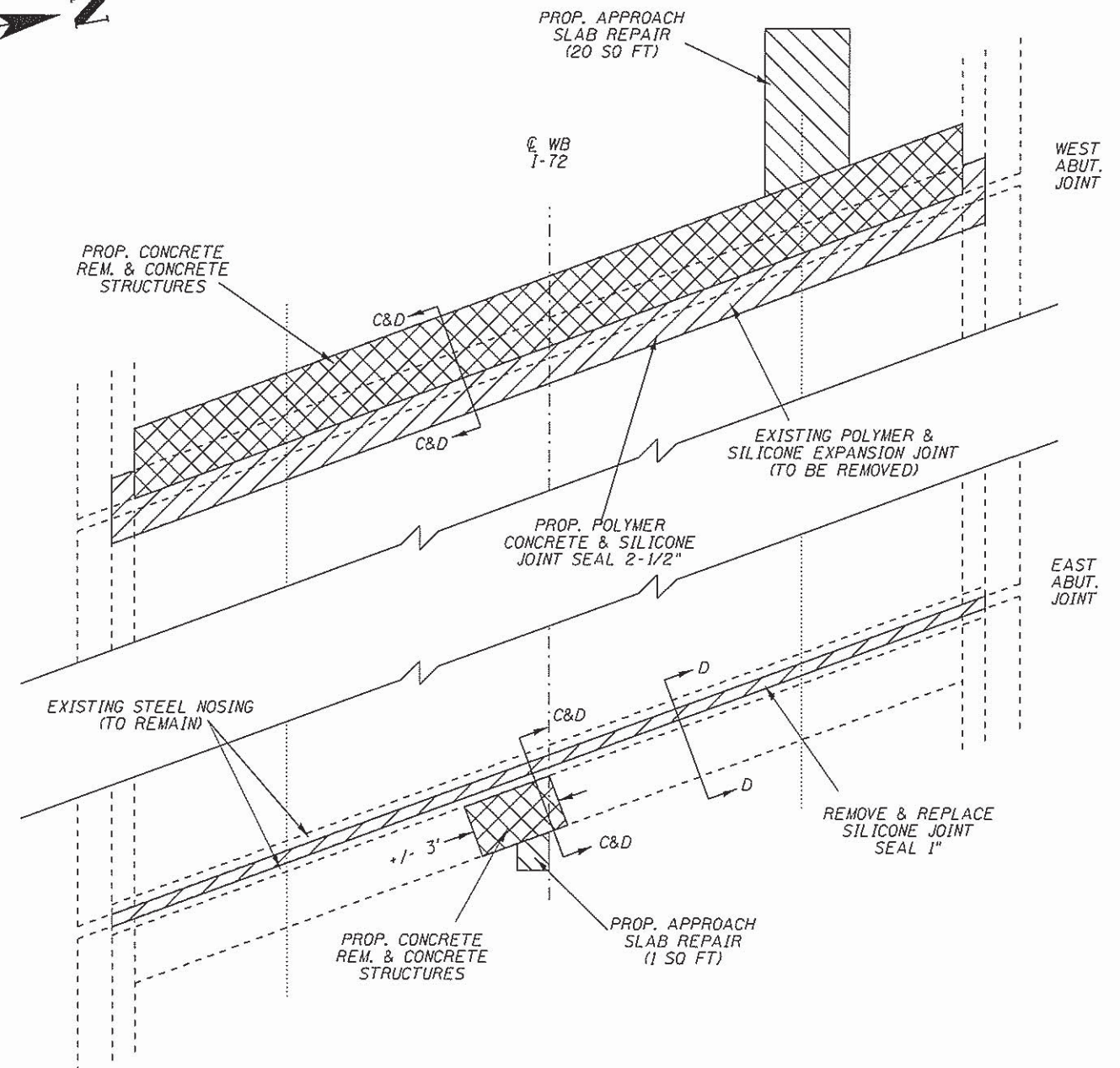




075-0108 PLAN

| SN 075-0108 BILL OF MATERIAL |       |            |            |            |
|------------------------------|-------|------------|------------|------------|
| ITEM                         | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL             | CU YD | 0.3        | 0.1        | 0.4        |
| CONCRETE STRUCTURES          | CU YD | 0.1        | 0.1        | 0.2        |
| POLYMER CONCRETE             | CU FT | 6.7        | -          | 6.7        |
| STRUCT. REPAIR OF CONC. <5"  | SQ FT | 2.0        | -          | 2.0        |
| SILICONE JOINT SEALER 1"     | FOOT  | -          | 48         | 48         |
| SILICONE JOINT SEALER 2-1/2" | FOOT  | 48         | -          | 48         |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.



075-0107 PLAN

| SN 075-0107 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL                     | CU YD | 1.3        | 0.1        | 1.4        |
| CONCRETE STRUCTURES                  | CU YD | 1.0        | 0.1        | 1.1        |
| POLYMER CONCRETE                     | CU FT | 6.7        | -          | 6.7        |
| SILICONE JOINT SEALER 1"             | FOOT  | -          | 48         | 48         |
| SILICONE JOINT SEALER 2-1/2"         | FOOT  | 48         | -          | 48         |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 2.2        | 0.1        | 2.3        |

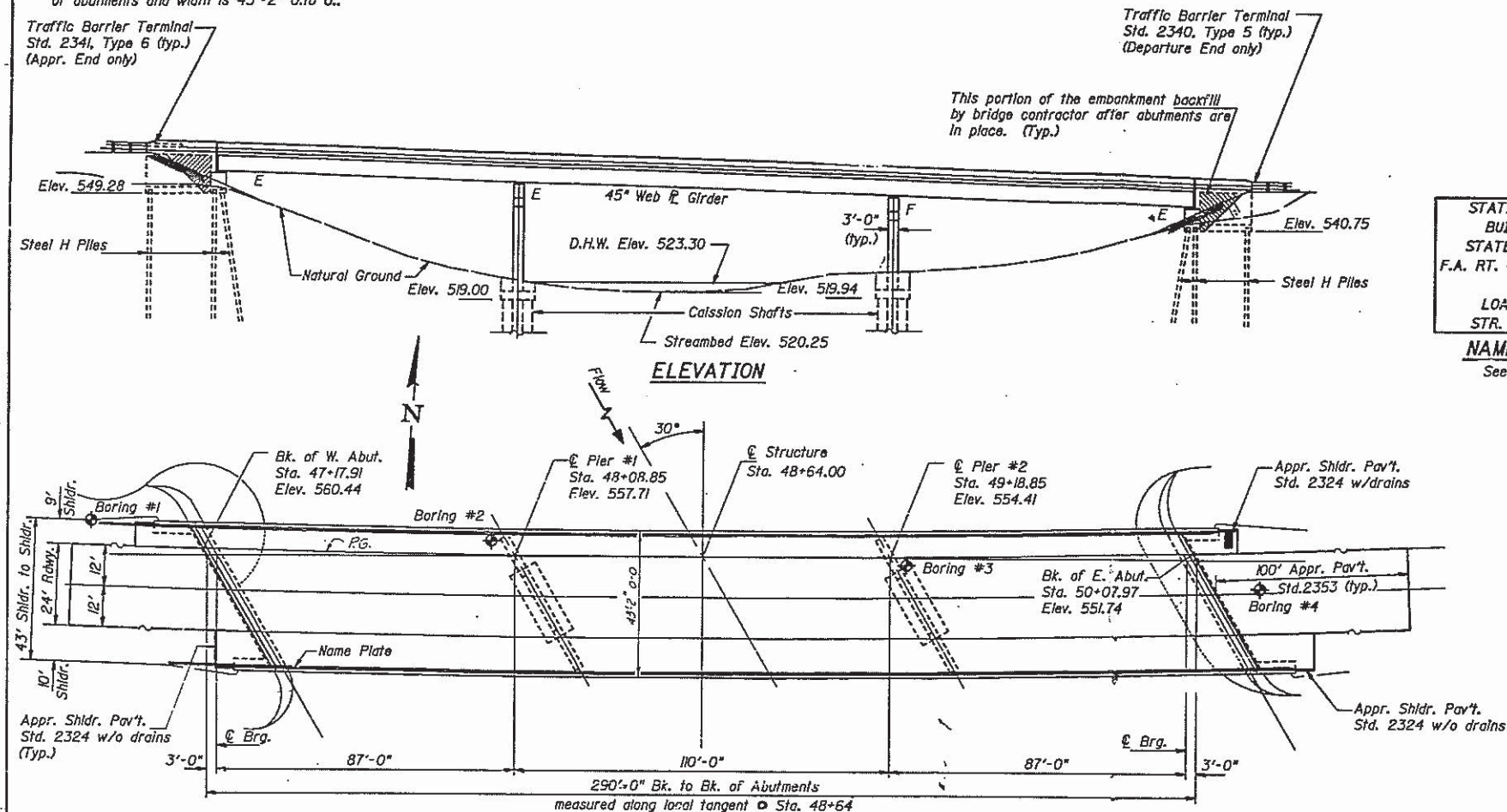


Bench Mark: - B.M. #23-R.R. spike in 48" White Oak tree, 250' Rt. Sta. 49+25.00 (E.B.L.) - Elev. 516.15

*Existing Structure: None*

**Proposed Structure:** A three span continuous steel  $\bar{P}$  girder (45" Web) with R.C. deck (7 $\frac{1}{2}$ ") superstructure supported by R.C. split-thru abutments on piles and R.C. hammerhead piers on caisson shafts. The length of structure is 290'-0" Bk. to Bk. of abutments and width is 43'-2" O.to O..

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



STATION 48+64.00  
BUILT IN BY  
STATE OF ILLINOIS  
F.A. RT. 408 SEC. 75-6B

LOADING HS20  
STR. NO. 075-0117

NAME PLATE  
See Std. 2113

GENERAL NOTES

See Proposal for Boring Data.  
Fasteners shall be high strength bolts (AASHTO M 164, Type 3). Bolts  $\frac{3}{4}"$ , open holes  $\frac{13}{16}"$ , unless otherwise noted.

All high strength bolt connections shall conform to the requirements of the latest issue of the Specifications for Structural Joints using ASTM A325 (M16) or A490 (M253) bolts for slip-critical connections. Except tightening methods using either the load indicating washers or the calibrated wrench are not allowed.

Calculated weight of AASHTO M223 Structural Steel = 258,130 Lb.

Calculated weight of AASHTO M183 Structural Steel = 32,210 Lb.

The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except, the final coat shall be Brown, see Special Provisions.

Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the tension flanges, webs and all splice plate material of the steel orders.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade "C".

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of  $\frac{1}{8}$  inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two  $\frac{3}{8}$ " adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The contractor shall drive Two Steel HP 8x36 test piles in a permanent location, one at each abutment as directed by the Engineer before ordering the remainder of piles.

TOTAL BILL OF MATERIAL

| ITEM                                     | UNIT     | SUPER | SUB   | TOTAL |
|------------------------------------------|----------|-------|-------|-------|
| Structure Excavation                     | Cu. Yd.  |       | 304   | 304   |
| Protective Coat                          | Sq. Yd.  | 263   |       | 263   |
| Class X Concrete Superstructure          | Cu. Yd.  | 367.5 |       | 367.5 |
| Class X Concrete                         | Cu. Yd.  |       | 395.5 | 395.5 |
| Structural Steel                         | L. Sum   | .12   |       | .12   |
| Stud Shear Connectors                    | Each     | 3070  |       | 3070  |
| Reinforcement Bars                       | l.b.     |       | 57810 | 57810 |
| Reinforcement Bars Epoxy Coated          | l.b.     | 99170 |       | 99170 |
| Steel Piles HP 8x36                      | Lin. Ft. |       | 540   | 540   |
| Test Pile Steel HP 8x36                  | Each     |       | 2     | 2     |
| Home Plates                              | Each     | 1     |       | 1     |
| Neoprene Expansion Joint 2"              | Lin. Ft. | 48    |       | 48    |
| Neoprene Expansion Joint 2 1/2"          | Lin. Ft. | 49    |       | 49    |
| Floating Bearing, Guided Expansion 150 k | Each     | 10    |       | 10    |
| Floating Bearing, Guided Expansion 300 k | Each     | 5     |       | 5     |
| Floating Bearing, Fixed 300 k            | Each     | 5     |       | 5     |
| Caisson Shafts 36"                       | Cu. Ft.  |       | 1251  | 1251  |

### PROFILE GRADE

(Along Median Edge of Pavement)

CURVE DATA

$\Delta = 25^{\circ}42'52''$   
 $D = 1^{\circ}00'00''$   
 $R = 5729.58'$   
 $T = 1307.75'$   
 $L = 2571.44'$   
 $E = 147.35'$   
 $P.I. \ 51+33.45$   
 $P.C. \ 38+25.70$   
 $P.T. \ 63+97.14$   
 $S.E. \ .033''$

### OFFSET SKETCH

1. *Chlorophyll a* (Chl *a*)

## WATERWAY INFORMATION

|                                                                     |       |        |         |         |        |        |       |           |       |
|---------------------------------------------------------------------|-------|--------|---------|---------|--------|--------|-------|-----------|-------|
| Drainage Area = 0.33 Sq. Mi. Low Grade Elev. 548.98 @ Sta. 51+00.00 |       |        |         |         |        |        |       |           |       |
| Flood                                                               | Freq. | Q      | Opening | Sq. Ft. | Nat.   | Head   | - Ft. | Headwater |       |
|                                                                     | Yr.   | C.F.S. | Exist.  | Prop.   | H.W.E. | Exist. | Prop. | Exist.    | Prop. |
| Design                                                              | 50    | 711    | NA      | 76      | 523.30 | NA     | 0.0   | NA        | 523.3 |
| Base                                                                | 100   | 828    | NA      | 81      | 523.40 | NA     | 0.0   | NA        | 523.4 |
| Overtopping                                                         | -     | -      | -       | -       | -      | -      | -     | -         | -     |
| Max. Calc.                                                          | 500   | 1109   | -       | 106     | 523.90 | -      | 0.0   | -         | 523.9 |

## DESIGN SPECIFICATIONS

1983 AASHTO, 1984 and 1985 Interims

LOADING HS 20-44

Allow 25#/ sq. ft. for future wearing surface.

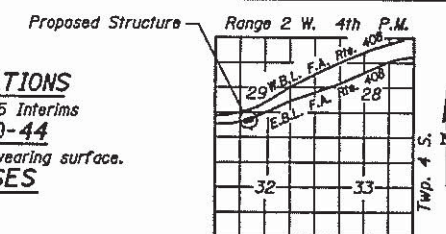
## DESIGN STRESSES

**FIELD UNITS**

$f'_c = 3,500 \text{ psi}$   
 $f_y = 60,000 \text{ psi (Reinf.)}$

 $f_y = 50,000 \text{ psi (AASHTO M223 Grade 50)}$ 

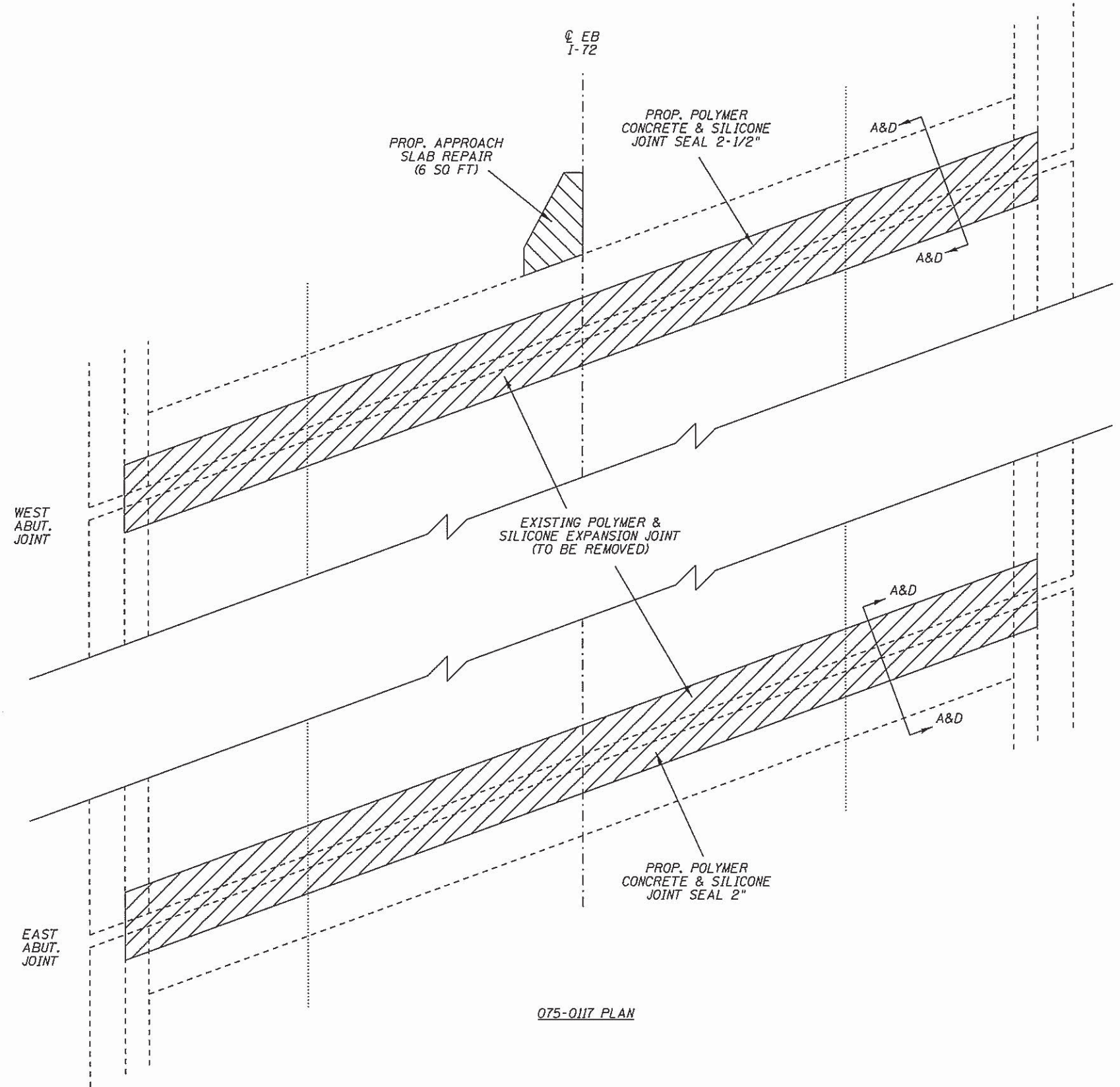
LOCATION SKETCH



GENERAL PLAN  
F.A. ROUTE 408 OVER  
NAPOLEON HOLLOW DRAW  
F.A. ROUTE 408 SECTION 75-6B  
PIKE COUNTY  
STATION 48+64.00  
STRUCTURE NUMBER 075-0117

Rev 10-1-87





| SN 075-0117 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL                     | CU YD | 0.3        | 0.3        | 0.6        |
| POLYMER CONCRETE                     | CU FT | 6.7        | 6.7        | 13.4       |
| SILICONE JOINT SEALER 2"             | FOOT  | -          | 48         | 48         |
| SILICONE JOINT SEALER 2-1/2"         | FOOT  | 48         | -          | 48         |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SQ YD | 0.7        | -          | 0.7        |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.



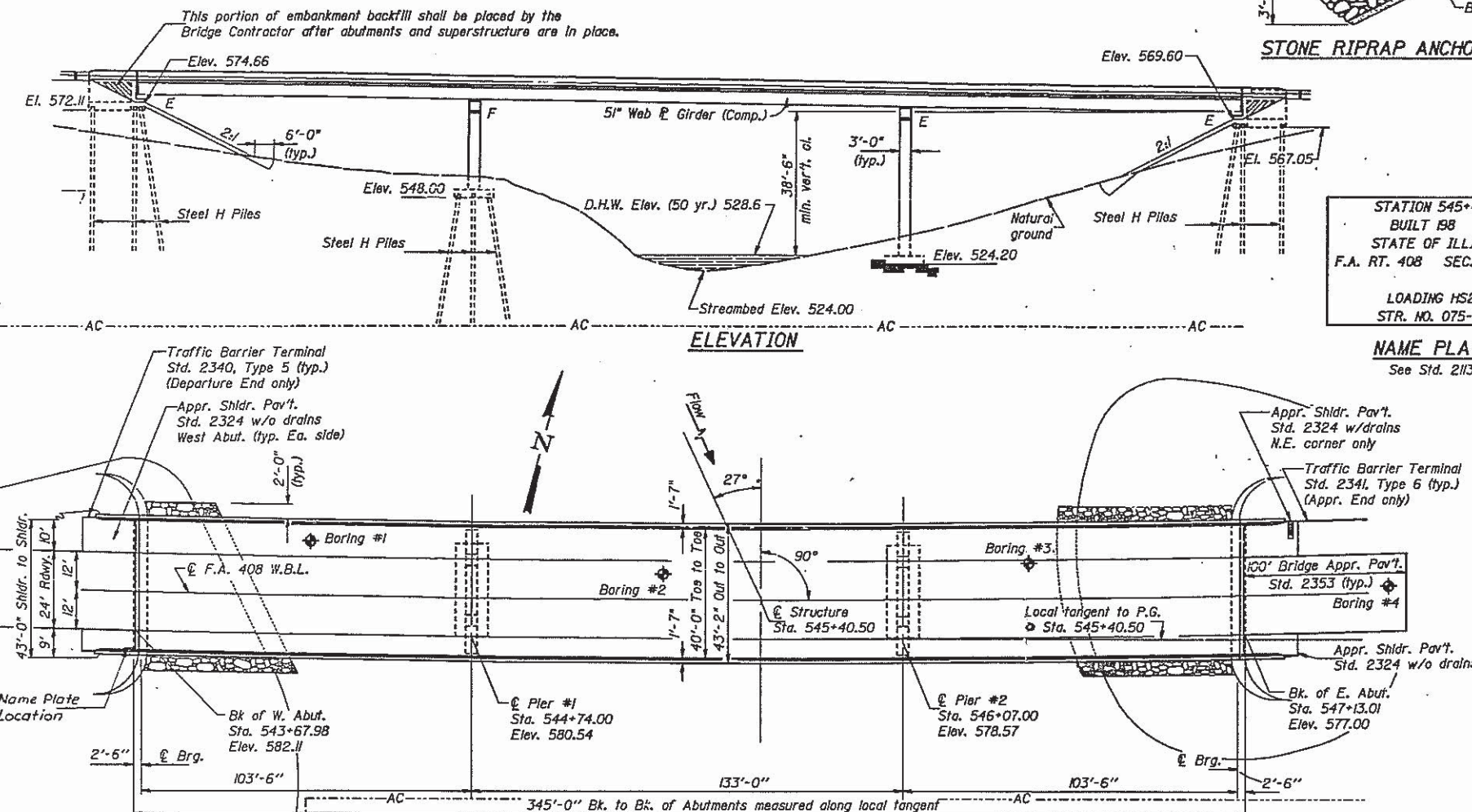
075-0119

Bench Mark: B.M. #32 - 30d Nail in 10" Oak Tree +100' Rt.,  
Sta. 553+00.00 (W.B.L.) Elev. 585.52

No Existing Structure.

Proposed Structure: A three span continuous steel plate girder (51" Web) with R.C. Deck (7 1/2") superstructure supported by R.C. Spill thru abutment and R.C. Piers. The length of structure is 345'-0" back to back of abutments and the width is 43'-2" out to out.

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



## STONE RIPRAP ANCHOR DETAIL

STATION 545+40.50  
BUILT BY  
STATE OF ILLINOIS  
F.A. RT. 408 SEC. 75-6B-2  
LOADING HS20  
STR. NO. 075-0119

## NAME PLATE

See Std. 2113

## GENERAL NOTES

See Proposal for Boring Data.  
Fasteners shall be high strength bolts. Bolts 7/8", open holes 5/8", unless otherwise noted.  
All high strength bolt connections shall conform to the requirements of the latest issue of the Specifications for Structural Joints using ASTM A325 (M16) or A490 (M253) bolts for slip-critical connections. Except tightening methods using either the load indicating washers or the calibrated wrench are not allowed.

Calculated weight of AASHTO M223 Structural Steel = 341,650-lbs.  
Calculated weight of AASHTO M183 Structural Steel = 29,820 lbs.  
Unless otherwise noted, the Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel, except the final coat shall be Brown. See Special provisions.

Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting cross frames over supports.  
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the flanges, webs and all splice plate material of the steel girders.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The contractor shall drive three Steel HPI0x42 test piles in permanent locations one at each Abutment and one at Pier 1 as directed by the Engineer before ordering the remainder of piles.

Layout of stone riprap may be varied in the field to suit ground conditions as directed by the Engineer.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

## TOTAL BILL OF MATERIAL

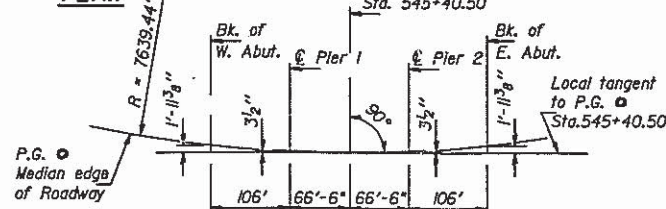
| ITEM                                    | UNIT     | SUPER   | SUB   | TOTAL   |
|-----------------------------------------|----------|---------|-------|---------|
| Rock Excavation For Structures          | Cu. Yd.  |         | 10    | 10      |
| Structure Excavation                    | Cu. Yd.  |         | 448   | 448     |
| Preformed Joint Seal (4")               | Lin. Ft. | 43      |       | 43      |
| Class X Concrete Superstructures        | Cu. Yd.  | 437.0   |       | 437.0   |
| Protective Coat                         | Sq. Yd.  | 304     |       | 304     |
| Class X Concrete                        | Cu. Yd.  | 309.0   |       | 309.0   |
| Structural Steel                        | L.S.     | .15     |       | .15     |
| Stud Shear Connectors                   | Each     | 3,340   |       | 3,340   |
| Reinforcement Bars                      | Pound    | 49,100  |       | 49,100  |
| Reinforcement Bars (Epoxy Coated)       | Pound    | 122,430 |       | 122,430 |
| Steel Piles HPI0x42                     | Lin. Ft. |         | 1,080 | 1,080   |
| Test Pile Steel HPI0x42                 | Each     |         | 3     | 3       |
| Name Plates                             | Each     | 1       |       | 1       |
| Stone Riprap                            | Sq. Yd.  |         | 493   | 493     |
| Neoprene Expansion Joint (4")           | Lin. Ft. | 42      |       | 42      |
| Floating Bearing, Guided Expansion 150K | Each     | 10      |       | 10      |
| Floating Bearing, Guided Expansion 350K | Each     | 5       |       | 5       |
| Floating Bearing, Fixed 350K            | Each     | 5       |       | 5       |
| Metal Shoes                             | Each     |         | 40    | 40      |

## CURVE DATA

Delta = 33° 24' 37"  
D = 0° 45' 00"  
R = 7639.44'  
T = 2292.69'  
L = 4454.71'  
E = 336.62'  
P.I. = 545+64.56  
P.C. = 522+71.87  
P.T. = 567+26.58  
S.E. = 0.0261'

S.E. Attained from Sta. 324+44.97 to Sta. 523+38.54  
S.E. Removed from Sta. 566+59.91 to Sta. 568+59.91

## PLAN



## OFFSET SKETCH

## WATERWAY INFORMATION

|                                                                      |       |        |         |         |        |        |       |           |       |
|----------------------------------------------------------------------|-------|--------|---------|---------|--------|--------|-------|-----------|-------|
| Drainage Area = 0.21 sq. mi. Low Grade Elev. 575.69 @ Sta. 548+00.00 |       |        |         |         |        |        |       |           |       |
| Flood                                                                | Freq. | Q      | Opening | Sq. Ft. | Nat.   | Head   | - Ft. | Headwater | Prop. |
|                                                                      |       | C.F.S. | Exist.  | Fr.     | H.W.E. | Exist. | Prop. | Exist.    | Prop. |
| Design                                                               | 50    | 524    | NA      | 50      | 528.6  | NA     | 0.0   | NA        | 528.6 |
| Base                                                                 | 100   | 609    | NA      | 58      | 528.9  | NA     | 0.0   | NA        | 528.9 |
| Overtopping                                                          | -     | -      | -       | -       | -      | -      | -     | -         | -     |
| Max. Calc.                                                           | 500   | 820    | -       | 71      | 529.4  | -      | 0.0   | -         | 529.4 |

## DESIGN SPECIFICATIONS

1983 AASHTO, 1984 and 1985 Interims.

## LOADING HS 20-44

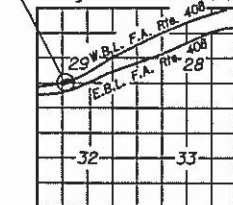
Allow 25#/sq. ft. for future wearing surface.

## DESIGN STRESSES

### FIELD UNITS

f'c = 3,500 psi  
fy = 60,000 psi (Reinf.)  
fy = 50,000 psi (M223 Grade 50)  
fy = 36,000 psi (M183)

Proposed Structure  
Range 2 W. 4th P.M.



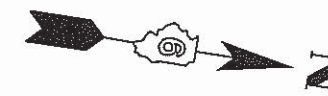
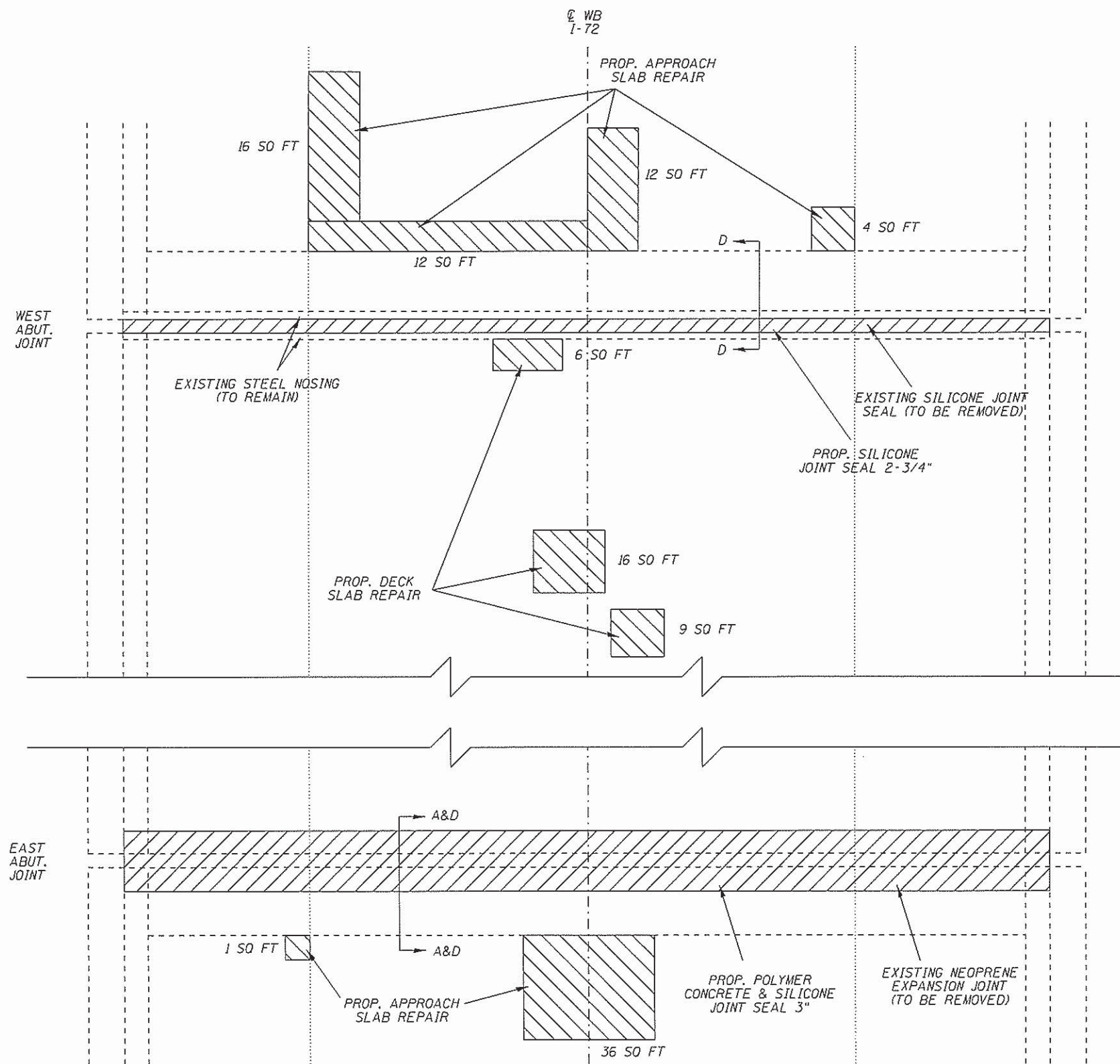
## LOCATION SKETCH

## GENERAL PLAN

F.A. ROUTE 408 OVER  
NAPOLEON HOLLOW DRAW  
F.A. ROUTE 408 SECTION 75-6B-2  
PIKE COUNTY

STATION 545+40.50  
STRUCTURE NUMBER 075-0119





| SN 075-0119 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| POLYMER CONCRETE                     | CU FT | -          | 5.8        | 5.8        |
| SILICONE JOINT SEALER 2-3/4"         | FOOT  | 42         | -          | 42         |
| SILICONE JOINT SEALER 3"             | FOOT  | -          | 42         | 42         |
| DECK SLAB REPAIR (PARTIAL)           | SO YD | 3.4        | -          | 3.4        |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SO YD | 4.9        | 4.1        | 9.0        |

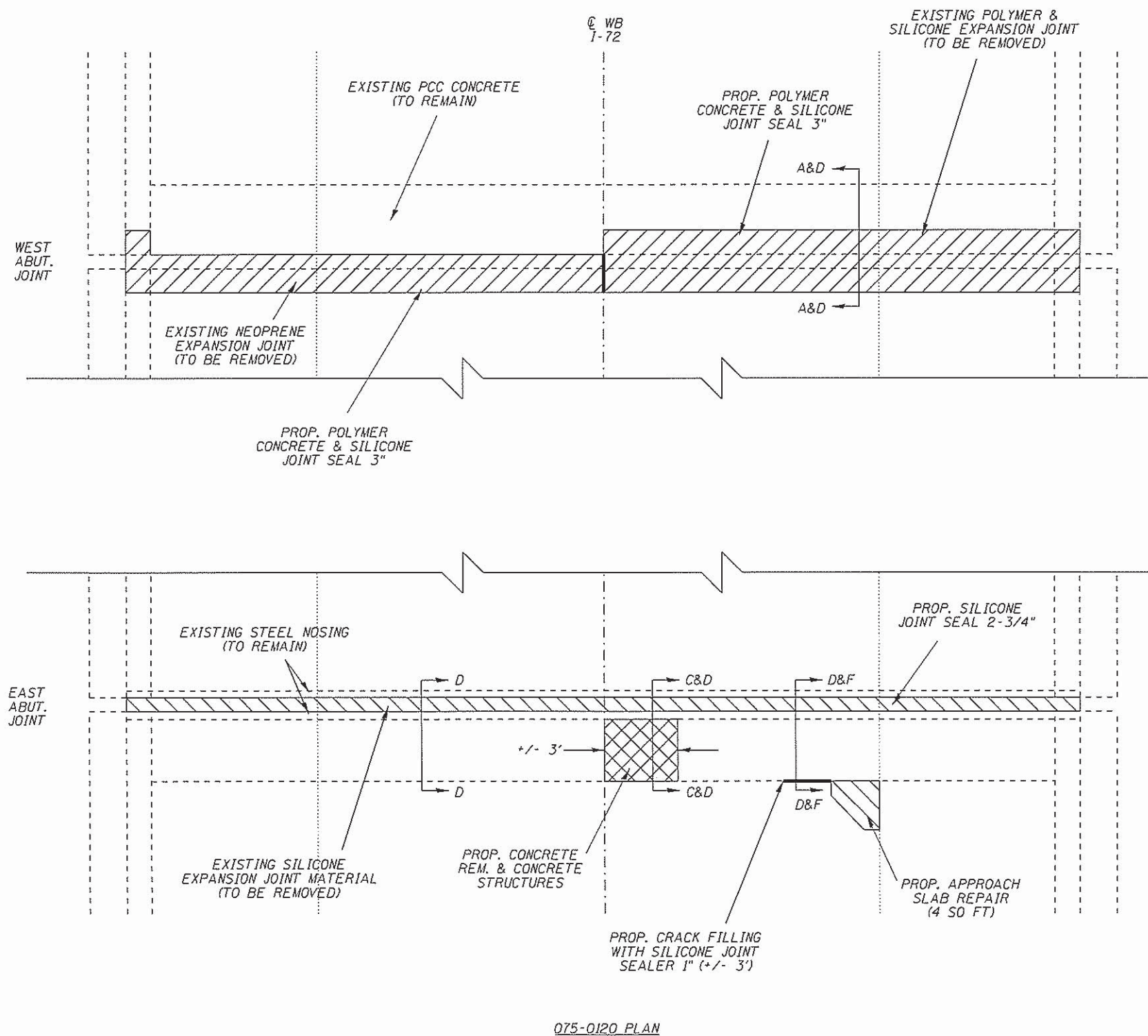
NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.

075-0119 PLAN



|                                                                                         |                                    |            |           |                                                                                        |                                                     |                       |      |    |                           |         |        |              |           |
|-----------------------------------------------------------------------------------------|------------------------------------|------------|-----------|----------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------|------|----|---------------------------|---------|--------|--------------|-----------|
| FILE NAME =                                                                             | USER NAME = dudleybm               | DESIGNED - | REVISED - | <p align="center"><b>STATE OF ILLINOIS</b><br/><b>DEPARTMENT OF TRANSPORTATION</b></p> | EXISTING PLAN SN 075-0120<br>(FOR INFORMATION ONLY) |                       |      |    | F.A.I. RTE.               | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| D:\OPERATIONS\Bridges\BridgePlans\CAD\72HG68 - I-72 Joint repairs CM FY16\plansheet.dgn | DRAWN -                            | REVISED -  | REVISED - |                                                                                        | 72                                                  | (75) BOGE REP VAR LOC | PIKE | 37 | 34                        |         |        |              |           |
| Default                                                                                 | PLOT SCALE = 100.0000' / 1" =      | CHECKED -  | REVISED - |                                                                                        | SCALE: OF SHEETS STA. TO STA.                       |                       |      |    | CONTRACT NO. 72HG68       |         |        |              |           |
|                                                                                         | PLOT DATE = Jan-25-2015 01:49:20PM | DATE -     | REVISED - |                                                                                        |                                                     |                       |      |    | ILLINOIS FED. AID PROJECT |         |        |              |           |





| SN 075-0120 BILL OF MATERIAL         |       |            |            |            |
|--------------------------------------|-------|------------|------------|------------|
| ITEM                                 | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL                     | CU YD | 0.1        | 0.1        | 0.2        |
| CONCRETE STRUCTURES                  | CU YD | -          | 0.1        | 0.1        |
| POLYMER CONCRETE                     | CU FT | 4.6        | -          | 4.6        |
| SILICONE JOINT SEALER, 1"            | FOOT  | -          | 3          | 3          |
| SILICONE JOINT SEALER, 2-3/4"        | FOOT  | 42         | -          | 42         |
| SILICONE JOINT SEALER, 3"            | FOOT  | -          | 42         | 42         |
| APPROACH SLAB REPAIR (PARTIAL DEPTH) | SO YD | -          | 0.5        | 0.5        |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.



075-0121

Bench Mark: B.M. #29 - 60d nail in 26" Sycamore, 1' Lt. of Sta. 579+05.00 Elev. 486.20

No Existing Structure.

Proposed structure: A three span continuous steel plate girder (42" Web) with R.C. deck (7 1/2") superstructure supported by R.C. stub abutments and R.C. solid piers with footings. The length of structure is 265'-0" back to back of abutments measured along tangent and width is 43'-2" O. to O. measured radially.

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

| ROUTE NO. | SECTION | COUNTY | DATE | SHEET NO. |
|-----------|---------|--------|------|-----------|
| 408       | 75-6B-4 | PIKE   | 5/11 | 229       |
| 22 SHEETS |         |        |      |           |

## GENERAL NOTES

See Proposal for Borling Data.

Fasteners shall be high strength bolts. Bolts 7/8", open holes 5/8", unless otherwise noted.

All high strength bolt connections shall conform to the requirements of the latest issue of the Specifications for Structural Joints using ASTM A325 (M164) or A490 (M253) bolts for slip-critical connections. Except tightening methods using either the load indicating washers or the calibrated wrench are not allowed.

Calculated weight of AASHTO M223 Structural Steel = 218,410 Pounds.

Calculated weight of AASHTO M183 Structural Steel = 31,600 Pounds.

The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except the final field coat shall be brown. See Spec. Prov.

Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

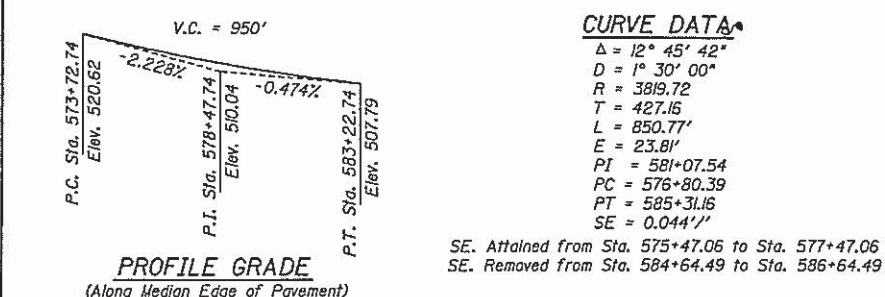
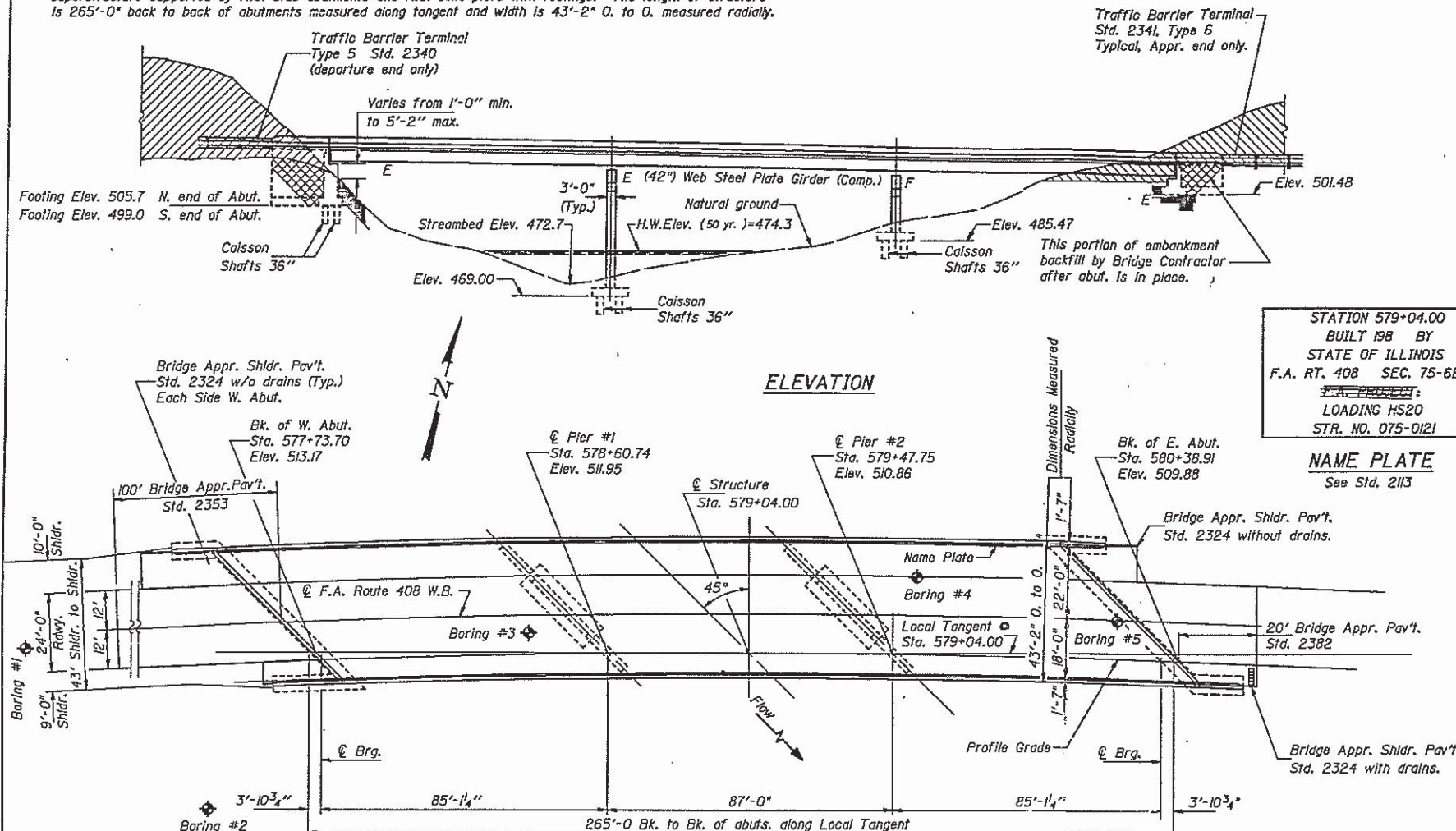
Anchor bolts shall be set before bolting diaphragms over supports. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs and all splice plate material of the steel girders.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims, of the dimensions of the masonry plate, shall be provided for each bearing in addition to all other plates or shims.

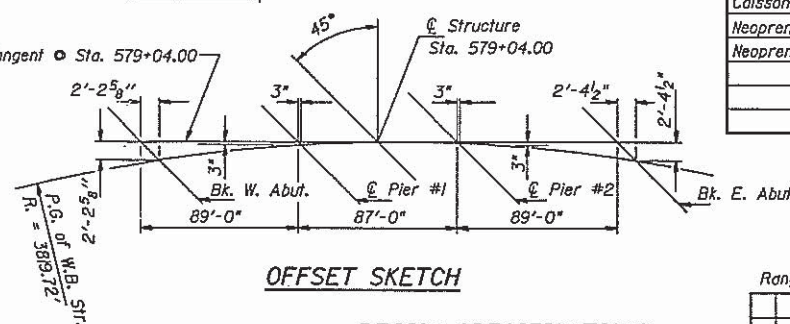
## TOTAL BILL OF MATERIAL

| ITEM                                                 | UNIT     | SUPER | SUB   | TOTAL |
|------------------------------------------------------|----------|-------|-------|-------|
| Protective Coat                                      | Sq. Yd.  | 237   |       | 237   |
| Structure Excavation                                 | Cu. Yd.  |       | 358   | 358   |
| Rock Excavation for Structures                       | Cu. Yd.  |       | 328   | 328   |
| Class X Concrete Superstructures                     | Cu. Yd.  | 331.0 |       | 331.0 |
| Class X Concrete                                     | Cu. Yd.  |       | 463.4 | 463.4 |
| Furnishing and Erecting Structural Steel             | L.S.     | 0.10  |       | 0.10  |
| Stud Shear Connectors                                | Each     | 2970  |       | 2970  |
| Reinforcement Bars                                   | Pound    |       | 89910 | 89910 |
| Reinforcement Bars (Epoxy Coated)                    | Pound    | 90480 |       | 90480 |
| Name Plates                                          | Each     | 1     |       | 1     |
| Floating Bearing, Guided Expansion, 125 <sup>K</sup> | Each     | 10    |       | 10    |
| Floating Bearing, Guided Expansion, 300 <sup>K</sup> | Each     | 5     |       | 5     |
| Floating Bearing, Fixed, 300 <sup>K</sup>            | Each     | 5     |       | 5     |
| Caisson Shafts 36"                                   | Cu. Ft.  |       | 3044  | 3044  |
| Neoprene Expansion Joint (2")                        | Lin. Ft. | 60    |       | 60    |
| Neoprene Expansion Joint (2 1/2")                    | Lin. Ft. | 57    |       | 57    |



## PLAN

Local Tangent @ Sta. 579+04.00



## DESIGN SPECIFICATIONS

1983 AASHTO, 1984 and 1985 Interims.

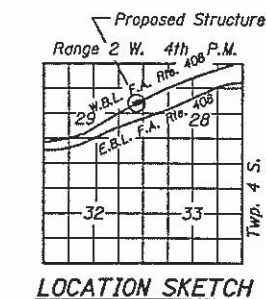
LOADING HS 20-44

Allow 25# / sq. ft. for future wearing surface.

## DESIGN STRESSES

### FIELD UNITS

f'c = 3,500 psi  
fy = 60,000 psi (Reinf.)  
fy = 50,000 psi (M223 Grade 50)



**GENERAL PLAN**  
F.A. ROUTE 408 OVER  
NAPOLEON HOLLOW DRAW  
F.A. ROUTE 408 SECTION 75-6B-4  
PIKE COUNTY  
STATION 579+04.00  
STRUCTURE NUMBER 075-0121

|          |                   |
|----------|-------------------|
| DESIGNED | Jack E. Adams     |
| CHECKED  | Patricia Anderson |
| DRAWN    | R. Doty           |
| CHECKED  | R.E.A.            |

|          |                    |
|----------|--------------------|
| EXAMINED | September 15, 1982 |
| PASSED   | James J. Kasper    |
| APPROVED | James J. Kasper    |

## WATERWAY INFORMATION

|                                                                       |              |           |                   |                  |                |                  |              |                    |              |
|-----------------------------------------------------------------------|--------------|-----------|-------------------|------------------|----------------|------------------|--------------|--------------------|--------------|
| Drainage Area = .0406 sq. mi. Low Grade Elev. 510.28 @ Sta. 580+00.00 |              |           |                   |                  |                |                  |              |                    |              |
| Flood                                                                 | Freq.<br>Yr. | Q<br>C.F. | Opening<br>Exist. | Sq. Ft.<br>Prop. | Nat.<br>H.W.E. | Head -<br>Exist. | Ft.<br>Prop. | Headwater<br>Elev. | Ft.<br>Prop. |
| Design                                                                | 50           | 112       | NA                | 26               | 474.3          | NA               | 0.0          | NA                 | 474.3        |
| Base                                                                  | 100          | 129       | NA                | 28               | 474.38         | NA               | 0.0          | NA                 | 474.3        |
| Overtopping                                                           | -            | -         | -                 | -                | -              | -                | -            | -                  | -            |
| Max. Calc.                                                            | 500          | 168       | -                 | 31               | 474.51         | -                | 0.0          | -                  | 474.51       |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

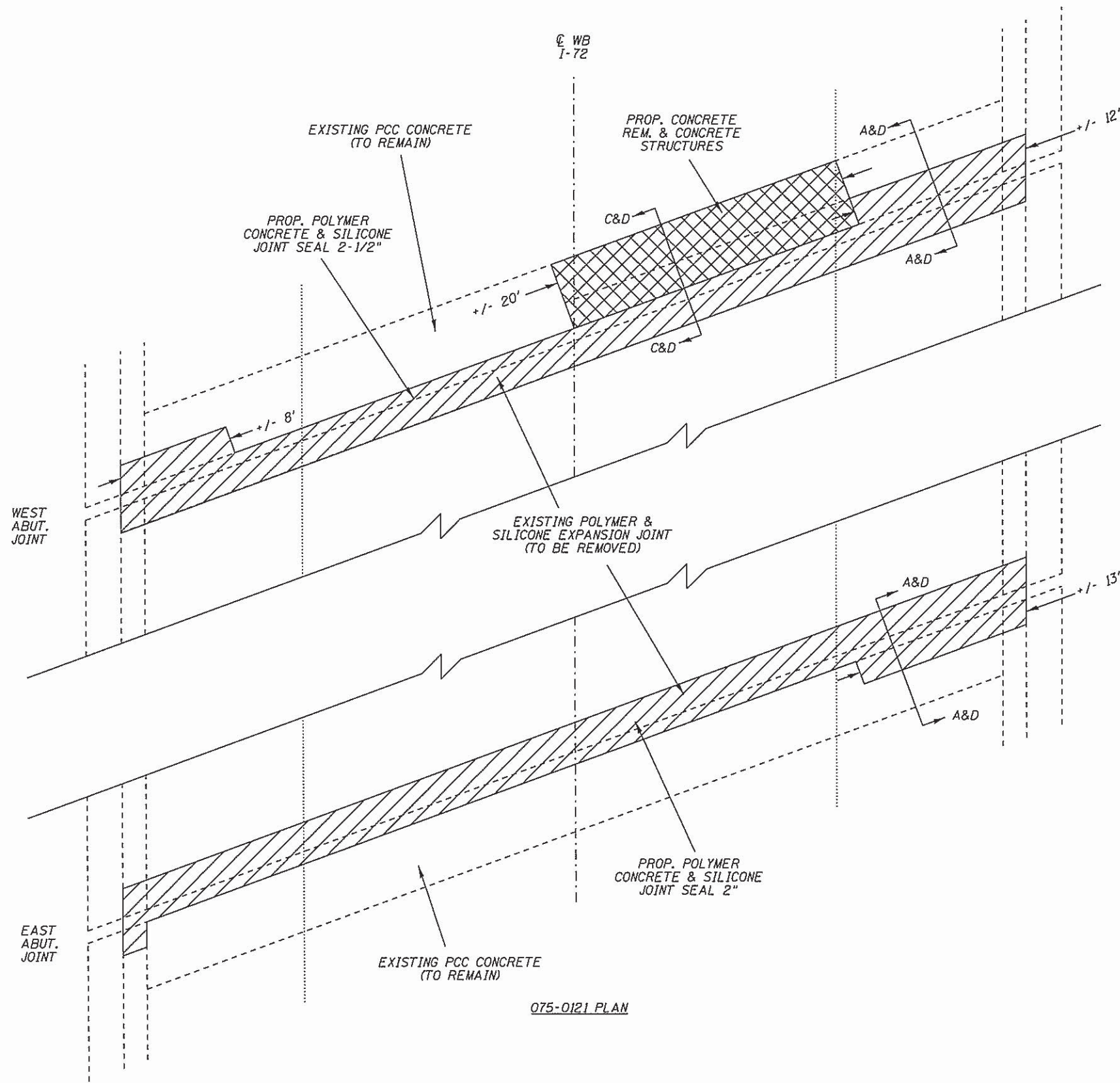
EXISTING PLAN SN 075-0121  
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

| F.A. RTE.          | SECTION                   | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------------------|--------|--------------|-----------|
| 72                 | (75) BDGE. REP. VAR. LOC. | PIKE   | 37           | 36        |
| CONTRACT NO. 72H68 |                           |        |              |           |

ILLINOIS FED. AID PROJECT





| SN 075-0121 BILL OF MATERIAL |       |            |            |            |
|------------------------------|-------|------------|------------|------------|
| ITEM                         | UNIT  | WEST JOINT | EAST JOINT | TOTAL QTY. |
| CONCRETE REMOVAL             | CU YD | 0.7        | 0.2        | 0.9        |
| CONCRETE STRUCTURES          | CU YD | 0.4        | -          | 0.4        |
| POLYMER CONCRETE             | CU FT | 6.9        | 5.1        | 12.0       |
| SILICONE JOINT SEALER 2"     | FOOT  | -          | 59         | 59         |
| SILICONE JOINT SEALER 2-1/2" | FOOT  | 59         | -          | 59         |

NOTE:  
SEE TYPICAL REPAIR APPLICATIONS ON SHEETS  
5 AND 6 FOR REPAIR DETAILS.