

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

MICROFILMED  
FEB 10 1983

|                 |   |
|-----------------|---|
| OHIO            | 1 |
| FHWA REGION 5   | 8 |
| FEDERAL PROJECT |   |

MICROFILMED  
JUL 31 1991

590  
BLUE  
1-8  
PLAN NO. BR-84-83

# BUT-4-14.85L

## BRIDGE REPAIR

### 1983 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth herein.

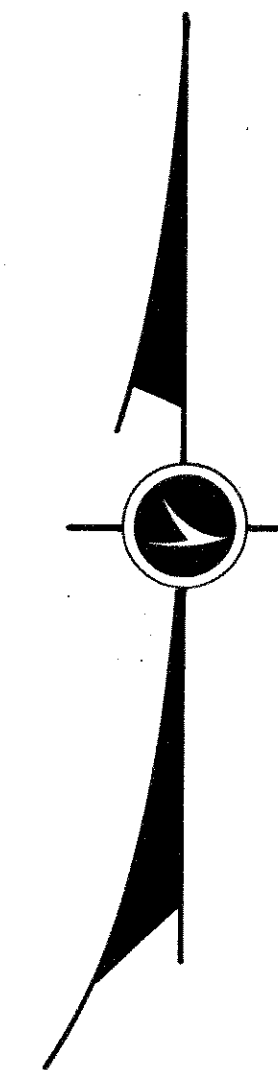
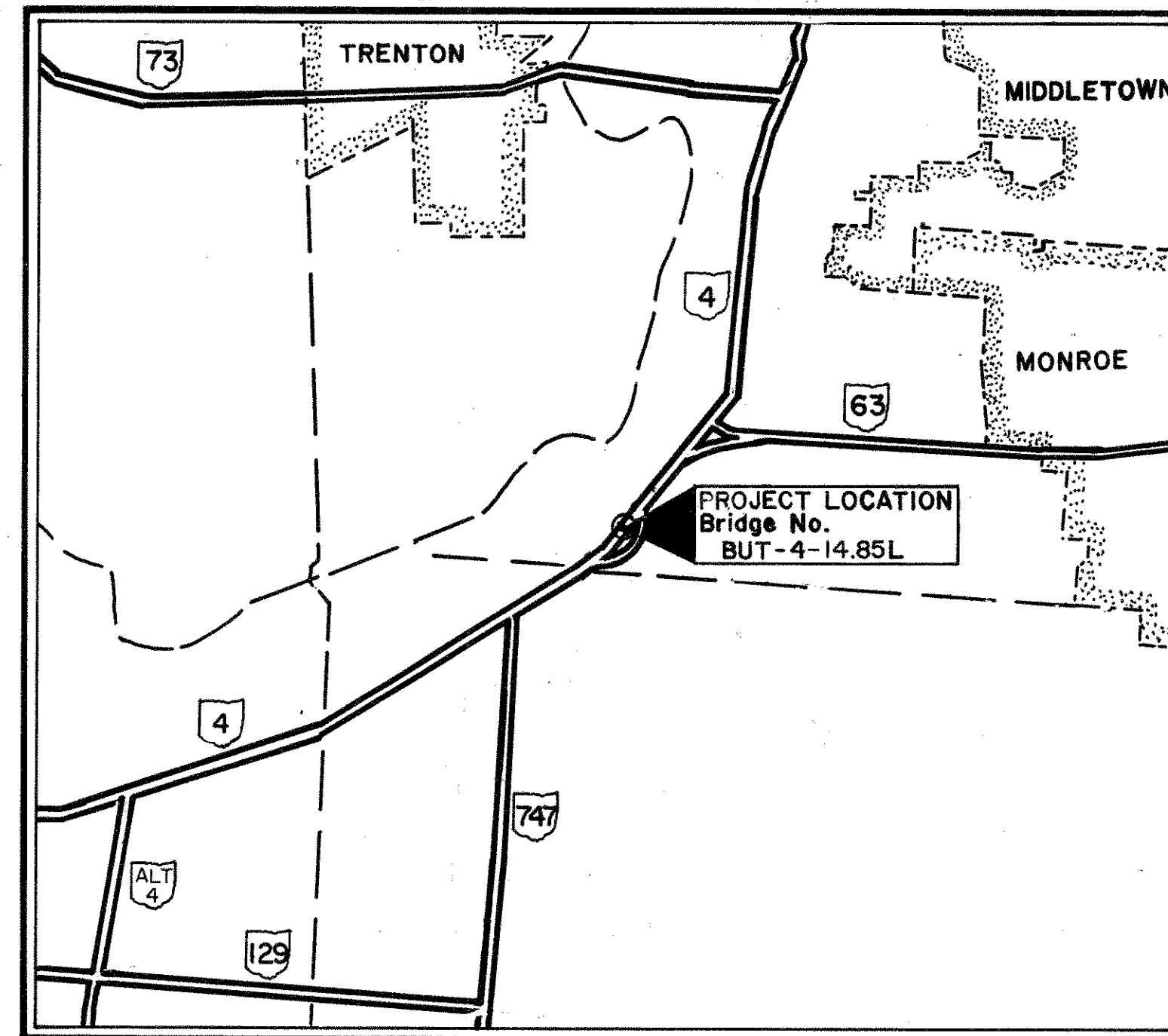
### CONVENTIONAL SIGNS

|                          |                           |                               |                           |         |
|--------------------------|---------------------------|-------------------------------|---------------------------|---------|
| County Line              | -----                     | Limited Access (only)         | -----                     | LA      |
| Township Line            | -----                     | Right of Way (only)           | -----                     | RW      |
| Section Line             | -----                     | Limited Access & Right of Way | -----                     | LA & RW |
| Corporation Line         | ----- or -----            | Existing Right of Way         | -----                     |         |
| Fence Line (existing)    | -x-x-                     | Property Line                 | ----- (in existing fence) | -x-x-   |
| Center Line              | ----- 352 ----- 353 ----- | Railroad                      | ----- or -----            |         |
| Trees, Stumps            | (to be removed)           | Guardrail (existing)          | ----- (proposed)          | -----   |
| Utility Poles: Telephone | φ                         |                               |                           |         |
| Power                    | φ                         |                               |                           |         |
| Light                    | φ                         |                               |                           |         |

### INDEX OF SHEETS

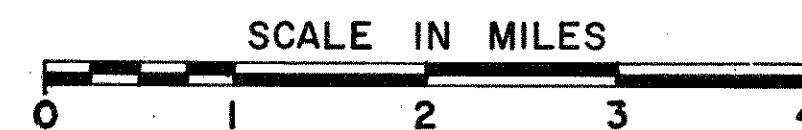
|                        |       |     |
|------------------------|-------|-----|
| Title sheet            | ----- | 1   |
| Typical section        | ----- | 2   |
| Reinforcing steel list | ----- | 2   |
| General notes          | ----- | 3   |
| Proposed work          | ----- | 3   |
| Estimated quantities   | ----- | 4   |
| Plan & Profile         | ----- | 5   |
| Superstructure details | ----- | 6-7 |
| Maintenance of Traffic | ----- | 8   |

## BUTLER COUNTY



DESIGN YEAR (2003) TRAFFIC 10,542 (S.B.)

### LOCATION MAP



### LINE DATA

Begin Work ----- Sta. 413+50  
End Work ----- Sta. 417+50  
Net Length of Work = 400.00 Lin. Ft. or 0.076 Mi.

Begin Project ----- Sta. 413+50  
End Project ----- Sta. 417+50  
Net Length of Project = 400.00 Lin. Ft. or 0.076 Mi.

UNDERGROUND UTILITIES  
48 HOURS  
**BEFORE YOU DIG**  
Call 800-362-2764 (Toll free)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

Portion to be improved -----  
State & Federal Routes -----  
Other Roads -----

### SCALES

Plan -----  
Profile: ----- Horizontal -----, Vertical -----  
Cross Section: Horizontal -----, Vertical -----

| SUPPLEMENTAL SPECIFICATIONS |          |
|-----------------------------|----------|
| B49                         | 10-19-81 |
| B24                         | 10-8-82  |
| B03                         | 5-27-83  |
|                             |          |
|                             |          |
|                             |          |

Approved Raymond G. Keller  
Date 7-21-83 District Deputy Director of Transportation

Approved Robert B. Pfeifer  
Date 9-21-83 Engineer, Bureau of Bridges and Structural Design

Approved James R. Longenecker  
Date 9-27-83 Chief Engineer, Operations

Approved Walter A. Smith  
Date 9-27-83 Director, Department of Transportation

| SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS |         |
|---|---------|
| BP-5  | 7-16-81 |
| GR-1  | 2-5-82  |
| GR-2B   | 2-5-82  |
| GR-3  | 2-5-82  |
| DBR-2-73  | 4-10-73 |
| MC-3  | 6-1-73  |
|   |         |
|   |         |
|   |         |
|   |         |
|   |         |
|   |         |
|   |         |
|   |         |

Plan Prepared By:  
DISTRICT 8  
BRIDGE DEPT.

SEAL

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

\_\_\_\_\_  
DIVISION ADMINISTRATOR

\_\_\_\_\_  
DATE

Project: BUT-4-14.85L  
Date of Letting \_\_\_\_\_ 19\_\_\_\_, Contract No. \_\_\_\_\_

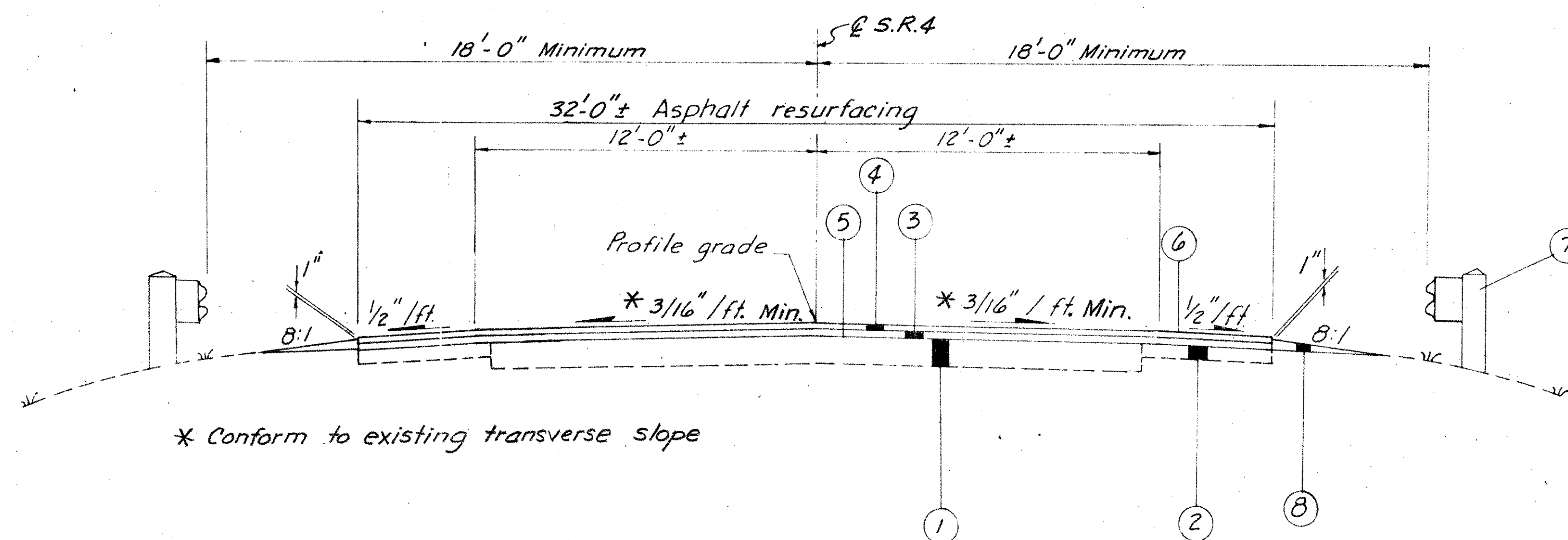
MICROFILMED  
FEB 10 1983

|                      |       |         |
|----------------------|-------|---------|
| REG. NO.<br>DIVISION | STATE | PROJECT |
| 5                    | OHIO  |         |

2  
8

BUT-4-14.85L

PLAN NO. BR-34-83



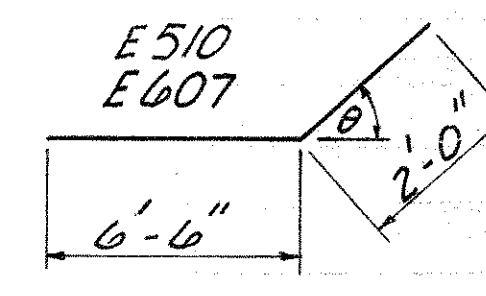
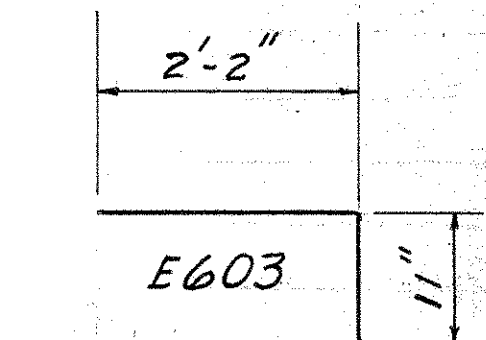
TYPE 404  
TYPICAL APPROACH ROADWAY SECTION

LEGEND

1. Existing asphalt and concrete pavement
2. Existing shoulder
3. Item 403 - Asphalt concrete, AC-20 (variable thickness leveling course) See General Notes
4. Item 404 - Asphalt concrete, AC-20 (3/4" surface course)
5. Item 407 - Tack coat, applied at 0.10 gal./sq.yd.
6. Item 409 - Seal coat bituminous material, applied at 0.30 gal./5sq.yd. and Seal coat cover aggregate, no. 8 applied at 0.0084 cu.yds./sq.yd. on berms.
7. Item 606 Guardrail, type 5
8. Item 617 Shoulder preparation and Compacted aggregate

REINFORCING STEEL LIST

| MARK  | NUMBER       | LENGTH           | WT.    | Sh.  | BENDING DIAGRAMS |
|-------|--------------|------------------|--------|------|------------------|
| E401  | 165          | 30'-0"           | 3307   | S    |                  |
| E402  | 33           | 16'-11"          | 373    | S    |                  |
| E403  | 20           | 30'-0"           | 401    | S    |                  |
| E404  | 4            | 12'-2"           | 33     | S    |                  |
| E501  | 216          | 19'-10"          | 4468   | S    |                  |
| E502  | 219          | 17'-8"           | 4035   | S    |                  |
| E503  | 135          | 30'-0"           | 4224   | S    |                  |
| E504  | 27           | 18'-7"           | 523    | S    |                  |
| E505  | 20           | 30'-0"           | 626    | S    |                  |
| E506  | 4            | 13'-10"          | 58     | S    |                  |
| E507  | 5            | 16'-2"           | 84     | S    |                  |
| E508  | 5            | 18'-4"           | 96     | S    |                  |
| E509  | Series of 8  | 15'-3" to 8'-10" | 100    | *S   |                  |
| E510  | 8            | 8'-6"            | 71     | B    |                  |
| E511  | Series of 16 | 17'-5" to 3'-8"  | 176    | *S   |                  |
| E512  | Series of 15 | 18'-11" to 6'-1" | 196    | *S   |                  |
| E513  | 8            | 5'-3"            | 44     | S    |                  |
| E514  | Series of 13 | 16'-9" to 5'-9"  | 153    | *S   |                  |
| E601  | 216          | 19'-10"          | 6435   | S    |                  |
| E602  | 219          | 17'-8"           | 5811   | S    |                  |
| E603  | 470          | 4'-11"           | 3471   | B    |                  |
| E604  | 5            | 16'-2"           | 121    | S    |                  |
| E605  | 5            | 18'-4"           | 138    | S    |                  |
| E606  | Series of 8  | 15'-3" to 8'-10" | 145    | *S   |                  |
| E607  | 8            | 8'-6"            | 102    | B    |                  |
| E608  | Series of 16 | 17'-5" to 3'-8"  | 253    | *S   |                  |
| E609  | Series of 15 | 18'-11" to 6'-1" | 282    | *S   |                  |
| E610  | 8            | 5'-3"            | 63     | S    |                  |
| E611  | Series of 13 | 16'-9" to 5'-9"  | 220    | *S   |                  |
| E612  | 72           | 27'-0"           | 2920   | S    |                  |
| TOTAL |              |                  | 38,929 | LBS. |                  |



L & B Vary from 4'-37' to 37'-00' by increments of 4'-37'

Note:-  
All E bars are epoxy coated.  
Dimensions on bent bar are out to out.  
\* Vary by increments of 11 inches.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
BUREAU OF BRIDGES  
District 8

TYPICAL SECTION  
REINFORCING STEEL LIST

|          |       |        |         |          |      |         |
|----------|-------|--------|---------|----------|------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED | DATE | REVISED |
| DD       | DD    |        | RLE     |          |      |         |



MICROFILMED  
FEB 10 1985

|                |       |         |  |
|----------------|-------|---------|--|
| FHWA<br>REGION | STATE | PROJECT |  |
| 5              | OHIO  |         |  |

3  
8

BUT-4-14.85 L

PLAN NO. BR-84-83

DESIGN SPECIFICATIONS: THE MODIFICATIONS TO THIS STRUCTURE CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1977, INCLUDING THE 1978, 1979, 1980, 1981, AND 1982 INTERIM SPECIFICATIONS AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA: DESIGN LOADING - HS 20-44  
CONCRETE CLASS S - UNIT STRESS 1,500 PSI FOR SUPERSTRUCTURE  
REINFORCING STEEL - ASTM A615, A616, A617 - UNIT STRESS 20,000 PSI  
STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20,000 PSI  
MONOLITHIC WEARING SURFACE THICKNESS IS ASSUMED TO BE 1".

DECK PROTECTION METHOD: EPOXY COATED REINFORCING STEEL, TOP AND BOTTOM.

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02. CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD. PLANS OF THE EXISTING BRIDGE ARE AVAILABLE FOR REFERENCE AT THE DISTRICT 8 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, LEBANON, OHIO.

PORTIONS OF STRUCTURE REMOVED: THIS WORK SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE BRIDGE DECK AND CURBS, THE UPPER PORTION OF THE CONCRETE WINGWALLS AT THE ENDS OF THE BRIDGE, THE BRIDGE RAILING, THE STEEL SCUPPERS, AND PORTIONS OF THE STEEL END FINISHES AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. SUITABLE WASTE MASONRY FROM THIS WORK SHALL BE USED FOR SLOPE PROTECTION AT THE SOUTH ABUTMENT TO THE SATISFACTION OF THE ENGINEER. ALL OTHER MATERIAL SHALL BE DISPOSED OF OFF THE JOB SITE. THE EXISTING CONCRETE WINGWALLS THAT ARE TO BE PARTIALLY REMOVED, SHALL BE REMOVED TO A LEVEL AT LEAST 4" BELOW THE TOP OF THE PROPOSED BRIDGE DECK SURFACE AND THEN FINISHED TO LEVEL WITH THE BRIDGE DECK SURFACE WITH NEW CONCRETE. PAYMENT FOR ALL THE ABOVE WORK WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 202 - LUMP SUM - PORTIONS OF STRUCTURE REMOVED.

PROPOSED PROFILE GRADE: THE PURPOSE OF THE PROPOSED PAVEMENT WORK ON THE APPROACHES TO THE BRIDGE IS TO PROVIDE A SMOOTH RIDING SURFACE WITH A COMPLETED SURFACE COURSE TOLERANCE AS PER 404.16. ASPHALT ON THE APPROACHES SHALL CONSIST OF A VARIABLE THICKNESS OF 403 AND A 3/4" THICKNESS OF 404. THE 403 SHALL BE FEATHERED TO PLACE THE SURFACE PARALLEL TO AND 3/4" BELOW THE FINAL APPROACH PAVEMENT SURFACE ELEVATION. THE PROJECT ENGINEER SHALL CHECK THE COMPLETED SURFACE BY SURVEYING AND ANY IRREGULARITIES SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE STATE.

ADDITIONAL REINFORCING STEEL: REFER TO CMS SECTIONS 106.03, 790, 709.01, THRU 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

DECK REINFORCING BARS: AT THE CONTRACTOR'S OPTION, A PORTION (NOT TO EXCEED 25%) OF THE UPPER LONGITUDINAL BARS (E401 OR E402) IN THE DECK SLAB MAY BE PLACED BENEATH THE UPPER TRANSVERSE BARS FOR SUPPORT OF THE TOP MAT.

REALIGN ABUTMENT BEARINGS: THE EXISTING STEEL ROCKER BEARINGS AT THE ABUTMENTS SHALL BE CLEANED AND REALIGNED SO THAT THEY ARE VERTICAL AT 60°F. THIS WORK SHALL INCLUDE JACKING THE BRIDGE SO THAT THE BEARINGS CAN BE REMOVED AND CLEANED BY SANDBLASTING. PAINTING THE BEARINGS AS PER 514 SYSTEM B SHALL ALSO BE INCLUDED IN THIS ITEM. THE CONTRACTOR'S METHOD OF JACKING THE BRIDGE SHALL BE SUBMITTED FOR APPROVAL. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - EACH - REALIGN ABUTMENT BEARINGS, AS PER PLAN.

TEMPORARY GUARD RAIL: SHALL BE FURNISHED AND INSTALLED ON THE BRIDGE DECK AS SHOWN IN THE PLANS SO THAT AT LEAST ONE 13' WIDE LANE IS PROVIDED FOR TRAFFIC AT ALL TIMES. THE TEMPORARY GUARDRAIL SHALL CONFORM TO THE DETAILS SHOWN ON SHEET 7. GALVANIZING IS NOT REQUIRED. AFTER ONE SIDE OF THE DECK HAS BEEN REPAIRED, THE TEMPORARY GUARDRAIL SHALL BE MOVED OVER TO ITS POSITION ON THE NEW DECK AS SHOWN ON THE PLANS. THIS ITEM SHALL INCLUDE FURNISHING, INSTALLING, MOVING AND REMOVING THE TEMPORARY GUARDRAIL AS WELL AS PROVIDING THE ANCHOR BOLTS, HOLES, SLEEVES AND ALL OTHER LABOR AND MATERIALS NECESSARY TO ATTACH THE POSTS TO THE DECK. PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 517 - LIN. FT. - TEMPORARY GUARDRAIL AS PER PLAN.

PATCHING CONCRETE STRUCTURES: THIS ITEM SHALL INVOLVE PATCHING UNSOUND SUBSTRUCTURE CONCRETE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH SAFE, EASY MEANS TO INSPECT, SOUND AND MARK AREAS OF UNSOUND CONCRETE ON THE BRIDGE ABUTMENTS AND WINGWALLS. THE COMPLETED PATCHES SHALL HAVE A NEAT, UNIFORM APPEARANCE MEETING THE SATISFACTION OF THE ENGINEER. PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 519 - SQ. FT. - PATCHING CONCRETE STRUCTURES.

MAINTENANCE OF TRAFFIC: IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO, AND MAXIMUM SAFETY OF THE TRAVELLING PUBLIC AND THE CONTRACTOR. ANY VARIANCES FROM THESE MAINTENANCE OF TRAFFIC NOTES MUST BE APPROVED IN ADVANCE IN WRITING BY THE ENGINEER. THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND PERTINENT ITEMS OF THE SPECIFICATIONS AND PROPOSAL SHALL APPLY. BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THESE PERSONS SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES TO MAINTAIN THE TRAVELLED PAVEMENT SAFELY. THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TRAFFIC CONTROL AND TRAFFIC CONTROL DEVICES REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

THE TRAFFIC CONTROL SHALL BE AS SHOWN ON SHEET 8. INCLUDED WITH THIS ITEM IS THE REMOVAL AND REPLACEMENT OF ALL EXISTING PAVEMENT MARKINGS THAT WILL CONFLICT WITH TRAFFIC MOVEMENT DURING CONSTRUCTION.

PAYMENT FOR ALL THE ABOVE WORK INCLUDING PROVIDING, ERECTING, MAINTAINING AND REMOVING ALL SIGNS, BARRICADES, DRUMS, CONES, REGULATORY SIGNS, OBLITERATION OF EXISTING AND TEMPORARY MARKINGS, REFERENCING THE EDGES OF EXISTING PAVEMENTS, AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC.

FIELD OFFICE: THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE FOR THE FIELD OFFICE AND IN ADDITION TO THE REQUIREMENTS OF ITEM 619 - HE SHALL PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619 - FIELD OFFICE.

STRUCTURAL EXPANSION JOINTS: THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY INSTALL 2" NOMINAL WIDTH NEOPRENE STRIP SEALS IN THE BRIDGE END FINISHES. THIS INCLUDES FURNISHING AND INSTALLING THE SEAL ITSELF AS WELL AS THE STEEL TYPE A EXTRUSIONS AND THE STEEL SHIMS AND TRIMMING THE EXISTING STEEL END FINISH ANGLE. THE STEEL SHIMS SHALL BE A MINIMUM OF 2" WIDE AND MAY BE COMPOSED OF MULTIPLE PLATES TO PROVIDE THE PROPER PROFILE GRADE. MULTIPLE PLATES SHALL BE CONTINUOUSLY GROOVE WELDED TOGETHER. THE SEALS SHALL EXTEND FOR THE FULL WIDTH OF THE DECK IN ONE CONTINUOUS PIECE. INSTALLATION OF THE SEAL AND ALL RELATED WORK SHALL BE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR THE ABOVE WORK WILL BE MADE AT THE CONTRACT UNIT PRICE FOR ITEM 516 - LIN. FT. - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN.

PROPOSED WORK

1. INSTALL MAINTENANCE OF TRAFFIC DEVICES AND TEMPORARY GUARDRAIL TO CLOSE ONE SIDE OF THE BRIDGE.
2. REMOVE THE EXISTING SUPERSTRUCTURE DECK ON THE SIDE BEING REPAIRED.
3. PLACE NEW CONCRETE DECK, NEW BRIDGE RAILING, ASPHALT OVERLAY ON THE APPROACHES, TEMPORARY PAVEMENT AND ERECT APPROACH GUARDRAIL. IF THE CONTRACTOR ELECTS TO NOT PLACE THE PERMANENT ASPHALT OVERLAY AT THIS TIME, TEMPORARY RAMPS AS REQUIRED BY STANDARD DRAWING BP-5 SHALL BE PLACED.
4. MOVE TEMPORARY GUARDRAIL AND CHANGE MAINTENANCE OF TRAFFIC DEVICES FOR REPAIRS TO THE OPPOSITE SIDE.
5. REPAIR OPPOSITE SIDE OF BRIDGE IN A SIMILAR MANNER.
6. COMPLETE ALL WORK.
7. REMOVE TEMPORARY GUARDRAIL, TEMPORARY PAVEMENT AND MAINTENANCE OF TRAFFIC DEVICES TO REOPEN THE ROAD FULL WIDTH.

|  |       |        |         |          |      |         |
|--|-------|--------|---------|----------|------|---------|
| STATE OF OHIO<br>DEPARTMENT OF TRANSPORTATION<br>Dist. 8 BUREAU OF BRIDGES AND STRUCTURAL DESIGN |       |        |         |          |      |         |
| GENERAL NOTES & PROPOSED WORK<br>BRIDGE NO. BUT-4-1485L<br>OVER GREGORY CREEK                    |       |        |         |          |      |         |
| BUTLER CO. S.R.4   |       |        |         |          |      |         |
| DESIGNED   | DRAWN | TRACED | CHECKED | REVIEWED | DATE | REVISED |
| RLE  |       |        | DD      |          |      |         |



# GENERAL SUMMARY

|          |  |               |   |
|----------|--|---------------|---|
| CALC. BY |  | OHIO          | 4 |
| DATE     |  | FHWA REGION 5 | 8 |
| CHKD. BY |  |               |   |
| DATE     |  |               |   |

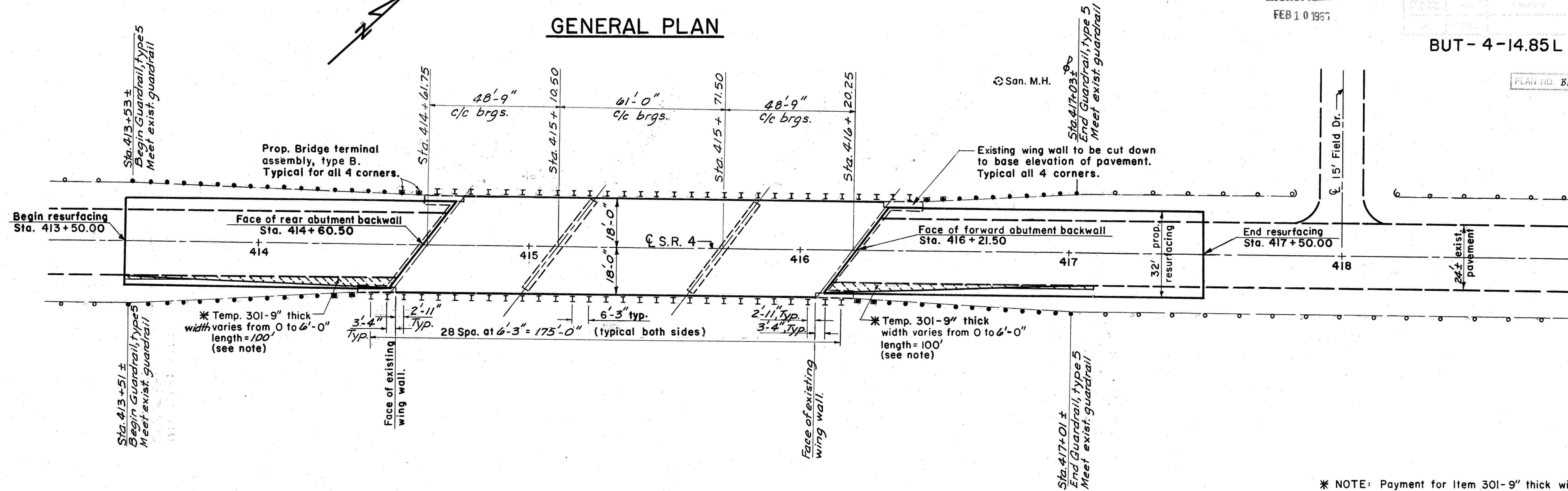
BUT-4-14.85L

PLAN NO. BR-84-83

| ITEM | SHEET NUMBER |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ITEM    | QUANT. | UNIT    | DESCRIPTION   |
|------|--------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---------|--------|---------|---|
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 202     | Lump   | Lump    | Portions of structure removed   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 202     | 537    | Sq.Yds  | Wearing course removed  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 202     | 350    | Lin.Ft. | Guardrail removed   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 403     | 82     | Cu.Yds  | Asphalt concrete, AC-20   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 404     | 18     | Cu.Yds  | Asphalt concrete, AC-20   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 407     | 85     | Gals.   | Tack coat   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 409     | 64     | Gals.   | Seal coat bituminous material: MC-800, MC-3000, CBAE-800, RS-2, CRS-2, RT-2 or RT-10                |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 409     | 2      | Cu.Yds  | Seal coat cover aggregate, no. 8  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 824     | 38,929 | Lbs.    | Epoxy coated reinforcing steel  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 511     | 180    | Cu.Yds  | Class "S" concrete, superstructure  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 513     | 684    | Each    | Welded shear connectors   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 516     | 12     | Each    | Realign abutment bearings, as per plan  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | *517    | 350    | Lin.Ft. | Railing (DBR with steel tubular backup, Type 2 posts & Type A anchors) As per plan. See note below. |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 517     | 161    | Lin.Ft. | Temporary guardrail, As per plan  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 519     | 10     | Sq.Ft.  | Patching concrete structures  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Special | 161    | Sq.Ft.  | Steel drip strip (As per plan)  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 606     | 350    | Lin.Ft. | Guardrail, type 5   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 606     | 4      | Each    | Bridge terminal assembly, type B  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 614     | Lump   | Lump    | Maintaining traffic   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 615     | Lump   | Lump    | Temporary pavement, as per plan   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 617     | 319    | Sq.Yds  | Shoulder preparation  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 617     | 9      | Cu.Yds  | Compacted aggregate   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 617     | 1      | M.Gal.  | Water   |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 621     | 0.152  | Miles   | Edge lines  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 621     | 0.076  | Miles   | Center lines  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 623     | Lump   | Lump    | Construction layout stakes  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 624     | Lump   | Lump    | Mobilization  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 619     | Lump   | Lump    | Field Office  |
|      |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 516     | 90     | Lin.Ft. | Structural expansion joints including elastomeric strip seals as per plan                           |

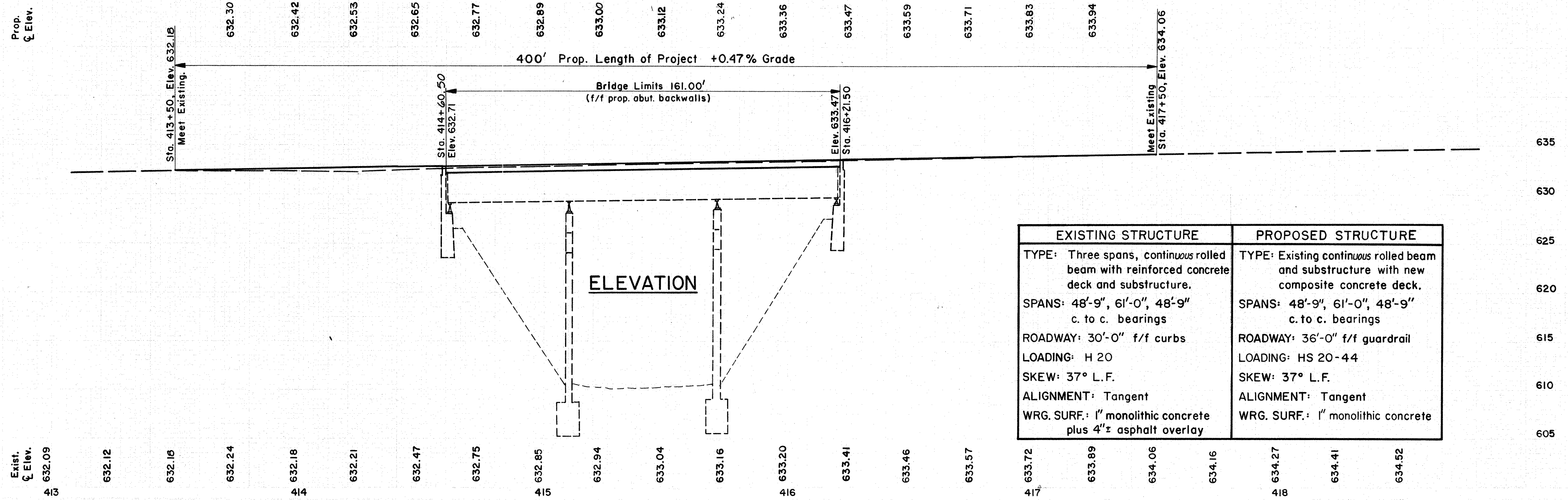
\* NOTE :  
**Method of Measurement:**  
 The footage shall be length of railing between ends of abutment wingwalls. Those portions of rails that extend beyond the ends of abutment wingwalls shall not be measured for payment, but are included for payment in the unit price bid for measured footage.

GENERAL PLAN

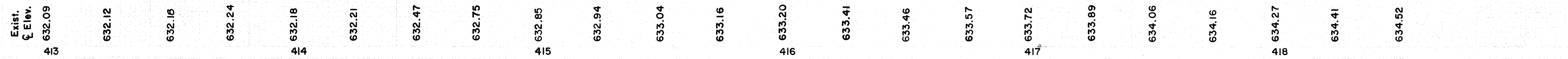


BENCH MARK: Top of Fence's Metal Post  
Sta. 414+00 ± 89.6' ± Lt.  
Elev. 632.52

\* NOTE: Payment for Item 301-9" thick will be included in the lump sum price bid for Item 615 Temporary Pavement as per plan.



| EXISTING STRUCTURE  | PROPOSED STRUCTURE   |
|---|--|
| TYPE: Three spans, continuous rolled beam with reinforced concrete deck and substructure. | TYPE: Existing continuous rolled beam and substructure with new composite concrete deck. |
| SPANS: 48'-9", 61'-0", 48'-9" c. to c. bearings   | SPANS: 48'-9", 61'-0", 48'-9" c. to c. bearings  |
| ROADWAY: 30'-0" f/f curbs   | ROADWAY: 36'-0" f/f guardrail  |
| LOADING: H 20   | LOADING: HS 20-44  |
| SKREW: 37° L.F.   | SKREW: 37° L.F.  |
| ALIGNMENT: Tangent  | ALIGNMENT: Tangent   |
| WRG. SURF.: 1" monolithic concrete plus 4"± asphalt overlay                               | WRG. SURF.: 1" monolithic concrete   |





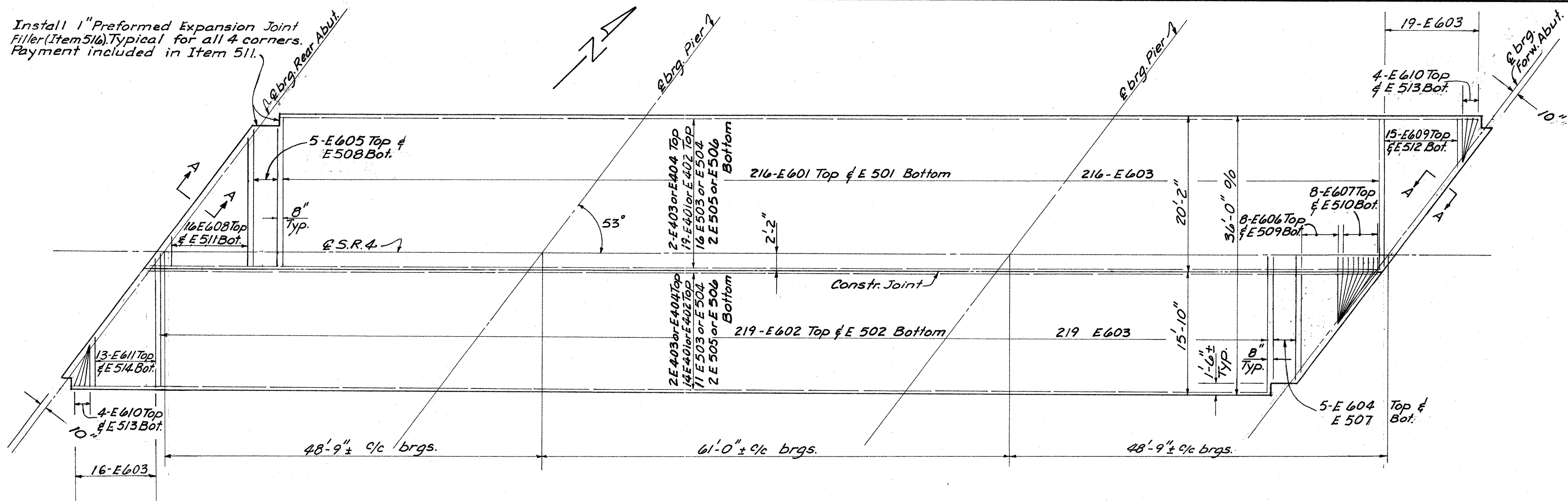
Install 1" Preformed Expansion Joint Filler (Item 516) Typical for all 4 corners. Payment included in Item 511.

MICROFILM  
FEB 1 0 1987

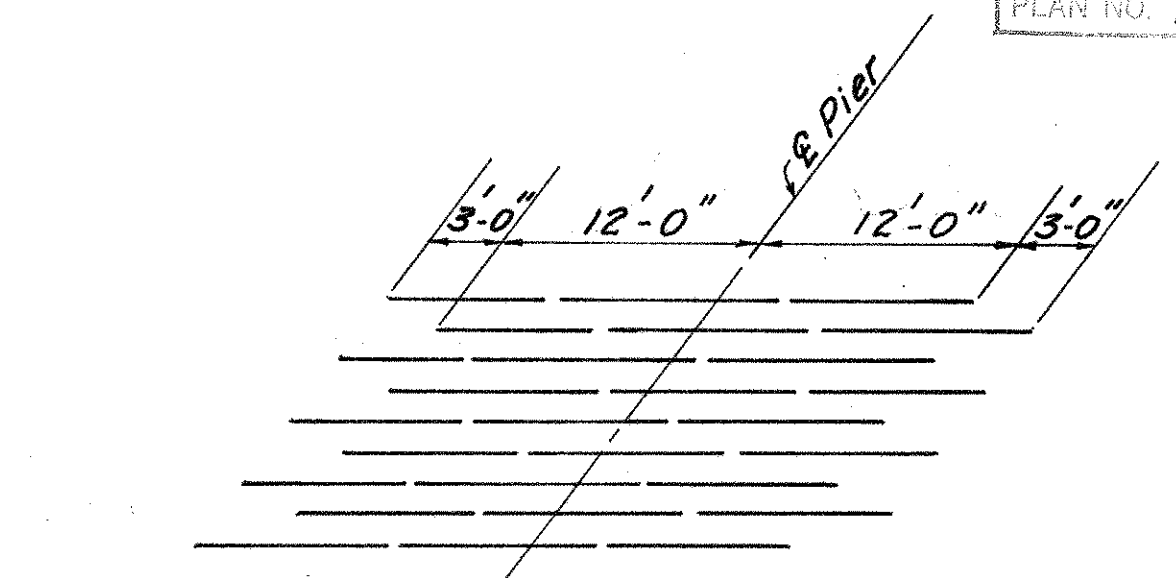
|                   |       |         |
|-------------------|-------|---------|
| FED. RD. DIVISION | STATE | PROJECT |
| 5                 | OHIO  |         |

BUT-4-14.85L

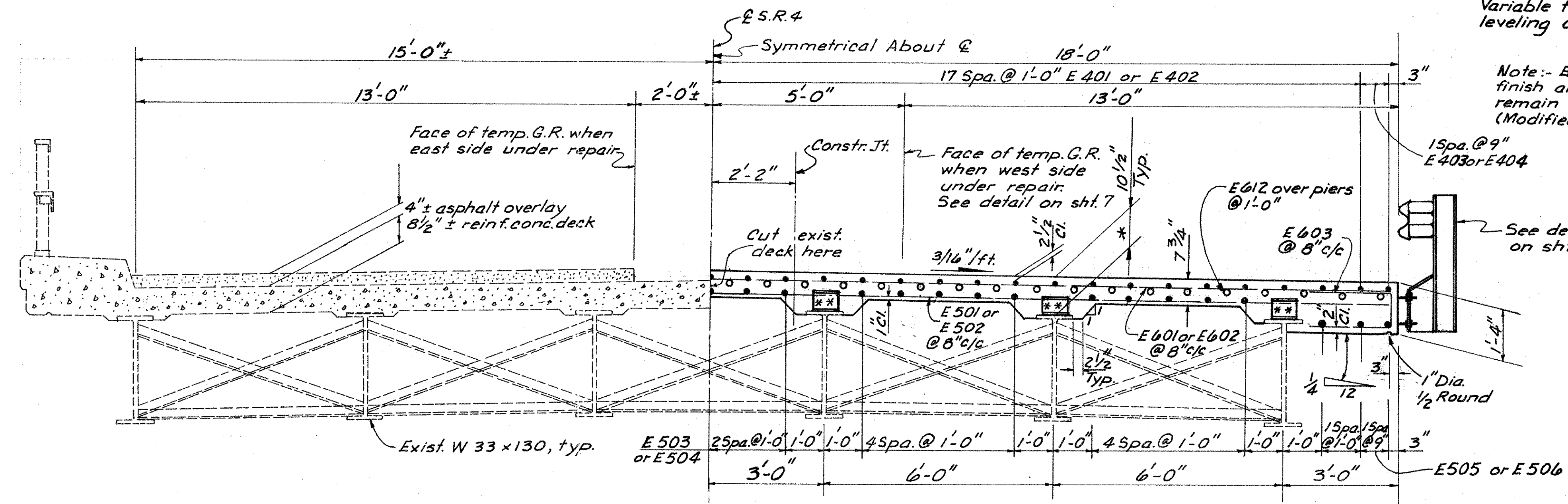
PLAN NO. BR-84-83



DECK PLAN



STAGGER OF E612 BARS AT PIERS



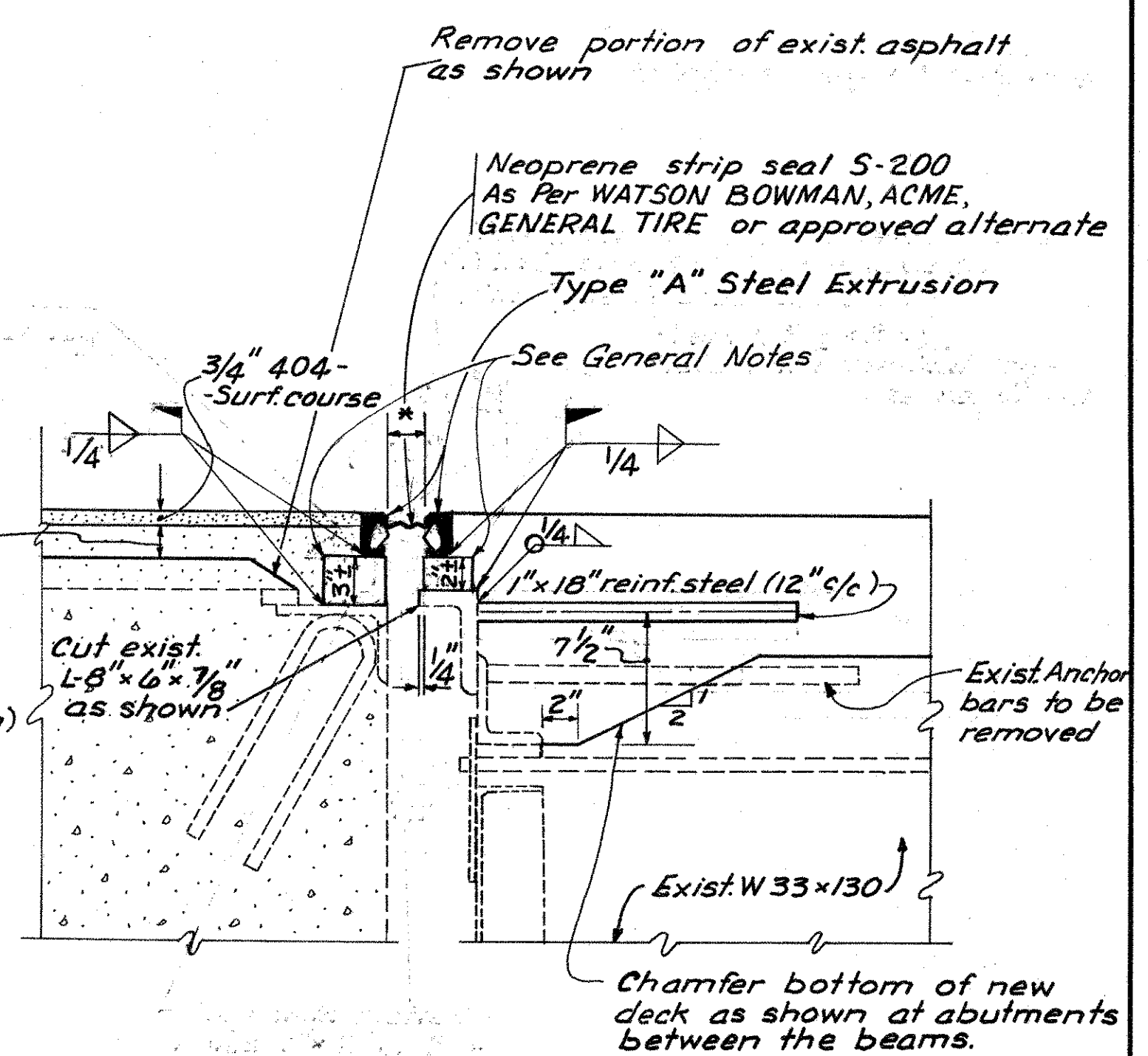
EXISTING

PROPOSED

COMPOSITE TRANSVERSE SECTION

\* The distance shown from the top of the deck slab to the top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

\*\* See sheet 7 for shear connector details.



SECTION A-A

\* Temp. Adjustment Table

|            |      |      |      |      |      |
|------------|------|------|------|------|------|
|            | 50'  | 60'  | 70'  | 80'  | 90'  |
| Rear Abut. | .97' | .90' | .84' | .78' | .71' |
| Fwd. Abut. | .98' | .96' | .93' | .90' | .87' |

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
BUREAU OF BRIDGES

Dist. 8

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. BUT-4-14.85L  
OVER GREGORY CREEK

BUTLER CO. S.R.4

|          |       |        |         |          |      |         |
|----------|-------|--------|---------|----------|------|---------|
| DESIGNED | DRAWN | TRACED | CHECKED | REVIEWED | DATE | REVISED |
| DD       | DD    |        | RLE     |          |      |         |

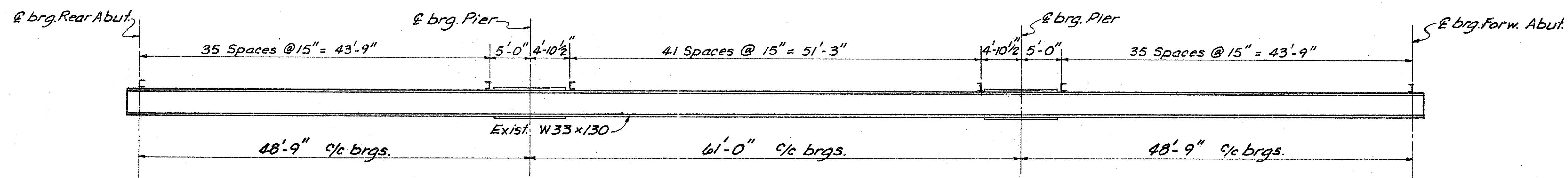
MICROFILMED  
FEB 10 1987

|                   |       |         |
|-------------------|-------|---------|
| FED. RD. DIVISION | STATE | PROJECT |
| 5                 | OHIO  |         |

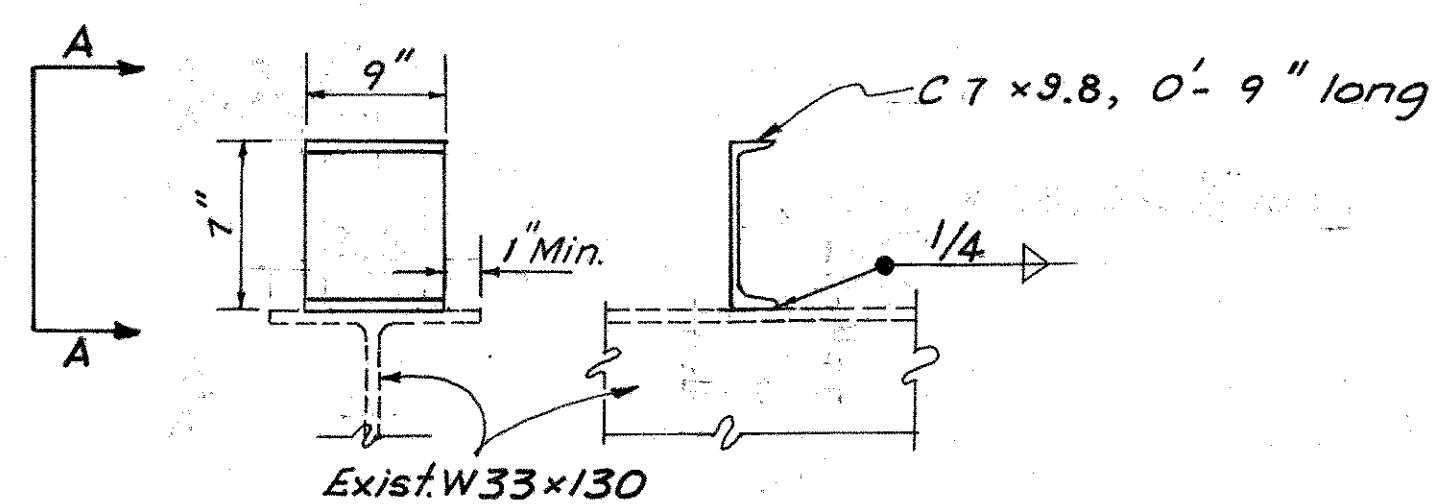
7  
8

BUT-4-14.85L

PLAN NO. BR-84-83

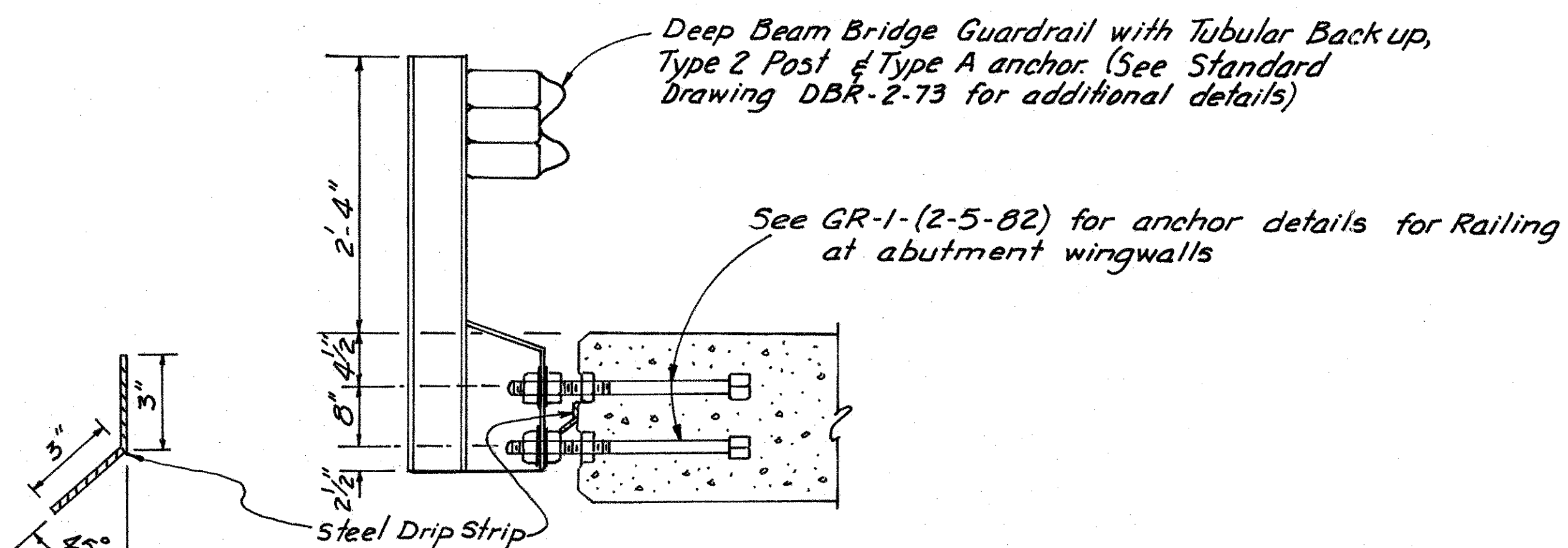


**SHEAR CONNECTOR SPACINGS**  
(Typ. for all 6 beams)



VIEW A-A

**SHEAR CONNECTOR DETAIL**

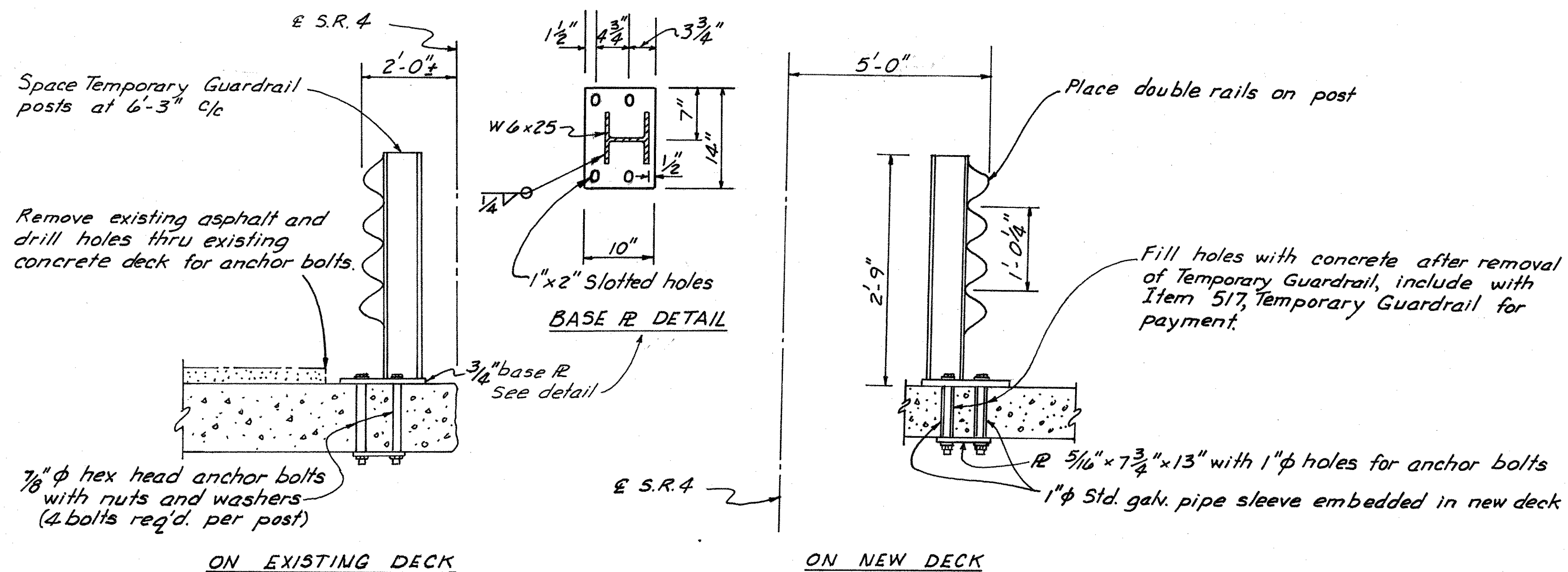


**DRIP STRIP AND BRIDGE RAILING DETAILS**

**DRIP STRIP**

A bent drip strip shall be installed along the edges of the deck as shown. The drip strips shall be embedded in a 1/8" x 3" layer of hypalon sealant. The strips shall be fastened at 1'-6" c/c maximum with power driven pins or no.10 galvanized screws and expansion anchors, subject to approval of the Engineer. The strips shall be placed the full length of the deck, ending at the abutment wingwall. Where splices are required the individual pieces shall be butted together, not lapped. Steel for galvanized strips shall be 6" x 0.105" and shall meet the requirements of ASTM A568. Galvanizing shall be in accordance with 711.02. Stainless steel shall be 20 gauge ASTM A167, Type 304, mill finish. Payment shall be at the contract price bid for Item Special Sq. ft. steel drip strip, which shall include all materials, labor, tools, and incidentals necessary to complete item.

\* Sealant shall meet Government Specification TT-S-0023C, Type II.



ON EXISTING DECK

ON NEW DECK

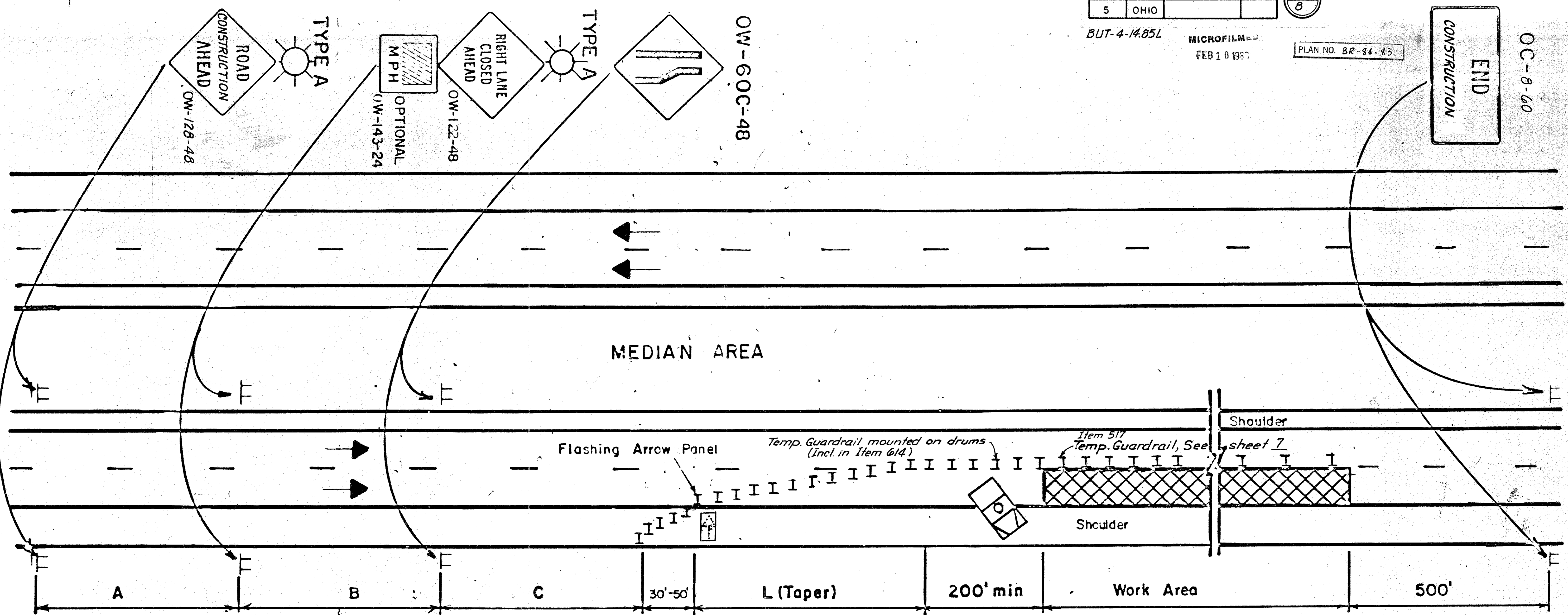
**TEMPORARY GUARDRAIL DETAILS**

|  |       |        |         |          |      |         |
|--|-------|--------|---------|----------|------|---------|
| STATE OF OHIO<br>DEPARTMENT OF TRANSPORTATION<br>DIVISION OF HIGHWAYS<br>BUREAU OF BRIDGES |       |        |         |          |      |         |
| Dist. 8  |       |        |         |          |      |         |
| SUPERSTRUCTURE DETAILS<br>BRIDGE NO. BUT-4-14.85L<br>OVER GREGORY CREEK                    |       |        |         |          |      |         |
| BUTLER CO. SR 4  |       |        |         |          |      |         |
| DESIGNED   | DRAWN | TRACED | CHECKED | REVIEWED | DATE | REVISED |
| DD   | DD    |        | RLE     |          |      |         |



CONSTRUCTION  
END

OC-8-60



GENERAL NOTES:

- The taper length (L) shall be in accordance with Section 7F-17 of the CMUTCD. The location of the transition taper and location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.
- The major standard level warning sign sizes may be used on divided streets or highways that are not classified as freeways or expressways.
- When work is being performed in the lane adjacent to the median on a divided highway an OW-123-48 sign(s) shall be substituted for the OW-122-48 sign(s) and an OW-60D-48 sign(s) shall be substituted for the OW-60C sign(s).
- The work vehicle shown at the beginning of the work area shall be in place and unoccupied whenever workers are in the work area. This work vehicle shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicle shown when approved by the Engineer. The vehicle shall be equipped with a 360° rotating or flashing amber beacon clearly visible in all directions a minimum of a 1/4 mile.
- The flashing arrow panel shall meet requirements contained in Section 7G-8, OMUTCD.
- Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 1.
- Type A flashing barricade warning lights shown on the "Road Work Ahead" and the "Right Lane Closed Ahead" signs are required whenever a night lane closure is necessary.
- Some work area locations may require more than just static or conventional signs to enhance communication with the driver. At these locations Portable Changeable Message Signs (PCMS) units are recommended. These devices should be located approximately 3/4 mile in advance of a lane closure or other point of required action. See Section 7G-8.1, OMUTCD for further guidance on use of PCMS units.

| MINIMUM DISTANCE           | A             | B             | C             |
|----------------------------|---------------|---------------|---------------|
| MAJOR STANDARD             | 500'          | 500'          | 500'          |
| URBAN FREEWAY & EXPRESSWAY | 500' TO 1000' | 500' TO 1000' | 500' TO 1000' |
| RURAL FREEWAY & EXPRESSWAY | 2600'         | 1600'         | 1000'         |

OHIO DEPARTMENT OF TRANSPORTATION  
 CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY  
 DATE 2/82

PAP - TUB - 82