

DESIGN DATA

1988 (AND CURRENT INTERIM) AASHTO. DESIGN SPECIFICATIONS
 DESIGN LOADING H625 LIVE LOAD
 LOAD FACTOR DESIGN METHOD
 DEAD LOAD INCLUDES 11 PSF ALLOWANCE FOR FUTURE WEARING COURSE
REINFORCED CONCRETE:
 F_c = 4000 PSI N=8
 F_y = 60,000 PSI (REINFORCEMENT)
 DECK AREA = 570 SQ. FT.
 ADT FOR YEAR 2010 = 8,000
 DESIGN SPEED = 40 MPH
 OPERATING RATING = 30

SHEET INDEX

| NO. | TITLE |
|---------|---------------------------------|
| 1 | GENERAL PLAN & ELEVATION |
| 2 | BRIDGE LAYOUT |
| 3 | ABUTMENT DETAILS |
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| 5 | ABUTMENT REINFORCEMENT |
| 6 | SUPERSTRUCTURE DETAILS & REINF. |
| 7 | SUPERSTRUCTURE DETAILS & REINF. |
| 8 | CONCRETE RAILING TYPE J DETAILS |
| 9 | WIRE FENCE DESIGN S-1 DETAILS |
| 10 & 11 | BRIDGE STANDARD DETAILS |
| 12 | BRIDGE SURVEY PLAN & PROFILE |
| 13 | BRIDGE SURVEY |

CONSTRUCTION NOTES

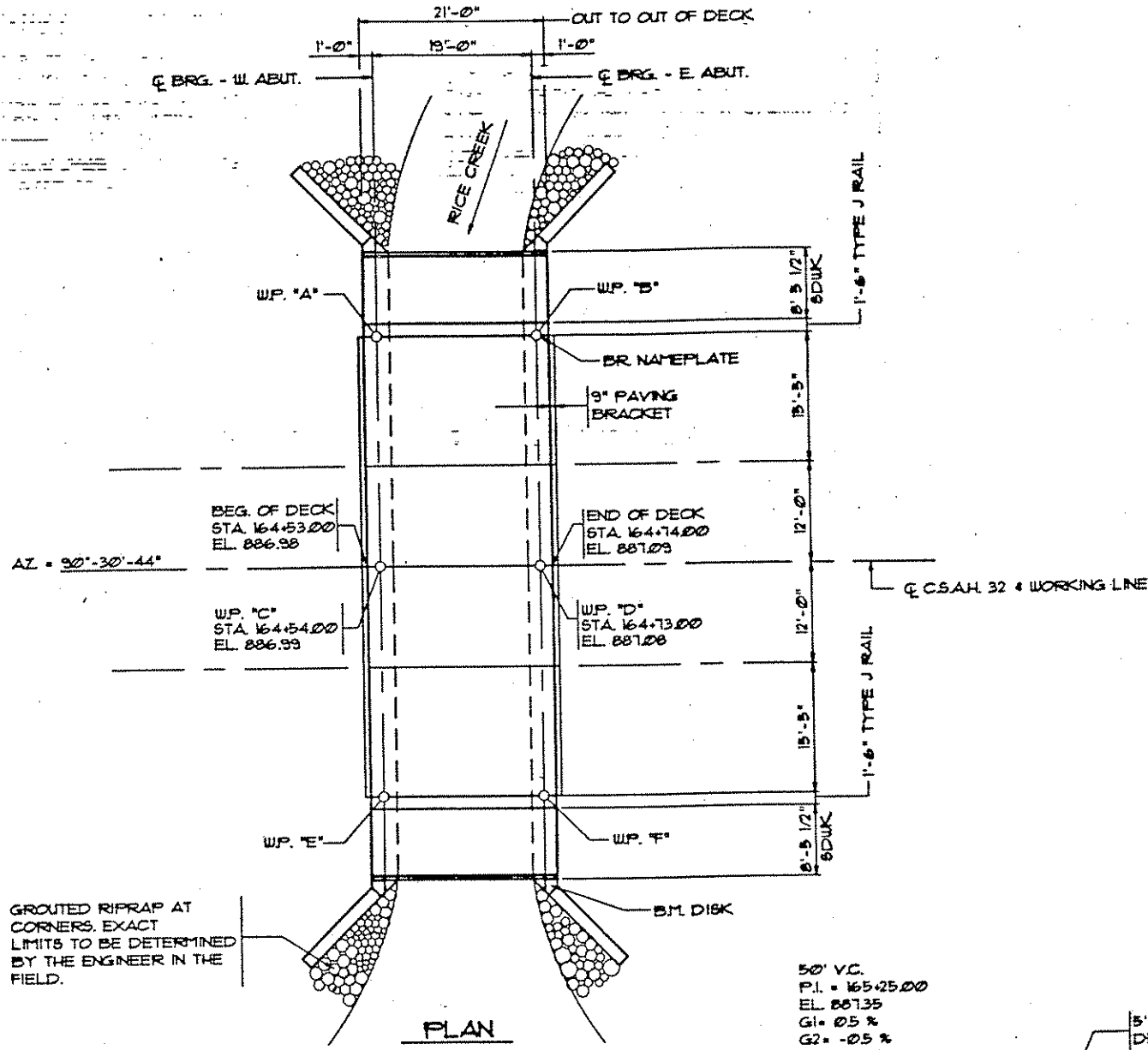
THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", AS AMENDED BY THE JAN. 2, 1991 SUPPLEMENTAL SPECIFICATION SHALL GOVERN.

BRIDGE SEAT REINFORCEMENT SHALL BE CAREFULLY PLACED TO AVOID INTERFERENCE WITH DRILLING HOLES FOR ANCHOR RODS. THE SUPERSTRUCTURE BEAMS SHALL BE ERECTED IN FINAL POSITION PRIOR TO DRILLING HOLES FOR AND PLACING ANCHOR RODS.

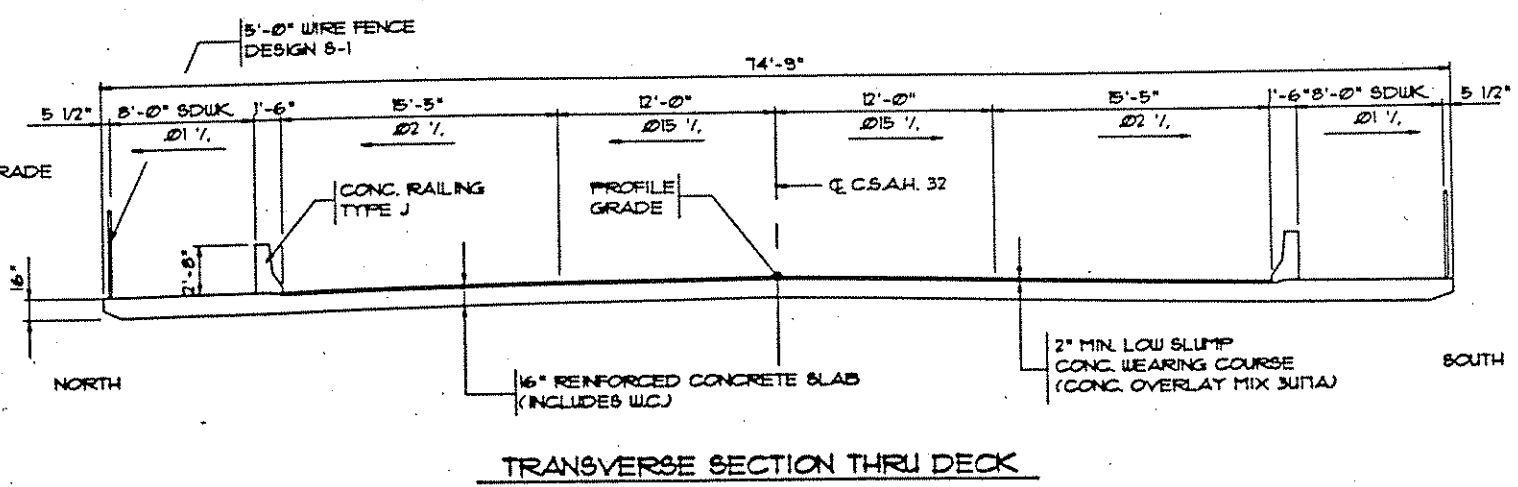
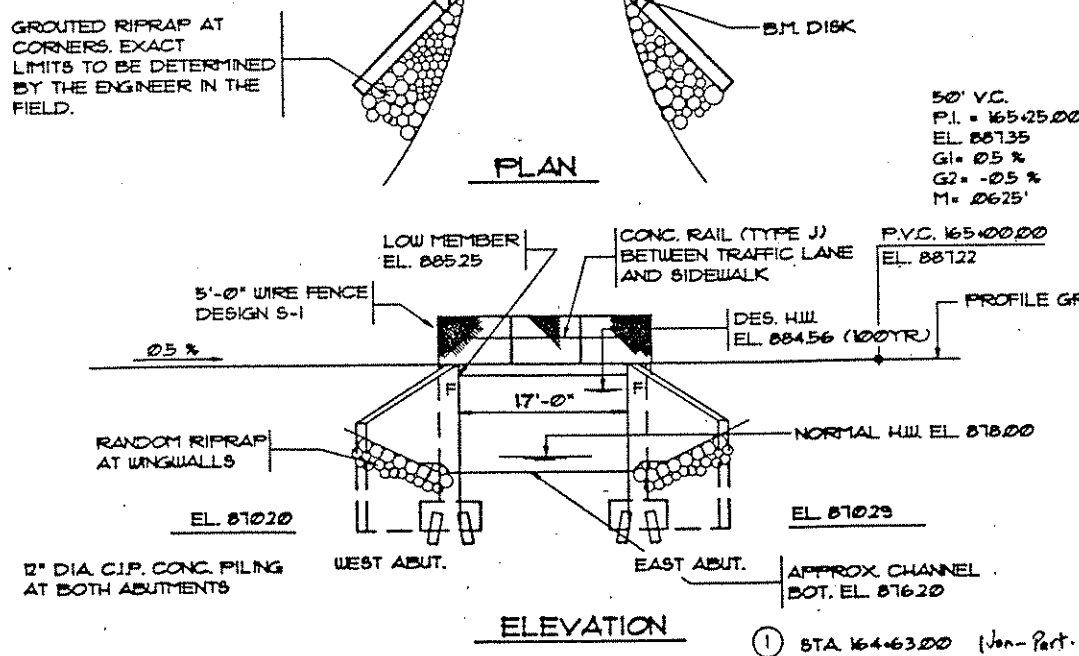
THE FIRST DIGIT OR THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR SIZE.

BAR MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

CONTRACTOR SHALL NOT BACKFILL BEHIND ABUTMENTS PRIOR TO BRIDGE SLAB BEING POURED.



APPROVED *Paul K. Knud*
 COUNTY ENGINEER
 ANOKA COUNTY
 DATE: 2-6-92



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DESIGNED: *Mark M...*
 DATE: 1/27/92 REG. NO. 20476
 C.S.A.H. 32 ANOKA CO.
 MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 02558
GENERAL PLAN & ELEVATION
 0.1 MI. E. OF JCT. C.S.A.H. 11 IN THE CITY OF BLAINE ON C.S.A.H. 32 OVER RICE CREEK
 21'-0" SPAN REINF. CONC. RIGID FRAME
 54'-10" ROADWAY, SIDEWALK EACH SIDE
 SPAN IDENT. NO. 108
 SEC 36 T3N R23W
 CITY OF BLAINE
 ANOKA COUNTY

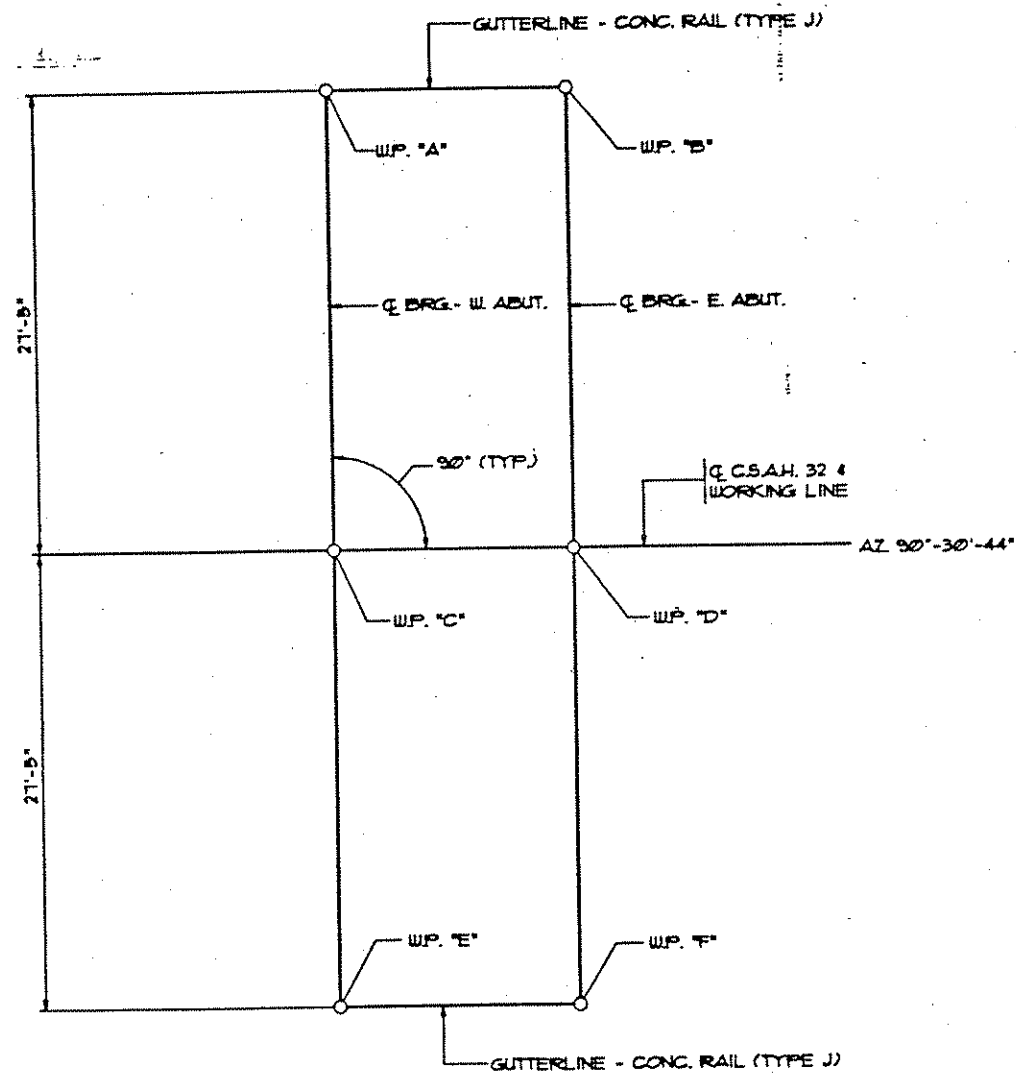
DATED 4-22-92
 APPROVED *Donald H. Blum*
 STATE BRIDGE ENGINEER
 DES: MKM | DRW: DJV | 02558
 CHK: | CHK: |

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE NO. 02558

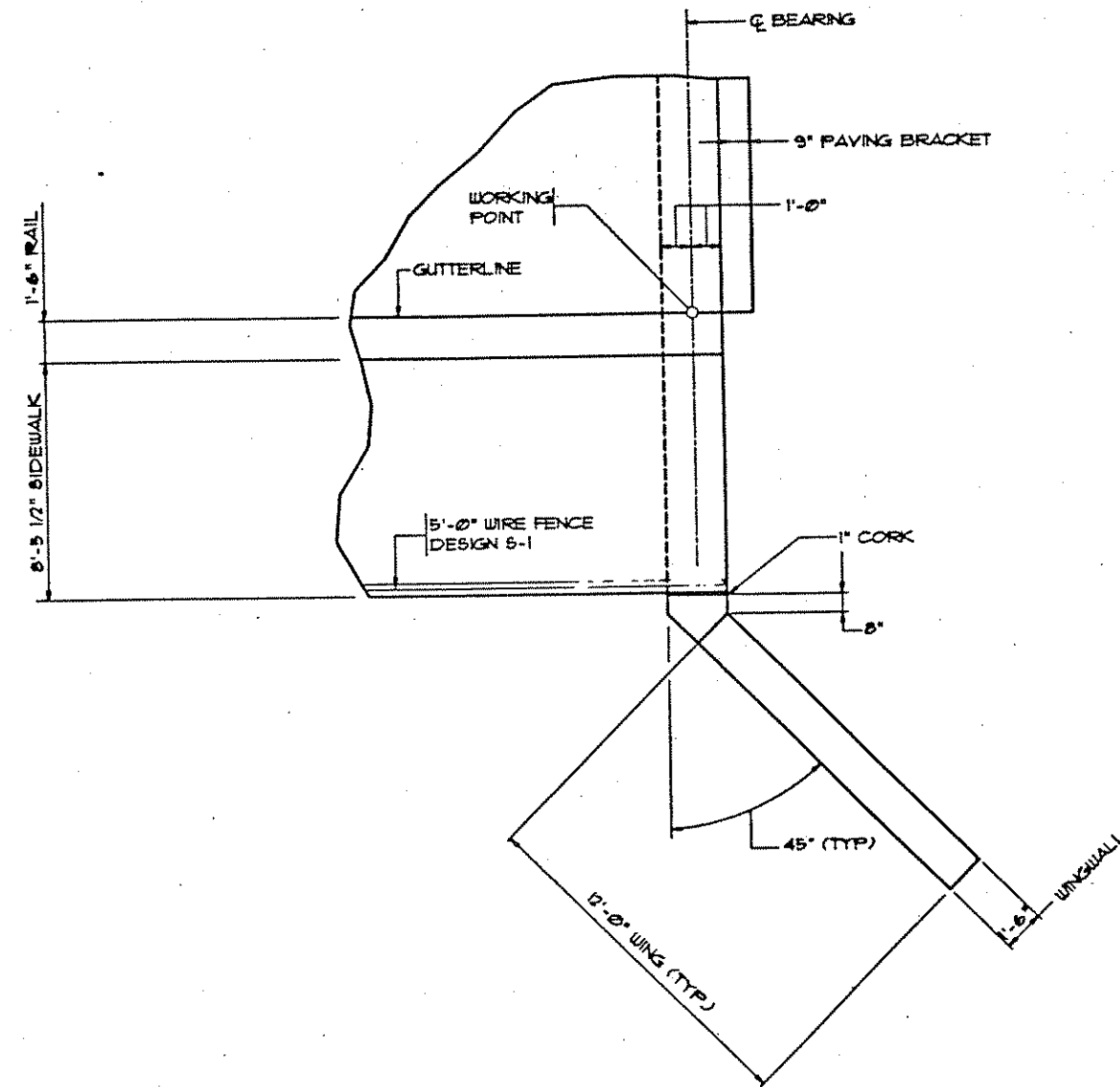
| ITEM NO. | 0401601 | 2401512 | 2401513 | 2401541 | 2442501 | 2404301 | 2401301 | 2452501 | 2452506 | 2452515 | 2557501 | 2402521 | 2511501 | 0401601 | | | |
|----------|----------------------|-----------------------------|--------------------------------|-----------------------------------|-------------------|-------------------------------|---------------------------|---------------------------|-------------------------------------|----------------------------------|---|-------------------------|-------------------------|----------------|-------------------|--|--|
| ITEM | STRUCTURE EXCAVATION | BRIDGE SLAB CONCRETE (3Y36) | TYPE J RAILING CONCRETE (3Y46) | REINFORCEMENT BARS (EPOXY COATED) | REMOVE OLD BRIDGE | CONCRETE OVERLAY TYPE SPECIAL | STRUCTURE CONCRETE (1A43) | STRUCTURE CONCRETE (3Y43) | C.I.P. CONC. PILING DELIVERED (12") | C.I.P. CONC. PILING DRIVEN (12") | C.I.P. CONC. TEST PILES 60 FT. LONG (12") | WIRE FENCE DESIGN (S-1) | STRUCTURAL STEEL (3306) | GROUTED RIPRAP | SLOPE PREPARATION | | |
| UNIT | LUMP SUM | SQ. FT. | LIN. FT. | POUND | LUMP SUM | SQ. FT. | CU. YD. | CU. YD. | LIN. FT. | LIN. FT. | EACH | LIN. FT. | POUND | CU. YD. | LIFT/6M | | |
| QUANTITY | 1 | 570 (P) | 42 (P) | 51,700 (P) | 1 | 152 (P) | 115 (P) | 178 (P) | 500 | 500 | 2 | 42 (P) | 310 (P) | 30 | 1 | | |

STATE PROJECT NO. S.A.P. 02-632-04, S.A.P. 62-601-05

SHEET NO. 1 OF 13 SHEETS



WORKING POINT LAYOUT



TYPICAL CORNER LAYOUT

| DIMENSIONS BETWEEN WORKING POINTS | | | | | | | COORDINATES | | | ELEVATIONS | | | | |
|-----------------------------------|-----------|---|-------|-------|-------|-------|-------------|-------|----------|------------|----------------|-------------|-------------|-------|
| POINT | STATION | A | B | C | D | E | F | POINT | N-COORD. | E-COORD. | TOP OF ROADWAY | TOP OF DECK | BRIDGE SEAT | POINT |
| A | 164+54.00 | | 19.00 | 27.42 | 33.35 | | 58.03 | A | | | 886.50 | 133 | 885.17 | A |
| B | 164+73.00 | | | 33.35 | 27.42 | 58.03 | | B | | | 886.59 | 133 | 885.26 | B |
| C | 164+54.00 | | | | 19.00 | 27.42 | 33.35 | C | | | 886.59 | 133 | 885.66 | C |
| D | 164+73.00 | | | | | 33.35 | 27.42 | D | | | 887.08 | 133 | 885.75 | D |
| E | 164+54.00 | | | | | | 19.00 | E | | | 886.50 | 133 | 885.17 | E |
| F | 164+73.00 | | | | | | | F | | | 886.59 | 133 | 885.26 | F |

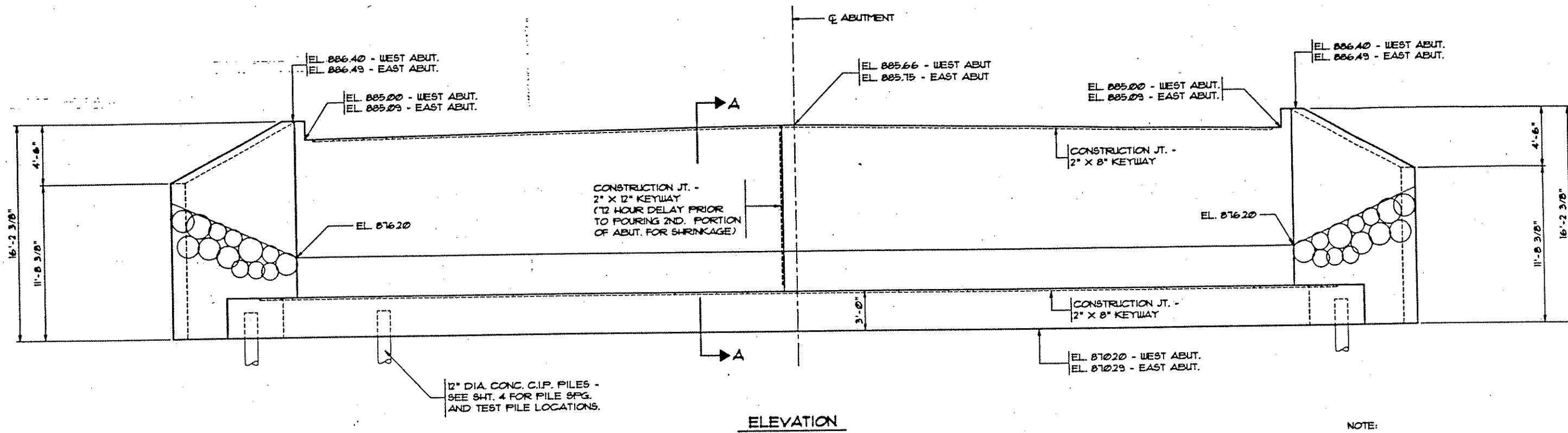
| TOP OF ROADWAY TO BRIDGE SEAT | | |
|-------------------------------|----------|----------|
| | W. ABUT. | E. ABUT. |
| SLAB THICKNESS | 14" | 14" |
| WEARING COURSE | 2" | 2" |
| TOTAL | 133 | 133 |



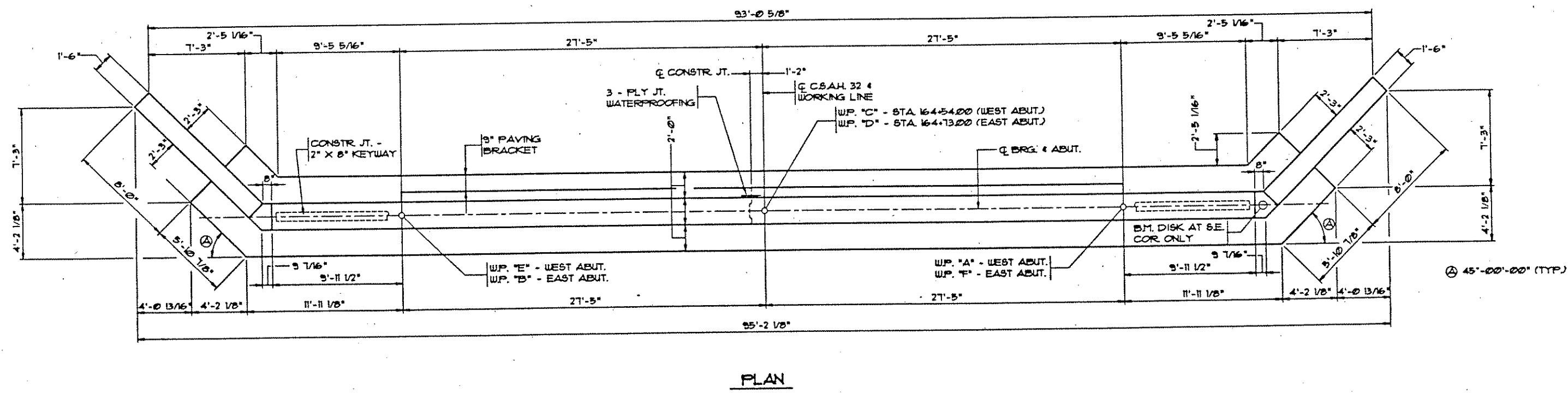
BRIDGE LAYOUT

| | | | |
|--------------------------|----------|-------------------|--------------------|
| DES: MKM | DRW: DJY | APPROVED: 4-28-92 | BRIDGE NO 02558 |
| CHK: X | CHK: MKM | | |
| SHEET NO. 2 OF 13 SHEETS | | | |

S.A.P. 02-632-04, S.A.P. 62-601-05



NOTE:
SEE SHEET 5 FOR SECTION A-A

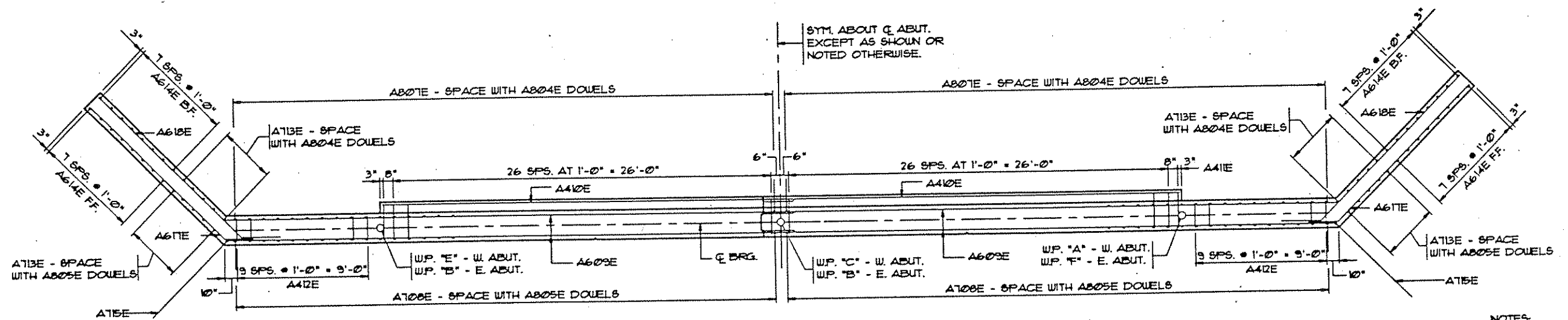
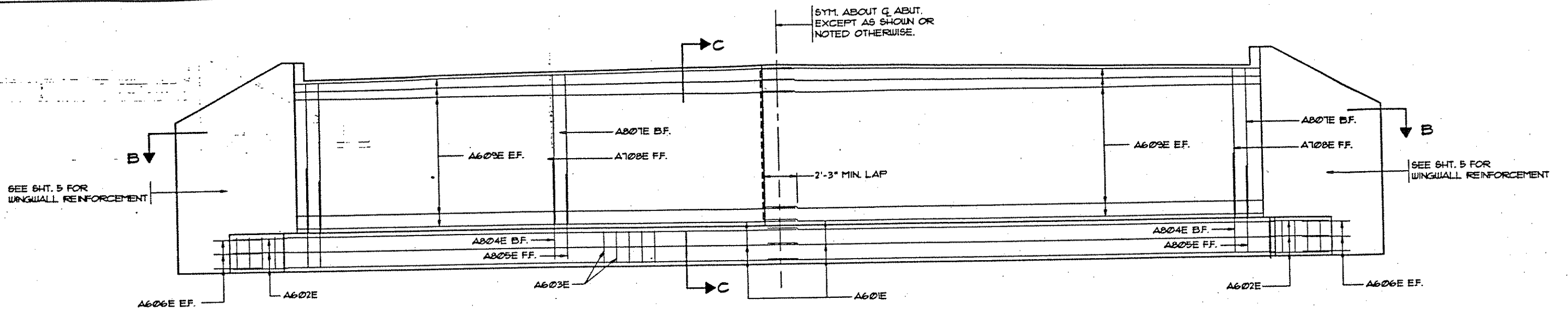


S.A.P. 02-632-04, S.A.P. 62-601-05

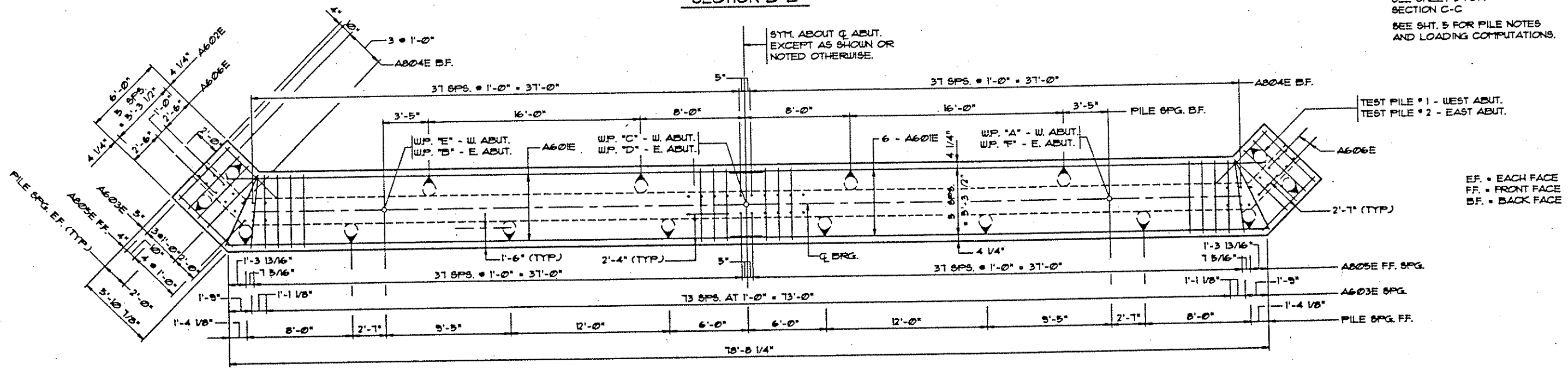


ABUTMENT DETAILS

| | | | |
|--------------------------|----------|-------------------|---------------------|
| DES: MKM | DRW: DJV | APPROVED: 4-28-92 | BRIDGE NO. 02558 |
| CHK: X | CHK: MKM | | |
| SHEET NO. 3 OF 13 SHEETS | | | |



NOTES:
SEE SHEET 5 FOR SECTION C-C
SEE SHT. 5 FOR PILE NOTES AND LOADING COMPUTATIONS.



EF. = EACH FACE
FF. = FRONT FACE
BF. = BACK FACE

SAP. 02-632-04, SAP. 62-601-05

| | | | | |
|-------------------------------|----------|----------|--------------------------|------------|
| | DES: MKM | DRW: DJV | APPROVED: | BRIDGE NO. |
| | CHK: X | CHK: MKM | 4-28-92 | |
| ABUTMENT REINFORCEMENT | | | SHEET NO. 4 OF 13 SHEETS | |

BILL OF REINFORCEMENTS - ABUTMENTS

| MARK | NO. | LENGTH | SHAPE | LOCATION |
|-------|-----|---------|-------|------------------------|
| A601E | 56 | 40'-6" | STR | FOOTING - LONGIT. |
| A602E | 56 | 5'-9" | STR | FOOTING - LONGIT. |
| A603E | 112 | 11'-1" | BENT | FOOTING - TIES |
| A804E | 112 | 10'-2" | BENT | FOOTING - DOUELS |
| A805E | 116 | 8'-11" | BENT | FOOTING - DOUELS |
| A606E | 24 | 5'-0" | STR | FOOTING - WING DOUELS |
| A807E | 52 | 13'-9" | BENT | STEM - VERTICAL |
| A108E | 52 | 12'-9" | STR | STEM - VERTICAL |
| A609E | 104 | 39'-6" | STR | STEM - HORIZONTAL |
| A410E | 8 | 28'-3" | STR | PAVING BRKT. - LONGIT. |
| A411E | 112 | 6'-9" | BENT | PAVING BRKT. - TIES |
| A412E | 40 | 2'-8" | BENT | BR SEAT - TIES |
| A113E | 40 | (1) | STR | WINGWALL - VERT. |
| A614E | 64 | (2) | STR | WINGWALL - VERT. |
| A115E | 4 | 12'-11" | STR | WINGWALL - VERT. |
| A616E | 24 | 7'-8" | STR | WINGWALL - HORIZONTAL |
| A617E | 36 | 15'-0" | BENT | WINGWALL - HORIZONTAL |
| A618E | 36 | 15'-0" | BENT | WINGWALL - HORIZONTAL |
| A619E | 4 | 13'-0" | BENT | WINGWALL - HORIZONTAL |
| A620E | 4 | 13'-8" | BENT | WINGWALL - HORIZONTAL |
| A521E | 4 | 10'-4" | BENT | WINGWALL - HORIZONTAL |
| A522E | 4 | 11'-0" | BENT | WINGWALL - HORIZONTAL |
| A523E | 4 | 8'-9" | BENT | WINGWALL - HORIZONTAL |
| A524E | 4 | 9'-6" | BENT | WINGWALL - HORIZONTAL |
| A525E | 4 | 7'-1" | BENT | WINGWALL - HORIZONTAL |
| A526E | 4 | 8'-0" | BENT | WINGWALL - HORIZONTAL |
| A527E | 4 | 3'-10" | BENT | WINGWALL - HORIZONTAL |
| A528E | 4 | 4'-8" | BENT | WINGWALL - HORIZONTAL |
| A429E | 4 | 4'-10" | BENT | WINGWALL - HORIZONTAL |
| A630E | 8 | 13'-4" | BENT | WINGWALL - HORIZONTAL |

- ① 8 SER OF 5 BARS (11'-6" TO 12'-11")
- ② 8 SER OF 8 BARS (11'-5" TO 14'-0")

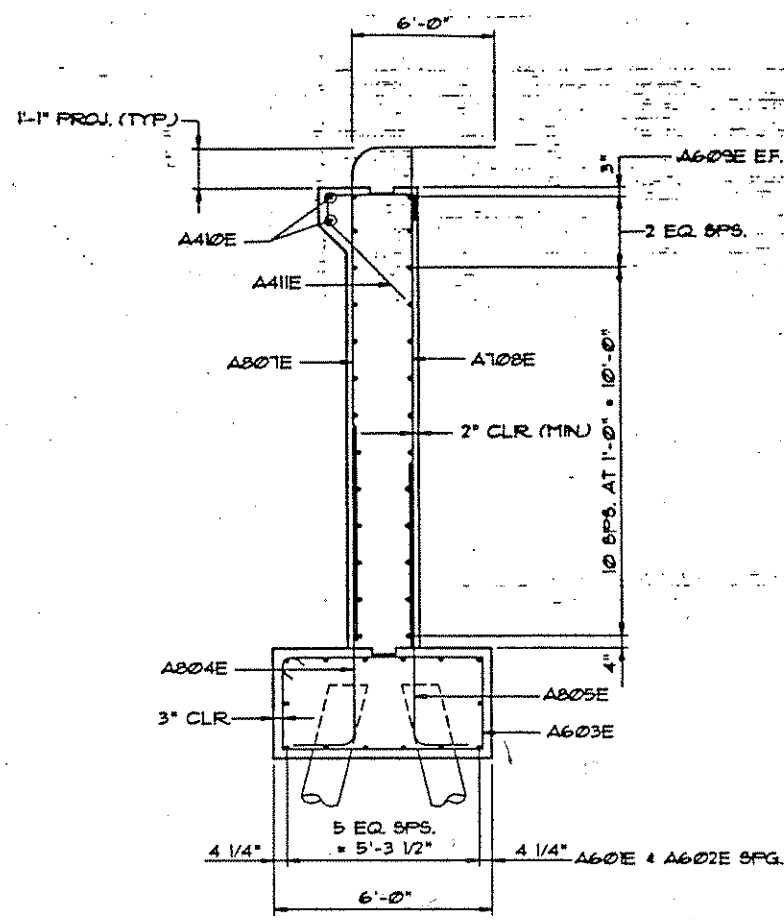
SUMMARY OF QUANTITIES - BOTH ABUTMENTS

| ITEM | UNIT | QUANTITY |
|---|----------|----------|
| STRUCTURE CONCRETE (1A43) | CU. YD. | 15 |
| STRUCTURE CONCRETE (3Y43) | CU. YD. | 118 |
| REINFORCEMENT BARS (EPOXY COATED) | LB. | 40670 |
| 3-PLY JOINT WATERPROOFING | LIN. FT. | 60 |
| C.I.P. CONCRETE TEST PILE 60 FT. LONG (12" DIA) | EACH | 2 |
| C.I.P. CONCRETE PILING DELIVERED (12" DIA) | LIN. FT. | 500 |
| C.I.P. CONCRETE PILING DRIVEN (12" DIA) | LIN. FT. | 500 |
| STRUCTURE EXCAVATION | LUMP SUM | 1 |
| BENCHMARK | EACH | 1 |

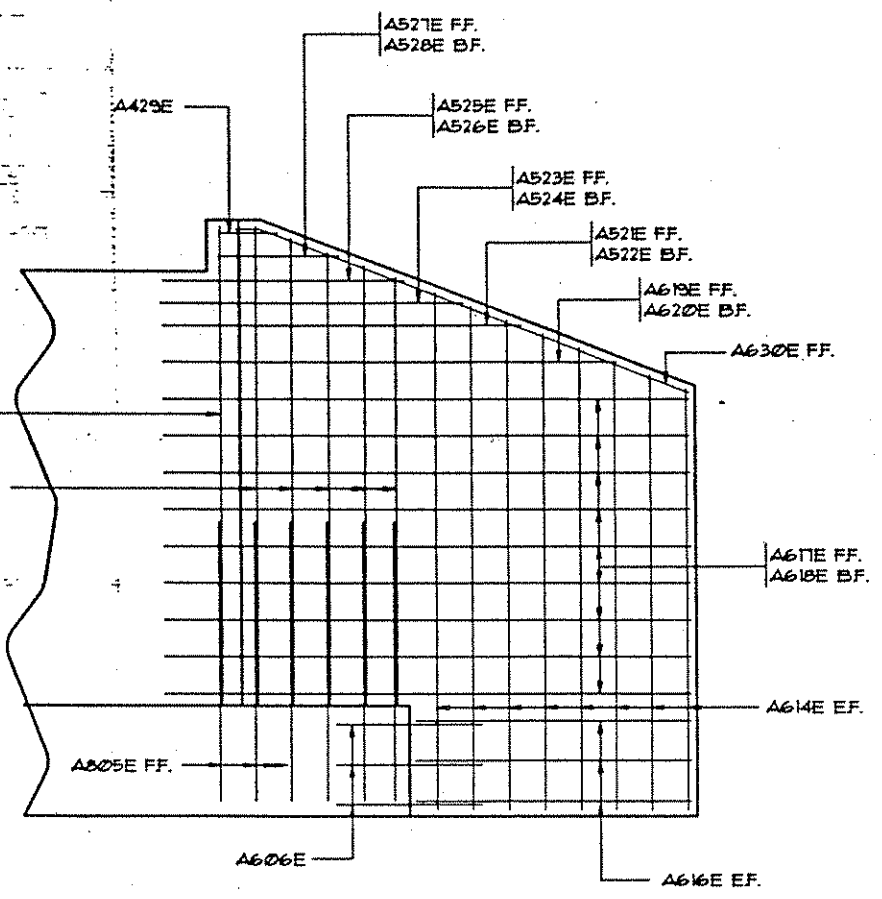
- ① COMPUTED QUANTITY = 581 CU. YD. FOR INFORMATIONAL PURPOSES ONLY. SEE SPECIAL PROVISIONS.
- ② SEE SPECIAL PROVISIONS.
- ③ TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS.
- ④ STATE WILL FURNISH DISK. PAYMENT FOR PLACING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS. SEE STANDARD PLATE NO. 9301B FOR PLACING OF DISK IN CONCRETE.

COMPUTED PILE LOAD (TONS PER PILE)

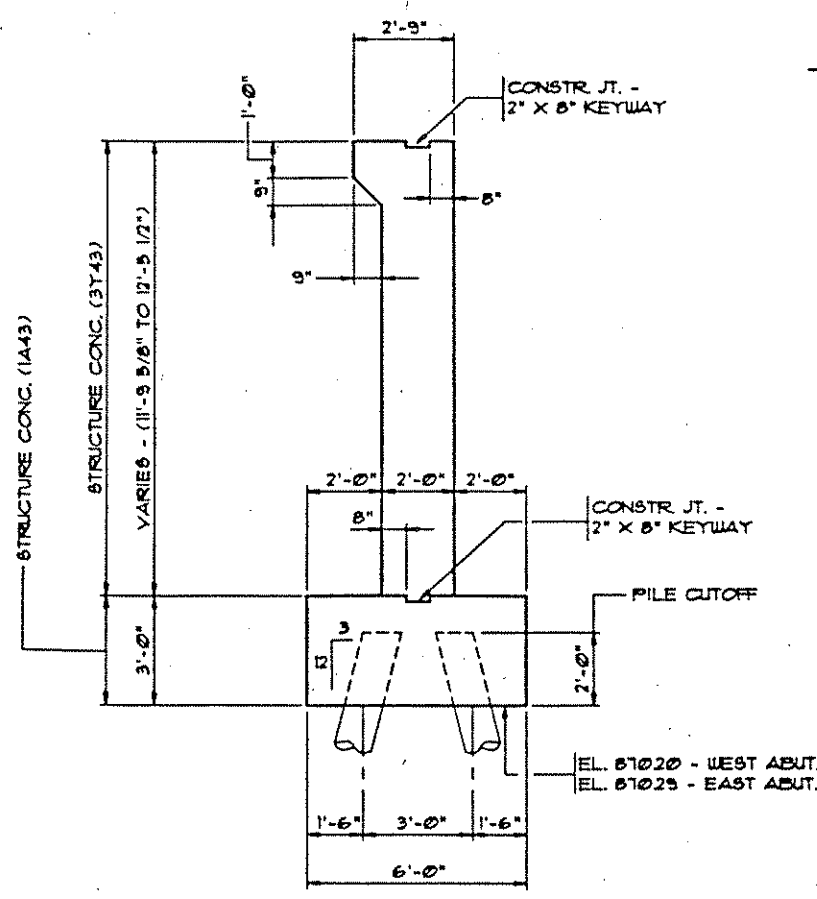
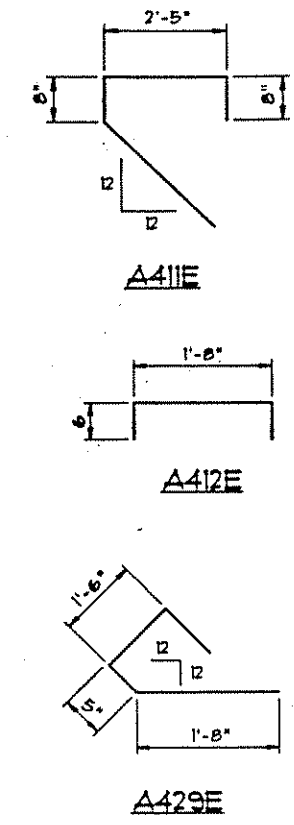
| LOCATION | DEAD LOAD + EARTH PRESSURE | LIVE LOAD | TOTAL |
|-----------|----------------------------|-----------|-------|
| ABUTMENTS | 12.7 | 43 | 55.7 |



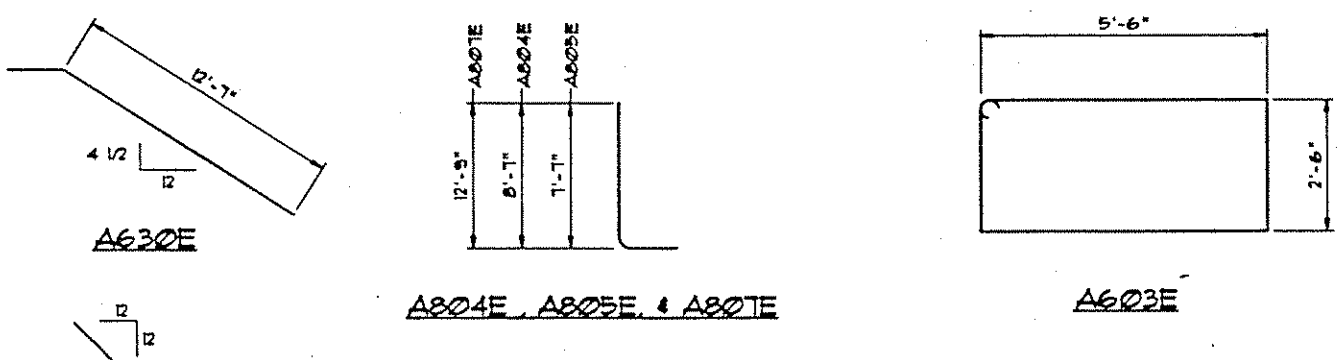
SECTION C-C



TYPICAL WINGWALL REINFORCEMENT



SECTION A-A



| | |
|--------|-------|
| 13'-0" | A617E |
| 13'-8" | A618E |
| 11'-0" | A619E |
| 11'-8" | A620E |
| 8'-4" | A521E |
| 9'-0" | A522E |
| 6'-9" | A523E |
| 7'-6" | A524E |
| 5'-1" | A525E |
| 6'-0" | A526E |
| 3'-4" | A527E |
| 4'-2" | A528E |

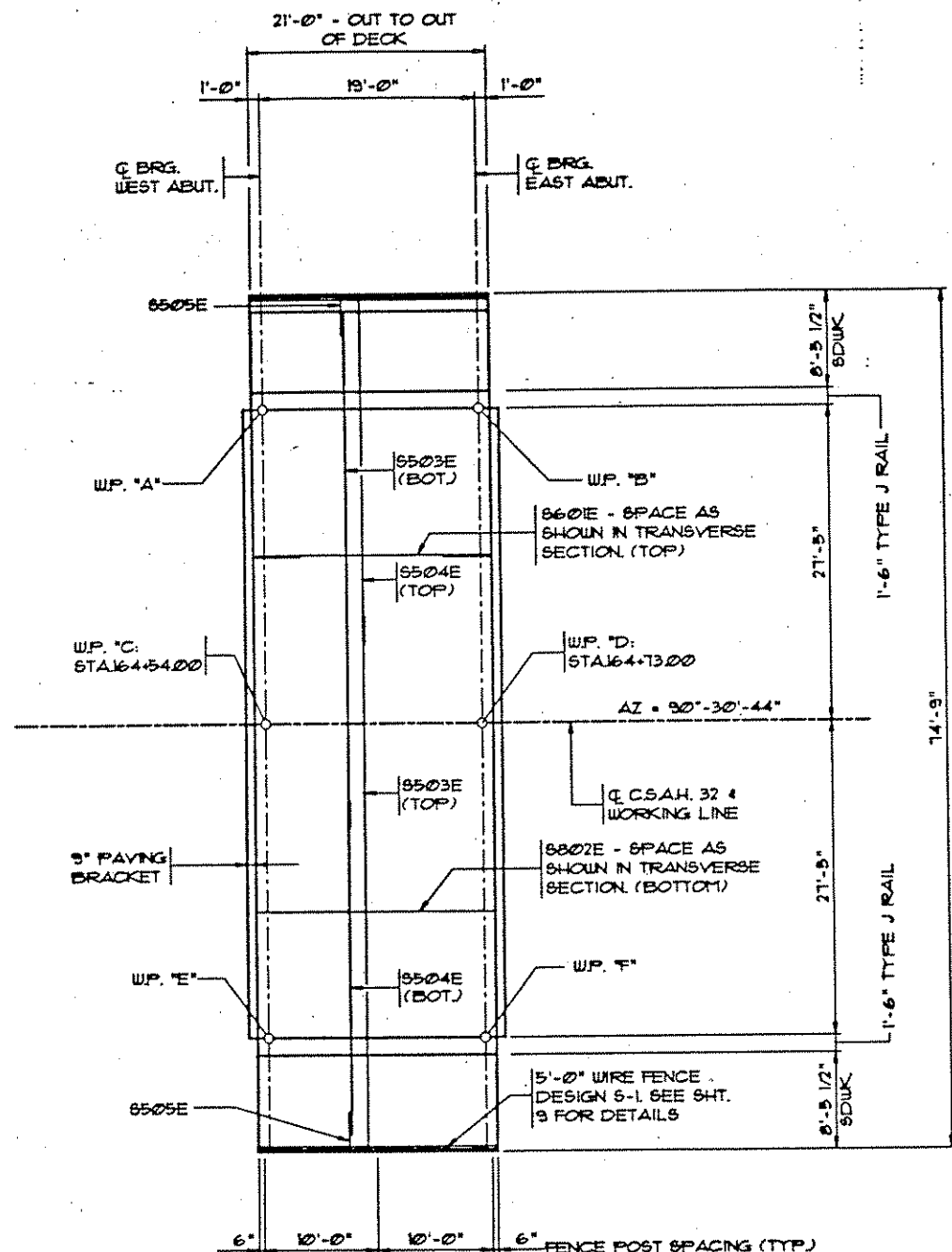
A617E - A620E & A521E - A528E

REQUIRED PILES BOTH ABUTMENTS
 2 - CAST-IN-PLACE CONCRETE TEST PILES 60 FT. LONG.
 30 - CAST-IN-PLACE CONCRETE PILES, EST. LENGTH 50 FT.
 32 - CAST-IN-PLACE CONCRETE PILES REQUIRED FOR 2 ABUTMENTS

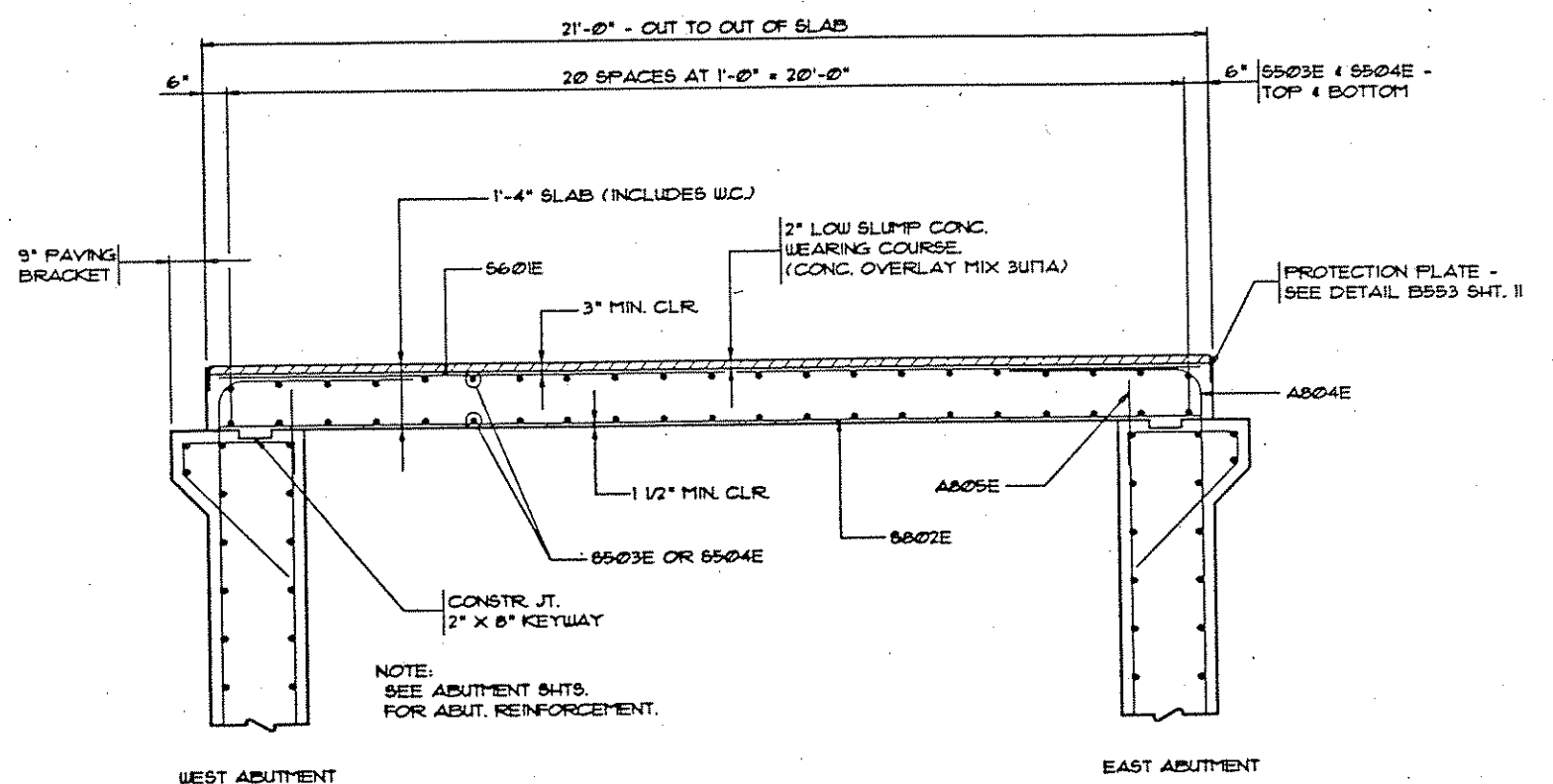
- PILE NOTES :**
- 1) PILE SPACING SHOWN IS AT BOTTOM OF FOOTING.
 - 2) PILES MARKED THUS ⊕ MUST BE BATTERED 3" PER FOOT IN DIRECTION SHOWN.
 - 3) ALL PILES TO BE CAST-IN-PLACE CONCRETE PILES.
 - 4) PILES ARE TO HAVE A NOMINAL DIAMETER OF 12".
 - 5) FOR PILE SPLICE SEE SHEET NO. 10



ABUTMENT REINFORCEMENT



DECK PLAN



LONGITUDINAL SECTION THRU SLAB

NOTE:
SEE ABUTMENT SHTS.
FOR ABUT. REINFORCEMENT.

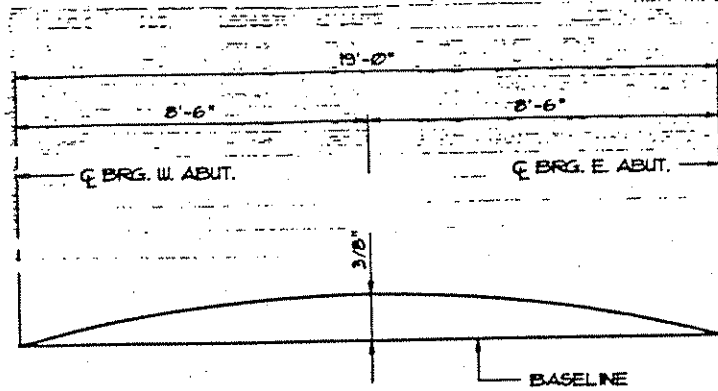
S.A.P. 02-632-04, S.A.P. 62-601-05



**SUPERSTRUCTURE
DETAILS & REINF.**

| | | |
|--------------------------|----------|-------------------|
| DES: MKM | DRW: DJV | APPROVED: 4-28-92 |
| CHK: X | CHK: MKM | |
| SHEET NO. 6 OF 13 SHEETS | | |

**BRIDGE NO.
02558**



CAMBER DIAGRAM

BASELINE IS PROFILE GRADE.
THE CAMBER DIAGRAM SHOWS THE
CAMBER REQUIRED FOR THE ANTICIPATED
ULTIMATE DEAD LOAD DEFLECTION. THESE
FIGURES DO NOT INCLUDE ANY ALLOWANCE
FOR SETTLEMENT OF FORMS.

④①

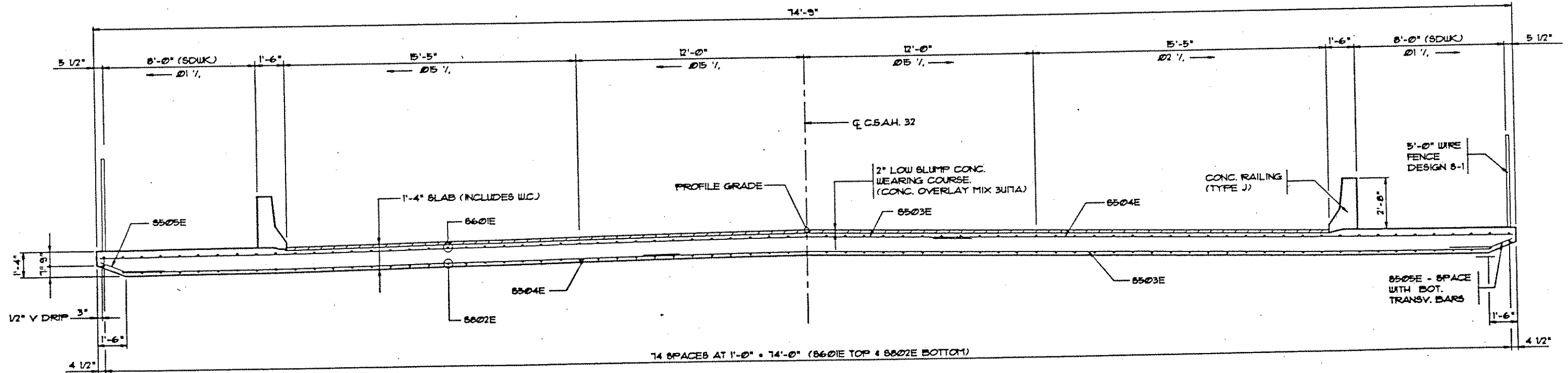
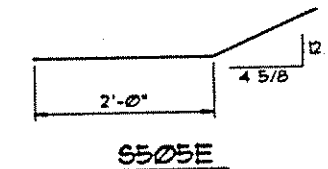
SUMMARY OF QUANTITIES

| ITEM | UNIT | QUANTITY |
|------------------------------------|----------|----------|
| BRIDGE SLAB CONCRETE (3Y36) | SQ. FT. | 570 |
| TYPE J RAILING CONCRETE (3Y46) | LIN. FT. | 42 |
| REINFORCEMENT BARS (EPOXY COATED) | LB. | 11,030 |
| CONCRETE OVERLAY TYPE SPECIAL | SQ. FT. | 152 |
| BRIDGE NAMEPLATE (SEE DETAIL B101) | EACH | 1 |
| WIRE FENCE DESIGN 6-1 | LIN. FT. | 42 |
| STRUCTURAL STEEL (3306) | LB. | 90 |

- ① APPROX. VOLUME OF BRIDGE SLAB CONCRETE (3Y36) = 68 CU. YDS.
APPROX. VOLUME OF TYPE J RAIL CONC. (3Y46) = 5 CU. YD.
APPROX. VOLUME OF 2" LOW SLUMP WEARING COURSE = 8 CU. YDS.
- ② SEE SPECIAL PROVISIONS.
- ③ INCLUDED IN PRICE BID FOR OTHER ITEMS.
- ④ INCLUDES RAILING QUANTITIES.
- ⑤ INCLUDES WEIGHT OF PROTECTION PLATE, SEE DETAIL B553

BILL OF REINFORCEMENT - SUPERSTRUCTURE

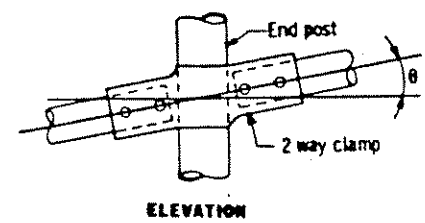
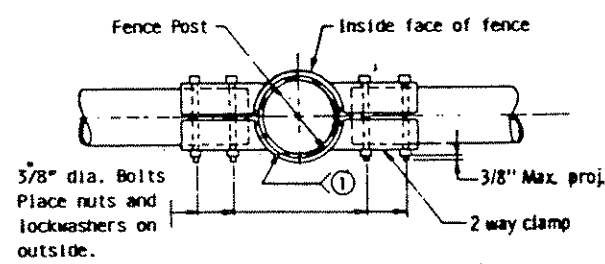
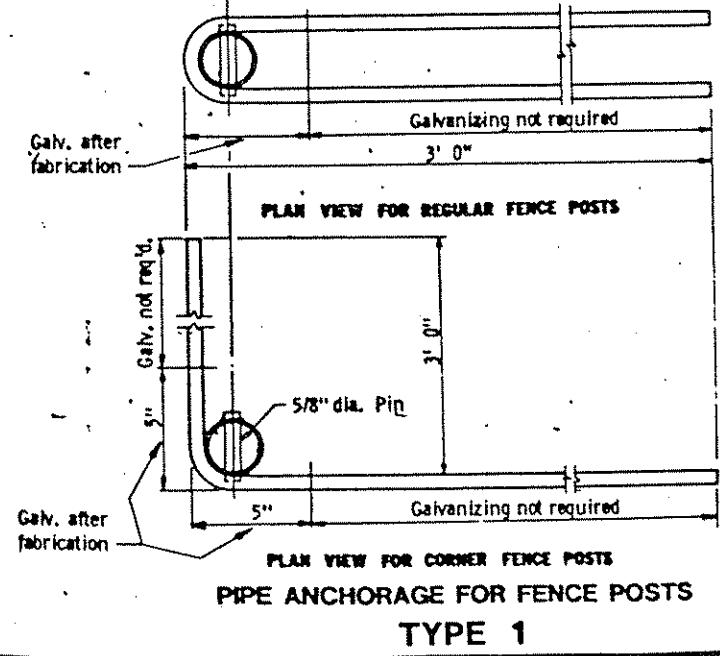
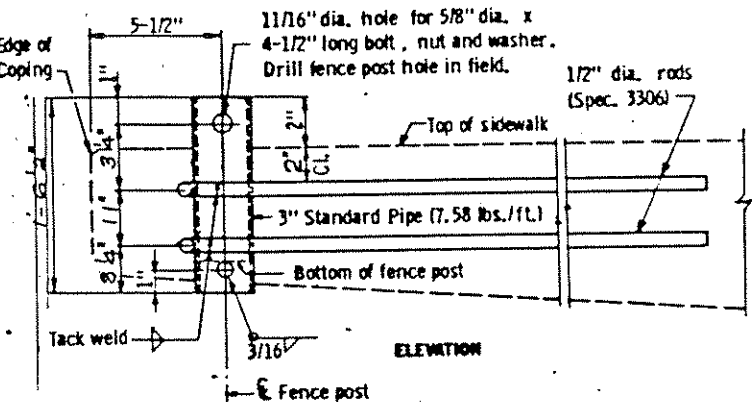
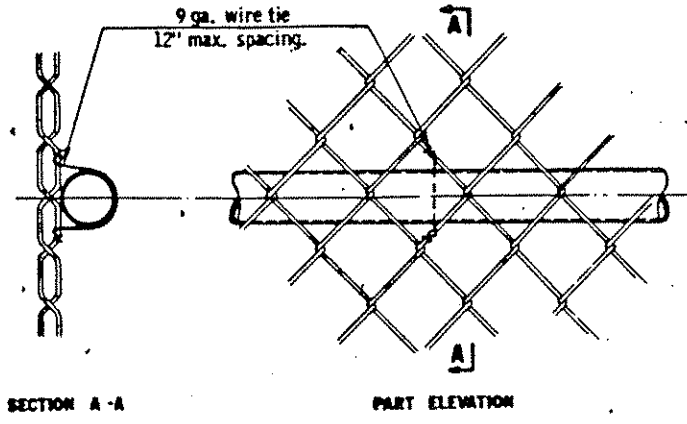
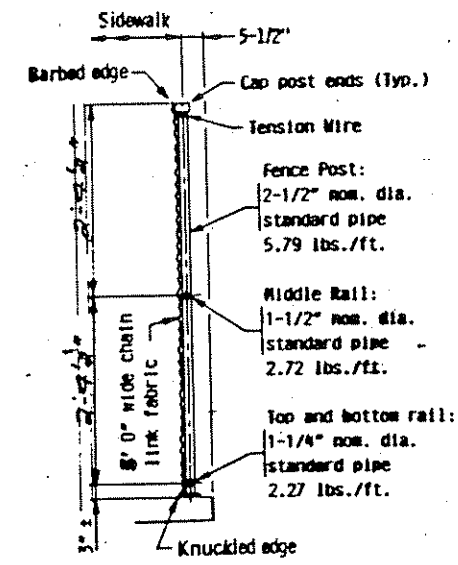
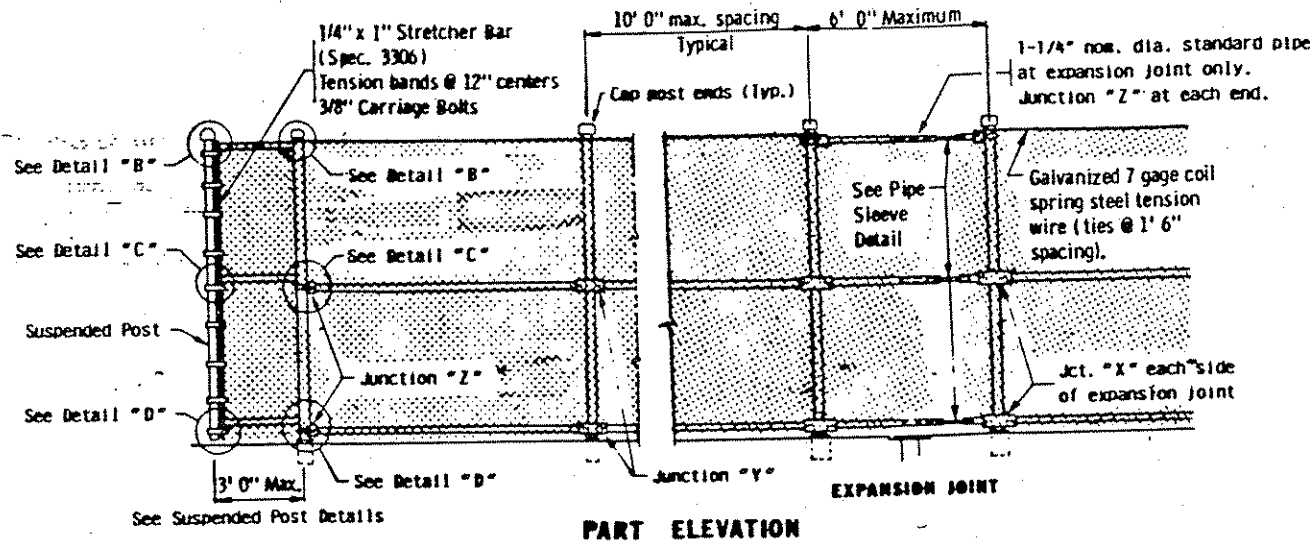
| MARK | NO. | LENGTH | SHAPE | LOCATION |
|-------|-----|--------|-------|--------------------------------|
| S602E | 75 | 20'-6" | 8TR | SLAB - TOP LONGIT. |
| S602E | 75 | 20'-6" | 8TR | SLAB - BOTTOM LONGIT. |
| S503E | 42 | 45'-0" | 8TR | SLAB - TOP & BOTTOM TRANSVERSE |
| S504E | 42 | 32'-0" | 8TR | SLAB - TOP & BOTTOM TRANSVERSE |
| S505E | 42 | 3'-10" | BENT | SLAB - BOTTOM TRANSVERSE |



TRANSVERSE SECTION THRU DECK

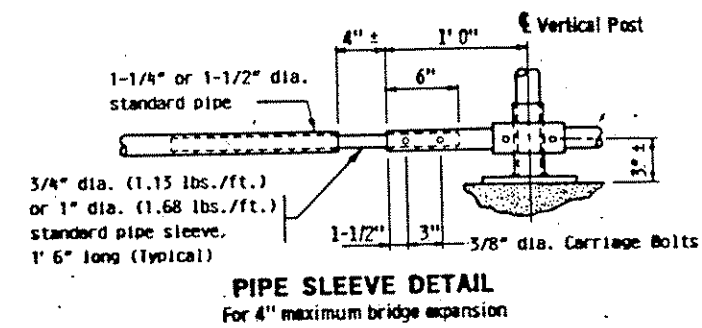
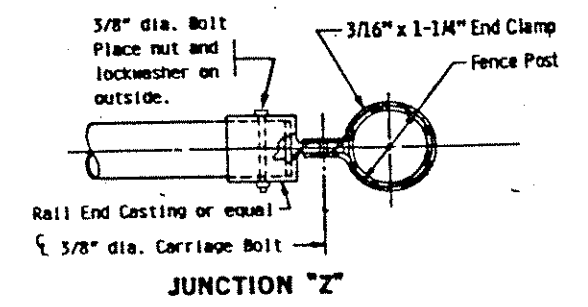
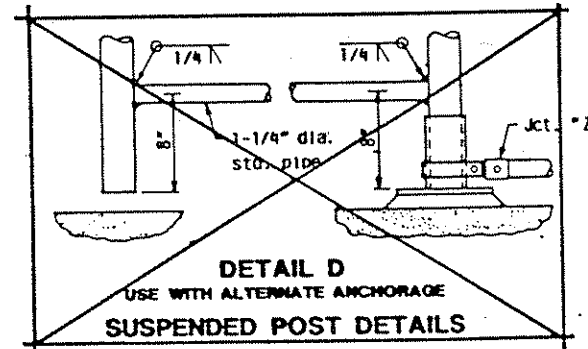
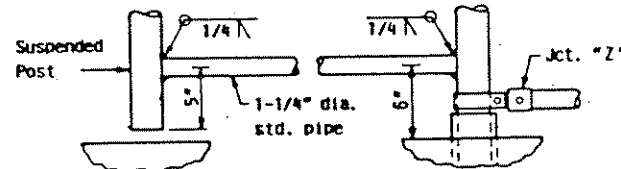
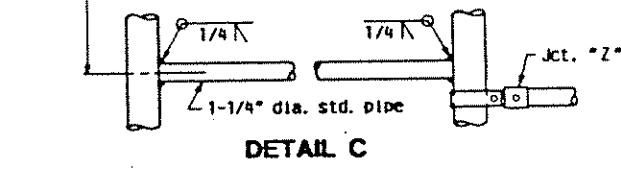
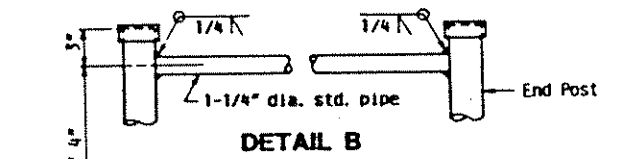
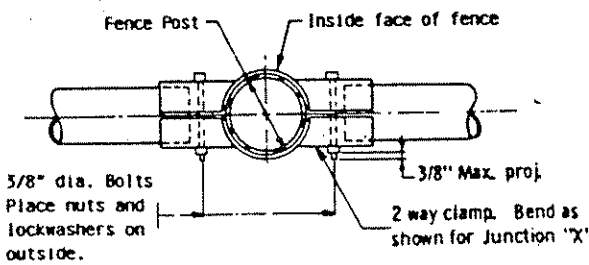
S.A.P. 62-632-04, S.A.P. 62-601-05

| | | | | |
|---------------------------------|----------|----------|--------------------------|------------|
| | DES: MKM | DRW: DJV | APPROVED: | BRIDGE NO. |
| | CHK: X | CHK: MKM | 4-28-92 | |
| SUPERSTRUCTURE DETAILS & REINF. | | | SHEET NO. 7 OF 13 SHEETS | |



2-WAY CLAMP BENDING TABLE

| GRADE OF FENCE | θ |
|----------------|----|
| 0° to 2° | 0° |
| 2° to 6° | 4° |
| 6° to 10° | 8° |



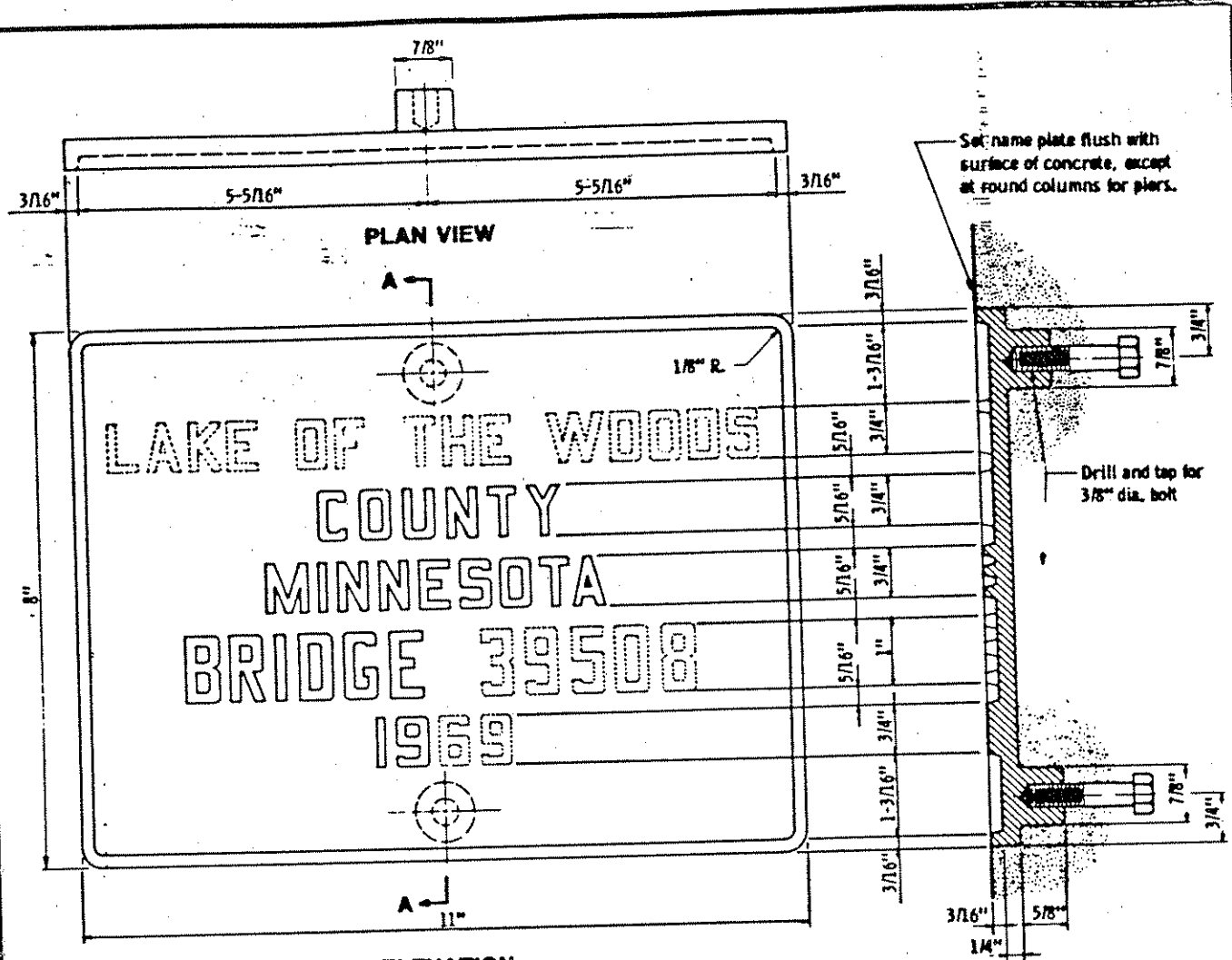
GENERAL NOTES:

- For post spacing, location, type of anchorages & other details, see sheet no. 6
- Maximum spacing for 2-1/2" standard pipe posts = 10' 0". Post spacings of 10' 0" are desired for efficient use of standard pipe lengths.
- Fence posts and anchorages shall be set vertical, unless otherwise noted.
- See special provisions for requirements not included on this sheet and for basis of payment.
- All posts shall have a means to securely hold the top tension wire in position and allow for the removal and replacement of a post without damaging the top wire.
- Wire ties may be 9 gage galvanized steel or 0.179" minimum aluminum alloy conforming to ASTM B211, Alloy 1100-H18. Use 12-1/2 gage galvanized hog rings for tension wire ties.
- ℄ of fence post anchorage to be a minimum of 6" from joints.

(MODIFIED)

| | | | | |
|-----------------|--|--------------------------|--|------------------|
| REVISED: | | APPROVED: Nov. 26, 1985 | | FIG. 5-397.205 |
| DES: DR: D.J.V. | | APPROVED: 4-28-92 | | Bridge No. 02558 |
| CRK: CMK: MKM | | Sheet No. 9 of 13 Sheets | | |

TITLE: 5 FT. WIRE FENCE FOR PEDESTRIAN WALKS (USE WITH TYPE J RAILING)



ELEVATION

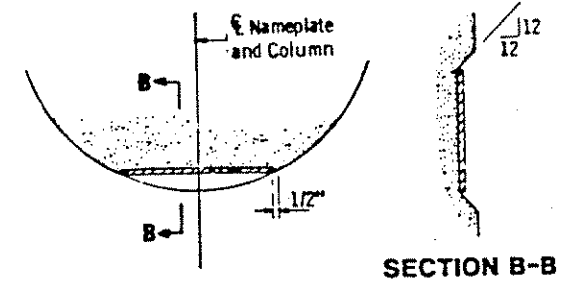
The dotted letters & numbers shown above are for illustration. Data to be shown on name plate is as follows:

COUNTY ANOKA
 BRIDGE 02558
 YEAR 1969

1234567890

ABCDEFGHIJKLMNOPQRSTUVWXYZ

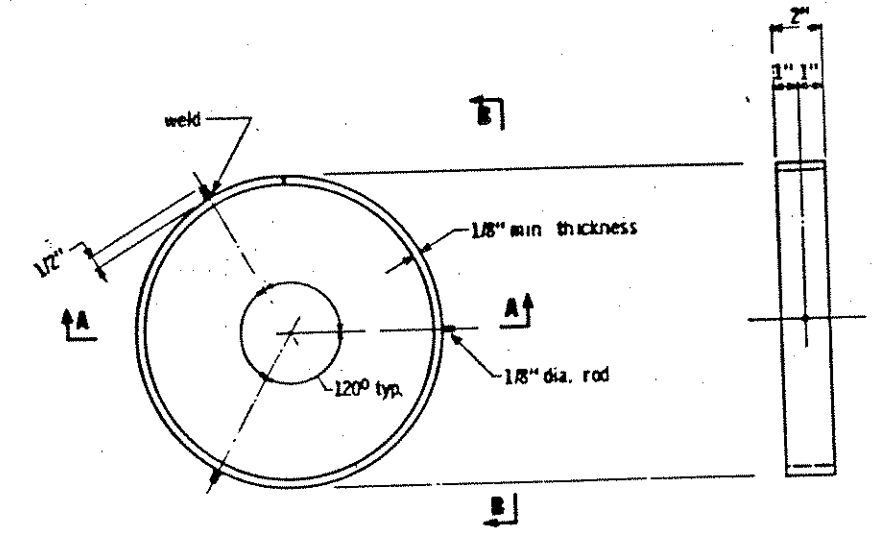
LETTERS & NUMBERS FOR NAMEPLATES



NAMEPLATE PLACEMENT
(Round Concrete Pier Columns)

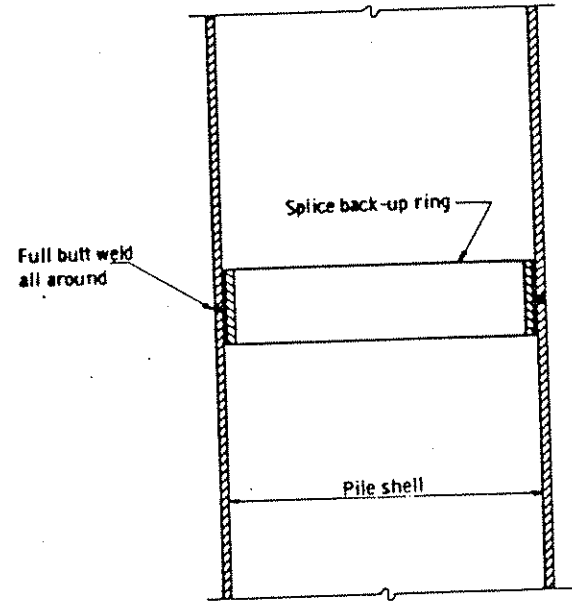
NOTES:

No shop drawing required.
 Material shall comply with Spec. 3327
 Letters and numbers shall conform to those shown.
 Draft on letters and numbers shall not be more than 3" in 12".
 Horizontal spacing of letters and numbers shall produce a balanced layout in proportion to spacing shown.
 Top surface of letters, numbers and frames shall be burnished.
 Furnish 2 steel bolts 3/8" dia. x 3" long with each plate.
 All dimensions for 3/4" high letters and numbers shall be in direct proportion to those shown for the 1" high letters and numbers.



PLAN VIEW
(Pile not shown)

SECTION B-B
(Pile not shown)



SECTION A-A

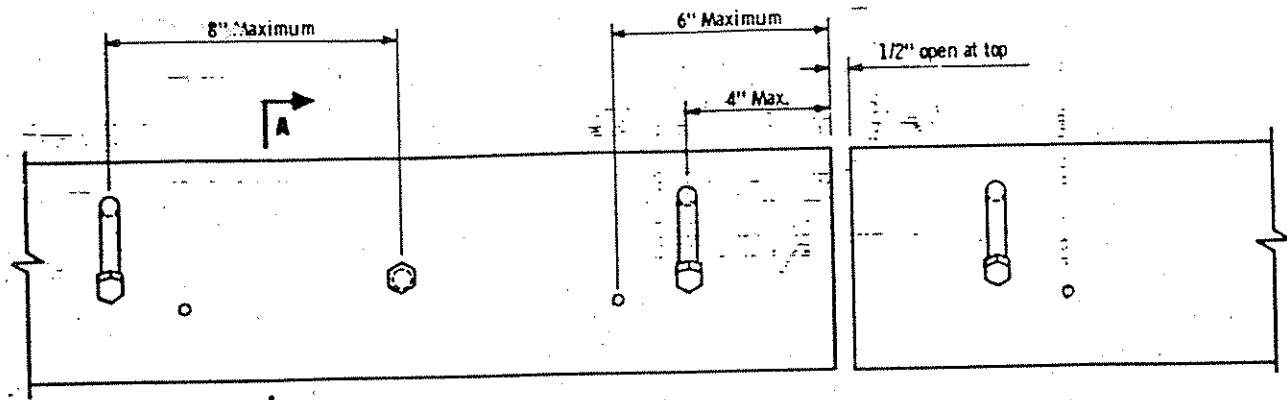
NOTES:

Approved commercial pile splice back-up ring may be used in lieu of the type detailed. Back-up ring shall have a tight fit.
 Welding electrodes shall be A. W. S. Type E7016 or E7018 (low-hydrogen).
 Low-hydrogen electrodes shall be supplied in hermetically (air-tight) sealed containers.
 Low-hydrogen electrodes shall be stored in holding ovens at a temperature of not less than 250° F.
 Low-hydrogen electrodes shall be placed in a holding oven for at least 8 hours, after having been exposed to the atmosphere for more than 2 hours.
 Electrodes which have become wet, soiled or damaged shall not be used.
 Welding shall not be done when the ambient temperature is lower than 0° F. or when the pile is wet or exposed to falling rain or snow. When the pile metal temperature is below 32° F., the pile metal in the area of the weld shall be heated to a minimum temperature of 70° F. and maintained at this temperature during welding.

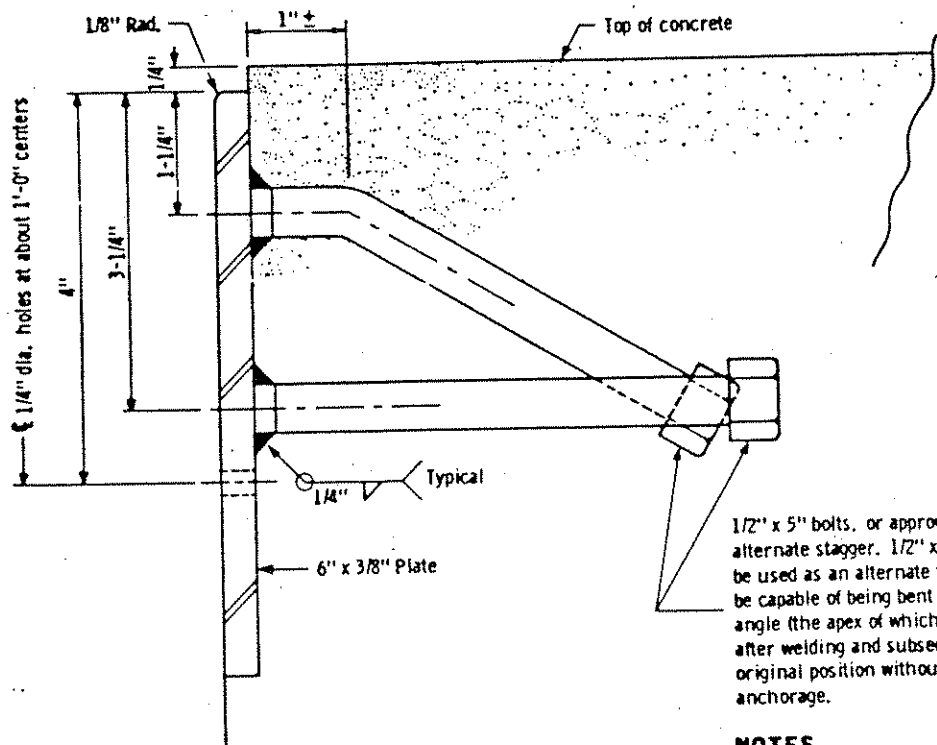
| | | | |
|-----------------------|---|----------|---------------------------|
| APPROVED: May 1, 1985 | STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION BRIDGE NAMEPLATE COUNTY BRIDGES | REVISION | DETAIL NO. B103 |
|-----------------------|---|----------|---------------------------|

| | | |
|---|---|---------------------------|
| APPROVED July 21, 1972 <i>Stephen A. Duff</i> Engineering Standards Engineer RESEARCH AND STANDARDS DIVISION | STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION PILE SPICE CAST-IN-PLACE CONCRETE PILES | DETAIL NO. B201 |
|---|---|---------------------------|

| | | | |
|-------------------------|--|--------------------------|----------------------------|
| TITLE DETAILS | REL. BY: <u>D.W.V.</u> CHK. <u>M.R.M.</u> | APPROVED: <u>4-28-92</u> | Bridge No. 02558 |
| | Sheet No. <u>10</u> of <u>13</u> Sheets | | |



ELEVATION
(Concrete not shown)



SECTION A-A

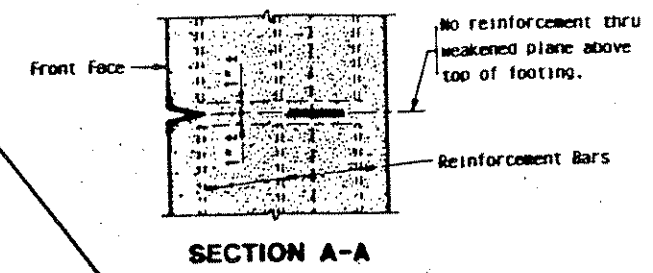
1/2" x 5" bolts, or approved equal, at 8" centers with alternate stagger. 1/2" x 5" stud welded fasteners may be used as an alternate for bolts. The anchorage shall be capable of being bent cold by hammering thru a 30° angle (the apex of which shall be at the fusion point) after welding and subsequently straightened to its original position without fracture of the weld or anchorage.

NOTES
Plate shall extend full width of roadway between gutter lines with a 1/2" open joint at each break in crown profile. Maximum length 22 feet.

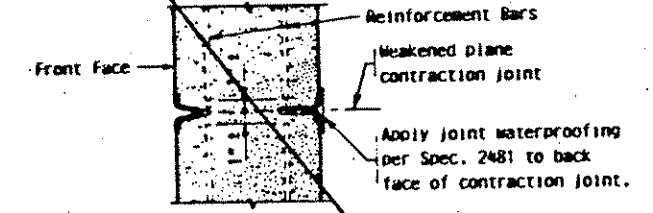
Materials: Structural steel per spec. 3306. Galvanize after fabrication per spec. 3394

Set plate to proper grade and crown. Plates shall be straightened to a tolerance of 1/16" in 10 feet after galvanizing.

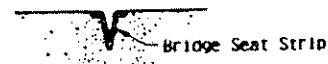
| | | |
|---|--|---------------------------|
| APPROVED <u>Sept. 28, 1977</u> | STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION | DETAIL NO. B553 |
| Developed by: BRIDGE STANDARDS AND THE BRIDGES & STRUCTURES SECTION | PROTECTION PLATE FOR END OF SLAB | |
| Issued by: RESEARCH & STANDARDS | | |



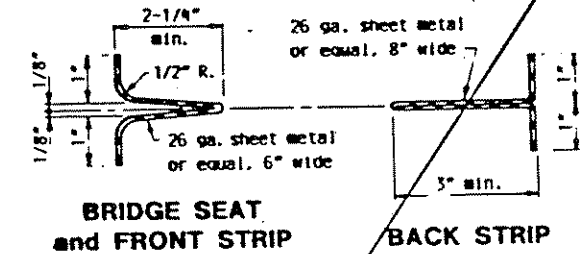
SECTION A-A



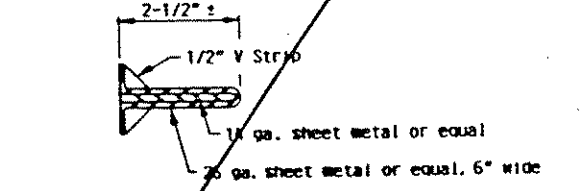
SECTION B-B



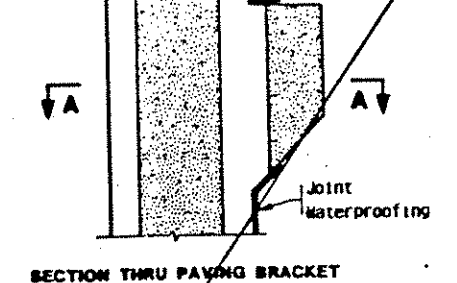
SECTION C-C



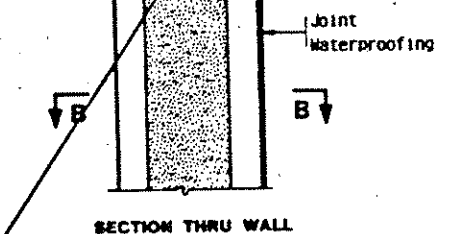
BRIDGE SEAT and FRONT STRIP BACK STRIP



ALTERNATE BRIDGE SEAT and FRONT STRIP

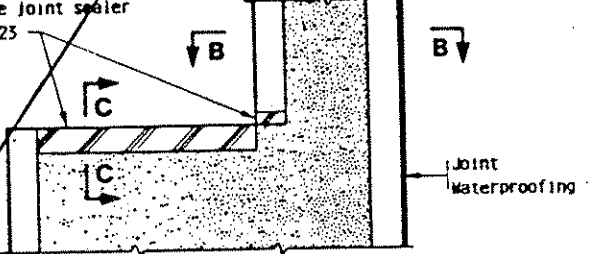


SECTION THRU PAVING BRACKET



SECTION THRU WALL

Seal across bridge seat and 1" up face of abutment with concrete joint sealer per Spec. 5725



SECTION THRU BRIDGE SEAT

PART SECTION THRU ABUTMENT AT JOINT

NOTES:
The methods and materials indicated on this sheet shall be considered as suggested only. Variations will be permitted, subject to approval by the Engineer, but must provide dummy joints of a depth not less than the depth shown, and a width at the front face of the abutment of not greater than 5/16". The separation of the horizontal reinforcement bars shall be not less than 1-1/2" nor more than 3", centered as shown, regardless of the procedure used for forming the dummy joint.

If the front and bridge seat strips are galvanized metal, they shall be securely fastened to the forms so that they will be removed with the forms. If a suitable plastic or other durable material, satisfactory to the Engineer, is used, the material may be left in place.

The back strip may be galvanized metal, a suitable plastic, or other durable material satisfactory to the Engineer. The back strip shall remain in place after the forms are removed.

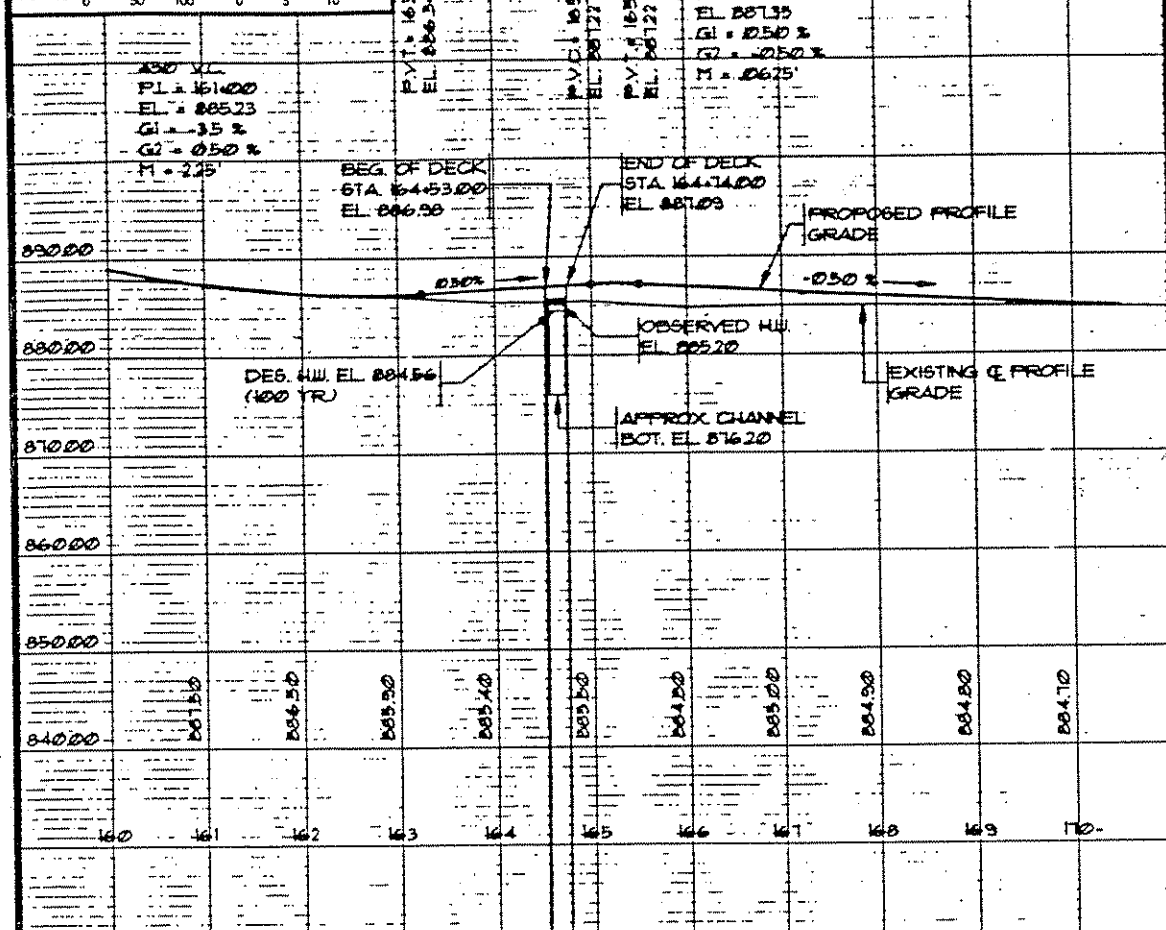
The cost of forming the joint shall be included in the price bid for other items.

| | | | |
|--|--|----------|---------------------------|
| APPROVED: February 20, 1987 | STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION | REVISION | DETAIL NO. B801 |
| Developed by: ENGINEERING STANDARDS and BRIDGES & STRUCTURES | CONTRACTION JOINT | | |
| Issued by: ENGINEERING STANDARDS | | | |

| | | | |
|-----------------------|---|--------------------------|-------------------------|
| TITLE: DETAILS | DES: D.J.V. | APPROVED: 4-28-92 | Bridge No. 02558 |
| | CHK: M.K.M. | | |
| | Sheet No. 11 of 13 Sheets | | |

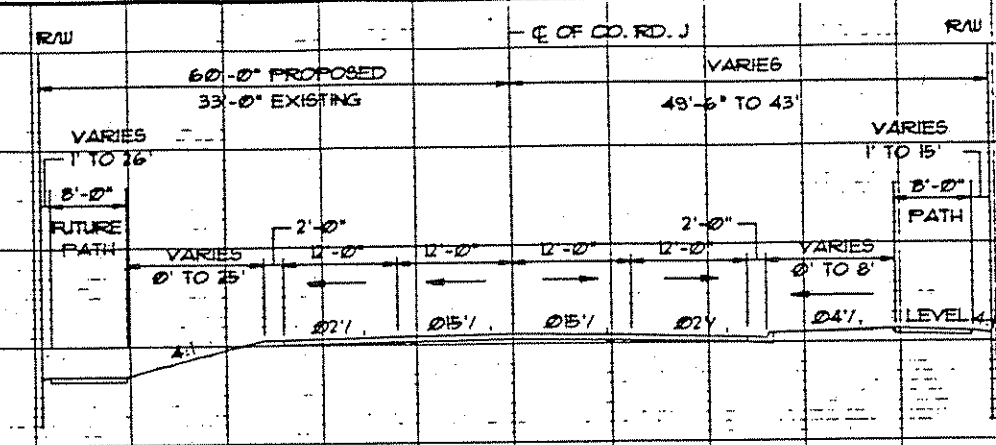
CONTRACTED PROFILE

SCALE: HOR. 1" = 50' VER. 1" = 10'

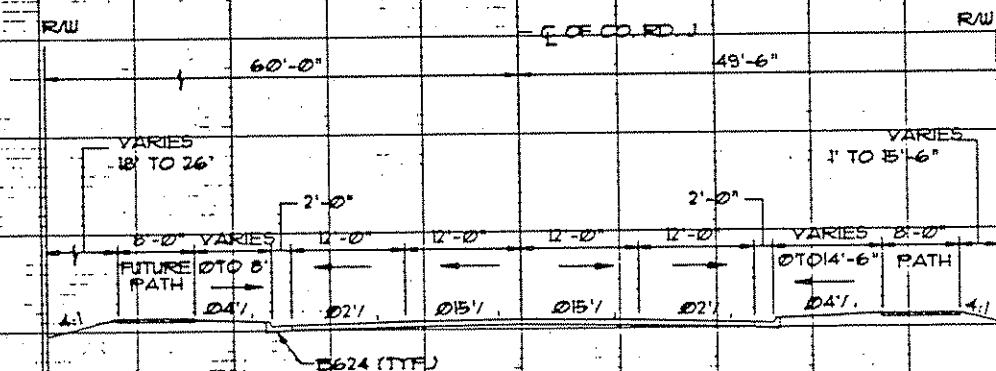


TYPICAL SECTION & PERTINENT DATA

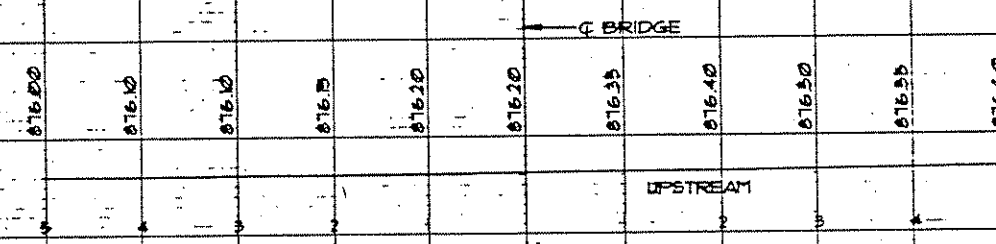
SCALES AS SHOWN



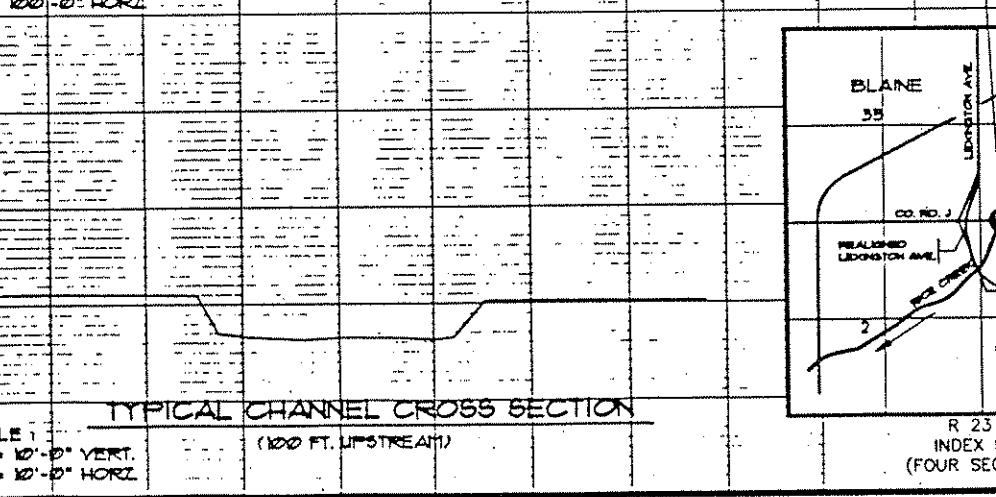
TYPICAL PROPOSED ROADWAY SECTION APPROACHING BRIDGE



TYPICAL PROPOSED ROADWAY SECTION LEAVING BRIDGE



CHANNEL BOTTOM PROFILE



TYPICAL CHANNEL CROSS SECTION (100 FT. UPSTREAM)

[Fed. Proj. No.]

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

- Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating.
- Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway): Given location, type, length, height above high water, cross-sectional area etc.
- Apparent highwater elevation. Obtained from _____
- Other data: Approx. velocity of water at time of survey _____

HYDRAULIC ENGINEERS RECOMMENDATION
DATE 7-24-91

Stream or ditch designation: RICE CREEK
Drainage area: 146 SQ. MILES
Max. flood on record: UNKN. Design flood (100 yr. freq.): 805 C.F.S.
Max. observed highwater elev: 885.20 Design highwater elev.: 884.56
Design mean velocity through structure: 5.16 F.P.S.
Low superstructure at or above elev.: 885.25
Flowline elev.: 876.20 Skew angle: NONE
Waterway area req'd below elev. $\frac{1}{2}$ = 134 Sq. Ft. at Rt. angles to channel
* WATERWAY AREA RESTRICTED TO MATCH EXISTING CONDITION

In the interest of flood plain zoning the regional flood (500 yr. freq.) is $\frac{1}{2}$ C.F.S. at stage $\frac{1}{2}$ and mean of velocity of $\frac{1}{2}$ F.P.S. with $\frac{1}{2}$ Ft. swellhead $\frac{1}{2}$

The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEERS RECOMMENDATION
DATE 7/27/90

REPORT NO. 4220-90-934 (TWIN CITY TESTING)

Bridge survey sheets made from: BRU FIELD SURVEY NOTES

Bench mark elevation: 885.10 (M.S.L. 1929 Ad.)
Location: BRASS DISK IN S.E. COR. WINGWALL ON EXISTING BR. NO. 92723 OVER RICE CREEK

MINNESOTA DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

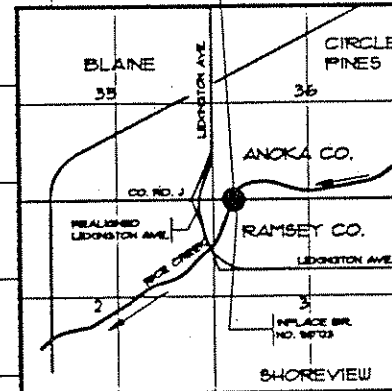
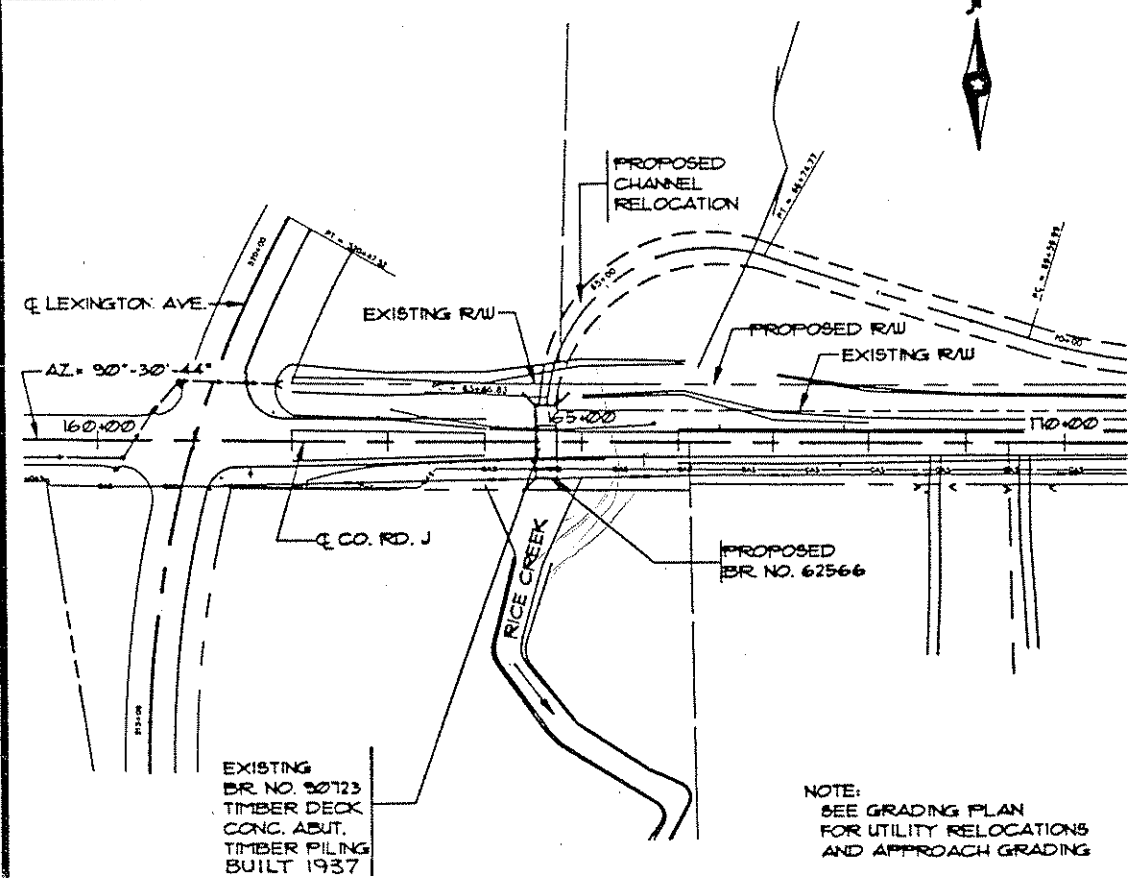
AT MILE POINT _____ ON CSAH. 32
PROPOSED BRIDGE LOCATED $\frac{0.1$ MILES EAST OF
JCT. OF CSAH. 11 IN THE CITY OF BLAINE

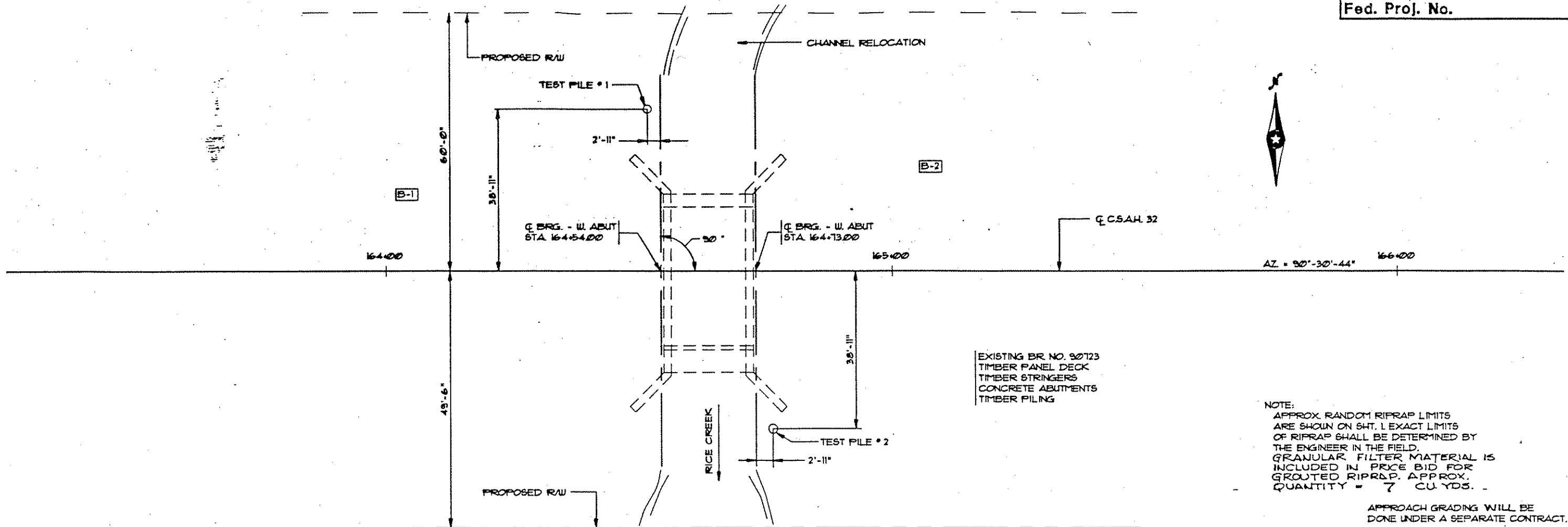
SEC. 36 TWP. 31N R. 23W
CITY OF BLAINE COUNTY ANOKA

BRIDGE NO. 02558
4-28-92

PLAT

SCALE: 1" = 50'





NOTE:
 APPROX. RANDOM RIPRAP LIMITS
 ARE SHOWN ON SHT. 1 EXACT LIMITS
 OF RIPRAP SHALL BE DETERMINED BY
 THE ENGINEER IN THE FIELD.
 GRANULAR FILTER MATERIAL IS
 INCLUDED IN PRICE BID FOR
 GROUTED RIPRAP. APPROX.
 QUANTITY = 7 CU YDS.

APPROACH GRADING WILL BE
 DONE UNDER A SEPARATE CONTRACT.

