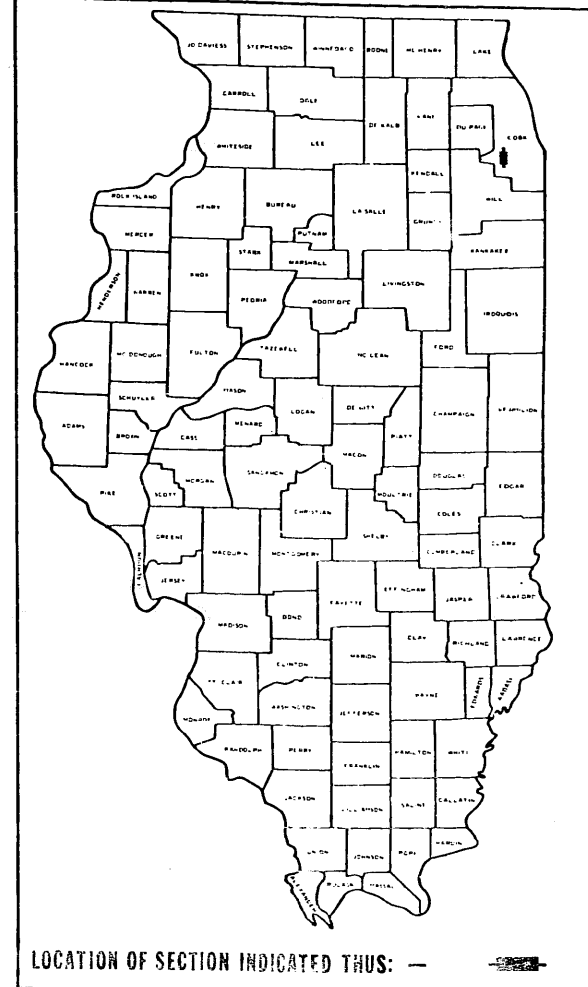


| DRAWING INDEX | |
|---------------|--|
| DWG. NO. | TITLE |
| 1 | TITLE SHEET |
| 2 | GENERAL NOTES |
| 3 | TYPICAL SECTIONS 1 OF 1 |
| 4-7A | SUMMARY OF QUANTITIES |
| 8-10 | SCHEDULE OF QUANTITIES |
| 11 | INTERCHANGE GEOMETRY |
| 12-19 | MAINTENANCE OF TRAFFIC AND CONSTRUCTION STAGING |
| 20-21 | PAVEMENT MARKING AND GUARDRAIL |
| 22-23 | DRAINAGE PLANS AND PROFILES |
| 24-28 | PLAN AND PROFILE |
| 29-30 | RAMP PROFILES |
| 31-33 | GEOMETRIC DETAILS AND STAKING PLANS |
| 34 | INTERCHANGE GRADING PLAN |
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| 35 | WIDENING DETAILS AND CONCRETE COLLAR DETAILS |
| 36 | TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 37-41 | TRAFFIC SIGNALS-PLANS AND DETAILS |
| 42-51 | GUIDE SIGNING-PLANS AND DETAILS |
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| 62 | DISTRICT ONE TYPICAL PAVEMENT MARKINGS |
| 63 | TYPICAL APPLICATION OF DUAL-DIRECTIONAL SNOWPLOWABLE RAISED PAVEMENT MARKERS |
| 64 | ENTRANCE AND EXIT RAMP CLOSURE DETAILS |
| 65 | DISTRICT ONE STANDARD TEMPORARY PAVEMENT MARKING-LETTERS AND SYMBOLS |
| 65 | TRAFFIC CONTROL AND PROTECTION FOR SIDEROADS AND INTERSECTIONS |
| 66-70 | PLAT OF HIGHWAYS |
| 71 | BRIDGE PARAPET (MILL CREEK BRIDGE) |
| 72-82 | BRIDGE PLANS (IL 83 OVER US 45) |
| 83 | STEEL SHEET PILING |
| * 83A-90 | CROSS SECTIONS |

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

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--|---------|--------|--------------|-----------|
| FAP124 | * | COOK | 90 | 1 |
| F.H.W.A. REG. ILLINOIS PROJECT IX-124(122) | | | | |
| * 525 HB-K(89) | | | | |

P-91-180-84



LOCATION OF SECTION INDICATED THUS: —

PLAN 1" = 50'
 PROFILE HORIZ. 1" = 50'
 PROFILE VERT. 1" = 5'
 CROSS SECTIONS HORIZ. 1" = 10'
 CROSS SECTIONS VERT. 1" = 5'

**F.A. 124(U.S. 45)
SECTION 525 HB-K(89)
PROJECT IX-124(122)
COOK COUNTY
U.S. RTE. 45 UNDER IL. RTE. 83
INTERCHANGE REHABILITATION
C-91-013-89**

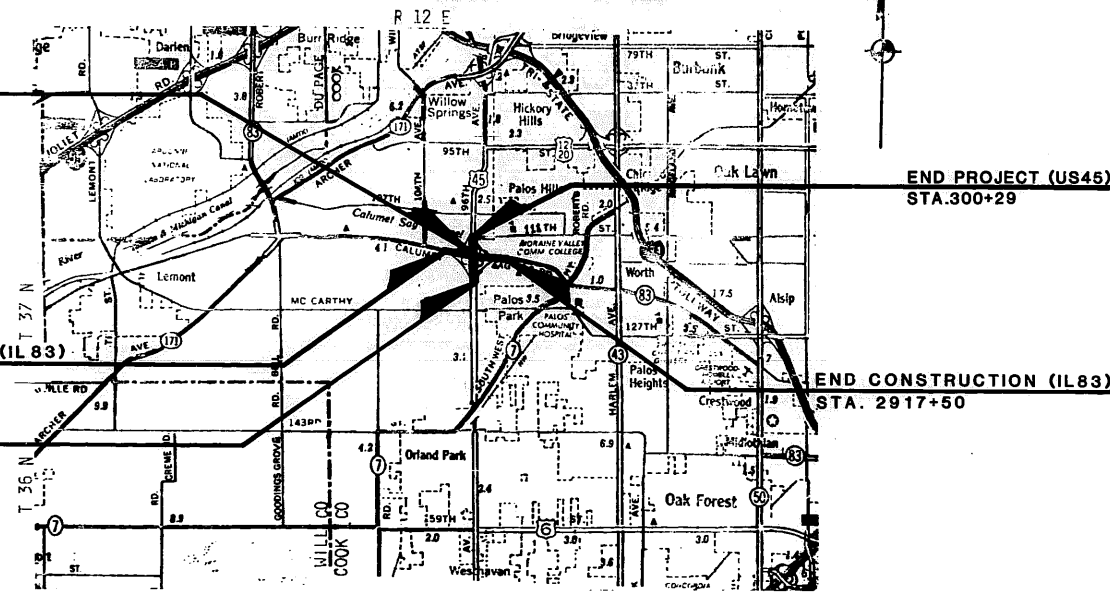
* 83A-90

MUNICIPALITIES:
NONE

LOCATED NEAR: PALOS PARK

STA 2904+44.73 (IL 83)
SN-016-2553

BRIDGE CARRYING IL ROUTE 83
OVER US ROUTE 45
REPLACE EXISTING ONE SPAN, P.P.C.
I-BEAM, CLOSED ABUT. STRUCTURE
WITH 63'-2" WIDE, 2 SPAN, P.P.C. I-BEAM,
CONC. DECK STRUCTURE WITH INTEGRAL ABUT.
ON STEEL H-PILES.
CONCRETE PIER FOUND IN ROCK.



BEGIN CONSTRUCTION (IL 83)
STA. 2883+00

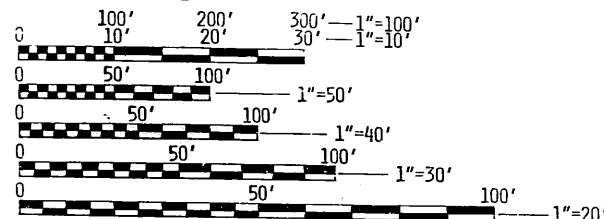
BEGIN PROJECT (US45)
STA. 284+10

END PROJECT (US45)
STA. 300+29

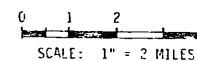
END CONSTRUCTION (IL83)
STA. 2917+50

STATE STANDARDS INCLUDED

| | | | |
|---------|---------|--------|-----------|
| 1514-9 | 2300-3 | 2341-1 | TS-2147-7 |
| 1527-9 | 2302-5 | 2350-3 | TS-2341-1 |
| 1538-5 | 2303-6 | 2354-1 | 2256-10 |
| 1686-4 | 2306-6 | 2381 | 2368 |
| 2113-2 | 2307-6 | 2382-2 | 2369 |
| 2122-12 | 2308-5 | 2383-1 | 2370-1 |
| 2130-9 | 2309-8 | 2384-1 | 2371-1 |
| 2149-11 | 2310-6 | 2385 | 2372 |
| 2212-3 | 2311-8 | 2387 | 2373 |
| 2213-4 | 2314-5 | 2396 | 2374-1 |
| 2217-3 | 2315-7 | 2417-1 | 2378-2 |
| 2228-4 | 2316-11 | 2419 | 2409-1 |
| 2230-15 | 2323-11 | 2317-6 | 2450 |
| 2237-11 | 2324-6 | 2428 | |
| 2262-4 | 2333-3 | | |
| 2298-7 | 2336-4 | | |
| 2299-10 | 2337-2 | | |
| 2304-7 | 2327-11 | | |



LAYOUT



GROSS LENGTH OF PROJECT:
 US 45 = 1619 LIN FT = 0.301 MILES
 IL 83 = 3450 LIN FT = 0.653 MILES
 NET LENGTH OF PROJECT:
 US 45 = 1619 LIN FT = 0.301 MILES



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

SUBMITTED April 28 1989

EXAMINED 5-20 1989 *Ralph C. Wilbur* DISTRICT ENGINEER

PASSED 5-20 1989 *Harry B. Gould* ENGINEER OF PLANS AND CONTRACTS

APPROVED 5-20 1989 *Stephen R. Yanke* DIRECTOR DIVISION OF HIGHWAYS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____ DATE _____
 DIVISION ADMINISTRATOR

Rev
DATE: 4-28-89

CONTRACT NO. 80272

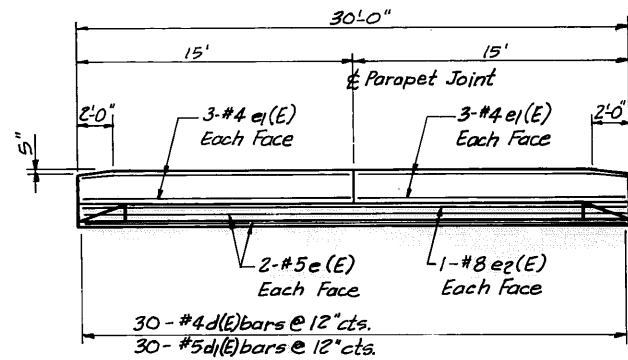
DESIGN DESIGNATION
2730(2005) MAJOR ARTERIAL 4.00 (B-20)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

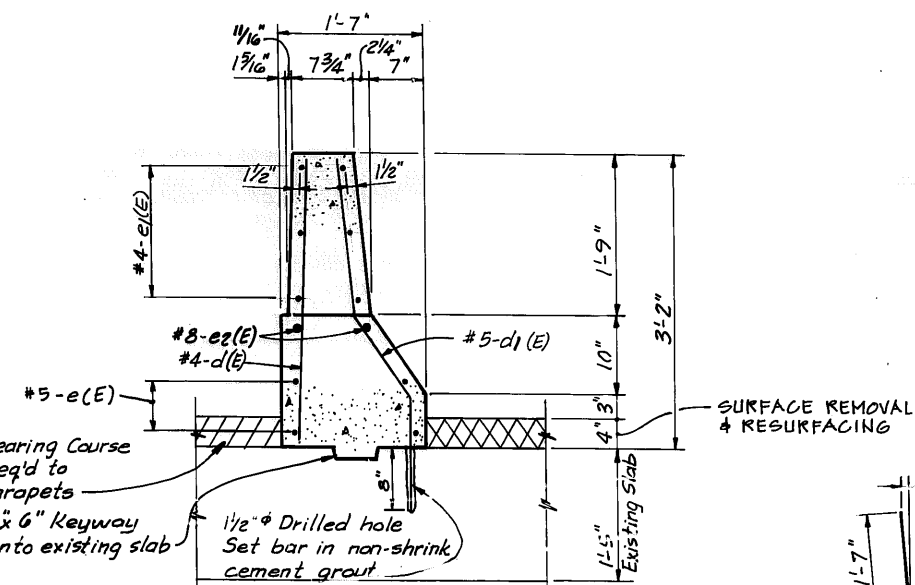
| | | | | |
|------------------|-----|----------|------------------|-----------|
| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAP 124 | * | COOK | 90 | 71 |
| F. HW. A. REG. 4 | | ILLINOIS | FED. AID PROJECT | |

SHEET NO.
SHEETS

* 525 HB-K (89)



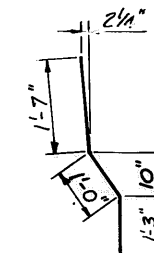
PARAPET ELEVATION



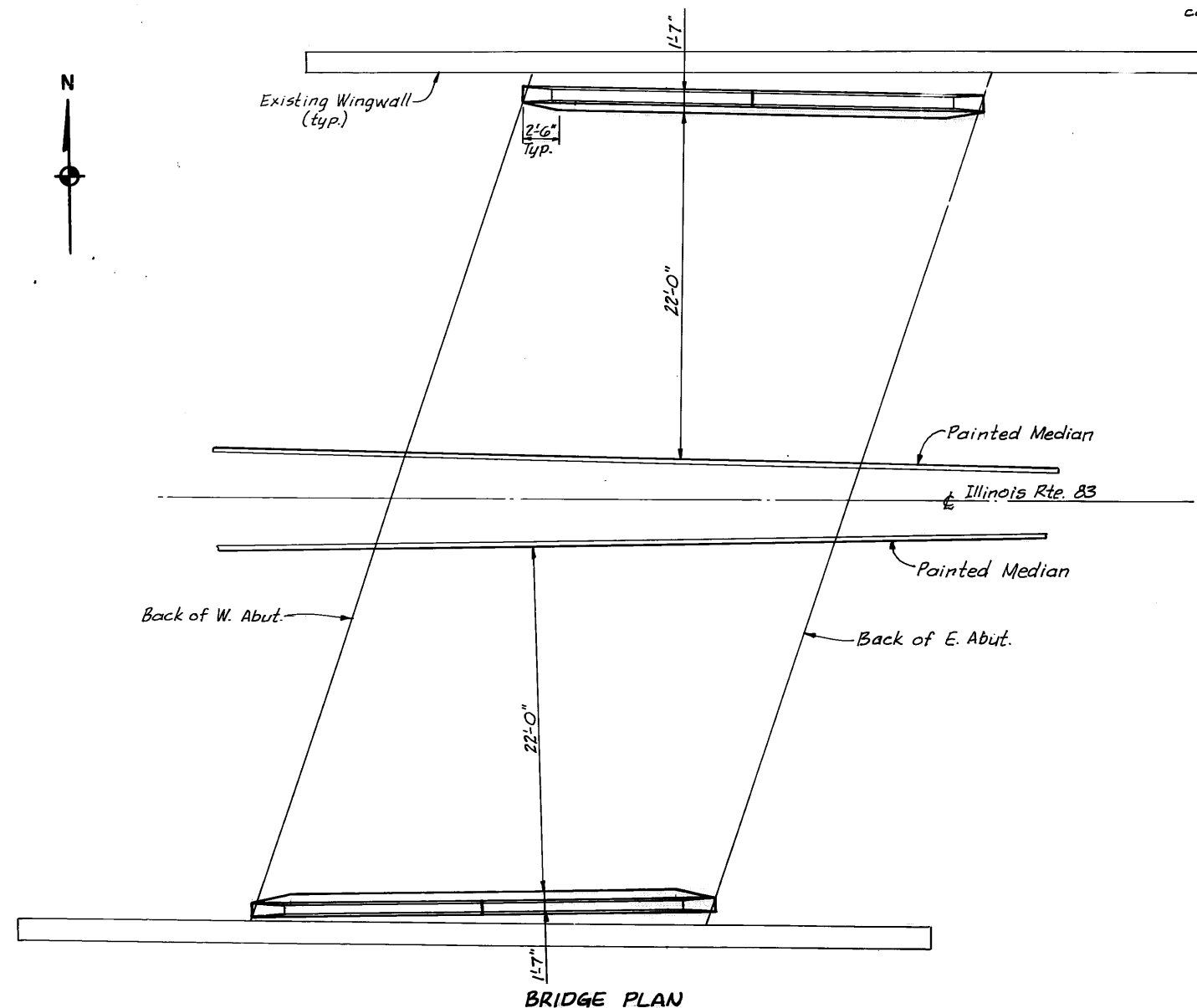
SECTION THRU PARAPET

PARAPET
BILL OF MATERIAL

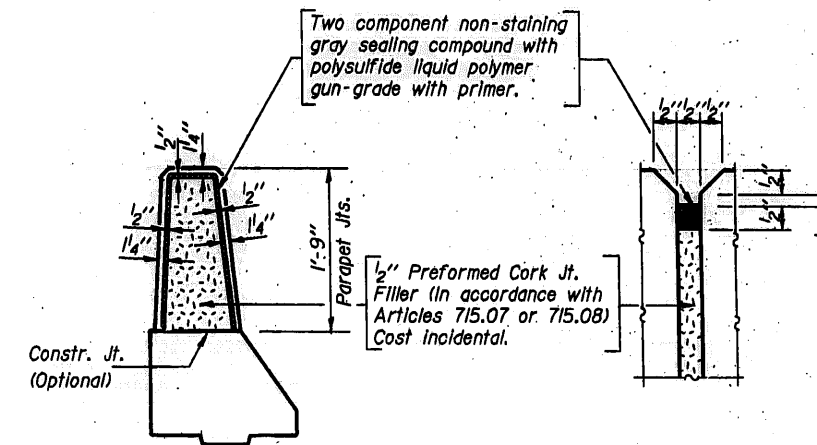
| Bar | No. | Size | Length | Shape | |
|-----------------------------------|-----|------|--------|----------|------|
| d(E) | 60 | #4 | 2'-10" | | |
| d1(E) | 60 | #5 | 3'-10" | | |
| e(E) | 8 | #5 | 29'-8" | | |
| e1(E) | 24 | #4 | 14'-8" | | |
| e2(E) | 4 | #8 | 29'-8" | | |
| Reinforcement Bars (Epoxy Coated) | | | | Lbs. | 1150 |
| Class X Concrete | | | | Cu. Yds. | 7.3 |



Bar d1



BRIDGE PLAN



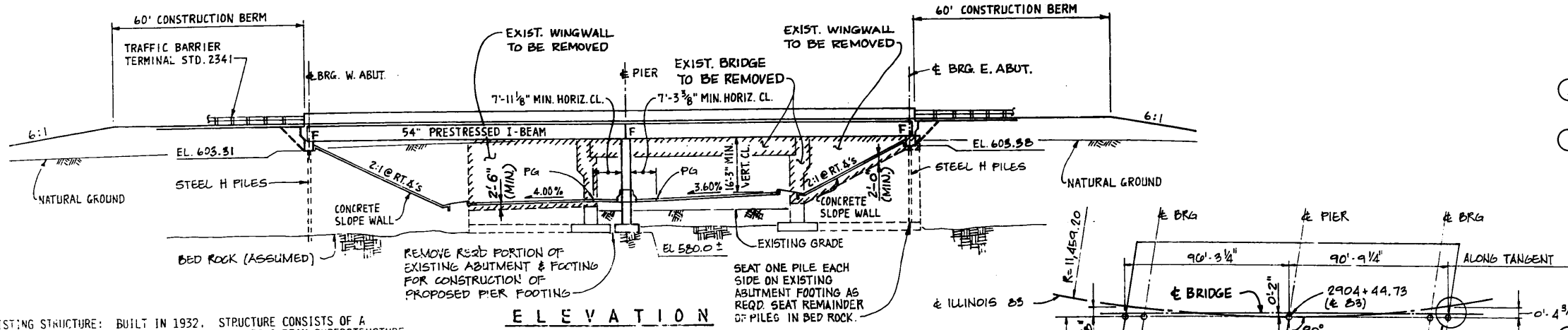
PARAPET JOINT DETAILS

BRIDGE PARAPET
ILLINOIS HWY. 83 OVER MILL CREEK
F.A.P. ROUTE 872 (ILLINOIS HIGHWAY 83)
COOK COUNTY
STATION 2816+ 10±
STRUCTURE NUMBER 016-0430
DATE: 4-26-89

BENCH MARK # B 50. CUT IN CONC. BASE LT. POLE 100'± SOUTH RT. B3 ON RT. SIDE RT. 45 (POLE # CEB4) EL. 587.61

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | | |
|------------------|---------------------------|--------|-----------------|-----------|-----------------------|
| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. | SHEET NO. 1 SHEETS |
| FAP 124 | * | COOK | 90 | 72 | |
| F. HW. A. REG. # | ILLINOIS FED. AID PROJECT | | # 525 HB-K (89) | | |

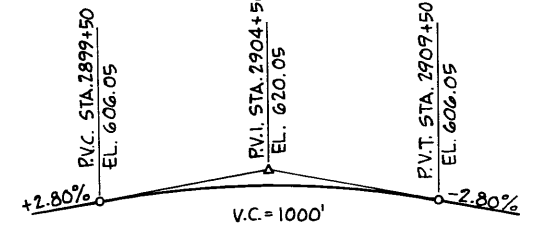
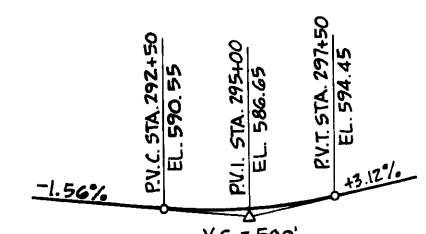
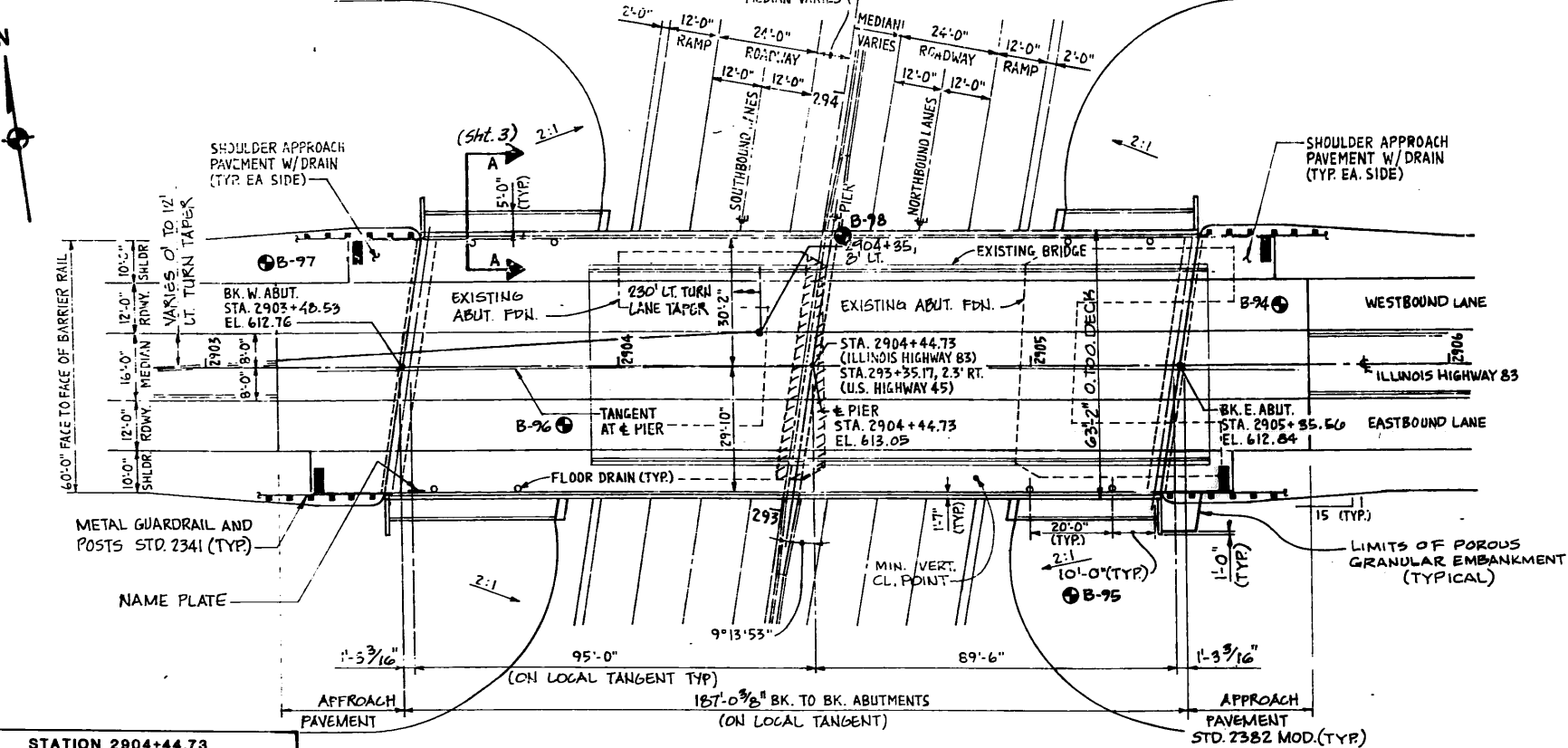
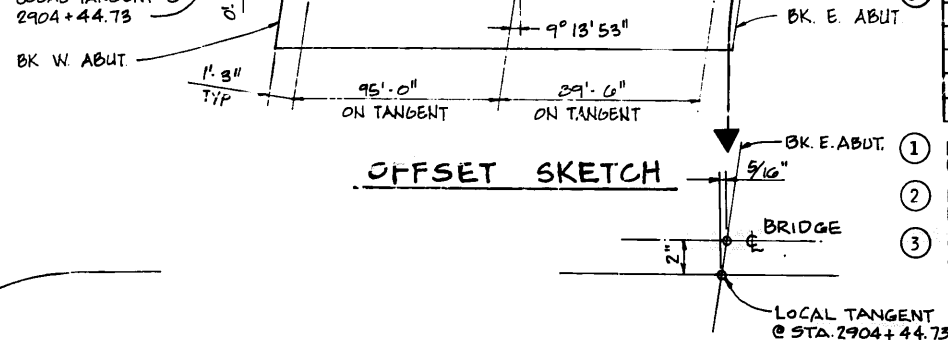


EXISTING STRUCTURE: BUILT IN 1932. STRUCTURE CONSISTS OF A 60' SINGLE SPAN 42" PC I BEAM SUPERSTRUCTURE ON R.C. CLOSED ABUTMENTS. WIDTH 46'-4". TRAFFIC WILL BE DETOURED FOR PROPOSED BRIDGE CONSTRUCTION.

NO SALVAGE

| TOTAL BILL OF MATERIAL | | | | |
|--|----------|--------|--------|--------|
| ITEM | UNIT | SUPER | SUB | TOTAL |
| 1. REMOVAL OF EXISTING STRUCTURE | EACH | - | - | 1 |
| STRUCTURE EXCAVATION | CU. YD. | - | 201 | 201 |
| FLOOR DRAINS | EACH | 8 | - | 8 |
| 2. PROTECTIVE COAT | SQ. YD. | 1418 | - | 1418 |
| CLASS X CONCRETE SUPERSTRUCTURE | CU. YD. | 452.6 | - | 452.6 |
| CLASS X CONCRETE | CU. YD. | - | 144.4 | 144.4 |
| REINFORCEMENT BARS (EPOXY COATED) | LBS. | 86,820 | - | 86,820 |
| REINFORCEMENT BARS | LBS. | - | 31,710 | 31,710 |
| FURNISHING STEEL PILES (HP12 X 53) | LIN. FT. | - | 400 | 400 |
| DRIVING STEEL PILES (HP12 X 53) | LIN. FT. | - | 400 | 400 |
| TEST PILES STEEL (HP12 X 53) | EACH | - | 2 | 2 |
| NAME PLATES | EACH | 1 | - | 1 |
| SLOPE WALL | SQ. YD. | - | 663 | 663 |
| FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAM, 54" | LIN. FT. | 1665 | - | 1665 |
| 3. PROTECTIVE SHIELD | SQ. YD. | 337 | - | 337 |
| ROCK EXCAVATION FOR STRUCTURES | CU. YD. | - | 18.0 | 18.0 |
| SEAL COAT CONCRETE | CU. YD. | - | 6.0 | 6.0 |
| METAL SHOES | EACH | - | 16 | 16 |
| PIPE UNDERDRAINS 4" (SPECIAL) | LIN. FT. | - | 206 | 206 |
| POROUS GRANULAR EMBANKMENT | CU. YD. | - | 258 | 258 |

- 1. EXISTING STRUCTURE TO BE REMOVED CONSISTS OF APPROXIMATELY 510 CU. YDS. OF CONCRETE.
- 2. PROTECTIVE COAT QUANTITY INCLUDES DECK SURFACE AND FACE OF BARRIER RAILS. SEE SPECIAL PROVISIONS FOR CURING AND TEXTURING BRIDGE DECK.
- 3. PROTECTIVE SHIELD EXTENDS FROM FACE TO FACE OF EXISTING ABUTMENTS AND EXTENDS 2'-0" BEYOND EACH EDGE OF EXISTING DECK.



GENERAL NOTES:

1. SEE PROPOSAL FOR BORING DATA.
2. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
3. SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC, 6" X 6" - W4.0 X W4.0, WEIGHING 58 LBS. PER 100 SQ. FT.
4. THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.
5. THE CONTRACTOR SHALL DRIVE ONE STEEL TEST PILE EACH IN A PERMANENT LOCATION AT THE EAST ABUTMENT AND AT THE WEST ABUTMENT AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.
6. ALL STRUCTURAL STEEL SHALL BE SHOP PAINTED WITH THE ZINC-SILICATE AND VINYL PAINT SYSTEM.

DESIGN SPECIFICATIONS

AASHTO (1983)
AND APPLICABLE INTERIMS (1984, 85, 86, 87)
LOADING HS 20-44
ALLOW 25# / SQ. FT. FOR FUTURE WEARING SURFACE

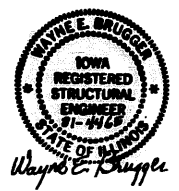
DESIGN STRESSES

$f'_c = 3,500$ PSI
 $f_y = 60,000$ PSI (REINFORC.)
 $f'_c = 6,000$ PSI (P.P.C. I-BEAMS)
 $f'_c =$ AS SHOWN (P.P.C. I-BEAMS)
 $f'_s = 270,000$ PSI ($1/2"$ STRANDS)
 $f'_s = 189,000$ PSI ($1/2"$ STRANDS)

STATION 2904+44.73
BUILT 198 BY
STATE OF ILLINOIS
F.A.P. RT. 124 SEC. (525HB-K(89))
F.A. PROJ. IX-124(122)
LOADING HS 20-44
STR. NO. 016-2553

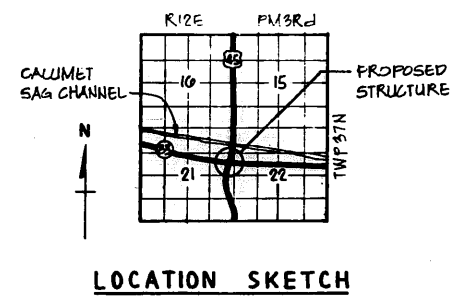
BRIDGE NAME PLATE
SEE STD DWG 2113

John W. Clark
Registered Structural Engineer



ILLINOIS HIGHWAY 83
CURVE DATA
P.I. STA. = 2907+96.80
 $\Delta = 9^\circ 14' 52"$ LT.
D = 0°30'00"
R = 11,459.20'
L = 1,849.56'
E = 37.42'
T = 926.80'

U.S. HIGHWAY 45
CURVE DATA
P.I. STA. = 295+31.11
 $\Delta = 18^\circ 13' 55"$
D = 3°30'00"
R = 1,637.03'
L = 520.92'
E = 20.94'
T = 262.68'



LOCATION SKETCH

GENERAL PLAN
ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
COOK COUNTY
STATION 2904+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-26-89

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | |
|------------------|-----|----------|------------------|-----------|
| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAP 124 | * | COOK | 90 | 73 |
| F. HW. A. REG. 4 | | ILLINOIS | FED. AID PROJECT | |

SHEET NO. 2
SHEETS

* 525 HB-K (B9)

| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEADLOAD DEFLECTION |
|--------------|------------|---------|-----------------------------|---|
| BK. W. ABUT. | 290352.870 | -28.133 | 612.304 | 612.304 |
| BRG. | 290354.140 | -28.143 | 612.311 | 612.311 |
| a | 290364.164 | -28.217 | 612.361 | 612.395 |
| b | 290374.189 | -28.283 | 612.405 | 612.469 |
| c | 290384.213 | -28.341 | 612.443 | 612.531 |
| d | 290394.238 | -28.389 | 612.476 | 612.577 |
| e | 290404.263 | -28.429 | 612.504 | 612.608 |
| f | 290414.288 | -28.460 | 612.526 | 612.622 |
| g | 290424.312 | -28.482 | 612.543 | 612.620 |
| h | 290434.337 | -28.495 | 612.554 | 612.604 |
| i | 290444.362 | -28.500 | 612.560 | 612.577 |
| PIER | 290449.375 | -28.499 | 612.561 | 612.561 |
| j | 290459.400 | -28.491 | 612.559 | 612.587 |
| k | 290469.425 | -28.473 | 612.551 | 612.604 |
| l | 290479.449 | -28.447 | 612.538 | 612.609 |
| m | 290489.474 | -28.413 | 612.519 | 612.600 |
| n | 290499.499 | -28.369 | 612.495 | 612.576 |
| o | 290509.524 | -28.317 | 612.466 | 612.536 |
| p | 290519.548 | -28.256 | 612.431 | 612.483 |
| q | 290529.573 | -28.187 | 612.390 | 612.417 |
| BRG. | 290539.096 | -28.112 | 612.347 | 612.347 |
| BK. E. ABUT. | 290540.365 | -28.102 | 612.341 | 612.341 |

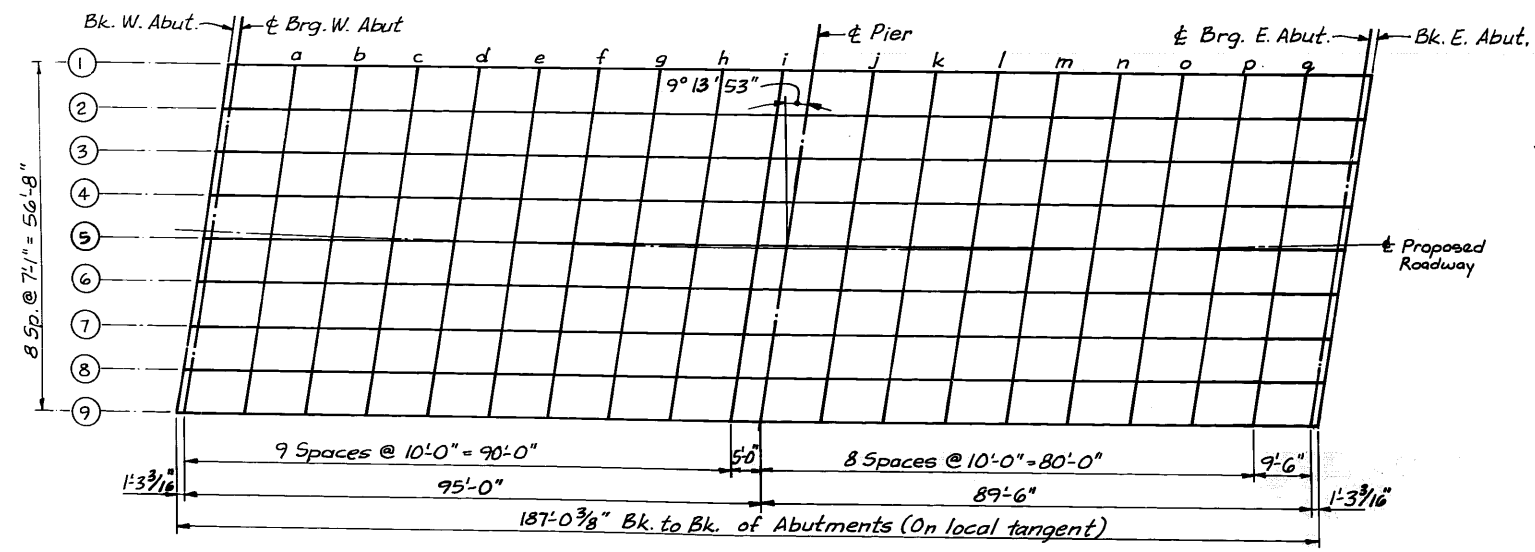
| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEADLOAD DEFLECTION |
|--------------|------------|---------|-----------------------------|---|
| BK. W. ABUT. | 290350.679 | -13.948 | 612.556 | 612.556 |
| BRG. | 290351.947 | -13.958 | 612.563 | 612.563 |
| a | 290361.959 | -14.035 | 612.614 | 612.648 |
| b | 290371.971 | -14.103 | 612.660 | 612.724 |
| c | 290381.983 | -14.162 | 612.699 | 612.787 |
| d | 290391.995 | -14.212 | 612.734 | 612.835 |
| e | 290402.007 | -14.254 | 612.763 | 612.867 |
| f | 290412.020 | -14.287 | 612.787 | 612.882 |
| g | 290422.032 | -14.311 | 612.805 | 612.882 |
| h | 290432.045 | -14.326 | 612.818 | 612.868 |
| i | 290442.057 | -14.333 | 612.825 | 612.842 |
| PIER | 290447.064 | -14.333 | 612.826 | 612.826 |
| j | 290457.076 | -14.327 | 612.825 | 612.854 |
| k | 290467.089 | -14.312 | 612.819 | 612.872 |
| l | 290477.101 | -14.288 | 612.807 | 612.878 |
| m | 290487.114 | -14.255 | 612.789 | 612.870 |
| n | 290497.126 | -14.214 | 612.766 | 612.847 |
| o | 290507.138 | -14.164 | 612.738 | 612.808 |
| p | 290517.150 | -14.105 | 612.704 | 612.756 |
| q | 290527.162 | -14.037 | 612.664 | 612.692 |
| BRG. | 290536.674 | -13.965 | 612.622 | 612.622 |
| BK. E. ABUT. | 290537.942 | -13.955 | 612.616 | 612.616 |

| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEADLOAD DEFLECTION |
|--------------|------------|--------|-----------------------------|---|
| BK. W. ABUT. | 290348.493 | 0.237 | 612.758 | 612.758 |
| BRG. | 290349.759 | 0.227 | 612.765 | 612.765 |
| a | 290359.759 | 0.148 | 612.820 | 612.854 |
| b | 290369.758 | 0.079 | 612.869 | 612.933 |
| c | 290379.758 | 0.018 | 612.912 | 612.999 |
| d | 290389.758 | -0.035 | 612.948 | 613.049 |
| e | 290399.758 | -0.078 | 612.978 | 613.082 |
| f | 290409.758 | -0.113 | 613.003 | 613.099 |
| g | 290419.758 | -0.140 | 613.022 | 613.099 |
| h | 290429.758 | -0.157 | 613.036 | 613.086 |
| i | 290439.758 | -0.166 | 613.045 | 613.062 |
| PIER | 290444.758 | -0.167 | 613.047 | 613.047 |
| j | 290454.758 | -0.162 | 613.047 | 613.075 |
| k | 290464.759 | -0.149 | 613.042 | 613.095 |
| l | 290474.759 | -0.127 | 613.031 | 613.102 |
| m | 290484.759 | -0.097 | 613.015 | 613.096 |
| n | 290494.759 | -0.058 | 612.993 | 613.074 |
| o | 290504.759 | -0.010 | 612.966 | 613.037 |
| p | 290514.758 | 0.047 | 612.932 | 612.984 |
| q | 290524.758 | 0.113 | 612.892 | 612.919 |
| BRG. | 290534.258 | 0.183 | 612.848 | 612.848 |
| BK. E. ABUT. | 290535.524 | 0.193 | 612.842 | 612.842 |

| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEADLOAD DEFLECTION |
|--------------|------------|--------|-----------------------------|---|
| BK. W. ABUT. | 290347.402 | 7.330 | 612.641 | 612.641 |
| BRG. | 290348.667 | 7.320 | 612.648 | 612.648 |
| a | 290358.661 | 7.240 | 612.704 | 612.738 |
| b | 290368.654 | 7.169 | 612.753 | 612.818 |
| c | 290378.648 | 7.107 | 612.797 | 612.884 |
| d | 290388.641 | 7.054 | 612.835 | 612.936 |
| e | 290398.635 | 7.009 | 612.867 | 612.971 |
| f | 290408.629 | 6.974 | 612.893 | 612.989 |
| g | 290418.623 | 6.946 | 612.914 | 612.991 |
| h | 290428.617 | 6.928 | 612.929 | 612.979 |
| i | 290438.611 | 6.918 | 612.938 | 612.956 |
| PIER | 290443.608 | 6.917 | 612.941 | 612.941 |
| j | 290453.602 | 6.920 | 612.942 | 612.970 |
| k | 290463.596 | 6.932 | 612.937 | 612.990 |
| l | 290473.590 | 6.953 | 612.926 | 612.998 |
| m | 290483.583 | 6.983 | 612.910 | 612.991 |
| n | 290493.577 | 7.021 | 612.887 | 612.955 |
| o | 290503.571 | 7.068 | 612.859 | 612.930 |
| p | 290513.565 | 7.124 | 612.826 | 612.878 |
| q | 290523.558 | 7.186 | 612.786 | 612.814 |
| BRG. | 290533.052 | 7.257 | 612.744 | 612.744 |
| BK. E. ABUT. | 290534.318 | 7.267 | 612.738 | 612.738 |

NOTE:
OFFSETS TABULATED ARE FROM
CL PROPOSED ROADWAY.

INDICATES STA. 2905+35.557 (TYP)



PLAN

NOTES:
SEE SHEET #3 FOR BEAMS 8 & 9 ELEVATIONS,
DEAD LOAD DEFLECTION DIAGRAM AND FILLET
HEIGHT DETAIL.

TOP OF SLAB ELEVATIONS
SHEET 1 OF 2
ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(B9)
COOK COUNTY
STATION 2904+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-28-89

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | |
|------------------|-----|----------|------------------|-----------|
| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAP124 | * | COOK | 90 | 74 |
| F. HW. A. REG. 4 | | ILLINOIS | FED. AID PROJECT | |

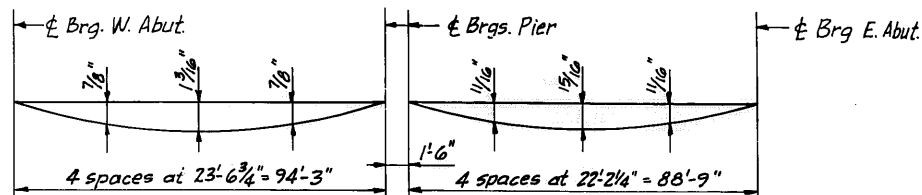
SHEET NO. 3
SHEETS

* 525 HB-K (89)

| LOCATION | STATION | OFFSET | THEORETICAL GRADE ELEVATION | THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEADLOAD DEFLECTION |
|--------------|------------|--------|-----------------------------|---|
| BK. W. ABUT. | 290345.224 | 21.516 | 612.399 | 612.399 |
| BRG. | 290346.488 | 21.505 | 612.407 | 612.407 |
| a | 290356.469 | 21.424 | 612.463 | 612.498 |
| b | 290366.450 | 21.351 | 612.514 | 612.579 |
| c | 290376.431 | 21.287 | 612.560 | 612.647 |
| d | 290386.412 | 21.232 | 612.599 | 612.700 |
| e | 290396.394 | 21.185 | 612.633 | 612.737 |
| f | 290406.375 | 21.148 | 612.661 | 612.756 |
| g | 290416.357 | 21.118 | 612.683 | 612.760 |
| h | 290426.338 | 21.098 | 612.699 | 612.750 |
| i | 290436.320 | 21.086 | 612.710 | 612.728 |
| PIER | 290441.311 | 21.084 | 612.713 | 612.713 |
| j | 290451.292 | 21.085 | 612.715 | 612.744 |
| k | 290461.274 | 21.095 | 612.712 | 612.765 |
| l | 290471.256 | 21.114 | 612.702 | 612.774 |
| m | 290481.237 | 21.142 | 612.687 | 612.768 |
| n | 290491.219 | 21.178 | 612.666 | 612.747 |
| o | 290501.200 | 21.223 | 612.639 | 612.710 |
| p | 290511.182 | 21.276 | 612.607 | 612.659 |
| q | 290521.163 | 21.339 | 612.568 | 612.596 |
| BRG. | 290530.645 | 21.406 | 612.527 | 612.527 |
| BK. E. ABUT. | 290531.909 | 21.415 | 612.521 | 612.521 |
| BK. W. ABUT. | 290344.137 | 28.609 | 612.245 | 612.245 |
| BRG. | 290345.400 | 28.598 | 612.253 | 612.253 |
| a | 290355.375 | 28.516 | 612.310 | 612.344 |
| b | 290365.350 | 28.442 | 612.362 | 612.426 |
| c | 290375.325 | 28.377 | 612.407 | 612.495 |
| d | 290385.300 | 28.321 | 612.447 | 612.549 |
| e | 290395.275 | 28.274 | 612.482 | 612.586 |
| f | 290405.251 | 28.235 | 612.510 | 612.606 |
| g | 290415.226 | 28.205 | 612.533 | 612.610 |
| h | 290425.201 | 28.183 | 612.550 | 612.601 |
| i | 290435.177 | 28.171 | 612.562 | 612.579 |
| PIER | 290440.165 | 28.167 | 612.565 | 612.565 |
| j | 290450.140 | 28.168 | 612.567 | 612.588 |
| k | 290460.116 | 28.177 | 612.565 | 612.618 |
| l | 290470.091 | 28.195 | 612.556 | 612.628 |
| m | 290480.066 | 28.221 | 612.541 | 612.622 |
| n | 290490.042 | 28.256 | 612.521 | 612.602 |
| o | 290500.017 | 28.300 | 612.495 | 612.566 |
| p | 290509.992 | 28.353 | 612.463 | 612.516 |
| q | 290519.967 | 28.414 | 612.426 | 612.453 |
| BRG. | 290529.444 | 28.480 | 612.385 | 612.385 |
| BK. E. ABUT. | 290530.707 | 28.490 | 612.379 | 612.379 |

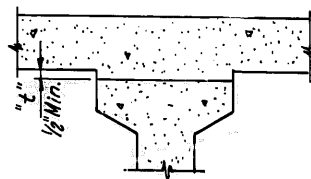
INDICATES STA. 2905+30.707 (TYP)

NOTE:
FOR PLAN OF BEAMS SEE SHT # 2



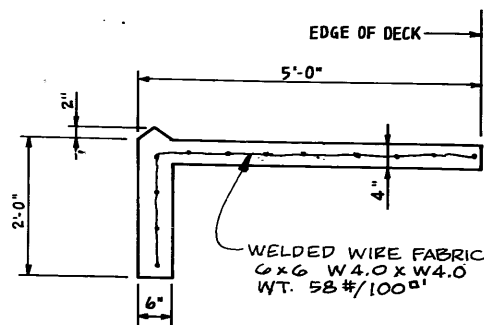
DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE SLAB ONLY.)
NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS AS SHOWN

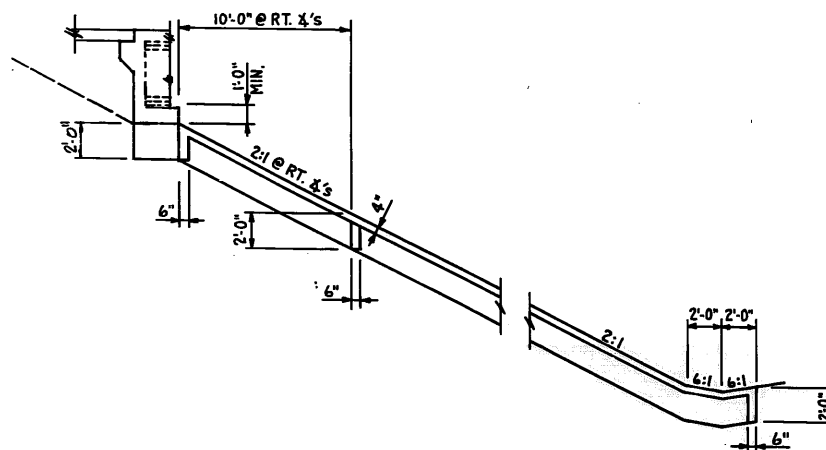


TO DETERMINE "t": AFTER ALL PRECAST PRESTRESSED BEAMS HAVE BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE BEAMS SHALL BE TAKEN AT INTERVALS SHOWN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "t" ABOVE TOP FLANGES OF BEAMS.

FILLET HEIGHTS



SECTION A - A
(SEE SHEET #1)



SECTION THRU SLOPEWALL

**TOP OF SLAB ELEVATIONS
SHEET 2 OF 2**

ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
COOK COUNTY
STATION 2804+44.73

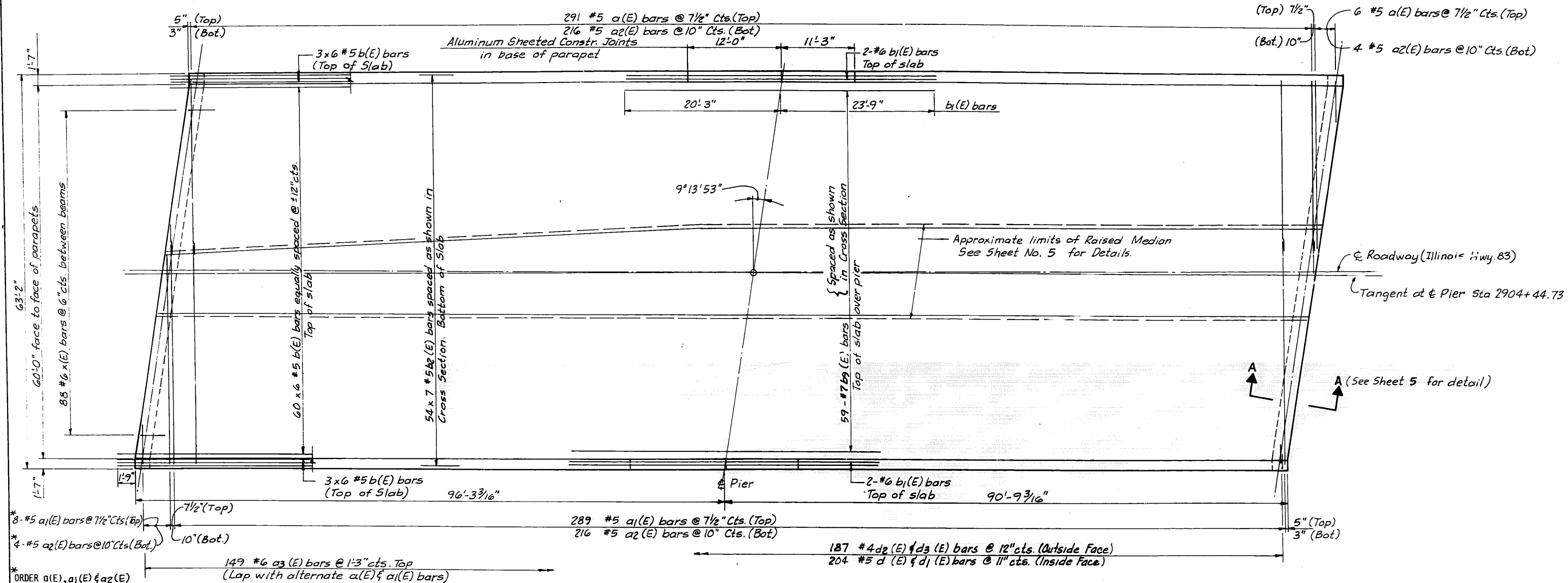
DATE: 4-26-89 STRUCTURE NUMBER 016-2553

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------|-----|---------------------------|--------------|-----------|
| FAP 124 | * | COOK | 90 | 75 |
| F. W. A. REG. 4 | | ILLINOIS FED. AID PROJECT | | |

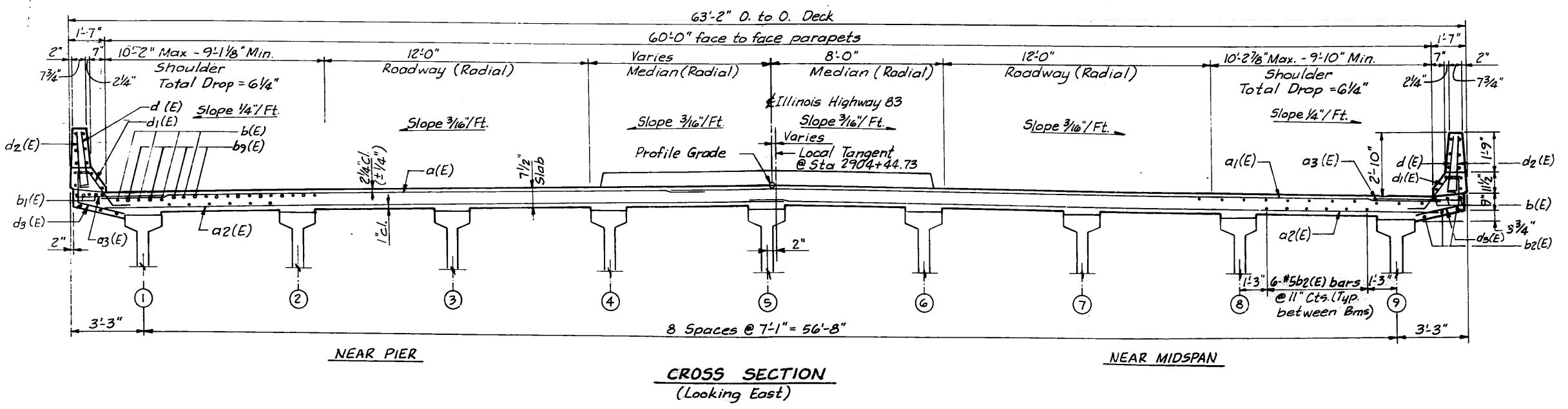
SHEET NO. 4
SHEETS

* 525 HB-K (89)



SLAB PLAN

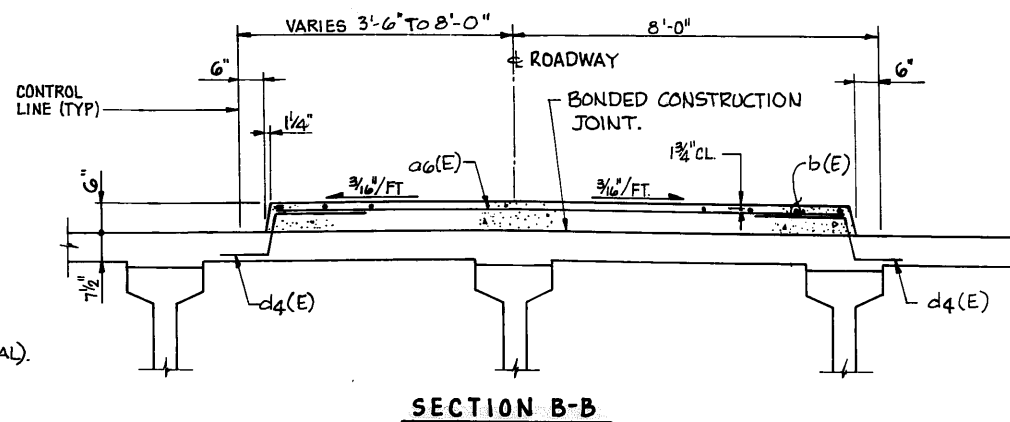
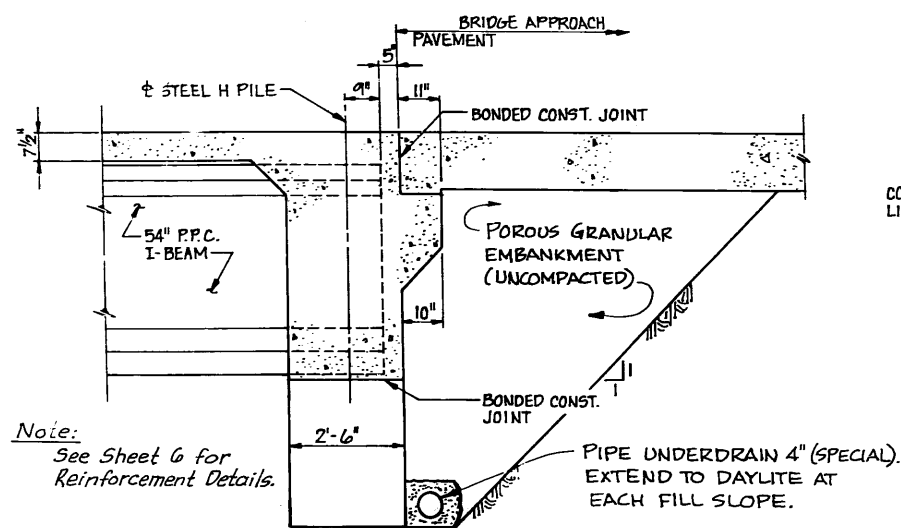
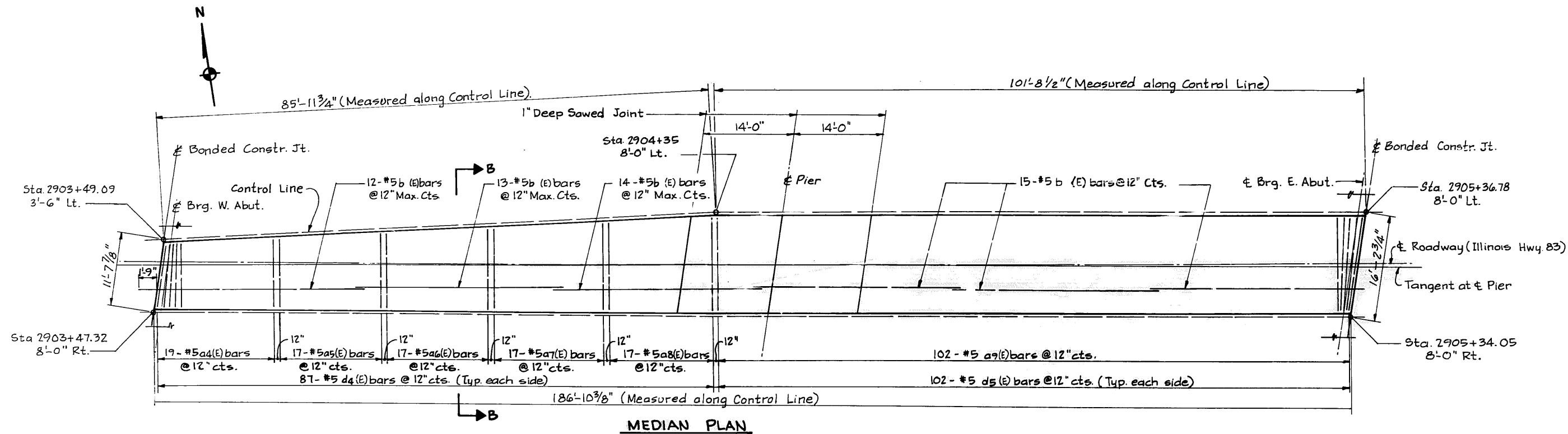
NOTES: SEE SHEET # 7 FOR SUPERSTRUCTURE DETAILS AND BILL OF MATERIAL.
SEE SHEET # 6 FOR SECTIONS AT ABUTMENTS AND PIERS.
SEE SHEET # 5 FOR RAISED MEDIAN DETAILS. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
BARS INDICATED THUS 60 x 6-#5 ETC. INDICATES 60 LINES OF BARS WITH 6 LENGTHS PER LINE.
MINIMUM LAP #5 BARS = 1'-8"



CROSS SECTION
(Looking East)

SUPERSTRUCTURE DETAILS
ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
COOK COUNTY
STATION 2904+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-28-89

| ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------|------|----------|------------------|-----------|
| FAP12A | * | COOK | 90 | 76 |
| F. W. A. REG. 4 | | ILLINOIS | FED. AID PROJECT | |
| * 525 HB-K (89) | | | | |



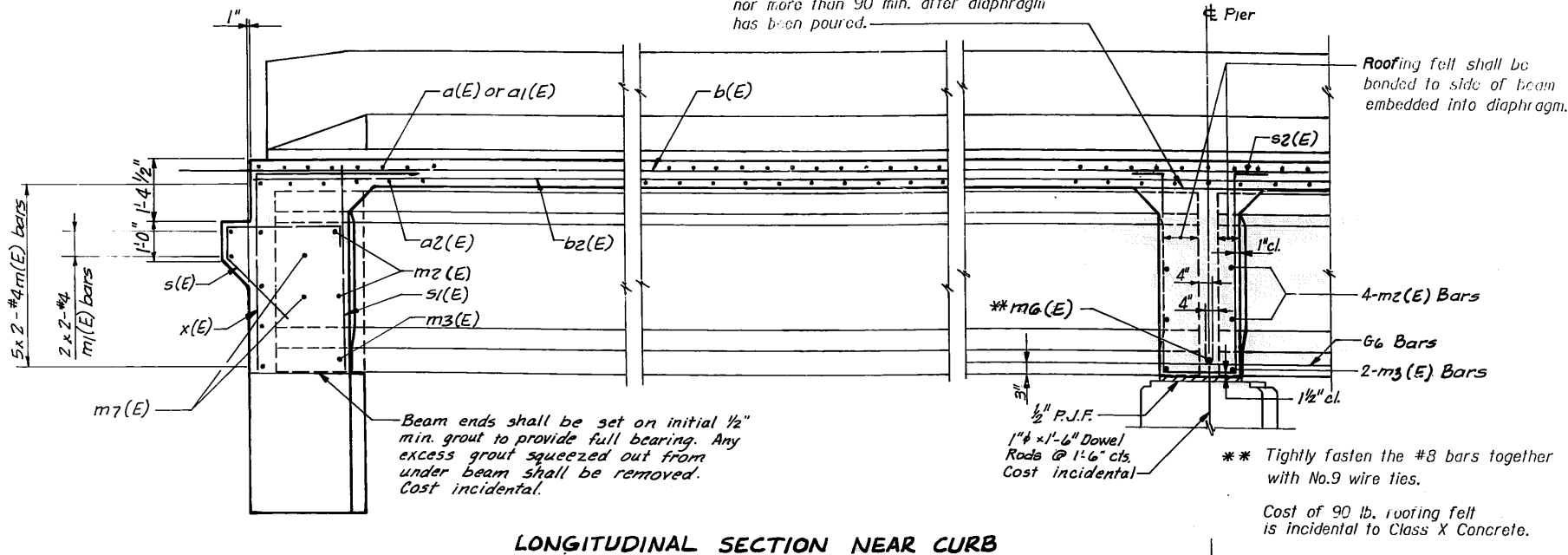
SUPERSTRUCTURE DETAILS

ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
COOK COUNTY
STATION 2904+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-26-89

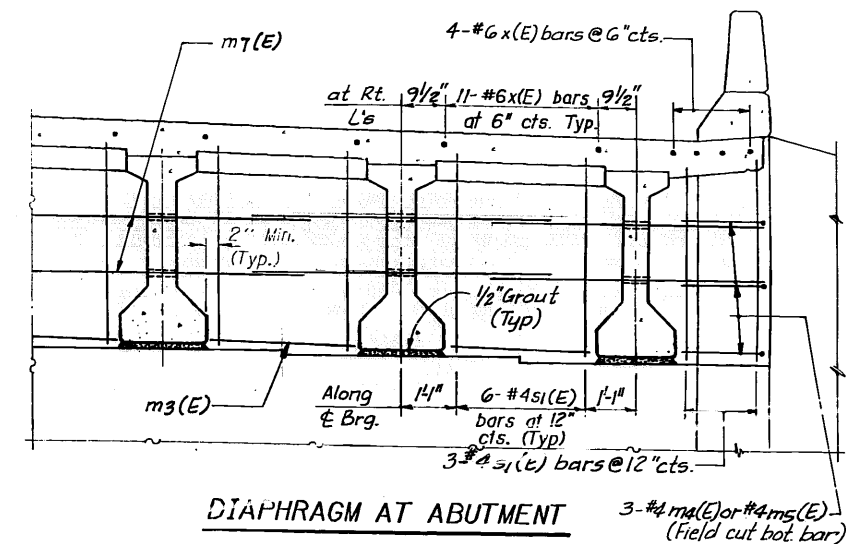
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | | |
|-----------------|------|---------------------------|--------------|-----------------|-----------------------|
| ROUTE NO. | SEC. | COUNTY | TOTAL SHEETS | SHEET NO. | SHEET NO. 6 SHEETS |
| FAP 124 | * | COOK | 90 | 77 | |
| F. H. A. REG. 4 | | ILLINOIS FED. AID PROJECT | | * 525 HB-K (89) | |

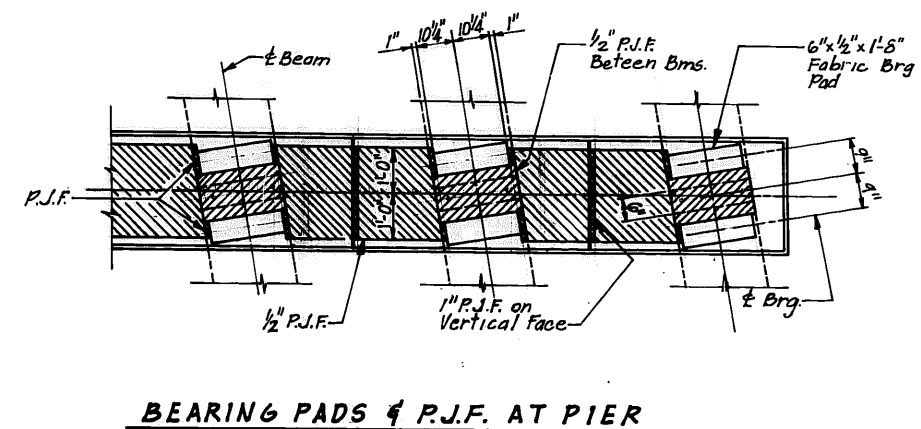
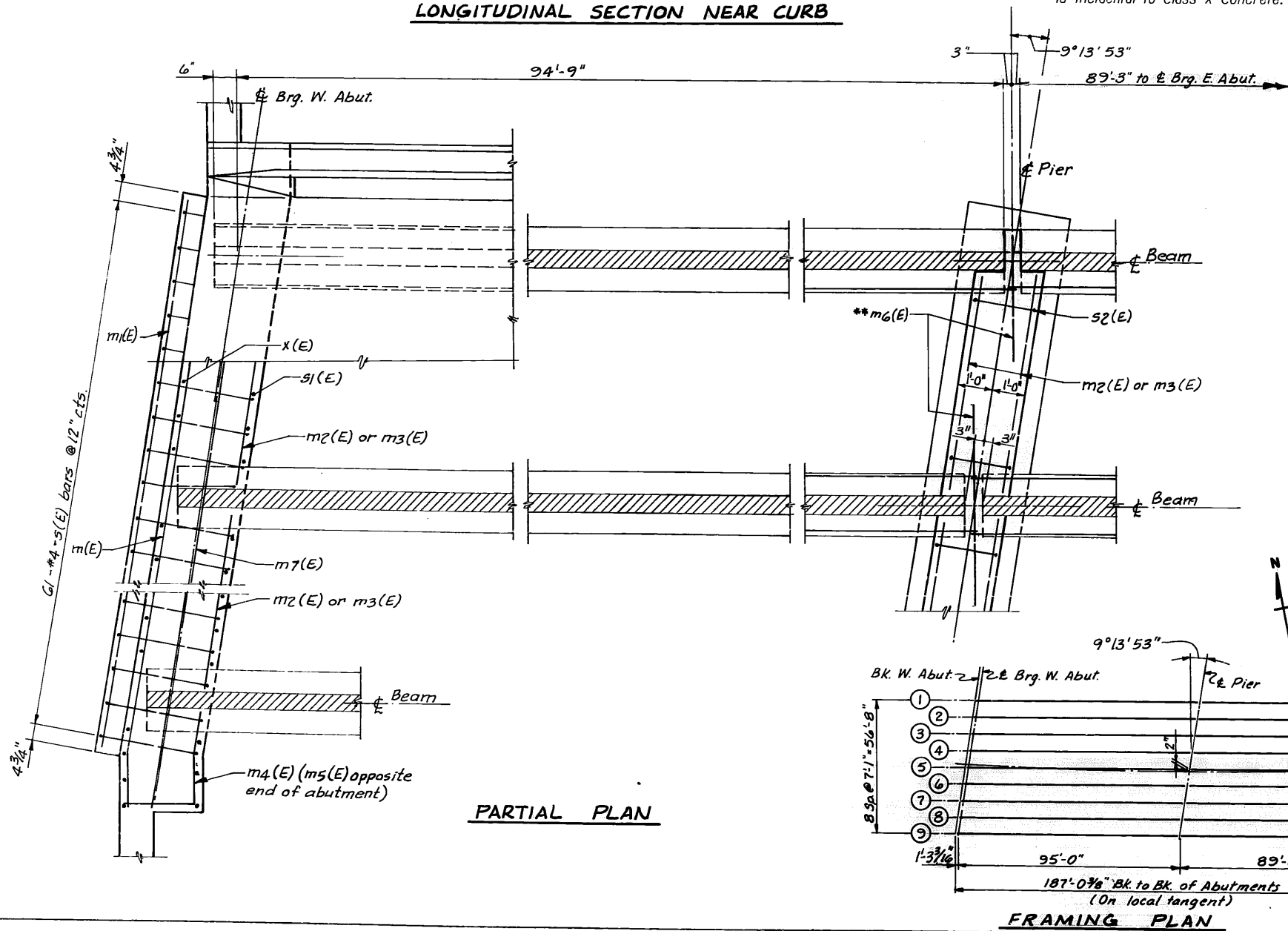
Pour diaphragm flush with top of slab. Concrete in slab above this line shall be placed not less than 45 min. nor more than 90 min. after diaphragm has been poured.



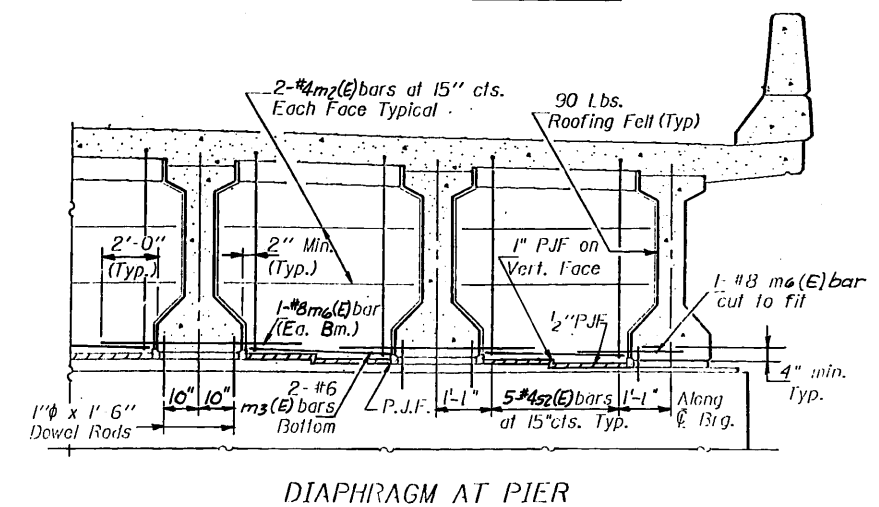
LONGITUDINAL SECTION NEAR CURB



DIAPHRAGM AT ABUTMENT



BEARING PADS & P.J.F. AT PIER



DIAPHRAGM AT PIER

SUPERSTRUCTURE DETAILS

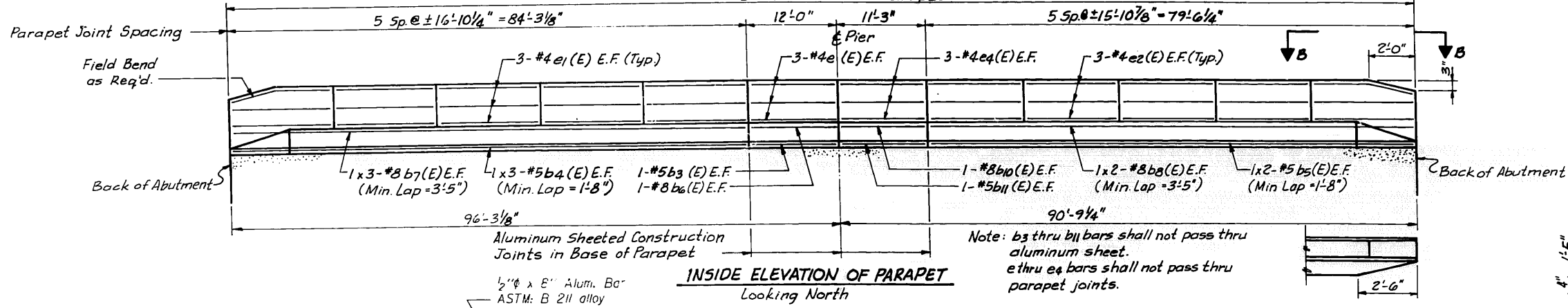
ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
COOK COUNTY
STATION 2904+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-28-89

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | |
|-----------------------|----------|------------------|--------------|-----------|
| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAP 124 | * | COOK | 90 | 78 |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT | | |

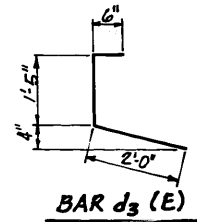
* 525 HB-K (89)

187'-0 3/8" End to End of Parapet

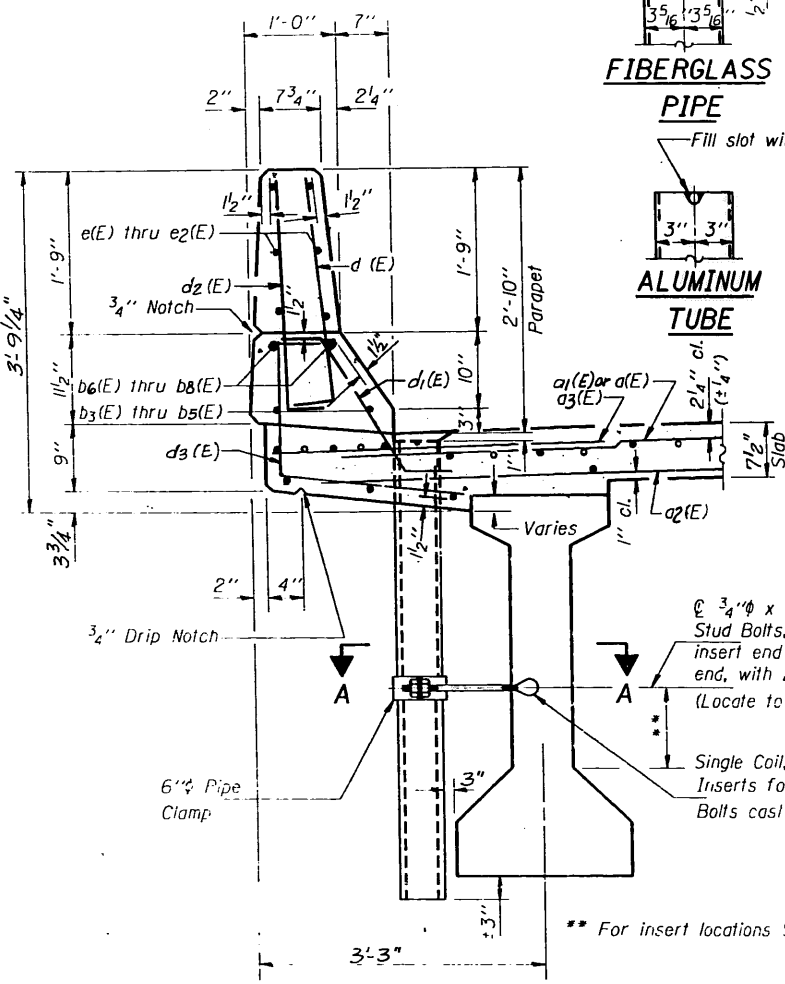


INSIDE ELEVATION OF PARAPET
Looking North

SECTION B-B



BAR d3 (E)



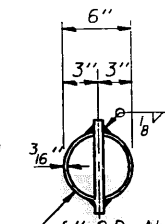
SECTION THRU PARAPET

FIBERGLASS PIPE

Fill slot with weld

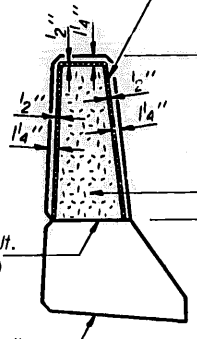
ALUMINUM TUBE

TOP PLAN (Showing Aluminum Tube)



6" O.D. Aluminum Tube alloy 6061-T6 or 6" Fiberglass Pipe

Two component non-staining gray sealing compound with polysulfide liquid polymer gun-grade with primer.

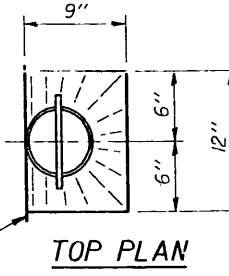


PARAPET JOINT DETAILS

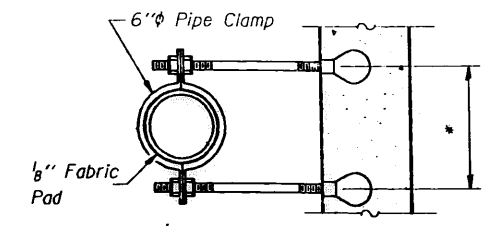
Notes:
Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.
The exterior surfaces of the Fiberglass Floor Drains shall be painted with one coat of Aluminum paint. Painting of the Fiberglass Floor Drains will not be required when the exterior surfaces of the furnished drains are coated by the manufacturer with silver pigment or a pigment that matches the color of the concrete beam.
The clamping device and inserts shall be galvanized in accordance with AASHTO M-232.

3/4" φ x 1'-5" (Min.) Steel Stud Bolts, threaded 3" for insert end and 6" for clamp end, with 2 locknuts. (Locate to miss strands)

Single Coil, Flared Loop. Inserts for 3/4" φ Stud Bolts cast in beam

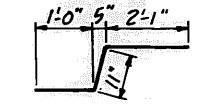


TOP PLAN

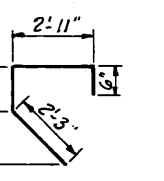


SECTION A-A

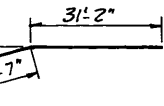
BARS d(E) & d2(E)



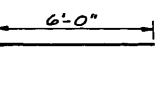
BAR d4(E)



BAR s(E)

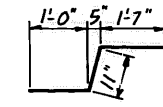


BAR m(E)

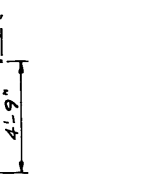


BAR x(E)

BAR d1(E)



BAR d5(E)



BAR s2



BAR m4



BAR x(E)

BAR m5

SUPERSTRUCTURE
BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|-----------------------------------|-----|----------|---------|-------|
| 0(E) | 297 | #5 | 27'-9" | |
| 01(E) | 297 | #5 | 34'-9" | |
| 02(E) | 440 | #5 | 31'-3" | |
| 03(E) | 298 | #6 | 4'-0" | |
| 04(E) | 19 | #5 | 8'-6" | |
| 05(E) | 17 | #5 | 9'-8" | |
| 06(E) | 17 | #5 | 10'-10" | |
| 07(E) | 17 | #5 | 12'-0" | |
| 08(E) | 17 | #5 | 13'-3" | |
| 09(E) | 102 | #5 | 14'-6" | |
| D(E) | 480 | #5 | 33'-2" | |
| D1(E) | 4 | #6 | 4'-0" | |
| D2(E) | 376 | #5 | 28'-1" | |
| D3(E) | 4 | #5 | 11'-8" | |
| D4(E) | 12 | #5 | 29'-1" | |
| D5(E) | 8 | #5 | 40'-6" | |
| D6(E) | 4 | #8 | 11'-8" | |
| D7(E) | 12 | #8 | 30'-4" | |
| D8(E) | 8 | #8 | 41'-4" | |
| D9(E) | 59 | #7 | 44'-0" | |
| D10(E) | 4 | #8 | 10'-11" | |
| D11(E) | 4 | #5 | 10'-11" | |
| d(E) | 408 | #5 | 3'-0" | |
| d1(E) | 408 | #5 | 2'-7" | |
| d2(E) | 374 | #4 | 3'-0" | |
| d3(E) | 374 | #4 | 3'-11" | |
| d4(E) | 174 | #5 | 4'-0" | |
| d5(E) | 204 | #5 | 3'-6" | |
| e(E) | 12 | #4 | 11'-8" | |
| e1(E) | 60 | #4 | 16'-6" | |
| e2(E) | 60 | #4 | 15'-6" | |
| e4(E) | 12 | #4 | 10'-11" | |
| m(E) | 20 | #4 | 32'-9" | |
| m1(E) | 8 | #4 | 31'-0" | |
| m2(E) | 54 | #4 | 6'-6" | |
| m3(E) | 32 | #4 | 5'-2" | |
| m4(E) | 5 | #5 | 4'-11" | |
| m5(E) | 6 | #5 | 4'-11" | |
| m6(E) | 9 | #8 | 5'-10" | |
| m7(E) | 36 | #4 | 8'-6" | |
| s(E) | 122 | #4 | 6'-4" | |
| s1(E) | 108 | #4 | 4'-11" | |
| s2(E) | 40 | #4 | 13'-2" | |
| x(E) | 192 | #6 | 10'-5" | |
| Reinforcement Bars (Epoxy Coated) | | Lbs. | 86,820 | |
| Class X Concrete Superstructure | | Cu. Yds. | 452.6 | |

Reinforcement bars designated (E) shall be epoxy coated.
All bar dimensions are out-to-out.

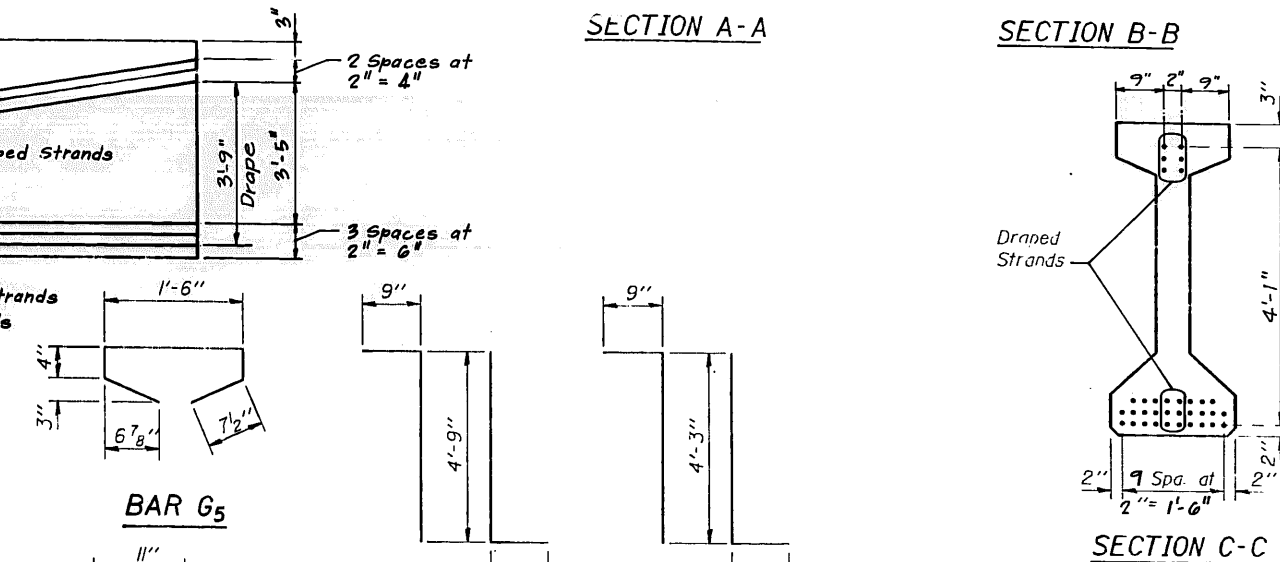
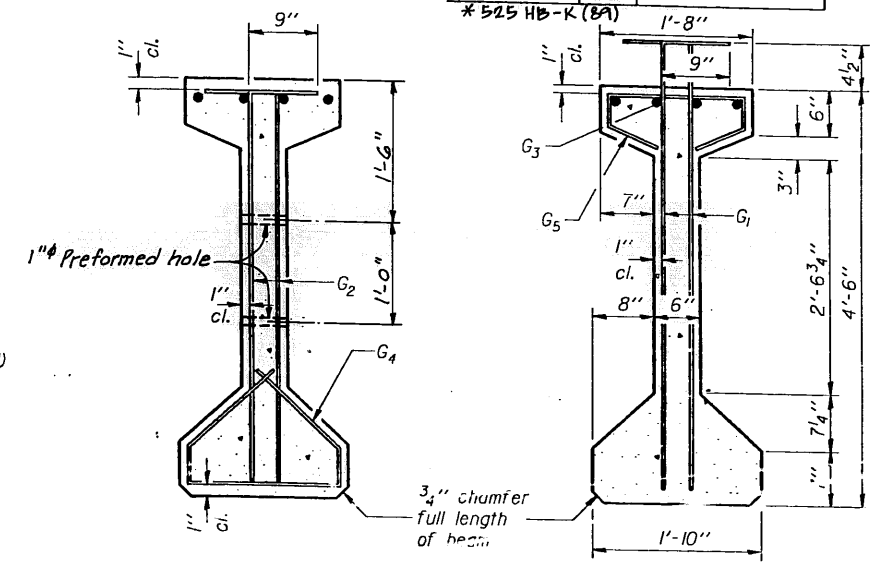
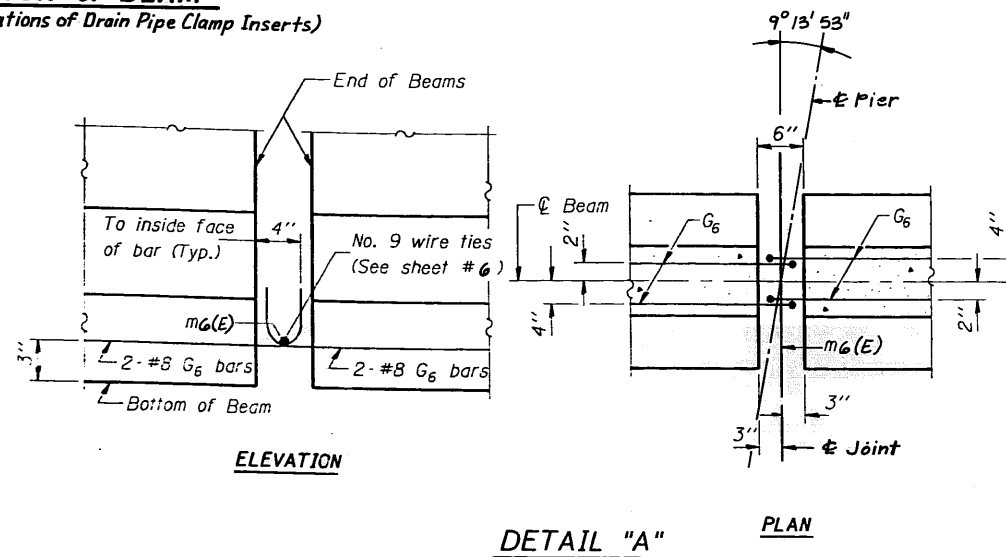
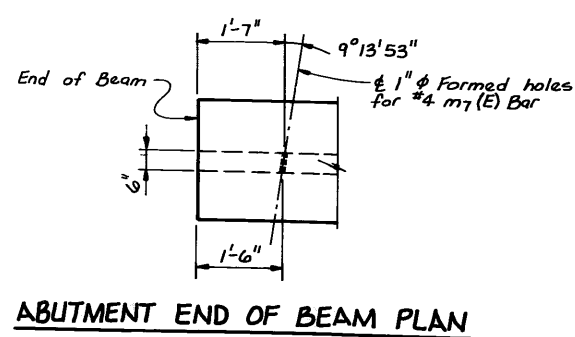
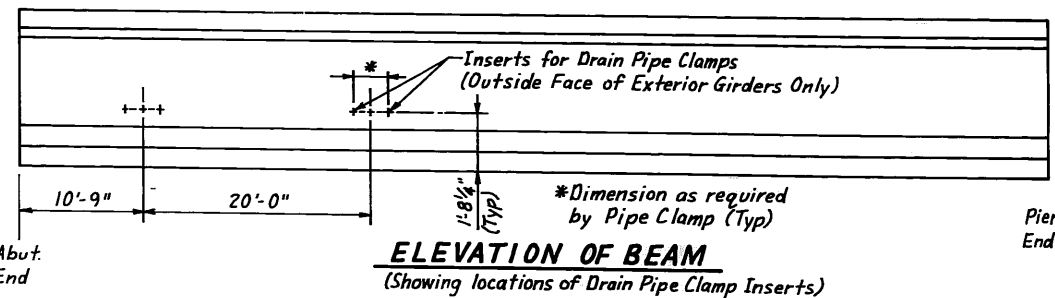
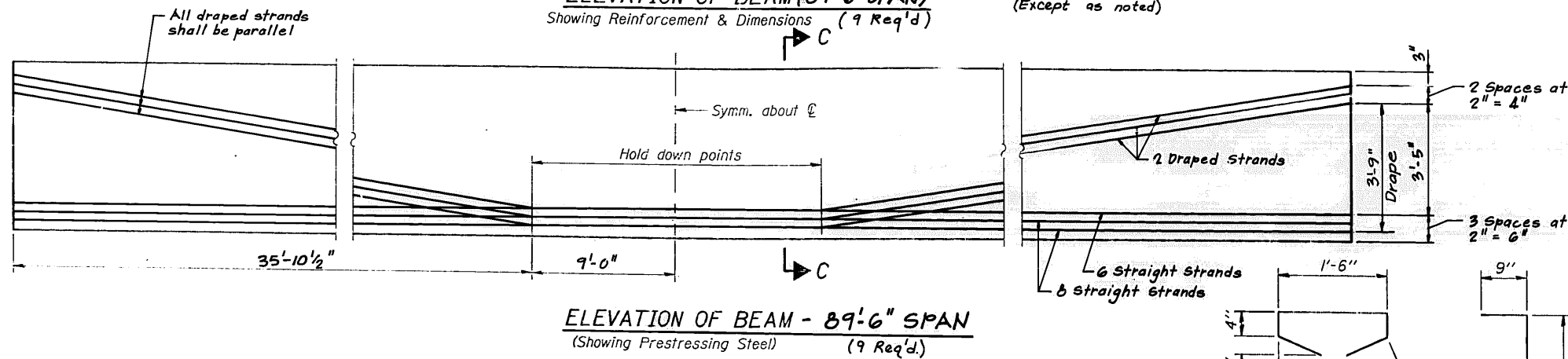
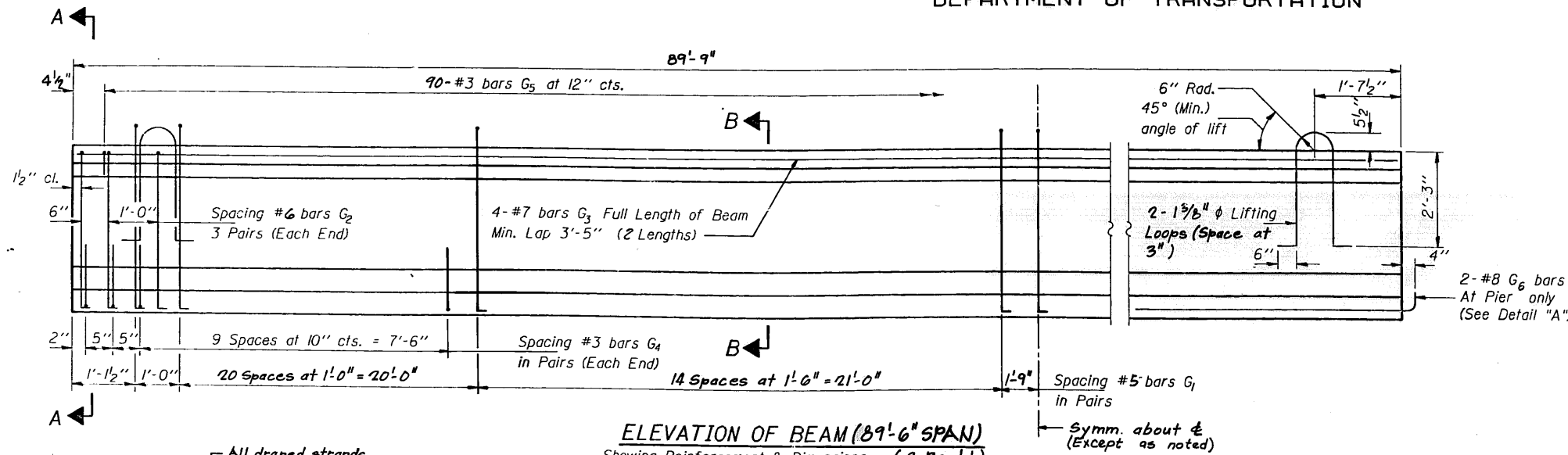
SUPERSTRUCTURE DETAILS

ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 625HB-K(89)
COOK COUNTY
STATION 2804+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-26-81

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | |
|-----------------------|----------|-------------------|-----------|-----------|
| ROUTE NO. | SECTION | COUNTY | POST MILE | SHEET NO. |
| FAP 124 | * | COOK | 90 | 79 |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT- | | |

SHEET NO. 8
SHEETS



*** BAR LIST**

| Bar | No. | Size | Length | Shape |
|-----|-----|------|-----------|-------|
| G1 | 146 | #5 | 6'-3" | 7L |
| G2 | 12 | #6 | 5'-5" | 7L |
| G3 | 8 | #7 | 46'-7" | — |
| G4 | 48 | #3 | 3'-4 1/2" | — |
| G5 | 90 | #3 | 3'-5" | — |
| G6 | 2 | #8 | 3'-6" | — |

* For one beam only.

BILL OF MATERIAL

| Item | Unit | Total |
|---|----------|---------|
| Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54" | Lin. Ft. | 807'-9" |

NOTES

All inserts and threaded dowel rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per lineal foot of "Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54 in."

Insert for 3/4" threaded dowel rods are to be two strut, coil type for interior I-Beams and single coil, flared loop type for exterior I-Beams.

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270.

The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.

Non-prestressing steel shall conform to AASHTO designation M-31, M-42 or M-53 Grade 60.

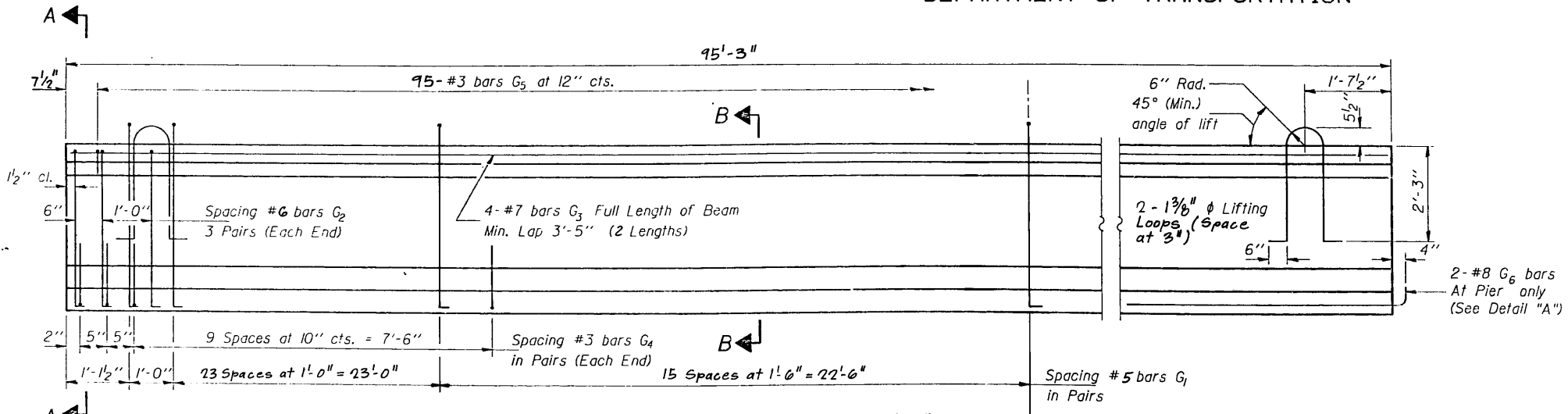
Steel for lifting loops shall be non-deformed bars $f_y=40,000$ psi. Required release strength, f'_{ci} , shall be 4,000 psi. Concrete Strength; f'_{c} shall be 6,000 psi.

PRESTRESSED BEAM DETAILS

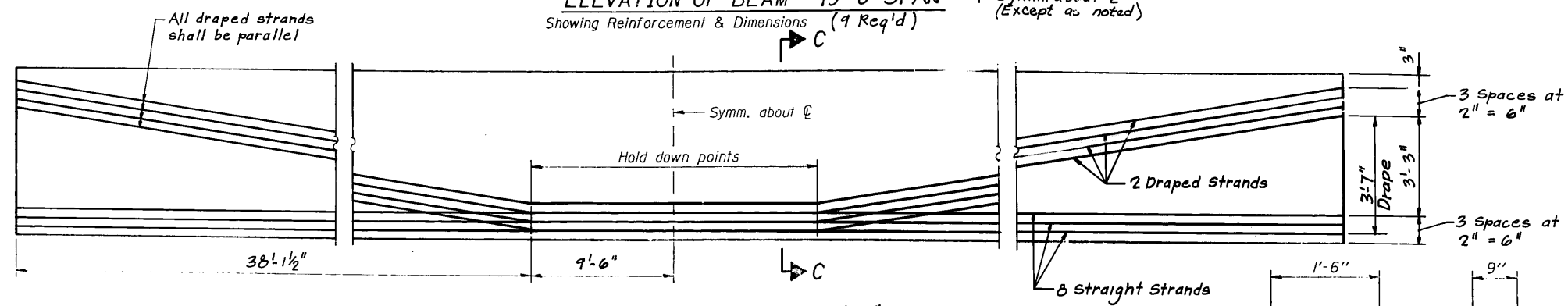
ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
COOK COUNTY
STATION 2904+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-26-81

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

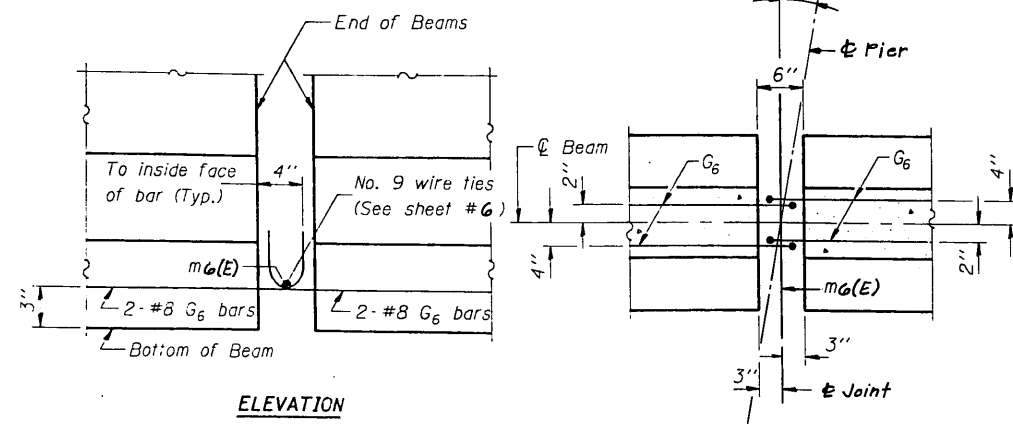
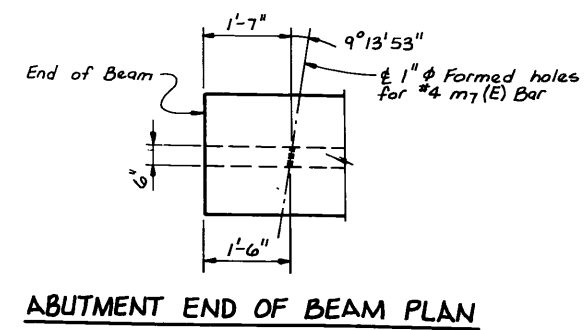
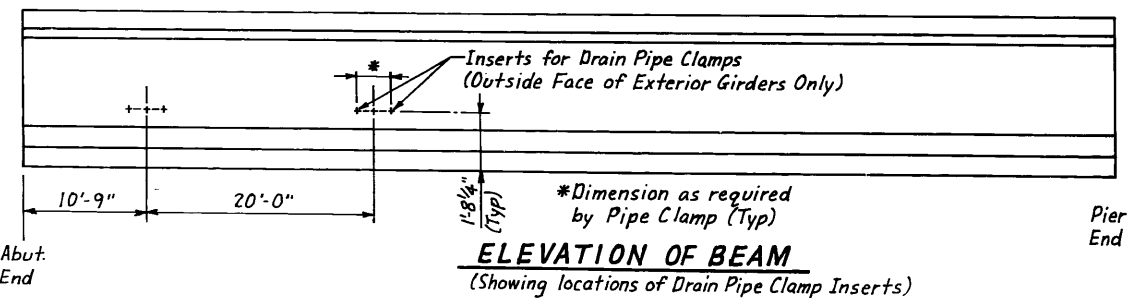
| | | | | |
|-----------------------|----------|------------------|-------|-----------|
| ROUTE NO. | SECTION | COUNTY | SHEET | SHEET NO. |
| FAP124 | * | COOK | 90 | 80 |
| FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT | | SHEETS |
| | | | | |



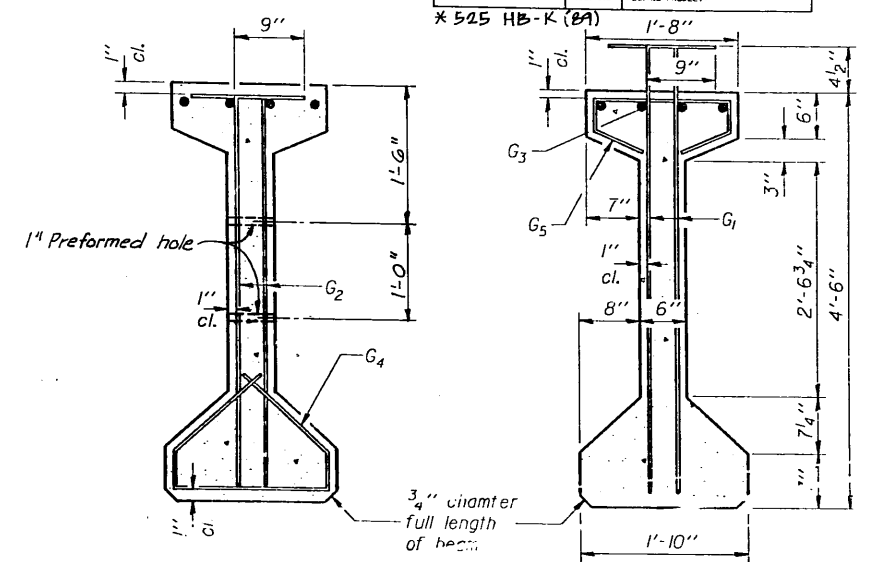
ELEVATION OF BEAM - 95'-0" SPAN
Showing Reinforcement & Dimensions (9 Req'd)
Symm. about ϕ (Except as noted)



ELEVATION OF BEAM - 95'-0" SPAN
(Showing Prestressing Steel) (9 Req'd)

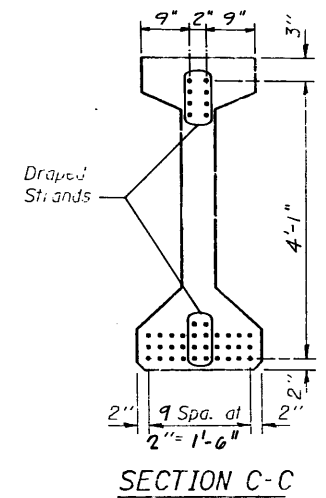
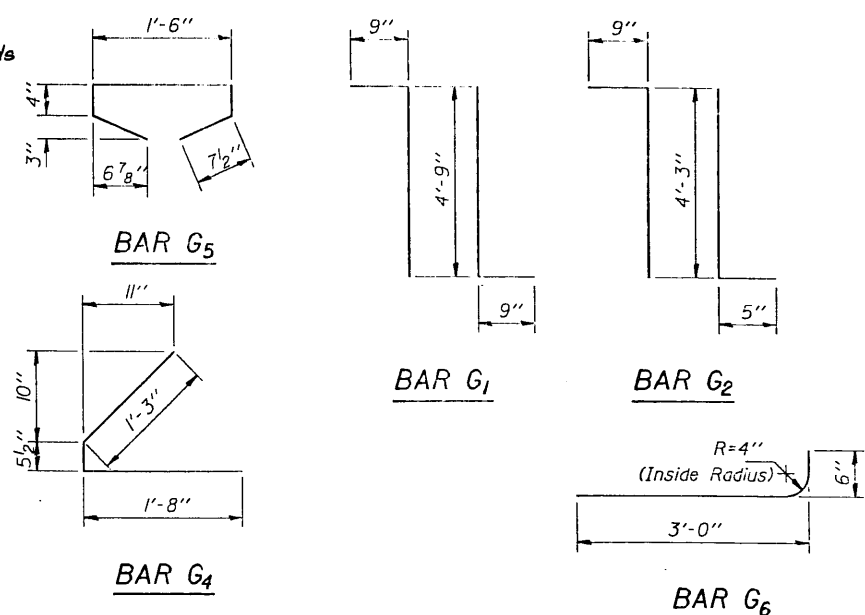


DETAIL "A"



SECTION A-A

SECTION B-B



*** BAR LIST**

| Bar | No. | Size | Length | Shape |
|----------------|-----|------|-----------|-------|
| G ₁ | 158 | #5 | 6'-3" | 7L |
| G ₂ | 12 | #6 | 5'-5" | 7L |
| G ₃ | 8 | #7 | 49'-4" | |
| G ₄ | 48 | #3 | 5'-4 1/2" | |
| G ₅ | 95 | #3 | 3'-5" | |
| G ₆ | 2 | #8 | 3'-6" | |

* For one beam only.

BILL OF MATERIAL

| Item | Unit | Total |
|---|----------|---------|
| Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54" | Lin. Ft. | 857'-3" |

NOTES

All inserts and threaded dowel rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per lineal foot of "Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54 in."
Insert for 3/4" ϕ threaded dowel rods are to be two strut, coil type for interior I-Beams and single coil, flared loop type for exterior I-Beams.
Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270.
The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
Non-prestressing steel shall conform to AASHTO designation M-31, M-42 or M-53 Grade 60.
Steel for lifting loops shall be non-deformed bars fy=40,000 psi.
Required release strength, f'ci, shall be 4,300 psi.
Concrete Strength: f'c shall be 6,000 psi.

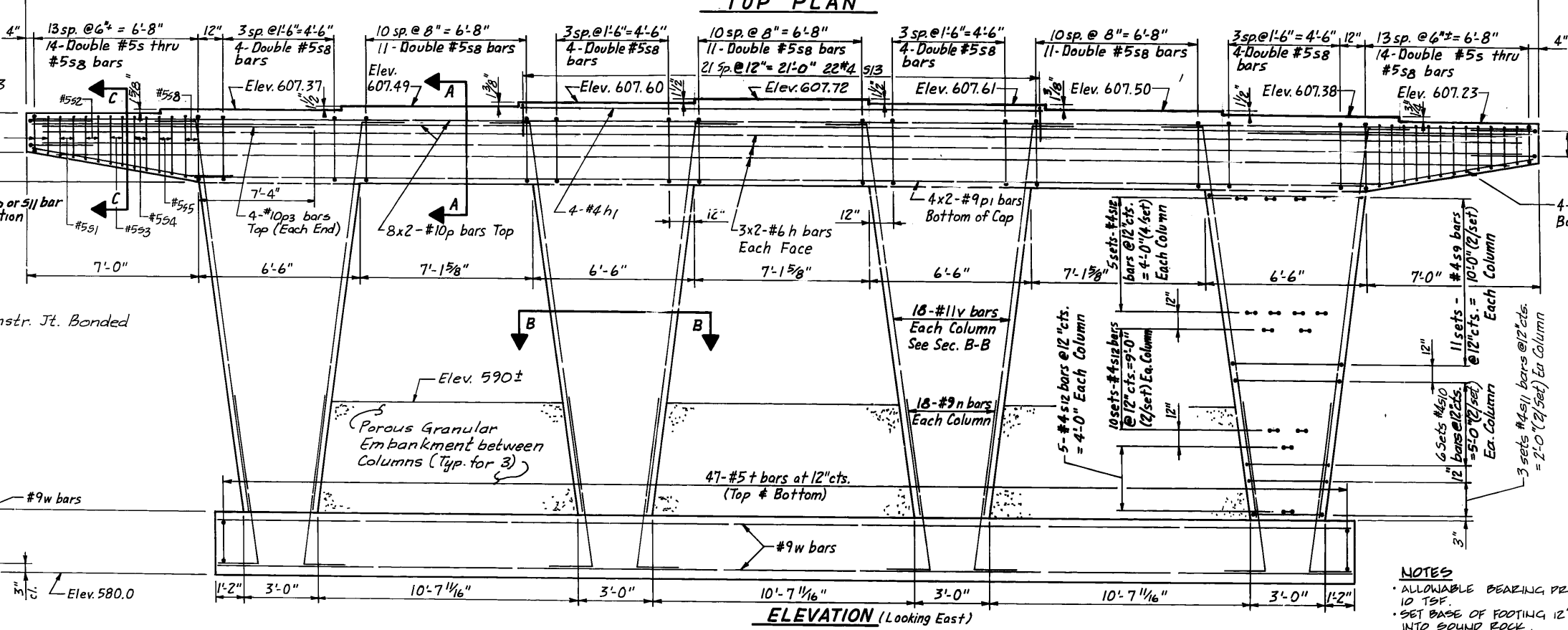
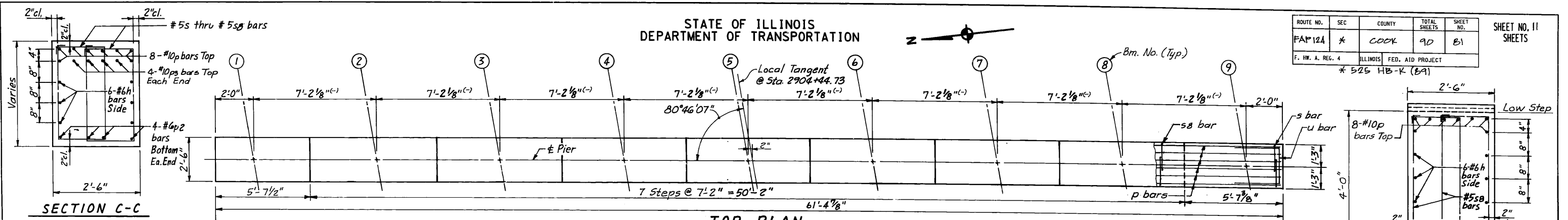
PRESTRESSED BEAM DETAILS

ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
COOK COUNTY
STATION 2804+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-26-81

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | |
|------------------|-----|----------|------------------|-----------|
| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAP 124 | * | COOK | 90 | 81 |
| F. HW. A. REG. 4 | | ILLINOIS | FED. AID PROJECT | |
| * 525 HB-K (89) | | | | |

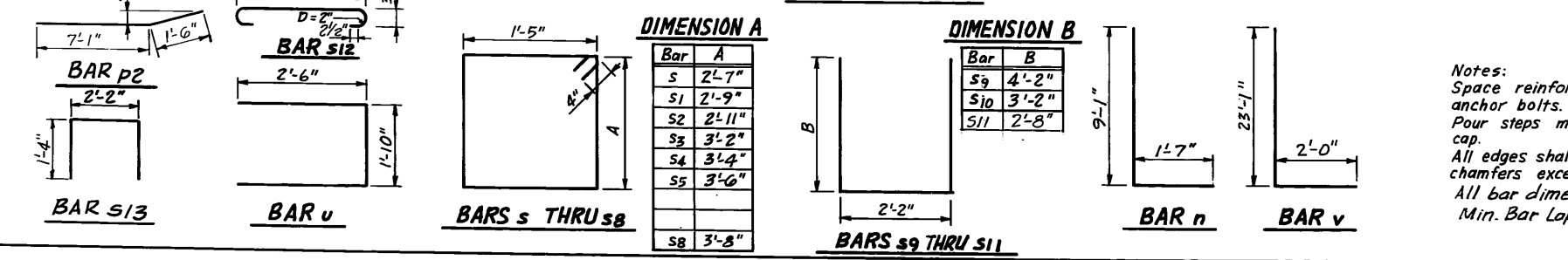
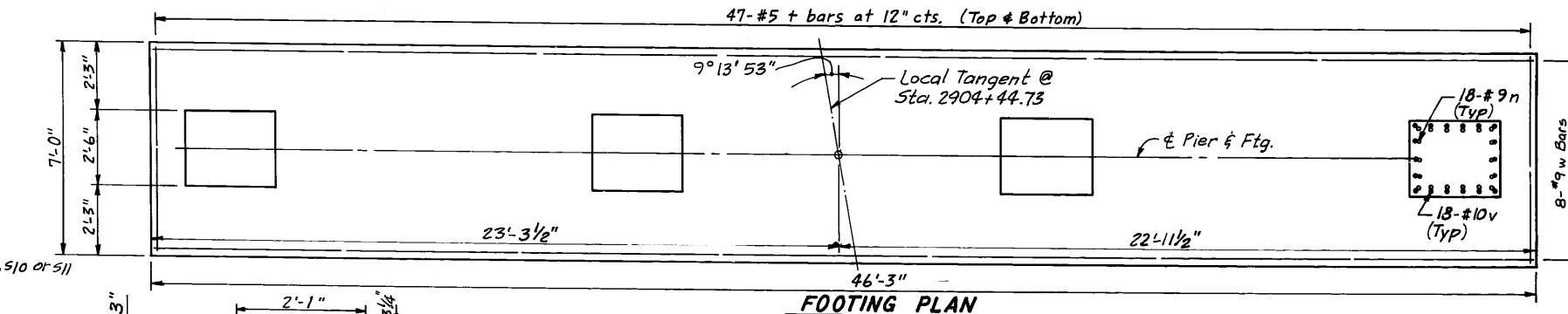
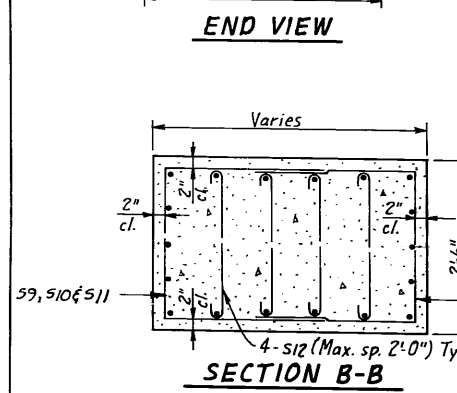
SHEET NO. 11
SHEETS



BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|----------------------------|-----|------|---------|---------------|
| h | 12 | #6 | 31'-9" | |
| h1 | 4 | #4 | 21'-0" | |
| n | 72 | #9 | 10'-8" | |
| p | 16 | #10 | 34'-2" | |
| p1 | 8 | #9 | 26'-5" | |
| p2 | 8 | #6 | 8'-7" | |
| p3 | 8 | #10 | 14'-2" | |
| s | 8 | #5 | 8'-8" | |
| s1 | 8 | #5 | 9'-0" | |
| s2 | 8 | #5 | 9'-4" | |
| s3 | 8 | #5 | 9'-10" | |
| s4 | 8 | #5 | 10'-2" | |
| s5 | 8 | #5 | 10'-6" | |
| s8 | 106 | #5 | 10'-10" | |
| s9 | 88 | #5 | 10'-6" | |
| s10 | 48 | #5 | 8'-6" | |
| s11 | 24 | #5 | 7'-6" | |
| s12 | 180 | #5 | 3'-1" | |
| s13 | 22 | #4 | 4'-10" | |
| t | 94 | #5 | 6'-8" | |
| u | 6 | #6 | 6'-10" | |
| v | 72 | #11 | 25'-1" | |
| w | 16 | #9 | 45'-9" | |
| Porous Gran. Embankment | | | | Cu. Yd. 18.0 |
| Rock Excav. For Structures | | | | Cu. Yd. 18.0 |
| Seal Coat Concrete | | | | Cu. Yd. 6.0 |
| Class X Concrete | | | | Cu. Yd. 102.2 |
| Reinforcement Bars | | | | Lbs. 23,610 |
| Structure Excavation | | | | Cu. Yd. 123 |

- NOTES**
- ALLOWABLE BEARING PRESSURE: 10 TSF
 - SET BASE OF FOOTING 12" MIN. INTO SOUND ROCK
 - PLACE SEAL COAT CONCRETE (6" MIN.) ON ROCK SURFACE AS LEVELING COURSE
 - MAXIMUM BEARING PRESSURE: 8.2 KSF



Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 All edges shall have standard 3/4" chamfers except as noted.
 All bar dimensions are out to out.
 Min. Bar Lap: #6 - 2'-6"; #8 - 4'-6"; #9 - 5'-9"; #10 - 7'-4"

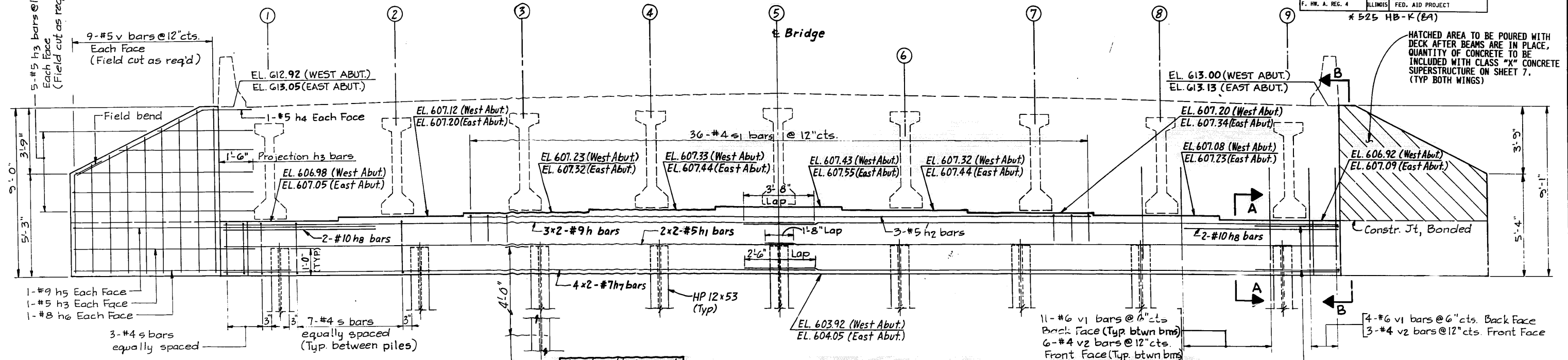
PIER DETAILS

ILLINOIS HWY. 83 OVER U.S. HWY. 45
 F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
 COOK COUNTY
 STATION 2904+44.73
 STRUCTURE NUMBER 016-2553
 DATE: 4-26-89

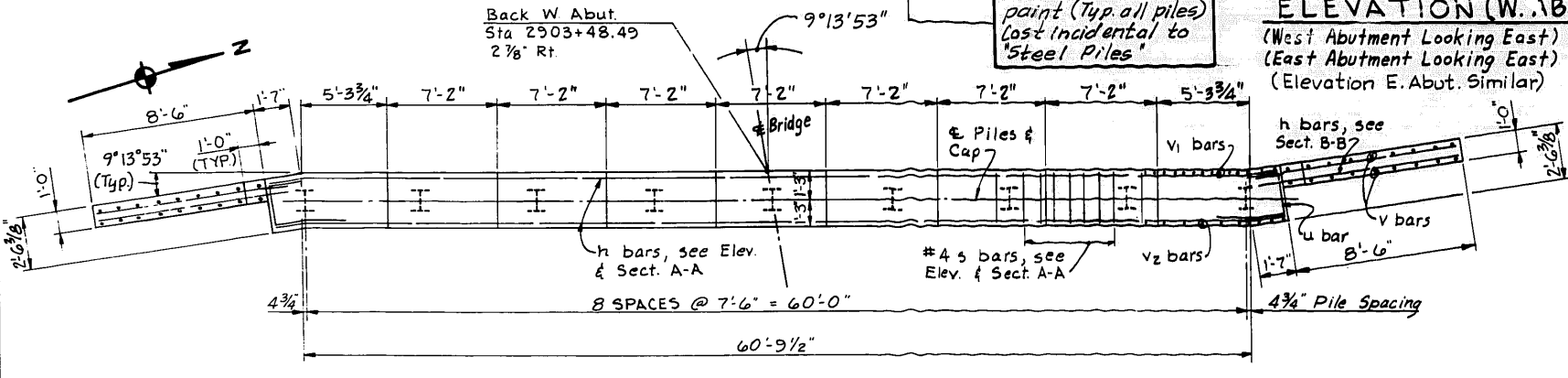
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | |
|------------------|----------|------------------|--------------|-----------|
| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAP 12A | * | COOK | 90 | 82 |
| F. HW. A. REG. 4 | ILLINOIS | FED. AID PROJECT | | |

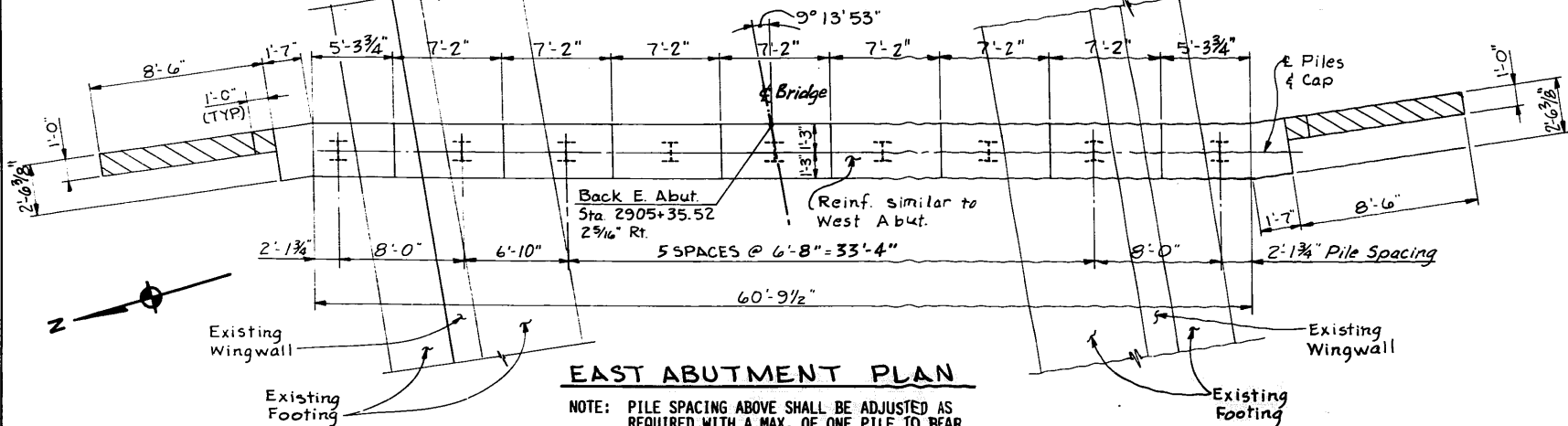
SHEET NO. 10
SHEETS



ELEVATION (W. ABUT.)
(West Abutment Looking East)
(East Abutment Looking East)
(Elevation E. Abut. Similar)

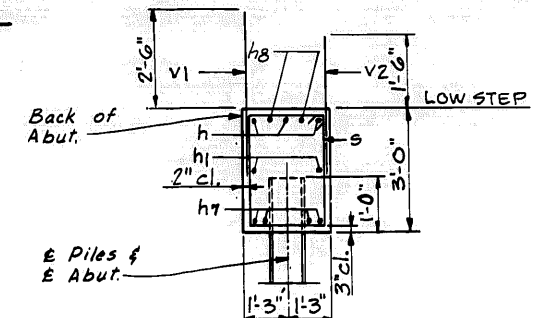


WEST ABUTMENT PLAN



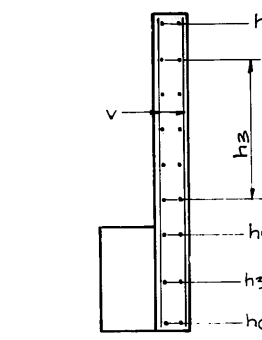
EAST ABUTMENT PLAN

NOTE: PILE SPACING ABOVE SHALL BE ADJUSTED AS REQUIRED WITH A MAX. OF ONE PILE TO BEAR ON EXISTING FOOTING AT EACH END.

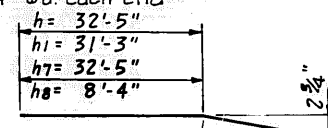


SECTION A-A

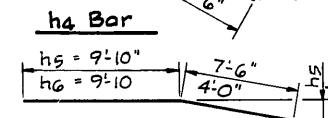
u Bar



SECTION B-B



h, h1, h7, & hg Bars

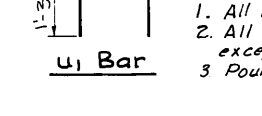


h4 Bar

h5 & h6 Bars



s Bar



u1 Bar

**BILL OF MATERIALS
TWO ABUTMENTS**

| Bar | No | Size | Length | Shape |
|-----------------------|-----|----------|---------|-------|
| h | 12 | #9 | 33'-10" | |
| h1 | 8 | #5 | 32'-8" | |
| h2 | 6 | #5 | 35'-0" | |
| h3 | 48 | #5 | 9'-10" | |
| h4 | 8 | #5 | 10'-8" | |
| h5 | 8 | #9 | 17'-4" | |
| h6 | 8 | #8 | 13'-10" | |
| h7 | 16 | #7 | 33'-10" | |
| h8 | 8 | #10 | 9'-9" | |
| s | 124 | #4 | 10'-3" | □ |
| u1 | 72 | #4 | 4'-8" | □ |
| u | 16 | #6 | 6'-7" | □ |
| v | 72 | #5 | 8'-8" | |
| v1 | 192 | #6 | 4'-6" | |
| v2 | 108 | #4 | 3'-6" | |
| Reinforcement Bars | | Lbs. | 8100 | |
| Class X Concrete | | Cu. Yd. | 42.2 | |
| Steel Piles (HP12x53) | | Lin. Ft. | 400 | |
| Structure Excavation | | Cu. Yd. | 78 | |
| Test Piles (HP12x53) | | Each | 2 | |
| Metal Shoes | | Each | 16 | |

- Notes:**
1. All bar dimensions are out-to-out.
2. All edges shall have standard 3/4" chamfers except as noted.
3. Pour steps monolithically with cap.

ABUTMENT DETAILS

ILLINOIS HWY. 83 OVER U.S. HWY. 45
F.A.P. 124 (U.S. 45) SECTION 525HB-K(89)
COOK COUNTY
STATION 2904+44.73
STRUCTURE NUMBER 016-2553
DATE: 4-25-59

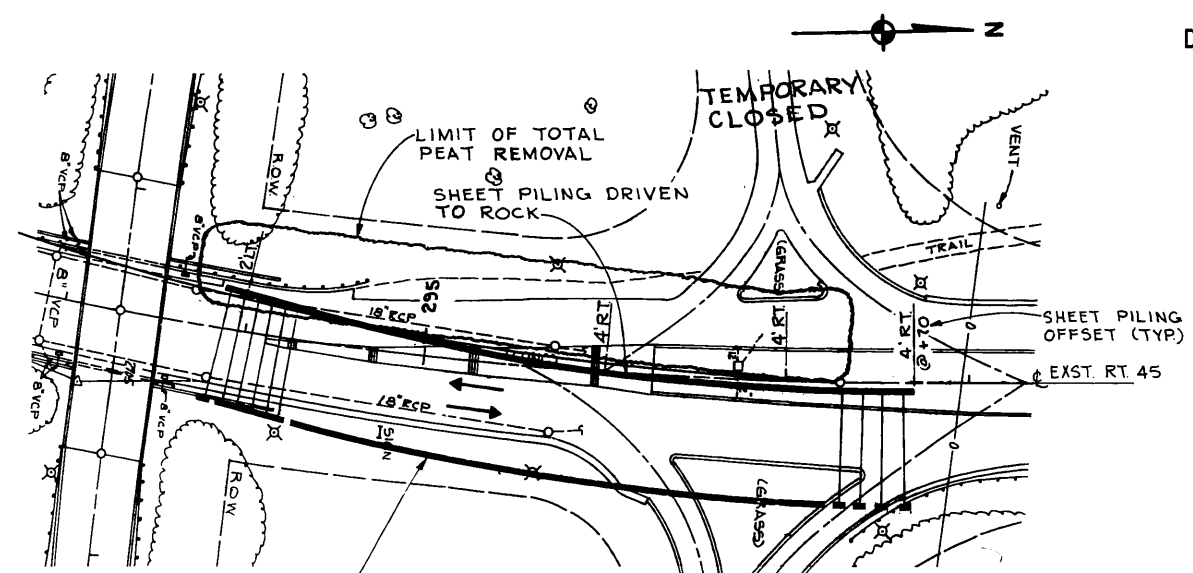
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHIM BETWEEN HP # WALERS FOR MIN 2" BEARING LENGTH CENTERED ON HP (IF HP EXTENDS BEYOND FACE OF SHT PILING, SHIM SHEET PILING TO WALER)

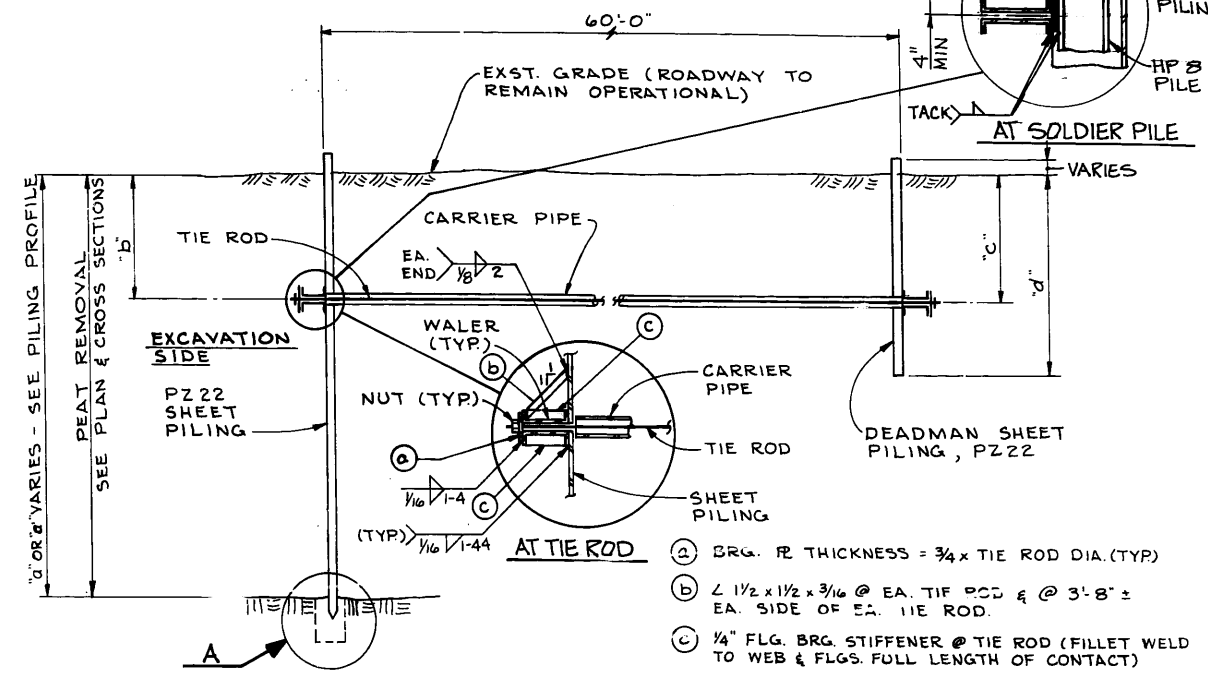
| | | | | |
|-----------------|-----|----------|------------------|-----------|
| ROUTE NO. | SEC | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAP-124 | * | COOK | 90 | 83 |
| F. H. A. REG. 4 | | ILLINOIS | FED. AID PROJECT | |

SHEET NO. SHEETS

* 525 HB-K (89)

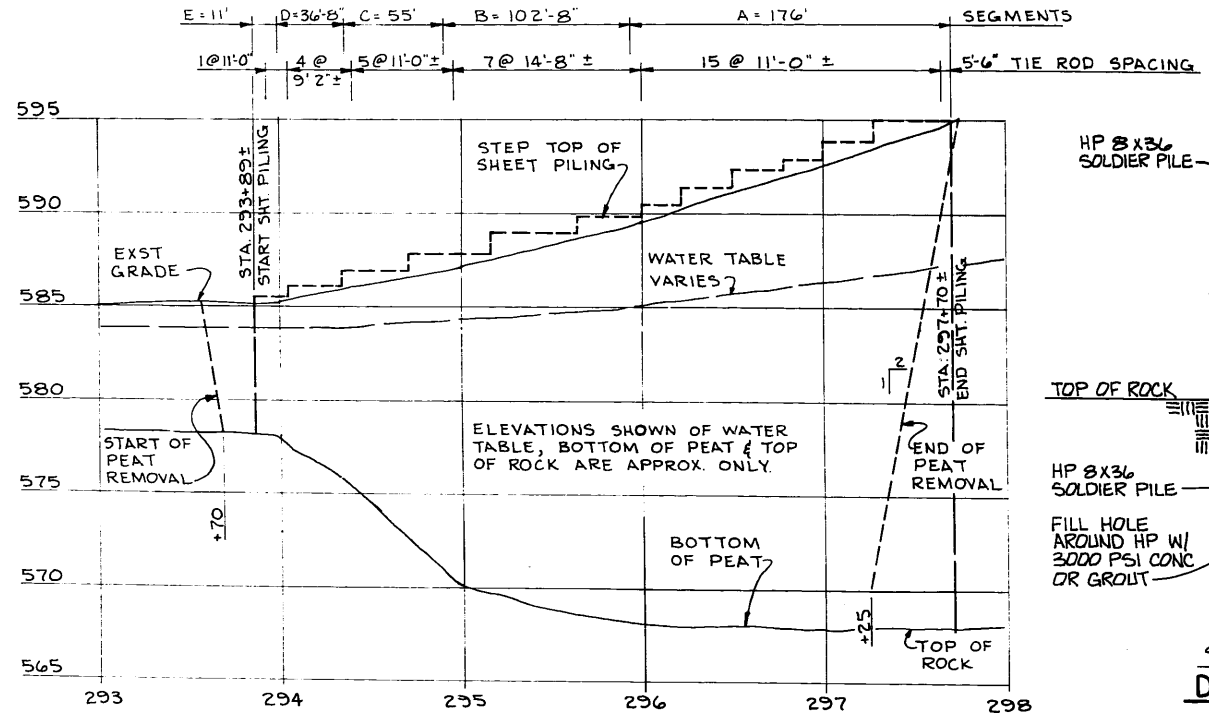


SHEET PILING PLAN

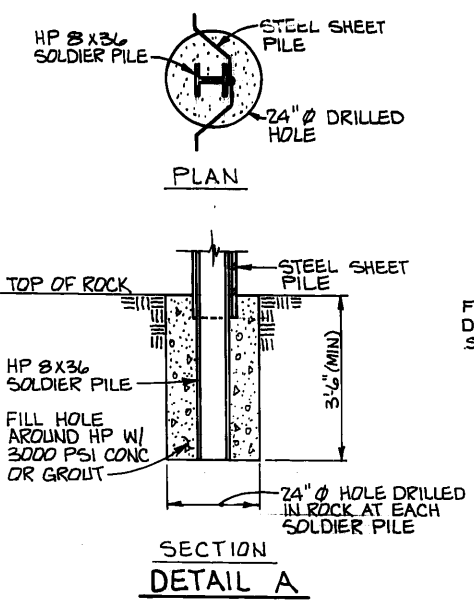


TYPICAL SECTION

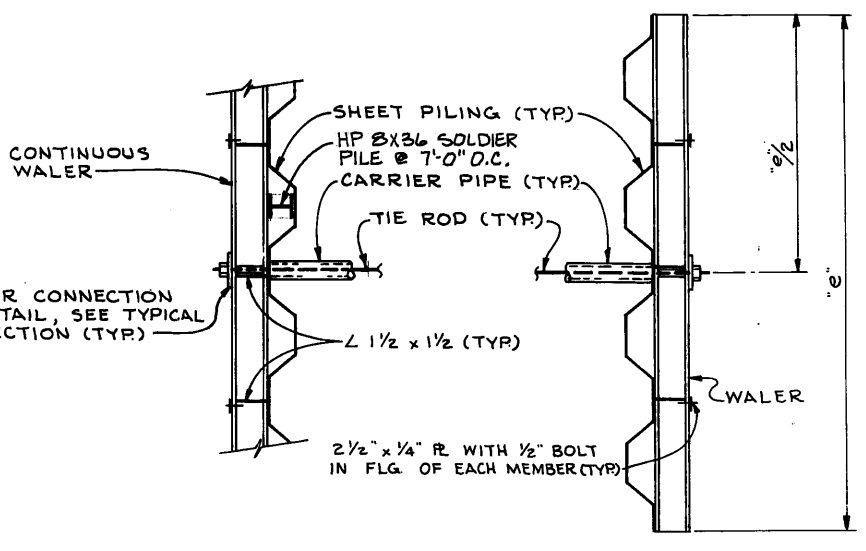
- NOTES:**
- DO NOT DEWATER EXCAVATION UNLESS INSTRUCTED TO DO SO. AS EXCAVATION PROCEEDS, FILL THE EXCAVATED AREA WITH WATER TO MAINTAIN WATER LEVEL IN THE EXCAVATION ABOVE THE SURROUNDING GROUNDWATER. ANY METHOD OF DEWATERING SUCH AS WELLS, WELL POINTS, PITS, OR OTHER MEANS WILL CAUSE FLATTENING OR SLOUGHING OF SLOPES WHICH ARE NEEDED TO SUPPORT THE EMBANKMENT, TRAFFIC LANES, BARRIERS, AND ADJACENT PROPERTY. WATER UPLIFT ON THE BOTTOM OF EXCAVATION WILL ALSO BE PREVENTED BY NOT DEWATERING.
 - INSTALL EXCAVATION SIDE SHEET PILING.
 - EXCAVATE AUGER PIT FOR INSTALLATION OF CARRIER PIPE AND PLACE BRACING TO TEMPORARILY STABILIZE THE PIT WALLS AND SHEET PILING AS THE PIT EXCAVATION PROCEEDS.
 - DEWATER THE AUGER PIT.
 - CUT HOLES IN THE SHEET PILING AND INSTALL THE TIE ROD CARRIER PIPE.
 - INSTALL SHEET PILING AT THE DEADMAN LOCATIONS.
 - BRACE THE DEADMAN SHEET PILING AND EXCAVATE AND DEWATER THE DEADMAN EXCAVATIONS.
 - PLACE THE WALERS AND INSTALL AND TIGHTEN THE TIE RODS TO A SLIGHT TENSION WITH NUTS BEARING SOLIDLY AGAINST THE PLATES.
 - BACKFILL BETWEEN THE DEADMAN AND RETAINED EMBANKMENT SLOPE WHERE REQUIRED WITH EXCAVATED MATERIAL. PLACED IN 8" LAYERS AND COMPACTED TO AT LEAST 95% MAXIMUM DENSITY PER AASHTO T-99.
 - TIGHTEN THE TIE ROD TO PROVIDE TENSILE STRESS OF 15 ksi ON THE TIE ROD GROSS AREA. USE CALIBRATED HYDRAULIC JACKING EQUIPMENT TO PRODUCE THE TENSION AND TIGHTEN THE NUTS TO SEAT THEM AGAINST THE BEARING PLATE ON EACH SIDE.
 - FLOOD PIT EXCAVATIONS AND REPEAT THE OPERATIONS ALONG THE LENGTH OF THE SHEET PILING.
 - EXCAVATE ALL UNSUITABLE MATERIAL IN STANDING WATER.
 - PLACE POROUS GRANULAR EMBEDMENT MATERIAL IN EXCAVATED AREA IN ACCORDANCE WITH SPECIAL PROVISION FOR POROUS GRANULAR EMBANKMENT, SPECIAL. PLACEMENT SHALL BE DONE UNDERWATER EXCEPT AS SPECIFIED HEREINAFTER.
 - BACKFILL EXCAVATION AGAINST THE SHEET PILING TO 1'-0" BELOW CENTERLINE OF THE TIE ROD, BRACE THE DEADMAN SHEET PILING AND REMOVE THE TIE ROD AND WALERS. EXCAVATION SIDE MAY THEN BE DEWATERED PROVIDED ENTIRE AREA ALONG THE SHEET PILING IS BACKFILLED TO WITHIN 1'-0" BELOW THE CENTERLINE OF THE TIE RODS.
 - FILL CARRIER PIPE WITH SAND-CEMENT SLURRY.
 - COMPLETE BACKFILL TO GRADE AND REMOVE SHEET PILING. SHEET PILING MORE THAN 4'-0" BELOW GRADE MAY BE LEFT IN PLACE PROVIDED OPERATIONS TO PERMIT REMOVAL OF UPPER SECTION DOES NOT ENDANGER EMBANKMENT, TRAFFIC LANE USE, BARRIERS OR ADJACENT PROPERTY.
 - SUBMIT SHOP DRAWINGS PER SPECIFICATIONS.
 - CONTRACTOR SHALL EXCAVATE AND BACKFILL DURING PEAT REMOVAL AND REPLACEMENT SO THAT NO MORE THAN 15 FT. - 20 FT. OF LONGITUDINAL TEMPORARY SHEET PILING WILL BE EXPOSED AT ONE TIME.



SHEET PILING PROFILE



SECTION DETAIL A



SHEET PILING PLAN

DEADMAN SHEET PILING PLAN

DRAWING IS FOR BIDDING PURPOSES ONLY. OBTAIN CONSTRUCTION DATA AFTER CONTRACTOR DETERMINES DEPTHS TO ROCK.

| SEGMENT | MAXIMUMS | | TIE ROD | | | | | WALERS | | e |
|---------|----------|-------|---------|------|------|--------|---------|-----------------|--------------|-------|
| | a | a' | b | c | d | DIAM. | SPCG. * | EXCAVATION SIDE | DEADMAN SIDE | |
| | SIZE | | SIZE | | | | | | | |
| A | 25.5' | 37.0' | 6.0' | 6.2' | 9.2' | 2 1/2" | 11.0' | 2 C12 X 30 | 2 C12 X 30 | 7.3' |
| B | 21.0' | 30.0' | 6.0' | 5.7' | 8.5' | 2 1/2" | 15.2' | 2 C15 X 33.9 | 2 C12 X 30 | 9.2' |
| C | 17.5' | 25.0' | 3.0' | 3.9' | 5.9' | 1 1/2" | 12.0' | 2 C12 X 20.7 | 2 C9 X 13.4 | 9.2' |
| D | 12.0' | 18.0' | 2.0' | 2.0' | 4.0' | 7/8" | 10.2' | 2 C5 X 6.7 | 2 C6 X 8.2 | 10.2' |
| E | 7.0' | 12.0' | 2.0' | 2.0' | 4.0' | 7/8" | 11.0' | 2 C5 X 6.7 | 2 C4 X 5.4 | 7.2' |

NOTES:
SHT PILE SECTION PZ22.
a' IS SHEET PILE LENGTH CORRESPONDING TO "a" WHERE ROCK IS NOT ENCOUNTERED
* MATCH SHEET PILING REQUIREMENT WITH ACTUAL SPACING LESS THAN THIS INSTALLATION.
IF SHEET PILE LENGTH BELOW GRADE EXCEEDS "a" ENGINEER WILL VERIFY INSTALLATION.
CONTRACTOR SHALL CONFIRM LENGTHS OF SHEET PILING PRIOR TO DRIVING.

STANLEY CONSULTANTS

| NAME | DATE |
|------|------|
| | |
| | |
| | |

ILLINOIS DEPARTMENT OF TRANSPORTATION

STEEL SHEET PILING

SCALE: DATE 4-26-89 DRAWN BY G.L. ERICKSON CHECKED BY