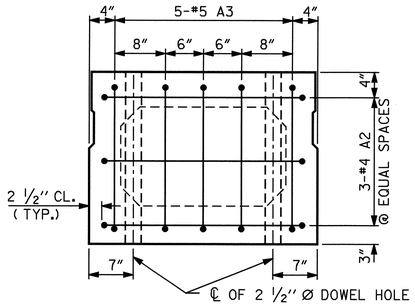
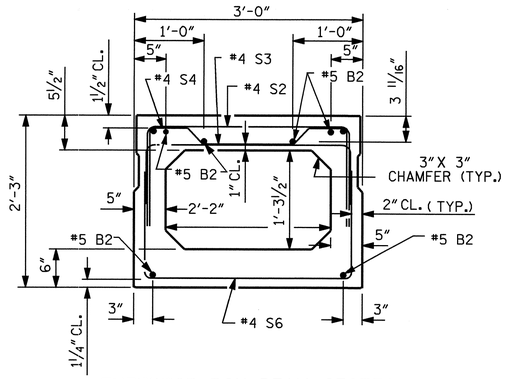


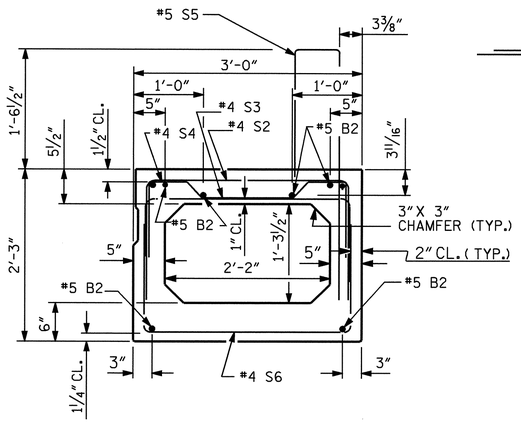

## END ELEVATION

SHOWING PLACEMENT OF #5 & #4 "A" BARS AND LOCATION OF DOWEL HOLES. (INTERIOR BOX BEAM SECTION SHOWN-EXTERIOR SECTION SIMILAR EXCEPT SHEAR KEY LOCATION. STRAND LAYOUT NOT SHOWN.)




## INTERIOR BOX BEAM SECTION

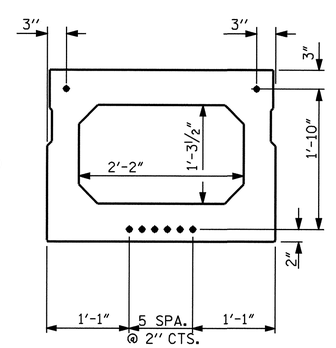
( STRAND LAYOUT NOT SHOWN)




## EXTERIOR BOX BEAM SECTION

( STRAND LAYOUT NOT SHOWN)

## 0.6" Ø LOW RELAXATION STRAND LAYOUT

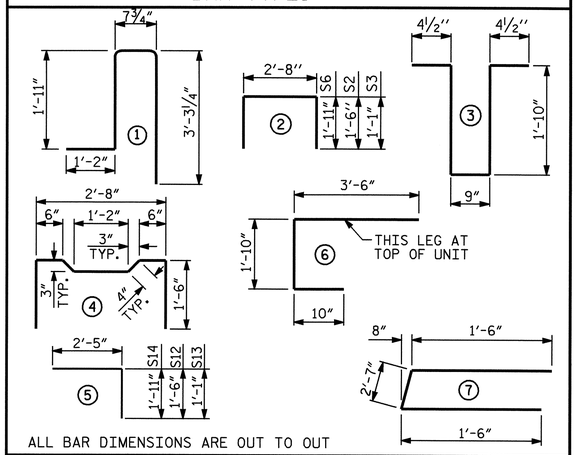



## TYPICAL STRAND LOCATION

( 8 STRANDS REQUIRED)

(INTERIOR BOX BEAM SECTION SHOWN-EXTERIOR SECTION SIMILAR EXCEPT SHEAR KEY LOCATION)

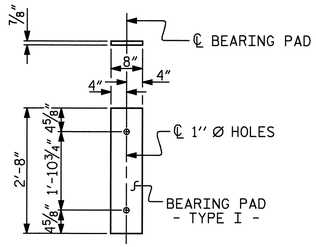
## BAR TYPES




ALL BAR DIMENSIONS ARE OUT TO OUT

## DEBONDING LEGEND

● FULLY BONDED STRANDS

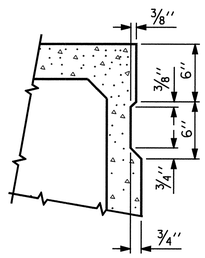



FIXED END

( TYPE I - 26 REQ'D )

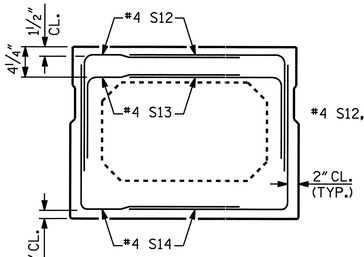
## ELASTOMERIC BEARING DETAILS

ELASTOMER SHALL BE 60 DUROMETER HARDNESS.



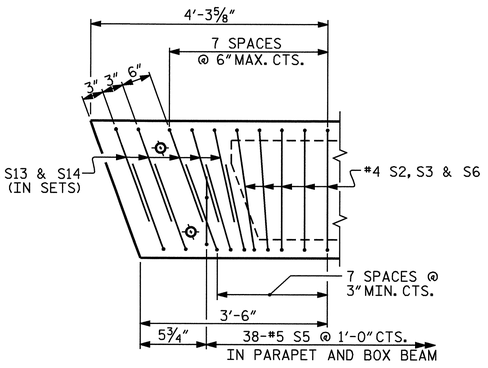

## SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR BOX BEAMS.




## END VIEW

( SHOWING #4 "S" BARS IN END OF BEAM)




## DETAIL "B"

EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S5 BARS. "B" BARS AND "A" BARS NOT SHOWN.

## BILL OF MATERIAL FOR ONE BOX BEAM SECTION

(SPAN B)

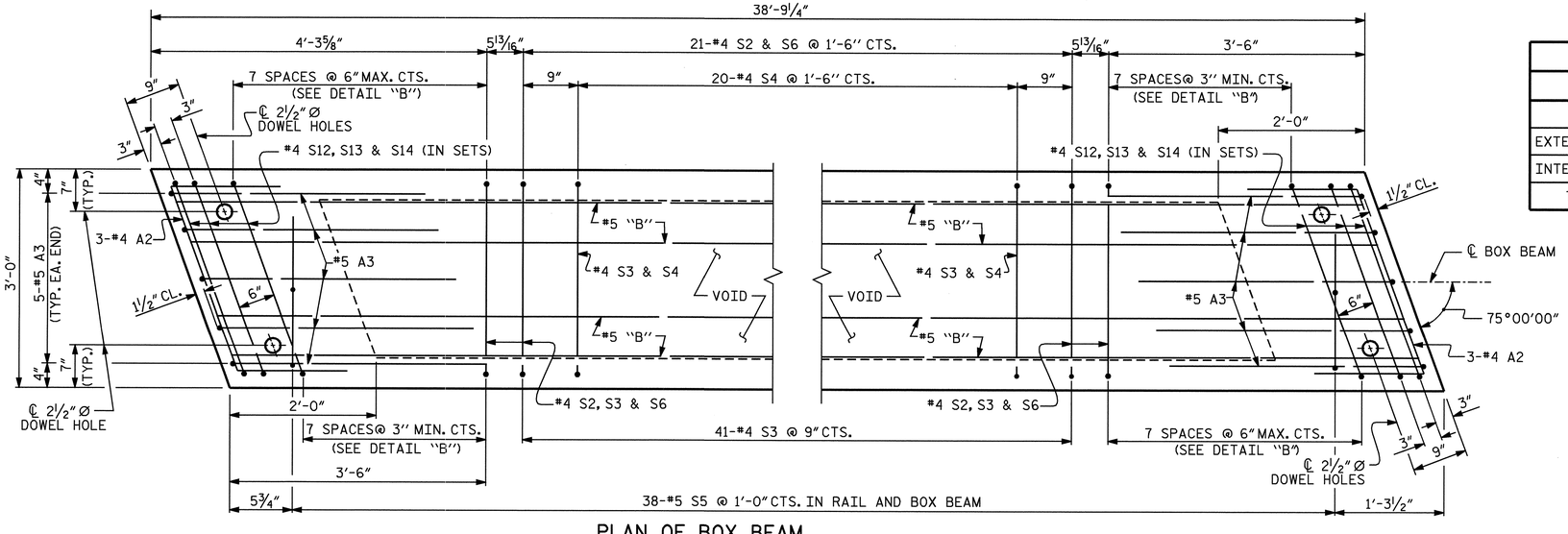
| BAR | NO | SIZE | TYPE | EXTERIOR UNIT LENGTH | EXTERIOR UNIT WEIGHT | INTERIOR UNIT LENGTH | INTERIOR UNIT WEIGHT |
|---|---|---|---|---|---|---|---|
| A2 | 18 | 4 | 7 | 5'-7" | 67 | 5'-7" | 67 |
| A3 | 10 | 5 | 6 | 6'-2" | 64 | 6'-2" | 64 |
| B2 | 6 | 5 | STR | 38'-5" | 240 | 38'-5" | 240 |
| K2 | 6 | 4 | STR | 2'-8" | 11 | 2'-8" | 11 |
| K3 | 9 | 4 | 3 | 5'-2" | 31 | 5'-2" | 31 |
| S2 | 31 | 4 | 2 | 5'-8" | 117 | 5'-8" | 117 |
| S3 | 41 | 4 | 2 | 4'-10" | 132 | 4'-10" | 132 |
| S4 | 20 | 4 | 4 | 5'-10" | 78 | 5'-10" | 78 |
| ✳S5 | 38 | 5 | 1 | 7'-1" | 281 | | |
| S6 | 31 | 4 | 2 | 6'-6" | 135 | 6'-6" | 135 |
| S12 | 20 | 4 | 5 | 3'-11" | 52 | 3'-11" | 52 |
| S13 | 20 | 4 | 5 | 3'-6" | 47 | 3'-6" | 47 |
| S14 | 20 | 4 | 5 | 4'-4" | 58 | 4'-4" | 58 |
| REINFORCING STEEL | | | | LBs. | 1,032 | | 1,032 |
| ✳EPOXY COATED | | | | | | | |
| REINFORCING STEEL | | | | LBs. | 281 | | 0 |
| 5000 P.S.I. CONCRETE | | | | C.Y. | 6.5 | | 6.5 |
| 0.6" Ø L.R. STRANDS | | | | No. | 8 | | 8 |

## BOX BEAMS REQUIRED

| | (SPAN B) | | |
|---|---|---|---|
| | NUMBER | LENGTH | TOTAL LENGTH |
| EXTERIOR B.B. | 2 | 38'-9 1/4" | 77'-6 1/2" |
| INTERIOR B.B. | 11 | 38'-9 1/4" | 426'-5 3/4" |
| TOTAL | 13 | 38'-9 1/4" | 504'-0 1/4" |

## GRADE 270 STRANDS

| | 0.6" Ø L.R. |
|---|---|
| AREA ( SQUARE INCHES ) | 0.217 |
| ULTIMATE STRENGTH ( LBS. PER STRAND ) | 58,600 |
| APPLIED PRESTRESS ( LBS. PER STRAND ) | 43,950 |




## PLAN OF BOX BEAM

EXTERIOR UNIT SHOWN, INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS FOR LOCATION OF DIAPHRAGMS, SEE PLAN OF SPANS. FOR REINFORCING STEEL IN DIAPHRAGMS, SEE DIAPHRAGM DETAILS.

DRAWN BY : J. G. KHARVA DATE : 06/10/02
CHECKED BY : V. NGUYEN DATE : 01/12/06

03-FEB-2006 12:13
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rwwright

NORTH CAROLINA PROFESSIONAL SEAL 11905 ENGINEER WILLIAM A. DAVIS
2/3/06

PROJECT NO. B-4039
BURKE COUNTY
STATION: 14+12.00 -L-

SHEET 7 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
# 3'-0" X 2'-3" PRESTRESSED CONCRETE BOX BEAM UNIT
(SPAN B)

| REVISIONS | | | | | | SHEET NO. |
|---|---|---|---|---|---|---|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-10 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 26 |

NCDOT