

DEAD LOAD DEFLECTION AND CAMBER

| TYPE I & TYPE V | SPAN A | SPANS B & C | SPAN D |
|---|--------------------|--------------------|--------------------|
| | 1/2" Ø L.R. STRAND | 1/2" Ø L.R. STRAND | 1/2" Ø L.R. STRAND |
| CAMBER (SLAB ALONE IN PLACE) | 1 3/16" ↑ | 1 1/8" ↑ | 5/8" ↑ |
| DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD ** | 3/16" ↓ | 3/16" ↓ | 1/16" ↓ |
| FINAL CAMBER | 1 5/8" ↑ | 1 11/16" ↑ | 9/16" ↑ |

| TYPE II & TYPE III | SPAN A | SPANS B & C | SPAN D |
|---|--------------------|--------------------|--------------------|
| | 1/2" Ø L.R. STRAND | 1/2" Ø L.R. STRAND | 1/2" Ø L.R. STRAND |
| CAMBER (SLAB ALONE IN PLACE) | 1 1/8" ↑ | 1 5/16" ↑ | 9/16" ↑ |
| DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD ** | 3/16" ↓ | 3/16" ↓ | 1/16" ↓ |
| FINAL CAMBER | 1 11/16" ↑ | 1 3/4" ↑ | 1/2" ↑ |

| TYPE IV | SPAN A | SPANS B & C | SPAN D |
|---|--------------------|--------------------|--------------------|
| | 1/2" Ø L.R. STRAND | 1/2" Ø L.R. STRAND | 1/2" Ø L.R. STRAND |
| CAMBER (SLAB ALONE IN PLACE) | 1 5/16" ↑ | 1 5/16" ↑ | 9/16" ↑ |
| DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD ** | 3/16" ↓ | 3/16" ↓ | 1/16" ↓ |
| FINAL CAMBER | 1 3/4" ↑ | 1 3/4" ↑ | 1/2" ↑ |

** INCLUDES FUTURE WEARING SURFACE

DRAWN BY : M. J. OSTRISHKO DATE : 1/17/02
 CHECKED BY : K. D. LAYNE DATE : 2/17/02

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BILL OF MATERIAL FOR ONE CORED SLAB UNIT - SPAN A

| BAR | NUMBER | SIZE | TYPE | TYPE I UNIT | | TYPE II UNIT | | TYPE III UNIT | | TYPE IV UNIT | | TYPE V UNIT | |
|----------------------------------|--------|------|------|-------------|--------|--------------|--------|---------------|--------|--------------|--------|-------------|--------|
| | | | | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT |
| B1 | 4 | #4 | STR | 24'-2" | 65 | 24'-2" | 65 | 24'-2" | 65 | 24'-2" | 65 | 24'-2" | 65 |
| S1 | 8 | #4 | 1 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 |
| S2 | 86 | #4 | 1 | 5'-4" | 306 | 5'-4" | 306 | 5'-4" | 306 | 5'-4" | 306 | 5'-4" | 306 |
| S3 | 4 | #4 | 1 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 |
| S4 | 4 | #4 | 1 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 |
| S5 | 4 | #4 | 1 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 |
| * S6 | 49 | #5 | 2 | | | | | | | | | 7'-8" | 392 |
| REINFORCING STEEL | | | | LBS. | 437 | | 437 | | 437 | | 437 | | 437 |
| * EPOXY COATED REINFORCING STEEL | | | | LBS. | | | | | | | | | 392 |
| 5,000 P.S.I. CONCRETE | | | | CU. YDS. | 6.7 | | 8.0 | | 8.0 | | 8.0 | | 6.7 |

BILL OF MATERIAL FOR ONE CORED SLAB UNIT - SPANS B & C

| BAR | NUMBER | SIZE | TYPE | TYPE I UNIT | | TYPE II UNIT | | TYPE III UNIT | | TYPE IV UNIT | | TYPE V UNIT | |
|----------------------------------|--------|------|------|-------------|--------|--------------|--------|---------------|--------|--------------|--------|-------------|--------|
| | | | | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT |
| B2 | 4 | #4 | STR | 24'-9" | 66 | 24'-9" | 66 | 24'-9" | 66 | 24'-9" | 66 | 24'-9" | 66 |
| S1 | 8 | #4 | 1 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 |
| S2 | 90 | #4 | 1 | 5'-4" | 321 | 5'-4" | 321 | 5'-4" | 321 | 5'-4" | 321 | 5'-4" | 321 |
| S3 | 4 | #4 | 1 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 |
| S4 | 4 | #4 | 1 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 |
| S5 | 4 | #4 | 1 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 |
| * S6 | 51 | #5 | 2 | | | | | | | | | 7'-8" | 408 |
| REINFORCING STEEL | | | | LBS. | 453 | | 453 | | 453 | | 453 | | 453 |
| * EPOXY COATED REINFORCING STEEL | | | | LBS. | | | | | | | | | 408 |
| 5,000 P.S.I. CONCRETE | | | | CU. YDS. | 6.9 | | 8.2 | | 8.2 | | 8.1 | | 6.9 |

BILL OF MATERIAL FOR ONE CORED SLAB UNIT - SPAN D

| BAR | NUMBER | SIZE | TYPE | TYPE I UNIT | | TYPE II UNIT | | TYPE III UNIT | | TYPE IV UNIT | | TYPE V UNIT | |
|----------------------------------|--------|------|------|-------------|--------|--------------|--------|---------------|--------|--------------|--------|-------------|--------|
| | | | | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT | LENGTH | WEIGHT |
| B3 | 4 | #4 | STR | 18'-2" | 49 | 18'-2" | 49 | 18'-2" | 49 | 18'-2" | 49 | 18'-2" | 49 |
| S1 | 8 | #4 | 1 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 | 4'-4" | 23 |
| S2 | 62 | #4 | 1 | 5'-4" | 221 | 5'-4" | 221 | 5'-4" | 221 | 5'-4" | 221 | 5'-4" | 221 |
| S3 | 4 | #4 | 1 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 | 5'-6" | 15 |
| S4 | 4 | #4 | 1 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 | 5'-5" | 14 |
| S5 | 4 | #4 | 1 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 | 5'-4" | 14 |
| * S6 | 37 | #5 | 2 | | | | | | | | | 7'-8" | 296 |
| REINFORCING STEEL | | | | LBS. | 336 | | 336 | | 336 | | 336 | | 336 |
| * EPOXY COATED REINFORCING STEEL | | | | LBS. | | | | | | | | | 296 |
| 5,000 P.S.I. CONCRETE | | | | CU. YDS. | 5.0 | | 6.0 | | 6.0 | | 5.8 | | 5.0 |

NOTE : QUANTITIES FOR CONCRETE PARAPET AND END POST ARE NOT INCLUDED. SEE "RAIL POST SPACING AND END OF RAIL DETAIL" SHEETS.

1/2" Ø L. R. STRANDS FOR ONE CORED SLAB UNIT

| UNIT TYPE | NUMBER OF STRANDS | | | |
|----------------------|-------------------|--------|--------|--------|
| | SPAN A | SPAN B | SPAN C | SPAN D |
| TYPE I & TYPE V | 22 | 22 | 22 | 13 |
| TYPE II THRU TYPE IV | 24 | 24 | 24 | 13 |

GRADE 270 STRANDS

| | 1/2" Ø L.R. |
|---------------------------------------|-------------|
| AREA (SQUARE INCHES) | 0.153 |
| ULTIMATE STRENGTH (LBS. PER STRAND) | 41,300 |
| APPLIED PRESTRESS (LBS. PER STRAND) | 30,980 |

CORED SLABS UNITS REQUIRED

| UNIT TYPE | NUMBER | LENGTH | | | | TOTAL LENGTH |
|---------------|--------------|--------------|-------------|-------------|--------------|--------------|
| | | SPAN A | SPAN B | SPAN C | SPAN D | |
| TYPE I INT. | 12 EACH SPAN | 46'-8 13/16" | 47'-10 3/8" | 47'-10 3/8" | 34'-8 13/16" | 2126.38 |
| TYPE II INT. | 1 EACH SPAN | 46'-8 13/16" | 47'-10 3/8" | 47'-10 3/8" | 34'-8 13/16" | 177.20 |
| TYPE II EXT. | 1 EACH SPAN | 46'-8 13/16" | 47'-10 3/8" | 47'-10 3/8" | 34'-8 13/16" | 177.20 |
| TYPE III INT. | 1 EACH SPAN | 46'-8 13/16" | 47'-10 3/8" | 47'-10 3/8" | 34'-8 13/16" | 177.20 |
| TYPE III EXT. | 1 EACH SPAN | 46'-8 13/16" | 47'-10 3/8" | 47'-10 3/8" | 34'-8 13/16" | 177.20 |
| TYPE IV INT. | 1 EACH SPAN | 46'-8 13/16" | 47'-10 3/8" | 47'-10 3/8" | 34'-8 13/16" | 177.20 |
| TYPE V INT. | 1 EACH SPAN | 46'-8 13/16" | 47'-10 3/8" | 47'-10 3/8" | 34'-8 13/16" | 177.20 |
| TOTAL | 18 EACH SPAN | | | | | 3189.58 |

NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT.

THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE B LOW MODULUS SILICONE SEALANT. THE 2" Ø BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. THE 12" WIDE BOND BREAKING TAPE SHALL BE CENTERED OVER THE JOINT AND CONFORM TO THE REQUIREMENTS OF TYPE N BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, A POSITIVE HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. THIS SYSTEM SHALL BE DESIGNED TO BE LEFT IN PLACE UNTIL THE CONCRETE HAS REACHED RELEASE STRENGTH. AT LEAST THREE WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI.

ALL REINFORCING STEEL IN CONCRETE PARAPET SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS. FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

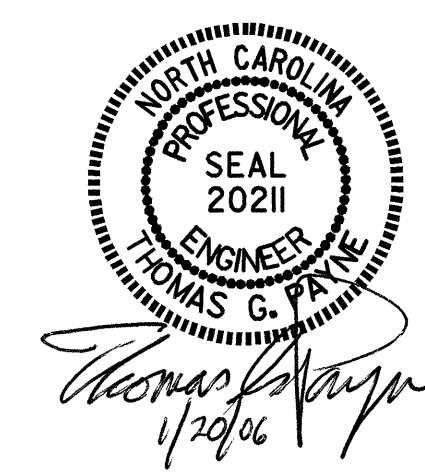
PRESTRESSED CONCRETE CORED SLAB UNITS SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR. SEE SPECIAL PROVISIONS FOR CALCIUM NITRITE CORROSION INHIBITOR.

PRESTRESSED CONCRETE CORED SLAB UNITS ARE DESIGNED FOR AN ALLOWABLE TENSILE STRESS OF 0 PSI IN THE PRECOMPRESSED TENSILE ZONE UNDER ALL LOADING CONDITIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

PROJECT NO. B-3445
CURRITUCK COUNTY
 STATION: 24+18.00 -L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT BILL OF MATERIAL

| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|-----------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | |
| 1 | | | 3 | | | S-19 |
| 2 | | | 4 | | | 44 |