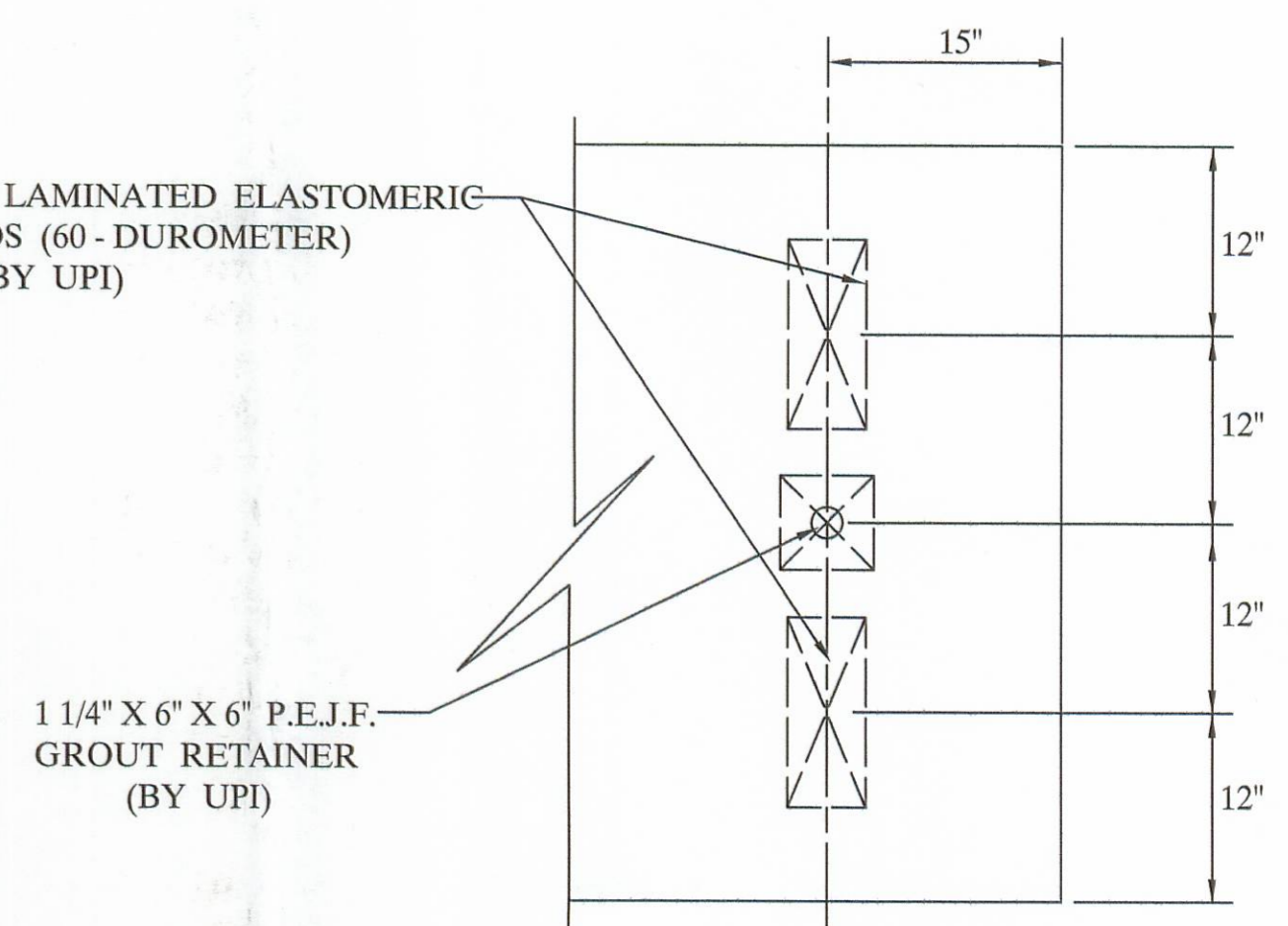


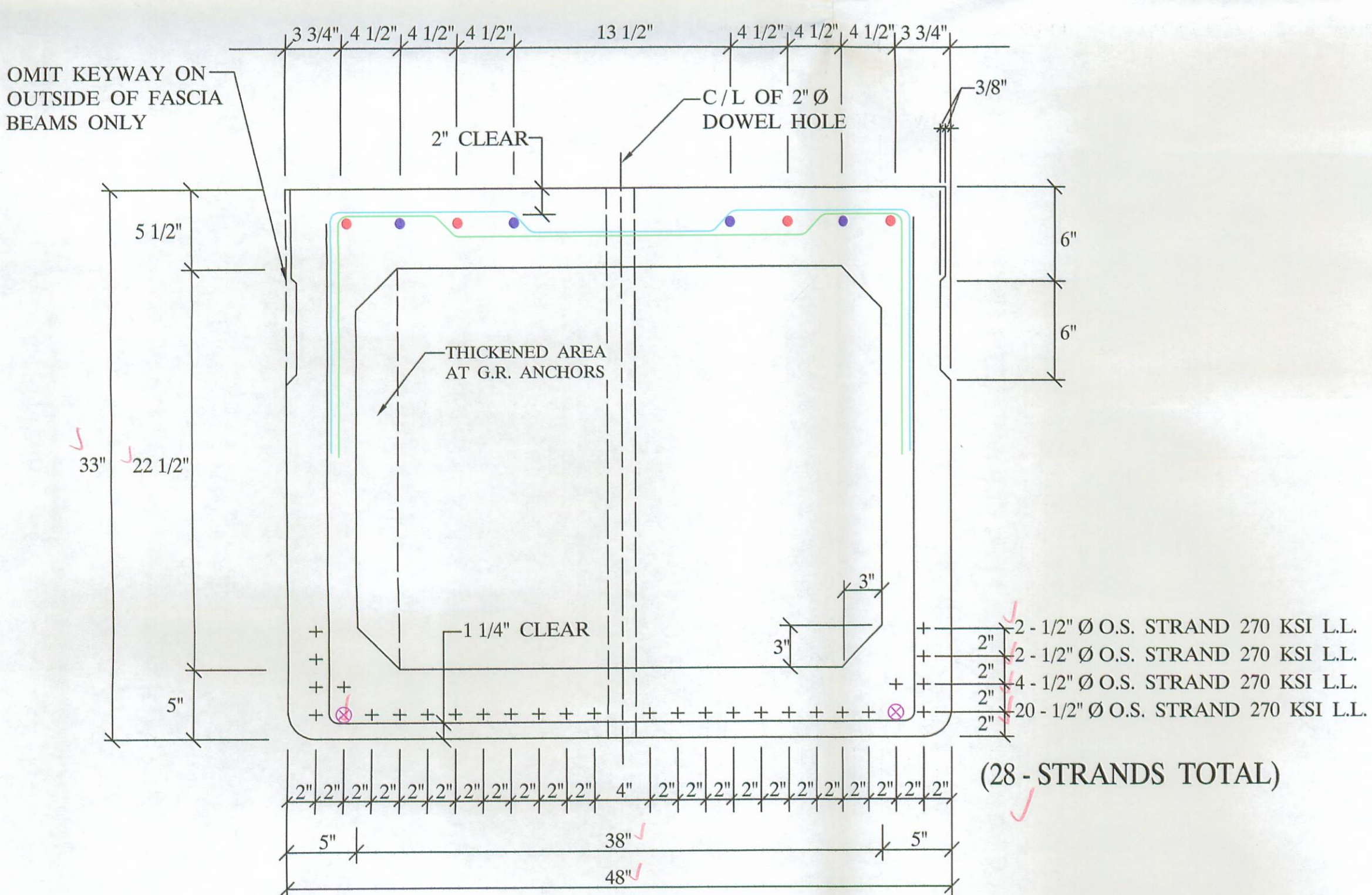
DECK PLAN



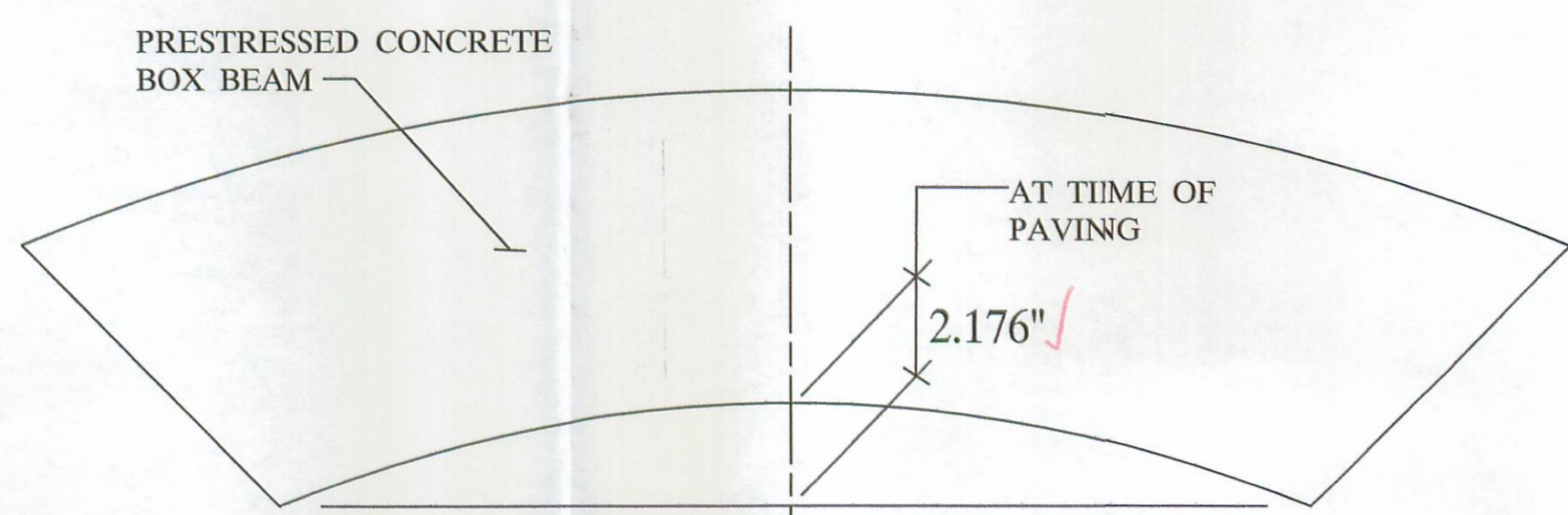
**BEARING PAD LAYOUT
(PLAN VIEW)**

QUALITY CONTROL NOTE :

- ✓ --- STRAND AREA IS .167 SQ. IN.
- ✓ --- STRAND IS LOW LAX.
- ✓ --- INITIAL LOAD IS 33,818 # / STRAND.
- ✓ --- REBAR IS ALL GRADE - 60.
- ✓ --- STIRRUPS UNDER STRAND.
- ✓ --- CONCRETE STRENGTHS: 7000 PSI AT 28 DAYS
5000 PSI AT RELEASE
- O.D.O.T. 2002 SPECIFICATIONS.



**B33-48
(6 - REQUIRED)
ELEVATION**



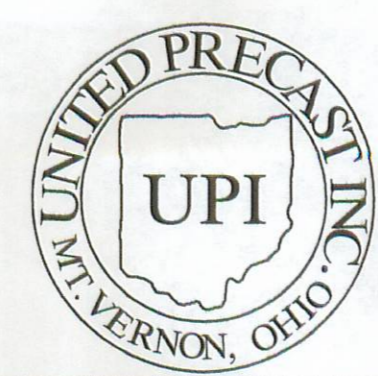
**CAMBER DETAIL
(ELEVATION)**

- 4 - #5 BARS FULL LENGTH RUN (TOP)
- 4 - #5 ADDITIONAL BARS 7'-3" LONG AT EACH END OF BEAM (TOP)
- ⊗ 2 - #5 BARS FULL LENGTH RUN (BOTTOM)

BILL OF MATERIALS

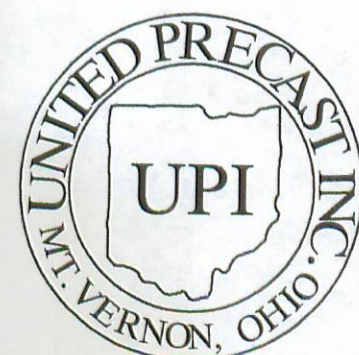
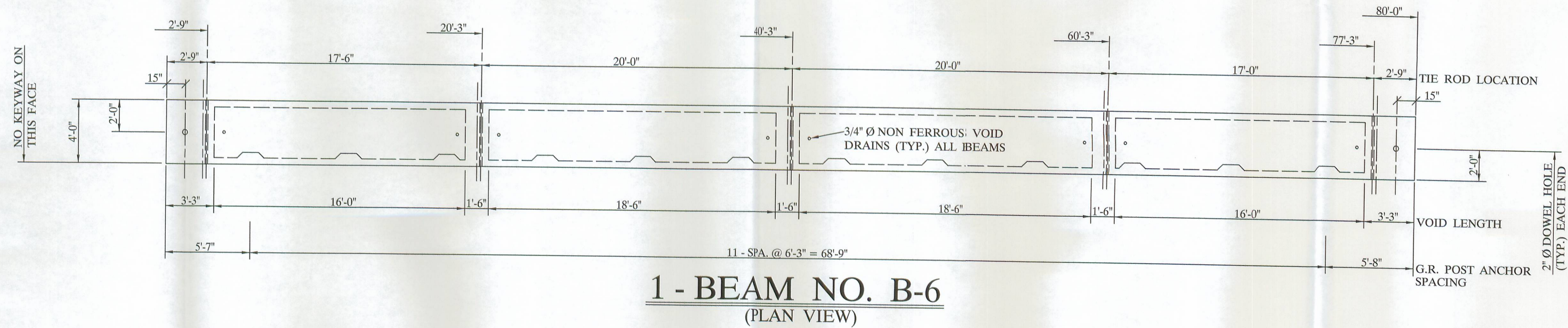
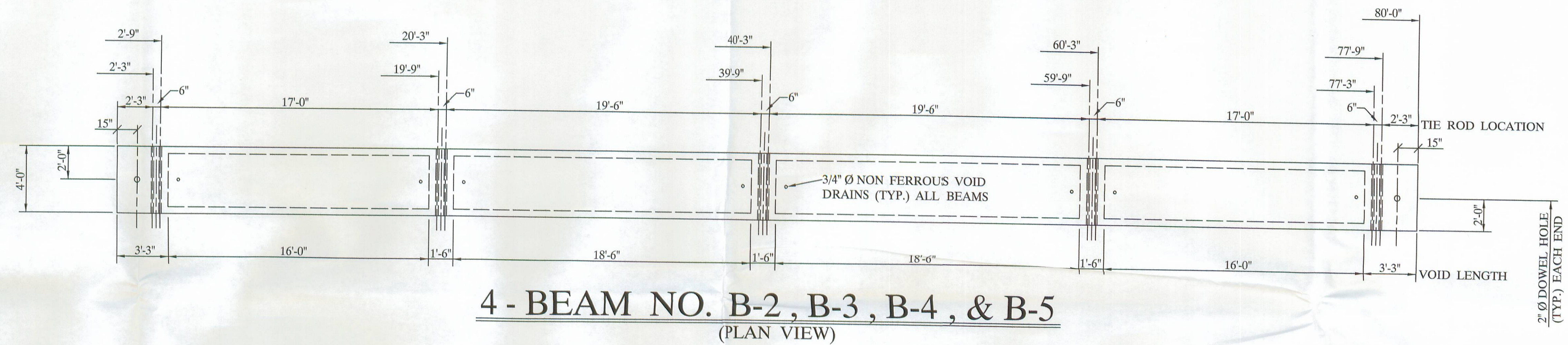
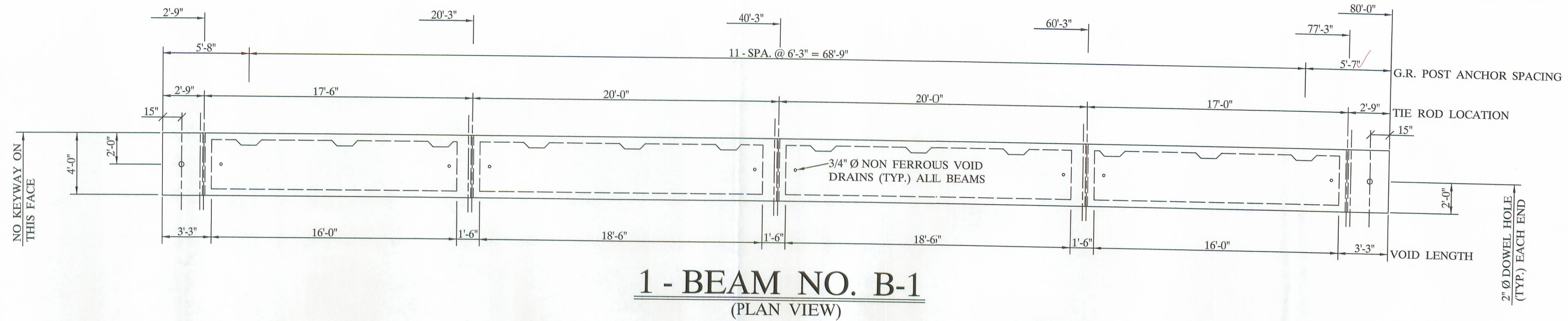
| NO | ITEM | QTY / BEAM | NOTES | TOTAL |
|----|---------------------------|-----------------|------------------------------|-----------------|
| 1 | BEAM WEIGHT | | 74,262 # | |
| 2 | CONCRETE | 17.7 CY. | | 106.2 CY. |
| 3 | CALCIUM NITRITE | 70.8 GAL. | D.C.I. 4 - GAL. / CY. | 424.8 GAL. |
| 4 | STRAND | | 1/2" Ø STRAND 270 KSI L.L. | 16,800 L.F. |
| 5 | RE - STEEL | | GRADE - 60 | 11,141 # |
| 6 | VOID | | 22 1/2" X 38" | 414 L.F. |
| 7 | VOID DRAINS | | 3/4" Ø NON FERROUS | 48 EA. |
| 8 | TIE ROD | 12'-0" 8'-0" | 1" Ø STEEL ROD | 10 EA. 5 EA. |
| 9 | TIE ROD SLEEVES | | | 160 L.F. |
| 10 | TYPE - B - ANCHORS | | | 48 EA. |
| 11 | TYPE - C - ANCHORS | | | 24 EA. |
| 12 | DOWELS & SLEEVES | | | 12 EA. |
| 13 | WASSER | | MC - TAR | 0.8 GAL. |
| 14 | SILANE | | | 5.0 GAL. |
| 15 | JUTE | | | 400 L.F. |
| 16 | BEARING PADS | | 1 1/4" X 5" X 12" , 3 - LAM. | 24 L.F. |
| 17 | NON-SHRINK GROUT ADDITIVE | 2 1/2 CY. | GROUT, BY OTHERS | 23 LBS. |
| 18 | GUARDRAIL POST | | TYPE - 2 | 24 EA. |
| 19 | GUARDRAIL POST (OFF DECK) | | (SHIP LOOSE) | 8 EA. |
| 20 | GUARDRAIL ELEMENT | | | 175 L.F. |
| 21 | TUBULAR BACK - UP | | | 175 L.F. |

RECEIVED
JUL 25 2005
L.D. CO. ENGINEER



UNITED PRECAST INC.
 ROUNDHOUSE LANE
 MOUNT VERNON, OHIO 43050
 PHONE : (740) 393-1121
 FAX : (740) 392-9708

| | | |
|---|---------------------------------|-----------------------|
| DESCRIPTION: BOX BEAM DETAILS | SCALE: ----- | DRAWN BY: PHIL |
| JOB NAME: BRIDGE NO. 35 - 4.24 LOGAN COUNTY | ITEM 515 PROJECT NO. T.R. 35 | REVISED: |
| DATE: JUNE 2005 | APPROVED BY: E.O.C. | DRAWING NO. 1 OF 4 |

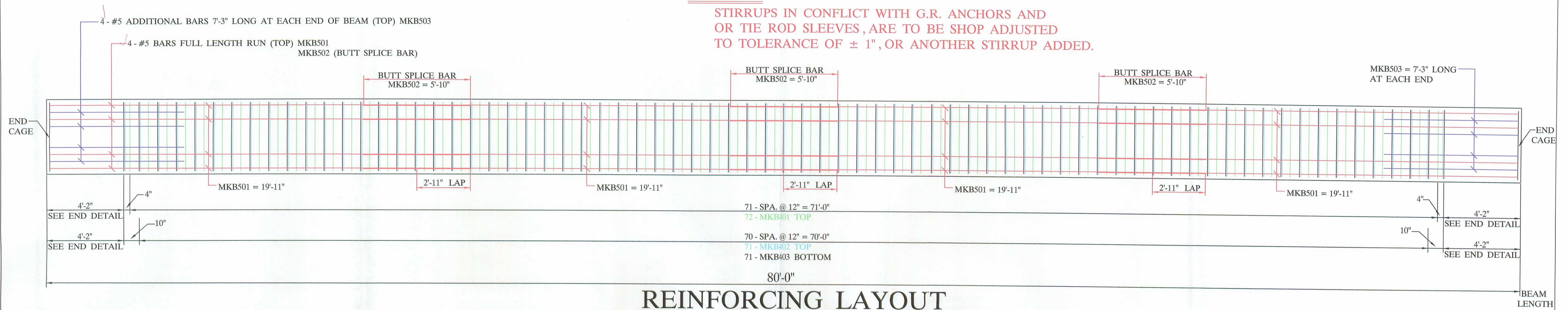


UNITED PRECAST INC.
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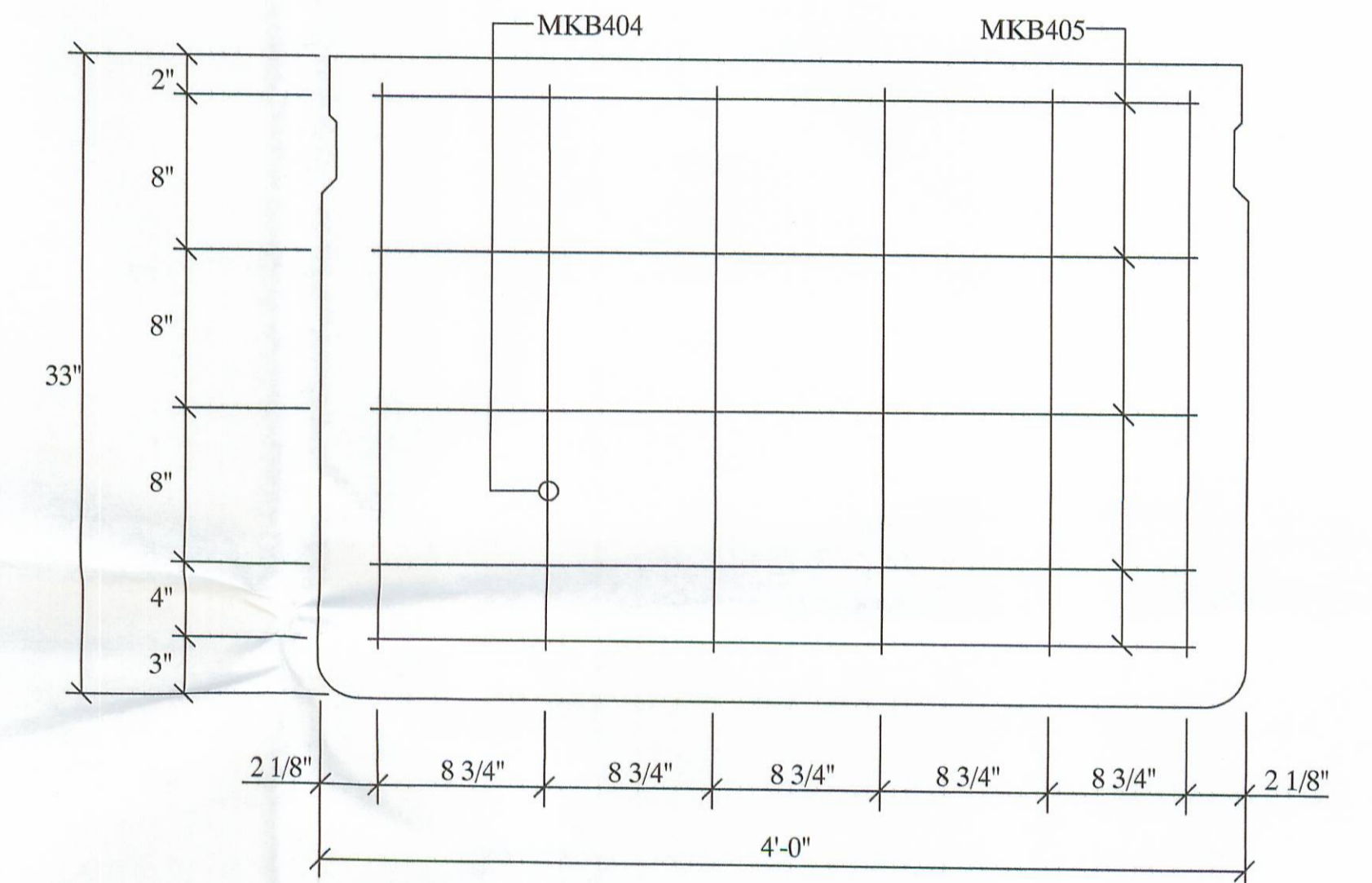
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|--------------|--------------------------------------|---------------------------------|--------|-----------------------|
| DESCRIPTION: | BOX BEAM DETAILS | | SCALE: | DRAWN BY: |
| JOB NAME: | BRIDGE NO. 35 - 4.24 LOGAN COUNTY | ITEM 515 PROJECT NO. T.R. 35 | ----- | PHIL |
| DATE: | JUNE 2005 | APPROVED BY: | E.O.C. | 7/15/05 |
| | | | | DRAWING NO. 2 OF 4 |

NOTE :

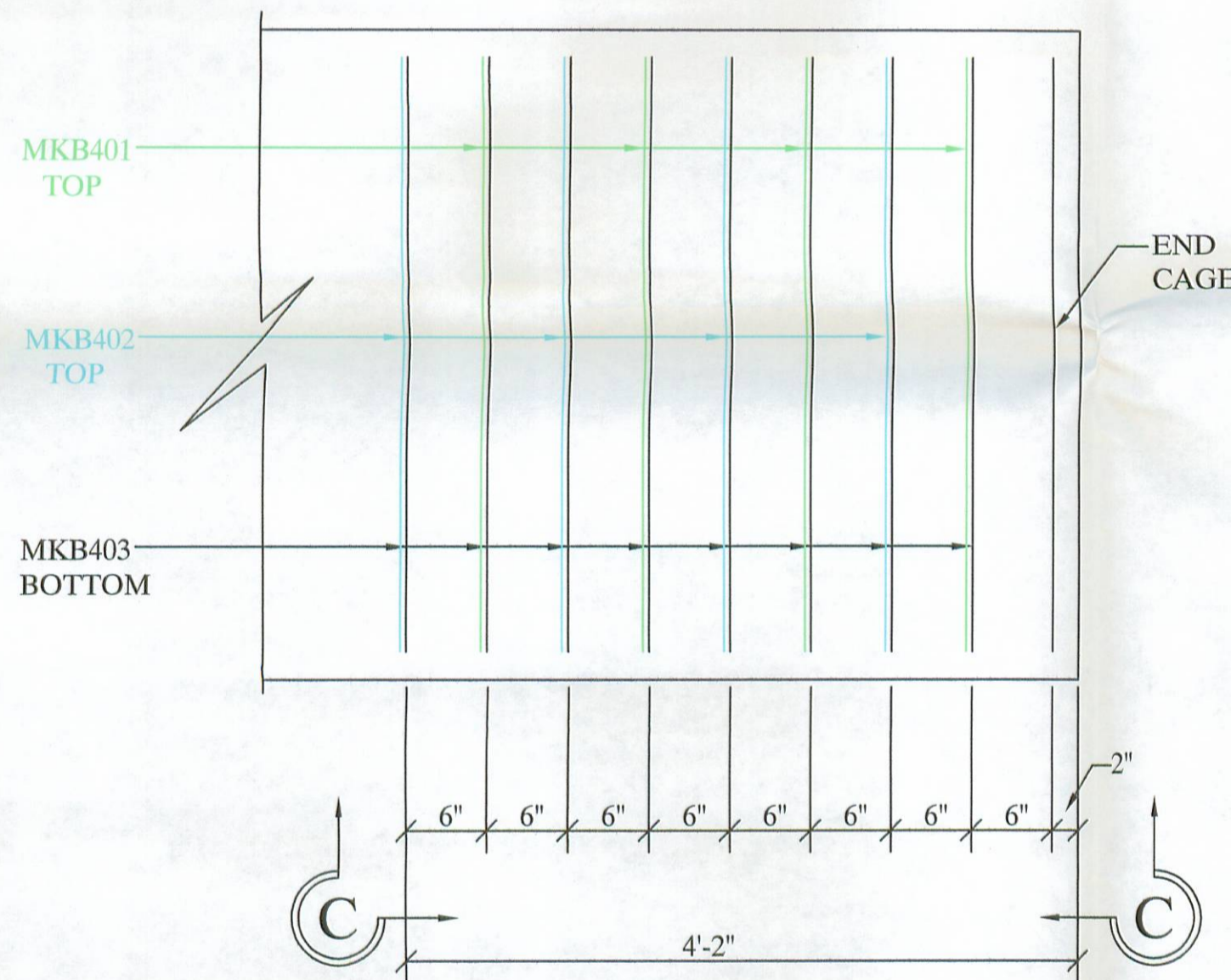
STIRRUPS IN CONFLICT WITH G.R. ANCHORS AND OR TIE ROD SLEEVES, ARE TO BE SHOP ADJUSTED TO TOLERANCE OF $\pm 1"$, OR ANOTHER STIRRUP ADDED.



REINFORCING LAYOUT
(PLAN VIEW)

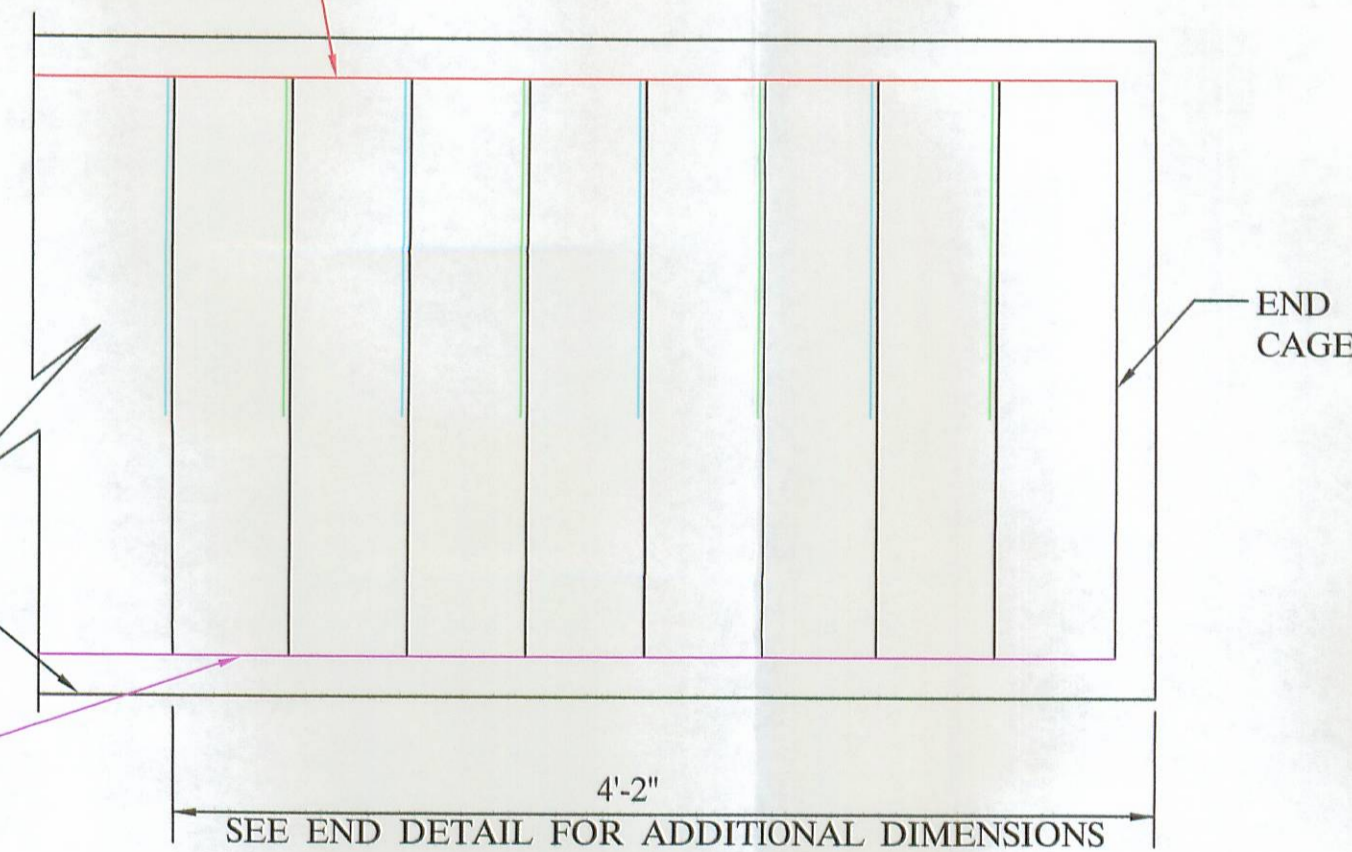


BEAM END CAGE
(ELEVATION)

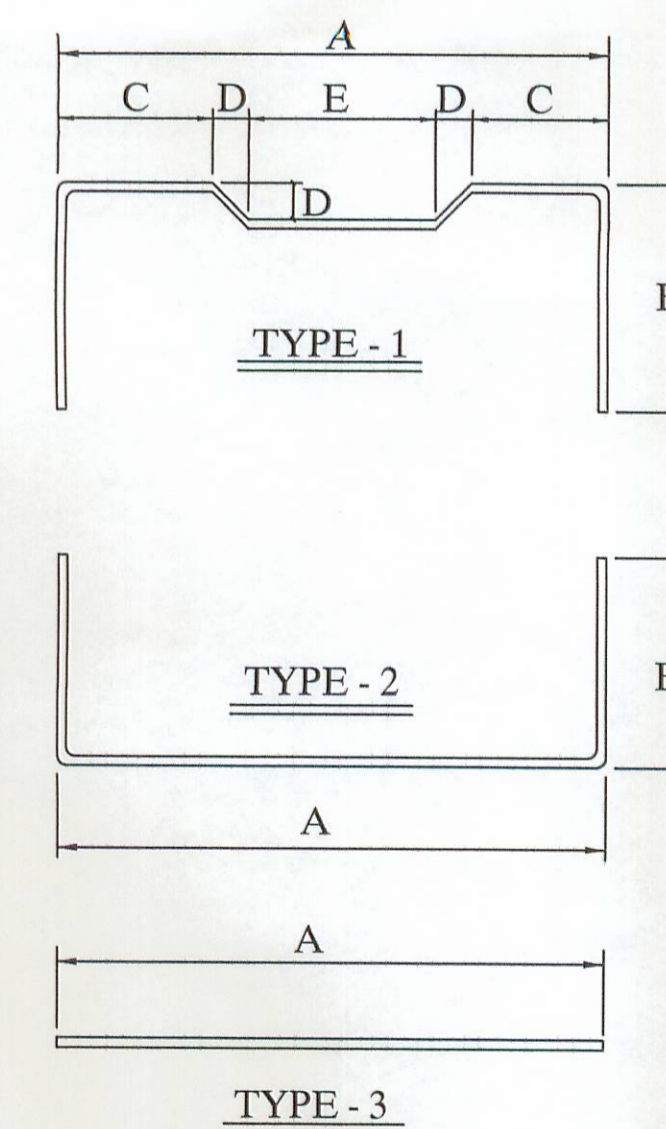


(TYP.) END DETAIL
(PLAN VIEW)

TOP LONGITUDINAL BARS & TOP STIRRUPS ASSEMBLED IN TOP CAGE & PLACED IN BED IN UNITS OF VARIOUS LENGTH WITH TOP BARS BUTT SPICED AT INTERSECTIONS.

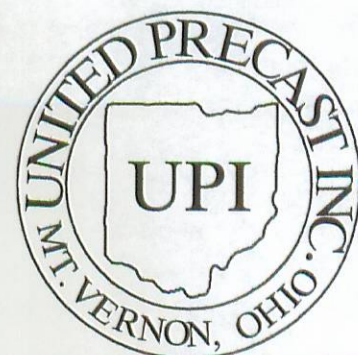
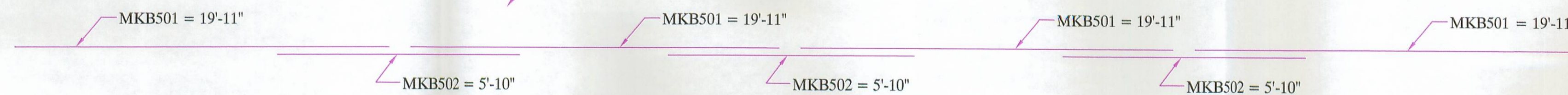


ELEVATION C-C



6 - B33-48 X 80'-0" WITH NO SKEW
BAR LIST

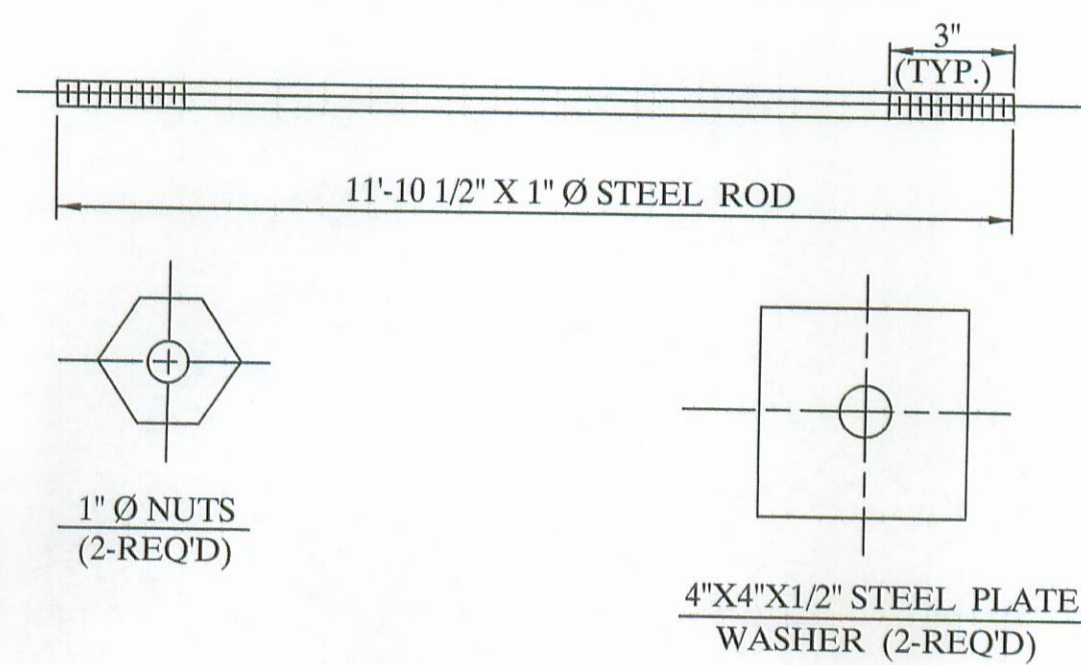
| MARK | SIZE | LENGTH | QUANTITY | SHAPE | A | B | C | D | E |
|-------|------|-----------|----------|----------|---------|-----|-----|----|-----|
| ✓B401 | 4 | 6'-2 1/2" | 480 | TYPE - 1 | 43" | 17" | 13" | 2" | 13" |
| ✓B402 | 4 | 6'-2 1/2" | 474 | TYPE - 1 | 43" | 17" | 7" | 2" | 25" |
| ✓B403 | 4 | 8'-2 1/2" | 522 | TYPE - 2 | 43" | 29" | | | |
| ✓B404 | 4 | 2'-5" | 72 | TYPE - 3 | 29" | | | | |
| ✓B405 | 4 | 3'-8 3/4" | 60 | TYPE - 3 | 44 3/4" | | | | |
| B501 | 5 | 19'-11" | 144 | TYPE - 3 | 19'-11" | | | | |
| B502 | 5 | 5'-10" | 108 | TYPE - 3 | 5'-10" | | | | |
| B503 | 5 | 7'-3" | 48 | TYPE - 3 | 7'-3" | | | | |



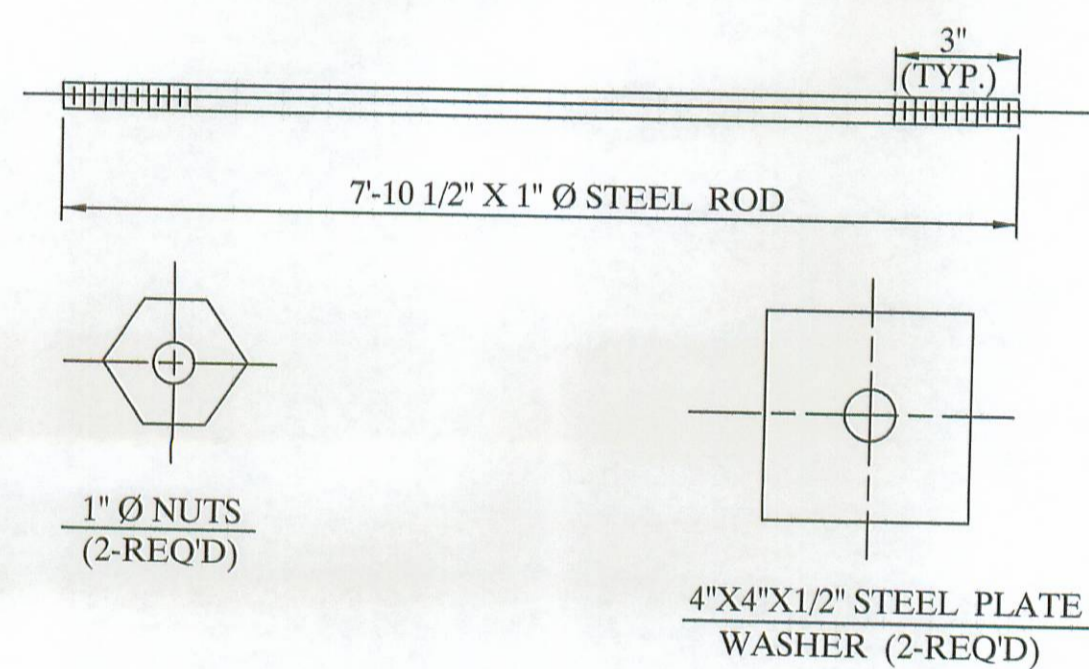
UNITED PRECAST INC.
 ROUNDHOUSE LANE
 MOUNT VERNON, OHIO 43050
 PHONE : (740) 393-1,121
 FAX : (740) 392-9708

| | | | |
|--------------|--------------------------------------|---------------------|-----------------------|
| DESCRIPTION: | REINFORCING DETAILS | SCALE: | DRAWN BY: |
| JOB NAME: | BRIDGE NO. 35 - 4.24 LOGAN COUNTY | PROJECT NO. T.R. 35 | PHIL |
| DATE: | JUNE 2005 | APPROVED BY: | REVISED: |
| | | E.O.C. 7/15/05 | DRAWING NO. 3 OF 4 |

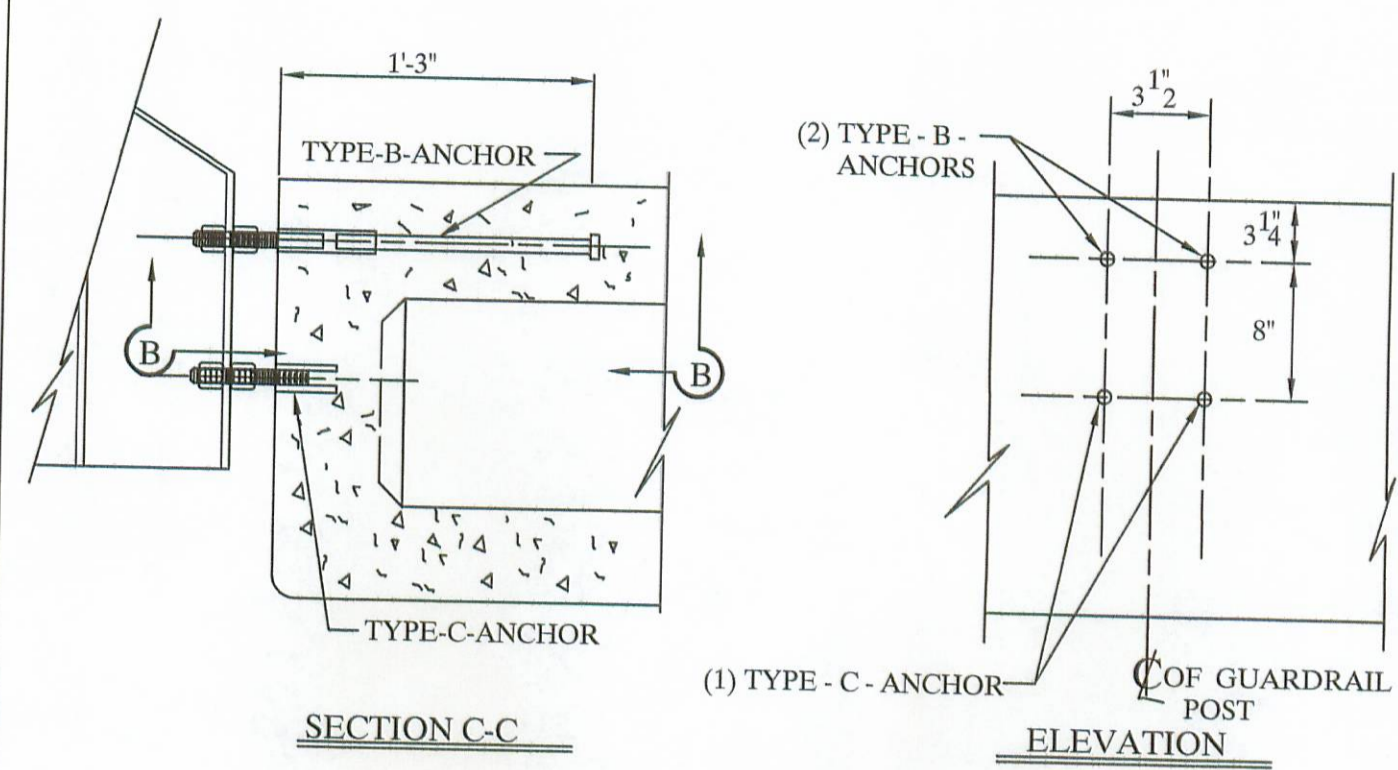
12'-0" TIE ROD ASS'Y



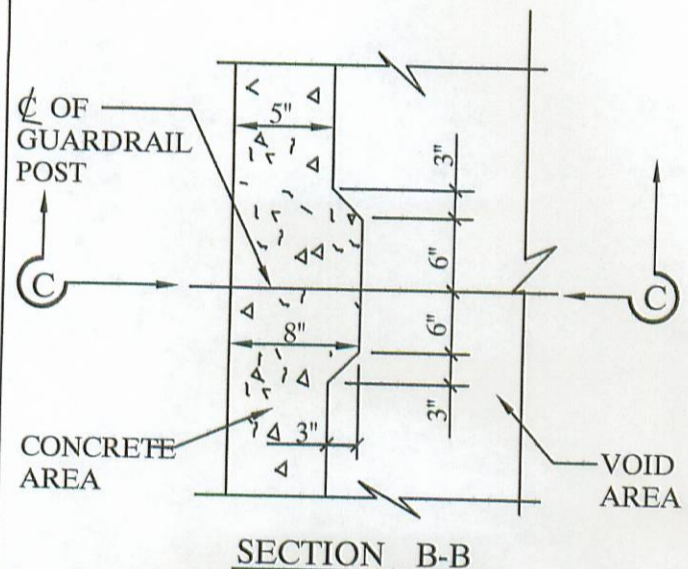
8'-0" TIE ROD ASS'Y



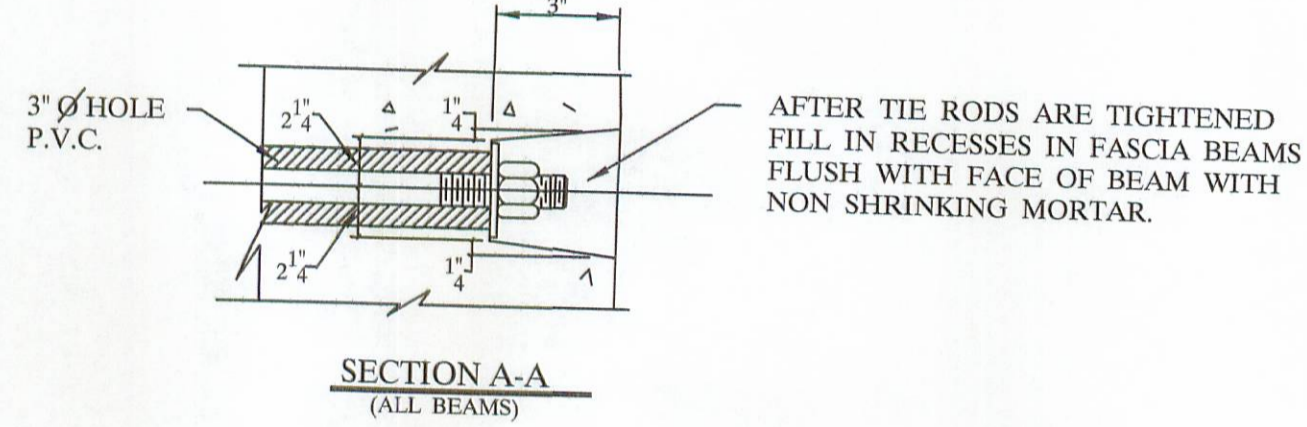
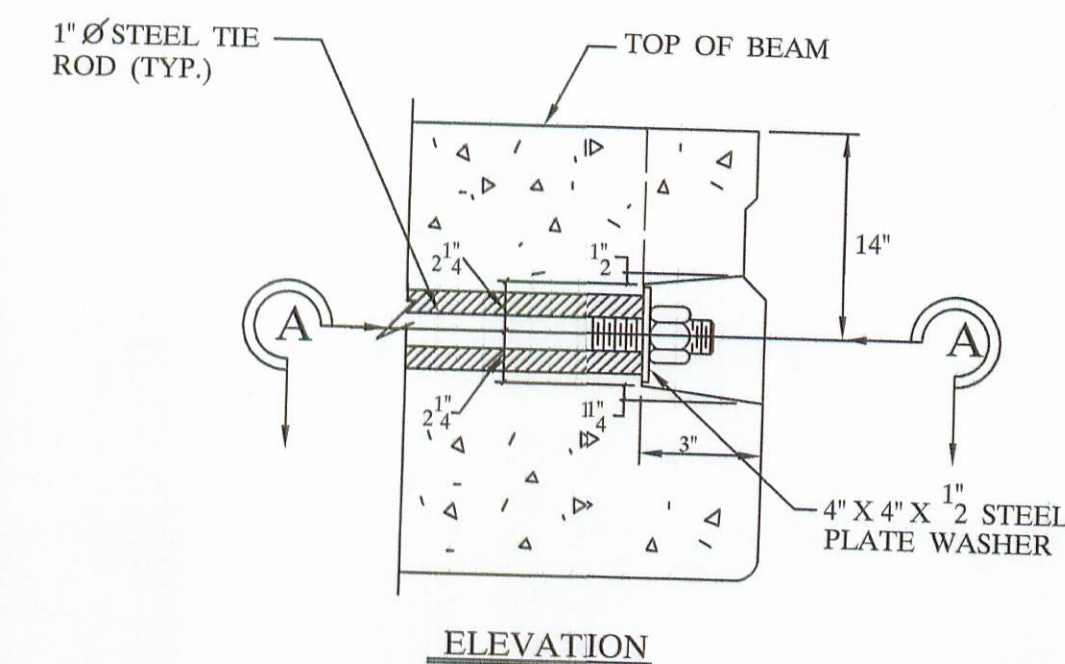
NOTE:
ALL ITEMS INCLUDING TIE RODS ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-123 OR 153. PER CMS 711.02, UNLESS OTHERWISE NOTED.



NOTE:
ONE TYPE 'C' ANCHOR PROVIDE S FOR (2) STUDS (SEE BELOW).

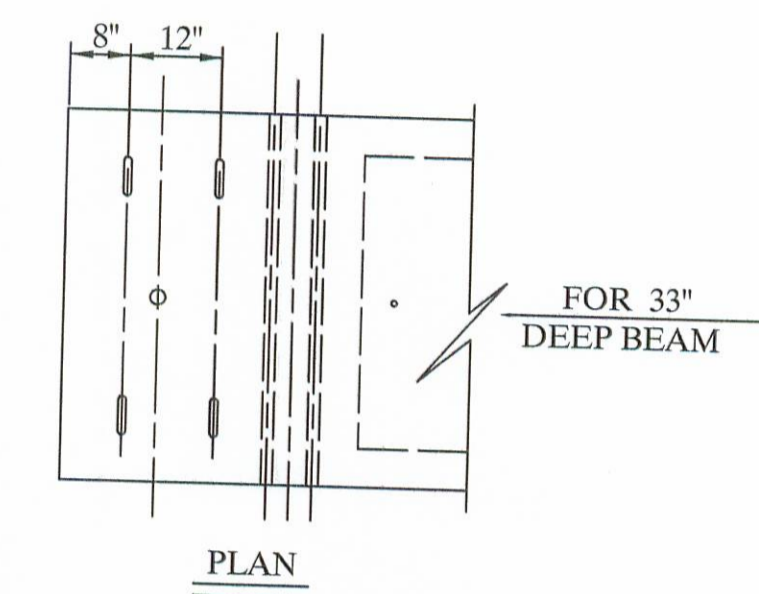
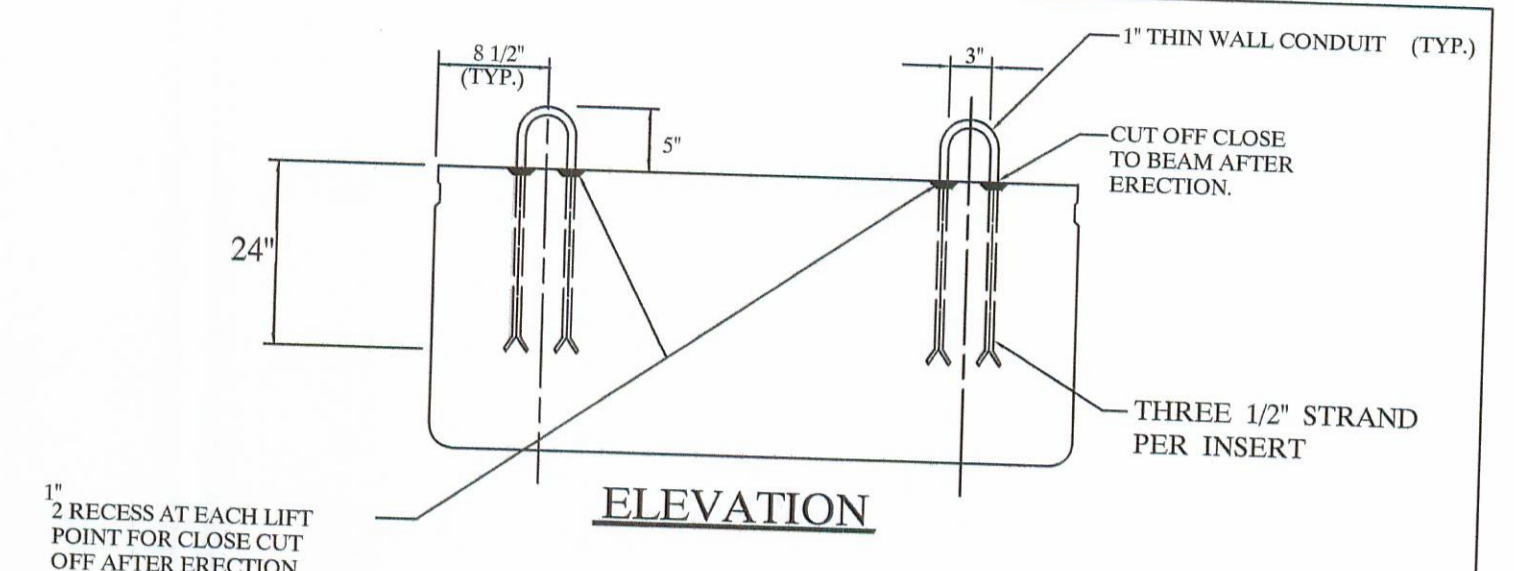


NOTE:
TYPE B&C ANCHOR ASSEMBLIES SHALL CONFORM TO PHYSICAL PROPERTIES OF ASTM-A-325. EXCEPT MIN. ELONGATION SHALL BE 10%. THE CHEMICAL PROPERTIES ARE WAIVED.



NOTE:
TIE RODS SHALL BE A311 - G1018 STEEL, OR A-36 MODIFIED.

END DETAIL OF TRANSVERSE TIE ROD ANCHORAGE



NOTE:
LIFTING INSERTS ARE HAND PLACED IN THE SHOP AND ARE TO BE ADJUSTED TO CLEAR REINFORCEMENT, ANCHOR DOWEL SLEEVES, TIE ROD SLEEVES, OR ANY ADDITIONAL EMBEDDED ITEMS IN THIS REGION.

LIFTING INSERT DETAIL

- NOTE:**
- 1) GALVANIZE ALL HARDWARE PER CMS. 711.02.
 - 2) PROVIDE A BROOM FINISH ON TOP SURFACE OF BEAM SUITABLE FOR WATERPROOFING.
 - 3) ADD D.C.I. TO CONCRETE (4 - GALL. / CUBIC YARD).
 - 4) WATERPROOF BEAM ENDS.
 - 5) DETENSION STRAND SYMETRICALLY ABOUT CENTERLINE.

SPECIFICATIONS

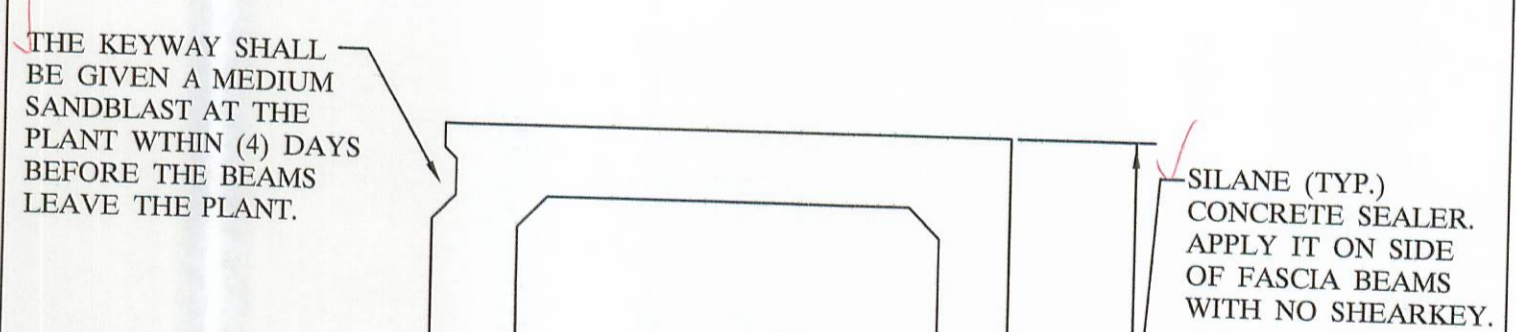
DESIGN LOADING: HS25 AND ALTERNATE MILITARY LOADING.

CONCRETE: COMPRESSIVE STRENGTH, $f_c = 7000$ PSI @ 28 DAYS (SHIPPING), $f_c = 5000$ PSI @ RELEASE.

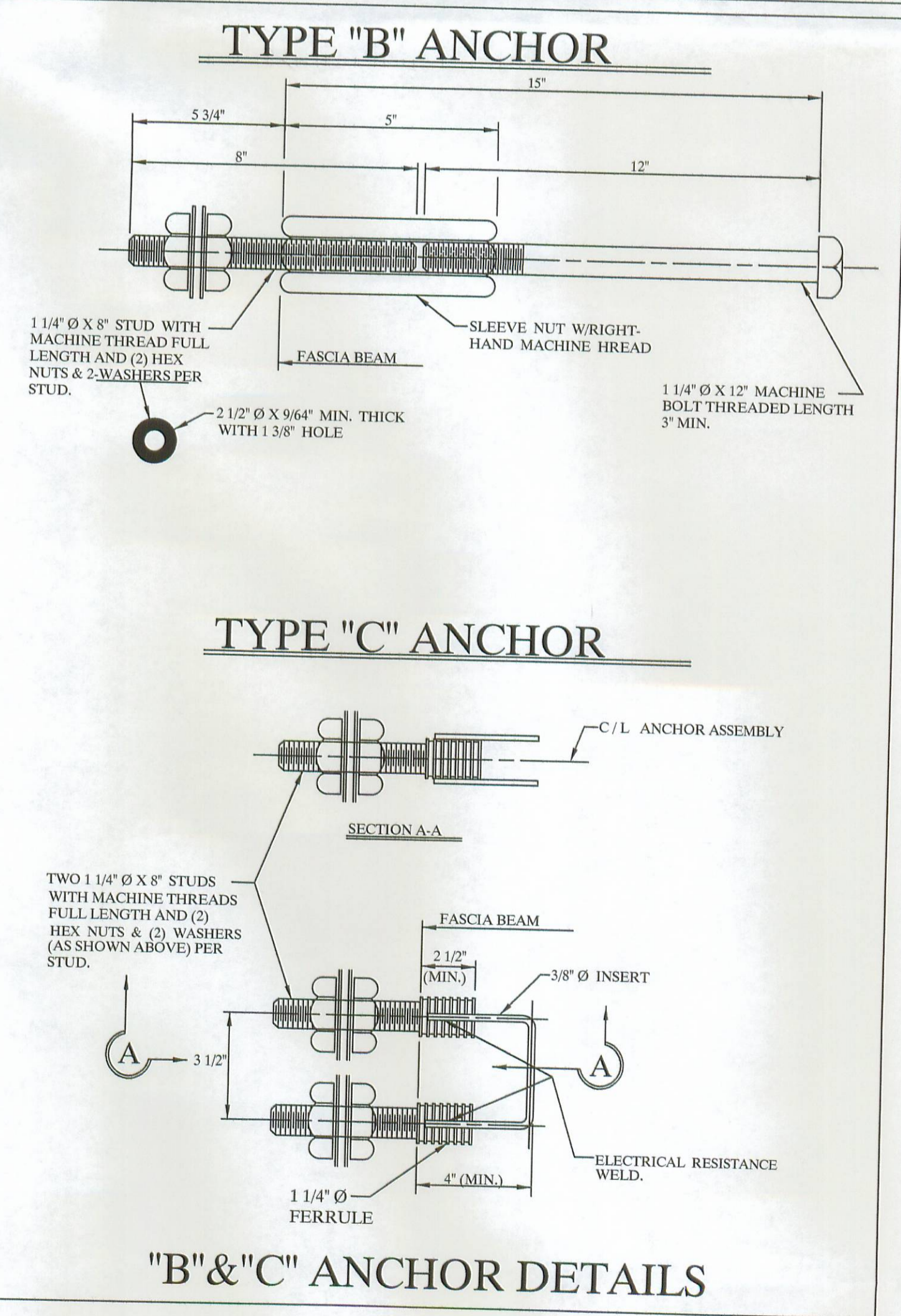
PRESTRESSING STRAND: ASTM A - 416 GRADE 270, 1/2" O.S. DIAMETER, SEVEN WIRE, UNCOATED LOW RELAXATION STRAND, $A_s = .167$ in², $f_s = 270$ KSI. INITIAL STRESS: $0.75 f_s = 202.5$ KSI.

REINFORCING STEEL: GRADE - 60: ASTM A - 615, ASTM A - 616, ASTM A - 617. UNIT STRESS 24,000 PSI.

NOTE:
PRESTRESSED CONCRETE BEAMS AND APPURTENANCES CONFORM TO O.D.O.T. STANDARD BRIDGE DRAWINGS PSBD - 1 - 93 SHEETS ONE, TWO, THREE, & FOUR.



TYPICAL FASCIA BEAM



"B" & "C" ANCHOR DETAILS

| | | |
|---|------------------------|------------------------------|
| BRIDGE NO. 35-4.24 | PROJECT NO. T.R. 35 | ITEM 515 |
| LOGAN COUNTY | | |
| UNITED PRECAST INC. | | |
| ROUNDHOUSE LANE MT. VERNON, OHIO 43050 PHONE: (740)393-1121, FAX: (740)392-9708 | SCALE ----- | DRAWN BY: PHIL REVISED |
| DATE JUNE 2005 | APPROVED BY: E.O.C. | 7/15/05 |
| | | DRAWING NO. 4 OF 4 |