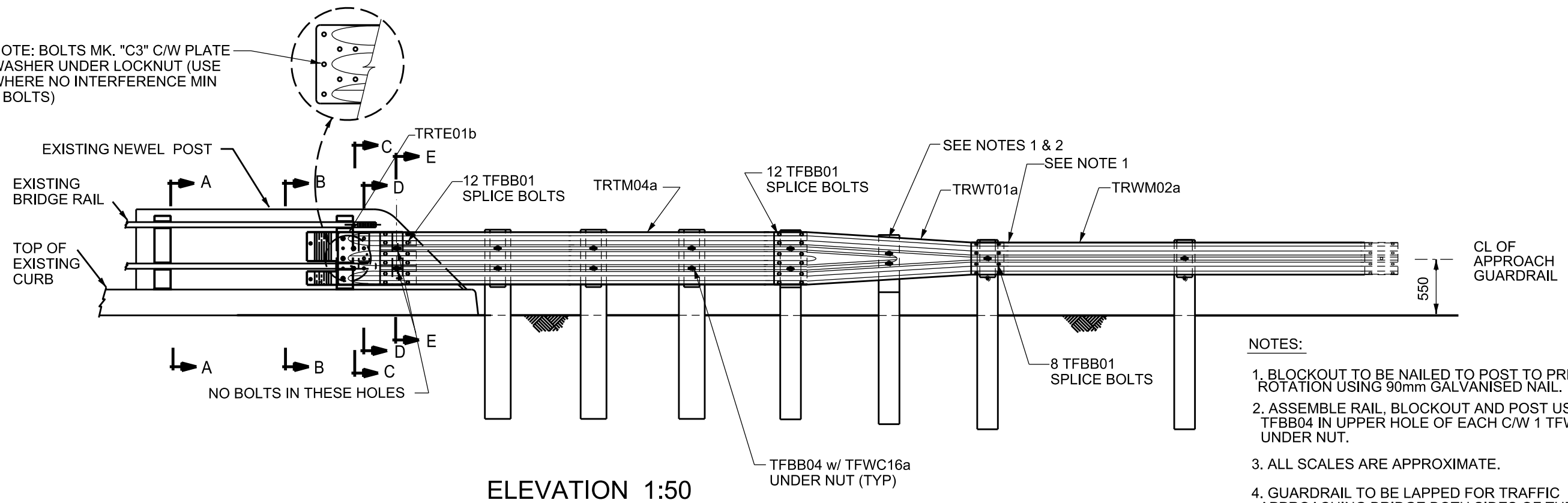


PLAN 1:50

NOTE: BOLTS MK. "C3" C/W PLATE
WASHER UNDER LOCKNUT (USE
WHERE NO INTERFERENCE MIN
3 BOLTS)



ELEVATION 1:50

NOTES:

1. BLOCKOUT TO BE NAILED TO POST TO PREVENT ROTATION USING 90mm GALVANISED NAIL.
2. ASSEMBLE RAIL, BLOCKOUT AND POST USING ONE TFBB04 IN UPPER HOLE OF EACH C/W 1 TFWC16a UNDER NUT.
3. ALL SCALES ARE APPROXIMATE.
4. GUARDRAIL TO BE LAPPED FOR TRAFFIC APPROACHING BRIDGE BOTH SIDES OF THE ROADWAY.

NOTE: Original structural drawing sealed by
A. K. Nelson P.Eng., Dec 24, 2002. It is
filed in the Bridges and Structures Branch.

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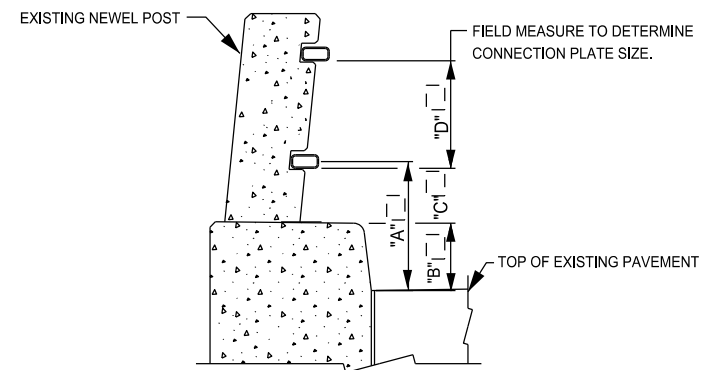
NESTED THRIE-BEAM
APPROACH GUARDRAIL
TO 2 RAIL NEWEL POST
TRANSITION

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| SHEET NO | 1 OF 3 |
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| DRAWN: | D.C. |

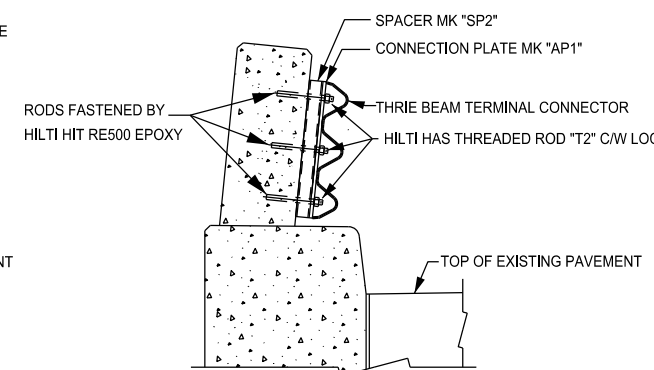
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NOTES:

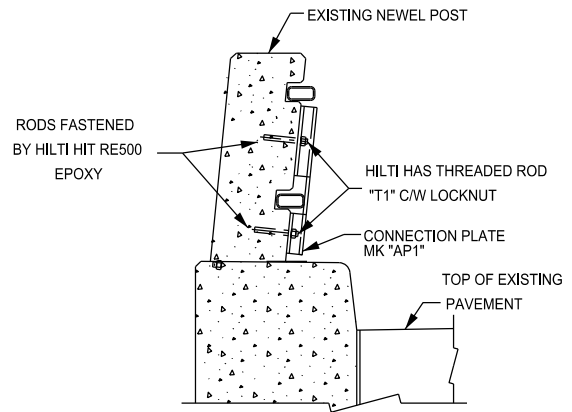
1. THE CONNECTION PLATE SHALL BE USED AS A TEMPLATE TO CORE HOLES INTO THE NEWEL POST.
2. CARE SHALL BE TAKEN TO ENSURE HOLES ARE CORED ACCURATELY WITH MINIMAL DAMAGE TO THE NEWEL POST. USE OF ROTARY HAMMER DRILLS WILL NOT BE ALLOWED.
3. HOLES FOR THREADED ROD "T1" & "T2" SHALL BE CORED INTO THE NEWEL POST AT 2 mm LARGER THAN THE BOLT DIAMETER.
4. HILTI HAS THREADED ROD EMBEDDED 100 mm INTO CONCRETE NEWEL POST.
5. HILTI HIT RE500 ADHESIVE TO BE USED TO EPOXY THREADED ROD INTO CONCRETE
6. INSTALLATION OF ALL REQUIRED THREADED RODS AND LOCK NUTS CONSIDERED INCIDENTAL TO CONNECTION PLATE.
7. DIMENSIONS SHOWN THUS: \square TO BE FILLED IN USING FIELD MEASUREMENTS.



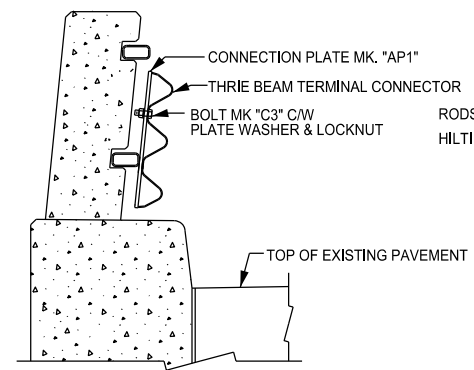
SECTION A-A
FIELD MEASUREMENTS



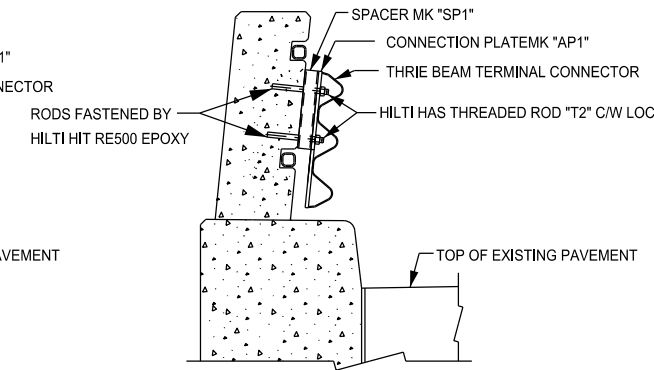
SECTION E-E



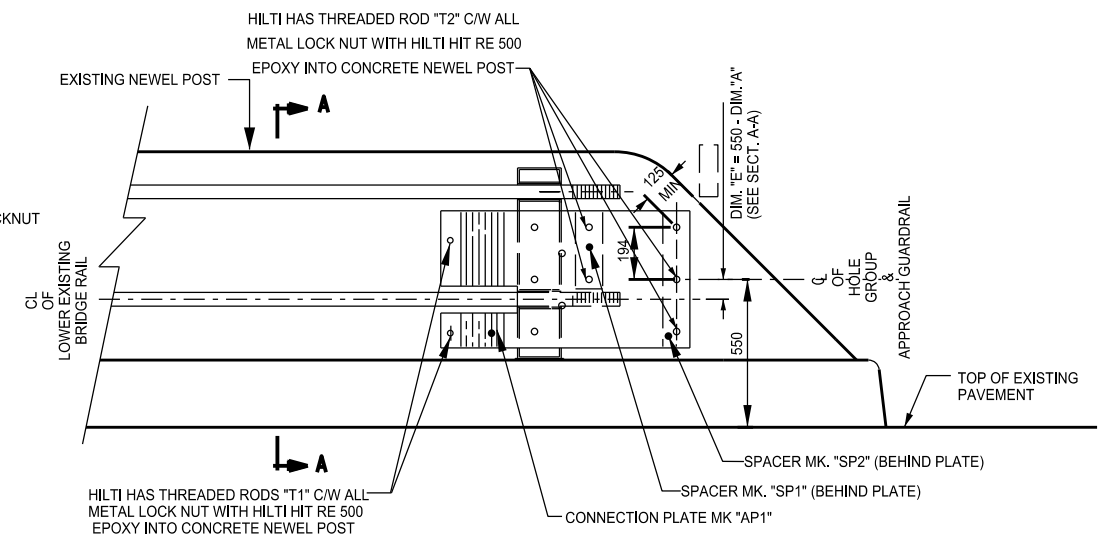
SECTION B-B



SECTION C-C



SECTION D-D



ELEVATION
SHOWING CONNECTION PLATE ASSEMBLY

NOTE: Original structural drawing sealed by A. K. Nelson P.Eng., Dec 24, 2002. It is filed in the Bridges and Structures Branch.

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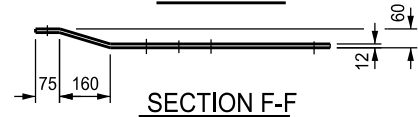
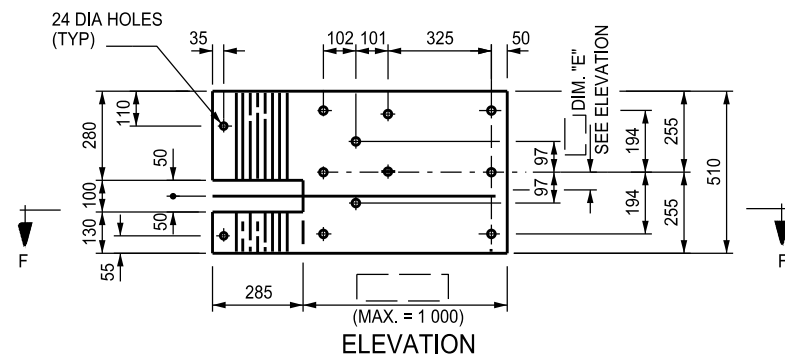
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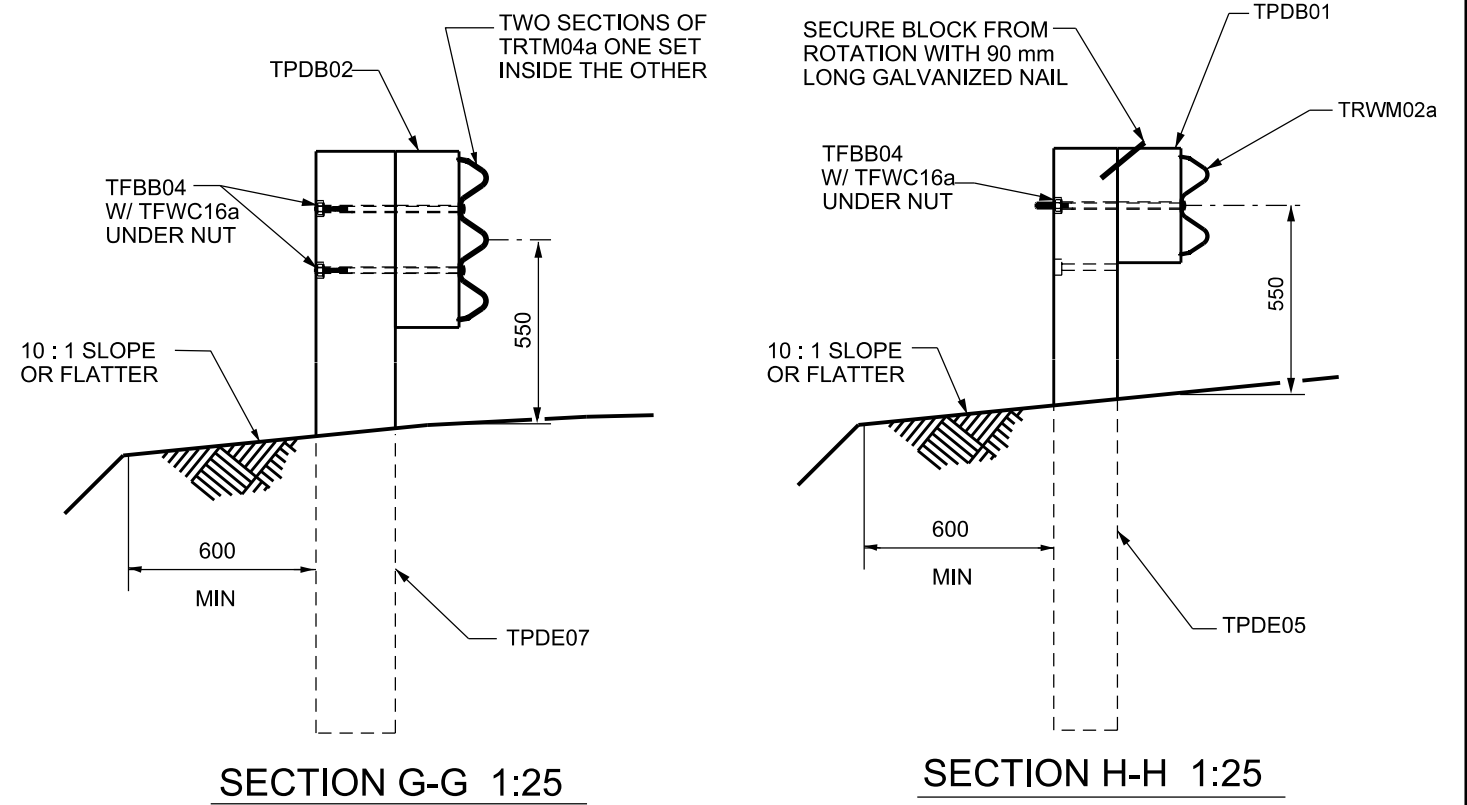
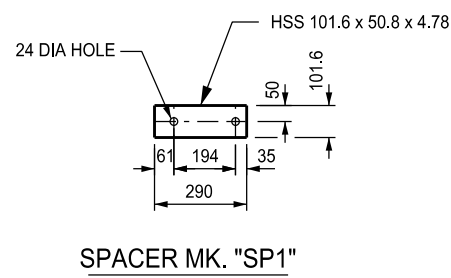
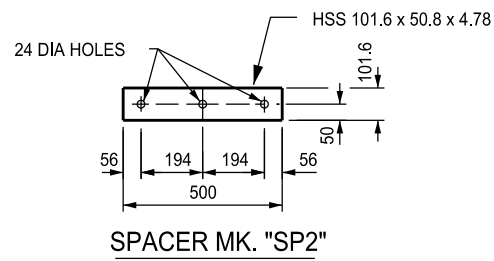
NESTED THRIE-BEAM
APPROACH GUARDRAIL
TO 2 RAIL NEWEL POST
TRANSITION

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| BILL OF MISCELLANEOUS METAL | | | | SITE NO. | |
|---|-----|------------------------|--|---------------|------------|
| MARK | No. | DESCRIPTION | SIZE | MASS PER UNIT | TOTAL MASS |
| AP1 | | CONNECTION PLATE | PLATE, 12 THICK AS DETAILED | | |
| AP2 | | CONNECTION PLATE | PLATE, 12 THICK AS DETAILED | | |
| SP1 | | SPACER | HSS 101.6 x 50.8 x 4.78, 290 LONG AS DETAILED | 2.98 | |
| SP2 | | SPACER | HSS 101.6 x 50.8 x 4.78, 500 LONG AS DETAILED | 5.15 | |
| BILL OF MATERIAL SUPPLIED FROM WAREHOUSE STORES | | | | | |
| T1 | | HILTI HAS THREADED ROD | 22 DIA x 140 THREADED ROD C/W ALL METAL LOCKNUT | | N/A |
| T2 | | HILTI HAS THREADED ROD | 22 DIA x 190 THREADED ROD C/W ALL METAL LOCK NUT | | N/A |
| C3 | | HEX. BOLTS | 22 DIA x 50 HEX BOLT C/W ALL METAL LOCK NUT | | N/A |
| | | PLATE WASHERS | FOR 22 DIA BOLT MK. C3, ONE PER"C3" | 0.05 | |
| | | | | TOTAL MASS | kg |



CONNECTION PLATE MK. "AP1"
CONNECTION PLATE MK. AP1 SHOWN. AP2 OPPOSITE HAND.



NOTES:

- ALL THREADED RODS SHALL CONFORM TO THE REQUIREMENTS OF HILTI HAS THREADED ROD INSERTS.
- ALL MATERIAL EXCEPT, ITEMS "T1 & T2", IN THE NOTED BILL OF MISCELLANEOUS METAL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH CAN/CSA G164-M92
- CUT / GRIND POST BOLT AS REQUIRED TO FACILITATE ASSEMBLY.
- ALL STEEL PLATES SHALL CONFORM TO THE REQUIREMENTS OF CAN/CSA-40.21-M92 GRADE 300W
- ALL BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 EXCEPT WHERE NOTED OTHERWISE
- WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AASHTO/AWS D.1.5.
- INSTALLATION OF ALL REQUIRED THREADED RODS AND LOCK NUTS CONSIDERED INCIDENTAL TO CONNECTION PLATE.
- UNIT MASS FOR CONNECTION PLATE = 7850 kg/m3

ALL SCALES ARE APPROXIMATE

NOTE: Original structural drawing sealed by A. K. Nelson P.Eng., Dec 24, 2002. It is filed in the Bridges and Structures Branch.

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NESTED THRIE-BEAM
APPROACH GUARDRAIL
TO 2 RAIL NEWEL POST
TRANSITION

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| SHEET NO | 3 OF 3 |
| DATE: | 2006 - 02 |
| DRAWN: | D.C. |
| TSTB12 | |