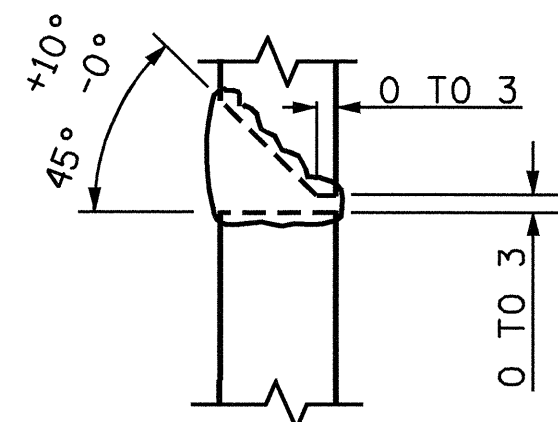
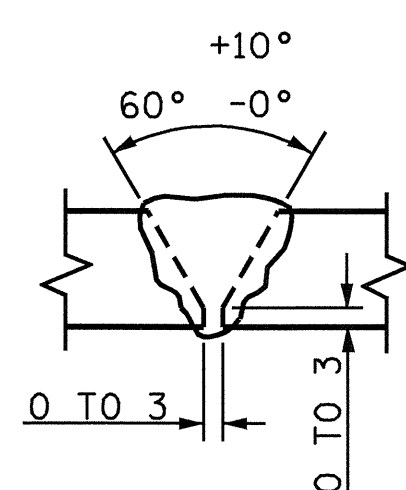


* PILE VERTICAL

* PILE HORIZONTAL OR VERTICAL



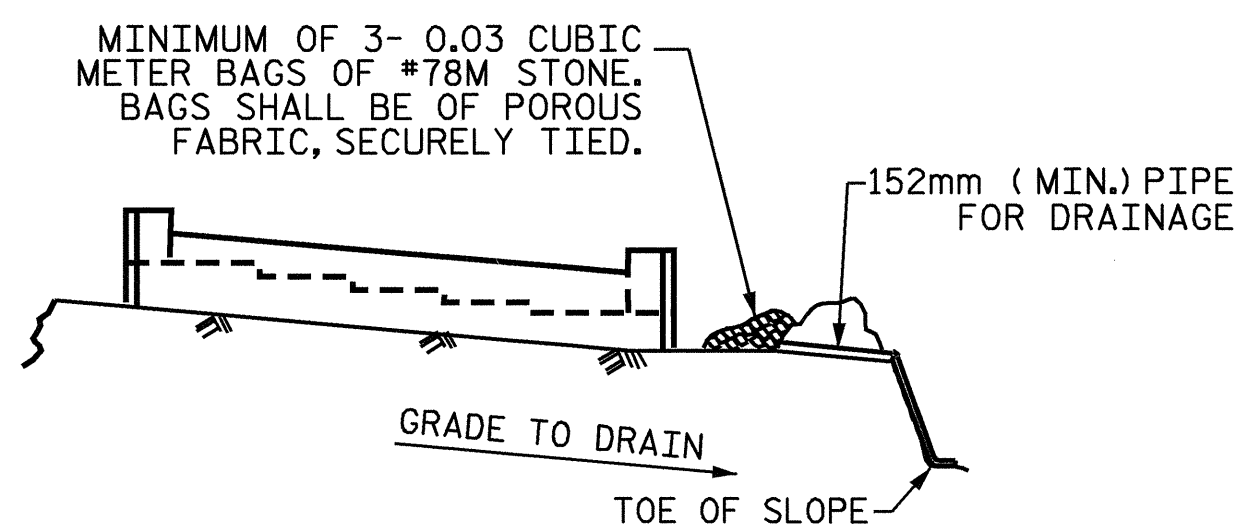
DETAIL A



DETAIL B

* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

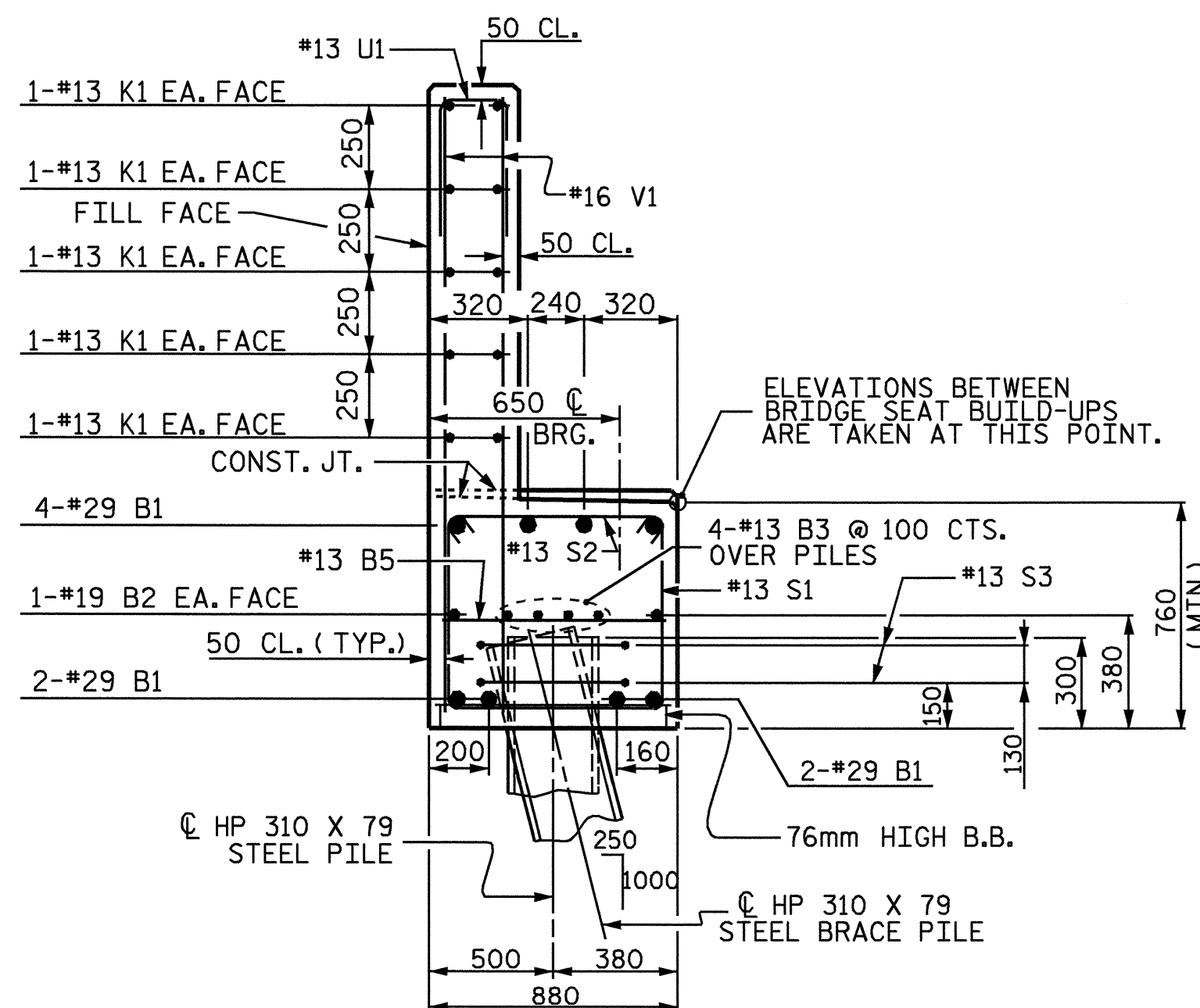


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

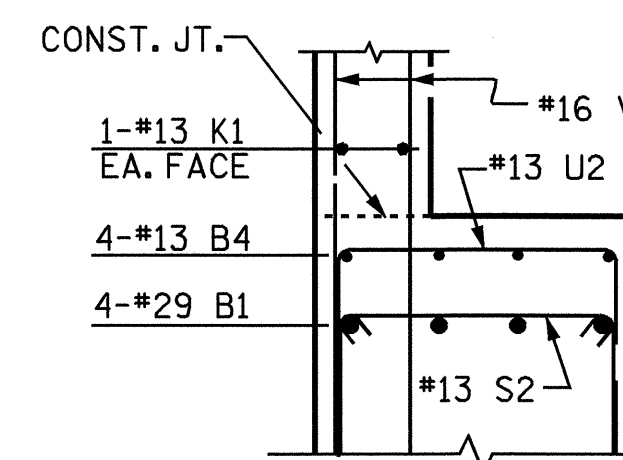
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

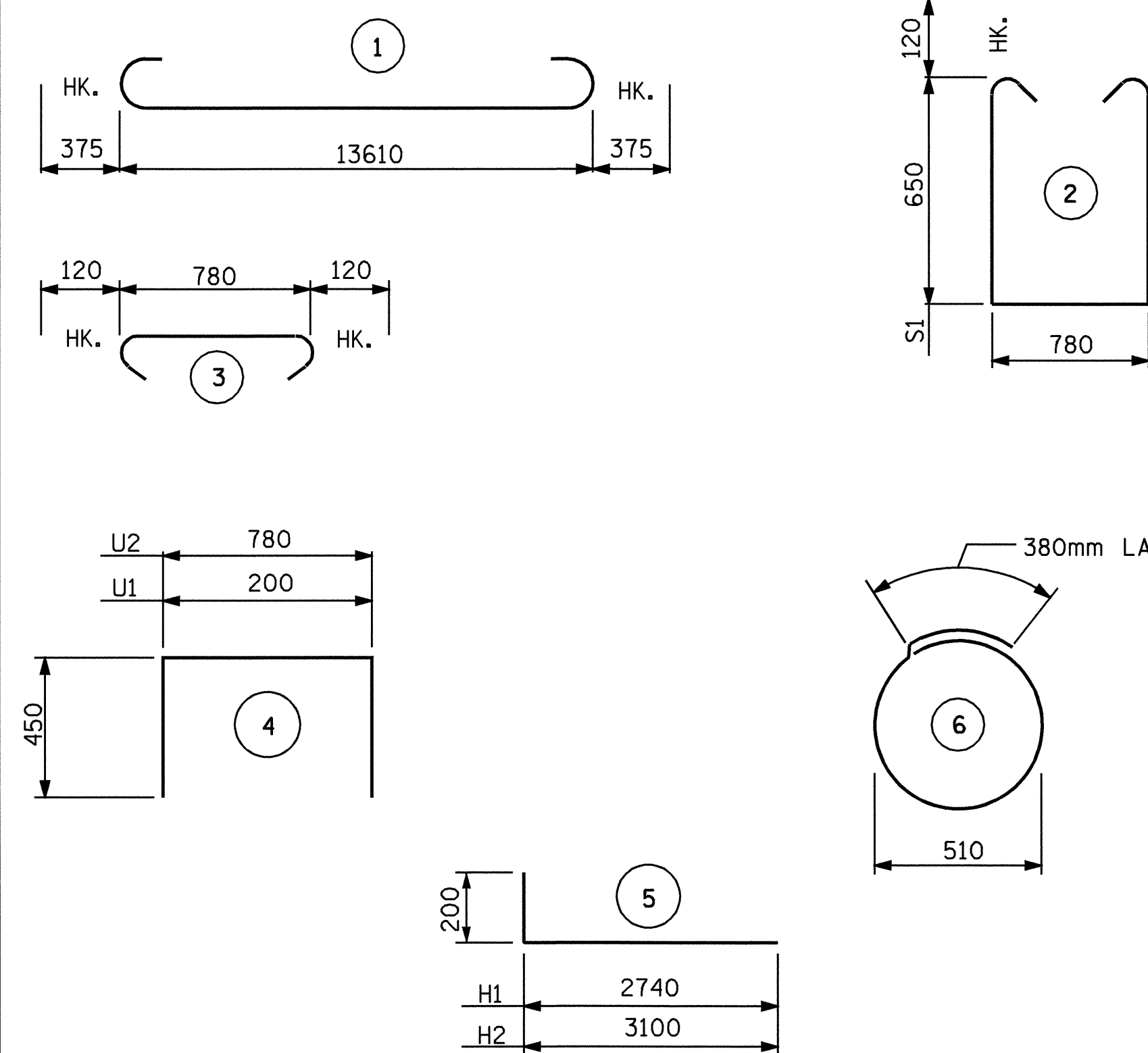


SECTION A-A



SECTION B-B

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT NO. 2

| BAR | NO. | SIZE | TYPE | LENGTH | WEIGHT |
|-------------------|-----|------|------|--------|--------|
| B1 | 8 | 29 | 1 | 14360 | 581 |
| B2 | 2 | 16 | STR. | 13640 | 42 |
| B3 | 8 | 13 | STR. | 7200 | 57 |
| B4 | 4 | 13 | STR. | 5640 | 22 |
| B5 | 11 | 13 | STR. | 780 | 9 |
| B6 | 8 | 13 | STR. | 880 | 7 |
| H1 | 22 | 13 | 5 | 3300 | 72 |
| H2 | 20 | 13 | 5 | 2940 | 58 |
| K1 | 20 | 13 | STR. | 7200 | 143 |
| K2 | 8 | 13 | STR. | 840 | 7 |
| S1 | 68 | 13 | 2 | 2320 | 157 |
| S2 | 68 | 13 | 3 | 1020 | 69 |
| S3 | 14 | 13 | 6 | 1980 | 28 |
| U1 | 40 | 13 | 4 | 1100 | 44 |
| U2 | 19 | 13 | 4 | 1680 | 32 |
| V1 | 80 | 16 | STR. | 1860 | 231 |
| V2 | 30 | 16 | STR. | 2440 | 114 |
| V3 | 28 | 16 | STR. | 2220 | 96 |
| REINFORCING STEEL | | | | kg | 1769 |

CLASS A CONCRETE BREAKDOWN

| | |
|---|-------------|
| POUR #1 CAP & LOWER PORTION OF WINGS | 11.7 CU. M. |
| POUR #2 UPPER PORTION OF WINGS & BACKWALL | 7.9 CU. M. |
| CONCRETE TOTAL | 19.6 CU. M. |
| <u>HP 310 X 79 STEEL PILES</u> | |
| NO. 7 | 90.3m |

PROJECT NO. R-2206C
 LINCOLN-CATAWBA COUNTY
 STATION: 223+03.850-L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE

END BENT #2

RIGHT LANE



| REVISIONS | | | | | | SHEET NO. |
|-----------|-----|-------|-----|-----|-------|--------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | S-190 |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | 374 |

DRAWN BY : M.D.PISO DATE : 02/2004
 CHECKED BY : P.ADKINS DATE : 07/2004