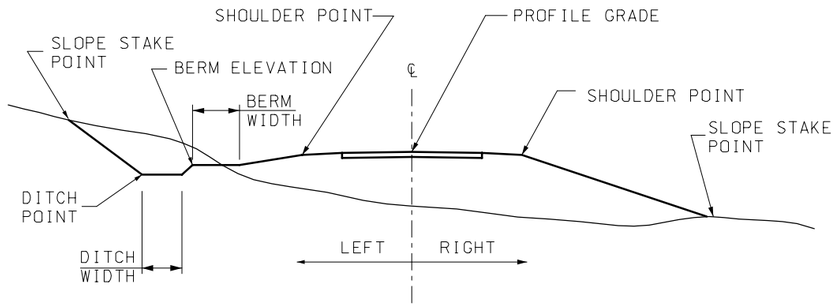


FIGURE A

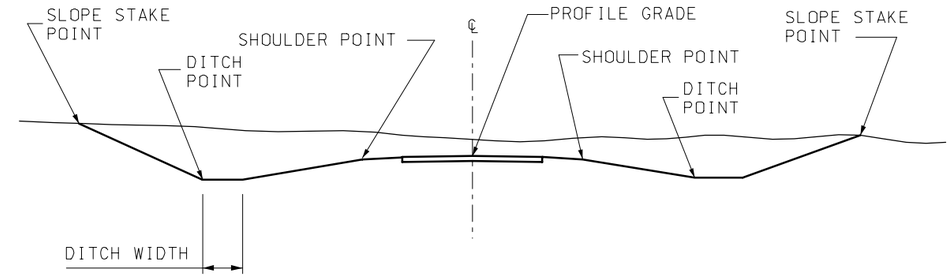


FIGURE B

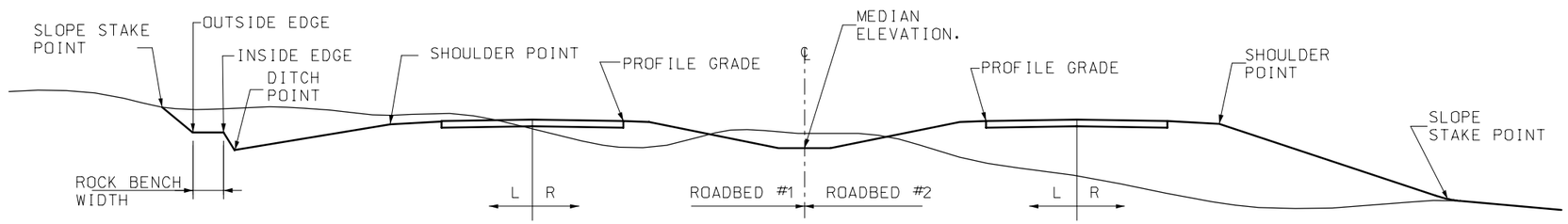


FIGURE C

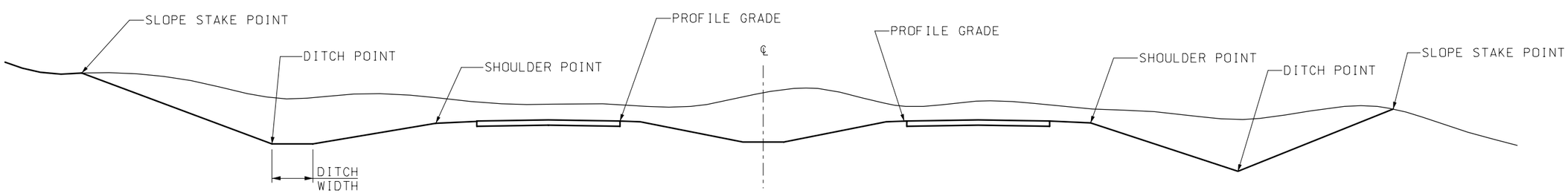
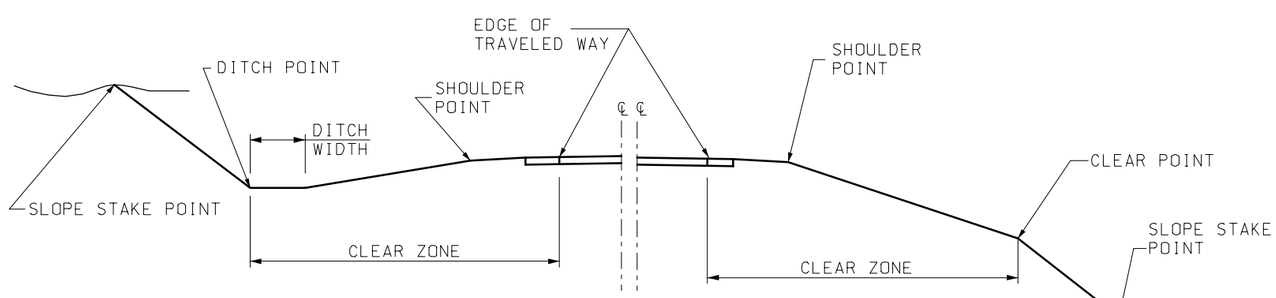


FIGURE D



HALF SECTION CUT

FIGURE E

HALF SECTION CUT

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

TABULATED EARTHWORK AND SECTION DATA

DATE:_____ EFFECTIVE: 07-01-2004 **203.10C** 1/2

GENERAL NOTES:

GENERAL INFORMATION ON USE OF TABULATED EARTHWORK AND ROADBED SECTION DATA.

THE EARTHWORK QUANTITIES ON THIS PROJECT HAVE BEEN DEVELOPED BY ELECTRONIC COMPUTER METHODS EXCEPT IN THOSE AREAS REQUIREING SPECIAL CONSIDERATION. THEREFORE, PLOTTED CROSS-SECTIONS WILL NOT BE AVAILABLE FOR BIDDING PURPOSES BUT WILL BE FURNISHED TO THE SECCESSFUL BIDDER AS MENTIONED UNDER "COMPUTER PLOTTED CROSS-SECTIONS".

SECTION DATA FORM

THE SECTION DATA FORM PROVIDES THAT INFORMATION FORMERLY REPRESENTED IN GRAPHICAL FORM ON CROSS-SECTION PAPER. THE CONTROLLING POINTS OF EACH SECTION ARE IDENTIFIED BY OFFSET FROM SURVEYED CENTERLINE AND ELEVATION. IT IS POSSIBLE TO ESTABLISH THE SECTION FROM THIS INFORMATION SHOULD THIS BE NECESSARY. THE GERNERAL SLOPEOF THE EXISTING GROUND CAN BE DETERMINED FROM THE ELEVATION AND OFFSET OF THE SLOPE STAKE POINTS.

THE ROADBED SECTION DATA IS LISTED ON LEFT AND RIGHT HALF-SECTIONS FOR EACH ROADBED, EACH ROADBED ON DIVIDED FOUR LANE HIGHWAYS IS LISTED INDIVIDUALLY. THE PROFILED GRADE IS CARRIED ON THE CENTERLINE OF TRAVELED WAY ON TWO LANE HIGHWAYS BUT ON THE INSIDE EDGE OF THE TRAVELED WAY ON DIVIDED FOUR LANE HIGHWAYS AS INDICATED ON THE TYPICAL SECTION. DETAILS OF THE SECTION MUST BE DETERMINED FROM THE TYPICAL SECTION SHEET.

THE LIMITATIONS OF SPACING AND WIDTH ON THE COMPUTER PRINTER REQUIRE THAT VARIOUS DATA BE ABBREVIATED. FOR EXAMPLE, THE VALUE 231.2 READ ON THIS FORM UNDER SLOPE STAKE ELEVATION, SHOULDER ELEVATION OR ELEVATION OF BERM-DITCH-1, 2 OR 3 COULD REPRESENT THE ACTUAL ELEVATION OF 1231.2 AND IT WILL BE NECESSARY TO REFER TO THE PROFILE GRADE COLUMN TO MAKE THE CORRECT DETERMINATION. STATION NUMBERS ARE ROUNDED TO THE NEAREST FOOT. FOR INSTANCE, IN THE STATION NUMBER COLUMN 500 WOULD READ 5+00 ELEVATIONS OTHER THAN PROFILE GRADE ARE CARRIED TO THE NEAREST ONE TENTH OF A FOOT. PROFILE GRADE ELEVATION ARE CARRIED TO THE NEAREST ON HUNDREDTH OF A FOOT. THE OFFSET DISTANCES ARE CARRIED TO THE NEAREST ONE TENTH OF A FOOT.

THE CONTROL POINTS INDICATED AT THE HEADS OF THE COLUMNS ON THE SECTION DATA FORM CORRESPOND TO THE POINTS ON FIGURES A, B, C, D AND E.

THE DITCH POINTS INDICCATED AT THE BEGINNING OF THE BACKSLPE WHETHER THE DITCH IS A "V" TYPE OR FLAT BOTTOM TYPE. THE LOCATION OF THIS POINT BY ELEVATION AND OFFSET IS ILLUSTRATED ON ALL SECTIONS.

THE WIDTH FLAT BOTTOM DITCHES IS NOTED IN THE DITCH WIDTH COLUMS TO THE NEAREST ONE TENTH OF A FOOT. AT THOSE STATIONS WHERE A "V" DITCH OR NO DITCH OCCURS, THIS COLUMN WILL BE BLANK.

WHEN A BERM IS TO BE CONSTRUCTED IN CONJUNCTION WITH A DITCH AS SHOWN ON FIGURE A, THE BERM ELEVATION IS LISTED TO THE NEAREST ONE TENTH OF A FOOT IN THE COLUMN MARKED BERM-DITCH -1 AND THE DITCH IS LISTED IN THE COLUMN MARKED BERM-DITCH-2.

THE OUTSIDE SHOULDER POINTS ARE IDENTIFIED IN THE SHOULDER POINT COLUMN BY ELEVATION AND OFFSET. FOR TYPICAL SECTIONS HAVING INDICATED "CLEAR ZONES", THE FOLLOWING POINTS ARE LISTED IN THE CLEAR POINT COLUMN BY ELEVATION AND OFFSET: FOR FILL SECTIONS, THE LISTED CLEAR POINT INDICATES THE SLOPE BREAK AT THE OUTSIDE EDGE OF THE CLEAR ZONE. FOR CUT SECTIONS, THE LISTED CLEAR POINT IS BLANK AND THE ACTUAL CLEAR POINT IS THE OUTSIDE EDGE OF THE DITCH POINT. THESE POINTS ARE ILLUSTRATED ON THE HALF-SECTIONS OF FIGURE E. THE ELEVATION AND OFFSET OF INSIDE SHOULDER POINTS ON FOUR LANE DIVIDED HIGHWAYS ARE GIVEN ON THE SECTION SHEETS.

YARDAGE OUTPUT DATA FORM

THIS FORM PROVIDES THE EARHWORK QUANTITY INFORMATION FORMERLY SHOWN ON THE CROSS-SECTIONS. IN ADDITION TO THE END AREAS AND VOLUMES BETWEEN SECTION, THE ACCUMULATED VOLUMES WHICH ARE NECESSARY FOR THE CONSTRUCTION OF MASS DIAGRAMS ARE TABULATED.

THE END AREA COLUMNS FOR CLASS A EXCAVATION, CLASS C EXCAVATION AND FILL SHOW END AREAS TO THE NEAREST SQUARE FOOT.

THE VOLUME OF CLASS A EXCAVATION, CLASS C EXCAVATION AND FILL BETWEEN THE STATION AT WHICH THE VOLUME IS SHOWN AND THE PRECEDING STATION IS LISTED IN APPROPRIATE NET VOLUME COLUMN. THE VOLUMES ARE LISTED TO THE NEAREST CUBIC YARD.

THE ACCUMULATED VOLUME OF CLASS A EXCAVATION, CLASS C EXCAVATION AND FILL BETWEEN THE BEGINNING OF THE PROJECT AND THE STATION AT WHICH THE QUANTITY IS SHOWN IS LISTED IN THE APPROPRIATE ACCUMULATED VOLUME COLUMN. THE VOLUMES ARE LISTED TO THE NEAREST CUBIC YARD.

LUMP SUM VOLUMES ADDED OR DEDUCTED WILL BE IDENTIFIED BY THE WORKS "ADD YARDAGE" PRINTED ON THE LEFT HAND SIDE OF THE PAGE.

ADDITIONAL BERM DATA FORM

THIS FORM CONTAINS INFORMATION FOR DITCH-BERMS BEYOND THE THREE ALLOWED ON THE SECTION DATA FORM OR FOR ROCK BENCHES.

WHEN A ROCK LAYER IS ENCOUNTERED THAT HAS BENCHES, THE ELEVATION AND OFFSET IS GIVEN FOR THE INSIDE AND OUTSIDE EDGE OF THE BENCH EDGE TOGETHER WITH THE BENCH WIDTH AND THE SLOPE FOR THAT ROCK LAYER AS SHOWN ON THE LEFT OF FIGURE C.

ROCK ELEVATIONS USED TO DETERMINE THE DESIGN QUANTITIES ARE BASED UPON THE BEST SOIL INFORMATION AVAILALBE AND MAY NOT REPRESENT THE TRUE ROCK ELEVATIONS.

COMPUTER PLOTTED CROSS-SECTIONS

PLOTTED CROSS-SECTIONS DEVELOPED BY THE COMPUTER WILL BE FURNISHED TO THE SUCCESSFUL BIDDER AT NO COST AFTER THE CONTRACT HAS BEEN AWARDED. THESE PLOTS WILL BE SUITABLE FOR REPRODUCTION AND THE SUCCESSFUL BIDDER WILL BE RESPONSIBLE FOR OBTAINING ADDITIONAL COPIES AT HIS OWN EXPENSE.

THE CROSS-SECTIONS WILL BE PLOTTED IN BLACK INK ON GRID TRACING PAPER IN ROLL TYPE FORM, THE SCALE NORMALLY USED WILL BE 20 FEET TO THE INCH.

EACH CROSS-SECTION WILL SHOW THE STATION NUMBER, A REFERENCE ELEVATION, THE ORIGINAL GROUND LINE, THE GRADING TEMPLATE FOR EACH ROADBED, THE CENTERLINE GROUND ELEVATION AND THE PROFILE GRADE FOR EACH ROADBED.