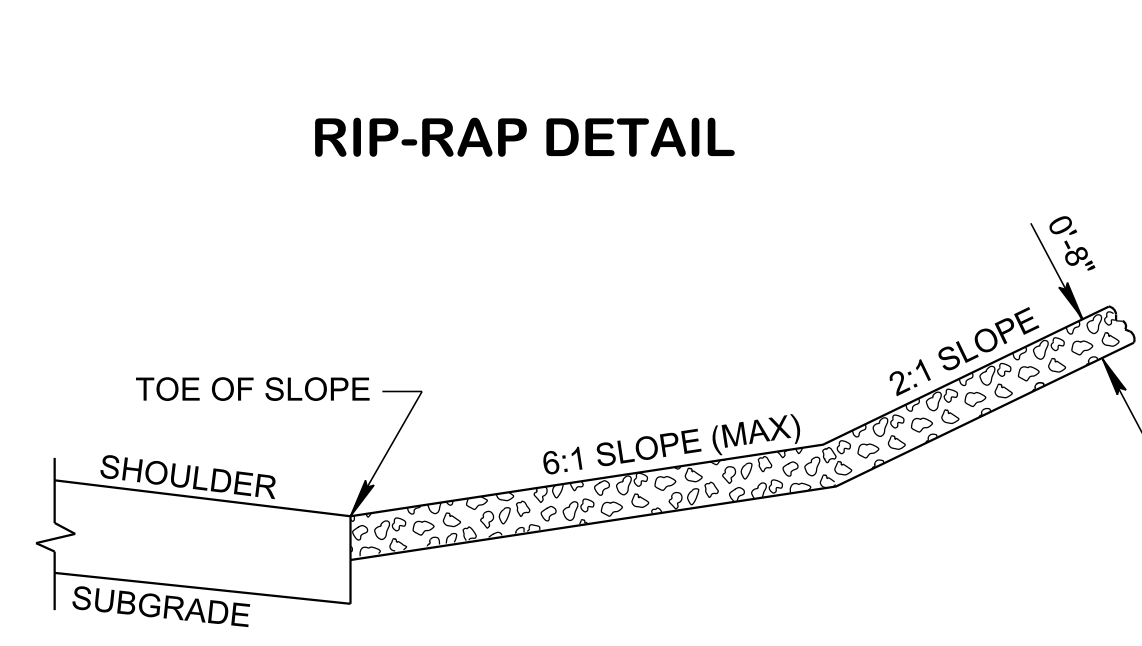
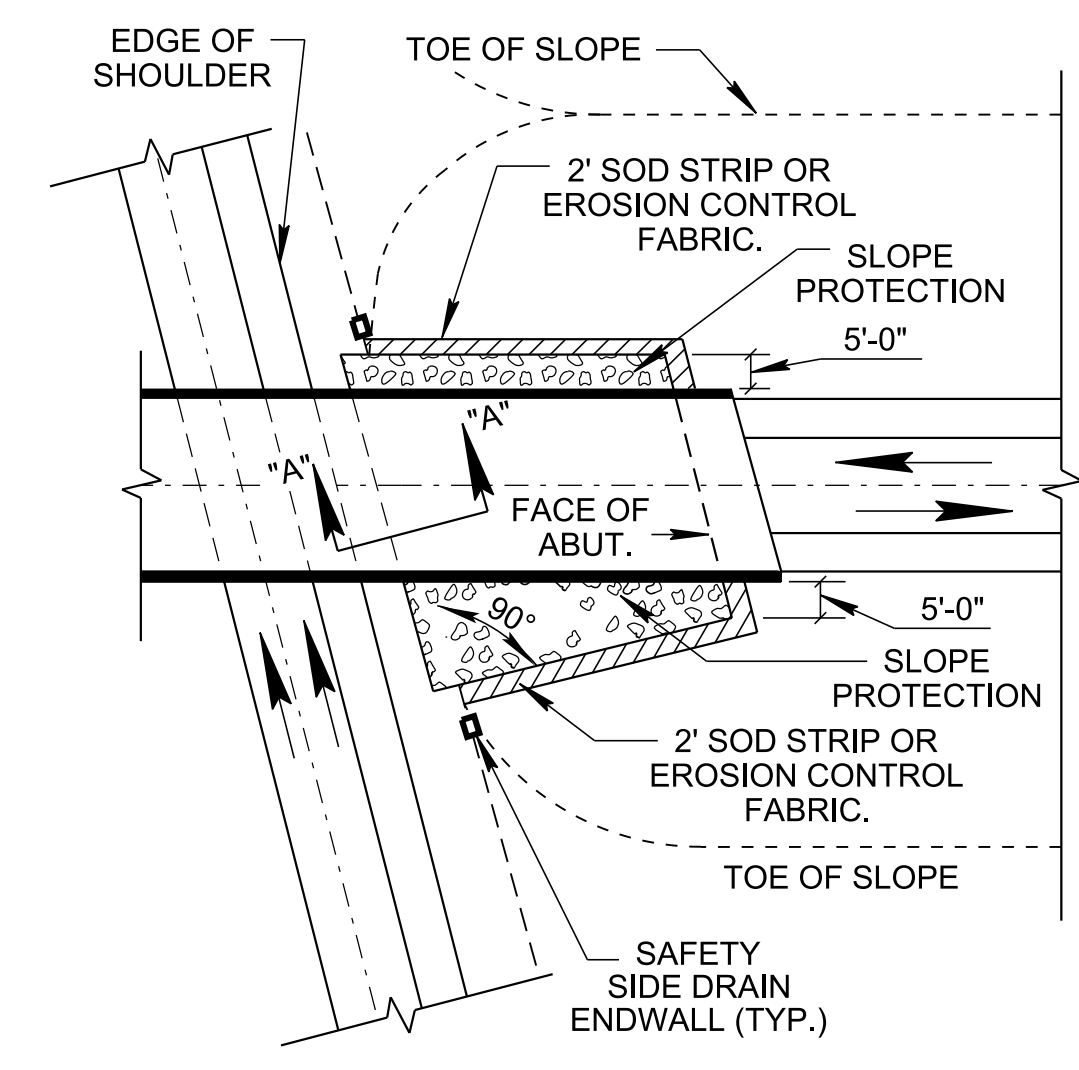


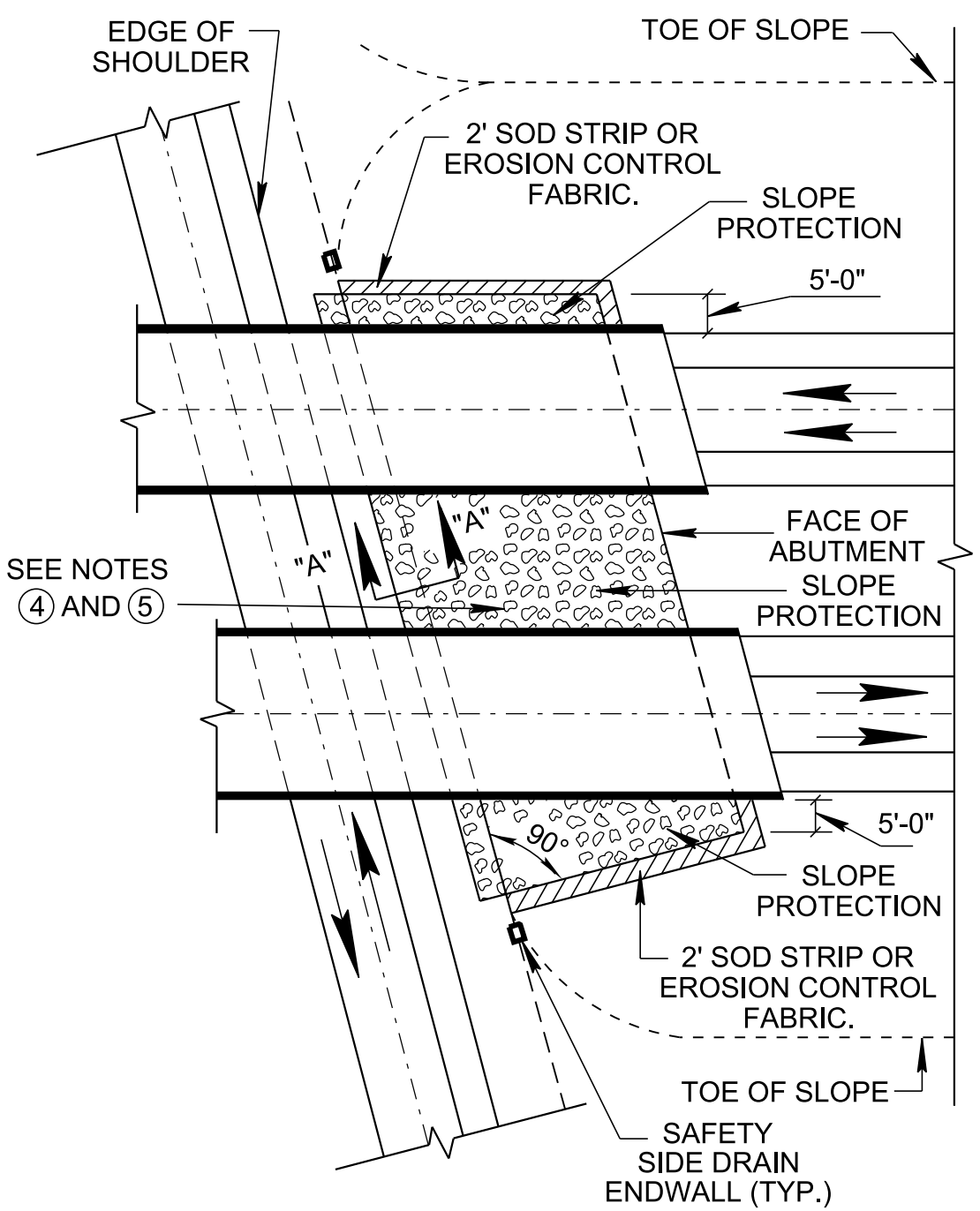
2/13/2024 7:51:54 AM P:\StandDraw\DESIGN STANDARDS\Standards Drawings Library\Standard Roadway Drawings - CURRENT\In Progress\10-101.00 Roadway Design Standards IP\101.04 RD11 Slope Development and Runoff Length



**SECTION "A-A" WITHOUT DITCH**



**PLAN VIEW SINGLE BRIDGE**



**PLAN VIEW DUAL BRIDGES**

**DESIGN NOTES**

(A) THIS DRAWING REFERS TO DRAINAGE LAYOUTS WITHOUT A DITCH FOR GRADE SEPARATED CROSSINGS. ALL WORK INDICATED ON THIS DRAWING SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT TDOT STANDARD SPECIFICATIONS AND/OR CURRENT SPECIAL PROVISION(S).

(B) PAYMENT FOR ALL ITEMS DIRECTLY INDICATED OR IMPLIED ON THIS DRAWING WILL BE MADE UNDER APPROPRIATE ITEM NUMBER(S) AND DESCRIPTION(S) RECORDED ELSEWHERE IN THE PLANS.

(C) THE INTENT OF THIS LAYOUT IS THE DESIGN OF THE UNDERPASS CLEAR ZONE GRADING SO THAT THE FILL/CUT SLOPES APPROACHING THE GRADE CROSSING IS MAINTAINED. IT IS IMPORTANT TO KEEP BRIDGE ABUTMENT SLOPE AND/OR BRIDGE PIER OUTSIDE THE CLEAR ZONE.

**NOTES TO DESIGNERS:**

(D) WHEN EXISTING PHYSICAL CONDITIONS OF THE APPROACH AND TRANSITION ZONE ARE SO UNIQUE AS TO WARRANT INDIVIDUAL DESIGN, A CONTOUR PLAN SHALL BE PREPARED TO PROVIDE THE CONSTRUCTION ENGINEER WITH DATA FOR CONSTRUCTION TO THE INTENDED LINES AND GRADES.

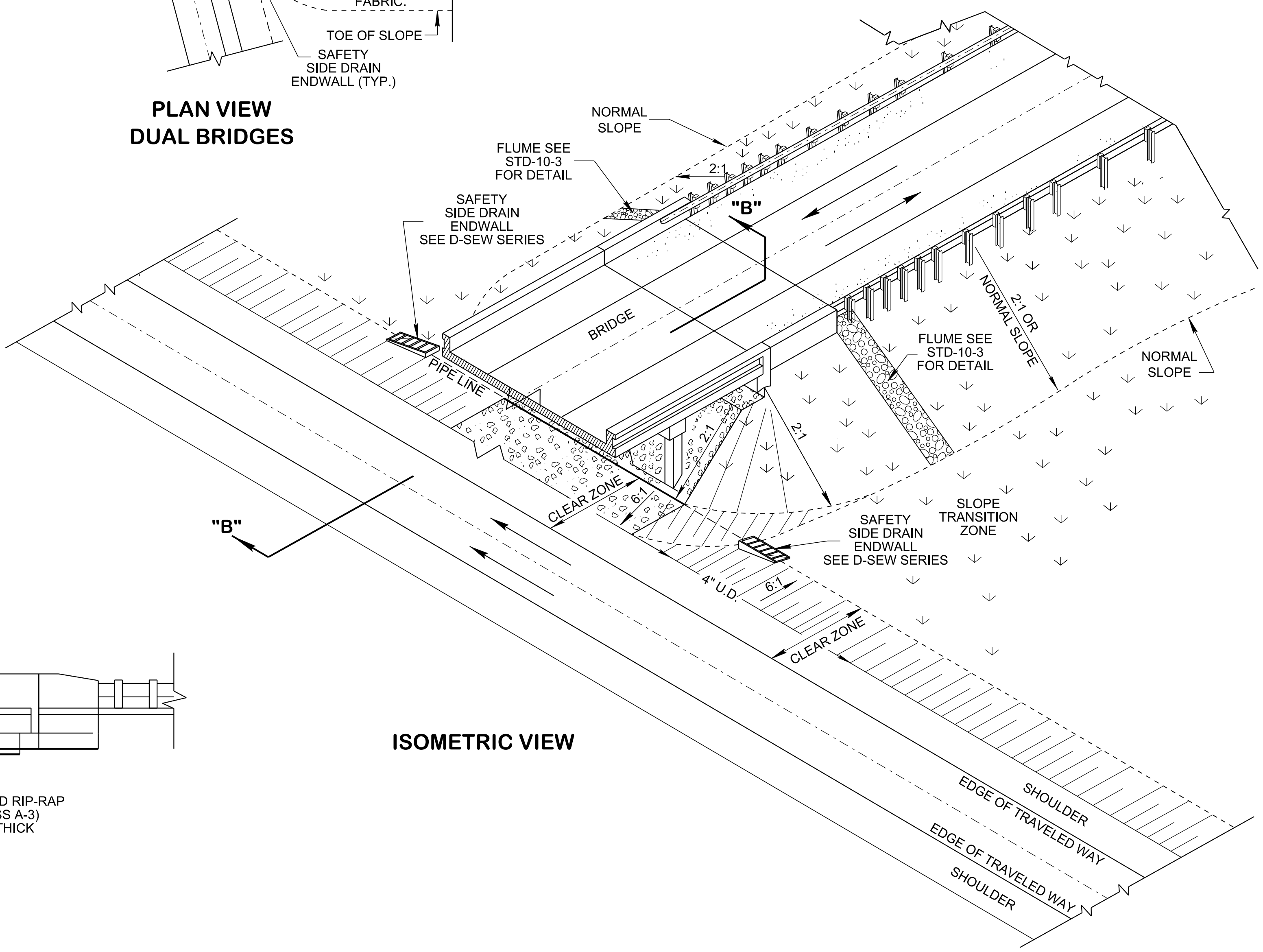
(E) IN RARE CASES WHEN A STEEP (GREATER THAN 3:1) FILL SLOPE IS UNAVOIDABLE WITHIN THE SAFETY APPROACH ZONE, A BARRIER WILL BE INDICATED ON PLANS IN ACCORDANCE WITH DESIGN POLICY SET OUT IN THE "S-GR-" AND "S-PL-4" SERIES OF STANDARD DRAWINGS.

REV. 01-09-2024: REVISED THE ISOMETRIC VIEW, SECTION B-B AND DESIGN NOTES (A) AND (E). ADDED DESIGN NOTE (C), AND FLUME LINES ON ISOMETRIC VIEW. REMOVED SECTION A-A, SECTION C-C, FORMULAS TABLE AND SECTION WITH DITCH DETAIL. RELABELLED SECTION "D-D" TO "A-A".

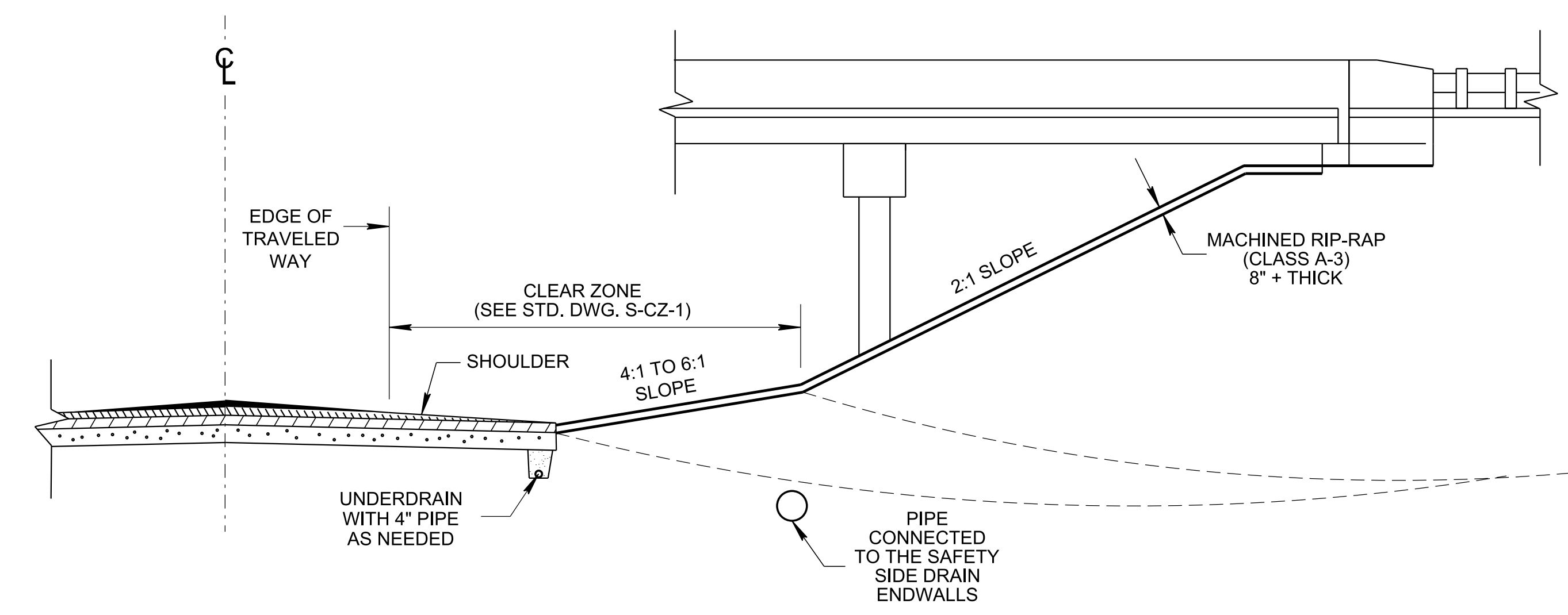
CHANGED THE AREA DRAINS TO SAFETY SIDE DRAIN ENDWALLS ON THE DRAWINGS.

**MACHINED RIP-RAP ABUTMENT SLOPE PROTECTION NOTES**

- ① MACHINED RIP-RAP FOR SLOPE PROTECTION SHALL BE TWO (2) INCHES TO SIX (6) INCHES IN SIZE, UNIFORMLY GRADED AND MEET THE REQUIREMENTS OF SUBSECTION 709 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. IT IS TO BE PAID FOR UNDER ITEM NO. 709-05.05, MACHINED RIP-RAP (CLASS A-3) PER TON.
- ② AGGREGATE SHALL BE PLACED TO A DEPTH OF EIGHT (8) INCHES MEASURED PERPENDICULAR TO THE SLOPE FLUSH WITH THE EMBANKMENT SLOPE UNDER THE BRIDGE ABUTMENT. SHALL EXTEND FROM THE FACE OF THE ABUTMENTS OR END BENTS ACROSS THE BERM AND DOWN THE SLOPE TO A POINT AS SHOWN IN SECTION "A-A" ABOVE, AND SHALL EXTEND Laterally TO FIVE (5) FEET BEYOND THE OUTER EDGES OF THE SUPERSTRUCTURE.
- ③ THE CRUSHED AGGREGATE MAY BE DUMPED IN PLACE. PLACING SHALL BE CONDUCTED IN A MANNER TO PRODUCE A UNIFORM SURFACE VARYING NO MORE THAN TWO (2) INCHES IN FOUR (4) FEET FROM A TRUE PLANE. HAND PLACINGS MAY BE REQUIRED AS NECESSARY TO CORRECT IRREGULARITIES EXCEEDING THE SPECIFIED TOLERANCES.
- ④ WHERE THE MEDIAN IS OVER 60 FEET, THE SLOPE PROTECTION SHALL EXTEND TO THE WIDTH REQUIRED FOR EACH SEPARATE STRUCTURE AND THE AREA BETWEEN THE SLOPE PROTECTION OF EACH STRUCTURE SHALL BE SODDED.
- ⑤ WHERE THE MEDIAN IS 60 FEET OR LESS, THE SLOPE PROTECTION SHALL EXTEND AS SHOWN IN THE PLAN VIEW ABOVE.



**ISOMETRIC VIEW**



**SECTION "B-B"**

NOT TO SCALE

STATE OF TENNESSEE  
STANDARD DRAWING  
DEPARTMENT OF TRANSPORTATION

**SAFETY APPROACH TO UNDERPASSES GRADING DESIGN AND SLOPE PROTECTION**