

ROADWAY (CONT.)

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

GUARDRAIL OVER CULVERTS

WHEN SUFFICIENT POST DEPTH IS NOT AVAILABLE DUE TO A CULVERT, THE GUARDRAIL POSTS DIRECTLY OVER THE CULVERT SHALL NOT BE DRIVEN BUT SET IN HOLES. IF THE DISTANCE BETWEEN THE GROUND LINE AND THE TOP OF THE CULVERT IS LESS THAN THREE FEET, THE POST SHALL BE ENCASED IN A MINIMUM OF 4" THICKNESS OF COVER OF CLASS 'C' CONCRETE FOR THE FULL DEPTH BELOW GROUND.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 606 - GUARDRAIL TYPE 5.

FASTENING OF BRIDGE TERMINAL ASSEMBLIES

BRIDGE TERMINAL ASSEMBLIES WHICH ARE TO BE FASTENED TO EXISTING CONCRETE PARAPETS SHALL BE ATTACHED BY MEANS OF THROUGH BOLTS. EXPANSION ANCHOR BOLTS WILL NOT BE PERMITTED.

WHEN MOUNTING IS TO AN EXISTING WALL THE END TERMINAL SHALL BE ATTACHED USING 7/8 INCH DIAMETER ADHESIVE ANCHORS.

TYPE 5 GUARDRAIL POST SPACING

WHEN THE OFFSET BETWEEN THE FACE OF THE GUARDRAIL AND BRIDGE PIERS, MAJOR SIGNS, SIGN SUPPORTS, OR OTHER FIXED OBSTACLES IS LESS THAN 5 FEET 6 INCHES, THE GUARDRAIL SHALL BE STIFFENED BY PROVIDING 3 FEET 1.5 INCH POST SPACING FROM 12.5 FEET IN ADVANCE OF THE OBSTRUCTION TO ITS END, AS PER STANDARD DRAWING GR-2.1 AND GR-7. COST SHALL BE INCLUDED IN THE TYPE 5A UNIT PRICE BID.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY, (IN ADDITION TO THAT WHICH IS SHOWN IN THE SUB SUMMARY) TO BE USED AS DIRECTED BY THE ENGINEER, IN PLACE OF TYPE 5 GUARDRAIL AS OUTLINED ABOVE:

ITEM 606 - GUARDRAIL, TYPE 5A..... 200 L.F.

ITEM 606 - BRIDGE TERMINAL ASSEMBLY TYPE 2

WHERE THE PARAPET END DIMENSIONS DO NOT MATCH THOSE SHOWN ON STANDARD CONSTRUCTION DRAWING GR-3.2, THE GUARDRAIL/END SHOE SHALL LAP BEYOND THE END OF THE PARAPET BY 4 FEET 0 INCHES. THE LENGTH OF THE THRU BOLTS SHALL BE DETERMINED IN THE FIELD BASED UPON THE ACTUAL PARAPET DIMENSIONS; OTHERWISE ALL GUARDRAIL WORK AND DIMENSIONS SHALL MATCH THOSE SHOWN ON GR-3.2.

GENERAL NOTES

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ET-2000, OPTION 'C', GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N. STATE STREET, GIRARD, OHIO 44420. (TELEPHONE: 216-545-4373).

THE ANCHOR ASSEMBLY SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND AT LOCATIONS SHOWN IN THE PLANS. (THE DETAIL ON SHEET 80 IS SHOWN FOR ILLUSTRATION ONLY, ALL DETAILS AND SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS).

PAYMENT FOR THE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 606, EACH, ANCHOR ASSEMBLY, TYPE E. PAYMENT SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT THE 25 FOOT LONG ANCHOR ASSEMBLY, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY. THIS ITEM SHALL ALSO INCLUDE PAYMENT OVER AND ABOVE THE COST OF STANDARD TYPE 5 GUARDRAIL FOR INSTALLING TYPE I BREAKAWAY POSTS (AS PER STANDARD CONSTRUCTION DRAWING GR-1.3) AT THE FOLLOWING LOCATIONS:

- 1. AT THE POINT WHERE THE ANCHOR ASSEMBLY AND THE GUARDRAIL RUN MEET.
2. AT THE NEXT THREE (3) POST LOCATIONS INTO THE GUARDRAIL RUN.

SEQUENCE OF OPERATIONS FOR GUARDRAIL INSTALLATION

- 1. COMPLETE SHOULDER CONSTRUCTION AND RESURFACING.
2. REPLACE GUARDRAIL AS SHOWN ON PLAN SHEETS (INSTALL TEMPORARY CONCRETE BARRIER AT HAZARDS - SEE PUBLIC SAFETY NOTE).
3. CONSTRUCT A STRIP OF ITEM 446 - ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE I (UNDER GUARDRAIL), AS PER PLAN. AS SHOWN ON THE TYPICAL SECTIONS.

ITEMS 2 AND 3 ABOVE MAY BE PERFORMED IN EITHER ORDER.

DUST CONTROL

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR DUST CONTROL:

ITEM 616 - WATER..... 50 M.GAL.
ITEM 616 - CALCIUM CHLORIDE..... 20 TON

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