

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	54-87 K-8258-08	2005	62	223

SUMMARY OF QUANTITIES FOR CANTILEVERED RETAINING WALLS						
ITEM	UNITS	WALL "A"	WALL "C"	WALL "F"	WALL "N2A"	TOTALS
Concrete (Grade 31) (AE)	m <sup>3</sup>	76.5	76.7	57.8	70.3	281.3
Reinforcing Steel Grade 420 (Epoxy Coated)	kg	4780	4780	3400	5500	18 460
Handrail (Metal) (560 mm)	m	-	-	-	43.6	43.6
Concrete Masonry Coating	m <sup>2</sup>	96.4	94.7	75.4	126.8	393.3

**NOTE:** Quantities listed below provided for "Information Only".

- 195 m<sup>2</sup> of Strip Drain.
- 215 m of 100 mm dia. Perforated Polyethylene Pipe.
- 10 m of 100 mm dia. Non-Perforated Polyethylene Outlet Pipe.
- 1040 m<sup>3</sup> of Class III Excavation.

**GENERAL NOTES**

**DESIGN SPECIFICATIONS:**  
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996 EDITION WITH APPROPRIATE INTERIM SPECIFICATIONS.

**CONSTRUCTION SPECIFICATIONS:**  
KANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, 1990 AND SPECIAL PROVISIONS.

**DESIGN LOADING:**  
LIVE LOAD --- SURCHARGE LOAD OF 0.6 METER OF EARTH.

EQUIVALENT FLUID PRESSURE --- SEE LOADING DIAGRAMS.  
OTHER LOADS --- AS SPECIFIED BY AASHTO.

**UNIT STRESSES:**  
CONCRETE (GRADE 31) (AE)  $f_c = 31 \text{ MPa}$   
CONCRETE (GRADE 31)  $f_c = 31 \text{ MPa}$   
REINFORCING STEEL (GRADE 420)  $f_y = 420 \text{ MPa}$

**CONCRETE:** ALL CONCRETE SHALL BE CONCRETE (GRADE 31) (AE). BEVEL ALL EXPOSED EDGES OF CONCRETE WITH A 20 mm TRIANGULAR MOLDING, EXCEPT AS OTHERWISE NOTED ON THE PLANS. EXPOSED SURFACES, EXCEPT RECESSED GROOVES, SHALL BE GIVEN A RUBBED SURFACE. CONSTRUCTION JOINTS ARE OPTIONAL WITH THE CONTRACTOR, BUT IF USED, SHALL BE MADE ONLY AT THE LOCATIONS SHOWN, OR AT THE LOCATIONS APPROVED BY THE ENGINEER.

**REINFORCING STEEL:** ALL REINFORCING STEEL DIMENSIONS ARE TO THE CENTERLINE OF BARS, UNLESS OTHERWISE NOTED. ALL THE REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615M-96 GRADE 420.

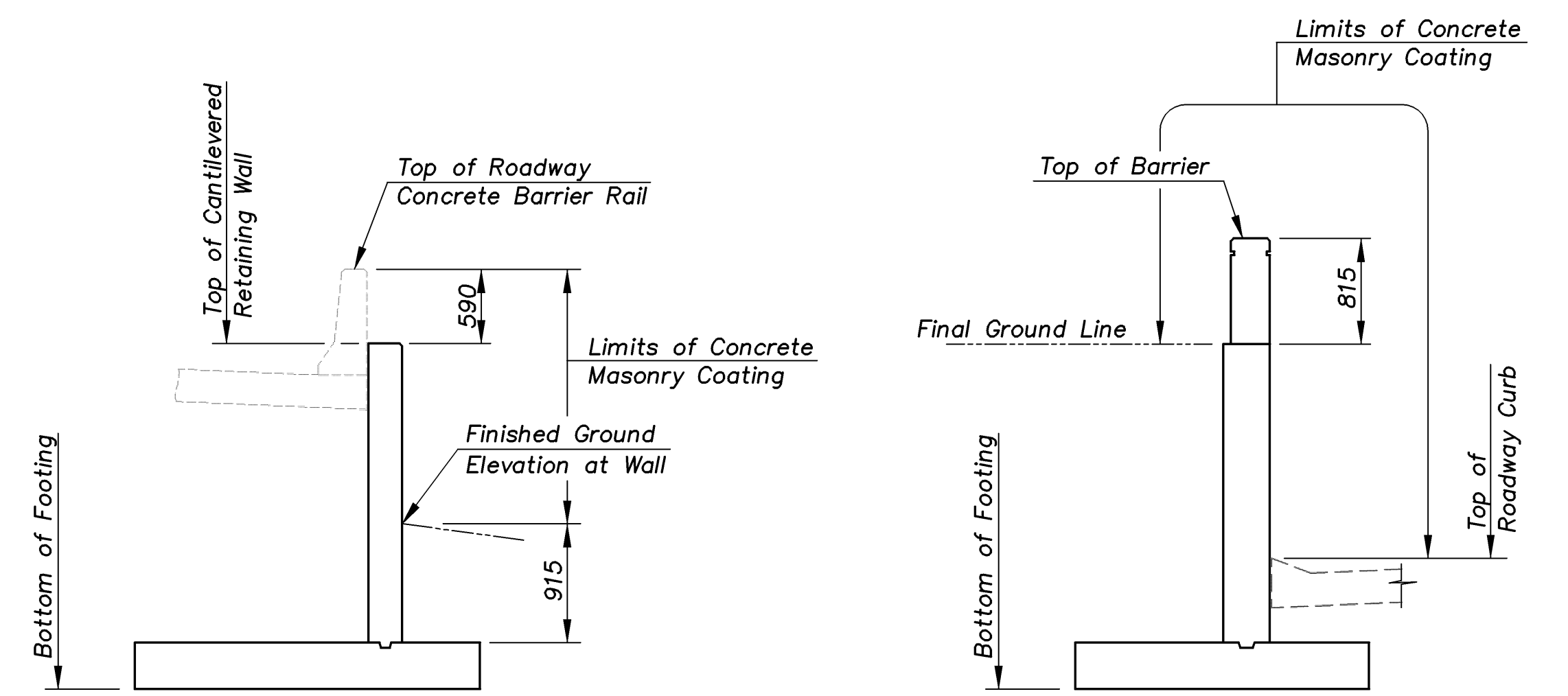
**EXCAVATION:** ALL CANTILEVERED RETAINING WALL EXCAVATION SHALL BE CLASS III EXCAVATION AND SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "CONCRETE (GRADE 31) (AE)".

**WALL DRAINAGE:** STRIP DRAINS, PERFORATED AND NON-PERFORATED POLYETHYLENE TUBING SHALL BE INCLUDED IN UNIT PRICE BID FOR "CONCRETE (GRADE 31) (AE)".

**EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS:** THE TYPE B EXPANSION JOINT MATERIAL SHALL CONFORM TO SECTION 1503 OF THE STANDARD SPECIFICATIONS. THE P.V.C. PLASTIC WATERSTOP SHALL CONFORM TO SECTION 1506 OF THE STANDARD SPECIFICATIONS. THE EXPANSION JOINT MATERIAL, PLASTIC WATERSTOP AND 20 mm DIAMETER EPOXY COATED SMOOTH DOWELS SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "CONCRETE (GRADE 31) (AE)".

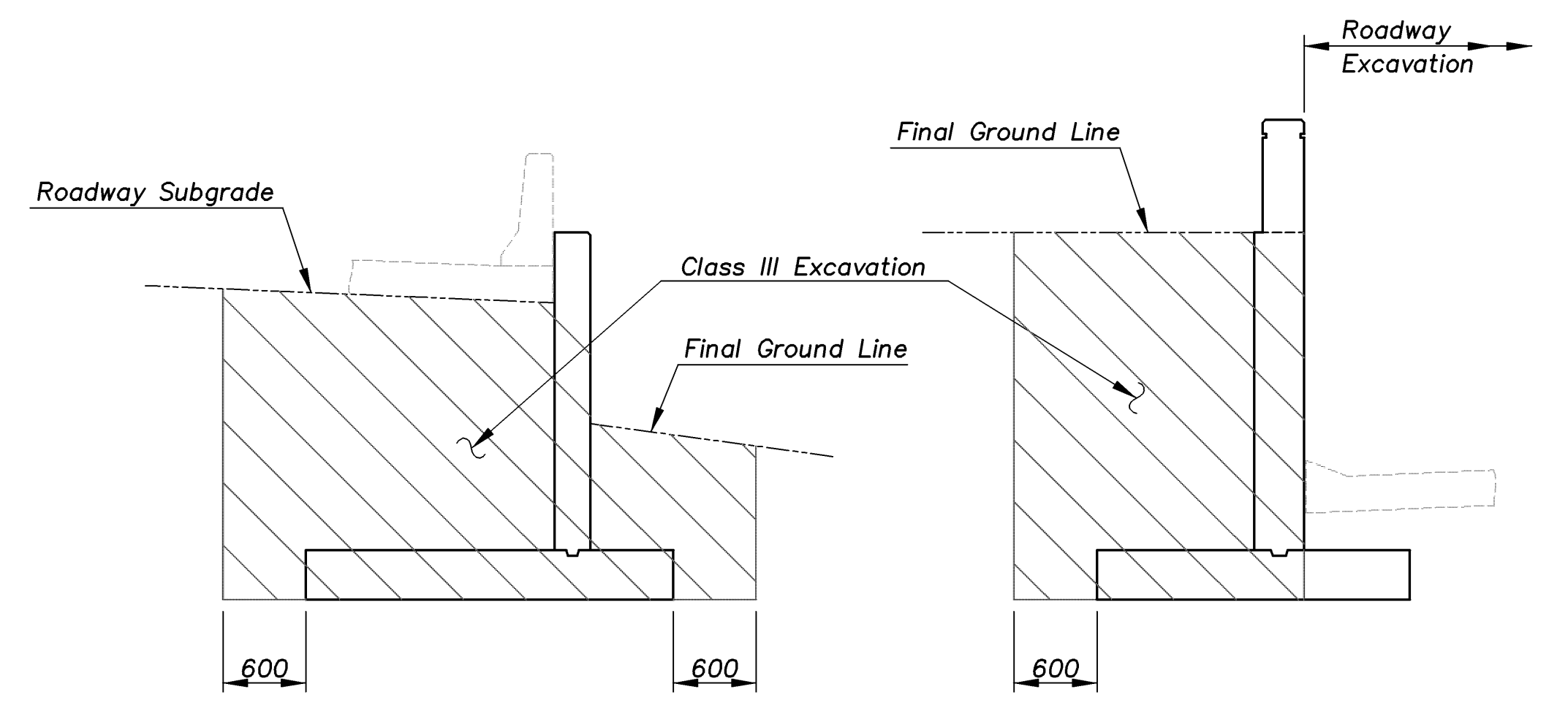
**GEOLOGIC INFORMATION:** SEE THE ROADWAY CROSS SECTION SHEETS. BORING LOGS ARE IN THE FILE OF THE CONSULTANT AND ARE AVAILABLE FOR INSPECTION BY INTERESTED AND/OR QUALIFIED BIDDERS.

**CONCRETE MASONRY COATING:** CONCRETE MASONRY COATING SHALL BE APPLIED TO ALL EXTERIOR CONCRETE SURFACES OF THE WALL PANELS AND BARRIERS, WITHIN THE LIMITS DETAILED IN THE PLANS. THE COLOR OF THE CONCRETE MASONRY COATING SHALL MATCH COLOR NO. 30318 (LIMESTONE TAN) OF FEDERAL STANDARD 595B UNLESS AN EQUAL IS APPROVED BY THE ENGINEER. A NON-PETROLEUM BASED FORM RELEASE AGENT SHALL BE USED ON FORMED SURFACES TO BE COATED. ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO PERFORM THIS WORK SHALL BE PAID FOR AS "CONCRETE MASONRY COATING" IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

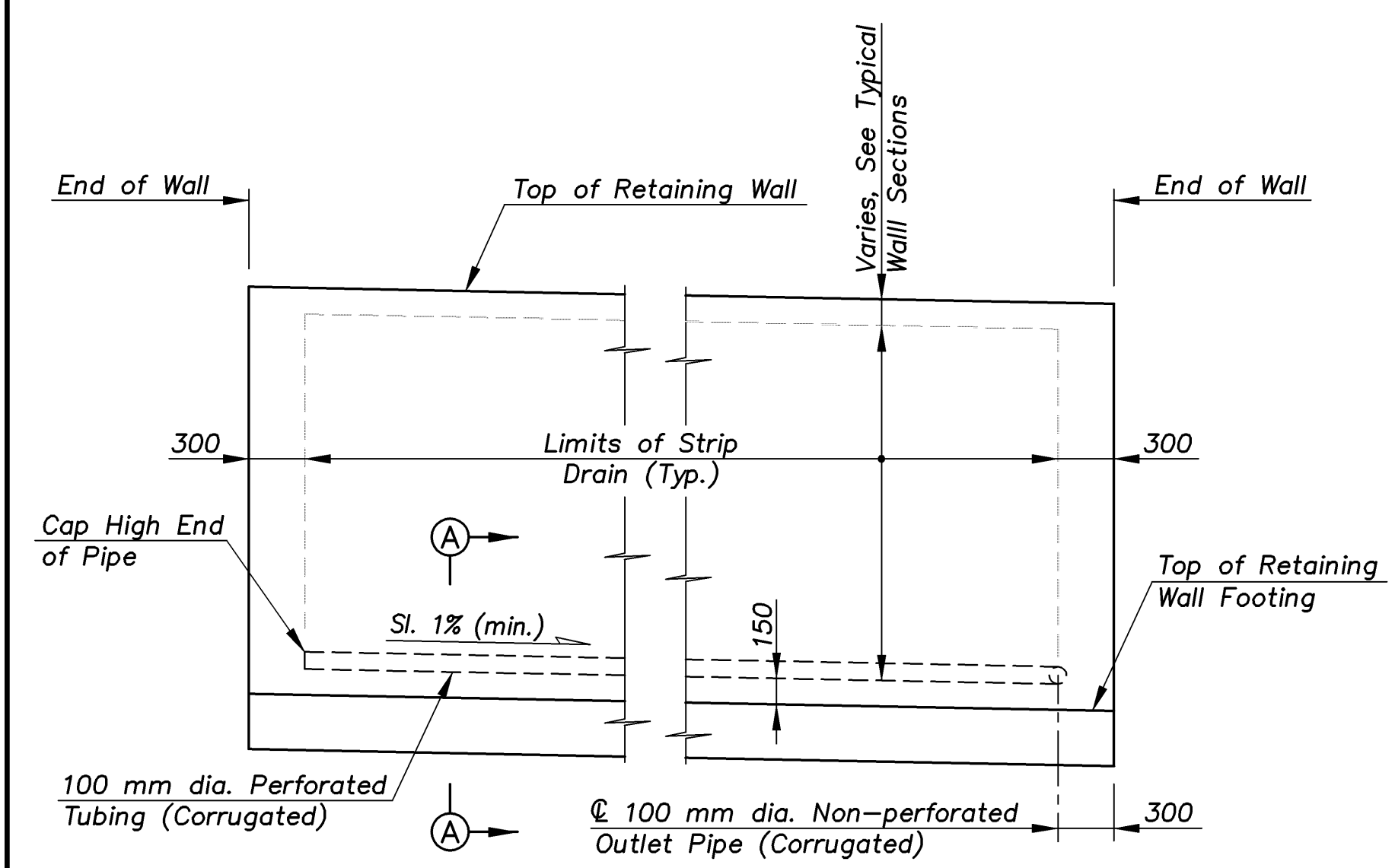


**LIMITS OF CONCRETE MASONRY COATING**

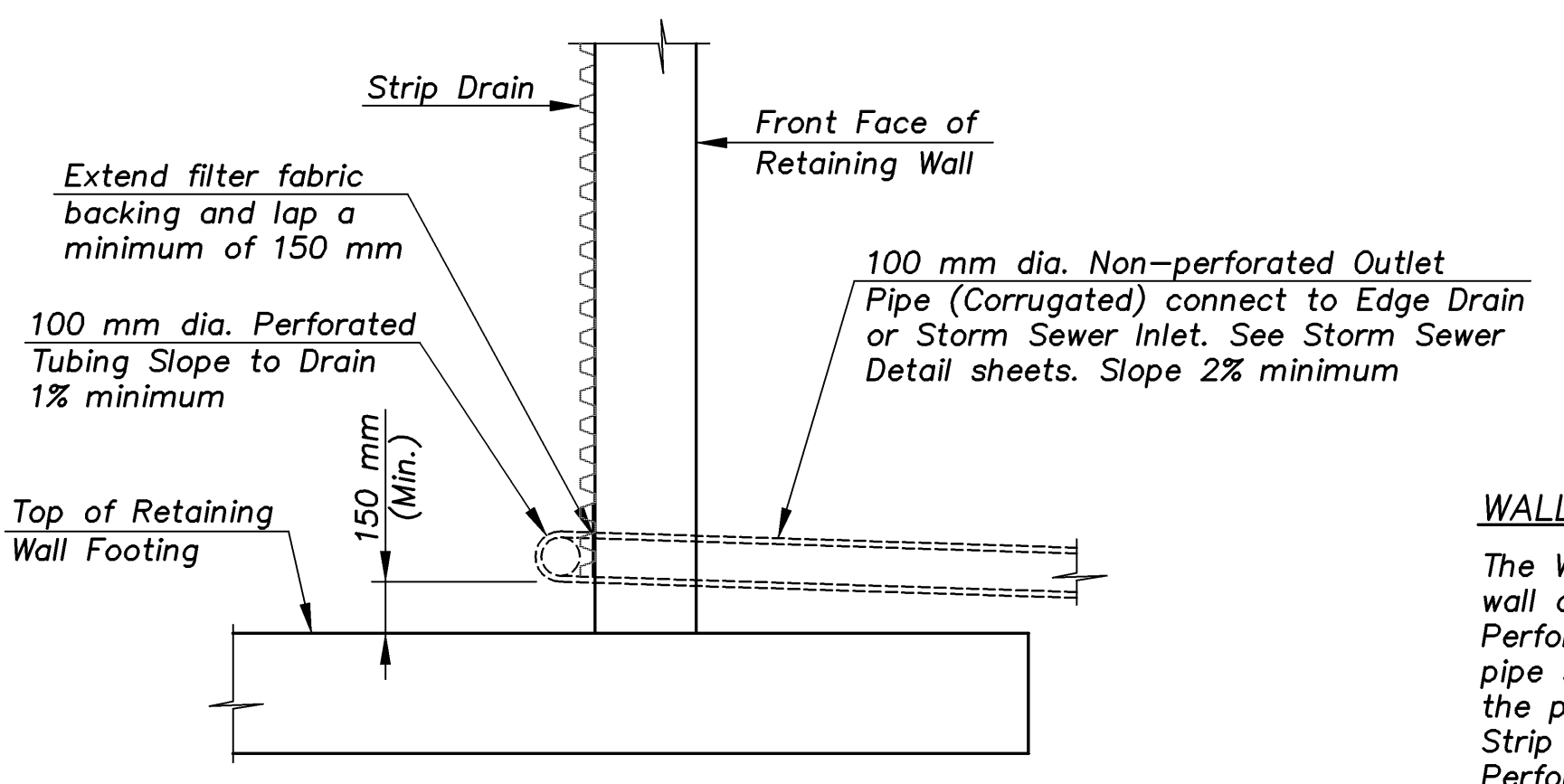
NOTE: Concrete masonry coating shall be applied to the top of barrier prior to placement of metal handrail.



**CLASS III EXCAVATION DETAILS**



**TYPICAL RETAINING WALL DRAINAGE**



**SECTION A-A**

**WALL DRAINAGE NOTES:**

The Wall Contractor shall place the strip drain against the back of the wall and place the perforated pipe and the outlet pipe. Perforated pipe shall be placed next to the strip drain. Non-perforated pipe shall be used for the outlet pipes. Care shall be taken to enclose the perforated pipe with the extension of the filter fabric. Strip Drain material shall meet requirements of the Special Provisions. Perforated pipe and non-perforated outlet pipe shall be corrugated polyethylene tubing and shall meet requirements of KDOT Specifications. Any overexcavation below the perforated pipe shall be backfilled with cohesive soil, Type C compaction. Strip drain, perforated pipes, outlet pipes, and overexcavation backfill shall be included in the price bid for "Concrete (Grade 31) (AE)". Adjust outlet pipe locations, as required, to miss Inlets. For locations of inlets see Storm Sewer Detail Sheets.

**CONSTRUCTION METHOD:**  
Construction for the Cantilevered Retaining Walls shall be cast-in-place as detailed in the plans. Precast construction will not be allowed for the cantilevered retaining walls.

KANSAS DEPARTMENT OF TRANSPORTATION		<b>CFS</b> Cook, Flatt & Strobel ENGINEERS, P. A.	
CANTILEVERED RETAINING WALLS GENERAL NOTES & QUANTITIES (EASTERN AVENUE BRIDGE)			
DESIGNED	R.S.C.	SCALE	Noted
DETAILED	T.R.G.	DATE	
Proj. No. 54-87 K-8258-08		SEDGWICK COUNTY	QUANTITIES T.R.G. SHEET 1 OF 7

1:200  
MISC-WALLS DETAILS