TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO. ---

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	NH-29(86)	

CONST. NO. 65001-3268-14

TABLE 2 - DESIGN PARAMETERS FOR ANCHOR WALL

STATION LIMITS	ELEVATION INTERVAL	MATERIAL	FRICTION ANGLE	COHESION	UNIT WEIGHT
WALL 1					
259+39 TO 262+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SOIL	25*	0.200 ksf	0.130 kcf
262+50 TO 264+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 817	SOIL	25*	0.200 ksf	0.130 kcf
	ELEV. 817 TO BASE OF WALL	WEATHERED SHALE AND SANDSTONE	16*	55 ksf	0.135 kcf
264+50 TO 266+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 822	SOIL	25*	0.200 ksf	0.130 kcf
	ELEV. 822 TO BASE OF WALL	WEATHERED INTERBEDDED SHALE AND SILTSTONE	16*	55 ksf	0.135 kcf
266+50 TO 270+68	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SOIL	25*	0.200 ksf	0.130 kcf
WALL 2					
291+70 TO 293+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SOIL	25*	0.200 ksf	0.130 kcf
293+50 TO 295+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SANDSTONE, SHALE, COAL, AND SILTSTONE	25*	125 ksf	0.140 kcf
295+00 TO 296+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	WEATHERED SHALE	16*	55 ksf	0.135 kcf
296+50 TO 297+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 873	SOIL	25*	0.200 ksf	0.130 kcf
	ELEV. 873 TO BASE OF WALL	WEATHERED SHALE	16*	55 ksf	0.135 kcf
297+50 TO 299+07	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 863	SOIL	25*	0.200 ksf	0.130 kcf
	ELEV. 863 TO BASE OF WALL	SANDSTONE	40*	350 ksf	0.160 kcf
WALLS 3 AND 3A					
302+50 TO 305+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SHALE	25*	125 ksf	0.140 kcf
305+00 TO 307+25	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	WEATHERED INTERBEDDED SHALE AND SILTSTONE	16*	55 ksf	0.135 kcf
307+25 TO 309+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 880	SOIL	25*	0.200 ksf	0.130 kcf
	ELEV. 880 TO BASE OF WALL	INTERBEDDED SHALE AND SANDSTONE	25*	125 ksf	0.140 kcf
309+00 TO 310+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SANDSTONE	40*	350 ksf	0.160 kcf
310+50 TO 311+80	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 887	WEATHERED SHALE	16*	55 ksf	0.135 kcf
	ELEV. 887 TO BASE OF WALL	INTERBEDDED SHALE AND SANDSTONE	25*	125 ksf	0.140 kcf
311+80 TO 318+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	WEATHERED INTERBEDDED SHALE AND SANDSTONE	16*	55 ksf	0.135 kcf
318+00 TO 320+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 887	SOIL	25*	0.200 ksf	0.130 kcf
	ELEV. 887 TO BASE OF WALL	SANDSTONE	40*	350 ksf	0.160 kcf
320+00 TO 322+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 880	SOIL	25*	0.200 ksf	0.130 kcf
	ELEV. 880 TO BASE OF WALL	INTERBEDDED SHALE AND SANDSTONE	25*	125 ksf	0.140 kcf
322+00 TO 324+25	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 898	SOIL	25*	0.200 ksf	0.130 kcf
	ELEV. 898 TO ELEV. 891	INTERBEDDED SHALE AND SILTSTONE	25*	125 ksf	0.140 kcf
	ELEV. 891 TO BASE OF WALL	WEATHERED COAL	25*	0.200 ksf	0.06 kcf
324+25 TO 326+25	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	40*	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SOIL	25*	0.200 ksf	0.130 kcf

TABLE 3 - RESISTANCE PARAMETERS

STATION LIMITS	ELEVATION INTERVAL	MATERIAL	NOMINAL ANCHOR BOND STRESS, τ_n	UNCONFINED COMPRESSIVE STRENGTH	UNIT WEIGHT
WALL 1					
259+39 TO 262+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
262+50 TO 264+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 817	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
	ELEV. 817 TO BASE OF WALL	WEATHERED SHALE AND SANDSTONE	5 ksf	110 ksf	0.135 kcf
264+50 TO 266+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 822	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
	ELEV. 822 TO BASE OF WALL	WEATHERED INTERBEDDED SHALE AND SILTSTONE	5 ksf	110 ksf	0.135 kcf
266+50 TO 270+68	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
WALL 2					
291+70 TO 293+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
293+50 TO 295+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SANDSTONE, SHALE, COAL, AND SILTSTONE	12 ksf	250 ksf	0.140 kcf
295+00 TO 296+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	WEATHERED SHALE	5 ksf	110 ksf	0.135 kcf
296+50 TO 297+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 873	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
	ELEV. 873 TO BASE OF WALL	WEATHERED SHALE	5 ksf	110 ksf	0.135 kcf
297+50 TO 299+07	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 863	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
	ELEV. 863 TO BASE OF WALL	SANDSTONE	35 ksf	700 ksf	0.160 kcf
WALLS 3 AND 3A					
302+50 TO 305+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SHALE	12 ksf	250 ksf	0.140 kcf
305+00 TO 307+25	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	WEATHERED INTERBEDDED SHALE AND SILTSTONE	5 ksf	110 ksf	0.135 kcf
307+25 TO 309+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 880	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
	ELEV. 880 TO BASE OF WALL	INTERBEDDED SHALE AND SANDSTONE	12 ksf	250 ksf	0.140 kcf
309+00 TO 310+50	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SANDSTONE	35 ksf	700 ksf	0.160 kcf
310+50 TO 311+80	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 887	WEATHERED SHALE	5 ksf	110 ksf	0.135 kcf
	ELEV. 887 TO BASE OF WALL	INTERBEDDED SHALE AND SANDSTONE	12 ksf	250 ksf	0.140 kcf
311+80 TO 318+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	WEATHERED INTERBEDDED SHALE AND SANDSTONE	5 ksf	110 ksf	0.135 kcf
318+00 TO 320+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 887	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
	ELEV. 887 TO BASE OF WALL	SANDSTONE	35 ksf	700 ksf	0.160 kcf
320+00 TO 322+00	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 880	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
	ELEV. 880 TO BASE OF WALL	INTERBEDDED SHALE AND SANDSTONE	12 ksf	250 ksf	0.140 kcf
322+00 TO 324+25	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO ELEV. 898	SOIL	0.7 ksf	0.400 ksf	0.130 kcf
	ELEV. 898 TO ELEV. 891	INTERBEDDED SHALE AND SILTSTONE	12 ksf	250 ksf	0.140 kcf
	ELEV. 891 TO BASE OF WALL	WEATHERED COAL	0.7 ksf	0.400 ksf	0.060 kcf
324+25 TO 326+25	TOP OF WALL TO TOP OF GROUND	ASTM D448 NO.57 STONE	NOT APPLICABLE	0 ksf	0.100 kcf
	TOP OF GROUND TO BASE OF WALL	SOIL	0.7 ksf	0.400 ksf	0.130 kcf

U-58-191

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

RETAINING WALL
DESIGN AND RESISTANCE
PARAMETERS
RETAINING WALLS
NOS. 1, 2, 3, AND 3A
STATE ROUTE 29
MORGAN COUNTY, TENNESSEE
2014