

STRUCTURE RECOMMENDATIONS

W.B.S. NO. 50231 DESCRIPTION Segmental Gravity Retaining Wall #2
 T.I.P. NO. U-5840
 COUNTY Henderson
 STATION 10+00.00 to 11+01.73
-W2-

	INITIALS	DATE
DESIGN	PDM	6/16/2017
CHECKED	DJC	6/16/2017
FINAL	DJC	6/16/2017



COMMENTS & NOTES


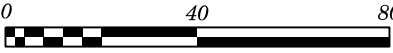
Note on Plans:

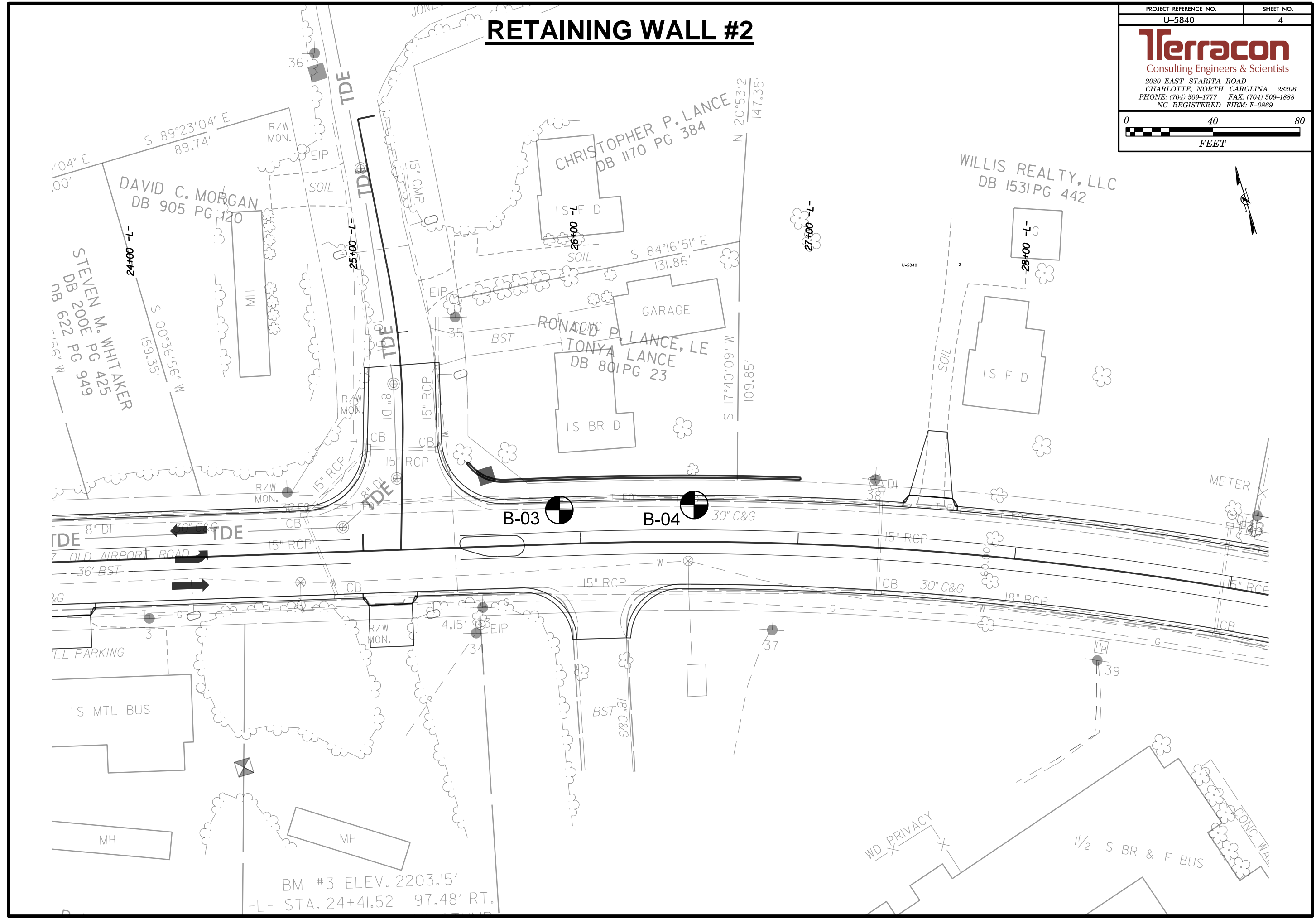
1. FOR SEGMENTAL GRAVITY RETAINING WALLS, SEE SEGMENTAL GRAVITY RETAINING WALLS PROVISION.
2. A DRAIN PIPE IS REQUIRED FOR RETAINING WALL NO. 2
3. DESIGN RETAINING WALL NO. 2 FOR WALL HEIGHTS EQUAL TO THE DESIGN HEIGHT PLUS DEPTH TO TOP OF FOOTING (DIFFERENCE BETWEEN GRADE ELEVATION AND TOP OF FOOTING ELEVATION).
4. DESIGN RETAINING WALL NO. 2 FOR THE FOLLOWING:
 - 1) MAXIMUM FACTORED VERTICAL STRESS ON FOUNDATION MATERIAL = 2,500 LB/SF. THIS ASSUMES ANY FILL OR SOFT SOILS, IF ENCOUNTERED, WILL BE UNDERCUT AND REPLACED.
 - 2) MAXIMUM COEFFICIENT OF SLIDING FRICTION = 0.35
 - 3) GROUNDWATER WAS NOT ENCOUNTERED IN THE BORING TERMINATION DEPTHS.
 - 4) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (Φ) DEGREES	COHESION (c) LB/SF	ACTIVE EARTH PRESSURE (K_a)	PASSIVE EARTH PRESSURE (K_p)
BACKFILL	120	30	0	0.33	3.00
FOUNDATION	120	28	0	0.36	2.77

5. IGNORE PASSIVE EARTH PRESSURES IN THE UPPER 18 INCHES.

RETAINING WALL #2

PROJECT REFERENCE NO. U-5840	SHEET NO. 4
	
Consulting Engineers & Scientists 2020 EAST STARITA ROAD CHARLOTTE, NORTH CAROLINA 28206 PHONE: (704) 509-1777 FAX: (704) 509-1888 NC REGISTERED FIRM: F-0869	
	



GEOTECHNICAL BORING REPORT

BORE LOG

WBS U-5840		TIP U-5840		COUNTY HENDERSON		GEOLOGIST McCloud, P.D.											
SITE DESCRIPTION SR 1547 (Old Airport Road) from US 25 (Hendersonville Road) to SR 1551 (Mills Gap Road)							GROUND WTR (ft)										
BORING NO. B-04		STATION 11+08		OFFSET 13 ft RT		ALIGNMENT -W2-											
COLLAR ELEV. 2,201.7 ft		TOTAL DEPTH 15.0 ft		NORTHING 634,113		EASTING 957,472											
DRILL RIG/HAMMER EFF./DATE HPC8513 CME-550 81% 06/06/2016				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic											
DRILLER Odom, C.J.		START DATE 05/17/17		COMP. DATE 05/17/17		SURFACE WATER DEPTH N/A											
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
2205																	
															2,201.7	GROUND SURFACE	0.0
															2,200.2	6" Asphalt over 12" Stone Base	1.5
2200	2,200.2	1.5	9	14	12						SS-16	M					
	2,198.2	3.5	9	11	11						SS-17	M					
2195	2,195.7	6.0	8	9	13						SS-18	M			2,196.2	RESIDUAL Very stiff, gray and tan, clayey SAND (A-2-4 (0))	5.5
	2,193.2	8.5	16	19	20						SS-19	M					
2190															2,189.7	Very stiff, gray and tan, SILT with sand (A-4)	12.0
	2,188.2	13.5	13	13	10						SS-20	M			2,186.7	Very stiff, gray and tan, SILT with sand (A-4)	15.0
																Boring Terminated at Elevation 2,186.7 ft in Silt with Sand	

NCDOT BORE SINGLE 71175059 - U-5840 - HENDERSON COUNTY RETAINING WALLS.GPJ NC_DOT.GDT 6/16/17