

GPS Calibration Report

Project : u4007az

TIP Number	U-4007		
User name	breigner	Date & Time	10:28:05 AM 10/26/2006
Coordinate System	US State Plane 1983(at ground)	Zone	North Carolina 3200
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD88	Geoid Model	Geoid03 (Conus) NC Sub Grid
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	U4007-3
Latitude	34°46'23.06985"N
Longitude	77°23'53.56573"W
Site Scale Factor	1.0000887360
Height	-82.738sft

The North Carolina Department of Transportation uses a **Localized Coordinate System** which is very similar to North Carolina Zone 3200 from which it is derived.
Please take care in utilizing these coordinates to eliminate confusion of the two systems.
This file is to aid in the use of Real Time Kinematic (RTK) GPS during construction layout.

Datum Transformation Parameters

Datum Transformation computation not requested

Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

Horizontal Adjustment Parameters

Northing coordinate of rotation center	380114.336sft
Easting coordinate of rotation center	2482514.103sft
Rotation about the center point	0°00'00"
Translation north	-0.018sft
Translation east	-0.008sft
Scale factor	1.00000000

Vertical Adjustment Parameters

Northing coordinate of origin point	382744.641sft
Easting coordinate of origin point	2478475.734sft
Vertical separation at origin	0.144sft
Slope north	-1.149ppm
Slope east	-0.100ppm

Geoid Model Definition

Geoid03 (Conus) NC Sub Grid

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.020sft	0.002	TEN MILE_GPS
Vertical	0.069sft	0.009	COBLE_GPS
Three-dimensional	0.069sft	0.009	COBLE_GPS

Point Residuals

WGS84 Coordinates

Point	U4007-1_GPS
Latitude	34°47'27.95510"N
Longitude	77°24'22.47564"W
Height	-74.826sft

Calculated point FOR DISPLAY ONLY

Northing	382744.641sft
Easting	2478475.734sft
Elevation	46.845sft
Horz error	0.003sft
Vert error	0.000sft
3D error	0.003sft

Local Coordinates

Point	U4007-1
Northing	382744.644sft
Easting	2478475.735sft
Elevation	46.844sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	U4007-2_GPS
Latitude	34°47'18.59553"N
Longitude	77°24'13.25144"W
Height	-72.534sft

Northing	381810.865sft
Easting	2479260.196sft
Elevation	49.142sft
Horz error	0.002sft
Vert error	0.000sft
3D error	0.002sft

Point	U4007-2
Northing	381810.867sft
Easting	2479260.197sft
Elevation	49.142sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	COBLE_GPS
Latitude	34°46'59.86752"N
Longitude	77°23'01.34295"W
Height	-77.859sft

Northing	380014.747sft
Easting	2485287.965sft
Elevation	43.842sft
Horz error	0.000sft
Vert error	0.069sft
3D error	0.069sft

Point	COBLE
Northing	380014.747sft
Easting	2485287.965sft
Elevation	43.911sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	u4007-3_GPS
Latitude	34°46'23.07002"N
Longitude	77°23'53.56565"W
Height	-82.894sft

Northing	376224.375sft
Easting	2480992.507sft
Elevation	38.800sft
Horz error	0.002sft
Vert error	0.005sft
3D error	0.006sft

Point	u4007-3
Northing	376224.375sft
Easting	2480992.509sft
Elevation	38.806sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	U4007-4_GPS
Latitude	34°46'08.35451"N
Longitude	77°23'46.21715"W
Height	-61.374sft

Northing	374746.719sft
Easting	2481629.500sft
Elevation	60.327sft
Horz error	0.001sft
Vert error	0.007sft
3D error	0.007sft

Point	U4007-4
Northing	374746.718sft
Easting	2481629.501sft
Elevation	60.334sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	u4007-5_GPS
Latitude	34°45'38.35070"N

Northing	371782.960sft
Easting	2485945.495sft

Point	u4007-5
Northing	371782.957sft

Longitude	77°22'55.06964"W
Height	-85.759sft

Elevation	35.962sft
Horz error	0.003sft
Vert error	0.008sft
3D error	0.008sft

Easting	2485945.494sft
Elevation	35.970sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	U4007-6_GPS
Latitude	34°45'38.91489"N
Longitude	77°22'41.36386"W
Height	-84.977sft

Northing	371858.652sft
Easting	2487087.968sft
Elevation	36.747sft
Horz error	0.004sft
Vert error	0.007sft
3D error	0.008sft

Point	U4007-6
Northing	371858.649sft
Easting	2487087.965sft
Elevation	36.754sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	U4007-7_GPS
Latitude	34°45'34.53239"N
Longitude	77°23'40.82016"W
Height	-90.123sft

Northing	371335.005sft
Easting	2482134.993sft
Elevation	31.591sft
Horz error	0.002sft
Vert error	0.011sft
3D error	0.011sft

Point	U4007-7
Northing	371335.003sft
Easting	2482134.995sft
Elevation	31.602sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	u4007-8_GPS
Latitude	34°45'18.53496"N
Longitude	77°23'41.62694"W
Height	-70.750sft

Northing	369716.778sft
Easting	2482093.837sft
Elevation	50.971sft
Horz error	0.003sft
Vert error	0.013sft
3D error	0.013sft

Point	u4007-8
Northing	369716.775sft
Easting	2482093.838sft
Elevation	50.983sft
Utilized	Horz and Vert
Quality	Adjusted quality

Point	TEN MILE_GPS
Latitude	35°03'21.28051"N
Longitude	77°12'22.64169"W
Height	-87.866sft

Northing	480135.771sft
Easting	2536763.392sft
Elevation	33.927sft
Horz error	0.020sft
Vert error	0.026sft
3D error	0.032sft

Point	TEN MILE
Northing	480135.789sft
Easting	2536763.399sft
Elevation	33.901sft
Utilized	Horz and Vert
Quality	Control quality

Point	RUSSELL 2 RM A_G
Latitude	34°39'27.06524"N
Longitude	77°11'40.38696"W
Height	-85.452sft

Northing	335222.597sft
Easting	2542912.695sft
Elevation	36.531sft
Horz error	0.010sft
Vert error	0.054sft
3D error	0.055sft

Point	RUSSELL 2 RM A
Northing	335222.588sft
Easting	2542912.692sft
Elevation	36.476sft
Utilized	Horz and Vert
Quality	Control quality

Point	PINHOOK_GPS
Latitude	34°44'55.72435"N
Longitude	77°46'34.43032"W
Height	-45.345sft

Northing	365778.707sft
Easting	2367584.854sft
Elevation	74.904sft
Horz error	0.007sft
Vert error	0.039sft
3D error	0.039sft

Point	PINHOOK
Northing	365778.703sft
Easting	2367584.848sft
Elevation	74.865sft
Utilized	Horz and Vert
Quality	Control quality