

GPS Calibration Report

Project : R3415

TIP Number	R-3415	Date & Time	10:43:50 AM 7/29/2003
User name	rgmiller	Zone	North Carolina 3200
Coordinate System	US State Plane 1983(at ground)	Geoid Model	GEOID99 (Conus)
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum	NGVD29		
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	BL-7
Latitude	36°14'24.20999"N
Longitude	80°48'12.09741"W
Site Scale Factor	1.0000186500

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	911699.897sft
Easting coordinate of rotation center	1483396.496sft
Rotation about the center point	0°00'02"
Translation north	0.158sft
Translation east	-0.012sft
Scale factor	1.00000408

Vertical Adjustment Parameters

Northing coordinate of origin point	910632.450sft
Easting coordinate of origin point	1467302.900sft
Vertical separation at origin	0.067sft
Slope north	3.705ppm
Slope east	-1.879ppm

Geoid Model Definition

GEOID99 (Conus)

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.074sft	0.007	BL-11 - WGS84
Vertical	0.007sft	0.001	R3415-8 - WGS84
Three-dimensional	0.074sft	0.007	BL-11 - WGS84

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	BL-11 - WGS84	Northing	910632.450sft	Point	BL-11 - Local
Latitude	36°14'19.22760"N	Easting	1467302.900sft	Northing	910632.389sft
Longitude	80°48'22.73713"W	Elevation	1050.333sft	Easting	1467302.857sft
Height	940.648sft	Horz error	0.074sft	Elevation	1050.333sft
		Vert error	0.000sft	Utilized	Horz and Vert
		3D error	0.074sft	Quality	Survey quality
Point	BL-7 - WGS84	Northing	911120.047sft	Point	BL-7 - Local
Latitude	36°14'24.20669"N	Easting	1468183.627sft	Northing	911120.075sft
Longitude	80°48'12.09670"W	Elevation	1004.142sft	Easting	1468183.655sft
Height	894.450sft	Horz error	0.040sft	Elevation	1004.139sft
		Vert error	0.003sft	Utilized	Horz and Vert

		3D error	0.040sft	Quality	Survey quality
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Point	R3415-1 - WGS84	Northing	912829.651sft	Point R3415-1 - Local	
Latitude	36°14'41.89793"N	Easting	1472592.135sft	Northing	912829.663sft
Longitude	80°47'18.66935"W	Elevation	896.757sft	Easting	1472592.147sft
Height	787.033sft	Horz error	0.017sft	Elevation	896.757sft
		Vert error	0.000sft	Utilized	Horz and Vert
		3D error	0.017sft	Quality	Survey quality

Point	R3415-2 - WGS84	Northing	912654.188sft	Point R3415-2 - Local	
Latitude	36°14'40.29957"N	Easting	1473357.848sft	Northing	912654.195sft
Longitude	80°47'09.28510"W	Elevation	894.117sft	Easting	1473357.856sft
Height	784.388sft	Horz error	0.011sft	Elevation	894.116sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.011sft	Quality	Survey quality

Point	R3415-3 - WGS84	Northing	911715.761sft	Point R3415-3 - Local	
Latitude	36°14'31.75097"N	Easting	1477471.506sft	Northing	911715.767sft
Longitude	80°46'18.87255"W	Elevation	891.477sft	Easting	1477471.513sft
Height	781.727sft	Horz error	0.009sft	Elevation	891.482sft
		Vert error	0.005sft	Utilized	Horz and Vert
		3D error	0.011sft	Quality	Survey quality

Point	R3415-4 - WGS84	Northing	911443.138sft	Point R3415-4 - Local	
Latitude	36°14'29.25957"N	Easting	1478627.601sft	Northing	911443.141sft
Longitude	80°46'04.70331"W	Elevation	902.923sft	Easting	1478627.609sft
Height	793.168sft	Horz error	0.009sft	Elevation	902.922sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.009sft	Quality	Survey quality

Point	R3415-5 - WGS84	Northing	910095.601sft	Point R3415-5 - Local	
Latitude	36°14'16.75146"N	Easting	1483271.532sft	Northing	910095.602sft
Longitude	80°45'07.73474"W	Elevation	1054.427sft	Easting	1483271.535sft
Height	944.657sft	Horz error	0.003sft	Elevation	1054.428sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.003sft	Quality	Survey quality

Point	R3415-6 - WGS84	Northing	909782.307sft	Point R3415-6 - Local	
Latitude	36°14'13.88592"N	Easting	1484601.310sft	Northing	909782.306sft
Longitude	80°44'51.43844"W	Elevation	1079.260sft	Easting	1484601.311sft
Height	969.486sft	Horz error	0.001sft	Elevation	1079.263sft
		Vert error	0.003sft	Utilized	Horz and Vert

3D error	0.003sft
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Quality	Survey quality
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Point	R3415-7 - WGS84
Latitude	36°14'04.77832"N
Longitude	80°43'56.65870"W
Height	912.839sft

Northing	908782.691sft
Easting	1489072.466sft
Elevation	1022.625sft
Horz error	0.002sft
Vert error	0.001sft
3D error	0.003sft

Point	R3415-7 - Local
Northing	908782.690sft
Easting	1489072.464sft
Elevation	1022.626sft
Utilized	Horz and Vert
Quality	Survey quality

Point	R3415-8 - WGS84
Latitude	36°14'02.29243"N
Longitude	80°43'34.64730"W
Height	940.379sft

Northing	908499.899sft
Easting	1490871.198sft
Elevation	1050.169sft
Horz error	0.007sft
Vert error	0.007sft
3D error	0.009sft

Point	R3415-8 - Local
Northing	908499.896sft
Easting	1490871.192sft
Elevation	1050.162sft
Utilized	Horz and Vert
Quality	Survey quality

Point	R3415-9 - WGS84
Latitude	36°13'57.93171"N
Longitude	80°42'43.45369"W
Height	934.178sft

Northing	907986.290sft
Easting	1495057.254sft
Elevation	1043.976sft
Horz error	0.011sft
Vert error	0.002sft
3D error	0.012sft

Point	R3415-9 - Local
Northing	907986.289sft
Easting	1495057.243sft
Elevation	1043.978sft
Utilized	Horz and Vert
Quality	Survey quality

Point	R3415-10 - WGS84
Latitude	36°13'57.73881"N
Longitude	80°42'35.87475"W
Height	947.797sft

Northing	907956.076sft
Easting	1495677.778sft
Elevation	1057.596sft
Horz error	0.007sft
Vert error	0.002sft
3D error	0.008sft

Point	R3415-10 - Local
Northing	907956.075sft
Easting	1495677.771sft
Elevation	1057.594sft
Utilized	Horz and Vert
Quality	Survey quality

Point	BOONVILLE - WGS8
Latitude	36°13'56.79660"N
Longitude	80°42'14.28854"W
Height	956.137sft

Northing	907830.378sft
Easting	1497444.467sft
Elevation	1065.939sft
Horz error	0.006sft
Vert error	0.001sft
3D error	0.006sft

Point	BOONVILLE - Loca
Northing	907830.377sft
Easting	1497444.461sft
Elevation	1065.940sft
Utilized	Horz and Vert
Quality	Survey quality

Point	COE - WGS84
Latitude	36°17'59.83885"N
Longitude	80°43'01.29414"W
Height	947.183sft

Northing	932472.303sft
Easting	1494019.152sft
Elevation	1056.967sft
Horz error	0.014sft
Vert error	0.000sft

Point	COE - Local
Northing	932472.313sft
Easting	1494019.161sft
Elevation	1056.967sft
Utilized	Horz and Vert

	3D error	0.014sft	Quality	Survey quality
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