

# GPS Calibration Report

*Project : r2603callW*

<b>TIP Number</b>	r2603	<b>Date &amp; Time</b>	11:44:02 AM 5/2/2013
<b>User name</b>	rgmiller	<b>Zone</b>	North Carolina 3200
<b>Coordinate System</b>	US State Plane 1983(at ground)	<b>Geoid Model</b>	GEOID99 (Conus)
<b>Horizontal Datum</b>	calibration		
<b>Vertical Datum</b>	navd88		
<b>Coordinate Units</b>	US survey feet		
<b>Distance Units</b>	US survey feet		
<b>Height Units</b>	US survey feet		

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## LOCAL SITE INFORMATION

Localized around	
Latitude	36°10'52.06182"N
Longitude	81°08'19.29141"W
Site Scale Factor	1.0000445600
Height	1000.315sft

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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.

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## Datum Transformation Parameters

Datum Transformation computation not requested

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## Updated Default Projection (Transverse Mercator) Definition

Updated default projection not requested

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## Horizontal Adjustment Parameters

<b>Northing coordinate of rotation center</b>	895142.383sft
<b>Easting coordinate of rotation center</b>	1376437.732sft
<b>Rotation about the center point</b>	0°00'00"
<b>Translation north</b>	0.000sft
<b>Translation east</b>	0.000sft
<b>Scale factor</b>	1.00000511

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## Vertical Adjustment Parameters

<b>Northing coordinate of origin point</b>	891634.713sft
<b>Easting coordinate of origin point</b>	1368845.281sft
<b>Vertical separation at origin</b>	-108.436sft
<b>Slope north</b>	0.367ppm
<b>Slope east</b>	-0.254ppm

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# Geoid Model Definition

GEOID99 (Conus)

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## Residual Differences Between GPS (WGS84) And Local Coordinates

### Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.002sft	0.000	GPS 6 - WGS84
Vertical	0.002sft	0.000	GPS 2 - WGS84
Three-dimensional	0.002sft	0.001	GPS 2 - WGS84

### Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
<b>Point</b>	GPS 1 - WGS84	<b>Northing</b>	891634.713sft	<b>Point</b>	GPS1
<b>Latitude</b>	36°10'52.06188"N	<b>Easting</b>	1368845.281sft	<b>Northing</b>	891634.713sft
<b>Longitude</b>	81°08'19.29133"W	<b>Elevation</b>	1108.641sft	<b>Easting</b>	1368845.281sft
<b>Height</b>	1000.146sft	<b>Horz error</b>	0.000sft	<b>Elevation</b>	1108.640sft
		<b>Vert error</b>	0.001sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.001sft	<b>Quality</b>	Survey quality
<b>Point</b>	GPS 2 - WGS84	<b>Northing</b>	891899.626sft	<b>Point</b>	GPS2
<b>Latitude</b>	36°10'54.84234"N	<b>Easting</b>	1369604.034sft	<b>Northing</b>	891899.626sft
<b>Longitude</b>	81°08'10.10830"W	<b>Elevation</b>	1082.437sft	<b>Easting</b>	1369604.034sft
<b>Height</b>	973.928sft	<b>Horz error</b>	<b>0.000sft</b>	<b>Elevation</b>	1082.439sft
		<b>Vert error</b>	<b>0.002sft</b>	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	<b>0.002sft</b>	<b>Quality</b>	Survey quality
<b>Point</b>	GPS 3 - WGS84	<b>Northing</b>	894888.697sft	<b>Point</b>	GPS3
<b>Latitude</b>	36°11'25.58902"N	<b>Easting</b>	1375253.608sft	<b>Northing</b>	894888.697sft
<b>Longitude</b>	81°07'01.99156"W	<b>Elevation</b>	1039.693sft	<b>Easting</b>	1375253.609sft
<b>Height</b>	931.100sft	<b>Horz error</b>	0.001sft	<b>Elevation</b>	1039.693sft
		<b>Vert error</b>	0.000sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.001sft	<b>Quality</b>	Survey quality
<b>Point</b>	GPS 4 - WGS84	<b>Northing</b>	895173.715sft	<b>Point</b>	GPS4
<b>Latitude</b>	36°11'28.60280"N	<b>Easting</b>	1376184.149sft	<b>Northing</b>	895173.716sft
<b>Longitude</b>	81°06'50.71681"W	<b>Elevation</b>	998.796sft	<b>Easting</b>	1376184.150sft
<b>Height</b>	890.189sft	<b>Horz error</b>	0.001sft	<b>Elevation</b>	998.794sft
		<b>Vert error</b>	0.002sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.002sft	<b>Quality</b>	Survey quality
<b>Point</b>	GPS 5 - WGS84	<b>Northing</b>	898361.276sft	<b>Point</b>	GPS5
<b>Latitude</b>	36°12'01.84534"N	<b>Easting</b>	1384455.662sft	<b>Northing</b>	898361.276sft
<b>Longitude</b>	81°05'10.65378"W	<b>Elevation</b>	1066.164sft	<b>Easting</b>	1384455.664sft
<b>Height</b>	957.442sft	<b>Horz error</b>	0.001sft	<b>Elevation</b>	1066.163sft
		<b>Vert error</b>	0.001sft	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	0.002sft	<b>Quality</b>	Survey quality
<b>Point</b>	GPS 6 - WGS84	<b>Northing</b>	898896.272sft	<b>Point</b>	GPS6
<b>Latitude</b>	36°12'07.09858"N	<b>Easting</b>	1384283.657sft	<b>Northing</b>	898896.273sft
<b>Longitude</b>	81°05'12.88902"W	<b>Elevation</b>	1064.288sft	<b>Easting</b>	1384283.655sft
<b>Height</b>	955.576sft	<b>Horz error</b>	<b>0.002sft</b>	<b>Elevation</b>	1064.290sft
		<b>Vert error</b>	<b>0.002sft</b>	<b>Utilized</b>	Horz and Vert
		<b>3D error</b>	<b>0.002sft</b>	<b>Quality</b>	Survey quality