

GPS Calibration Report

Project : r2248e_calibration

TIP Number	R-2248-E	Date & Time	1:02:47 PM 4/12/2010
User name	jjeffreys	Zone	North Carolina 3200
Coordinate System	US State Plane 1983	Geoid Model	G09NC
Horizontal Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD-88		
Coordinate Units	US survey feet		
Distance Units	US survey feet		
Height Units	US survey feet		

LOCAL SITE INFORMATION

Localized around	M027
Latitude	N/A
Longitude	N/A
Site Scale Factor	N/A
Height	N/A

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	588822.505sft
Easting coordinate of rotation center	1476369.289sft
Rotation about the center point	0°00'00"
Translation north	1.756sft
Translation east	-2.961sft
Scale factor	1.00015281

Vertical Adjustment Parameters

Northing coordinate of origin point	592554.751sft
Easting coordinate of origin point	1457789.954sft
Vertical separation at origin	0.730sft
Slope north	-6.263ppm
Slope east	-2.381ppm

Geoid Model Definition

G09NC

Residual Differences Between GPS (WGS84) And Local Coordinates

Summary

	Maximum error	Root Mean Square error	Point
Horizontal	0.042sft	0.009	R2248E-19
Vertical	0.031sft	0.006	I3803-9
Three-dimensional	0.042sft	0.009	R2248E-19

Point Residuals

WGS84 Coordinates		Calculated point FOR DISPLAY ONLY		Local Coordinates	
Point	R2248D-11	Northing	592554.751sft	Point R2248D-11_Local	
Latitude	35°21'52.19015"N	Easting	1457789.954sft	Northing	592554.770sft
Longitude	80°49'07.63589"W	Elevation	839.066sft	Easting	1457789.968sft
Height	737.744sft	Horz error	0.023sft	Elevation	839.040sft
		Vert error	0.026sft	Utilized	Horz and Vert
		3D error	0.035sft	Quality	Survey quality
Point	140JAS	Northing	594843.882sft	Point 140JAS_Local	
Latitude	35°22'15.34867"N	Easting	1460684.632sft	Northing	594843.828sft
Longitude	80°48'33.19670"W	Elevation	850.035sft	Easting	1460684.589sft
Height	748.726sft	Horz error	?	Elevation	850.050sft
		Vert error	0.015sft	Utilized	Vertical
		3D error	0.015sft	Quality	Survey quality
Point	R2248E-14	Northing	596999.295sft	Point R2248E-14_Local	
Latitude	35°22'37.93352"N	Easting	1467786.036sft	Northing	596999.272sft
Longitude	80°47'07.93356"W	Elevation	806.719sft	Easting	1467786.018sft
Height	705.507sft	Horz error	0.029sft	Elevation	806.740sft
		Vert error	0.021sft	Utilized	Horz and Vert
		3D error	0.036sft	Quality	Survey quality
Point	R2248E-15	Northing	595646.894sft	Point R2248E-15_Local	
Latitude	35°22'24.59442"N	Easting	1467975.804sft	Northing	595646.866sft
Longitude	80°47'05.34879"W	Elevation	817.239sft	Easting	1467975.775sft
Height	716.060sft	Horz error	0.040sft	Elevation	817.240sft
		Vert error	0.001sft	Utilized	Horz and Vert
		3D error	0.040sft	Quality	Survey quality
Point	R2248E-18	Northing	589650.993sft	Point R2248E-18_Local	
Latitude	35°21'26.83248"N	Easting	1476635.540sft	Northing	589651.019sft
Longitude	80°45'19.52047"W	Elevation	730.993sft	Easting	1476635.534sft
Height	630.094sft	Horz error	0.027sft	Elevation	730.950sft
		Vert error	?	Utilized	Horizontal
		3D error	0.027sft	Quality	Survey quality
Point	R2248E-19	Northing	590265.646sft	Point R2248E-19_Local	
Latitude	35°21'33.05697"N	Easting	1477474.454sft	Northing	590265.680sft
Longitude	80°45'09.52536"W	Elevation	717.977sft	Easting	1477474.479sft
Height	617.080sft	Horz error	0.042sft	Elevation	718.070sft
		Vert error	?	Utilized	Horizontal
		3D error	0.042sft	Quality	Survey quality
Point	I3803-9	Northing	583904.575sft	Point I3803-9_Local	
Latitude	35°20'31.39008"N	Easting	1484588.597sft	Northing	583904.560sft
Longitude	80°43'42.31467"W	Elevation	652.529sft	Easting	1484588.601sft
Height	551.874sft	Horz error	0.016sft	Elevation	652.560sft
		Vert error	0.031sft	Utilized	Horz and Vert
		3D error	0.035sft	Quality	Survey quality

Point	I3803-10
Latitude	35°20'11.63417"N
Longitude	80°43'25.96662"W
Height	513.199sft

Northing	581883.740sft
Easting	1485908.126sft
Elevation	613.794sft
Horz error	0.020sft
Vert error	0.016sft
3D error	0.026sft

Point I3803-10_Local	
Northing	581883.760sft
Easting	1485908.131sft
Elevation	613.810sft
Utilized	Horz and Vert
Quality	Survey quality

Point	I3803-11
Latitude	35°21'55.83776"N
Longitude	80°43'14.78701"W
Height	571.354sft

Northing	592402.471sft
Easting	1487016.922sft
Elevation	672.137sft
Horz error	?
Vert error	0.007sft
3D error	0.007sft

Point I3803-11_Local	
Northing	592402.463sft
Easting	1487016.990sft
Elevation	672.130sft
Utilized	Vertical
Quality	Survey quality

Point	I3803-12
Latitude	35°22'00.01040"N
Longitude	80°42'38.14101"W
Height	534.131sft

Northing	592771.859sft
Easting	1490058.959sft
Elevation	634.874sft
Horz error	?
Vert error	0.024sft
3D error	0.024sft

Point I3803-12_Local	
Northing	592771.805sft
Easting	1490059.053sft
Elevation	634.850sft
Utilized	Vertical
Quality	Survey quality

Point	I3803-7
Latitude	35°20'00.02025"N
Longitude	80°44'56.38450"W
Height	666.563sft

Northing	580840.652sft
Easting	1478397.017sft
Elevation	767.266sft
Horz error	0.005sft
Vert error	0.026sft
3D error	0.027sft

Point I3803-7_Local	
Northing	580840.657sft
Easting	1478397.017sft
Elevation	767.240sft
Utilized	Horz and Vert
Quality	Survey quality

Point	I3803-8
Latitude	35°19'51.54061"N
Longitude	80°44'23.50093"W
Height	647.572sft

Northing	579935.499sft
Easting	1481106.241sft
Elevation	748.214sft
Horz error	?
Vert error	0.001sft
3D error	0.001sft

Point I3803-8_Local	
Northing	579935.415sft
Easting	1481106.191sft
Elevation	748.213sft
Utilized	Vertical
Quality	Survey quality

Point	M027
Latitude	35°21'09.69526"N
Longitude	80°42'28.84283"W
Height	614.467sft

Northing	587671.805sft
Easting	1490741.421sft
Elevation	715.094sft
Horz error	0.037sft
Vert error	?
3D error	0.037sft

Point M027_Local	
Northing	587671.768sft
Easting	1490741.425sft
Elevation	715.199sft
Utilized	Horizontal
Quality	Survey quality