

# SURVEY CONTROL SHEET R-2539C

PROJECT REFERENCE NO.	SHEET NO.
WBS# 34452.1.1	1D
Location and Surveys	

PROJECT NAME : C:\TSSOFFICE\PROJECTS\R2539C  
 DESCRIPTION : METRIC TEMPLATE  
 COORDINATE SYSTEM : TSSOFFICE SITES  
 ZONE : R2539CSITE  
 DATUM : NAD 1983 (CONUS)  
 DATE PRINTED : 12/20/00 12:46:53 PM

----- GPS CALIBRATION -----  
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DATUM TRANSFORMATION COMPUTATION NOT REQUESTED

HORIZONTAL ADJUSTMENT PARAMETERS  
 NORTHING COORDINATE OF ROTATION CENTER 156750.167 M  
 EASTING COORDINATE OF ROTATION CENTER 810465.805 M  
 ROTATION ABOUT THE CENTER POINT 0.00'00.00560"  
 TRANSLATION NORTH 0.159 M  
 TRANSLATION EAST 1.359 M  
 SCALE FACTOR 1.00012282

VERTICAL ADJUSTMENT PARAMETERS  
 NORTHING COORDINATE OF ORIGIN POINT 159827.857 M  
 EASTING COORDINATE OF ORIGIN POINT 806772.818 M  
 VERTICAL SEPARATION AT ORIGIN -0.064 M  
 SLOPE NORTH 0.0000329  
 SLOPE EAST 0.0000358

GEOID MODEL GEOID99 (NORTH CAROLINA)

RESIDUAL DIFFERENCES BETWEEN GPS AND KNOWN COORDINATES

HORIZONTAL  
 MAXIMUM ERROR 0.074 M (POINT BAY CITY AZ MK - WGS)  
 ROOT MEAN SQUARE ERROR 0.034  
 VERTICAL  
 MAXIMUM ERROR 0.024 M (POINT R2539C-2 - WGS84)  
 ROOT MEAN SQUARE ERROR 0.013  
 THREE-DIMENSIONAL  
 MAXIMUM ERROR 0.074 M (POINT BAY CITY AZ MK - WGS)  
 ROOT MEAN SQUARE ERROR 0.035

STARTING POINT CALCULATED POINT GRID POINT

POINT BAY CITY AZ MK - WGS :	POINT BAY CITY AZ MK - LOC :	
LAT 35°11'12.07490"N NORTH 161651.003 M	NORTH 161651.057 M	
LONG 76°46'16.06797"W EAST 812566.306 M	EAST 812566.356 M	
HEIGHT -32.490 M ELEV 4.801 M	ELEV 4.779 M	
	HORIZONTAL ERROR 0.074 M	TYPE HORIZONTAL
	VERTICAL ERROR ?	
	3D ERROR 0.074 M	

POINT SILVERHILL - WGS84 :	POINT SILVERHILL - LOCAL :	
LAT 35°10'17.09013"N NORTH 159827.857 M	NORTH 159827.846 M	
LONG 76°50'06.57656"W EAST 806772.818 M	EAST 806772.815 M	
HEIGHT -31.832 M ELEV 5.430 M	ELEV 5.420 M	
	HORIZONTAL ERROR 0.011 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.010 M	
	3D ERROR 0.015 M	

POINT JESSE - WGS84 :	POINT JESSE - LOCAL :	
LAT 35°06'29.77682"N NORTH 152818.588 M	NORTH 152818.577 M	
LONG 76°50'16.93487"W EAST 806663.317 M	EAST 806663.328 M	
HEIGHT -24.854 M ELEV 12.431 M	ELEV 12.427 M	
	HORIZONTAL ERROR 0.016 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.004 M	
	3D ERROR 0.016 M	

POINT SWAMP - WGS84 :	POINT SWAMP - LOCAL :	
LAT 35°06'15.47390"N NORTH 152623.148 M	NORTH 152623.135 M	
LONG 76°43'04.30064"W EAST 817626.880 M	EAST 817626.827 M	
HEIGHT -34.123 M ELEV 3.196 M	ELEV 3.396 M	
	HORIZONTAL ERROR 0.055 M	TYPE HORIZONTAL
	VERTICAL ERROR ?	
	3D ERROR 0.055 M	

POINT FIELD - WGS84 :	POINT FIELD - LOCAL :	
LAT 35°08'33.61730"N NORTH 156641.747 M	NORTH 156641.727 M	
LONG 76°50'03.12008"W EAST 806929.827 M	EAST 806929.821 M	
HEIGHT -31.653 M ELEV 5.621 M	ELEV 5.610 M	
	HORIZONTAL ERROR 0.021 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.011 M	
	3D ERROR 0.023 M	

POINT MAIN - WGS84 :	POINT MAIN - LOCAL :	
LAT 35°08'33.71228"N NORTH 156777.910 M	NORTH 156777.916 M	
LONG 76°46'05.46978"W EAST 812944.084 M	EAST 812944.074 M	
HEIGHT -34.986 M ELEV 2.309 M	ELEV 2.305 M	
	HORIZONTAL ERROR 0.012 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.004 M	
	3D ERROR 0.013 M	

POINT R2539C-1 - WGS84 :	POINT R2539C-1 - LOCAL :	
LAT 35°08'36.41814"N NORTH 156734.831 M	NORTH 156734.811 M	
LONG 76°49'50.83375"W EAST 807238.879 M	EAST 807238.878 M	
HEIGHT -32.163 M ELEV 5.112 M	ELEV 5.107 M	
	HORIZONTAL ERROR 0.020 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.005 M	
	3D ERROR 0.021 M	

POINT JUNIOR - WGS84 :	POINT JUNIOR - LOCAL :	
LAT 35°08'19.26606"N NORTH 156347.571 M	NORTH 156347.603 M	
LONG 76°45'39.60420"W EAST 813608.711 M	EAST 813608.722 M	
HEIGHT -35.358 M ELEV 1.940 M	ELEV 1.923 M	
	HORIZONTAL ERROR 0.034 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.017 M	
	3D ERROR 0.038 M	

POINT R2539C-2 - WGS84 :	POINT R2539C-2 - LOCAL :	
LAT 35°08'38.80031"N NORTH 156852.179 M	NORTH 156852.147 M	
LONG 76°48'31.76523"W EAST 809238.270 M	EAST 809238.291 M	
HEIGHT -33.881 M ELEV 3.404 M	ELEV 3.428 M	
	HORIZONTAL ERROR 0.039 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.024 M	
	3D ERROR 0.045 M	

POINT ALLIANCE - WGS84 :	POINT ALLIANCE - LOCAL :	
LAT 35°08'42.78734"N NORTH 156982.046 M	NORTH 156982.018 M	
LONG 76°48'19.19826"W EAST 809553.587 M	EAST 809553.666 M	
HEIGHT -34.134 M ELEV 3.152 M	ELEV 3.173 M	
	HORIZONTAL ERROR ?	TYPE VERTICAL
	VERTICAL ERROR 0.021 M	
	3D ERROR 0.021 M	

POINT LIQUOR - WGS84 :	POINT LIQUOR - LOCAL :	
LAT 35°08'38.48655"N NORTH 156883.050 M	NORTH 156883.055 M	
LONG 76°47'19.53748"W EAST 811066.353 M	EAST 811066.340 M	
HEIGHT -33.248 M ELEV 4.044 M	ELEV 4.050 M	
	HORIZONTAL ERROR 0.014 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.006 M	
	3D ERROR 0.015 M	

POINT R2539C-3 - WGS84 :	POINT R2539C-3 - LOCAL :	
LAT 35°08'37.62889"N NORTH 156863.984 M	NORTH 156863.994 M	
LONG 76°47'06.49774"W EAST 811396.938 M	EAST 811396.931 M	
HEIGHT -33.666 M ELEV 3.626 M	ELEV 3.626 M	
	HORIZONTAL ERROR 0.013 M	TYPE HORZ AND VERT
	VERTICAL ERROR 0.000 M	
	3D ERROR 0.013 M	

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "R2539B-6" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 155623.380(m) EASTING: 799556.718(m) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99987910 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "R2539B-6" TO -L- STATION 155+43.630 IS N 85°44'48.15 E 527.2478 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

**NOTES:**

THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:

HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/R2539C/

Files are as follows:  
 r2539c\_ls\_control\_040204.txt  
 r2539c\_ls\_gpscalib\_040204.txt  
 r2539c\_ls\_wgs84\_040204.txt  
 r2539c\_ls\_local\_040204.txt

INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

6/2/99