

Reference and Recovery Data Sheets



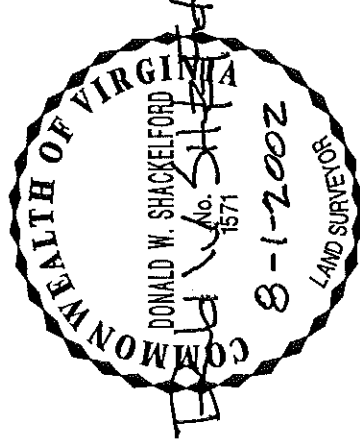
County of Mathews 2002 Supplemental Geodetic Control Network

July 2002

Prepared By

Rouse-Sirine Associates, Ltd.

NOTICE TO USERS
OF THE
COUNTY OF MATHEWS, VIRGINIA
2002 SUPPLEMENTAL GEODETIC
GROUND CONTROL NETWORK



THE COUNTY OF MATHEWS 2002 GEODETIC NETWORK CONFORMS TO FEDERAL
GEODETIC CONTROL COMMITTEE SECOND ORDER ACCURACY STANDARDS
FOR GLOBAL POSITIONING SYSTEM HORIZONTAL NETWORKS.

Physical Description of Stations

The stations consist of 3 1/4" diameter domed aluminum disks set in 8" diameter concrete posts. The station disks are stamped "County of Mathews Planning and Zoning" and with the corresponding station number. The concrete posts are cast-in-place, 36" in depth, and contain a 5/8" diameter reinforcing bar and a small magnet for ease of recovery through the use of magnetic locators.

The reference and recovery data sheets provide a complete and detailed description of the location of each individual station, and its respective reference marks and primary azimuth marks, if any. To avoid unnecessary excavation, please note the location of the monument with respect to the depth below the ground surface and pinpoint the location with the ties depicted in the location sketch on the reference and recovery data sheet before digging.

Units

The coordinates of each station refer to the Virginia Coordinate System of 1983, South Zone NAD83 (1993) Virginia HARN and are provided in meters and U.S. survey feet. Additionally, all bearings are state plane grid bearings. The conversions from meters to the respective feet values are as follows:

1. To convert from meters to U.S. survey feet, multiply meters by $(39.37 \div 12)$ exact, or 3.280833333 (approximate).
2. To convert from meters to International feet, multiply meters by $(100 \div 2.54 \div 12)$ exact, or 3.280839895 (approximate).

As you will note, the difference between the two conversions is very small, less than 1 part in 150,000, and can be ignored for conversions of most field measurements. The difference does become significant when converting or multiplying numbers larger than 1,500 feet, i.e., meter coordinates.

Elevations shown on the reference and recovery data sheets as NAVD88 (North American Vertical Datum of 1988) are identified as either GPS derived from GPS observed ellipsoid heights and GEOID99 modeled geoid heights or existing National Geodetic Survey published elevations.

Combined Factor:

The combined factor is used to convert field measurements to grid distances. The combined factor is derived by multiplying the grid scale factor by the elevation factor. Throughout the County of Mathews project area, the grid scale factor ranges slightly less than one, this is a function of latitude (northing). The elevation factor, as the name implies, is a function of the elevation and is also slightly less than one. The grid scale factor at each control station is printed on the reference and recovery data sheet. The elevation factor is computed by the following formula:

Example

$$E_f (\text{Elevation factor}) = 1 - \frac{E}{R}$$

Where R = Mean Radius of the Earth (20,906,000 ft.)

E = Elevation (in feet)

For most small survey projects, an average combined factor will produce adequate results. All published distances between control monuments are grid distances.

Example

A survey project is located midway between Stations 96 and 112.

To determine the average combined factor for the survey project, simply average the combined factors for Stations 96 and 112.

Scale factor at Station 96	=	0.99994567	
Elevation factor at Station 96	=	$1 - \frac{10.9}{20,906,000}$	= 0.99999948
Combined factor at Station 96	=	$0.99994567 \times 0.99999948$	= 0.99994515
Scale factor at Station 112	=	0.99994571	
Elevation factor at Station 112	=	$1 - \frac{11.5}{20,906,000}$	= 0.99999945
Combined factor at Station 112	=	$0.99994571 \times 0.99999945$	= 0.99994516
Project combined factor	=	$\begin{array}{r} 0.99994515 \\ + 0.99994516 \\ \hline 1.99989031 \end{array}$	$\div 2 = 0.99994515$

To determine the grid distance from a reduced horizontal field measurement of 1634.91 feet, multiply the field measurement by the project combined factor.

$$1634.91 \times 0.99994515 = 1634.82 \text{ feet}$$

The combined factor must be applied to all reduced field distances to compute grid coordinates.

Convergence:

The convergence angle is used to convert geodetic* or astronomic azimuth to state plane azimuth. The convergence angle at each control station is printed on the reference and recovery data sheet and is to be subtracted from an astronomic azimuth to determine the state plane azimuth of a line.

*While the geodetic azimuth and the astronomic azimuth are not exactly equal, the difference is negligible for most survey projects.

Example: A geodetic azimuth of a line from Station 111 to monument 112 is determined to be $356^{\circ}32'25.45''$. The state plane azimuth equals the geodetic azimuth minus the convergence angle. Attention must be given to the algebraic sign of the angle. For projects east of the central meridian the sign of the convergence angle is positive (+). For projects west of the central meridian the sign of the convergence angle is negative (-).

State Plane Azimuth = $356^{\circ}32'25.45'' - (+ 01^{\circ}17'02.45'') = 355^{\circ}15'23.00''$

State Plane Grid Bearing = $N04^{\circ}44'37.0''W$

Notification of Disturbed or Destroyed Monuments

Your assistance is requested in reporting any monument found to have been or subject to being moved, disturbed or destroyed. Please contact: The County of Mathews, Virginia, Department of Planning and Zoning at (804) 725-4034.

Use of Published Data By Other Agencies

EXTREME CAUTION SHOULD BE EXERCISED IN ATTEMPTING TO INTEGRATE PREVIOUSLY OR FUTURE PUBLISHED HORIZONTAL AND VERTICAL VALUES OF CONTROL MONUMENTS OF OTHERS WITHIN THE PROJECT AREA WITH THE DATA CONTAINED HEREIN.

NAD27/NGVD29 Data

NAD27 Datum: The user must be aware that the NAD27 coordinate values included within this report are a product of a transformation from GPS vectors processed in the Geodetic Reference System of 1980 (GRS80) and the resulting station positions were then transformed utilizing National Geodetic Survey (NGS) Corpscon Version 5.1.1 transformation software to NAD27 values. The accuracy of the transformation should be viewed with some caution as transformations to older datums (i.e., NAD27) could incur undefined error uncertainties.

NGVD29 Datum: NGVD29 elevations were derived using Vertcon 2.0 NGS conversion software. The Vertcon 2.0 model expresses datum differences between NAVD88 and NGVD29 due to removal of distortions in the level data, as well as due to the physical differences in the height systems. In some rare cases, these local NGVD29 distortions could be 20 cm or more.

A key part of the software computation procedure was the development of the predictable, physical components of the differences between the NAVD88 and NGVD29 datums. This included models of refraction effects on geodetic leveling, and gravity and elevation influences on the new NAVD88 datum.

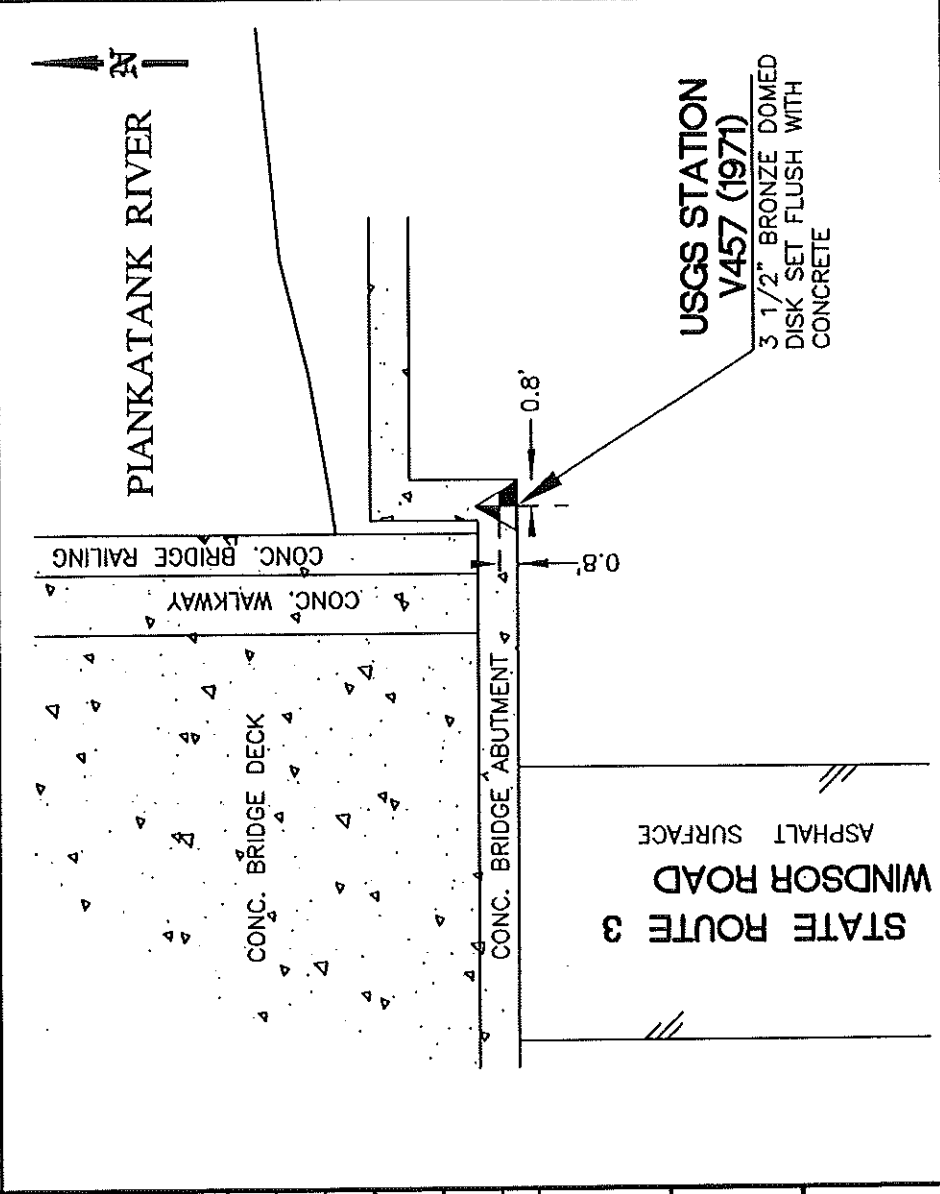
It should be emphasized that Vertcon 2.0 is a datum transformation model, and cannot maintain the full vertical control accuracy of geodetic leveling.

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 30' 26.48608" N	76° 25' 11.43568" W		
UNITS	NORTHING	EASTING	
METERS	1132313.890	3683896.359	
U.S. SURVEY FT.	3714933.154	12086249.970	
CONVERGENCE: + 01° 15' 45.00"			
SCALE FACTOR: 0.99994837			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
N/A			
VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
10.030	32.91		
		NGS PUBLISHED VALUE	
STATION NUMBER: .			
USGS STATION V457 (1971)			

GPS SERVICES PROVIDED BY:
 ROUSE-SIRINE ASSOCIATES, LTD.
 (JUNE 2002)

TO REACH DESCRIPTION
TO REACH THE STATION PROCEED NORTH FROM THE INTERSECTION OF STATE ROUTE 198 AT ITS "T" INTERSECTION AT "DIXIE" TO THE SOUTHERN BRIDGE ABUTMENT OF THE JOHN ANDREW TWIGGS BRIDGE ACROSS THE PLANATANK RIVER. THE STATION IS A 3 1/2" BRONZE DOMED DISK SET FLUSH IN THE TOP OF THE CONCRETE ABUTMENT.
LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

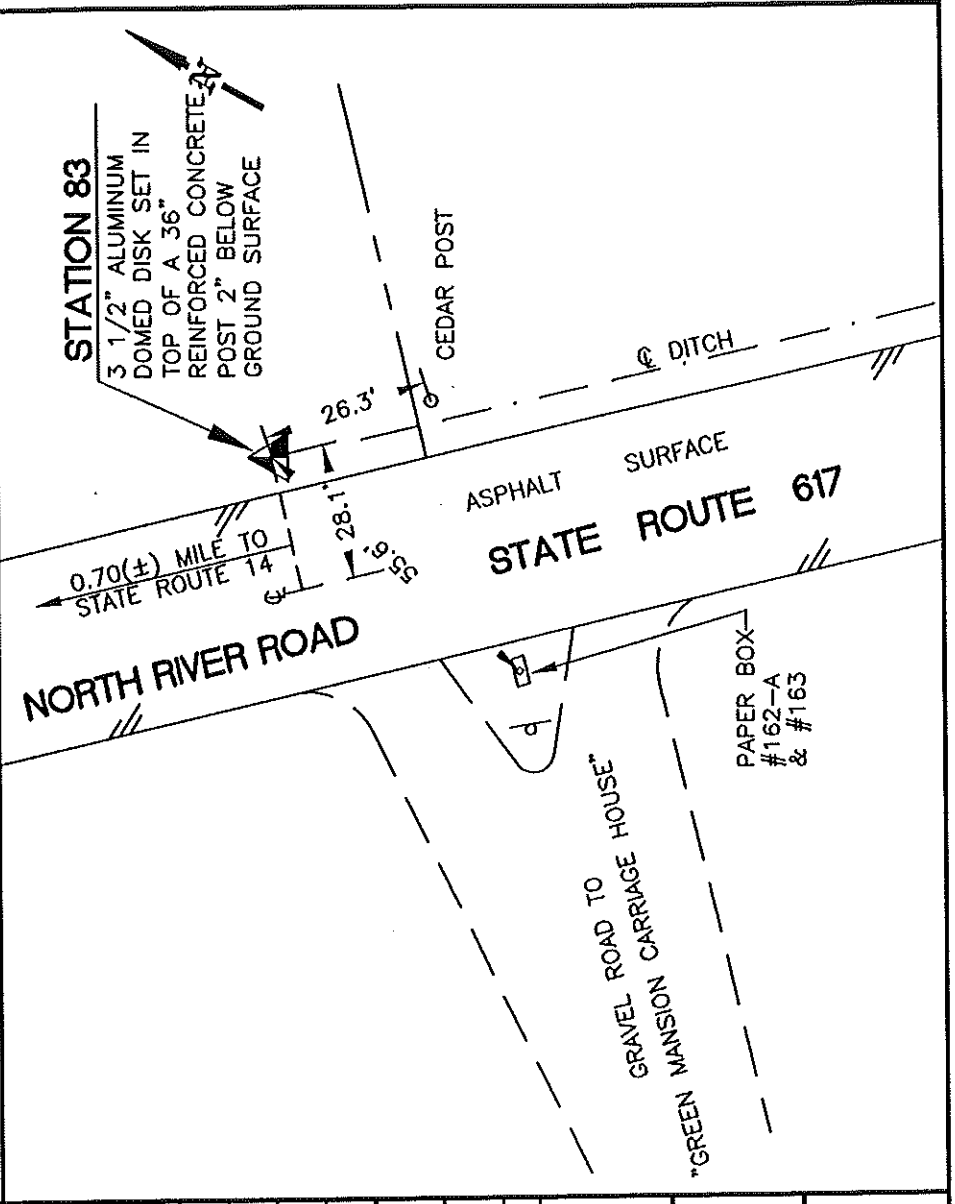
HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 26'	11.17521" N	76° 23'	58.79595" W
UNITS	NORTHING		EASTING
METERS	1124484.622		3685854.974
U.S. SURVEY FT.	3689246.632		12092675.859
CONVERGENCE: + 01° 16' 29.08"			

REFERENCE AND AZIMUTH MARK LOCATIONS		
OBJECTS	BEARING	DISTANCE
84	S56°49'21.6"E	1759.34'

VERTICAL DATA	
NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
2.57	8.4
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:	83
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GPS SERVICES PROVIDED BY:	ROUSE-SIRINE ASSOCIATES, LTD.
	(JUNE 2002)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

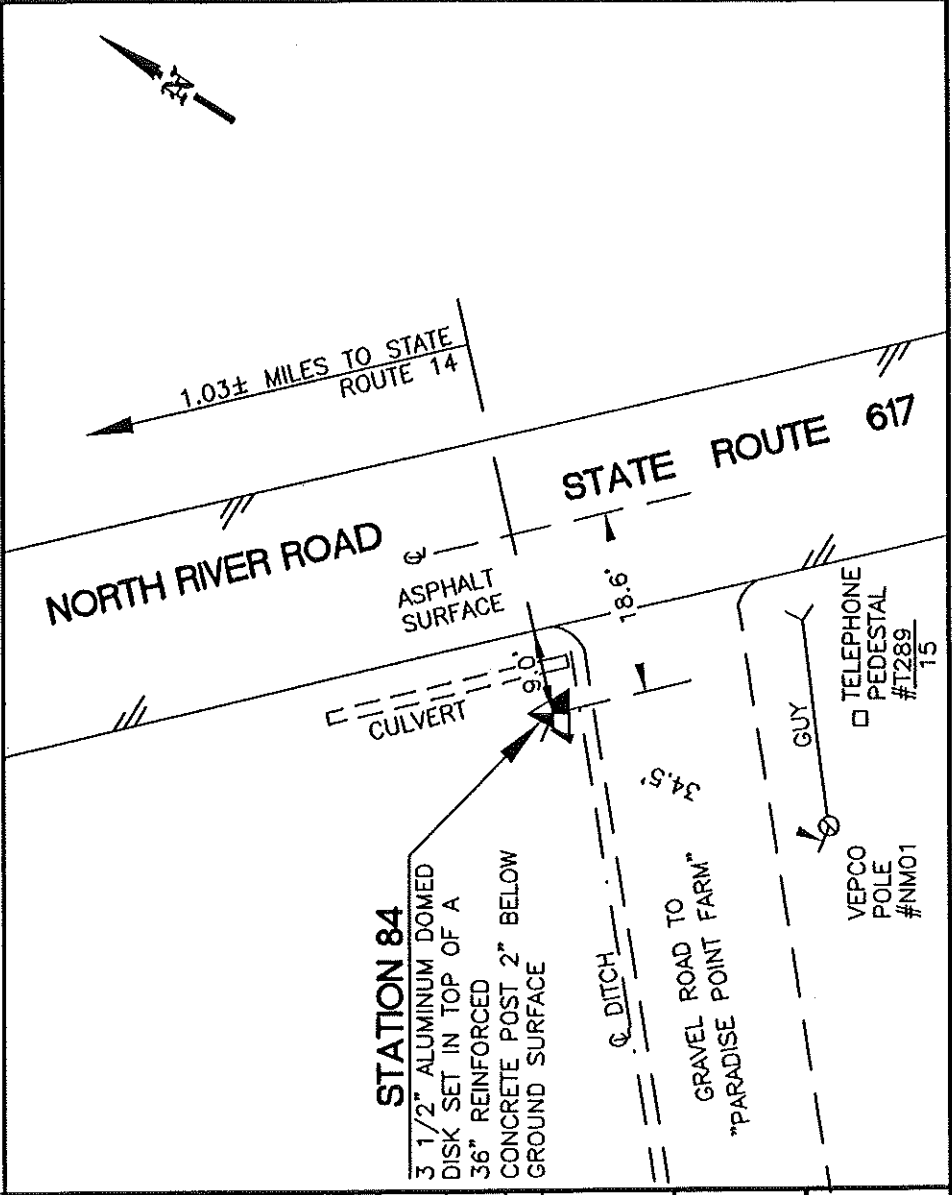
HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 26' 01.33420" N	76° 23' 40.80831" W		
UNITS	NORTHING	EASTING	
METERS	1124191.170	3686303.803	
U.S. SURVEY FT.	3688283.864	12094148.394	
CONVERGENCE: + 01° 16' 40.00"			

SCALE FACTOR: 0.99994607			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
83	N56°49'21.6"W	1759.34'	

VERTICAL DATA		
NAVD 88	NAVD 88	
ELEVATION IN METERS	ELEVATION IN FEET	
2.31	7.6	(GPS DERIVED)
(GPS DERIVED)	(GPS DERIVED)	

STATION NUMBER:
84

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 23' 23.30842" N	76° 23' 07.28061" W				
UNITS	NORTHING	EASTING			
METERS	1119339.257	3687236.923			
U.S. SURVEY FT.	3672365.546	12097209.803			
CONVERGENCE: + 01° 17' 00.35"					
SCALE FACTOR: 0.99994548					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE			
86	N35°31'53.9"E	998.66'			
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
2.03	6.6				
(GPS DERIVED)	(GPS DERIVED)				
STATION NUMBER:					
85					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

LOCATION SKETCH (NOT TO SCALE)	

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA		TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 23' 31.21326" N	76° 22' 59.86487" W		
UNITS	NORTHING	EASTING	
METERS	1119586.970	3687413.821	
U.S. SURVEY FT.	3673178.251	12097790.177	
CONVERGENCE: + 01° 17' 04.85"			
SCALE FACTOR: 0.99994549			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
85	S35°31'53.9"W	998.66'	
VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
2.11	6.9		
(GPS DERIVED)	(GPS DERIVED)		
STATION NUMBER:			
86			
GPS SERVICES PROVIDED BY:			
ROUSE-SIRINE ASSOCIATES, LTD.			
(JUNE 2002)			

LOCATION SKETCH (NOT TO SCALE)	

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 23' 46.48406" N	76° 22' 31.23165" W				
UNITS	NORTHING	EASTING			
METERS	1120073.431	3688107.329			
U.S. SURVEY FT.	3674774.249	12100065.462			
CONVERGENCE: + 01° 17' 22.23"					
SCALE FACTOR: 0.99994553					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE			
88	S48°44'35.0"E	979.67'			
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
2.69	8.8				
(GPS DERIVED)	(GPS DERIVED)				
STATION NUMBER:					
87					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

THE STATION IS LOCATED ON THE WEST SIDE OF STATE ROUTE 617 (NORTH RIVER ROAD) AT THE END OF STATE ROUTE 619 (TURNPIKE ROAD). THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 4" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 87".

LOCATION SKETCH (NOT TO SCALE)

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA		TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 23' 39.93425" N	76° 22' 22.28746" W		
UNITS	NORTHING	EASTING	
METERS	1119876.521	3688331.807	
U.S. SURVEY FT.	3674128.220	12100801.937	
CONVERGENCE: + 01° 17' 27.66"			
SCALE FACTOR: 0.99994551			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
87	N48°44'35.0"W	979.67'	
VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
2.80	9.2		
(GPS DERIVED)	(GPS DERIVED)		
STATION NUMBER:			
88			
GPS SERVICES PROVIDED BY:			
ROUSE-SIRINE ASSOCIATES, LTD.			
(JUNE 2002)			

LOCATION SKETCH (NOT TO SCALE)	
ENTRANCE TO "GAYLEWOOD" 0.15(±) MILE TO STATE ROUTE 619 ASPHALT SURFACE NORTH RIVER ROAD DITCH CULVERT STATE ROUTE 617 STATION 88 3 1/2" ALUMINUM DOMED DISK SET IN TOP OF A 36" REINFORCED CONCRETE POST 3" BELOW GROUND SURFACE	

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 22' 27.30219" N	76° 21' 20.45479" W		
UNITS	NORTHING	EASTING	
METERS	1117672.441	3689903.098	
U.S. SURVEY FT.	3666897.002	12105957.080	

CONVERGENCE: + 01° 18' 05.18"

SCALE FACTOR: 0.99994541

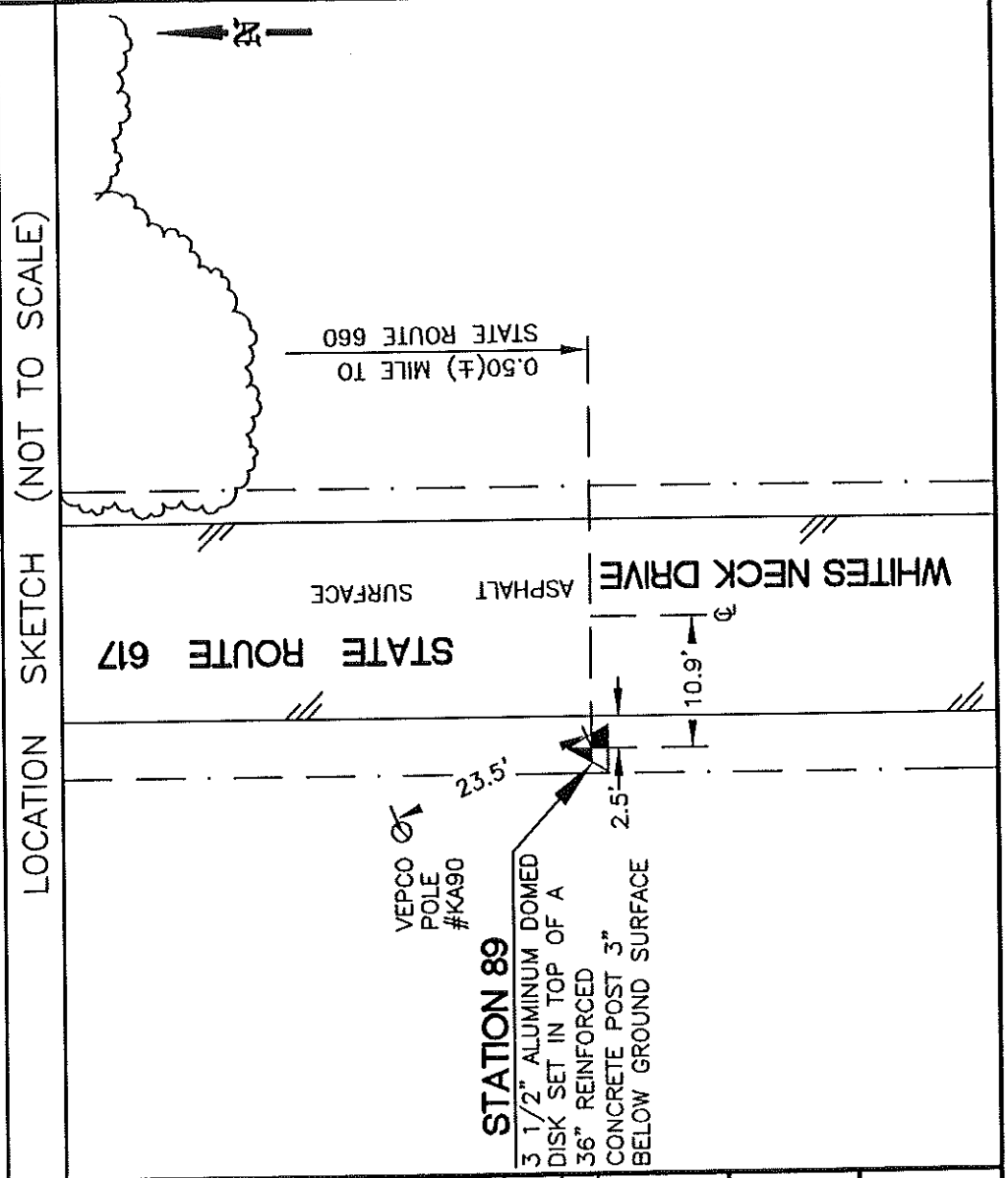
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
90	N05°44'33.4"W	1596.48'	

VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
1.11	3.6		
(GPS DERIVED)	(GPS DERIVED)		

STATION NUMBER:
89

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 660 (MOBJACK ROAD) AND STATE ROUTE 617 (WHITES NECK DRIVE), PROCEED SOUTH 0.50 MILES ON STATE ROUTE 617. THE STATION IS LOCATED IN THE WEST SHOULDER OF STATE ROUTE 617. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 89".



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 22' 43.03971" N	76° 21' 21.98647" W				
UNITS		NORTHING		EASTING	
METERS		1118156.607		3689854.408	
U.S. SURVEY FT.		3668485.469		12105797.337	
CONVERGENCE: + 01° 18' 04.25"					
SCALE FACTOR: 0.99994542					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING		DISTANCE		
89	S05°44'33.4"E		1596.48'		
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
1.16	3.8				
(GPS DERIVED)	(GPS DERIVED)				
STATION NUMBER:					
90					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

LOCATION SKETCH (NOT TO SCALE)	

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 23' 11.88674" N 76° 20' 45.34266" W

UNITS NORTHING EASTING

METERS 1119066.175 3690735.359

U.S. SURVEY FT. 3671469.610 12108687.589

CONVERGENCE: + 01° 18' 26.49"

SCALE FACTOR: 0.99994546

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
92	N64°44'37.6"W	911.90'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
1.87	6.1
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

91

GPS SERVICES PROVIDED BY:

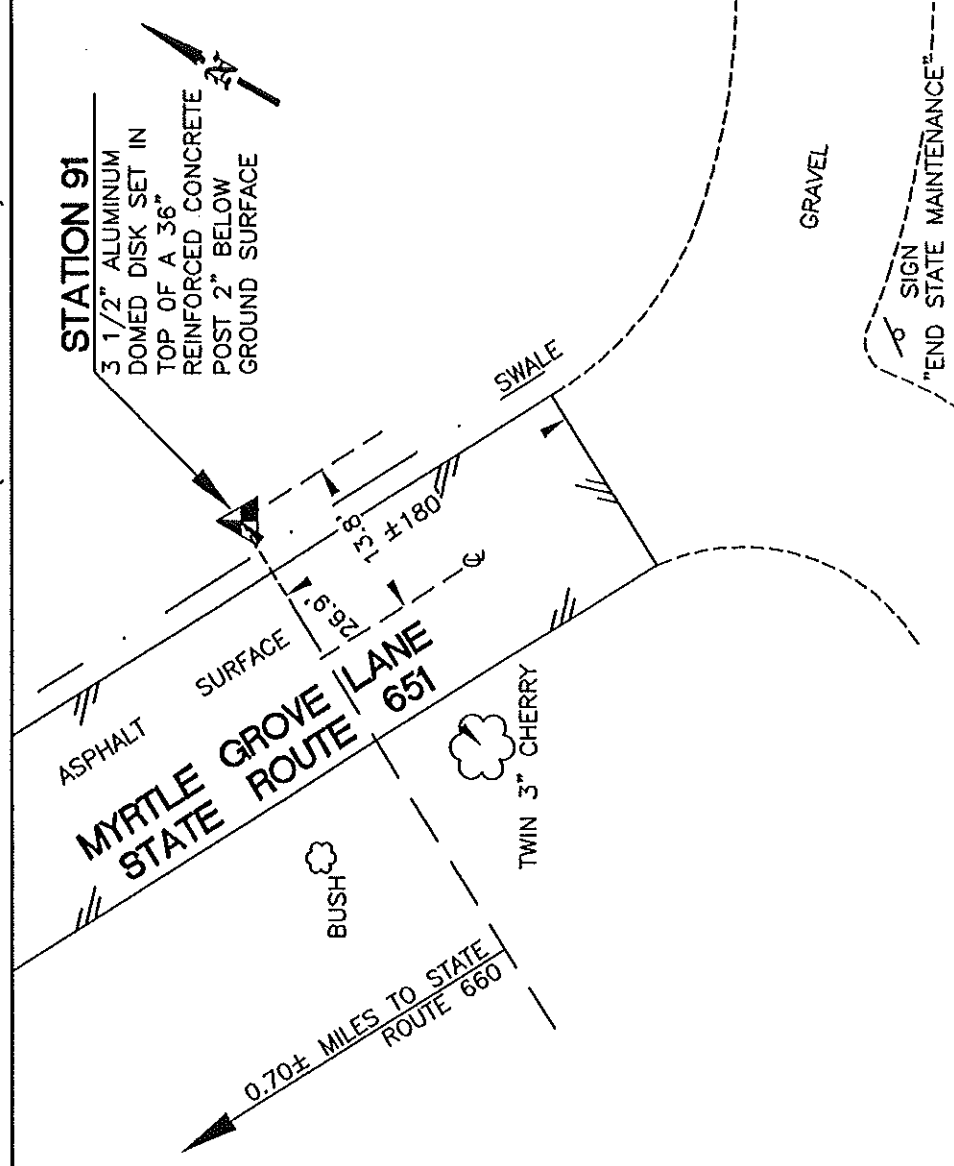
ROUSE-SIRINE ASSOCIATES, LTD.

(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 660 (MOBJACK ROAD) AND STATE ROUTE 651 (MYRTLE GROVE LANE), PROCEED SOUTH 0.7 MILES ON STATE ROUTE 651. THE STATION IS LOCATED IN THE EAST SHOULDER OF STATE ROUTE 651, 180' NORTH OF THE END OF PAVEMENT. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 91".

LOCATION SKETCH (NOT TO SCALE)



HORIZONTAL DATA

LONGITUDE

EASTING

U.S. SURVEY FT.	3671858.688	12107862.858
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CONVERGENCE: + 01° 18' 20.36"

SCALE FACTOR: 0.99994546

OBJECTS	BEARING	DISTANCE
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91	S64°44'37.6"E	911.90'
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VERTICAL DATA

ELEVATION IN METERS

1.82 — 6.0

(GPS DERIVED)

STATION NUMBER:

29

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM

SOUTH ZONE (4502) NAD83(1993) VA HARN

1 | ATTITUDE | LONGITUDE

37° 23' 58.89551" N	76° 21' 41.21634" W
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UNITS	NORTHING	EASTING
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METERS	1120483.721	3689328.487
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U.S. SURVEY ET	3676120.341	12104071.878
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CONVERGENCE: + 01° 17' 52.58"

SCALE FACTOR: 0.99994556

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
94	N79°10'05.0"F	963.18'

94	N79°10'05.0"E	963.18'
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VERTICAL DATA

NAVD 88 NAVD 88

ELEVATION IN METERS		ELEVATION IN FEET	
1	100	328	1056
2	200	656	2150
3	300	984	3217
4	400	1312	4285
5	500	1640	5353
6	600	1968	6421
7	700	2296	7488
8	800	2624	8556
9	900	2952	9624
10	1000	3280	10692

297 | 9.8

GPS DERIVED	GPS DERIVED

STATION NUMBER:

35

GPS SERVICES PROVIDED BY:

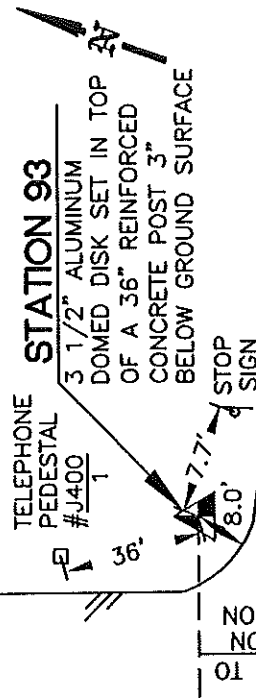
ROUSE-SIRINE ASSOCIATES, LTD.

(JUNE 2002)

TO REACH DESCRIPTION

THE STATION IS LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF STATE ROUTE 619 (MILL LANE ROAD) AND STATE ROUTE 660 (MOBJACK ROAD). THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATTHEWS, PLANNING AND ZONING. NO. 93".

LOCATION SKETCH (NOT TO SCALE)



TURNPIKE ROAD

STATE ROUTE 619

MILL LANE ROAD

STATE ROUTE 619

ASPHALT / SURFACE

MOBJACK ROAD
STATE ROUTE 660

0.2(±) MILE TO
FIRE STATION
AT BOHANNON

TO REACH DESCRIPTION

VIRGINIA COORDINATE SYSTEM

SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE

37° 24' 00.47271" N 76° 21' 29.44426" W

UNITS	NORTHING	EASTING
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METERS	1120538.893	3689616.833
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U.S. SURVEY ET	3676301.350	12105017.894
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CONVERGENCE: + 01° 17' 59.73"

SCALE FACTOR: 0.99994556

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
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93	S79°10'05.0"W	963.18'
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VERTICAL DATA

NAVD 88

ELEVATION IN METERS		ELEVATION IN FEET	
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259

(GPS DERIVED) (GPS DERIVED)

100

(GPS DERIVED)

STATION NUMBER:

49

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 660 (MOBJACK ROAD) AND STATE ROUTE 619 (MILL LANE ROAD), PROCEED EAST 0.10 MILES ON STATE ROUTE 619. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 619. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 94".

LOCATION SKETCH (NOT TO SCALE)

VEPCO POLE
#JD60

MAIL - 7

0.1(±) MILE TO
STATE ROUTE

LANE

20

STAT

ASPHALT

ROUTE 619

STATION 94

3 1/2" ALUMINUM DOMED DISK
SET IN TOP OF A 36"
REINFORCED CONCRETE POST
3" BELOW GROUND SURFACE

Q DITCH

GRAVEL

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA		TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 24' 34.00659" N	76° 21' 30.66544" W		
UNITS	NORTHING	EASTING	
METERS	1121571.713	3689563.359	
U.S. SURVEY FT.	3679689.862	12104842.454	
CONVERGENCE: + 01° 17' 58.99"			
SCALE FACTOR: 0.99994567			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
96	N84°21'23.6"W	1340.11'	
VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
2.94	9.6		
(GPS DERIVED)	(GPS DERIVED)		
STATION NUMBER: 95			
GPS SERVICES PROVIDED BY: ROUSE-SIRINE ASSOCIATES, LTD. (JUNE 2002)			

LOCATION SKETCH (NOT TO SCALE)	

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE		THE STATION IS LOCATED AT THE SOUTHWEST CORNER OF THE INTERSECTION OF STATE ROUTE 660 (MOBJACK ROAD) AND STATE ROUTE 650 (HICKS WHARF ROAD). THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 96".	
37° 24' 35.60800" N	76° 21' 47.15418" W				
UNITS	NORTHING	EASTING			
METERS	1121611.881	3689156.872			
U.S. SURVEY FT.	3679821.645	12103508.839			
CONVERGENCE: + 01° 17' 48.98"					
SCALE FACTOR: 0.99994567					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE		LOCATION SKETCH (NOT TO SCALE)	
95	S84°21'23.6"E	1340.11'			
VERTICAL DATA					
NAVD 88	NAVD 88		STATION 96 3 1/2" ALUMINUM DOMED DISK SET IN TOP OF A 36" REINFORCED CONCRETE POST 2" BELOW GROUND SURFACE		
ELEVATION IN METERS	ELEVATION IN FEET				
3.33	10.9		GPS DERIVED) (GPS DERIVED)		
(GPS DERIVED)	(GPS DERIVED)				
STATION NUMBER:					
96					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

HORIZONTAL DATA

LATITUDE LONGITUDE

UNITS	NORTHING	EASTING
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U.S. SURVEY FT.	3683257.766	12101704.009
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CONVERGENCE: + 01° 17' 35.99"

SCALE FACTOR: 0.99994581

OBJECTS	BEARING	DISTANCE
---------	---------	----------

98	S65°40'11.4"W	914.13'
----	---------------	---------

NAVD 88

ELEVATION IN METERS	ELEVATION IN FEET
---------------------	-------------------

(GPS DERIVED)

(GPS DERIVED)

70

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 25' 06.43946" N 76° 22' 18.98612" W

UNITS NORTHING EASTING

METERS 1122544.419 3688352.876

U.S. SURVEY FT. 3682881.148 12100871.062

CONVERGENCE: + 01° 17' 29.66"

SCALE FACTOR: 0.99994580

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
97	N65°40'11.4"E	914.13'

VERTICAL DATA

NAVD 88 NAVD 88

ELEVATION IN METERS ELEVATION IN FEET

3.25	10.7
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

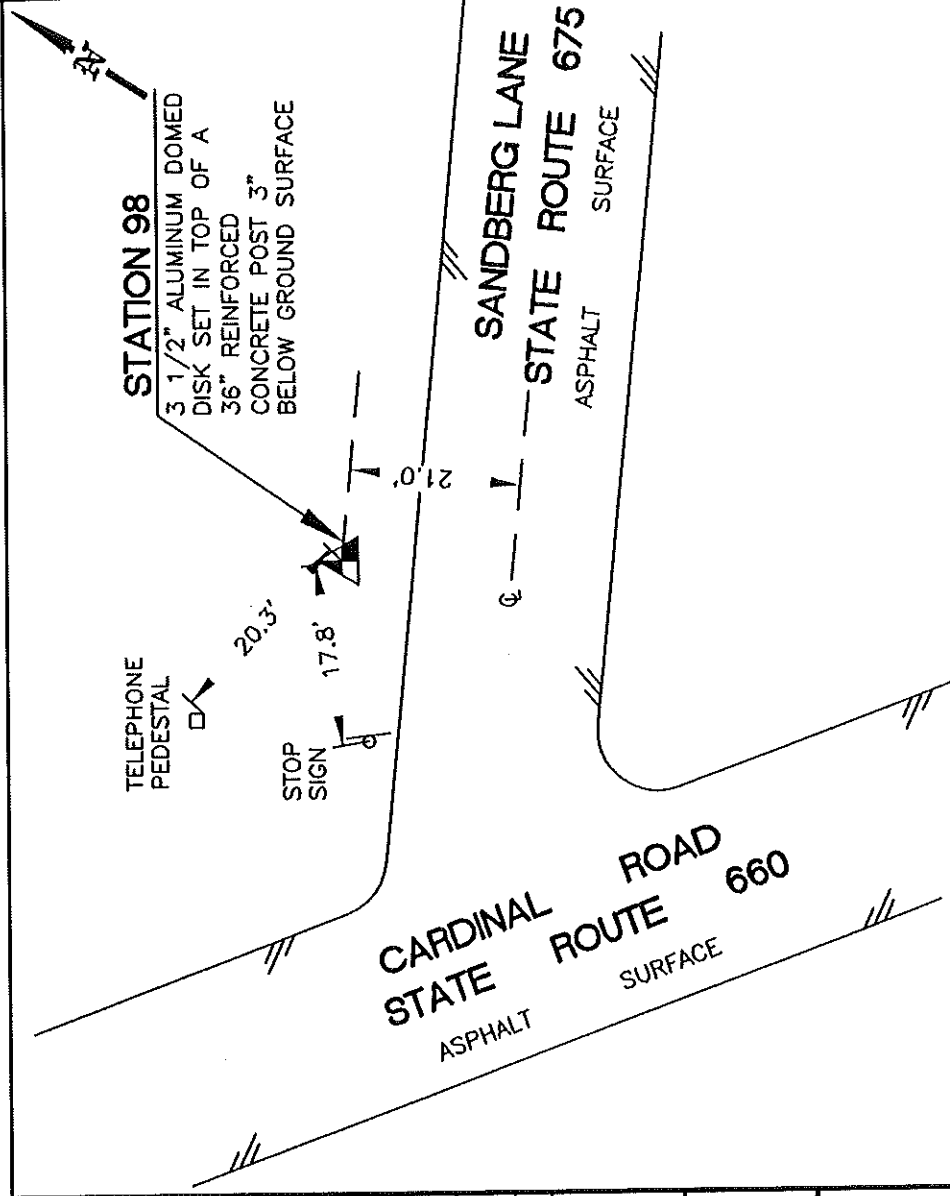
98

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

THE STATION IS LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF STATE ROUTE 660 (CARDINAL ROAD) AND STATE ROUTE 675 (SANDBERG LANE). THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 98".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

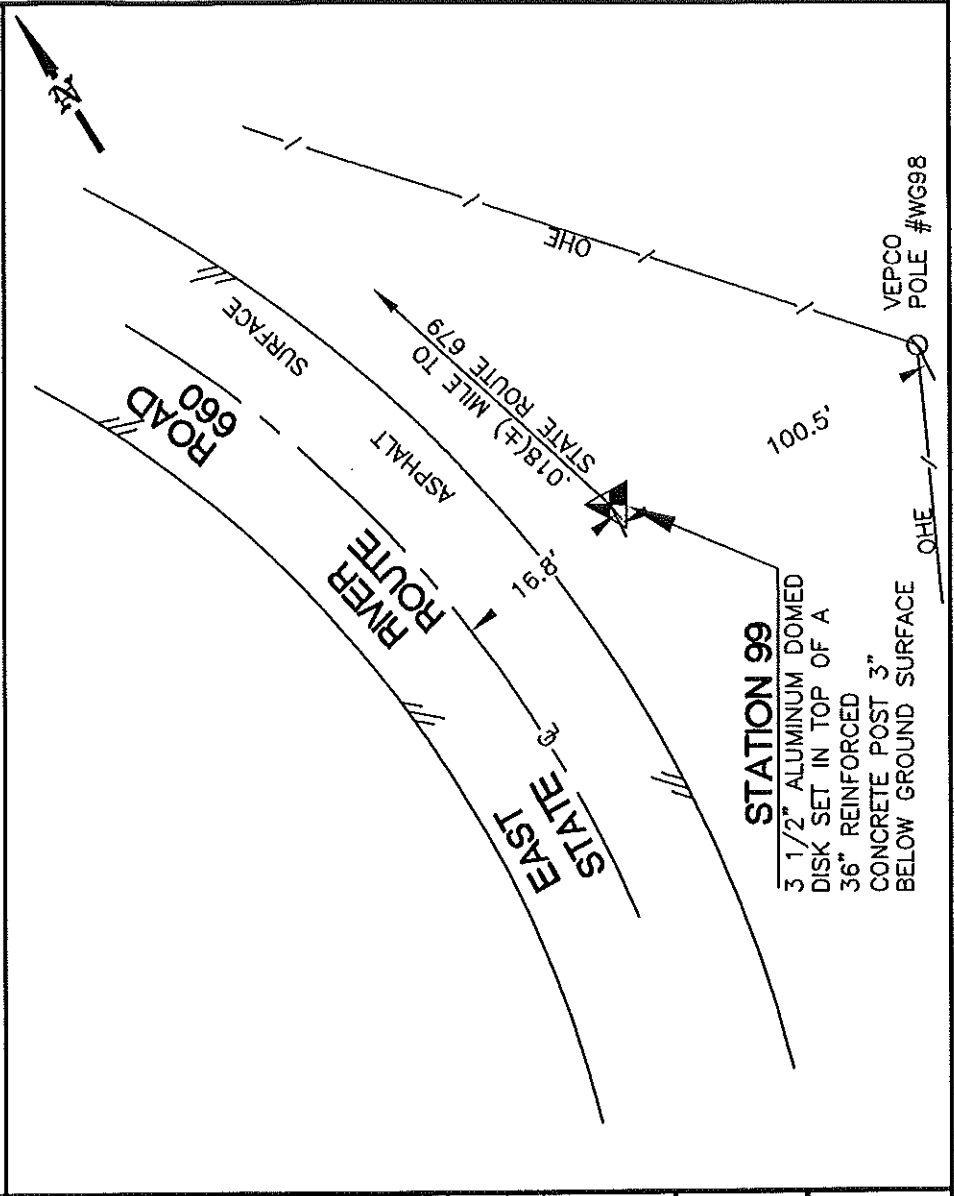
HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 25' 35.64850" N	76° 22' 40.60873" W		
UNITS	NORTHING	EASTING	
METERS	1123432.671	3687801.116	
U.S. SURVEY FT.	3685795.355	12099060.828	
CONVERGENCE: + 01° 17' 16.54"			

SCALE FACTOR: 0.99994593			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
100	N26°57'57.2"W	943.03'	

VERTICAL DATA		
(JUNE 2002) NAVD 88	NAVD 88	
ELEVATION IN METERS	ELEVATION IN FEET	
4.59	15.1	
(GPS DERIVED)	(GPS DERIVED)	

STATION NUMBER:	99
-----------------	----

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
 (JUNE 2002)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 25' 44.05167" N 76° 22' 45.67492" W

UNITS NORTHING EASTING

METERS 1123688.857 3687670.775

U.S. SURVEY FT. 3686635.859 12098633.200

CONVERGENCE: + 01° 17' 13.46"

SCALE FACTOR: 0.99994597

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
99	S26°57'57.2"E	943.03'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET

3.61 11.8
(GPS DERIVED) (GPS DERIVED)

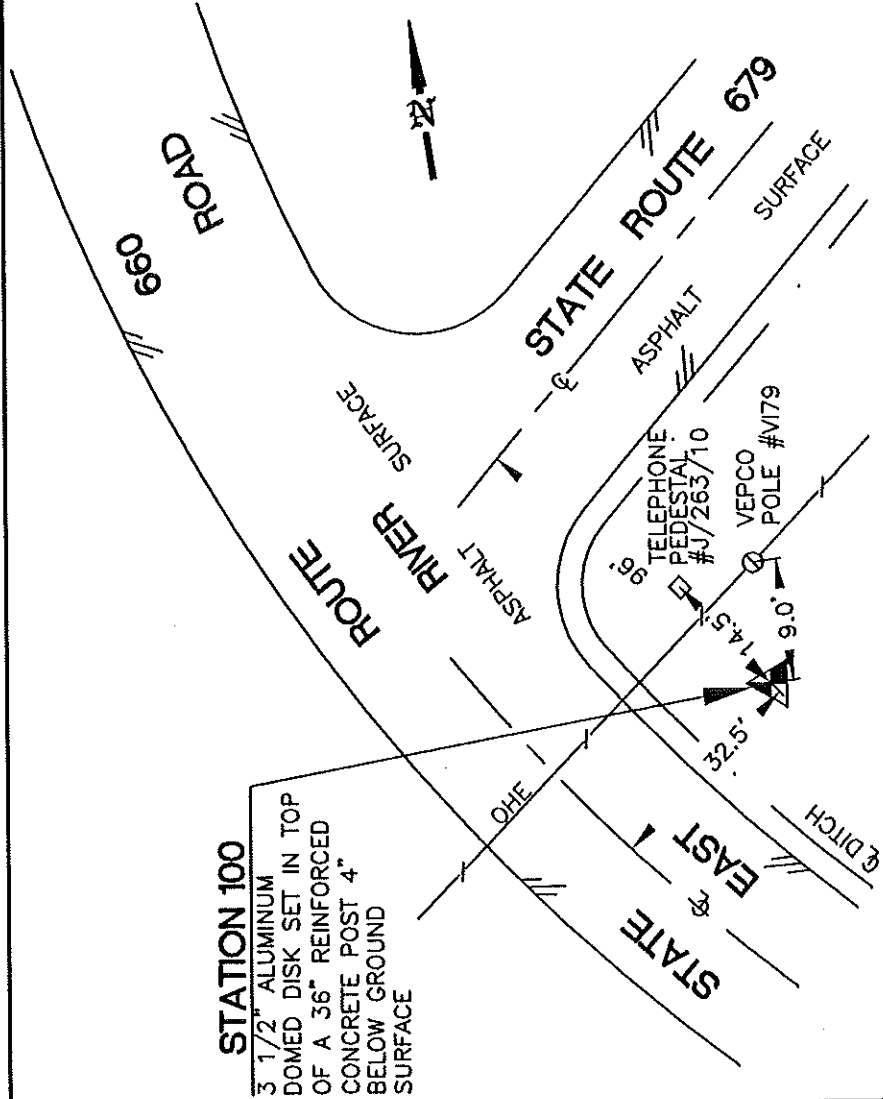
STATION NUMBER:
100

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

THE STATION IS LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF STATE ROUTE 660 (EAST RIVER ROAD) AND STATE ROUTE 679. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 4" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 100".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 26' 34.41008" N	76° 22' 12.41871" W				
UNITS	NORTHING	EASTING			
METERS	1125259.302	3688453.135			
U.S. SURVEY FT.	3691788.228	12101199.993			
CONVERGENCE: + 01° 17' 33.65"					
SCALE FACTOR: 0.99994626					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE			
102	S76°26'14.8"E	1209.61'			
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
3.52	11.5				
(GPS DERIVED)	(GPS DERIVED)				
STATION NUMBER:					
101					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 660 (EAST RIVER ROAD) AND STATE ROUTE 625 (TICK NECK ROAD), PROCEED EAST 0.50 MILES ON STATE ROUTE 625. THE STATION IS LOCATED IN THE NORTH SHOULDER OF STATE ROUTE 625. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 101".

LOCATION SKETCH (NOT TO SCALE)

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 26' 31.34363" N	76° 21' 57.92057" W		
UNITS	NORTHING	EASTING	
METERS	1125172.842	3688811.545	
U.S. SURVEY FT.	3691504.565	12102375.876	
CONVERGENCE: + 01° 17' 42.44"			

SCALE FACTOR: 0.99994624

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
101	N76°26'14.8"W	1209.61'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
2.65	8.7
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

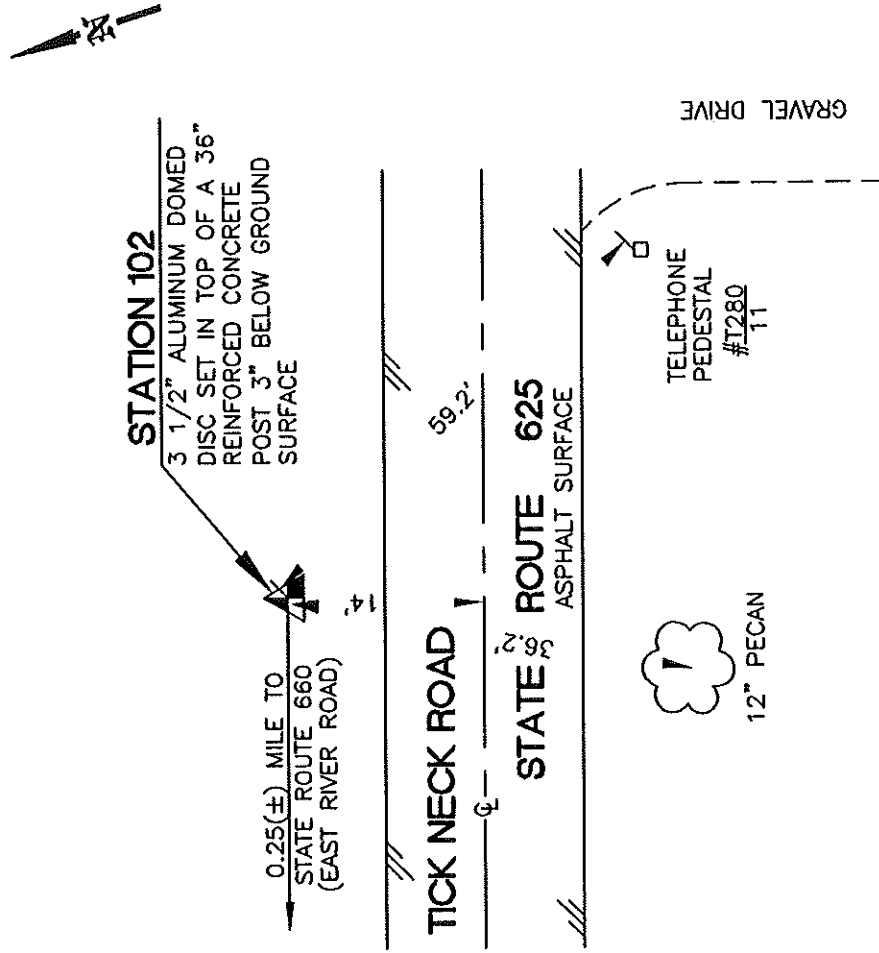
102

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 660 (EAST RIVER ROAD) AND STATE ROUTE 625 (TICK NECK ROAD), PROCEED EAST 0.25 MILES ON STATE ROUTE 625. THE STATION IS LOCATED IN THE NORTH SHOULDER OF STATE ROUTE 625. THE MONUMENT IS A 3 1/2" DOMED ALUMINUM DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 102".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA			TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM				
SOUTH ZONE (4502) NAD83(1993) VA HARN				
LATITUDE		LONGITUDE		
37° 26' 23.18308" N	76° 21' 23.74432" W			
UNITS	NORTHING	EASTING		
METERS	1124940.365	3689657.102		
U.S. SURVEY FT.	3690741.846	12105150.009		
CONVERGENCE: + 01° 18' 03.19"				
SCALE FACTOR: 0.99994619				
REFERENCE AND AZIMUTH MARK LOCATIONS				
OBJECTS	BEARING	DISTANCE		
104	S48°21'14.5"E	1801.45'		
VERTICAL DATA				
NAVD 88	NAVD 88			
ELEVATION IN METERS	ELEVATION IN FEET			
1.22 (GPS DERIVED)	4.0 (GPS DERIVED)			
STATION NUMBER: 103				
GPS SERVICES PROVIDED BY: ROUSE-SIRINE ASSOCIATES, LTD. (JUNE 2002)				

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 623 AND STATE ROUTE 670 (EAST RIVER LANE), PROCEED NORTH 0.40 MILES ON STATE ROUTE 670. THE STATION IS LOCATED IN THE EAST SHOULDER OF STATE ROUTE 670. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 4" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 103".	
LOCATION SKETCH (NOT TO SCALE)	

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 26' 11.04759" N	76° 21' 07.39423" W		
UNITS	NORTHING	EASTING	
METERS	1124575.486	3690067.411	
U.S. SURVEY FT.	3689544.739	12106496.166	
CONVERGENCE: + 01° 18' 13.11"			

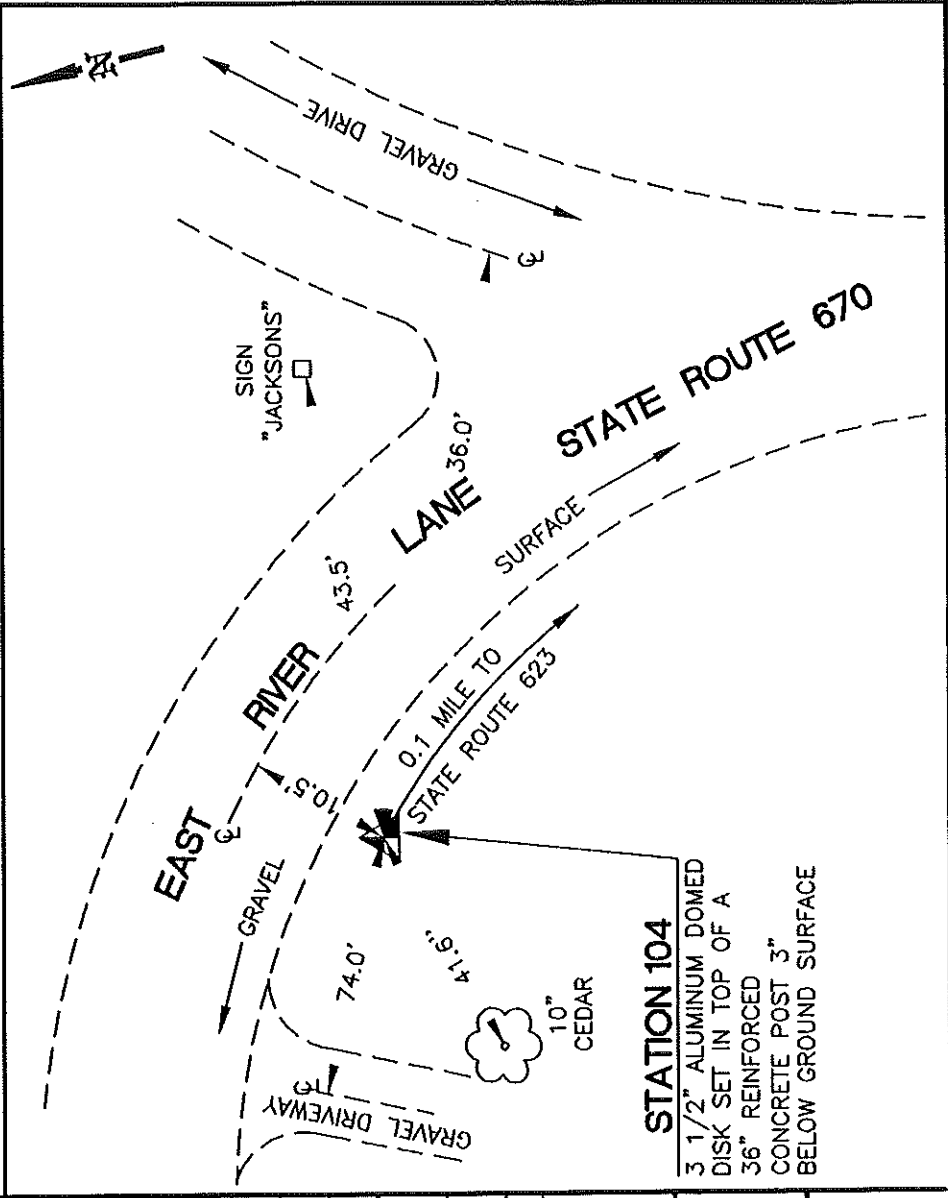
SCALE FACTOR: 0.99994612			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
103	N48°21'14.5"W	1801.45'	

VERTICAL DATA	
NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
3.32 (GPS DERIVED)	10.9 (GPS DERIVED)

STATION NUMBER:	
104	

GPS SERVICES PROVIDED BY:	
ROUSE-SIRINE ASSOCIATES, LTD.	
(JUNE 2002)	

TO REACH DESCRIPTION
TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 623 AND STATE ROUTE 670 (EAST RIVER LANE), PROCEED NORTH 0.10 MILES ON STATE ROUTE 670. THE STATION IS LOCATED IN THE WEST SHOULDER OF STATE ROUTE 670. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 104".
LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 25' 39.56296" N	76° 21' 38.00359" W		
UNITS	NORTHING	EASTING	
METERS	1123588.051	3689337.157	
U.S. SURVEY FT.	3686305.130	12104100.323	
CONVERGENCE: + 01° 17' 54.53"			
SCALE FACTOR: 0.99994595			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
106	N82°17'17.3"E	728.94'	
VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
2.23	7.3		
(GPS DERIVED)	(GPS DERIVED)		
STATION NUMBER:			
105			
GPS SERVICES PROVIDED BY:			
ROUSE-SIRINE ASSOCIATES, LTD.			
(JUNE 2002)			

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 623 (THURSTON ROAD) AND STATE ROUTE 622 (EVANS ROAD), PROCEED WEST 0.35 MILES ON STATE ROUTE 622. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 622. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 105".

LOCATION SKETCH (NOT TO SCALE)

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 623 (THURSTON ROAD) AND STATE ROUTE 622 (EVANS ROAD), PROCEED WEST 0.35 MILES ON STATE ROUTE 622. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 622. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 105".

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 25' 40.36791" N	76° 21' 29.02289" W		
UNITS	NORTHING	EASTING	
METERS	1123617.865	3689557.328	
U.S. SURVEY FT.	3686402.947	12104822.666	
CONVERGENCE: + 01° 17' 59.98"			

SCALE FACTOR: 0.99994595

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
105	S82°17'17.3"W	728.94'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
2.65	8.7
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

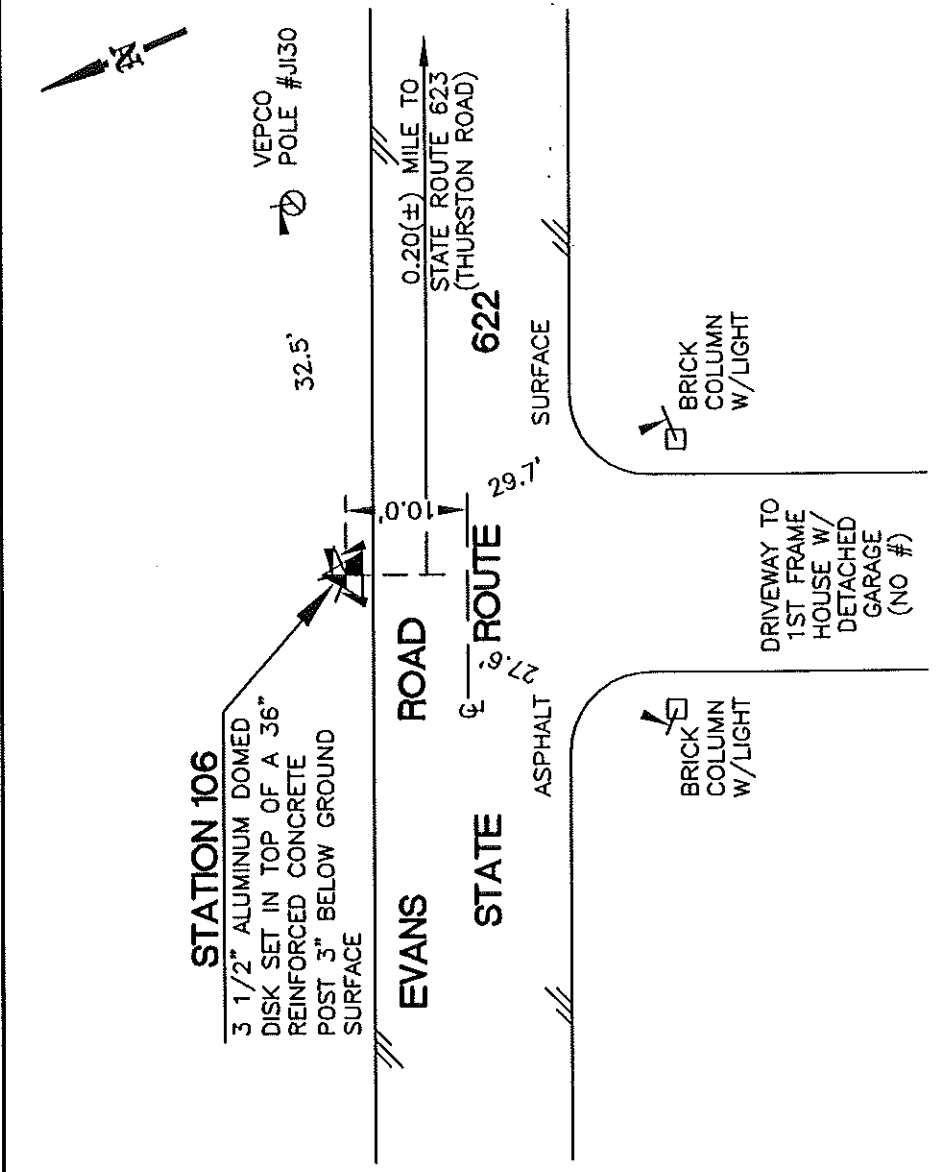
106

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 623 (THURSTON ROAD) AND STATE ROUTE 622 (EVANS ROAD), PROCEED WEST 0.20 MILES ON STATE ROUTE 622. THE STATION IS LOCATED IN THE NORTH SHOULDER OF STATE ROUTE 622. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 106".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 25' 18.03605" N 76° 20' 46.20969" W

UNITS NORTHING EASTING

METERS 1122953.551 3690625.319

U.S. SURVEY FT. 3684223.443 12108326.567

CONVERGENCE: + 01° 18' 25.97"

SCALE FACTOR: 0.99994585

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
108	S72°19'50.0"E	860.92'

VERTICAL DATA

NAVD 88 NAVD 88

ELEVATION IN METERS ELEVATION IN FEET

2.97 (GPS DERIVED)	9.8 (GPS DERIVED)
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STATION NUMBER:

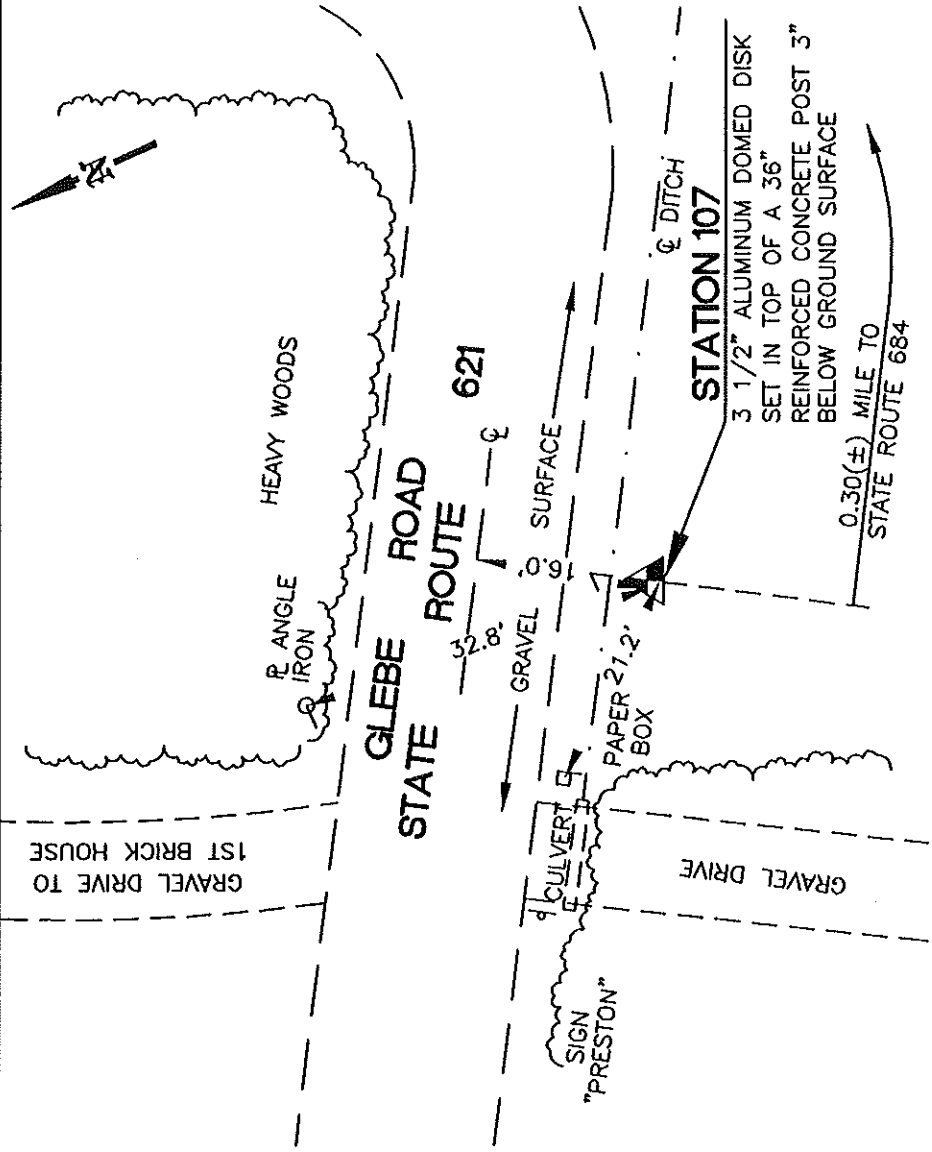
107

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 684 (GAYLE LANE) AND STATE ROUTE 621 (GLEBE ROAD), PROCEED SOUTH 0.30 MILES ON STATE ROUTE 621. THE STATION IS LOCATED IN THE NORTH SHOULDER OF STATE ROUTE 621. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 107".

LOCATION - SKETCH (NOT TO SCALE)

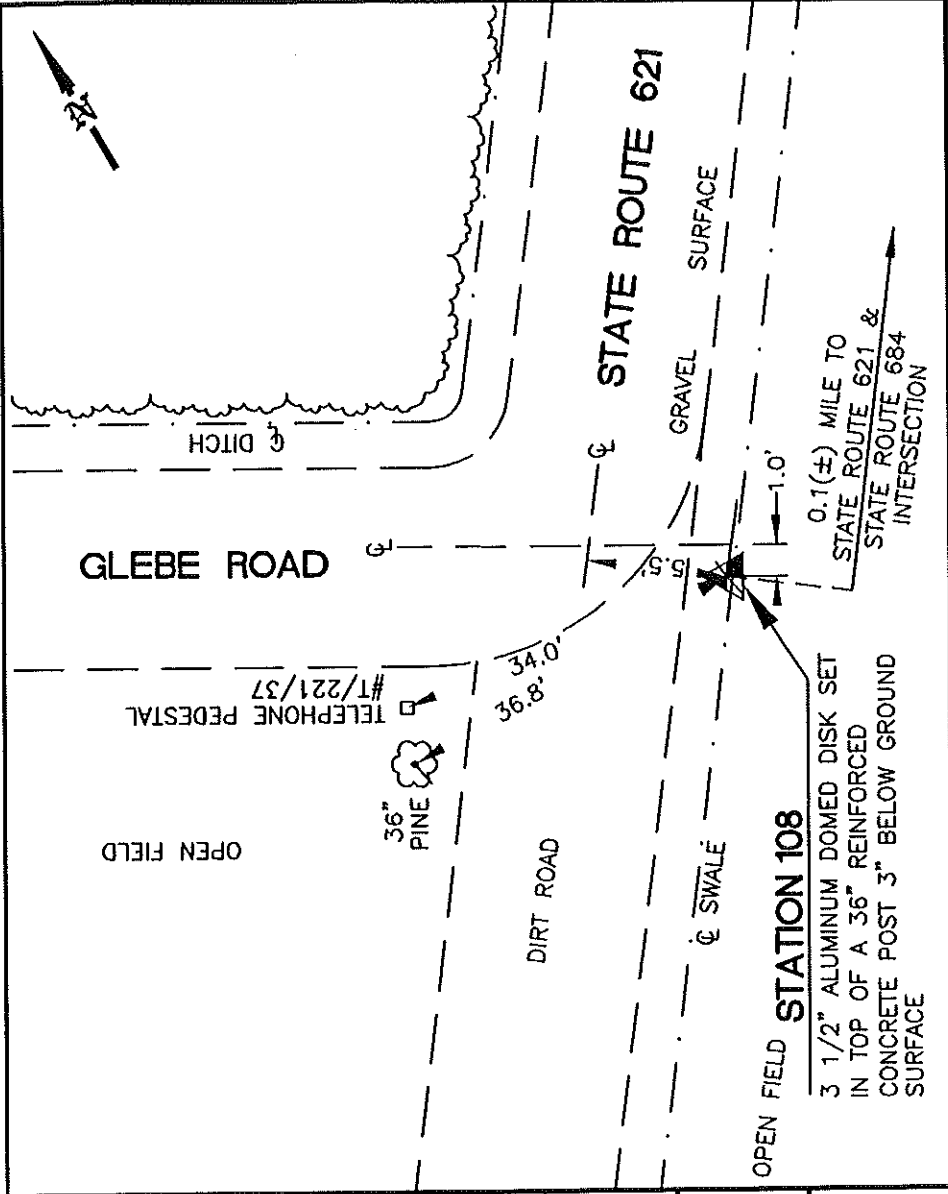


COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 25' 15.26793" N	76° 20' 36.11712" W				
UNITS	NORTHING	EASTING			
METERS	1122873.904	3690875.349			
U.S. SURVEY FT.	3683962.132	12109146.873			
CONVERGENCE: + 01° 18' 32.09"					
SCALE FACTOR: 0.99994583					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE			
107	N72°19'50.0"W	860.92'			
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
3.03	9.9				
(GPS DERIVED)	(GPS DERIVED)				
STATION NUMBER:					
108					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 684 (GAYLE LANE) AND STATE ROUTE 621 (GLEBE ROAD), PROCEED SOUTH 0.10 MILES ON STATE ROUTE 621. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 621. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 108".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 24' 18.10482" N	76° 20' 35.39637" W		
UNITS	NORTHING	EASTING	
METERS	1121112.567	3690933.323	
U.S. SURVEY FT.	3678183.479	12109337.077	

CONVERGENCE: + 01° 18' 32.53"

SCALE FACTOR: 0.99994562

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
110	N52°06'21.9"E	2341.95'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
1.23	4.0
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

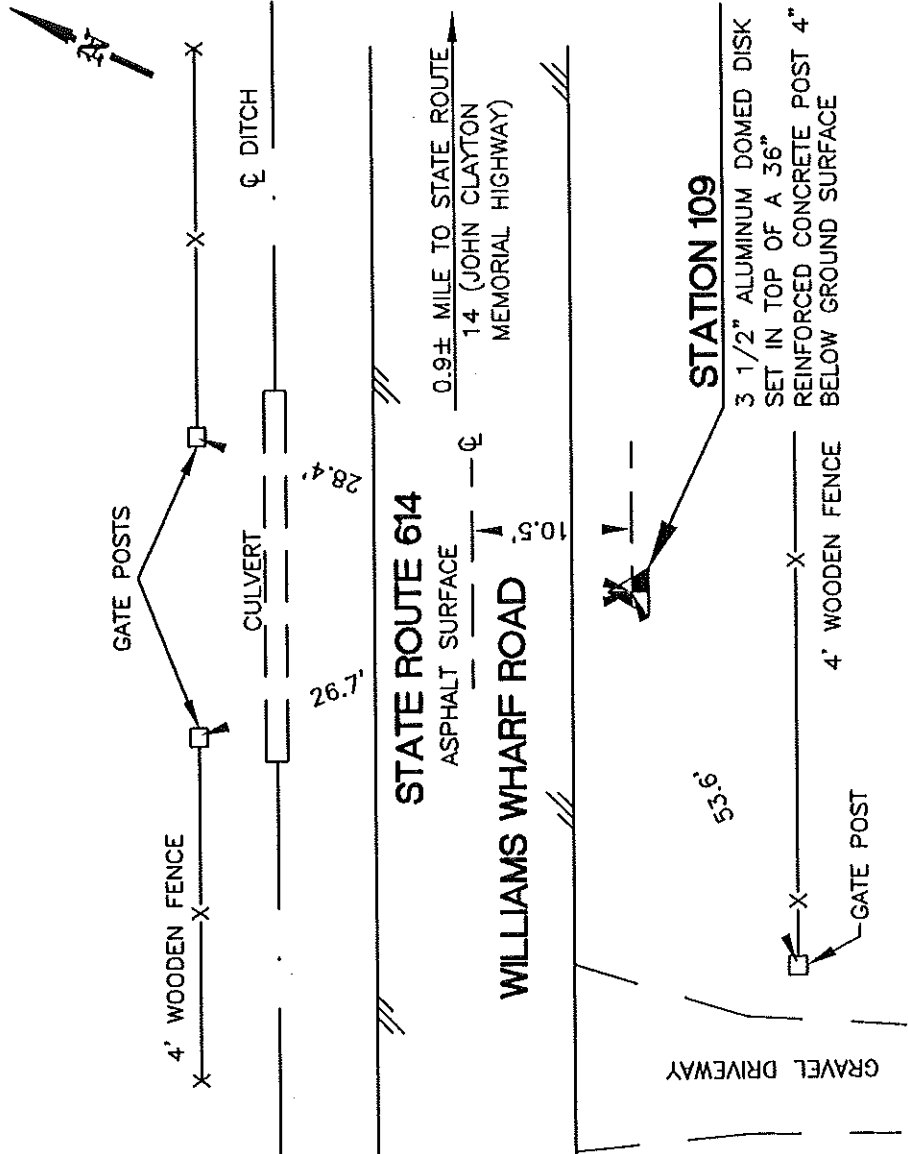
109

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 14 (JOHN CLAYTON MEMORIAL HIGHWAY) AND STATE ROUTE 614 (WILLIAMS WHARF ROAD), PROCEED WEST 0.90 MILES ON STATE ROUTE 614. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 614. THE MONUMENT IS A 3 1/2" DOMED ALUMINUM DISK SET 4" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 109".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 24' 31.90515" N	76° 20' 12.08776" W		
UNITS	NORTHING	EASTING	
METERS	1121551.000	3691496.639	
U.S. SURVEY FT.	3679621.906	1211185.222	

CONVERGENCE: + 01° 18' 46.68"

SCALE FACTOR: 0.99994566

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
109	S52°06'21.9"W	2341.95'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
1.80	5.9
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

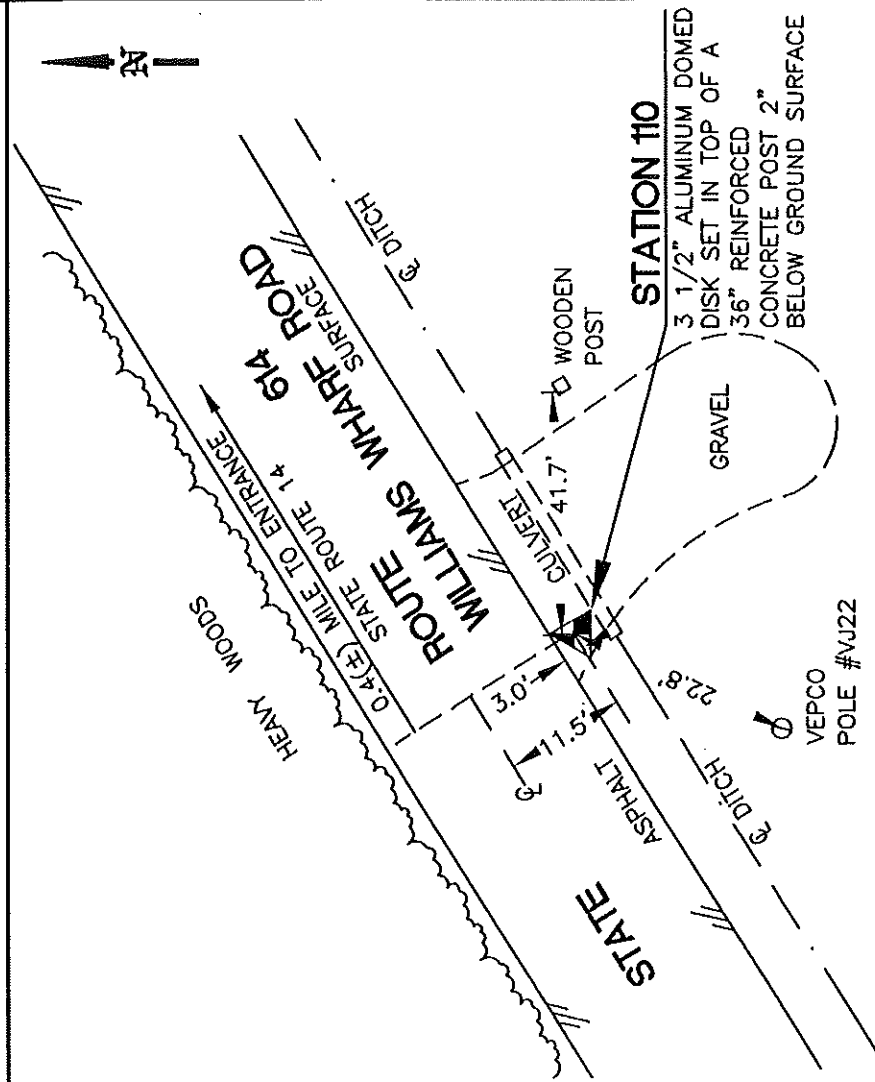
110

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 14 (JOHN CLAYTON MEMORIAL HIGHWAY) AND STATE ROUTE 614 (WILLIAMS WHARF ROAD), PROCEED WEST 0.40 MILES ON STATE ROUTE 614. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 614 NEAR THE EDGE OF A CULVERT. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 110".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

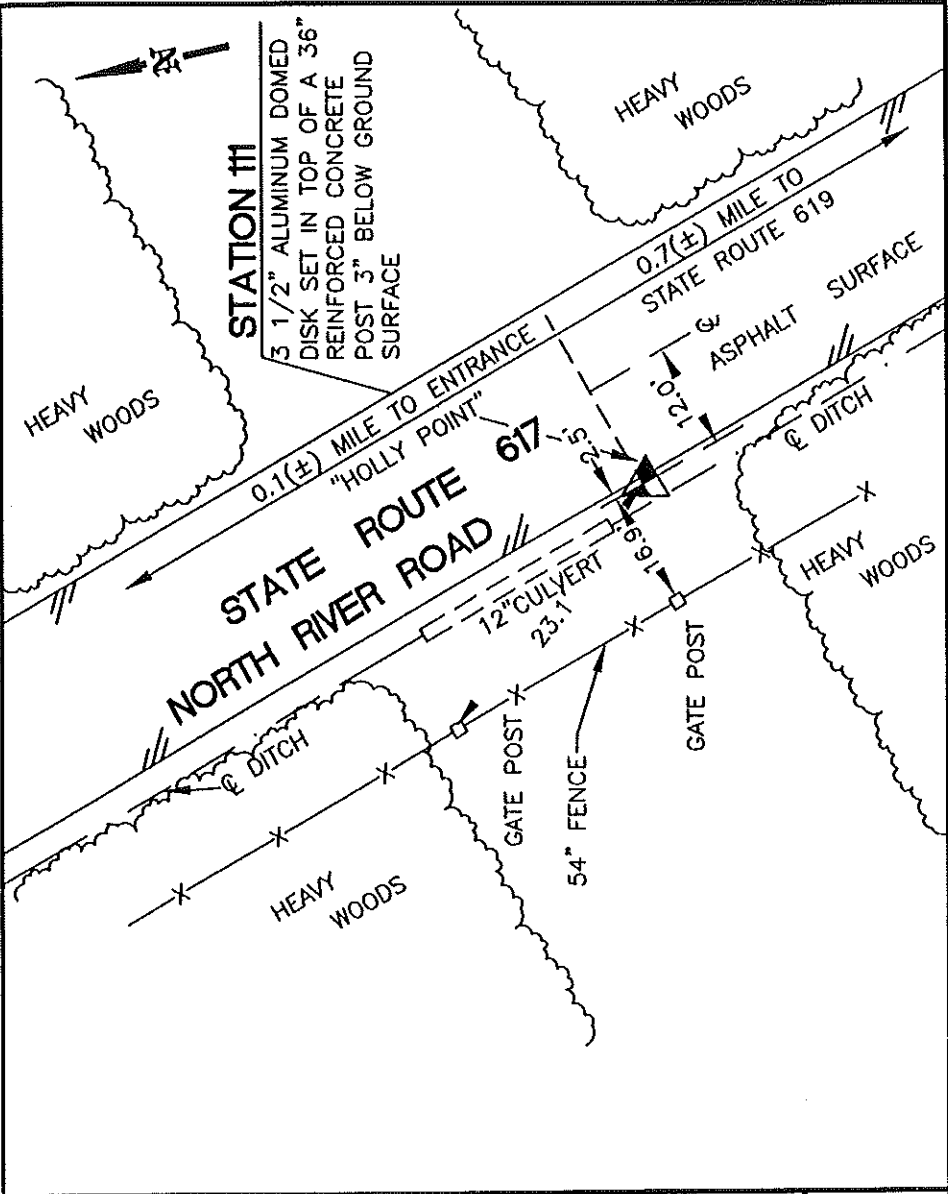
HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 24' 23.04138" N	76° 23' 03.81017" W		
UNITS	NORTHING	EASTING	
METERS	1121182.127	3687281.001	
U.S. SURVEY FT.	3678411.693	12097354.419	
CONVERGENCE: + 01° 17' 02.45"			

REFERENCE AND AZIMUTH MARK LOCATIONS		
OBJECTS	BEARING	DISTANCE
112	N04°44'37.0"W	2311.46'

VERTICAL DATA	
NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
3.39	11.1
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:
111

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE

37° 24' 45.85373" N 76° 23' 05.53913" W

UNITS	NORTHING	EASTING
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METERS	1121884.247	3687222.739
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U.S. SURVEY FT.	3680715.234	12097163.268
-----------------	-------------	--------------

CONVERGENCE: + 01° 17' 01.41"

SCALE FACTOR: 0.99994571

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
111	S04°44'37.0"E	2311.46'

VERTICAL DATA

NAVD 88 | NAVD 88

ELEVATION IN METERS		ELEVATION IN FEET	
1	100	328	1056
2	200	656	2149
3	300	984	3217
4	400	1312	4285
5	500	1640	5353
6	600	1968	6421
7	700	2296	7489
8	800	2624	8557
9	900	2952	9625
10	1000	3280	10693

349

(GPS DERIVED)

51

(GPS DERIVED)

STATION NUMBER:

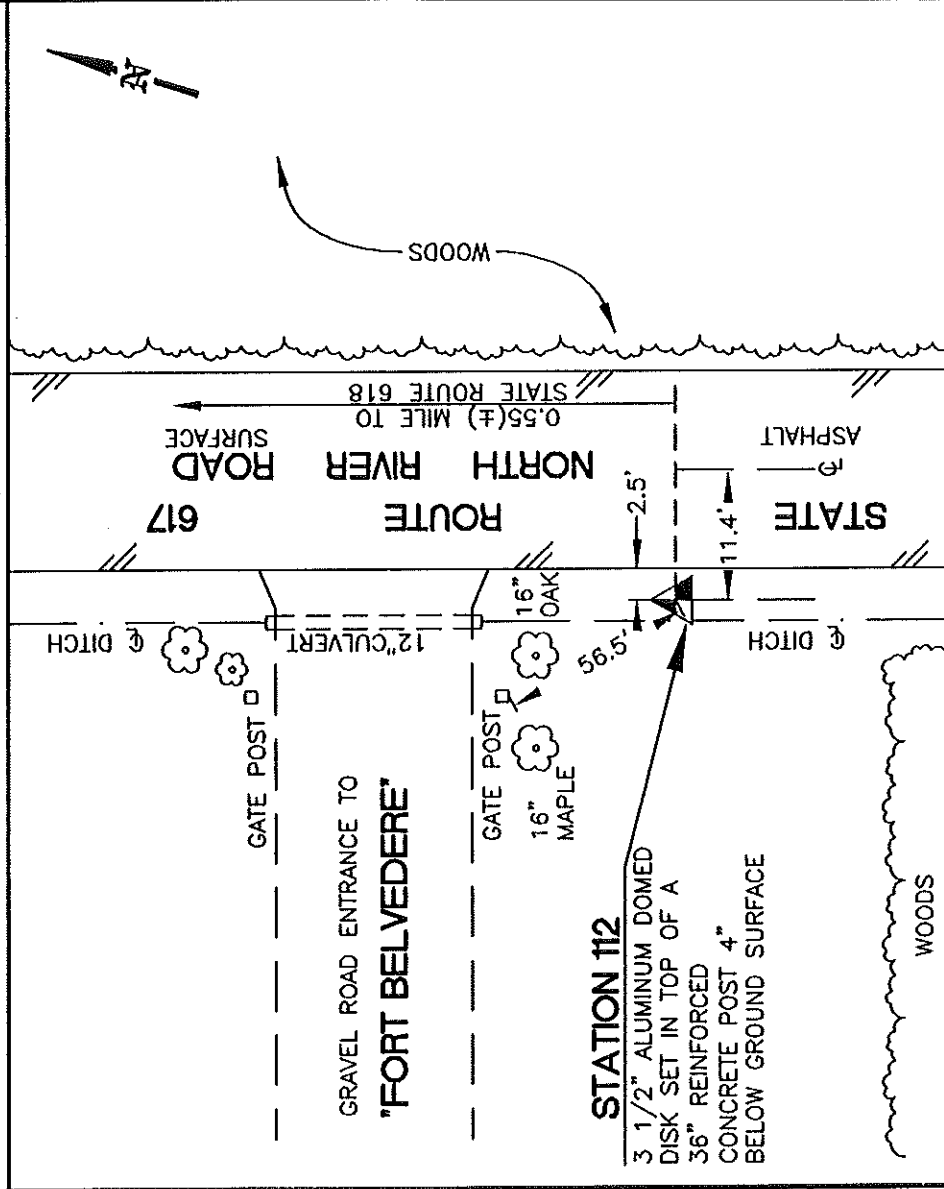
112

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 618 (CARDINAL ROAD) AND STATE ROUTE 617 (NORTH RIVER ROAD), PROCEED SOUTH 0.50 MILES ON STATE ROUTE 617. THE STATION IS LOCATED IN THE WEST SHOULDER OF STATE ROUTE 617. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 4" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 112".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 31' 17.07198" N 76° 23' 10.60145" W

UNITS NORTHING EASTING

METERS 1133938.884 3686828.273

U.S. SURVEY FT. 3720264.489 12095869.094

CONVERGENCE: + 01° 16' 58.33"

SCALE FACTOR: 0.99994900

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
114	N69°18'21.8"W	1701.17'

VERTICAL DATA

NAVD 88 NAVD 88

ELEVATION IN METERS ELEVATION IN FEET

9.74 31.9

(GPS DERIVED) (GPS DERIVED)

STATION NUMBER:

113

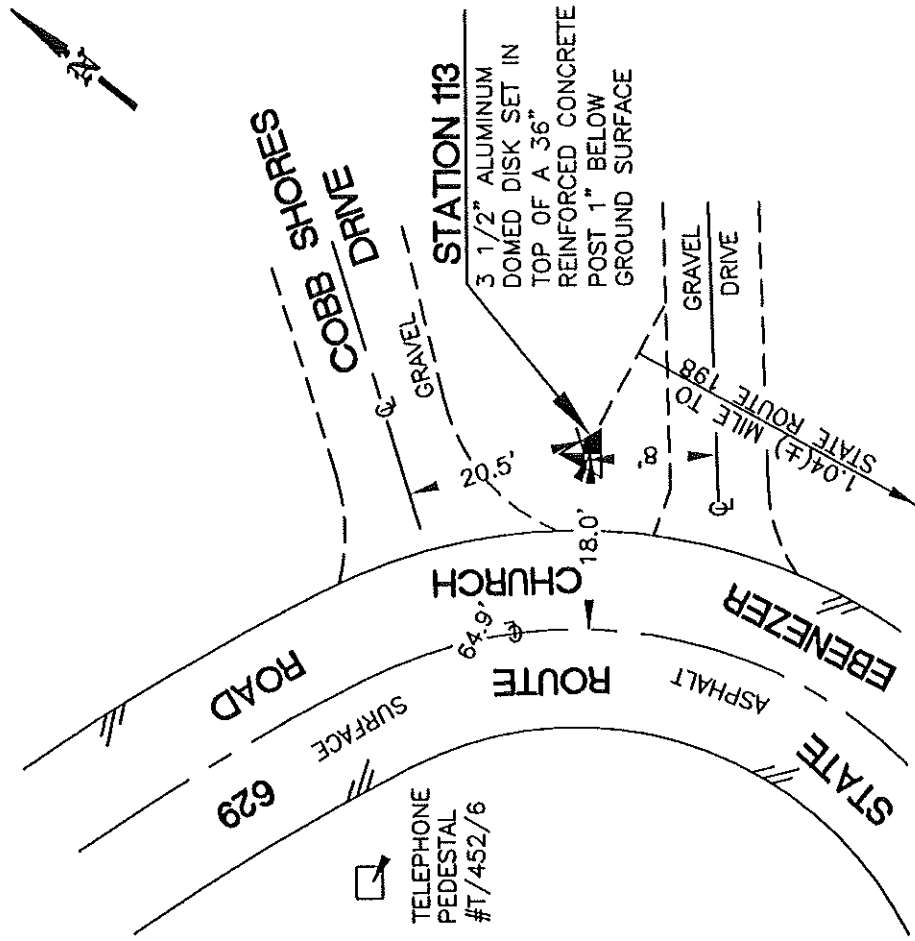
GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.

(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 629 (EBENEZER CHURCH ROAD) AND STATE ROUTE 198 (WINDSOR ROAD), PROCEED NORTH 1.04 MILES ON STATE ROUTE 629. THE STATION IS LOCATED IN THE NORTH SHOULDER OF STATE ROUTE 629 AND 20.5' SOUTH OF THE C OF COBB SHORES DRIVE. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 1" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 113".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

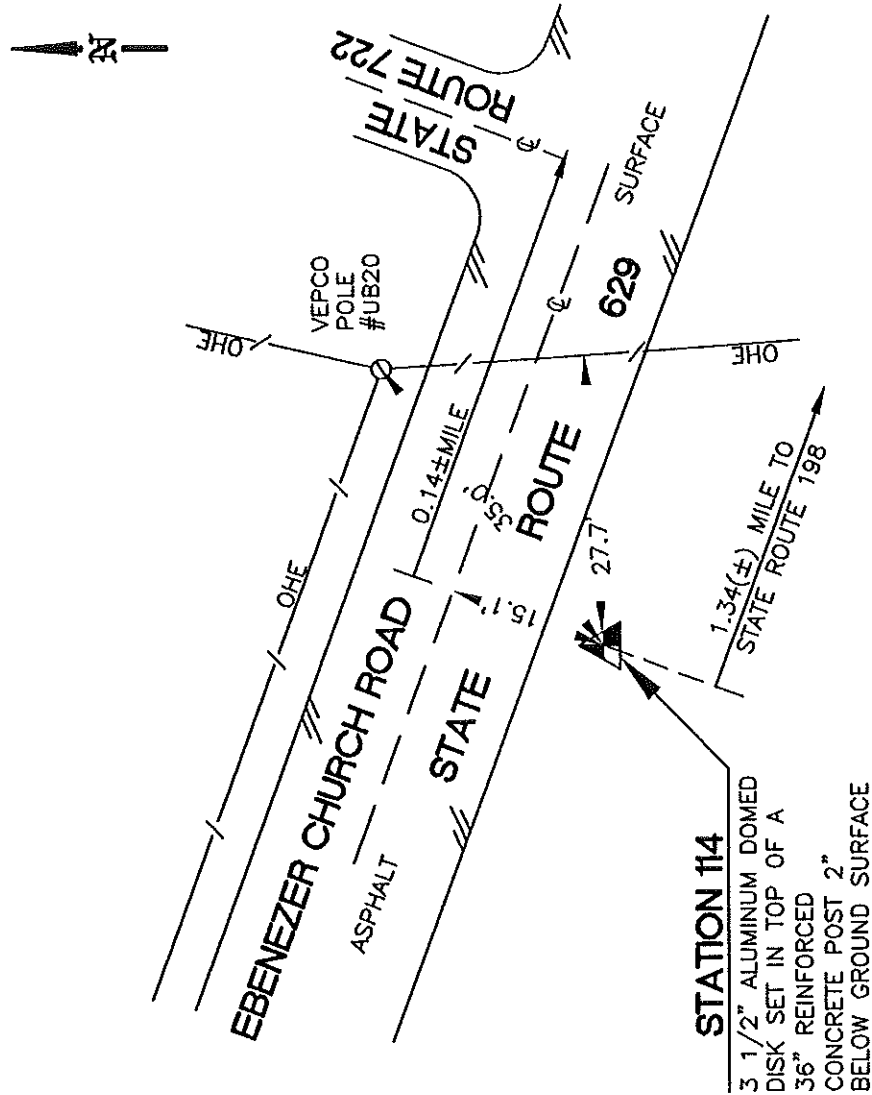
HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM SOUTH ZONE (4502) NAD83(1993) VA HARN				TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 629 (EBENEZER CHURCH ROAD) AND STATE ROUTE 198 (WINDSOR ROAD), PROCEED NORTH 1.34 MILES ON STATE ROUTE 629. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 629 AND 0.14 MILES WEST OF STATE ROUTE 722. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 114".	
LATITUDE	37° 31' 23.36591" N	76° 23' 30.18453" W	LONGITUDE		
UNITS	NORTHING	EASTING			
METERS	1134122.115	3686343.211			
U.S. SURVEY FT.	3720865.640	12094277.685			
CONVERGENCE: + 01° 16' 46.45"				LOCATION SKETCH (NOT TO SCALE)	

REFERENCE AND AZIMUTH MARK LOCATIONS		
SCALE FACTOR: 0.99994908		
OBJECTS	BEARING	DISTANCE
113	S69°18'21.8"E	1701.17'

VERTICAL DATA	
NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
7.06	23.2
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:	114
-----------------	-----

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
 (JUNE 2002)

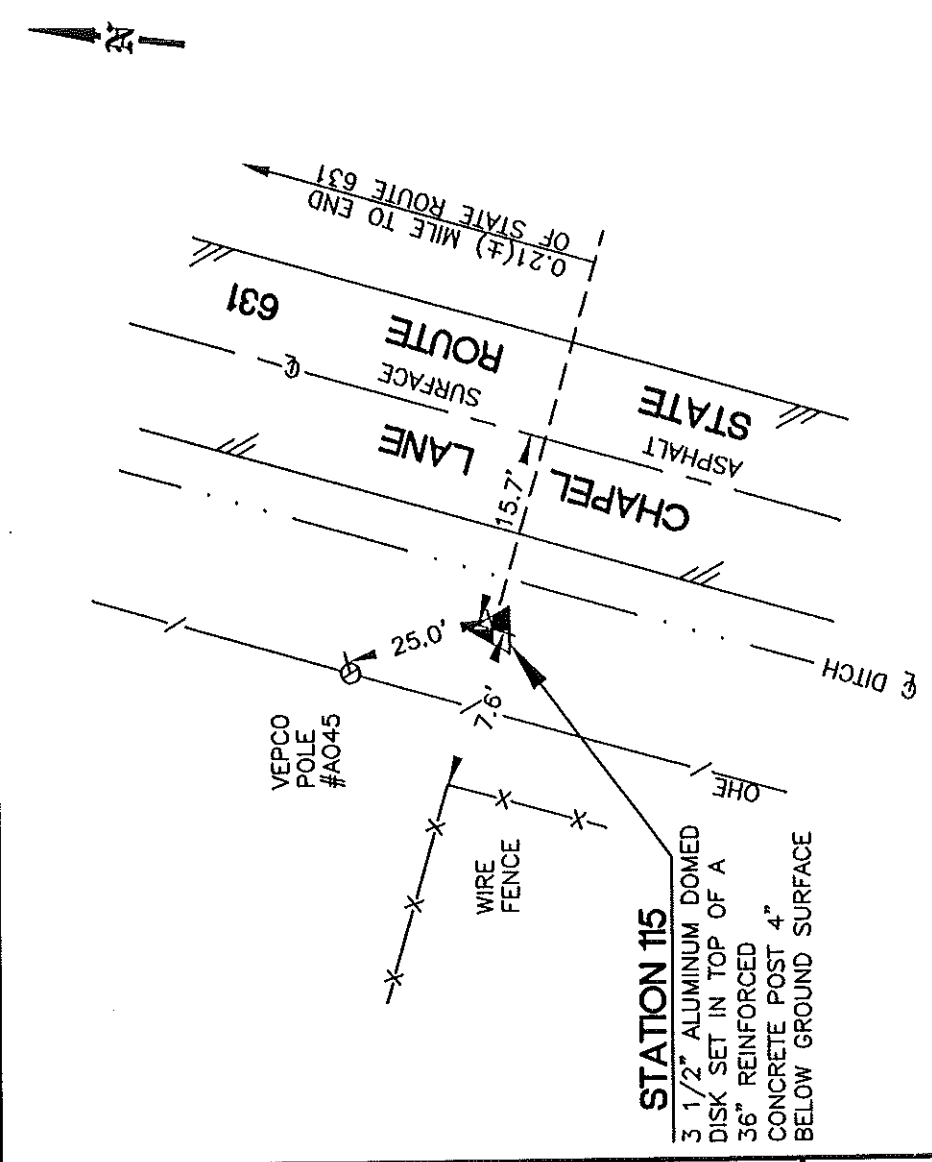


COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 31' 10.72607" N	76° 22' 25.99151" W				
UNITS	NORTHING	EASTING			
METERS	1133767.896	3687927.771			
U.S. SURVEY FT.	3719703.504	12099476.363			
CONVERGENCE: + 01° 17' 25.41"					
SCALE FACTOR: 0.99994892					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE			
116	N01°05'54.1"E	638.64'			
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
8.51	27.9				
(GPS DERIVED)	(GPS DERIVED)				
STATION NUMBER:					
115					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

THE STATION IS LOCATED 0.21 MILES SOUTH OF THE END OF STATE ROUTE 631 (CHAPEL LANE) AND IN THE WEST SHOULDER OF STATE ROUTE 631. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 4" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 115".

LOCATION SKETCH (NOT TO SCALE)



STATION 115
3 1/2" ALUMINUM DOMED
DISK SET IN TOP OF A
36" REINFORCED
CONCRETE POST 4"
BELOW GROUND SURFACE

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA		TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 31' 17.03487" N	76° 22' 25.66109" W		
UNITS	NORTHING	EASTING	
METERS	1133962.519	3687931.503	
U.S. SURVEY FT.	3720342.030	12099488.605	
CONVERGENCE: + 01° 17' 25.61"			
SCALE FACTOR: 0.99994900			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
115	S01°05'54.1"W	638.64'	
VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
4.13	13.5		
(GPS DERIVED)	(GPS DERIVED)		
STATION NUMBER: 116			
GPS SERVICES PROVIDED BY: ROUSE-SIRINE ASSOCIATES, LTD. (JUNE 2002)			

THE STATION IS LOCATED ON STATE ROUTE 631 (CHAPEL LANE) IN THE WEST SHOULDER OF STATE ROUTE 631 500' SOUTH OF THE EDGE OF THE PIANKANK RIVER AND 27' SOUTH OF THE C OF A GRAVEL DRIVE ON THE WEST SIDE OF STATE ROUTE 631. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 4" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 116".

LOCATION SKETCH (NOT TO SCALE)

STATION 116
3 1/2" ALUMINUM DOMED DISK SET IN TOP OF A 36" REINFORCED CONCRETE POST 4" BELOW GROUND SURFACE

CHAPEL LANE
STATE ROUTE 631
GRAVEL DRIVE
PIANKANK RIVER
APPROXIMATE SOUTH SHORE LINE

VEPCO POLE #AA44
GUY WIRE
DITCH
OHE

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 29' 22.75820" N	76° 21' 12.59110" W		
UNITS	NORTHING	EASTING	
METERS	1130481.088	3689805.326	
U.S. SURVEY FT.	3708920.036	12105636.308	
CONVERGENCE: + 01° 18' 09.96"			

SCALE FACTOR: 0.99994767			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
118	S80°40'51.0"E	691.01'	

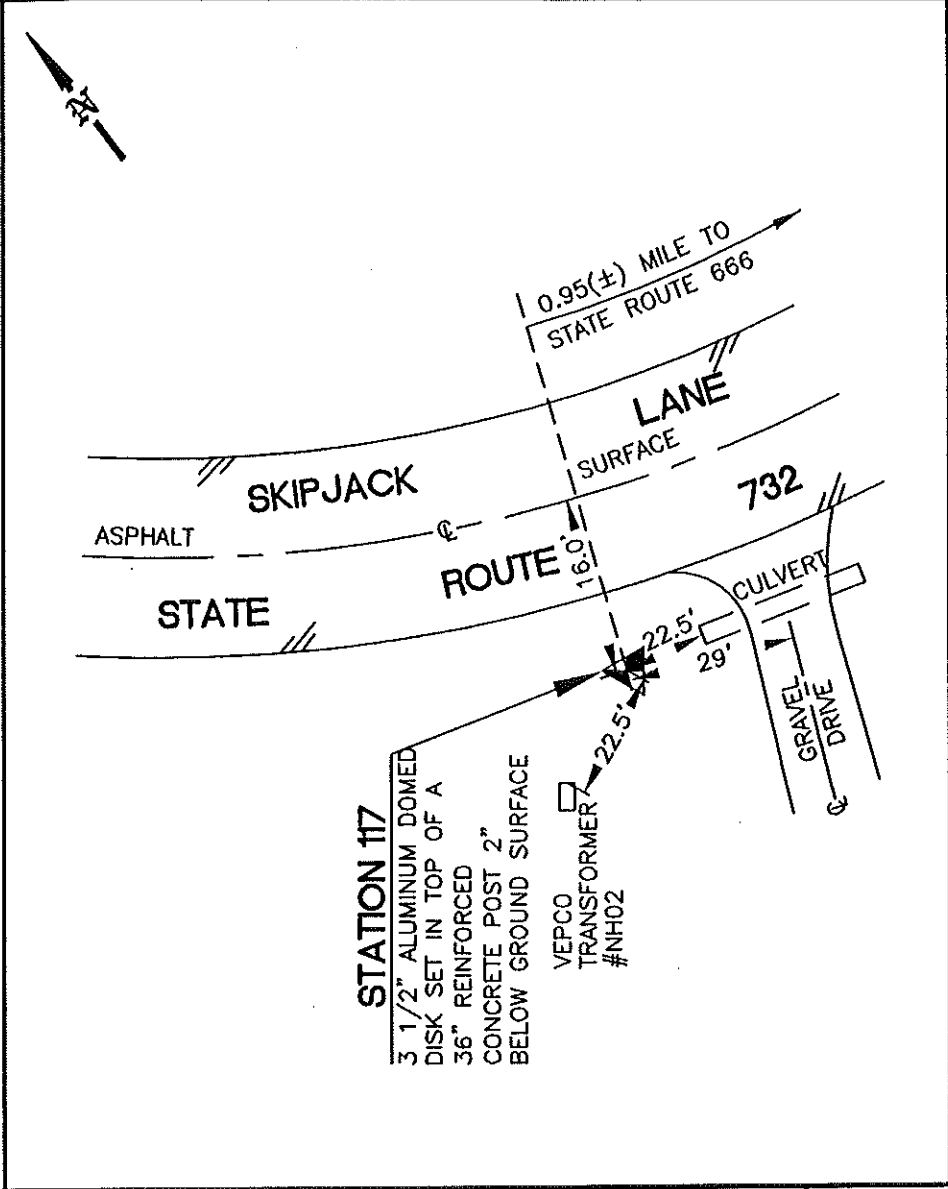
VERTICAL DATA		
NAVD 88	NAVD 88	
ELEVATION IN METERS	ELEVATION IN FEET	
3.03	9.9	(GPS DERIVED)
(GPS DERIVED)	(GPS DERIVED)	

STATION NUMBER:
117

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 666 (JOHNSON POINT ROAD) AND STATE ROUTE 732 (SKIPJACK LANE), PROCEED WEST 0.95 MILES ON STATE ROUTE 732. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 732. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 117".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM SOUTH ZONE (4502) NAD83(1993) VA HARN				TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 666 (JOHNSON POINT ROAD) AND STATE ROUTE 732 (SKIPJACK LANE), PROCEED WEST 0.80 MILES ON STATE ROUTE 732. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 732. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 118".	
LATITUDE		LONGITUDE			
37° 29' 21.49878" N		76° 21' 04.16396" W			
UNITS		NORTHING			
METERS		EASTING			
U.S. SURVEY FT.		1130446.981		3690013.167	
		3708808.138		12106318.198	
CONVERGENCE: + 01° 18' 15.07"				LOCATION SKETCH (NOT TO SCALE)	
SCALE FACTOR: 0.99994765				STATION 118 3 1/2" ALUMINUM DOMED DISK SET IN TOP OF A 36" REINFORCED CONCRETE POST 3" BELOW GROUND SURFACE STATE ROUTE 732 LANE SURFACE 17.0' 32.5' 47.4' GRAVEL DRIVE VEPCO TRANSFORMER #OH11 SKIPJACK ASPHALT STATE ROUTE 666 0.80(F) MILE TO	
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE			
117	N80°40'51.0"W	691.01'			
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
2.48 (GPS DERIVED)	8.1 (GPS DERIVED)				
STATION NUMBER: 118					
GPS SERVICES PROVIDED BY: ROUSE-SIRINE ASSOCIATES, LTD. (JUNE 2002)					

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 27' 38.44668" N 76° 18' 37.35278" W

UNITS NORTHING EASTING

METERS 1127353.810 3693692.287

U.S. SURVEY FT. 3698659.959 12118388.778

CONVERGENCE: + 01° 19' 44.17"

SCALE FACTOR: 0.99994672

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
120	S30°54'32.2"W	1342.02'

VERTICAL DATA

NAVD 88 NAVD 88

ELEVATION IN METERS ELEVATION IN FEET

1.73 5.7

(GPS DERIVED) (GPS DERIVED)

STATION NUMBER:

119

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.

(JUNE 2002)

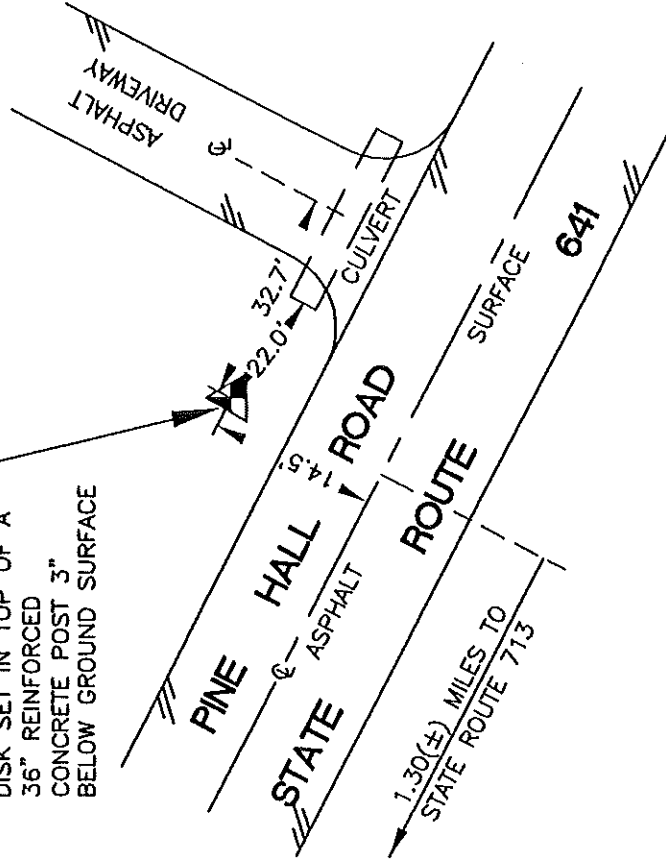
TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 713 AND STATE ROUTE 641 (PINE HALL ROAD), PROCEED NORTH 1.30 MILES ON STATE ROUTE 641. THE STATION IS LOCATED IN THE NORTH SHOULDER OF STATE ROUTE 641. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 119".

LOCATION SKETCH (NOT TO SCALE)

STATION 119

3 1/2" ALUMINUM DOMED
DISK SET IN TOP OF A
36" REINFORCED
CONCRETE POST 3"
BELOW GROUND SURFACE



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 27' 27.22334" N	76° 18' 46.23167" W		
UNITS	NORTHING	EASTING	
METERS	1127002.854	3693482.170	
U.S. SURVEY FT.	3697508.530	12117699.418	
CONVERGENCE: + 01° 19' 38.79"			

SCALE FACTOR: 0.99994663

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
119	N30°54'32.2"E	1342.02'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
2.44	8.0
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

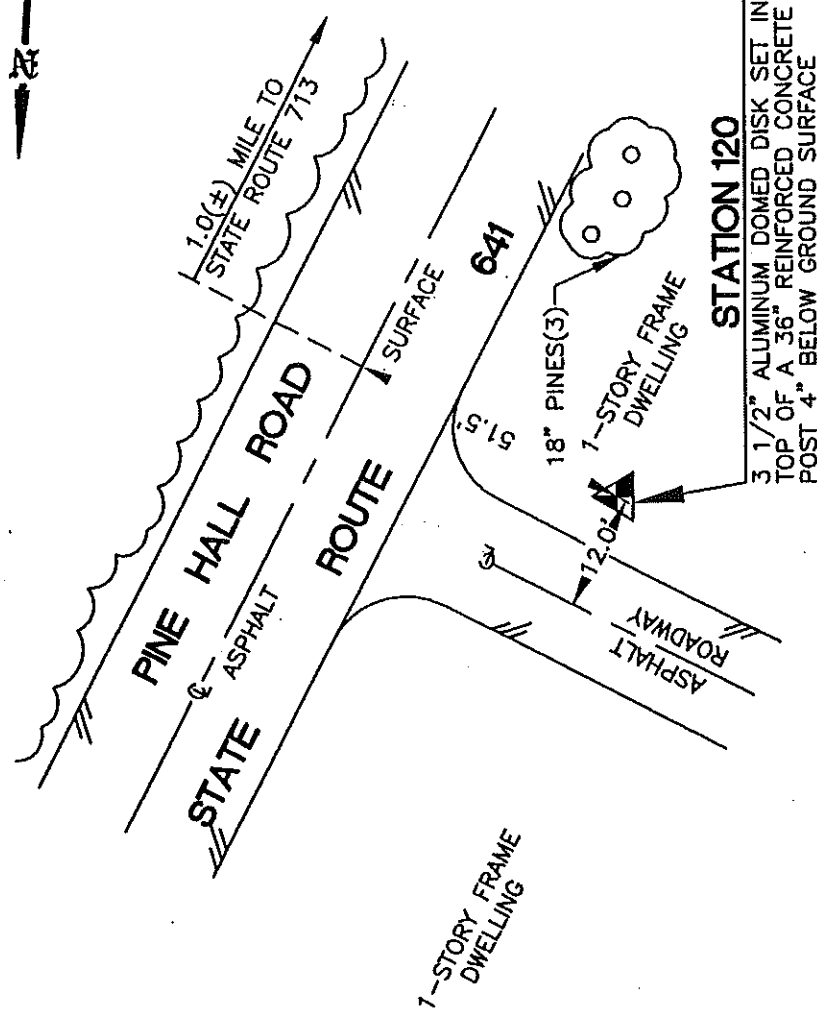
120

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
 (JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 713 AND STATE ROUTE 641 (PINE HALL ROAD), PROCEED NORTH 1.0 MILE ON STATE ROUTE 641. THE STATION IS LOCATED IN THE WEST SHOULDER OF STATE ROUTE 641. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 4" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 120".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 27' 06.91980" N	76° 18' 22.17868" W				
UNITS	NORTHING	EASTING			
METERS	1126390.823	3694087.662			
U.S. SURVEY FT.	3695500.559	12119685.937			
CONVERGENCE: + 01° 19' 53.38"					
SCALE FACTOR: 0.99994648					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE			
122	S07°31'38.9"E	1798.76'			
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
0.88 (GPS DERIVED)	2.9 (GPS DERIVED)				
STATION NUMBER: 121					
GPS SERVICES PROVIDED BY: ROUSE-SIRINE ASSOCIATES, LTD. (JUNE 2002)					

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA		TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 26' 49.23904" N		76° 18' 19.77115" W	
UNITS	NORTHING	EASTING	
METERS	1125847.286	3694159.485	
U.S. SURVEY FT.	3693717.305	12119921.577	
CONVERGENCE: + 01° 19' 54.85"			
SCALE FACTOR: 0.99994636			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
121	N07°31'38.9"W	1798.76'	
VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
2.60	8.5		
(GPS DERIVED)	(GPS DERIVED)		
STATION NUMBER:			
122			
GPS SERVICES PROVIDED BY:			
ROUSE-SIRINE ASSOCIATES, LTD.			
(JUNE 2002)			

LOCATION SKETCH (NOT TO SCALE)	

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 23' 53.95730" N	76° 17' 43.70074" W		
UNITS	NORTHING	EASTING	
METERS	1120465.888	3695171.979	
U.S. SURVEY FT.	3676061.835	12123243.402	
CONVERGENCE: + 01° 20' 16.74"			
SCALE FACTOR: 0.99994555			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
124	N33°43'40.0"W	1572.54'	
VERTICAL DATA			
NAVD 88	NAVD 88		
ELEVATION IN METERS	ELEVATION IN FEET		
1.32	4.3		
(GPS DERIVED)	(GPS DERIVED)		
STATION NUMBER:			
123			
GPS SERVICES PROVIDED BY:			
ROUSE-SIRINE ASSOCIATES, LTD.			
(JUNE 2002)			

TO REACH DESCRIPTION
TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 610 AND STATE ROUTE 614 (RIDGEFIELD ROAD), PROCEED SOUTH 0.30 MILES ON STATE ROUTE 614. THE STATION IS LOCATED IN THE EAST SHOULDER OF STATE ROUTE 614. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 123".
LOCATION SKETCH (NOT TO SCALE)
VEPCO POLE #PB77 50 ft ROAD ASPHALT RIDGEFIELD ROAD STATE ROUTE 614 SURFACE 63.3 614 GRASS ENTRANCE 12" CULVERT 0.30(±) MILE TO STATE ROUTE 610 STATE ROUTE 614 STATION 123 3 1/2" ALUMINUM DOMED DISK SET IN TOP OF A 36" REINFORCED CONCRETE POST 2" BELOW GROUND SURFACE Q DITCH Q

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 24' 07.08641" N 76° 17' 54.14077" W

UNITS NORTHING EASTING

METERS 1120864.524 3694905.843

U.S. SURVEY FT. 3677369.693 12122370.253

CONVERGENCE: + 01° 20' 10.40"

SCALE FACTOR: 0.99994558

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
123	S33°43'40.0"E	1572.54'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET

1.12	3.7
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

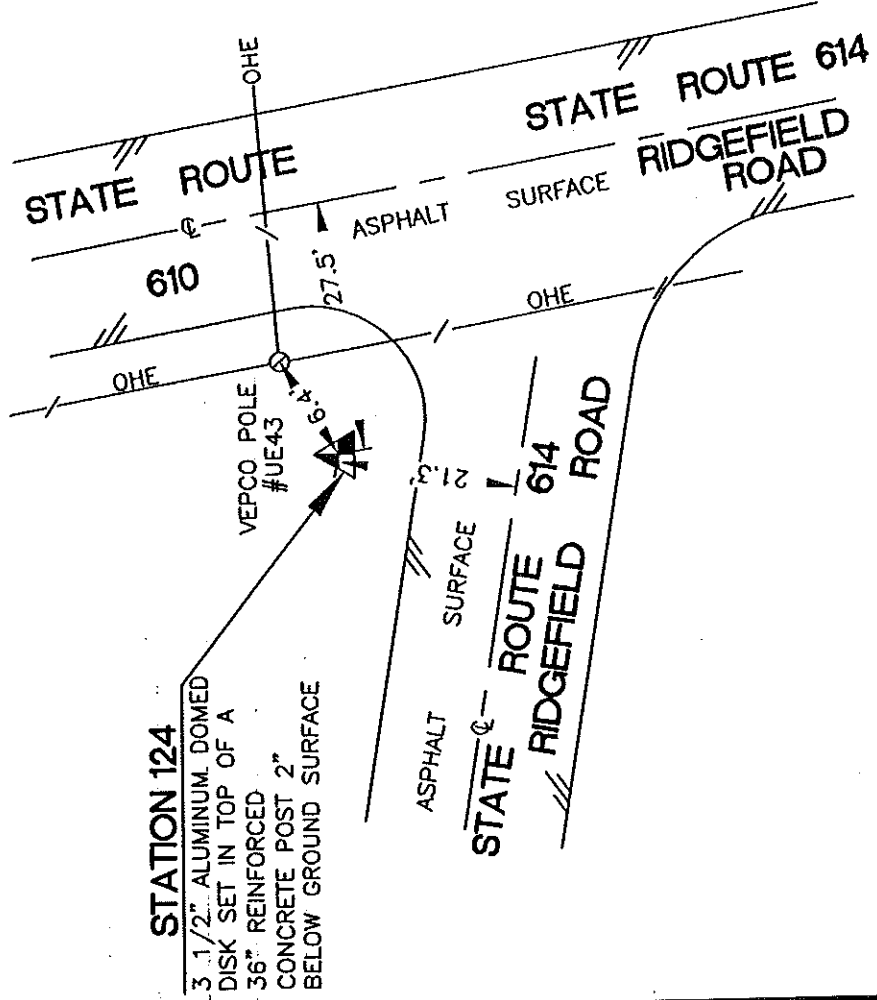
124

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

THE STATION IS LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF STATE ROUTE 610 AND STATE ROUTE 614 (RIDGEFIELD ROAD). THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 124".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 26' 26.022206" N 76° 25' 19.73786" W

UNITS NORTHING EASTING

METERS 1124898.178 3683855.665

U.S. SURVEY FT. 3690603.440 12086116.461

CONVERGENCE: + 01° 15' 39.96"

SCALE FACTOR: 0.99994621

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
126	N30°06'12.5"E	1400.27'

VERTICAL DATA

NAVD 88 NAVD 88

ELEVATION IN METERS ELEVATION IN FEET

2.67 (GPS DERIVED)	8.8 (GPS DERIVED)
-----------------------	----------------------

STATION NUMBER:

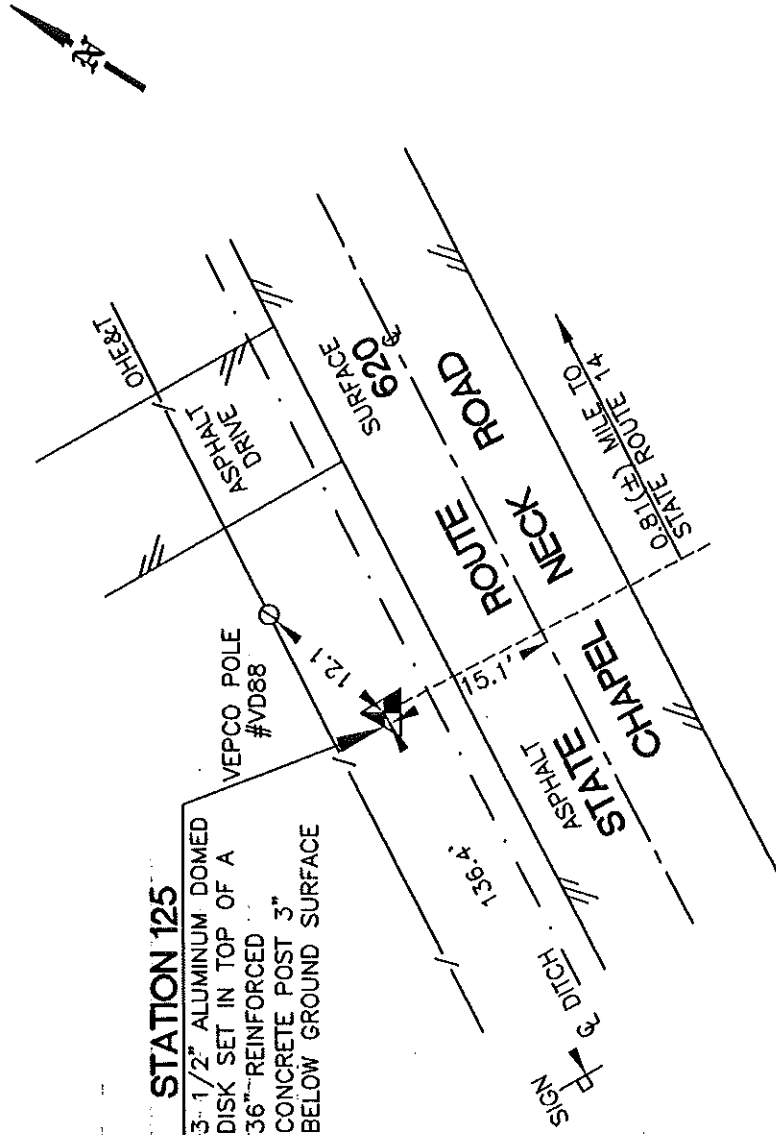
125

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 14 (JOHN CLAYTON MEMORIAL HIGHWAY) AND STATE ROUTE 620 (CHAPEL NECK ROAD), PROCEED SOUTH 0.81 MILE ON STATE ROUTE 620. THE STATION IS LOCATED IN THE WEST SHOULDER OF STATE ROUTE 620. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 3" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 125".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

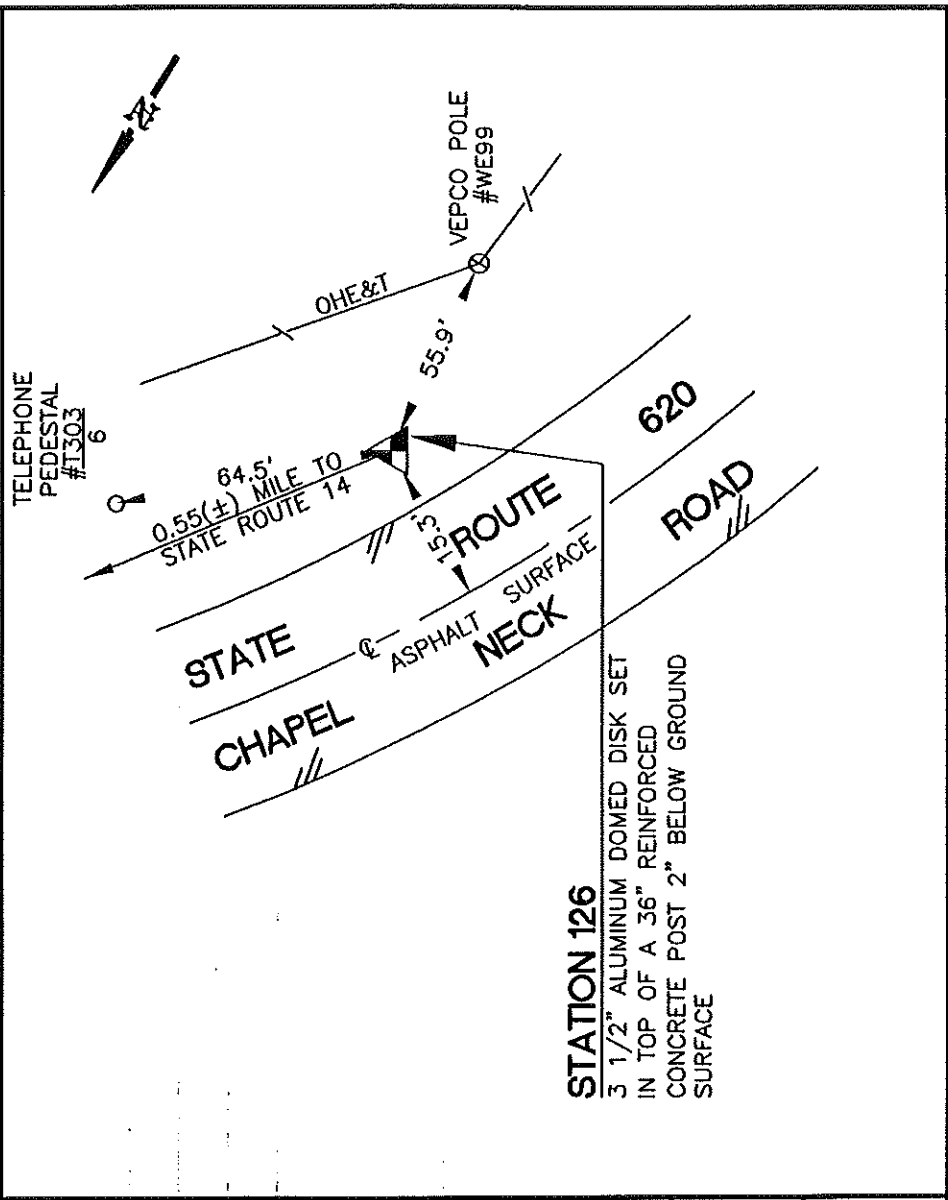
HORIZONTAL DATA			
VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE		LONGITUDE	
37° 26' 37.84363" N	76° 25' 10.70018" W		
UNITS	NORTHING	EASTING	
METERS	1125267.415	3684069.734	
U.S. SURVEY FT.	3691814.843	12086818.785	
CONVERGENCE: + 01° 15' 45.44"			

SCALE FACTOR: 0.99994629			
REFERENCE AND AZIMUTH MARK LOCATIONS			
OBJECTS	BEARING	DISTANCE	
125	S30°06'12.5"W	1400.27'	

VERTICAL DATA		
NAVD 88	NAVD 88	
ELEVATION IN METERS	ELEVATION IN FEET	
2.78	9.1	
(GPS DERIVED)	(GPS DERIVED)	

STATION NUMBER:	
126	

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
 (JUNE 2002)



(JUNE 2002)

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 27' 07.03084" N 76° 25' 41.27446" W

UNITS NORTHING EASTING

METERS 1126150.450 3683298.664

U.S. SURVEY FT. 3694711.936 12084289.032

CONVERGENCE: + 01° 15' 26.89"

SCALE FACTOR: 0.99994648

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS BEARING DISTANCE

N/A

VERTICAL DATA

NAVD 88 NAVD 88

ELEVATION IN METERS ELEVATION IN FEET

3.64 11.9

(GPS DERIVED) (GPS DERIVED)

STATION NUMBER:

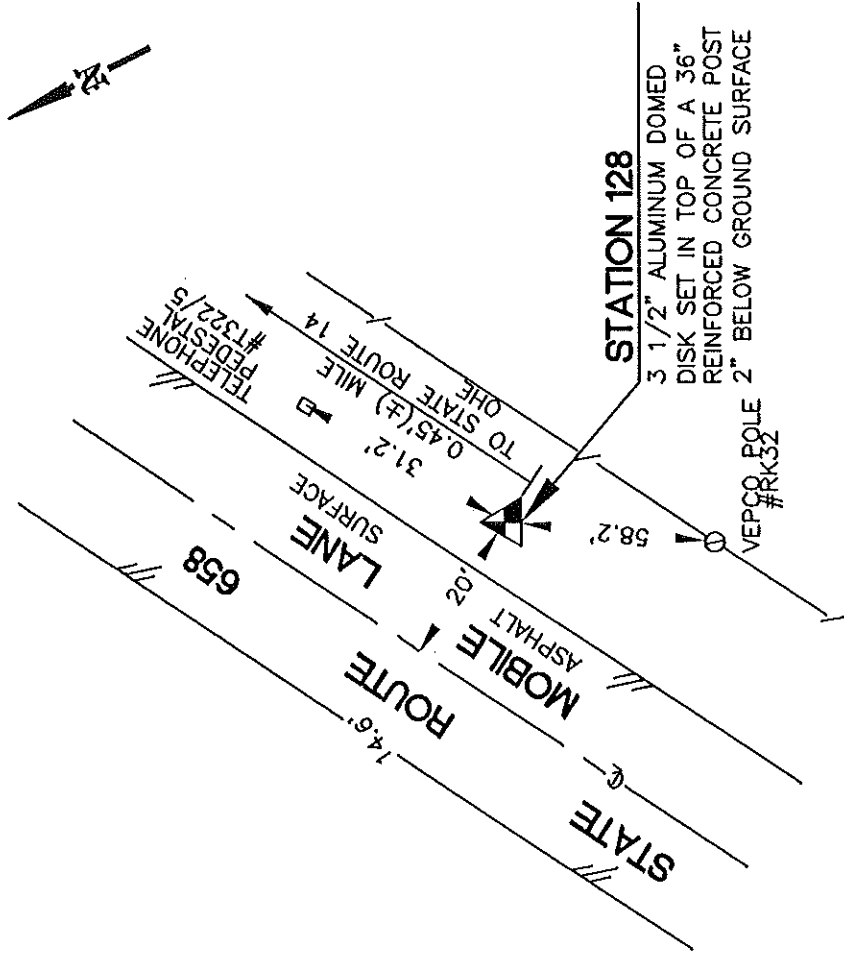
128

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 14 (JOHN CLAYTON MEMORIAL PARKWAY) AND STATE ROUTE 658 (MOBILE LANE), PROCEED SOUTH 0.45 MILES ON STATE ROUTE 658. THE STATION IS LOCATED IN THE SOUTH SHOULDER OF STATE ROUTE 658. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 128".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 28' 58.44836" N	76° 26' 36.92937" W				
UNITS	NORTHING	EASTING			
METERS	1129554.501	3681856.343			
U.S. SURVEY FT.	3705880.058	12079557.020			
CONVERGENCE: + 01° 14' 53.11"					
SCALE FACTOR: 0.99994742					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS	BEARING	DISTANCE			
130	S20°49'25.7"W	1444.28'			
VERTICAL DATA					
NAVD 88	NAVD 88				
ELEVATION IN METERS	ELEVATION IN FEET				
12.23	40.1				
(GPS DERIVED)	(GPS DERIVED)				
STATION NUMBER:					
129					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

LOCATION SKETCH (NOT TO SCALE)

COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM			
SOUTH ZONE (4502) NAD83(1993) VA HARN			
LATITUDE	LONGITUDE		
37° 28' 45.21503" N	76° 26' 43.66250" W		
UNITS	NORTHING	EASTING	
METERS	1129143.039	3681699.848	
U.S. SURVEY FT.	3704530.120	12079043.585	

CONVERGENCE: + 01° 14' 49.02"

SCALE FACTOR: 0.99994730

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
129	N20°49'25.7"E	1444.28'

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
8.87	29.1
(GPS DERIVED)	(GPS DERIVED)

STATION NUMBER:

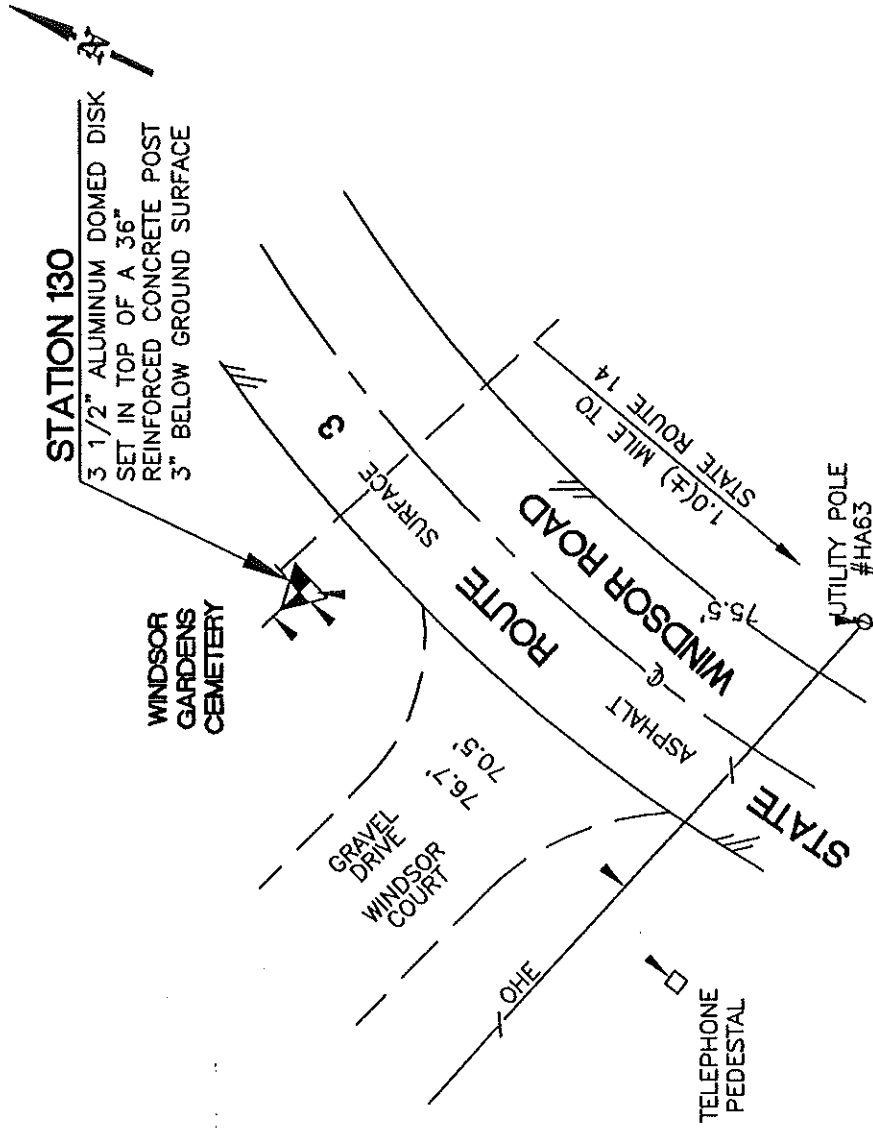
130

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
 (JUNE 2002)

TO REACH DESCRIPTION

TO REACH THE STATION FROM THE INTERSECTION OF STATE ROUTE 14 (JOHN CLAYTON MEMORIAL HIGHWAY) AND STATE ROUTE 3 (WINDSOR ROAD), PROCEED NORTH 1.0 MILES ON STATE ROUTE 3. THE STATION IS LOCATED IN THE WEST SHOULDER OF STATE ROUTE 3 IN FRONT OF "WINDSOR GARDENS CEMETERY". THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 2" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 130".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA

VIRGINIA COORDINATE SYSTEM
SOUTH ZONE (4502) NAD83(1993) VA HARN

LATITUDE LONGITUDE

37° 25' 50.65120" N 76° 26' 08.25353" W

UNITS NORTHING EASTING

METERS 1123781.874 3682687.243

U.S. SURVEY FT. 3686941.033 12082283.062

CONVERGENCE: + 01° 15' 10.51"

SCALE FACTOR: 0.99994601

REFERENCE AND AZIMUTH MARK LOCATIONS

OBJECTS	BEARING	DISTANCE
N/A		

VERTICAL DATA

NAVD 88	NAVD 88
ELEVATION IN METERS	ELEVATION IN FEET
2.24	7.4
(GPS DERIVED)	(GPS DERIVED)

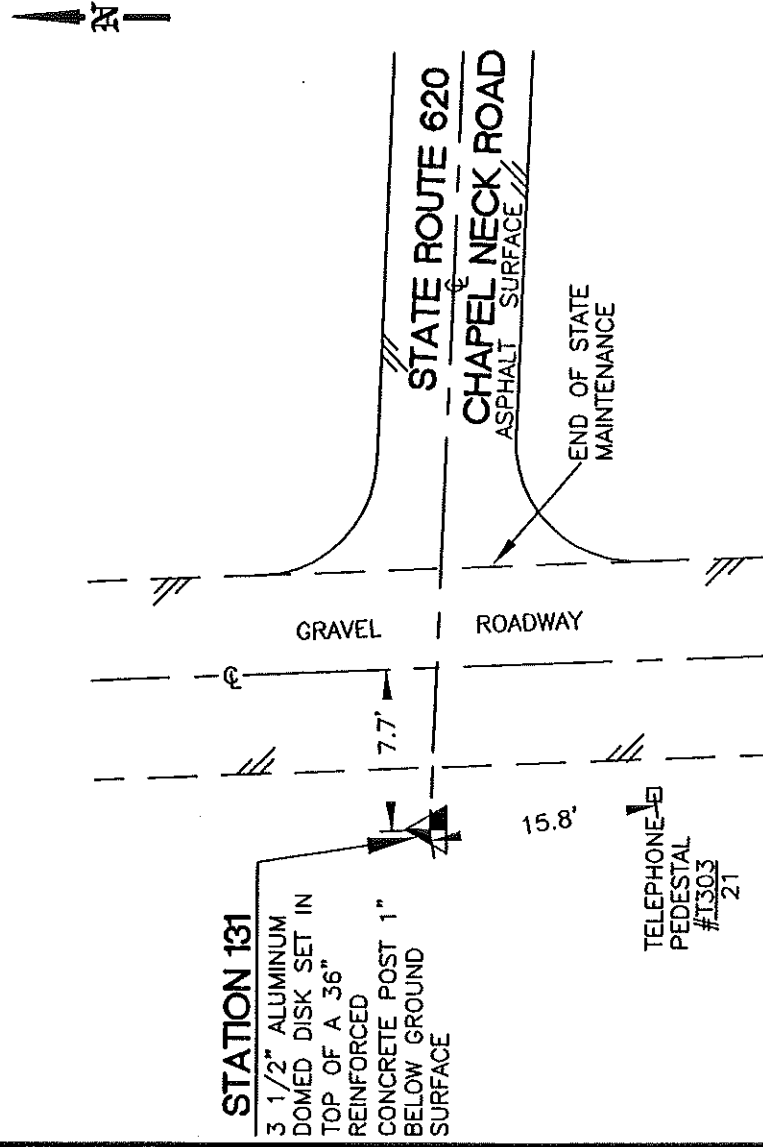
STATION NUMBER: 131

GPS SERVICES PROVIDED BY:
ROUSE-SIRINE ASSOCIATES, LTD.
(JUNE 2002)

TO REACH DESCRIPTION

THE STATION IS LOCATED AT THE WESTERMOST END OF STATE ROUTE 620 (CHAPEL NECK ROAD) ALONG THE CENTERLINE OF CHAPEL NECK ROAD PROJECTED. THE MONUMENT IS A 3 1/2" ALUMINUM DOMED DISK SET 1" BELOW THE GROUND SURFACE IN THE TOP OF A 36" REINFORCED CONCRETE POST. STAMPED "COUNTY OF MATHEWS, PLANNING AND ZONING, NO. 131".

LOCATION SKETCH (NOT TO SCALE)



COUNTY OF MATHEWS 2002 GEODETIC SURVEY MARK REFERENCE AND RECOVERY DATA

HORIZONTAL DATA				TO REACH DESCRIPTION	
VIRGINIA COORDINATE SYSTEM					
SOUTH ZONE (4502) NAD83(1993) VA HARN					
LATITUDE		LONGITUDE			
37° 30' 09.10788" N		76° 24' 57.30279" W			
UNITS		NORTHING		EASTING	
METERS		1131785.937		3684255.189	
U.S. SURVEY FT.		3713201.028		12087427.233	
CONVERGENCE: + 01° 15' 53.57"					
SCALE FACTOR: 0.99994817					
REFERENCE AND AZIMUTH MARK LOCATIONS					
OBJECTS		BEARING		DISTANCE	
N/A					
VERTICAL DATA					
NAVD 88		NAVD 88			
ELEVATION IN METERS		ELEVATION IN FEET			
12.27		40.3			
(GPS DERIVED)		(GPS DERIVED)			
STATION NUMBER:					
132					
GPS SERVICES PROVIDED BY:					
ROUSE-SIRINE ASSOCIATES, LTD.					
(JUNE 2002)					

LOCATION SKETCH (NOT TO SCALE)	

