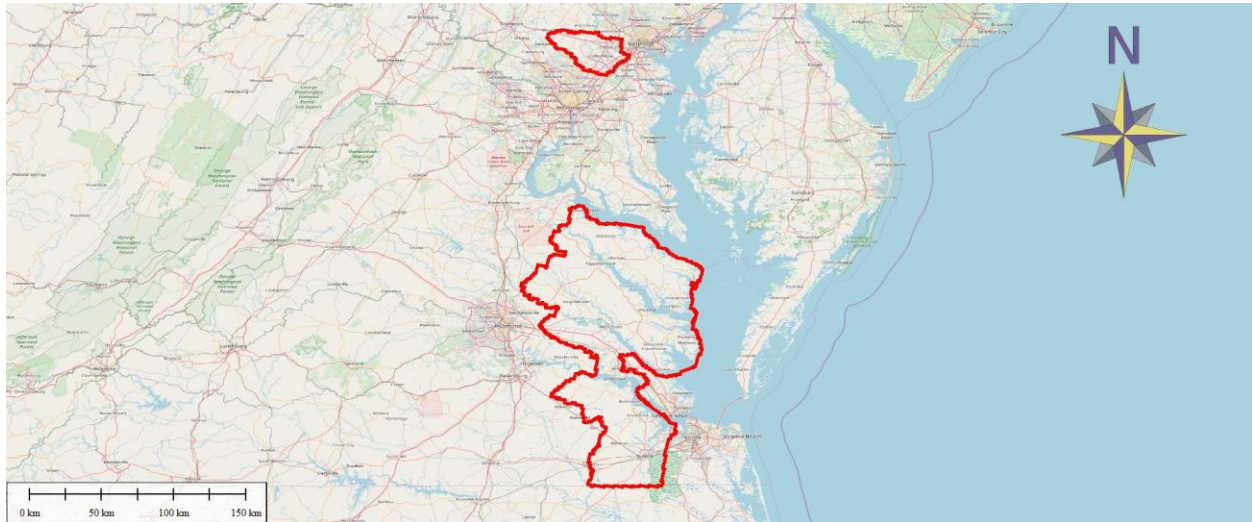


REPORT OF SURVEY
United States Geological Survey
Ground Control Report
Central Maryland and Eastern Virginia
QL2 LIDAR



Performed by:

TerraSurv

For:

Fugro Geospatial

Contents

Figures.....	2
Tables.....	2
INTRODUCTION.....	3
CONTROL.....	4
STATIONS.....	4
METHODOLOGY.....	10
WOODS VVA-F CHECK POINTS.....	25
CENTERPOINT RTX SURVEYS.....	25
LEAST SQUARES ADJUSTMENTS.....	25
SUMMARY.....	32
Adjusted Coordinates.....	33

Figures

Figure 1 – Maryland Project Area.....	3
Figure 2 - Virginia Project Area.....	4

Tables

Table 1 - Map Symbology and Control Quantity.....	3
Table 2 - Station List.....	4
Table 3 - VRS Occupation Summary.....	11
Table 4 - Repeat Baseline Analysis (meters).....	20
Table 5 - RTX Observations.....	25
Table 6 - Station Confidence Regions (95% meters).....	25
Table 7 - Geodetic Coordinates & UTM15 Coordinates.....	33
Table 8 - Maryland State Plane Coordinates.....	43
Table 9 - Virginia South Zone State Plane Coordinates.....	45
Table 10 - Albers Equal Area EPSG 6350 Coordinates.....	53

REPORT OF SURVEY

USGS MARYLND QL1 LIDAR

INTRODUCTION

Terrasurv, Inc of Pittsburgh, PA was tasked by Fugro Geospatial with performing a control survey in support of LiDAR data collection covering two areas for QL2 LiDAR in central Maryland and eastern Virginia. The project consisted of two parts: ground control (GCP) and quality control (VVA/NVA). The map in figure 1 shows the Maryland portion of the project and figure 2 shows the Virginia portion of the project. The control symbology for figures 1 and 2 are listed in table 1.

Table 1 - Map Symbology and Control Quantity

Type	Symbol	MD Quantity	VA Quantity
Ground Control (GCP)	Green dot	5	26
Non-Vegetated (VVA)	Red dot	19	109
Vegetated (VVA)	Red X	1	16
Woods (VVA-F)	Yellow X	14	65
CORS	Red cross		

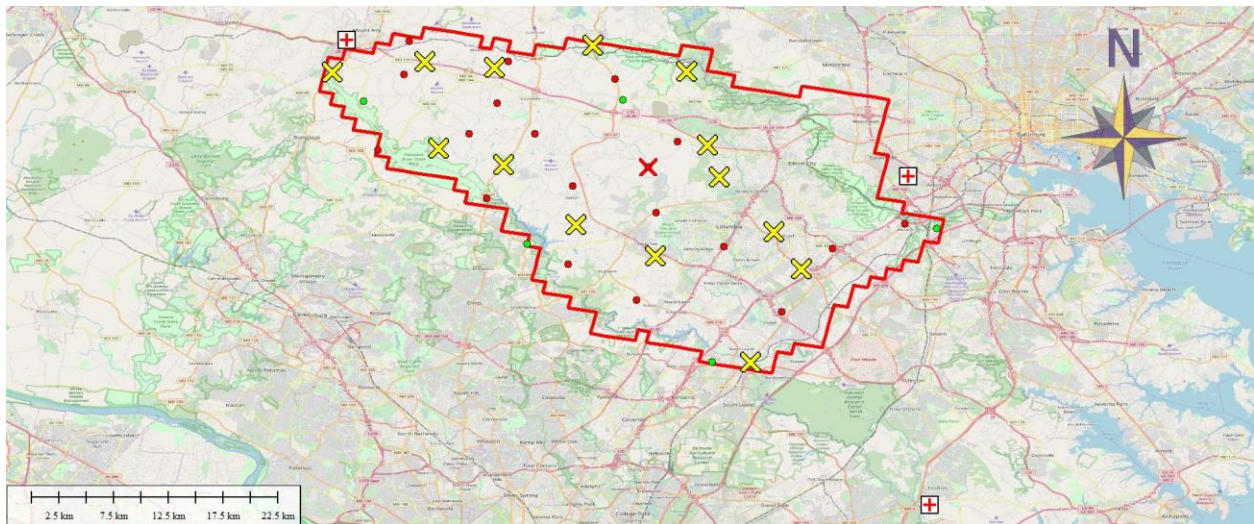


Figure 1 – Maryland Project Area

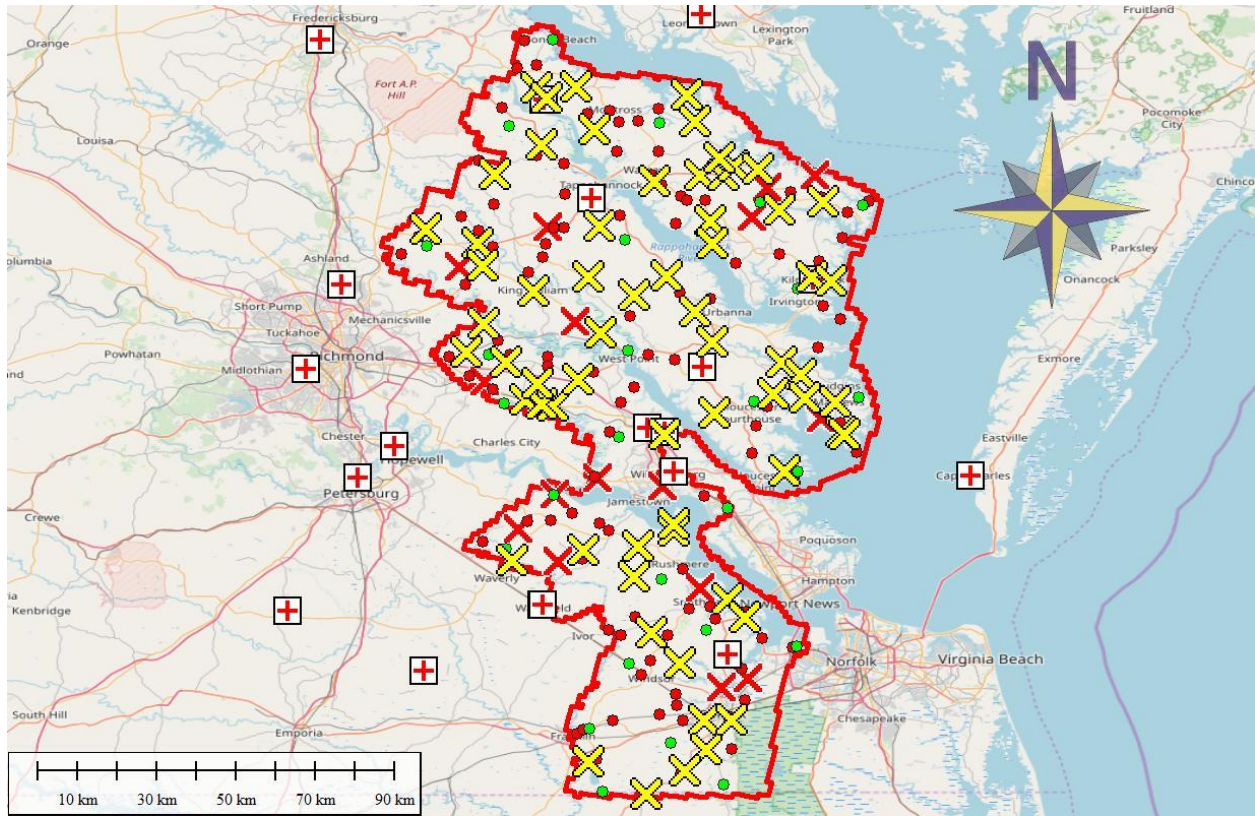


Figure 2 - Virginia Project Area

CONTROL

The National Spatial Reference System (NSRS) was used to provide control for the network. Two Real Time Networks (RTN) were used: Keynet (Trimble) and Smartnet (Leica). The horizontal datum was the North American Datum of 1983 – NAD83 (2011), epoch 2010.0. The vertical datum was the North American Vertical Datum of 1988 (NAVD88), realized with the GEOID12B geoid model from the National Geodetic Survey (NGS).

STATIONS

Table 2 lists the stations established in this survey, including the GCP, NVA, VVA, and VVA-F. Not listed are the temporary traverse stations established to enable survey of VVA-F points in wooded areas.

Table 2 - Station List

Station Name	GPSID	USGS Quad	Description
MD-01	19010AA	DAMASCUS	asphalt parking lot surface on west side of Long Corner Road
MD-02	19010AB	SANDY SPRING	broken asphalt surface in driveway to multiple dwellings on north side of route 650
MD-03	19010AC	SYKESVILLE	mowed grass at church/school on north side of Old Frederick Road
MD-04	19010AD	LAUREL	asphalt at west end of Beall Road

Station Name	GPSID	USGS Quad	Description
MD-09	19010AE	RELAY	pavement on north side of Furnace Road just west of 90° bend
MD-NVA-01	19010AF	CLARKSVILLE	asphalt cul-de-sac at west end of Cortina Drive
MD-NVA-02	19010AG	SAVAGE	asphalt cul-de-sac at east end of Owen Brown Road on west side of sound wall barrier
MD-NVA-03	19010AH	WOODBINE	asphalt in cul-de-sac at east end of Pheasant Ridge Court
MD-NVA-04	19010AI	WOODBINE	asphalt cul-de-sac at east end of Kings Forest Trail
MD-NVA-05	19010AJ	DAMASCUS	mowed grass on NW side of SR 94 and east side of Annapolis Rock Lane
MD-NVA-06	19010AK	SANDY SPRING	gravel parking lot on south side of river
MD-NVA-07	19010AL	WOODBINE	asphalt cul-de-sac at south end of Woodcamp Road
MD-NVA-08	19010AM	WOODBINE	asphalt cul-de-sac at south end of Saddlebred Court
MD-NVA-09	19010AN	CLARKSVILLE	asphalt cul-de-sac at NE end of Middle Patuxent Court
MD-NVA-10	19010AO	SAVAGE	asphalt cul-de-sac at south end of Winterbrook Lane
MD-NVA-11	19010AP	SAVAGE	asphalt cul-de-sac at west end of Huntshire Drive
MD-NVA-12	19010AQ	RELAY	asphalt cul-de-sac at north end of N Meyer Drive
MD-NVA-13	19010AR	SYKESVILLE	asphalt cul-de-sac at east end of Stardust Lane
MD-NVA-14	19010AS	SYKESVILLE	asphalt cul-de-sac for Heritage Farms Court on east side of MD 32
MD-NVA-15	19010AT	CLARKSVILLE	asphalt cul-de-sac at SE end of Fulton Estates Court
MD-NVA-16	19010AU	WOODBINE	asphalt cul-de-sac at east end of The Old Station Court
MD-NVA-17	19010AV	WOODBINE	asphalt cul-de-sac at north end of Foxpaw Trail
MD-NVA-18	19010AW	CLARKSVILLE	asphalt cul-de-sac at south end of Oakwood Overlook Court
MD-VVA-01	19010AX	SYKESVILLE	VVA=fallow corn field on south side of Carroll Mill Road
MD-VVA-F01	19010TA	DAMASCUS	woods
MD-VVA-F02	19010TB	WOODBINE	woods
MD-VVA-F03	19010TC	WOODBINE	woods
MD-VVA-F04	19010TD	WOODBINE	woods
MD-VVA-F05	19010TE	WOODBINE	woods
MD-VVA-F06	19010TF	CLARKSVILLE	woods
MD-VVA-F07	19010TG	SYKESVILLE	woods
MD-VVA-F08	19010TH	CLARKSVILLE	woods
MD-VVA-F09	19010TI	SYKESVILLE	woods
MD-VVA-F10	19010TJ	SYKESVILLE	woods
MD-VVA-F12	19010TL	ELLICOTT CITY	woods
MD-VVA-F13	19010TM	LAUREL	woods
MD-VVA-F14	19010TN	SAVAGE	woods
MD-VVA-F15	19010TO	SAVAGE	woods
VA-01	19011TFW	HANOVER	bare gravel
VA-02	19011TFH	TUNSTALL	bare asphalt
VA-03	19011TAB	WAVERLY	BARE=center of intersection of Laurel Drive and CR601 and CR607
VA-04	19011TEU	PROVIDENCE FORGE	bare gravel
VA-05	19011JHH	LORETTO	dirt drive
VA-06	19011TAH	CLAREMONT	GRASS=north side of the parking lot for the US Post Office on the east side of CR646
VA-07	19011JAB	COLONIAL BEACH NORTH	gravel/concrete/dirt parking lot
VA-08	19011TBW	FRANKLIN	BARE=gravel parking area on the north side of Carrsville Highway and SMP Sheet Metal Products
VA-09	19011TCD	GATES	BARE=north side of Old County Road 745 on the north side of Camp Pond Road
VA-10	19011TDZ	NORGE	BARE=southeast corner of a basketball court on the south side of Chickahominy Road
VA-11	19011TBS	ZUNI	BARE=asphalt drive on the north side of Ecella Road and just east of a set of railroad tracks
VA-12	19011JEP	DUNNSVILLE	gravel road
VA-13	19011JEI	WEST POINT	pavement in cul-de-sac

Station Name	GPSID	USGS Quad	Description
VA-14	19011TBF	BACONS CASTLE	BARE=southeast quad of the intersection of Burwells Bay Road and Moonlight Road
VA-15	19011TCQ	BUCKHORN	BARE=centerline of a dirt track to the north off of Porterfield Lane
VA-16	19011JBG	MACHODOC	crushed gravel
VA-17	19011TBI	BENNS CHURCH	GRASS=north end of a grass island at the intersection of Bowling Green Road and Longview Drive
VA-18	19011TCL	CORAPEAKE	BARE=south side of Deer Forest Road at the concrete drive to the south and #5150 just east from Carolina Road
VA-19	19011TDU	YORKTOWN	BARE=center of an access drive and on the north side of a small parking area for an old train station on the north side of Elmhurst Street
VA-20	19011JGO	GLOUCESTER	pavement
VA-21	19011JCH	HEATHSVILLE	pavement
VA-22	19011TDL	NEWPORT NEWS SOUTH	BARE=center of the Compton Court cul-de-sac
VA-23	19011JGQ	ACHILLES	pavement
VA-24	19011JCY	IRVINGTON	pavement in parking lot
VA-25	19011JFU	MATHEWS	gravel road
VA-26	19011JCT	BURGESS	pavement
VA-NVA-001	19011JCV	REEDVILLE	pavement in cul-de-sac
VA-NVA-002	19011TFX	HANOVER	bare asphalt
VA-NVA-003	19011TFV	HANOVER	bare gravel
VA-NVA-004	19011TBR	RAYNOR	BARE=edge of a dirt drive to the north of Warrigue Road
VA-NVA-005	19011TBY	FRANKLIN	GRASS=island on the east side of Lawn Road and south side of Pine Grove Street
VA-NVA-006	19011TBU	ZUNI	BARE=center of a dirt field access to the north of W Blackwater Road
VA-NVA-007	19011JFF	URBANNA	gravel road
VA-NVA-008	19011TBQ	RAYNOR	BARE=gravel centerline of a track road to the south off Broadwater Road
VA-NVA-009	19011TFQ	MANQUIN	bare asphalt
VA-NVA-010	19011JDV	MILLERS TAVERN	gravel
VA-NVA-011	19011TCS	BUCKHORN	BARE=dirt area on the south side of Indian Trail
VA-NVA-012	19011JHC	CAUTHORNVILLE	packed gravel parking lot
VA-NVA-013	19011TGC	BEULAHVILLE	bare asphalt
VA-NVA-014	19011JGR	ACHILLES	gravel
VA-NVA-015	19011JGT	GLOUCESTER	pavement in parking lot
VA-NVA-016	19011JBA	HAYNESVILLE	gravel
VA-NVA-017	19011JAS	MONTROSS	pavement
VA-NVA-018	19011JCU	BURGESS	pavement in cul-de-sac
VA-NVA-019	19011TBK	BENNS CHURCH	BARE=center of an asphalt intersection of Magruder Road and Crescent Drive
VA-NVA-020	19011JCS	REEDVILLE	gravel road
VA-NVA-021	19011JGN	WARE NECK	rough pavement
VA-NVA-022	19011TEG	TOANO	BARE=dirt on the east side of Holly Fork Road and south side of Holly Farm Road
VA-NVA-023	19011TDH	CHUCKATUCK	BARE=center of the Raven Street cul-de-sac
VA-NVA-024	19011TGD	AYLETT	bare asphalt
VA-NVA-025	19011JBF	HAYNESVILLE	gravel parking lot
VA-NVA-026	19011TAG	SAVEDGE	BARE=center of a field access track to the west of Salisbury Road
VA-NVA-027	19011TBX	FRANKLIN	BARE=centerline of a gravel access road to the Isle of Wright County Airport
VA-NVA-028	19011JCX	IRVINGTON	pavement in cul-de-sac
VA-NVA-029	19011JHD	MOUNT LANDING	pavement in crossover
VA-NVA-030	19011TBL	SMITHFIELD	BARE=asphalt area on the north side of US258 and opposite the Isle of Wright Post Office

Station Name	GPSID	USGS Quad	Description
VA-NVA-031	19011JGF	NEW POINT COMFORT	sand road
VA-NVA-032	19011JDH	LANCASTER	pavement in parking lot
VA-NVA-033	19011JDS	HAYNESVILLE	pavement in parking lot
VA-NVA-034	19011TAJ	CLAREMONT	BARE=east side of the intersection of Colonial Trail W and Swanns Point Road and Martin Luther King Highway
VA-NVA-035	19011JCZ	FLEETS BAY	pavement in cul-de-sac
VA-NVA-036	19011TFI	QUINTON	bare asphalt
VA-NVA-037	19011TBH	SMITHFIELD	BARE=centerline of an asphalt drive to Smithfield Dentist office on the north side of US258
VA-NVA-038	19011TCH	WHALEYVILLE	BARE=center of a gravel drive and parking area for Suffolk County Park and play area on the north side of US13 and behind the Whaleyville Fire Department
VA-NVA-039	19011TAN	DENDRON	GRASS=area on the west side of Hollybush Road and in front of the high school
VA-NVA-040	19011JEL	TRUHART	bare dirt
VA-NVA-041	19011TDQ	BENNS CHURCH	BARE=center of the Fox Chase Court cul-de-sac
VA-NVA-042	19011TAK	CLAREMONT	BARE=gravel pull off on the west side of Beaver Dam Road and north side of Swanns Point Road
VA-NVA-043	19011TCR	BUCKHORN	BARE=asphalt parking lot for Piney Grove Baptist Church on the south side of Deer Path Road
VA-NVA-044	19011JDU	MOUNT LANDING	bare dirt/sparse grass
VA-NVA-045	19011TDD	SUFFOLK	BARE=centerline intersection of Adams Street and a drive to the south to a school
VA-NVA-046	19011TCZ	SUFFOLK	BARE=center of the Deer Run Court cul-de-sac
VA-NVA-047	19011TCY	BUCKHORN	BARE=centerline of a dirt road in a trailer park on the north side of US 58
VA-NVA-048	19011TBV	HOLLAND	BARE=south end of asphalt parking lot for the US Post Office in Carrsville on the south side of Carrsville highway
VA-NVA-049	19011TCM	SUFFOLK	BARE=centerline of Washington Ditch and on the east side of White Marsh Road
VA-NVA-050	19011TGB	BEULAHVILLE	bare gravel
VA-NVA-051	19011JAC	ROLLINS FORK	paved parking lot
VA-NVA-052	19011JAU	MONTROSS	mowed grass
VA-NVA-053	19011JEK	SHACKLEFORDS	pavement
VA-NVA-054	19011TBJ	BENNS CHURCH	GRASS=north end of the athletic fields on the south side of the parking lots for the Smithfield High School
VA-NVA-055	19011JCW	REEDVILLE	gravel parking lot
VA-NVA-056	19011JFM	DELTAVILLE	gravel parking lot
VA-NVA-057	19011TDM	NEWPORT NEWS SOUTH	BARE=center of the entrance drive to Smithfield Gardens on the south die of Bridge Road
VA-NVA-058	19011JDI	URBANNA	gravel parking lot
VA-NVA-059	19011TBZ	HOLLAND	BARE=gravel pull off on the east side of S Quay Road and north of the intersection with Gates Road
VA-NVA-060	19011TFM	TUNSTALL	bare asphalt
VA-NVA-061	19011JDR	HAYNESVILLE	pavement in parking lot
VA-NVA-062	19011JDQ	LOTTSBURG	old pavement
VA-NVA-063	19011TDY	NORGE	grass
VA-NVA-064	19011TDJ	CHUCKATUCK	BARE=northeast side of Lighthouse drive and Rivercliff Crescent E
VA-NVA-065	19011JEJ	WEST POINT	mowed grass
VA-NVA-066	19011JEA	KING WILLIAM	gravel/dirt
VA-NVA-067	19011JHI	LORETTO	pavement in crossover
VA-NVA-068	19011TET	PROVIDENCE FORGE	bare asphalt
VA-NVA-069	19011TDK	NEWPORT NEWS SOUTH	BARE=northwest of the Bank of America parking lot on the west side of College Drive
VA-NVA-070	19011JAV	MONTROSS	pavement
VA-NVA-071	19011JGY	SPARTA	dirt/sparse grass
VA-NVA-072	19011JAT	MONTROSS	bare ground

Station Name	GPSID	USGS Quad	Description
VA-NVA-073	19011TEH	NEW KENT	BARE=center of a gravel road to the east off Angelview Lane and just north of the intersection with New Kent Highway
VA-NVA-074	19011JDZ	MILLERS TAVERN	gravel drive
VA-NVA-075	19011JDP	MORATTICO	pavement
VA-NVA-076	19011TEM	NEW KENT	BARE=center of an asphalt pull-off on the east side of Cumberland Road and just south of the entrance gates to 2 private drives
VA-NVA-077	19011TAA	DISPUTANTA SOUTH	Gravel=centerline of a gravel track to the south of Laurel Drive
VA-NVA-078	19011JCM	HEATHSVILLE	pavement
VA-NVA-079	19011JAD	ROLLINS FORK	pavement in cul-de-sac
VA-NVA-080	19011JFD	CHURCH VIEW	pavement in crossover
VA-NVA-081	19011TEA	NORGE	BARE=north side of a dirt parking for a boat ramp at the Little Creek reservoir
VA-NVA-082	19011JDY	MILLERS TAVERN	gravel drive
VA-NVA-083	19011TER	ROXBURY	bare asphalt
VA-NVA-084	19011TEF	TOANO	BARE=center of the Turning Leaf Lane cul-de-sac
VA-NVA-085	19011JDW	MILLERS TAVERN	pavement
VA-NVA-086	19011TDV	HOG ISLAND	BARE=northwest part of an asphalt parking lot for the Mt Gilead Church on the south side of Church Street
VA-NVA-087	19011TBE	BACONS CASTLE	BARE=asphalt parking lot at the northeast quad of the intersection of Old Stage Highway and Burwells Bay Road
VA-NVA-088	19011JET	DUNNSVILLE	pavement in crossover
VA-NVA-089	19011JDT	MOUNT LANDING	gravel parking lot
VA-NVA-090	19011TEN	TUNSTALL	SPARSE=on the southeast quad of the intersection of Talleyvilles Road and Old Church Road
VA-NVA-091	19011JFQ	WARE NECK	pavement
VA-NVA-092	19011JAO	CHAMPLAIN	gravel road
VA-NVA-093	19011JGX	CAUTHORNVILLE	bare dirt
VA-NVA-094	19011JAH	CHAMPLAIN	pavement
VA-NVA-095	19011TEL	NEW KENT	BARE=parking lot for the community college and north of a baseball field
VA-NVA-096	19011JBH	MACHODOC	mowed grass
VA-NVA-097	19011TAM	SURRY	GRASS=grass area in front of the Lebanon Baptist Church on the north side of Lebanon Road
VA-NVA-098	19011TBT	WINDSOR	BARE=center of a gravel entrance to the Long-Term Vendor Parking at the Henry Bradby Fair Grounds
VA-NVA-099	19011TCU	WINDSOR	BARE=asphalt drive for a church on the west side of Orbit Road
VA-NVA-100	19011JFY	MATHEWS	packed gravel
VA-NVA-101	19011TAL	SURRY	BARE=centerline of Beaver Dam Road and north edge of Holly Dam Road
VA-NVA-102	19011TCT	WINDSOR	BARE=gravel area on the south side of Old Myrtle Road and on the east side of railroad tracks
VA-NVA-103	19011JDA	DELTAVILLE	pavement in cul-de-sac
VA-NVA-104	19011JGS	CLAY BANK	pavement in cul-de-sac
VA-NVA-105	19011JAA	DAHLGREN	gravel parking lot
VA-NVA-106	19011JBE	HAYNESVILLE	gravel parking area
VA-NVA-107	19011TBP	RAYNOR	BARE=center of an asphalt parking lot on the east side of Radnor Road and south side of a church
VA-NVA-108	19011TEB	TOANO	BARE=center of drive to parking for the Liberty Life Church on the north side of Croaker Road
VA-NVA-109	19011JCO	BURGESS	sparse grass
VA-VVA-01	19011TAI	CLAREMONT	BRUSH=vacant brush covered lot at the southwest corner of Mystic Ave and Bailey Road
VA-VVA-02	19011TES	PROVIDENCE FORGE	brush
VA-VVA-03	19011JDX	MILLERS TAVERN	high weeds
VA-VVA-04	19011TBG	BACONS CASTLE	BRUSH=on the south side of Griffin Lane and west side of Thomas Park Lane

Station Name	GPSID	USGS Quad	Description
VA-VVA-05	19011JCG	HEATHSVILLE	high weeds
VA-VVA-06	19011TDX	NORGE	BRUSH=on the north side of John Tyler Highway and south side of a bike path and opposite a drive
VA-VVA-07	19011JGG	MATHEWS	high weeds
VA-VVA-08	19011TDI	CHUCKATUCK	BRUSH=center of a brush uncut grass field on the north side of Capps Creek Road
VA-VVA-09	19011TDW	HOG ISLAND	BRUSH=on the south side of Marclay Drive and north of the hangers for an airport
VA-VVA-10	19011TCX	CHUCKATUCK	BRUSH on the northwest side of Godwin Blvd
VA-VVA-11	19011JCN	HEATHSVILLE	corn field (cut)
VA-VVA-12	19011JCI	LIVELY	high weeds
VA-VVA-13	19011TAO	DENDRON	BRUSH=on the south side of Blackwater Road on the inside of a bend in the road
VA-VVA-14	19011TAF	SAVEDGE	BRUSH=on the south side of Oak Hill Road and just southeast from the intersection with Laurel Drive
VA-VVA-15	19011TFU	MANQUIN	brush
VA-VVA-16	19011JEE	NEW KENT	brush
VA-VVA-F01	19011TEQ	TUNSTALL	woods
VA-VVA-F02	19011JCC	HAYNESVILLE	woods
VA-VVA-F03	19011TFL	QUINTON	woods
VA-VVA-F04	19011JBZ	LOTTSBURG	woods
VA-VVA-F05	19011TAR	DENDRON	WOODS=stand of pines on the north end of a small cemetery and on the west side of Hollybush Road
VA-VVA-F06	19011JCR	BURGESS	woods
VA-VVA-F07	19011JDO	LIVELY	woods
VA-VVA-F08	19011JFE	TRUHART	pine woods
VA-VVA-F09	19011TDC	BUCKHORN	WOODS=on the south end of Brians Lane
VA-VVA-F10	19011TCG	GATES	WOODS=on the southeast side of US13 and southwest side of Paige Riddick Road
VA-VVA-F11	19011TCP	SUFFOLK	woods
VA-VVA-F12	19011JGP	ACHILLES	very high brush
VA-VVA-F13	19011JES	DUNNSVILLE	woods
VA-VVA-F14	19011JAG	ROLLINS FORK	woods
VA-VVA-F15	19011TDT	BENNS CHURCH	WOODS=on the north side of the Carrollton Baptist cemetery
VA-VVA-F16	19011TBO	SMITHFIELD	WOODS=on the north side of Central Hill Road and opposite Central Hill Baptist church
VA-VVA-F17	19011TEX	PROVIDENCE FORGE	woods
VA-VVA-F18	19011JBT	LOTTSBURG	woods
VA-VVA-F19	19011JAR	MONTROSS	woods
VA-VVA-F20	19011JHB	CAUTHORNVILLE	woods
VA-VVA-F21	19011JGM	WARE NECK	woods
VA-VVA-F22	19011JFP	WILTON	woods
VA-VVA-F23	19011JDG	IRVINGTON	pine woods
VA-VVA-F24	19011JFI	CHURCH VIEW	woods
VA-VVA-F25	19011TFP	QUINTON	woods
VA-VVA-F26	19011JEO	KING AND QUEEN COURT HOUSE	woods
VA-VVA-F27	19011JBN	MACHODOC	woods
VA-VVA-F28	19011TGG	BEULAHVILLE	woods
VA-VVA-F29	19011TBA	HOG ISLAND	WOODS=on the north side of Landing Road and east edge of a high voltage power line ROW
VA-VVA-F30	19011TAU	RUNNYMEDE	WOODS=on the north side of Beechland Road
VA-VVA-F31	19011TBD	HOG ISLAND	WOODS=on the north side of an access road for the Hog Island generating Station and east side of a high voltage power line ROW
VA-VVA-F32	19011TCC	RIVERDALE	WOODS=south side of Wildwood Drive and south side of Wyanoke trail
VA-VVA-F33	19011JFT	WARE NECK	woods

Station Name	GPSID	USGS Quad	Description
VA-VVA-F34	19011JCF	LOTTSBURG	woods
VA-VVA-F35	19011JAK	CHAMPLAIN	woods
VA-VVA-F36	19011TFD	WALKERS	woods
VA-VVA-F37	19011TEK	WALKERS	WOODS=on the west side of a county yard and north side of Stage Road
VA-VVA-F38	19011JCL	LANCASTER	pine woods
VA-VVA-F39	19011TDG	SUFFOLK	woods
VA-VVA-F40	19011JGB	NEW POINT COMFORT	woods
VA-VVA-F41	19011JBD	HAYNESVILLE	woods
VA-VVA-F42	19011JED	KING WILLIAM	woods
VA-VVA-F43	19011TEE	WILLIAMSBURG	WOODS=on the west side of Newman road and opposite the entrance gates to KOA Campground
VA-VVA-F44	19011JDD	FLEETS BAY	woods
VA-VVA-F45	19011JHG	CHAMPLAIN	woods
VA-VVA-F46	19011JFC	CHURCH VIEW	woods
VA-VVA-F47	19011JEH	WEST POINT	woods
VA-VVA-F48	19011TFT	MANQUIN	woods
VA-VVA-F49	19011TCW	WINDSOR	WOODS=on the west side of a cemetery at a church on the west side of Orbit Road
VA-VVA-F50	19011JDL	LIVELY	woods
VA-VVA-F51	19011TCK	WHALEYVILLE	WOODS=on the west side of Great Fork Road and north side of a Church
VA-VVA-F52	19011TGA	HANOVER	woods
VA-VVA-F53	19011JBQ	LOTTSBURG	woods
VA-VVA-F54	19011TAX	RUNNYMEDE	WOODS=on the south side of Golden Hill Road and at a small electric utility box
VA-VVA-F55	19011TFA	WALKERS	woods
VA-VVA-F56	19011TDP	BENNS CHURCH	WOODS=on the south side of Carrollton Blvd and south of the Carrollton Baptist Church
VA-VVA-F57	19011TAE	WAVERLY	WOODS=on the south side of Laurel Dr and the intersection with Martin Luther King Hwy
VA-VVA-F58	19011JAN	COLONIAL BEACH SOUTH	woods
VA-VVA-F59	19011JGW	GLOUCESTER	woods
VA-VVA-F60	19011JGJ	WARE NECK	woods
VA-VVA-F61	19011JFL	SALUDA	woods
VA-VVA-F62	19011JBK	SAINTE CLEMENTS ISLAND	woods
VA-VVA-F63	19011JGE	NEW POINT COMFORT	woods
VA-VVA-F64	19011TFG	PROVIDENCE FORGE	woods
VA-VVA-F65	19011JFX	MATHEWS	woods

The stations were not permanently marked.

METHODOLOGY

The field survey was done by using two Trimble R10 dual frequency, multi-constellation GNSS receivers in a real time (RTK/VRS) mode. Corrections were obtained from the [KeyNetGPS](#) VRS and the [Smartnet](#) (Leica) networks with corrections delivered over the cellular network. These corrections are applied in real time, and used by the rover receivers to converge to a cm level solution. Each station was occupied once for 3 minutes (180 epochs), then re-initialized and

occupied a second time immediately after the first occupation. The solutions are stored as vectors from the nearest physical CORS. Table 3 summarizes the VRS occupations (precisions in meters):

Table 3 - VRS Occupation Summary

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19010AA	02/13/2019 14:40:32	14:43:31	0.016	0.024	14	1.4	
19010AA	02/13/2019 14:43:53	14:46:52	0.008	0.013	9	1.9	
19010AJ	02/13/2019 14:59:34	15:02:33	0.006	0.010	11	2.3	
19010AJ	02/13/2019 15:02:49	15:05:48	0.006	0.011	8	2.3	
19010AH	02/13/2019 15:19:27	15:22:26	0.006	0.012	14	1.5	
19010AH	02/13/2019 15:22:46	15:25:45	0.005	0.009	8	2.2	
19010AL	02/13/2019 15:39:45	15:42:44	0.006	0.011	13	1.5	
19010AL	02/13/2019 15:43:08	15:46:07	0.007	0.012	13	1.6	
19010AI	02/13/2019 16:00:27	16:03:26	0.006	0.009	14	1.3	
19010AI	02/13/2019 16:03:51	16:06:50	0.007	0.011	13	1.4	
19010AU	02/13/2019 16:22:26	16:25:25	0.008	0.011	10	2.1	
19010AU	02/13/2019 16:25:46	16:28:45	0.013	0.017	11	1.9	
19010AS	02/13/2019 16:51:18	16:54:17	0.006	0.009	11	1.8	
19010AS	02/13/2019 16:55:02	16:58:01	0.006	0.010	11	1.8	
19010AC	02/13/2019 17:02:17	17:05:16	0.005	0.009	12	1.7	
19010AC	02/13/2019 17:05:39	17:08:38	0.005	0.009	11	1.9	
19010AV	02/13/2019 17:22:22	17:25:21	0.009	0.018	11	1.9	
19010AV	02/13/2019 17:25:42	17:28:47	0.014	0.033	6	4.4	
19010AM	02/13/2019 17:37:26	17:40:25	0.005	0.009	15	1.4	
19010AM	02/13/2019 17:40:43	17:43:42	0.005	0.009	15	1.4	
19010AK	02/13/2019 18:00:47	18:03:50	0.008	0.015	14	1.6	
19010AK	02/13/2019 18:04:08	18:07:08	0.006	0.011	12	2.1	
19010AB	02/13/2019 18:15:02	18:18:01	0.005	0.009	13	1.6	
19010AB	02/13/2019 18:18:30	18:21:29	0.005	0.009	14	1.5	
19010AF	02/13/2019 18:32:31	18:35:30	0.006	0.010	12	2.0	
19010AF	02/13/2019 18:35:50	18:38:49	0.005	0.008	9	1.8	
19010AT	02/13/2019 18:49:28	18:52:27	0.007	0.011	12	2.0	
19010AT	02/13/2019 18:52:45	18:55:44	0.006	0.009	9	2.2	
19010AO	02/13/2019 19:12:46	19:15:45	0.007	0.009	14	1.5	
19010AO	02/13/2019 19:18:06	19:21:05	0.005	0.007	13	1.6	
19010AP	02/13/2019 19:35:42	19:38:41	0.004	0.005	14	1.6	
19010AP	02/13/2019 19:39:01	19:42:00	0.003	0.005	12	1.8	
19010AQ	02/13/2019 19:56:11	19:59:10	0.002	0.004	14	1.8	
19010AQ	02/13/2019 20:01:02	20:04:01	0.004	0.007	14	1.9	
19010AE	02/13/2019 20:13:23	20:14:29	0.004	0.007	15	1.5	
19010AE	02/13/2019 20:14:54	20:17:53	0.003	0.005	15	1.5	
19010AD	02/13/2019 20:47:21	20:50:30	0.005	0.014	7	3.1	
19010AD	02/13/2019 20:51:08	20:54:07	0.006	0.015	13	2.1	
19010AG	02/13/2019 21:12:19	21:15:18	0.006	0.015	12	2.3	
19010AG	02/13/2019 21:16:38	21:19:37	0.004	0.010	12	2.2	
19010AN	02/13/2019 21:31:09	21:33:45	0.007	0.014	8	2.0	
19010AN	02/13/2019 21:35:08	21:38:07	0.005	0.010	6	3.6	
19010AW	02/13/2019 21:53:27	21:56:26	0.006	0.010	13	1.7	
19010AW	02/13/2019 21:56:55	21:59:54	0.007	0.012	8	2.0	
19010AX	02/13/2019 22:10:54	22:13:53	0.006	0.010	9	1.9	
19010AX	02/13/2019 22:14:14	22:17:13	0.008	0.012	9	2.0	
19010AR	02/13/2019 22:25:20	22:28:24	0.012	0.019	8	2.4	
19010AR	02/13/2019 22:28:41	22:31:40	0.007	0.011	8	2.3	
19010TXA	03/20/2019 12:28:42	12:35:39	0.003	0.005	11	3.0	
19010TSA	03/20/2019 12:36:53	12:39:52	0.002	0.005	12	2.2	
19010TSB	03/20/2019 12:55:51	12:58:50	0.002	0.004	14	1.6	
19010TSB	03/20/2019 13:01:03	13:04:02	0.004	0.007	12	1.9	
19010TSD	03/20/2019 13:19:36	13:23:07	0.003	0.005	14	1.5	
19010TXD	03/20/2019 13:25:22	13:28:21	0.004	0.006	15	1.3	
19010TXC	03/20/2019 13:45:52	13:48:51	0.011	0.014	14	1.3	
19010TSC	03/20/2019 13:53:55	13:56:54	0.011	0.015	12	1.6	
19010TXE	03/20/2019 14:20:15	14:23:14	0.006	0.009	12	1.6	
19010TSE	03/20/2019 14:25:45	14:28:44	0.008	0.013	10	2.4	
19010TXF	03/20/2019 14:54:24	14:57:23	0.008	0.015	12	1.6	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19010TSF	03/20/2019 14:59:13	15:02:12	0.008	0.016	12	1.6	
19010TSF	03/20/2019 15:10:20	15:13:19	0.005	0.009	13	1.6	
19010TXF	03/20/2019 15:14:25	15:17:24	0.006	0.010	13	1.6	
19010TXF	03/20/2019 15:18:08	15:21:07	0.010	0.019	13	1.6	
19010TXF	03/20/2019 15:22:47	15:25:46	0.006	0.012	13	1.6	
19010TSH	03/20/2019 15:40:51	15:43:50	0.009	0.018	10	3.1	
19010TXH	03/20/2019 15:44:36	15:47:35	0.005	0.008	12	1.7	
19010TXG	03/20/2019 16:45:02	16:48:01	0.006	0.007	11	1.6	
19010TSG	03/20/2019 16:55:47	16:58:46	0.009	0.012	12	1.6	
19010TXI	03/20/2019 17:18:45	17:21:44	0.010	0.015	12	1.8	
19010TSI	03/20/2019 17:23:35	17:26:34	0.010	0.015	12	1.8	
19010TSJ	03/20/2019 17:47:30	17:50:29	0.005	0.008	12	1.6	
19010TXJ	03/20/2019 17:52:44	17:55:43	0.004	0.008	11	1.7	
19010TSL	03/20/2019 18:11:35	18:14:34	0.006	0.013	12	1.9	
19010TXL	03/20/2019 18:15:51	18:18:50	0.006	0.014	12	2.0	
19010TSN	03/20/2019 18:47:29	18:50:28	0.007	0.021	12	2.8	
19010TXN	03/20/2019 18:52:10	18:55:09	0.004	0.011	12	2.8	
19010TSO	03/20/2019 19:11:29	19:14:28	0.005	0.008	14	1.5	
19010TKO	03/20/2019 19:17:36	19:20:35	0.005	0.010	15	1.6	
19010TSM	03/20/2019 19:58:56	20:01:55	0.005	0.008	14	1.5	
19010TXM	03/20/2019 20:04:51	20:07:50	0.006	0.009	15	1.4	
19011TAA	03/21/2019 11:54:01	12:00:06	0.008	0.012	8	2.0	
19011TAA	03/21/2019 12:01:28	12:04:27	0.008	0.012	8	2.1	
19011TAB	03/21/2019 12:12:30	12:16:22	0.015	0.025	14	1.4	
19011TAB	03/21/2019 12:17:12	12:20:12	0.007	0.013	13	1.6	
19011TAB	03/21/2019 12:20:39	12:23:38	0.006	0.010	12	1.9	
19011TAC	03/21/2019 12:34:18	12:37:17	0.010	0.019	11	2.0	
19011TAD	03/21/2019 12:39:58	12:42:57	0.008	0.016	12	1.9	
19011TAD	03/21/2019 12:48:10	12:51:09	0.010	0.019	14	1.4	
19011TAD	03/21/2019 12:51:55	12:54:54	0.005	0.010	14	1.4	
19011TAC	03/21/2019 12:56:33	12:59:32	0.007	0.014	9	1.7	
19011TAF	03/21/2019 13:10:52	13:16:54	0.012	0.020	14	1.4	
19011TAF	03/21/2019 13:17:51	13:22:55	0.007	0.011	9	1.9	
19011TAG	03/21/2019 13:31:11	13:34:10	0.015	0.027	11	1.8	
19011TAG	03/21/2019 13:34:45	13:37:44	0.010	0.015	11	1.8	
19011TAH	03/21/2019 13:49:47	13:52:46	0.008	0.012	12	1.4	
19011TAH	03/21/2019 13:54:03	13:57:02	0.012	0.020	11	1.6	
19011TAI	03/21/2019 14:02:20	14:07:36	0.011	0.017	11	1.7	
19011TAI	03/21/2019 14:08:12	14:11:11	0.013	0.020	9	1.9	
19011TAJ	03/21/2019 14:20:20	14:23:19	0.009	0.015	10	1.9	
19011TAJ	03/21/2019 14:24:08	14:27:07	0.013	0.022	11	1.6	
19011TAM	03/21/2019 16:24:27	16:28:12	0.008	0.012	12	1.9	
19011TAM	03/21/2019 16:30:01	16:33:00	0.013	0.017	13	1.7	
19011TAM	03/21/2019 16:34:04	16:37:03	0.019	0.025	13	1.7	
19011TAM	03/21/2019 16:38:30	16:41:29	0.018	0.026	12	1.8	
19011TAN	03/21/2019 17:02:27	17:07:13	0.012	0.019	13	1.6	
19011TAN	03/21/2019 17:02:27	17:07:13	0.012	0.019	13	1.6	
19011TAN	03/21/2019 17:08:45	17:09:21	0.017	0.032	14	1.5	
19011TAN	03/21/2019 17:10:12	17:13:11	0.009	0.016	14	1.6	
19011TAN	03/21/2019 17:13:48	17:16:53	0.009	0.015	14	1.6	
19011TAO	03/21/2019 17:31:52	17:34:51	0.008	0.016	13	1.9	
19011TAO	03/21/2019 17:35:19	17:38:18	0.009	0.017	13	1.9	
19011TAP	03/21/2019 17:50:17	17:53:18	0.012	0.029	13	1.8	
19011TAQ	03/21/2019 17:55:41	17:58:40	0.006	0.012	14	1.7	
19011JAA	03/21/2019 17:58:15	18:01:20	0.014	0.028	12	1.7	
19011JAA	03/21/2019 18:01:46	18:04:45	0.007	0.015	11	1.8	
19011JAB	03/21/2019 18:15:38	18:18:41	0.004	0.010	14	1.7	
19011JAB	03/21/2019 18:19:09	18:22:08	0.004	0.010	13	1.8	
19011TAS	03/21/2019 18:29:08	18:32:07	0.008	0.027	12	2.4	
19011JAC	03/21/2019 18:31:06	18:34:05	0.005	0.013	14	1.8	
19011JAC	03/21/2019 18:34:34	18:37:33	0.005	0.013	11	2.6	
19011TAT	03/21/2019 18:34:39	18:37:53	0.009	0.023	13	2.4	
19011JAD	03/21/2019 18:46:01	18:49:12	0.009	0.029	10	2.3	
19011JAD	03/21/2019 18:50:15	18:53:14	0.011	0.026	11	2.0	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19011TAV	03/21/2019 19:01:14	19:02:57	0.010	0.021	13	1.7	
19011TAV	03/21/2019 19:04:18	19:07:17	0.009	0.022	13	1.7	
19011JAE	03/21/2019 19:05:21	19:05:57	0.003	0.006	16	1.2	
19011JAE	03/21/2019 19:06:20	19:09:55	0.003	0.007	14	1.6	
19011TAW	03/21/2019 19:09:02	19:12:01	0.006	0.012	12	1.8	
19011JAF	03/21/2019 19:11:51	19:15:32	0.004	0.008	15	1.5	
19011TAW	03/21/2019 19:17:21	19:20:20	0.009	0.016	10	2.9	
19011TAV	03/21/2019 19:23:49	19:26:04	0.009	0.015	10	2.0	
19011JAH	03/21/2019 19:33:42	19:36:41	0.003	0.005	15	1.4	
19011JAH	03/21/2019 19:37:23	19:38:56	0.002	0.004	11	1.8	
19011JAI	03/21/2019 19:43:05	19:46:04	0.003	0.005	11	2.8	
19011JAJ	03/21/2019 19:47:29	19:49:37	0.003	0.005	8	2.8	X
19011TAZ	03/21/2019 19:51:14	19:54:13	0.005	0.009	15	1.3	
19011TAY	03/21/2019 19:56:14	19:59:13	0.006	0.010	13	1.9	
19011JAJ	03/21/2019 19:56:49	19:58:38	0.005	0.008	14	1.5	
19011JAJ	03/21/2019 20:07:51	20:09:21	0.004	0.006	13	1.8	
19011JAI	03/21/2019 20:10:56	20:11:56	0.003	0.005	12	2.2	
19011TBB	03/21/2019 20:20:22	20:23:21	0.006	0.009	13	1.5	
19011JAL	03/21/2019 20:24:08	20:27:07	0.004	0.006	11	1.9	
19011TBC	03/21/2019 20:25:21	20:28:20	0.010	0.016	12	1.9	
19011JAM	03/21/2019 20:28:47	20:31:46	0.004	0.006	9	1.9	
19011TBE	03/21/2019 20:46:55	20:49:54	0.005	0.009	13	1.5	
19011JAO	03/21/2019 20:50:28	20:53:27	0.018	0.033	9	2.7	
19011TBE	03/21/2019 20:51:32	20:54:31	0.006	0.011	13	1.5	
19011JAO	03/21/2019 20:53:51	20:56:50	0.011	0.020	9	2.7	
19011JAO	03/21/2019 20:57:19	20:57:36	0.012	0.022	10	2.5	
19011JAO	03/21/2019 20:58:08	21:00:27	0.008	0.016	9	2.7	
19011TBF	03/21/2019 21:03:04	21:06:03	0.008	0.014	15	1.3	
19011TBF	03/21/2019 21:07:53	21:10:52	0.010	0.019	14	1.4	
19011TBF	03/21/2019 21:13:16	21:16:15	0.005	0.010	13	1.4	
19011JAP	03/21/2019 21:15:00	21:17:59	0.010	0.022	9	2.8	
19011JAP	03/21/2019 21:18:36	21:20:05	0.017	0.033	10	2.2	
19011JAQ	03/21/2019 21:20:55	21:23:54	0.005	0.010	12	1.7	
19011TBG	03/21/2019 21:32:07	21:34:45	0.010	0.020	13	1.7	
19011TBG	03/21/2019 21:35:45	21:37:33	0.009	0.016	12	2.2	X
19011JAS	03/21/2019 21:41:03	21:44:02	0.008	0.015	11	1.8	
19011JAS	03/21/2019 21:44:31	21:47:30	0.008	0.015	12	1.8	
19011JAS	03/21/2019 21:48:16	21:51:15	0.006	0.011	13	1.5	
19011TBH	03/21/2019 21:53:36	21:56:35	0.005	0.011	12	1.9	
19011TBH	03/21/2019 21:57:14	22:00:13	0.005	0.011	12	1.9	
19011JAT	03/21/2019 22:00:05	22:00:21	0.006	0.012	13	1.6	
19011TBH	03/21/2019 22:00:45	22:03:44	0.005	0.011	13	1.7	
19011JAT	03/21/2019 22:01:06	22:04:05	0.004	0.008	13	1.6	
19011JAT	03/21/2019 22:04:36	22:07:35	0.004	0.008	12	1.9	
19011TBI	03/21/2019 22:12:15	22:15:14	0.010	0.020	13	1.8	
19011JAU	03/21/2019 22:16:14	22:19:13	0.007	0.014	10	1.6	
19011TBI	03/21/2019 22:16:45	22:19:44	0.006	0.011	13	1.9	
19011JAU	03/21/2019 22:19:56	22:22:55	0.007	0.013	14	1.5	
19011TBJ	03/21/2019 22:27:31	22:30:30	0.006	0.010	15	1.5	
19011TBJ	03/21/2019 22:30:53	22:33:52	0.006	0.012	13	2.0	
19011JAV	03/21/2019 22:39:10	22:39:28	0.007	0.012	12	2.0	
19011JAV	03/21/2019 22:39:10	22:39:28	0.007	0.012	12	2.0	
19011JAV	03/21/2019 22:40:41	22:41:26	0.010	0.018	10	2.9	
19011JAV	03/21/2019 22:40:41	22:41:26	0.010	0.018	10	2.9	
19011JAV	03/21/2019 22:40:41	22:41:26	0.010	0.018	10	2.9	
19011TBK	03/21/2019 22:41:54	22:44:53	0.008	0.015	11	1.8	
19011JAV	03/21/2019 22:42:40	22:43:26	0.010	0.019	9	3.7	
19011JAV	03/21/2019 22:42:40	22:43:26	0.010	0.019	9	3.7	
19011TBK	03/21/2019 22:45:15	22:48:14	0.008	0.014	11	1.8	
19011TBL	03/22/2019 11:39:16	11:42:16	0.006	0.008	14	1.4	
19011TBL	03/22/2019 11:43:14	11:46:13	0.006	0.008	12	1.6	
19011TBM	03/22/2019 11:53:07	11:56:06	0.006	0.009	12	1.6	
19011TBN	03/22/2019 11:58:00	12:00:59	0.008	0.012	11	1.7	
19011TBP	03/22/2019 12:14:20	12:17:19	0.006	0.010	12	1.8	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19011TBP	03/22/2019 12:19:49	12:22:48	0.007	0.013	9	2.0	
19011JBA	03/22/2019 12:26:57	12:27:56	0.007	0.013	8	3.3	X
19011JBA	03/22/2019 12:26:57	12:27:56	0.007	0.013	8	3.3	X
19011JBA	03/22/2019 12:29:29	12:32:28	0.006	0.012	10	2.2	
19011TBQ	03/22/2019 12:31:46	12:35:28	0.004	0.008	12	1.6	
19011JBA	03/22/2019 12:33:21	12:36:20	0.007	0.014	7	3.4	
19011TBQ	03/22/2019 12:37:14	12:40:14	0.007	0.013	12	1.6	
19011JBB	03/22/2019 12:43:04	12:46:03	0.004	0.007	13	1.5	
19011TBR	03/22/2019 12:47:32	12:50:31	0.006	0.011	13	1.4	
19011JBC	03/22/2019 12:47:48	12:50:47	0.008	0.013	14	1.4	
19011TBR	03/22/2019 12:51:27	12:54:26	0.007	0.011	13	1.4	
19011TBS	03/22/2019 13:07:53	13:10:52	0.005	0.008	14	1.4	
19011JBE	03/22/2019 13:07:54	13:10:53	0.007	0.011	12	1.5	
19011TBS	03/22/2019 13:11:20	13:14:19	0.005	0.008	14	1.3	
19011JBE	03/22/2019 13:11:50	13:14:49	0.007	0.010	12	1.6	
19011TBT	03/22/2019 13:22:24	13:24:15	0.014	0.020	15	1.2	
19011TBT	03/22/2019 13:26:23	13:29:22	0.008	0.012	15	1.2	
19011JBF	03/22/2019 13:27:29	13:30:28	0.006	0.008	14	1.3	
19011JBF	03/22/2019 13:31:02	13:34:01	0.006	0.008	13	1.4	
19011TBU	03/22/2019 13:38:25	13:41:02	0.009	0.011	14	1.3	
19011TBU	03/22/2019 13:42:18	13:43:34	0.009	0.012	14	1.3	
19011JBG	03/22/2019 13:44:42	13:47:41	0.012	0.016	14	1.3	
19011TBU	03/22/2019 13:46:48	13:47:52	0.012	0.017	14	1.3	
19011TBU	03/22/2019 13:48:20	13:50:30	0.010	0.015	13	1.8	
19011TBU	03/22/2019 13:50:59	13:53:31	0.017	0.017	8	3.5	
19011JBG	03/22/2019 13:52:10	13:52:57	0.008	0.010	15	1.2	
19011TBU	03/22/2019 13:59:30	14:02:32	0.008	0.012	12	1.8	
19011TBU	03/22/2019 14:03:16	14:06:16	0.007	0.010	11	1.9	
19011JBH	03/22/2019 14:07:07	14:10:06	0.008	0.012	12	1.8	
19011JBH	03/22/2019 14:10:37	14:13:36	0.008	0.013	8	2.0	
19011TBV	03/22/2019 14:26:51	14:30:25	0.009	0.015	13	1.6	
19011TBV	03/22/2019 14:30:46	14:33:46	0.009	0.016	12	1.7	
19011JBI	03/22/2019 14:31:40	14:34:39	0.011	0.020	10	2.6	
19011JBJ	03/22/2019 14:36:49	14:38:38	0.012	0.022	12	1.7	
19011JBJ	03/22/2019 14:40:04	14:43:03	0.009	0.016	12	1.7	
19011TBW	03/22/2019 14:43:08	14:45:48	0.017	0.024	6	3.4	
19011TBW	03/22/2019 14:48:21	14:48:39	0.009	0.019	14	1.4	
19011TBW	03/22/2019 14:49:38	14:52:37	0.014	0.033	7	2.8	
19011TBX	03/22/2019 14:58:37	15:01:36	0.007	0.017	10	2.0	
19011TBX	03/22/2019 15:02:01	15:05:00	0.011	0.027	10	2.0	
19011JBL	03/22/2019 15:06:26	15:09:25	0.009	0.016	13	1.7	
19011TBY	03/22/2019 15:09:09	15:12:08	0.006	0.015	9	2.5	
19011JBM	03/22/2019 15:11:13	15:14:12	0.009	0.017	13	1.8	
19011TBY	03/22/2019 15:13:06	15:16:05	0.009	0.023	9	2.5	
19011JBO	03/22/2019 15:45:59	15:48:58	0.009	0.016	11	1.8	
19011TBZ	03/22/2019 15:46:29	15:49:28	0.012	0.021	13	1.8	
19011TBZ	03/22/2019 15:50:03	15:53:02	0.010	0.016	13	1.7	
19011JBP	03/22/2019 15:50:46	15:53:45	0.011	0.018	13	1.7	
19011TCA	03/22/2019 16:00:18	16:03:17	0.006	0.009	13	1.7	
19011TCB	03/22/2019 16:06:03	16:09:02	0.008	0.013	13	1.7	
19011JBR	03/22/2019 16:13:08	16:16:07	0.006	0.010	12	1.9	
19011TCB	03/22/2019 16:14:48	16:17:47	0.006	0.009	14	1.7	
19011JBS	03/22/2019 16:21:36	16:22:06	0.025	0.031	11	2.1	X
19011JBS	03/22/2019 16:23:17	16:26:16	0.009	0.013	13	1.8	
19011TCB	03/22/2019 16:23:57	16:26:56	0.008	0.011	13	1.9	
19011TCA	03/22/2019 16:29:19	16:32:24	0.010	0.011	14	1.5	
19011TCA	03/22/2019 16:32:56	16:35:55	0.009	0.013	14	1.5	
19011JBU	03/22/2019 16:46:54	16:49:53	0.008	0.011	12	1.6	
19011TCD	03/22/2019 16:50:50	16:53:49	0.006	0.009	18	1.4	
19011JBU	03/22/2019 16:51:08	16:52:07	0.009	0.012	14	1.5	
19011JBV	03/22/2019 16:53:13	16:55:14	0.010	0.014	14	1.5	
19011TCD	03/22/2019 16:54:39	16:57:38	0.006	0.010	17	1.5	
19011JBV	03/22/2019 16:57:07	16:58:06	0.008	0.012	14	1.5	
19011TCE	03/22/2019 17:15:37	17:18:36	0.008	0.015	18	1.5	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19011JBX	03/22/2019 17:18:33	17:21:32	0.007	0.011	11	1.8	
19011TCF	03/22/2019 17:20:28	17:23:27	0.007	0.014	16	1.9	
19011JBY	03/22/2019 17:27:24	17:30:23	0.007	0.012	14	1.5	
19011TCH	03/22/2019 17:38:41	17:41:40	0.005	0.012	17	1.4	
19011TCH	03/22/2019 17:43:47	17:46:46	0.008	0.018	15	1.6	
19011JCA	03/22/2019 17:47:11	17:50:10	0.007	0.013	13	1.7	
19011JCB	03/22/2019 17:51:58	17:54:57	0.006	0.012	14	1.7	
19011TCI	03/22/2019 17:58:34	18:01:33	0.009	0.022	17	1.6	
19011TCJ	03/22/2019 18:04:02	18:07:01	0.005	0.012	17	1.6	
19011JCD	03/22/2019 18:20:38	18:23:37	0.006	0.015	11	2.3	
19011JCE	03/22/2019 18:25:21	18:28:20	0.009	0.022	12	2.3	
19011TCL	03/22/2019 18:25:59	18:28:58	0.006	0.014	15	1.8	
19011TCL	03/22/2019 18:29:48	18:32:47	0.008	0.019	11	2.5	
19011JCG	03/22/2019 18:44:27	18:47:26	0.010	0.023	12	2.4	
19011TCM	03/22/2019 18:46:18	18:49:17	0.008	0.017	18	1.3	
19011JCG	03/22/2019 18:47:53	18:50:52	0.009	0.021	10	2.4	
19011TCM	03/22/2019 18:50:12	18:53:11	0.011	0.023	17	1.6	
19011JCH	03/22/2019 18:57:16	19:00:15	0.008	0.016	13	1.5	
19011JCH	03/22/2019 19:00:36	19:03:35	0.008	0.014	13	1.9	
19011JCI	03/22/2019 19:09:38	19:12:37	0.009	0.015	13	1.8	
19011JCI	03/22/2019 19:13:01	19:16:00	0.010	0.016	11	2.1	
19011TCN	03/22/2019 19:25:47	19:27:36	0.005	0.009	19	1.4	
19011JCJ	03/22/2019 19:27:15	19:30:14	0.008	0.014	16	1.4	
19011TCO	03/22/2019 19:30:05	19:33:04	0.011	0.018	20	1.3	
19011JCK	03/22/2019 19:31:48	19:34:53	0.008	0.013	12	1.6	
19011TCQ	03/22/2019 19:50:09	19:53:08	0.006	0.010	19	1.3	
19011TCQ	03/22/2019 19:53:39	19:56:38	0.008	0.013	10	1.9	
19011TCR	03/22/2019 20:08:26	20:11:25	0.009	0.014	17	1.4	
19011JCM	03/22/2019 20:11:13	20:14:12	0.010	0.015	13	1.6	
19011TCR	03/22/2019 20:12:15	20:15:14	0.008	0.013	12	1.6	
19011JCM	03/22/2019 20:14:30	20:17:29	0.006	0.010	11	1.8	
19011TCS	03/22/2019 20:23:11	20:26:24	0.008	0.013	17	1.4	
19011TCS	03/22/2019 20:26:48	20:29:47	0.009	0.015	13	1.5	
19011JCN	03/22/2019 20:28:54	20:31:53	0.005	0.008	13	1.5	
19011JCN	03/22/2019 20:32:11	20:35:10	0.007	0.011	8	2.1	
19011TCT	03/22/2019 20:38:10	20:41:09	0.009	0.014	16	1.4	
19011JCO	03/22/2019 20:42:16	20:45:15	0.006	0.009	13	1.5	
19011TCT	03/22/2019 20:43:42	20:46:41	0.007	0.011	16	1.5	
19011JCO	03/22/2019 20:45:35	20:48:34	0.005	0.008	8	1.9	
19011JCP	03/22/2019 20:55:49	20:58:48	0.015	0.026	11	2.3	
19011TCU	03/22/2019 20:58:24	21:01:23	0.009	0.016	15	1.8	
19011JCQ	03/22/2019 21:00:11	21:03:10	0.008	0.013	13	1.6	
19011TCU	03/22/2019 21:02:36	21:05:35	0.007	0.013	15	1.8	
19011TCV	03/22/2019 21:06:32	21:09:31	0.005	0.009	16	1.6	
19011JCS	03/22/2019 21:19:02	21:22:01	0.005	0.008	13	1.7	
19011JCS	03/22/2019 21:22:21	21:25:35	0.006	0.010	11	2.1	
19011JCT	03/22/2019 21:33:37	21:36:36	0.006	0.011	13	1.8	
19011TCX	03/22/2019 21:35:28	21:38:27	0.005	0.008	17	1.5	
19011JCT	03/22/2019 21:36:58	21:39:57	0.007	0.013	14	1.7	
19011TCX	03/22/2019 21:38:50	21:41:49	0.004	0.007	13	1.8	
19011JCU	03/22/2019 21:43:34	21:46:33	0.009	0.016	14	1.7	
19011JCU	03/22/2019 21:46:57	21:49:56	0.010	0.019	8	2.6	
19011TCY	03/22/2019 22:00:09	22:03:08	0.005	0.009	18	1.3	
19011TCY	03/22/2019 22:03:41	22:06:40	0.004	0.008	18	1.3	
19011JCV	03/22/2019 22:11:49	22:14:52	0.005	0.009	13	1.5	
19011JCV	03/22/2019 22:15:12	22:18:11	0.004	0.007	12	2.2	
19011TCZ	03/22/2019 22:16:57	22:19:56	0.009	0.017	17	1.5	
19011TCZ	03/22/2019 22:20:17	22:23:16	0.006	0.010	11	1.8	
19011TDA	03/22/2019 22:29:24	22:32:23	0.007	0.012	19	1.3	
19011JCW	03/22/2019 22:30:24	22:33:23	0.004	0.007	14	1.7	
19011TDB	03/22/2019 22:34:16	22:37:15	0.007	0.013	17	1.7	
19011JCW	03/22/2019 22:34:27	22:37:26	0.003	0.005	16	1.5	
19011JCX	03/23/2019 11:38:22	11:41:21	0.007	0.008	15	1.4	
19011JCX	03/23/2019 11:41:41	11:44:40	0.006	0.008	8	2.0	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19011JCY	03/23/2019 11:48:32	11:51:31	0.006	0.008	15	1.4	
19011TDD	03/23/2019 11:50:35	11:53:34	0.007	0.009	18	1.3	
19011JCY	03/23/2019 11:52:00	11:54:59	0.006	0.008	13	1.5	
19011TDD	03/23/2019 11:54:11	11:57:10	0.005	0.007	18	1.3	
19011TDE	03/23/2019 12:02:43	12:05:54	0.006	0.010	16	1.4	
19011TDF	03/23/2019 12:07:19	12:10:18	0.008	0.013	15	1.7	
19011JCZ	03/23/2019 12:09:58	12:12:57	0.008	0.015	10	2.8	
19011JCZ	03/23/2019 12:13:24	12:16:23	0.006	0.010	10	2.7	
19011TDF	03/23/2019 12:16:17	12:19:18	0.010	0.019	14	2.1	
19011TDE	03/23/2019 12:19:58	12:22:57	0.010	0.019	14	2.1	
19011JDA	03/23/2019 12:27:34	12:30:33	0.008	0.016	11	2.3	
19011JDA	03/23/2019 12:30:52	12:33:51	0.007	0.014	7	3.4	
19011TDH	03/23/2019 12:34:09	12:37:08	0.006	0.012	18	1.4	
19011TDH	03/23/2019 12:37:43	12:40:42	0.004	0.008	18	1.4	
19011TDI	03/23/2019 12:54:12	12:57:11	0.004	0.008	18	1.4	
19011JDB	03/23/2019 12:54:54	12:57:51	0.009	0.021	11	2.7	
19011TDI	03/23/2019 12:57:36	13:00:35	0.004	0.008	19	1.3	
19011JDB	03/23/2019 13:01:27	13:02:26	0.007	0.014	10	2.7	
19011JDB	03/23/2019 13:03:28	13:05:25	0.007	0.015	10	2.6	
19011JDC	03/23/2019 13:08:15	13:11:20	0.004	0.006	12	1.7	
19011TDJ	03/23/2019 13:08:47	13:11:46	0.003	0.005	19	1.3	
19011TDJ	03/23/2019 13:12:15	13:15:14	0.003	0.005	12	1.6	
19011JDB	03/23/2019 13:21:21	13:23:22	0.011	0.022	10	2.3	
19011TDK	03/23/2019 13:34:35	13:37:34	0.006	0.010	20	1.2	
19011JDE	03/23/2019 13:37:03	13:40:11	0.005	0.007	13	1.7	
19011TDK	03/23/2019 13:38:08	13:41:07	0.008	0.013	15	1.3	
19011JDF	03/23/2019 13:42:48	13:45:48	0.004	0.006	15	1.3	
19011TDL	03/23/2019 13:46:32	13:48:18	0.011	0.017	19	1.2	
19011TDL	03/23/2019 13:49:44	13:52:43	0.006	0.010	17	1.4	
19011JDH	03/23/2019 14:06:15	14:09:14	0.005	0.008	12	1.9	
19011JDH	03/23/2019 14:09:31	14:12:30	0.005	0.008	8	2.0	
19011TDM	03/23/2019 14:12:02	14:15:01	0.007	0.011	16	1.6	
19011TDM	03/23/2019 14:15:23	14:18:22	0.006	0.009	12	1.8	
19011JDI	03/23/2019 14:24:07	14:27:06	0.010	0.018	11	2.4	
19011TDN	03/23/2019 14:26:54	14:29:53	0.008	0.013	17	1.4	
19011JDI	03/23/2019 14:27:37	14:30:36	0.009	0.017	11	2.4	
19011TDO	03/23/2019 14:32:13	14:35:12	0.008	0.013	16	1.6	
19011JDJ	03/23/2019 14:42:57	14:45:56	0.007	0.012	12	1.7	
19011JDK	03/23/2019 14:48:04	14:51:03	0.009	0.016	13	1.6	
19011TDQ	03/23/2019 14:51:36	14:54:35	0.009	0.016	16	1.6	
19011TDQ	03/23/2019 14:55:08	14:58:07	0.005	0.008	12	1.8	
19011TDR	03/23/2019 15:08:27	15:11:26	0.006	0.010	17	1.5	
19011TDS	03/23/2019 15:13:44	15:16:43	0.006	0.012	16	1.7	
19011JDM	03/23/2019 15:15:02	15:18:01	0.007	0.013	12	1.8	
19011JDN	03/23/2019 15:20:20	15:23:19	0.006	0.011	14	1.5	
19011JDP	03/23/2019 15:43:53	15:46:52	0.006	0.011	12	1.8	
19011JDP	03/23/2019 15:47:12	15:50:11	0.008	0.013	9	1.9	
19011JDQ	03/23/2019 16:03:22	16:06:21	0.008	0.012	13	1.5	
19011JDQ	03/23/2019 16:06:44	16:09:43	0.007	0.011	12	1.7	
19011JDR	03/23/2019 16:16:19	16:19:18	0.005	0.008	15	1.4	
19011JDR	03/23/2019 16:19:36	16:23:03	0.006	0.010	8	2.2	
19011TDU	03/23/2019 16:21:05	16:24:05	0.004	0.007	18	1.4	
19011TDU	03/23/2019 16:24:33	16:27:32	0.005	0.010	17	1.5	
19011JDS	03/23/2019 16:26:53	16:29:52	0.005	0.008	14	1.3	
19011JDS	03/23/2019 16:30:12	16:33:11	0.006	0.009	12	1.6	
19011TDV	03/23/2019 16:38:11	16:44:29	0.003	0.005	19	1.3	
19011TDV	03/23/2019 16:47:25	16:50:43	0.008	0.014	19	1.3	
19011JDT	03/23/2019 17:00:41	17:03:40	0.007	0.010	12	1.6	
19011JDT	03/23/2019 17:05:25	17:08:24	0.007	0.010	11	2.0	
19011TDW	03/23/2019 17:07:26	17:10:25	0.005	0.009	19	1.4	
19011TDW	03/23/2019 17:10:47	17:13:46	0.006	0.011	10	1.9	
19011JDU	03/23/2019 17:18:05	17:21:11	0.002	0.003	14	1.6	
19011JDU	03/23/2019 17:21:31	17:24:32	0.003	0.004	14	1.4	
19011JDV	03/23/2019 17:35:27	17:38:26	0.003	0.006	14	1.6	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19011TDX	03/23/2019 17:37:54	17:42:41	0.006	0.012	13	2.0	
19011JDV	03/23/2019 17:38:51	17:41:50	0.004	0.007	14	1.6	
19011TDX	03/23/2019 17:43:19	17:46:18	0.011	0.024	11	2.2	
19011JDW	03/23/2019 17:49:07	17:52:06	0.004	0.008	15	1.5	
19011TDY	03/23/2019 17:50:10	17:51:12	0.011	0.023	15	1.5	
19011TDY	03/23/2019 17:52:21	17:55:20	0.005	0.011	15	1.5	
19011JDW	03/23/2019 17:52:28	17:55:27	0.005	0.011	14	1.5	
19011TDY	03/23/2019 17:55:56	17:58:55	0.006	0.012	13	1.5	
19011JDX	03/23/2019 18:02:00	18:04:59	0.005	0.012	14	1.7	
19011JDX	03/23/2019 18:05:14	18:08:13	0.007	0.018	12	2.0	
19011JDY	03/23/2019 18:15:22	18:18:21	0.007	0.017	12	2.0	
19011JDY	03/23/2019 18:18:42	18:21:42	0.006	0.019	11	2.7	
19011TDZ	03/23/2019 18:20:29	18:28:26	0.008	0.021	14	2.1	
19011JDZ	03/23/2019 18:28:24	18:31:23	0.006	0.016	13	1.8	
19011TDZ	03/23/2019 18:29:34	18:32:39	0.006	0.016	14	2.1	
19011JDZ	03/23/2019 18:31:56	18:34:55	0.007	0.017	11	2.3	
19011JEA	03/23/2019 18:40:56	18:43:55	0.008	0.019	13	1.9	
19011TEA	03/23/2019 18:43:04	18:46:03	0.009	0.028	12	3.5	
19011JEA	03/23/2019 18:44:19	18:47:18	0.008	0.018	12	1.9	
19011TEA	03/23/2019 18:47:12	18:50:11	0.012	0.034	13	2.9	
19011JEA	03/23/2019 18:47:46	18:50:45	0.007	0.015	13	1.8	
19011TEA	03/23/2019 18:50:43	18:53:42	0.007	0.020	11	2.9	
19011JEB	03/23/2019 19:01:01	19:04:00	0.010	0.020	14	1.6	
19011JEB	03/23/2019 19:04:20	19:05:51	0.008	0.014	7	2.6	
19011TEB	03/23/2019 19:05:41	19:08:40	0.007	0.014	22	1.3	
19011JEC	03/23/2019 19:08:07	19:11:06	0.008	0.013	15	1.4	
19011TEB	03/23/2019 19:09:38	19:12:37	0.007	0.013	24	1.2	
19011TEC	03/23/2019 19:28:08	19:31:07	0.005	0.009	15	1.9	
19011JEE	03/23/2019 19:32:24	19:35:23	0.007	0.010	14	1.5	
19011TED	03/23/2019 19:33:20	19:36:19	0.007	0.012	16	1.6	
19011JEE	03/23/2019 19:36:44	19:39:43	0.009	0.015	15	1.4	
19011JEF	03/23/2019 19:48:47	19:51:46	0.006	0.010	13	1.4	
19011JEF	03/23/2019 19:52:13	19:53:43	0.019	0.027	12	1.6	
19011TEF	03/23/2019 19:56:17	19:59:16	0.008	0.013	19	1.3	
19011JEG	03/23/2019 19:57:23	20:00:22	0.005	0.009	16	1.3	
19011TEF	03/23/2019 19:59:39	20:02:38	0.009	0.015	12	1.7	
19011TEG	03/23/2019 20:14:55	20:17:58	0.010	0.015	16	1.7	
19011TEG	03/23/2019 20:18:56	20:20:37	0.009	0.014	17	1.5	
19011JEI	03/23/2019 20:19:21	20:22:20	0.007	0.011	13	1.9	
19011JEI	03/23/2019 20:22:40	20:23:33	0.008	0.013	13	1.8	
19011JEI	03/23/2019 20:24:08	20:27:07	0.007	0.011	14	1.6	
19011JEJ	03/23/2019 20:38:14	20:41:13	0.006	0.011	12	2.1	
19011TEH	03/23/2019 20:39:41	20:41:42	0.008	0.013	15	1.6	
19011JEJ	03/23/2019 20:41:37	20:44:11	0.008	0.015	12	2.1	
19011TEH	03/23/2019 20:43:05	20:46:04	0.009	0.016	17	1.5	
19011TEI	03/23/2019 20:58:21	21:01:01	0.012	0.024	19	1.3	
19011JEK	03/23/2019 20:58:29	21:01:28	0.006	0.010	15	1.4	
19011JEK	03/23/2019 21:01:46	21:04:45	0.006	0.010	14	1.4	
19011TEJ	03/23/2019 21:01:59	21:04:58	0.007	0.013	18	1.5	
19011JEL	03/23/2019 21:17:41	21:20:40	0.006	0.011	15	1.6	
19011TEL	03/23/2019 21:19:42	21:22:41	0.009	0.018	19	1.5	
19011JEL	03/23/2019 21:21:03	21:24:02	0.006	0.011	15	1.6	
19011TEL	03/23/2019 21:23:19	21:25:59	0.007	0.014	14	1.7	
19011TEM	03/23/2019 21:32:31	21:35:42	0.006	0.015	18	1.6	
19011TEM	03/23/2019 21:36:58	21:39:57	0.009	0.022	17	1.9	
19011TEM	03/23/2019 21:40:22	21:43:51	0.009	0.021	16	1.9	
19011JEM	03/23/2019 21:41:15	21:44:14	0.005	0.010	15	1.5	
19011TEM	03/23/2019 21:44:32	21:47:31	0.008	0.020	14	1.6	
19011JEN	03/23/2019 21:45:51	21:48:50	0.005	0.010	14	1.5	
19011TEN	03/23/2019 22:05:54	22:08:53	0.010	0.027	15	2.8	
19011TEN	03/23/2019 22:09:31	22:12:30	0.010	0.027	16	2.1	
19011JEP	03/23/2019 22:18:27	22:21:26	0.004	0.008	15	1.4	
19011TEO	03/23/2019 22:19:24	22:22:23	0.006	0.011	19	1.4	
19011JEP	03/23/2019 22:21:45	22:24:44	0.004	0.007	16	1.3	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19011TEP	03/23/2019 22:23:26	22:26:25	0.007	0.014	17	1.7	
19011JEQ	03/23/2019 22:31:42	22:34:41	0.004	0.006	16	1.2	
19011JER	03/23/2019 22:36:39	22:39:38	0.004	0.006	16	1.3	
19011JET	03/23/2019 22:55:56	22:58:55	0.005	0.007	16	1.4	
19011JET	03/23/2019 22:59:11	23:02:10	0.005	0.007	8	2.7	
19011TER	03/24/2019 11:48:26	11:51:25	0.006	0.011	20	1.3	
19011TER	03/24/2019 11:51:48	11:54:47	0.008	0.016	14	1.5	
19011TES	03/24/2019 12:02:26	12:05:25	0.010	0.021	18	1.6	
19011TES	03/24/2019 12:05:49	12:08:57	0.009	0.018	13	1.8	
19011TET	03/24/2019 12:14:20	12:17:19	0.006	0.014	17	1.8	
19011TET	03/24/2019 12:17:47	12:20:46	0.009	0.019	16	2.1	
19011JFA	03/24/2019 12:20:19	12:23:18	0.008	0.015	14	1.4	
19011JFB	03/24/2019 12:25:50	12:28:49	0.007	0.015	12	2.2	
19011TEU	03/24/2019 12:29:26	12:32:25	0.008	0.017	16	1.9	
19011TEU	03/24/2019 12:32:44	12:35:43	0.009	0.017	15	1.9	
19011TEV	03/24/2019 12:42:48	12:45:47	0.009	0.017	14	2.0	
19011JFD	03/24/2019 12:45:23	12:48:22	0.005	0.009	14	1.5	
19011TEW	03/24/2019 12:46:26	12:49:25	0.007	0.015	15	1.7	
19011JFD	03/24/2019 12:48:59	12:51:58	0.007	0.011	14	1.4	
19011TEY	03/24/2019 13:04:40	13:07:39	0.008	0.012	17	1.4	
19011JFE	03/24/2019 13:07:57	13:10:56	0.013	0.020	12	1.6	
19011TEZ	03/24/2019 13:10:02	13:13:02	0.010	0.014	17	1.4	
19011JFE	03/24/2019 13:12:35	13:15:38	0.011	0.016	7	2.3	
19011TFB	03/24/2019 13:25:31	13:28:30	0.009	0.013	18	1.3	
19011TFC	03/24/2019 13:30:44	13:34:04	0.009	0.013	17	1.5	
19011JFF	03/24/2019 13:33:56	13:36:55	0.009	0.011	15	1.2	
19011JFF	03/24/2019 13:37:27	13:37:47	0.008	0.010	15	1.2	
19011JFF	03/24/2019 13:39:40	13:42:39	0.010	0.012	14	1.3	
19011TFE	03/24/2019 13:54:19	13:57:18	0.016	0.023	14	1.9	
19011JFG	03/24/2019 13:55:59	13:58:58	0.012	0.017	12	1.7	
19011TFF	03/24/2019 13:58:58	14:01:57	0.008	0.012	14	1.8	
19011JFH	03/24/2019 14:01:06	14:02:57	0.010	0.014	12	1.7	
19011JFH	03/24/2019 14:04:18	14:07:17	0.008	0.013	12	1.7	
19011TFH	03/24/2019 14:24:07	14:27:06	0.006	0.013	14	1.9	
19011TFH	03/24/2019 14:29:08	14:32:07	0.011	0.023	14	1.9	
19011JFJ	03/24/2019 14:39:12	14:42:11	0.007	0.013	12	1.8	
19011JFK	03/24/2019 14:43:50	14:46:49	0.008	0.017	14	1.4	
19011TFI	03/24/2019 14:48:41	14:51:40	0.009	0.018	17	1.4	
19011TFI	03/24/2019 14:52:51	14:55:50	0.009	0.018	18	1.3	
19011TFJ	03/24/2019 15:04:55	15:07:54	0.011	0.020	18	1.3	
19011TFK	03/24/2019 15:10:01	15:13:00	0.011	0.020	16	1.6	
19011JFM	03/24/2019 15:17:50	15:20:49	0.009	0.015	14	1.5	
19011JFM	03/24/2019 15:21:09	15:24:08	0.007	0.012	8	2.3	
19011TFM	03/24/2019 15:32:30	15:35:29	0.007	0.012	16	1.5	
19011TFM	03/24/2019 15:35:53	15:41:28	0.011	0.018	16	1.5	
19011JFN	03/24/2019 15:37:41	15:40:40	0.008	0.013	13	1.5	
19011JFO	03/24/2019 15:42:47	15:45:46	0.010	0.016	10	2.4	
19011TFN	03/24/2019 15:50:54	15:53:53	0.008	0.013	17	1.4	
19011TFO	03/24/2019 15:55:35	15:58:34	0.009	0.015	17	1.4	
19011JFO	03/24/2019 15:58:01	16:01:00	0.014	0.021	9	2.8	
19011JFN	03/24/2019 16:02:34	16:05:33	0.010	0.015	11	1.9	
19011JFQ	03/24/2019 16:24:49	16:27:48	0.007	0.011	14	1.4	
19011TFQ	03/24/2019 16:28:13	16:31:12	0.012	0.019	18	1.2	
19011JFQ	03/24/2019 16:30:17	16:33:16	0.008	0.012	14	1.4	
19011TFQ	03/24/2019 16:31:38	16:34:37	0.010	0.017	14	1.3	
19011JFR	03/24/2019 16:39:53	16:42:52	0.008	0.012	16	1.3	
19011TFR	03/24/2019 16:43:31	16:46:30	0.012	0.020	18	1.5	
19011JFS	03/24/2019 16:44:58	16:47:57	0.008	0.011	15	1.4	
19011TFS	03/24/2019 16:49:34	16:52:33	0.014	0.023	17	1.5	
19011TFU	03/24/2019 17:14:02	17:17:01	0.007	0.012	19	1.4	
19011TFU	03/24/2019 17:17:33	17:20:32	0.009	0.016	15	1.6	
19011JFU	03/24/2019 17:18:05	17:21:04	0.006	0.010	15	1.5	
19011JFU	03/24/2019 17:22:04	17:25:03	0.007	0.012	14	1.6	
19011JFV	03/24/2019 17:36:24	17:39:23	0.007	0.014	14	1.6	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19011TFV	03/24/2019 17:36:35	17:39:34	0.004	0.008	18	1.4	
19011TFV	03/24/2019 17:40:26	17:43:25	0.004	0.007	19	1.4	
19011JFW	03/24/2019 17:41:14	17:44:13	0.009	0.021	13	1.9	
19011TFW	03/24/2019 17:54:29	17:57:28	0.006	0.013	16	2.0	
19011TFW	03/24/2019 17:57:45	18:00:44	0.006	0.013	6	3.5	
19011JFY	03/24/2019 18:04:14	18:07:13	0.008	0.020	14	1.8	
19011TFX	03/24/2019 18:06:00	18:08:59	0.008	0.017	19	1.5	
19011JFY	03/24/2019 18:07:36	18:10:35	0.010	0.026	13	2.0	
19011TFX	03/24/2019 18:09:44	18:12:43	0.007	0.015	17	1.6	
19011JFZ	03/24/2019 18:15:49	18:18:48	0.007	0.019	14	1.7	
19011TFY	03/24/2019 18:18:27	18:21:26	0.008	0.017	17	1.8	
19011JGA	03/24/2019 18:21:08	18:24:07	0.009	0.023	12	2.4	
19011TFZ	03/24/2019 18:22:38	18:25:37	0.009	0.021	15	2.2	
19011JGC	03/24/2019 18:41:23	18:44:22	0.010	0.028	11	3.2	
19011TGB	03/24/2019 18:44:52	18:47:51	0.007	0.017	19	1.6	
19011JGD	03/24/2019 18:46:36	18:49:35	0.006	0.013	15	1.4	
19011TGB	03/24/2019 18:48:11	18:51:10	0.006	0.012	15	1.6	
19011TGC	03/24/2019 18:56:27	18:59:26	0.008	0.016	16	2.1	
19011TGC	03/24/2019 18:59:48	19:02:47	0.008	0.017	18	1.7	
19011TGD	03/24/2019 19:09:34	19:12:33	0.008	0.014	20	1.4	
19011JGF	03/24/2019 19:10:51	19:11:56	0.006	0.010	17	1.4	
19011TGD	03/24/2019 19:13:11	19:16:10	0.009	0.016	18	1.5	
19011JGF	03/24/2019 19:13:30	19:16:29	0.007	0.012	17	1.4	
19011TGE	03/24/2019 19:21:42	19:24:41	0.008	0.015	20	1.4	
19011TGF	03/24/2019 19:30:49	19:33:48	0.010	0.019	19	1.4	
19011JGG	03/24/2019 19:49:28	19:52:27	0.009	0.014	17	1.2	
19011JGG	03/24/2019 19:52:49	19:55:48	0.006	0.010	15	1.4	
19011JGH	03/24/2019 20:06:13	20:09:12	0.006	0.010	13	1.8	
19011JGI	03/24/2019 20:11:34	20:14:34	0.008	0.014	12	2.1	
19011JGK	03/24/2019 20:35:26	20:38:25	0.008	0.013	13	1.7	
19011JGL	03/24/2019 20:40:44	20:43:38	0.008	0.014	13	1.6	
19011JGL	03/24/2019 20:43:51	20:44:49	0.008	0.015	14	1.5	
19011JGN	03/24/2019 21:00:29	21:03:28	0.005	0.010	12	2.0	
19011JGN	03/24/2019 21:03:57	21:06:32	0.006	0.011	12	2.0	
19011JGN	03/24/2019 21:07:18	21:09:21	0.006	0.011	12	2.0	
19011JGO	03/24/2019 21:16:26	21:19:25	0.005	0.010	15	1.5	
19011JGO	03/24/2019 21:19:42	21:21:50	0.007	0.013	13	1.8	
19011JGP	03/24/2019 21:52:28	21:55:27	0.005	0.011	8	2.5	
19011JGP	03/24/2019 21:55:46	21:58:45	0.005	0.011	9	2.4	
19011JGQ	03/24/2019 22:07:11	22:10:10	0.005	0.009	17	1.2	
19011JGQ	03/24/2019 22:10:34	22:13:33	0.005	0.009	15	1.4	
19011JGR	03/24/2019 22:19:07	22:22:06	0.005	0.009	16	1.3	
19011JGR	03/24/2019 22:22:23	22:25:22	0.005	0.010	14	1.9	
19011JGS	03/25/2019 11:26:08	11:29:07	0.008	0.009	16	1.3	
19011JGS	03/25/2019 11:30:37	11:33:36	0.005	0.006	15	1.4	
19011JGT	03/25/2019 11:47:00	11:50:03	0.011	0.009	13	1.6	
19011JGT	03/25/2019 11:50:22	11:53:22	0.005	0.008	7	2.7	
19011JGU	03/25/2019 12:10:04	12:13:03	0.005	0.010	12	1.8	
19011JGV	03/25/2019 12:15:52	12:18:51	0.004	0.009	11	2.3	
19011JGX	03/25/2019 13:35:29	13:38:28	0.007	0.009	12	1.6	
19011JGX	03/25/2019 13:39:39	13:42:38	0.006	0.008	14	1.2	
19011JGY	03/25/2019 13:56:07	13:59:06	0.006	0.008	12	1.7	
19011JGY	03/25/2019 13:59:41	14:02:40	0.006	0.008	11	1.8	
19011JGZ	03/25/2019 14:14:09	14:15:20	0.007	0.011	13	1.4	
19011JGZ	03/25/2019 14:17:04	14:20:03	0.006	0.009	12	1.5	
19011JHA	03/25/2019 14:21:47	14:24:46	0.017	0.014	10	3.2	
19011JHC	03/25/2019 14:46:41	14:49:40	0.004	0.007	13	1.5	
19011JHC	03/25/2019 14:50:11	14:53:10	0.004	0.007	8	1.9	
19011JHD	03/25/2019 15:06:04	15:09:03	0.006	0.011	14	1.5	
19011JHD	03/25/2019 15:10:48	15:13:47	0.005	0.009	14	1.6	
19011JHE	03/25/2019 15:21:45	15:24:44	0.008	0.015	14	1.6	
19011JHF	03/25/2019 15:26:49	15:29:48	0.006	0.011	14	1.6	
19011JHH	03/25/2019 15:55:15	15:58:14	0.006	0.010	15	1.5	
19011JHH	03/25/2019 15:58:31	16:01:30	0.007	0.010	9	1.7	

GPSID	UTC Start	UTC End	Horz Prec	Vert Prec	# of SV's	PDOP	Reject
19011JHH	03/25/2019 16:01:40	16:02:33	0.010	0.014	13	1.6	X
19011JHI	03/25/2019 16:09:35	16:12:34	0.006	0.008	15	1.3	
19011JHI	03/25/2019 16:12:54	16:15:53	0.006	0.009	15	1.3	

As mentioned, each station was occupied twice in succession. The Earth Centered Earth Fixed (ECEF) vector differences were rotated into a local horizon system (N, E, Up) for analysis, as summarized in table 4.

Table 4 - Repeat Baseline Analysis (meters)

GPSID	Delta East	Delta North	Delta Horiz	Delta Up	Length
19010AA	0.009	-0.001	0.009	0.004	39067
19010AB	0.000	0.006	0.006	0.004	27654
19010AC	0.014	0.000	0.014	0.012	21308
19010AD	-0.002	-0.001	0.002	0.006	20174
19010AE	-0.002	0.000	0.002	0.003	5136
19010AF	-0.005	0.010	0.012	-0.001	25322
19010AG	-0.002	0.005	0.005	0.005	14514
19010AH	0.005	-0.003	0.005	0.000	31282
19010AI	-0.008	0.005	0.009	0.013	37314
19010AJ	0.012	0.000	0.012	-0.001	37549
19010AK	-0.004	0.006	0.007	-0.010	29863
19010AL	0.008	0.016	0.018	-0.019	36808
19010AM	-0.004	0.004	0.006	0.003	26672
19010AN	0.000	-0.010	0.010	0.020	18131
19010AO	0.002	0.006	0.006	-0.006	15229
19010AP	0.002	0.000	0.002	0.009	8500
19010AQ	0.004	0.001	0.004	-0.005	4334
19010AR	0.008	0.004	0.009	-0.014	16580
19010AS	0.001	0.002	0.003	-0.002	22520
19010AT	-0.004	-0.002	0.005	-0.003	22256
19010AU	0.010	0.008	0.013	0.009	30112
19010AV	0.015	0.011	0.018	-0.003	29801
19010AW	0.000	-0.016	0.016	0.011	23722
19010AX	0.000	0.001	0.001	0.024	18366
19010TSE	0.003	-0.003	0.004	-0.030	23327
19010TXE	-0.008	0.003	0.009	0.078	23319
19010TXE	-0.001	0.001	0.001	0.091	23319
19010TXE	0.006	0.005	0.007	0.090	23319
19010TXE	0.008	-0.003	0.008	0.013	23319
19010TXE	0.014	0.001	0.014	0.012	23319
19010TXE	0.006	0.004	0.008	-0.001	23319
19011JAA	-0.003	0.008	0.009	-0.005	15307
19011JAB	0.000	0.005	0.005	-0.005	15181
19011JAC	0.001	-0.002	0.002	0.013	8767
19011JAD	-0.016	-0.007	0.017	0.018	9485
19011JAE	0.000	0.009	0.009	0.000	3434
19011JAH	0.000	-0.002	0.002	-0.003	301
19011JAJ	0.005	-0.005	0.007	-0.001	628
19011JAO	0.000	-0.002	0.002	-0.042	9354
19011JAO	-0.004	-0.007	0.008	-0.032	9354
19011JAO	-0.003	-0.011	0.011	-0.021	9354
19011JAO	-0.004	-0.005	0.006	0.010	9354

GPSID	Delta East	Delta North	Delta Horiz	Delta Up	Length
19011JAO	-0.003	-0.009	0.009	0.021	9354
19011JAO	0.001	-0.003	0.004	0.011	9354
19011JAP	-0.009	0.002	0.009	-0.023	12588
19011JAS	-0.019	0.006	0.020	-0.053	13438
19011JAS	-0.009	0.003	0.009	-0.027	13438
19011JAS	0.010	-0.003	0.011	0.026	13438
19011JAT	-0.001	-0.005	0.005	-0.006	15799
19011JAT	-0.002	-0.004	0.004	-0.004	15799
19011JAT	-0.002	0.001	0.002	0.002	15799
19011JAU	-0.007	-0.015	0.016	-0.004	19459
19011JAV	0.000	0.000	0.000	0.000	12786
19011JAV	0.000	0.000	0.000	0.000	19521
19011JAV	0.000	0.000	0.000	0.000	19521
19011JAV	0.002	0.007	0.007	-0.019	19521
19011JAV	0.002	0.007	0.007	-0.019	19521
19011JAV	0.000	0.000	0.000	0.000	19521
19011JAV	0.002	0.007	0.007	-0.019	19521
19011JAV	0.002	0.007	0.007	-0.019	19521
19011JAV	0.002	0.007	0.007	-0.019	19521
19011JAV	0.002	0.007	0.007	-0.019	19521
19011JAV	0.002	0.007	0.007	-0.019	19521
19011JAV	0.000	0.000	0.000	0.000	19521
19011JBA	0.000	0.000	0.000	0.000	13283
19011JBA	0.007	-0.005	0.008	-0.025	13297
19011JBE	-0.004	-0.001	0.004	-0.013	14285
19011JBF	-0.012	0.001	0.012	0.013	17761
19011JBG	0.006	-0.001	0.006	-0.020	23340
19011JBH	-0.009	-0.002	0.009	-0.003	25055
19011JBJ	0.010	0.004	0.010	-0.009	20325
19011JBU	-0.004	-0.008	0.008	-0.005	30015
19011JBV	-0.006	0.005	0.007	0.008	30001
19011JCG	0.006	-0.002	0.007	0.019	24929
19011JCH	0.014	-0.006	0.015	-0.025	22089
19011JCI	-0.004	0.006	0.007	0.008	19819
19011JCM	0.000	0.003	0.003	-0.004	22519
19011JCN	0.003	-0.006	0.007	-0.007	26355
19011JCO	-0.004	0.007	0.008	0.009	20671
19011JCS	0.004	0.001	0.004	0.005	18249
19011JCT	-0.001	0.000	0.001	0.014	21244
19011JCU	0.002	-0.009	0.010	0.009	22576
19011JCV	0.001	0.006	0.006	-0.003	12119
19011JCW	-0.004	-0.003	0.005	0.002	4881
19011JCX	-0.011	-0.006	0.012	0.027	28066
19011JCY	-0.006	-0.002	0.007	0.007	27286
19011JCZ	0.000	0.001	0.001	0.006	28587
19011JDA	0.000	0.000	0.000	0.018	30169
19011JDB	-0.010	0.007	0.012	0.041	3777
19011JDB	-0.004	-0.002	0.005	0.041	3777
19011JDB	0.006	-0.009	0.010	0.000	3777
19011JDH	0.000	-0.005	0.005	0.001	9228
19011JDI	0.001	0.004	0.004	-0.020	15826
19011JDP	0.006	0.000	0.006	-0.006	17913
19011JDQ	0.003	0.003	0.005	0.020	22667
19011JDR	-0.005	-0.006	0.008	0.011	19068
19011JDS	-0.005	0.002	0.005	0.012	17791

GPSID	Delta East	Delta North	Delta Horiz	Delta Up	Length
19011JDT	0.002	-0.001	0.002	-0.003	5434
19011JDU	-0.002	0.000	0.002	0.007	153
19011JDV	0.006	-0.004	0.007	0.000	9162
19011JDW	0.002	0.007	0.007	0.003	10496
19011JDX	-0.003	-0.001	0.003	0.000	11247
19011JDY	-0.007	-0.004	0.008	-0.008	14696
19011JDZ	-0.002	0.000	0.002	0.015	17756
19011JEA	0.008	-0.002	0.009	0.036	22507
19011JEA	0.002	0.000	0.002	0.048	22507
19011JEA	-0.006	0.002	0.006	0.012	22507
19011JEB	0.001	0.007	0.007	-0.019	25859
19011JEE	-0.001	-0.016	0.016	-0.001	31071
19011JEF	0.013	0.001	0.013	-0.008	33732
19011JEI	0.001	0.004	0.004	0.011	31666
19011JEI	-0.004	0.004	0.006	0.010	31666
19011JEI	-0.004	0.001	0.005	-0.001	31666
19011JEJ	-0.003	-0.001	0.003	-0.013	29871
19011JEK	0.003	-0.002	0.004	-0.010	28167
19011JEL	-0.003	-0.007	0.007	-0.001	30682
19011JEP	0.001	0.003	0.003	-0.004	12311
19011JET	0.000	0.001	0.001	-0.002	7225
19011JFD	-0.002	0.000	0.002	-0.005	26623
19011JFE	0.027	0.000	0.027	0.007	25614
19011JFF	-0.002	0.003	0.004	-0.012	20962
19011JFF	-0.003	0.006	0.007	-0.013	20962
19011JFF	-0.001	0.003	0.003	-0.001	20962
19011JFH	0.007	0.005	0.009	-0.002	24707
19011JFM	0.001	-0.002	0.003	-0.002	17141
19011JFN	-0.006	-0.004	0.008	0.002	21573
19011JFO	0.006	-0.013	0.014	-0.016	21517
19011JFQ	0.001	-0.003	0.004	0.003	24136
19011JFU	-0.012	-0.003	0.013	-0.012	30012
19011JFY	0.007	0.011	0.013	0.000	29409
19011JGF	-0.007	-0.007	0.010	0.018	23677
19011JGG	0.006	-0.006	0.008	0.000	32597
19011JGL	0.001	-0.007	0.007	-0.013	28182
19011JGN	0.001	0.003	0.003	-0.016	24841
19011JGN	-0.003	0.004	0.005	-0.021	24841
19011JGN	-0.004	0.000	0.004	-0.004	24841
19011JGO	-0.007	-0.005	0.009	-0.007	23869
19011JGP	0.006	-0.006	0.008	0.005	30889
19011JGQ	-0.004	-0.002	0.004	-0.016	25025
19011JGR	0.001	0.003	0.003	-0.015	24263
19011JGS	-0.006	0.000	0.006	-0.001	16490
19011JGT	0.002	0.002	0.003	0.010	18301
19011JGX	0.001	0.003	0.004	0.010	28134
19011JGY	0.002	-0.011	0.011	-0.011	20104
19011JGZ	0.004	0.006	0.007	-0.001	21027
19011JHC	-0.009	0.002	0.009	-0.001	14233
19011JHD	-0.001	-0.002	0.002	-0.003	10282
19011JHH	-0.002	0.003	0.003	0.024	24493
19011JHI	-0.011	0.001	0.011	0.002	28730
19011TAA	-0.005	-0.007	0.009	-0.006	30001
19011TAB	-0.009	0.008	0.012	0.048	60461

GPSID	Delta East	Delta North	Delta Horiz	Delta Up	Length
19011TAB	-0.008	0.007	0.010	0.057	60461
19011TAB	0.002	-0.001	0.002	0.009	60461
19011TAC	-0.017	0.000	0.017	0.021	37272
19011TAD	0.018	0.001	0.018	-0.037	37270
19011TAD	0.012	0.009	0.015	-0.046	37270
19011TAD	-0.007	0.007	0.010	-0.009	37270
19011TAF	-0.006	-0.008	0.010	0.004	32589
19011TAG	-0.004	0.008	0.009	-0.016	32799
19011TAH	0.000	0.013	0.013	0.004	34392
19011TAI	0.004	0.011	0.012	0.022	34428
19011TAJ	0.011	-0.004	0.011	0.005	36690
19011TAM	-0.002	-0.011	0.011	0.045	45208
19011TAM	-0.030	0.023	0.038	0.090	45208
19011TAM	-0.032	0.007	0.033	0.088	45208
19011TAM	-0.029	0.034	0.045	0.046	45208
19011TAM	-0.030	0.018	0.035	0.044	45208
19011TAM	-0.002	-0.017	0.017	-0.002	45208
19011TAN	0.000	0.000	0.000	0.000	53898
19011TAN	-0.021	-0.006	0.022	0.021	53898
19011TAN	-0.041	0.006	0.041	0.053	53898
19011TAN	-0.014	0.016	0.021	0.039	53898
19011TAN	-0.021	-0.006	0.022	0.021	53898
19011TAN	-0.041	0.006	0.041	0.053	53898
19011TAN	-0.014	0.016	0.021	0.039	53898
19011TAN	-0.019	0.012	0.023	0.031	53898
19011TAN	0.007	0.022	0.024	0.018	53898
19011TAN	0.026	0.010	0.028	-0.013	53898
19011TAO	-0.007	-0.011	0.013	-0.016	43834
19011TAV	0.013	0.006	0.014	-0.006	46702
19011TAW	0.005	-0.003	0.006	0.052	46682
19011TBE	0.002	-0.007	0.007	-0.002	29663
19011TBF	-0.009	-0.005	0.010	0.030	24895
19011TBF	-0.014	0.006	0.015	0.036	24895
19011TBF	-0.005	0.012	0.013	0.006	24895
19011TBH	0.011	-0.001	0.011	-0.038	29609
19011TBH	0.016	0.006	0.017	-0.018	29609
19011TBH	0.005	0.007	0.009	0.020	29609
19011TBI	-0.010	0.010	0.014	0.005	33795
19011TBJ	0.001	0.006	0.006	-0.014	35163
19011TBK	0.000	-0.005	0.005	-0.021	33871
19011TBL	0.011	0.003	0.012	-0.013	26438
19011TBP	-0.005	-0.001	0.005	0.002	18994
19011TBQ	0.001	0.000	0.001	0.013	17593
19011TBR	-0.001	-0.001	0.001	-0.012	14899
19011TBS	0.004	0.000	0.004	-0.011	23109
19011TBT	0.004	0.000	0.004	0.001	25984
19011TBU	0.013	-0.004	0.014	-0.025	73086
19011TBU	0.009	0.005	0.010	-0.039	73086
19011TBU	-0.004	0.008	0.009	-0.014	73086
19011TBU	-0.002	-0.002	0.003	0.014	18195
19011TBV	0.008	0.007	0.011	-0.018	28597
19011TBW	0.015	-0.002	0.015	0.025	36564
19011TBX	-0.001	0.000	0.001	-0.029	35554
19011TBY	0.012	-0.010	0.015	0.011	34871

GPSID	Delta East	Delta North	Delta Horiz	Delta Up	Length
19011TBZ	0.004	0.006	0.008	-0.007	33499
19011TCA	0.006	0.004	0.008	-0.031	38841
19011TCB	0.007	0.007	0.010	0.022	34525
19011TCD	-0.004	0.004	0.006	0.005	28056
19011TCH	0.002	-0.008	0.008	-0.001	19288
19011TCL	0.001	-0.002	0.002	0.027	14034
19011TCM	-0.001	-0.002	0.002	0.018	22965
19011TCQ	0.002	-0.009	0.009	0.005	24922
19011TCR	-0.006	-0.007	0.009	-0.004	20518
19011TCS	-0.013	-0.005	0.014	0.016	16302
19011TCF	-0.006	0.003	0.007	0.009	14552
19011TCU	0.001	0.004	0.004	-0.003	9782
19011TCX	-0.004	-0.002	0.004	0.001	8253
19011TCY	-0.007	0.003	0.008	0.004	18909
19011TCZ	0.000	-0.001	0.001	0.007	16757
19011TDD	-0.004	-0.002	0.005	-0.014	15573
19011TDE	-0.003	-0.001	0.003	0.013	16472
19011TDF	0.016	0.000	0.016	-0.011	16473
19011TDH	-0.001	-0.005	0.005	0.012	12192
19011TDI	0.002	0.000	0.002	0.000	7159
19011TDJ	0.001	-0.002	0.002	0.003	4683
19011TDK	0.001	0.000	0.001	-0.008	13326
19011TDL	-0.002	-0.003	0.004	-0.004	14210
19011TDM	0.004	0.002	0.004	0.002	8072
19011TDQ	-0.003	0.003	0.004	0.000	11161
19011TDU	0.001	-0.001	0.002	0.000	14217
19011TDW	-0.006	-0.001	0.006	0.010	44166
19011TDX	-0.003	-0.002	0.004	0.006	15259
19011TDY	0.005	0.001	0.005	0.001	33749
19011TEA	0.004	0.000	0.004	0.036	16149
19011TEA	0.005	-0.001	0.006	0.039	16149
19011TEA	0.002	-0.001	0.002	0.003	16149
19011TEB	0.005	-0.001	0.005	-0.027	13696
19011TEF	-0.002	0.001	0.002	-0.012	20423
19011TEG	-0.004	-0.004	0.006	0.013	22693
19011TEH	0.010	0.013	0.017	-0.007	29693
19011TEL	-0.005	0.005	0.007	-0.006	36605
19011TEM	0.001	0.001	0.002	0.022	40753
19011TEM	0.005	-0.006	0.008	0.019	40753
19011TEM	0.004	-0.007	0.008	-0.004	40753
19011TEN	-0.009	0.001	0.009	-0.015	38067
19011TER	0.000	0.004	0.004	0.005	34459
19011TES	0.003	0.002	0.004	0.011	37661
19011TET	-0.003	-0.005	0.005	-0.013	40144
19011TEU	0.003	0.008	0.009	0.024	34892
19011TFH	0.005	-0.001	0.005	-0.008	34412
19011TFI	-0.009	0.001	0.009	0.002	28366
19011TFQ	0.010	0.001	0.010	-0.004	24815
19011TFU	0.001	-0.001	0.002	0.011	23913
19011TFV	0.002	0.001	0.002	-0.020	14286
19011TFW	-0.005	-0.005	0.007	0.007	19516
19011TFX	0.003	0.000	0.003	0.007	19455
19011TGB	-0.005	-0.004	0.006	0.012	26367
19011TGC	-0.005	-0.001	0.005	0.028	23937

GPSID	Delta East	Delta North	Delta Horiz	Delta Up	Length
19011TGD	0.001	-0.004	0.004	0.008	23180

WOODS VVA-F CHECK POINTS

The woods checkpoints (VVA-F-xx) were typically surveyed by establishing a pair of intervisible stations in an open area using a Trimble R10 GNSS receiver. A Trimble S6 or SX10 total station was then used to traverse to the woods point under canopy.

CENTERPOINT RTX SURVEYS

Due to poor cellular coverage there were two locations in Virginia where it was not possible to use the RTK/VRS methodology. The Trimble Centerpoint RTX service was used at these locations. This method uses corrections similar to a Real Time Network but the corrections come from a worldwide network of reference stations and are broadcast over a geosynchronous satellite downlink. The Trimble RTX system provides positions referenced to the ITRF08 epoch 2005.0. The NGS program HTDP was used to transform the positions to NAD83 (2011) epoch 2010.0. Table 6 summarizes the RTX data.

Table 5 - RTX Observations

GPSID	Horz Prec	Vert Prec	# of SV's	UTC Start	UTC End	# of Positions
19011TAK	0.007	0.023	16	3/21/19 14:51	3/21/19 15:01	602
19011TAK	0.009	0.026	17	3/21/19 15:02	3/21/19 15:07	300
19011TAL	0.009	0.027	18	3/21/19 15:46	3/21/19 15:51	300
19011TAL	0.009	0.026	18	3/21/19 16:00	3/21/19 16:05	300
19011TAL	0.008	0.026	20	3/21/19 16:11	3/21/19 16:16	304

These positions were adjusted by least squares.

LEAST SQUARES ADJUSTMENTS

Geolab was used to adjust the VRS vectors, the conventional observations to the forested VVA-F points, and the RTX positions. No scaling of the a priori GPS statistics was done. Station errors (centering, HI and HT) of 0.005 m were input. The GEOID12B model was used.

The Maryland and Virginia networks were adjusted separately. Each adjustment constrained the VRS CORS positions (as computed and broadcast by the network) in all three dimensions (NAD83 (2011) latitude, longitude, and ellipsoidal height). The estimated variance factors were 0.49 for the Virginia network and 0.28 for the Maryland network. These adjustments provided the adjusted positions (NAD83 (2011) epoch 2010.0) and GPS derived orthometric heights (NAVD88) for the stations in the network. Table 6 lists the station confidence regions (error ellipses) at the 95% level (in meters):

Table 6 - Station Confidence Regions (95% meters)

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
19010AA	0.0109	30	0.0086	0.0133
19010AB	0.0075	170	0.0072	0.0085

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
19010AC	0.0077	23	0.0072	0.0086
19010AD	0.0075	164	0.0072	0.0118
19010AE	0.0069	14	0.0068	0.0070
19010AF	0.0078	162	0.0073	0.0086
19010AG	0.0075	160	0.0071	0.0102
19010AH	0.0077	33	0.0073	0.0093
19010AI	0.0080	166	0.0076	0.0089
19010AJ	0.0079	33	0.0072	0.0095
19010AK	0.0082	175	0.0077	0.0108
19010AL	0.0080	11	0.0078	0.0100
19010AM	0.0074	10	0.0071	0.0084
19010AN	0.0079	148	0.0074	0.0100
19010AO	0.0078	172	0.0073	0.0077
19010AP	0.0070	5	0.0068	0.0064
19010AQ	0.0069	11	0.0068	0.0066
19010AR	0.0089	69	0.0087	0.0114
19010AS	0.0080	16	0.0074	0.0089
19010AT	0.0081	167	0.0075	0.0089
19010AU	0.0095	1	0.0088	0.0111
19010AV	0.0104	25	0.0086	0.0168
19010AW	0.0079	84	0.0077	0.0097
19010AX	0.0081	144	0.0078	0.0095
19010TA	0.0218	135	0.0126	0.0120
19010TB	0.0353	176	0.0128	0.0121
19010TC	0.0301	128	0.0167	0.0208
19010TD	0.0368	73	0.0130	0.0122
19010TE	0.0215	1	0.0140	0.0167
19010TF	0.0260	123	0.0097	0.0116
19010TG	0.0385	71	0.0151	0.0153
19010TH	0.0385	89	0.0148	0.0175
19010TI	0.0657	48	0.0164	0.0209
19010TJ	0.0400	32	0.0132	0.0140
19010TL	0.0337	74	0.0139	0.0190
19010TM	0.0385	124	0.0137	0.0147
19010TN	0.0396	150	0.0133	0.0208
19010TO	0.0491	55	0.0137	0.0150
19010TSA	0.0158	106	0.0114	0.0109
19010TSB	0.0159	15	0.0115	0.0110
19010TSC	0.0238	133	0.0157	0.0202
19010TSD	0.0162	101	0.0119	0.0112
19010TSE	0.0196	144	0.0133	0.0160
19010TSF	0.0132	152	0.0079	0.0105
19010TSG	0.0192	67	0.0141	0.0144
19010TSH	0.0204	39	0.0135	0.0168
19010TSI	0.0232	5	0.0146	0.0203
19010TSJ	0.0173	27	0.0120	0.0131
19010TSL	0.0180	14	0.0126	0.0184
19010TSM	0.0175	65	0.0125	0.0138
19010TSN	0.0193	3	0.0124	0.0202
19010TSO	0.0166	92	0.0125	0.0142
19010TXA	0.0158	106	0.0114	0.0109
19010TXB	0.0167	15	0.0116	0.0111
19010TXC	0.0240	133	0.0157	0.0202
19010TXD	0.0166	101	0.0119	0.0112
19010TXE	0.0177	144	0.0133	0.0159
19010TXF	0.0098	155	0.0076	0.0104
19010TXG	0.0170	68	0.0140	0.0143
19010TXH	0.0169	40	0.0134	0.0166
19010TXI	0.0234	6	0.0146	0.0202
19010TXJ	0.0170	28	0.0120	0.0131
19010TXL	0.0181	13	0.0126	0.0184
19010TXM	0.0177	65	0.0125	0.0138
19010TXN	0.0171	3	0.0123	0.0201
19010TXO	0.0172	92	0.0125	0.0142

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
19011JAA	0.0123	14	0.0115	0.0193
19011JAB	0.0094	172	0.0091	0.0120
19011JAC	0.0097	168	0.0093	0.0141
19011JAD	0.0127	162	0.0112	0.0270
19011JAE	0.0090	96	0.0075	0.0078
19011JAF	0.0131	94	0.0077	0.0080
19011JAG	0.0208	35	0.0086	0.0088
19011JAH	0.0089	131	0.0088	0.0079
19011JAI	0.0089	179	0.0066	0.0063
19011JAJ	0.0092	179	0.0067	0.0064
19011JAK	0.0214	144	0.0078	0.0074
19011JAL	0.0130	36	0.0092	0.0091
19011JAM	0.0132	36	0.0092	0.0092
19011JAN	0.0201	53	0.0101	0.0099
19011JAO	0.0101	40	0.0081	0.0150
19011JAP	0.0150	24	0.0094	0.0143
19011JAQ	0.0140	24	0.0094	0.0142
19011JAR	0.0381	120	0.0111	0.0148
19011JAS	0.0090	180	0.0082	0.0121
19011JAT	0.0080	171	0.0076	0.0092
19011JAU	0.0110	155	0.0099	0.0147
19011JAV	0.0067	148	0.0054	0.0090
19011JBA	0.0105	36	0.0097	0.0139
19011JBB	0.0131	31	0.0098	0.0112
19011JBC	0.0157	31	0.0098	0.0113
19011JBD	0.0298	86	0.0108	0.0118
19011JBE	0.0105	168	0.0102	0.0121
19011JBF	0.0103	167	0.0098	0.0105
19011JBG	0.0122	0	0.0114	0.0139
19011JBH	0.0114	13	0.0106	0.0138
19011JBI	0.0184	175	0.0099	0.0158
19011JBJ	0.0126	176	0.0097	0.0157
19011JBK	0.0245	60	0.0111	0.0163
19011JBL	0.0162	26	0.0111	0.0175
19011JBM	0.0164	26	0.0111	0.0175
19011JBN	0.0259	24	0.0118	0.0179
19011JBO	0.0174	167	0.0112	0.0175
19011JBP	0.0190	166	0.0112	0.0176
19011JBQ	0.0316	177	0.0119	0.0180
19011JBR	0.0141	41	0.0109	0.0127
19011JBS	0.0156	42	0.0109	0.0127
19011JBT	0.0175	8	0.0110	0.0133
19011JBU	0.0118	11	0.0078	0.0097
19011JBV	0.0120	10	0.0079	0.0098
19011JBX	0.0144	98	0.0106	0.0131
19011JBY	0.0147	97	0.0106	0.0131
19011JBZ	0.0186	81	0.0114	0.0137
19011JCA	0.0143	1	0.0102	0.0140
19011JCB	0.0141	2	0.0102	0.0140
19011JCC	0.0161	116	0.0108	0.0146
19011JCD	0.0142	12	0.0106	0.0187
19011JCE	0.0160	12	0.0106	0.0187
19011JCF	0.0207	158	0.0110	0.0191
19011JCG	0.0129	155	0.0103	0.0225
19011JCH	0.0115	152	0.0102	0.0160
19011JCI	0.0122	141	0.0109	0.0165
19011JCJ	0.0160	164	0.0108	0.0145
19011JCK	0.0154	164	0.0108	0.0145
19011JCL	0.0280	30	0.0119	0.0151
19011JCM	0.0112	50	0.0105	0.0134
19011JCN	0.0103	50	0.0098	0.0115
19011JCO	0.0100	45	0.0095	0.0109
19011JCP	0.0227	26	0.0115	0.0175
19011JCQ	0.0158	26	0.0115	0.0174

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
19011JCR	0.0306	42	0.0123	0.0180
19011JCS	0.0099	6	0.0094	0.0112
19011JCT	0.0106	170	0.0098	0.0134
19011JCU	0.0124	162	0.0109	0.0183
19011JCV	0.0094	153	0.0091	0.0102
19011JCW	0.0092	145	0.0088	0.0091
19011JCX	0.0108	20	0.0094	0.0105
19011JCY	0.0105	24	0.0093	0.0103
19011JCZ	0.0113	33	0.0097	0.0136
19011JDA	0.0112	34	0.0101	0.0160
19011JDB	0.0078	105	0.0065	0.0091
19011JDC	0.0130	96	0.0069	0.0092
19011JDD	0.0263	59	0.0080	0.0099
19011JDE	0.0139	140	0.0095	0.0094
19011JDF	0.0131	139	0.0095	0.0093
19011JDG	0.0212	92	0.0105	0.0101
19011JDH	0.0097	16	0.0094	0.0105
19011JDI	0.0123	19	0.0109	0.0181
19011JDJ	0.0154	5	0.0105	0.0152
19011JDK	0.0174	4	0.0106	0.0153
19011JDL	0.0192	132	0.0121	0.0157
19011JDM	0.0153	155	0.0101	0.0132
19011JDN	0.0146	155	0.0101	0.0131
19011JDO	0.0240	126	0.0113	0.0137
19011JDP	0.0110	162	0.0101	0.0133
19011JDQ	0.0112	152	0.0101	0.0132
19011JDR	0.0103	157	0.0096	0.0109
19011JDS	0.0101	166	0.0096	0.0107
19011JDT	0.0105	17	0.0099	0.0119
19011JDU	0.0088	15	0.0087	0.0077
19011JDV	0.0092	10	0.0090	0.0095
19011JDW	0.0096	12	0.0093	0.0116
19011JDX	0.0102	178	0.0099	0.0152
19011JDY	0.0101	161	0.0100	0.0188
19011JDZ	0.0105	165	0.0098	0.0172
19011JEA	0.0092	159	0.0083	0.0147
19011JEB	0.0110	60	0.0096	0.0132
19011JEC	0.0148	59	0.0097	0.0133
19011JED	0.0125	96	0.0102	0.0138
19011JEE	0.0111	127	0.0108	0.0137
19011JEF	0.0124	31	0.0092	0.0108
19011JEG	0.0137	34	0.0093	0.0108
19011JEH	0.0112	106	0.0101	0.0115
19011JEI	0.0088	60	0.0083	0.0108
19011JEJ	0.0109	47	0.0100	0.0137
19011JEK	0.0102	28	0.0096	0.0121
19011JEL	0.0102	12	0.0096	0.0123
19011JEM	0.0135	49	0.0099	0.0118
19011JEN	0.0134	49	0.0099	0.0118
19011JEO	0.0209	8	0.0104	0.0124
19011JEP	0.0095	149	0.0090	0.0098
19011JEQ	0.0128	23	0.0094	0.0093
19011JER	0.0127	24	0.0094	0.0093
19011JES	0.0181	46	0.0104	0.0101
19011JET	0.0099	155	0.0091	0.0098
19011JFA	0.0162	26	0.0103	0.0164
19011JFB	0.0156	25	0.0103	0.0163
19011JFC	0.0192	14	0.0113	0.0168
19011JFD	0.0101	33	0.0097	0.0119
19011JFE	0.0139	167	0.0128	0.0186
19011JFF	0.0096	13	0.0091	0.0106
19011JFG	0.0188	61	0.0098	0.0129
19011JFH	0.0116	56	0.0096	0.0128
19011JFI	0.0195	44	0.0104	0.0135

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
19011JFJ	0.0145	146	0.0107	0.0157
19011JFK	0.0158	146	0.0107	0.0158
19011JFL	0.0158	15	0.0112	0.0162
19011JFM	0.0114	175	0.0102	0.0150
19011JFN	0.0118	160	0.0079	0.0117
19011JFO	0.0147	158	0.0080	0.0118
19011JFP	0.0204	3	0.0090	0.0123
19011JFQ	0.0113	173	0.0105	0.0130
19011JFR	0.0151	100	0.0114	0.0132
19011JFS	0.0148	99	0.0113	0.0131
19011JFT	0.0197	125	0.0119	0.0137
19011JFU	0.0102	22	0.0099	0.0125
19011JFV	0.0151	22	0.0108	0.0173
19011JFW	0.0162	22	0.0108	0.0174
19011JFX	0.0265	6	0.0116	0.0177
19011JFY	0.0122	162	0.0111	0.0228
19011JFZ	0.0143	52	0.0116	0.0211
19011JGA	0.0146	52	0.0117	0.0211
19011JGB	0.0178	17	0.0116	0.0214
19011JGC	0.0175	136	0.0104	0.0178
19011JGD	0.0146	136	0.0104	0.0177
19011JGE	0.0267	13	0.0117	0.0182
19011JGF	0.0105	138	0.0102	0.0128
19011JGG	0.0109	69	0.0104	0.0131
19011JGH	0.0136	146	0.0108	0.0130
19011JGI	0.0149	144	0.0108	0.0131
19011JGJ	0.0193	106	0.0110	0.0136
19011JGK	0.0152	111	0.0092	0.0126
19011JGL	0.0110	105	0.0090	0.0125
19011JGM	0.0185	164	0.0102	0.0132
19011JGN	0.0083	16	0.0078	0.0103
19011JGO	0.0106	4	0.0097	0.0128
19011JGP	0.0099	157	0.0094	0.0126
19011JGQ	0.0098	153	0.0093	0.0112
19011JGR	0.0098	151	0.0092	0.0114
19011JGS	0.0109	21	0.0094	0.0101
19011JGT	0.0120	30	0.0091	0.0104
19011JGU	0.0130	153	0.0097	0.0118
19011JGV	0.0129	150	0.0097	0.0118
19011JGW	0.0138	91	0.0103	0.0124
19011JGX	0.0105	146	0.0099	0.0108
19011JGY	0.0101	168	0.0099	0.0106
19011JGZ	0.0102	172	0.0094	0.0102
19011JHA	0.0203	177	0.0091	0.0104
19011JHB	0.0260	156	0.0104	0.0111
19011JHC	0.0094	34	0.0093	0.0099
19011JHD	0.0100	3	0.0096	0.0119
19011JHE	0.0150	66	0.0110	0.0141
19011JHF	0.0138	67	0.0109	0.0140
19011JHG	0.0255	79	0.0118	0.0146
19011JHH	0.0105	162	0.0098	0.0117
19011JHI	0.0101	164	0.0095	0.0107
19011TAA	0.0120	29	0.0098	0.0132
19011TAB	0.0097	32	0.0086	0.0121
19011TAC	0.0105	133	0.0074	0.0100
19011TAD	0.0085	136	0.0073	0.0099
19011TAE	0.0338	169	0.0083	0.0108
19011TAF	0.0120	22	0.0117	0.0155
19011TAG	0.0140	138	0.0121	0.0195
19011TAH	0.0124	14	0.0119	0.0159
19011TAI	0.0138	15	0.0130	0.0191
19011TAJ	0.0131	21	0.0120	0.0181
19011TAK	0.0069	170	0.0060	0.0234
19011TAL	0.0067	155	0.0053	0.0205

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
19011TAM	0.0151	148	0.0092	0.0169
19011TAN	0.0086	168	0.0074	0.0121
19011TAO	0.0117	27	0.0110	0.0173
19011TAP	0.0181	76	0.0113	0.0176
19011TAQ	0.0138	74	0.0112	0.0175
19011TAR	0.0226	113	0.0120	0.0179
19011TAS	0.0146	2	0.0113	0.0252
19011TAT	0.0161	5	0.0113	0.0251
19011TAU	0.0282	127	0.0113	0.0255
19011TAV	0.0096	148	0.0070	0.0109
19011TAW	0.0111	147	0.0070	0.0109
19011TAX	0.0303	130	0.0082	0.0116
19011TAY	0.0137	16	0.0100	0.0113
19011TAZ	0.0135	14	0.0100	0.0113
19011TBA	0.0276	179	0.0108	0.0119
19011TBB	0.0138	23	0.0107	0.0131
19011TBC	0.0167	23	0.0108	0.0132
19011TBD	0.0449	3	0.0117	0.0137
19011TBE	0.0102	45	0.0096	0.0118
19011TBF	0.0092	26	0.0085	0.0117
19011TBG	0.0184	7	0.0158	0.0285
19011TBH	0.0081	168	0.0077	0.0102
19011TBI	0.0113	154	0.0102	0.0153
19011TBJ	0.0105	152	0.0094	0.0126
19011TBK	0.0117	147	0.0098	0.0157
19011TBL	0.0105	24	0.0093	0.0100
19011TBM	0.0139	75	0.0107	0.0118
19011TBN	0.0147	73	0.0106	0.0119
19011TBO	0.0343	105	0.0119	0.0125
19011TBP	0.0107	34	0.0097	0.0129
19011TBQ	0.0101	38	0.0095	0.0119
19011TBR	0.0104	54	0.0100	0.0129
19011TBS	0.0097	13	0.0095	0.0101
19011TBT	0.0129	172	0.0123	0.0157
19011TBU	0.0065	178	0.0059	0.0075
19011TBV	0.0116	11	0.0111	0.0162
19011TBW	0.0118	28	0.0100	0.0191
19011TBX	0.0122	1	0.0106	0.0210
19011TBY	0.0116	3	0.0100	0.0189
19011TBZ	0.0137	176	0.0115	0.0189
19011TCA	0.0090	35	0.0063	0.0073
19011TCB	0.0085	37	0.0063	0.0073
19011TCC	0.0171	105	0.0078	0.0083
19011TCD	0.0102	176	0.0099	0.0118
19011TCE	0.0152	19	0.0107	0.0155
19011TCF	0.0146	20	0.0107	0.0155
19011TCG	0.0321	127	0.0113	0.0159
19011TCH	0.0104	143	0.0101	0.0152
19011TCI	0.0155	12	0.0105	0.0168
19011TCJ	0.0136	13	0.0105	0.0167
19011TCK	0.0349	40	0.0115	0.0172
19011TCL	0.0108	176	0.0100	0.0171
19011TCM	0.0123	172	0.0108	0.0199
19011TCN	0.0137	36	0.0106	0.0132
19011TCO	0.0181	37	0.0107	0.0134
19011TCP	0.0374	68	0.0117	0.0138
19011TCQ	0.0109	29	0.0102	0.0131
19011TCR	0.0121	32	0.0104	0.0146
19011TCS	0.0121	32	0.0105	0.0151
19011TCT	0.0115	32	0.0101	0.0139
19011TCU	0.0113	47	0.0083	0.0109
19011TCV	0.0135	52	0.0084	0.0109
19011TCW	0.0439	30	0.0093	0.0116
19011TCX	0.0093	160	0.0091	0.0099

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
19011TCY	0.0096	150	0.0093	0.0106
19011TCZ	0.0108	154	0.0103	0.0143
19011TDA	0.0142	62	0.0106	0.0140
19011TDB	0.0142	63	0.0106	0.0140
19011TDC	0.0222	96	0.0112	0.0145
19011TDD	0.0107	26	0.0094	0.0106
19011TDE	0.0112	8	0.0077	0.0110
19011TDF	0.0116	9	0.0077	0.0111
19011TDG	0.0214	112	0.0095	0.0118
19011TDH	0.0099	42	0.0094	0.0119
19011TDI	0.0093	49	0.0092	0.0101
19011TDJ	0.0089	61	0.0089	0.0085
19011TDK	0.0105	144	0.0104	0.0129
19011TDL	0.0111	9	0.0110	0.0139
19011TDM	0.0103	26	0.0099	0.0120
19011TDN	0.0159	36	0.0107	0.0145
19011TDO	0.0157	36	0.0107	0.0145
19011TDP	0.0477	39	0.0115	0.0150
19011TDQ	0.0108	5	0.0099	0.0122
19011TDR	0.0143	4	0.0099	0.0124
19011TDS	0.0144	4	0.0099	0.0124
19011TDT	0.0252	151	0.0108	0.0130
19011TDU	0.0096	145	0.0093	0.0105
19011TDV	0.0100	157	0.0096	0.0105
19011TDW	0.0101	147	0.0096	0.0120
19011TDX	0.0116	156	0.0103	0.0169
19011TDY	0.0090	151	0.0081	0.0122
19011TDZ	0.0109	146	0.0100	0.0187
19011TEA	0.0102	163	0.0086	0.0209
19011TEB	0.0106	1	0.0100	0.0148
19011TEC	0.0134	115	0.0098	0.0120
19011TED	0.0147	114	0.0099	0.0120
19011TEE	0.0323	65	0.0109	0.0126
19011TEF	0.0116	84	0.0111	0.0155
19011TEG	0.0123	60	0.0113	0.0158
19011TEH	0.0117	47	0.0107	0.0152
19011TEI	0.0196	68	0.0115	0.0175
19011TEJ	0.0146	68	0.0114	0.0174
19011TEK	0.0282	178	0.0123	0.0178
19011TEL	0.0109	6	0.0105	0.0168
19011TEM	0.0080	170	0.0076	0.0139
19011TEN	0.0126	148	0.0117	0.0268
19011TEO	0.0138	107	0.0101	0.0139
19011TEP	0.0147	108	0.0101	0.0139
19011TEQ	0.0571	171	0.0108	0.0144
19011TER	0.0112	32	0.0098	0.0143
19011TES	0.0123	38	0.0107	0.0197
19011TET	0.0114	40	0.0100	0.0169
19011TEU	0.0116	51	0.0103	0.0177
19011TEV	0.0166	22	0.0109	0.0169
19011TEW	0.0151	22	0.0109	0.0169
19011TEX	0.0416	87	0.0117	0.0173
19011TEY	0.0150	104	0.0123	0.0145
19011TEZ	0.0160	102	0.0123	0.0145
19011TFA	0.0394	115	0.0131	0.0150
19011TFB	0.0165	175	0.0112	0.0144
19011TFC	0.0167	175	0.0112	0.0144
19011TFD	0.0338	122	0.0123	0.0149
19011TFE	0.0214	114	0.0127	0.0166
19011TFF	0.0153	114	0.0127	0.0165
19011TFG	0.0218	18	0.0131	0.0169
19011TFH	0.0113	159	0.0107	0.0168
19011TFI	0.0122	154	0.0112	0.0184
19011TFJ	0.0177	27	0.0129	0.0205

Station Name	Semi-Major Axis	Azimuth	Semi-Minor Axis	Vertical
19011TFK	0.0176	26	0.0129	0.0205
19011TFL	0.0249	44	0.0139	0.0208
19011TFM	0.0118	173	0.0109	0.0157
19011TFN	0.0155	30	0.0110	0.0151
19011TFO	0.0165	30	0.0110	0.0152
19011TFP	0.0237	178	0.0116	0.0156
19011TFQ	0.0136	175	0.0119	0.0185
19011TFR	0.0190	22	0.0137	0.0217
19011TFS	0.0204	22	0.0137	0.0217
19011TFT	0.0427	5	0.0135	0.0220
19011TFU	0.0115	169	0.0102	0.0151
19011TFV	0.0094	169	0.0090	0.0102
19011TFW	0.0101	165	0.0095	0.0141
19011TFX	0.0110	171	0.0101	0.0170
19011TFY	0.0146	51	0.0117	0.0194
19011TFZ	0.0155	52	0.0117	0.0194
19011TGA	0.0333	151	0.0114	0.0198
19011TGB	0.0105	172	0.0099	0.0154
19011TGC	0.0115	166	0.0105	0.0175
19011TGD	0.0114	17	0.0107	0.0159
19011TGE	0.0155	18	0.0113	0.0174
19011TGF	0.0174	19	0.0113	0.0174
19011TGG	0.0271	131	0.0125	0.0179

SUMMARY

A LiDAR ground control network was established over two discrete areas in central Maryland and eastern Virginia. The estimated accuracy of the control network is ± 0.05 m with respect to the NAD83 (2011) epoch 2010.0 reference frame and the NAVD88 vertical datum.

Adjusted Coordinates

Horizontal Datum: NAD83 (2011) epoch 2010.0

Vertical Datum: Ellipsoidal Height=NAVD88+GEOID12B

Units: meters

UTM Zone: 18

Table 7 - Geodetic Coordinates & UTM15 Coordinates

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
	19010TSA	39°20'32.12105" N	77°10'57.47237" W	209.431	241.348	4357030.013	311907.010
	19010TSB	39°21'01.57664" N	77°06'26.34126" W	168.393	200.254	4357784.043	318419.152
	19010TSC	39°16'48.02992" N	77°05'44.41065" W	142.824	174.637	4349943.571	319241.622
	19010TSD	39°20'45.02287" N	77°03'00.82592" W	146.864	178.728	4357160.452	323327.047
	19010TSE	39°15'58.28692" N	77°02'33.36931" W	102.864	134.711	4348305.254	323784.598
	19010TSF	39°13'00.54971" N	76°59'01.09860" W	112.644	144.580	4342712.383	328751.788
	19010TSG	39°21'47.97575" N	76°58'09.58489" W	82.408	114.340	4358946.226	330341.284
	19010TSH	39°11'29.65200" N	76°55'07.73586" W	101.892	133.959	4339789.465	334289.066
	19010TSI	39°20'33.72046" N	76°53'34.29795" W	117.677	149.710	4356516.011	336881.600
	19010TSJ	39°16'57.35561" N	76°52'34.19716" W	106.499	138.585	4349815.417	338181.939
	19010TSL	39°15'23.74332" N	76°51'58.33188" W	121.928	154.052	4346911.574	338981.743
	19010TSM	39°06'17.34635" N	76°50'24.33657" W	10.462	42.739	4330020.302	340892.785
	19010TSN	39°12'40.87945" N	76°49'17.02167" W	89.724	121.967	4341811.771	342747.141
	19010TSO	39°10'52.93922" N	76°47'56.98722" W	55.189	87.516	4338445.681	344600.624
	19010TXA	39°20'33.02838" N	77°10'57.12398" W	209.205	241.122	4357057.786	311916.027
	19010TXB	39°21'01.73742" N	77°06'27.14397" W	166.683	198.544	4357789.449	318400.053
	19010TXC	39°16'50.95592" N	77°05'41.30308" W	143.615	175.429	4350032.058	319318.173
	19010TXD	39°20'46.02514" N	77°03'00.58981" W	145.896	177.760	4357191.225	323333.400
	19010TXE	39°15'59.86078" N	77°02'30.77367" W	105.029	136.876	4348352.373	323847.900
	19010TXF	39°13'00.08895" N	76°59'02.14007" W	113.321	145.258	4342698.725	328726.500
	19010TXG	39°21'46.43248" N	76°58'08.96671" W	80.533	112.465	4358898.323	330355.041
	19010TXH	39°11'29.19179" N	76°55'07.13816" W	100.604	132.671	4339774.973	334303.105
	19010TXI	39°20'33.77276" N	76°53'35.01086" W	116.188	148.221	4356517.981	336864.568
	19010TXJ	39°16'57.63184" N	76°52'34.86127" W	103.941	136.028	4349824.263	338166.204
	19010TXL	39°15'23.94594" N	76°51'59.36140" W	119.417	151.541	4346918.329	338957.196
	19010TXM	39°06'18.23056" N	76°50'24.85340" W	8.658	40.935	4330047.813	340880.923
	19010TXN	39°12'40.97678" N	76°49'18.06277" W	89.878	122.120	4341815.273	342722.232
	19010TXO	39°10'53.39521" N	76°47'56.98637" W	53.833	86.159	4338459.738	344600.924
F01BS	19011TEO	37°31'29.28203" N	77°04'31.25336" W	9.636	43.481	4155116.338	316610.064
F01TS	19011TEP	37°31'29.68272" N	77°04'31.12960" W	11.136	44.980	4155128.621	316613.375
F02BS	19011JCB	37°56'58.11549" N	76°38'08.51735" W	3.556	37.992	4201471.088	356286.700
F02TS	19011JCA	37°56'58.20971" N	76°38'11.10596" W	4.063	38.498	4201475.102	356223.570
F03BS	19011TFJ	37°32'52.82588" N	77°09'50.01092" W	15.302	48.804	4157867.845	308844.151
F03TS	19011TFK	37°32'51.55411" N	77°09'47.65051" W	17.399	50.902	4157827.311	308901.177
F04BS	19011JBY	37°56'55.51673" N	76°34'53.78193" W	5.195	39.774	4201308.901	361038.293
F04TS	19011JBX	37°56'52.31835" N	76°34'54.30021" W	6.095	40.675	4201210.533	361023.969

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
F05BS	19011TAP	37°06'01.46232" N	76°54'00.23892" W	-4.963	29.980	4107700.009	331153.617
F05S6	19011TAQ	37°06'02.51343" N	76°54'00.53609" W	-3.897	31.045	4107732.551	331146.929
F06BS	19011JCQ	37°53'15.73829" N	76°21'26.60815" W	-2.713	32.707	4194224.157	380640.414
F06TS	19011JCP	37°53'16.39780" N	76°21'28.44264" W	-2.954	32.464	4194245.136	380595.899
F07BS	19011JDN	37°50'40.98849" N	76°36'46.28587" W	-1.820	32.872	4189812.088	358092.705
F07TS	19011JDM	37°50'42.50570" N	76°36'42.76789" W	-1.196	33.498	4189857.367	358179.499
F09BS	19011TDA	36°42'55.61293" N	76°37'35.14502" W	-21.954	14.203	4064539.592	354743.645
F09S6	19011TDB	36°42'54.75817" N	76°37'34.59201" W	-20.252	15.906	4064513.018	354756.918
F10BS	19011TCF	36°32'51.40464" N	76°45'22.75225" W	-20.706	15.268	4046124.461	342801.419
F10S6	19011TCE	36°32'51.67247" N	76°45'23.58372" W	-19.240	16.734	4046133.092	342780.895
F11BS	19011TCO	36°38'58.87350" N	76°37'14.86773" W	-15.120	21.078	4057235.537	355123.410
F11S6	19011TCN	36°38'59.21766" N	76°37'15.40221" W	-13.594	22.604	4057246.367	355110.317
F13BS	19011JER	37°49'59.39852" N	76°51'52.98157" W	13.391	47.348	4188942.906	335905.378
F13TS	19011JEQ	37°49'58.33929" N	76°51'50.32002" W	13.610	47.570	4188908.959	335969.792
F14BS	19011JAF	38°08'45.98211" N	77°00'20.16949" W	24.207	57.699	4223926.343	324254.785
F14TS	19011JAE	38°08'46.95358" N	77°00'20.10915" W	24.414	57.906	4223956.257	324256.902
F15BS	19011TDR	36°59'23.02464" N	76°34'28.79731" W	-29.513	6.593	4094891.743	359868.661
F15TS	19011TDS	36°59'22.93223" N	76°34'27.52510" W	-27.997	8.112	4094888.375	359900.065
F16BS	19011TBM	36°54'43.55613" N	76°44'44.65782" W	-9.144	26.486	4086544.443	344485.687
F16S6	19011TBN	36°54'44.38035" N	76°44'44.77231" W	-7.831	27.800	4086569.896	344483.318
F17BS	19011TEV	37°26'26.48439" N	77°01'53.79968" W	-25.639	8.460	4145698.976	320273.896
F17TS	19011TEW	37°26'26.29724" N	77°01'53.10734" W	-24.141	9.958	4145692.840	320290.787
F18BS	19011JBS	37°58'12.51400" N	76°33'32.63834" W	-2.575	32.032	4203648.769	363058.527
F18TS	19011JBR	37°58'11.25393" N	76°33'31.24735" W	-2.470	32.138	4203609.362	363091.817
F19BS	19011JAJ	38°03'02.25518" N	76°52'24.19539" W	9.827	43.434	4213088.777	335627.604
F19TS	19011JAP	38°03'02.54406" N	76°52'24.96686" W	9.648	43.255	4213098.060	335608.979
F20BS	19011JGZ	37°57'02.28281" N	77°05'58.74943" W	24.545	57.810	4202417.065	315522.445
F20TS	19011JHA	37°57'02.78026" N	77°05'56.26468" W	23.299	56.566	4202431.032	315583.440
F21BS	19011JGL	37°27'17.21842" N	76°28'08.72729" W	-21.391	14.062	4146338.013	370064.940
F21TS	19011JGK	37°27'14.93625" N	76°28'09.96939" W	-22.167	13.286	4146268.153	370033.325
F22BS	19011JFO	37°31'30.74290" N	76°27'01.50672" W	-24.608	10.827	4154126.025	371836.939
F22TS	19011JFN	37°31'29.58190" N	76°27'04.66278" W	-25.401	10.032	4154091.438	371758.917
F23BS	19011JDF	37°43'04.67961" N	76°22'56.44366" W	-10.145	25.367	4175422.797	378167.430
F23TS	19011JDE	37°43'03.52230" N	76°22'58.11596" W	-11.622	23.888	4175387.733	378125.961
F24BS	19011JFH	37°38'27.46602" N	76°38'47.95772" W	-2.176	32.663	4167255.450	354720.968
F24TS	19011JFG	37°38'23.43991" N	76°38'45.38709" W	-2.110	32.730	4167130.253	354781.794
F25BS	19011TFN	37°36'42.13170" N	77°07'29.71573" W	-22.240	11.348	4164857.237	312447.147
F25TS	19011TFO	37°36'42.73224" N	77°07'30.90824" W	-20.366	13.222	4164876.410	312418.325
F26BS	19011JEN	37°43'05.05966" N	76°53'10.54016" W	12.593	46.733	4176209.800	333751.690
F26TS	19011JEM	37°43'07.12653" N	76°53'12.63358" W	11.139	45.276	4176274.539	333701.718
F27BS	19011JBM	38°04'11.75688" N	76°38'43.18882" W	6.423	40.653	4214852.196	355676.888
F27TS	19011JBL	38°04'13.09255" N	76°38'46.11457" W	4.847	39.074	4214894.629	355606.324
F28BS	19011TGE	37°47'39.69170" N	77°08'21.29688" W	10.408	43.692	4185154.556	311645.381
F28TS	19011TGF	37°47'39.88141" N	77°08'22.05732" W	12.464	45.747	4185160.830	311626.914
F29BS	19011TAZ	37°08'33.05147" N	76°41'48.06803" W	-24.869	10.633	4112029.526	349311.786
F29S6	19011TAY	37°08'32.75238" N	76°41'46.65029" W	-23.406	12.098	4112019.682	349346.600

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
F30BS	19011TAT	37°02'22.53698" N	76°47'07.70031" W	-8.100	27.269	4100755.237	341210.989
F30S6	19011TAS	37°02'22.42883" N	76°47'07.09319" W	-6.504	28.864	4100751.623	341225.926
F31BS	19011TBC	37°09'31.55471" N	76°41'45.98602" W	-24.016	11.469	4113831.634	349395.396
F31S6	19011TBB	37°09'31.30783" N	76°41'45.11107" W	-22.474	13.011	4113823.639	349416.843
F32BS	19011TCA	36°37'21.27749" N	76°53'20.13589" W	-26.880	8.674	4054666.208	331094.795
F32S6	19011TCB	36°37'20.64038" N	76°53'19.30244" W	-25.597	9.958	4054646.166	331115.113
F33BS	19011JFS	37°29'48.99290" N	76°24'30.24114" W	-24.665	10.927	4150933.666	375503.037
F33TS	19011JFR	37°29'54.29282" N	76°24'29.22436" W	-23.671	11.921	4151096.635	375530.449
F34BS	19011JBV	37°57'46.29636" N	76°30'16.27058" W	-8.267	26.519	4202761.846	367836.876
F34BS	19011JCE	37°57'46.30227" N	76°30'16.23948" W	-8.353	26.434	4202762.016	367837.638
F34TS	19011JBU	37°57'46.45081" N	76°30'17.35013" W	-8.966	25.819	4202767.033	367810.610
F34TS	19011JCD	37°57'46.64626" N	76°30'17.64920" W	-8.721	26.065	4202773.175	367803.409
F35BS	19011JAJ	38°07'19.38184" N	76°58'59.04391" W	-28.040	5.481	4221214.400	326172.566
F35TS	19011JAI	38°07'19.39324" N	76°58'58.29087" W	-27.997	5.524	4221214.360	326190.911
F36BS	19011TFC	37°25'33.33531" N	76°58'11.49019" W	-25.199	9.184	4143944.791	325703.160
F36TS	19011TFB	37°25'33.37295" N	76°58'10.55908" W	-23.747	10.637	4143945.473	325726.072
F37BS	19011TEI	37°29'10.17709" N	76°54'38.60561" W	-9.590	24.909	4150520.480	331071.620
F37TS	19011TEJ	37°29'11.03238" N	76°54'38.96670" W	-7.237	27.261	4150547.022	331063.286
F38BS	19011JCK	37°52'11.29020" N	76°27'22.06498" W	-3.485	31.594	4192368.694	371926.626
F38TS	19011JCJ	37°52'11.80022" N	76°27'19.53584" W	-3.603	31.478	4192383.449	371988.666
F39BS	19011TDE	36°42'55.33562" N	76°33'49.24731" W	-22.657	13.698	4064437.743	360348.058
F39TS	19011TDF	36°42'55.31959" N	76°33'48.48349" W	-20.996	15.360	4064436.940	360367.000
F40BS	19011JGA	37°21'57.04353" N	76°18'52.42256" W	-31.421	4.602	4136268.562	383595.508
F40TS	19011JFZ	37°21'59.12313" N	76°18'54.11415" W	-31.198	4.823	4136333.232	383554.791
F41BS	19011JBC	37°56'01.47418" N	76°44'20.63718" W	2.624	36.805	4199889.762	347171.603
F41TS	19011JBB	37°56'00.97052" N	76°44'19.57315" W	2.573	36.756	4199873.753	347197.289
F42BS	19011JEC	37°41'07.62786" N	77°00'42.84261" W	11.059	44.936	4172820.731	322599.388
F42TS	19011JEB	37°41'12.15765" N	77°00'46.31046" W	11.683	45.552	4172962.179	322517.440
F43BS	19011TEC	37°21'38.38371" N	76°42'52.20252" W	-5.946	29.156	4136261.777	348167.978
F43TS	19011TED	37°21'38.98938" N	76°42'51.88303" W	-4.998	30.104	4136280.301	348176.177
F44BS	19011JDC	37°42'27.53722" N	76°20'17.47344" W	-31.524	4.133	4174221.505	382043.141
F44TS	19011JDB	37°42'28.46868" N	76°20'17.37096" W	-31.859	3.797	4174250.177	382046.061
F45BS	19011JHF	38°01'01.27983" N	76°59'41.76460" W	12.482	45.936	4209581.744	324881.938
F45TS	19011JHE	38°00'59.20131" N	76°59'40.72387" W	11.551	45.005	4209517.130	324905.944
F46BS	19011JFB	37°43'18.88508" N	76°42'45.72387" W	0.618	35.200	4176341.891	349057.665
F46TS	19011JFA	37°43'16.56632" N	76°42'38.97681" W	0.962	35.550	4176267.402	349221.546
F47BS	19011JEG	37°35'26.68513" N	76°51'31.62464" W	-3.022	31.420	4162033.174	335893.490
F47TS	19011JEF	37°35'29.23093" N	76°51'36.48880" W	-1.632	32.805	4162114.003	335775.744
F48BS	19011TFR	37°44'33.26790" N	77°07'44.59762" W	18.368	51.748	4179387.697	312412.216
F48TS	19011TFS	37°44'32.29537" N	77°07'42.78297" W	18.964	52.346	4179356.709	312455.952
F49S6	19011TCV	36°50'39.43469" N	76°40'50.42896" W	-10.496	25.441	4078917.007	350149.699
F50BS	19011JDK	37°47'32.42040" N	76°36'32.82820" W	-29.442	5.340	4183994.345	358321.524
F50TS	19011JDJ	37°47'32.12211" N	76°36'26.34607" W	-27.657	7.130	4183982.424	358479.914
F51BS	19011TCJ	36°35'58.16291" N	76°40'05.14118" W	-15.060	21.061	4051739.101	350798.521
F51S6	19011TCI	36°35'58.56400" N	76°40'06.90020" W	-13.739	22.380	4051752.221	350755.028
F52BS	19011TFY	37°49'38.92777" N	77°15'20.61782" W	23.938	56.993	4189071.207	301477.291

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
F52TS	19011TFZ	37°49'38.43913" N	77°15'20.22405" W	26.072	59.128	4189055.912	301486.555
F53BS	19011JBP	37°59'16.90527" N	76°35'22.03455" W	-2.172	32.325	4205678.625	360423.118
F53TS	19011JBO	37°59'16.40231" N	76°35'24.21207" W	-4.951	29.544	4205664.030	360369.734
F54BS	19011TAW	37°06'33.80989" N	76°46'30.84309" W	-6.565	28.768	4108482.232	342266.280
F54S6	19011TAV	37°06'33.34992" N	76°46'31.74989" W	-4.901	30.431	4108468.475	342243.632
F55BS	19011TEY	37°25'49.62259" N	76°59'37.53770" W	-24.744	9.535	4144491.276	323598.655
F55TS	19011TEZ	37°25'51.00384" N	76°59'37.05545" W	-22.138	12.140	4144533.598	323611.410
F56BS	19011TDN	36°56'55.90383" N	76°32'03.51306" W	-30.399	5.966	4090299.172	363387.262
F56TS	19011TDO	36°56'55.13638" N	76°32'02.36356" W	-28.922	7.444	4090275.063	363415.314
F57BS	19011TAD	37°04'37.13838" N	77°03'35.22946" W	-7.435	27.040	4105397.091	316902.406
F57S6	19011TAC	37°04'36.77755" N	77°03'35.66001" W	-5.672	28.804	4105386.200	316891.532
F58BS	19011JAM	38°08'55.86774" N	76°54'55.56137" W	20.889	54.472	4224063.992	332163.045
F58TS	19011JAL	38°08'56.46253" N	76°54'56.63259" W	20.990	54.574	4224082.865	332137.349
F59BS	19011JGV	37°24'30.52167" N	76°36'12.66060" W	-7.043	28.166	4141394.313	358087.320
F59TS	19011JGU	37°24'33.17284" N	76°36'07.14982" W	-6.726	28.484	4141473.720	358224.192
F60BS	19011JGI	37°26'42.05367" N	76°23'53.35572" W	-29.645	6.047	4145158.757	376323.238
F60TS	19011JGH	37°26'40.86411" N	76°23'55.74316" W	-29.564	6.127	4145122.966	376264.028
F61BS	19011JFK	37°34'13.04434" N	76°36'27.57512" W	-9.782	25.202	4159354.209	358027.319
F61TS	19011JFJ	37°34'14.68116" N	76°36'24.78974" W	-10.853	24.133	4159403.488	358096.514
F62BS	19011JBJ	38°07'45.37910" N	76°39'54.45482" W	-27.671	6.407	4221467.763	354058.428
F62TS	19011JBI	38°07'45.21578" N	76°39'56.52242" W	-27.892	6.184	4221463.633	354007.996
F63BS	19011JGD	37°21'45.42170" N	76°18'34.36432" W	-32.397	3.644	4135904.216	384034.743
F63TS	19011JGC	37°21'46.91426" N	76°18'32.64058" W	-32.340	3.702	4135949.627	384077.784
F64BS	19011TFE	37°28'33.36315" N	77°00'07.40241" W	-1.115	33.087	4149553.668	322971.880
F64TS	19011TFF	37°28'32.33264" N	77°00'07.84542" W	0.144	34.346	4149522.137	322960.322
F65BS	19011JFW	37°26'07.02795" N	76°19'44.56650" W	-31.913	3.993	4143990.812	382421.416
F65TS	19011JFV	37°26'07.71468" N	76°19'46.77526" W	-31.475	4.429	4144012.742	382367.433
MD-01	19010AA	39°19'05.37625" N	77°09'26.59918" W	205.811	237.659	4354303.290	314018.692
MD-02	19010AB	39°12'04.37326" N	77°01'25.39414" W	111.332	143.210	4341056.993	325252.511
MD-03	19010AC	39°19'08.53215" N	76°56'42.46602" W	160.469	192.424	4353985.289	332320.424
MD-04	19010AD	39°06'17.02654" N	76°52'20.18075" W	45.547	77.742	4330067.322	338109.965
MD-09	19010AE	39°12'51.21999" N	76°41'17.32059" W	2.841	35.451	4341907.734	354258.147
MD-NVA-01	19010AF	39°11'05.26171" N	76°59'23.13169" W	107.761	139.701	4339169.627	328145.330
MD-NVA-02	19010AG	39°11'57.02715" N	76°51'44.71191" W	75.669	107.841	4340531.831	339177.142
MD-NVA-03	19010AH	39°17'29.63006" N	77°04'16.50882" W	128.350	160.178	4351177.627	321377.239
MD-NVA-04	19010AI	39°22'01.20775" N	77°07'12.81855" W	174.649	206.543	4359648.589	317349.772
MD-NVA-05	19010AJ	39°16'40.67765" N	77°08'44.74885" W	142.943	174.750	4349818.200	314915.078
MD-NVA-06	19010AK	39°14'18.55142" N	77°03'23.98208" W	82.215	114.046	4345257.820	322501.746
MD-NVA-07	19010AL	39°20'24.64079" N	77°07'28.15519" W	181.232	213.086	4356679.925	316912.705
MD-NVA-08	19010AM	39°17'28.89823" N	77°01'02.56374" W	148.073	179.939	4351050.034	326023.134
MD-NVA-09	19010AN	39°13'36.85066" N	76°55'04.75849" W	84.037	116.092	4343709.476	334443.513
MD-NVA-10	19010AO	39°08'44.21679" N	76°48'53.41169" W	25.734	58.048	4334504.239	343167.355
MD-NVA-11	19010AP	39°11'50.44164" N	76°46'24.90898" W	49.782	82.160	4340174.908	346844.646
MD-NVA-12	19010AQ	39°13'03.98282" N	76°42'50.13686" W	10.682	43.206	4342342.996	352039.606
MD-NVA-13	19010AR	39°17'05.81437" N	76°54'00.68416" W	115.468	147.514	4350119.455	336115.197
MD-NVA-14	19010AS	39°20'10.32906" N	76°57'06.20989" W	140.340	172.287	4355902.782	331792.961

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
MD-NVA-15	19010AT	39°09'18.90711" N	76°56'01.34140" W	105.110	137.162	4335785.958	332917.050
MD-NVA-16	19010AU	39°21'02.65276" N	77°02'20.40370" W	119.798	151.671	4357682.097	324306.974
MD-NVA-17	19010AV	39°18'59.87057" N	77°02'53.62174" W	152.531	184.380	4353914.592	323426.021
MD-NVA-18	19010AW	39°14'54.63683" N	76°59'10.04872" W	149.998	181.916	4346234.424	328614.287
MD-VVA-01	19010AX	39°15'51.26425" N	76°55'26.75419" W	82.934	114.957	4347864.649	334004.152
MD-VVA-F01	19010TA	39°20'32.03021" N	77°10'57.99167" W	206.930	238.847	4357027.513	311894.510
MD-VVA-F02	19010TB	39°21'01.71915" N	77°06'25.54583" W	164.804	196.664	4357787.993	318438.295
MD-VVA-F03	19010TC	39°16'47.25592" N	77°05'44.96244" W	137.691	169.504	4349920.014	319227.848
MD-VVA-F04	19010TD	39°20'44.06929" N	77°03'00.13261" W	143.362	175.226	4357130.675	323342.977
MD-VVA-F05	19010TE	39°15'59.15923" N	77°02'33.92120" W	100.337	132.184	4348332.446	323771.979
MD-VVA-F06	19010TF	39°13'01.40384" N	76°59'00.81266" W	112.602	144.539	4342738.566	328759.222
MD-VVA-F07	19010TG	39°21'49.27067" N	76°58'10.11464" W	80.727	112.659	4358986.426	330329.476
MD-VVA-F08	19010TH	39°11'30.27815" N	76°55'07.38863" W	97.562	129.629	4339808.592	334297.805
MD-VVA-F09	19010TI	39°20'32.93912" N	76°53'33.71564" W	116.538	148.571	4356491.630	336895.036
MD-VVA-F10	19010TJ	39°16'57.01532" N	76°52'33.54229" W	105.353	137.440	4349804.600	338197.412
MD-VVA-F12	19010TL	39°15'22.89242" N	76°51'58.48953" W	119.023	151.148	4346885.418	338977.424
MD-VVA-F13	19010TM	39°06'16.62410" N	76°50'25.60096" W	9.012	41.289	4329998.651	340861.963
MD-VVA-F14	19010TN	39°12'41.52555" N	76°49'16.28802" W	87.071	119.314	4341831.336	342765.137
MD-VVA-F15	19010TO	39°10'52.41940" N	76°47'56.32397" W	49.957	82.283	4338429.339	344616.220
VA-01	19011TFW	37°47'10.01671" N	77°15'12.18348" W	19.431	52.542	4184476.047	301572.789
VA-02	19011TFH	37°32'31.60509" N	77°06'44.08492" W	10.688	44.367	4157109.939	313392.354
VA-03	19011TAB	37°06'03.77259" N	77°04'28.42382" W	0.494	34.875	4108095.814	315647.097
VA-04	19011TEU	37°25'51.30081" N	77°04'40.52085" W	0.158	34.036	4144703.904	316152.578
VA-05	19011JHH	38°03'31.38821" N	77°04'04.37053" W	11.101	44.467	4214348.749	318580.913
VA-06	19011TAH	37°13'29.33496" N	76°57'57.04506" W	-1.325	33.270	4121622.719	325593.820
VA-07	19011JAB	38°15'15.77474" N	76°58'08.54357" W	-28.927	4.631	4235873.181	327714.440
VA-08	19011TBW	36°41'45.74567" N	76°53'05.56954" W	-26.742	8.717	4062809.438	331616.783
VA-09	19011TCD	36°33'06.09617" N	76°51'23.07484" W	-29.915	5.832	4046745.473	333850.791
VA-10	19011TDZ	37°21'14.94601" N	76°49'06.61377" W	-0.310	34.603	4135711.797	338942.998
VA-11	19011TBS	36°50'29.19732" N	76°47'43.25170" W	-15.703	19.854	4078787.559	339918.516
VA-12	19011JEP	37°48'04.93647" N	76°48'21.39074" W	-3.578	30.629	4185313.189	341009.812
VA-13	19011JEI	37°32'58.51436" N	76°47'55.23477" W	-31.872	2.756	4157362.931	341113.284
VA-14	19011TBF	37°02'02.28936" N	76°43'20.87762" W	-10.742	24.798	4100027.861	346803.558
VA-15	19011TCQ	36°39'49.92552" N	76°42'04.36147" W	-17.825	18.152	4058933.236	347962.736
VA-16	19011JBG	38°03'56.63836" N	76°43'34.26272" W	7.983	41.946	4214514.903	348575.479
VA-17	19011TBI	36°55'02.28572" N	76°37'14.22568" W	-13.920	22.188	4086924.922	355642.339
VA-18	19011TCL	36°34'09.94204" N	76°34'53.97777" W	-18.960	17.386	4048273.395	358475.275
VA-19	19011TDU	37°11'40.10235" N	76°34'20.40890" W	-23.496	12.237	4117603.919	360452.084
VA-20	19011JGO	37°26'08.39592" N	76°30'52.02852" W	-8.624	26.727	4144280.450	366018.568
VA-21	19011JCH	37°53'11.76177" N	76°29'55.76622" W	2.441	37.361	4194292.009	368201.152
VA-22	19011TDL	36°52'50.28383" N	76°24'56.16298" W	-32.565	4.254	4082566.301	373845.167
VA-23	19011JGQ	37°16'36.92916" N	76°24'47.99526" W	-35.273	0.644	4126529.355	374701.375
VA-24	19011JCY	37°41'22.39974" N	76°24'51.22694" W	-9.782	25.658	4172312.410	375309.583
VA-25	19011JFU	37°26'42.42794" N	76°16'38.51143" W	-34.959	1.069	4145018.579	387008.629
VA-26	19011JCT	37°52'48.83289" N	76°16'05.26174" W	-32.394	3.342	4193284.431	388478.632
VA-NVA-001	19011JCV	37°48'23.16147" N	76°18'50.39829" W	-33.347	2.324	4185151.938	384329.233

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
VA-NVA-002	19011TFX	37°48'28.29667" N	77°16'19.81300" W	25.760	58.810	4186929.086	299977.004
VA-NVA-003	19011TFV	37°46'10.71686" N	77°18'36.20190" W	-13.959	19.087	4182769.968	296536.574
VA-NVA-004	19011TBR	36°55'08.86867" N	76°50'29.49402" W	-18.578	16.765	4087485.046	335966.950
VA-NVA-005	19011TBY	36°41'02.39958" N	76°54'45.87933" W	-26.404	8.996	4061522.911	329100.686
VA-NVA-006	19011TBU	36°48'58.97028" N	76°46'08.04956" W	-10.585	25.077	4075962.942	342225.216
VA-NVA-007	19011JFF	37°39'59.60255" N	76°36'42.44454" W	-25.713	9.199	4170041.784	357845.999
VA-NVA-008	19011TBQ	36°54'26.01499" N	76°48'54.39134" W	-25.674	9.756	4086119.227	338295.154
VA-NVA-009	19011TFQ	37°41'59.10248" N	77°09'56.42161" W	-14.019	19.366	4174709.739	309075.549
VA-NVA-010	19011JDV	37°49'44.92822" N	76°56'38.52079" W	18.380	52.068	4188639.243	328915.610
VA-NVA-011	19011TCS	36°44'54.90194" N	76°41'14.00964" W	-20.229	15.734	4068309.651	349378.299
VA-NVA-012	19011JHC	37°59'27.07327" N	77°00'15.10746" W	14.286	47.712	4206695.345	324006.267
VA-NVA-013	19011TGC	37°49'18.27582" N	77°08'13.14837" W	-8.928	24.331	4188188.792	311914.208
VA-NVA-014	19011JGR	37°16'03.38284" N	76°25'19.80787" W	-35.079	0.838	4125507.243	373902.360
VA-NVA-015	19011JGT	37°22'47.36743" N	76°30'34.52858" W	-13.276	22.174	4138077.902	366349.460
VA-NVA-016	19011JBA	37°56'51.16253" N	76°44'42.91859" W	3.221	37.351	4201431.488	346656.342
VA-NVA-017	19011JAS	38°05'35.25809" N	76°50'19.73587" W	10.064	43.696	4217744.381	338754.607
VA-NVA-018	19011JCU	37°53'16.22345" N	76°15'15.02308" W	-32.887	2.877	4194112.053	389717.273
VA-NVA-019	19011TBK	36°58'16.45113" N	76°36'44.87637" W	-24.267	11.748	4092896.385	356469.832
VA-NVA-020	19011JCS	37°51'46.11987" N	76°18'04.51638" W	-28.131	7.524	4191391.648	385538.373
VA-NVA-021	19011JGN	37°25'25.71166" N	76°29'04.30342" W	-28.829	6.621	4142922.804	368645.306
VA-NVA-022	19011TEG	37°28'05.73064" N	76°47'02.72264" W	-7.716	27.074	4148314.380	342230.767
VA-NVA-023	19011TDH	36°45'30.18664" N	76°32'03.00308" W	-30.773	5.697	4069167.113	363060.424
VA-NVA-024	19011TGD	37°47'06.61511" N	77°06'18.57696" W	-20.636	12.722	4184066.831	314624.183
VA-NVA-025	19011JBF	37°59'59.68022" N	76°43'43.03346" W	10.040	44.115	4207214.973	348225.936
VA-NVA-026	19011TAG	37°09'50.42274" N	77°01'36.71979" W	2.585	37.032	4114989.785	320035.221
VA-NVA-027	19011TBX	36°41'34.11796" N	76°53'56.45744" W	-26.086	9.339	4062476.023	330346.773
VA-NVA-028	19011JCX	37°41'37.47266" N	76°24'25.12368" W	-12.923	22.534	4172767.344	375955.893
VA-NVA-029	19011JHD	37°58'23.28082" N	76°56'37.51519" W	8.243	41.771	4204616.377	329273.299
VA-NVA-030	19011TBL	36°54'26.68480" N	76°42'31.43717" W	-18.138	17.630	4085964.791	347773.204
VA-NVA-031	19011JGF	37°19'13.56842" N	76°16'52.55821" W	-35.428	0.750	4131189.939	386475.620
VA-NVA-032	19011JDH	37°46'09.45703" N	76°27'19.61883" W	-10.597	24.631	4181215.496	371812.646
VA-NVA-033	19011JDS	37°53'59.45395" N	76°40'44.14490" W	3.130	37.553	4196031.809	352389.030
VA-NVA-034	19011TAJ	37°09'56.43846" N	76°58'23.39912" W	-2.019	32.602	4115074.597	324807.622
VA-NVA-035	19011JJC	37°39'04.72204" N	76°21'23.78075" W	-33.366	2.257	4167993.988	380329.033
VA-NVA-036	19011TFI	37°32'07.59389" N	77°12'07.75103" W	6.858	40.276	4156552.165	305431.107
VA-NVA-037	19011TBH	36°58'01.50083" N	76°39'37.75813" W	-10.804	25.036	4092509.096	352186.832
VA-NVA-038	19011TCH	36°35'39.34161" N	76°40'47.89587" W	-14.059	22.039	4051177.605	349726.024
VA-NVA-039	19011TAN	37°04'47.04776" N	76°54'10.67052" W	-6.439	28.525	4105411.714	330850.140
VA-NVA-040	19011JEL	37°37'39.02589" N	76°47'34.17888" W	-1.706	32.800	4165998.917	341795.066
VA-NVA-041	19011TDQ	36°57'30.74361" N	76°31'56.22642" W	-29.784	6.561	4091369.951	363584.760
VA-NVA-042	19011TAK	37°11'00.62383" N	76°55'32.21009" W	-1.454	33.312	4116965.994	329070.314
VA-NVA-043	19011TCR	36°43'35.10879" N	76°43'39.75331" W	-14.737	21.127	4065915.094	345719.509
VA-NVA-044	19011JDU	37°53'42.13087" N	76°52'58.21850" W	6.318	40.082	4195840.288	334449.086
VA-NVA-045	19011TDD	36°43'23.81086" N	76°34'13.35846" W	-24.440	11.896	4065325.039	359764.242
VA-NVA-046	19011TCZ	36°43'05.96734" N	76°37'29.28155" W	-20.938	15.224	4064856.214	354894.530
VA-NVA-047	19011TCY	36°42'47.51445" N	76°40'23.30310" W	-15.415	20.606	4064361.859	350567.229

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
VA-NVA-048	19011TBV	36°42'45.97403" N	76°50'00.01471" W	-15.811	19.769	4064576.223	336257.277
VA-NVA-049	19011TCM	36°38'59.73557" N	76°33'49.00046" W	-24.688	11.663	4057177.284	360235.790
VA-NVA-050	19011TGB	37°51'14.34892" N	77°10'34.73416" W	16.556	49.729	4191846.658	308535.645
VA-NVA-051	19011JAC	38°11'47.19643" N	77°00'17.21655" W	-22.181	11.321	4229510.796	324447.513
VA-NVA-052	19011JAU	38°04'15.59344" N	76°46'30.35973" W	11.680	45.473	4215180.042	344295.316
VA-NVA-053	19011JEK	37°31'48.61745" N	76°41'30.73682" W	-2.921	31.927	4155033.415	350509.903
VA-NVA-054	19011TBJ	36°56'33.76720" N	76°36'00.78341" W	-21.790	14.346	4089713.490	357506.995
VA-NVA-055	19011JCW	37°45'11.33979" N	76°21'54.05826" W	-5.580	29.958	4179304.164	379751.745
VA-NVA-056	19011JFM	37°33'24.78110" N	76°22'05.53397" W	-25.022	10.624	4157531.801	379153.178
VA-NVA-057	19011TDM	36°54'01.51873" N	76°29'43.73184" W	-29.724	6.877	4084870.123	366760.398
VA-NVA-058	19011JDI	37°44'51.25429" N	76°33'15.58718" W	-20.162	14.824	4178945.301	363063.304
VA-NVA-059	19011TBZ	36°37'37.79988" N	76°52'12.45796" W	-7.366	28.231	4055142.478	332785.907
VA-NVA-060	19011TFM	37°34'23.82193" N	77°05'35.48690" W	-25.067	8.674	4160531.135	315153.036
VA-NVA-061	19011JDR	37°53'24.02829" N	76°39'51.87162" W	0.960	35.440	4194917.007	353646.257
VA-NVA-062	19011JDQ	37°53'30.15455" N	76°37'24.36554" W	-0.632	33.951	4195042.325	357252.678
VA-NVA-063	19011TDY	37°15'53.91784" N	76°52'23.38290" W	-31.925	2.970	4125912.111	333905.581
VA-NVA-064	19011TDJ	36°49'48.15117" N	76°32'30.16802" W	-30.157	6.334	4077127.604	362514.990
VA-NVA-065	19011JEJ	37°32'30.19855" N	76°45'07.67509" W	-16.971	17.750	4156412.522	345208.864
VA-NVA-066	19011JEA	37°43'35.60579" N	77°01'24.90119" W	-24.573	9.154	4177404.098	321667.696
VA-NVA-067	19011JHI	38°05'55.27002" N	77°04'58.04339" W	-23.303	10.055	4218813.180	317372.247
VA-NVA-068	19011TET	37°27'48.66816" N	77°06'14.84003" W	-4.628	29.118	4148372.918	313915.054
VA-NVA-069	19011TDK	36°52'45.82983" N	76°25'31.44218" W	-31.240	5.561	4082442.040	372969.735
VA-NVA-070	19011JAV	38°00'02.84531" N	76°49'24.11407" W	-16.642	17.135	4207471.346	339908.538
VA-NVA-071	19011JGY	37°58'48.53344" N	77°08'11.26307" W	23.529	56.743	4205765.818	312363.140
VA-NVA-072	19011JAT	38°04'07.54209" N	76°49'11.58718" W	9.441	43.124	4215007.893	340361.741
VA-NVA-073	19011TEH	37°30'07.31784" N	76°52'32.41537" W	2.986	37.543	4152219.308	334206.064
VA-NVA-074	19011JDZ	37°45'40.25246" N	76°59'30.48374" W	11.807	45.529	4181186.045	324550.682
VA-NVA-075	19011JDP	37°50'16.89115" N	76°41'26.12571" W	-28.260	6.236	4189190.355	351239.406
VA-NVA-076	19011TEM	37°32'10.22447" N	76°58'46.56102" W	-11.012	23.222	4156195.820	325098.377
VA-NVA-077	19011TAA	37°07'06.73729" N	77°07'33.81514" W	2.589	36.750	4110137.712	311113.737
VA-NVA-078	19011JCM	37°54'36.53444" N	76°25'46.80031" W	-4.769	30.349	4196809.395	374322.857
VA-NVA-079	19011JAD	38°11'23.65928" N	77°02'53.05408" W	19.987	53.402	4228868.190	320640.479
VA-NVA-080	19011JFD	37°40'52.75009" N	76°40'49.29827" W	-4.421	30.298	4171786.089	351827.269
VA-NVA-081	19011TEA	37°21'58.79713" N	76°50'19.41182" W	-12.056	22.792	4137098.023	337178.218
VA-NVA-082	19011JDY	37°47'30.01784" N	76°59'08.31891" W	4.409	38.059	4184557.866	325164.928
VA-NVA-083	19011TER	37°29'35.49642" N	77°09'25.27180" W	0.762	34.308	4151771.561	309311.761
VA-NVA-084	19011TEF	37°26'01.30446" N	76°48'54.51481" W	-15.760	19.026	4144531.905	339410.537
VA-NVA-085	19011JDW	37°49'42.03121" N	76°57'56.93968" W	19.175	52.792	4188590.081	326996.531
VA-NVA-086	19011TDV	37°13'21.15955" N	76°37'32.00113" W	-14.170	21.383	4120798.137	355781.809
VA-NVA-087	19011TBE	37°03'25.45235" N	76°40'30.08108" W	-14.446	21.200	4102515.456	351068.681
VA-NVA-088	19011JET	37°51'19.20922" N	76°48'57.27539" W	0.062	34.142	4191318.264	340248.620
VA-NVA-089	19011JDT	37°54'18.76378" N	76°56'29.41351" W	9.532	43.094	4197075.243	329313.900
VA-NVA-090	19011TEN	37°32'30.92868" N	77°03'53.87917" W	8.898	42.780	4156996.258	317569.296
VA-NVA-091	19011JFQ	37°29'41.96136" N	76°24'44.56460" W	-26.090	9.493	4150722.227	375148.062
VA-NVA-092	19011JAO	38°05'08.68804" N	76°53'25.34876" W	10.884	44.461	4217016.186	334216.330
VA-NVA-093	19011JGX	37°52'52.63638" N	77°06'05.43574" W	16.599	49.863	4194725.470	315185.720

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
VA-NVA-094	19011JAH	38°07'11.97176" N	76°59'08.82317" W	-28.739	4.779	4220991.078	325929.541
VA-NVA-095	19011TEL	37°30'57.58761" N	76°58'46.56439" W	3.328	37.580	4153956.985	325051.158
VA-NVA-096	19011JBH	38°05'54.28231" N	76°43'49.37393" W	-22.091	11.808	4218147.993	348274.802
VA-NVA-097	19011TAM	37°08'36.61239" N	76°50'34.37074" W	-3.340	31.746	4112381.532	336328.667
VA-NVA-098	19011TBT	36°50'59.65410" N	76°44'50.81428" W	-10.708	24.991	4079646.972	344206.990
VA-NVA-099	19011TCU	36°50'38.95270" N	76°40'49.97716" W	-12.081	23.858	4078901.956	350160.628
VA-NVA-100	19011JFY	37°23'14.75073" N	76°19'05.53952" W	-33.449	2.540	4138667.914	383306.306
VA-NVA-101	19011TAL	37°09'37.24080" N	76°51'49.19503" W	-7.083	27.916	4114286.170	334519.278
VA-NVA-102	19011TCT	36°46'22.12720" N	76°41'28.54916" W	-13.889	22.048	4071004.068	349065.222
VA-NVA-103	19011JDA	37°37'21.85516" N	76°19'02.63434" W	-34.432	1.315	4164774.297	383743.286
VA-NVA-104	19011JGS	37°19'05.96407" N	76°31'01.49567" W	-24.736	10.825	4131265.001	365576.586
VA-NVA-105	19011JAA	38°15'07.40892" N	77°01'55.60176" W	-15.583	17.849	4235734.663	322189.637
VA-NVA-106	19011JBE	37°55'29.26292" N	76°43'23.16920" W	-28.984	5.266	4198870.846	348556.199
VA-NVA-107	19011TBP	36°56'52.43086" N	76°46'57.01430" W	-17.111	18.360	4090576.773	341284.487
VA-NVA-108	19011TEB	37°23'20.74200" N	76°45'30.49958" W	-1.720	33.250	4139488.166	344332.449
VA-NVA-109	19011JCO	37°53'47.81088" N	76°21'42.01279" W	-7.990	27.402	4195218.170	380278.557
VA-VVA-01	19011TAI	37°13'36.28736" N	76°57'52.19305" W	-0.763	33.836	4121834.516	325717.852
VA-VVA-02	19011TES	37°28'53.58566" N	77°07'18.06283" W	-2.992	30.677	4150408.715	312406.824
VA-VVA-03	19011JDX	37°49'47.97763" N	76°58'45.29037" W	12.698	46.268	4188798.341	325818.314
VA-VVA-04	19011TBG	37°00'49.53695" N	76°38'07.55203" W	-15.670	20.161	4097649.080	354506.508
VA-VVA-05	19011JCG	37°55'12.42712" N	76°29'02.67806" W	-5.405	29.510	4197990.431	369557.169
VA-VVA-06	19011TDX	37°15'49.48988" N	76°52'00.50682" W	-30.766	4.149	4125764.499	334466.395
VA-VVA-07	19011JGG	37°23'52.60888" N	76°21'38.31509" W	-32.994	2.868	4139888.008	379566.171
VA-VVA-08	19011TDI	36°48'38.10706" N	76°31'40.11131" W	-30.952	5.576	4074949.140	363720.541
VA-VVA-09	19011TDW	37°14'37.47099" N	76°43'13.68644" W	-13.993	21.304	4123298.826	347403.307
VA-VVA-10	19011TCX	36°47'23.73640" N	76°35'10.67879" W	-18.616	17.682	4072742.231	358464.796
VA-VVA-11	19011JCN	37°56'54.23679" N	76°22'30.80313" W	-30.250	5.031	4200981.639	379171.677
VA-VVA-12	19011JCI	37°51'10.65173" N	76°31'02.22232" W	2.268	37.189	4190585.398	366517.083
VA-VVA-13	19011TAO	37°04'30.38980" N	76°57'23.77416" W	-5.921	28.882	4104995.184	326071.142
VA-VVA-14	19011TAF	37°08'51.62878" N	77°02'44.07782" W	-11.511	22.894	4113213.384	318334.634
VA-VVA-15	19011TFU	37°44'26.47835" N	77°10'49.79371" W	17.240	50.534	4179282.818	307874.196
VA-VVA-16	19011JEE	37°36'59.49622" N	76°55'05.44100" W	-0.737	33.537	4164999.313	330707.785
VA-VVA-F01	19011TEQ	37°31'29.65577" N	77°04'29.78058" W	8.808	42.656	4155127.059	316646.474
VA-VVA-F02	19011JCC	37°56'57.09423" N	76°38'10.44630" W	-1.036	33.400	4201440.437	356239.067
VA-VVA-F03	19011TFL	37°32'50.77466" N	77°09'47.12236" W	16.361	49.865	4157802.987	308913.585
VA-VVA-F04	19011JBZ	37°56'51.55905" N	76°34'53.58722" W	5.151	39.732	4201186.834	361040.975
VA-VVA-F05	19011TAR	37°06'02.97494" N	76°53'59.98411" W	-5.481	29.463	4107746.502	331160.840
VA-VVA-F06	19011JCR	37°53'17.00886" N	76°21'28.69232" W	-5.219	30.198	4194264.059	380590.074
VA-VVA-F07	19011JDO	37°50'44.34756" N	76°36'42.27912" W	-3.028	31.665	4189913.931	358192.425
VA-VVA-F08	19011JFE	37°40'37.90787" N	76°47'04.77335" W	-2.079	32.371	4171498.678	342620.857
VA-VVA-F09	19011TDC	36°42'54.26685" N	76°37'34.97923" W	-22.283	13.875	4064498.040	354747.054
VA-VVA-F10	19011TCG	36°32'50.71037" N	76°45'23.91299" W	-21.902	14.072	4046103.593	342772.167
VA-VVA-F11	19011TCP	36°38'59.89533" N	76°37'15.60153" W	-15.195	21.003	4057267.334	355105.720
VA-VVA-F12	19011JGP	37°16'41.47680" N	76°26'40.09552" W	-35.072	0.763	4126711.218	371942.742
VA-VVA-F13	19011JES	37°49'57.42089" N	76°51'49.92833" W	12.156	46.117	4188880.459	335978.803
VA-VVA-F14	19011JAG	38°08'45.98195" N	77°00'18.93511" W	23.173	56.666	4223925.688	324284.834

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
VA-VVA-F15	19011TDT	36°59'23.53260" N	76°34'26.91410" W	-29.540	6.569	4094906.628	359915.476
VA-VVA-F16	19011TBO	36°54'45.24959" N	76°44'44.25702" W	-10.564	25.066	4086596.452	344496.560
VA-VVA-F17	19011TEX	37°26'25.34582" N	77°01'53.36247" W	-25.307	8.791	4145663.651	320283.885
VA-VVA-F18	19011JBT	37°58'11.64610" N	76°33'30.58665" W	-5.056	29.554	4203621.180	363108.141
VA-VVA-F19	19011JAR	38°03'03.44197" N	76°52'23.80439" W	6.894	40.501	4213125.167	335637.872
VA-VVA-F20	19011JHB	37°57'03.54346" N	77°05'55.81290" W	21.698	54.964	4202454.309	315594.998
VA-VVA-F21	19011JGM	37°27'15.82817" N	76°28'11.66880" W	-23.564	11.887	4146296.293	369991.999
VA-VVA-F22	19011JFP	37°31'30.22864" N	76°27'06.68496" W	-28.254	7.177	4154112.137	371709.586
VA-VVA-F23	19011JDG	37°43'02.42339" N	76°22'57.29088" W	-13.367	22.144	4175353.565	378145.661
VA-VVA-F24	19011JFI	37°38'24.02825" N	76°38'44.29194" W	-3.873	30.968	4167147.916	354808.954
VA-VVA-F25	19011TFP	37°36'42.38223" N	77°07'31.54242" W	-22.743	10.843	4164865.974	312402.531
VA-VVA-F26	19011JEO	37°43'06.46823" N	76°53'14.70357" W	6.875	41.012	4176255.270	333650.626
VA-VVA-F27	19011JBN	38°04'13.55670" N	76°38'47.69834" W	3.166	37.393	4214909.620	355567.986
VA-VVA-F28	19011TGG	37°47'39.26766" N	77°08'22.17951" W	11.074	44.357	4185141.980	311623.492
VA-VVA-F29	19011TBA	37°08'32.95025" N	76°41'45.41762" W	-25.640	9.864	4112025.237	349377.122
VA-VVA-F30	19011TAU	37°02'22.95808" N	76°47'06.93273" W	-9.202	26.167	4100767.859	341230.197
VA-VVA-F31	19011TBD	37°09'31.32540" N	76°41'43.60692" W	-24.653	10.833	4113823.517	349453.955
VA-VVA-F32	19011TCC	36°37'19.82802" N	76°53'20.04737" W	-27.012	8.543	4054621.495	331096.116
VA-VVA-F33	19011JFT	37°29'54.97695" N	76°24'26.98000" W	-25.190	10.404	4151116.895	375585.875
VA-VVA-F34	19011JCF	37°57'46.13009" N	76°30'18.12840" W	-12.036	22.749	4202757.454	367791.458
VA-VVA-F35	19011JAK	38°07'19.92163" N	76°58'57.70058" W	-29.515	4.006	4221230.340	326205.634
VA-VVA-F36	19011TFD	37°25'34.21943" N	76°58'10.34952" W	-24.719	9.665	4143971.455	325731.769
VA-VVA-F37	19011TEK	37°29'10.67835" N	76°54'40.02364" W	-9.242	25.255	4150536.637	331037.105
VA-VVA-F38	19011JCL	37°52'10.33155" N	76°27'18.24384" W	-5.530	29.552	4192337.690	372019.528
VA-VVA-F39	19011TDG	36°42'56.02940" N	76°33'48.51199" W	-22.897	13.459	4064458.826	360366.650
VA-VVA-F40	19011JGB	37°21'58.70481" N	76°18'55.16439" W	-33.286	2.735	4136320.700	383528.777
VA-VVA-F41	19011JBD	37°55'59.85073" N	76°44'19.90113" W	1.445	35.628	4199839.387	347188.638
VA-VVA-F42	19011JED	37°41'12.69404" N	77°00'45.07620" W	9.883	43.754	4172978.062	322548.029
VA-VVA-F43	19011TEE	37°21'39.56985" N	76°42'52.59702" W	-7.637	27.465	4136298.511	348158.937
VA-VVA-F44	19011JDD	37°42'29.54731" N	76°20'18.42311" W	-33.728	1.928	4174283.789	382020.772
VA-VVA-F45	19011JHG	38°00'57.84845" N	76°59'40.70841" W	9.417	42.871	4209475.421	324905.426
VA-VVA-F46	19011JFC	37°43'17.01055" N	76°42'37.62973" W	-0.301	34.287	4176280.491	349254.776
VA-VVA-F47	19011JEH	37°35'29.30466" N	76°51'33.87838" W	-4.070	30.369	4162115.008	335839.813
VA-VVA-F48	19011TFT	37°44'32.55391" N	77°07'40.57589" W	18.252	51.635	4179363.449	312510.157
VA-VVA-F49	19011TCW	36°50'39.87967" N	76°40'51.74241" W	-12.065	23.871	4078931.293	350117.408
VA-VVA-F50	19011JDL	37°47'34.88142" N	76°36'26.42148" W	-28.121	6.665	4184067.503	358479.532
VA-VVA-F51	19011TCK	36°35'59.86593" N	76°40'08.16070" W	-16.253	19.865	4051792.886	350724.405
VA-VVA-F52	19011TGA	37°49'38.28735" N	77°15'21.35398" W	24.490	57.545	4189051.901	301458.815
VA-VVA-F53	19011JBQ	37°59'16.52449" N	76°35'25.72958" W	-8.433	26.062	4205668.428	360332.779
VA-VVA-F54	19011TAX	37°06'32.24245" N	76°46'32.71523" W	-6.432	28.899	4108434.789	342219.166
VA-VVA-F55	19011TFA	37°25'52.49695" N	76°59'36.00005" W	-23.471	10.809	4144579.070	323638.324
VA-VVA-F56	19011TDP	36°56'53.94818" N	76°32'00.49922" W	-31.297	5.072	4090237.703	363460.839
VA-VVA-F57	19011TAE	37°04'36.75148" N	77°03'36.86937" W	-7.079	27.396	4105386.045	316861.649
VA-VVA-F58	19011JAN	38°08'56.94289" N	76°54'56.85439" W	19.419	53.002	4224097.784	332132.255
VA-VVA-F59	19011JGW	37°24'34.47404" N	76°36'09.74155" W	-7.618	27.590	4141514.905	358161.156
VA-VVA-F60	19011JGJ	37°26'39.72494" N	76°23'55.30101" W	-31.410	4.281	4145087.696	376274.371

Station Name	GPSID	Latitude	Longitude	Ellip. Height	NAVD 1988	UTM Northing	UTM Easting
VA-VVA-F61	19011JFL	37°34'13.56318" N	76°36'24.40649" W	-12.909	22.078	4159368.870	358105.327
VA-VVA-F62	19011JBK	38°07'46.72246" N	76°39'56.13514" W	-29.295	4.781	4221509.905	354018.260
VA-VVA-F63	19011JGE	37°21'45.50626" N	76°18'31.05958" W	-33.821	2.223	4135905.695	384116.073
VA-VVA-F64	19011TFG	37°28'32.94131" N	77°00'08.57429" W	-2.095	32.106	4149541.279	322942.817
VA-VVA-F65	19011JFX	37°26'07.59617" N	76°19'48.28461" W	-32.767	3.136	4144009.614	382330.288

Horizontal Datum: NAD83 (2011) epoch 2010.0
 State Plane Coordinates - Maryland
 Vertical Datum: Ellipsoidal Height=NAVD88+GEOID12B
 Units: meters & US Survey FT
 UTM Zone: 18

Table 8 - Maryland State Plane Coordinates

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
MD-01	19010AA	183338.272	386427.540	237.659	601502.315	1267804.354	779.720
MD-02	19010AB	170343.881	397951.073	143.210	558869.881	1305611.144	469.848
MD-03	19010AC	183425.318	404731.723	192.424	601787.898	1327857.326	631.311
MD-04	19010AD	159640.121	411047.781	77.742	523752.632	1348579.260	255.059
MD-09	19010AE	171834.263	426932.324	35.451	563759.576	1400693.800	116.309
MD-NVA-01	19010AF	168520.807	400884.814	139.701	552888.680	1315236.261	458.336
MD-NVA-02	19010AG	170126.033	411884.165	107.841	558155.160	1351323.299	353.808
MD-NVA-03	19010AH	180376.296	393853.216	160.178	591784.563	1292166.759	525.517
MD-NVA-04	19010AI	188755.850	389639.294	206.543	619276.484	1278341.585	677.633
MD-NVA-05	19010AJ	178874.325	387422.907	174.750	586856.848	1271069.989	573.326
MD-NVA-06	19010AK	174482.893	395108.270	114.046	572449.291	1296284.381	374.166
MD-NVA-07	19010AL	185778.313	389268.109	213.086	609507.681	1277123.787	699.100
MD-NVA-08	19010AM	180351.471	398500.765	179.939	591703.118	1307414.594	590.350
MD-NVA-09	19010AN	173198.591	407081.394	116.092	568235.711	1335566.206	380.879
MD-NVA-10	19010AO	164187.538	416006.475	58.048	538671.947	1364847.910	190.446
MD-NVA-11	19010AP	169938.250	419558.152	82.160	557539.076	1376500.370	269.553
MD-NVA-12	19010AQ	172220.546	424704.498	43.206	565026.907	1393384.675	141.752
MD-NVA-13	19010AR	179644.166	408611.176	147.514	589382.569	1340585.168	483.969
MD-NVA-14	19010AS	185330.738	404161.955	172.287	608039.263	1325988.014	565.245
MD-NVA-15	19010AT	165243.139	405730.025	137.162	542135.198	1331132.589	450.006
MD-NVA-16	19010AU	186943.963	396638.278	151.671	613331.985	1301304.083	497.607
MD-NVA-17	19010AV	183157.883	395840.929	184.380	600910.488	1298688.116	604.920
MD-NVA-18	19010AW	175594.268	401197.722	181.916	576095.528	1316262.858	596.836
MD-VVA-01	19010AX	177343.184	406550.379	114.957	581833.429	1333824.035	377.155
MD-VVA-F01	19010TA	186014.651	384243.654	238.847	610283.066	1260639.389	783.617
MD-VVA-F02	19010TB	186919.868	390768.744	196.664	613252.934	1282047.122	645.222
MD-VVA-F03	19010TC	179071.486	391732.209	169.504	587503.700	1285208.089	556.114
MD-VVA-F04	19010TD	186371.332	395686.724	175.226	611453.277	1298182.194	574.887
MD-VVA-F05	19010TE	177584.792	396310.241	132.184	582626.104	1300227.850	433.674
MD-VVA-F06	19010TF	172102.435	401419.811	144.539	564639.406	1316991.496	474.208
MD-VVA-F07	19010TG	188381.338	402630.533	112.659	618047.772	1320963.674	369.615
MD-VVA-F08	19010TH	169295.329	407021.785	129.629	555429.757	1335370.640	425.291
MD-VVA-F09	19010TI	186032.343	409249.982	148.571	610341.112	1342680.982	487.437
MD-VVA-F10	19010TJ	179375.378	410699.941	137.440	588500.720	1347438.055	450.918
MD-VVA-F12	19010TL	176473.983	411544.278	151.148	578981.725	1350208.184	495.891
MD-VVA-F13	19010TM	159632.043	413800.734	41.289	523726.128	1357611.242	135.462
MD-VVA-F14	19010TN	171504.429	415442.823	119.314	562677.449	1362998.662	391.449
MD-VVA-F15	19010TO	168143.856	417368.588	82.283	551651.966	1369316.777	269.957

	19010TSA	186017.427	384256.095	241.348	610292.175	1260680.205	791.823
	19010TSB	186915.496	390749.694	200.254	613238.588	1281984.621	657.000
	19010TSC	179095.341	391745.459	174.637	587581.964	1285251.559	572.955
	19010TSD	186400.748	395670.139	178.728	611549.788	1298127.781	586.377
	19010TSE	177557.885	396323.459	134.711	582537.828	1300271.213	441.964
	19010TSF	172076.094	401412.956	144.580	564552.986	1316969.007	474.343
	19010TSG	188341.408	402643.228	114.340	617916.768	1321005.324	375.130
	19010TSH	169276.012	407013.470	133.959	555366.383	1335343.359	439.497
	19010TSI	186056.422	409236.009	149.710	610420.112	1342635.141	491.174
	19010TSJ	179385.851	410684.231	138.585	588535.079	1347386.516	454.674
	19010TSL	176500.228	411548.019	154.052	579067.832	1350220.459	505.419
	19010TSM	159654.368	413831.074	42.739	523799.373	1357710.782	140.220
	19010TSN	171484.471	415425.262	121.967	562611.968	1362941.046	400.153
	19010TSO	168159.850	417352.635	87.516	551704.443	1369264.436	287.125
	19010TXA	186045.391	384264.494	241.122	610383.922	1260707.759	791.081
	19010TXB	186920.477	390730.480	198.544	613254.930	1281921.584	651.390
	19010TXC	179185.496	391820.032	175.429	587877.748	1285496.222	575.553
	19010TXD	186431.654	395675.810	177.760	611651.185	1298146.386	583.201
	19010TXE	177606.391	396385.703	136.876	582696.968	1300475.427	449.067
	19010TXF	172061.881	401387.975	145.258	564506.355	1316887.049	476.567
	19010TXG	188293.820	402658.043	112.465	617760.639	1321053.928	368.979
	19010TXH	169261.833	407027.826	132.671	555319.864	1335390.457	435.271
	19010TXI	186058.015	409218.936	148.221	610425.339	1342579.127	486.288
	19010TXJ	179394.348	410668.304	136.028	588562.956	1347334.260	446.285
	19010TXL	176506.441	411523.327	151.541	579088.214	1350139.449	497.181
	19010TXM	159681.613	413818.609	40.935	523888.758	1357669.886	134.301
	19010TXN	171487.423	415400.280	122.120	562621.655	1362859.084	400.655
	19010TXO	168173.912	417352.624	86.159	551750.576	1369264.401	282.673

Horizontal Datum: NAD83 (2011) epoch 2010.0
 State Plane Coordinates – Virginia South
 Vertical Datum: Ellipsoidal Height=NAVD88+GEOID12B
 Units: meters & US Survey FT
 UTM Zone: 18

Table 9 - Virginia South Zone State Plane Coordinates

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
F01BS	19011TEO	1133173.814	3625922.613	43.481	3717754.421	11896047.773	142.654
F01TS	19011TEP	1133186.211	3625925.465	44.980	3717795.093	11896057.130	147.572
F02BS	19011JCB	1180975.479	3663847.242	37.992	3874583.716	12020472.159	124.645
F02TS	19011JCA	1180977.135	3663783.997	38.498	3874589.151	12020264.663	126.306
F03BS	19011TFJ	1135634.640	3618060.466	48.804	3725827.982	11870253.378	160.118
F03TS	19011TFK	1135596.258	3618118.953	50.902	3725702.055	11870445.265	167.001
F04BS	19011JBY	1180990.616	3668602.295	39.774	3874633.381	12036072.697	130.492
F04TS	19011JBX	1180891.767	3668591.648	40.675	3874309.073	12036037.764	133.448
F05BS	19011TAP	1086330.430	3642212.254	29.980	3564069.086	11949491.371	98.359
F05S6	19011TAQ	1086362.703	3642204.369	31.045	3564174.968	11949465.499	101.853
F06BS	19011JCQ	1174640.067	3688458.495	32.707	3853798.285	12101217.578	107.306
F06TS	19011JCP	1174659.378	3688413.220	32.464	3853861.642	12101069.038	106.509
F07BS	19011JDN	1169390.317	3666086.909	32.872	3836574.732	12027820.133	107.848
F07TS	19011JDM	1169438.805	3666171.966	33.498	3836733.811	12028099.193	109.901
F09BS	19011TDA	1044066.107	3667379.692	14.203	3425406.886	12032061.540	46.598
F09S6	19011TDB	1044040.036	3667393.937	15.906	3425321.351	12032108.274	52.185
F10BS	19011TCF	1025221.605	3656120.964	15.268	3363581.217	11995123.529	50.092
F10S6	19011TCE	1025229.478	3656100.134	16.734	3363607.046	11995055.191	54.901
F11BS	19011TCO	1036779.830	3668028.085	21.078	3401501.826	12034188.808	69.153
F11S6	19011TCN	1036790.173	3668014.600	22.604	3401535.759	12034144.567	74.160
F13BS	19011JER	1167694.715	3643945.387	47.348	3831011.743	11955177.489	155.341
F13TS	19011JEQ	1167663.190	3644011.024	47.570	3830908.317	11955392.836	156.069
F14BS	19011JAF	1202220.150	3630995.221	57.699	3944283.943	11912690.156	189.301
F14TS	19011JAE	1202250.124	3630996.216	57.906	3944382.283	11912693.420	189.980
F15BS	19011TDR	1074590.715	3671382.717	6.593	3525553.038	12045194.796	21.631
F15TS	19011TDS	1074588.509	3671414.227	8.112	3525545.799	12045298.178	26.614
F16BS	19011TBM	1065680.533	3656316.706	26.486	3496320.217	11995765.727	86.896
F16S6	19011TBN	1065705.884	3656313.401	27.800	3496403.387	11995754.882	91.207
F17BS	19011TEV	1123899.526	3629933.348	8.460	3687327.027	11909206.325	27.756
F17TS	19011TEW	1123894.022	3629950.454	9.958	3687308.969	11909262.447	32.671
F18BS	19011JBS	1183404.595	3670534.180	32.032	3882553.240	12042410.888	105.092
F18TS	19011JBR	1183366.450	3670568.922	32.138	3882428.095	12042524.873	105.439
F19BS	19011JAJ	1191814.929	3642766.373	43.434	3910146.147	11951309.342	142.500
F19TS	19011JAP	1191823.511	3642747.413	43.255	3910174.302	11951247.136	141.912
F20BS	19011JGZ	1180398.897	3623073.492	57.810	3872692.049	11886700.282	189.665
F20TS	19011JHA	1180415.133	3623133.921	56.566	3872745.316	11886898.539	185.584
F21BS	19011JGL	1126385.696	3679668.810	14.062	3695483.738	12072380.086	46.135
F21TS	19011JGK	1126314.701	3679639.804	13.286	3695250.816	12072284.923	43.589

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
F22BS	19011JFO	1134235.225	3681150.772	10.827	3721236.734	12077242.159	35.522
F22TS	19011JFN	1134197.760	3681074.076	10.032	3721113.817	12076990.531	32.913
F23BS	19011JDF	1155756.014	3686686.513	25.367	3791842.855	12095404.002	83.225
F23TS	19011JDE	1155719.425	3686646.369	23.888	3791722.812	12095272.295	78.373
F24BS	19011JFH	1146721.250	3663556.709	32.663	3762201.302	12019518.968	107.162
F24TS	19011JFG	1146598.390	3663622.154	32.730	3761798.218	12019733.683	107.382
F25BS	19011TFN	1142752.534	3621400.784	11.348	3749180.604	11881212.406	37.231
F25TS	19011TFO	1142770.620	3621371.271	13.222	3749239.941	11881115.580	43.379
F26BS	19011JEN	1154889.765	3642267.515	46.733	3789000.837	11949672.671	153.323
F26TS	19011JEM	1154952.601	3642215.165	45.276	3789206.990	11949500.921	148.543
F27BS	19011JBM	1194326.544	3662738.258	40.653	3918386.338	12016833.768	133.376
F27TS	19011JBL	1194366.319	3662666.147	39.074	3918516.832	12016597.185	128.195
F28BS	19011TGE	1163004.445	3619843.696	43.692	3815623.748	11876103.860	143.346
F28TS	19011TGF	1163010.025	3619825.009	45.747	3815642.056	11876042.552	150.088
F29BS	19011TAZ	1091328.369	3660198.698	10.633	3580466.490	12008501.894	34.885
F29S6	19011TAY	1091319.819	3660233.855	12.098	3580438.440	12008617.238	39.692
F30BS	19011TAT	1079761.712	3652519.579	27.269	3542518.217	11983307.985	89.465
F30S6	19011TAS	1079758.651	3652534.640	28.864	3542508.175	11983357.398	94.698
F31BS	19011TBC	1093132.468	3660215.610	11.469	3586385.439	12008557.379	37.628
F31S6	19011TBB	1093125.272	3660237.338	13.011	3586361.829	12008628.668	42.687
F32BS	19011TCA	1033328.570	3644107.225	8.674	3390178.816	11955708.453	28.458
F32S6	19011TCB	1033309.287	3644128.266	9.958	3390115.551	11955777.487	32.671
F33BS	19011JFS	1131180.680	3684933.413	10.927	3711215.282	12089652.372	35.850
F33TS	19011JFR	1131344.580	3684954.761	11.921	3711753.010	12089722.412	39.111
F34BS	19011JBV	1182696.348	3675343.130	26.519	3880229.601	12058188.253	87.004
F34S6	19011JCE	1182696.546	3675343.885	26.434	3880230.251	12058190.731	86.726
F34TS	19011JBU	1182700.552	3675316.684	25.819	3880243.393	12058101.486	84.708
F34TS	19011JCD	1182706.422	3675309.257	26.065	3880262.654	12058077.122	85.515
F35BS	19011JAJ	1199581.756	3633013.311	5.481	3935627.811	11919311.170	17.982
F35TS	19011JAI	1199582.402	3633031.645	5.524	3935629.932	11919371.323	18.123
F36BS	19011TFC	1122348.057	3635423.741	9.184	3682236.917	11927219.390	30.131
F36TS	19011TFB	1122349.588	3635446.611	10.637	3682241.940	11927294.423	34.898
F37BS	19011TEI	1129118.346	3640544.376	24.909	3704449.107	11944019.340	81.722
F37TS	19011TEJ	1129144.560	3640535.063	27.261	3704535.110	11943988.785	89.439
F38BS	19011JCK	1172460.946	3679818.154	31.594	3846648.953	12072870.059	103.655
F38TS	19011JCJ	1172478.005	3679879.612	31.478	3846704.921	12073071.694	103.274
F39BS	19011TDE	1044170.680	3672984.950	13.698	3425749.972	12050451.458	44.941
F39TS	19011TDF	1044170.574	3673003.913	15.360	3425749.626	12050513.670	50.394
F40BS	19011JGA	1116823.407	3693565.682	4.602	3664111.461	12117973.410	15.098
F40TS	19011JFZ	1116886.535	3693522.588	4.823	3664318.574	12117832.024	15.823
F41BS	19011JBC	1179054.992	3654796.349	36.805	3868282.918	11990777.687	120.751
F41TS	19011JBB	1179039.950	3654822.617	36.756	3868233.570	11990863.869	120.590
F42BS	19011JEC	1151087.865	3631249.130	44.936	3776527.437	11913523.186	147.428
F42TS	19011JEB	1151226.160	3631161.975	45.552	3776981.160	11913237.247	149.449
F43BS	19011TEC	1115503.262	3658158.412	29.156	3659780.286	12001808.056	95.656
F43TS	19011TED	1115522.079	3658165.919	30.104	3659842.020	12001832.685	98.766

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
F44BS	19011JDC	1154699.460	3690604.940	4.133	3788376.477	12108259.709	13.560
F44TS	19011JDB	1154728.226	3690606.792	3.797	3788470.855	12108265.784	12.457
F45BS	19011JHF	1187908.430	3632158.702	45.936	3897329.574	11916507.342	150.708
F45TS	19011JHE	1187844.756	3632185.107	45.005	3897120.671	11916593.971	147.654
F46BS	19011JFB	1155591.545	3657558.795	35.200	3791303.261	11999840.812	115.485
F46TS	19011JFA	1155523.201	3657725.348	35.550	3791079.034	12000387.245	116.634
F47BS	19011JEG	1140802.318	3644935.272	31.420	3742782.271	11958425.137	103.084
F47TS	19011JEF	1140878.716	3644814.600	32.805	3743032.921	11958029.234	107.628
F48BS	19011TFR	1157270.556	3620824.921	51.748	3796811.814	11879323.094	169.777
F48TS	19011TFS	1157241.221	3620869.778	52.346	3796715.572	11879470.264	171.739
F49S6	19011TCV	1058266.394	3662258.627	25.441	3471995.661	12015260.178	83.468
F50BS	19011JDK	1163584.386	3666532.305	5.340	3817526.439	12029281.405	17.520
F50TS	19011JDJ	1163578.369	3666691.049	7.130	3817506.699	12029802.217	23.392
F51BS	19011TCJ	1031127.157	3663907.569	21.061	3382956.347	12020670.082	69.098
F51S6	19011TCI	1031138.670	3663863.616	22.380	3382994.120	12020525.880	73.425
F52BS	19011TFY	1166538.706	3609537.443	56.993	3827219.071	11842290.762	186.985
F52TS	19011TFZ	1166523.769	3609547.270	59.128	3827170.065	11842323.003	193.989
F53BS	19011JBP	1185335.056	3667824.437	32.325	3888886.762	12033520.673	106.053
F53TS	19011JBO	1185318.476	3667771.626	29.544	3888832.368	12033347.408	96.929
F54BS	19011TAW	1087522.806	3653288.723	28.768	3567981.074	11985831.418	94.383
F54S6	19011TAV	1087508.221	3653266.598	30.431	3567933.220	11985758.830	99.839
F55BS	19011TEY	1122816.072	3633300.479	9.535	3683772.396	11920253.323	31.283
F55TS	19011TEZ	1122858.836	3633311.654	12.140	3683912.699	11920289.985	39.829
F56BS	19011TDN	1070130.582	3675068.964	5.966	3510920.084	12057288.759	19.573
F56TS	19011TDO	1070107.522	3675097.891	7.444	3510844.427	12057383.663	24.423
F57BS	19011TAD	1083502.743	3628056.180	27.040	3554791.915	11903047.652	88.714
F57S6	19011TAC	1083491.459	3628045.717	28.804	3554754.894	11903013.323	94.501
F58BS	19011JAM	1202653.818	3638893.372	54.472	3945706.734	11938602.670	178.714
F58TS	19011JAL	1202671.717	3638866.984	54.574	3945765.459	11938516.096	179.048
F59BS	19011JGV	1121000.480	3667881.412	28.166	3677815.741	12033707.600	92.408
F59TS	19011JGU	1121084.916	3668015.259	28.484	3678092.761	12034146.727	93.451
F60BS	19011JGI	1125439.276	3685967.481	6.047	3692378.692	12093044.976	19.839
F60TS	19011JGH	1125401.308	3685909.630	6.127	3692254.124	12092855.176	20.102
F61BS	19011JFK	1138947.564	3667154.770	25.202	3736697.134	12031323.608	82.684
F61TS	19011JFJ	1138999.385	3667222.093	24.133	3736867.150	12031544.484	79.176
F62BS	19011JBJ	1200878.123	3660873.450	6.407	3939880.974	12010715.643	21.020
F62TS	19011JBI	1200872.109	3660823.199	6.184	3939861.244	12010550.778	20.289
F63BS	19011JGD	1116475.531	3694018.201	3.644	3662970.136	12119458.048	11.955
F63TS	19011JGC	1116522.514	3694059.537	3.702	3663124.281	12119593.663	12.146
F64BS	19011TFE	1127851.523	3632486.285	33.087	3700292.870	11917582.085	108.553
F64TS	19011TFF	1127819.585	3632475.906	34.346	3700188.090	11917548.034	112.684
F65BS	19011JFW	1124498.173	3692105.809	3.993	3689291.088	12113183.808	13.100
F65TS	19011JFV	1124518.089	3692051.040	4.429	3689356.430	12113004.120	14.531
VA-01	19011TFW	1161950.816	3609804.305	52.542	3812166.967	11843166.292	172.382
VA-02	19011TFH	1135046.344	3622633.286	44.367	3723897.880	11885256.038	145.561
VA-03	19011TAB	1086153.107	3626702.135	34.875	3563487.317	11898605.256	114.419

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
VA-04	19011TEU	1122752.282	3625852.040	34.036	3683563.113	11895816.236	111.666
VA-05	19011JHH	1192436.541	3625683.653	44.467	3912185.550	11895263.785	145.889
VA-06	19011TAH	1100037.893	3636141.525	33.270	3609040.986	11929574.318	109.153
VA-07	19011JAB	1214289.175	3634005.035	4.631	3983880.402	11922564.854	15.194
VA-08	19011TBW	1041486.059	3644329.643	8.717	3416942.180	11956438.169	28.599
VA-09	19011TCD	1025513.647	3647152.456	5.832	3364539.356	11965699.350	19.134
VA-10	19011TDZ	1114611.689	3648959.753	34.603	3656855.181	11971628.790	113.527
VA-11	19011TBS	1057759.983	3652038.231	19.854	3470334.210	11981728.764	65.138
VA-12	19011JEP	1164257.573	3649181.840	30.629	3819735.053	11972357.418	100.489
VA-13	19011JEI	1136329.133	3650325.172	2.756	3728106.498	11976108.500	9.042
VA-14	19011TBF	1079241.331	3658135.544	24.798	3540810.933	12001733.031	81.358
VA-15	19011TCQ	1038213.207	3660808.727	18.152	3406204.495	12010503.298	59.554
VA-16	19011JBG	1193724.129	3655653.337	41.946	3916409.915	11993589.323	137.618
VA-17	19011TBI	1066472.342	3667452.840	22.188	3498918.010	12032301.524	72.795
VA-18	19011TCL	1027945.425	3671707.920	17.386	3372517.616	12046261.734	57.041
VA-19	19011TDU	1097311.582	3671126.177	12.237	3600096.417	12044353.131	40.148
VA-20	19011JGO	1124179.152	3675701.028	26.727	3688244.434	12059362.457	87.687
VA-21	19011JCH	1174244.466	3676022.949	37.361	3852500.386	12060418.625	122.575
VA-22	19011TDL	1062787.745	3685806.897	4.254	3486829.458	12092518.129	13.957
VA-23	19011JGQ	1106759.667	3685037.107	0.644	3631094.008	12089992.575	2.113
VA-24	19011JCY	1152540.953	3683945.811	25.658	3781294.778	12086412.215	84.180
VA-25	19011JFU	1125695.594	3696652.575	1.069	3693219.629	12128100.988	3.507
VA-26	19011JCT	1173992.677	3696328.011	3.342	3851674.309	12127036.148	10.965
VA-NVA-001	19011JCV	1165709.564	3692483.296	2.324	3824498.795	12114422.279	7.625
VA-NVA-002	19011TFX	1164342.333	3608118.306	58.810	3820013.139	11837634.809	192.946
VA-NVA-003	19011TFV	1160058.310	3604835.861	19.087	3805957.972	11826865.653	62.621
VA-NVA-004	19011TBR	1066306.417	3647768.552	16.765	3498373.636	11967720.657	55.003
VA-NVA-005	19011TBY	1040107.831	3641862.388	8.996	3412420.441	11948343.519	29.514
VA-NVA-006	19011TBU	1055022.041	3654447.606	25.077	3461351.479	11989633.519	82.273
VA-NVA-007	19011JFF	1149622.153	3666576.289	9.199	3771718.682	12029425.708	30.180
VA-NVA-008	19011TBQ	1065027.302	3650145.648	9.756	3494177.073	11975519.512	32.008
VA-NVA-009	19011TFQ	1152471.902	3617665.096	19.366	3781068.231	11868956.237	63.537
VA-NVA-010	19011JDV	1167130.636	3636971.576	52.068	3829161.096	11932297.580	170.826
VA-NVA-011	19011TCS	1047636.580	3661878.440	15.734	3437121.013	12014012.849	51.621
VA-NVA-012	19011JHC	1184991.236	3631391.511	47.712	3887758.746	11913990.314	156.535
VA-NVA-013	19011TGC	1166046.408	3619999.149	24.331	3825603.925	11876613.873	79.826
VA-NVA-014	19011JGR	1105708.504	3684276.379	0.838	3627645.318	12087496.754	2.749
VA-NVA-015	19011JGT	1117992.367	3676261.776	22.174	3667946.623	12061202.176	72.749
VA-NVA-016	19011JBA	1180576.582	3654223.863	37.351	3873275.004	11988899.458	122.542
VA-NVA-017	19011JAS	1196584.634	3645717.416	43.696	3925794.754	11960991.222	143.359
VA-NVA-018	19011JCU	1174866.038	3697535.268	2.877	3854539.660	12130996.959	9.439
VA-NVA-019	19011TBK	1072470.979	3668059.473	11.748	3518598.536	12034291.788	38.543
VA-NVA-020	19011JCS	1171991.304	3693459.596	7.524	3845108.137	12117625.358	24.685
VA-NVA-021	19011JGN	1122919.707	3678376.662	6.621	3684112.404	12068140.764	21.722
VA-NVA-022	19011TEG	1127327.959	3651777.930	27.074	3698575.144	11980874.757	88.825
VA-NVA-023	19011TDH	1048997.561	3675521.717	5.697	3441586.166	12058774.165	18.691

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
VA-NVA-024	19011TGD	1162028.609	3622860.813	12.722	3812422.193	11886002.517	41.739
VA-NVA-025	19011JBF	1186415.290	3655576.657	44.115	3892430.829	11993337.750	144.734
VA-NVA-026	19011TAG	1093204.147	3630832.265	37.032	3586620.604	11912155.522	121.496
VA-NVA-027	19011TBX	1041106.159	3643072.670	9.339	3415695.790	11952314.250	30.640
VA-NVA-028	19011JCX	1153019.683	3684574.868	22.534	3782865.411	12088476.046	73.930
VA-NVA-029	19011JHD	1183110.456	3636732.718	41.771	3881588.220	11931513.927	137.044
VA-NVA-030	19011TBL	1065222.474	3659623.646	17.630	3494817.400	12006615.246	57.841
VA-NVA-031	19011JGF	1111854.103	3696632.592	0.750	3647808.004	12128035.428	2.461
VA-NVA-032	19011JDH	1161309.292	3680119.509	24.631	3810062.235	12073858.754	80.810
VA-NVA-033	19011JDS	1175393.898	3660154.641	37.553	3856271.482	12008357.350	123.205
VA-NVA-034	19011TAJ	1093465.344	3635598.090	32.602	3587477.551	11927791.402	106.962
VA-NVA-035	19011JCZ	1148411.362	3689123.215	2.257	3767746.276	12103398.413	7.405
VA-NVA-036	19011TFI	1134193.178	3614699.041	40.276	3721098.784	11859225.105	132.139
VA-NVA-037	19011TBH	1071925.804	3663793.226	25.036	3516809.909	12020294.943	82.139
VA-NVA-038	19011TCH	1030526.524	3662856.268	22.039	3380985.770	12017220.938	72.306
VA-NVA-039	19011TAN	1084032.474	3641993.521	28.525	3556529.875	11948773.742	93.586
VA-NVA-040	19011JEL	1144984.867	3650685.531	32.800	3756504.517	11977290.778	107.611
VA-NVA-041	19011TDQ	1071208.075	3675226.822	6.561	3514455.159	12057806.666	21.526
VA-NVA-042	19011TAK	1095513.048	3639787.847	33.312	3594195.723	11941537.294	109.291
VA-NVA-043	19011TCR	1045108.670	3658309.845	21.127	3428827.362	12002304.882	69.314
VA-NVA-044	19011JDU	1174533.316	3642232.785	40.082	3853448.053	11949558.727	131.502
VA-NVA-045	19011TDD	1045036.021	3672368.755	11.896	3428589.012	12048429.825	39.029
VA-NVA-046	19011TCZ	1044388.118	3667518.840	15.224	3426463.349	12032518.062	49.947
VA-NVA-047	19011TCY	1043734.724	3663212.055	20.606	3424319.673	12018388.217	67.605
VA-NVA-048	19011TBV	1043422.426	3648902.361	19.769	3423295.076	11971440.494	64.859
VA-NVA-049	19011TCM	1036909.731	3673140.034	11.663	3401928.009	12050960.263	38.264
VA-NVA-050	19011TGB	1169575.418	3616486.662	49.729	3837182.018	11865089.989	163.153
VA-NVA-051	19011JAC	1207808.260	3630978.620	11.321	3962617.600	11912635.690	37.142
VA-NVA-052	19011JAU	1194228.939	3651350.751	45.473	3918066.111	11979473.257	149.189
VA-NVA-053	19011JEK	1134350.130	3659802.371	31.927	3721613.717	12007201.614	104.747
VA-NVA-054	19011TBJ	1069328.160	3669213.545	14.346	3508287.470	12038078.104	47.067
VA-NVA-055	19011JCW	1159694.348	3688125.650	29.958	3804763.872	12100125.570	98.287
VA-NVA-056	19011JFM	1137910.870	3688336.661	10.624	3733295.912	12100817.863	34.856
VA-NVA-057	19011TDM	1064828.922	3678640.705	6.877	3493526.221	12069007.047	22.562
VA-NVA-058	19011JDI	1158714.705	3671459.384	14.824	3801549.827	12045446.330	48.635
VA-NVA-059	19011TBZ	1033866.679	3645779.836	28.231	3391944.262	11961196.011	92.621
VA-NVA-060	19011TFM	1138530.362	3624265.466	8.674	3735328.363	11890610.950	28.458
VA-NVA-061	19011JDR	1174326.613	3661452.713	35.440	3852769.897	12012616.110	116.273
VA-NVA-062	19011JDQ	1174586.314	3665052.423	33.951	3853621.933	12024426.158	111.388
VA-NVA-063	19011TDY	1104631.955	3644288.744	2.970	3624113.340	11956303.987	9.744
VA-NVA-064	19011TDJ	1056933.838	3674683.133	6.334	3467623.765	12056022.913	20.781
VA-NVA-065	19011JEJ	1135531.480	3654453.425	17.750	3725489.532	11989652.611	58.235
VA-NVA-066	19011JEA	1155633.238	3630147.442	9.154	3791440.048	11909908.734	30.033
VA-NVA-067	19011JHI	1196852.669	3624308.720	10.055	3926674.130	11890752.860	32.989
VA-NVA-068	19011TET	1126335.458	3623480.067	29.118	3695318.916	11888034.187	95.531
VA-NVA-069	19011TDK	1062631.236	3684936.487	5.561	3486315.981	12089662.456	18.245

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
VA-NVA-070	19011JAV	1186360.898	3647254.598	17.135	3892252.380	11966034.459	56.217
VA-NVA-071	19011JGY	1183627.135	3619791.312	56.743	3883283.359	11875931.995	186.164
VA-NVA-072	19011JAT	1193909.859	3647425.910	43.124	3917019.262	11966596.507	141.483
VA-NVA-073	19011TEH	1130932.387	3643613.591	37.543	3710400.671	11954088.924	123.172
VA-NVA-074	19011JDZ	1159519.891	3632887.483	45.529	3804191.510	11918898.349	149.373
VA-NVA-075	19011JDP	1168513.569	3659260.719	6.236	3833698.267	12005424.541	20.459
VA-NVA-076	19011TEM	1134567.845	3634364.573	23.222	3722328.004	11923744.436	76.188
VA-NVA-077	19011TAA	1088026.003	3622096.778	36.750	3569631.978	11883495.846	120.571
VA-NVA-078	19011JCM	1176988.680	3682047.725	30.349	3861503.694	12080184.911	99.570
VA-NVA-079	19011JAD	1207023.390	3627198.110	53.402	3960042.573	11900232.465	175.203
VA-NVA-080	19011JFD	1151141.559	3660496.242	30.298	3776703.597	12009478.086	99.403
VA-NVA-081	19011TEA	1115931.576	3647144.761	22.792	3661185.511	11965674.103	74.777
VA-NVA-082	19011JDY	1162912.238	3633375.638	38.059	3815321.234	11920499.904	124.865
VA-NVA-083	19011TER	1129560.547	3618754.181	34.308	3705899.893	11872529.343	112.559
VA-NVA-084	19011TEF	1123443.306	3649099.905	19.026	3685830.247	11972088.606	62.421
VA-NVA-085	19011JDW	1167009.947	3635055.640	52.792	3828765.134	11926011.713	173.202
VA-NVA-086	19011TDV	1100331.082	3666340.405	21.383	3610002.890	12028651.811	70.154
VA-NVA-087	19011TBE	1081884.981	3662306.205	21.200	3549484.308	12015416.275	69.554
VA-NVA-088	19011JET	1170230.492	3648197.292	34.142	3839331.205	11969127.283	112.014
VA-NVA-089	19011JDT	1175575.824	3637054.881	43.094	3856868.348	11932570.890	141.384
VA-NVA-090	19011TEN	1135087.957	3626811.278	42.780	3724034.407	11898963.334	140.354
VA-NVA-091	19011JFQ	1130956.177	3684586.474	9.493	3710478.725	12088514.125	31.145
VA-NVA-092	19011JAO	1195687.154	3641209.114	44.461	3922850.270	11946200.235	145.869
VA-NVA-093	19011JGX	1172700.313	3623024.289	49.863	3847434.276	11886538.853	163.592
VA-NVA-094	19011JAH	1199349.479	3632778.801	4.779	3934865.750	11918541.783	15.679
VA-NVA-095	19011TEL	1132328.863	3634400.553	37.580	3714982.277	11923862.481	123.294
VA-NVA-096	19011JBH	1197343.954	3655217.050	11.808	3928285.955	11992157.938	38.740
VA-NVA-097	19011TAM	1091200.090	3647210.811	31.746	3580045.630	11965890.803	104.153
VA-NVA-098	19011TBT	1058776.905	3656292.464	24.991	3473670.562	11995686.193	81.991
VA-NVA-099	19011TCU	1058251.755	3662270.105	23.858	3471947.632	12015297.835	78.274
VA-NVA-100	19011JFY	1119210.814	3693187.665	2.540	3671944.146	12116733.198	8.333
VA-NVA-101	19011TAL	1093036.560	3645332.202	27.916	3586070.782	11959727.400	91.588
VA-NVA-102	19011TCT	1050317.967	3661466.315	22.048	3445918.197	12012660.736	72.336
VA-NVA-103	19011JDA	1145320.180	3692655.392	1.315	3757604.623	12114986.898	4.314
VA-NVA-104	19011JGS	1111154.653	3675741.869	10.825	3645513.222	12059496.447	35.515
VA-NVA-105	19011JAA	1213943.555	3628488.829	17.849	3982746.479	11904467.101	58.560
VA-NVA-106	19011JBE	1178088.331	3656218.145	5.266	3865111.467	11995442.364	17.277
VA-NVA-107	19011TBP	1069592.324	3652968.726	18.360	3509154.151	11984781.561	60.236
VA-NVA-108	19011TEB	1118585.404	3654205.692	33.250	3669892.281	11988839.842	109.088
VA-NVA-109	19011JCO	1175620.122	3688059.787	27.402	3857013.683	12099909.484	89.901
VA-NVA-01	19011TAI	1100254.128	3636257.631	33.836	3609750.420	11929955.243	111.010
VA-VVA-02	19011TES	1128313.692	3621897.426	30.677	3701809.172	11882841.806	100.646
VA-VVA-03	19011JDX	1167174.126	3633870.468	46.268	3829303.777	11922123.361	151.798
VA-VVA-04	19011TBG	1077148.456	3665921.776	20.161	3533944.558	12027278.360	66.145
VA-VVA-05	19011JCG	1177991.511	3677240.431	29.510	3864793.814	12064412.981	96.817
VA-VVA-06	19011TDX	1104505.207	3644854.644	4.149	3623697.500	11958160.612	13.612

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
VA-VVA-07	19011JGG	1120291.586	3689404.214	2.868	3675489.978	12104320.325	9.409
VA-VVA-08	19011TDI	1054800.956	3675968.380	5.576	3460626.137	12060239.593	18.294
VA-VVA-09	19011TDW	1102520.093	3657874.432	21.304	3617184.670	12000876.365	69.895
VA-VVA-10	19011TCX	1052401.474	3670796.731	17.682	3452753.835	12043272.275	58.012
VA-VVA-11	19011JCN	1181339.583	3686738.696	5.031	3875778.280	12095575.205	16.506
VA-VVA-12	19011JCI	1170477.064	3674477.867	37.189	3840140.167	12055349.467	122.011
VA-VVA-13	19011TAO	1083439.715	3637233.189	28.882	3554585.130	11933155.887	94.757
VA-VVA-14	19011TAF	1091366.186	3629198.592	22.894	3580590.561	11906795.713	75.111
VA-VVA-15	19011TFU	1156996.648	3616294.312	50.534	3795913.171	11864458.921	165.794
VA-VVA-16	19011JEE	1143573.640	3639642.813	33.537	3751874.517	11941061.463	110.029
VA-VVA-F01	19011TEQ	1133185.880	3625958.597	42.656	3717794.008	11896165.829	139.947
VA-VVA-F02	19011JCC	1180943.067	3663800.778	33.400	3874477.380	12020319.719	109.580
VA-VVA-F03	19011TFL	1135572.414	3618132.256	49.865	3725623.830	11870488.909	163.599
VA-VVA-F04	19011JBZ	1180868.715	3668609.528	39.732	3874233.443	12036096.425	130.354
VA-VVA-F05	19011TAR	1086377.159	3642217.755	29.463	3564222.394	11949509.417	96.663
VA-VVA-F06	19011JCR	1174678.074	3688406.693	30.198	3853922.982	12101047.625	99.075
VA-VVA-F07	19011JDO	1169495.818	3666182.778	31.665	3836920.864	12028134.664	103.888
VA-VVA-F08	19011JFE	1150511.819	3651306.227	32.371	3774637.526	11979327.180	106.204
VA-VVA-F09	19011TDC	1044024.703	3667384.629	13.875	3425271.046	12032077.738	45.522
VA-VVA-F10	19011TCG	1025199.674	3656092.494	14.072	3363509.264	11995030.123	46.168
VA-VVA-F11	19011TCP	1036810.960	3668009.234	21.003	3401603.958	12034126.963	68.907
VA-VVA-F12	19011JGP	1106839.245	3682273.220	0.763	3631355.088	12080924.722	2.503
VA-VVA-F13	19011JES	1167635.046	3644021.092	46.117	3830815.979	11955425.865	151.302
VA-VVA-F14	19011JAG	1202220.621	3631025.275	56.666	3944285.488	11912788.757	185.912
VA-VVA-F15	19011TDT	1074607.320	3671428.956	6.569	3525607.516	12045346.498	21.552
VA-VVA-F16	19011TBO	1065732.911	3656325.656	25.066	3496492.060	11995795.088	82.237
VA-VVA-F17	19011TEX	1123864.597	3629994.639	8.791	3687212.433	11909243.371	28.842
VA-VVA-F18	19011JBT	1183378.871	3670584.797	29.554	3882468.844	12042576.954	96.962
VA-VVA-F19	19011JAR	1191851.680	3642775.274	40.501	3910266.721	11951338.545	132.877
VA-VVA-F20	19011JHB	1180438.825	3623144.600	54.964	3872823.045	11886933.576	180.328
VA-VVA-F21	19011JGM	1126341.293	3679597.457	11.887	3695338.058	12072145.990	38.999
VA-VVA-F22	19011JFP	1134216.616	3681024.004	7.177	3721175.680	12076826.254	23.547
VA-VVA-F23	19011JDG	1155686.007	3686667.330	22.144	3791613.175	12095341.065	72.651
VA-VVA-F24	19011JFI	1146617.052	3663648.641	30.968	3761859.444	12019820.582	101.601
VA-VVA-F25	19011TFP	1142759.604	3621355.877	10.843	3749203.800	11881065.073	35.574
VA-VVA-F26	19011JEO	1154931.442	3642164.825	41.012	3789137.573	11949335.764	134.554
VA-VVA-F27	19011JBN	1194379.870	3662627.269	37.393	3918561.289	12016469.632	122.680
VA-VVA-F28	19011TGG	1162991.061	3619822.293	44.357	3815579.840	11876033.640	145.528
VA-VVA-F29	19011TBA	1091326.499	3660264.152	9.864	3580460.355	12008716.640	32.362
VA-VVA-F30	19011TAU	1079775.036	3652538.308	26.167	3542561.929	11983369.433	85.850
VA-VVA-F31	19011TBD	1093126.522	3660274.433	10.833	3586365.932	12008750.369	35.541
VA-VVA-F32	19011TCC	1033283.932	3644110.186	8.543	3390032.368	11955718.170	28.028
VA-VVA-F33	19011JFT	1131366.887	3685009.406	10.404	3711826.195	12089901.692	34.134
VA-VVA-F34	19011JCF	1182690.264	3675297.899	22.749	3880209.641	12058039.857	74.636
VA-VVA-F35	19011JAK	1199598.924	3633045.760	4.006	3935684.135	11919417.631	13.143
VA-VVA-F36	19011TFD	1122375.763	3635451.339	9.665	3682327.816	11927309.936	31.709

Station Name	GPSID	Northing meters	Easting meters	NAVD 1988 meters	Northing US FT	Easting US FT	NAVD 1988 US FT
VA-VVA-F37	19011TEK	1129133.210	3640509.286	25.255	3704497.874	11943904.214	82.857
VA-VVA-F38	19011JCL	1172433.419	3679912.163	29.552	3846558.641	12073178.487	96.955
VA-VVA-F39	19011TDG	1044192.436	3673002.757	13.459	3425821.350	12050509.878	44.157
VA-VVA-F40	19011JGB	1116873.045	3693497.052	2.735	3664274.315	12117748.246	8.973
VA-VVA-F41	19011JBD	1179005.282	3654815.253	35.628	3868119.828	11990839.710	116.890
VA-VVA-F42	19011JED	1151243.171	3631191.951	43.754	3777036.970	11913335.592	143.550
VA-VVA-F43	19011TEE	1115539.638	3658148.015	27.465	3659899.627	12001773.945	90.108
VA-VVA-F44	19011JDD	1154760.881	3690580.267	1.928	3788577.991	12108178.759	6.325
VA-VVA-F45	19011JHG	1187803.055	3632186.149	42.871	3896983.857	11916597.391	140.653
VA-VVA-F46	19011JFC	1155537.519	3657758.071	34.287	3791126.010	12000494.605	112.490
VA-VVA-F47	19011JEH	1140882.101	3644878.589	30.369	3743044.028	11958239.169	99.636
VA-VVA-F48	19011TFT	1157249.976	3620923.691	51.635	3796744.296	11879647.142	169.406
VA-VVA-F49	19011TCW	1058279.481	3662225.827	23.871	3472038.599	12015152.568	78.317
VA-VVA-F50	19011JDL	1163663.386	3666687.499	6.665	3817785.624	12029790.569	21.867
VA-VVA-F51	19011TCK	1031178.188	3663831.513	19.865	3383123.773	12020420.557	65.174
VA-VVA-F52	19011TGA	1166518.726	3609519.703	57.545	3827153.519	11842232.558	188.796
VA-VVA-F53	19011JBQ	1185321.494	3667734.527	26.062	3888842.267	12033225.693	85.505
VA-VVA-F54	19011TAX	1087473.652	3653243.392	28.899	3567819.806	11985682.695	94.813
VA-VVA-F55	19011TFA	1122905.274	3633336.862	10.809	3684065.052	11920372.688	35.463
VA-VVA-F56	19011TDP	1070071.863	3675144.770	5.072	3510727.437	12057537.466	16.640
VA-VVA-F57	19011TAE	1083490.200	3628015.862	27.396	3554750.763	11902915.374	89.882
VA-VVA-F58	19011JAN	1202686.436	3638861.335	53.002	3945813.749	11938497.564	173.891
VA-VVA-F59	19011JGW	1121123.739	3667950.732	27.590	3678220.135	12033935.027	90.518
VA-VVA-F60	19011JGJ	1125366.440	3685921.276	4.281	3692139.729	12092893.387	14.045
VA-VVA-F61	19011JFL	1138965.115	3667232.187	22.078	3736754.714	12031577.599	72.434
VA-VVA-F62	19011JBK	1200918.741	3660831.727	4.781	3940014.235	12010578.758	15.686
VA-VVA-F63	19011JGE	1116480.024	3694099.436	2.223	3662984.877	12119724.566	7.293
VA-VVA-F64	19011TFG	1127838.063	3632457.702	32.106	3700248.712	11917488.312	105.334
VA-VVA-F65	19011JFX	1124513.584	3692014.030	3.136	3689341.649	12112882.697	10.289

Horizontal Datum: NAD83 (2011) epoch 2010.0
 Coordinate System – Albers Equal Area EPSG 6350
 Units: meters

Table 10 - Albers Equal Area EPSG 6350 Coordinates

Station Name	GPSID	USGS Quad	Albers Northing	Albers Easting
MD-01	19010AA	DAMASCUS	1969624.005	1599135.210
MD-02	19010AB	SANDY SPRING	1959034.746	1612928.540
MD-03	19010AC	SYKESVILLE	1973311.848	1616888.978
MD-04	19010AD	LAUREL	1951019.609	1627789.505
MD-09	19010AE	RELAY	1966208.363	1640766.963
MD-NVA-01	19010AF	CLARKSVILLE	1957808.050	1616142.304
MD-NVA-02	19010AG	SAVAGE	1961559.778	1626499.336
MD-NVA-03	19010AH	WOODBINE	1968154.860	1606938.509
MD-NVA-04	19010AI	WOODBINE	1975616.198	1601167.116
MD-NVA-05	19010AJ	DAMASCUS	1965403.282	1600996.712
MD-NVA-06	19010AK	SANDY SPRING	1962570.745	1609338.680
MD-NVA-07	19010AL	WOODBINE	1972597.248	1601403.771
MD-NVA-08	19010AM	WOODBINE	1969044.771	1611455.681
MD-NVA-09	19010AN	CLARKSVILLE	1963655.417	1621220.481
MD-NVA-10	19010AO	SAVAGE	1956494.316	1631692.034
MD-NVA-11	19010AP	SAVAGE	1962882.817	1633987.483
MD-NVA-12	19010AQ	RELAY	1966152.706	1638526.548
MD-NVA-13	19010AR	SYKESVILLE	1970333.780	1621413.540
MD-NVA-14	19010AS	SYKESVILLE	1975084.985	1615953.800
MD-NVA-15	19010AT	CLARKSVILLE	1955517.955	1621503.444
MD-NVA-16	19010AU	WOODBINE	1975200.900	1608325.655
MD-NVA-17	19010AV	WOODBINE	1971298.106	1608310.616
MD-NVA-18	19010AW	CLARKSVILLE	1964868.465	1615027.884
MD-VVA-01	19010AX	SYKESVILLE	1967651.807	1619874.024
MD-VVA-F01	19010TA	DAMASCUS	1971842.086	1596478.255
MD-VVA-F02	19010TB	WOODBINE	1974022.021	1602631.817
MD-VVA-F03	19010TC	WOODBINE	1966446.475	1605140.917
MD-VVA-F04	19010TD	WOODBINE	1974447.115	1607516.609
MD-VVA-F05	19010TE	WOODBINE	1965876.370	1609883.678
MD-VVA-F06	19010TF	CLARKSVILLE	1961457.178	1615943.598
MD-VVA-F07	19010TG	SYKESVILLE	1977801.940	1613855.363
MD-VVA-F08	19010TH	CLARKSVILLE	1959781.572	1621945.144
MD-VVA-F09	19010TI	SYKESVILLE	1976779.917	1620753.142
MD-VVA-F10	19010TJ	SYKESVILLE	1970478.626	1623495.391
MD-VVA-F12	19010TL	ELLCOTT CITY	1967773.938	1624896.781

Station Name	GPSID	USGS Quad	Albers Northing	Albers Easting
MD-VVA-F13	19010TM	LAUREL	1951552.947	1630463.819
MD-VVA-F14	19010TN	SAVAGE	1963623.404	1629678.033
MD-VVA-F15	19010TO	SAVAGE	1960676.844	1632221.376
VA-NVA-001	19011JCV	REEDVILLE	1818312.023	1704556.326
VA-NVA-002	19011TFX	HANOVER	1801695.177	1622664.521
VA-NVA-003	19011TFV	HANOVER	1796848.248	1620261.354
VA-NVA-004	19011TBR	RAYNOR	1711554.094	1679418.757
VA-NVA-005	19011TBY	FRANKLIN	1684483.792	1678515.725
VA-NVA-006	19011TBU	ZUNI	1701562.526	1688011.690
VA-NVA-007	19011JFF	URBANNA	1797658.632	1682309.220
VA-NVA-008	19011TBQ	RAYNOR	1710714.587	1681970.395
VA-NVA-009	19011TFQ	MANQUIN	1791639.242	1634156.846
VA-NVA-010	19011JDV	MILLERS TAVERN	1809684.425	1650241.860
VA-NVA-011	19011TCS	BUCKHORN	1695576.892	1696615.229
VA-NVA-012	19011JHC	CAUTHORNVILLE	1826404.727	1641502.739
VA-NVA-013	19011TGC	BEULAHVILLE	1805537.089	1633917.043
VA-NVA-014	19011JGR	ACHILLES	1757267.181	1707676.000
VA-NVA-015	19011JGT	GLOUCESTER	1768011.709	1697596.960
VA-NVA-016	19011JBA	HAYNESVILLE	1826152.659	1664550.742
VA-NVA-017	19011JAS	MONTROSS	1840504.550	1653304.988
VA-NVA-018	19011JCU	BURGESS	1828314.429	1707779.736
VA-NVA-019	19011TBK	BENNS CHURCH	1721343.132	1698037.568
VA-NVA-020	19011JCS	REEDVILLE	1824724.171	1704343.627
VA-NVA-021	19011JGN	WARE NECK	1773285.312	1698744.002
VA-NVA-022	19011TEG	TOANO	1772851.015	1672027.198
VA-NVA-023	19011TDH	CHUCKATUCK	1699395.223	1709650.049
VA-NVA-024	19011TGD	AYLETT	1802066.486	1637446.989
VA-NVA-025	19011JBF	HAYNESVILLE	1832193.180	1664786.971
VA-NVA-026	19011TAG	SAVEDGE	1735187.991	1657947.721
VA-NVA-027	19011TBX	FRANKLIN	1685693.557	1679509.623
VA-NVA-028	19011JCX	IRVINGTON	1804285.525	1699205.731
VA-NVA-029	19011JHD	MOUNT LANDING	1825504.065	1647051.313
VA-NVA-030	19011TBL	SMITHFIELD	1712622.881	1691164.268
VA-NVA-031	19011JGF	NEW POINT COMFORT	1765601.272	1718570.391
VA-NVA-032	19011JDH	LANCASTER	1811709.018	1693332.414
VA-NVA-033	19011JDS	HAYNESVILLE	1822080.549	1671284.870
VA-NVA-034	19011TAJ	CLAREMONT	1736309.662	1662540.238
VA-NVA-035	19011JCZ	FLEETS BAY	1800533.133	1704487.988
VA-NVA-036	19011TFI	QUINTON	1772957.016	1634651.816

Station Name	GPSID	USGS Quad	Albers Northing	Albers Easting
VA-NVA-037	19011TBH	SMITHFIELD	1720030.403	1693983.885
VA-NVA-038	19011TCH	WHALEYVILLE	1678773.613	1700734.294
VA-NVA-039	19011TAN	DENDRON	1728103.619	1670513.999
VA-NVA-040	19011JEL	TRUHART	1790181.279	1667694.678
VA-NVA-041	19011TDQ	BENNS CHURCH	1721385.840	1705251.189
VA-NVA-042	19011TAK	CLAREMONT	1739100.377	1666241.122
VA-NVA-043	19011TCR	BUCKHORN	1692422.541	1693607.787
VA-NVA-044	19011JDU	MOUNT LANDING	1817984.744	1653994.207
VA-NVA-045	19011TDD	SUFFOLK	1694893.399	1707312.780
VA-NVA-046	19011TCZ	SUFFOLK	1693373.217	1702709.505
VA-NVA-047	19011TCY	BUCKHORN	1691945.760	1698636.190
VA-NVA-048	19011TBV	HOLLAND	1689047.103	1684758.272
VA-NVA-049	19011TCM	SUFFOLK	1686968.251	1709568.087
VA-NVA-050	19011TGB	BEULAHVILLE	1808404.656	1629843.926
VA-NVA-051	19011JAC	ROLLINS FORK	1848979.149	1636877.501
VA-NVA-052	19011JAU	MONTROSS	1839185.103	1659225.899
VA-NVA-053	19011JEK	SHACKLEFORDS	1781273.226	1678540.859
VA-NVA-054	19011TBJ	BENNS CHURCH	1718432.459	1699743.252
VA-NVA-055	19011JCW	REEDVILLE	1811553.203	1701427.170
VA-NVA-056	19011JFM	DELTAVILLE	1789967.320	1705666.636
VA-NVA-057	19011TDM	NEWPORT NEWS SOUTH	1715671.669	1709756.771
VA-NVA-058	19011JDI	URBANNA	1807567.666	1685380.400
VA-NVA-059	19011TBZ	HOLLAND	1678998.883	1683485.752
VA-NVA-060	19011TFM	TUNSTALL	1778993.888	1643163.971
VA-NVA-061	19011JDR	HAYNESVILLE	1821255.828	1672746.374
VA-NVA-062	19011JDQ	LOTTSBURG	1822164.573	1676203.255
VA-NVA-063	19011TDY	NORGE	1748966.538	1668936.036
VA-NVA-064	19011TDJ	CHUCKATUCK	1707120.087	1707364.252
VA-NVA-065	19011JEJ	WEST POINT	1781478.496	1673113.693
VA-NVA-066	19011JEA	KING WILLIAM	1797036.323	1645725.566
VA-NVA-067	19011JHI	LORETTO	1836897.513	1632411.298
VA-NVA-068	19011TET	PROVIDENCE FORGE	1766745.882	1644656.355
VA-NVA-069	19011TDK	NEWPORT NEWS SOUTH	1714628.849	1716294.815
VA-NVA-070	19011JAV	MONTROSS	1830634.015	1656694.238
VA-NVA-071	19011JGY	SPARTA	1822951.624	1630460.810
VA-NVA-072	19011JAT	MONTROSS	1838158.488	1655463.583
VA-NVA-073	19011TEH	NEW KENT	1774952.185	1663410.022
VA-NVA-074	19011JDZ	MILLERS TAVERN	1801390.373	1647674.070
VA-NVA-075	19011JDP	MORATICO	1815088.942	1671688.315

Station Name	GPSID	USGS Quad	Albers Northing	Albers Easting
VA-NVA-076	19011TEM	NEW KENT	1776887.731	1653731.056
VA-NVA-077	19011TAA	DISPUTANTA SOUTH	1728467.112	1650399.641
VA-NVA-078	19011JCM	HEATHSVILLE	1827622.095	1692306.493
VA-NVA-079	19011JAD	ROLLINS FORK	1847516.079	1633342.038
VA-NVA-080	19011JFD	CHURCH VIEW	1798067.409	1676107.665
VA-NVA-081	19011TEA	NORGE	1760699.945	1669625.399
VA-NVA-082	19011JDY	MILLERS TAVERN	1804846.266	1647521.440
VA-NVA-083	19011TER	ROXBURY	1769092.135	1639457.752
VA-NVA-084	19011TEF	TOANO	1768510.356	1670138.641
VA-NVA-085	19011JDW	MILLERS TAVERN	1809217.988	1648398.707
VA-NVA-086	19011TDV	HOG ISLAND	1748686.097	1691205.716
VA-NVA-087	19011TBE	BACONS CASTLE	1729646.628	1690692.149
VA-NVA-088	19011JET	DUNNSVILLE	1814792.325	1660598.211
VA-NVA-089	19011JDT	MOUNT LANDING	1818082.911	1648759.697
VA-NVA-090	19011TEN	TUNSTALL	1776037.301	1646280.015
VA-NVA-091	19011JFQ	WARE NECK	1782385.606	1703302.754
VA-NVA-092	19011JAO	CHAMPLAIN	1838798.184	1649081.688
VA-NVA-093	19011JGX	CAUTHORNVILLE	1812689.811	1635630.956
VA-NVA-094	19011JAH	CHAMPLAIN	1840908.452	1640195.813
VA-NVA-095	19011TEL	NEW KENT	1774671.612	1654180.536
VA-NVA-096	19011JBH	MACHODOC	1842976.427	1662413.616
VA-NVA-097	19011TAM	SURRY	1736162.198	1674267.844
VA-NVA-098	19011TBT	WINDSOR	1705622.956	1689113.304
VA-NVA-099	19011TCU	WINDSOR	1706183.044	1695031.813
VA-NVA-100	19011JFY	MATHEWS	1772281.229	1713853.382
VA-NVA-101	19011TAL	SURRY	1737645.258	1672098.529
VA-NVA-102	19011TCT	WINDSOR	1698163.508	1695717.571
VA-NVA-103	19011JDA	DELTAVILLE	1798103.051	1708499.867
VA-NVA-104	19011JGS	CLAY BANK	1761130.181	1698356.759
VA-NVA-105	19011JAA	DAHLGREN	1854618.595	1633317.903
VA-NVA-106	19011JBE	HAYNESVILLE	1824043.328	1666953.167
VA-NVA-107	19011TBP	RAYNOR	1715756.281	1683874.624
VA-NVA-108	19011TEB	TOANO	1764611.600	1676009.734
VA-NVA-109	19011JCO	BURGESS	1827350.355	1698413.819
VA-01	19011TFW	HANOVER	1799626.281	1624748.703
VA-02	19011TFH	TUNSTALL	1775239.922	1642219.556
VA-03	19011TAB	WAVERLY	1727441.535	1655230.876
VA-04	19011TEU	PROVIDENCE FORGE	1763618.144	1647629.214
VA-05	19011JHH	LORETTO	1832762.635	1634567.315

Station Name	GPSID	USGS Quad	Albers Northing	Albers Easting
VA-06	19011TAH	CLAREMONT	1742932.164	1661852.886
VA-07	19011JAB	COLONIAL BEACH NORTH	1855959.639	1638624.501
VA-08	19011TBW	FRANKLIN	1686298.023	1680663.435
VA-09	19011TCD	GATES	1670957.991	1686368.247
VA-10	19011TDZ	NORGE	1759718.065	1671637.098
VA-11	19011TBS	ZUNI	1703844.041	1685158.570
VA-12	19011JEP	DUNNSVILLE	1809041.176	1662662.591
VA-13	19011JEI	WEST POINT	1781523.600	1668946.220
VA-14	19011TBF	BACONS CASTLE	1726268.201	1687120.083
VA-15	19011TCQ	BUCKHORN	1686031.365	1697317.602
VA-16	19011JBG	MACHODOC	1839462.159	1663508.537
VA-17	19011TBI	BENNS CHURCH	1715279.517	1698557.277
VA-18	19011TCL	CORAPEAKE	1677813.340	1709832.560
VA-19	19011TDU	YORKTOWN	1746554.332	1696425.114
VA-20	19011JGO	GLOUCESTER	1774051.745	1695905.360
VA-21	19011JCH	HEATHSVILLE	1823808.822	1686948.384
VA-22	19011TDL	NEWPORT NEWS SOUTH	1714941.565	1717113.496
VA-23	19011JGQ	ACHILLES	1758448.144	1708222.150
VA-24	19011JCY	IRVINGTON	1803696.579	1698681.853
VA-25	19011JFU	MATHEWS	1779344.733	1716026.515
VA-26	19011JCT	BURGESS	1827229.290	1706765.970
VA-VVA-01	19011TAI	CLAREMONT	1743167.819	1661925.922
VA-VVA-02	19011TES	PROVIDENCE FORGE	1768423.251	1642749.159
VA-VVA-03	19011JDX	MILLERS TAVERN	1809166.541	1647214.349
VA-VVA-04	19011TBG	BACONS CASTLE	1725599.192	1695089.905
VA-VVA-05	19011JCG	HEATHSVILLE	1827748.496	1687440.001
VA-VVA-06	19011TDX	NORGE	1748943.101	1669510.556
VA-VVA-07	19011JGG	MATHEWS	1772670.139	1709968.989
VA-VVA-08	19011TDI	CHUCKATUCK	1705235.667	1709010.741
VA-VVA-09	19011TDW	HOG ISLAND	1749327.805	1682556.402
VA-VVA-10	19011TCX	CHUCKATUCK	1701918.945	1704418.441
VA-VVA-11	19011JCN	HEATHSVILLE	1832789.029	1696068.341
VA-VVA-12	19011JCI	LIVELY	1819789.684	1686141.544
VA-VVA-13	19011TAO	DENDRON	1726653.915	1665988.115
VA-VVA-14	19011TAF	SAVEDGE	1733067.939	1656697.059
VA-VVA-15	19011TFU	MANQUIN	1795882.896	1631984.703
VA-VVA-16	19011JEE	NEW KENT	1786782.740	1657203.498
VA-VVA-F01	19011TEQ	TUNSTALL	1773994.808	1645801.808
VA-VVA-F02	19011JCC	HAYNESVILLE	1828248.384	1673807.618

Station Name	GPSID	USGS Quad	Albers Northing	Albers Easting
VA-VVA-F03	19011TFL	QUINTON	1774947.567	1637739.495
VA-VVA-F04	19011JBZ	LOTTSBURG	1829044.105	1678503.529
VA-VVA-F05	19011TAR	DENDRON	1730471.537	1670298.367
VA-VVA-F06	19011JCR	BURGESS	1826477.925	1698926.052
VA-VVA-F07	19011JDO	LIVELY	1817315.764	1678246.375
VA-VVA-F08	19011JFE	TRUHART	1795780.128	1667275.847
VA-VVA-F09	19011TDC	BUCKHORN	1692988.277	1702646.067
VA-VVA-F10	19011TCG	GATES	1672263.927	1695132.943
VA-VVA-F11	19011TCP	SUFFOLK	1685942.239	1704589.562
VA-VVA-F12	19011JGP	ACHILLES	1758027.433	1705515.958
VA-VVA-F13	19011JES	DUNNSVILLE	1811460.441	1657012.420
VA-VVA-F14	19011JAG	ROLLINS FORK	1843441.188	1637957.126
VA-VVA-F15	19011TDT	BENNS CHURCH	1724072.952	1700923.385
VA-VVA-F16	19011TBO	SMITHFIELD	1712532.927	1687858.084
VA-VVA-F17	19011TEX	PROVIDENCE FORGE	1765462.921	1651408.427
VA-VVA-F18	19011JBT	LOTTSBURG	1831892.984	1679962.027
VA-VVA-F19	19011JAR	MONTROSS	1835274.225	1651316.539
VA-VVA-F20	19011JHB	CAUTHORNVILLE	1820393.474	1634315.805
VA-VVA-F21	19011JGM	WARE NECK	1776902.548	1699299.201
VA-VVA-F22	19011JFP	WILTON	1784978.114	1699230.024
VA-VVA-F23	19011JDG	IRVINGTON	1807310.593	1700749.457
VA-VVA-F24	19011JFI	CHURCH VIEW	1794146.071	1680014.910
VA-VVA-F25	19011TFP	QUINTON	1782665.729	1639548.113
VA-VVA-F26	19011JEO	KING AND QUEEN COURT HOUSE	1798513.869	1657556.677
VA-VVA-F27	19011JBN	MACHODOC	1841374.232	1670177.286
VA-VVA-F28	19011TGG	BEULAHVILLE	1802472.045	1634310.340
VA-VVA-F29	19011TBA	HOG ISLAND	1738648.945	1686955.730
VA-VVA-F30	19011TAU	RUNNYMEDE	1725785.442	1681570.622
VA-VVA-F31	19011TBD	HOG ISLAND	1740437.540	1686632.510
VA-VVA-F32	19011TCC	RIVERDALE	1678118.460	1681967.566
VA-VVA-F33	19011JFT	WARE NECK	1782869.766	1703638.532
VA-VVA-F34	19011JCF	LOTTSBURG	1832061.566	1684678.551
VA-VVA-F35	19011JAK	CHAMPLAIN	1841204.357	1640409.559
VA-VVA-F36	19011TFD	WALKERS	1764981.383	1657046.077
VA-VVA-F37	19011TEK	WALKERS	1772604.547	1660720.317
VA-VVA-F38	19011JCL	LANCASTER	1822714.177	1691070.628
VA-VVA-F39	19011TDG	SUFFOLK	1694170.862	1708086.369
VA-VVA-F40	19011JGB	NEW POINT COMFORT	1770016.551	1714587.583
VA-VVA-F41	19011JBD	HAYNESVILLE	1824699.837	1665417.457

Station Name	GPSID	USGS Quad	Albers Northing	Albers Easting
VA-VVA-F42	19011JED	KING WILLIAM	1792867.292	1647555.196
VA-VVA-F43	19011TEE	WILLIAMSBURG	1762301.227	1680412.479
VA-VVA-F44	19011JDD	FLEETS BAY	1807099.552	1704730.907
VA-VVA-F45	19011JHG	CHAMPLAIN	1829339.689	1641755.973
VA-VVA-F46	19011JFC	CHURCH VIEW	1801936.033	1672627.604
VA-VVA-F47	19011JEH	WEST POINT	1785058.054	1662799.893
VA-VVA-F48	19011TFT	MANQUIN	1796972.181	1636445.328
VA-VVA-F49	19011TCW	WINDSOR	1706202.553	1694983.561
VA-VVA-F50	19011JDL	LIVELY	1811617.289	1679817.713
VA-VVA-F51	19011TCK	WHALEYVILLE	1679596.714	1701563.467
VA-VVA-F52	19011TGA	HANOVER	1804109.341	1623626.221
VA-VVA-F53	19011JBQ	LOTTSBURG	1833305.977	1676827.125
VA-VVA-F54	19011TAX	RUNNYMEDE	1733554.611	1680832.146
VA-VVA-F55	19011TFA	WALKERS	1765124.427	1654889.119
VA-VVA-F56	19011TDP	BENNS CHURCH	1720243.262	1705381.633
VA-VVA-F57	19011TAE	WAVERLY	1725036.058	1657003.001
VA-VVA-F58	19011JAN	COLONIAL BEACH SOUTH	1845321.196	1645500.235
VA-VVA-F59	19011JGW	GLOUCESTER	1769617.264	1688924.144
VA-VVA-F60	19011JGJ	WARE NECK	1777078.135	1705637.634
VA-VVA-F61	19011JFL	SALUDA	1787198.118	1684921.081
VA-VVA-F62	19011JBK	SAINT CLEMENTS ISLAND	1847540.221	1667218.479
VA-VVA-F63	19011JGE	NEW POINT COMFORT	1769735.304	1715246.958
VA-VVA-F64	19011TFG	PROVIDENCE FORGE	1769862.081	1653119.991
VA-VVA-F65	19011JFX	MATHEWS	1777332.941	1711728.516