

Figure 10-P

***GNSS Survey Specifications for Project Monumentation**

Specification	Static	Rapid (or Fast) Static
General Specifications		
Minimum number of reference stations used to control the survey - Minimum Order of station	Horz. - 2 NSRS B-order Vert. - 3 NSRS 3rd-order	Horz. - 2 NSRS B-order Vert. - 3 NSRS 3rd-order
Maximum distance from survey boundary to reference stations	50 km	20 km
Minimum number of dual frequency GNSS receivers used simultaneously	3	3
Mission Planning & Field Observation Specifications		
Minimum number of satellites observed simultaneously at all stations	5	5
Maximum GDOP / PDOP during observation session	6 / 4	6 / 4
Minimum number of simultaneous occupations of reference stations	2	2
Minimum number of simultaneous occupations of sight pairs	2	2
Minimum number of simultaneous occupations of azimuth pairs	2	2
Minimum time between sight and azimuth pair repeat observations	30 minutes	30 minutes
Minimum Spacing of Sight Pairs / Azimuth Pairs	600 ft. / 1 mile	600 ft. / 1 mile
Epoch interval for data sampling during observation session	15 seconds	5 seconds
Minimum satellite mask angle above the horizon for collection and processing	15 degrees	15 degrees
Satellite signals received from minimum number of quadrants	3	2 diagonally opposite
Obstruction diagrams completed for obstructions higher than	20 deg. above horizon	20 deg. above horizon
Minimum observation time at station	2.5 hours	15 minutes
Antenna height measurement in meters at beginning and end of session?	YES	YES
Processing and Adjustment Specifications		
Fixed Integer solution required for all baselines?	YES	YES
Ephemeris used for processing	Broadcast or Precise	Broadcast or Precise
Maximum misclosure per loop in any one component (x,y,z) not to exceed	5 cm	5 cm
Maximum misclosure per loop in terms of loop length not to exceed	30 ppm	30 ppm
Maximum allowable residual in any one component (x,y,z) in a properly constrained least squares network adjustment not to exceed	3 cm	3 cm
Maximum baseline length misclosure allowable in a properly constrained least squares network adjustment	30 ppm	30 ppm

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