

## 911 Mapping Guidelines

These guidelines shall be used by the WV Enhanced 9-1-1 Council and the counties in the formulation of a technical Request for proposal (RFP) for any subsequent E-9-1-1 mapping work.

1. The council recommends that all counties should work toward an ultimate goal to have all base maps and road centerline files create at a scale of no more than one (1) inch to 400 feet (1" = 400'; 1:4800) in rural areas and one (1) inch to 100 feet (1:1200) in metropolitan areas where more detail is required.

This process would be phased in over the next five years beginning with the current 1:24000 Digital Line Graph (DLG) files available through the USGS and the WVU GIS Technical Center. Other rural states such as Maine have used 1:24000 DLG road file effectively in their E-911 addressing implementation. As a second step, the DLG road files should be merged with existing digital county maps (i.e. assessor, county engineer), satellite imagery, or Digital Orthophoto Quads (DOQQs, see below) to create a database at a minimum 1:12000 scale or 1" – 1000'. The final step is to augment those files derived from higher resolution aerial photography, other existing large scale maps or GIS databases, and field surveys completed with Global Positioning Systems (GPS, see below) to achieve the 1:4800 scale coverage.

2. In the absence, incompleteness or unknown accuracy of existing maps and digital files, road centerline, other linear features ("vector data") and individual structures or features ("points") shall be located using Global Positioning System (GPS), laser range-finding, or similar modern surveying and photogrammetric techniques, to achieve the highest accuracy possible, at the lowest cost, and in the least amount of time. A corresponding ground resolution of .75 meter or less (2 feet or less) should be the ultimate level of detail control required. This field-mapping effort will probably be the most expensive and labor intensive part of implementation, especially in the more remote and rugged parts of the state.

3. Geographic coordinate information shall be collected as standard Latitude/Longitude coordinated, described as degrees, minutes, seconds (i.e. 41.25.58N, -81.32.45W). Maps and databases must contain Latitude/Longitude coordinates to meet the October, 2001 FCC requirement for Phase II E-9-1-1 for wireless remote networks to have the ability to locate a caller automatically. Coordinate transformation to West Virginia State Plane, UTM or other reference systems can be derived easily using modern GIS systems and made locally at the discretion of the county.

4. The horizontal datum referenced shall be the North American Horizontal Datum of 1983 (NAD83). The vertical datum referenced shall be the North American vertical Datum of 1988 (NAVD88). Ellipsoid and geoid models used to establish geodetic control shall conform to the latest specifications of the National Geodetic Survey.