**Section 1816.151 Primary Roads**

Primary roads shall meet the requirements of Section 1816.150 and the additional requirements of this Section.

a) Certification. The construction or reconstruction of primary roads shall be certified in a report submitted to the Department by a qualified registered professional engineer within thirty (30) days after completion of construction. For purposes of this Section, completion of construction shall mean the road is being used for its intended purpose as determined by the Department. The professional engineer shall be experienced in the design and construction of roads, as evidenced by the placement of a registered professional engineer's seal on the report. The report shall indicate that the primary road has been constructed or reconstructed as designed and in accordance with the approved plan.

b) Safety Factor. Each primary road embankment shall be shown to have a minimum static factor of safety of 1.3, or shall be designed in compliance with the following design standards:

1) The embankment foundation area shall be cleared of all organic material and the entire foundation surface shall be scarified;

2) If the natural slope of the foundation as measured at right angles to the roadway center line is steeper than 8H:1V, the embankment shall be benched into the existing slope beginning at the embankment toe and then filled with compacted level lifts;

3) The embankment fill material shall be free of sod, large roots and other large vegetative matter;

4) The fill shall be brought up in horizontal layers of such thickness as required to facilitate compaction in accordance with prudent construction standards;

5) The moisture content of the fill material shall be sufficient to secure proper compaction;

6) The side slopes of the embankment shall be no steeper than 2H:1V;

7) Maximum fill height shall be twenty-five (25) feet as measured from natural ground at the downstream toe to the top of the embankment;

8) Embankments shall have a minimum top width of (H + 35)/5, where "H" is the embankment height as measured from natural ground at the downstream toe to the top of the embankment, and shall be adequate for the intended use.

c) Location.

1) To minimize erosion, a primary road shall be located, insofar as is practicable, on the most stable available surface.

2) Fords of perennial or intermittent streams by primary roads are prohibited unless they are specifically approved by the Department as temporary routes during periods of road construction.

d) Drainage control. In accordance with the approved plan:

1) Each primary road shall be constructed or reconstructed, and maintained to have adequate drainage control, using structures such as, but not limited to bridges, ditches, cross-drains and ditch relief drains. The drainage control system shall be designed to safely pass the peak runoff from a 10-year, 6-hour precipitation event, or greater event as specified by the Department as necessary to ensure proper drainage control design in accordance with prudent engineering practices;

2) Drainage pipes and culverts shall be installed as designed, and maintained in a free and operating condition and to prevent or control erosion at inlets and outlets;

3) Drainage ditches shall be constructed and maintained to prevent uncontrolled drainage over the road surface and embankment;

4) Culverts shall be installed and maintained to sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of vehicles using the road;

5) Natural stream channels shall not be altered or relocated without the prior approval of the Department in accordance with applicable sections of 62 Ill. Adm. Code 1816.41 through 1816.43 and 1816.57; and

6) Except as provided in subsection (c)(2) above, structures for perennial or intermittent stream channel crossings shall be made using bridges, culverts, low-water crossings, or other structures designed, constructed, and maintained using current, prudent engineering practices. The Department shall ensure that low-water crossings are designed, constructed and maintained to prevent erosion of the structure or streambed and additional contributions of suspended solids to streamflow.

e) Surfacing. Primary roads shall be surfaced with material approved by the Department as being sufficiently durable for the anticipated volume of traffic and the weight and speed of vehicles using the road.

(Source: Amended at 20 Ill. Reg. 2027, effective January 19, 1996)