



CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701-2724

Public Works Department

300 Sixth Street
Telephone: (605) 394-4165
FAX: (605) 394-6636
Web: www.rcgov.org

December 14, 2007

Roosevelt Park – Phase 3 Improvements – Proposed Light Poles

The proposed Roosevelt Park Phase 3 light poles are located in the 100-year hydraulic Floodway.

The maximum flood obstruction created by any pole is 4.33 square feet (7' x 0.33' (pole) + 1' x 2' (base)).

The minimum floodway boundary width in this area is approximately 350 feet.

The theoretical increase in the base flood elevation is 0.012' (4.33' / 350') or 0.15" or approximately 1/8".

Because of the laminar flow characteristics of water around a relatively small circular structure such as a light pole, any flood elevation increase would be limited to the immediate area around the pole and would return to normal flow a few feet downstream of the pole.

The bigger threat from these poles would come from flood debris collecting around them or from debris breaking off the poles and becoming more debris. Because of the randomness and accumulative nature of this, it is impossible to calculate the impact.

Submitted by:

City of Rapid City

Rodney K. Johnson, P.E.
Operations Management Engineer

