

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS
HOUSING AND ENVIRONMENTAL REGULATION ADMINISTRATION
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WASHINGTON, D.C. 20013-7200



May 7, 1990.

MEMORANDUM

TO : Harbhajan S. Sandhu, Chief
Design & Engineering Division
Bureau of Transportation
Department of Public Works

FROM : James R. Collier, Chief *JRC*
Water Hygiene Branch

SUBJECT : Klingle Road Storm Water

The Water Hygiene Branch has reviewed the drawings for the Klingle Road reconstruction and has coordinated with the National Park Service and the Soil Resources Branch in our department for design criteria. We reached conceptual agreement with the National Park Service in a meeting on May 4, 1990.

First, it should be noted that some historical facts bear upon this project. Foremost of these is the fact that it impacts a tributary of Rock Creek and Rock Creek itself. Our Water Quality Standards (21 DCMR Chapter 11) designate Rock Creek and tributaries as an Antidegradation Segment. The standards then state:

Construction projects such as roads, bridges and bank stabilization in the waters of a designated antidegradation segment which may lead to pollution shall be considered on a case by case basis to insure that there are no long term adverse water quality effects and no impairment of the designated beneficial uses of the segment.

Obviously, there are also some statements in the standards concerning shortterm adverse impacts but they are not of primary importance at this point in time.

The District Law 5-188 which authorizes the water quality standards also authorizes the storm water management regulations which were recently promulgated. These regulations (attached) also have sections concerning road construction or reconstruction and are administered by the Soil Resources

Branch. These should not be confused with the soil erosion control regulations. The basic situation is that for road construction which impacts Rock Creek and tributaries, or Batter Kemble, there are water quality requirements which are set on a case by case basis and for other roads the Soil Resources Branch will provide standard design criteria for storm water management.

In 1988, we conducted, under agreement with the Environmental Protection Agency, a biological survey of many of the streams in the District of Columbia. The little tributary next to Klingle Road was included. The study concluded that it supported one of the more ecological balanced and natural aquatic faunal communities in the District. It is necessary to be extremely careful in changing the hydrologic and chemical situation in this tributary.

Rock Creek has been studied by many agencies many times and each study has concluded that Rock Creek has been severely impacted by the increasingly impervious nature of the development of the drainage basin. Biological life in Rock Creek is limited by the frequent scouring of unregulated urban runoff. While we and the National Park Service and a number of federal and state agencies involved in the Chesapeake Bay restoration effort are striving to restore fish passage up Rock Creek, there needs to be a commensurate effort to attenuate storm runoff such that the food chain necessary to support the fish can become established. This in effect says that man's activities, including road building must include compensatory measures for the hydrograph and quality if Rock Creek is to be restored to a biologically productive stream.

For Klingle Road, we and the National Park Service have reached the following general agreement

1. The natural surface stream along Klingle Road must be retained.
2. The natural stream should be kept on the southwest side of Klingle Road - the double road crossing should be eliminated in the vicinity of station 27 + 50.
3. Base flow into the existing spring feed stream should be augmented with treated storm water.
4. Some storm water will be treated to remove oil and particulates and used to augment the base flow.
5. Base flow should not be increased such that the general characteristics of the stream cause unacceptable stream channel erosion.
6. Based upon the above, there should be ten oil and particulate removal structures with a wet detention/release volume of 400 cubic feet each and they should have

underdrains to slowly bleed (1-2gpm) the 4,000 cubic feet to the stream. In essence, this will capture and treat all of a 0.5 inch of precipitation event which is about the ten day frequency storm. Attached is a diagram of such a device and a rough sketch showing the modifications necessary to accomplish the above requirements. The Soil Resources Branch should be consulted for exact specifications.

7. Flows in excess of the augmentation needs should be transported by storm sewer under the roadway and discharged to Rock Creek.

8. The storm sewer above the spring should be checked to determine if it has any high quality dry weather flows, perhaps from springs further up in the drainage basin. These flows, if present, should then be evaluated for separation and inclusion in the natural base flow of the stream.

9. No base flow or ground water should be intercepted by the main storm sewer transporting excess storm water to Rock Creek.

There remain a number of design details to be worked out by you such as velocity dissipation at Rock Creek for the storm sewer. Once these are done we will provide a more detailed review of the project.

The chief of the Soil Resources Branch is Mr. Tim Karikari, located at 614 "E" Street, NW, (783-3180). He should receive all future road construction plans except for those impacting antidegradation segments.

cc: R. Hammerschlag, NPS
D. Murphy, NPS
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V. Binetti, EPA