STATE OF ALASKA

SEAN PARNELL, Governor

DEPARTMENT OF FISH AND GAME

DIVISION OF HABITAT

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January 7, 2009

John Shively
The Pebble Limited Partnership
3201 C Street, Suite 604 Anchorage, AK 99503

Dear Mr. Shively

Re: Information Needs for Stream Crossings, Pebble Prospect

As various designs for the Pebble Prospect are being evaluated by the Pebble Limited Partnership (PLP), the Alaska Department of Fish and Game (ADF&G), Division of Habitat, would like to take this opportunity to provide input regarding data needs that would be beneficial for evaluating stream crossings along any proposed transportation corridor associated with development of the Pebble Prospect. Numerous documents indicate that fisheries and habitat data have been, or are anticipated to be, collected by PLP along potential transportation corridors.

Completion Report for Fisheries Studies (HDR, December 2008) indicates that fish sampling has occurred in numerous locations along potential transportation corridors as follows:

- 2004- 140 sites were evaluated, including 43 dry sites;
- 2005- 9 sites were added to the 2004 study sites; and
- 2007- 42 sites were sampled. These appear to be the dry sites encountered in 2004.

The Transportation Corridor Fisheries 2008 Draft Study Protocol (R2 Resource Consultants, Inc., May 2008) indicates 48 potential stream crossing locations were proposed for conducting fish and aquatic habitat surveys. The proposed fish surveys anticipated utilizing single pass electrofishing, snorkel surveys and/or minnow traps. Aquatic habitat surveys were proposed to collect data over a 200 m reach or a length equal to 40 streambed widths for channels with a bed width of less than 5m. Channel morphology and water quality characteristics anticipated to be collected included:

- Channel type based on the Rosgen classification system;
- Channel pattern;
- Average bankfull width and maximum bankfull depth;
- Water surface gradient;
- Water quality parameters, particularly pH, conductivity, and temperature;
- Riparian vegetation;
- Location/type/area of off channel habitats; and
- Width and status of side channels (wet and dry).

Habitat units were to be classified utilizing a modified United States Forest Service (USFS) Aquatic Habitat Tier One survey (USFS, 2001). Within each habitat unit the following data were anticipated to be collected: Unit type, number, and length; Average wetted width and average wetted depth; and Substrate composition (percent).

If encountered during surveys, fish migration barriers were to be assessed using criteria described in the USFS Region 10 *Aquatic Habitat Management Handbook* (Table 11-11; USFS, 2001).

The ADF&G, Division of Habitat, is interested in the status of these studies. If the studies have been completed, when we can anticipate distribution of the results?

Additional information that would be beneficial to the Division of Habitat for analysis of potential stream crossings includes:

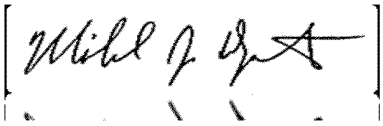
- A list of stream crossings along any potential transportation corridor alignment, including: road station number; approximate milepost; coordinates; and maps;
- Type and specifications of structure proposed for each crossing;
- An estimate of Q_2, Q_{10}, and Q_{50} at crossing locations;
- Floodplain characteristics adjacent to crossing locations;
- Bank height and composition at crossing locations;
- Potential material and disposal sites as well as potential water withdrawal locations; and
- Photographic documentation.

The Division of Habitat is also interested in the results of any wildlife studies conducted by PLP along potential transportation corridors. Specifically, have any studies been conducted to assess potential impacts to moose, caribou, and bear movement, travel routes, and seasonal use patterns as a result of the development and operation of a potential transportation corridor?

We request PLP provide ADF&G with any available information associated with this aspect of your potential project at your earliest convenience. We also would like to take this opportunity to indicate our interest in participating in a field trip with PLP to conduct a site-specific review of each crossing.

If you have any questions or comments regarding data needs or design criteria for potential transportation corridor development, please feel free to contact Habitat Biologist Ron Benkert at 267-2113 or ronald.benkert@alaska.gov .

Sincerely,



Michael Daigneault
Regional Supervisor
Anchorage Area Office

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