LEVELTON
Engineering Solutions

APPENDIX D

MAINTENANCE DREDGING GUIDELINES

MAINTENANCE DREDGING GUIDELINES FOR THE FREMP AREA

1) Dredging projects must qualify as "maintenance dredging" as defined by FREMP definitions.

2) Clamshell dredging may occur year round subject to site specific approval.

3) From March 1 to June 1, in the upper river[1] and March 1 to July 15, in the lower river[2], there shall be **no** suction dredging in water which is less than five (5) meters deep at daily low water.

4) Pumps for suction dredging shall **not** operate except when the suction-head is within one and one half meters (1.0 - 1.5 m) of the bottom.

5) In even numbered years (e.g. 1996, 1998, 2000, etc.) due to the downstream migration of juvenile pink salmon, there shall be **no** suction dredging for approximately a one month period between March 1 to June 1. Closure is initiated and ended by DFO when pink fry numbers reach specific levels. DFO will provide 48 hours notice of closure to the Dredge Contractor.

6) If dredge spoil is intended for ocean or in-river disposal, the dredge spoil must comply with the Department of Environment's (DOE) Ocean Disposal Regulations and Interim Contaminant Testing Guidelines. If upland disposal is planned, the dredge spoil must comply with the provincial Ministry of Environment's (MOELP) - "Criteria for Managing Contaminated Sites in British Columbia" (1989).

7) If dredge spoil is upland disposed, the dredge spoil must be contained and in no way, directly or indirectly, impact on the foreshore or waters of the Fraser River. Further, the return water quality from the dredge spoil/fill shall be controlled and address the following suspended solids standards of 25 mg/l, during dry periods, and 75 mg/l, during precipitation periods, over background levels.

8) The DFO Field Supervisor for Fraser Valley West shall be contacted and advised (666-0813) at least five (5) days in advance of the start of the proposed works.

9) All works shall be carried out in such a manner so as to avoid any adverse impact on fish or fish habitat. This includes, but is not limited to, preventing the introduction of "deleterious" substances (e.g. equipment wash water) onto the foreshore or into the waters of the Fraser River. If such impact occurs DFO reserves the right to immediately suspend or alter operations and the proponent shall undertake, at their own expense, any compensatory and/or remedial works deemed necessary by DFO to ensure a "no net loss" in the productive capacity of local fish habitat.

10) It should be made clear to the maintenance dredging applicants that non-compliance with the above guidelines could result in the harmful alteration of fish and/or fish habitat and accordingly, may be the subject of an investigation under the Fisheries Act.

[1] The **UPPER RIVER** is defined as the section of the Fraser River from Ladner Reach on the South Arm and Oak Street on the North Arm upstream to Kanaka Creek.

[2] The **LOWER RIVER** is defined as the section of the Fraser River from Ladner Reach (inclusive) downstream and on the North and Middle Arm from the Oak Street Bridge downstream to Roberts and Strugeon Banks (exclusive).

Revision: April 1, 1996

DREDGE VOLUMES

FACTORS APPLIED TO ARRIVE AT CORRECTED DREDGE VOLUMES.

1. Correction factor for plant.

DPW 312	x .83	17%	over calculated
DPW 322	x .80	20%	over calculated
Contact	x 1.0	100%	
Borrow	x 1.0	100%	

2. Silt factor

- Deep sea.
  Main navigation ch. x .98 (2% silt)

- Secondary channels
  ie: Annacis, Fraser Surrey Docks x .90 (10% silt)
  Mitchell Island, North Ch.

- Backwater channels
  ie: Gunderson Slough x .70 (30% silt)
  Morey Channel (Middle Arm)
  Point Grey Refuge Basin,
  Steveston Cannery Channel

- 4 yr. contract (on-shore measurement) x 1.0 (0% silt)

3. Effectiveness factor

Relative to maintaining deep sea channel taking into account river location.

- main infill areas of deep sea channel 100%
- areas above Pattullo Bridge to Port Mann 75%
- areas above Port Mann and including Pitt River 25%
- areas above Barnston Isl. 10%

4. Prorate factor

- factor applied based on dredge area, its location relative to a navigation channel.

- records show that most volumes were not factored. A few sites, ie: Pitt River and Burr Landing were factored as much as 50%.