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ADDITIONAL INFORMATION TO BE SUBMITTED WITH APPLICATIONS PROPOSING CONSTRUCTION OF DAMS LESS THAN 10 FEET IN HEIGHT OR FLOODING LESS THAN 3,000,000 GALLONS

Under Oregon laws the builder is not required to submit plans and specifications, prepared by a registered professional engineer, for approval of the State Engineer for the construction of dams less than 10 feet in height or storing less than 3,000,000 gallons of water (9.2 acre foot or the amount that will cover 9.2 acres of land 1.0 foot in depth). It is of much importance to the builder of these small dams that a safe structure be built as should the dam fail the owner will not only lose his investment but will be legally responsible for any damage to the property of others resulting from such failure.

Following are some of the requirements to be followed by the proposed builders of these small earth fill dams: Builders of other types of dams must give full description of such proposed dam in the application which shall be subject to the approval of the State Engineer:

- (1) Width of crest of dam should be not less than 8 feet;
- (2) Upstream slope not steeper than 3 horizontal to 1 vertical; and
- (3) Downstream slope not steeper than 2 horizontal to 1 vertical;
- (4) Spillway channel should be constructed around either end of dam but not over top. It should have at least twice the capacity required to carry heavy winter flows or spring runoffs without overtopping the dam and should be lined if necessary to prevent erosion. (This is important as experience has shown that insufficient spillway capacity is the principle cause of failure of small dams.) Water passing over spillway should be returned to creek channel at a sufficient distance downstream to prevent erosion of embankment; and depth to bottom of channel at point of control of water surface in reservoir should be not less than 2 feet below crest of dam.
- (5) All brush, stumps, roots and vegetable matter of all kinds should be cleared from area to be occupied by base of dam and from borrow pits.
- (6) Asphalt dipped corrugated iron pipe with gate at inlet end should be installed to permit draining reservoir. Pipe to be bedded in a trench in the natural ground and not on filled ground.
- (7) Not less than two cut-off collars should be constructed. These collars should be constructed of concrete with a thickness of not less than 6 inches and should extend from the outside of the pipe a distance of not less than 18 inches in all directions. These cut-off collars should be constructed above or upstream from the center of the dam.
- (8) Material placed in embankment should be free from brush, stumps, roots and vegetable matter of all kinds.
- (9) Material should be brought in and placed in embankment from ends of dam and spread in thin layers not over 6 inches thick and compacted by carryalls or bulldozers traveling parallel to center line of dam.