

STATEMENT OF FINDINGS
SKAGIT RIVER, WASHINGTON

1. As District Engineer, Seattle District Corps of Engineers, I have reviewed and evaluated the proposed project in light of the overall public interest, as well as the stated views of other interested agencies and the concerned public as expressed through correspondence, public meetings and workshops. This review has included an examination of a range of alternatives that address flood damage reduction in the Skagit River flood plain downstream from Sedro Woolley. Possible consequences of these alternatives have been studied in view of engineering, economic, environmental, social well-being and other considerations of public interest.

2. Engineering Considerations. All alternatives, including the proposed plan, have the design and engineering features needed to function effectively and safely to meet the design objective of controlling floods to a designated level of protection. All levees and floodwalls **include freeboard** to provide a margin of safety and also include additional height allowances for superelevation, wind and wave action and aggradation. Maximum stability, control of seepage, and protection from erosion have been incorporated into the levee design. Measures to accommodate interior drainage and provisions for relocation of roads, utilities, and buildings have been included in the proposed plan.

3. Economic Considerations. All the alternative plans have been compared on the basis of their contributions to national and regional economic development. Contributions of the alternative plans to flood damage reduction, employment of unemployed or underemployed resources, elimination of floodproofing costs, and potential for increased recreation opportunity have been compared. Net benefits and benefit-to-cost ratios of the plans have similarly been compared. The proposed plan is not the National Economic Development Plan in that it is not the plan which maximizes net benefits. **It does, however, provide \$2,168,000 in net benefits and a benefit-to-cost ratio of 1.5 as well as positive contributions to regional development.** It provides the second largest level of total benefits of all the final alternatives. The proposed plan provides a high level of economic return while providing optimum contributions to social well-being and minimizing environmental impacts. The degree of flood protection provided by the proposed plan will optimize flood control benefits at a cost within the local sponsor's capability.

4. Environmental Considerations. Environmental impacts of all alternative plans, including the proposed plan, have been compared. Primary adverse impacts of the alternatives are loss of riparian habitat and loss of shore zone through levee encroachment on the river; secondary impacts are associated with accelerated development because

of increased flood protection. Primary impacts have been reduced through adjustment of levee locations to preserve existing vegetation; seeding of levee berms, levee tops, embankments and riprap areas; and placement of shrubs in selected areas where the levee encroaches upon the river. A portion of the remaining habitat losses will be mitigated through a planting and fish habitat improvement program in the Washington State Department of Game's Skagit Wildlife Recreation Area. The proposed plan is not designated as the Least Environmentally Damaging Plan; that designation has been applied to alternative 3A which minimizes the area of 100-year flood protection and thus reduces the extent of secondary impacts from increased development pressures in the protected flood plain. The proposed plan, however, draws a balance between minimizing the environmental impacts of high levels of flood protection and providing for flood damage reduction in urban areas.

5. Social Well-Being Considerations. All alternatives have been examined with respect to their positive and negative contributions to social well-being. The beneficial social impacts of the alternatives, such as increased health and safety for flood plain residents, greater community cohesion, and relief from periodic flooding and resulting floodfighting, generally increase as a high degree of protection is extended to more area. Adverse social impacts result from induced flood damages in unleveed areas. The proposed plan provides the highest net contribution to social well-being by providing 100-year or more flood protection to the developed communities of Mount Vernon, west Mount Vernon, Avon, Clear Lake, Sterling-Sedro Woolley, and Burlington, while minimizing the adverse social impacts of induced flood damages.

6. Other Public Interest Considerations.

a. Threatened and Endangered Species. The proposed plan is not expected to adversely impact any threatened and endangered species.

b. Cultural Resources. The proposed plan could potentially impact 20 prehistoric and 34 historic sites. All the final alternatives would have similar impacts. A cultural resources survey is underway to confirm site locations, determine which sites will be affected, determine the significance of the sites, and design a specific mitigation program.

c. Executive Order 11990. Executive Order 11990 directs that each Federal agency take action to minimize destruction, loss, or degradation of wetlands and to preserve and enhance natural beneficial values of wetlands in carrying out the agency's responsibilities. Construction in wetlands is to be avoided unless no practical alternative exists and the proposed action has included all practical measures to minimize harm to wetlands. An inventory and classification has been made of all wetlands within the study area and all

alternatives have been evaluated as to their impacts on wetlands. Where feasible, adjustments in levee alignments have been made to avoid impacts. The plan, as proposed, will have a minimal impact on wetlands. It will eliminate a total of 5 acres of wetlands representing about one-tenth of 1 percent of the total 3,812 acres of wetlands inventoried in the study area. There is no practical alternative to the loss of these 5 acres.

d. Executive Order 11988. The objective of Executive Order 11988 is to avoid adverse impacts associated with occupancy and modification of flood plains and to avoid direct and indirect support of flood plain development whenever there is a practical alternative. All alternative plans have been evaluated for their impact on flood plain development. Under the proposed plan, 14,200 acres of land will receive 100-year or more protection. Of this acreage, 4,700 acres are currently in high-density residential, industrial, commercial, or rural residential use. The provision of high-level flood protection is compatible with these land uses. The remaining 9,500 acres is undeveloped land which will incidentally be provided high-level protection as a result of measures taken to reduce existing flood damages in the urban areas of Mount Vernon, Burlington, and Clear lake. The provision of 100-year or more protection to undeveloped areas could result in significant secondary impacts from increased pressure to develop in the protected flood plain. The extent of impact will depend upon the degree that existing local land use regulations are enforced. The provision of 50-year protection to 39,600 acres of rural area in the Skagit Delta is compatible with the continued beneficial agricultural use of the flood plain, although the cost of flood insurance will be reduced with some potential increase in development pressure. The eight-step decision-making process as outlined in Water Resources Council guidelines implementing Executive Order 11988 has been followed in evaluating project alternatives. This process has demonstrated that levee improvements, coupled with some floodproofing of structures, is the only practical alternative to provide flood damage reduction. The proposed plan provides a high level of flood damage reduction to existing development within the Skagit Delta; minimizes induced damages; minimizes direct impacts to fish and wildlife resources; and is considered basically compatible with Executive Order 11988. Strict enforcement of land use regulations by the local sponsor will contribute to wise management of the protected flood plain and the preservation of its natural and beneficial uses. The public notice requirements of Section 2(a)(2) of Executive Order 11988 will be accomplished through normal reporting procedures as required by Corps regulations. Likewise the A-95 Clearinghouse requirements of Section 2(a)(3) of Executive Order 11988 will be accomplished.

e. Section 404 of the Clean Water Act of 1977. Section 404 of the Clean Water Act of 1977 (PL 92-500 as amended) requires a water quality and ecological evaluation of proposed discharges of dredged

or fill material in navigable waters and adjacent wetlands. A Section 404 evaluation of the proposed plan is presented in appendix 1 of the environmental impact statement. The primary project effect on water quality will be a temporary increase in turbidity during construction within the river. Construction methods which minimize turbidity will be utilized.

f. Wild and Scenic Rivers Act. The proposed plan will not invade or unreasonably diminish the scenic, recreational, and fish and wildlife values for which the upper Skagit River was designated under the Wild and Scenic Rivers Act.

7. Conclusions. I find that the proposed action is based on a thorough analysis and evaluation of various practical alternative courses of action for achieving the stated objectives; that where the proposed action has an adverse effect, this effect is either ameliorated, mitigated, or substantially outweighed by other considerations of national policy; that the proposed action is consistent with national policy, statutes, and administrative directives; and that, on balance, the total public interest would best be served by implementation of the proposal.

Date

9 Aug 1979

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