US Army Corps of Engineers®
Seattle District

SKAGIT RIVER FLOOD RISK MANAGEMENT
General Investigation
Comparison of Final Array of Action Alternatives

Element	Comprehensive Urban Levee Improvement	Joe Leary Slough (JLS) Bypass	Swinomish Bypass
Total # miles of new levee	Total: 2.9 1.9 (Burlington Hill Cross Levee) 1.0 (Riverbend Cutoff Levee)	Total: 20.5 1.5 (JLS Embankment) 1 (Riverbend Cutoff Levee) 18 (Bypass, both sides)	Total: 16 2 (Burlington Hill Cross Levee) 14 (Bypass, both sides)
Estimated area & quantity of material needed for new levee construction	35.2 acres (footprint) 280,959 CY levee embankment material 3,423 CY crushed gravel	314 acres (footprint) 3,267,516 CY levee embankment material 23,596 CY crushed gravel	259 acres (footprint) 2,973,799 CY levee embankment material 18,672 CY crushed gravel
Total # miles of raised levee	9.2 (approx)	3 (approx)	5 (approx)
Estimated area and quantity of material needed to raise levees	75 acres (approx) 480,824 CY levee embankment material 15,619 CY crushed gravel	25 acres (approx) 215,181 CY levee embankment material (approx) 5,206 CY crushed gravel (approx)	28 acres (approx) 286,000 CY levee embankment material (approx) 7,222 CY crushed gravel (approx)
Placement of riprap	All alternatives would require placement of approx 170,000 CY of riprap between RMs 16.5 and 20.9, toe protection would be placed along 2.7 miles on the right bank and 1 mile on the left bank. It would also be placed along one mile on the left bank between RM 12 and 13.		

CY = cubic yards