

SKAGIT COUNTY DIKE DIST #12

Skagit County Dike District #12 was originally incorporated in 1895. Additional areas have been annexed into the district since that time; areas east of Burlington to including the area where United General Hospital is was annexed in early 1950's and an additional area near the southerly portion of Padilla Bay was annexed in 1994. In 2004 the District annexed Skagit County Dike/ Drainage District #8. This brought the total area served by Dike District #12 to about 20,000 acres.

Over the years farmland provided the bulk of monies for the Districts budget. In the late 1970's and early 1980's an increase in commercial development began in the Burlington area. In the 1990's, and continuing on through the present, the area in and around Burlington has become extremely developed with additional residences as well as commercial, industrial, and retail development. While this explosion in growth has benefited the Skagit County Dike District #12 financially, due to a large tax base to draw from (2003 assessed value of \$ 1,116,000,000 to 2008 \$2,020,573,500), it has, none the less, caused some difficulties as well. While the District has worked diligently to upgrade the levee since 1998 major upgrades, in an effort to provide increased flood protection, this work has resulted in increased development since the community feels a greater sense of security. The increase in development and greater sense of security creates the need to do even more to protect the area in addition to increasing the liability and responsibility that Skagit County Dike District #12 has to protect its constituents and an ever increasing tax base creating a catch 22 situation. The District continues to work with the City of Burlington to fend off development pressure in the area next to the levee, allowing the district time to purchase the properties next to the levee.

The 1990 floods were a wake up call for flood control in Skagit County. With back to back floods again in 1995 and additional flooding in 1996, it was clear that something else had to be done to increase the level of flood protection within the lower floodplain. The existing Skagit River levees were being pushed to their maximum and, in the case of Fir Island, beyond their capabilities to protect life and property. In 1998 Dike District 12 embarked on a bold plan to try to provide better protection for its constituents.

Since 1997 the District has reconstructed its levees upstream of the Burlington Northern Santa Fe Railroad Bridge. These levees were reconstructed to exceed United States Army Corps of Engineers standards (15' top with 2:1 slope) with levee tops varying from 30' to 50' in width and with levee back-slopes as great as 18:1. This was done in the hopes to prevent a catastrophic failure during a future flood event. The wider tops coupled with longer, gentle back-slopes will allow flood waters high enough to over-top the levee to flow slowly and smoothly onto the floodplain in a more controlled manner thus allowing time for an evacuation. The district continues with this work in the Lafayette Road area where the river makes a hairpin turn.

The District has been actively purchasing land adjacent to the levee downstream of the Burlington Northern Santa Fe Railroad Bridge to allow for the future setting back of the

levee which will allow the river much needed room to safely convey the larger floods of late. This is a 3 bridge corridor project with DOT funds. The district is still purchasing properties.

Skagit County Dike District #12 has worked a great deal with the Seattle District of the United States Army Corps of Engineers since the 1990 floods. In addition, the District works with other local governmental agencies including law, fire, emergency management, search and rescue, and other dike districts. Skagit County Dike District #12 has a mutual aid policy within its Standard Operating Guidelines which allows it to help others in flood emergencies, as was the case in 1990 floods when the District delivered over 90,000 sandbags to Mt. Vernon, Conway, Fir Island and several other areas. The district continued to provide mutual aid in the 2003 and 2006 floods.

The District will remain committed to its duty to protect its constituents and to prepare for emergency situations. The District recently worked with the City of Burlington to develop an evacuation plan that can be activated for flooding as well as other hazards.

Currently the district and the City of Burlington are working together to get district levee protecting urban area (city limits) certified for the 100 year flood. District plans 80 year protection for rural areas to limit urban sprawl and development on flood plain outside city limits.

Dike District Profile

Land Area Owned	160 + acres
Miles of Dike - Padilla Bay (value @\$3,000/foot)	9.5 (\$150,480,000)
Miles of Levee – Skagit River (value @\$3,000/foot)	10 (\$158,400,000)
Number of Pumps (value)	3 (\$170,000)
Number of Tide gates (value)	11 (\$225,000)
Value of Equipment Owned	\$ 2,000,000
Value of Area Served	\$2,020,573,500

Critical Facilities Owned by Dike District #12:

1. Headquarters Building; approximate value: \$850,000
2. Equipment Building, built in 2008; approximate value: \$300,000

Outline of Area Served:

An area approximately 20,000 acres in size located westerly of the city of Sedro-Woolley and easterly of the Swinomish Channel bounded by Bayview Ridge on the north and McLean Road, Barrett Road, and the Skagit River on the south.

Current and Anticipated Service Trends:

Increase in development and value of service area especially in Burlington area. Dike 12 annexed Dike/Drainage 8 area. In 2004 Dike 12 added drainage to its duties, then irrigation. Increase storm water runoff in Bayview drainage area due to development.

Natural Hazard Event History

NATURAL HAZARD EVENTS (1975-PRESENT)		
Type of Event	Date	Total Public Damage
FLOOD	1975	Damage Unknown
FLOOD	1979	Damage Unknown
FLOOD	1990	\$2,500,000
FLOOD	1995	\$4,500,000
FLOOD	2006	\$1,070,000

Natural Hazard Vulnerability Analysis Rating

This District is most vulnerable to the following natural hazards - ranked in order:

1. Flood
2. Severe Storm – 25 year event (1" of rain in 24 hours)
3. Earthquake causing liquefaction and/or damage to levees and dikes
4. Volcanic event causing a dam failure or a lahar

Existing Applicable Natural Hazard Mitigation Policies, Ordinances, and Codes

1. Corps of Engineers PL 84-99 and 500-1-1 standards for levees
2. RCW 85 & 85.06

Existing Applicable Hazard Mitigation Associated Plans and/or Documents

1. Evacuation Plan for Burlington
2. Skagit County Comprehensive Flood Hazard Management Plan (1989)
3. Skagit County Natural Hazards Mitigation Plan (2003)
4. Corps of Engineers Skagit County Flood Damage Reduction Study (on-going)

Mitigation measures completed during the 2003 – 2008 hazard mitigation plan cycle

1. Since 2003 the district has purchased 7 parcels in the Riverbend Area to provide for future levee setback.
2. In 2006 the district completed replacement of 3 tide gates in the westerly sector of the district to provide increased drainage capacity.

Proposed Natural Hazard Mitigation Measures

Mitigation Measure	Lead Agency	Funding Source	Time Line
Provide minimum 50 year and maximum 80 year protection for flood plain, 100 year for Burlington	Dike District Commissioners	Grant funding; District Budget	Long Term / Ongoing
Setback levees from the Avon bend to BNSF bridge	Dike District Commissioners	Grant funding; District Budget; Other sources as available	Long Term
Buy-outs in Sterling and Nookachamps areas and upriver along with extra storage area behind dams on the Skagit River when funding is available (GI study)	Dike District Commissioners	Grant funding; District Budget; Other sources as available	Long Term / Ongoing
Additional flood protection for United General Hospital	Dike District Commissioners	Grant funding; District Budget; Other sources as available	Long Term
Upsize ditches; installed Hi-Flow Bypass in 2006	Dike District Commissioners	Grant funding; District Budget; Other sources as available	Long term