U.S. Army Corps of Engineers
Alaska District

Erosion Information Paper – Saint Michael, Alaska

Current as of September 21, 2007

Community Information

Saint Michael, population 446, is on the east coast of Saint Michael Island in Norton Sound. It is 125 miles southeast of Nome and 48 miles southwest of Unalakleet. Saint Michael is a 2nd class city in the unorganized borough. The coastal shoreline in Saint Michael is used for numerous community activities, including fishing, hunting, beachcombing and driftwood collection.

Description of Erosion Problem

Saint Michael experiences considerable coastal erosion. Factors contributing to the erosion include high tides, storm surges, wind, waves, melting permafrost, late-forming coastal ice, and the use of the beaches and banks by ATVs and pedestrians along Saint Michael's Bay. The coastal erosion covers an area of approximately 1 to 2 miles long and 10 feet high. Erosion is at a rate of approximately 3 feet per year. The airstrip has riprap along the north end as protection, but erosion continues along the remaining unprotected beach. The community is occasionally flooded from high tides and storm surges on the Norton Sound.

Potential Damages

Erosion control measures include: (a) Rip-rap by individual homeowners (b) rip rap along the beach on both sides of the north end of the airstrip; and (c) relocation of several private homes 3 to 4 years ago. The community reports that several additional private homes are threatened by the advancing coastal erosion. Some are within 6 feet of the active erosion area. Many other structures and facilities are less than 100 feet from the erosion area they include water tanks and water lines; fuel tanks; cemetery; drying racks; smoke houses and other food storage facilities; a retail store; access road; boardwalks and paths; boat launch; storage and repair areas; utility poles and lines; power generators; sewer lines and sewage lagoons; significant cultural and archeological sites; schools; clinics; and churches. Some of the traditional routes that were established along the coastal shores in years past are threatened by erosion and storm waves. The *Saint Michael Transportation Plan* proposes that these historical routes be constructed as new roads and placed inland so that subsistence, economic, and cultural areas can still be accessed when the traditional routes become damaged beyond use.

Photos and Diagrams

Attached is a diagram depicting linear extent of erosion in the community.

References

Alaska DOT/PF. 1984. *Task Force on Erosion Control Final Report*.

Native Village of Saint Michael. 2004. *Local Economic Development Plan - Saint Michael 1050-2010.*

Rodney P. Kinney Associates, Inc. 2002. *Saint Michael Long Range Transportation Plan, Indian Reservation Roads Program.* Prepared for Saint Michael IRA Council in cooperation with Kawerak Transportation Program.

USACE. 1993. *Field Trip, Saint Michael and Stebbins.* Alaska District, U.S. Army Corps of Engineers.

USACE. 2007. *Alaska Community Erosion Survey, OMB approved number 07100001*, expires September 30, 2009 submitted by Virginia Washington, Saint Michael city administrator on August 28, 2007 and emails with Frank Myomick, Kawerak transportation planner and Saint Michael city council member in September 2007.

Additional Information

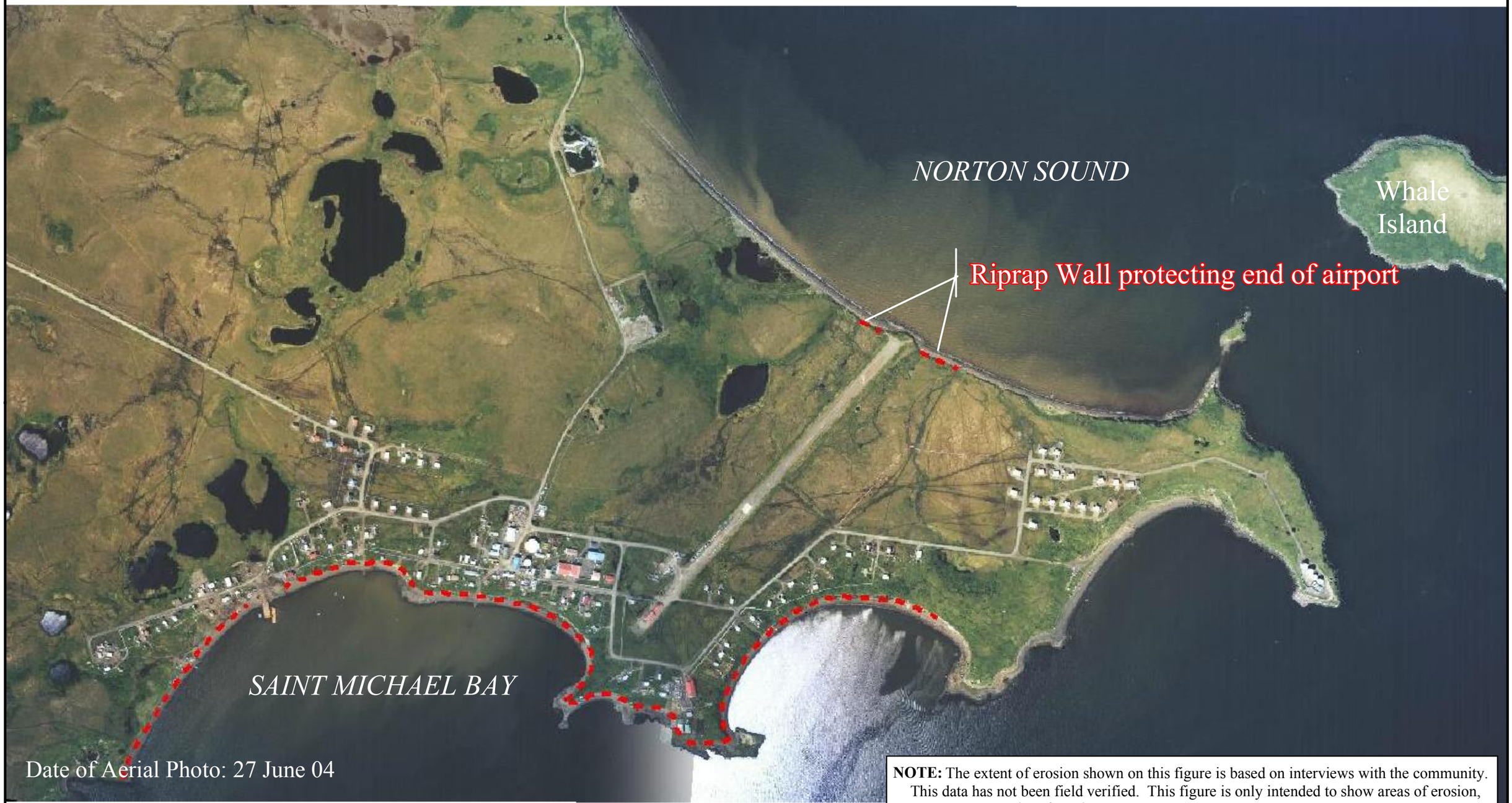
This information paper, as well as those for other communities, can be accessed on the internet at www.alaskaerosion.com. For more information please contact the Corps of Engineers, project manager at (907) 753-5694 or email Alaska.Erosion.POA@usace.army.mil

Photo 1: St. Michael beach erosion in front of Albert Washington's home. Note gravel added for erosion protection in front of home, September 2007.

Photo 2: St. Michael beach erosion in front of Albert Washington's home. The poles in the ground are remnants of a home that was moved to avoid the erosion. Green building in background is the Sewage Treatment Plant. September 2007.

Photo 3: Saint Michael beach erosion, September 2007.

Photo 4: Saint Michael beach scene, 2006.



NOTE: The extent of erosion shown on this figure is based on interviews with the community. This data has not been field verified. This figure is only intended to show areas of erosion, not rates or severity of erosion

Alaska District
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Linear Extent of Erosion

N

Alaska Baseline Erosion

Saint Michael, Alaska