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## Municipality of Sanikiluaq

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To: Nunavut Water Board

From: Robert McLean, CEDO, Municipality of Sanikiluaq

RE: Pullalik Bridge Project - File # 8BW-PUL0607

Please find enclosed:

- ❑ a web link to ALL photos of trail and Bridge construction
- ❑ a short description of the project
- ❑ 6 photos showing before and after

## **Description of Pullalik Bridge Project**

The bridge at Pullalik River has been completed by summer students and employees from the Municipality of Sanikiluaq. The trail to the bridge over the Pullalik River is 3.78 miles south-east from the community. Long 79°08'57.90W and Lat 56°30'58.74N This is the main trail from the community that is used by most travellers, hunters, fishermen, berry-pickers, and people going for a picnic, owners of several outpost cabins as well as the main route to get to south camp at the far end of our island. The trail is narrow and winding and when it crosses the flood plain of the large river, which drains Windy Lake, it is always very rough and/or muddy from all the silt that gets washed downstream.

The narrow wooden bridge that is left in place at the present time was constructed many years ago and is becoming unsafe. The approach trail that leads up to the bridge was very rough and has caused extensive damage to vehicles that have had to use it.

Our major concern was to make a trail that is safer and faster to travel for any Search and Rescue teams that have to assist any residents that are in trouble.

The single span bridge we constructed was made from steel I-beams with wooden planks for the roadbed. The approach to the bridge on the west side has been built up approximately 8-10 feet to give clearance underneath for the spring run off and any ice that comes downstream. The trail that is the roughest covers approximately 400 yards on the north west side and only 100 yards on the south east side of the bridge. The rest of the trail from town took minimal work to get into safe and comfortable condition.

The material that was used to improve the trails, build the access approach to the bridge and fill the bridge abutments was locally obtained beach gravel from drier areas.

The equipment that was used to improve the trail consisted of a Caterpillar front-end loader, 5 ton tandem dump truck and a D6 Bulldozer. A local labour force of six students and the CEDO, acting as supervisor, constructed the bridge and directed the heavy equipment. Over 80% of the funding remained in the community as local wages and the remainder used to purchase the steel I-beams and wooden planks for the roadbed of the new steel bridge.

The front end loader and tandem dump truck hauled small rocks and gravel from drier areas to build the approach and fill the bridge abutments. The loader was only able to fill the wooden crib box with small rocks and gravel on the west side only.

The front end loader carefully forded the river at its shallowest area and tried to find rocks and gravel to fill the crib box abutment on the East side of the river. It travelled up the trail to the area where gravel could be obtained on the East side of the river. The trail could not support the loader with its bucket full of gravel and rocks for the many trips that would have been needed so an alternate method to fill the crib box on the East side had to be found. The tandem dump truck hauled 5 full loads (approximately 100 tons) of small rocks and gravel and dumped them near the west side approach and the students hauled across the new bridge by wheelbarrow, many loads of small rocks and gravel to fill the East side crib box. Many large rocks on the East side of the river were also used to fill the box and placed around the base of the box to prevent erosion.

A wooden ramp was constructed from large wooden timbers for the approach to the new bridge from the East side.

A wooden railing approximately 30" high was fastened to the new bridge to provide safety.

Two coats of metal rust inhibiting paint was applied to the steel and two coats of high gloss enamel paint was applied to the wooden railing. The bridge flooring was left in its natural state to provide traction to the ATV's that cross the bridge.

Web Link to all photos:

<http://picasaweb.google.com/soapstoneartist>

Should you have any questions, please do not hesitate to contact Thomas Kutluk, SAO Municipality of Sanikiluaq or myself.

Your co-operation with providing direction and guidelines is greatly appreciated.

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Picture Descriptions:

Picture #1: This is the “Before” picture showing the original wooden bridge that is starting to become unsafe.

Picture #2: This shows the students erecting the “silt fence” which was to contain any debris, small rocks and gravel from entering the waterway. The two wooden boxes (or cribs) are shown to hold approximately 100 tons of local rocks and gravel. This is to support the two vertical support beams for the main steel girders which cross the river.

Picture #3: This picture shows the main steel I-beams in place and the Cat 926 front end loader going up the trail in search of suitable gravel and rocks to fill the wooden box. This loader only crossed the river once and pulled the 40' I-beams into place on the supports.

Picture #4: This picture shows the wooden boxes filled with rocks and gravel to support the I-beams.

Picture #5: This shows the bridge section almost completed and a wooden ramp built on the east side of the bridge.

Picture #6: This is the completed bridge next to the original wooden bridge.