ALASKA DISTRICT TRIP REPORT

Project: Denali Commission Moorings Points Phase 4 – Yukon River

Description: Kaltag, Alaska Trip Report

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George Kalli and Merlin Peterson traveled to Nulato and Kaltag, Alaska on 16 June 2011 via a charter flight with Security Aviation to conduct site visits and scoping meetings related to potential installation of barge mooring points in the communities. We arrived in Kaltag at 1300 hours. While in Kaltag we were escorted by Richard Burnham, who was recommended as the person most knowledgeable of barge operations in Kaltag. We investigated three barge landing sites during the site visit (Figure 1). A public scoping meeting was conducted at 1500 hours. Two residents participated in the meeting.

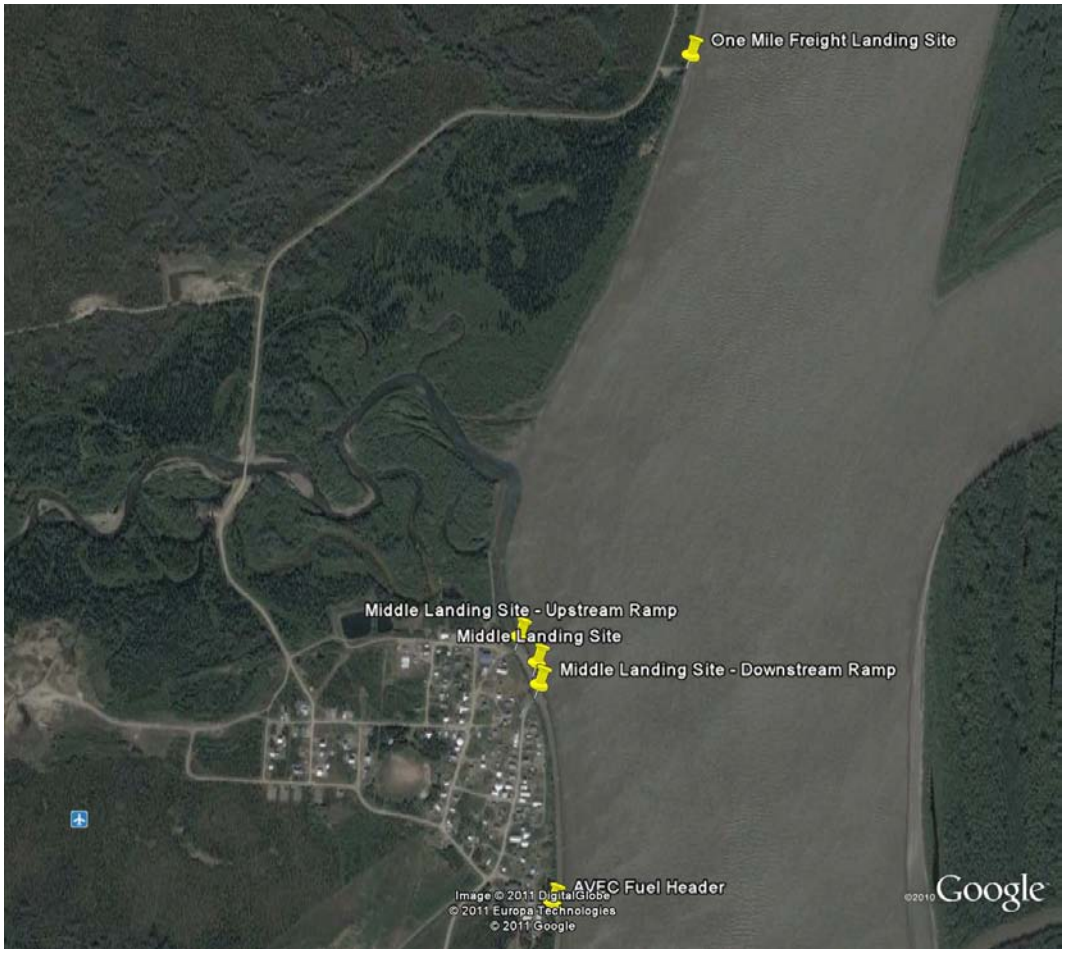

Figure 1. Overview of Kaltag barge landings and fuel headers. Yukon River flows from top to bottom.

Following is a summary of the information learned during the public meeting and site visit.

GENERAL

Kaltag is located on the west bank of the Yukon River, 75 miles west of Galena and 335 miles west of Fairbanks. The area experiences a cold, continental climate with extreme temperature differences. The Yukon River is ice-free from mid-May through mid-October. According to the 2010 U.S. Census, there were 190 people living in Kaltag.

Upcoming construction in Kaltag includes a new health clinic on piles.

GCI is installing cell towers along the Yukon River.

Richard Burnham provided us with a portion of a map of Kaltag showing real estate ownership. A scanned copy has been placed on the network at O:\Projects by Location\Denali Commission\AKV289 (325271) Mooring Points Planning and Design\07 Phase IV Mid-Upper Yukon River and Various\Kaltag (option).

The Yukon River is a gravel source for the community.

There are no contractors based in Kaltag.

There may be future construction in Kaltag related to the new health clinic and cell phone towers, but any associated piles will likely be drilled, not driven

MIDDLE LANDING SITE

This landing site consists of two gravel ramps. The upstream ramp (Photo 1) is utilized during high water, while the downstream ramp is more accessible during low water. During the time of our visit, the ramps were bound by a broad gravel beach along the Yukon River (Photo 2). The upland area in between the two ramps is adjacent to a large yard and home (Photo 3).

A fuel header is located at the top of bank just upstream of the upstream ramp (Photo 1).

A former mooring point, consisting of a broken tie down cable, was located at the top of bank adjacent to the edge of the yard (Photo 4).

A mooring point consisting of a tie down cable was located approximately 36 feet upstream of the upper ramp (Photo 5).

According to Richard Burnham, the top of bank in the area of this landing site is zoned as a city street. Due to erosion, however, it will never actually be a street. Follow up conducted by Corps real estate personnel confirmed that the area is corporation property permissible for construction.

To provide secure moorage at both ramps, four mooring points are recommended at this landing site.

The proposed location of the most upstream mooring point is 125 feet upstream of the upstream ramp at 64 19.766' N, 158 43.483" W. This location is just upstream of a grassy 4-wheeler ramp accessing the river (Photo 6). The area is slightly vegetated. The mooring point should be placed adjacent to the top of the ramp along the edge of vegetation, roughly 10 feet back from the top of bank. An above grade mooring point would be appropriate at this location.

The proposed location of the next downstream mooring point is 125 feet downstream at 64 19.749' N, 158 43.433" W. This location is near the upstream corner of the large yard, approximately 10 feet inland from the top of bank (Photo 7). A below grade installation is appropriate here.

The proposed location of the second most downstream mooring point is 128 feet farther downstream at 64 19.731' N, 158 43.410" W. This location is between the downstream end of the large yard and 4-wheeler trail, and a gulley spanned by a small bridge (Photo 8). A below grade installation is appropriate here.

The proposed location of the downstream most mooring point is 175 feet farther downstream at 64 19.701' N, 158 43.382" W. This location is just downstream of the downstream ramp and directly in front of a sign welcoming people to Kaltag (Photo 9). A below grade installation is appropriate here.

Photo 1. Upstream ramp and fuel header at Middle Landing Site.

Photo 2. Beach connecting the two ramps at the Middle Landing Site, looking downstream.

Photo 3. House and yard located between the two ramps of the Middle Landing Site.

Photo 4. Former mooring point consisting of a broken tie down cable.

Photo 5. Existing tie down cable upstream of the upstream ramp of Middle Landing Site.


Photo 6. Corps employee standing at proposed location of most upstream mooring point at Middle Landing Site. A small 4-wheeler ramp accessing the river is to his right.

Photo 7. Looking upstream from proposed location of second most upstream mooring point at Middle Landing Site. Note the fuel header near the top left.

Photo 8. Corps employee standing at proposed location of second most downstream mooring point. There is a 4-wheeler path to the river directly behind the small brush behind him. A small bridge spans a gulley beyond that.

Photo 9. Proposed location of the downstream most mooring point. Location is directly in front of sign indicated by white arrow, which is partially obscured by the small tree to the left of the bridge.

AVEC FUEL HEADER

The distinguishing feature of this landing is the presence of a tall, steep, and moderately vegetated stream bank close to 100 feet high. The fuel header is approximately 1/3 of the way up the slope (Photo 10).

Various structures related to a former teacher housing complex are just adjacent to the top of bank in this area (Photo 11).

Potential mooring point locations were investigated both at the top of bank and along the vegetation line along the toe of the bluff slope. Both locations have limitations. Mooring points placed within the river channel will be subjected to high flow events and river ice. Equipment access to install the mooring points would also be difficult. Mooring points placed atop the high banks will likely not be utilized due to the difficult access to reach the top of bank. Access in the tight confines of the slope, various buildings, and overhead power lines will also present problems.

A potential compromise is to place mooring points at the top of bank and to stretch a cable or chain from the actual driven pile down to the edge of the river where it could be more easily accessed by barge personnel.

Because of the limitations and difficulties presented by this site, it is uncertain whether mooring points can be effectively installed and utilized. No mooring points are recommended for this site.

Photo 10. Steep, vegetated bank at AVEC fuel header. The fuel header is visible down the slope at the end of the red pipe.

Photo 11. Former teacher housing structures adjacent to AVEC fuel header.

ONE MILE FREIGHT LANDING SITE

This site is used to offload fish for the fish plant in Kaltag. Last year was the first year the fish plant operated. This site is also sometimes an alternative to the Middle Landing site during the fall when water levels are lowest.

This landing consists of a long, straight gravel ramp cut perpendicular through the riverbank down to the river (Photo 12). The gravel beach has a moderate slope of 1V:3H to 1V:5H. The width of the beach from the low water level (rough water level at time of visit) and the ordinary high water level is roughly 100 to 130 feet wide.

The beach along the Yukon River had many logs beached by high spring flows (Photo 13). These logs are eventually harvested by locals.

Proposed locations for two mooring points at this location are 125 feet each upstream and downstream of the center of the ramp at coordinates 64 20.518' N, 158 43.022' W, and 64 20.478' N, 158 43.041'W, respectively. Below grade installations at the top of bank at the tree/brush line (ordinary high water level) are appropriate.

Worn bark on a tree located 125 feet upstream from the center of the ramp indicates it has been utilized as a tie off point (Photo 14).

Access to the proposed locations will require low water levels in the Yukon to expose the beach and may require removal of logs along the beach.

River bank slopes are steeper at the proposed upstream mooring point site (Photo 15) than the proposed downstream site. If the slope is too steep to allow suitable access of equipment required to install the mooring points, a path may need to be cleared from the ramp to the mooring point location.

According to local comments, the landing and surrounding area may be part of a Native allotment. Follow up by Corps real estate personnel, however, confirmed that the proposed locations are within corporation property permissible for construction.

Photo 12. One Mile Freight Landing site.

Photo 13. Beached logs at One Mile Freight Landing Site looking downstream.

Photo 14. Worn bark on tree indicates use as tie-off point, One Mile Freight Landing Site.

Photo 15. Relatively steep bank at proposed upstream mooring point location looking upstream, One Mile Freight Landing Site.

RECOMMENDATIONS

To provide secure moorage at both ramps of the Middle Landing Site, four mooring point installations, as described in this report, are recommended. Three of the installations should be below grade and one above grade.

Two below grade mooring point installations, as described in this report, are recommended at the One Mile Freight Landing Site.

Due to the uncertain effectiveness of mooring points at the AVEC fuel header site caused by the tall, steep and vegetated stream bank, no mooring points are recommended at this time.