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# *August 2012 Update*

## *Copper River Highway*

### *Bridge 339, Cordova Alaska*

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AKSAS Project # 60555

August 30, 2012

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#### **Recent Changes**

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The main channel of the Copper River (at bridge 339) is still slowly migrating east, eating away the road (see Figure1):

- The road breach has grown from an estimated 100' in mid July 2012 to 150' by mid August 2012
- The road embankment and river bank just east of the breach are now beginning to experience erosion
- Flow towards bridge 340 (1200' east of bridge 339) is increasing. Bridge 340 is smaller (241' long) than bridge 339 (401' long)



**Figure 1** – Bridge 339 looking south August 14, 2012

## Predictions

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As we have said before, forecasting how the Copper River will migrate or where it will go next is difficult to predict.

It appears the Copper River has its sights set on bridge 340 and is migrating that way. We expect the road to continue to wash away as the river moves east. If the river channel does move to bridge 340 we anticipate both road approaches to wash away but don't expect extensive bridge damage like at bridge 339. This is because the breached road should create some relief by spreading out the flow and reducing water velocities. We also suspect this relief may be filling in deep scour channels.

## Challenges

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- At this time it's difficult to predict what the final bridge location and design is going to be because the Copper River is not static. It keeps moving. The scope of the project is growing.
  - Are we going to have to rebuild the approaches at bridge 340?
  - Should we consider in-stream channel controls and river training structures to encourage and maintain flow to the proposed new bridge?
- Existing design data (topographic and bathymetric surveys) has a very short shelf life (2-3 months). The dynamic river system is constantly changing alignment, channel depths and the road keeps washing away.
  - Final design earthwork volumes will not be reliable. Existing ground topography will have changed by the time the construction contractor is out on site.

## Schedule Update

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The schedule has slipped a few months because there was still snow on the ground midsummer delaying the topographic field survey:

- The survey was scheduled for mid June but couldn't happen because there were deep snow drifts (over 14' in some areas) on site
- Snow is usually gone by mid June, but not this year because of the heavy winter snowfall combined with an unusually cool spring and summer.

### 1. Current Schedule.

- a. Late Fall 2012 - field surveys and data collection
- b. Winter 2012/2013 – hydraulic modeling, bridge and civil preliminary design
- c. Spring 2013 – environmental document approval, being permitting
- d. Summer 2013 – field bridge foundation investigation
- e. Winter 2013/2014 – finalize design
- f. Summer 2015 - construction

The required Coast Guard permit is the critical path to make the 2015 construction year. Before we can submit the Coast Guard permit we need to get the preliminary design, an approved Corps Wetlands permit and Fish & Game Fish Habitat permit. This all needs to be included in the permit packet we submit to the Coast Guard. Historically it has taken the Coast Guard 1 ½ years to approve the permit once they have received it.

## Conclusion

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The design team collecting field data and will begin a preliminary design this winter. Once the preliminary design is developed we can finalize the environmental document and begin applying for permits.