# Bartlett Site Visit Notes – October Severe Storms and Flooding: DR 4355

Attendees:

Fallon Reed (HSEM)

Vanesa Urango (HSEM)

Heidi Lawton (HSEM)

Gene Chandler (Bartlett Selectman)

The following the damages viewed at each location and potential actions to either bring the site either back to a pre-disaster condition or mitigate the area against future disasters.

## Saco River – River Street Bridge

The team viewed the upstream and downstream areas of the River Street Bridge.

* Removal of tree debris upstream of the bridge
* Removal of gravel bed upstream and underneath the bridge that has changed the flow of the channel. The gravel deposited during the storm has pushed the flow of the channel to the left (when facing downstream) instead of through the center. Removal of gravel would restore flow through the center of the channel and protect berm structures from further degradation.
	+ HSEM Field Rep noted that a Mining Permit may be an avenue to remove gravel. Further research is needed.
* ***Was this gravel already removed once post Irene?***
* Berm/embankment damage was noted along both sides of the river. Repairs are needed.
* Goal to widen the flow area at the bridge. (If this cannot be completed through regular PA, we will explore the option of 406 mitigation.)
* A sand beach that was open for public use along right side of the river downstream of the bridge (when facing downstream) was washed out.
	+ This damage is scheduled to be viewed with a full site inspection team with FEMA on August 15th.
* Water washed over the road on the northwest side of the bridge and undercut the road. Pavement was replaced.

A Hydrological Technician (Glen Bennek) was working on the USGS gauge location at the time of this site visit. He noted that the stream gauge is being moved (potentially upstream of the bridge) because the movement of the center of the flow in the channel has migrated towards the piling. The water now comes in at an angle to the bridge (instead of perpendicular) and repeatedly buries the gauge with sand and gravel. The tech said that the system is no longer sustainable given the direction of the flow following the October storm (DR 4355). This gauge provides critical data for use in daily forecasting of flooding and flash flooding events on the Saco River.

## Saco River – Dugway / Cobb Farm Rd

The team viewed the dugway, road, berm system, and embankment structure along the river side of the Cobb Farm Road along roughly 1.5 miles of road from the bridge location.

* Numerous washouts and undercutting of the embankment along the road. The Bartlett Selectman noted that the road “has nowhere to go” due to a sharp elevation gain on the other side of the road. Large boulders have rolled out of the embankment and into the riverbed. The undermining of the embankment and berm structures has been caused by gravel deposits in the stream bed that have pushed the flow toward the road instead of through the center of the channel.
* Removal of debris (namely trees) and gravel to widen the river and redirect flow through the center of the channel.
* This is a new area of damage that was not present before DR 4355.
* Berm structures need repair. There was a permit in the past to repair the site but the work was not completed. **More research needs to be completed on this matter.**
	+ The team viewed one area of the berm, but there are many areas where breaches have occurred. **The full extent of the berm with GPS coordinates of the beginning and end of the berm need to be confirmed.**

## Rocky Branch River – Rocky Branch Bridge

The team viewed the upstream and downstream areas from the bridge and drove through Sleepy Hollow Road. The Rocky Branch River flows into the Saco just downstream of the bridge. This bridge is part of Rt 302 and NH DOT is an active participant in the disaster process surrounding this site.

* The drive through Sleepy Hollow Road showed large amounts of sand that was deposited during the flood. The Bartlett Selectman noted that the flood waters on this street exceeded 4-5 feet in some locations.
* Debris removal needed upstream of the Rocky Branch Bridge.
* Gravel removal is needed upstream and downstream of the bridge. There is a large plateau of gravel upstream of the bridge that has effectively narrowed the channel and pushed it to the right (when looking upstream). Gravel removal is also needed on the right side of the bridge (when looking downstream) to open the channel. Gravel removal would widen the area for the water to flow uniformly through the center of the channel.
* An area where mitigation actions had been performed post-Tropical Storm Irene (rocks and riprap to stabilize the embankment) was washed away during the October floods (DR 4355). Flood waters also eroded the embankment just downstream of where the mitigation action had occurred.