

Montgomery Flood Resilience Meeting  
November 6, 2024  
Meeting 3

Total Attendees: 26

Q=Attendee question

C=Attendee Comment

- Recap: Existing conditions, model of flooding for medium flood (100 year flood)
- Data collection for alternatives: Visited sites, reviewed past data, identified projects
- Tested alternatives in model: Define scope of alternatives, Test identified alternatives
- Explored existing conditions model to further identify opportunities and impact of existing infrastructure and built conditions
- Review of Results: model output looking at floodplain extent, water depth, velocity

**Alternative 1: Floodplain & Wetland Restoration**

- 251 Fuller Bridge Rd, minimal change in flood extent, reduction in channel velocities from 10-13 ft/s to 4-9 ft/s along road embankment
- 18 and 5 acre footprints
- Small footprint recommended, as big and small had similar impact. More cost effective
- Most dramatically impacts flood velocity, less impact to floodplain extent
- Benefit is reduced impact to road embankment

C: Town land, there are trees out there already. People use the space and it would be nice to maintain use by the community.

Clarification: This project would include lowering floodplain, but there is still opportunity to plant trees, maintain recreational opportunities. After excavation this area could be replanted.

Q: How do you lower it?

Excavators dig out the dirt and material and move elsewhere

Q: Would this project change the course of the river?

The river might move, but this project does not directly alter the path of the river.

Q: How would removed knotweed be managed? Dry out? Burn?

Contractor could be directed to burn, or to place at bottom of fill pit, where it is smothered beneath other material.

Q: How would this project be funded?

There are lots of funding options, especially if the project improves water quality. Will require grant writing. Some grants may require community match.

Q: Is there an estimated cost?

Not at this point, but these projects are happening across the state, so we know there is funding and precedent.

Q: How much would the lowering be? 10 feet?

Just a few feet, more in the 3-ft range.

Q: Would the lowered area be dry, other than during a flooding event?

Would be dry during regular flow.

Q: Does increasing the surface area (floodplain) reduce velocity?

Yes, allowing space for flood water to spread out reduces velocity, and reduces erosion impact.

Q: If the river channel changes, would that impact velocity?

This project would still lower some floodplain, so even if the channel changes there would be more floodplain access and reduced velocity during high flow events.

### **Alt 2: West Hill Brook Bridge**

- All scenarios involve dredging of channel through bridge to establish more natural channel profile
- No change to bridge, overflow culvert installed with flood bench
- New larger bridge installed

### **Alt 2: Overflow Culvert**

- Install 35-foot x 10 foot tall overflow culvert
- Overtopping of Route 118 reduced but not eliminated
- Benefits do not extend upstream to location of homes

Q: What does the overflow culvert look like?

Box culvert, next to the bridge. It would have its own channel, at a higher elevation than the stream bed.

Q: Is the sediment accumulation caused by the bridge?

This may just be a natural occurrence as a result of the slope change at that point in the river. The bridge is just not at an ideal location! Bridge is making it worse though.

C: Bridge was just rebuilt.

Q: Has it been addressed why we have so much sediment at this point on West Hill Brook?  
What causes that?

This study focuses on areas lower in the watershed, but upstream should be looked at.  
Sediment and materials are coming from upstream.

C: Road commission, town has funding to look at upstream roads to address erosion along roads.

Q: I thought it was nearly impossible to dredge a river from a permitting perspective?

Dredging is allowed (with permits) when dredging is done in discrete locations to protect infrastructure.

C: Town shouldn't have to pay for some of the work done to improve state roads.

Q: Can the district assist the town with grants for work on state roads? (Not sure if I understood or heard the question-ask lauren)

Q: Are these all separate projects? Or are they done in conjunction?

Either options can be explored.

Q: What is the communication channel between FCNRCD, SLR, and VTRANS? Through previous communications it has really fallen on the town to manage, fund improvements.

Conversation around flooding has dramatically changed, so VTRANS might be more open to collaboration and potentially funding. FCNRCD does not directly communicate.

Q: Say hypothetically we can do all these projects. What happens to downstream properties? How do these projects impact downstream properties and do we increase impacts of flooding downstream?

The model can inform how much water is held back/let go. Models don't show major changes. Increasing storage may help reduce flooding.

Q: Looking at alt 2, what is the impact of new culvert?

### **Alt 2: New Bridge**

- Replace bridge with 220-ft span
- Overtopped of route 118 reduced but not eliminated
- Benefits do not extend upstream to location of homes
- Benefits not substantially better than overflow culvert

If bridge washes out, VTRANS should replace with higher, wider bridge. Culvert is a good option in the interim as it is less costly for the town.

Q: Can you anticipate the sediment deposition with the culvert?

Replacing with a bigger bridge allows for more sediment to move through. Culvert would have minimal impact to sediment movement. Occasionally sediment will need to be dug out.

### **Alt 3: Wet Hill Brook Overflow Channel**

- Create overflow channel to keep floodwaters off Route 118
- Would include new structure on West Hill Brook to cross overflow channel and driveway
- Also considered raising a section of the road, to stay passable during floods
- Allows for additional path for water to go if water is backing up at bridge
- Reduced water depth for approximately 400 ft upstream of bridge
- Extent of floodwaters reduced around 118
- Effects do not extend farther upstream to location of homes, effect (drop of water level) is very localized

Q: Has study looked at the sediment going into the river for this alternative? It is very sandy.  
This alternative would involve some stone/riprap stabilization

Q: Has this type of alternative been done before?

Yes, there is something similar in Jeffersonville on Rt 15 near silos and distillery. It has been effective. Jeffersonville has been interested in additional similar project

### **Alt 3 Continued: Floodplain Restoration**

- Realign lower West Hill Road away from West Hill Brook
- Floodplain restoration: Provide space for floodwaters, sediment, debris
- Would include new structure on West Hill Road to cross overflow channel
- Would provide space for sediment and debris to spread out, rather than at the bridge opening.
- Reduced water depth for appx 500 feet upstream of bridge
- Extent of floodwater reduced around 118
- Effects diminish near location of homes

Q: Is Route 118 raised here as well?

Yes, some areas of 118 would be raised.

Q/Comment: What is the timeframe we are looking at, as far as what VTRANS will do with the bridge? VTRANS claims ownership of infrastructure (bridge) but won't dredge around bridge. Conditions currently seem concerning. One big storm could really impact that bridge. Bridge is a pinch point. Any bridge is if the abutments are constructed into the river. We also need work

upstream to reduce erosion, debris moving downstream. Upstream work and reestablishing the canopy will also reduce water temps. Keep it cool! We need to look upstream and do work to reduce downstream project needs, such as dredging. "That thing needs to be dredged out, like, tomorrow."

Sounds like we really need to get VTRANS involved, engaged, and committed to this work.

#### **Alternative 4: Comstock Covered Bridge**

- Overflow culvert
- Model results shows reduction in extent of water around home and 0.5 to 1 ft reduction in water depths

Q: Would this project require landowner permission? Right of way? Easement?

Yes, it would require working with landowners and landowner buy in. Many of these alternatives would require working with landowners.

Q: The land by 118 is very sandy. Does sending floods to this area result in more sediment moving downstream?

Not anticipated.

#### **Alternative 5: Vincent's Bridge**

- Determined based on field analysis that there isn't a major issue/justification for project here

#### **Alternative 6: Longley Covered Bridge**

- Similar strategy as Comstock Covered Bridge alternative
- Currently unable to contain floodwaters
- No substantial reduction in extent of road overtopping but water dept reduced by .5 ft.
- One recommendation for this area is to pave road and reinforce roadway to reduce damage and expedite clean up post flooding

Q: On overflow culverts, how high does the water need to be for them to function? Is there an issue for people recreating on the river?

Typically the overflow culvert is elevated so that it would not be in the way of people using the waterway during regular flow.

C: Main concern is West Hill Bridge. If there is money, that is where Mark Brouillette would like to see it go. Also interested in alternatives by town land.

### **Alternative 7: Fuller Covered Bridge**

- Overflow culvert with flood bench creation
- Prevents water from flooding out of channel on south side of brook and bridge
- Would include relocating some homes and outbuilding
- Not effective at reducing overall extent of floodwaters in village when implemented without other alternatives

C: Working below this alternative in the field, lowering the floodplain would reduce back up here (at Alt 7)

### **Alternative 8: Village Floodplain Restoration**

- Limited benefit without replacement or modification of Fuller Covered Bridge
- On its own, not effective

### **Alternative 9: Upper Black Falls Floodplain Restoration**

- Prevents water from exiting channel and flowing along road into village
- Substantial reduction in extent of floodwaters in Village

Q: This land is quite a bit higher, would this require a substantial lowering?

Potentially! Would need to explore more. Also the area doesn't necessarily need to be 10 acres.

### **Alternative 7 & 9: Overflow culvert and Floodplain Restoration**

- Major benefits in village!

Q: Is there any interest at state level of eminent domain, in order to be able to conduct high impact projects benefiting community and protecting infrastructure?

Have not seen eminent domain, but there are easement and incentive tools that can be stacked to create a better offer. Eminent domain has come up for these types of

projects, but it is generally not recommended. Best to use other tools like easements, conservation, town purchasing land before jumping to eminent domain.

Q: What in your opinion is the top priority? What would benefit the town the most? Realistically the town will not do all of these alternatives, and/or it will take a long time.

This project (Alt 7 & 9) should be high on the list. Homes, businesses, roads, post office, covered bridge better protected. Highly beneficial.

**Alternative 10:**

- Trout River at Route 118 embankment across from the Rec Center
- Floodplain lowering
- 8-11 ft/s existing, 3-5 ft/s proposed (small flood)
- Can reduce erosion to road embankment

**Alternative 11: Natural Constriction Below Village Center (Grey Rock)**

- Lots of deposition, gravel in this area. Filled in the channel.
- Removing sediment does not reduce extent of flooding, some reduction of depth
- Effects carry 1,300 feet upstream, but do not reach center homes and businesses
- Not an impactful project

**Alternative 12**

- River St/Rt 118, lowering land. Some areas in footprint are already low wetlands, so not all of the area would be lowered
- Slight reduction of extent of flooding with 0.5-2 ft reduction in flood depths around some homes

**Alternative 13: South Branch Floodplain Restoration**

- Upper cluster of floodplains modeled separately from lowest
- No reduction in flood depths or extent of floodwater observed from upper cluster
- Localized reduction in flood depth and extent with lowest floodplain
- Localized reductions meaning areas directly across the river from lowered areas

**Alternative 14:**

- Snowmobile bridge

- Determined based on field reconnaissance and modeling not to be a major issue

### **Alternative 15: Increase Conveyance in Center**

- How can we provide more space for floodwater to move safely through the center?
- South Main St. Bridge upsized from 60' to 160'
- Snowmobile bridge upsized from 100' to 175'
- Lower land along the river
- Some acquisitions of homes required
- Reduction in flood depths 4-5' for 1000' from upstream of South Main Street to just above South Branch

Alternative 11, 12, & 15:

- Increase capacity through Center with floodplain reconnection, bridge replacement, sediment management at natural constrictions
- Reduction in flood depths through entire Center
- 4-5 feet for 1000' upstream of South Main Street to just above South Branch

Q: Does this alleviate flooding in Village?

Village is far enough away that the impact does not carry.

Q: Are there projects here that would increase and/or decrease the need for an alternative?

Projects are pretty separate. They can be done in combination but doing one shouldn't require another project.

### **Alternative 16: Center Flood Bypass Channel**

- Create bypass channel for flood waters around Center
- Would include two bridges over channel and acquisition of 1-2 homes.
- Not rerouting channel, but creates bypass channel for high flow
- Depth of water along Trout River main channel reduced by .5-2'
- Big project, so try other alternatives first or instead!

Other types of flood mitigation projects can be done and are being done! Reminder that this study IS NOT the only course of action!

C: Town land seems like a great project in terms of cost, impact, and feasibility. Seems like the first priority. Combination of alternatives for Center seems to have high benefit. Could be done incrementally.

C: Prioritize land that the town already has. For projects that require landowner buy in, trust, communication, and education will need to be done strategically and thoughtfully.

Q: When could dredging be done in the spring? What is the protocol?

July 1st. Only time that work can be done in a riverbed is July 1st-Oct 1st, unless there is an emergency.

Need permit, dump site.

Q: Do the 5 designs include projects where alternatives are grouped?

Sediment management projects are additional. May not require SLR to be involved much further if all that is needed is the existing model, permits, funds, contractors.

SLR will pursue designs of 5 projects/project combos. FCNRCD and Town will work on sediment management at West Hill Brook.

There will be another meeting in early December to review the project designs.