

SAFARI Meeting Minutes
July 10, 2015
AWSMP Office, 3130 State Route 28, Shokan, NY 12464
10:00am to 12:00pm

Members Present:

Brent Gotsch, CCEUC
Mark Carabetta, MMI
Don Brewer, Shandaken Planning Board
Danyelle Davis, NYC DEP
Adam Doan, UCSWCD
Aaron Bennett, UC Department of Environment
Rob Stanley, Shandaken Supervisor
Eric Hofmeister, Shandaken Highway Superintendent
Mark Loete, Trout Unlimited
Candace Balmer, RCAP Solutions

Guests:

Phil Eskeli, NYC DEP
Vernon Bevan MMI
John Mathiesen, CWC
Tim Cox, CWC
Warren Tutt, Town of Shandaken Building Inspector

Past Meetings Minutes

Brent G. asked if there were any issues with the previous meeting minutes. There were none.

Town Supervisor Update

Rob S. reported the Town of Shandaken received a letter from FEMA stating the Town has 90 days to adopt the preliminary flood maps. The penalty for non-adoption is to be placed on probation with federally backed flood insurance no longer available within the Town.

In the process of compiling data for the Local Flood Analysis (LFA) and NY Rising processes, Town officials found what appear to be errors and discrepancies in the base flood elevations (BFEs) for the preliminary flood insurance rate maps (FIRMs). In particular, there appears to be a 12-foot drop in elevation along the Stony Clove Creek upstream of the confluence with the Esopus Creek that ground-truthing does not support. He noted apparent discrepancies between the paper FIRMs and the digital FIRMs when looking at the flood zone boundaries. Rob S. sent a letter outlining the Town's concerns to the New York State Department of Environmental Conservation (NYSDEC) Floodplain Management Bureau and has not yet received a reply.

Phil E. said he brought the discrepancies to the attention of John Lisco of Dewberry (a consulting firm to FEMA on creation of the maps). Mr. Lisco indicated he would review the maps. Phil E. said that while there may be an issue with the maps, it could also be a layout issue that makes it appear that elevations are more extreme than they really are. There is a formal review process that must be done in order to make map corrections. Normally the process is for the locality to send their concerns to the State, and then the State contacts FEMA. However, if the State has not acted on the concerns of the locality, it may be appropriate for the locality to directly contact FEMA.

Rob S. brought up some examples where property owners were trying to improve their property and use the best available data, which are the preliminary maps. However, Rob S. has been directed by the State to use the current effective maps until the preliminary ones are adopted. Town officials are uncomfortable using the effective maps, since in most cases they are clearly far less accurate than the preliminary maps. This problem has been holding up NY Rising applications.

MMI Report

Mark C. gave a report on benefit-cost analysis (BCA) findings for the LFA projects that were moved forward in this phase of the analysis. BCA leads to a benefit-cost ratio (BCR) that is determined by dividing a project's total benefits and total costs. In most cases a BCR needs to be at least 1.0 in order to be funded through most sources. See MMI report for full details.

MMI took the following approach while estimating BCR costs:

In dredging scenarios:

- Estimated a cost of \$10 per cubic yard to remove sediment
- Estimated an additional \$10 per cubic yard for associated costs with sediment removal (permits, property access, water/sediment control, etc.)
- Estimated that sediment removal would need to be repeated 5 times over the course of a 50-year project lifespan

For bridge replacements:

- Length and width of proposed bridge
- Type of bridge
- Number of piers
- Is it subject to scour?
- Detours versus temporary bridges versus parallel bridges

For floodplain and stream channel work:

- Volume of material exported
- Linear footage of channel (one or both banks)
- Area of floodplain (topsoil, seeding, plantings)
- Forested area to be cleared (more expensive to clear forest than open land)
- Engineering design costs

For structure relocation:

- Assessed value of the property
- Demolition costs
- Assumption that property easements would be donated where removal of structure is not required

In order to develop the benefits for proposed projects, MMI took into account the following variables:

- Property acquisition/relocation (move homes/businesses permanently out of harm’s way)
- Benefits due to reduction of flooding at structures that remain (lower base flood elevations create less damage)
- Damage avoidance specifically for Bridge Street Bridge in Phoenicia
 - Detour length
 - Return interval of flood
 - Past damages and length of closure
 - Traffic counts

Mark C. noted that most of the benefits are coming from the act of moving structures out of the floodplain and not from reducing base flood elevations.

Phoenicia Study Area

Two areas were moved forward in the BCA process (1) the Floodplains and Bridge Street Bridge Replacement and (2) Phoenicia Dredge Scenario

(1) Floodplain and Bridge Street Bridge Replacement BCR:

Total Benefits	\$2,947
Total Costs	\$7,728,085
BCR	0.38

(1a) Floodplain Only (assumes third party replaces Bridge Street Bridge)

Total Benefits	\$2,490,116
Total Costs	\$2,728,085
BCR	0.91

(2) Phoenicia Dredging Scenario (dredging Esopus Creek from upstream, of Route 28 to downstream of Bridge Street by three feet while maintaining a 2:1 side slope)

- Estimated dredge volume = 11,291 cubic yards
- Distance of 986 linear feet of channel

Total Benefits	\$80,270
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Total Costs	\$1,129,100
BCR	0.07

It should be noted that dredging reduces flooding under moderate flood scenarios but has negligible impact upon larger floods. It would also lead to unstable channel conditions and is overall not a sustainable solution to flooding problems.

Mount Tremper Study Area

Six areas were moved forward in the BCA process (1) Mount Tremper Dredge Scenario (2) Mount Tremper Floodplain (3) Route 28 Bridge Replacement (4) Combo of Route 28 Bridge Replacement and Floodplain (5) Floodplain Bench on Beaver Kill and (6) Plank Road Bridge Replacement

- (1) Mount Tremper Dredge Scenario (dredging Esopus Creek by 3 feet from adjacent to Emerson to downstream of Route 28 Bridge maintaining 2:1 side slopes)
- Estimated dredge volume = 89,939 cubic yards
 - Distance of 5,623 linear feet

Total Benefits	\$613,020
Total Costs	\$8,993,900
BCR	0.07

As in the Phoenicia example, it should be noted that dredging reduces flooding under moderate flood scenarios but has negligible impact upon larger floods. It would also lead to unstable channel conditions and is overall not a sustainable solution to flooding problems.

- (2) Mount Tremper Floodplain
- Requires relocation of 14 structures
 - Requires removal of Mount Pleasant Bridge

Total Benefits	\$6,501,343
Total Costs	\$9,088,588
BCR	0.72

- (3) Replace Route 28 Bridge

Total Benefits	\$316,555
Total Costs	\$15,000,000
BCR	0.02

- (4) Floodplain and Route 28 Bridge

Total Benefits	\$6,804,967
Total Costs	\$24,088,588
BCR	0.28

(5) Replace Plank Road Bridge

Total Benefits	\$36,070
Total Costs	\$1,750,000
BCR	0.02

(6) Beaver Kill Floodplain Bench

Total Benefits	\$32,129
Total Costs	\$498,625
BCR	0.06

BCR Discussion

Phil E. recommended that a BCA be done for each aspect of the project. For example, if a project called for a floodplain bench creation, a relocation, and bridge replacement, a BCA should be done for each of those. That way they could potentially be funded individually through CWC or other sources.

Mark C. reported that these figures do not take into account any potential water quality benefits as there is no clear method for figuring out those benefits. Phil E. stated that the New York City Department of Environmental Protection (DEP) could help develop a methodology for determining those benefits.

Mark C. noted that the figures for the BCAs do not include repetitive loss values. Tim C. suggested that they speak with the Town Assessor's Office to get full equalized real property assessment rates. This may change the values for properties. Rob S. was uncertain if this would make much of a difference since theoretically the rates would be raised proportionally.

Phil E. recommended that the Route 28 Bridge replacement be included in MMI's final report so that in the future when it is replaced the New York State Department of Transportation (who maintains the bridge) can review it and consider increasing its size and width so that it will be less of a flood hazard. He recommended including language stating that this is an important part of making the rest of the actions in Mount Tremper viable.

Phil E. commented that they have found that home values are depressed for about six years after a flood. After that they tend to return to normal. He also mentioned that this report should consider looking at flood vents or similar structural elements.

Candace B. noted that in many cases it may be cheaper and perhaps more effective to relocate homes out of the floodplain only and not worry about trying to do stream work since the latter seems to push the costs prohibitively high.

Timeline and Next Steps

Public Meetings 4 and 5 are tentatively scheduled for August 10, 2015 for Phoenicia at the Parish Hall and August 17 for Mount Tremper at the Emerson Resort and Spa. Both meetings would begin at 7:00pm. There MMI would give a recap of the previous public meetings in the fall and explain the BCA process.

Following this MMI will prepare a Final Report to be presented at a Town of Shandaken Board meeting in either September or October.

In the meantime, MMI will work on the two highest ranked projects (Phoenicia Floodplain without Bridge and Mount Tremper Floodplain) to try and get those BCRs to 1.0 or better. A BCR of 1.0 or better is the only way for these projects to be funded by either FEMA, CWC or most other funding sources.

Ulster County Multijurisdictional Hazard Plan Update

Aaron B. gave a quick update on where things stood with the Ulster County Multijurisdictional Hazard Plan Update. Currently the Town of Shandaken is caught up on submitted proposed projects for this plan. Ulster County needs to submit the completed plan by March 2016.

Miscellaneous

Before the end of the year, SAFARI needs to complete the annual update for the Town of Shandaken Flood Hazard Mitigation Plan.

Next Meeting

To be announced. Likely to occur after Public Meetings 4 and 5 are completed.