Lessons Learned: North Dakota HMGP BCA Assessment

Hilary Kendro, ATKINS
Hazard Mitigation Grant Program (HMGP)

FEMA’s HMGP:

• Provides mitigation opportunities to areas that experienced a major disaster event resulting in a Presidential declaration

• Encourages the incorporation of hazard mitigation actions that:
  – Reduce or eliminate long term risk to people and property
Hazard Mitigation Grant Program (HMGP)

HMGP Qualifications:

- A Benefit Cost Analysis (BCA) must be performed prior to funding distribution to demonstrate that the mitigation project is cost effective
  - Cost effectiveness: a Benefit Cost Ratio (BCR) of 1.0 or greater
North Dakota – Disaster Events
2011-2013:

• Multiple flood events and flooding effects occurred
  – Severity of these flood events resulted in implementation of multiple mitigation efforts

• Mitigation actions are needed for continually safety
  – Atkins worked with the North Dakota Department of Emergency Services (NDDES) to execute and support BCA actions to determine cost effective of projects
North Dakota – HMGP

Project Overview

Location - Throughout the state of North Dakota

• Timeline: 2011 to Current
• Over 40 agencies, communities, councils, and tribes that submitted potential projects
• Over 60 BCA projects completed
• In 2015/2016, 16 projects achieved cost effectiveness with a BCR of 1.0 or higher with additional cost overruns

06 July 2016
North Dakota – Disaster Events

A BCA was performed for each submitted mitigation project

• Each mitigation project yielded a BCR
  – Projects were assessed on reduction or elimination of long term natural hazard risks
  – Documentation was provided to support BCA methodology and BCR outcome
  – References and documentation were shared with applicable agencies and communities
Lessons Learned: HMGP

Throughout the HMGP process, various lessons were learned including:

• Emphasis on positive communication
• Consistent organization of files and file distribution
• Thorough documentation with all applicable participants and projects
Lessons Learned: Communication

Communication

• Various levels of government participated in the BCA process
  – FEMA Region VIII
  – North Dakota Department of Emergency Services (NDDES)
  – Regional Government Entities
  – County
  – Local Communities
  – Native American Councils
Lessons Learned: Communication

Communication

- Established a set communication process
  - Bi-weekly calls with NDDES at the same time, day, and number
  - Project update document was circulated to applicable participates prior to all bi-weekly conference calls

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Lessons Learned: Communication

North Dakota Department of Emergency Services DR-1981 Benefit Cost Analysis Contract
Atkins Progress Report – Week Ending 5/27/2012

Activity
- Contacted subapplicants and provided as needed BCA technical assistance

Current/planned Activity
- Continue outreach to subapplicants, determine technical assistance need, and identify BCA technical assistance POC for subapplicant and/or subapplication

<table>
<thead>
<tr>
<th>Subapplicant</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drainage Project</td>
<td>Ongoing coordination with AMA for data collection BCA development (Current working with Noah Rome, PE with AMA on the BCA and data required more to follow). Last contact/coordination on Tuesday 5/22.</td>
</tr>
<tr>
<td>Franklin, City of</td>
<td>Hilary Kendro (Atkins) assigned BCA Technical Assistance. HT Engineering BCAs complete working two additional lift station projects from City. Bob Curton and Jeremy Lynn are POC at City. HT working with Engineers to update cost estimates.</td>
</tr>
<tr>
<td>Franklin Lift Station #2</td>
<td>$XXX,XXX Fed Share; comments prepared for HT - overall BCA OK some flags related to costs...updates cost estimates were received and BCAs updated to reflect current cost estimates; BCAs were sent to Larry with HT</td>
</tr>
<tr>
<td>Franklin Lift Station Relocation and Green Space Storage Area</td>
<td>$XXX,XXX Fed Share; comments prepared for HT - overall BCA OK some flags related to costs...RECEIVED UPDATED COST. Updates cost estimates were received and BCAs updated to reflect current cost estimates; BCAs were sent to Larry with HT</td>
</tr>
</tbody>
</table>
Organization

• Documents and data were arranged in a consistent pattern and made available only to applicable users
  – Atkins set up an online file sharing platform (SharePoint)
    ▪ Usernames and password were given to each user
    ▪ NDDES approved all user requests
Lessons Learned: Organization

Organization

- File folders were organized in a consistent pattern
  - Set file pattern was established
    - Community
    - Project Name
      - Subapplicant Upload
      - BCA Review
        - BCA File
        - BCA Documentation
Lessons Learned: Organization

HMGP North Dakota > BCA > Barnes County > All Documents

Contains BCA Reviews and Notes Regarding BCA Projects

- BCA Review
  - Modified: 12/7/2011 2:36 PM

- Subapplicant Uploads
  - Modified: 12/7/2011 2:36 PM

Add document
Lessons Learned: Organization

Organization

- The project update document was consistently updated to prevent loss of data or miscommunication
- Monthly progress reports were created and distributed to NDDES
Lessons Learned: Documentation

Documentation

- Various projects were evaluated and multiple participants were involved
  - Project descriptions were documented in one excel file
    - Project Title
    - Action Item(s)
    - Point of Contact Information
# Lessons Learned: Documentation

<table>
<thead>
<tr>
<th>BCA Status</th>
<th>Subapplicant Name</th>
<th>Proposed Project Description</th>
<th>Notes</th>
<th>Subapplicant POC</th>
<th>Atkins BCA POC</th>
<th>Submitted to FEMA?</th>
<th>FEMA RFI Received?</th>
<th>RFI Response Completed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>XXXX</td>
<td>Connors, City of</td>
<td>Stabilize of riverbanks adjacent to roadways at four separate locations in the City along the Connor River. Roadway wash outs and damage to existing electrical lines are possible with increased and persistent erosion. FEMA RFI regarding default data. Was decreased from 2X years to 1X years. Cost overrun completed.</td>
<td>Bryan Matthews, <a href="mailto:bmatthews@connors.com">bmatthews@connors.com</a>, 701-XXX-XXXX</td>
<td>Hilary Kendro</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>In Progress</td>
<td>XXXX</td>
<td>Jones County Culvert Upsizing</td>
<td>Received data from County on 4/4/2014. Requested additional data on 4/18/2014. RFI request on 4/13/15. Data requested were sent to State to coordinate with Jones County (4/17/15). Waiting for data response from State/County.</td>
<td>John Dade, <a href="mailto:John.Dade@co.jones.us">John.Dade@co.jones.us</a> &amp; (701) XXX-XXXX</td>
<td>Hilary Kendro</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Deleted</td>
<td>XXXX</td>
<td>Smith County Drainage Project</td>
<td>County requested a BCA for infrastructure project. Three flood based events with damage data were not identified. Lack of data resulted in an incomplete BCA.</td>
<td>Sally Curtis, 701-XXX-XXXX, scurtis@smithcountygov</td>
<td>Hilary Kendro</td>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lessons Learned: Documentation

Documentation

- FEMA required BCA documentation combined into one pdf document
  - Attached to BCA zip file
  - Included in project folder
## Lessons Learned: Documentation

<table>
<thead>
<tr>
<th>Input</th>
<th>Documentation Summary</th>
<th>Potential Sources</th>
<th>Software Input/Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mitigation Project Type and Description</strong></td>
<td>- <strong>Flood</strong>: Drainage Improvement</td>
<td>Scope of Work and Engineering report</td>
<td></td>
</tr>
<tr>
<td><strong>Cost Estimate</strong></td>
<td>The cost estimate is based upon installation and material estimations provided by an engineering firm familiar with the project. Total Cost: $XXX,XXX</td>
<td>Scope of Work and Engineering report</td>
<td>Smith Lake BCA Documentation, p. 5</td>
</tr>
<tr>
<td><strong>Base Year of Costs</strong></td>
<td>2015</td>
<td>Current year of project cost estimate. Information available from subapplicant</td>
<td>Smith Lake BCA Documentation, p. 5</td>
</tr>
<tr>
<td><strong>Project Useful Life (PUL)</strong></td>
<td>The estimated amount of time (in years) that the mitigation action will be effective. The PUL is based on the type of mitigation. Based on the material service life for the HDPE N12 pipe, 50 years was used as the PUL.</td>
<td>Estimation provided by material provider</td>
<td>Smith Lake BCA Documentation, p. 4 &amp; pp. 14-27</td>
</tr>
<tr>
<td><strong>Facility Type</strong></td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Value of Services: Utilities</strong></td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Value of Services: Roads/Bridges</strong></td>
<td>Loss of service associated with this project is based on FEMA standard values for loss of road service. Loss of service is identified along Hwy 15. An alternative route was provided to show the estimated detour.</td>
<td>FEMA Standard Values for Loss of Service and documentation of alternative routes</td>
<td>Smith Lake BCA Documentation, pp. 1-2</td>
</tr>
<tr>
<td><strong>Non-Residential Buildings</strong></td>
<td>The grain elevators damaged by flooding are privately owned and would not disclose information on their annual income. An</td>
<td>Estimation provided by engineering firm</td>
<td>Smith Lake BCA Documentation, p. 10</td>
</tr>
</tbody>
</table>

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Lessons Learned: Documentation

Documentation

- All FEMA Region VIII Requests for Information (RFI) are documented and included in the appropriate project folder
Cass County Acquisitions
Cass County, ND along the Red River of the North

This project is the acquisition of 32 structures susceptible to flooding along the Red River of the North in areas north, west, and south of the City of Fargo.
Cavalier Riverbank Stabilization
City of Cavalier

The project consists of the stabilization of riverbanks adjacent to roadways at four separate locations along the Tongue River within the City of Cavalier.
Thank you

If you’d like to find out more visit: www.atkinsglobal.com

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