Reaffirming Feasibility for Post Authorized Projects

Application and Report Preparation

May 31, 2018
References

- National Watershed Program Manual
- Economics Handbook Part 611
- Civil Works Construction Cost Index System (CWCCIS)
- EJ Screen
- National O&M Manual
- NRCS Economics Website
To be covered

- What is Reaffirming Feasibility?
- Factors to consider in analysis
- Considerations for evaluating factors
- Interdependency of factors in decision making
- Determinations for next steps
- Report preparation for submittal to National Program Manager
Reaffirming Feasibility

- Located in NWPM 504.1D
- NEPA document should be reviewed to see if it is still valid
- Needed also when:
  - Change in sponsor
  - Change in project features
  - Change in land use or resource concerns and/or impacts?
  - Request for design funds
  - Request for construction funds
- Analysis completed with available personnel
- Prepare a modification to remove infeasible work or re-evaluate work for changed conditions (Part 503, subpart A)
- Prepare a Project Completion Report if necessary (Part 504, subpart C)
Reaffirming Feasibility of an Authorized Project

NWPM 504.1 D

Authorized Project

<table>
<thead>
<tr>
<th>Sponsor Commitment?</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socially Feasible?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Environmentally Feasible?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Economically Feasible?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
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Watershed Plan Modification
NWPM Part 503

<table>
<thead>
<tr>
<th>Revised Plan</th>
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<tbody>
<tr>
<td>Project Completion</td>
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</table>

Supplemental Plan

Exchange of Correspondence

Removes All Remaining Measures?

NO

YES

Environmentally Feasible?

NuPM Part 503 Subpart C

Socially Feasible?

YES

YES

NO

NO

NO

NO

NO

YES

YES
Factors of Feasibility

• **Economic**
  - Does the project or works still have net benefits?
  - Has land use changed resulting in changes in benefits or costs for works?

• **Environmental**
  - Does the exiting environmental document reflect current conditions?
  - Will the project site require mitigation not covered by original or supplemental plan?

• **Social**
  - Do the works protect all groups equally?
  - Do the works meet safety and performance standards for current conditions?

• **Sponsor Check**
  - Does the sponsor(s) meet NWPM 500.11 requirements?
  - Is sponsor current on O&M requirements with all other PL 83-566 investments
  - Is the Sponsor ready, willing, and able to move to design and construction
Analysis of Sponsor Commitment

• Review plan for remaining works of the original or last supplement
• Review existing O&M agreements with the sponsors
• Check sponsor responsibilities of 500.11 relative to needs for current request.
  • Design funding request should focus on review of current works O&M (NOMM 500.14)
  • Check enforcement of existing land rights and easements (NOMM 500.13)
  • Review Sponsor progress towards getting land rights, etc. that is part of construction (Project Agreement)
Social Feasibility

- Review plan for remaining works location
- Review design classification and level of protection of works
- Use EJScreen to identify location of Environmental Justice groups relative to proposed works to be installed.
- Check land use change upstream and downstream to determine if proposed works are still feasible
Analysis of Environmental Factor

• Review plan remaining works to determine if NEPA issues need to be addressed

• Changes in impacts or resources
  • Environmental concerns
  • Significant new circumstances

• Check State Historic Preservation Office (SHPO) and Tribal Historic Preservation Office (THPO) Databases

• Check Endangered Species Act (ESA) Database

• Are current conditions and concerns still valid based on Plan analysis?
Analysis of Economic Factor

- Review Plan and Economic tables to identify all costs including separable costs
- Economic and Structural Tables
  - Some works grouped in average annual benefits and costs
  - Some works are in table with average annual benefit and costs by individual structure or on reach basis
  - Multiple purpose dams are normally broken out for benefits and costs

- Is data available to further refine costs of individual works other than in original or supplemental plan?
- Land use change effects on planned benefits
- Criteria change on works since cost were developed
Report for Reaffirming Feasibility

- Stepwise process for evaluating works
- Process is designed to be completed by available “in-house” staff
- Manual guidance is for reaffirming all remaining works
- Analytical results will be to continue implementation or some form of plan modification
- Feasibility check is prepared separately for design and construction phases (Why?)
  - Different design than the preferred action in the Plan
  - Cost increase that result in negative net monetary benefits
  - Change in T&E Species list
  - Change in SHPO or THPO known sites
Example Project

- Using watershed plan with 1997 cost
- Plan purposes are flood damage reduction and watershed protection
- Flood damage reduction work of improvement is concrete channel lining
- Watershed protection works are accelerated land treatment
- Reaffirming Feasibility Report information will be disclosed as part of the sample

**Assumptions:**
- Accelerated land treatment is complete
- Remaining work to be installed is the channel lining
Report Initial Information

- Location – State, Counties, Watershed(WS) Name, WS#
- Authorization Date of Plan
- Last Plan Supplement Date and #
- Reason for the Report – General check, Design or Construction
- Section with remaining works and any land use change information
- The economic section table will provide a column to identify the proposed works for the request.

Remaining sections
- Sponsor Check
- Economic Feasibility
- Social Feasibility
- Environmental Feasibility
- Result and Decision
Reaffirming Feasibility Report
(Draft Report format 5-16-2018)

1. Watershed information including location, name, and number
   State: · _____ → Counties: · _______________________________________
   Watershed plan Name: · __________________ → WS Number: · _______

2. Date of Plan Authorization: · _______________

3. Last Plan Supplement date: · ______________ and Supplement Number: · _______

4. Reason for the Report (Check one)
   General Review •
   → Request Design funding: _____ • Request Construction funding: _____

5. Describe the land use changes for each works of improvement that remain to be installed that have occurred since the last plan or supplemental plan. These changes could include development of residential homes, critical structures and facilities, conversions from forests to row crops, etc. that could impact remaining works as planned.
   a. Work of Improvement #1
Report – Sponsor Commitment

• Does Sponsor(s) meet all requirements of NWPM 500.11?
• Sponsor with existing PL 83-566 O&M agreements
  • What is # of O&M agreements
  • How many O&M agreements are not in compliance
  • Status of required land treatment above reservoirs
• Status of Sponsor Responsibilities for Proposed Works?
  • What is status of land treatment above a proposed reservoir?
  • Status of required permits and licenses?
  • Status of land rights:
    • Acquisition of land rights or easements
    • Land rights or easements on prohibition of habitable structures in floodway
    • Land rights or easements on areas of induced flooding downstream
    • Land rights or easements on areas of induced flooding upstream
    • Signed ADS-78
Report – Sponsor Commitment (Continued)

- **Financial Resources**
  - Does sponsor have a tax base large enough to pay for construction?
  - Does sponsor have funds for O&M?

- **Status of Rural Development Loans under 7CFR1781 (NWPM 504.13) or Advance of funds from NRCS (NWPM 504.14)**
  - What is loan type?
  - Does it require repayment prior to construction of works such as a real property loan?
  - What is loan status?

- **Status of Sponsor Commitment**
  - Recommend removing sponsor or works?
  - Recommend adding a sponsor to meet requirements
  - State what parts of a modification are needed?
  - Is Sponsor ready, willing and able to participate (including to exercise eminent domain if necessary)
Report – Sponsor Commitment

Rationale for Content

- Sponsor or Sponsors are to meet all applicable requirements of 500.11
- Sponsors are responsible for monitoring and enforcement of O&M activities including easements (NOMM 500.13)
- STC is to address all suspected O&M violations (NOMM 500.14A)
Report – Sponsor Commitment
Rationale for Content

• **STC is to take action when SLO fails to correct violation (NOMM 500.14B)**
  - STC should consult with Office of General Counsel (OGC) as appropriate
  - Withhold all future technical and financial assistance
  - Require the sponsor/land user reimburse the government for the USDA financial assistance provided for the practice
  - Initiate action to result in loss of USDA program benefits by law or regulation
  - Definite OGC assistance
    - NRCS correct deficiency and recover costs from SLO/Landowner
    - Bring legal action against SLO/Landowner
    - Take additional action as authorized by law or regulation to protect the interest of the general public.
Report – Social Feasibility

• Review plan for remaining works location and design classification and compare this to EPA’s EJ Screen results
• Do planned works negatively impact Environmental Justice groups?
• Has land use change resulted in hazard class change or are there critical structures not addressed in the plan?
Report – Social Feasibility (continued)

• **Status of Social Feasibility**
  • Will implementation of works negatively impact EJ groups?
  • If so, it is recommended to:
    • Remove works
    • Request plan modification and an exception to NED (as necessary)
  • Will implementation of planned works result in public safety issue?
    • Are houses in proposed location of a reservoir
    • Are houses now in the downstream breach inundation
  • If so, it is recommended to:
    • If costs increases occur due to land use change then the information should update the economic feasibility?
    • Request plan modification if still viable after revising costs?
EJ Screen Analysis

• EPA on-line tool to assist in locating and assessing impacts of EJ groups
• Tool use environmental and demographic information
• The map generation capability allows layering of data to assist in EJ analysis
EJ Screen Analysis (Continued)

• Example - Public housing layer
• Circled objects denote Public Housing on EJScreen map
• Prior to 1994 EJ Executive Order this section of channel work could be left out based on monetary net benefit analysis.
• Could stop above or begin below this section of channel
• The project was installed based on a 0.4:1.0 B/C Ratio
• Question: Does plan need to be modified to add protection to meet executive order?
Report - Environmental Feasibility

- Changes to impacts or resources
  - Environmental concerns
  - Significant new circumstances
- Prepare a CPA-52 to document impacts to the human environment and NEPA check with NECH 610.134 (competed sample 610.135)
- Does SHPO Database or site check show new sites that may affect implementation of remaining works?
- Does ESA Database or site check identify T&E species or occurrence of their critical habitats?
- Have field visit to evaluate potential concerns
- Determine if effects of works in plan preferred alternative cover current conditions and concerns
- If not, determine modification, level of effort, or added planning needed
Report - Environmental Feasibility (Continued)

• If not, determine modification, level of effort, or added planning needed

• Status of Environmental Feasibility:
  • Will implementation of works negatively impact Human Environment different from plan effects?
  • If so, it is recommended to:
    • Remove works
    • Request plan modification

• If CWA permit is required contact USACE about per unit mitigation costs.
Analysis of Economic Factor

- Review Plan and Economic tables to identify all costs including separable costs

- Economic and Structural Tables
  - Some works grouped in average annual benefits and costs
    - Table 3 data could have 5 dams with same drainage area controlled
    - Dams allocate by % control in mi² or flood storage
  - Some works are in table with average annual benefit and costs by individual structure or on reach, section, or land capability class basis
    - Multiple purpose structure
    - Sections of Channel
  - Sometimes the discount rate is not reported – Check NRCS Economic Site
Analysis of Economic Factor (Continued)

- Check Investigation and Analysis Appendix for installation schedules and benefit information if not in body of text for plan.
- Is data available to further refined costs of individual works other than in original or supplemental plan?
- Land use change effects on planned benefits.
- Criteria change on works since cost were developed.
# Price and Cost Indexing

<table>
<thead>
<tr>
<th>Index</th>
<th>Application</th>
<th>Issues</th>
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<tr>
<td>Consumer Price Index (CPI)—</td>
<td>benefits other than agriculture, recreation</td>
<td></td>
</tr>
<tr>
<td>Prices received by farmers—</td>
<td>ag benefits</td>
<td>Production rate change</td>
</tr>
<tr>
<td>Prices paid by farmers—</td>
<td>ag costs</td>
<td>Production more capital intensive</td>
</tr>
<tr>
<td>Composite construction cost—</td>
<td>structural costs</td>
<td>Not for Ag works</td>
</tr>
<tr>
<td>Construction cost composite fixed-weighted price—</td>
<td>structural costs</td>
<td>Not for Ag works</td>
</tr>
<tr>
<td>Engineering News Record (ENR)—</td>
<td>Structural costs</td>
<td>Not for Ag works</td>
</tr>
<tr>
<td>Land Value Index</td>
<td>Ag benefits and costs</td>
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</tr>
</tbody>
</table>
Alternative Index for Costs – CWCCIS

- US Army Corps of Engineers
- Index by Work Type
  - Relocation (2)
  - Dams (4)
  - Levees & Floodwalls (11)
  - Pumping Plant (13)
  - Recreation Facilities (14)
  - Cultural Resource Preservation (18)
  - Composite
- Forecast index 38 years back and 30 years forward (1980 to 2047)
- Forecast by quarter or year
- Allows Indexing across state lines (pages A47-A49)
Economic Check - Benefits

Questions

- How are benefits allocated by site, by land suitability class, aggregated by purpose, etc.?
- Does land use represent as-planned conditions?
  - Has land been retired in a land easement program?
  - Has land turned from ag land to residential or commercial?
- Determine if ag benefits can be allocated by:
  - Production increases (PPRI)
  - Cost reduction (PPPI)
- Questions:
  - Does plan need to be modified due to permanent loss of available crop land?
  - Does plan need to be modified due to residential or commercial encroachment?

Follow Economic Handbook Part 611 to index benefits if benefits represent the as-planned condition (611.0100 and 611.0101)
Economic Check - Cost

• General
  • Determine cost changes due to land use change or social issues
  • Determine cost changes due to mitigation needs
  • Use Economic Table 2 and Table 2a nominal data and not Table 4

• Design Request
  • Simple check of updated cost from planning
  • Costs to include:
    • Design
    • Construction
    • Land rights, mineral (water) rights, easement costs, and relocations
    • Additional study costs – Geotech, etc.
    • Mitigation cost not in design
    • Administration and Design review
• **Construction Request**
  • Simple check of updated cost based on design
  • Under this request the design cost is sunk cost to decision making
  • All other costs that have occurred relative to decision making are also sunk cost
  • Mitigation cost that have not occurred
  • Only use updated construction cost based on final design and any remaining cost items that may be outstanding at time of decision.
  • Administration and Construction Inspection
  • WHY?
## Price Indexes

<table>
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<th>Source</th>
<th>1997 Value</th>
<th>2018 Value</th>
<th>Factor</th>
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<tbody>
<tr>
<td>ENR</td>
<td>5,826.00</td>
<td>11,012.77</td>
<td>1.8903</td>
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<tr>
<td>CPI</td>
<td>160.50</td>
<td>250.55</td>
<td>1.561</td>
</tr>
<tr>
<td>PPPI</td>
<td>58.10</td>
<td>106.60</td>
<td>1.8348</td>
</tr>
<tr>
<td>PPRI</td>
<td>65.60</td>
<td>94.90</td>
<td>1.4466</td>
</tr>
<tr>
<td>Land Value</td>
<td>NOT for Urban areas</td>
<td>2.6164</td>
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<tr>
<td>USACE</td>
<td>Channel (09)</td>
<td>492.16</td>
<td>901.74</td>
</tr>
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<td></td>
<td>Composite</td>
<td>472.17</td>
<td>852.98</td>
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</tbody>
</table>
Sample Benefit Update for Watershed Protection – Table 5a

- Benefits for land treatment elements
- Using indexes from Economic Handbook Part 611
- On-site is ag index related
- Off-site is construction or consumer related
- PPRI can be replaced with land value index
- Issue is installation rate or years affecting benefits

<table>
<thead>
<tr>
<th>Table 5a</th>
<th>Value</th>
<th>Index Name</th>
<th>Index Value</th>
<th>Total</th>
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<tbody>
<tr>
<td><strong>On-site (Ag)</strong></td>
<td></td>
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<tr>
<td>Long term</td>
<td>$49,100</td>
<td>PPRI</td>
<td>1.4466</td>
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<tr>
<td>productivity</td>
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<tr>
<td>Concurrent Damage</td>
<td>$25,400</td>
<td>PPPI</td>
<td>1.8348</td>
<td>$46,600</td>
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<tr>
<td>Reduce Variable Cost</td>
<td>$93,600</td>
<td>PPPI</td>
<td>1.8348</td>
<td>$171,700</td>
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<tr>
<td><strong>Off-site (Non-Ag)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Sedimentation</td>
<td>$41,000</td>
<td>ENR</td>
<td>1.8903</td>
<td>$77,500</td>
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<td>Recreation</td>
<td>$32,800</td>
<td>CPI</td>
<td>1.5610</td>
<td>$51,200</td>
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<tr>
<td><strong>Total</strong></td>
<td>$241,900</td>
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<td>$475,500</td>
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</table>
Sample Cost Index for Table 2a for Urban Flood Prevention Element using Part 611

- Use nominal values and convert to average annual
- Using urban flood work costs
- Using indexes from Economic Handbook Part 611
- Index component separately
- Construction work based ENR
- Items with personnel use CPI

<table>
<thead>
<tr>
<th>Items</th>
<th>1997</th>
<th>Index Name</th>
<th>Index Value</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Lining</td>
<td>$3,278,600</td>
<td>ENR</td>
<td>1.8903</td>
<td>$6,197,500</td>
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<tr>
<td>Engineering Services</td>
<td>$438,500</td>
<td>CPI</td>
<td>1.5610</td>
<td>$684,500</td>
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<tr>
<td>Land Rights</td>
<td>$47,600</td>
<td>CPI</td>
<td>1.5610</td>
<td>$74,300</td>
</tr>
<tr>
<td>Project Administration</td>
<td>$147,600</td>
<td>CPI</td>
<td>1.5610</td>
<td>$230,400</td>
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<tr>
<td>Total</td>
<td>$3,912,300</td>
<td></td>
<td></td>
<td>$7,186,700</td>
</tr>
</tbody>
</table>

Lands is an outlier here. Consider estimating based on local generated cost or rate caps for NRCS land easement programs depending on land class being urban versus rural.
Sample Cost Index for Table 2a for Urban Flood Prevention Element using CWCCIS

- CWCCIS has a channel item which is 9 for use in cost indexing
- The CWCCIS Composite is being used for other cost items

<table>
<thead>
<tr>
<th>Items</th>
<th>1997 Value</th>
<th>Index Name</th>
<th>Index Value</th>
<th>2018 Value</th>
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<tbody>
<tr>
<td>Channel Lining</td>
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<td>Channel (09)</td>
<td>1.8322</td>
<td>$6,007,100</td>
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<td>Engineering Services</td>
<td>$438,500</td>
<td>Composite</td>
<td>1.8065</td>
<td>$792,200</td>
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<tr>
<td>Land Rights</td>
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<td>Composite</td>
<td>1.8065</td>
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<td>Project Administration</td>
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<td>Composite</td>
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<td>$266,600</td>
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<td>Total</td>
<td>$3,912,300</td>
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<td>$7,151,900</td>
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## Average Annual Value Analysis

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<thead>
<tr>
<th>Year</th>
<th>Eval Yr</th>
<th>PV Factor</th>
<th>Install $</th>
<th>Amort Factor</th>
<th>O&amp;M $</th>
<th>Benefit $</th>
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<tr>
<td>2019</td>
<td>-2</td>
<td>1.0558</td>
<td>$615,400</td>
<td>0.0295</td>
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<tr>
<td>2020</td>
<td>-1</td>
<td>1.0275</td>
<td>$6,536,500</td>
<td>0.0295</td>
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<td></td>
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<tr>
<td>Base</td>
<td>0</td>
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<td></td>
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<tr>
<td>2021</td>
<td>1</td>
<td>0.9737</td>
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<td>0.0295</td>
<td>$7,000</td>
<td>$173,200</td>
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<tr>
<td>2022</td>
<td>2</td>
<td>0.9481</td>
<td></td>
<td>0.0295</td>
<td>$7,000</td>
<td>$173,200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>98 more years</td>
<td></td>
<td>Same</td>
<td>Same</td>
<td></td>
</tr>
</tbody>
</table>

Construction=Sum \((PV \times \text{Install} \times \text{Amort} = \text{Average annual install})\)

Benefits=Sum \((PV \times \text{Benefit} \times \text{Amort} = \text{Average annual Benefit})\)

\(O&M=\text{Sum} \ ((PV \times O&M \times \text{Amort} = \text{Average annual Benefit})\)

**Short cut** for constant nominal values is to present value for first year and use as the average annual value. So, O&M and benefits it PV x $ value
Design vs. Construction Estimate

- Design has a share of administration, engineering, and land rights
- Construction has remaining admin, eng, and land rights for the year
- Doing a design calculation today would be 0.8:1.0 B/C

### Design Calculation

<table>
<thead>
<tr>
<th>DESIGN PHASE</th>
<th>AAB</th>
<th>AAC</th>
<th>AA Net Benefits</th>
<th>B/C Ratio</th>
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<tbody>
<tr>
<td>FY1997</td>
<td>$97,300</td>
<td>$270,600</td>
<td>($173,300)</td>
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<td>FY2018</td>
<td>$168,600</td>
<td>$224,100</td>
<td>($55,500)</td>
<td>0.8</td>
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</table>

AAB=Average Annual Benefits
AAC=Average Annual Cost

### Construction Phase

<table>
<thead>
<tr>
<th>CONSTR. PHASE</th>
<th>Year</th>
<th>2018 Cost</th>
<th>Index</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>2019</td>
<td>$615,400</td>
<td>1.0558</td>
<td>$649,700</td>
</tr>
<tr>
<td>Construction</td>
<td>2020</td>
<td>$6,536,500</td>
<td>1.0275</td>
<td>$6,716,300</td>
</tr>
</tbody>
</table>

CONSTR. PHASE

AAB=Average Annual Benefits
AAC=Average Annual Cost
Design vs. Construction Estimate (Continued)

- Design and cost estimate was correct.
- Sunk cost does not matter as long as net benefits are positive.
- If total cost are negative then minimize losses by not installing.
- Potential issue is bids estimates resulting in negative net benefits.

### Design Phase

<table>
<thead>
<tr>
<th>Year</th>
<th>2019 Cost</th>
<th>Index</th>
<th>Value</th>
</tr>
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<tr>
<td>FY1997</td>
<td>$97,300</td>
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<td>($173,300)</td>
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<tr>
<td>FY2019</td>
<td>$168,600</td>
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<td>($36,300)</td>
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### Construction Phase

<table>
<thead>
<tr>
<th>Year</th>
<th>2019 Cost</th>
<th>Index</th>
<th>Value</th>
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<tbody>
<tr>
<td>Design</td>
<td>SUNK COST</td>
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<tr>
<td>Construction</td>
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**AAB** = Average Annual Benefits  
**AAC** = Average Annual Cost
Sample of Shared Cost Data for Project Estimation using CWCCIS

- States can share information to assist in cost estimation
- State #1 channel cost is $217K average annual cost and $7.15M nominal in F2018
- State #1 cost factor = 80
- State #2 cost factor = 95

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<th>State #1</th>
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<td>FY2018 design estimate</td>
<td>$7,151,900</td>
<td>$8,492,900</td>
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<tr>
<td>FY2018 AA estimate</td>
<td>$217,000</td>
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Allocation of Benefits for Dams

TABLE 5

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<tr>
<th>Item</th>
<th>Estimated Average Annual Damage Without Project</th>
<th>With Project</th>
<th>Damage Reduction Benefits Within the Watershed b/</th>
<th>Annualized Damage Reduction Benefits Within the Watershed</th>
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<tr>
<td>Floodwater</td>
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<tr>
<td>Crop and Pasture</td>
<td>25,100</td>
<td>14,000</td>
<td>11,100</td>
<td>7,400</td>
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<td>Other Agricultural</td>
<td>1,100</td>
<td>500</td>
<td>600</td>
<td>400</td>
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<td>Nonagricultural</td>
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<tr>
<td>Road</td>
<td>8,500</td>
<td>1,700</td>
<td>6,800</td>
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<td>Railroad</td>
<td>1,000</td>
<td>500</td>
<td>500</td>
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<td>Bridge Construction</td>
<td>129,100</td>
<td>19,100</td>
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<td>Subtotal</td>
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<td>35,800</td>
<td>129,000</td>
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<td>Sediment</td>
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<td>Road Ditches</td>
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<td>Erosion</td>
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<td>Flood Plain Scour</td>
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<td>1,100</td>
<td>700</td>
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<td>Streambank/Upstream and Crossings</td>
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<td>Gullies</td>
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<td>Total</td>
<td>620,600</td>
<td>143,400</td>
<td>477,200</td>
<td>318,600</td>
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</table>

a/ Price base 1988
b/ Includes effects of required land treatment measures
Consider two allocation methods
- % control in Red
- % storage in Blue

The % is used for benefit allocation: $318,600 previous slide

Nominal benefits from plan are:
- Dam 19-8 - $4,100 per year
- Dam 20-7b - $9,700 per year

Go back to slide 36 and insert as benefit
Multipurpose Structure

- Key for multipurpose structure is it separated in Tables 2a and 6
- Use appropriate information such as % control of 22 single purpose small FWRs

<table>
<thead>
<tr>
<th>Evaluation Unit</th>
<th>Crop and Pasture</th>
<th>Fence and Debris</th>
<th>Commercial/Urban</th>
<th>Re-Route Traffic</th>
<th>Road and Bridge</th>
<th>Overbank Deposition</th>
<th>Swamping</th>
<th>Scour</th>
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<tbody>
<tr>
<td>22 Small FWR Structures</td>
<td>124,700</td>
<td>31,500</td>
<td>-</td>
<td>900</td>
<td>9,200</td>
<td>25,800</td>
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<td>Multiple-Purpose Reservoir</td>
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<td>12,200</td>
<td>34,100</td>
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</table>

b. From Table 4.
Strategies to Minimize Level of Effort in Reaffirming Feasibility

1. **Sponsor Check is priority.** Without a legal sponsor per 500.11 the project cannot move forward.

2. **Economic feasibility is the next check.**

3. **Social feasibility check for EJ and public safety.** Outcome could require an added check for economic analysis due to cost change.

4. **Environmental check can be done in two stages**
   1. Database check for ESA and cultural resources
   2. Addition of mitigation cost will need another economic analysis
   3. Completion of CPA-52

5. **Also, cost changes will require additional Sponsor coordination**

   **Note:** Check with NTSC or NWMC for assistance
**Decision**

- State Program Manager to work with state personnel for evaluation
- If one or more factors are determined infeasible then go to NWPM 503, Subpart A
- What kind of plan modification is needed
  - Revision
  - Supplemental Plan
  - Exchange of Correspondence
- If remaining works are removed from plan then go to NWPM 504, Subpart C for report project completion
Summary

- **Authorized projects need to reaffirm feasibility for determined**
  - Do the project works move forward to implementation
  - Does the project plan need some form of modification
  - Do the works need to be remove and project move to completion
- **Reaffirming Feasibility is not a full evaluation but an in-house check**
- **Big keys are to read plan to focus on works and installation time for works**
- **Economic assistance is available in two forms:**
  - Spreadsheet tool to assist in adjusting benefits and cost to today values (Still finalizing Sheet)
  - NTSC and NWMC Economists
  - Assistance is not a transfer of raw work
Questions

E-mail questions to George Townsley on the Economic and Social Feasibility, to David Heffington on Environmental Feasibility, and to Kevin Farmer, Jesse Wilson or Ralph Smith for Sponsor Commitment.