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Date: 19 November 2004
Northwestern Division
Omaha District

CONTINUING AUTHORITIES PROJECT FACT SHEET

- 1. Project:** Middle Fork of Powder River at Kaycee, Wyoming
PWI #: 179497
Congressional Delegation: Senator Craig Thomas
Senator Mike Enzi
Representative Barbara Cubin (At Large)
- 2. Authority.** Section 205 of the Flood Control Act of 1946, as amended
- 3. Location.** The study area is located in Kaycee, Wyoming (central Wyoming, approximately 65 miles north of Casper). The concentrated area of investigation is along the Middle Fork of the Powder River. See Figure 1. The population of Kaycee is currently estimated to be 249. The majority of the population and its commercial center reside within the 100-year flood plain.
- 4. Flooding Problem.** This section will discuss the most recent flood event that initiated the town of Kaycee's request for a Section 205 study and will also provide flooding history.

 - a. Recent Flood Event.** On August 27, 2002, an estimated four-foot wall of water swept through the Town of Kaycee, Wyoming from flooding in the Middle Fork of the Powder River. The damage in portions of Johnson County and specifically to Kaycee resulted from nearly 7.5 inches of rainfall that fell in portions of the Middle Fork of the Powder River Basin. Initial reports characterized the rainfall as a 500-year event; however, the follow up analysis indicates the event was in the range of a 100 to 200 year event. The intensity of the rainfall caused water torrents to sweep through the town causing residential and commercial buildings to be swept off of their foundations and careen into other buildings and float down river. A post flood analysis by the Wyoming Emergency Management Agency performed on August 28, 2002 reported the following flood damage: 19 trailers, 22 houses, and 12 of Kaycee's 15 businesses. Also affected were the post office, town museum, conservation district office, and the telephone company. A total of 52 buildings were deemed uninhabitable and a safety concern. 22 individual homes, 5 businesses, and 25 outbuildings and vacant businesses were removed for safety concerns. In addition to the devastation in Kaycee, damage to natural resources was reported 12 miles upstream and 30 miles downstream of the town. Estimates by the Natural Resources Conservation Service for emergency response costs totaled \$977,354, which included costs for debris removal, hazardous structure removal, emergency streambank protection, and road protection (this does not include the

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value of the lost and damaged buildings or the estimated 17,000+ hours of estimated time from volunteers in the flood recovery effort). On August 30, 2002, Wyoming Governor Jim Geringer requested disaster relief from President George Bush and the provisions of Section 201 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121-5206 (Stafford Act) and implemented by 44 CFR 206.36. The disaster declaration states “this Wyoming community lost 80% of their businesses (12 out of 15) and 30 – 35 % of their homes”. On September 18, 2002, the Federal Emergency Management Agency informed Governor Geringer that their request for assistance was denied because “the impact of this event is not of a severity and magnitude that warrants a major disaster declaration and that an effective response would not exceed the combined capabilities of the State and local governments”. Governor Geringer responded to President Bush and FEMA Director Joe Allbaugh on October 3, 2002 asking FEMA and the Federal Government to reconsider the minimum standards for disaster declaration stating that under current FEMA standards “seventy six percent of Wyoming towns and cities might each suffer a devastating event and not qualify under FEMA criteria”. See Attachment 1 for copies of the request letter and response letter for disaster assistance.

b. Past Flood Events. Records show flooding has occurred in the following years in the Town of Kaycee: 1927, 1930, 1963, 1978, 1985, 1993 (3 floods), 1995 (3 floods), 1996, (2 floods), and the aforementioned flood of 2002.

5. Alternative Plans Considered. Alternative plans considered are discussed as follows.

- a. No Action
- b. Upstream Detention or storage
- c. Levees/Flood walls
- d. Diversion/Cutoff Channels/Channel Clearing
- e. Nonstructural (raising, flood proofing, relocation)

6. Description of Recommended Plan. The plan recommended consists of nonstructural measures to a small sampling of residential buildings and a business that were determined to be economically feasible. This measure will be fully evaluated for all the flood plain buildings in the detailed feasibility study phase.

a. **Description** – The measure entails the modification of individual buildings to prevent or reduce flood damages. From the sampling of all flood plain buildings, six potentially high damage buildings were identified. The six were investigated to determine if nonstructural mitigation would be feasible. The buildings consisted of a commercial store, three one-story houses without basements, a mobile home, and a two-story house without basement.

The results indicate that the measures would be feasible to implement. This would be done through raising, dry flood proofing, or relocating four of the six buildings investigated. All combined, the cost estimate to implement these

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measures is \$197,380. The total annual benefit is estimated to be \$35,760. The annualized cost, as amortized over the appropriate building life at 5.375 percent, is \$15,870. Overall benefit-cost ratio is 2.3 with a net benefit of \$19,890.

Additional detailed nonstructural analysis in the existing flood plain could identify other economically feasible buildings.

b. **If not the NED plan, briefly describe NED Plan and rationale for not recommending** – The plan providing the greatest net benefit, and becoming the NED plan, is the South levee. The community has been interested in pursuing levees. Specifically for the opposite left bank flood plain. However they were not economically feasible. The South levee does not meet the objectives and needs for the town.

7. Views of Sponsor. The town of Kaycee requested assistance under Section 205 in a letter to Omaha Districted dated October 15, 2002. In the letter, the town stated a willingness to participate per the requirements of the program. In addition, the community has shown a willingness to address and correct the problem by the emergency response action and other actions performed since the flood, including updating mapping for the town, relocating utilities, and coordinating with multiple agencies for assistance. The town had initially requested that levees be examined. However, during the preliminary assessment the left bank levees failed the benefit-cost requirement for a Federal interest. And the right bank levee, which is economically feasible, did not fully meet the needs of the community. The town is interested in pursuing the nonstructural plan.

8. View of Federal, State, and regional Agencies. Multiple agencies have actively responded to the latest flood event for the town of Kaycee. In particular is the State of Wyoming Natural Resources Conservation Service that produced a joint report with the Omaha District of the Corps. Responding agencies and efforts are shown in Table 1. The response and effort provided by these agencies is an indicator of the level of interest from multiple stakeholders to help the town recover and the willingness to investment in providing a long-term solution to the flooding problems. In addition, elected officials from the State of Wyoming as well as the entire Congressional delegation from the State have been actively involved since the most recent flood event and have been very interested in the agencies involved working together to find solutions to reduce potential damages from future floods on the Middle Fork of the Powder River.

Table 1. Responding Agencies

RESPONDING AGENCIES	TYPE OF INVOLVEMENT	STATUS
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State of Wyoming Natural Resources Conservation Service	Emergency Response, Flood Damage Reduction study thru PL-844	Emergency response complete. FDR efforts ongoing
Wyoming Emergency Management Agency	Emergency Assistance, communication support	Complete
Johnson County	Heavy equipment, manpower, flood plain management assistance	Initial efforts complete. Flood plain efforts ongoing
Small Business Administration	Low interest disaster loans	Ongoing
U.S. Army Corps of Engineers	Flood Damage Reduction thru Section 205 program	Ongoing
Federal Emergency Management Agency	Flood plain mapping thru National Flood Insurance Program	Ongoing
Wyoming Department of Transportation	Bridge inspection, road repair, road diversions	Complete
Wyoming Department of Health	Health, welfare, and environmental issues	Ongoing
Wyoming Department of Environmental Quality	Water testing, sewage issues and operations, hazardous material, permits for landfill	Ongoing
Wyoming National Guard	Personnel for debris operations and communication	Complete
Wyoming Business Council	Community survey support	Complete
Wyoming Department of Family Services	Community survey support	Complete
Red Cross	Temporary shelter, food, and water	Complete

9. Status of Environmental Statutes Compliance. A site inventory has been completed and a few restoration opportunities have been identified that may be within the scope of this project. Agency coordination has not yet begun. An environmental assessment will be performed during the feasibility phase. All other applicable environmental regulations will be complied with during the study, design, and construction of the project.

10. Significant Effects. A feasible flood reduction plan would remove several high damage buildings from this harm. Further effects will be determined during the feasibility phase of the study.

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11. Implementation Schedule. A schedule of major milestones for completion of the Section 205 will be completed in conjunction with a detailed scope of work developed for the feasibility study.

12. Supplemental Information.

a. Agency Cooperation. The town of Kaycee requested assistance under the Section 205 authority in a letter to the Army Corps of Engineers (COE), Omaha District, dated October 15, 2002. The town also requested watershed planning assistance through the Powder River Conservation District (PRCD) and the Natural Resources Conservation Service (NRCS), on October 8, 2002. NRCS and COE both determined that it would be advantageous to cooperate in the development of a preliminary report for the town of Kaycee. The following items were developed during the preliminary study for future consideration and evaluation:

b. Flood Plain Mapping. The Town of Kaycee does not have a designated FEMA flood plain map. There exists a FEMA “Special Flood Hazard” map available, however, it is outdated and probably does not reflect the existing flood hazard in the community. The Omaha District has been contacted by FEMA to develop a detailed flood plain map for the community. Currently the COE is awaiting topographic information to continue the flood plain assessment.

c. Lack of Disaster Declaration. The denial by FEMA of Kaycee’s request for disaster declaration was not acceptable to the community. As detailed in this report, the town sustained extensive damage to homes and businesses that will require assistance from outside sources to rebuild. However, the community sought help from other agencies, particularly in the area of flood damage reduction. Currently, the COE, the NRCS in Wyoming, and FEMA floodplain management have teamed up to determine the best course of action for the community from the Federal perspective and involvement. In addition, the town is committed to rebuilding and to be consistent with current floodplain management guidance and directives (such as removals, buyouts, open space floodplains, alternate uses of floodplain, etc.). This effort is an opportunity to assist a community to prevent the devastation and potential loss of life as occurred in the flood of August 2002.

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TABLE 1

ECONOMIC AND FINANCIAL DATA FOR RECOMMENDED PLAN			
a. Estimated Implementation Costs: (\$197,380 at 2004 Price Levels)		b. Economic Data: (5.375%, 50 year life)	
Federal	\$128,300	Annual Charges: \$ 15,870	
Non-Federal		(Includes \$2,450 OM&R; Fed OM&R = \$ 0)	
LERRD \$ 10,000			
Cash \$ 59,080			
\$ 69,000		Annual Benefits: \$ 35,760	
Total \$197,380		BCR: 2.80	
c. Cost Allocation:			
Project Purpose	Federal	Non-Federal	Expected Annual Benefits
Flood Reduction	\$ 128,300	\$ 69,080	\$ 35,760

Total	\$ 128,300	\$ 69,080	\$ 35,760
d. Allocations to Date:			
	Federal	Non-Federal	
Feasibility, etc.	\$ 51,000	-	

Total	\$ 51,000	-	
e. Remaining Requirements:			
	Federal	Non-Federal	
Feasibility	\$ 49,000	\$ 50,000	
Construction	<u>TBD</u>	<u>TBD</u>	

Total	\$ 100,000	\$ 50,000	
f. Total Allocations:			
	\$ 100,000	\$ 50,000	
g. Future Non-Federal			
Reimbursements:	\$ -	\$ -	
h. Cost:			
	\$100,000	\$50,000	

i. Note: Total plans and specifications cost is initially Federally financed, and distributed as part of the local share of project costs during construction.

j. Note: The local sponsor is providing \$ N/A in associated costs for N/A. (example: deepening of berthing areas. Betterments are not part of the project costs.)

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Figure 1

Location Map for Kaycee, Wyoming

