

Preliminary Results

Fargo-Moorhead Metro Feasibility Study
Initial Screening Results, October 2009
Screened Alternatives Ranked by Net Benefits

Alternative	First Cost *	Avg Annual Net Benefits *	Residual Damages *	B/C Ratio	Downstream Impacts **
MN Short Diversion 25K	962	11.0	14.3	1.22	2.4
MN Short Diversion 35K	1,092	9.4	9.3	1.17	2.5
Levee 1% chance (100-year)	902	7.7	20.9	1.17	?
MN Long Diversion 25K	1,055	5.6	15.0	1.10	?
MN Short Diversion 45K	1,264	2.5	7.4	1.04	3.0
MN Long Diversion 35K	1,260	0.3	9.8	1.00	?
ND East Diversion 35K	1,337	-3.1	9.2	0.95	4.1
ND West Diversion 35K	1,363	-4.4	9.2	0.94	?
Levee 2% chance (50-year)	840	-5.3	37.1	0.88	?
ND West Diversion 45K	1,439	-6.7	7.6	0.91	?
MN Long Diversion 45K	1,459	-8.3	8.2	0.89	?

* In millions of dollars
** Inches during 1% Chance flood (100-year)
Note: Expected average annual damages without a project are \$73.7 million.

05 November 2009 4



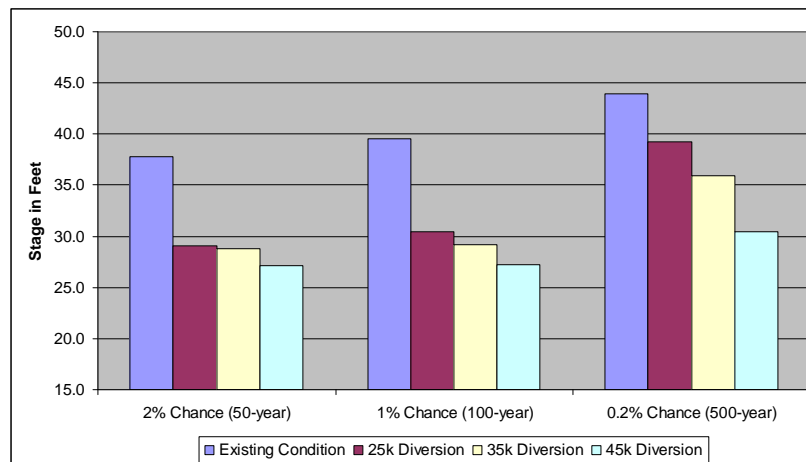
Preliminary Results Effects of Diversions

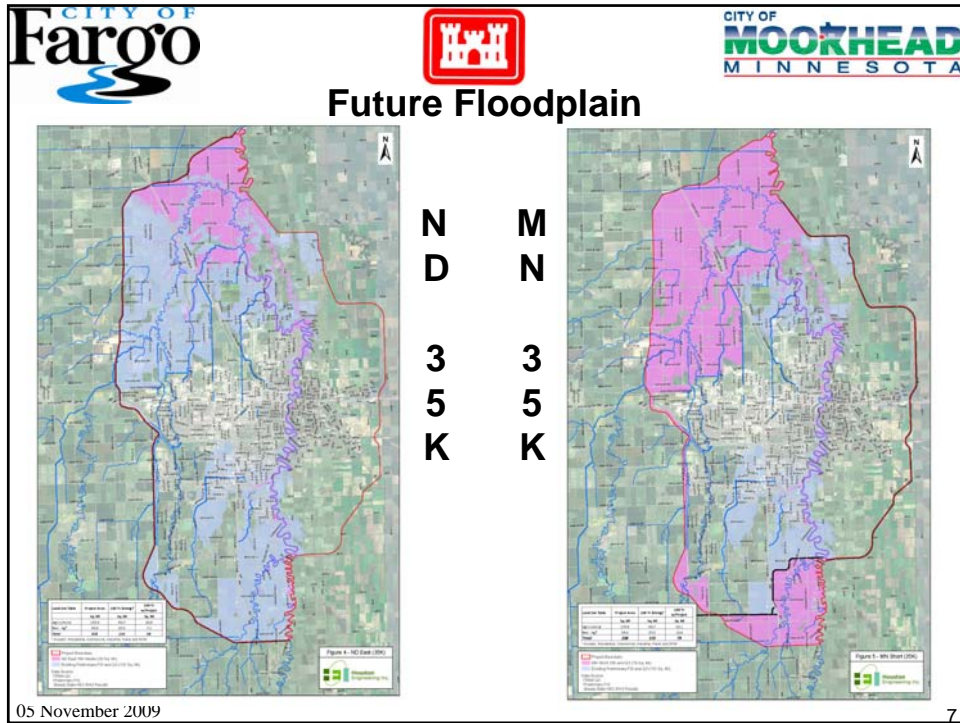
	STAGE at the FARGO GAGE		
	2% Chance (50-year)	1% Chance (100-year)	0.2% Chance (500-year)
Existing Condition	37.8	39.5	43.9
25k Diversion	29.1	30.4	39.2
35k Diversion	28.8	29.2	35.9
45k Diversion	27.1	27.2	30.4



Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage



Preliminary Results Effects of Diversions





- 

- ## Path Forward
- ✓ **Uncertainties:**
 - ✓ Natural Resource impacts (fish passage – greater for ND diversion alignments)
 - ✓ Mitigation costs not accounted
 - ✓ Sub-Committee developed to work with resource agencies on issues.
 - ✓ Additional project benefits – ND diversion provides benefits from other rivers
 - ✓ Number 1 priority
 - ✓ Impacts to upstream/downstream landowners
 - ✓ Known levee impacts (0.8 feet upstream for 100-year, costs not calculated)
 - ✓ Unknown diversion impacts (range from 1.5-3.0 inches on MN diversion, costs not calculated)
 - ✓ **Upcoming Tasks**
 - ✓ Develop additional benefit information
 - ✓ Develop costs for any negative impacts
 - ✓ Develop additional capacity alternatives
 - ✓ Refine alignments
- 05 November 2009 8

Path Forward

- ✓ **Recommend further analysis of:**
 - ✓ **Minnesota Short Diversion Alignments**
 - ✓ Develop new 20K, 30K, 40K capacities
 - ✓ Update 25K & 35K capacities with new hydrology
 - ✓ Optimize
 - ✓ **North Dakota East Alignment**
 - ✓ Determine extra benefits from tributary floods
 - ✓ Depending on extra benefits decide with sponsors on path forward
 - ✓ **Levee Alignments**
 - ✓ Develop additional levee profiles – 1.5% chance (75-year)

Local Decision Makers

- ✓ **Review Questions**
 - ✓ What level of risk is tolerable?
 - ✓ What locally preferred options need to be retained?
 - ✓ Need local decisions by December 1, 2009
 - ✓ Identify sponsors for construction and ongoing O&M
 - ✓ Define non-federal cost sharing arrangements
 - ✓ Non-federal share of the NED plan will be 35-50% of costs
 - ✓ All costs in excess of the NED plan are 100% non-federal
 - ✓ Develop local consensus



Contact Information

Aaron M. Snyder

Project Manager/Planner, Regional Technical Specialist
St. Paul District, U.S. Army Corps of Engineers

Aaron.M.Snyder@usace.army.mil

651-290-5489

Craig O. Evans

Senior Project Manager/Planner, Regional Technical Specialist
St. Paul District, U.S. Army Corps of Engineers

Craig.O.Evans@usace.army.mil

651-290-5594