EXAMPLE 5 CONSERVATION MANAGEMENT SYSTEM GUIDANCE DOCUMENT

LOCATION (MLRA AND NRD): Little Blue and Eastern Lower Republican NRD's MLRAs 73, 75

RESOURCE SETTING: Dryland Cropland Crops: Milo, Wheat, Alfalfa; Soils: LCC IIIe including GaC, GgC, HcC, HgC, HhC2, HrC soil map units; Annual Precipitation 22-26 inches, moisture is usually lacking in the summer during peak ET, and rainfall often comes in short intense spring and early summer storms; Wildlife: Potential for Pheasant, Quail, Deer, and other wildlife; Domestic Livestock: Fall gleaning of milo stubble by cow/calf herd.

BENCHMARK RESOURCE PROBLEMS (EXISTING CONDITIONS)

Soil:	Sheet and rill erosion 3-4 times tolerable level, ephemeral gullies in drainage courses, poor soil conditions (low organic matter), compaction layer, sediment deposition on and off-site
Water:	Excess runoff, excessive moisture loss, surface water contamination of sediment and herbicides.
Air:	Airborne smoke
Plants:	Low crop yields, excessive annual broadleaf and grass weeds, nutrients are not available as needed (low pH causes poor legume yield).
Animals:	Lack of food, cover, and shelter for upland wildlife.
Human:	Traditional operator that is resistant to complete no-till system is interested in nutrient and pest management and crop yield improvements. Family farm that would like to maintain or improve worth of land and economic return.

CONSERVATION MANAGEMENT SYSTEM (list practices to be applied and maintained and where they are applicable)

Planned Practices	**Practice Description**
328 Crop Rotation	3 years wheat, followed by 3 years of milo (no fallow)
329AResidue Management no-till	No-till milo (rent drill) into wheat stubble. No-till wheat into corn/milo stubble (short season milo) if moisture is adequate by October 10.
329BResidue Management-Mulch till	Mulch till wheat into wheat leaving 10% cover, mulch till milo into milo stalks leaving 20% cover.
330 Contour Farming	Follow terraces
386 Field Border	Grass Steep Endrows
412 Grassed Waterway	Establish in concentrated flow areas, eliminate end rows along waterways and field borders. Underground outlets may be used to eliminate some waterways.
590 Nutrient Management	Soil test at least every other year based on soil types, past management, and other considerations. Apply N, P, etc. and possibly Lime as needed.
595 Pest Management	Rotate herbicides, reduce rates of atrazine on milo, and watch for herbicide carryover when rotating wheat, use IPM/pest scouting program for weed control.
600 Terraces	Graded or Tile outlet terraces

RESULTS OF MANAGEMENT ACTIONS

MANAGEMENT ACTIONS	**RESULTS OF MANAGEMENT ACTIONS**
Reduce length of corn/milo and wheat to no more than 3 years	Increase yields, reduce pennycress and downy-brome competition in wheat, also summer annual broadleaf and grass weeds in milo.

Soil test every other year and apply N, P, Lime, etc. as needed. Apply standard rate of Nitrogen every year	Increased yields, apply only nutrients when needed improved water quality. Nitrogen application based on soil test and realistic yield rather following Nutrient Management Standard 590
Rotate herbicides, spot spray, and use pest scouting for weeds/insects.	Reduce chance of herbicide resistance, improve weed control, increase yield, high level of management required.
Contour farming for tillage, planting, and anhydrous application.	Reduce sheet and rill erosion, reduce crop damage from sedimentation and stand loss, reduce loss of fertilizer/pesticides in furrow.
Wheat into wheat and milo into milo reduce tillage operations to no more than two, no-till wheat into milo and milo into wheat, eliminate wheat stubble burning.	Reduce soil moisture loss, reduce erosion, enhance tilth and organic matter, improve yields, reduce crop loss, reduce compaction, provide wildlife cover possible increase of winter annuals, and perennial weeds.
Eliminate fallow year.	Eliminate loss of crop from fallow year but wheat yield will be less, expense of renting drill.
Establish buffer strips, waterways, field borders	Provide wildlife habitat and livestock hay, reduce gully, sheet and rill erosion, low cost compared to terraces, portion of field lost to crop production, reduced crop losses and improved yields, surface water quality improved.

QUALITY CRITERIA DOCUMENTATION

RESOURCE CONCERN (refer to Section III quality Criteria and Exhibit 1 of NPPH for a list of concerns)	**BEFORE CONDITIONS**	**AFTER CONDITIONS** (refer to Section III quality criteria for more guidance)	**QUALITY CRITERIA MET (Y or N)**
Sheet and Rill Erosion	15 tons	5 tons	Y
Ephemeral Gully Erosion	Will vary by site	Varies by site	Y
Soil Condition (Tilth, Crusting, Infiltration and Organic Matter)	Low organic matter, poor tilth/intake Negative value for Soil Conditioning Index	Improved organic levels, tilth and intake rates Positive or neutral value for Soil Conditioning Index	Y
Surface Water Contamination Pesticides	Medium to High risk of Pesticide loss using Win-PST	Low Risk with Win-PST evaluation or Medium Risk with mitigation applied per 595 standard	Y
Pesticides in Surface Water	High potential surface loss (atrazine)	Medium potential surface loss (atrazine)	Y
Wildlife Habitat	Less than a 0.5 Index rating	0.5 or greater Index rating	Y