LIST OF EXHIBITS

CHAPTER ONE DRAINAGE

Exhibit 1.1	Floodplain Flow Chart	1-7
Exhibit 1.2	100-Year Floodplain Schematic	
Exhibit 1.3	Design Storm Frequencies	
Exhibit 1.4	Runoff Coefficients for Developed Areas	
	for Use in the Rational Method	1-15
Exhibit 1.5	Runoff Coefficients for Undeveloped Areas	
	for Use in the Rational Method	1-15
Exhibit 1.6	Nebraska Rainfall Zones	
	for Use with Rainfall Intensities in Rational Method	1-17
Exhibit 1.7	IDF Charts for Western Nebraska (Zone A	1-18
Exhibit 1.8	IDF Charts for Central Nebraska (Zone B	1-19
Exhibit 1.9	IDF Charts for Eastern Nebraska (Zone C)	
Exhibit 1.10	Correction Factor Used in Kirpich Equations	1-21
Exhibit 1.11	Time of Concentration of Small Drainage Basins	1-22
Exhibit 1.12	USGS Hydrologic Regions of Nebraska	
	for Use with Regression Equation Method	1-24
Exhibit 1.13	Regional Regression Equations for NDOT	1-25
Exhibit 1.14	Mean Annual Precipitation (inches)	
Exhibit 1.15	2-Year, 24-Hour Rainfall (inches)	1-27
Exhibit 1.16	10% Probability-Equivalent Moisture Content of Snow	
	as of March 15 (inches)	1-28
Exhibit 1.17	Normal Daily March Temperature (°F)	
Exhibit 1.18	Water Surface Profile Illustrating Hydraulic Jump	1-32
Exhibit 1.19	Nomograph for Solution of Manning's Equation, Open Channel	1-34
Exhibit 1.20	Inlet and Outlet Control	
Exhibit 1.21	Culvert Shapes and Cross Sections	
Exhibit 1.22	Equivalent Pipe Cross Sections	
Exhibit 1.23	Additional Pay Length for Elbows and Connecting Bands	1-39
Exhibit 1.24	Side Slope Grading for Culverts	1-40
Exhibit 1.25	Pay Lengths for Culvert Pipe	
Exhibit 1.26	Maximum Allowable Headwater	
Exhibit 1.27	Minimum Culvert Sizes	
Exhibit 1.28	Entrance Loss Coefficients	1-45
Exhibit 1.29	Conventional Culvert Inlets	1-47
Exhibit 1.30	Side-Tapered Inlets	1-49
Exhibit 1.31	Slope-Tapered Inlets	1-50
Exhibit 1.32	Slope Adjustment for Skewed Angles	1-53
Exhibit 1.33	Compound Bend Angle Example	1-54
Exhibit 1.34	Separation of Excavation for Pipe Culverts and Headwalls,	
	and Excavation for Box Culverts	
Exhibit 1.35	Excavation for Broken-Back Culverts	
Exhibit 1.36	Culvert Excavation	
Exhibit 1.37	Maximum Allowable Spread Width	1-65

Exhibit 1.38	Types of Inlets	1-69
	Values of K for Change in Direction of Flow in Lateral Lines	
	Summary of Energy Losses	
Exhibit 1.41	Jacking Culvert Pipe	1-90
	Example Culvert Design Form	
	Drainage Area Map	
	Storm Sewer Profile	

LIST OF EXHIBITS

CHAPTER TWO EROSION AND SEDIMENT CONTROL

Exhibit 2.1	Erosion Control Design Process	2-3
Exhibit 2.2	Temporary Slope Drain	
Exhibit 2.3	Permissible Velocity for Channels	
Exhibit 2.4	Seeding Computations	2-14
Exhibit 2.5	Slope Erosion Control Usage Chart	
Exhibit 2.6	Ditch and Channel Erosion Control Usage Chart	
Exhibit 2.7	Rolled Erosion Control Product Properties	
	Degradable Blankets	2-20
Exhibit 2.8	Rolled Erosion Control Product Properties	
	Long Term Non-Degradable Channel Applications	2-21
Exhibit 2.9	Erosion Check Usage Chart	
Exhibit 2.10	Erosion Checks	2-24
Exhibit 2.11	Silt Fence Usage Chart	2-25
Exhibit 2.12	Permissible Shear Stress for Riprap	2-28
Exhibit 2.13	Permissible Ditch Flow (cfs) for a Normal Ditch Section	2-30
Exhibit 2.14	K _b Factor for Maximum Shear Stress on Channel Bends	2-32
Exhibit 2.15	NDOT Riprap Properties	2-34
Exhibit 2.16	Channel Perimeter Riprap	2-35
Exhibit 2.17	Riprap Cutoff Detail	2-35
Exhibit 2.18	Riprap Blanket and Toe Trench Detail	2-36
Exhibit 2.19	Riprap Blanket and Toe Detail	
Exhibit 2.20	Gabions	2-38
Exhibit 2.21	Typical Cellular Confinement System	2-40
Exhibit 2.22	Concrete Flume Spacing Guidelines	2-41
Exhibit 2.23	Intercepting Earth Dikes	2-43
Exhibit 2.24	Backslope Drop Pipe with Intercepting Dike	
Exhibit 2.25	Typical Drop Pipe Design from Ditch to Stream	2-47
Exhibit 2.26	Weir Lengths for Sediment Trap's Self Draining Embankment	
Exhibit 2.27	Sediment Trap	2-51
Exhibit 2.28	Requirements for Energy Dissipators	2-53
Exhibit 2.29	Preformed Scour Hole	2-54
Exhibit 2.30	Relative Depth of Scour Hole	
	vs Froude Number of Culvert Outlet Flow	2-56
Exhibit 2.31	Flow Area at Culvert Outlet	
	for Relative Depth of Flow and Pipe Diameter	2-57

LIST OF EXHIBITS

CHAPTER THREE STORMWATER TREATMENT WITHIN MUNICIPAL SEPARATE STORM SYSTEM (MS4) COMMUNITIES

Exhibit 3.1	Stormwater Treatment Process Chart for Scoping Phase	3-9
Exhibit 3.2	Stormwater Treatment Process Chart for Plan-In-Hand Phase	
Exhibit 3.3	Stormwater Treatment Process Chart for Public Hearing and	
	Final Design Phases	3-11
Exhibit 3.3a	Guidance on 5000 Sq. Ft. Thresholds	3-14
Exhibit 3.4	Examples of Priority Stormwater Outfall Locations	
Exhibit 3.5	Water Quality Volumes and Peak Discharges for Selected Acreages	
Exhibit 3.6	Stormwater Run-On Flow Chart	3-20
Exhibit 3.7	Example of Stormwater Run-On	3-21
Exhibit 3.8	Schematic of Online and Offline STFs	
Exhibit 3.9	STF Selection Chart	
Exhibit 3.10	STF Suitability Matrix	3-36