# PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT EROSION AND SEDIMENT CONTROL PROGRAM RULES AND REGULATIONS

**Adopted by the Board of Directors** 

August 11, 2016

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#### PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT RULES AND REGULATIONS FOR IMPLEMENTING EROSION AND SEDIMENT CONTROL ACT

#### 1. AUTHORITY

These rules and regulations are adopted pursuant to the authority granted in Section 2-4605, R.R.S. 1948, as amended.

#### 2. PURPOSE

The purpose of these rules and regulations is to provide an orderly method for implementing the Erosion and Sediment Control Act, sections 2-4601 et. seq. R.R.S. 1943, as amended to provide for the conservation and preservation of the land, water and other resources of the District, and to thereby:

- (a) reduce damages caused from wind erosion,
- (b) reduce storm water runoff and the danger of flooding,
- (c) reduce sediment damage to lands within the District,
- (d) reduce non-point pollution from sedimentation and related pollutants
- (e) preserve the value of land and its productive capability for present and future generations, and
- (f) safeguard the health, safety and welfare of the District's citizens,

#### 3. APPLICABILITY

These rules and regulations apply to all lands within the District except to those lands which lie within the respective jurisdiction of a county or municipality which has adopted and is implementing erosion and sediment control regulations in substantial conformance with the state erosion and sediment control program. Some non-agricultural land-disturbing activities are also excluded and are identified in Rule 4, Section (i), subsections (2), (3), (4) and (5).

#### 4. DEFINITIONS

- (a) Alleged violator means the owner of record and the operator, if any, of land which is the subject of a complaint filed in accordance with Rule 8.
- **(b) Board** means the Board of Directors of the Papio-Missouri River Natural Resources District.
- (c) Committee means the Programs, Projects, and Operations Subcommittee of the Papio-Missouri River Natural Resources District,
- (d) Conservation agreement means an agreement between the owner and operator, if any, of a farm unit and the District in which the owner and operator, if any, agrees to implement all or a portion of a farm unit conservation plan or erosion and sediment control plan. The agreement shall include a schedule for implementation and may be conditioned on the District or other public entity furnishing technical, planning or financial assistance in the establishment of the soil and water conservation or erosion and sediment control practices necessary to implement the plan or portion of the plan.

- (e) **District** means the Papio-Missouri River Natural Resources District.
- (f) Excess erosion means the occurrence of erosion in excess of the applicable soil-loss tolerance level which causes or contributes to an accumulation of sediment upon the lands of any other person to the detriment or damage of such other person.
- (g) Farm unit conservation plan means a plan jointly developed by the owner and, if appropriate, the operator of a farm unit and the District. Such plan shall be based on the determined conservation needs of the farm unit and identification of practices which may be expected to prevent soil loss by erosion to the applicable soil-loss tolerance level. The plan may also, if practicable, identify alternative practices by which such objective may be attained.
- (h) Erosion and Sediment Control Plan means a plan, developed for a parcel of land used for non-agricultural purposes, which identifies the permanent or temporary practices which may be expected to either prevent sediment from leaving that parcel or prevent soil loss / erosion from that parcel in excess of the applicable soil-loss tolerance level.
- (i) Non-agricultural land-disturbing activity means a land change including, but not limited to, tilling, clearing, grading, excavating, transporting, or filling land which may result in soil erosion from wind or water and the movement of sediment and sediment-related pollutants into the waters of the state or onto lands in the state, but shall not include:
  - (1) Activities related directly to the production of agricultural, horticultural or silvicultural crops, including, but not limited to, tilling, planting, or harvesting of such crops;
  - (2) Installation of aboveground public utility lines and connections, fence posts, sign posts, telephone poles, electric poles, and other kinds of posts or poles;
  - (3) Emergency work to protect life or property; and
  - (4) Activities related to the construction of housing, industrial, and commercial developments on sites under two acres in size; and
  - (5) Activities related to the operation, construction, or maintenance of industrial or commercial public power district or public power and irrigation district facilities or sites when such activity is conducted pursuant to state of federal law or is part of the operational plan for such facility or site.

#### (j) Sediment damage means:

- (1) the economic or physical damage to the land or other property of one person resulting from the deposition of sediment, by water or wind, or soil eroded from the lands of another person;
- (2) the degradation of water quality and/or the reduced beneficial use of the water in the stream or lake involved resulting from soil sedimentation or the deposition of chemical laden sediments. For the purpose of this program, chemicals shall include, but is not limited to, any agricultural, municipal, or industrial chemicals or waste deposited on the soil.

Physical effects to land or property which are relatively short term in nature and which cause no economic damage and no lasting physical damage shall not constitute sediment damage for the purpose of these rules and regulations.

- (k) Soil-loss tolerance level means the maximum amount of soil loss due to erosion by wind or water, expressed in terms of tons per acre per year, which is determined to be acceptable in accordance with the Erosion and Sediment Control Act. Soil loss from water erosion may include:
  - (1) sheet and rill erosion which includes relatively uniform soil loss across the entire field slope which may leave small channels located at regular intervals across the slope and (2) ephemeral gully erosion which occurs in well-defined depressions or natural drainageways where concentrated overland flow results in the convergence of rills forming deeper and wider channels.
- (l) **T value** means the average annual tons per acre soil loss that a given soil may experience and still maintain its productivity over an extended period of time.

#### 5. SOIL-LOSS TOLERANCE LEVEL

USDA Soil Survey data provides values of soil loss tolerance (T) for various soil series across the District and are described as Soil-Loss Tolerance Levels in the NRCS TECHNICAL GUIDES. These soil-loss tolerance levels for the soils of the District have been adopted by the Board and are attached hereto as Appendix A. Each soil series listed may contain one or more soil mapping units-referred to in Rule 10. The permitted soil-loss tolerance levels for particular lands may not exceed the T value noted in Appendix A.

#### 6. ADMINISTRATION

- (a) The Board delegates the responsibility for administering these rules and regulations to the District manager except to the extent Board action is specifically required by these rules and regulations or by law. The following duties shall be performed by or under the direction of the District manager.
  - (1) Keep an accurate record of all complaints received, investigations made, and other official actions.
  - (2) Investigate all complaints made in writing to the District office relating to the application of these rules and regulations and report in writing all alleged violations to the Board.
  - (3) Monitor compliance with all approved farm unit conservation plans, erosion and sediment control plans, and administrative orders issued by the Board.
- (b) Except to the extent jurisdiction has been assumed by a municipality or county in accordance with section 2-4606, and after a written and signed complaint has been made, the District manager and such staff as he or she shall designate shall have the following powers and responsibilities:
  - (1) At any reasonable time, after notice to the owner and operator, if any, to enter upon any public or private lands within the area affected by these rules and regulations for the purpose of investigating complaints and to make inspections to determine compliance. The owner, operator, if any, and any other necessary technical personnel and representatives of the District may accompany the inspector.
  - (2) Upon reasonable cause, to report to the Board any violations of any administrative order issued by the Board pursuant to Section 2-4608, R.R.S. 1943, as amended, and these rules and regulations,

(3) At the direction of the Board, and in accordance with Rule 13 (e) and 18, to commence any legal proceedings necessary to enforce these rules and regulations and any order issued pursuant to them.

#### 7. VIOLATION

A violation of these rules and regulations exists if:

- (a) sediment damage is occurring;
- (b) average annual soil losses on the land which is the source of that sediment are exceeding the soil-loss tolerance level adopted in rule 5;
- (c) the activity causing the soil loss is not an exempted non-agricultural land-disturbing activity (Rule 4(i) (2) to (5); and
- (d) the land which is the source of the damage is not in strict compliance with a conservation agreement approved by the District,

#### 8. COMPLAINT

A complaint alleging that soil erosion is occurring in excess of the soil loss tolerance level or that sediment damage is occurring, may be filed in the District office by:

- (a) any owner or operator of land damaged by sediment,
- (b) any authorized representative of a state agency or political subdivision whose roads or other public facilities are being damaged by sediment,
- (c) any authorized representative of a state agency or political subdivision with responsibility for water quality maintenance if it is alleged that the soil erosion complained of is adversely affecting water quality, or
- (d) any District staff member, or other person authorized by the Board to file complaints. Complaints shall be made in writing and signed on a form provided by the Director of Department of Natural Resources.

The flow chart for handling a complaint is found in Appendix C.

#### 9. INVESTIGATION OF COMPLAINT

Upon receipt of a properly filed complaint, a representative of the District shall notify the alleged violator within ten (10) days that a complaint has been filed and that an investigation will be initiated to determine whether a violation of these rules and regulations has occurred. The investigation shall take place as soon as possible after the complaint has been filed and notice given. The alleged violator shall be given an opportunity to accompany the person conducting the investigation.

If a farm unit conservation plan or erosion and sediment control plan previously approved by the District is being implemented and maintained in strict conformance with a conservation agreement including the land subject to the complaint, the complaint shall be dismissed. The alleged violator, complainant, and Board shall be notified.

Upon completion of the investigation, the investigator shall file a report of his or her findings with the Committee and shall provide copies to the alleged violator and the complainant. The report shall include:

(a) the location and estimated acreage involved in the alleged violation;

- (b) the investigator's conclusions concerning the existence of any sediment damage and a description of the location and nature of any sediment damage identified; and
- (c) the location of land(s) which the investigator concludes are the source of the sediment, the nature of the land use on such lands, and the estimated average annual soil losses from such land(s).

The investigator may utilize the services of professional staff, consultants, or technicians of other state or federal agencies, if necessary.

#### 10. DETERMINATION OF SOIL LOSS

Soil losses shall be determined by using the applicable portions of the then current version of the United States Department of Agriculture, Natural Resources Conservation Service Field Office Technical Guide to estimate the average annual sheet and rill erosion, ephemeral erosion or wind erosion.

The soil losses normally will be calculated on a soil survey mapping unit basis. If it is determined that soil loss in excess of the applicable soil loss tolerance level is occurring in the portion of one or more mapping units under the ownership and control of the alleged violator, they may not be averaged with other non-violating units for the purpose of determining overall soil loss.

If it is determined that the sediment damage complained of is resulting from erosion from a land parcel smaller than the soil mapping unit, the soil loss equation in the Field Office Tech. Guide may be applied to such smaller portion only if such portion is two acres or greater.

The cover and crop management factor, "C", used in calculating erosion may incorporate a cropping history of up to five years. Crop rotation patterns longer than five years but not more than ten years may be used for the purpose of planning future compliance with soil loss tolerance levels but exceeding the limits may not be planned for more than two consecutive years. Soil losses from irrigation and gully erosion may also be determined by using acceptable scientific procedures and may, if deemed appropriate by the Board, be added to soil losses for sheet and rill, ephemeral and wind erosion. Soil losses from streambank erosion shall not be calculated and these rules and regulations are not applicable to this type of erosion. Application of the soil loss equation formulas will be made by someone whose qualifications to make such determinations can be supported in court.

#### 11. COMMITTEE AND BOARD ACTION ON COMPLAINT

The committee shall assist the District staff in administering these rules and regulations and make determinations as to whether a probable violation of these rules and regulations has or has not occurred. Such determination shall be based upon the investigator's report completed pursuant to Rule 9 and an on-site inspection by the committee, if warranted. The committee may also request that both the alleged violator and the complainant appear before them to discuss the complaint. The committee shall report its findings to the Board, the alleged violator and the complainant with a recommendation of further action as follows:

(a) If the staff and committee determine that no violation of these rules and regulations has occurred, it shall recommend and the Board may approve dismissal of the complaint. The complainant shall be given the opportunity to appear before the entire Board before the

Board acts on the recommendation.

- (b) If the committee determines that a farm unit conservation plan previously approved by the District is being implemented and maintained in strict conformance with a conservation agreement including the land subject to the complaint, it shall recommend and the Board may approve dismissal of the complaint.
- (c) If the committee determines that the land which is identified in the complaint is being used for non-agricultural purposes, and is under an erosion and sediment control plan that has been approved by the District, is in conformance with any NPDES (National Pollution Discharge Elimination System) permit issued by the Nebraska Department of Environmental Quality (NDEQ), or any political subdivision of the state designated by NDEQ to issue such permits, it shall recommend and the Board may approve dismissal of the complaint.
- (d) If the committee determines that a probable violation of these rules and regulations has occurred, it shall proceed in accordance with Rule 12.

#### 12. NOTICE OF VIOLATION

If the committee determines that a probable violation of these rules and regulations has occurred, the alleged violator shall be informed of its findings by letter delivered in person or sent by registered or certified mail. The letter shall specify the options available to the alleged violator, including:

- (a) The alleged violator shall be given an opportunity to contact the District within ten days after receipt of notice concerning the development of a plan and schedule for eliminating excess erosion and sedimentation from the land that generated the complaint. If appropriate at this time, alternative practices for inclusion in a plan may be suggested. Information on cost-share programs and an indication of whether cost-share money is available may also be supplied.
- (b) The alleged violator shall be given an opportunity to contest the committee's findings at a regularly scheduled Board meeting or, if desired, a Board hearing to be held no sooner than fifteen days after receipt of notice. Notice of the date shall be given. The alleged violator may request a formal public hearing within ten (10) days of receipt of notice. The District's rules for formal adjudicatory hearings shall govern the conduct of all such hearings.
- (c) The alleged violator shall be further notified that if he or she does not respond to the notice and does not appear at the Board meeting for which notice was given, the Board shall proceed in accordance with Rule 15 in his or her absence to make a final determination on the complaint and issue an administrative order if the Board concludes that a violation has occurred.

#### 13. DEVELOPMENT AND APPROVAL OF PLAN FOR COMPLIANCE

(a) If the alleged violator contacts the District pursuant to Rule 12 (a) and indicates a desire to jointly develop either a farm unit conservation plan or an erosion and sediment control plan for eliminating excess erosion on or sedimentation from the land that generated the complaint, Board action on the complaint shall be delayed until further action is taken by the committee pursuant to (b) or (d) of this Rule. The District manager and the alleged violator shall promptly secure the assistance of the Natural Resources Conservation

Service (NRCS) or such other professional resource planners as are deemed necessary to assist in preparation of such a plan and shall attempt to prepare a mutually acceptable

plan in accordance with the NRCS Field Office Technical Guide. Any plan developed in accordance with this section shall identify, as applicable, the soil and water conservation practice(s) or erosion and sediment control practice(s) to be applied or utilized and shall be accompanied by a proposed conservation agreement setting forth a schedule for compliance.

- (b) Any plan developed by the alleged violator and the District manager shall be presented to the committee. If the committee agrees to the proposed plan and to the accompanying conservation agreement, the Board may thereafter approve such plan and agreement. The complainant shall be notified of such action and shall be provided copies of the approve plan and conservation agreement. In considering the schedule for compliance contained within the conservation agreement, the Board may approve a longer time for compliance than would be permissible if an order were issued pursuant to Rule 15, but shall not do so without consideration of the nature and extent of any additional sediment damages the complainant is likely to suffer until the plan has been fully implemented.
- (c) Strict conformance with a plan and agreement approved pursuant to this Rule shall be deemed compliance with these rules and regulations for the lands which are subject to the agreement.
- (d) If no mutually acceptable plan and conservation agreement have been prepared by the alleged violator and the District manager within an acceptable time period or if the committee concludes at any time that progress is not being made and is no longer likely on preparation of such a plan, the complaint shall be again referred to the Board and the alleged violator shall be so notified in person or by registered or certified mail and shall be given the information and option described in Rule 12(b). For purposes of this rule, acceptable time period shall mean (1) 90 days for alleged violations involving agricultural, horticultural, or silvicultural activities and (2) 15 days for alleged violations involving a non-agricultural land-disturbing activity.
- (e) Following refusal of a landowner to discontinuing an activity causing erosion which constitutes a violation in Rule 7, and to establish a plan and schedule for eliminating excess erosion pursuant to these rules, and if the immediate discontinuance of such activity is necessary to reduce or eliminate damage to neighboring property, the District may petition the District court for an order to the owner and, if appropriate, the operator, to immediately cease and desist such activity until excess erosion can be brought into conformance with the soil-loss tolerance level or sediment resulting from excess erosion is prevented from leaving the property.

#### 14. PRACTICES

Practices designed to reduce or control soil erosion and/or sediment damage may be approved in developing a plan under Rule 13 and may be required by the District in an administrative order pursuant to Rule 15.

- (a) Soil and water conservation practices, applicable only to land used for agricultural, horticultural, or silvicultural purposes, may include:
  - (1) permanent practices, such as the planting of perennial grasses, legumes, shrubs, or

trees, the establishment of grassed waterways, the construction of terraces, grade control structures, tile outlets, and other practices approved by the District.

(2) temporary soil and water conservation practices, such as the planting of annual or biennial crops, use of strip-cropping, contour planting, conservation tillage or residue management system, and other cultural practices approved by the District.

The District shall maintain a complete list of approved permanent and temporary soil and water conservation practices as part of its local erosion and sediment control program. See Appendix B.

- **(b)** Erosion and sediment control practices, which are applicable to activities other than agricultural, horticultural, or silvicultural activities, may include:
  - (1) the construction or installation and maintenance of permanent structures or devices necessary to carry to a suitable outlet away from any building site, any commercial or industrial development or any publicly or privately owned recreational or service facility not served by a central storm sewer system, any water which would otherwise cause erosion in excess of the applicable soil-loss tolerance level and which does not carry or constitute sewage or industrial or other waste to a suitable outlet away from any development or facility not served by a central storm sewer system;
  - (2) the use of temporary devices or structures, temporary seeding, mulching (including fiber mats, plastic, straw), diversions, silt fences, sediment traps or other measures adequate either to prevent erosion in excess of the applicable soil loss tolerable levels or to prevent excessive downstream sedimentation from land which is the site of or is directly affected by any non-agricultural land-disturbing activity; or
  - (3) the establishment and maintenance of vegetation upon the right-of-way of any completed portion of any public street, road, highway or the construction or installation thereon of permanent structures or devices or other measures adequate to prevent erosion on the right-of-way in excess of the applicable soil-loss tolerance level.

The District shall maintain a complete list of approved erosion and sediment control practices as part of its local erosion and sediment control program. See Appendix B.

#### 15. ADMINISTRATIVE ORDER

If, after Board consideration of the complaint at a meeting or hearing for which the alleged violator has been given notice in accordance with Rule 12, the Board finds that sediment damage has occurred, that average annual erosion on the land which is the source of the damage is occurring in excess of the applicable soil-loss tolerance level(s), and that a conservation plan or erosion and sediment control plan has not been developed nor is being implemented according to a conservation agreement, it shall issue an administrative order to the violator stating:

- a) the date of the order.
- **b**) the identity of the source of the violation and its location;
- c) the authority of the Board to issue such order;
- **d**) the specific findings, including (i) the estimated average annual soil loss and the extent to which erosion exceeds the applicable soil-loss tolerance level and, (ii) the nature of the sediment damage or water quality impairment resulting from such excessive erosion;
- e) if desired by the Board, the alternative soil and water conservation practices or erosion

and sediment control practices required to bring the land into conformance with these rules and regulations. When the erosion is the result of agricultural, horticultural, or

silvicultural activities, the soil and water conservation practices required shall be those necessary to bring the land into conformance with the applicable soil-loss tolerance level. Where the erosion complained of is the result of a non-agricultural land-disturbing activity, the Board may authorize the violator to either bring the land into conformance with applicable soil loss tolerance level or to prevent sediment resulting from excessive erosion from leaving the land;

- f) any requirements concerning the operation, utilization, or maintenance of the alternative practices identified;
- g) the deadlines for commencing and completing work necessary to comply with this order.
  - a. The time for initiating work needed to establish the necessary soil and water conservation practices shall not exceed six months after service or mailing of the order to the violator and shall be completed no later than one year after service or mailing of the order to the violator unless and extension has been granted upon a showing of good cause
  - b. A reasonable time for initiating work needed to establish erosion and sediment control practices for nonagricultural land-distributing activities shall not exceed five days after service or mailing of the order. Temporary practices shall be completed not longer than fifteen days after service or mailing of the order and permanent practices shall be completed no longer than forty-five (45) days after service or mailing of the order unless an extension has been granted upon a showing of good cause. An extension shall only be granted after review and affirmative action of the Board.
- (h) the action to be taken by the Board if the violator does not comply.

A copy of the dismissal or administrative order shall be delivered to the owner and to the operator, if any, of the land in question by personal service or certified or registered mail.

#### 16. COST-SHARE ASSISTANCE

To prevent excess erosion and sediment from leaving the land due to any agricultural or nonagricultural land-disturbing activity, cost-share assistance may be available from the District. Such assistance, if available, may be used for any erosion or sediment control practice. The lack of available cost-sharing assistance does not offset the requirement that the owner and, if appropriate, the operator of such land comply with the terms of an approved plan of compliance or an administrative order.

#### 17. SUPPLEMENTAL ORDERS

The Board may issue supplemental orders, as necessary, to extend the time of compliance with an administrative order if, in its judgment, the failure to commence or complete work as required by the administrative order is due to factors beyond the control of the person to whom the order is directed and the person can be relied upon to commence and complete the necessary work at the earliest possible time.

#### 18. NON-COMPLIANCE

Subject to any limitations imposed by the Board, the District manager may cause the District to commence legal proceedings by filing a petition in the name of the District in the District court in which a majority of the land is located requesting a court order requiring immediate compliance with the administrative order or any supplemental order issued previously, if he or she has reasonable cause to believe after inspection that an administrative order issued previously by the Board is not being complied with because:

- (1) the work necessary to comply with the order is not commenced on or before the date specified in the order or in any supplemental orders;
- (2) the work is not being performed with due diligence, is not satisfactorily completed by the date specified in the order, or is not being operated, utilized, or maintained in accordance with requirements set forth in the order;
- (3) the work is not of a type or quantity specified by the District, and when completed, it will not or does not reduce soil loss to within the applicable soil-loss tolerance level for the identified land or, in the case of non-agricultural land-disturbing activity, will not or does not prevent sediment resulting from excessive erosion from leaving the land involved, or
- (4) the person to whom the order is directed informs the District that he or she does not intend to comply.

#### Soil Loss Tolerance Values (T-Factors) For Burt County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
2105	Carr silt loam, occasionally flooded	Carr	4
3545	Hobbs silt loam, channeled, 0 to 2 percent slopes, frequently flooded	Hobbs	5
3617	Solomon silty clay, occasionally flooded	Solomon	5
3642	Kezan silt loam, occasionally flooded	Kezan	5
3643	Kezan-Kennebec silt loams, drained, occasionally flooded	Kennebec	5
3952	Fillmore silt loam, frequently ponded	Fillmore	3
6324	Coleridge silty clay loam, 0 to 2 percent slopes, occasionally flooded	Coleridge	5
6401	Calco silty clay loam, occasionally flooded	Calco	5
6403	Calco silty clay loam, wet, occasionally flooded	Calco	5
6505	Belfore silty clay loam, terrace, 0 to 2 percent slopes	Belfore	5
6545	Moody silty clay loam, terrace, 0 to 2 percent slopes	Moody	5
6603	Alcester silty clay loam, 2 to 6 percent slopes	Alcester	5
6628	Belfore silty clay loam, 0 to 2 percent slopes	Belfore	5
6687	Crofton silt loam, 6 to 11 percent slopes, eroded	Crofton	5
6750	Nora silt loam, 11 to 17 percent slopes, eroded	Nora	5
6756	Nora silt loam, 6 to 11 percent slopes, eroded	Nora	5
6758	Nora silty clay loam, 11 to 17 percent slopes	Nora	5
6767	Nora silty clay loam, 6 to 11 percent slopes	Nora	5
6808	Moody silty clay loam, 0 to 2 percent slopes	Moody	5
6811	Moody silty clay loam, 2 to 6 percent slopes	Moody	5
6812	Moody silty clay loam, 2 to 6 percent slopes, eroded	Moody	5
6813	Moody silty clay loam, 6 to 11 percent slopes	Moody	5
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	Moody	5
6860	Crofton silt loam, 8 to 17 percent slopes, eroded	Crofton	5
7050	Kennebec silt loam, occasionally flooded	Kennebec	5
7099	Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded	Zook	5
7153	Kennebec silt loam, rarely flooded	Kennebec	5
7219	Burchard clay loam, 11 to 17 percent slopes, eroded	Burchard	5
7213	Burchard clay loam, 11 to 17 percent slopes, eroded	Burchard	5
7266	Burchard clay loams, 0 to 11 percent slopes, eroded	Burchard	5
7612	Steinauer clay loam, 11 to 30 percent slopes, eroded	Steinauer	5
7618	Steinauer soils, 11 to 30 percent slopes	Steinauer	5
7703			3
7710	Grable silt loam, occasionally flooded	Grable	
	Albaton silty clay, occasionally flooded	Albaton	5
7711	Albaton silty clay, frequently flooded	Albaton	5
7715	Holly Springs silty clay loam, occasionally flooded	Holly Springs	4
7728	Blencoe silty clay loam, rarely flooded	Blencoe	5
7729	Blencoe silty clay, rarely flooded	Blencoe	5
7741	Haynie silt loam, occasionally flooded	Haynie	5
7744	Haynie silt loam, rarely flooded	Haynie	5
7747	Udorthents silt loam, channeled, occasionally flooded	Udorthents	5
7748	Haynie variant silt loam, rarely flooded	Haynie variant	4
7758	Modale silt loam, occasionally flooded	Modale	4
7765	Blyburg silt loam, rarely flooded	Blyburg	5
7770	Colo silty clay loam, occasionally flooded	Colo	5
7771	Colo silt loam, overwash, occasionally flooded	Colo	5
7781	Forney silty clay, rarely flooded	Forney	5
7791	Luton silty clay, rarely flooded	Luton	5
7800	Owego silty clay, occasionally flooded	Owego	5
7802	Percival silty clay, occasionally flooded	Percival	2
7808	Salix silty clay loam, rarely flooded	Salix	5
7820	Wathena fine sandy loam, occasionally flooded	Wathena	5
7826	Woodbury silty clay, occasionally flooded	Woodbury	5
7849	Sarpy fine sand, 0 to 6 percent slopes, occasionally flooded	Sarpy	5
7857	Sarpy-Grable variant complex, occasionally flooded	Sarpy	5
7867	Nodaway silt loam, channeled, frequently flooded	Nodaway	5
7874	Omadi silt loam, rarely flooded	Omadi	5
7880	Onawa silty clay, occasionally flooded	Onawa	5
7891	Zook silt loam, overwash, 0 to 2 percent slopes, occasionally flooded	Zook	5
, 0, 2, 1	200k Site loans, over wash, o to 2 percent slopes, occasionally flooded	-00K	

#### Soil Loss Tolerance Values (T-Factors) For Burt County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
8005	Ida silt loam, 11 to 17 percent slopes	Ida	5
8006	Ida silt loam, 11 to 17 percent slopes, eroded	Ida	5
8007	Ida silt loam, 17 to 30 percent slopes	Ida	5
8008	Ida silt loam, 17 to 30 percent slopes, eroded	Ida	5
8009	Ida silt loam, 30 to 60 percent slopes	Ida	5
8010	Ida silt loam, 6 to 11 percent slopes, eroded	Ida	5
8016	Marshall silty clay loam, dry, 0 to 2 percent slopes	Marshall	5
8019	Marshall silty clay loam, 2 to 6 percent slopes	Marshall	5
8020	Marshall silty clay loam, 2 to 6 percent slopes, eroded	Marshall	5
8027	Marshall silty clay loam, terrace, 0 to 2 percent slopes	Marshall	5
8032	Marshall-Pohocco silty clay loams, 6 to 11 percent slopes, eroded	Marshall	5
8070	Monona silt loam, 11 to 17 percent slopes	Monona	5
8073	Monona silt loam, 17 to 30 percent slopes	Monona	5
8078	Monona silt loam, 6 to 11 percent slopes	Monona	5
8079	Monona silt loam, 6 to 11 percent slopes, eroded	Monona	5
8083	Monona silt loam, terrace, 0 to 2 percent slopes	Monona	5
8097	Monona-Pohocco complex, 6 to 11 percent slopes, eroded	Monona	5
8108	Napier-Nodaway-Gullied land complex, 0 to 60 percent slopes	Napier	5
8114	Pohocco silt loam, 11 to 17 percent slopes, eroded	Pohocco	5
8118	Pohocco silt loam, 6 to 11 percent slopes, eroded	Pohocco	5
8136	Pohocco-Ida complex, 11 to 17 percent slopes, eroded	Pohocco	5
8142	Pohocco-Monona complex, 11 to 17 percent slopes, eroded	Pohocco	5
9971	Arents, earthen dam	Arents, earthen dam	
9983	Gravel pit	Pits	
9986	Miscellaneous water, sewage lagoon	Miscellaneous water	
9999	Water	Water	

#### Soil Loss Tolerance Values (T-Factors) For Dakota County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
3322	Sansarc-Nora complex, 11 to 30 percent slopes	Sansarc	2
3518	Lamo silty clay loam, 0 to 2 percent slopes, occasionally flooded	Lamo	5
3553	Hobbs silt loam, 0 to 2 percent slopes, frequently flooded, cool	Hobbs	5
6300	Aowa silt loam, occasionally flooded	Aowa	5
6308	Barney fine sandy loam, occasionally flooded	Barney	5
6400	Calco silt loam, overwash, occasionally flooded	Calco	5
6401	Calco silty clay loam, occasionally flooded	Calco	5
6601	Alcester silty clay loam, 6 to 11 percent slopes	Alcester	5
6603	Alcester silty clay loam, 2 to 6 percent slopes	Alcester	5
6681	Crofton silt loam, 17 to 30 percent slopes, eroded	Crofton	5
6685	Crofton silt loam, 2 to 6 percent slopes, eroded	Crofton	5
6686	Crofton silt loam, 30 to 60 percent slopes	Crofton	5
6687	Crofton silt loam, 6 to 11 percent slopes, eroded	Crofton	5
6749	Nora silt loam, 11 to 17 percent slopes	Nora	5
6750	Nora silt loam, 11 to 17 percent slopes, eroded	Nora	5
6751	Nora silt loam, 17 to 30 percent slopes	Nora	5
6753	Nora silt loam, 2 to 6 percent slopes	Nora	5
6754	Nora silt loam, 2 to 6 percent slopes, eroded	Nora	5
6756	Nora silt loam, 6 to 11 percent slopes, eroded	Nora	5
6767	Nora silty clay loam, 6 to 11 percent slopes	Nora	5
6769	Nora-Alcester silt loams, 11 to 17 percent slopes	Nora	5
6811	Moody silty clay loam, 2 to 6 percent slopes	Moody	5
6813	Moody silty clay loam, 6 to 11 percent slopes	Moody	5
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	Moody	5
6823	Moody-Nora silty clay loams, 11 to 17 percent slopes	Moody	5
6860	Crofton silt loam, 8 to 17 percent slopes, eroded	Crofton	5
7053	Kennebec silt loam, overwash, occasionally flooded	Kennebec	5
7083	Sarpy loamy fine sand, occasionally flooded	Sarpy	5
7153	Kennebec silt loam, rarely flooded	Kennebec	5
7219	Burchard clay loam, 11 to 17 percent slopes, eroded	Burchard	5
			5
7230	Alcester silty clay loam, 0 to 2 percent slopes	Alcester	
7704	Grable very fine sandy loam, occasionally flooded	Grable	3
7705	Grable very fine sandy loam, rarely flooded	Grable	3
7710	Albaton silty clay, occasionally flooded	Albaton	5
7711	Albaton silty clay, frequently flooded	Albaton	5
7713	Albaton silty clay loam, occasionally flooded	Albaton	5
7722	Blake silty clay loam, occasionally flooded	Blake	5
7729	Blencoe silty clay, rarely flooded	Blencoe	5
7741	Haynie silt loam, occasionally flooded	Haynie	5
7744	Haynie silt loam, rarely flooded	Haynie	5
7758	Modale silt loam, occasionally flooded	Modale	4
7765	Blyburg silt loam, rarely flooded	Blyburg	5
7766	Blyburg silt loam, 2 to 6 percent slopes, rarely flooded	Blyburg	5
7767	Blyburg silty clay loam, rarely flooded	Blyburg	5
7768	Blyburg silty clay, overwash, rarely flooded	Blyburg	5
7780	Forney silt loam, overwash, rarely flooded	Forney	3
7781	Forney silty clay, rarely flooded	Forney	5
7782	Forney soils, swales, rarely flooded	Forney	5
7792	Luton silty clay, thin surface, rarely flooded	Luton	5
7800	Owego silty clay, occasionally flooded	Owego	5
7802	Percival silty clay, occasionally flooded	Percival	3
7825	Waubonsie very fine sandy loam, loamy substratum, occasionally flooded	Waubonsie	4
7850	Sarpy fine sand, 3 to 11 percent slopes	Sarpy	5
7855	Sarpy silty clay, overwash, occasionally flooded	Sarpy	5
7874	Omadi silt loam, rarely flooded	Omadi	5
7880	Onawa silty clay, occasionally flooded	Onawa	5
8006	Ida silt loam, 11 to 17 percent slopes, eroded	Ida	5
8007	Ida silt loam, 17 to 30 percent slopes	Ida	5
8008	Ida silt loam, 17 to 30 percent slopes	Ida	5
8011	Ida soils, 30 to 60 percent slopes	Ida	5
8070	Monona silt loam, 11 to 17 percent slopes	Monona	5
8073	Monona silt loam, 17 to 30 percent slopes	Monona	5
8078	Monona silt loam, 6 to 11 percent slopes	Monona	5
8106	Napier silt loam, 11 to 17 percent slopes	Napier	5
0100	Inable: all loals, 11 to 17 beloals slokes	ιναρισι	) )

#### Soil Loss Tolerance Values (T-Factors) For Dakota County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
8107	Napier-Gullied land complex, 2 to 11 percent slopes	Ida	5
9900	Fluvaquents, frequently flooded	Fluvaquents	5
9931	Gullied land-Ida complex, 30 to 60 percent slopes	Ida	5
9970	Aquolls	Aquolls	5
9976	Borrow pit	Pits	
9986	Miscellaneous water, sewage lagoon	Miscellaneous water	
9999	Water	Water	

#### Soil Loss Tolerance Values (T-Factors) For Douglas County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
2106	Carr-Ticonic-Scroll complex, occasionally flooded	Carr	4
2341	Inavale loamy fine sand, hummocky, rarely flooded	Inavale	5
3537	Gibbon silty clay loam, occasionally flooded	Gibbon	5
3643	Kezan-Kennebec silt loams, drained, occasionally flooded	Kennebec	5
6324	Coleridge silty clay loam, 0 to 2 percent slopes, occasionally flooded	Coleridge	5
6382	Saltine-Gibbon silty clay loams, occasionally flooded	Saltine	5
6452	Clamo-Zook-Kezan silty clay loams, occasionally flooded	Clamo	5
6460	Inglewood-Novina complex, occasionally flooded	Inglewood	5
7050	Kennebec silt loam, occasionally flooded	Kennebec	5
7061	Muscotah silty clay loam, occasionally flooded	Muscotah	5
7210	Burchard-Contrary-Steinauer complex, 7 to 16 percent slopes	Burchard	5
7234	Judson silty clay loam, 2 to 6 percent slopes	Judson	5
7235	Judson-Nodaway channeled-Contrary complex, 3 to 10 percent slopes	Judson	5
7741	Haynie silt loam, occasionally flooded	Haynie	5
7787 7812	Luton silty clay, occasionally flooded	Luton	5
7815	Smithland-Kenridge silty clay loams, occasionally flooded	Kenridge	5
7862	Ticonic-Sarpy-Carr complex, occasionally flooded  Nishna silty clay loam, occasionally flooded	Ticonic Nishna	5
7880	Onawa silty clay, occasionally flooded	Onawa	5
8012	Ida-Pohocco-Monona silt loams, 11 to 30 percent slopes	Ida	5
8016	Marshall silty clay loam, dry, 0 to 2 percent slopes	Marshall	5
8035	Marshall-Contrary silty clay loams, 2 to 7 percent slopes	Marshall	5
8041	Melia silty clay loam, 0 to 2 percent slopes	Melia	5
8100	Monona-Pohocco-Ida silt loams, 17 to 33 percent slopes	Monona	5
8136	Pohocco-Ida complex, 11 to 17 percent slopes, eroded	Pohocco	5
8138	Pohocco-Ida-Monona complex, 6 to 17 percent slopes	Pohocco	5
8140	Pohocco-Judson silt loams, 11 to 40 percent slopes	Pohocco	5
8143	Pohocco-Monona silt loams, 11 to 54 percent slopes	Pohocco	5
8153	Contrary-Marshall silty clay loams, 6 to 11 percent slopes	Contrary	5
8155	Contrary-Monona silty clay loams, 6 to 11 percent slopes	Contrary	5
8157	Contrary-Monona-Ida complex, 6 to 17 percent slopes	Contrary	5
8403	Alda loam, occasionally flooded	Alda	3
8408	Alda-Platte complex, occasionally flooded	Alda	3
8409	Alda-Platte fine sandy loams, occasionally flooded	Alda	3
8410	Alda-Platte-Lex complex, occasionally flooded	Alda	3
8442	Cass-Novina complex, occasionally flooded	Cass	4
8443	Cass-Wann fine sandy loams, occasionally flooded	Cass	4
8468	Gibbon loamy sand, overwash, 0 to 2 percent slopes, occasionally flooded	Gibbon	3
8480	Gibbon-Wann complex, occasionally flooded	Gibbon	5
8485 8486	Gilliam-Eudora silt loams, occasionally flooded Gilliam-Onawa complex, occasionally flooded	Gilliam Gilliam	5
8510	Lex-Platte complex, occasionally flooded	Lex	3
8532	Novina-Gibbon complex, occasionally flooded	Novina	5
8560	Platte and Alda soils, frequently flooded	Platte	2
8566	Platte, Inglewood, and Barney soils, frequently flooded	Platte	2
8569	Platte-Barney complex, channeled, frequently flooded	Platte	2
8574	Platte-Inavale complex, channeled, occasionally flooded	Platte	2
8594	Wann-Caruso-Ingelwood complex, occasionally flooded	Wann	4
9700	Udarents-Urban land complex, 1 to 14 percent slopes	Udarents	5
9701	Udarents-Urban land complex, footslope, 0 to 10 percent slopes	Udarents	5
9702	Udarents-Urban land complex, summit, 0 to 8 percent slopes	Udarents	5
9706	Udorthents-Urban land-Pohocco complex, 0 to 39 percent slopes	Udorthents	5
9711	Urban land-Udarents complex, 0 to 16 percent slopes	Urban land	
9712	Urban land-Udarents-Udorthents complex, 0 to 23 percent slopes	Urban land	
9713	Urban land-Udorthents complex, 0 to 10 percent slopes, occasionally flooded	Urban land	
9714	Urban land-Udorthents complex, 0 to 14 percent slopes	Urban land	
9715	Urban land-Udorthents complex, drainageway, 0 to 8 percent slopes, occasionally flooded	Urban land	
9716	Urban land-Udorthents complex, footslope, 0 to 11 percent slopes	Urban land	
9717	Urban land-Udorthents complex, summit, 0 to 8 percent slopes	Urban land	-
9718	Urban land-Udorthents-Judson complex, 0 to 11 percent slopes	Urban land	1
9719	Urban land-Udorthents-Marshall complex, 0 to 9 percent slopes	Urban land	-
9720	Urban land-Udorthents-Pohocco complex, 0 to 16 percent slopes	Urban land	-
9901	Fluvaquents sandy and Aquolls silty, frequently flooded	Fluvaquents, sandy	5
9967 9971	Sanitary landfill	Sanitary landfill	<del>                                     </del>
9971	Arents, earthen dam Gravel pit	Arents Pits	<del>                                     </del>
9986	Miscellaneous water, sewage lagoon	Water	+
9999		Water	+
צבבב	Water	Innates	L

#### Soil Loss Tolerance Values (T-Factors) For Sarpy County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
2106	Carr-Ticonic-Scroll complex, occasionally flooded	Carr	4
3537	Gibbon silty clay loam, occasionally flooded	Gibbon	5
4113	Hedville, Sogn, and Contrary soils, 12 to 75 percent slopes	Hedville	1
6452	Clamo-Zook-Kezan silty clay loams, occasionally flooded	Clamo	5
6460	Inglewood-Novina complex, occasionally flooded	Inglewood	5
7050	Kennebec silt loam, occasionally flooded	Kennebec	5
7061	Muscotah silty clay loam, occasionally flooded	Muscotah	5
7210	Burchard-Contrary-Steinauer complex, 7 to 16 percent slopes	Burchard	5
7234	Judson silty clay loam, 2 to 6 percent slopes	Judson	5
7235	Judson-Nodaway channeled-Contrary complex, 3 to 10 percent slopes	Judson	5
7275	Dickinson-Monona complex, 6 to 20 percent slopes	Dickinson	3
7741	Haynie silt loam, occasionally flooded	Haynie	5
7810	Scroll-Percival complex, occasionally flooded	Scroll	2
7812	Smithland-Kenridge silty clay loams, occasionally flooded	Kenridge	5
7815	Ticonic-Sarpy-Carr complex, occasionally flooded	Ticonic	5
7862	Nishna silty clay loam, occasionally flooded	Nishna	5
7880	Onawa silty clay, occasionally flooded	Onawa	5
7886	Onawa-Lossing silty clays, occasionally flooded	Onawa	5
8012	Ida-Pohocco-Monona silt loams, 11 to 30 percent slopes	Ida	5
8035	Marshall-Contrary silty clay loams, 2 to 7 percent slopes	Marshall	5
8040	Melia silt loam, 0 to 2 percent slopes	Melia	5
8041	Melia silty clay loam, 0 to 2 percent slopes	Melia	5
8100	Monona-Pohocco-Ida silt loams, 17 to 33 percent slopes	Monona	5
8138	Pohocco-Ida-Monona complex, 6 to 17 percent slopes	Pohocco	5
8140	Pohocco-Judson silt loams, 11 to 40 percent slopes	Pohocco	5
8143	Pohocco-Monona silt loams, 11 to 54 percent slopes	Pohocco	5
8153	Contrary-Marshall silty clay loams, 6 to 11 percent slopes	Contrary	5
8155	Contrary-Monona silty clay loams, 6 to 11 percent slopes	Contrary	5
8157	Contrary-Monona-Ida complex, 6 to 17 percent slopes	Contrary	5
8408	Alda-Platte complex, occasionally flooded	Alda	3
8410	Alda-Platte-Lex complex, occasionally flooded	Alda	3
8442 8443	Cass-Novina complex, occasionally flooded	Cass	4
8468	Cass-Wann fine sandy loams, occasionally flooded	Cibban	3
8480	Gibbon loamy sand, overwash, 0 to 2 percent slopes, occasionally flooded	Gibbon	5
8486	Gibbon-Wann complex, occasionally flooded Gilliam-Onawa complex, occasionally flooded	Gibbon Gilliam	5
8510	Lex-Platte complex, occasionally flooded	Lex	3
8532	Novina-Gibbon complex, occasionally flooded	Novina	5
8560	Platte and Alda soils, frequently flooded	Platte	2
8566	Platte, Inglewood, and Barney soils, frequently flooded	Platte	2
8594	Wann-Caruso-Ingelwood complex, occasionally flooded	Wann	4
9700	Udarents-Urban land complex, 1 to 14 percent slopes	Udarents	5
9701	Udarents-Urban land complex, footslope, 0 to 10 percent slopes	Udarents	5
9702	Udarents-Urban land complex, summit, 0 to 8 percent slopes	Udarents	5
9706	Udorthents-Urban land-Pohocco complex, 0 to 39 percent slopes	Udorthents	5
9711	Urban land-Udarents complex, 0 to 16 percent slopes	Urban land	
9713	Urban land-Udorthents complex, 0 to 10 percent slopes, occasionally flooded	Urban land	1
9715	Urban land-Udorthents complex, drainageway, 0 to 8 percent slopes, occasionally flooded	Urban land	1
9718	Urban land-Udorthents-Judson complex, 0 to 11 percent slopes	Urban land	1
9719	Urban land-Udorthents-Marshall complex, 0 to 9 percent slopes	Urban land	
9720	Urban land-Udorthents-Pohocco complex, 0 to 16 percent slopes	Urban land	†
9907	Fluvaquents, silty, frequently flooded and Tieville soils, rarely flooded	Fluvaquents, silty	5
9967	Sanitary landfill	Sanitary landfill	†
9971	Arents, earthen dam	Arents	†
9975	Mine or quarry	Mine or quarry	†
9983	Gravel pit	Pits	†
9986	Miscellaneous water, sewage lagoon	Water	1
9999	Water	Water	†

#### Soil Loss Tolerance Values (T-Factors) For Thurston County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
3514	Lamo silt loam, overwash, 0 to 2 percent slopes, occasionally flooded	Lamo	5
3518	Lamo silty clay loam, 0 to 2 percent slopes, occasionally flooded	Lamo	5
3545	Hobbs silt loam, channeled, 0 to 2 percent slopes, frequently flooded	Hobbs	5
3553	Hobbs silt loam, 0 to 2 percent slopes, frequently flooded, cool	Hobbs	5
6324	Coleridge silty clay loam, 0 to 2 percent slopes, occasionally flooded	Coleridge	5
6400	Calco silt loam, overwash, occasionally flooded	Calco	5
6401	Calco silty clay loam, occasionally flooded	Calco	5
6603	Alcester silty clay loam, 2 to 6 percent slopes	Alcester	5
6628	Belfore silty clay loam, 0 to 2 percent slopes	Belfore	5
6629	Belfore-Moody silty clay loams, 0 to 1 percent slopes	Belfore	5
6630	Belfore-Moody silty clay loams, 1 to 3 percent slopes	Belfore	5
6681	Crofton silt loam, 17 to 30 percent slopes, eroded	Crofton	5
6685	Crofton silt loam, 2 to 6 percent slopes, eroded	Crofton	5
6687	Crofton silt loam, 6 to 11 percent slopes, eroded	Crofton	5
6703	Thurman loamy fine sand, 2 to 6 percent slopes	Thurman	5
6706	Thurman loamy fine sand, 6 to 11 percent slopes	Thurman	5
6749	Nora silt loam, 11 to 17 percent slopes	Nora	5
6750	Nora silt loam, 11 to 17 percent slopes, eroded	Nora	5
6751	Nora silt loam, 17 to 30 percent slopes	Nora	5
6752	Nora silt loam, 17 to 30 percent slopes  Nora silt loam, 17 to 30 percent slopes, eroded	Nora	5
6754	Nora silt loam, 2 to 6 percent slopes, eroded	Nora	5
6756			ł
	Nora silt loam, 6 to 11 percent slopes, eroded	Nora	5
6758	Nora silty clay loam, 11 to 17 percent slopes	Nora	5
6767	Nora silty clay loam, 6 to 11 percent slopes	Nora	5
6782	Nora-Moody silty clay loams, 6 to 11 percent slopes	Nora	5
6802	Leisy fine sandy loam, 6 to 11 percent slopes	Leisy	5
6808	Moody silty clay loam, 0 to 2 percent slopes	Moody	5
6811	Moody silty clay loam, 2 to 6 percent slopes	Moody	5
6812	Moody silty clay loam, 2 to 6 percent slopes, eroded	Moody	5
6813	Moody silty clay loam, 6 to 11 percent slopes	Moody	5
6814	Moody silty clay loam, 6 to 11 percent slopes, eroded	Moody	5
6845	Ortello fine sandy loam, 3 to 6 percent slopes	Ortello	5
6848	Ortello fine sandy loam, 6 to 11 percent slopes, eroded	Ortello	5
6860	Crofton silt loam, 8 to 17 percent slopes, eroded	Crofton	5
7050	Kennebec silt loam, occasionally flooded	Kennebec	5
7053	Kennebec silt loam, overwash, occasionally flooded	Kennebec	5
7083	Sarpy loamy fine sand, occasionally flooded	Sarpy	5
7099	Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded	Zook	5
7153	Kennebec silt loam, rarely flooded	Kennebec	5
7213	Burchard silt loam, 6 to 11 percent slopes	Burchard	5
7214	Burchard silt loam, 11 to 17 percent slopes	Burchard	5
7219	Burchard clay loam, 11 to 17 percent slopes, eroded	Burchard	5
7228	Burchard clay loam, 6 to 11 percent slopes, eroded	Burchard	5
7230	Alcester silty clay loam, 0 to 2 percent slopes	Alcester	5
7612	Steinauer clay loam, 11 to 30 percent slopes, eroded	Steinauer	5
7618	Steinauer soils, 11 to 30 percent slopes	Steinauer	5
7710	Albaton silty clay, occasionally flooded	Albaton	5
7711	Albaton silty clay, frequently flooded	Albaton	5
7713	Albaton silty clay loam, occasionally flooded	Albaton	3
7716	McPaul silt loam, occasionally flooded	McPaul	5
7741	Haynie silt loam, occasionally flooded	Haynie	5
7744	Haynie silt loam, rarely flooded	Haynie	5
7770	Colo silty clay loam, occasionally flooded	Colo	5
7772	Colo and Lamo silty clay loams, occasionally flooded	Coleridge	5
7788	Luton silty clay loam, rarely flooded	Luton	5
7791	Luton silty clay, rarely flooded	Luton	5
7850	Sarpy fine sand, 3 to 11 percent slopes	Sarpy	5
7856	Sarpy soils, occasionally flooded	Sarpy	5
7874	Omadi silt loam, rarely flooded	Omadi	5
7876	Onawa and Haynie soils, occasionally flooded	Onawa	5
		· · · · · · · · · · · · · · · · · · ·	

#### Soil Loss Tolerance Values (T-Factors) For Thurston County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
7880	Onawa silty clay, occasionally flooded	Onawa	5
7889	Onawet silty clay loam, frequently flooded	Onawet	4
8005	Ida silt loam, 11 to 17 percent slopes	Ida	5
8006	Ida silt loam, 11 to 17 percent slopes, eroded	Ida	5
8007	Ida silt loam, 17 to 30 percent slopes	Ida	5
8008	Ida silt loam, 17 to 30 percent slopes, eroded	Ida	5
8009	Ida silt loam, 30 to 60 percent slopes	Ida	5
8010	Ida silt loam, 6 to 11 percent slopes, eroded	Ida	5
8011	Ida soils, 30 to 60 percent slopes	lda	5
8067	Monona silt loam, 1 to 6 percent slopes	Monona	5
8068	Monona silt loam, 1 to 6 percent slopes, eroded	Monona	5
8070	Monona silt loam, 11 to 17 percent slopes	Monona	5
8071	Monona silt loam, 11 to 17 percent slopes, eroded	Monona	5
8073	Monona silt loam, 17 to 30 percent slopes	Monona	5
8078	Monona silt loam, 6 to 11 percent slopes	Monona	5
8079	Monona silt loam, 6 to 11 percent slopes, eroded	Monona	5
8114	Pohocco silt loam, 11 to 17 percent slopes, eroded	Pohocco	5
9810	Riverwash	Riverwash	2
9900	Fluvaquents, frequently flooded	Fluvaquents	5
9931	Gullied land-Ida complex, 30 to 60 percent slopes	Ida	5
9975	Mine or quarry	Mine or quarry	
9983	Gravel pit	Pits	
9986	Miscellaneous water, sewage lagoon	Miscellaneous water	
9999	Water	Water	

#### Soil Loss Tolerance Values (T-Factors) For Washington County

S321 Cass fine sandy beam, occasionally flooded (ass s)  4 Rean sitt Sand, occasionally flooded (series)  5 Rean sitt Sand, occasionally flooded (series)  5 Rean sitt Sand, occasionally flooded (series)  6 Rean sitt Sand, occasionally flooded (series)  7 Rean sitt Sand, occasionally flooded (series)  8 Rean sitt Sand, occasionally flooded (series)  8 Rean sitt Sand, occasionally flooded (series)  8 Rean sitt Sand, occasionall	Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
Seza Seza-Kennebec sit Loams, Grained, occasionally floodec   Seza Seza Seza Seza Seza Seza Seza Seza		•	Cass	4
Sean Nenneber   Sean Nennebe	3642		Kezan	5
6324 Colendge sity day loam, 0 to 2 percent slopes, occasionally floodec 6326 Shell sit loam, accasionally flooded 6327 Inglewood lamary fine sand, occasionally floodec 6328 Shell sit loam, accasionally floodec 6456 Inglewood lamary fine sand, occasionally floodec 6505 Belfore sity clay loam, 10 to 3 percent slopes 6603 Alecster sity (aby loam, 10 to 3 percent slopes 6603 Alecster sity (aby loam, 10 to 3 percent slopes 6603 Lordon sity (aby loam, 10 to 3 percent slopes 6628 Belfore sity (aby loam, 10 to 3 percent slopes, eroded 6628 Corfons sit loam, 30 to 3 percent slopes, eroded 6636 Corfons sit loam, 30 to 3 percent slopes, erodec 6636 Corfons sit loam, 30 to 3 percent slopes, erodec 6636 Corfons sit loam, 30 to 3 percent slopes, erodec 6637 Nara sit loam, 50 to 13 percent slopes, erodec 6636 Corfon sit loam, 50 to 13 percent slopes, erodec 6630 Corfon sit loam, 50 to 13 percent slopes, erodec 6630 Corfon sit loam, 50 to 13 percent slopes, erodec 6630 Corfon sit loam, 50 to 13 percent slopes, erodec 6630 Corfon sit loam, 50 to 13 percent slopes, erodec 6630 Corfon sit loam, 50 to 13 percent slopes, erodec 6630 Corfon sit loam, 60 to 13 percent slopes, erodec 6630 Corfon sit loam, 60 to 13 percent slopes, erodec 6640 Corfon sit loam, 60 to 13 percent slopes, erodec 6650 Corfon sit loam, 60 to 13 percent slopes 6660 Corfon sit loam, 60 to 13 percent slopes 6660 Corfon sit loam, 60 to 12 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam, 60 to 10 percent slopes 6660 Corfon sit loam,	3643	Kezan-Kennebec silt loams, drained, occasionally flooded		5
Section   Sect	6324	Coleridge silty clay loam, 0 to 2 percent slopes, occasionally floodec	Coleridge	5
6156 Inglewood loamy fine sand, occasionally flooded   Inglewood   5   6603 Seffore sithy clay loam, 2 to 6 percent slopes   8606   6003 Alcester sithy clay loam, 2 to 6 percent slopes   Alcester   5   6603 Alcester sithy clay loam, 2 to 5 percent slopes   Alcester   5   6603 Seffore sithy clay loam, 2 to 2 percent slopes   Refore   5   6603 Corfton sit loam, 1 to 30 percent slopes, evoded   Corfton   5   6608 Corfton sit loam, 3 to 50 percent slopes   Corfton   5   6775 Nors sith loam, 5 to 11 percent slopes, evoded   Nora   5   6774 Nora Crofton complex, 11 to 17 percent slopes   Corfton   5   6775 Nora sith loam, 6 to 11 percent slopes, evoded   Nora   5   6774 Nora Crofton complex, 11 to 17 percent slopes   Moody   5   6800 Corfton sith loam, 8 to 17 percent slopes   Moody   5   6800 Corfton sith loam, 8 to 17 percent slopes   Forded   Nora   5   7700 Surpy fine sand, occasionally flooded   Kennebec   5   77080 Surpy fine sand, occasionally flooded   Sarryy   5   77099 Zook sithy clay loam, 0 to 2 percent slopes, coasionally flooded   Sarryy   5   7710 Bourchard Contrary Steinauer complex, 7 to 16 percent slopes   Burchard   5   77228 Burchard (lay loam, 16 to 11 percent slopes, coasionally flooded   Sarryy   5   7723 Judson Nodaway channeled Contrary complex, 7 to 16 percent slopes   Burchard   5   7724 Judson Nodaway channeled Contrary complex, 7 to 16 percent slopes   Burchard   5   7725 Judson Nodaway channeled Contrary complex, 8 to 16 percent slopes   Burchard   5   7726 Grable sith loam, occasionally flooded   Albaton   5   7727 Albaton sity (day, occasionally flooded   Albaton   5   7728 Day (albaton sity (day, occasionally flooded   Albaton   5   7729 Cooper sity (day loam, are fly flooded   Albaton   5   7729 Moville sity (day, occasionally flooded   Albaton   5   7729 Moville sity (day, occasionally flooded   Albaton   5   7729 Moville sity (day, occasionally flooded   Norae   5   7729 Moville sity (day, occasionally flooded   Onawa   5   7729 Moville sity (day, occasionally flooded   Onawa   5	6327	Fontanelle silty clay loam, frequently flooded	Fontanelle	5
6456 Inglewood Loamy fine sand, occasionally flooded 5607 Before sity Caly loam, 2 to 6 percent slope: 6608 Alcester sity Caly loam, 2 to 6 percent slope: 6608 Alcester sity Caly loam, 2 to 6 percent slope: 6608 Before sity Caly loam, 2 to 5 percent slope: 6608 Corfton sit Loam, 2 to 20 percent slopes: 6608 Corfton sit Loam, 2 to 20 percent slopes: 6608 Corfton sit Loam, 2 to 20 percent slopes; 6609 Corfton sit Loam, 2 to 20 percent slopes; 6600 Corfton complex, 1 to 17 percent slopes, eroded 6600 Corfton sit Loam, 2 to 6 percent slopes, eroded 6600 Corfton sit Loam, 2 to 6 percent slopes, eroded 7600 Sarpy fine sand, occasionally flooded 7710 Binchard charty-stenane complex, 7 to 16 percent slopes 8000 Binchard floor floor floor fine stenane should be sarpy 8000 Sarpy fine sand, occasionally flooded 8000 Sarpy Sarpy Sarpy 8000	6385	Shell silt loam, occasionally flooded	Shell	5
6505   Before sity (Jay Joan, terrace, 0 to 2 percent slopes   Alcester   5		Inglewood loamy fine sand, occasionally flooded	Inglewood	5
6603 Alcester sity clay loam, 2 to 5 percent slopes 6608 Before sity (aly loam, 10 to 2 percent slopes 6681 Corfton sit loam, 12 to 30 percent slopes, eroded Corfton sit loam, 20 to 60 percent slopes 6686 Corfton sit loam, 20 to 60 percent slopes 6774 Nora Crofton complex, 11 to 17 percent slopes, eroded Abrar 6774 Nora Crofton complex, 11 to 17 percent slopes, eroded Nora 6811 Moody sity (aly loam, 2 to 6 percent slopes) 6860 Corfton sit loam, 80 to 6 percent slopes 6860 Corfton sit loam, 80 to 7 percent slopes, eroded Nora 7750 Kennebec sit loam, coasionally flooded Sarpy 6860 Sarpy fine sand, occasionally flooded Sarpy 7880 Sarpy fine sand, occasionally flooded Sarpy 599 Zook sity (aly loam, 2 to 6 percent slopes, eroded Nora 789 Sarpy loam fine sand, occasionally flooded Sarpy 509 Zook sity (aly loam, 0 to 2 percent slopes, eroded Burchard clay loam, 6 to 11 percent slopes, eroded Burchard clay loam, 6 to 11 percent slopes, eroded Burchard Sarpy loam slopes 17210 Burchard clay loam, 6 to 11 percent slopes, eroded Burchard Sarpy loam slopes 17235 Judson Nodaway channeled Contrary complex, 5 to 16 percent slopes 17240 Burchard clay loam, 6 to 11 percent slopes, eroded Burchard Sarpy loam slopes 17256 Burchard slopes load slopes load slopes 1726 Burchard slopes load slopes 1727 Load slopes load slopes load slopes 1728 Burchard slopes 1729 Load slopes load slopes 1720 Crobes slopes 17210 Albaton slity clay clay flooded Albaton 17211 Albaton slity clay forequently flooded Albaton 17211 Albaton slity clay forequently flooded Albaton 1722 Burchard slopes 17236 Cooper slity clay loam, 2 to 6 percent slopes 17240 Cooper slity clay loam, arely flooded Dawn slity clay loam, arely flooded Dawn slity clay clay coasionally flooded Albaton 1729 Cooper slity clay loam, arely flooded Dawn slity clay coasionally	6505		_	5
6628   Before sity clay loam, 0 to 2 percent slopes   Selfore   S   6688   Corfon sit loam, 27 to 30 percent slopes   Corfon   S   6686   Corfon sit loam, 27 to 30 percent slopes   Corfon   S   6756   Nora sit loam, 30 to 60 percent slopes   Corfon   S   6774   Nora-Corfon complex, 11 to 17 percent slopes   Mora   S   6774   Nora-Corfon complex, 11 to 17 percent slopes   Mora   S   6850   Corfon sit loam, 8 to 17 percent slopes   Mora   S   6860   Corfon sit loam, 8 to 17 percent slopes   Mora   S   7050   Kennebec sit loam, occasionally flooded   Sarry   S   7060   Sarry there sand, occasionally flooded   Sarry   S   7083   Sarry loamy fine sand, occasionally flooded   Sarry   S   7083   Sarry loamy fine sand, occasionally flooded   Sarry   S   7099   Zook sity (val joam, 7 to 2 percent slopes   Occasionally flooded   Sarry   S   7210   Burchard-Contrary-Stenauer complex, 7 to 16 percent slopes   Burchard   S   7224   Judson slity clay loam, 7 to 17 percent slopes   Burchard   S   7235   Judson slity clay loam, 7 to 2 percent slopes   Judson   S   7266   Burchard-Steinauer clay loams, 11 to 17 percent slopes   Judson   S   7710   Albaton slity clay, coacsionally flooded   Albaton   S   7711   Albaton slity clay, coacsionally flooded   Albaton   S   7711   Albaton slity clay, requestly flooded   Albaton   S   7711   Albaton slity clay, requestly flooded   Albaton   S   7712   Albaton slity clay, requestly flooded   Albaton   S   7714   Haysie sitt loam, occasionally flooded   Albaton   S   7715   Onawa sity clay loam, rarely floodec   Silver   S   7718   Coaper sity clay loam, rarely floodec   Silver   S   7719   Albaton slity clay, recuesting flooded   Silver   S   7710   Albaton slity clay, precuesting flooded   Silver   S   7711   Albaton slity clay, occasionally flooded   Silver   S   7712   Onawa sity clay loam, rarely floodec   Silver   S   7713   Albaton slity clay, occasionally flooded   Silver   S   7714   Silver   S   7715   Silver   S   7716   Silver   S   S   7717   Silver   S   S   7718   Silver	6603		Alcester	5
6681 Corfon sit loam, 17 to 30 percent slopes crofted 6786 Nora Sit Ioam, 61 to 11 percent slopes crofted 6786 Nora Sit Ioam, 61 to 11 percent slopes, eroded 8786 Nora Sit Ioam, 61 to 11 percent slopes, eroded 8811 Moody sity day loam, 2 to 6 percent slopes eroded 8860 Corfon sit Ioam, 8 to 17 percent slopes, eroded 8860 Corfon sit Ioam, 8 to 17 percent slopes, eroded 7896 Serphon Sit Ioam, 8 to 17 percent slopes, eroded 7898 Sarpy Ioam, 18 to 17 percent slopes, eroded 7898 Sarpy Ioam, 18 to 17 percent slopes, eroded 8897 Sarpy Ioam, 18 to 17 percent slopes, eroded 8998 Sarpy Ioam, 18 to 18 percent slopes, eroded 8999 Zook sity day Ioam, 0 to 2 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 0 to 2 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 10 to 2 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 10 to 2 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 10 to 2 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 10 to 2 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 10 to 2 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 10 to 19 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 10 to 19 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 10 to 19 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 11 to 17 percent slopes, occasionally flooded 9999 Zook sity day Ioam, 11 to 17 percent slopes, occasionally flooded 9990 Zook sity day occ	6628		Belfore	5
6756         Nora silt loam, 6 to 11 percent slopes, eroded         Nora         5           6774         Nova Crofton complex, 11 to 17 percent slopes         Moody silty clay loam, 2 to 6 percent slopes         Moody         5           6881         Moody silty clay loam, 2 to 6 percent slopes         Moody         5           6880         Crofton silt loam, 8 to 17 percent slopes, eroded         Crofton         5           7080         Sarpy fine sand, occasionally flooded         Kennebec         5           7083         Sarpy loany fine sand, occasionally flooded         Sarpy         5           7080         Sarpy fine sand, occasionally flooded         Sarpy         5           7099         Zook silty clay loam, 0 to 2 percent slopes, occasionally floodec         Zook         5           7210         Burchard clay loam, 5 to 11 percent slopes, eroded         Burchard         5           7224         Burchard slomany channeled Contrary complex, 3 to 10 percent slopes         Judson         5           7234         Judson silty clay loam, 5 to 11 percent slopes, erodec         Burchard         5           7235         Judson silty clay loam, 2 to 6 percent slopes, erodec         Burchard         5           7236         Burchard Steinauer clay loams, 11 to 17 percent slopes, brodec         Burchard         5	6681		Crofton	5
6811   Modoty Still Caly Department Suppes, encoded   Nora	6686	Crofton silt loam, 30 to 60 percent slopes	Crofton	5
6811         Moody silty (alp Jan, 2 to 6 percent slopes         Moody         5           6860         Crofton silt bam, 8 to 17 percent slopes, erodec         Crofton         5           7050         Kennebec silt loam, occasionally flooded         Xennebec         5           7080         Sarpy line sand, occasionally flooded         Sarpy         5           7080         Sarpy lomany fine sand, occasionally flooded         Sarpy         5           7080         Sarpy lomany fine sand, occasionally flooded         Sarpy         5           7099         Zook silty clay loam, ot 2 percent slopes, occasionally flooded         Zook         5           7210         Burchard clay loam, 6 to 11 percent slopes         Burchard         5           7228         Burchard clay loam, 6 to 11 percent slopes         Judson         5           7234         Judson Nodaway channeled Contrary complex, 3 to 10 percent slopes         Judson         5           7266         Burchard-Steinauer clay loam; 11 to 17 percent slopes, eroded         Burchard         5           7703         Grabia silt loam, occasionally flooded         Albaton         5           7710         Albaton silty clay, occasionally flooded         Albaton         5           7741         Haynie silt loam, occasionally flooded         Haynie si	6756	Nora silt loam, 6 to 11 percent slopes, eroded	Nora	5
6860 Crofton sill loam, 8 to 12 percent slopes, erodec 7050 Kennebec sill clam, occasionally flooded 7050 Kennebec sill clam, occasionally flooded 7050 Sarpy fine sand, occasionally flooded 7050 Sarpy occasionally flooded 8050 Sarpy occasionally flooded	6774	Nora-Crofton complex, 11 to 17 percent slopes, eroded	Nora	5
7050         Kennebec sit Ioam, occasionally flooded         Kennebec         5           7080         Sarpy Ioamy Ine sand, occasionally flooded         Sarpy         5           7089         Sarpy Ioamy Ine sand, occasionally flooded         Sarpy         5           7099         Zook sity Clay Ioam, 0 to 2 percent slopes, occasionally floodec         Zook         5           7210         Burchard Contrary-Steinauer complex, 7 to 16 percent slopes         Burchard         5           7224         Burchard Clay Ioam, 6 to 11 percent slopes         Burchard         5           7234         Judson Nodaway channeled-Contrary complex, 3 to 10 percent slopes         Judson         5           7266         Burchard Steinauer clay Ioams, 11 to 17 percent slopes, erodec         Burchard         5           7703         Grable sit Ioam, occasionally flooded         Grable sit Ioam, occasionally flooded         Grable sit Ioam, occasionally flooded         Albaton         5           7711         Albaton sity clay, occasionally flooded         Albaton         5         5           7711         Albaton sity clay, occasionally flooded         Albaton         5         5           7761         Albaton sity clay, accasionally flooded         Onawa         5         5           7762         Byburg sity clay loam, arealy flood	6811	Moody silty clay loam, 2 to 6 percent slopes	Moody	5
7050         Kennebec sit Ioam, occasionally flooded         Kennebec         5           7080         Sarpy Ioamy Ine sand, occasionally flooded         Sarpy         5           7089         Sarpy Ioamy Ine sand, occasionally flooded         Sarpy         5           7099         Zook sity Clay Ioam, 0 to 2 percent slopes, occasionally floodec         Zook         5           7210         Burchard Contrary-Steinauer complex, 7 to 16 percent slopes         Burchard         5           7224         Burchard Clay Ioam, 6 to 11 percent slopes         Burchard         5           7234         Judson Nodaway channeled-Contrary complex, 3 to 10 percent slopes         Judson         5           7266         Burchard Steinauer clay Ioams, 11 to 17 percent slopes, erodec         Burchard         5           7703         Grable sit Ioam, occasionally flooded         Grable sit Ioam, occasionally flooded         Grable sit Ioam, occasionally flooded         Albaton         5           7711         Albaton sity clay, occasionally flooded         Albaton         5         5           7711         Albaton sity clay, occasionally flooded         Albaton         5         5           7761         Albaton sity clay, accasionally flooded         Onawa         5         5           7762         Byburg sity clay loam, arealy flood	6860		Crofton	5
7083 Sarpy loamy fine sand, occasionally flooded	7050		Kennebec	5
2006 silty clay loam, 0 to 2 percent slopes, occasionally floodec   2006   5	7080	Sarpy fine sand, occasionally flooded	Sarpy	5
200k silty day loam, 0 to 2 percent slopes, occasionally floodec   200k   5	7083	Sarpy loamy fine sand, occasionally flooded	Sarpy	5
7210         Burchard-Contrary-Steinauer complex, 7 to 16 percent slopes         Burchard         5           7228         Burchard clay loam, 6 to 11 percent slopes, eroded         Burchard         5           7234         Judson silty clay loam, 2 to 6 percent slopes         Judson         5           7235         Judson-Nodaway channeled-Contrary complex, 3 to 10 percent slopes         Judson         5           7266         Burchard-Steinauer clay loams, 11 to 17 percent slopes, erodec         Burchard         5           7703         Grable silt loam, occasionally flooded         Grable         3           7710         Albaton silty clay, occasionally flooded         Albaton         5           7711         Albaton silty clay, occasionally flooded         Haynie         5           7741         Haynie silt clay loam, occasionally flooded         Haynie         5           7763         Onawa silty clay loam, carely flooded         Blyburg         5           7767         Blyburg silty clay loam, rarely flooded         Blyburg silty clay loam, rarely flooded         Cooper         5           7780         Forney silt loam, overwash, rarely flooded         Luton         5           7781         Luton silty clay, cascionally flooded         Luton         5           7782         Luton silty cla	7099	Zook silty clay loam, 0 to 2 percent slopes, occasionally floodec		5
7234 Judson silty clay loam, 2 to 6 percent slopes Judson 5 7235 Judson-Nodaway channeled-Contrary complex, 3 to 10 percent slopes Judson 5 7266 Burchard-Steinauer clay loams, 11 to 17 percent slopes, erodec Burchard 5 7703 Grable silt toam, occasionally flooded Grable 3 7710 Albaton silty clay, requently flooded Albaton 5 7711 Albaton silty clay, requently floodec Albaton 5 7711 Albaton silty clay, requently floodec Albaton 5 7741 Hayrie silt loam, occasionally flooded Hayrie 5 7763 Onawa silty clay loam, occasionally flooded Hayrie 5 7766 Blyburg silt y clay loam, rarely flooded Blyburg 5 7779 Cooper silty clay loam, rarely flooded Cooper 5 7780 Forney silt loam, overwash, rarely flooded Cooper 5 7781 Luton silty clay, occasionally flooded Luton 5 7782 Luton silty clay, occasionally flooded Luton 5 7795 Moville silt loam, verwash, rarely flooded Luton 5 7796 Moville silt loam, rarely flooded Luton 5 7797 While silt loam, veraged flooded Moville 4 7802 Percival silty clay, occasionally flooded Percival 3 7808 Salix silty clay loam, rarely flooded Percival 3 7808 Salix silty clay loam, rarely flooded Wathena 5 7820 Wathena fine sandy loam, occasionally flooded Wathena 5 7821 Wathena fine sandy loam, rarely flooded Wathena 5 7822 Wathena fine sandy loam, occasionally flooded Omadi 5 7880 Onawa silty clay, occasionally flooded Omadi 5 7880 Onawa silty clay, occasionally flooded Omadi 5 7888 Onawet silty clay, occasionally flooded Onawa 5 7888 Onawet silty clay, occasionally flooded Onawa 5 7888 Onawet silty clay, occasionally flooded Marshall 5 8010 Ida silt loam, 7 to 17 percent slopes, eroded Ida 5 8011 Ida silt loam, 6 to 17 percent slopes Marshall 5 8012 Ida-Pohocco-Monona silt loams, 2 to 7 percent slopes Marshall 5 8013 Marshall silty clay loam, 2 to 6 percent slopes Monona 5 8030 Marshall silt cay loam, 2 to 6 percent slopes Monona 5 8031 Monona silt loam, 6 to 17 percent slopes Monona 5 8032 Marshall Solva, occasionally flooded Monona 5 8033 Monona silt loam, 6 to 17 percent slopes Monona 5 8034 Monona si	7210		Burchard	5
7234 Judson silty clay loam, 2 to 6 percent slopes 7235 Judson-Nodaway channeled-Contrary complex, 3 to 10 percent slopes 7266 Burchard-Steinauer clay loams, 11 to 17 percent slopes, erodec 7703 Grable silt toam, occasionally flooded 7710 Albaton silty clay, occasionally flooded 7711 Albaton silty clay, requently floodec 7712 Albaton silty clay, requently floodec 7713 Conawa silty clay loam, occasionally flooded 7714 Haynie silt loam, occasionally flooded 7715 Cooper silty clay loam, rarely flooded 7716 Blyburg silty clay loam, rarely flooded 7717 Cooper silty clay loam, rarely flooded 7717 Cooper silty clay loam, rarely flooded 7718 Cooper silty clay loam, rarely flooded 7718 Cooper silty clay loam, rarely flooded 7718 Luton silty clay, occasionally flooded Porcent silty clay, occasionally flooded Luton 7719 Luton silty clay, occasionally flooded Luton 7710 Luton silty clay, occasionally flooded Luton 7711 Luton silty clay, occasionally flooded Luton 7711 Luton silty clay, occasionally flooded Luton 7711 Luton silty clay, occasionally flooded Percival 7712 Luton silty clay, occasionally flooded Percival 7713 Salik 7714 Maynen fine sandy loam, rarely flooded Percival 7715 Wathena fine sandy loam, carely flooded Percival 7716 Wathena fine sandy loam, rarely flooded Wathena 7717 Omadis lit loam, rarely flooded Wathena 7718 Wathena fine sandy loam, rarely flooded Wathena 7718 Omadis lit loam, rarely flooded Onawa To make silt loam, rarely flooded Onawa To	7228	Burchard clay loam, 6 to 11 percent slopes, eroded	Burchard	5
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8138 Pohocco-Ida-Monona complex, 6 to 17 percent slopes Pohocco 5	8108	Napier-Nodaway-Gullied land complex, 0 to 60 percent slopes	Napier	5
	8136	Pohocco-Ida complex, 11 to 17 percent slopes, eroded	Pohocco	5
Pohocco-Monona complex, 11 to 17 percent slopes, eroded Pohocco 5	8138	Pohocco-Ida-Monona complex, 6 to 17 percent slopes	Pohocco	5
	8142	Pohocco-Monona complex, 11 to 17 percent slopes, eroded	Pohocco	5

#### Soil Loss Tolerance Values (T-Factors) For Washington County

Map Unit Symbol	Map Unit Name	Dominant Component	T-Factor
8153	Contrary-Marshall silty clay loams, 6 to 11 percent slopes	Contrary	5
8155	Contrary-Monona silty clay loams, 6 to 11 percent slopes	Contrary	5
8157	Contrary-Monona-Ida complex, 6 to 17 percent slopes	Contrary	5
8436	Cass loam, occasionally flooded	Cass	4
8485	Gilliam-Eudora silt loams, occasionally flooded	Gilliam	5
8563	Platte loam, occasionally flooded	Platte	2
8566	Platte, Inglewood, and Barney soils, frequently flooded	Platte	2
9903	Fluvaquents, sandy, frequently flooded	Fluvaquents, sandy	5
9906	Fluvaquents, silty, frequently flooded	Fluvaquents, silty	5
9932	Gullied land-Napier complex, 5 to 60 percent slopes	Gullied land	5
9970	Aquolls	Aquolls	5
9971	Arents, earthen dam	Arents	
9975	Mine or quarry	Mine or quarry	
9986	Miscellaneous water, sewage lagoon	Water	
9999	Water	Water	

#### Appendix B

#### **Recommended Practices for Controlling Erosion and Sedimentation**

The following practices are listed in three general categories: permanent agricultural, temporary agricultural, and non-agricultural. The lists are not mutually exclusive in that some practices are on more than one list. All practices on the lists are deemed to be suitable under proper circumstances, for controlling erosion and sedimentation within the District. Many are potential components of resource management systems for lands in the District. Actual application depends on the particular circumstances and needs being addressed. NRCS has plans, specifications, or technical guides for most of these practices.

# 1. <u>Permanent Soil and Water Conservation Practices for Controlling Erosion and Sedimentation on Agricultural Lands</u>

Permanent soil and water conservation practices are activities which often are part of an on-going (longer than one year) resource management system and may be recommended and adopted as part of a conservation plan. For those practices found on both this list and the "Temporary Soil and Water Conservation Practices" lists, the District will determine on a case by case basis whether the practice is required as a permanent or temporary measure.

Channel Vegetation
Critical Area Planting
Diversions
Field Borders
Field Windbreaks
Gabions
Grade Stabilization Structures
Grassed Waterways or Outlets
Pasture and Hayland Planting
Sediment Retention Basins
Terraces
Tree Plantings
Underground Outlets
Water and Sediment Control Structures

# 2. <u>Temporary Soil and Water Conservation Practices for Controlling Erosion and Sedimentation on Agricultural Lands</u>

Temporary soil and water conservation practices range from one-time only actions to activities which could continue for a number of years. Those on-going activities generally involve management decisions where a practice may be maintained, modified, or eliminated on an annual basis, rather than practices involving more permanent construction or installation activities. These practices generally require no, or lower, capital investments, and the availability of cost share assistance is not required.

Conservation Cropping Systems
Conservation Tillage Systems
Contour Farming
Cover and Green Manure Crop
Crop Residue Management
Livestock Exclusion
Mulching
Pasture and Hayland Management
Contour Strip Cropping

# 3. <u>Erosion and Sediment Control Practices for Controlling Erosion and Sedimentation on Land Not used for Agriculture, Horticulture, or Silvicultural Purposes</u>

There are many land disturbing activities which, are not related to agriculture, horticulture, or silviculture. Erosion and sedimentation as a result of these activities can be a significant problem. The following practices include permanent and temporary structure and devices that may be required to treat erosion on, *and* sedimentation from, these lands, but cost share assistance need not be made available.

Channel Vegetation

Check Dams

Chutes/Flumes

Cover Crops

Critical Area Planting

Dams

Dikes

Diversions

Gabions

**Grade Stabilization Structures** 

**Grassed Waterways or Outlets** 

Interceptor or Perimeter Swales

Lining of Waterways or Outlets

Mulching

**Riprap** 

Roadside Seeding

Sandbag Sediment Barriers

Silt Fences

**Straw Bale Sediment Barriers** 

Stream Channel Stabilization

Terraces

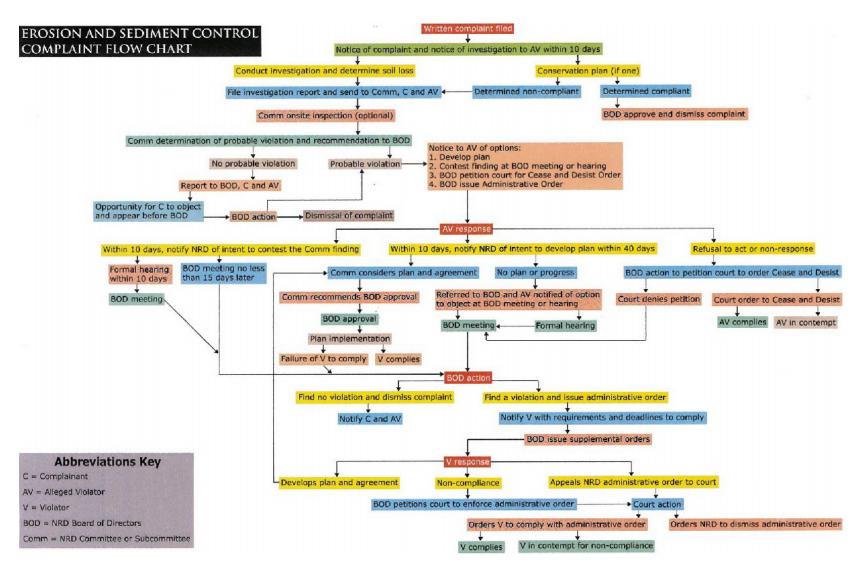
Tree Plantings

**Underground Outlets** 

Water and Sediment Control Structures

#### **Appendix C**

#### **Complaint Flow Chart**



# Papio-Missouri River NRD Erosion & Sediment Control Program

# NOTICE OF FILING OF COMPLAINT AND INSPECTION DATE

COMPLAINT NO	
DATE:	
NAME:	ADDRESS:
<u>complainant</u> ) stating that sediment damages alleging that this sediment is originating for s	) Natural Resources District by (
Directors and their agents to inspect this trac	plaint, it will be necessary for the District Board of t of land to ascertain whether such excess soil loss is nade on ( <u>date</u> ) at ( <u>time</u> ). You are invited
Statutes of Nebraska and Rule () of Natural Resources District. You will be sent	the Rules and Regulations of the () a copy of the inspection report when completed. If our District office: (
Signature	
Ganaral Managar	

General Manager Papio-Missouri River Natural Resources District

Form: 2.

# Papio-Missouri River NRD Erosion & Sediment Control Program

#### NOTICE OF VIOLATION

COMPLAINT NO
DATE:
NAME:ADDRESS:
You were notified on ( <u>date</u> ) that a complaint had been filed with the Papio-Missouri River Natural Resources District by ( <u>name</u> ) alleging that sediment originating from excess rates of soil erosion on your land was causing sediment damages on ( <u>his/her/their</u> ) property. An inspection of these lands was conducted on ( <u>date</u> ).
Based on this inspection and the report of the investigator, the Committee designated by the District Board for this purpose, has determined that there is reasonable cause to believe that sediment damages have occurred and were the result of soil loss from your land in excess of the tolerance level established by the District in violation of the Erosion and Sediment Control Rules and Regulations.
The portions of your land believed to be in violation are identified on the map which is included in the investigator's report accompanying this notice.
You are further advised that you have two options at this point.
1. Should you develop an acceptable conservation plan or erosion and sediment control plan to eliminate excess erosion on the areas of your land, which are in violation, and sign a conservation agreement with the District, no further action will be taken on this complaint, provided that you remain in compliance with the plan and agreement. Cost-share assistance may be available for installation of permanent soil and water conservation practices at a cost-share rate set by the counties FSA boards or the District. If you are interested in pursuing this option, you must contact the District office within 10 days after receiving this notice. We are ready to assist you in developing a plan.
2. Should you wish to contest the findings in the report and/or the conclusions of the Committee, you are entitled to do so at a meeting of the District Board ( <u>date and time</u> ) at ( <u>location</u> ). If you wish to have a formal adjudicatory hearing, you must request it within 10 days after receiving this notice. Hearing information will be provided to you.
Finally, you are advised that if you do not respond to this notice in either of the preceding ways, the District Board shall proceed to make a final determination on the complaint, and if appropriate, issue an administrative order requiring you to correct the excess erosion, which may be enforced by court action as prescribed by law.
We encourage you to select the first option and we remain ready to assist you in eliminating the excess erosion on your land.
Signature:
Print:

Form: 3.

#### Papio-Missouri River NRD Erosion & Sediment Control Program

#### CONSERVATION AGREEMENT

COMPLAINT NO	
DATE:	
NAME:	ADDRESS:
LEGAL:	COUNTY:
between the Papio-Missouri River Natural Re, herein called COOPE requirements of Nebraska Revised Statute Se	ection 2-4603(2) and should be interpreted and olicies of the Nebraska Erosion and Sediment

#### WITNESSETH:

COOPERATOR agrees to implement the farm unit conservation plan (or a portion of the farm unit conservation plan), or in the case of nonagricultural land-disturbing activities, an erosion and sediment control plan, attached to this agreement according to the Schedule for Completion accompanying the plan. Both the plan and schedule are incorporated herein by reference.

DISTRICT agrees to provide assistance to COOPERATOR in applying the plan to COOPERATOR'S farm and furnish, as available, technical and financial assistance, equipment, and materials to COOPERATOR at rates established by DISTRICT.

#### DISTRICT AND COOPERATOR mutually agree that:

- 1. Compliance with this agreement shall be deemed compliance with the requirements of the Nebraska Erosion and Sediment Control Act and the erosion and sediment control program approved by the District.
- 2. Cost-share for erosion and sediment control practices may be available from the DISTRICT. However, lack of available cost-share assistance does not offset the requirement that the COOPERATOR implement this farm unit conservation plan in the timed prescribed.
- 3. Neither DISTRICT nor COOPERATOR shall be liable for damages to the other in connection with the performance of this agreement unless such damages are caused by negligence or misconduct.

4. This agreement may be amended upon thirty da	ys notice.
This agreement shall be in effect when signed by be terminated by either party by giving sixty days noti	<u>*</u>
	Date:
Owner/Operator	
Address	_
Papio-Missouri River Natural Resources District	Date:

Form: 3a.

# Papio-Missouri River NRD Erosion & Sediment Control Program

# CONSERVATION PLAN FOR COMPLETION AND COOPERATOR'S RECORD OF COMPLIANCE

COMPLA	AINT NO	
DATE: _		
NAME: _		ADDRESS:
LEGAL:		COUNTY:
Attach ph	otograph, map, or diagram desi	gnating fields or tracts involved by number.
A. Planne	ed	
1.		ield or tracts listing conservation practice(s) and/or s to be applied. Describe briefly, what will be done and
2.	Indicate the amount of conser	vation practices planned and completion date(s).
B. Practic	ce(s) Completion	
1.	Indicate conservation practice	e(s) completed and completion date(s).
Cooperato	DF:	Date:
Preparer:		Date:

# Papio-Missouri River NRD Erosion & Sediment Control Program

#### ADMINISTRATIVE ORDER

COMPLAINT NO	
DATE:	
NAME:	ADDRESS:
The District Board has considered	I this complaint and makes the following findings:
sediment damage ( <u>has occurred</u> that sediment originating from ex	t was filed in the District office by ( <u>complainant</u> ) alleging that <u>l/was occurring</u> ) on ( <u>his/her/their</u> ) property and further alleged cess erosion on the land of ( <u>alleged violator</u> ) was causing this <u>alleged violator</u> ) of this complaint by letter dated ( <u>date</u> ).
	by the District investigator, ( <u>inspector</u> ) inspected the <u>alleged violator</u> ) filed a report with the Committee of the Board
3. On <u>( date )</u> the Committee probable violation of the Rules are	the notified ( <u>alleged violator</u> ) of its preliminary finding of ad Regulations of the District.
attempted to develop mutually a cwhich are the subject of this comp	r or appropriate designee and ( <u>alleged violator</u> ) have conservation plan or erosion and sediment control plan for the lands plaint but have been unable to reach agreement. The Committee ess was being made or likely to be made on preparation of an acceptable
-or-	
4a. The District Board held a pub ( <u>alleged violator</u> ). (Summar	olic hearing on this complaint on ( <u>date</u> ) as requested by ize).
-or-	
4b. ( alleged violator ) did no	t respond to the Notice of Violation.
The District Board further FINDS	S:
1. Sediment damage has occurre	ed on the land of <u>( complainant )</u> . (Describe).
loss on ( <u>alleged violator's</u> ) la ( <u>rate</u> ), which is in excess of	amage is the land of ( <u>alleged violator</u> ). The average annual soil and, determined by using the NRCS Technical Guides, is estimated to be the applicable soil-loss tolerance level(s) of ( <u>established rate</u> ) for Rule ( <u>)</u> of the District's Rules and Regulations.

Based on the foregoing findings, the District Board CONCLUDES:

1. The land of ( <u>alleged violator</u> ) is in violation of the Rules and Regulations of the District and the Nebraska Erosion and Sediment Control Act.
Therefore, by virtue of the authority vested in the District Board by Nebraska Revised Statute Section 2-4608, the District Board ORDERS:
(For agricultural land)
1. ( <u>alleged violator</u> ) shall bring those areas of ( <u>his/her/their</u> ) land which exceed the applicable soil-loss tolerance level(s) into conformance with the Rules and Regulations of the District. The District Board has determined that implementation of the following alternative soil and water conservation practices will bring the land into conformance and which may be used to comply with this order. (List two or more practices).
Work needed to establish these practices must be commenced ( <u>date</u> ) (no later than six (6) months after service or mailing of this order) and satisfactorily completed by ( <u>date</u> ) (no later than one year after service of mailing of this order).
2. ( <u>alleged violator</u> ) is hereby advised that should the work required by this order to correct the erosion, which is occurring not be initiated and satisfactorily completed by the time specified in this order or should ( <u>alleged violator</u> ) advise the District that ( <u>he/she/they</u> ) ( <u>does/do</u> ) not intend to comply with this order, the District Board will commence proceedings to enforce this order as prescribed by law.
-or-
(For non-agricultural Land-Disturbing Activity)
1. ( <u>alleged violator</u> ) shall either bring those areas of ( <u>his/her/their</u> ) land which exceed the applicable soil-loss tolerance level(s) into conformance with the District Rules and Regulations or prevent sediment resulting from excess erosion from leaving said land areas. The following erosion and sediment control practices will accomplish this and may be used to comply with this order. (List two or more practices).
Work necessary to establish these practices must be initiated by ( <u>date</u> ) (shall not exceed five (5) days after service or mailing of the order). Temporary practices shall be satisfactorily completed by ( <u>date</u> ) (no longer than fifteen (15) days after service or mailing of this order) and permanent practices shall be satisfactorily completed by ( <u>date</u> ) (no longer than forty-five (45) days after service or mailing of the order unless an extension has been granted upon a showing of good cause. An extension shall only be granted after review and affirmative action of the Board.
2. ( <u>alleged violator</u> ) is hereby advised that should the work required by this order to correct the erosion, which is occurring not be initiated and satisfactorily completed by the time specified in this order or should ( <u>alleged violator</u> ) advise the District that ( <u>he/she/they</u> ) ( <u>does/do</u> ) not intend to comply with this order, the District Board will commence proceedings to enforce this order as prescribed by law.
Chairperson:Papio-Missouri River Natural Resources District

Form: 5a.

# Papio-Missouri River NRD Erosion & Sediment Control Program

# DISMISSAL OF VERBAL COMPLAINT, CONSERVATION AGREEMENT APPLIES

COMPLAINT NO	
DATE:	_
NAME:	_ ADDRESS:
The Papio-Missouri River Natural Resource	es District's Investigator having found that ( <u>name</u> ):
1. Has land which was the subject to the countries which soil loss is not exceeding soil-loss to	omplaint filed by ( <u>name</u> ) on ( <u>date</u> ), from lerance levels, or
2. Has a farm unit conservation plan or ero subject to the complaint filed by ( name	osion and sediment control plan covering the land on ( <u>date</u> ), and
3. Is implementing said plan in strict comp District on ( <u>date</u> ), and therefore said c	pliance with a conservation agreement signed with the complaint is dismissed.
Signature:	_
Print:	_
Title	

# Papio-Missouri River NRD Erosion & Sediment Control Program DISMISSAL OF COMPLAINT, CONSERVATION AGREEMENT APPLIES

COMPLAINT NO	
DATE:	
NAME:	ADDRESS:
1. Has a farm unit conservation plan or erosubject to the complaint filed by ( name )	
2. Is implementing said plan in strict complete District on ( <u>date</u> ), dismisses said complete district on ( <u>date</u> )	iance with a conservation agreement signed with the aint.
Signature:	
Print:	
Title:	

# Papio-Missouri River NRD Erosion & Sediment Control Program

# DISMISSAL OF COMPLAINT, AFTER FINDINGS

COMPLAINT NO	
DATE:	
NAME:	ADDRESS:
The District Board ha	as considered this complaint and makes the following FINDINGS:
that sediment damage alleged that sediment	his complaint was filed in the District office by ( <u>complainant</u> ) alleging e has ( <u>occurred/was occurring</u> ) on ( <u>his/her/their</u> ) property and further toriginating from excess erosion on the land of ( <u>alleged violator</u> ) was The District notified ( <u>alleged violator</u> ) of this complaint by letter dated
· · · · · · · · · · · · · · · · · · ·	he District investigator ( <u>inspector</u> ), inspected the lands of ad ( <u>alleged violator</u> ) and filed a report with the Committee of the board arpose.
	he Committee notified ( <u>alleged violator</u> ) of its preliminary findings of the Rules and Regulations of the District.
plan or erosion and s but have been unable was being made or	( <u>alleged violator</u> ) have attempted to develop mutually a conservation ediment control plan for the lands, which are the subject of this complaint to reach agreement. The Committee properly concluded that no progress preparation of an acceptable plan.
-or-	
	rd held a public hearing on this complaint on ( <u>date</u> ), as requested by (Summarize briefly).
-or-	-
4b. ( <u>alleged violator</u> finds:	did not respond to the Notice of Violation. The District Board further
<ol> <li>Sediment (Describe).</li> </ol>	damage ( has not/has ) occurred on the land of ( complainant ).

Form: 6.

2. The average annual soil loss on ( <u>alleged violator's</u> ) land, determined by using the NRCS Technical Guides, is estimated to be ( <u>rate</u> ), which ( <u>is/is not</u> ) in excess of the applicable soil-loss tolerance level(s) of ( <u>established rate</u> ) for soil series ( <u>)</u> adopted in Rule ( <u>)</u> of the District's Rules and Regulations.
Based on the foregoing findings, the District Board CONCLUDES:
1. The land of ( <u>alleged violator</u> ) is not in violation of the Rules and Regulations of the District and the Nebraska Erosion and Sediment Control Act.
Therefore, the District Board dismissed this complaint.
Chairman: Papio-Missouri River Natural Resources District



# STATE OF NEBRASKA

#### DEPARTMENT OF NATURAL RESOURCES

Gordon W. "Jeff" Fassett, P.E.

IN REPLY TO:

August 1, 2016

John Winkler, General Manager Papio-Missouri River NRD 8901 South 154<sup>th</sup> Street Omaha, NE 68138-3621

Dear Mr. Winkler:

Thank you for filing the Papio-Missouri River NRD's amended Erosion and Sediment Control program. After review, the Nebraska Natural Resources Commission, on June 27, 2016, recommended approval.

My staff and I have also reviewed your district's program and I find it to be reasonable, attainable, and in conformance with the state Erosion and Sediment Control program. Therefore, in accordance with § 2-4605, I hereby approve the Papio-Missouri River NRD's amended Erosion and Sediment Control program.

Please feel free to contact Kent Zimmerman from the Department's staff if you have any questions regarding these matters.

With best regards,

Gordon W. Fassett, P.E.

Director