

# Wisconsin Conservation Planning Technical Note WI-1

---

## Companion Document to NRCS FOTG Standard 590, Nutrient Management September 14, 2005

### Introduction

#### Definition of Nutrient Management

Managing the amount, source, placement, form, and timing of the application of nutrients and soil amendments.

#### Purpose

Nutrient management planning is an important and yet oftentimes cumbersome process. This Technical Note has been developed in order to provide guidance for nutrient management planning in addition to NRCS Field Office Technical Guide (FOTG) Standard 590.

**NRCS, Field Office Technical Guide (FOTG), Section IV, Conservation Practice Technical Standard 590, Nutrient Management**, provides specific criteria for nutrient management planners (section V). It identifies the necessary components of a nutrient management plan (section VII), and lists criteria for operation and maintenance of the practice (section VIII). Federal, state, and local laws may provide additional requirements and guidance. Please be aware that the Wisconsin Conservation Planning Technical Note WI-1 is the companion document to NRCS FOTG Standard 590 and includes criteria that are required where specified.

#### **This technical note provides detailed guidance on the following:**

<b>Part I</b>	pages 2-4	Minimum Requirements for a Nutrient Management Plan
<b>Part II</b>	pages 5-9	Items of Benefit for Nutrient Management Planning
<b>Part III</b>	pages 10-16	Determining Manure Nutrient Credits
<b>Part IV</b>	pages 17-18	DNR Regional Offices and Contacts
<b>Appendix 1</b>	pages 19-71	Soils List with High Potential for Nitrate Leaching to Groundwater
<b>Appendix 2</b>	pages 72	Certified Laboratories

# Conservation Planning Technical Note WI-1

---

## **Part I Minimum Requirements for a Nutrient Management Plan**

The landowner/producer (person required to have the plan developed, or receiving the cost share monies) is responsible for keeping records of all the components of the nutrient management plan for a minimum of four years, as well as having the plan updated annually. A nutrient management plan shall be developed according to the following criteria and steps as defined in the NRCS FOTG Standard 590, Nutrient Management. If the goal of the client is to develop a Comprehensive Nutrient Management Plan (CNMP), the additional documentation requirements found in the NRCS National Planning Procedures Handbook, Subpart F, Part 600.75, must also be met. Records shall be assembled to meet the following requirements:

**A. Plan Narrative describing a summary of the implementation and operation of the nutrient management plan as it pertains to the entire farm unit. Details should include an overview of the operation including typical crops grown and a summary of the sources of nutrients other than fertilizer applied to the land. A summary of Phosphorus reduction strategies should be included as appropriate.**

**B. Aerial photographs and/or maps of the farm containing:**

1. Boundaries, identification numbers, and acreage for all crop fields, pastures, and nutrient management units. An attempt should be made to provide consistent field identification in the nutrient management plan, soil test record, and conservation plan. A cross reference summarizing field identification numbers shall be provided when field identification numbers are not consistent.
2. A map or photograph identifying soil series and soil series boundaries.
3. Location and identification of the following features that require protection. Delineate boundaries for nutrient application restriction areas based on the following criteria. Include a legend of map symbols used.

**C. Minimum field-specific (or nutrient management unit specific) documentation of:**

1. Current or planned crop rotation or sequence including the previous crop and crop to be grown this year.
2. Projected yield goals for each crop.
3. Dominant soils series for the field or nutrient management unit.
4. Previous year's actual and current year's proposed nutrient and soil amendment application rates including the form, rate, and timing for:
  - a. Commercial fertilizers
  - b. Manure (If you are collecting and applying livestock manure, complete part 3, section 1)

- c. Other organic byproducts
  - d. Legume Nitrogen and Phosphorus (see #5) credits
  - e. Soil Amendments (e.g., lime)
5. Soil test information (including pH, organic matter, soil P, and soil K), as developed following standard sampling guidelines and as analyzed by an approved Wisconsin laboratory (refer to Appendix 2 for contact information). University of Wisconsin - Extension (UWEX) Publication A2100, "Sampling Soils for Testing" (2002), is your guide for soil sampling. A soil test is the only practical way of telling whether lime and fertilizer are needed. However, if a soil sample does not represent the general soil conditions of the field, the recommendations based on this sample will be useless. An acre of soil to a 6-inch depth weighs about 1,000 tons, yet less than 1 ounce of soil is used for each test. Therefore, it is very important that the soil sample is characteristic of the entire field. The following directions will help you collect good soil samples.
- a. Do not sample any area of a field that varies widely from the rest of the field in color, fertility, slope, soil texture, drainage, or productivity unless the area is large enough to be treated separately.
  - b. Push aside organic materials and avoid areas near dead furrows, roads, and fences; areas where fertilizer has been banded; and eroded knolls and low spots.
  - c. Sample contour strips separately if it is approximately 5 acres or more. Cores from 2-3 strips that have identical cropping and management histories may be combined.
  - d. A composite sample consists of at least 10 cores using a probe or auger to plow depth or at least 6 inches. Mix these cores well and place 2 cups of this soil in a sample bag. When at least three composite samples per field are submitted to the lab, the significantly higher testing sample is removed from the recommendation to ensure that no part of the field is under-fertilized. Identify the sample bag with your name, field identification, and sample number. Record the field and sample location on a map. And finally, fill out the soil information sheet carefully. Include the soil series, field number, field acres, and sample number(s) for each field so test summaries and soil test recommendations reflect this information.
  - e. *Sampling fields for a single recommendation:* If the field was tested more than four years ago or has P and K levels in the responsive range (H or lower), then every 5 acres needs 1 sample. Soil sampling size for fields testing in the non-responsive range (VH or EH) for P and K levels can be increased as follows:

Acres	Samples
5-10	2
11-25	3
26-40	4
41-60	5
61-80	6
81-100	7

- f. *Grid sampling fields and variable rate applications:* If fertilizer and lime applications vary across a field, soil sampling for fields in the responsive range (H or lower) for P and K levels may need samples every 200 feet. While fields in the non-responsive range (VH or EH) for P and K levels can have samples every 300 feet.
6. Where P (all sources) is applied in one year to meet current and future crop needs in a rotation, the credits for surplus P must be tracked and subsequent nutrient applications shall be adjusted using criteria C. of NRCS FOTG Standard 590.
7. The NRCS soil loss equation form, WI-CPA-15, or equivalent should be included.
8. Document current year's actual crop yield and nutrient application rates including form, timing, and application method. Changes to nutrient applications that are not consistent with the plan should be documented in the plan. Include the reasons why the changes were made and revise the P budget in #6 above as necessary.

# Conservation Planning Technical Note WI-1

---

## Part II Items of Benefit for Nutrient Management Planning

The items listed in Part II of the technical note are recommendations that should be considered in nutrient management planning. These items may provide additional water quality benefit over and above the criteria in NRCS FOTG Standard 590, Nutrient Management.

The rate, timing, and placement of nutrients are important considerations that may affect water quality.

### A. General

1. Nutrients should be applied as near to the time of crop use as possible.
2. Minimize nutrient applications on frozen or snow-covered ground. The P Index can provide crop management assessments for reducing potential P loads.
3. Use the Wisconsin P Index or soil test P management strategies in criteria C. of NRCS FOTG Standard 590 to prioritize nutrient application sites. Apply nutrients to the least environmentally sensitive areas first at rates needed to supply the crop N requirements or the anticipated crop removal of P and/or K. Criteria to consider include: hydraulic loading rate of the soil profile, soil permeability, infiltration capacity, slope, distance to surface water features, erodibility, accessibility, present crop, potential fate of runoff, infiltration, and presence of conservation practices.
4. Apply manure to crops which can use all of its nutrients, including nitrogen, whenever possible. Grasses such as corn are best. Manure applied to forages stimulates grass production and weed growth, results in lower forage protein, and tends to reduce the alfalfa stand. If it is unavoidable to spread manure on alfalfa, the following recommendations are suggested in "Applying Manure to Alfalfa," North Central Regional Research Report 346.
  - a. Preplant manure applications generally can have a positive effect on seedling-year alfalfa dry matter production where weeds are adequately controlled. This response may also be carried over into the full production years. Although manure may increase certain seedling-year weed problems, these usually do not persist past first cutting. Repeated manure applications at high rates may increase forage potassium to unacceptably high levels.
  - b. Topdressing manure to established alfalfa is somewhat more risky. While benefits can be obtained, especially on low-testing soils or on legume-grass mixtures, problems from compaction, salt burn and stand suffocation can occur. Alfalfa can be a major sink for recycling nitrogen and other nutrients; however, topdress applications, especially to frozen soils, may result in large nutrient runoff losses. Various management practices, including using low rates on the poorest stands

- immediately after cutting, will help reduce the agronomic and environmental risks associated with following this strategy.
- c. Applying at the end of the alfalfa rotation may leave more nitrogen than the following crop can use. This can lead to large, unacceptable environmental risks from nitrate leaching. A producer who takes this approach must consider the nitrogen contributed from both the legume and the manure. Removing all of the alfalfa top growth before application and limiting manure rates by taking into account the alfalfa nitrogen credit is essential.
5. When implementing rotational grazing, estimate pasture productivity and length of grazing period, and determine stocking rates and acreage needed by following the recommendations in UWEX Publication A3529, "Pastures for Profit: A Guide to Rotational Grazing," revised 2002.

## **B. Nitrogen**

1. Nitrogen management practices to improve nitrogen use efficiency are summarized in UWEX publication A3340, "Corn Fertilization" (1998).
  - a. Use the appropriate nitrogen rate for the production conditions.
  - b. Make proper adjustments for high corn residue cover.
  - c. Fully credit nitrogen that may be available from organic sources such as manure legumes and soil organic matter.
  - d. Use soil nitrate tests when appropriate to help identify the optimum N rate.
  - e. Avoid fall applications of N fertilizers.
  - f. Use sidedress N applications or delay N applications to coincide with the crop N demand, especially on coarse-textured soils where nitrate leaching is likely.
  - g. Use a nitrification inhibitor with ammonium forms of nitrogen where the risk of N loss through leaching or denitrification is high.
  - h. Control ammonia losses from urea containing fertilizers by incorporating or injecting these materials within 72 hours, by using urease inhibitor, or by selecting a non-urea material for surface applications.
  - i. Control ammonia losses from dairy farms by removing excess protein from the cow's diet. Incorporate manure in the field being aware of the potential for increased erosion and P losses. Cover manure storage structures or use organic matter in bedding to form a crust cover. When possible, divert urine away from feces.

2. The first 20 pounds per acre of N in starter fertilizers is not credited towards the total nutrient need of the crop to be grown (UWEX Publication A3340, "Corn Fertilization," 1998). Phosphorus and potassium from starter fertilizers are fully credited.
3. When concerned with the rate and placement of nitrogen, consider these points in addition to those found in Section VI of NRCS FOTG, Standard 590, Nutrient Management:
  - a. Unused or residual nitrate may be leached from the soil and pollute groundwater. In years of normal fertilizer application and unexpected low yields, excess nutrients, including nitrate, may accumulate in the soil. Pre-plant soil nitrate tests can be used to measure carryover nitrogen and adjust nitrogen applications (see UWEX Publication A3624, "Soil Nitrate Tests for Wisconsin Cropping Systems," 1994). Additional options for reducing the amount of nitrogen subject to leaching include:
    - (1) Growing a winter cover crop to use carryover nitrogen.
    - (2) Growing legume crops (when managed without supplemental N inputs) to "scavenge" N remaining in the profile.
    - (3) Growing high N demanding crops such as corn and forage grasses.
  - b. Nitrification inhibitors used with ammonium or ammonium-forming N fertilizers can improve N efficiency and limit loss of fertilizer N on soils where the potential for nitrate loss through leaching or denitrification is high.

4. First year annual N removal by legumes and companion crops

Crops	Yields (per acre) <sup>1</sup>	N removal (lb/a) <sup>2</sup>
<b>Legume forages with inter-seeded companion forages<sup>3</sup></b>		
Spring-seeded forages (Yields are for total annual dry matter harvests of both legumes and the inter-seeded forages) <sup>4</sup>	0.5-1.5 T	110
	1.6-2.5 T	170
	2.6-3.5 T*	220
	3.6-4.5 T	280
<b>Small grains inter-seeded with legume forages</b>		
Barley (Yields shown are for grain. Add N removal from above for appropriate first year forage yield to this N removal for grain to get totalannual N removal)	25-50 bu	40
	51-75 bu*	70
	76-100 bu	100
Oats (Yields shown are for grain. Add N removal from above for appropriate first year forage yield to this N removal for grain to get totalannual N removal)	30-60 bu	40
	61-90 bu*	60
	91-120 bu	80
<b>Soybean for beans</b>		
	15-25 bu	80
	26-35 bu	120
	36-45 bu	160
	46-55 bu	200
	56-65 bu*	240
	66-75 bu	280
	76-85 bu	320
<b>Soybean for forage</b>		
	0.5-2 T	70
	2.1-4 T*	170
	4.1-6 T	280
<b>Dry beans</b>		
	6 - 12 cwt	40
	13-18 cwt	60
	19-24 cwt*	80
	24-30 cwt	110

\* These yield ranges represent good yields with excellent management for most Wisconsin cropping conditions. Higher yields are rare and should be verifiable if used for planning purposes.

<sup>1</sup> Yields for forages are on a dry matter basis. Yields for grains and beans are at the moisture content used for measuring yields.

<sup>2</sup> First year available N credits for manure applications prior to legume crop establishment cannot exceed this N rate. This represents N removed in harvested crops. For perennial legumes it also includes N held in the roots over winter (60 lb N/a). If a legume forage is grown for only one year, subtract 60 lb N from the removal value. If the crop is not harvested, N removal is 0 lb/a.

<sup>3</sup> Companion forages include oats, barley, and oats-pea forage.

<sup>4</sup> For late-summer seeded legume forages, use the total N removal for the first year of harvest. However, both the first and second year available N credits for the manure applications prior to establishment cannot exceed this N rate.

### **C. Phosphorus**

1. Phosphorus losses are usually greatest on sites with high erosion.
2. When applying manure on non-frozen ground, consider the following:
  - a. Use runoff and erosion control practices such as spring tillage, maintaining high levels of crop residue on the soil surface, contour farming, and utilization of vegetated riparian buffers.
  - b. Rotate to P-demanding crops.
  - c. Limit starter P applications on row crops to 20 pound P<sub>2</sub>O<sub>5</sub> per acre, to the extent possible, eliminate all non-starter P applications.
  - d. Whenever possible, apply manure on fields with lower P soil tests.
  - e. Where possible, develop a means to move nutrients off the farm to areas with less environmental hazard.
3. Consider following National Research Council dietary P recommendations to lower P levels in rations and avoid high levels of P in manure.
4. To limit high-risk manure applications to frozen or snow-covered soil, the following additional management practices should be implemented:
  - a. Temporary stacking of manure, manure storage, manure trading, and additional rental land for manure spreading.
  - b. Where supplemental feeding of P in current rations is above National Research Council recommended levels, a feed management strategy will be discussed with the producer and their animal health and feed supply professionals with the goal of reducing supplemental feeding of P and reducing manure P losses.

### **D. Other Considerations**

1. Use appropriate pH management to keep the soil pH in the proper range for optimum crop production. Soil pH affects the availability of almost all of the essential elements (see UWEX Publication A2809, "Soil Test Recommendations for Field, Vegetable, and Fruit Crops," 1998).
2. Good soil tilth should be maintained because it encourages infiltration, reduces runoff, and enhances crop vigor. This is especially important when the objective is to protect surface water.
  - a. Organic matter additions promote good soil tilth.
  - b. Equipment travel on saturated soils should be avoided to reduce soil compaction and rutting.
3. The hydraulic loading rate of the upper horizons should be considered. If the loading rate is low, or if there is a horizon that prohibits downward movement of liquid (i.e., hard pan or a clay horizon), it is important not to apply more liquid manure than the soil can absorb.

# Conservation Planning Technical Note WI-1

---

## Part III Determining Manure Nutrient Credits

Proper crediting of manure nutrients can lower commercial fertilizer needs and reduce the potential for surface and groundwater pollution. Manures contain significant amounts of the major plant nutrients (N, P and K) and many other essential nutrients. Only a portion of the nutrients from field-spread manure is available in the first year. The rest becomes available over time as the nutrients are released from the organic fraction. Calculating the fertilizer value of manure involves three steps.

### **STEP 1: Estimate Quantity of On-Farm Manure Production**

### **STEP 2: Estimate Available - Nutrients**

### **STEP 3: Estimate the Manure Nutrient Credit and Application Rates**

For more information, reference the UWEX “Nutrient Management Fast Facts,” Nutrient and Pest Management Program. Call (608) 265-2660 for a copy.

### **STEP 1: Estimate Quantity of On-Farm Manure Production**

Manure production can be estimated by utilizing the information provided in Table 1. Manure production can vary considerably between production systems. Other manure production estimates are acceptable. Estimates of the percent of the total manure production that is actually collected may also aid in the planning process. The planner may wish to explain the manure production/collection system in the narrative section as described in Part 1.

#### **Manure storage size may provide a better quantity estimate:**

What is the manure storage facility size?

Multiply pit size by the number of times emptied/year. This equals the total annual manure collection.

# Table 1. Manure Quantity Estimation For Crop Production

Version January 16, 2003

Animal	Size Lbs.	Daily Manure Production To Apply						Annual Manure Production To Apply								
		Solid		Liquid				Number of Head	x	Daily Total Tons or Gal.	x	365 Day Total	x	% Collected	=	Total Collected Tons or Gal.
		Lbs/day	ft <sup>3</sup> /day	MWPS ft <sup>3</sup> /day x WI dairy & beef dilution factor	ft <sup>3</sup> /day & WI dilution	MWPS gal./day x WI dairy & beef dilution factor	gal./day & WI dilution									
<b>Dairy</b>																
Calf	150	13	0.200	.21*1.8=	.37	1.53*1.8=	2.80									
Calf	250	21	0.320	.33*1.8=	.60	2.47*1.8=	4.50									
Heifer	750	65	1.000	1.03*1.8=	1.85	7.70*1.8=	13.8									
Lact. Cows	1000	106	1.700	1.71*1.8=	3.07	12.7*1.8=	23.0									
	1400	148	2.400	2.38*1.8=	4.28	17.7*1.8=	32.0									
Dry Cows	1000	82	1.300	1.30*1.8=	2.35	9.7*1.8=	18.0									
	1400	115	1.820	1.82*1.8=	3.33	13.6*1.8=	25.0									
<b>Beef</b>																
Calf	450	26	0.420	.415*3.2=	1.3	3.1*3.2=	9.9									
High Forage	750	62	1.000	1.00*3.2=	3.2	7.5*3.2=	24.0									
High Forage	1100	92	1.400	1.48*3.2=	4.8	11*3.2=	35.0									
High Energy	750	54	0.870	.87*3.2=	2.7	6.5*3.2=	20.8									
High Energy	1100	80	1.260	1.27*3.2=	4.1	9.5*3.2=	30.5									
Beef Cow	1000	63	1.000	1.00*3.2=	3.2	7.5*3.2=	24.0									
<b>Swine</b>																
Nursery Pig	25	2.7	0.040	.04		.30										
Grow- Finish Pig	150	9.5	0.150	.17		1.20										
Gestating Sow	275	7.5	0.120	.14		1.00										
Sow & Litter	375	22.5	0.360	.42		3.00										
Boar	350	7.2	0.120	.14		1.00										
<b>Poultry / Other</b>																
Layers	4	0.26	0.004	.004		.03										
Broilers	2	0.18	0.003	.003		.02										
Turkeys	20	0.9	0.014	.015		.11										
Duck	6	0.33	0.005	.006		.04										
Sheep	100	4	0.060	.055		.40										
Horse	1000	50	0.800	.827		5.98										

Source: Midwest Plan Service publication number MWPS-18 "Manure Characteristics" Section 1, copyright 2000. Solid volumes are as excreted. The liquid dairy and beef values are computed from the MWPS daily production and have approximately equal nutrient values annually as solid manure. MWPS liquid dairy and beef factors are multiplied by 1.8 and 3.2 respectively. Dilution on your operation may be substantially different. **Use manure analysis and manure storage volumes** to determine manure production whenever possible.

**Manure quantities are likely to be more accurate estimated from storage size:**

What is the manure storage pit size? \_\_\_\_\_ gallons or tons?

Multiply pit size x Number of times emptied/year \_\_\_\_\_ = Total annual manure collection

## STEP 2: Estimate Available - Nutrients

### When manure is analyzed

Because the nutrient content of manure can vary significantly from the values provided in Table 2, it is strongly recommended that a process of manure sampling and analysis be developed to quantify the nutrient content of the major manure source(s) of the livestock operations. The process should establish a representative manure nutrient content range that improves the planning and application process. Consider additions of bedding, mixing and agitation of manure, dilution or concentration in storage, and other factors pertinent to the operation during the sampling and analysis process. An approved laboratory (Appendix 2) should be used for manure analysis.

<div style="border: 1px solid black; padding: 5px;">           Total pounds of Nutrient Concentration per ton or 1,000 gallons         </div>	x	<div style="border: 1px solid black; padding: 5px;">           % Manure Nutrient Availability expressed as a decimal         </div>	=	<div style="border: 1px solid black; padding: 5px;">           Available pounds of Nutrient per ton or 1,000 gallons         </div>
<i>Use Table 2</i>		<i>Use Table 3</i>		<i>Use manure analysis or Table 4 when manure is not tested.</i>
<div style="border: 1px solid black; padding: 5px;">           Dairy solid 10-5-9 pounds of N- P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per ton         </div>	x	<div style="border: 1px solid black; padding: 5px;">           Dairy, surface applied 1<sup>st</sup> year .3-.6-.8% available of N- P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O         </div>	=	<div style="border: 1px solid black; padding: 5px;">           Dairy, surface applied 1<sup>st</sup> year 3-3-7 pounds of N- P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O per ton         </div>

### Manure Sampling Instructions

Proper sampling is critical for obtaining results that accurately reflect the true nutrient content of manure. Regardless of the type of manure storage system, following proper sampling procedures is necessary to obtain the right information so that fertilizer recommendations can be adjusted appropriately. **Keep all manure samples frozen until shipped or delivered to the laboratory. Mail samples early in the week (Monday, Tuesday, or Wednesday). Avoid mailing over holidays or weekends.** Remember to always use screw-top plastic containers for safety. Plastic sample bottles can be obtained at the laboratories listed in Appendix 2.

### Liquid Manure Systems

Agitate the contents of the storage facility thoroughly. If the material is to be hauled immediately, a composite sample taken from several loads (5-10) is recommended. These samples can then be mixed together and one composite sample submitted. A container on the end of a long pole works well to sub-sample as the manure is being pumped into the top of the spreader tank. A representative sample can also be taken directly from the storage facility soon after thorough agitation if hauling is to be delayed. Again, several sub-samples should be taken and mixed together to ensure a representative sample. Place the sample in a quart-sized screw top plastic container filled to no more than three-fourths capacity, and freeze immediately.

### Solid Manure Systems

Use a push-probe, auger, or spade to obtain a representative sample from several places in the manure pile or pack. If the material is being loaded for spreading, a sample can be obtained by sub-sampling several spreader loads. Place the 1-2 pound sample in a 0.5 to 1 quart screw-top plastic bottle and freeze immediately.

### STEP 3: Estimate the Manure Nutrient Credit and Application Rates

Identify the fields that have received or will receive manure.

Then, determine how much manure per acre has been applied or will be applied to each field. UWEX Publication A3381, "Determining Manure Application Rates," contains more information.

Available pounds of Nutrient per ton or 1,000 gallons	x	Manure Application Rate per acre	=	Manure Nutrient Credit per acre
---	---	----------------------------------	---	---------------------------------

*Use manure analysis or Table 4 when manure is not tested.*

Dairy, surface applied 1 <sup>st</sup> year 3-3-7 pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per ton	x	20 tons per acre surface application rate	=	60-60-140 pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per acre
--	---	---	---	---

### MANURE CREDITING EXAMPLES

#### Example 1:

Producer Smith incorporates 40 tons per acre of fresh solid dairy manure to corn ground last fall without testing the manure. Estimate the amount of N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O available to the next corn crop from manure.

1. Use Table 4 to estimate first year available nutrients from incorporated solid dairy manure as 4-3-7 per ton.
2. Use the equation in Step 3 to calculate the manure nutrient credit from a 40-ton per acre application rate.

Available pounds of Nutrient per ton or 1,000 gallons	x	Manure Application Rate per acre	=	Manure Nutrient Credit per acre
---	---	----------------------------------	---	---------------------------------

*Use manure analysis or Table 4 when manure is not tested.*

Dairy, incorporated 1 <sup>st</sup> year 4-3-7 pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per ton	x	40 tons per acre surface application rate	=	160-120-280 pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per acre
---	---	---	---	---

#### Example 2:

Producer Jones surface spread 7,000 gallons per acre of fall-applied stored liquid dairy manure on a 20-acre cornfield for two consecutive years. A manure analysis from a private lab showed a total nutrient value of 32-15-36 per 1,000 gallons. Next spring he will plant corn and apply 100 pounds per acre of 9-23-30 starter fertilizer. A UWEX soil test recommended 160 pounds N per acre, 60 pounds P<sub>2</sub>O<sub>5</sub> per acre, and 120 pounds K<sub>2</sub>O per acre. Calculate the amount of nutrients in the manure and starter fertilizer, and how much additional nutrients must be supplied from other sources.

1. Table 3 shows the percent available nutrients in dairy manure as 30% N, 60% P<sub>2</sub>O<sub>5</sub>, and 80% K<sub>2</sub>O for first-year nutrient availability. However, since similar manure rates have been applied for two consecutive years, increase these values an additional ten percentage points for each nutrient to 40% for N, 70% for P<sub>2</sub>O<sub>5</sub>, and 90% for K<sub>2</sub>O. See the first footnote in Table 3.

2. Use Step 2 to calculate the available nutrient content.

Total pounds of Nutrient Concentration per ton or 1,000 gallons	x	% Manure Nutrient Availability expressed as a decimal	=	Available pounds of Nutrient per ton or 1,000 gallons
<i>Use Table 2</i>		<i>Use Table 3</i>		<i>Use manure analysis or Table 4 when manure is not tested.</i>
Dairy liquid 32-15-36 pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per 1,000 gallons	x	Dairy, surface applied 2 <sup>nd</sup> year .4-.7-.9% available of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O	=	Dairy, liquid surface applied 2 <sup>nd</sup> year 13-11-32 pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per ton

3. Use Step 3 to calculate the manure nutrient credit from a 7,000-gallon rate per acre.

Available pounds of Nutrient per ton or 1,000 gallons	x	Manure Application Rate per acre	=	Manure Nutrient Credit per acre
<i>Use manure analysis from 2: above.</i>				
Dairy, liquid surface applied 2 <sup>nd</sup> year 13-11-32 pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per ton	x	7,000 gallons per acre surface application rate	=	91-77-224 pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per acre

4. Subtract the manure and starter P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O credits from the soil test recommendations to determine if additional nutrients are required. Round the resulting positive numbers to the nearest 10 pounds per acre.

Soil test recommended pounds of Nutrient per acre	-	Manure Nutrient Credit per acre plus starter fertilizer	=	Additional Fertilizer Need per acre
<i>Use soil test recommendation for the field</i>		<i>Use 3: above</i>		
Soil test recommended crop need of 160-60-120 of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per acre	-	91-77-224 pounds of manure N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per acre plus 9 pounds of starter N (where the first 20 pounds is not counted) -23 P <sub>2</sub> O <sub>5</sub> -30 K <sub>2</sub> O starter fertilizer	=	69-(40 extra)-(134 extra) pounds of N- P <sub>2</sub> O <sub>5</sub> -K <sub>2</sub> O per acre Rounded to 70-0-0 additional fertilizer need.

**Table 2. Average Nutrient and Dry Matter Content from Various Solid and Liquid Manure**

Species/Management	% Dry Matter	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	<b>Pounds per ton</b>			
Dairy, solid	24	10	5	9
Beef, solid	35	14	9	11
Swine, solid	20	14	10	9
Duck, solid	35	17	21	30
Chicken, solid	60	40	50	30
Turkey, solid	60	40	40	30
Sheep, solid	45	26	18	40
Horse, solid	45	10	6	10
	<b>Pounds per 1000 gallons</b>			
Dairy, liquid	6	24	9	20
Veal calf, liquid	2	15	10	25
Beef, liquid	5	20	9	20
Swine, liquid indoor pit	7	50	42	30
Swine, liquid outdoor pit	4	34	16	20
Swine, liquid, farrow-nursery indoor pit	3	25	23	22
Poultry, liquid	3	16	10	12

These data are taken from a combination of Midwest Plan Service (2000), manure analysis from Wisconsin certified soil testing laboratories (2002), and University of Wisconsin - Extension publications.

**Table 3. Estimated First-Year Nutrient Availability (%) from Various Manures**

Species	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Dairy, surface applied	30%	60%	80%
Dairy, incorporated	40%	60%	80%
Veal calf, surface applied	40%	60%	80%
Veal calf, incorporated	50%	60%	80%
Beef, surface applied	25%	60%	80%
Beef, incorporated	35%	60%	80%
Swine, solid surface applied	50%	60%	80%
Swine, solid incorporated	65%	60%	80%
Swine, liquid indoor pit, surface	50%	60%	80%
Swine, liquid indoor pit, incorporated	65%	60%	80%
Swine, liquid outdoor pit, surface	50%	60%	80%
Swine, liquid outdoor pit, incorporated	65%	60%	80%
Swine, liquid, farrow-nursery indoor pit, surface	50%	60%	80%
Swine, liquid, farrow-nursery indoor pit, incorporated*	65%	60%	80%
Duck, surface applied	50%	60%	80%
Duck, incorporated	60%	60%	80%
Chicken, surface applied	50%	60%	80%
Chicken, incorporated	60%	60%	80%
Turkey, surface applied	50%	60%	80%
Turkey, incorporated	60%	60%	80%
Poultry, liquid, surface	50%	60%	80%
Poultry, liquid, incorporated	60%	60%	80%
Sheep, solid surface applied	25%	60%	80%
Sheep, solid incorporated	35%	60%	80%
Horse, solid surface applied	25%	60%	80%
Horse, solid incorporated	35%	60%	80%

If manure has been applied to the same field at similar rates for 2 consecutive years, increase the nutrient values in the table an additional 10 percentage points. If manure has been applied to the same field at similar rates for three or more consecutive years, increase the nutrient values in the table an additional 15 percentage points. In other words 10% of the total is available to plant in the 2<sup>nd</sup> year and an additional 5% is available in the 3<sup>rd</sup> year. (See example 2)

**Table 4. Manure Book Values - Estimates of Available Nutrients from Manure by Species and Management Systems for up to Three or More Consecutive Years of Application**

Species/ Management	Total Available Nutrients from Solid Manure lbs./ton				Species/ Management	Total Available Nutrients from Liquid Manure lbs./ 1,000 gallons			
	N	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O		N	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	Surface applied	Incorporated by 3 <sup>rd</sup> day				Surface applied	Incorporated by 3 <sup>rd</sup> day		
<b>One Year of Application</b>									
Dairy	3	4	3	7	Dairy	7	10	5	16
Beef	4	5	5	9	Veal calf	6	8	6	20
Swine	7	9	6	7	Beef	5	7	5	16
Duck	9	10	13	24	Swine indoor pit	25	33	25	24
Chicken	20	24	30	24	Swine outdoor pit	17	22	10	16
Turkey	20	24	24	24	Swine farrow nursery indoor pit	13	16	14	18
Sheep	7	9	11	32	Poultry	8	10	6	10
Horse	3	4	4	8					
<b>Two Consecutive Years of Application</b>									
Dairy	4	5	4	8	Dairy	10	12	6	18
Beef	5	6	6	10	Veal calf	8	9	7	23
Swine	8	11	7	8	Beef	7	9	6	18
Duck	10	12	15	27	Swine indoor pit	30	38	29	27
Chicken	24	28	35	27	Swine outdoor pit	20	26	11	18
Turkey	24	28	28	27	Swine farrow nursery indoor pit	15	19	16	20
Sheep	9	12	13	36	Poultry	10	11	7	11
Horse	4	5	4	9					
<b>Three or More Consecutive Years of Application</b>									
Dairy	5	6	4	9	Dairy	11	13	7	19
Beef	6	7	7	10	Veal calf	8	10	8	24
Swine	9	11	8	9	Beef	8	10	7	19
Duck	11	13	16	29	Swine indoor pit	33	40	32	29
Chicken	26	30	38	29	Swine outdoor pit	22	27	12	19
Turkey	26	30	30	29	Swine farrow nursery indoor pit	16	20	17	21
Sheep	10	13	14	38	Poultry	10	12	8	11
Horse	4	5	5	10					

**Note:** Table 4 replaces Tables 23 and 24 in UWEX Publication A-2809 (1998). Figures are rounded to the nearest whole pound.

These figures are calculated using STEP 2 and the values given in Tables 2 and 3.

# Conservation Planning Technical Note WI-1

---

## Part IV DNR Regional Offices and Contacts

DNR Service Center Locations by Region - The State of Wisconsin is divided into five regional areas. They include Northern Region, Northeast Region, West Central Region, South Central Region, and Southeast Region. The DNR Central Office is located in Madison.

### **NORTHERN REGION (NO)**

Spooner, Department of Natural Resources, 810 W. Maple Street, Spooner, WI 54801  
715-635-2101-phone 715-635-4105-fax 715-635-4001-TDD

Counties served: Ashland, Barron, Bayfield, Burnett, Douglas, Iron, Polk, Price, Rusk, Sawyer, Taylor, Washburn.

### **NORTHERN REGION (NO)**

Rhineland, 107 Sutliff Ave, RHINDLANDER WI 54501,  
715-365-8900-phone, 715-365-8932-fax

Counties served: Florence, Forest, Langlade, Lincoln, Oneida, Vilas.

### **NORTHEAST REGION (NE)**

Department of Natural Resources, 1125 N Military Ave, PO Box 10448, Green Bay WI 54307-0449 920-492-5800-phone, 920-492-5913fax, 920-492-5812-tdd

Counties served: Brown Door, Kewaunee, Marinette, Menominee, Oconto, Outagamie, Shawano

### **NORTHEAST REGION (NE)**

Department of Natural Resources, 427 E Tower Dr, suite 100, WAUTOMA WI 54982 920-787-4686-phone

Counties served: Calumet, Fond du Lac, Green Lake, Manitowoc, Marquette, Waupaca, Waushara, Winnebago

### **WEST CENTRAL REGION (WC)**

Department of Natural Resources, 1300 W Clairmont, PO Box 4001, EAU CLAIRE, WI 54702-4001 715-839-3700-phone, 715-839-6076-fax

Counties served: Chippewa, Dunn, Eau Claire, La Crosse, Monroe, Pepin, Pierce, St. Croix, Vernon

### **WEST CENTRAL REGION (WC)**

Department of Natural Resources, 910 Hwy 54E, BLACK RIVER FALLS, WI 54615 715-284-1429-phone, 715-284-1737-fax

Counties served: Adams, Buffalo, Clark, Crawford, Jackson, Juneau, Marathon, Portage, Trempealeau, Wood

**SOUTH CENTRAL REGION (SC)**

Department of Natural Resources, 3911 Fish Hatchery Rd, FITCHBURG, WI 52711 608-275-3266-phone, 608-275-3338-fax, 608-275-3231-tdd

Counties served: \*Columbia, \*Dane, Dodge, Jefferson, Rock

**SOUTH CENTRAL REGION (SC)**

Department Of Natural Resources, 1500 N Johns St, DODGEVILLE, WI 53533  
608-935-1940-phone, 608-935-9652-fax

Counties served: Richland, Sauk, Grant, Iowa, Lafayette, Green, \*Dane, \*Columbia

**SOUTHEAST REGION (SE)**

Department of Natural Resources, 2300 N Dr Martin Luther King Jr Dr, PO Box 12436,  
MILWAUKEE WI 53212, 414-263-8500

Counties served: Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington,  
Waukesha

*\*Indicates counties served by two offices along basin lines*

### Appendix 1

### List of Soils with High Potential for Nitrate Leaching to Groundwater

The following table lists Wisconsin soils that are more susceptible to groundwater or surface water contamination based on NRCS soil survey data. The soils list covers all counties except Ashland County which will be added later when its soil survey is completed. The 71 counties listed are arranged alphabetically beginning with Adams County. The soils within each county are arranged alphabetically or numerically by soil map unit symbol. The most current list of soils is posted on the Standards Oversight Council (SOC) website: [www.socwisconsin.org](http://www.socwisconsin.org) (look for the SOC work teams page). County soil surveys are revised periodically so check the web site for the most current version.

Use the following information to interpret components of the table:

- **"Symbol"** refers to the soil map unit symbol found in county soil surveys.
- In the **"Restriction"** column:
  - **"p"** indicates high permeability (because the soil is classified as drained **hydrologic group A**).
  - **"r"** indicated any type of bedrock less than 20 inches from the surface.
  - **"w"** indicates an **apparent water table** less than 12 from the surface (very poorly and poorly drained).
- **Soil Series or Map Unit:** Name of the soil series associated with each soil symbol.
- **Hydrologic Group A:** Soil hydrologic groups organize similar soils according to their runoff characteristics without vegetation and are used to estimate runoff from precipitation. Group A soils have a high infiltration rate when thoroughly wet and have a low runoff potential. They are mainly deep, well drained sands and/or gravels. They have a high rate of water transmission.
- **Apparent Water Table:** Continuous saturated zone in the soil to a depth of 6 feet or more.

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Adams	Ad	wp	Adrian muck
Adams	An	w	Aquents, sandy
Adams	BnB	p	Boone sand, 2 to 6 %
Adams	BnC	p	Boone sand, 6 to 12 %
Adams	BnD	p	Boone sand, 12 to 25 %
Adams	BpF	pr	Boone-Rock outcrop complex, 25 to 45 %
Adams	BrA	p	Brems loamy sand, 0 to 3 %
Adams	BsA	wp	Brems-Newson loamy sands, 0 to 3 %
Adams	CoB	p	Coloma sand, 2 to 6 %
Adams	CoC	p	Coloma sand, 6 to 12 %
Adams	CoD	p	Coloma sand, 12 to 25 %
Adams	EvB	r	Elk mound loamy sand, 2 to 6 %
Adams	Hm	wp	Houghton muck
Adams	Ne	wp	Newson loamy sand
Adams	Pa	wp	Palms muck
Adams	PfA	p	Plainfield sand, 0 to 2 %
Adams	PfB	p	Plainfield sand, 2 to 6 %
Adams	PfC	p	Plainfield sand, 6 to 12 %
Adams	PfD	p	Plainfield sand, 12 to 35 %
Adams	Ps	w	Poygan silty clay loam
Adams	Pw	wp	Psammaquents, nearly level
Adams	QUA	r	Quarry
Adams	RfA	p	Richford loamy sand, 0 to 2 %
Adams	RfB	p	Richford loamy sand, 2 to 6 %
Adams	RfC	p	Richford loamy sand, 6 to 12 %
Adams	SpA	p	Sparta loamy sand, 0 to 3 %
Adams	Wa	w	Wautoma loamy sand
Barron	Ad	w	Adolph silt loam, 0 to 2 %
Barron	AmD	wp	Amery-Greenwood complex, 0 to 35 %
Barron	Au	w	Auburndale silt loam, 0 to 2 %
Barron	Ba	w	Barronett silt loam, 0 to 2 %
Barron	Be	wp	Beseman peat, 0 to 1 %
Barron	Cb	w	Capitola muck, 0 to 2 %
Barron	CsC	p	Cress-Mahtomedi complex, 6 to 15 %
Barron	CsD	p	Cress-Mahtomedi complex, 15 to 25 %
Barron	Fm	w	Fordum silt loam, 0 to 2 %
Barron	FrA	p	Friendship loamy sand, 0 to 3 %
Barron	Gr	wp	Greenwood peat, 0 to 1 %
Barron	HgC	wp	Haugen-Greenwood complex, 0 to 15 %
Barron	HzF	p	Hayriver-Twinmound complex, 20 to 50 %
Barron	Me	wp	Markey muck, 0 to 1 %
Barron	MnA	p	Menahga loamy sand, 0 to 2 %
Barron	MnB	p	Menahga loamy sand, 2 to 6 %
Barron	MnC	p	Menahga loamy sand, 6 to 12 %
Barron	MnD	p	Menahga loamy sand, 12 to 25 %
Barron	Ns	wp	Newson loamy sand, 0 to 2 %
Barron	Pc	p	Pits, gravel
Barron	PdB	p	Plainbo loamy sand, 2 to 6 %
Barron	PdC	p	Plainbo loamy sand, 6 to 12 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Barron	PdD	p	Plainbo loamy sand, 12 to 20 %
Barron	Rb	w	Rib silt loam, 0 to 2 %
Barron	Ru	p	Rubble land
Barron	Sm	wp	Seelyeville-Cathro mucks, 0 to 1 %
Barron	Va	w	Vancecreek silt loam, 0 to 2 %
Bayfield	3A	wp	Totagatic-Bowstring-Ausable complex, 0 to 2 %, freq flooded
Bayfield	5A	w	Arnheim mucky silt loam, 0 to 1 %, freq flooded
Bayfield	7C	p	Beaches, 2 TO 12 %
Bayfield	69B	p	Keweenaw-Sayner-Vilas complex, 2 to 6 %, stony
Bayfield	69C	p	Keweenaw-Sayner-Vilas complex, 6 to 15 %, stony
Bayfield	69E	p	Keweenaw-Sayner-Vilas complex, 15 to 45 %, stony
Bayfield	74B	p	Vilas loamy sand, 0 to 6 %
Bayfield	74C	p	Vilas loamy sand, 6 to 15 %
Bayfield	74D	p	Vilas loamy sand, 15 to 30 %
Bayfield	74E	p	Vilas loamy sand, 20 to 45 %
Bayfield	121A	w	Wakeley muck, 0 to 2 %
Bayfield	174B	p	Rubicon sand, 0 to 6 %
Bayfield	174C	p	Rubicon Sand, 6 To 15 %
Bayfield	174D	p	Rubicon Sand, 15 To 30 %
Bayfield	174F	p	Rubicon sand, 30 to 60 %
Bayfield	193A	w	Minocqua muck, 0 to 2 %
Bayfield	217B	p	Karlin loamy fine sand, 0 to 6 %
Bayfield	217C	p	Karlin loamy fine sand, 6 to 15 %
Bayfield	247A	w	Shag silt loam, lake terrace, 0 to 2 %
Bayfield	292B	w	Udifluents, loamy to clayey, 0 to 6 %, occas flooded
Bayfield	309C	r	Metonga-rock outcrop complex, 6 to 20 %
Bayfield	309E	r	Metonga-rock outcrop complex, 20 to 45 %
Bayfield	319A	w	Tonkey sandy loam, 0 to 2 %
Bayfield	339B	p	Rousseau loamy fine sand, 0 to 6 %
Bayfield	339C	p	Rousseau loamy fine sand, 6 to 15 %
Bayfield	339D	p	Rousseau loamy fine sand, 15 to 30 %
Bayfield	347A	w	Bergland-Cuttre complex, 0 to 3 %
Bayfield	371A	p	Croswell loamy sand, 0 to 3 %
Bayfield	388B	p	Pelkie, occas flooded-dechamps, freq flooded complex, 0 to 4 %
Bayfield	405A	wp	Lupton, cathro,-tawas soils, 0 to 1 %
Bayfield	406A	wp	Loxley mucky peat, 0 to 1 %
Bayfield	407A	wp	Seelyeville-Markey soils, 0 to 1 %
Bayfield	425B	p	Karlin sandy loam, 0 to 6 %
Bayfield	425C	p	Karlin sandy loam, 6 to 15 %
Bayfield	425D	p	Karlin sandy loam, 15 to 30 %
Bayfield	445A	w	Kinross muck, 0 to 2 %
Bayfield	461A	wp	Bowstring muck, 0 to 1 %, freq flooded
Bayfield	475B	p	Rubicon-Sayner complex, 0 to 6 %
Bayfield	475C	p	Rubicon-Sayner complex, 6 to 15 %
Bayfield	475D	p	Rubicon-Sayner complex, 15 to 30 %
Bayfield	479A	w	Happyhollow-Herbster complex, 0 to 3 %
Bayfield	485C	w	Lupton-Tawas soils, seeped, 2 to 15 %
Bayfield	524E	r	Rock outcrop-Frogcreek-Metonga complex, 2 to 45 %, very stony
Bayfield	548A	w	Pickford-Badriver complex, 0 to 3 %
Bayfield	555A	w	Fordum silt loam, 0 to 2 %, freq flooded
Bayfield	571E	p	Pelissier gravelly sandy loam, 15 to 45 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Bayfield	574B	p	Sayner loamy sand, 0 to 6 %
Bayfield	574C	p	Sayner loamy sand, 6 to 15 %
Bayfield	574E	p	Sayner loamy sand, 15 to 45 %
Bayfield	577A	w	Lerch-Borea complex, 0 to 3 %
Bayfield	582B	p	Padus-Pence-keweenaw complex, 0 to 6 %, stony
Bayfield	582C	p	Padus-Pence-keweenaw complex, 6 to 15 %, stony
Bayfield	582D	p	Padus-Pence-keweenaw complex, 15 to 30 %, stony
Bayfield	591A	p	Croswell-Chinwhisker complex, 0 to 3 %
Bayfield	594B	p	Vilas-Lindquist complex, 0 to 6 %
Bayfield	594C	p	Vilas-Lindquist complex, 6 to 15 %
Bayfield	594D	p	Vilas-Lindquist complex, 15 to 30 %
Bayfield	603B	r	Redrim very cobbly sand, 0 to 6 %, very stony
Bayfield	639A	p	Neconish loamy fine sand, 0 to 3 %
Bayfield	670B	p	Keweenaw-Pence complex, 0 to 6 %, stony
Bayfield	670C	p	Keweenaw-Pence complex, 6 to 15 %, stony
Bayfield	670E	p	Keweenaw-Pence complex, 15 to 45 %, stony
Bayfield	674B	p	Sultz sand, 0 to 6 %
Bayfield	674C	p	Sultz sand, 6 to 15 %
Bayfield	674D	p	Sultz sand, 10 to 30 %
Bayfield	674E	p	Sultz sand, 15 to 45 %
Bayfield	705B	p	Cublake-Croswell-Ashwabay complex, 0 to 6 %
Bayfield	705C	p	Cublake-Croswell-Ashwabay complex, 6 to 15 %
Bayfield	724A	w	Rib-Rock outcrop complex, 0 to 2 %
Bayfield	733A	w	Wozny muck, 0 to 2 %, very stony
Bayfield	753B	w	Sedgwick-Munuscong complex, 0 to 6 %
Bayfield	805E	p	Sultz-Ashwabay-Rubicon complex, 15 to 45 %
Bayfield	809C	r	Gogebic-Metonga-rock outcrop complex, 6 to 18 %, very stony
Bayfield	809D	r	Gogebic-Metonga-rock outcrop complex, 10 to 35 %, very stony
Bayfield	813E	p	Manistee-Kellogg-Ashwabay complex, 15 to 45 %
Bayfield	853C	w	Frogcreek-Stinnett-Wozny complex, 0 to 15 %, very stony
Bayfield	874B	p	Keweenaw, stony-Rubicon complex, 0 to 6 %
Bayfield	874C	p	Keweenaw, stony-Rubicon complex, 6 to 15 %
Bayfield	874D	p	Keweenaw, stony-Rubicon complex, 15 to 30 %
Bayfield	874E	p	Keweenaw, stony-Rubicon complex, 20 to 45 %
Bayfield	884C	wp	Keweenaw, stony-Vilas-Cathro complex, 0 to 15 %
Bayfield	884E	wp	Keweenaw, stony-Vilas-Cathro complex, 0 to 55 %
Bayfield	885B	wp	Springstead, stony-Annalake-Cathro complex, 0 to 6 %
Bayfield	953B	w	Beaverbay-Stinnett-Wozny complex, 0 to 6 %, very stony
Bayfield	953C	w	Beaverbay-Stinnett-Wozny complex, 0 to 15 %, very stony
Bayfield	974B	p	Sayner-Pence-Vilas complex, 0 to 6 %
Bayfield	974C	p	Sayner-Pence-Vilas complex, 6 to 15 %
Bayfield	974D	p	Sayner-Pence-Vilas complex, 15 to 30 %
Bayfield	1385B	p	Cublake-Keweenaw, stony complex, 0 to 6 %
Bayfield	1653B	w	Stanberry-Parkfalls-Wozny complex, 0 to 6 %, very stony
Bayfield	1653C	w	Stanberry-Parkfalls-Wozny complex, 0 to 15 %, very stony
Bayfield	1760C	wp	Keweenaw, Stony-Pence, stony-Cathro complex, 0 to 15 %
Bayfield	1760E	wp	Keweenaw, Stony-Pence, stony-Cathro complex, 0 to 45 %
Bayfield	2030	pw	Udorthents-Udipsamments, cut or fill
Bayfield	3114A	w	Saprists, Aquepts, -Aquepts, 0 to 1 %, ponded-flooded
Bayfield	3403A	wp	Loxley, Beseman, -Dawson soils, 0 to 1 %
Bayfield	3423A	wp	Rifle peat, 0 to 1 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Bayfield	3424C	r	Frogcreek-Magroc-Stinnett complex, 0 to 15 %, rocky
Bayfield	3512D	p	Menominee loamy sand, 15 to 30 %
Bayfield	3608B	p	Deerton-Brownstone complex, 0 to 6 %, very stony
Bayfield	3608C	p	Deerton-Brownstone complex, 6 to 15 %, very stony
Bayfield	3826B	wp	Allendale-Wakeley-Kinross complex, 0 to 6 %
Bayfield	5172B	wp	Gogebic, very stony-pence, very stony-Cathro complex, 0 to 6 %
Bayfield	5172C	wp	Gogebic, very stony-pence, very stony-Cathro complex, 0 to 18 %
Bayfield	5172D	wp	Gogebic, very stony-pence, very stony-Cathro complex, 0 to 35 %
Bayfield	9012B	p	Sayner-Lindquist complex, 0 to 6 %
Bayfield	9012C	p	Sayner-Lindquist complex, 6 to 15 %
Bayfield	9012D	p	Sayner-Lindquist complex, 15 to 30 %
Bayfield	9020C	wpr	Wakefield, stony-Annalake-Cathro complex, 0 to 18 %
Bayfield	9020D	wpr	Wakefield, stony-Annalake-Cathro complex, 0 to 35 %
Bayfield	9050A	wp	Fordum, totagatic,-Bowstring soils, 0 to 1 %, freq flooded
Bayfield	9051A	w	Minocqua, Wozny,-pleine soils, 0 to 2 %, very stony
Bayfield	9064E	p	Rubicon sand, eskers, 20 to 45 %
Bayfield	9113B	p	Padus-Karlin complex, 0 to 6 %
Bayfield	9113C	p	Padus-Karlin complex, 6 to 15 %
Bayfield	9113D	p	Padus-Karlin complex, 15 to 30 %
Bayfield	9155A	wp	Haplosaprists, peats-mucks, 0 to 1 %
Brown	Aw	w	Alluvial land, wet
Brown	Ax	w	Angelica silt loam
Brown	Ca	wp	Carbondale muck
Brown	CdE2	p	Casco-Rodman complex, 12 to 35 %, eroded
Brown	Cm	wp	Cathro muck
Brown	Gp	p	Gravel pits
Brown	Ke	w	Keowns silt loam
Brown	MeB	p	Manistee loamy fine sand, 2 to 6 %
Brown	MeC2	p	Manistee loamy fine sand, 6 to 14 %, eroded
Brown	MfB	p	Manistee fine sandy loam, 2 to 6 %
Brown	Mk	wp	Markey muck
Brown	Mr	wp	Marsh
Brown	MsB	p	Menominee loamy fine sand, 2 to 6 %
Brown	NaB	r	Namur silt loam, 1 to 6 %
Brown	NaD	r	Namur silt loam, 6 to 20 %
Brown	Ne	wr	Namur silt loam, wet variant
Brown	Od	wp	Ogden muck
Brown	Pe	w	Pella silt loam
Brown	Po	w	Poygan silty clay loam
Brown	Qu	r	Quarries
Brown	Rs	wp	Roscommon muck
Brown	Ru	wr	Ruse silt loam
Brown	Sb	w	Sebewa silt loam
Brown	SeC	p	Shawano fine sand, rolling
Brown	SeD	p	Shawano fine sand, hilly
Brown	SfB	p	Shawano loamy fine sand, 2 to 6 %
Brown	SfC	p	Shawano loamy fine sand, 6 to 12 %
Brown	SuB	r	Summerville loam, 1 to 6 %
Brown	SuD2	r	Summerville loam, 6 to 20 %, eroded
Brown	SvB	r	Summerville silt loam, clayey subsoil variant, 1 to 6 %
Brown	Wa	w	Wauseon fine sandy loam

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Buffalo	BoB2	p	Boone fine sand, 2 to 6 %, eroded
Buffalo	BoC2	p	Boone fine sand, 6 to 12 %, eroded
Buffalo	BoD2	p	Boone fine sand, 12 to 40 %, eroded
Buffalo	CP	p	Coal pile
Buffalo	Dv	p	Duelm fine sandy loam
Buffalo	Dw	w	Duelm fine sandy loam, high water table
Buffalo	Es	w	Ettrick silt loam
Buffalo	Et	w	Ettrick silt loam, sandy substratum
Buffalo	GoA	p	Gotham loamy fine sand, 0 to 2 %
Buffalo	GoB	p	Gotham loamy fine sand, 2 to 6 %
Buffalo	GoB2	p	Gotham loamy fine sand, 2 to 6 %, eroded
Buffalo	GP	p	Gravel pit
Buffalo	Gr	w	Granby sandy loam
Buffalo	HuA	p	Hubbard soils, 0 to 2 %
Buffalo	HuB	p	Hubbard soils, 2 to 6 %
Buffalo	Lv	w	Loamy alluvial land, poorly drained
Buffalo	Ma	wp	Marsh
Buffalo	NfD3	r	Norden fine sandy loam, 12 to 20 %, severely eroded
Buffalo	Pa	wp	Peat-muck, shallow
Buffalo	Pd	wp	Peat-muck, deep
Buffalo	PfA	p	Plainfield loamy fine sand, 0 to 2 %
Buffalo	PfB	p	Plainfield loamy fine sand, 2 to 6 %
Buffalo	PfB2	p	Plainfield loamy fine sand, 2 to 6 %, eroded
Buffalo	PfC2	p	Plainfield loamy fine sand, 6 to 12 %, eroded
Buffalo	Ps	p	Plainfield loamy fine sand, loamy substrata variant
Buffalo	QUA	r	Quarry
Buffalo	Re	p	Riverwash
Buffalo	Sa	wp	Sandy alluvial land, poorly drained
Buffalo	SpA	p	Sparta loamy fine sand, 0 to 2 %
Buffalo	SpB	p	Sparta loamy fine sand, 2 to 6 %
Buffalo	SpB2	p	Sparta loamy fine sand, 2 to 6 %, eroded
Buffalo	SpC	p	Sparta loamy fine sand, 6 to 12 %
Buffalo	SpC2	p	Sparta loamy fine sand, 6 to 12 %, eroded
Buffalo	Sr	p	Sparta loamy fine sand, loamy substrata variant
Buffalo	Ss	p	Sparta-Plainfield fine sands-dune land
Buffalo	St	r	Steep stony-rocky land
Buffalo	Tn	p	Terrace escarpments, sandy
Buffalo	TrA	p	Trempe loamy fine sand, 0 to 2 %
Buffalo	TrB	p	Trempe loamy fine sand, 2 to 6 %
Buffalo	TrB2	p	Trempe loamy fine sand, 2 to 6 %, eroded
Buffalo	TrC2	p	Trempe loamy fine sand, 6 to 12 %, eroded
Buffalo	Ud	pw	Udorthents
Buffalo	Wa	w	Walkill silt loam
Burnett	100B	p	Menahga sand, 0 to 6 %
Burnett	100C	p	Menahga sand, 6 to 12 %
Burnett	100D	p	Menahga sand, 12 to 30 %
Burnett	1070C	p	Fremstadt, stony-Cress complex, 6 to 15 %
Burnett	1070D	p	Fremstadt, stony-Cress complex, 15 to 30 %
Burnett	1080B	p	Spoonerhill-Spoonerhill, stony-Cress complex, 1 to 6 %
Burnett	120B	p	Kost fine sand, 0 to 6 %
Burnett	12A	w	Makwa stony muck, 0 to 1 %, extremely stony, FREQ flooded

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Burnett	151A	w	Bluffton loam, 0 to 2 %
Burnett	193A	w	Minocqua muck, 0 to 2 %
Burnett	3011A	w	Barronett silt loam, 0 to 2 %
Burnett	3082E	p	Braham-Shawano complex, 12 to 35 %
Burnett	3114A	w	Saprists, aquents,-aquepts, 0 to 1 %, ponded-flooded
Burnett	3125A	p	Meehan loamy sand, 0 to 2 %
Burnett	3126A	p	Wurtsmith loamy sand, 0 to 3 %
Burnett	3336A	w	Fenander fine sandy loam, 0 to 2 %
Burnett	3403A	wp	Loxley, Beseman,-Dawson soils, 0 to 1 %
Burnett	3446A	w	Newson muck, 0 to 2 %
Burnett	3625A	p	Lino loamy fine sand, 0 to 2 %
Burnett	3629B	p	Perida loamy sand, 0 to 4 %
Burnett	368B	p	Mahtomedi-Cress complex, 2 to 6 %
Burnett	368C	p	Mahtomedi-Cress complex, 6 to 12 %
Burnett	368D	p	Mahtomedi-Cress complex, 12 to 25 %
Burnett	368E	p	Mahtomedi-Cress complex, 25 to 35 %
Burnett	380B	p	Cress-Rosholt complex, 2 to 6 %
Burnett	380C	p	Cress-Rosholt complex, 6 to 12 %
Burnett	380D	p	Cress-Rosholt complex, 12 to 25 %
Burnett	383B	p	Mahtomedi loamy sand, 0 to 6 %
Burnett	383C	p	Mahtomedi loamy sand, 6 to 12 %
Burnett	383D	p	Mahtomedi loamy sand, 12 to 30 %
Burnett	392C	w	Rockmarsh-Dairyland-Makwa, seeped complex, 2 to 20 %, very stony
Burnett	396B	p	Friendship-Wurtsmith-Grayling complex, 0 to 6 %
Burnett	399B	p	Grayling sand, 0 to 6 %
Burnett	399C	p	Grayling sand, 6 to 12 %
Burnett	399D	p	Grayling sand, 12 to 30 %
Burnett	3A	wp	Totagatic-Bowstring-Ausable complex, 0 to 2 %, FREQ flooded
Burnett	406A	wp	Loxley mucky peat, 0 to 1 %
Burnett	407A	wp	Seelyeville-Markey soils, 0 to 1 %
Burnett	410A	wp	Seelyeville-Cathro soils, 0 to 1 %
Burnett	419A	wp	Seelyeville, Cathro,-Markey soils, 0 to 1 %
Burnett	421A	wp	Dora, Markey,-Seelyeville soils, 0 to 1 %
Burnett	422A	wp	Seelyeville, Cathro,-Rondeau soils, 0 to 1 %
Burnett	426B	p	Emmert-Mahtomedi-Menahga complex, 2 to 6 %
Burnett	426C	p	Emmert-Mahtomedi-Menahga complex, 6 to 12 %
Burnett	426D	p	Emmert-Mahtomedi-Menahga complex, 12 to 30 %
Burnett	439B	p	Graycalm-Menahga complex, 0 to 6 %
Burnett	439C	p	Graycalm-Menahga complex, 6 to 12 %
Burnett	439D	p	Graycalm-Menahga complex, 12 to 30 %
Burnett	442C	wp	Haugen, very stony-Greenwood complex, 0 to 15 %
Burnett	443D	wp	Amery, very stony-Greenwood complex, 0 to 35 %
Burnett	459A	wp	Loxley, Daisybay,-Dawson soils, 0 to 1 %
Burnett	461A	wp	Bowstring muck, 0 to 1 %, FREQ flooded
Burnett	465A	wp	Newson-Meehan complex, 0 to 3 %
Burnett	471B	p	Dairyland-Emmert complex, 0 to 6 %, very stony
Burnett	471C	p	Dairyland-emmert complex, 6 to 15 %, very stony
Burnett	484A	wp	Greenwood-Beseman soils, 0 to 1 %
Burnett	485C	w	Lupton-Tawas soils, seeped, 2 to 15 %
Burnett	495B	p	Karlsborg-Grettum-Perida complex, 1 to 6 %
Burnett	495C	p	Karlsborg-Grettum-Perida complex, 6 to 12 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Burnett	495D	p	Karlsborg-Grettum-Perida complex, 12 to 30 %
Burnett	521A	w	Dody muck, 0 to 2 %
Burnett	523A	w	Nokasippi muck, 0 to 1 %
Burnett	544F	p	Menahga-Mahtomedi soils, 30 to 45 %
Burnett	555A	w	Fordum silt loam, 0 to 2 %, FREQ flooded
Burnett	557B	p	Shawano fine sand, 0 to 6 %
Burnett	557C	p	Shawano fine sand, 6 to 12 %
Burnett	557D	p	Shawano fine sand, 12 to 30 %
Burnett	586A	w	Chelmo sandy loam, 0 to 2 %
Burnett	600A	w	Haplosaprists-Psammaquents, 0 to 2 %
Burnett	615B	p	Cress sandy loam, 0 to 6 %
Burnett	615C	p	Cress sandy loam, 6 to 12 %
Burnett	615D	p	Cress sandy loam, 12 to 30 %
Burnett	620C	r	Lundeen-Hastrup-Rock outcrop complex, 6 to 12 %, very stony
Burnett	621A	w	Bjorkland peat, 0 to 2 %
Burnett	623A	w	Capitola muck, 0 to 2 %, very stony
Burnett	631A	w	Giese muck, 0 to 1 %, very stony
Burnett	634C	wr	Drylanding-Beartree complex, 0 to 12 %, rocky
Burnett	635C	wr	Drylanding-Beartree complex, 0 to 12 %, rocky, rarely flooded
Burnett	64A	wp	Totagatic-Winterfield complex, 0 to 2 %, FREQ flooded
Burnett	671B	p	Spoonerhill, stony-Spoonerhill complex, 2 to 6 %
Burnett	69C	p	Keweenaw-Sayner-Vilas complex, 6 to 15 %, stony
Burnett	69E	p	Keweenaw-Sayner-Vilas complex, 15 to 45 %, stony
Burnett	706A	pw	Winterfield-Totagatic complex, 0 to 2 %, FREQ flooded
Burnett	720F	r	Hastrup-Lundeen-Rock outcrop complex, 12 to 65 %, very stony
Burnett	726B	p	Sissabagama loamy sand, 0 to 6 %
Burnett	755A	w	Moppet OCCAS flooded-Fordum, FREQ flooded, complex, 0 to 3 %
Burnett	771A	p	Lenroot loamy sand, 0 to 3 %
Burnett	86A	w	Indus-Alango complex, 0 to 2 %
Burnett	896A	p	Wurtsmith sand, 0 to 3 %
Burnett	89A	w	Wildwood muck, 0 to 1 %
Calumet-Manitowoc	Ac	wp	Adrian muck
Calumet-Manitowoc	As	w	Aquents, sloping
Calumet-Manitowoc	Bu	w	Brookston silt loam
Calumet-Manitowoc	CnB	r	Channahon loam, 2 to 6 %
Calumet-Manitowoc	CnC	r	Channahon loam, 6 to 12 %
Calumet-Manitowoc	Du	p	Dune land
Calumet-Manitowoc	Fu	w	Fluvaquents
Calumet-Manitowoc	Gb	wp	Granby fine sandy loam
Calumet-Manitowoc	Hu	wp	Houghton muck
Calumet-Manitowoc	Ke	w	Keowns very fine sandy loam
Calumet-Manitowoc	McB	w	Manawa-Kewaunee-Poygan complex, 0 to 4 %
Calumet-Manitowoc	OaB	p	Oakville loamy fine sand, 2 to 6 %
Calumet-Manitowoc	OaC	p	Oakville loamy fine sand, 6 to 12 %
Calumet-Manitowoc	OgB	wp	Oakville-Granby complex, 0 to 4 %
Calumet-Manitowoc	Pa	wp	Palms muck
Calumet-Manitowoc	Pe	w	Pella silt loam
Calumet-Manitowoc	Pg	p	Pits, gravel
Calumet-Manitowoc	PIB	p	Plainfield loamy sand, 2 to 6 %
Calumet-Manitowoc	PIC	p	Plainfield loamy sand, 6 to 12 %
Calumet-Manitowoc	PID	p	Plainfield loamy sand, 12 to 20 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Calumet-Manitowoc	Po	w	Poygan silty clay loam
Calumet-Manitowoc	We	w	Wauseon sandy loam
Calumet-Manitowoc	Wt	wp	Willette muck
Chippewa	Au	w	Auburndale silt loam, 0 to 2 %
Chippewa	Ba	w	Barronett silt loam, 0 to 2 %
Chippewa	Bb	w	Barronett mucky silt loam, ponded, 0 to 2 %
Chippewa	Be	wp	Beseman muck, 0 to 1 %
Chippewa	BoE	p	Boone fine sand, 20 to 45 %
Chippewa	Cb	w	Cable silt loam, 0 to 2 %
Chippewa	CkD2	p	Chetek-Mahtomedi complex, 12 to 25 %, eroded
Chippewa	CkE	p	Chetek-Mahtomedi complex, 25 to 40 %
Chippewa	EmB	r	Elkmound loam, 2 to 6 %
Chippewa	EmC2	r	Elkmound loam, 6 to 12 %, eroded
Chippewa	EmD2	r	Elkmound loam, 12 to 20 %, eroded
Chippewa	EmE	r	Elkmound loam, 20 to 45 %
Chippewa	Eo	wp	Elm Lake loamy sand, 0 to 2 %
Chippewa	Fm	w	Fordum loam, 0 to 2 %
Chippewa	FrA	p	Friendship loamy sand, 0 to 3 %
Chippewa	Gr	wp	Greenwood peat, 0 to 1 %
Chippewa	La	w	Lows loam, 0 to 2 %
Chippewa	Lp	wp	Lupton muck, 0 to 1 %
Chippewa	MdB	p	Mahtomedi loamy sand, 2 to 6 %
Chippewa	MdC	p	Mahtomedi loamy sand, 6 to 12 %
Chippewa	Me	wp	Markey muck, 0 to 1 %
Chippewa	MkB	p	Menahga loamy sand, 0 to 6 %
Chippewa	MkC	p	Menahga loamy sand, 6 to 12 %
Chippewa	Mu	w	Minocqua loam, 0 to 2 %
Chippewa	MvA	p	Moundville loamy sand, 0 to 3 %
Chippewa	Na	wp	Newson loamy sand, 0 to 2 %
Chippewa	NtB	r	Northfield silt loam, 2 to 6 %
Chippewa	NtC2	r	Northfield silt loam, 6 to 12 %, eroded
Chippewa	NtD2	r	Northfield silt loam, 12 to 20 %, eroded
Chippewa	Pc	p	Pits, gravel
Chippewa	PdB	p	Plainbo loamy sand, 2 to 6 %
Chippewa	PdC	p	Plainbo loamy sand, 6 to 12 %
Chippewa	PdD	p	Plainbo loamy sand, 12 to 20 %
Chippewa	Rb	w	Rib silt loam, 0 to 2 %
Chippewa	Rc	w	Rib mucky silt loam, ponded, 0 to 2 %
Chippewa	RfA	p	Richford loamy sand, 0 to 3 %
Chippewa	Sm	wp	Seelyeville muck, 0 to 1 %
Chippewa	Ve	w	Vesper silt loam, 0 to 2 %
Clark	AnA	wp	Au Gres-Newson complex, 0 to 3 %
Clark	Au	w	Auburndale silt loam, 0 to 2 %
Clark	Ba	w	Barronett silt loam, 0 to 2 %
Clark	BoC	p	Boone sand, 6 to 15 %
Clark	BoF	p	Boone sand, 15 to 50 %
Clark	BpF	p	Boone-Elevasil complex, 15 to 50 %
Clark	Ca	w	Capitola-Marshfield-Veedum complex, 0 to 2 %
Clark	Cd	wp	Citypoint mucky peat, 0 to 1 %
Clark	Da	wp	Dawsil mucky peat, 0 to 1 %
Clark	EaB	p	Eau Claire loamy sand, 1 to 6 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Clark	FeA	wp	Fairchild-Elm Lake complex, 0 to 3 %
Clark	Fm	w	Fordum silt loam, 0 to 2 %
Clark	IxA	wp	Ironrun-Ponycreek complex, 0 to 3 %
Clark	IzB	p	Ironrun-Ponycreek-Arbutus complex, 0 to 6 %
Clark	Lk	wp	Loxley peat, 0 to 1 %
Clark	Lm	wp	Loxley, Beseman,-Dawson peats 0 to 1 %
Clark	MbB	p	Mahtomedi loamy sand, 0 to 6 %
Clark	MbC	p	Mahtomedi loamy sand, 6 to 12 %
Clark	Me	wp	Markey-Newson mucks, 0 to 2 %
Clark	Mf	w	Marshfield silt loam, 0 to 2 %
Clark	MgB	p	Menahga loamy sand, 0 to 6 %
Clark	MrA	w	Merrillan-Veedum complex, 0 to 3 %
Clark	MxA	w	Moppet-Fordum complex, 0 to 3 %
Clark	NmC	wp	Newood-Magnor-Cathro complex, 0 to 15 %, very stony
Clark	NrF	r	Northmound-Rock outcrop complex, 15 to 50 %, very stony
Clark	PeA	p	Pelkie-Winterfield loamy fine sands, 0 to 3 %
Clark	Pg	p	Pits
Clark	Pv	wp	Ponycreek-Dawsil complex, 0 to 2 %
Clark	Py	w	Psammaquents, nearly level
Clark	Rb	w	Rib silt loam, 0 to 2 %
Clark	RkA	p	Rockdam sand, 0 to 3 %
Clark	ScA	p	Simescreek sand, 0 to 3 %
Clark	TrB	p	Tarr sand, 0 to 6 %
Clark	Ve	w	Veedum silt loam, 0 to 2 %
Clark	Vs	wp	Veedum-Elm Lake mucks, 0 to 2 %
Columbia	Ad	wp	Adrian muck
Columbia	Af	wp	Alluvial land, sandy, wet
Columbia	Ah	w	Alluvial land, loamy, wet
Columbia	BbA	w	Barry loam, 0 to 3 %
Columbia	BnC	p	Boone loamy fine sand, 6 to 12 %
Columbia	BnE	p	Boone loamy fine sand, 12 to 45 %
Columbia	Bo	wp	Boots muck
Columbia	CaB	r	Channahon silt loam, 2 to 6 %
Columbia	CaC2	r	Channahon silt loam, 6 to 12 %, eroded
Columbia	CaE2	r	Channahon silt loam, 12 to 30 %, eroded
Columbia	ChB	p	Chelsea loamy fine sand, 1 to 6 %
Columbia	ChC	p	Chelsea loamy fine sand, 6 to 12 %
Columbia	CoA	w	Colwood fine sandy loam, 0 to 3 %
Columbia	GaA	w	Gilford fine sandy loam, stratified substratum, 0 to 3 %
Columbia	Gb	wp	Granby loamy sand
Columbia	GP	p	Gravel pit
Columbia	Ho	wp	Houghton muck
Columbia	Mb	w	Marsh
Columbia	Mc	w	Marshan loam
Columbia	NoB	r	Northfield sandy loam, 2 to 6 %
Columbia	NoC	r	Northfield sandy loam, 6 to 12 %
Columbia	NoE	r	Northfield sandy loam, 12 to 30 %
Columbia	OsA	w	Ossian silt loam, 0 to 3 %
Columbia	Ot	w	Otter silt loam
Columbia	Pa	wp	Palms muck
Columbia	PeC2	p	Plainfield sand, 2 to 12 %, eroded

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Columbia	PfA	p	Plainfield loamy fine sand, 0 to 2 %
Columbia	PfB	p	Plainfield loamy fine sand, 2 to 6 %
Columbia	PfC	p	Plainfield loamy fine sand, 6 to 12 %
Columbia	PfD	p	Plainfield loamy fine sand, 12 to 25 %
Columbia	PKB	p	Plainfield loamy fine sand, loamy substratum, 2 to 6 %
Columbia	PKC	p	Plainfield loamy fine sand, loamy substratum, 6 to 12 %
Columbia	PKD	p	Plainfield loamy fine sand, loamy substratum, 12 to 25 %
Columbia	PoA	w	Poygan silt loam, 0 to 3 %
Columbia	QU	r	Quarry
Columbia	Rk	r	Rock land
Columbia	RoC	p	Rodman gravelly loam, 2 to 12 %
Columbia	RoD	p	Rodman gravelly loam, 12 to 20 %
Columbia	RoE	p	Rodman gravelly loam, 20 to 45 %
Columbia	Sd	p	Sandy land
Columbia	SpB	p	Sparta loamy fine sand, 1 to 6 %
Columbia	Wa	w	Wacousta mucky silt loam
Columbia	Wb	w	Walkkill silt loam
Crawford	Aa	w	Alluvial land, poorly drained
Crawford	BoD	p	Boone fine sand, 12 to 30 %
Crawford	ChC2	p	Chelsea fine sand, 6 to 12 %, eroded
Crawford	ChD2	p	Chelsea fine sand, 12 to 20 %, eroded
Crawford	ChE2	p	Chelsea fine sand, 20 to 30 %, eroded
Crawford	Ct	p	Cherty alluvial land
Crawford	DtC	r	Dubuque cherty silt loam, 6 to 12 %
Crawford	DtD	r	Dubuque cherty silt loam, 12 to 20 %
Crawford	DtD2	r	Dubuque cherty silt loam, 12 to 20 %, moderately eroded
Crawford	DtE	r	Dubuque cherty silt loam, 20 to 30 %
Crawford	DtE2	r	Dubuque cherty silt loam, 20 to 30 %, moderately eroded
Crawford	Et	w	Etrick silt loam
Crawford	GoB	p	Gotham loamy fine sand, 2 to 6 %
Crawford	GoB2	p	Gotham loamy fine sand, 2 to 6 %, eroded
Crawford	GoC	p	Gotham loamy fine sand, 6 to 12 %
Crawford	GoC2	p	Gotham loamy fine sand, 6 to 12 %, eroded
Crawford	GP	p	Gravel pit
Crawford	Ow	w	Orion silt loam, poorly drained variant
Crawford	QUA	r	Quarry
Crawford	SP	p	Sand pit
Crawford	SsA	p	Sparta loamy fine sand, 0 to 2 %
Crawford	SsB	p	Sparta loamy fine sand, 2 to 6 %
Crawford	SsB2	p	Sparta loamy fine sand, 2 to 6 %, eroded
Crawford	SsC	p	Sparta loamy fine sand, 6 to 12 %
Crawford	SsC2	p	Sparta loamy fine sand, 6 to 12 %, eroded
Crawford	Ts	p	Terrace escarpments, sandy
Dane	Ad	wp	Adrian muck
Dane	Af	w	Alluvial land, wet
Dane	BrA	p	Brems loamy sand
Dane	Co	w	Colwood silt loam
Dane	DmA	p	Dickinson loamy fine sand, sandy variant, 1 to 4 %
Dane	DuB2	r	Dunbarton silt loam, 2 to 6 %, eroded
Dane	DuC2	r	Dunbarton silt loam, 6 to 12 %, eroded
Dane	DuD2	r	Dunbarton silt loam, 12 to 20 %, eroded

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Dane	DuE2	r	Dunbarton silt loam, 20 to 30 %, eroded
Dane	EdB2	r	Edmund silt loam, 2 to 6 %, eroded
Dane	EdC2	r	Edmund silt loam, 6 to 12 %, eroded
Dane	EdD2	r	Edmund silt loam, 12 to 20 %, eroded
Dane	EmC2	r	Elk mound sandy loam, 6 to 12 %, eroded
Dane	EmD2	r	Elk mound sandy loam, 12 to 20 %, eroded
Dane	EmE2	r	Elk mound sandy loam, 20 to 30 %, eroded
Dane	EmF	r	Elk mound sandy loam, 30 to 60 %
Dane	Ev	w	Elvers silt loam
Dane	Gn	wp	Granby loamy sand
Dane	Ho	wp	Houghton muck
Dane	Mb	w	Marsh
Dane	Mc	w	Marshan silt loam
Dane	MoA	w	Montgomery silty clay loam, 0 to 3 %
Dane	Os	w	Orion silt loam, wet
Dane	Ot	w	Otter silt loam
Dane	Pa	wp	Palms muck
Dane	PfB	p	Plainfield sand, 1 to 6 %
Dane	RpE	p	Rodman sandy loam, 12 to 35 %
Dane	SaA	w	Sable silty clay loam, 0 to 3 %
Dane	SoD	r	Sogn silt loam, 2 to 20 %
Dane	SoE	r	Sogn silt loam, 20 to 35 %
Dane	SpB	p	Spinks-Plainfield loamy sands, 2 to 6 %
Dane	SpC	p	Spinks-Plainfield loamy sands, 6 to 12 %
Dane	SpD	p	Spinks-Plainfield loamy sands, 12 to 25 %
Dane	St	r	Stony-rocky land
Dane	Wa	w	Wacousta silty clay loam
Dodge	Ar	wp	Adrian variant muck
Dodge	BsA	w	Brookston silt loam, 0 to 3 %
Dodge	CdB	r	Channahon silt loam, 1 to 6 %
Dodge	CdC2	r	Channahon silt loam, 6 to 12 %, eroded
Dodge	CdD2	r	Channahon silt loam, 12 to 25 %, eroded
Dodge	ChB	p	Chelsea loamy fine sand, 2 to 6 %
Dodge	ChC	p	Chelsea loamy fine sand, 6 to 18 %
Dodge	Co	w	Colwood silty clay loam
Dodge	Ev	w	Elvers silt loam
Dodge	Fu	w	Fluvaquents
Dodge	Gb	wp	Granby variant fine sandy loam
Dodge	Hu	wp	Houghton muck
Dodge	Hw	w	Houghton muck, ponded
Dodge	Ke	w	Keowns silt loam
Dodge	Ot	w	Otter silt loam
Dodge	Pa	wp	Palms muck
Dodge	Ph	w	Pella silty clay loam
Dodge	Pk	w	Pella variant silt loam
Dodge	RcE	r	Rock outcrop-Channahon complex, 5 to 30 %
Dodge	RxC2	p	Rodman-Casco complex, 6 to 12 %, eroded
Dodge	RxD2	p	Rodman-Casco complex, 12 to 30 %, eroded
Dodge	Sk	wp	Saprists-Aquents
Dodge	Sm	w	Sebewa silt loam
Door	ApC	p	Alpena gravelly sandy loam, 0 to 12 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Door	Ax	w	Angelica loam
Door	Bo	r	Bonduel variant fine sandy loam, shallow
Door	Bp	w	Bonduel variant loam, wet
Door	Ca	wp	Carbondale muck
Door	Cm	wp	Cathro muck
Door	Cp	w	Chippeny muck
Door	De	wp	Deford loamy fine sand
Door	DuB	p	Duel loamy sand, 1 to 6 %
Door	Dv	w	Duel variant sandy loam
Door	Fu	w	Fluvaquents
Door	Gp	p	Gravel pits
Door	KmB	p	Kiva sandy loam, 2 to 6 %
Door	KmC	p	Kiva sandy loam, 6 to 12 %
Door	KvB	r	Kolberg variant loam, 1 to 6 %
Door	KvC2	r	Kolberg variant loam, 6 to 12 %, eroded
Door	MeB	p	Manistee loamy sand, 2 to 6 %
Door	Mk	wp	Markey muck
Door	NaB	r	Namur loam, 0 to 6 %
Door	NaC	r	Namur loam, 6 to 12 %
Door	Nv	wr	Namur variant loam
Door	Pn	w	Pinconning loamy fine sand
Door	Po	w	Poygan silty clay loam
Door	QUA	r	Quarry
Door	Ra	r	Rock outcrop
Door	Rb	r	Rock outcrop-Namur complex, 6 to 20 %
Door	Rn	wp	Rondeau muck
Door	RoB	p	Rousseau fine sand, 2 to 6 %
Door	RoC	p	Rousseau fine sand, 6 to 12 %
Door	RpC	p	Rousseau-Shawano fine sands, 2 to 12 %
Door	RpD	p	Rousseau-Shawano fine sands, 12 to 35 %
Door	RrB	wp	Rousseau-Deford fine sands, 2 to 6 %
Door	Sa	w	Saprists
Door	Su	wp	Suamico muck
Door	SvA	r	Summerville loam, 0 to 2 %
Door	SvB	r	Summerville loam, 2 to 6 %
Door	SvC	r	Summerville loam, 6 to 12 %
Door	SvD	r	Summerville loam, 12 to 20 %
Door	Ud	p	Udipsamments
Door	Uo	p	Udorthents, cobbly
Door	Yv	w	Yahara variant silt loam
Douglas	3A	wp	Totagatic-Bowstring-Ausable complex, 0 to 2 %, freq flooded
Douglas	5A	w	Arnheim Mucky silt loam, 0 to 1 %
Douglas	7C	p	Beaches, 2 to 12 %
Douglas	12A	w	Makwa stony muck, 0 to 1 %, extremely stony
Douglas	64A	wp	Totagatic-Winterfield complex, 0 to 2 %, freq flooded
Douglas	69B	p	Keweenaw-Sayner-Vilas complex, 2 to 6 %, stony
Douglas	69C	p	Keweenaw-Sayner-Vilas complex, 6 to 15 %, stony
Douglas	69E	p	Keweenaw-Sayner-Vilas complex, 15 to 45 %, stony
Douglas	74B	p	Vilas loamy sand, 0 to 6 %
Douglas	74C	p	Vilas loamy sand, 6 to 15 %
Douglas	74D	p	Vilas loamy sand, 15 to 30 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Douglas	100B	p	Menahga sand, 0 to 6 %
Douglas	100C	p	Menahga sand, 6 to 12 %
Douglas	100D	p	Menahga sand, 12 to 30 %
Douglas	174B	p	Rubicon sand, 0 to 6 %
Douglas	174C	p	Rubicon sand, 6 to 15 %
Douglas	174D	p	Rubicon sand, 15 to 30 %
Douglas	174F	p	Rubicon sand, 30 to 60 %
Douglas	193A	w	Minocqua muck, 0 to 2 %
Douglas	217B	p	Karlin loamy fine sand, 0 to 6 %
Douglas	217C	p	Karlin loamy fine sand, 6 to 15 %
Douglas	247A	w	Shag silt loam, lake terrace, 0 to 2 %
Douglas	292B	w	Udifulvents, loamy to clayey, 0 to 6 %, frequently flooded
Douglas	309C	r	Metonga-rock outcrop complex, 6 to 20 %
Douglas	309E	r	Metonga-rock outcrop complex, 20 to 45 %
Douglas	319A	w	Tonkey sandy loam, 0 to 2 %
Douglas	339B	p	Rousseau loamy fine sand, 0 to 6 %
Douglas	339C	p	Rousseau loamy fine sand, 6 to 15 %
Douglas	339D	p	Rousseau loamy fine sand, 15 to 30 %
Douglas	347A	w	bergland-cuttre complex, 0 to 3 %
Douglas	371A	p	Croswell loamy sand, 0 to 3 %
Douglas	383B	p	Mahtomedi loamy sand, 0 to 6 %
Douglas	383C	p	Mahtomedi loamy sand, 6 to 12 %
Douglas	383D	p	Mahtomedi loamy sand, 12 to 30 %
Douglas	388B	p	Pelke, occas flooded-dechamps, freq flooded complex, 0 to 4 % loams
Douglas	392C	w	Rockmarsh-dairyland-makwa, seeped complex, 2 to 20 %, very stony
Douglas	396B	p	Friendship-wurtsmith-grayling complex, 0 to 6 %
Douglas	399B	p	Grayling sand, 0 to 6 %
Douglas	399C	p	Grayling sand, 6 to 12 %
Douglas	399D	p	Grayling sand, 12 to 30 %
Douglas	405A	wp	Lupton, cathro,-Tawas soils, 0 to 1 %
Douglas	406A	wp	Loxley mucky peat, 0 to 1 %
Douglas	407A	wp	Seelyeville-Markey soils, 0 to 1 %
Douglas	419A	wp	Seelyeville, cathro,-Markey soils, 0 to 1 %
Douglas	423A	wp	Rifle peat, 0 to 1 %
Douglas	426B	p	Emmert-Mahtomedi-Menahga complex, 2 to 6 %
Douglas	426C	p	Emmert-Mahtomedi-Menahga complex, 6 to 12 %
Douglas	426D	p	Emmert-Mahtomedi-Menahga complex, 12 to 30 %
Douglas	439B	p	Graycalm-Menahga complex, 0 to 6 %
Douglas	439C	p	Graycalm-Menahga complex, 6 to 12 %
Douglas	439D	p	Graycalm-Menahga complex, 12 to 30 %
Douglas	445A	w	Kinross muck, 0 to 2 %
Douglas	461A	wp	Bowstring muck, 0 to 1 %, freq flooded
Douglas	471B	p	Dairyland-Emmert complex, 0 to 6 %, very stony
Douglas	471C	p	Dairyland-Emmert complex, 6 to 15 %, very stony
Douglas	475B	p	Rubicon-Sayner complex, 0 to 6 %
Douglas	475C	p	Rubicon-Sayner complex, 6 to 15 %
Douglas	475D	p	Rubicon-Sayner complex, 15 to 30 %
Douglas	485C	w	Lupton-Tawas soils, seeped, 2 to 15 %
Douglas	495B	p	Karlsborg-Grettum-perida complex, 1 to 6 %
Douglas	495C	p	karlsborg-grettum-perida complex, 6 to 12 %
Douglas	512D	p	Menominee loamy sand, 15 to 30 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Douglas	520A	w	Annriver silt loam, 0 to 2 %
Douglas	523A	w	Nokasippi muck, 0 to 2 %
Douglas	524E	r	Rock outcrop-Frogcreek-Metonga complex, 2 to 45 %, very stony
Douglas	544F	p	Menahga-Mahtomedi soils, 30 to 45 %
Douglas	555A	w	Fordum silt loam, 0 to 2 %, freq flooded
Douglas	574B	p	Sayner loamy sand, 0 to 6 %
Douglas	574C	p	Sayner loamy sand, 6 to 15 %
Douglas	574E	p	Sayner loamy sand, 15 to 45 %
Douglas	577A	w	Lerch-Borea complex, 0 to 3 %
Douglas	591A	p	Croswell-Chinwhisker complex, 0 to 3 %
Douglas	594B	p	Vilas-Linquest complex, 2 to 6 %
Douglas	594C	p	Vilas-Linquest complex, 6 to 15 %
Douglas	594D	p	Vilas-Linquest complex, 15 to 30 %
Douglas	600A	w	Haplosaprists-Psammaquents, 0 to 2 %
Douglas	603B	r	redrlm very cobbly sand, 0 to 6 %, very stony
Douglas	604C	r	Amnicon-rock outcrop complex, 2 to 15 %
Douglas	615B	p	Cress sandy loam, 0 to 6 %
Douglas	615C	p	Cress sandy loam, 6 to 12 %
Douglas	615D	p	Cress sandy loam, 12 to 30 %
Douglas	623A	w	Capitola muck, 0 to 2 %, very stony
Douglas	631A	w	Giese muck, 0 to 2 %, very stony
Douglas	634C	wr	Drylanding-Beartree complex, 0 to 12 %
Douglas	635C	wr	Drylanding-Beartree complex, 0 to 12 %, rarely flooded
Douglas	639A	p	Neconish loamy fine sand, 0 to 3 %
Douglas	670C	p	Keweenaw-Pence complex, 6 to 15 %, stony
Douglas	670E	p	Keweenaw-Pence complex, 15 to 45 %, stony
Douglas	674B	p	Sultz sand, 0 to 6 %
Douglas	674C	p	Sultz sand, 6 to 15 %
Douglas	674E	p	Sultz sand, 15 to 45 %
Douglas	678B	p	Springstead-Parkfalls complex, 0 to 6 %, very stony
Douglas	705B	p	Cublake-Croswell ashwabay complex, 0 to 6 %
Douglas	705C	p	Cublake-Croswell-Ashwabay complex, 6 to 15 %
Douglas	706A	pw	Winterfield-Totagatic complex, 0 to 2 %, freq flooded
Douglas	714A	w	Cebana silt loam, 0 to 6 %, very stony
Douglas	724A	rw	Rib-rock outcrop complex, 0 to 2 %
Douglas	726B	p	Sissabagama loamy sand, 0 to 6 %
Douglas	733A	w	Wozny muck, 0 to 2 %, very stony
Douglas	753B	w	Sedgwick-Munuscong complex, 0 to 6 %
Douglas	771A	p	Lenroot loamy sand, 0 to 3 %
Douglas	782A	w	Giese-Giese, bedrock substratum complex, 0 to 2 %, very stony
Douglas	805E	p	Sultz-Ashwabay-Rubicon complex, 15 to 45 %
Douglas	813E	p	Manistee-Kellogg-Ashwabay complex, 15 to 45 %
Douglas	853C	w	Frogcreek-stinnett-Wozny complex, 0 to 15 %, very stony
Douglas	874B	p	Keweenaw-Rubicon complex, 0 to 6 %, stony
Douglas	874C	p	Keweenaw-Rubicon complex, 6 to 15 %, stony
Douglas	874D	p	Keweenaw-Rubicon complex, 15 to 30 %, stony
Douglas	884C	wp	Keweenaw, stony-Vilas-Cathro complex, 0 to 15 %
Douglas	884E	wp	Keweenaw, stony-Vilas-Cathro complex, 0 to 55 %
Douglas	885B	wp	Springstead, stony-annalake-cathro complex, 1 to 6 %
Douglas	896A	p	Wurtsmith sand, 0 to 3 %
Douglas	953B	w	Beaverbay-Stinnett-Wozny complex, 0 to 6 %, very stony

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Douglas	953C	w	Beaverbay-Stinnett-Wozny complex, 0 to 15 %, very stony
Douglas	1653C	w	Stanberry-Parkfalls-Wozny complex, 0 to 15 %, very stony
Douglas	1884B	wp	Springstead, stony-Markey complex, 0 to 6 %
Douglas	1885B	wp	Springstead, stony-Cathro complex, 0 to 6 %
Douglas	2030	pw	Udortheints-Udipsamments, cut or fill
Douglas	3125A	p	Meehan loamy sand, 0 to 2 %
Douglas	3126A	p	Wurtsmith loamy sand, 0 to 3 %
Douglas	3403A	wp	Loxley, Beseman,-Dawson soils, 0 to 1 %
Douglas	3424C	r	Frogcreek-Magroc-Stinnett complex, 0 to 15 %, rocky
Douglas	3446A	w	Newson muck, 0 to 2 %
Douglas	3601C	r	Ishpeming-rock outcrop complex, 5 to 20 %, very stony
Douglas	3826B	wp	Allendale-Wakeley-kinross complex, 0 to 6 %
Douglas	3114A	w	Histosols, ponded, 0 to 1 %
Dunn	11A	w	Markey muck, floodplain, 0 to 1 %
Dunn	20A	wp	Palms-Houghton mucks, 0 to 1 %
Dunn	40A	wp	Markey-Seelyeville mucks, 0 to 1 %
Dunn	45A	wp	Seelyeville-Cathro mucks, valley train, 0 to 1 %
Dunn	101B	p	Menahga sand, valley train, 0 to 6 %
Dunn	101C	p	Menahga sand, valley train, 6 to 12 %
Dunn	101E	p	Menahga sand, valley train, 12 to 30 %
Dunn	233C	p	Boone sand, 6 to 15 %
Dunn	244B	r	Elkmound loam, 1 to 6 %
Dunn	244C2	r	Elkmound loam, 6 to 12 %, eroded
Dunn	244D2	r	Elkmound loam, 12 to 20 %, eroded
Dunn	265B	p	Garne loamy sand, 2 to 6 %
Dunn	265C	p	Garne loamy sand, 6 to 12 %
Dunn	269A	w	Veedum muck, 0 to 2 %
Dunn	282C	p	Twinmound fine sand, 6 to 15 %
Dunn	282F	p	Twinmound fine sand, 15 to 50 %
Dunn	349A	w	Rib silt loam, valley train, 0 to 2 %
Dunn	429A	w	Lows loam, 0 to 2 %
Dunn	501A	p	Finchford loamy sand, 0 to 3 %
Dunn	501B	p	Finchford loamy sand, 2 to 6 %
Dunn	502B2	p	Chelsea fine sand, 2 to 6 %, eroded
Dunn	502C2	p	Chelsea fine sand, 6 to 15 %, eroded
Dunn	506A	p	Komro loamy sand, 0 to 3 %
Dunn	510B	p	Boplain sand, 0 to 6 %
Dunn	510C	p	Boplain sand, 6 to 15 %
Dunn	511A	p	Plainfield sand, 0 to 3 %
Dunn	511B	p	Plainfield sand, 2 to 6 %
Dunn	511C	p	Plainfield sand, 6 to 15 %
Dunn	511F	p	Plainfield sand, 15 to 60 %
Dunn	512B	p	Drammen loamy sand, 1 to 6 %
Dunn	512C	p	Drammen loamy sand, 6 to 12 %
Dunn	512D	p	Drammen loamy sand, 12 to 20 %
Dunn	516A	p	Aldo sand, 0 to 3 %
Dunn	546A	p	Prissel loamy sand, 0 to 3 %
Dunn	546B	p	Prissel loamy sand, 2 to 6 %
Dunn	546C	p	Prissel loamy sand, 6 to 15 %
Dunn	546F	p	Prissel loamy sand, 15 to 60 %
Dunn	555A	w	Fordum silt loam, 0 to 2 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Dunn	561B	p	Tarr sand, 1 to 6 %
Dunn	566A	p	Tint sand, 0 to 3 %
Dunn	573B	p	Plainbo sand, sand sheet, 0 to 6 %
Dunn	573C	p	Plainbo sand, sand sheet, 6 to 15 %
Dunn	589A	wp	Newson mucky loamy sand, 0 to 2 %
Dunn	619A	w	Vancecreek silt loam, 0 to 2 %
Dunn	629A	w	Ettrick silt loam, 0 to 2 %
Dunn	656A	p	Scotah loamy fine sand, 0 to 3 %
Dunn	1145F	p	Gaphill-Rockbluff complex, 30 to 60 %
Dunn	1224F	p	Boone-Elevasil complex, 15 to 50 %
Dunn	1233F	p	Boone-Tarr sands, 15 to 50 %
Dunn	1275F	p	Hayriver-Twinmound complex, 15 to 50 %
Dunn	1648A	w	Northbend-Ettrick silt loams, 0 to 3 %
Dunn	1658A	w	Alganssee-Kalmarville complex, 0 to 3 %
Dunn	2003A	pw	Riverwash
Dunn	2030	pw	Udorhents-Udipsamments, cut or fill
Eau Claire	Ad	wp	Adrian muck
Eau Claire	Ae	p	Alluvial land, sandy
Eau Claire	Af	w	Alluvial land, wet
Eau Claire	BoB	p	Boone-Plainbo complex, 2 to 6 %
Eau Claire	BoC	p	Boone-Plainbo complex, 6 to 12 %
Eau Claire	BoE	p	Boone-Plainbo complex, 12 to 45 %
Eau Claire	Cb	w	Cable loam
Eau Claire	EmB	r	Elkmound loam, 2 to 6 %
Eau Claire	EmC2	r	Elkmound loam, 6 to 12 %, eroded
Eau Claire	EmD2	r	Elkmound loam, 12 to 20 %, eroded
Eau Claire	EmE	r	Elkmound loam, 20 to 45 %
Eau Claire	Eo	wp	Elm Lake loamy sand
Eau Claire	Er	w	Ettrick silt loam
Eau Claire	FrA	p	Friendship loamy sand, 0 to 3 %
Eau Claire	GoB	p	Gotham loamy sand, 1 to 6 %
Eau Claire	GoC2	p	Gotham loamy sand, 6 to 12 %, eroded
Eau Claire	GP	p	Gravel pit
Eau Claire	GsB	p	Gotham loamy sand, sandstone substratum, 2 to 6 %
Eau Claire	GsC2	p	Gotham loamy sand, sandstone substratum, 6 to 12 %, eroded
Eau Claire	Ho	wp	Houghton muck
Eau Claire	La	w	Lows loam
Eau Claire	Ma	wp	Markey muck
Eau Claire	Mc	w	Marshan loam
Eau Claire	MdB	p	Menahga sand, 1 to 6 %
Eau Claire	MdC	p	Menahga sand, 6 to 12 %
Eau Claire	Na	wp	Newson loamy sand
Eau Claire	NtB	r	Northfield silt loam, 2 to 6 %
Eau Claire	NtC2	r	Northfield silt loam, 6 to 12 %, eroded
Eau Claire	NtD2	r	Northfield silt loam, 12 to 20 %, eroded
Eau Claire	NtE2	r	Northfield silt loam, 20 to 30 %, eroded
Eau Claire	NtF	r	Northfield silt loam, 30 to 45 %
Eau Claire	Or	w	Otter silt loam, overwash
Eau Claire	PdB	p	Plainbo loamy sand, 2 to 6 %
Eau Claire	PdC2	p	Plainbo loamy sand, 6 to 12 %, eroded
Eau Claire	PtB	p	Plainfield loamy sand, 1 to 6 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Eau Claire	PfC2	p	Plainfield loamy sand, 6 to 12 %, eroded
Eau Claire	PIB	p	Plainfield loamy sand, loamy substratum, 1 to 6 %
Eau Claire	PIC2	p	Plainfield loamy sand, loamy substratum, 6 to 12 %, eroded
Eau Claire	Pw	wp	Psammaquents
Eau Claire	QUA	r	Quarry
Eau Claire	Re	w	Riverwash
Eau Claire	SpB	p	Sparta loamy sand, 1 to 6 %
Eau Claire	SPO	pw	Spoil area
Eau Claire	Tn	p	Terrace escarpments, sandy
Eau Claire	TrB	p	Trempe loamy sand, 1 to 6 %
Eau Claire	Vd	w	Veedum silt loam
Eau Claire	Ve	w	Vesper loam
Eau Claire	VIB	p	Vilas sand, 1 to 6 %
Florence	Au	w	Au Gres loamy sand, 0 to 2 %
Florence	Ca	w	Capitola muck, 0 to 2 %, very stony
Florence	CrA	p	Croswell loamy sand, 0 to 3 %
Florence	CuA	p	Cublake loamy sand, 0 to 3 %
Florence	EdB	w	Ellwood silt loam, 1 to 6 %
Florence	EnC	p	Ellwood-Iosco-Vilas complex, 0 to 15 %
Florence	EoD	p	Ellwood-Vilas-Padus complex, 10 to 30 %
Florence	Ep	w	Epiaquents-Epiaquods, nearly level
Florence	Fm	w	Fordum loam, 0 to 2 %
Florence	Kr	wp	Kinross muck, 0 to 2 %
Florence	Lo	wp	Loxley, Beseman,-Dawson peats, 0 to 1 %
Florence	Lu	wp	Lupton, Cathro,-Markey mucks, 0 to 1 %
Florence	Mn	w	Minocqua muck, 0 to 2 %
Florence	PsB	p	Pence-Vilas complex, 0 to 6 %
Florence	PsC	p	Pence-Vilas complex, 6 to 15 %
Florence	PsD	p	Pence-Vilas complex, 15 to 35 %
Florence	Pt	p	Pits, gravel
Florence	Rb	w	Robago fine sandy loam, 0 to 2 %
Florence	RkC	pr	Rock outcrop-Ishpeming-Vilas complex, 1 to 15 %
Florence	RkD	pr	Rock outcrop-Ishpeming-Vilas complex, 15 to 35 %
Florence	RmC	r	Rock outcrop-Metonga-Sarona complex, 1 to 15 %
Florence	RmD	r	Rock outcrop-Metonga-Sarona complex, 15 to 35 %
Florence	RsB	p	Rousseau loamy fine sand, 0 to 6 %
Florence	RsC	p	Rousseau loamy fine sand, 6 to 15 %
Florence	SIB	p	Sarona-Vilas complex, 0 to 6 %, very stony
Florence	SIC	p	Sarona-Vilas complex, 6 to 15 %, very stony
Florence	SID	p	Sarona-Vilas complex, 15 to 30 %, very stony
Florence	SnB	p	Sayner loamy sand, 0 to 6 %
Florence	SnC	p	Sayner loamy sand, 6 to 15 %
Florence	SnD	p	Sayner loamy sand, 15 to 30 %
Florence	VsB	p	Vilas loamy sand, 0 to 6 %
Florence	VsC	p	Vilas loamy sand, 6 to 15 %
Florence	VsD	p	Vilas loamy sand, 15 to 30 %
Fond Du Lac	Ak	wp	Adrian mucky peat
Fond Du Lac	An	w	Alluvial land, wet
Fond Du Lac	AtA	w	Ashkum silty clay loam, 0 to 3 %
Fond Du Lac	BP	pw	Borrow area
Fond Du Lac	BsA	w	Brookston silt loam, 0 to 3 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Fond Du Lac	BtA	w	Brookston stony silt loam, 0 to 3 %
Fond Du Lac	BuA	w	Brookston silty clay loam, 0 to 3 %
Fond Du Lac	Ca	wp	Carbondale mucky peat
Fond Du Lac	CpC2	p	Casco-Rodman loams, 6 to 12 %, eroded
Fond Du Lac	CpE	p	Casco-Rodman loams, 12 to 30 %
Fond Du Lac	CpE3	p	Casco-Rodman loams, 12 to 30 %, severely eroded
Fond Du Lac	CpF	p	Casco-Rodman loams, 30 to 45 %
Fond Du Lac	GP	p	Gravel pit
Fond Du Lac	Hu	wp	Houghton mucky peat
Fond Du Lac	Km	w	Keowns silt loam
Fond Du Lac	Mf	w	Marsh
Fond Du Lac	ML	pw	Made land
Fond Du Lac	Od	wp	Ogden mucky peat
Fond Du Lac	Oe	p	Old beaches
Fond Du Lac	Pa	wp	Palms muck
Fond Du Lac	Pc	wp	Palms mucky peat
Fond Du Lac	PhA	w	Pella silt loam, 0 to 3 %
Fond Du Lac	PnA	w	Pella silty clay loam, 0 to 2 %
Fond Du Lac	Py	w	Poygan silty clay loam
Fond Du Lac	QUA	r	Quarry
Fond Du Lac	Rm	r	Rock land
Fond Du Lac	RnD2	p	Rodman gravelly sand, 6 to 20 %, eroded
Fond Du Lac	RnE2	p	Rodman gravelly sand, 20 to 30 %, eroded
Fond Du Lac	RoD2	p	Rodman gravelly loam, 12 to 20 %, eroded
Fond Du Lac	RoF2	p	Rodman gravelly loam, 20 to 45 %, eroded
Fond Du Lac	Rw	w	Rollin mucky peat
Fond Du Lac	SmA	w	Sebewa silt loam, 0 to 2 %
Fond Du Lac	SnA	w	Sebewa silt loam, deep, 0 to 2 %
Fond Du Lac	SpA	w	Sebewa silt loam, loamy subsoil variant, 0 to 3 %
Fond Du Lac	SwB	r	Sogn stony silt loam, 0 to 6 %
Fond Du Lac	Wa	w	Walkkill silt loam
Fond Du Lac	WsA	w	Washtenaw silt loam, 0 to 2 %
Fond Du Lac	Wt	w	Wauseon loam
Fond Du Lac	Wu	w	Wauseon silt loam
Forest	Ca	w	Capitola muck, 0 to 2 %, very stony
Forest	CrA	p	Croswell loamy sand, 0 to 3 %
Forest	CuA	p	Cublake loamy sand, 0 to 3 %
Forest	Fm	w	Fordum loam, 0 to 2 %
Forest	Kr	wp	Kinross muck, 0 to 2 %
Forest	Lo	wp	Loxley, Beseman,-Dawson peats, 0 to 1 %
Forest	Lu	wp	Lupton, Cathro,-Markey mucks, 0 to 1 %
Forest	MeD	r	Metonga-Rock outcrop complex, 4 to 60 %, very stony
Forest	Mn	w	Minocqua muck, 0 to 2 %
Forest	PkE	p	Pelissier gravelly sandy loam, 20 to 45 %, stony
Forest	Psb	p	Pence-Vilas complex, 0 to 6 %
Forest	Psc	p	Pence-Vilas complex, 6 to 15 %
Forest	Psd	p	Pence-Vilas complex, 15 to 35 %
Forest	Pt	p	Pits, gravel
Forest	RuD	p	Rubicon loamy sand, 15 to 35 %
Forest	VsB	p	Vilas loamy sand, 0 to 6 %
Forest	VsC	p	Vilas loamy sand, 6 to 15 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Grant	An	w	Alluvial land
Grant	CsB2	p	Chelsea fine sand, 0 to 6 %, eroded
Grant	CsC2	p	Chelsea fine sand, 6 to 10 %, eroded
Grant	CsD2	p	Chelsea fine sand, 10 to 15 %, eroded
Grant	DyD	r	Dubuque stony silt loam, 10 to 15 %
Grant	DyD2	r	Dubuque stony silt loam, 10 to 15 %, moderately eroded
Grant	DyE2	r	Dubuque stony silt loam, 15 to 20 %, moderately eroded
Grant	DyF	r	Dubuque stony silt loam, 20 to 30 %
Grant	DyF2	r	Dubuque stony silt loam, 20 to 30 %, moderately eroded
Grant	DyG	r	Dubuque stony silt loam, 30 to 45 %
Grant	GP	p	Gravel pit
Grant	Gw	w	Garwin silty clay loam
Grant	Ma	w	Marsh
Grant	QUA	r	Quarry
Grant	SnD	r	Sogn loam, 10 to 15 %
Grant	SnD2	r	Sogn loam, 10 to 15 %, moderately eroded
Grant	SnE2	r	Sogn loam, 15 to 20 %, moderately eroded
Grant	SoB2	r	Sogn silt loam, 2 to 10 %, moderately eroded
Grant	SoD	r	Sogn silt loam, 10 to 15 %
Grant	SoD2	r	Sogn silt loam, 10 to 15 %, moderately eroded
Grant	SoE	r	Sogn silt loam, 15 to 20 %
Grant	SoE2	r	Sogn silt loam, 15 to 20 %, moderately eroded
Grant	SP	p	Sand pit
Grant	SpC	p	Sparta fine sand-Blown out land, 6 to 15 %
Grant	SrC	p	Sparta fine sand-Dune land, 6 to 15 %
Grant	SsA	p	Sparta loamy fine sand, 0 to 2 %
Grant	SsA2	p	Sparta loamy fine sand, 0 to 2 %, eroded
Grant	SsB	p	Sparta loamy fine sand, 2 to 6 %
Grant	SsB2	p	Sparta loamy fine sand, 2 to 6 %, eroded
Grant	SsC	p	Sparta loamy fine sand, 6 to 15 %
Grant	StA	p	Sparta loamy fine sand-Blown-out land, 0 to 2 %
Grant	Sv	r	Stony rock land, steep
Grant	Sw	r	Stony rock land, very steep
Grant	Te	p	Terrace escarpments, coarse textured
Grant	UA	pwr	Unmapped area
Green	Ac	wp	Adrian muck
Green	Ae	w	Alluvial land, wet
Green	BoD	p	Boone fine sand, 2 to 20 %
Green	Br	w	Brookston silt loam
Green	Co	w	Colwood silt loam
Green	DuB2	r	Dunbarton silt loam, 2 to 6 %, eroded
Green	DuC2	r	Dunbarton silt loam, 6 to 12 %, eroded
Green	DuD2	r	Dunbarton silt loam, 12 to 20 %, eroded
Green	DuE2	r	Dunbarton silt loam, 20 to 30 %, eroded
Green	DvD3	r	Dunbarton silty clay loam, 10 to 20 %, severely eroded
Green	EdB2	r	Edmund silt loam, 2 to 6 %, eroded
Green	EdC2	r	Edmund silt loam, 6 to 12 %, eroded
Green	EdD2	r	Edmund silt loam, 12 to 20 %, eroded
Green	EIB2	r	Elkmound sandy loam, 2 to 6 %, eroded
Green	EIC2	r	Elkmound sandy loam, 6 to 12 %, eroded
Green	EID2	r	Elkmound sandy loam, 12 to 20 %, eroded

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Green	EIE2	r	Elk mound sandy loam, 20 to 30 %, eroded
Green	EIF	r	Elk mound sandy loam, 30 to 45 %
Green	Et	w	Ettrick silt loam
Green	GoA	p	Gotham loamy sand, 0 to 2 %
Green	GoB2	p	Gotham loamy sand, 2 to 6 %, eroded
Green	GoC2	p	Gotham loamy sand, 6 to 12 %, eroded
Green	GP	p	Gravel pit
Green	Hu	wp	Houghton mucky peat
Green	Mb	w	Marshan loam
Green	Mc	w	Marshan silt loam
Green	Me	wp	Maumee sandy loam
Green	MoC2	r	Mifflin loam, shallow solum variant, 6 to 12 %, eroded
Green	MoD2	r	Mifflin loam, shallow solum variant, 12 to 20 %, eroded
Green	Na	w	Navan silt loam
Green	NoB2	r	Northfield loam, 2 to 6 %, eroded
Green	NoC2	r	Northfield loam, 6 to 12 %, eroded
Green	NoD2	r	Northfield loam, 12 to 20 %, eroded
Green	NoE2	r	Northfield loam, 20 to 30 %, eroded
Green	Or	w	Orion silt loam, wet variant
Green	Ot	w	Ossian silt loam
Green	Ou	w	Otter silt loam
Green	Pa	wp	Palms muck
Green	PrB2	p	Plainfield loamy sand, 0 to 6 %, eroded
Green	QUA	r	Quarry
Green	Rh	wp	Riverwash
Green	RoC	p	Rodman gravelly loam, 2 to 12 %
Green	RoE	p	Rodman gravelly loam, 12 to 30 %
Green	Se	w	Sebewa silt loam
Green	SoC	r	Sogn silt loam, 2 to 12 %
Green	SoE	r	Sogn silt loam, 12 to 30 %
Green	Sp	r	Steep stony-rocky land
Green	Wa	w	Walkkill silt loam
Green Lake	Ad	wp	Adrian muck
Green Lake	An	w	Alluvial land, wet
Green Lake	Bb	w	Barry loam
Green Lake	BrB	p	Brems loamy fine sand, 0 to 6 %
Green Lake	Co	w	Colwood silt loam
Green Lake	Ed	w	Edwards muck
Green Lake	GaB	p	Gotham loamy fine sand, 1 to 6 %
Green Lake	GaC	p	Gotham loamy fine sand, 6 to 12 %
Green Lake	GbC	p	Gotham loamy fine sand, sandstone substratum, 6 to 12 %
Green Lake	GbD	p	Gotham loamy fine sand, sandstone substratum, 12 to 20 %
Green Lake	Gf	wp	Granby loamy fine sand
Green Lake	GhA	w	Granby loamy fine sand, loamy subsoil variant, 0 to 3 %
Green Lake	GkA	w	Granby loamy fine sand, clayey subsoil variant, 0 to 3 %
Green Lake	GP	p	Gravel pit
Green Lake	Ho	wp	Houghton muck
Green Lake	Mf	wp	Marsh
Green Lake	Mh	w	Marshan silt loam
Green Lake	OaB	p	Oakville fine sand, 1 to 6 %
Green Lake	OaC	p	Oakville fine sand, 6 to 12 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Green Lake	OaD	p	Oakville fine sand, 12 to 35 %
Green Lake	Os	w	Ossian silt loam
Green Lake	Pa	wp	Palms muck
Green Lake	Pr	w	Poy silty clay loam
Green Lake	Py	w	Poygan silty clay loam
Green Lake	QUA	r	Quarry
Green Lake	RaB	p	Richford loamy sand, 1 to 6 %
Green Lake	RaC	p	Richford loamy sand, 6 to 15 %
Green Lake	RhB2	r	Ritchey silt loam, 2 to 6 %, eroded
Green Lake	RhC2	r	Ritchey silt loam, 6 to 12 %, eroded
Green Lake	RhD2	r	Ritchey silt loam, 12 to 20 %, eroded
Green Lake	RkE	r	Rock land-Ritchey soils, 6 to 45 %
Green Lake	Ro	r	Rock outcrop
Green Lake	RsD	p	Rodman gravelly sandy loam, 6 to 20 %
Green Lake	RsE	p	Rodman gravelly sandy loam, 20 to 35 %
Green Lake	We	wp	Willette muck
Iowa	BoC2	p	Boone fine sand, 6 to 12 %, eroded
Iowa	BoD2	p	Boone fine sand, 12 to 30 %, eroded
Iowa	Df	wp	Dillon loamy fine sand
Iowa	DIB2	r	Dodgeville silt loam, shallow, 2 to 6 %, moderately eroded
Iowa	DIC	r	Dodgeville silt loam, shallow, 4 to 12 %
Iowa	DIC2	r	Dodgeville silt loam, shallow, 6 to 12 %, moderately eroded
Iowa	DID	r	Dodgeville silt loam, shallow, 12 to 20 %
Iowa	DID2	r	Dodgeville silt loam, shallow, 12 to 20 %, moderately eroded
Iowa	DyB2	r	Dubuque stony silt loam, 2 to 6 %, moderately eroded
Iowa	DyC2	r	Dubuque stony silt loam, 6 to 12 % moderately eroded
Iowa	DyD	r	Dubuque stony silt loam, 12 to 20 %
Iowa	DyD2	r	Dubuque stony silt loam, 12 to 20 %, moderately eroded
Iowa	DyE	r	Dubuque stony silt loam, 20 to 30 %
Iowa	DyE2	r	Dubuque stony silt loam, 20 to 30 %, moderately eroded
Iowa	Et	w	Ettrick silt loam
Iowa	GoA	p	Gotham loamy fine sand, 0 to 2 %
Iowa	GoB	p	Gotham loamy fine sand, 2 to 6 %
Iowa	GoB2	p	Gotham loamy fine sand, 2 to 8 %, eroded
Iowa	Lp	w	Loamy alluvial land, poorly drained
Iowa	Ma	w	Marsh
Iowa	Mm	w	Millsdale silty clay loam, shale variant
Iowa	NfB2	r	Northfield loam, 2 to 6 %, moderately eroded
Iowa	NfC	r	Northfield loam, 6 to 12 %
Iowa	NfC2	r	Northfield loam, 6 to 12 %, moderately eroded
Iowa	NfD	r	Northfield loam, 12 to 20 %
Iowa	NfD2	r	Northfield loam, 12 to 20 %, moderately eroded
Iowa	NfE	r	Northfield loam, 20 to 30 %
Iowa	NfE2	r	Northfield loam, 20 to 30 %, moderately eroded
Iowa	NoC	r	Northfield sandy loam, 6 to 12 %
Iowa	NoC2	r	Northfield sandy loam, 6 to 12 %, moderately eroded
Iowa	NoD	r	Northfield sandy loam, 12 to 20 %
Iowa	NoD2	r	Northfield sandy loam, 12 to 20 %, moderately eroded
Iowa	NoE	r	Northfield sandy loam, 20 to 30 %
Iowa	NoE2	r	Northfield sandy loam, 20 to 30 %, moderately eroded
Iowa	NsD	r	Northfield stony loam, 6 to 20 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Iowa	NsD2	r	Northfield stony loam, 12 to 20 %, moderately eroded
Iowa	NsE	r	Northfield stony loam, 20 to 30 %
Iowa	NsE2	r	Northfield stony loam, 20 to 30 %, moderately eroded
Iowa	Pd	wp	Peat-muck, deep
Iowa	Pe	wp	Peat-muck, shallow
Iowa	PfB2	p	Plainfield fine sand, 0 to 6 %, eroded
Iowa	PgA	p	Plainfield loamy fine sand, 0 to 2 %
Iowa	PgB	p	Plainfield loamy fine sand, 2 to 6 %
Iowa	Pm	p	Plainfield loamy fine sand, mottled substratum variant
Iowa	Ps	p	Plainfield-Sparta fine sands-dune land
Iowa	QUA	r	Quarry
Iowa	Re	p	Riverwash
Iowa	SoB	r	Sogn-Dodgeville silt loams, shallow, 2 to 6 %
Iowa	SoB2	r	Sogn-Dodgeville silt loams, shallow, 2 to 6 %, moderately eroded
Iowa	SoC	r	Sogn-Dodgeville silt loams, shallow, 6 to 12 %
Iowa	SoC2	r	Sogn-Dodgeville silt loams, shallow, 6 to 12 %, moderately eroded
Iowa	SoD	r	Sogn-Dodgeville silt loams, shallow, 12 to 20 %
Iowa	SoD2	r	Sogn-Dodgeville silt loams, shallow, 12 to 20 %, moderately eroded
Iowa	SoE	r	Sogn-Dodgeville silt loams, shallow, 20 to 30 %
Iowa	SoE2	r	Sogn-Dodgeville silt loams, shallow, 20 to 30 %, moderately eroded
Iowa	SP	p	Sand pit
Iowa	SpA	p	Sparta loamy fine sand, 0 to 2 %
Iowa	SpA2	p	Sparta loamy fine sand, 0 to 2 %, eroded
Iowa	SpB	p	Sparta loamy fine sand, 2 to 6 %
Iowa	SpB2	p	Sparta loamy fine sand, 2 to 6 %, eroded
Iowa	Sr	p	Sparta loamy fine sand, moderately well drained variant
Iowa	Ss	r	Steep stony-rocky land
Iowa	Ts	p	Terrace escarpments, sandy
Iowa	Wa	w	Wallkill silt loam
Iron	0000	p	Hubbard
Iron	3A	wp	Totagatic-Bowstring-Ausable complex, 0 to 2 %
Iron	5A	w	Arnheim mucky silt loam, 0 to 1 %
Iron	7C	p	Beaches, 2 to 12 %
Iron	74B	p	Vilas loamy sand, 0 to 6 %
Iron	74C	p	Vilas loamy sand, 6 to 15 %
Iron	74D	p	Vilas loamy sand, 15 to 30 %
Iron	100C	p	Menahga sand, 6 to 12 % (o horizon populated)
Iron	100C2	p	Menahga sand, 6 to 12 % (o horizon populated- sand 95 %)
Iron	114A	w	Histosols, ponded, 0 to 1 %
Iron	121A	w	Wakeley muck, 0 to 2 %
Iron	174B	p	Rubicon sand, 0 to 6 %
Iron	174C	p	Rubicon sand, 6 to 15 %
Iron	174D	p	Rubicon sand, 15 to 30 %
Iron	174F	p	Rubicon sand, 30 to 60 %
Iron	193A	w	Minocqua muck, 0 to 2 %
Iron	217B	p	Karlin loamy fine sand, 0 to 6 %
Iron	217C	p	Karlin loamy fine sand, 6 to 15 %
Iron	247A	w	Bruce silt loam, 0 to 2 %
Iron	265A	w	Pickford muck, 0 to 2 %
Iron	292B	w	Flagriver silty clay loam, 0 to 6 %
Iron	319A	w	Tonkey sandy loam, 0 to 2 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Iron	339B	p	Rousseau loamy fine sand, 0 to 6 %
Iron	339C	p	Rousseau loamy fine sand, 6 to 15 %
Iron	339D	p	Rousseau loamy fine sand, 15 to 30 %
Iron	371A	p	Croswell loamy sand, 0 to 3 %
Iron	388B	p	Pelke-Dechamps complex, 0 to 4 % loams
Iron	399C	p	Grayling sand, 6 to 12 %
Iron	403A	wp	Loxley, Beseman,-Dawson soils, 0 to 1 %
Iron	405A	wp	Lupton, Cathro,-Tawas soils, 0 to 1 %
Iron	406A	wp	Loxley mucky peat, 0 to 1 %
Iron	407A	wp	Seelyeville-Markey soils, 0 to 1 %
Iron	408A	wp	Lupton-Cathro soils, 0 to 1 %
Iron	410A	wp	Seelyeville-Cathro soils, 0 to 1 %
Iron	412A	wp	Rifle-Tacoosh soils, 0 to 1 %
Iron	414A	wp	Loxley-Beseman soils, 0 to 1 %
Iron	415A	wp	Greenwood mucky peat, 0 to 1 %
Iron	418A	wp	Loxley-Dawson soils, 0 to 1 %
Iron	419A	wp	Seelyeville, Cathro,-Markey soils, 0 to 1 %
Iron	423A	wp	Rifle peat, 0 to 1 %
Iron	425B	p	Karlin sandy loam, 0 to 6 %
Iron	425C	p	Karlin sandy loam, 6 to 15 %
Iron	445A	w	Kinross muck, 0 to 2 %
Iron	450	pw	Udorthents, manmade
Iron	459A	wp	Loxley, Daisybay,-Dawson soils, 0 to 1 %
Iron	461A	wp	Bowstring muck, 0 to 1 %
Iron	475B	p	Rubicon-Sayner complex, 0 to 6 %
Iron	475C	p	Rubicon-Sayner complex, 6 to 15 %
Iron	475D	p	Rubicon-Sayner complex, 15 to 30 %
Iron	485C	w	Lupton-Tawas soils, seeped, 2 to 15 %
Iron	502B	p	Croswood loamy sand, 0 to 6 %, stony
Iron	548A	w	Pickford-Badriver complex, 0 to 3 %
Iron	549A	w	Oronto-Kakagon complex, 0 to 3 %
Iron	555A	w	Fordum silt loam, 0 to 2 %
Iron	571B	p	Pelissier gravelly sandy loam, 2 to 6 %
Iron	571C	p	Pelissier gravelly sandy loam, 6 to 15 %
Iron	571E	p	Pelissier gravelly sandy loam, 15 to 45 %
Iron	574B	p	Sayner loamy sand, 0 to 6 %
Iron	574C	p	Sayner loamy sand, 6 to 15 %
Iron	574E	p	Sayner loamy sand, 15 to 45 %
Iron	599C	p	Grayling sand, beaches, 2 to 12 %
Iron	600A	w	Haplosaprists-Psammaquents, 0 to 2 %
Iron	601C	r	Ishpeming-rock outcrop complex, 5 to 20 %, very stony
Iron	617C	r	Sedgwick-rock outcrop complex, 2 to 15 %
Iron	639A	p	Neconish loamy fine sand, 0 to 3 %
Iron	670C	p	Keweenaw-Pence-Sarona complex, 6 to 15 %, stony
Iron	670E	p	Keweenaw-Pence-Sarona complex, 15 to 45 %, stony
Iron	674B	p	Sultz sand, 0 to 6 %
Iron	674C	p	Sultz sand, 6 to 15 %
Iron	674E	p	Sultz sand, 15 to 45 %
Iron	723A	w	Cable muck, 0 to 2 %, very stony
Iron	747A	w	Shag mucky silt loam, 0 to 2 %
Iron	753B	w	Sedgwick-Munuscong complex, 0 to 6 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Iron	809C	r	Michigamme-rock outcrop complex, 6 to 20 %, very stony
Iron	809E	r	Michigamme-rock outcrop complex, 20 to 45 %, very stony
Iron	826B	wp	Allendale-Wakeley-Kinross complex, 0 to 6 %
Iron	874B	p	Keweenaw-Rubicon complex, 0 to 6 %, stony
Iron	874C	p	Keweenaw-Rubicon complex, 6 to 15 %, stony
Iron	874D	p	Keweenaw-Rubicon complex, 15 to 30 %, stony
Iron	974C	p	Pence-Sayner-Vilas complex, 6 to 15 %
Iron	974D	p	Pence-Sayner-Vilas complex, 15 to 30 %
Iron	100C1	p	Menahga sand, 6 to 12 % (o horizon not populated)
Iron	2030	pw	Udorthents, cut or fill
Iron	SoD	r	Sogn silt loam, 2 to 20 %
Jackson	AbA	p	Absco loamy sand, 0 to 3 %
Jackson	AcA	p	Absco-Northbend complex, 0 to 3 %
Jackson	Ad	wp	Adder muck, 0 to 1 %
Jackson	BoB	p	Boone sand, 2 to 6 %
Jackson	BoC	p	Boone sand, 6 to 15 %
Jackson	BoF	p	Boone sand, 15 to 50 %
Jackson	BpF	p	Boone-Elevasil complex, 15 to 50 %
Jackson	Cd	wp	Citypoint mucky peat, 0 to 1 %
Jackson	Da	wp	Dawsil mucky peat, 0 to 1 %
Jackson	Eo	wp	Elm Lake mucky sand, 0 to 2 %
Jackson	Et	w	Ettrick silt loam, 0 to 2 %
Jackson	FeA	wp	Fairchild-Elm Lake complex, 0 to 3 %
Jackson	GoB	p	Gosil loamy sand, 0 to 6 %
Jackson	GoC	p	Gosil loamy sand, 6 to 12 %
Jackson	Ht	wp	Houghton muck, 0 to 1 %
Jackson	ImA	p	Impact sand, 0 to 3 %
Jackson	IxA	wp	Ironrun-Ponycreek complex, 0 to 3 %
Jackson	IzB	wp	Ironrun-Ponycreek-Arbutus complex, 0 to 6 %
Jackson	Ka	w	Kalmarville silt loam, 0 to 1 %
Jackson	Lt	wp	Loxley peat, 0 to 1 %
Jackson	MaB	p	Mahtomedi loamy sand, 0 to 6 %
Jackson	MrA	w	Merrillan-Veedum complex, 0 to 3 %
Jackson	MxA	w	Moppet-Fordum complex, 0 to 3 %
Jackson	Ne	wp	Newlang muck, 0 to 2 %
Jackson	Pa	wp	Palms muck, 0 to 1 %
Jackson	Pu	wp	Ponycreek muck, 0 to 2 %
Jackson	Pv	wp	Ponycreek-Dawsil complex, 0 to 2 %
Jackson	Pw	wp	Psammaquents, nearly level
Jackson	RkA	p	Rockdam sand, 0 to 3 %
Jackson	SpA	p	Sparta sand, 0 to 3 %
Jackson	TrB	p	Tarr sand, 0 to 6 %
Jackson	TrC	p	Tarr sand, 6 to 15 %
Jackson	TrF	p	Tarr sand, 15 to 45 %
Jackson	TtA	p	Tint sand, 0 to 3 %
Jackson	TuB	p	Tintson sand, 0 to 6 %
Jackson	Vs	wp	Veedum-Elm Lake mucks, 0 to 2 %
Jefferson	Ad	wp	Adrian muck
Jefferson	BaA	w	Barry silt loam, 0 to 3 %
Jefferson	CrD2	p	Casco-Rodman complex, 12 to 20 %, eroded
Jefferson	CrE	p	Casco-Rodman complex, 20 to 45 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Jefferson	CtB	p	Chelsea loamy fine sand, 1 to 6 %
Jefferson	CtC	p	Chelsea loamy fine sand, 6 to 20 %
Jefferson	Ed	w	Edwards muck
Jefferson	Ev	w	Elvers silt loam
Jefferson	Fn	w	Fluvaquents
Jefferson	Gd	w	Gilford sandy loam
Jefferson	Ht	wp	Houghton muck
Jefferson	Kb	w	Keowns silt loam
Jefferson	Mr	w	Milford silty clay loam
Jefferson	MvB	p	Moundville loamy sand, 1 to 6 %
Jefferson	Ot	w	Otter silt loam
Jefferson	Pa	wp	Palms muck
Jefferson	Pb	wp	Palms muck, ponded
Jefferson	Pg	p	Pits, gravel
Jefferson	Sm	w	Sebewa silt loam
Jefferson	Sn	w	Sebewa silt loam, clayey substratum
Jefferson	Wa	w	Wacousta silty clay loam
Juneau	AgA	wp	Alganssee-Glendora fine sandy loams, 0 to 3 %
Juneau	BpF	pr	Boone-Plainfield-Rock outcrop complex, 12 to 60 %
Juneau	Dc	wp	Dawson muck, 0 to 1 %
Juneau	EkF	pr	Eleva-Boone-Rock outcrop complex, 30 to 60 %
Juneau	EnB	r	Elk mound sandy loam, 1 to 6 %
Juneau	Et	w	Ettrick silt loam, 0 to 2 %
Juneau	FrB	p	Friendship sand, 1 to 6 %
Juneau	FsB	p	Friendship loamy sand, loamy substratum, 1 to 6 %
Juneau	Lw	w	Lows loam, 0 to 2 %
Juneau	Lx	wp	Loxley muck, 0 to 1 %
Juneau	MnA	wp	Meehan-Newson complex, 0 to 3 %
Juneau	Ne	wp	Newson mucky loamy sand, 0 to 2 %
Juneau	Ns	wp	Newson-Dawson complex, 0 to 2 %
Juneau	Pa	wp	Palms muck, 0 to 1 %
Juneau	PbA	p	Partridge loamy fine sand, 0 to 3 %
Juneau	PdB	p	Plainbo sand, 1 to 6 %
Juneau	PdC	p	Plainbo sand, 6 to 12 %
Juneau	PfB	p	Plainfield sand, 1 to 6 %
Juneau	PfC	p	Plainfield sand, 6 to 12 %
Juneau	PfD	p	Plainfield sand, 12 to 20 %
Juneau	Po	w	Poygan silt loam, 0 to 2 %
Juneau	Ps	wp	Psammaquents, nearly level
Juneau	Wa	w	Wautoma loamy sand, 0 to 2 %
Kenosha-Racine	Ac	wp	Adrian muck
Kenosha-Racine	AtA	w	Ashkum silty clay loam, 0 to 3 %
Kenosha-Racine	CP	p	Coal pile
Kenosha-Racine	CrC	p	Casco-Rodman complex, 6 to 12 %
Kenosha-Racine	CrD2	p	Casco-Rodman complex, 12 to 20 %, eroded
Kenosha-Racine	CrE	p	Casco-Rodman complex, 20 to 35 %
Kenosha-Racine	Cw	w	Colwood silt loam
Kenosha-Racine	Dt	w	Drummer silt loam, gravelly substratum
Kenosha-Racine	Gf	wp	Granby fine sandy loam
Kenosha-Racine	Gm	wp	Granby fine sandy loam, loamy substratum
Kenosha-Racine	GP	p	Gravel pit

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Kenosha-Racine	Ht	wp	Houghton muck
Kenosha-Racine	Mf	wp	Marsh
Kenosha-Racine	Mzc	w	Montgomery silty clay
Kenosha-Racine	Mzg	wp	Muskego muck
Kenosha-Racine	Mzk	w	Mussey loam
Kenosha-Racine	Na	w	Navan silt loam
Kenosha-Racine	Oc	wp	Ogden muck
Kenosha-Racine	Pa	wp	Palms muck
Kenosha-Racine	Ph	w	Pella silt loam
Kenosha-Racine	QUA	r	Quarry
Kenosha-Racine	Rt	w	Rollin muck
Kenosha-Racine	Sf	p	Sandy-gravelly land
Kenosha-Racine	Sg	w	Sawmill silt loam, calcareous variant
Kenosha-Racine	Sm	w	Sebewa silt loam
Kenosha-Racine	So	w	Sebewa silt loam, clayey substratum
Kenosha-Racine	Wa	w	Walkkill silt loam
Kenosha-Racine	Ww	w	Wet alluvial land
Kewaunee	Ax	w	Angelica silt loam
Kewaunee	Ba	w	Bach silt loam
Kewaunee	Bo	w	Borosaprist
Kewaunee	Ca	wp	Carbondale muck
Kewaunee	CdB	p	Casco-Rodman complex, 2 to 6 %
Kewaunee	CdC2	p	Casco-Rodman complex, 6 to 12 %, eroded
Kewaunee	CdD2	p	Casco-Rodman complex, 12 to 20 %, eroded
Kewaunee	Cm	wp	Cathro muck
Kewaunee	Fu	w	Fluvaquents
Kewaunee	KxB	r	Kolberg variant silt loam, 1 to 6 %
Kewaunee	MeB	p	Manistee loamy fine sand, 2 to 6 %
Kewaunee	Mk	wp	Markey muck
Kewaunee	MrB	p	Menominee loamy fine sand, loamy substratum, 1 to 6 %
Kewaunee	My	w	Mussey loam
Kewaunee	NaB	r	Namur loam, 1 to 6 %
Kewaunee	NrD	r	Namur-Rock outcrop complex, 6 to 20 %
Kewaunee	OaB	p	Oakville loamy fine sand, 1 to 6 %
Kewaunee	OaC	p	Oakville loamy fine sand, 6 to 12 %
Kewaunee	Pe	w	Pella silt loam
Kewaunee	Pg	p	Gravel pits
Kewaunee	Po	w	Poygan silty clay loam
Kewaunee	QUA	r	Quarry
Kewaunee	RcE	p	Rodman-Casco complex, 20 to 35 %
Kewaunee	Rs	wp	Roscommon mucky loamy sand
Kewaunee	Ru	wr	Ruse loam
Kewaunee	We	w	Wauseon fine sandy loam
La Crosse	20A	wp	Palms-Houghton mucks, 0 to 1 %, FREQ ponded, very long duration
La Crosse	21A	w	Palms muck, 0 to 1 %, FREQ flooded, long duration
La Crosse	30A	w	Adder muck, 0 to 1 %, FREQ flooded
La Crosse	233C	p	Boone sand, 6 to 15 %
La Crosse	501A	p	Finchford loamy sand, 0 to 3 %
La Crosse	502B2	p	Chelsea fine sand, 2 to 6 %, moderately eroded
La Crosse	502C2	p	Chelsea fine sand, 6 to 15 %, moderately eroded
La Crosse	511B	p	Plainfield sand, 2 to 6 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
La Crosse	511C	p	Plainfield sand, 6 to 15 %
La Crosse	511F	p	Plainfield sand, 15 to 60 %
La Crosse	551A	p	Impact sand, 0 to 3 %
La Crosse	561B	p	Tarr sand, 1 to 6 %
La Crosse	561C	p	Tarr sand, 6 to 15 %
La Crosse	561F	p	Tarr sand, 15 to 60 %
La Crosse	562B	p	Gosil loamy sand, 1 to 6 %
La Crosse	562C	p	Gosil loamy sand, 6 to 12 %
La Crosse	566A	p	Tint sand, 0 to 3 %
La Crosse	569A	wp	Newlang muck, 0 to 2 %, OCCAS flooded
La Crosse	609A	w	Otter silt loam, 0 to 2 %, FREQ flooded, long duration
La Crosse	629A	w	Etrick silt loam, 0 to 2 %, FREQ flooded
La Crosse	656A	p	Scotah loamy fine sand, 0 to 3 %, OCCAS flooded
La Crosse	739A	w	Root loam, 0 to 2 %, FREQ flooded
La Crosse	1145F	p	Gaphill-Rockbluff complex, 30 to 60 %
La Crosse	1155F	pr	Brodale-Bellechester-Rock outcrop complex, 60 to 90 %
La Crosse	1233F	p	Boone-Tarr sands, 15 to 50 %
La Crosse	1658A	w	Alganssee-Kalmarville complex, 0 to 3 %, FREQ flooded, long duration
La Crosse	2003A	p	Riverwash
La Crosse	2030	pw	Udorthents, cut or fill
La Crosse	2040	p	Udipsamments, dredge material
Lafayette	Ad	w	Alluvial land
Lafayette	BoD2	p	Boone fine sand, 6 to 20 %, eroded
Lafayette	CaA	w	Calamine silt loam, 0 to 2 %
Lafayette	CaB	w	Calamine silt loam, 2 to 6 %
Lafayette	CaC	w	Calamine silt loam, 6 to 12 %
Lafayette	CaC2	w	Calamine silt loam, 6 to 12 %, moderately eroded
Lafayette	DuB	r	Dunbarton silt loam, 2 to 6 %
Lafayette	DuC	r	Dunbarton silt loam, 6 to 12 %
Lafayette	DuC2	r	Dunbarton silt loam, 6 to 12 %, moderately eroded
Lafayette	DuD	r	Dunbarton silt loam, 12 to 20 %
Lafayette	DuD2	r	Dunbarton silt loam, 12 to 20 %, moderately eroded
Lafayette	DuE	r	Dunbarton silt loam, 20 to 30 %
Lafayette	DuE2	r	Dunbarton silt loam, 20 to 30 %, moderately eroded
Lafayette	DuF	r	Dunbarton silt loam, 30 to 45 %
Lafayette	EdB2	r	Edmund silt loam, 2 to 6 %, moderately eroded
Lafayette	EdC2	r	Edmund silt loam, 6 to 12 %, moderately eroded
Lafayette	EdD	r	Edmund silt loam, 12 to 20 %
Lafayette	FpB2	r	Fayette-Dubuque soils-pits, gently sloping, eroded
Lafayette	FpC2	r	Fayette-Dubuque soils-pits, moderately sloping, eroded
Lafayette	FpD2	r	Fayette-Dubuque soils-pits, moderately steep, eroded
Lafayette	GoB2	p	Gotham loamy fine sand, 2 to 6 %, eroded
Lafayette	GoC2	p	Gotham loamy fine sand, 6 to 20 %, moderately eroded
Lafayette	Hu	wp	Houghton mucky peat
Lafayette	Ma	w	Marsh
Lafayette	Mb	w	Marshan silt loam
Lafayette	Mp	p	Mine pits-dumps
Lafayette	NfC	r	Northfield loam, 6 to 12 %
Lafayette	NfC2	r	Northfield loam, 6 to 12 %, moderately eroded
Lafayette	NfD	r	Northfield loam, 12 to 20 %
Lafayette	NfD2	r	Northfield loam, 12 to 20 %, moderately eroded

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Lafayette	NfE	r	Northfield loam, 20 to 30 %
Lafayette	NfE2	r	Northfield loam, 20 to 30 %, moderately eroded
Lafayette	NoB2	r	Northfield sandy loam, 2 to 6 %, moderately eroded
Lafayette	NoC	r	Northfield sandy loam, 6 to 12 %
Lafayette	NoC2	r	Northfield sandy loam, 6 to 12 %, moderately eroded
Lafayette	NoD	r	Northfield sandy loam, 12 to 20 %
Lafayette	NoD2	r	Northfield sandy loam, 12 to 20 %, moderately eroded
Lafayette	NoE	r	Northfield sandy loam, 20 to 30 %
Lafayette	NoE2	r	Northfield sandy loam, 20 to 30 %, moderately eroded
Lafayette	NoF	r	Northfield sandy loam, 30 to 45 %
Lafayette	Ow	w	Orion silt loam, wet variant
Lafayette	QUA	r	Quarry
Lafayette	Sa	w	Sable silt loam
Lafayette	Sb	w	Sable silt loam, benches
Lafayette	SoC2	r	Sogn silt loam, 2 to 12 %, eroded
Lafayette	SoD	r	Sogn silt loam, 12 to 20 %
Lafayette	SoD2	r	Sogn silt loam, 12 to 20 %, moderately eroded
Lafayette	SoE	r	Sogn silt loam, 20 to 30 %
Lafayette	SoF	r	Sogn silt loam, 30 to 45 %
Lafayette	SrE	r	Stony-rocky land, moderately steep
Lafayette	SrF	r	Stony-rocky land, steep
Langlade	Cs	p	Croswell loamy sand
Langlade	Fm	w	Fordum mucky silt loam
Langlade	KwD	p	Keweenaw sandy loam, 15 to 45 %, stony
Langlade	Lx	wp	Loxley peat
Langlade	MnB	p	Menominee loamy sand, 0 to 6 %
Langlade	Ms	w	Minocqua, Cable,-Sherry mucks
Langlade	Sy	wp	Seelyeville, Cathro,-Markey mucks
Langlade	VsB	p	Vilas loamy sand, 0 to 6 %
Langlade	VsC	p	Vilas loamy sand, 6 to 15 %
Lincoln	CrB	p	Croswell loamy sand, 1 to 6 %
Lincoln	CsB	p	Croswood loamy sand, 1 to 6 %
Lincoln	Fh	w	Fordum loam, 0 to 2 %
Lincoln	KwC	p	Keweenaw sandy loam, 6 to 15 %
Lincoln	KwD	p	Keweenaw sandy loam, 15 to 35 %
Lincoln	Lo	wp	Loxley-Dawson peats, 0 to 1 %
Lincoln	Lu	wp	Lupton, Cathro,-Markey mucks, 0 to 1 %
Lincoln	Ms	w	Minocqua-Capitola mucks, 0 to 2 %
Lincoln	Pt	p	Gravel pit
Lincoln	VsB	p	Vilas-Sayner loamy sands, 1 to 6 %
Lincoln	VsC	p	Vilas-Sayner loamy sands, 6 to 15 %
Lincoln	VsD	p	Vilas-Sayner loamy sands, 15 to 35 %
Manitowoc: <i>see Calument-Manitowoc</i>			
Marathon	Ad	w	Altdorf mucky silt loam, 0 to 2 %
Marathon	CbA	w	Cable silt loam, 0 to 3 %, stony
Marathon	Ch	wp	Cathro muck, 0 to 1 %
Marathon	Da	w	Dancy sandy loam, 0 to 2 %
Marathon	Fh	w	Fordum silt loam, 0 to 1 %
Marathon	GcB	p	Graycalm loamy sand, 2 to 6 %
Marathon	Gm	p	Graycalm loamy sand, moderately well drained, 0 to 2 %
Marathon	Gr	wp	Greenwood peat, 0 to 1 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Marathon	MbB	p	Mahtomedi loamy sand, 0 to 6 %
Marathon	MbC	p	Mahtomedi loamy sand, 6 to 15 %
Marathon	MbE	p	Mahtomedi loamy sand, 15 to 45 %
Marathon	McA	p	Mahtomedi loamy sand, moderately well drained, 0 to 3 %
Marathon	MfA	w	Marshfield silt loam, 0 to 3 %
Marathon	Mn	w	Minocqua sandy loam, 0 to 2 %
Marathon	Ne	wp	Newson mucky loamy sand, 0 to 1 %
Marathon	Ph	r	Pits, quarries
Marathon	Se	wp	Seelyeville muck, 0 to 1 %
Marathon	ShA	w	Sherry silt loam, 0 to 3 %
Marinette	AKC	p	Alpena gravelly sandy loam, 6 to 12 %
Marinette	AkE	p	Alpena gravelly sandy loam, 12 to 35 %
Marinette	Ar	w	Arnheim silt loam, 0 to 1 %
Marinette	Bs	w	Brevort muck, 0 to 2 %
Marinette	Bv	w	Bruce fine sandy loam, 0 to 2 %
Marinette	CtB	p	Croswell loamy sand, 1 to 6 %
Marinette	De	wp	Deford mucky fine sand, 0 to 2 %
Marinette	EaC	p	Emmert-Pence-Sarona complex, 6 to 15 %
Marinette	EaD	p	Emmert-Pence-Sarona complex, 15 to 35 %
Marinette	Ey	w	Ensley loam, 0 to 2 %
Marinette	Fw	w	Forada mucky loam, 0 to 1 %
Marinette	IxC	pr	Ishpeming-Rock outcrop complex, 4 to 15 %
Marinette	KaB	p	Karlin loamy fine sand, 2 to 6 %
Marinette	KaC	p	Karlin loamy fine sand, 6 to 15 %
Marinette	KeB	p	Keweenaw loamy sand, 1 to 6 %
Marinette	KeC	p	Keweenaw loamy sand, 6 to 15 %
Marinette	KeD	p	Keweenaw loamy sand, 15 to 25 %
Marinette	Ls	wp	Loxley-Dawson peats, 0 to 1 %
Marinette	McB	p	Mancelona loamy sand, 0 to 6 %
Marinette	McC	p	Mancelona loamy sand, 6 to 12 %
Marinette	McD	p	Mancelona loamy sand, 12 to 20 %
Marinette	MeB	p	Manistee loamy sand, 2 to 6 %
Marinette	MhB	p	Menahga sand, 0 to 6 %
Marinette	MhC	p	Menahga sand, 6 to 15 %
Marinette	MhD	p	Menahga sand, 15 to 25 %
Marinette	MmB	p	Menahga-Mancelona-Menominee complex, 2 to 6 %
Marinette	MmC	p	Menahga-Mancelona-Menominee complex, 6 to 15 %
Marinette	MmD	p	Menahga-Mancelona-Menominee complex, 15 to 25 %
Marinette	MoB	p	Menominee loamy sand, 2 to 6 %
Marinette	MoC	p	Menominee loamy sand, 6 to 12 %
Marinette	MoD	p	Menominee loamy sand, 12 to 20 %
Marinette	MrC	r	Michigamme-Rock outcrop complex, 4 to 15 %
Marinette	Nh	w	Nahma muck, 0 to 2 %
Marinette	Pm	w	Pickford mucky silty clay loam, 0 to 2 %
Marinette	Pn	w	Pinconning loamy sand, 0 to 2 %
Marinette	Pt	p	Pits
Marinette	Rc	wp	Roscommon mucky loamy sand, 0 to 2 %
Marinette	Rm	rwp	Roscommon-Rock outcrop complex, 0 to 2 %
Marinette	RsB	p	Rousseau loamy fine sand, 1 to 6 %
Marinette	Sa	w	Saprists-Psammaquents, ponded
Marinette	ScB	p	Sayner loamy sand, 1 to 6 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Marinette	ScC	p	Sayner loamy sand, 6 to 15 %
Marinette	Sd	wp	Seelyeville-Markey mucks, 0 to 1 %
Marinette	SfB	p	Shawano loamy fine sand, 2 to 6 %
Marinette	SfC	p	Shawano loamy fine sand, 6 to 12 %
Marinette	SfD	p	Shawano loamy fine sand, 12 to 30 %
Marinette	SuB	r	Summerville fine sandy loam, 1 to 6 %
Marinette	SuC	r	Summerville fine sandy loam, 6 to 12 %
Marquette	Ac	wp	Adrian mucky peat, deep
Marquette	Ad	wp	Adrian mucky peat, shallow
Marquette	Ae	wp	Adrian mucky peat, deep, stratified subsoil variant
Marquette	Ak	wp	Adrian mucky peat, shallow, stratified subsoil variant
Marquette	An	w	Alluvial land, wet
Marquette	Co	w	Colwood fine sandy loam
Marquette	GIA	p	Gotham loamy fine sand, 0 to 2 %
Marquette	GIB	p	Gotham loamy fine sand, 2 to 6 %
Marquette	GIC	p	Gotham loamy fine sand, 6 to 12 %
Marquette	GID	p	Gotham loamy fine sand, 12 to 20 %
Marquette	GmA	p	Gotham loamy fine sand, loamy substratum, 0 to 2 %
Marquette	GmB	p	Gotham loamy fine sand, loamy substratum, 2 to 6 %
Marquette	GmC2	p	Gotham loamy fine sand, loamy substratum, 6 to 12 %, eroded
Marquette	GmD2	p	Gotham loamy fine sand, loamy substratum, 12 to 20 %, eroded
Marquette	GnA	p	Gotham fine sandy loam, 0 to 2 %
Marquette	GnB	p	Gotham fine sandy loam, 2 to 6 %
Marquette	GoA	p	Gotham fine sandy loam, loamy substratum, 1 to 3 %
Marquette	GP	p	Gravel pit
Marquette	Gr	wp	Granby loamy fine sand
Marquette	Gs	wp	Granby fine sandy loam
Marquette	Gt	wp	Granby fine sandy loam, loamy substratum
Marquette	Hm	wp	Houghton mucky peat
Marquette	Hp	wp	Houghton peat, acid variant
Marquette	Ke	w	Keowns fine sandy loam
Marquette	Ma	wp	Marsh
Marquette	MvA	p	Moundville loamy fine sand, 0 to 3 %
Marquette	MwA	p	Moundville fine sandy loam, 0 to 3 %
Marquette	Pa	wp	Palms mucky peat, deep
Marquette	Pc	wp	Palms mucky peat, shallow
Marquette	PfC2	p	Plainfield sand, 0 to 12 %, eroded
Marquette	PfD2	p	Plainfield sand, 12 to 20 %, eroded
Marquette	PIA	p	Plainfield loamy fine sand, 0 to 2 %
Marquette	PIB	p	Plainfield loamy fine sand, 2 to 6 %
Marquette	PIC	p	Plainfield loamy fine sand, 6 to 12 %
Marquette	PID2	p	Plainfield loamy fine sand, 12 to 20 %, eroded
Marquette	PnB	p	Plainfield-Wyocena complex, 2 to 6 %
Marquette	PnC	p	Plainfield-Wyocena complex, 6 to 12 %
Marquette	PnE	p	Plainfield-Wyocena complex, 12 to 30 %
Marquette	Po	w	Poygan fine sandy loam
Marquette	Ps	w	Poygan silty clay loam
Marquette	QUA	r	Quarry
Marquette	Ro	w	Rollin mucky peat
Marquette	StF	p	Steep sandy land
Menominee	CeB	p	Cress sandy loam, 0 to 6 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Menominee	CeC	p	Cress sandy loam, 6 to 15 %
Menominee	CeD	p	Cress sandy loam, 15 to 35 %
Menominee	CrB	p	Cromwell sandy loam, 0 to 6 %
Menominee	CrC	p	Cromwell sandy loam, 6 to 15 %
Menominee	CrD	p	Cromwell sandy loam, 15 to 35 %
Menominee	CsA	p	Croswell loamy sand, 0 to 3 %
Menominee	GaB	p	Grayling loamy sand, 0 to 6 %
Menominee	GaC	p	Grayling loamy sand, 6 to 15 %
Menominee	GaD	p	Grayling loamy sand, 15 to 35 %
Menominee	GyB	p	Grayling sand, 0 to 6 %
Menominee	GyC	p	Grayling sand, 6 to 15 %
Menominee	GyD	p	Grayling sand, 15 to 35 %
Menominee	IxB	pr	Ishpeming-Rock outcrop complex, 0 to 6 %
Menominee	IxC	pr	Ishpeming-Rock outcrop complex, 6 to 15 %
Menominee	KaB	p	Karlin sandy loam, 0 to 6 %
Menominee	KaC	p	Karlin sandy loam, 6 to 15 %
Menominee	KaD	p	Karlin sandy loam, 15 to 35 %
Menominee	LoA	wp	Loxley peat, 0 to 1 %
Menominee	LuA	wp	Lupton, Markey,-Cathro mucks, 0 to 1 %
Menominee	MaB	p	Mahtomedi loamy sand, 0 to 6 %
Menominee	MaC	p	Mahtomedi loamy sand, 6 to 15 %
Menominee	MaD	p	Mahtomedi loamy sand, 15 to 35 %
Menominee	MoC	p	Menominee loamy fine sand, 6 to 15 %
Menominee	MoD	p	Menominee loamy fine sand, 15 to 35 %
Menominee	MqB	r	Mequithy-Rock outcrop complex, 0 to 6 %
Menominee	MqC	r	Mequithy-Rock outcrop complex, 6 to 15 %
Menominee	MuA	w	Minocqua muck, 0 to 2 %
Menominee	MzB	p	Moshawquit loamy sand, 2 to 6 %
Menominee	MzC	p	Moshawquit loamy sand, 6 to 15 %
Menominee	NeA	p	Neconish fine sand, 0 to 3 %
Menominee	Pt	p	Pits, gravel
Menominee	RaB	p	Rabe loamy sand, 2 to 6 %
Menominee	RaC	p	Rabe loamy sand, 6 to 15 %
Menominee	RaD	p	Rabe loamy sand, 15 to 35 %
Menominee	RcA	wp	Roscommon muck, 0 to 2 %
Menominee	RsB	p	Rousseau fine sand, 0 to 6 %
Menominee	RsC	p	Rousseau fine sand, 6 to 15 %
Menominee	RsD	p	Rousseau fine sand, 15 to 35 %
Menominee	SfB	p	Shawano fine sand, 0 to 6 %
Menominee	SfC	p	Shawano fine sand, 6 to 15 %
Menominee	SfD	p	Shawano fine sand, 15 to 35 %
Menominee	ToB	p	Tourtillotte loamy sand, 0 to 6 %
Menominee	ToC	p	Tourtillotte loamy sand, 6 to 15 %
Menominee	UdD	p	Udipsamments, moderately steep or steep (earthen dam)
Menominee	VsB	p	Vilas loamy sand, 0 to 6 %
Menominee	VsC	p	Vilas loamy sand, 6 to 15 %
Menominee	VsD	p	Vilas loamy sand, 15 to 35 %
Menominee	WkB	r	Wayka-Rock outcrop complex, 0 to 4 %
Menominee	WuA	p	Wurtsmith sand, 0 to 3 %
Milwaukee-Waukesha	Ac	wp	Adrian muck
Milwaukee-Waukesha	AsA	w	Ashkum silty clay loam, 0 to 3 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Milwaukee-Waukesha	BsA	w	Brookston silt loam, 0 to 3 %
Milwaukee-Waukesha	CrC2	p	Casco-Rodman complex, 6 to 12 %, eroded
Milwaukee-Waukesha	CrD	p	Casco-Rodman complex, 12-20 %
Milwaukee-Waukesha	CrE	p	Casco-Rodman complex, 20 to 30 %
Milwaukee-Waukesha	CrF	p	Casco-Rodman complex, 30 to 45 %
Milwaukee-Waukesha	CtB	p	Chelsea fine sand, 1 to 6 %
Milwaukee-Waukesha	CtD	p	Chelsea fine sand, 6 to 20 %
Milwaukee-Waukesha	Cw	w	Colwood silt loam
Milwaukee-Waukesha	Dt	w	Drummer silt loam, gravelly substratum
Milwaukee-Waukesha	Gd	w	Gilford loam
Milwaukee-Waukesha	Gf	wp	Granby fine sandy loam
Milwaukee-Waukesha	GP	p	Gravel pit
Milwaukee-Waukesha	HtA	wp	Houghton muck, 0 to 2 %
Milwaukee-Waukesha	HtB	wp	Houghton muck, 2 to 6 %
Milwaukee-Waukesha	Mf	wp	Marsh
Milwaukee-Waukesha	Mzb	w	Montgomery silty clay loam
Milwaukee-Waukesha	Mzg	wp	Muskego muck
Milwaukee-Waukesha	Mzk	w	Mussey loam
Milwaukee-Waukesha	Na	w	Navan silt loam
Milwaukee-Waukesha	Oc	wp	Ogden muck
Milwaukee-Waukesha	Pa	wp	Palms muck
Milwaukee-Waukesha	Ph	w	Pella silt loam
Milwaukee-Waukesha	Pm	w	Pella silt loam, moderately shallow variant
Milwaukee-Waukesha	QUA	r	Quarry
Milwaukee-Waukesha	RkB	r	Ritchey silt loam, 1 to 6 %
Milwaukee-Waukesha	RkC2	r	Ritchey silt loam, 6 to 12 %, eroded
Milwaukee-Waukesha	RkE	r	Ritchey silt loam, 12 to 30 %
Milwaukee-Waukesha	Ru	w	Rollin muck, deep
Milwaukee-Waukesha	Rv	w	Rollin muck, shallow
Milwaukee-Waukesha	Sg	w	Sawmill silt loam, calcareous variant
Milwaukee-Waukesha	Sm	w	Sebewa silt loam
Milwaukee-Waukesha	UA	pwr	Unmapped area
Milwaukee-Waukesha	Wa	w	Walkkill silt loam
Milwaukee-Waukesha	Ww	w	Wet alluvial land
Monroe	AbA	p	Abscota loamy sand, 0 to 3 %
Monroe	BoC	p	Boone sand, 6 to 12 %
Monroe	BoF	p	Boone sand, 12 to 45 %
Monroe	BpF	pr	Boone-Rock outcrop complex, 30 to 70 %
Monroe	Dc	wp	Dawson peat
Monroe	Et	w	Ettrick silt loam
Monroe	Hu	wp	Houghton muck
Monroe	ImA	p	Impact sand, 0 to 2 %
Monroe	ImB	p	Impact sand, 2 to 6 %
Monroe	IpA	p	Impact sand, moderately well drained, 0 to 3 %
Monroe	Ka	w	Kato silt loam
Monroe	Lw	w	Lows sandy loam
Monroe	Lx	wp	Loxley mucky peat
Monroe	Mb	w	Menasha silty clay loam
Monroe	Ne	wp	Newson loamy sand
Monroe	Pa	wp	Palms muck
Monroe	Pm	wp	Psammaquents, nearly level

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Monroe	TrB	p	Tarr sand, 0 to 6 %
Monroe	TrC	p	Tarr sand, 6 to 12 %
Monroe	TrD	p	Tarr sand, 12 to 20 %
Monroe	TrE	p	Tarr sand, 20 to 45 %
Monroe	TsA	p	Tarr sand, moderately well drained, 0 to 3 %
Monroe	Wa	w	Wautoma sand
Oconto	AaE	p	Alpena gravelly sandy loam, 20 to 35 %
Oconto	Bs	w	Brevort mucky loamy sand, 0 to 2 %
Oconto	Co	wp	Cormant loamy fine sand, 0 to 1 %
Oconto	Es	w	Ensley mucky loam, 0 to 2 %
Oconto	KeB	p	Keweenaw loamy fine sand, 2 to 6 %
Oconto	KeC	p	Keweenaw loamy fine sand, 6 to 15 %
Oconto	KeD	p	Keweenaw loamy fine sand, 15 to 35 %
Oconto	KvB	p	Kiva sandy loam, 2 to 6 %
Oconto	KvC	p	Kiva sandy loam, 6 to 15 %
Oconto	KvD	p	Kiva sandy loam, 15 to 35 %
Oconto	Lx	wp	Loxley mucky peat, 0 to 1 %
Oconto	McB	p	Mancelona loamy sand, 1 to 6 %
Oconto	McC	p	Mancelona loamy sand, 6 to 15 %
Oconto	MnB	p	Menahga sand, 0 to 6 %
Oconto	MnC	p	Menahga sand, 6 to 15 %
Oconto	MnD	p	Menahga sand, 15 to 35 %
Oconto	MoB	p	Menominee loamy fine sand, 2 to 6 %
Oconto	MoC	p	Menominee loamy fine sand, 6 to 12 %
Oconto	MoD	p	Menominee loamy fine sand, 12 to 20 %
Oconto	Mu	w	Minocqua mucky fine sandy loam, 0 to 2 %
Oconto	OvC	p	Onaway-Kiva-Menahga complex, 4 to 15 %
Oconto	OvD	p	Onaway-Kiva-Menahga complex, 15 to 35 %
Oconto	PeA	p	Pelkie loamy fine sand, 1 to 3 %
Oconto	PsD	r	Peshekee-Rock outcrop complex, 4 to 30 %
Oconto	Pt	p	Pits
Oconto	RsB	p	Rousseau fine sand, 1 to 6 %
Oconto	Sb	w	Saprists-Aquents, ponded
Oconto	Sd	wp	Seelyville-Markey mucks, 0 to 1 %
Oconto	SfB	p	Shawano fine sand, 2 to 6 %
Oconto	SfC	p	Shawano fine sand, 6 to 12 %
Oconto	SfD	p	Shawano fine sand, 12 to 30 %
Oconto	SuB	r	Summerville fine sandy loam, 2 to 8 %
Oconto	SuE	r	Summerville fine sandy loam, 20 to 45 %
Oconto	Wd	w	Waupaca very fine sandy loam, 0 to 2 %
Oconto	Wf	p	Winterfield fine sandy loam, 0 to 2 %
Oneida	CaA	w	Cable muck, 0 to 3 %, stony
Oneida	Cb	wp	Carbondale, Lupton,-Markey mucks, 0 to 1 %
Oneida	CrA	p	Croswell sand, 0 to 3 %
Oneida	CsA	p	Croswell loamy sand, loamy substratum, 0 to 3 %
Oneida	EmE	p	Emmert very gravelly sand, 20 to 45 %
Oneida	Fh	w	Fordum mucky very fine sandy loam, 0 to 2 %
Oneida	Gr	wp	Greenwood, Loxley,-Dawson peats, 0 to 1 %
Oneida	KaB	p	Karlin loamy fine sand, 0 to 6 %
Oneida	KeB	p	Keweenaw sandy loam, 1 to 6 %, stony
Oneida	KeC	p	Keweenaw sandy loam, 6 to 15 %, stony

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Oneida	KeD	p	Keweenaw sandy loam, 15 to 25 %, stony
Oneida	KnB	p	Keweenaw-Vilas complex, 1 to 6 %, stony
Oneida	KnC	p	Keweenaw-Vilas complex, 6 to 15 %, stony
Oneida	KrD	p	Keweenaw-Sayner complex, 15 to 30 %, stony
Oneida	Ks	wp	Kinross muck, 0 to 2 %
Oneida	Mc	w	Minocqua silt loam, 0 to 2 %
Oneida	PrB	p	Pequaming loamy sand, 1 to 3 %, stony
Oneida	Pt	p	Pits, gravel
Oneida	Rsb	p	Rousseau loamy fine sand, 0 to 6 %
Oneida	Rsc	p	Rousseau loamy fine sand, 6 to 15 %
Oneida	SaB	p	Sayner loamy sand, 0 to 6 %
Oneida	SaC	p	Sayner loamy sand, 6 to 15 %
Oneida	SaD	p	Sayner loamy sand, 15 to 45 %
Oneida	VsB	p	Vilas loamy sand, 0 to 6 %
Oneida	VsC	p	Vilas loamy sand, 6 to 15 %
Oneida	VsD	p	Vilas loamy sand, 15 to 25 %
Outagamie	Ax	w	Angelica silt loam
Outagamie	Ca	wp	Carbondale muck
Outagamie	Cm	wp	Cathro muck
Outagamie	CnB	r	Channahon silt loam, 2 to 6 %
Outagamie	De	wp	Deford loamy fine sand
Outagamie	Fu	w	Fluvaquents
Outagamie	Gp	p	Gravel pits
Outagamie	Ke	w	Keowns silt loam
Outagamie	Ln	pr	Limestone quarries
Outagamie	Lo	w	Lobo peat
Outagamie	MeB	p	Manistee loamy fine sand, 2 to 6 %
Outagamie	MeC2	p	Manistee loamy fine sand, 6 to 12 %, eroded
Outagamie	MfB	p	Manistee fine sandy loam, 2 to 6 %
Outagamie	Mk	wp	Markey muck
Outagamie	MsB	p	Menominee loamy fine sand, loamy substratum, 2 to 6 %
Outagamie	MsC2	p	Menominee loamy fine sand, loamy substratum, 6 to 12 %, eroded
Outagamie	NaB	r	Namur silt loam, 1 to 6 %
Outagamie	Pe	w	Pella silt loam
Outagamie	Pf	w	Poy silty clay loam
Outagamie	Po	w	Poygan silty clay loam
Outagamie	Ra	r	Rock outcrop
Outagamie	Rd	wp	Rondeau muck
Outagamie	RoB	p	Rousseau loamy fine sand, 2 to 6 %
Outagamie	SeC	p	Shawano fine sand, rolling
Outagamie	SeD	p	Shawano fine sand, hilly
Outagamie	SP	p	Sand pit
Outagamie	Su	wp	Suamico muck
Outagamie	Wb	w	Will silt loam
Ozaukee	Ak	wp	Adrian mucky peat
Ozaukee	As	w	Ashkum silt loam
Ozaukee	BsA	w	Brookston silt loam, 0 to 3 %
Ozaukee	CrD2	p	Casco-Rodman complex, 12 to 20 %, eroded
Ozaukee	CrE2	p	Casco-Rodman complex, 20 to 35 %, eroded
Ozaukee	Cw	w	Colwood silt loam
Ozaukee	Ge	wp	Granby loamy sand, loamy substratum

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Ozaukee	GP	p	Gravel pit
Ozaukee	Hu	wp	Houghton mucky peat
Ozaukee	Km	w	Keowns silt loam
Ozaukee	Mf	wp	Marsh
Ozaukee	Mzg	wp	Muskego muck
Ozaukee	Mzk	w	Mussey loam
Ozaukee	Na	w	Navan silt loam
Ozaukee	Od	wp	Ogden mucky peat
Ozaukee	Pc	wp	Palms mucky peat
Ozaukee	Ph	w	Pella silt loam
Ozaukee	Py	w	Poygan silty clay loam
Ozaukee	QUA	r	Quarry
Ozaukee	RkB	r	Ritchey silt loam, 0 to 6 %
Ozaukee	RkD2	r	Ritchey silt loam, 6 to 20 %, eroded
Ozaukee	Rw	w	Rollin mucky peat
Ozaukee	Sm	w	Sebewa silt loam
Ozaukee	SP	p	Sand pit
Ozaukee	Ww	w	Wet alluvial land
Pepin	2040	p	Udipsammets, dredge material
Pepin	1145F	p	Gaphill-Rockbluff complex, 30 to 60 %
Pepin	1155F	pr	Brodale-Bellechester-Rock outcrop complex, 60 to 90 %
Pepin	11A	w	Markey muck, flooded, 0 to 1 %
Pepin	1224F	p	Boone-Elevasil complex, 15 to 50 %
Pepin	1648A	w	Northbend-Ettrick silt loams, 0 to 3 %
Pepin	1658A	w	Alganssee-Kalmarville complex, 0 to 3 %
Pepin	2003A	p	Riverwash, nearly level
Pepin	20A	wp	Palms-Houghton mucks, 0 to 1 %
Pepin	21A	w	Palms muck, flooded, 0 to 1 %
Pepin	233C	p	Boone sand, 6 to 15 %
Pepin	265B	p	Garne loamy sand, 2 to 6 %
Pepin	265C	p	Garne loamy sand, 6 to 12 %
Pepin	40A	wp	Markey-Seelyeville mucks, 0 to 1 %
Pepin	429A	w	Lows loam, 0 to 2 %
Pepin	501A	p	Finchford loamy sand, 0 to 3 %
Pepin	501B	p	Finchford loamy sand, 2 to 6 %
Pepin	502B2	p	Chelsea fine sand, 2 to 6 %, eroded
Pepin	502C2	p	Chelsea fine sand, 6 to 15 %, eroded
Pepin	506A	p	Komro loamy sand, 0 to 3 %
Pepin	510B	p	Boplain sand, 0 to 6 %
Pepin	510C	p	Boplain sand, 6 to 15 %
Pepin	510F	p	Boplain sand, 15 to 60 %
Pepin	511A	p	Plainfield sand, 0 to 3 %
Pepin	511B	p	Plainfield sand, 2 to 6 %
Pepin	511C	p	Plainfield sand, 6 to 15 %
Pepin	511F	p	Plainfield sand, 15 to 60 %
Pepin	512B	p	Drammen loamy sand, 1 to 6 %
Pepin	512C	p	Drammen loamy sand, 6 to 12 %
Pepin	512D	p	Drammen loamy sand, 12 to 20 %
Pepin	516A	p	Aldo sand, 0 to 3 %
Pepin	546A	p	Prissel loamy sand, 0 to 3 %
Pepin	546B	p	Prissel loamy sand, 2 to 6 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Pepin	546F	p	Prissel loamy sand, 15 to 60 %
Pepin	561B	p	Tarr sand, 1 to 6 %
Pepin	566A	p	Tint sand, 0 to 3 %
Pepin	589A	wp	Newson mucky loamy sand, 0 to 2 %
Pepin	629A	w	Ettrick silt loam, 0 to 2 %
Pepin	656A	p	Scotah loamy fine sand, 0 to 3 %
Pierce	Ad	wp	Adrian muck
Pierce	Ah	p	Alluvial land, sandy
Pierce	Al	w	Alluvial land, wet
Pierce	Au	w	Auburndale silt loam
Pierce	BfE2	p	Boone fine sand, 12 to 35 %, eroded
Pierce	BnB2	p	Boone loamy fine sand, 2 to 6 %, eroded
Pierce	BnC2	p	Boone loamy fine sand, 6 to 12 %, eroded
Pierce	Cl	w	Clyde silt loam
Pierce	DuB	r	Dunbarton silt loam, 2 to 6 %
Pierce	DuB2	r	Dunbarton silt loam, 2 to 6 %, moderately eroded
Pierce	DuC	r	Dunbarton silt loam, 6 to 12 %
Pierce	DuC2	r	Dunbarton silt loam, 6 to 12 %, moderately eroded
Pierce	DuD	r	Dunbarton silt loam, 12 to 20 %
Pierce	DuD2	r	Dunbarton silt loam, 12 to 20 %, moderately eroded
Pierce	DuE	r	Dunbarton silt loam, 20 to 30 %
Pierce	DuE2	r	Dunbarton silt loam, 20 to 30 %, moderately eroded
Pierce	DvC	r	Dunbarton complex, 6 to 12 %
Pierce	DvC2	r	Dunbarton complex, 6 to 12 %, moderately eroded
Pierce	DvD	r	Dunbarton complex, 12 to 20 %
Pierce	DvD2	r	Dunbarton complex, 12 to 20 %, moderately eroded
Pierce	DvE	r	Dunbarton complex, 20 to 30 %
Pierce	DvE2	r	Dunbarton complex, 20 to 30 %, moderately eroded
Pierce	GtC2	r	Gale silt loam, thin solum variant, 6 to 12 %, eroded
Pierce	GtD	r	Gale silt loam, thin solum variant, 12 to 20 %
Pierce	GtD2	r	Gale silt loam, thin solum variant, 12 to 20 %, moderately eroded
Pierce	GtE	r	Gale silt loam, thin solum variant, 20 to 30 %
Pierce	PmA	p	Plainfield loamy sand, 0 to 2 %
Pierce	PmB	p	Plainfield loamy sand, 2 to 6 %
Pierce	PmB2	p	Plainfield loamy sand, 2 to 6 %, eroded
Pierce	PmC	p	Plainfield loamy sand, 6 to 12 %
Pierce	PmC2	p	Plainfield loamy sand, 6 to 12 %, eroded
Pierce	Rh	p	Riverwash
Pierce	Sa	w	Sable silt loam
Pierce	SoA	r	Sogn-Rockton loams, 0 to 2 %
Pierce	SoB	r	Sogn-Rockton loams, 2 to 6 %
Pierce	SoC2	r	Sogn-Rockton loams, 6 to 12 %, moderately eroded
Pierce	SoD2	r	Sogn-Rockton loams, 12 to 20 %, moderately eroded
Pierce	SpA	p	Sparta loamy sand, 0 to 2 %
Pierce	SpB	p	Sparta loamy sand, 2 to 6 %
Pierce	SpB2	p	Sparta loamy sand, 2 to 6 %, eroded
Pierce	SpC2	p	Sparta loamy sand, 6 to 12 %, eroded
Pierce	StF	r	Steep stony-rocky land
Pierce	Ts	p	Terrace escarpments, sandy
Polk	Ad	w	Adolph silt loam
Polk	AoB	p	Amery complex, 1 to 6 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Polk	AoC	p	Amery complex, 6 to 12 %
Polk	AoD	p	Amery complex, 12 to 20 %
Polk	AoE	p	Amery complex, 20 to 30 %
Polk	ArC	r	Amery-Rock outcrop complex, 2 to 12 %
Polk	ArD	r	Amery-Rock outcrop complex, 12 to 45 %
Polk	AuA	w	Auburndale silt loam, 0 to 3 %
Polk	Ba	w	Barronett silt loam
Polk	Be	w	Barronett variant fine sandy loam
Polk	Bf	w	Bluffton loam
Polk	Cc	wp	Cathro muck
Polk	CrA	p	Cromwell sandy loam, 0 to 2 %
Polk	CrB	p	Cromwell sandy loam, 2 to 6 %
Polk	CrC	p	Cromwell sandy loam, 6 to 12 %
Polk	CrD	p	Cromwell sandy loam, 12 to 25 %
Polk	CtA	p	Croswell loamy sand, 0 to 3 %
Polk	CxB	p	Cushing complex, 2 to 6 %
Polk	CxC2	p	Cushing complex, 6 to 12 %, eroded
Polk	CxD2	p	Cushing complex, 12 to 20 %, eroded
Polk	EmD	p	Emmert gravelly sandy loam, 12 to 35 %
Polk	Fe	w	Fluvaquents, wet
Polk	HrB	p	Hubbard loamy sand, 0 to 6 %
Polk	Mk	wp	Markey muck
Polk	MnB	p	Menahga loamy sand, 1 to 6 %
Polk	MnC	p	Menahga loamy sand, 6 to 12 %
Polk	MnD	p	Menahga loamy sand, 12 to 25 %
Polk	Ns	wp	Newson loamy fine sand
Polk	NyA	p	Nymore fine sand, 0 to 3 %
Polk	OgB	p	Omega fine sand, 2 to 6 %
Polk	OgC	p	Omega fine sand, 6 to 12 %
Polk	OgD	p	Omega fine sand, 12 to 20 %
Polk	Pg	p	Pits, gravel
Polk	QUA	r	Quarry
Polk	Rf	wp	Rifle muck
Polk	RpB	p	Rosholt-Cromwell complex, 2 to 6 %
Polk	RpC	p	Rosholt-Cromwell complex, 6 to 12 %
Polk	RpD	p	Rosholt-Cromwell complex, 12 to 20 %
Polk	RpE	p	Rosholt-Cromwell complex, 20 to 30 %
Polk	Se	wp	Saprists-Aquents
Polk	Sm	wp	Seelyeville muck
Polk	Us	p	Udorthents, sandy
Polk	Wv	w	Warman variant sandy loam
Portage	Ab	w	Alluvial land, wet
Portage	Af	w	Altdorf silt loam
Portage	Ca	wp	Cathro muck
Portage	CoB	p	Coloma loamy sand, 2 to 6 %
Portage	CoC	p	Coloma loamy sand, 6 to 12 %
Portage	Da	w	Dancy sandy loam
Portage	FrA	p	Friendship loamy sand, 0 to 3 %
Portage	GP	p	Gravel pit
Portage	Lu	wp	Lupton muck
Portage	Ma	wp	Markey muck

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Portage	Mb	wp	Markey muck, shallow
Portage	Mc	w	Marsh
Portage	PbB	p	Plainbo loamy sand, 2 to 6 %
Portage	PfA	p	Plainfield loamy sand, 0 to 2 %
Portage	PfB	p	Plainfield loamy sand, 2 to 6 %
Portage	PfC	p	Plainfield loamy sand, 6 to 12 %
Portage	PgB	p	Plainfield loamy sand, granite substratum, 2 to 6 %
Portage	Ph	p	Plainfield-Kranski soils
Portage	PkB	p	Plainfield sandy loam, gravelly variant, 2 to 6 %
Portage	RfA	p	Richford loamy sand, 0 to 2 %
Portage	RfB	p	Richford loamy sand, 2 to 6 %
Portage	RfC	p	Richford loamy sand, 6 to 12 %
Portage	RgB	p	Richford loamy fine sand, 2 to 6 %
Portage	Rk	r	Rock land
Portage	Rm	wp	Roscommon muck
Portage	Rn	wp	Roscommon-Meehan complex, 0 to 3 %
Portage	Ro	w	Roscommon sandy loam, loamy variant
Portage	Rp	w	Roscommon sandy loam, loamy variant, loamy substratum
Portage	RuD	p	Rosholt complex, 12 to 20 %
Portage	RuE	p	Rosholt complex, 20 to 40 %
Portage	Se	wp	Seelyeville muck
Portage	Sh	w	Sherry silt loam
Portage	Vs	w	Vesper silt loam
Price	52A1	wp	Cathro-Capitola, very stony-Lupton complex, 0 to 1 %
Price	60D4	p	Pelissier sandy loam, 20 to 45 %
Price	114A	w	Saprists, Aquepts, -Aquepts, 0 to 1 %, ponded-flooded
Price	193A	w	Minocqua muck, 0 to 2 %
Price	217B	p	Karlin loamy fine sand, 0 to 6 %
Price	217C	p	Karlin loamy fine sand, 6 to 15 %
Price	403A	wp	Loxley, Beseman, -Dawson soils, 0 to 1 %
Price	405A	wp	Lupton, Cathro, -Tawas soils, 0 to 1 %
Price	408A	wp	Lupton-Cathro soils, 0 to 1 %
Price	414A	wp	Loxley-Beseman soils, 0 to 1 %
Price	425B	p	Karlin sandy loam, 0 to 6 %
Price	425C	p	Karlin sandy loam, 6 to 15 %
Price	425D	p	Karlin sandy loam, 15 to 30 %
Price	441C	wp	Freeon, very stony-Cathro complex, 0 to 15 %
Price	445A	w	Kinross muck, 0 to 2 %
Price	461A	wp	Bowstring muck, 0 to 1 %, FREQ flooded
Price	475D	p	Rubicon-Sayner complex, 15 to 30 %
Price	537D	wp	Newot, very stony-Newood, very stony-Cathro complex, 0 to 35 %
Price	555A	w	Fordum silt loam, 0 to 2 %, FREQ flooded
Price	556C	wp	Newood, very stony-Magnor, very stony-Cathro complex, 0 to 15 %
Price	569C	wp	Newood, very stony-Pesabic, very stony-Cathro complex, 0 to 15 %
Price	571B	p	Pelissier gravelly sandy loam, 2 to 6 %
Price	571C	p	Pelissier gravelly sandy loam, 6 to 15 %
Price	571E	p	Pelissier gravelly sandy loam, 15 to 45 %
Price	591A	p	Croswell-Chinwhisker complex, 0 to 3 %
Price	594B	p	Vilas-Lindquist complex, 0 to 6 %
Price	594C	p	Vilas-Lindquist complex, 6 to 15 %
Price	594D	p	Vilas-Lindquist complex, 15 to 30 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Price	600A	w	Haplosaprists-Psammaquents, 0 to 2 %
Price	623A	w	Capitola muck, 0 to 2 %, very stony
Price	642B	w	Pesabic-Capitola-Newood complex, 0 to 6 %, very stony
Price	670B	p	Keweenaw-Pence complex, 0 to 6 %, stony
Price	670C	p	Keweenaw-Pence complex, 6 to 15 %, stony
Price	670E	p	Keweenaw-Pence complex, 15 to 45 %, stony
Price	738A	w	Wozny silt loam, 0 to 2 %, very stony
Price	755A	w	Moppet, OCCAS flooded-Fordum, FREQ flooded complex, 0 to 3 %
Price	923A	w	Capitola-cebana complex, 0 to 2 %, very stony
Price	974B	p	Sayner-Pence-Vilas complex, 0 to 6 %
Price	974C	p	Sayner-Pence-Vilas complex, 6 to 15 %
Price	974D	p	Sayner-Pence-Vilas complex, 15 to 30 %
Price	1653B	w	Stanberry-Parkfalls-Wozny complex, 0 to 6 %, very stony
Price	1653C	w	Stanberry-Parkfalls-Wozny complex, 0 to 15 %, very stony
Price	2030	pw	Udorhents-udipsammets, cut or fill
Price	9012B	p	Sayner-Lindquist complex, 0 to 6 %
Price	9012C	p	Sayner-Lindquist complex, 6 to 15 %
Price	9012D	p	Sayner-Lindquist complex, 15 to 30 %
Price	9050A	wp	Fordum, Totagatic,-Bowstring soils, 0 to 1 %, FREQ flooded
Price	9051A	w	Minocqua, Wozny,-Pleine soils, 0 to 2 %, very stony
Price	9113B	p	Padus-Karlin complex, 0 to 6 %
Price	9113C	p	Padus-Karlin complex, 6 to 15 %
Price	9113D	p	Padus-Karlin complex, 15 to 30 %
Price	9155A	wp	Haplosaprists, peats-mucks, 0 to 1 %
Price	11A	w	Barronett silt loam, 0 to 2 %
Price	520A	w	Annrivier silt loam, 0 to 2 %
Price	532B	w	Aquepts-Saprists, 0 to 6 %, extremely bouldery
Price	77A	w	Auburndale silt loam, dense till substratum, 0 to 2 %
Racine: <i>see Kenosha-Racine</i>			
Richland	20A	wp	Palms-Houghton mucks, 0 to 1 %, FREQ ponded, very long duration
Richland	21A	w	Palms muck, 0 to 1 %, FREQ flooded, long duration
Richland	284C2	p	Gillingham loamy fine sand, 6 to 12 %, moderately eroded
Richland	284D2	p	Gillingham loamy fine sand, 12 to 20 %, moderately eroded
Richland	293B2	p	Muscoda loamy fine sand, 1 to 6 %, moderately eroded
Richland	293C2	p	Muscoda loamy fine sand, 6 to 12 %, moderately eroded
Richland	293D2	p	Muscoda loamy fine sand, 12 to 20 %, moderately eroded
Richland	502B2	p	Chelsea fine sand, 2 to 6 %, moderately eroded
Richland	502C2	p	Chelsea fine sand, 6 to 15 %, moderately eroded
Richland	504A	p	Sparta loamy fine sand, 0 to 3 %
Richland	506A	p	Komro loamy sand, 0 to 3 %
Richland	511C	p	Plainfield sand, 6 to 15 %
Richland	511F	p	Plainfield sand, 15 to 60 %
Richland	572B2	p	Windward loamy fine sand, 2 to 6 %, moderately eroded
Richland	572C2	p	Windward loamy fine sand, 6 to 12 %, moderately eroded
Richland	629A	w	Etrick silt loam, 0 to 2 %, FREQ flooded
Richland	656A	p	Scotah loamy fine sand, 0 to 3 %, OCCAS flooded
Richland	1145F	p	Gaphill-Rockbluff complex, 30 to 60 %
Richland	1155F	p	Brodale-Bellechester-Rock outcrop complex, 60 to 90 %
Richland	1505C2	p	Sparta-Blownout land complex, 0 to 15 %
Richland	1648A	w	Northbend-Etrick silt loams, 0 to 3 %, FREQ flooded, long duration
Richland	1658A	w	Alganssee-Kalmarville complex, 0 to 3 %, FREQ flooded, long duration

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Richland	2003A	p	Riverwash, nearly level
Richland	2030	pw	Udorthents-Udipsammments cut or fill
Rock	Ad	wp	Adrian muck
Rock	Aw	w	Alluvial land, wet
Rock	Br	w	Brookston silt loam
Rock	Co	w	Colwood silt loam
Rock	DcA	p	Dickman sandy loam, 0 to 2 %
Rock	DcB	p	Dickman sandy loam, 2 to 6 %
Rock	DcC2	p	Dickman sandy loam, 6 to 12 %, eroded
Rock	EdB2	r	Edmund loam, 2 to 6 %, eroded
Rock	EdC2	r	Edmund loam, 6 to 12 %, eroded
Rock	EdD2	r	Edmund loam, 12 to 20 %, eroded
Rock	EdE	r	Edmund loam, 20 to 35 %
Rock	GoA	p	Gotham loamy sand, 0 to 2 %
Rock	GoB	p	Gotham loamy sand, 2 to 6 %
Rock	GoC2	p	Gotham loamy sand, 6 to 12 %, eroded
Rock	GoD	p	Gotham loamy sand, 12 to 20 %
Rock	GP	p	Gravel pit
Rock	Ho	wp	Houghton muck
Rock	Ma	w	Mahalasville silt loam
Rock	Mb	w	Mahalasville silt loam, overwash
Rock	Mc	wp	Marsh
Rock	Md	w	Marshan loam
Rock	Me	wp	Maumee loamy sand
Rock	Mf	w	Millington silt loam
Rock	Na	w	Navan silt loam
Rock	Ot	w	Otter silt loam
Rock	Pa	wp	Palms muck
Rock	QUA	r	Quarry
Rock	Ro	r	Rock land
Rock	RrC2	p	Rodman-Lorenzo complex, 6 to 12 %, eroded
Rock	RrE	p	Rodman-Lorenzo complex, 20 to 30 %
Rock	RrF	p	Rodman-Lorenzo complex, 30 to 45 %
Rock	Rs	w	Rollin muck
Rock	Se	w	Sebewa silt loam
Rock	SoB	r	Sogn loam, 2 to 6 %
Rock	SoC2	r	Sogn loam, 6 to 12 %, eroded
Rock	SoD	r	Sogn loam, 12 to 20 %
Rock	SoF	r	Sogn loam, 30 to 45 %
Rusk	11A	w	Barronett silt loam, 0 to 2 %
Rusk	52A1	wp	Cathro-Capitola, very stony-Lupton complex, 0 to 1 %
Rusk	77A	w	Auburndale silt loam, dense till substratum, 0 to 2 %
Rusk	78E	p	Ribhill-Rubble Land complex, 15 to 55 %, very stony
Rusk	114A	w	Saprists, Aquepts, -Aquepts, 0 to 1 %, ponded-flooded
Rusk	125A	p	Meehan loamy sand, 0 to 2 %
Rusk	126A	p	Wurtsmith loamy sand, 0 to 3 %
Rusk	193A	w	Minocqua muck, 0 to 2 %
Rusk	315A	w	Rib silt loam, 0 to 2 %
Rusk	336A	w	Fenander fine sandy loam, 0 to 2 %
Rusk	383B	p	Mahtomedi loamy sand, 0 to 6 %
Rusk	383C	p	Mahtomedi loamy sand, 6 to 12 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Rusk	383D	p	Mahtomedi loamy sand, 12 to 30 %
Rusk	406A	wp	Loxley mucky peat, 0 to 1 %
Rusk	407A	wp	Seelyeville-Markey soils, 0 to 1 %
Rusk	408A	wp	Lupton-Cathro soils, 0 to 1 %
Rusk	412A	wp	Rifle-Tacoosh soils, 0 to 1 %
Rusk	414A	wp	Loxley-Beseman soils, 0 to 1 %
Rusk	415A	wp	Greenwood mucky peat, 0 to 1 %
Rusk	439B	p	Graycalm-Menahga complex, 0 to 6 %
Rusk	439C	p	Graycalm-Menahga complex, 6 to 12 %
Rusk	439D	p	Graycalm-Menahga complex, 12 to 30 %
Rusk	445A	w	Kinross muck, 0 to 2 %
Rusk	446A	w	Newson muck, 0 to 2 %
Rusk	461A	wp	Bowstring muck, 0 to 1 %, freq flooded
Rusk	520A	w	Annriver silt loam, 0 to 2 %
Rusk	532B	w	Aquents-Saprists, 0 to 6 %, extremely bouldery
Rusk	537D	wp	Newot, very stony-Newood, very stony-Cathro complex, 0 to 35 %
Rusk	555A	w	Fordum silt loam, 0 to 2 %, freq flooded
Rusk	556C	wp	Newood, very stony-Magnor, very stony-Cathro complex, 0 to 15 %
Rusk	569C	wp	Newood, very stony-Pesabic, very stony-Cathro complex, 0 to 15 %
Rusk	571E	p	Pelissier gravelly sandy loam, 15 to 45 %
Rusk	574B	p	Sayner loamy sand, 0 to 6 %
Rusk	574C	p	Sayner loamy sand, 6 to 15 %
Rusk	574E	p	Sayner loamy sand, 15 to 45 %
Rusk	591A	p	Croswell-Chinwhisker complex, 0 to 3 %
Rusk	594B	p	Vilas-Lindquist complex, 0 to 6 %
Rusk	594C	p	Vilas-Lindquist complex, 6 to 15 %
Rusk	594D	p	Vilas-Lindquist complex, 15 to 30 %
Rusk	600A	w	Haplosaprists-Psammaquents, 0 to 2 %
Rusk	615B	p	Cress sandy loam, 0 to 6 %
Rusk	615C	p	Cress sandy loam, 6 to 12 %
Rusk	615D	p	Cress sandy loam, 12 to 30 %
Rusk	623A	w	Capitola muck, 0 to 2 %, very stony
Rusk	642B	w	Pesabic-Capitola-Newood complex, 0 to 6 %, very stony
Rusk	700B	p	Menahga loamy sand, 0 to 6 %
Rusk	700C	p	Menahga loamy sand, 6 to 12 %
Rusk	746D	wp	Pence-Sconsin-Tawas complex, 0 to 25 %
Rusk	755A	w	Moppet,Occas flooded-Fordum, freq flooded complex, 0 to 3 %
Rusk	923A	w	Capitola-Cebana complex, 0 to 2 %, very stony
Rusk	934A	w	Glenflora silt loam, 0 to 2 %
Rusk	1537D	wp	Amery, very stony-Haugen, very stony-Cathro complex, 0 to 35 %
Rusk	1556C	wp	Haugen, very stony-Magnor, very stony-Cathro complex, 0 to 15 %
Rusk	1569C	wp	Haugen, very stony-Glendenning, very stony-Cathro complex, 0 to 15 %
Rusk	1642B	w	Glendenning-Capitola-Haugen complex, 0 to 6 %, very stony
Rusk	2030	pw	Udorhents-Udipsamments, cut or fill
Rusk	2050	pw	Landfill
Sauk	Ad	wp	Adrian muck
Sauk	BoB	p	Boone sand, 2 to 6 %
Sauk	BoC	p	Boone sand, 6 to 12 %
Sauk	BoD	p	Boone sand, 12 to 30 %
Sauk	BrA	p	Brems loamy sand, 0 to 3 %
Sauk	Co	w	Colwood loam

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Sauk	EnB	r	Elk mound sandy loam, 2 to 6 %
Sauk	EnC	r	Elk mound sandy loam, 6 to 12 %
Sauk	EnD	r	Elk mound sandy loam, 12 to 20 %
Sauk	Et	w	Ettrick silt loam
Sauk	Fw	w	Fluvaquents, wet
Sauk	GoB	p	Gotham loamy sand, 1 to 6 %
Sauk	GoC	p	Gotham loamy sand, 6 to 12 %
Sauk	GoD	p	Gotham loamy sand, 12 to 25 %
Sauk	Gr	wp	Granby loamy sand
Sauk	Gv	w	Granby variant, loamy sand
Sauk	Ho	wp	Houghton muck
Sauk	Mc	w	Marshan loam
Sauk	NrE	r	Norden-Eleva soils-rock outcrop, 12 to 60 %
Sauk	Os	w	Ossian silt loam
Sauk	Pa	wp	Palms muck
Sauk	Pd	p	Pits, gravel
Sauk	Pe	r	Pits, quarries
Sauk	PfB	p	Plainfield loamy sand, 1 to 6 %
Sauk	PfC	p	Plainfield loamy sand, 6 to 12 %
Sauk	PfD	p	Plainfield loamy sand, 12 to 30 %
Sauk	Rt	r	Rock outcrop, quartzite
Sauk	Se	wp	Saprists-Aquents
Sauk	SpB	p	Sparta loamy sand, 1 to 6 %
Sauk	SpC	p	Sparta loamy sand, 6 to 12 %
Sauk	St	p	Sparta variant loamy sand
Sawyer	1B	w	Humaquepts-Fluvaquents complex, 0 to 4 %, very stony, freq flooded
Sawyer	3A	wp	Totagatic-Bowstring-Ausable complex, 0 to 2 %, freq flooded
Sawyer	11A	w	Barronett silt loam, 0 to 2 %
Sawyer	69B	p	Keweenaw-Sayner-Vilas complex, 2 to 6 %, stony
Sawyer	69C	p	Keweenaw-Sayner-Vilas complex, 6 to 15 %, stony
Sawyer	69E	p	Keweenaw-Sayner-Vilas complex, 15 to 45 %, stony
Sawyer	78E	p	Ribhill-Rubble Land complex, 15 to 55 %, very stony
Sawyer	114A	w	saprists, aquents,-aquepts, 0 to 1 %, ponded-flooded
Sawyer	125A	p	Meehan loamy sand, 0 to 2 %
Sawyer	126A	p	Wurtsmith loamy sand, 0 to 3 %
Sawyer	193A	w	Minocqua muck, 0 to 2 %
Sawyer	217B	p	Karlin loamy fine sand, 0 to 6 %
Sawyer	217C	p	Karlin loamy fine sand, 6 to 15 %
Sawyer	309C	r	Metonga-rock outcrop complex, 6 to 20 %
Sawyer	315A	w	Rib silt loam, 0 to 2 %
Sawyer	383B	p	Mahtomedi loamy sand, 0 to 6 %
Sawyer	383C	p	Mahtomedi loamy sand, 6 to 12 %
Sawyer	383D	p	Mahtomedi loamy sand, 12 to 30 %
Sawyer	403A	wp	Loxley, Beseman,-Dawson soils, 0 to 1 %
Sawyer	405A	wp	Lupton, Cathro,-Tawas soils, 0 to 1 %
Sawyer	406A	wp	Loxley mucky peat, 0 to 1 %
Sawyer	407A	wp	Seelyeville-Markey soils, 0 to 1 %
Sawyer	408A	wp	Lupton-Cathro soils, 0 to 1 %
Sawyer	412A	wp	Rifle-Tacoosh soils, 0 to 1 %
Sawyer	414A	wp	Loxley-Beseman soils, 0 to 1 %
Sawyer	415A	wp	Greenwood mucky peat, 0 to 1 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Sawyer	425B	p	Karlin sandy loam, 0 to 6 %
Sawyer	425C	p	Karlin sandy loam, 6 to 15 %
Sawyer	439B	p	Graycalm-Menahga complex, 0 to 6 %
Sawyer	439C	p	Graycalm-Menahga complex, 6 to 12 %
Sawyer	439D	p	Graycalm-Menahga complex, 12 to 30 %
Sawyer	441C	wp	freeon, very stony-Cathro complex, 0 to 15 %
Sawyer	442C	wp	Haugen, very stony-Greenwood complex, 0 to 15 %
Sawyer	443D	wp	Amery, very stony-Greenwood complex, 0 to 35 %
Sawyer	445A	w	Kinross muck, 0 to 2 %
Sawyer	446A	w	Newson muck, 0 to 2 %
Sawyer	461A	wp	Bowstring muck, 0 to 1 %, freq flooded
Sawyer	520A	w	Annriver silt loam, 0 to 2 %
Sawyer	532B	w	Aquepts-Saprists, 0 to 6 %, extremely bouldery
Sawyer	537D	wp	Newot, very stony-Newood, very stony-Cathro complex, 0 to 35 %
Sawyer	555A	w	Fordum silt loam, 0 to 2 %, freq flooded
Sawyer	556C	wp	Newood, very stony-Magnor, very stony-Cathro complex, 0 to 15 %
Sawyer	571C	p	Pelissier gravelly sandy loam, 6 to 15 %
Sawyer	571E	p	Pelissier gravelly sandy loam, 15 to 45 %
Sawyer	574B	p	Sayner loamy sand, 0 to 6 %
Sawyer	574C	p	Sayner loamy sand, 6 to 15 %
Sawyer	574E	p	Sayner loamy sand, 15 to 45 %
Sawyer	582C	p	Padus-Pence-Keweenaw complex, 6 to 15 %, stony
Sawyer	582D	p	Padus-Pence-Keweenaw complex, 15 to 30 %, stony
Sawyer	591A	p	Croswell-Chinwhisker complex, 0 to 3 %
Sawyer	594B	p	Vilas-Lindquist complex, 0 to 6 %
Sawyer	594C	p	Vilas-Lindquist complex, 6 to 15 %
Sawyer	594D	p	Vilas-Lindquist complex, 15 to 30 %
Sawyer	600A	w	Haplosaprists-Psammaquents, 0 to 2 %
Sawyer	615B	p	Cress sandy loam, 0 to 6 %
Sawyer	615C	p	Cress sandy loam, 6 to 12 %
Sawyer	615D	p	Cress sandy loam, 12 to 30 %
Sawyer	623A	w	Capitola muck, 0 to 2 %, very stony
Sawyer	670B	p	Keweenaw-Pence complex, 0 to 6 %, stony
Sawyer	670C	p	Keweenaw-Pence complex, 6 to 15 %, stony
Sawyer	670E	p	Keweenaw-Pence complex, 15 to 45 %, stony
Sawyer	733A	w	Wozny muck, 0 to 2 %, very stony
Sawyer	755A	w	Moppet, Occas flooded-fordum, freq flooded complex, 0 to 3 %
Sawyer	771A	p	Lenroot loamy sand, 0 to 3 %
Sawyer	853C	w	Frogcreek-Stinnett-Wozny complex, 0 to 15 %, very stony
Sawyer	923A	w	capitola-cebana complex, 0 to 2 %, very stony
Sawyer	925C	pr	Rock outcrop-Ishpeming complex, 0 to 15 %
Sawyer	943D	wp	Stanberry, very stony-Greenwood complex, 0 to 35 %
Sawyer	953B	w	Beaverbay-Stinnett-Wozny complex, 0 to 6 %, very stony
Sawyer	953C	w	Beaverbay-Stinnett-Wozny complex, 0 to 15 %, very stony
Sawyer	970C	wp	Keweenaw, stony-Pence, stony-Greenwood complex, 0 to 15 %
Sawyer	970E	wp	Keweenaw, stony-Pence, stony-Greenwood complex, 0 to 45 %
Sawyer	974C	p	Sayner-Pence-Vilas complex, 6 to 15 %
Sawyer	974D	p	Sayner-Pence-Vilas complex, 15 to 30 %
Sawyer	1653B	w	Stanberry-Parkfalls-Wozny complex, 0 to 6 %, very stony
Sawyer	1653C	w	Stanberry-Parkfalls-Wozny complex, 0 to 15 %, very stony
Sawyer	2030	pw	Udorthents-Udipsamments, cut or fill

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Sawyer	9012B	p	Sayner-Lindquist complex, 0 to 6 %
Sawyer	9012C	p	Sayner-Lindquist complex, 6 to 15 %
Sawyer	9012D	p	Sayner-Lindquist complex, 15 to 30 %
Sawyer	9050A	wp	Fordum, Totagatic,-Bowstring soils, 0 to 1 %, freq flooded
Sawyer	9051A	w	Minocqua, Wozny,-Pleine soils, 0 to 2 %, very stony
Sawyer	9113B	p	Padus-Karlin complex, 0 to 6 %
Sawyer	9113C	p	Padus-Karlin complex, 6 to 15 %
Sawyer	9113D	p	Padus-Karlin complex, 15 to 30 %
Sawyer	9155A	wp	Haplosaprists, peats-mucks, 0 to 1 %
Shawano	Ah	w	Angelica silt loam
Shawano	Ba	w	Bach silt loam
Shawano	Bs	w	Brevort mucky loamy sand
Shawano	Co	wp	Cormant mucky loamy fine sand
Shawano	CrB	p	Cromwell sandy loam, 1 to 6 %
Shawano	CrC	p	Cromwell sandy loam, 6 to 12 %
Shawano	CrD	p	Cromwell sandy loam, 12 to 20 %
Shawano	CtA	p	Croswell loamy sand, 0 to 3 %
Shawano	Fu	w	Fordum loam
Shawano	Lx	wp	Loxley mucky peat
Shawano	MaA	p	Mahtomedi-Menahga loamy sands, 0 to 2 %
Shawano	MaB	p	Mahtomedi-Menahga loamy sands, 2 to 6 %
Shawano	MaC	p	Mahtomedi-Menahga loamy sands, 6 to 12 %
Shawano	MaD	p	Mahtomedi-Menahga loamy sands, 12 to 30 %
Shawano	Mk	wp	Markey-Cathro mucks
Shawano	MnA	p	Menahga loamy sand, 0 to 2 %
Shawano	MnB	p	Menahga loamy sand, 2 to 6 %
Shawano	MnC	p	Menahga loamy sand, 6 to 12 %
Shawano	MnD	p	Menahga loamy sand, 12 to 30 %
Shawano	MsB	p	Menominee loamy sand, 1 to 6 %
Shawano	MsC	p	Menominee loamy sand, 6 to 12 %
Shawano	MsD	p	Menominee loamy sand, 12 to 20 %
Shawano	Mu	w	Minocqua silt loam
Shawano	Pt	p	Pits
Shawano	RmD	r	Rock outcrop-Rosholt variant complex, 2 to 35 %
Shawano	RrD	r	Rosholt-Rock outcrop complex, 2 to 35 %
Shawano	RsA	p	Rousseau loamy fine sand, 0 to 2 %
Shawano	RsB	p	Rousseau loamy fine sand, 2 to 6 %
Shawano	RuB	p	Rubicon sand, 1 to 6 %
Shawano	RuC	p	Rubicon sand, 6 to 12 %
Shawano	RuD	p	Rubicon sand, 12 to 20 %
Shawano	Sb	w	Saprists, ponded
Shawano	Sd	wp	Seelyeville muck
Shawano	SfB	p	Shawano loamy fine sand, 1 to 6 %
Shawano	SfC	p	Shawano loamy fine sand, 6 to 12 %
Shawano	SfD	p	Shawano loamy fine sand, 12 to 20 %
Shawano	SgB	p	Shawano-Briggsville complex, 2 to 6 %
Shawano	SgC	p	Shawano-Briggsville complex, 6 to 12 %
Shawano	Wh	wp	Wheatley loamy fine sand
Sheboygan	Ag	wp	Adrian muck
Sheboygan	Ak	wp	Adrian-Granby-Oakville complex
Sheboygan	An	wp	Alluvial land, wet

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Sheboygan	Ba	w	Barry silt loam
Sheboygan	Bd	p	Beaches, sandy
Sheboygan	Bk	wp	Boots muck
Sheboygan	CrC	p	Casco-Rodman complex, 6 to 12 %
Sheboygan	CrD2	p	Casco-Rodman complex, 12 to 20 %, eroded
Sheboygan	CrE	p	Casco-Rodman complex, 20 to 30 %
Sheboygan	CrF	p	Casco-Rodman complex, 30 to 45 %
Sheboygan	Cw	w	Colwood silt loam
Sheboygan	Cx	p	Cut-fill land, sandy-gravelly
Sheboygan	Dn	p	Dune land
Sheboygan	Ed	w	Edwards muck
Sheboygan	Ev	w	Elvers silt loam
Sheboygan	Gb	wp	Granby loamy fine sand
Sheboygan	Gg	wp	Granby silt loam, gravelly variant
Sheboygan	Gp	p	Gravel pit
Sheboygan	Hu	wp	Houghton muck
Sheboygan	Lo	w	Loamy land, seeped
Sheboygan	Ma	pw	Made land
Sheboygan	Mf	wp	Marsh
Sheboygan	Mo	w	Montgomery silty clay loam
Sheboygan	Mz	wp	Muskego muck
Sheboygan	Na	w	Navan loam
Sheboygan	OaB	p	Oakville loamy fine sand, 0 to 6 %
Sheboygan	OaC	p	Oakville loamy fine sand, 6 to 12 %
Sheboygan	Ot	w	Otter silt loam
Sheboygan	Pa	wp	Palms muck
Sheboygan	Ph	w	Pella silt loam
Sheboygan	Py	w	Poygan silty clay loam
Sheboygan	Sm	w	Sebewa silt loam
Sheboygan	Sw	w	Stony land, wet
Sheboygan	We	wp	Willette muck
St. Croix	AdA	w	Adolph silt loam, 0 to 2 %
St. Croix	AnC2	p	Amery-Cromwell sandy loams, 6 to 12 %, eroded
St. Croix	AnD2	p	Amery-Cromwell sandy loams, 12 to 25 %, eroded
St. Croix	AuA	w	Auburndale silt loam, 0 to 3 %
St. Croix	BnB	p	Boone loamy fine sand, 2 to 6 %
St. Croix	BnC	p	Boone loamy fine sand, 6 to 12 %
St. Croix	BnD	p	Boone loamy fine sand, 12 to 20 %
St. Croix	CyA	w	Clyde silt loam, 0 to 3 %
St. Croix	DkB	p	Dickman sandy loam, 2 to 6 %
St. Croix	Du	p	Duelm loamy sand
St. Croix	EmE	p	Emmert loamy sand, 12 to 35 %
St. Croix	Fm	w	Fluvaquents, wet
St. Croix	GoB	p	Gotham loamy fine sand, 2 to 6 %
St. Croix	GoC	p	Gotham loamy fine sand, 6 to 12 %
St. Croix	Gp	p	Gravel pits
St. Croix	HrB	p	Hubbard loamy sand, 0 to 6 %
St. Croix	HsB	p	Hubbard loamy sand, loamy substratum, 0 to 6 %
St. Croix	HsC	p	Hubbard loamy sand, loamy substratum, 6 to 12 %
St. Croix	PmB	p	Plainfield loamy sand, 2 to 6 %
St. Croix	PmC	p	Plainfield loamy sand, 6 to 12 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
St. Croix	PmD	p	Plainfield loamy sand, 12 to 20 %
St. Croix	QUA	r	Quarry
St. Croix	RhA	w	Rib silt loam, 0 to 3 %
St. Croix	RnB	r	Ritchey silt loam, 2 to 6 %
St. Croix	RnC2	r	Ritchey silt loam, 6 to 12 %, eroded
St. Croix	RnD2	r	Ritchey silt loam, 12 to 20 %, eroded
St. Croix	RoE	r	Ritchey soils-rock outcrop, 20 to 35 %
St. Croix	Se	w	Sapristis-Aquents
St. Croix	Sm	wp	Seelyeville muck
Taylor	77A	w	Auburndale silt loam, 0 to 2 %
Taylor	193A	w	Minocqua muck, 0 to 2 %
Taylor	315A	w	Rib silt loam, 0 to 2 %
Taylor	357A	w	Marshfield silt loam, 0 to 2 %
Taylor	408A	wp	Lupton-Cathro soils, 0 to 1 %
Taylor	414A	wp	Loxley-Beseman soils, 0 to 1 %
Taylor	537D	wp	Newot, very stony-Newood, very stony-Cathro complex, 0 to 35 %
Taylor	555A	w	Fordum silt loam, 0 to 2 %
Taylor	571E	p	Pelissier gravelly sandy loam, 15 to 45 %
Taylor	623A	w	Capitola muck, 0 to 2 %, very stony
Taylor	642B	w	Pesabic-Capitola-Newood complex, 0 to 6 %, very stony
Taylor	755A	w	Moppet-Fordum complex, 0 to 3 %
Taylor	923A	w	Capitola-cebana complex, 0 to 2 %, very stony
Taylor	3011A	w	Barronett silt loam, 0 to 2 %
Taylor	3556C	wp	Newood, very stony-Magnor, very stony-Cathro complex, 0 to 15 %
Taylor	3569C	wp	Newood, very stony-Pesabic, very stony-Cathro complex, 0 to 15 %
Taylor	9052A	wp	Cathro-Capitola, very stony-Lupton complex, 0 to 1 %
Taylor	9055A	wp	Loxley peat, 0 to 1 %
Taylor	9060D	p	Pelissier sandy loam, 20 to 45 %
Taylor	9088A	w	Newood-Capitola complex, 0 to 5 %, very stony
Taylor	9089B	wp	Newood, very stony-Lupton complex, 0 to 10 %
Taylor	9090C	wp	Newood, very stony-Newot, very stony-Lupton complex, 0 to 30 %
Taylor	9096C	wp	Newot, very stony-Pesabic, very stony-Lupton complex, 0 to 30 %
Taylor	9197C	p	Pelissier very cobbly sandy loam, 10 to 30 %
Trempealeau	BnB	p	Boone loamy sand, 2 to 6 %
Trempealeau	BnC2	p	Boone loamy sand, 6 to 12 %, eroded
Trempealeau	BnE2	p	Boone loamy sand, 12 to 30 %, eroded
Trempealeau	De	w	Denrock silt loam, wet subsoil variant
Trempealeau	EnF	p	Eleva-Boone complex, 20 to 45 %
Trempealeau	Er	w	Ettrick silt loam
Trempealeau	Et	w	Ettrick silt loam, clayey subsoil variant
Trempealeau	GoA	p	Gotham loamy fine sand, 0 to 2 %
Trempealeau	GoB	p	Gotham loamy fine sand, 2 to 6 %
Trempealeau	GoC	p	Gotham loamy fine sand, 6 to 12 %
Trempealeau	GoD2	p	Gotham loamy fine sand, 12 to 20 %, eroded
Trempealeau	GpD	p	Gotham-Sparta loamy fine sands, 12 to 20 %
Trempealeau	GpD	p	Gotham-Sparta loamy fine sands, 12 to 20 %
Trempealeau	Ho	wp	Houghton muck
Trempealeau	Ka	w	Kato loam, sandy loam variant
Trempealeau	KcA	w	Kato silt loam, 0 to 3 %
Trempealeau	Ma	wp	Marsh
Trempealeau	Pa	wp	Palms muck

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Trempealeau	QUA	r	Quarry
Trempealeau	Sa	p	Sandy alluvial land
Trempealeau	Sd	p	Sandy terrace escarpments
Trempealeau	SP	p	Sand pit
Trempealeau	SpA	p	Sparta loamy sand, 0 to 2 %
Trempealeau	SpB	p	Sparta loamy sand, 2 to 6 %
Trempealeau	SpC	p	Sparta loamy sand, 6 to 12 %
Trempealeau	TrA	p	Trempe loamy sand, 0 to 2 %
Trempealeau	TrB	p	Trempe loamy sand, 2 to 6 %
Trempealeau	WaA	w	Walkkill silt loam, 0 to 3 %
Trempealeau	We	w	Wet alluvial land
Vernon	Al	w	Alluvial land, wet
Vernon	BsE	p	Boone loamy sand, 12 to 30 %
Vernon	BsF	p	Boone loamy sand, 30 to 45 %
Vernon	DvD	r	Dunbarton-Sogn stony soils, 12 to 20 %
Vernon	DvE	r	Dunbarton-Sogn stony soils, 20 to 30 %
Vernon	Et	w	Ettrick silt loam
Vernon	Hu	wp	Houghton muck
Vernon	Ma	w	Marsh
Vernon	Ow	w	Orion silt loam, wet variant
Vernon	QUA	r	Quarry
Vernon	SaA	p	Sparta loamy sand, 0 to 2 %
Vernon	SaB2	p	Sparta loamy sand, 2 to 6 %, eroded
Vernon	SaC2	p	Sparta loamy sand, 6 to 12 %, eroded
Vernon	ScC	p	Stony colluvial land, sloping
Vernon	SkE	r	Stony rock land, moderately steep
Vernon	SkF	r	Stony rock land, steep
Vernon	SP	p	Sand pit
Vernon	Ts	p	Terrace escarpments, sandy
Vernon	Ud	pw	Udorthents, nearly level
Vilas	CaA	w	Cable silt loam, 0 to 3 %
Vilas	CrA	p	Croswell sand, 0 to 3 %
Vilas	CsA	p	Croswell sand, loamy substratum, 0 to 3 %
Vilas	Fh	wp	Fluvaquents, sandy, nearly level
Vilas	Hp	wp	Histosols, ponded
Vilas	KaB	p	Karlin loamy fine sand, 0 to 6 %
Vilas	KaC	p	Karlin loamy fine sand, 6 to 15 %
Vilas	KbB	p	Keweenaw sandy loam, 0 to 6 %
Vilas	KbC	p	Keweenaw sandy loam, 6 to 15 %
Vilas	KbD	p	Keweenaw sandy loam, 15 to 30 %
Vilas	KeB	p	Keweenaw-Karlin complex, 0 to 6 %
Vilas	KeC	p	Keweenaw-Karlin complex, 6 to 15 %
Vilas	KnD	p	Keweenaw-Sayner complex, 15 to 30 %
Vilas	Kr	wp	Kinross mucky sand, 0 to 2 %
Vilas	Lo	wp	Loxley-Dawson peats, 0 to 1 %
Vilas	Pt	p	Pits, gravel
Vilas	RoB	p	Rubicon sand, 0 to 6 %
Vilas	RoC	p	Rubicon sand, 6 to 15 %
Vilas	RoD	p	Rubicon sand, 15 to 30 %
Vilas	SaB	p	Sayner-Rubicon complex, 0 to 6 %
Vilas	SaC	p	Sayner-Rubicon complex, 6 to 15 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Vilas	SaD	p	Sayner-Rubicon complex, 15 to 35 %
Vilas	Se	wp	Seelyeville-Markey mucks, 0 to 1 %
Walworth	Ac	wp	Adrian muck
Walworth	CrD2	p	Casco-Rodman complex, 12 to 20 %, eroded
Walworth	CrE2	p	Casco-Rodman complex, 20 to 30 %, eroded
Walworth	CtB	p	Chelsea fine sand, 1 to 6 %
Walworth	CtE	p	Chelsea fine sand, 6 to 30 %
Walworth	Cw	w	Colwood silt loam
Walworth	Dt	w	Drummer silt loam, gravelly substratum
Walworth	GP	p	Gravel pit
Walworth	Ht	wp	Houghton muck
Walworth	LzD2	p	Lorenzo-Rodman complex, 12 to 20 %, eroded
Walworth	MDL	pw	Made land
Walworth	Mf	wp	Marsh
Walworth	Na	w	Navan silt loam
Walworth	Pa	wp	Palms muck
Walworth	Ph	w	Pella silt loam
Walworth	QUA	r	Quarry
Walworth	RsF	p	Rodman-Casco complex, 30 to 45 %
Walworth	Ru	w	Rollin muck, deep
Walworth	Rv	w	Rollin muck, shallow
Walworth	Sfb	p	Sandy lake beaches
Walworth	Sm	w	Sebewa silt loam
Walworth	Wa	w	Walkill silt loam
Walworth	Ww	w	Wet alluvial land
Washburn	3A	wp	Totgatic-bowstring-ausable complex, 0 to 2 % FREQ flooded
Washburn	64A	p	Totgatic-Winterfield complex, 0 to 2 %, FREQ flooded
Washburn	69B	p	Keweenaw-Sayner-Vilas complex, 2 to 6 %, stony
Washburn	69C	p	Keweenaw-Sayner-Vilas complex, 6 to 15 %, stony
Washburn	69E	p	Keweenaw-Sayner-Vilas complex, 15 to 45 %, stony
Washburn	74B	p	Vilas loamy sand, 0 to 6 %
Washburn	74C	p	Vilas loamy sand, 6 to 15 %
Washburn	74D	p	Vilas loamy sand, 15 to 30 %
Washburn	100B	p	Menahga sand, 0 to 6 %
Washburn	100C	p	Menahga sand, 6 to 12 %
Washburn	100D	p	Menahga sand, 12 to 30 %
Washburn	193A	w	Minocqua muck, 0 to 2 %
Washburn	315A	w	Rib silt loam, 0 to 2 %
Washburn	368B	p	Mahtomedi-Cress complex, 2 to 6 %
Washburn	368C	p	Mahtomedi-Cress complex, 6 to 12 %
Washburn	368D	p	Mahtomedi-Cress complex, 12 to 25 %
Washburn	371A	p	Croswell loamy sand, 0 to 3 %
Washburn	380B	p	Cress-Rosholt complex, 2 to 6 %
Washburn	380C	p	Cress-Rosholt complex, 6 to 12 %
Washburn	380D	p	Cress-Rosholt complex, 12 to 25 %
Washburn	383B	p	Mahtomedi loamy sand, 0 to 6 %
Washburn	383C	p	Mahtomedi loamy sand, 6 to 12 %
Washburn	383D	p	Mahtomedi loamy sand, 12 to 30 %
Washburn	396B	p	Friendship-Wurtsmith-Grayling complex, 0 to 6 %
Washburn	399B	p	Grayling sand, 0 to 6 %
Washburn	399C	p	Grayling sand, 6 to 12 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Washburn	399D	p	Grayling sand, 12 to 30 %
Washburn	405A	wp	Lupton, Cathro,-Tawas soils, 0 to 1 %
Washburn	406A	wp	Loxley mucky peat, 0 to 1 %
Washburn	407A	wp	Seelyeville-Markey soils, 0 to 1 %
Washburn	410A	wp	Seelyeville-Cathro soils, 0 to 1 %
Washburn	412A	wp	Rifle-Tacoosh soils, 0 to 1 %
Washburn	415A	wp	Greenwood mucky peat, 0 to 1 %
Washburn	439B	p	Graycalm-Menahga complex, 0 to 6 %
Washburn	439C	p	Graycalm-Menahga complex, 6 to 12 %
Washburn	439D	p	Graycalm-Menahga complex, 12 to 30 %
Washburn	441C	wp	Freeon, very stony-Cathro complex, 0 to 15 %
Washburn	442C	wp	Haugen, very stony-Greenwood complex, 0 to 15 %
Washburn	443D	wp	Amery, very stony-Greenwood complex, 0 to 35 %
Washburn	461A	wp	Bowstring muck, 0 to 1 %, FREQ flooded
Washburn	484A	wp	Greenwood-Beseman soils, 0 to 1 %
Washburn	495B	p	Karlsborg-Grettum-Perida complex, 1 to 6 %
Washburn	495C	p	Karlsborg-Grettum-Perida complex, 6 to 12 %
Washburn	495D	p	Karlsborg-Grettum-Perida complex, 12 to 30 %
Washburn	521A	w	Dody muck, 0 to 2 %
Washburn	524E	r	Rock outcrop-Frogcreek-Metonga complex, 2 to 45 %, very stony
Washburn	544F	p	Menahga-Mahtomedi soils, 30 to 45 %
Washburn	555A	w	Fordum silt loam, 0 to 2 %, FREQ flooded
Washburn	574B	p	Sayner loamy sand, 0 to 6 %
Washburn	574C	p	Sayner loamy sand, 6 to 15 %
Washburn	574E	p	Sayner loamy sand, 15 to 45 %
Washburn	600A	w	Haplosaprists-Psammaquets, 0 to 2 %
Washburn	615B	p	Cress sandy loam, 0 to 6 %
Washburn	615C	p	Cress sandy loam, 6 to 12 %
Washburn	615D	p	Cress sandy loam, 12 to 30 %
Washburn	623A	w	Capitola muck, 0 to 2 %, very stony
Washburn	670C	p	Keweenaw-Pence complex, 6 to 15 %, stony
Washburn	670E	p	Keweenaw-Pence complex, 15 to 45 %, stony
Washburn	671B	p	Spoonerhill, stony-Spoonerhill complex, 2 to 6 %
Washburn	706A	pw	Winterfield-Totagatic complex, 0 to 2 %, freq flooded
Washburn	724A	rw	Rib-Rock outcrop complex, 0 to 2 %
Washburn	726B	p	Sissabagama loamy sand, 0 to 6 %
Washburn	733A	w	Wozny muck, 0 to 2 %, very stony
Washburn	771A	p	Lenroot loamy sand, 0 to 3 %
Washburn	853C	w	Frogcreek-Stinnett-Wozny complex, 0 to 15 %, very stony
Washburn	970C	wp	Keweenaw, stony-Pence, stony-Greenwood complex, 0 to 15 %
Washburn	970E	wp	Keweenaw, stony-Pence, stony-Greenwood complex, 0 to 45 %
Washburn	1070C	p	Fremstadt, stony-Cress complex, 6 to 15 %
Washburn	1070D	p	Fremstadt, stony-Cress complex, 15 to 30 %
Washburn	1080B	p	Spoonerhill-Spoonerhill, stony-Cress complex, 1 to 6 %
Washburn	1653C	w	Stanberry-Parkfalls-Wozny complex, 0 to 15 %, very stony
Washburn	3011A	w	Barronett silt loam, 0 to 2 %
Washburn	3125A	p	Meehan loamy sand, 0 to 2 %
Washburn	3126A	p	Wurtsmith loamy sand, 0 to 3 %
Washburn	3336A	w	Fenander fine sandy loam, 0 to 2 %
Washburn	3424C	r	Frogcreek-Magroc-Stinnett complex, 0 to 15 %, rocky
Washburn	3446A	w	Newson muck, 0 to 2 %

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Washburn	3629B	p	Perida loamy sand, 0 to 4 %
Washburn	3403A	wp	Loxley, Beseman,-Dawson soils, 0 to 1 %
Washburn	943D	wp	Stanberry, very stony-Greenwood complex, 0 to 35 %
Washington	Ak	wp	Adrian mucky peat
Washington	AtA	w	Ashkum silty clay loam, 0 to 3 %
Washington	BsA	w	Brookston silt loam, 0 to 3 %
Washington	CrC2	p	Casco-Rodman complex, 6 to 12 %, eroded
Washington	CrD2	p	Casco-Rodman complex, 12 to 20 %, eroded
Washington	CrE	p	Casco-Rodman complex, 20 to 35 %
Washington	Cw	w	Colwood silt loam
Washington	Dt	w	Drummer silt loam, gravelly substratum
Washington	GfA	wp	Granby fine sandy loam, 0 to 3 %
Washington	GP	p	Gravel pit
Washington	Hu	wp	Houghton mucky peat
Washington	Hv	wp	Houghton peat, acid variant
Washington	Km	w	Keowns silt loam
Washington	Mf	wp	Marsh
Washington	Mzb	w	Montgomery silty clay loam
Washington	MzKA	w	Mussey loam, 0 to 3 %
Washington	Ot	w	Otter silt loam
Washington	Pc	wp	Palms mucky peat
Washington	Ph	w	Pella silt loam
Washington	QUA	r	Quarry
Washington	RkB	r	Ritchey silt loam, 2 to 6 %
Washington	RkC2	r	Ritchey silt loam, 6 to 12 %, eroded
Washington	Sm	w	Sebewa silt loam
Washington	SP	p	Sand pit
Washington	Wa	w	Walkill silt loam
Washington	Ww	w	Wet alluvial land
Waukesha: <i>see Milwaukee-Waukesha</i>			
Waupaca	Ax	w	Angelica silt loam
Waupaca	Cm	wp	Cathro-Markey mucks
Waupaca	EcC	p	Elderon-Rosholt complex, 6 to 12 %
Waupaca	EcD	p	Elderon-Rosholt complex, 12 to 30 %
Waupaca	Fa	w	Fordum loam
Waupaca	Lx	wp	Loxley mucky peat
Waupaca	Mp	w	Menasha silty clay
Waupaca	Ms	w	Minocqua mucky fine sandy loam
Waupaca	Pe	p	Pits, gravel
Waupaca	PfA	p	Plainfield loamy sand, 0 to 2 %
Waupaca	PfB	p	Plainfield loamy sand, 2 to 6 %
Waupaca	PfC	p	Plainfield loamy sand, 6 to 12 %
Waupaca	PfD	p	Plainfield loamy sand, 12 to 30 %
Waupaca	PIB	p	Plainfield loamy sand, loamy substratum, 2 to 6 %
Waupaca	PmA	p	Plainfield loamy sand, wet substratum, 0 to 3 %
Waupaca	Pt	w	Poy clay loam
Waupaca	QUA	r	Quarry
Waupaca	RfA	p	Richford loamy sand, 0 to 2 %
Waupaca	RfB	p	Richford loamy sand, 2 to 6 %
Waupaca	RfC	p	Richford loamy sand, 6 to 12 %
Waupaca	Rm	wp	Roscommon loamy sand

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Waupaca	RrB	r	Rosholt-Rock outcrop complex, 2 to 10 %
Waupaca	RsA	p	Rousseau loamy fine sand, 0 to 3 %
Waupaca	Sb	wp	Seelyeville muck
Waupaca	SfB	p	Shawano loamy fine sand, 2 to 6 %
Waupaca	SfC	p	Shawano loamy fine sand, 6 to 12 %
Waupaca	SfD	p	Shawano loamy fine sand, 12 to 20 %
Waupaca	UdC	p	Udipsamments, undulating
Waupaca	Wd	w	Waupaca silt loam
Waushara	Ad	wp	Adrian muck, 0 to 1 %
Waushara	Be	w	Belleville loamy sand, 0 to 2 %
Waushara	BzD	p	Boyer-Mecosta complex, 12 to 20 %
Waushara	CoB	p	coloma loamy sand, 2 to 6 %
Waushara	CoC	p	Coloma loamy sand, 6 to 12 %
Waushara	CoD	p	Coloma loamy sand, 12 to 30 %
Waushara	Hu	wp	Houghton muck, 0 to 1 %
Waushara	Hw	w	Houghton muck, ponded, 0 to 1 %
Waushara	Ke	w	Keowns silt loam, 0 to 2 %
Waushara	Ks	wp	Kingsville loamy sand, 0 to 2 %
Waushara	Pa	wp	Palms muck, 0 to 1 %
Waushara	Pe	p	Pits, gravel
Waushara	PfA	p	Plainfield sand, 0 to 2 %
Waushara	PfB	p	Plainfield sand, 2 to 6 %
Waushara	PfC	p	Plainfield sand, 6 to 12 %
Waushara	PfD	p	Plainfield sand, 12 to 30 %
Waushara	PIB	p	Plainfield sand, loamy substratum, 2 to 6 %
Waushara	PmA	p	Plainfield sand, wet substratum, 0 to 3 %
Waushara	Pt	w	Poy clay, 0 to 2 %
Waushara	Py	w	Poygan silty clay loam, 0 to 2 %
Waushara	RfA	p	Richford loamy sand, 0 to 2 %
Waushara	RfB	p	Richford loamy sand, 2 to 6 %
Waushara	RfC	p	Richford loamy sand, 6 to 12 %
Waushara	RfD	p	Richford loamy sand, 12 to 20 %
Waushara	Sp	p	Sparta loamy sand, 0 to 2 %
Waushara	Wm	wp	Willette muck, 0 to 1 %
Winnebago	Ak	wp	Adrian muck
Winnebago	BrB	p	Brems fine sand, 1 to 4 %
Winnebago	Ed	w	Edwards muck
Winnebago	Fn	w	Fluvaquents
Winnebago	Hu	wp	Houghton muck
Winnebago	Hw	w	Houghton muck, ponded
Winnebago	Ke	w	Keowns silt loam
Winnebago	Ks	wp	Kingsville mucky loamy fine sand
Winnebago	Mn	w	Menasha clay
Winnebago	Na	w	Navan silt loam
Winnebago	Ng	w	Nebago variant mucky loamy fine sand
Winnebago	OaB	p	Oakville fine sand, 2 to 6 %
Winnebago	OaC	p	Oakville fine sand, 6 to 12 %
Winnebago	Os	w	Ossian silt loam
Winnebago	Pa	wp	Palms muck
Winnebago	Pg	p	Pits, gravel
Winnebago	Ph	pr	Pits, quarries

Restrictions for NRCS FOTG Standard 590 based on the most limiting component properties for each map unit:

*p* = drained hydrologic group A (highly permeable soil)

*w* = average water table at less than 12 inches for any duration at any time of the year

*r* = average rock depth of less than 20 inches (any kind or permeability)

County	Symbol	Restriction	Soil Series or Map Unit
Winnebago	Pt	w	Poy silty clay loam
Winnebago	Pu	w	Poygan silty clay loam
Winnebago	RhB	r	Ritchey silt loam, 2 to 6 %
Winnebago	RhC2	r	Ritchey silt loam, 6 to 12 %, eroded
Winnebago	RhD2	r	Ritchey silt loam, 12 to 30 %, eroded
Winnebago	We	w	Wauseon silt loam
Winnebago	Wm	wp	Willette muck
Wood	Ab	w	Alluvial land, wet
Wood	Af	w	Altdorf silt loam
Wood	Ca	wp	Cathro mucky peat
Wood	CrA	p	Croswell loamy sand, 0 to 3 %
Wood	Da	w	Dancy sandy loam
Wood	Db	wp	Dawson peat
Wood	Dc	wp	Dawson mucky peat
Wood	EKB	r	Elkmound sandy loam, 2 to 6 %
Wood	EkC	r	Elkmound sandy loam, 6 to 12 %
Wood	EkD2	r	Elkmound sandy loam, 12 to 20 %, eroded
Wood	Em	wp	Elm Lake loamy sand
Wood	FrA	p	Friendship loamy sand, 1 to 3 %
Wood	GP	p	Gravel pit
Wood	Gr	wp	Greenwood peat
Wood	Ma	w	Mann silt loam
Wood	Mc	wp	Markey mucky peat
Wood	Md	w	Marsh
Wood	Mf	w	Marshfield silt loam
Wood	Ne	wp	Newson loamy sand
Wood	NoB	r	Norgo silt loam, 2 to 6 %
Wood	NoC2	r	Norgo silt loam, 6 to 12 %, eroded
Wood	NoD2	r	Norgo silt loam, 12 to 20 %, eroded
Wood	NyA	p	Nymore loamy sand, 0 to 2 %
Wood	NzA	p	Nymore loamy sand, red subsoil, 0 to 2 %
Wood	NzB	p	Nymore loamy sand, red subsoil, 2 to 6 %
Wood	PbB	p	Plainbo sand, 2 to 12 %
Wood	PbD	p	Plainbo sand, 12 to 30 %
Wood	PfA	p	Plainfield sand, 0 to 2 %
Wood	PfB	p	Plainfield sand, 2 to 6 %
Wood	PfC	p	Plainfield sand, 6 to 12 %
Wood	PfE	p	Plainfield sand, 12 to 35 %
Wood	PgA	p	Plainfield loamy sand, 0 to 2 %
Wood	PgB	p	Plainfield loamy sand, 2 to 6 %
Wood	Pw	wp	Psammaquents, nearly level
Wood	Rb	w	Rib silt loam
Wood	Rf	wp	Rifle mucky peat
Wood	Rg	wp	Rifle peat
Wood	Sh	w	Sherry silt loam
Wood	Ss	w	Sherry stony silt loam
Wood	Ve	w	Veedom silt loam
Wood	Vs	w	Vesper silt loam

## **Appendix 2: Certified Soil Test Laboratories**

The following laboratories have been approved as of the publication date of this document.

UW Soil & Plant Analysis Laboratory  
5711 Mineral Point Rd.  
Madison, WI 53705  
Ph: (608) 262-4364

UW Soil & Forage Laboratory  
8396 Yellowstone Drive  
Marshfield, WI 54449  
Ph: (715) 387-2523

Rock River Laboratory  
Route 3, N8741 River Rd.  
Watertown, WI 53904  
Ph: (920) 261-0446

Dairyland Laboratories  
217 E. Main Street  
Arcadia, WI 54612  
Ph: (608) 323-2123

Agsources Soil & Forage Laboratory  
106 N. Cecil Street  
Bonduel, WI 54107  
Ph: (715) 758-2178

A&L Great Lakes Laboratories  
3505 Conestoga Dr.  
Fort Wayne, IN 46808  
Ph: (219)-483-4759

Mowers Soil Testing Plus, Inc.  
117 E. Main St  
Toulon, IL 61483  
Ph: (309)286-2761