



CONSTRUCTION PLAN

PRACTICE Fence, Livestock Pipeline, Seeding  
 LANDOWNER Sauk County HCC  
 ADDRESS 505 Broadway St, Baraboo, WI 53913  
 LANDOWNER PHONE NO. 608-355-3245 COUNTY SAUK  
 TOWNSHIP Reedsburg T 12 N, R 4e E/W, Sec. 34  
 FIELD OFFICE Baraboo TELEPHONE NO. 608-355-3245

DIGGERS HOTLINE

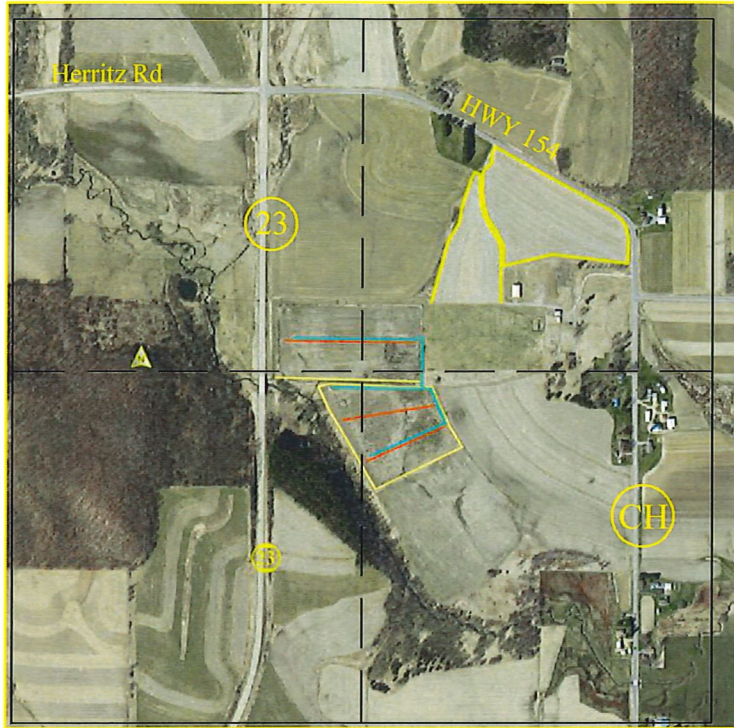
Call 3 Work Days  
Before You Dig!

Nationwide  
811

Toll Free  
1-800-242-8511

TDD  
1-800-542-2289

Website  
www.diggershotline.com



LOCATION MAP

NOTICE TO LANDOWNERS AND EXCAVATORS

Any representation made by the USDA, Natural Resources Conservation Service, or the SAUK County LCD, as to the approximate location or nonexistence of above or under ground hazards does not relieve the owner of the property or the excavator that is hired to complete construction, from notifying Diggers Hotline of the pending construction. You will be liable for damages resulting from construction activities.  
 Call Diggers Hotline! Ticket Number \_\_\_\_\_

CONSTRUCTION DRAWINGS AND SPECIFICATIONS ACCEPTANCE

I have reviewed and understand the construction plans and specifications and agree to complete the work accordingly. Failure to meet these plans and specifications may jeopardize any continued NRCS technical assistance or program cost sharing applied for. I understand that it is my responsibility to secure all necessary permits and licenses, and to complete the work in accordance with all local, state, and federal laws. Modification of these construction plans or specifications must be approved by the NRCS before installation. I assume all responsibility for negotiations and contract agreements with the construction contractors.

Signed: *Serge Koenig* Date: 12/22/22  
 Designed by: SERGE KOENIG Date: 12/2022  
 Checked by: SERGE KOENIG Date: 12/2022  
 Approved by: SERGE KOENIG Date: 12/2022

The installed practices comply with applicable NRCS technical standards and specifications. The "redlined" construction plans (as-built drawings) reflect changes made during construction.

Construction Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Job Approval Class 516 - II

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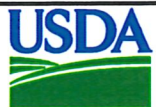






## CONSTRUCTION NOTES

1. ALL UNDERGROUND HAZARDS AND UTILITIES MUST BE INVESTIGATED PRIOR TO CONSTRUCTION. NOTIFICATION OF EFFECTED UTILITY COMPANIES IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTACT DIGGERS HOTLINE AT LEAST THREE DAYS PRIOR TO START OF CONSTRUCTION.
2. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH NRCS PERSONNEL, THE CONTRACTOR, AND THE LANDOWNER PRIOR TO CONSTRUCTION START-UP.
3. THE CONTRACTOR AND/OR LANDOWNER SHALL NOTIFY NRCS AT LEAST 3 DAYS PRIOR TO START-UP OF CONSTRUCTION.
4. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH WISCONSIN NRCS CONSTRUCTION SPECIFICATIONS (ATTACHED TO THIS PLAN).



United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

### CONSTRUCTION NOTES

CLIENT: Sauk County HCC

COUNTY: SAUK

		Date
Designed	<u>SRK</u>	<u>12/2022</u>
Drawn		
Checked	<u>SRK</u>	<u>12/2022</u>
Approved	<u>SRK</u>	<u>12/2022</u>

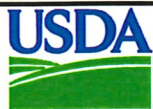
File Name

Date

08/14

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Department of  
Agriculture

Natural Resources  
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PLAN VIEW

CLIENT: Sauk County HCC  
 COUNTY: SAUK

Designed	SRK	Date	12/2022
Drawn			
Checked	SRK	Date	12/2022
Approved	SRK	Date	12/2022

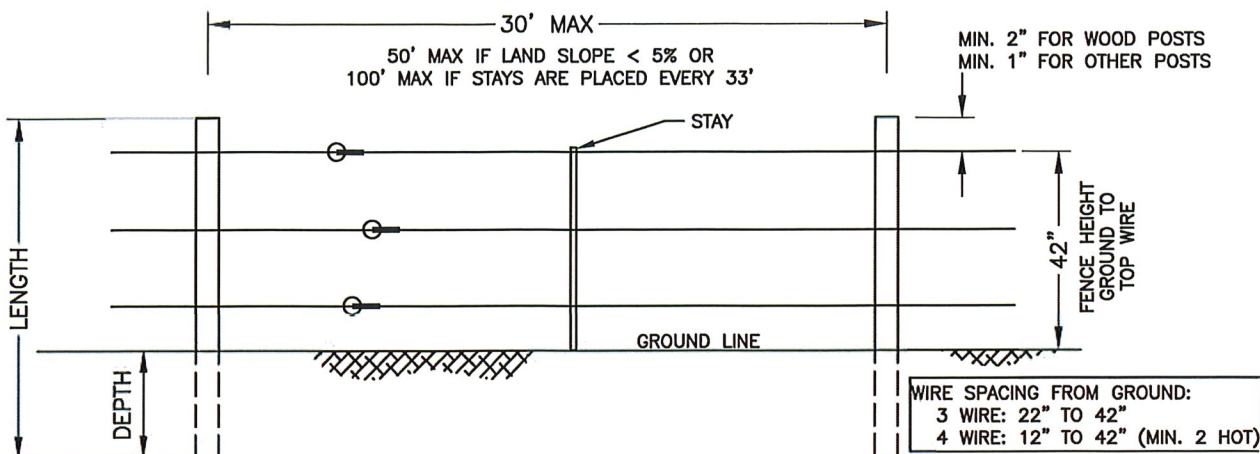
File Name	WI-002
Date	08/14
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**HIGH TENSILE PERMANENT ELECTRIC FENCE  
CATTLE, EXTERIOR**

3 OR 4 WIRES  
CAN BE USED



**LINE POSTS**

**WOOD:**

DIA. = 4" MIN, 2.5" FOR OSAGE ORANGE  
DEPTH = 2' MIN  
MIN. LENGTH= FENCE HEIGHT + POST DEPTH + 2"

ALL WOOD SPECIES EXCEPT RED CEDAR, WHITE CEDAR, TAMARACK, OSAGE ORANGE, BLACK LOCUST, AND WHITE OAK SHALL BE TREATED BY A METHOD LISTED IN WI CONSTRUCTION SPEC. #10-FENCES.

**STEEL:**

STANDARD "T" POST MIN 1.25 LBS/FT, 1-3/8" X 1-3/8" X 1/8"  
DEPTH = 1.5'  
MIN. LENGTH= FENCE HEIGHT + POST DEPTH + 1"

ALL STEEL POSTS WILL HAVE AN ANCHOR PLATE AND BE STUDDED

ALL STEEL POSTS WILL BE PAINTED WITH A WEATHER RESISTANT PAINT FOR STEEL, ENAMELED AND BAKED, OR HOT DIP GALVANIZED

ALL STEEL POSTS WILL BE ROLLED FROM HIGH CARBON STEEL

**FIBERGLASS:**

DIA. = 7/8" MIN FOR ROUND POSTS OR 1" FOR T-POST  
DEPTH = 1.5'  
MIN. LENGTH= FENCE HEIGHT + POST DEPTH + 1"

POSTS SHALL BE DURABLE FOR THE LIFE OF THE FENCE

**PLASTIC/COMPOSITE:**

DIA. = 1" MIN  
DEPTH = 1.5'  
MIN. LENGTH= FENCE HEIGHT + POST DEPTH + 1"

POSTS SHALL BE DURABLE FOR THE LIFE OF THE FENCE

POSTS SHALL BE UV PROTECTED FOR THE LIFE OF THE FENCE

**WIRE**

12.5-GAUGE GALVANIZED WIRE, 140,000 PSI MIN. TENSILE STRENGTH WITH A 20 YEAR SUPPLIER'S WARRANTY OR SUPPLIER DOCUMENTATION THAT THE WIRE WILL REMAIN DURABLE FOR THE PRACTICE LIFESPAN.

MIN. 900 LBS. BREAKING STRENGTH

ALL WIRE SHALL MEET ASTM A854

**FASTENERS**

ALL WIRES SHALL BE ATTACHED TO EACH LINE POST

STAPLES SHALL BE 9-GAUGE, GALVANIZED STEEL OR HEAVIER.

RECOMMENDED LENGTH: 1.75" MIN. FOR SOFTWOODS  
1" MIN. FOR HARDWOODS

USE BARBED STAPLES FOR WOOD POSTS

USE INSULATED MANUFACTURER'S CLIPS TO FASTEN WIRES TO STEEL POSTS

USE MANUFACTURER'S CLIPS OR 14-GAUGE WIRE TO FASTEN WIRES TO FIBERGLASS AND PLASTIC/COMPOSITE POSTS

STAPLES, WIRES, AND CLIPS SHOULD ALLOW FREE MOVEMENT OF THE HIGH TENSILE FENCE WIRE

**NOTES**

BRACES ARE REQUIRED AT ALL CORNERS, GATES, PULL AND END ASSEMBLIES. SEE BRACE DETAILS.

ALL ELECTRIC FENCES SHALL BE GROUNDED AND ALL ENERGIZERS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. SEE ENERGIZER DETAILS.

REFER TO WI CONSTRUCTION SPEC #10-FENCES FOR MORE SPECIFIC INFORMATION

Fence Length = **8862** FT.



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**EXTERIOR FENCE**

CLIENT: Sauk County HCC  
COUNTY: SAUK

Designed	SRK	Date	12/2022
Drawn			
Checked	SRK	Date	12/2022
Approved	SRK	Date	12/2022

File Name  
WI-710

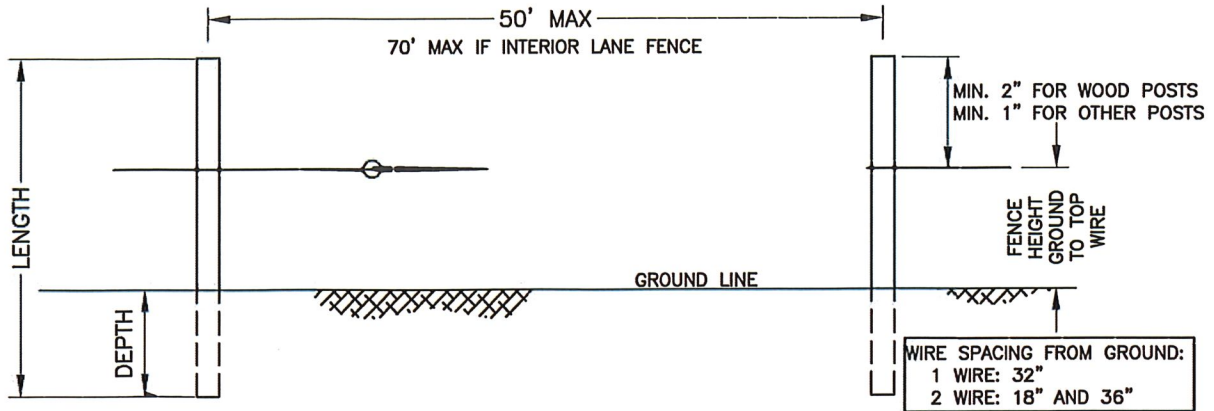
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**HIGH TENSILE PERMANENT ELECTRIC FENCE  
CATTLE, INTERIOR**

1 OR 2 WIRES  
CAN BE USED



**POSTS**

**WOOD:**

DIA. = 4" MIN, 2.5" FOR OSAGE ORANGE  
DEPTH = 2' MIN  
MIN. LENGTH= FENCE HEIGHT + POST DEPTH + 2"

ALL WOOD SPECIES EXCEPT RED CEDAR, WHITE CEDAR, TAMARACK, OSAGE ORANGE, BLACK LOCUST, AND WHITE OAK SHALL BE TREATED BY A METHOD LISTED IN WI CONSTRUCTION SPEC. #10-FENCES.

**STEEL:**

STANDARD "T" POST MIN 1.25 LBS/FT, 1-3/8" X 1-3/8" X 1/8"  
DEPTH = 1' FOR SINGLE WIRE, 1.5' MIN FOR MULTI WIRE  
MIN. LENGTH= FENCE HEIGHT + POST DEPTH + 1"

ALL STEEL POSTS WILL HAVE AN ANCHOR PLATE AND BE STUDDED

ALL STEEL POSTS WILL BE PAINTED WITH A WEATHER RESISTANT PAINT FOR STEEL, ENAMELED AND BAKED, OR HOT DIP GALVANIZED

ALL STEEL POSTS WILL BE ROLLED FROM HIGH CARBON STEEL

**FIBERGLASS:**

DIA. = 7/8" MIN FOR ROUND POSTS OR 1" FOR T-POST  
DEPTH = 1' FOR SINGLE WIRE, 1.5' MIN FOR MULTI WIRE  
MIN. LENGTH= FENCE HEIGHT + POST DEPTH + 1"

POSTS SHALL BE DURABLE FOR THE LIFE OF THE FENCE

**PLASTIC/COMPOSITE:**

DIA. = 1" MIN  
DEPTH = 1' FOR SINGLE WIRE, 1.5' MIN FOR MULTI WIRE  
MIN. LENGTH= FENCE HEIGHT + POST DEPTH + 1"

POSTS SHALL BE DURABLE FOR THE LIFE OF THE FENCE

POSTS SHALL BE UV PROTECTED FOR THE LIFE OF THE FENCE

**WIRE**

12.5-GAUGE GALVANIZED WIRE, 140,000 PSI MIN. TENSILE STRENGTH WITH A 20 YEAR SUPPLIER'S WARRANTY OR SUPPLIER DOCUMENTATION THAT THE WIRE WILL REMAIN DURABLE FOR THE PRACTICE LIFESPAN.

MIN. 900 LBS. BREAKING STRENGTH

ALL WIRE SHALL MEET ASTM A854

**FASTENERS**

ALL WIRES SHALL BE ATTACHED TO EACH LINE POST

STAPLES SHALL BE 9-GAUGE, GALVANIZED STEEL OR HEAVIER.

RECOMMENDED LENGTH: 1.75" MIN. FOR SOFTWOODS  
1" MIN. FOR HARDWOODS

USE BARBED STAPLES FOR WOOD POSTS

USE INSULATED MANUFACTURER'S CLIPS TO FASTEN WIRES TO STEEL POSTS

USE MANUFACTURER'S CLIPS OR 14-GAUGE WIRE TO FASTEN WIRES TO FIBERGLASS AND PLASTIC/COMPOSITE POSTS

STAPLES, WIRES, AND CLIPS SHOULD ALLOW FREE MOVEMENT OF THE HIGH TENSILE FENCE WIRE

**NOTES**

IF THE 1-WIRE ELECTRIC FENCE IS TEMPORARY, A BRACE IS NOT REQUIRED AT CORNERS, GATES, PULLS, AND ENDS. OTHERWISE, BRACES ARE REQUIRED AT ALL CORNERS, GATES, PULL AND END ASSEMBLIES. SEE BRACE DETAILS.

ALL ELECTRIC FENCES SHALL BE GROUNDED AND ALL ENERGIZERS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. SEE ENERGIZER DETAILS.

REFER TO WI CONSTRUCTION SPEC #10-FENCES FOR MORE SPECIFIC INFORMATION

Fence Length = 2190 FT.



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**INTERIOR FENCE**

CLIENT: Sauk County HCC  
COUNTY: SAUK

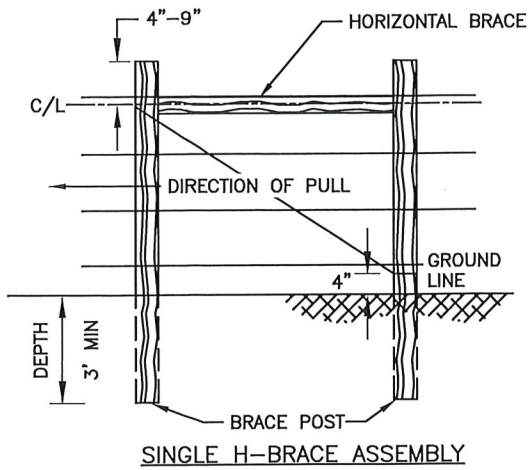
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Drawn			
Checked	<u>SRK</u>	Date	<u>12/2022</u>
Approved	<u>SRK</u>	Date	<u>12/2022</u>

File Name  
WI-710

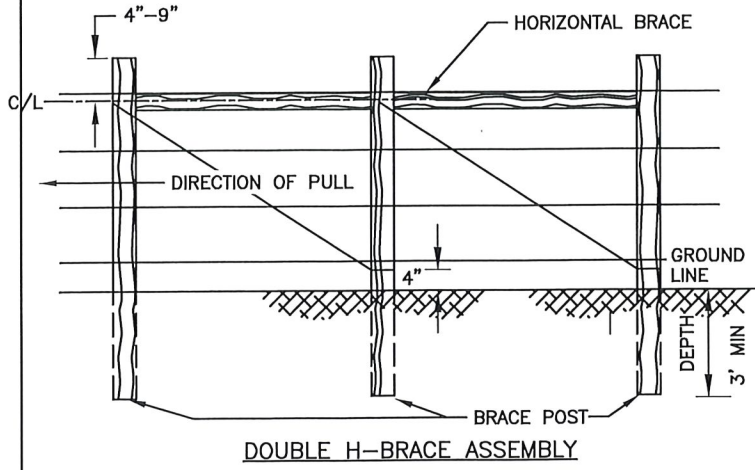
Date  
08/14

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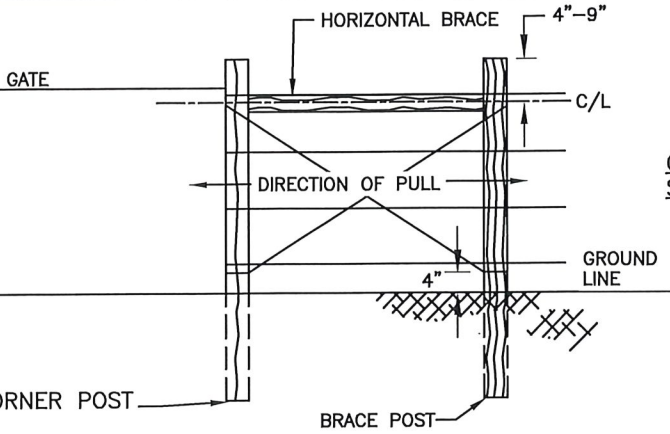
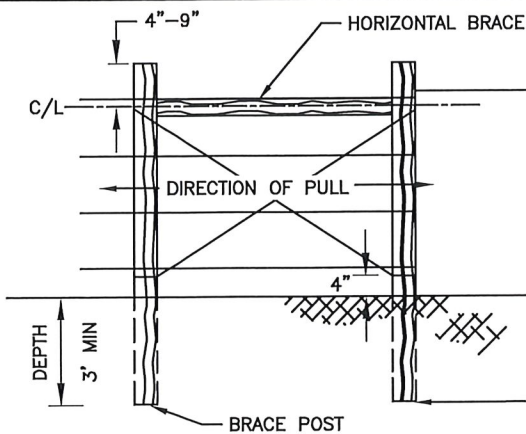




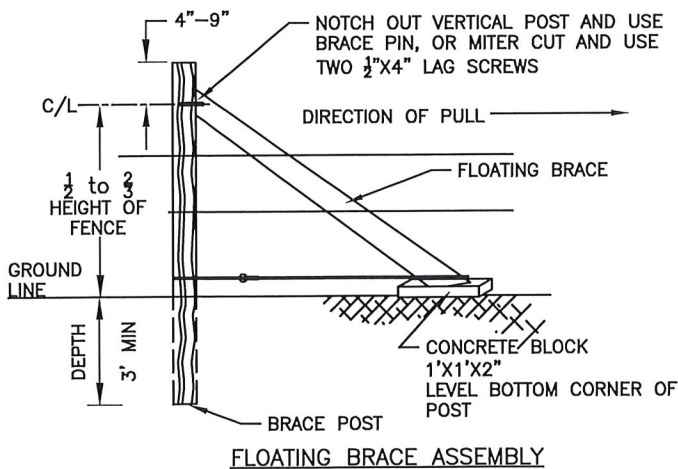
SINGLE H-BRACE ASSEMBLY



DOUBLE H-BRACE ASSEMBLY



GATE SECTION



FLOATING BRACE ASSEMBLY

**POSTS**

**WOOD:**

DIA. = 5" MIN  
 LENGTH = 8' MIN, 7' FOR DOUBLE H-BRACE  
 DEPTH = 3' MIN

**HORIZONTAL OR DIAGONAL BRACE**

**WOOD:**

DIA. = 3" MIN FOR HIGH TENSILE WIRE  
 LENGTH = 7' HORIZONTAL, 8' DIAGONAL

**STEEL:**

HORIZONTAL BRACES MUST MEET ASTM A702 AND ASTM A499 AND HAVE A MINIMUM COATING THICKNESS OF 1 MIL.

ALL WOOD SPECIES EXCEPT RED CEDAR, WHITE CEDAR, TAMARACK, OSAGE ORANGE, BLACK LOCUST, AND WHITE OAK SHALL BE TREATED BY A METHOD LISTED IN WI CONSTRUCTION SPEC. #10-FENCES.

**TENSION WIRE**

2 COMPLETE LOOPS OF 9-GUAGE SMOOTH WIRE OR 12-GUAGE DOUBLE STRAND WIRE, OR A SINGLE LOOP OF 12.5 GAUGE HIGH TENSILE SMOOTH WIRE

REFER TO WI CONSTRUCTION SPEC #10-FENCES FOR MORE SPECIFIC INFORMATION

**NOTES:**

USE A SINGLE H-BRACE OR FLOATING BRACE WHEN THE POSTS CAN BE SET OR DRIVEN INTO THE GROUND 3' OR MORE. OTHERWISE, USE A DOUBLE H-BRACE.

H-BRACE OR FLOATING DIAGONAL BRACE IS REQUIRED ON ALL CORNERS, ENDS AND GATES.

CORNER ASSEMBLY SHALL BE USED WHENEVER THE HORIZONTAL ALIGNMENT CHANGES MORE THAN 15 DEG. AND OR WHERE VERTICAL ALIGNMENT CHANGE IS MORE THAN 15 DEG. (30 DEG. CHANGE FOR HIGH TENSILE FENCE ONLY).



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**BRACES— ELECTRIC FENCES**

CLIENT: SAUK COUNTY HCC  
 COUNTY: SAUK

Designed SRK Date 12-2022  
 Drawn \_\_\_\_\_  
 Checked SRK Date 12-2022  
 Approved SRK Date 12-2022

Drawing Name  
 701-11B

Date  
 08/20

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**MANAGED GRAZING PLAN  
Watering System**

\*Use 2 (25-50 gallon) tanks where needed.

\*Run the pipeline system according to plan view map.

\*Pipeline must be 1" diameter with minimum pressure rating of 125 psi. All pipe must withstand the pressure it will be subjected to, including hydraulic transients, internal pressures and external pressures. As a safety factor against surge or water hammer, the highest working pressure should not exceed 72% of the pressure rating of the pipe.

\*Plastic pipe must conform to the ASTM D2239 HDPE pipe based on Controlled Inside Diameter specification with minimum 125 PSI rating. If used above ground it must be made of material with 2 percent carbon black and be designated with code letter "C" in the material cell classification as defined in ASTM D 3350 to provide ultraviolet resistance.

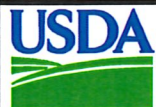
\*Protect the pipe by placing it under perimeter and/or cross fences. Where pipelines cross heavy traffic area or dissect a pasture, they shall be buried to a depth of 8-12 inches. Winterizing of the pipeline system shall be done prior to freezing temperatures. This can be done by blowing out the system to remove any water within the pipeline or equivalent method.

\*Provide slack in laying pipe to allow for thermal expansion/contraction of pipe.  
(Approximately 3%)

\*Valves or unions shall be installed at low point in the pipeline so that the line can be drained as needed.

\*The system needs a minimum pressure of 40 psi in order to supply the sufficient amount of water for livestock. A pressure tank with minimum pressure of 40 psi and upper limit pressure of at least 60 psi is adequate. Higher pressure tank ratings are OK as long as they do not exceed 72% of the pressure rating of the pipe.

\*Consult with a professional (plumber or well-driller) if necessary to look over existing system.



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**Water Line System**

CLIENT: Sauk County HCC  
COUNTY: SAUK

Designed	<u>SRK</u>	Date	<u>12/2022</u>
Drawn	_____		
Checked	<u>SRK</u>	Date	<u>12/2022</u>
Approved	<u>SRK</u>	Date	<u>12/2022</u>

File Name	<u>WI-710</u>
Date	<u>08/14</u>
Sheet	<u>8</u> of <u>12</u>







Pressure tank, Switch



Polyethylene(PE) Plastic pipe



Quick Disconnect Coupler



Quick Disconnect Coupler



Quick Coupler with hose and tank(float valve in tank)



Shut-off Valve, In-line Drain



United States  
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### Water Line System

CLIENT: Sauk County HCC  
COUNTY: SAUK

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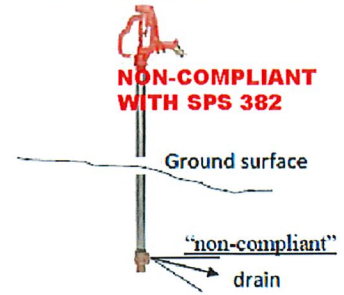
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The Wisconsin Department of Natural Resources (DNR) and the Wisconsin Department of Safety and Professional Services (DSPS) regulates the installation of yard hydrants. SPS 382.40(8)(e)2. Wisconsin Administrative Code (Post 9/1/2001) prohibits the installation of a yard hydrant with a below ground discharge commonly referred to as "stop and waste" type control valve. These can be made code compliant with the installation of water distribution compliant plumbing, bringing the outlet to above ground.



Many manufacturers produce models that are code compliant and there are several options.

**CANISTER SANITARY YARD HYDRANT**

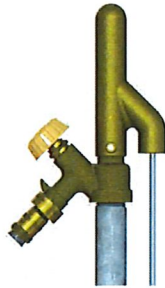
This type of "sanitary" yard hydrant collects the drain-down water in an enlarged chamber that is evacuated when the handle is in the full open position following the manufacturers' instructions. Consult the manufacturer's specifications on the minimum water pressure available before selecting this type of product, which is dependent on pressure to create vacuum.



**CODE COMPLIANT**

**HEATED SANITARY YARD HYDRANT**

This type of "sanitary" yard hydrant relies on an electric heated "dipstick" to keep the hydrant from freezing.



**CODE COMPLIANT**

**REMOVABLE SANITARY YARD HYDRANT**

This style of "sanitary" yard hydrant utilizes a "worm" thread and o-ring seals. This type is easily removed and installed for each use in freezing temperatures.



**CODE COMPLIANT**

**VACUUM BREAKER**

A hose connection vacuum breaker is required on all NEW and EXISTING yard hydrants connected to the pipeline system. Choose a vacuum breaker that is self-draining or loosen the vacuum breaker during the winter to prevent freezing conditions from bursting the hydrant. The maximum allowable water height above the vacuum breaker is 10 feet, otherwise the vacuum breaker may fail. Look for ASSE 1011 or 1052, stamping or a backflow protected hydrant.



**SAMPLE VACUUM BREAKS**

**NOTE:**

THERE MAY BE OTHER CODE COMPLIANT YARD HYDRANT OPTIONS. IT IS THE LANDOWNER'S RESPONSIBILITY TO ENSURE THE SELECTED YARD HYDRANT MEETS WISCONSIN DSPS CODE 382 AND NR CODE 812.



United States Department of Agriculture

Natural Resources Conservation Service

**Hydrant**

CLIENT: Sauk County HCC  
 COUNTY: SAUK

Designed	<u>SRK</u>	Date	<u>12/2022</u>
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11.4 ACRES  
NEW SEEDING

10.1 ACRES  
NEW SEEDING



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SEEDING MAP

CLIENT: Sauk County HCC  
COUNTY: SAUK

Designed	<u>SRK</u>	Date	<u>12/2022</u>
Drawn			
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Approved	<u>SRK</u>	Date	<u>12/2022</u>

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LANDOWNER:

Sauk County

TRACT #:

NRCS Std.: 512

Field(s):

Plan by: srk

Total Acres:

21.50

Plan date: 12/16/2022

County:

SAUK

GRASSES				
Common Name	Scientific Name	Intro/ Native	PLS (lbs / Acre)	Total Lbs.
Orchardgrass	Dactylis glomerata L.	Intro	1.0	21.5
Festulolium	Festuca x Lolium	Intro	2.0	43.0
Perennial Ryegrass	Lolium perenne	Intro	2.0	43.0
Meadow Fescue	Schedonorus pratensis	Intro	8.0	172.0
<b>TOTAL GRASSES:</b>			<b>13.0</b>	<b>279.5</b>

FORBS/LEGUMES						
Common Name	Scientific Name	Intro/ Native	PLS (lbs / Acre)	Total Lbs.	PLS (oz./Acre)	Total Oz.
Red Clover	Trifolium pratense	Intro	2.0	43.0		
White Ladino Clover	Trifolium repens	Intro	1.0	21.5		
<b>TOTAL FORBS/LEGUMES:</b>			<b>3.0</b>	<b>64.5</b>		

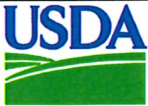
SEEDING DATES		Spring Seeding	Late Summer	Fall Dormant Seeding	Frost Seeding Allowed?	
INTRODUCED GRASSES & LEGUMES		4/15 - 6/1	8/1 - 8/21	N/A	Legumes Only	
		lbs/acre	Total lbs.	OR	Bu./Acre	Total Bu.
Temporary Cover Crop:	Oats	64.0	1376.0	OR	2.00	43.00
Companion Crop:						
<input checked="" type="radio"/> Yes <input type="radio"/> NO You must pick Yes or No						

Fertilizer & Lime		Total Lbs. Needed	General Soil Test <input type="checkbox"/> Fert./Lime Not Needed
80-89 Lime	ST		
Nitrogen	ST		
Phosphate (P205)	ST		
Potash (K20)	ST		

ST=Soil Test Required

Seeding was completed on: \_\_\_\_\_ according to the above requirements.

(Date)

 United States Department of Agriculture Natural Resources Conservation Service	INTRODUCED SPECIES SEEDING ESTABLISHMENT		Date 12/2022	File Name WI-710
	CLIENT: Sauk County HCC	COUNTY: SAUK	Designed SRK	Date 12/2022
			Drawn _____	Date 08/14
			Checked SRK	Date 12/2022
		Approved SRK	Date 12/2022	Sheet 12 of 12

