United States Department of Agriculture
Natural Resources Conservation Service

WISCONSIN STANDARD
DRAWING NO. WI-001C 03/16

CONSTRUCTION PLAN

PRACTICE(S) 412 - GRASSED WATERWAY

LANDOWNER DAVID ALLEN

ADDRESS S3951 GROTE HILL ROAD, REEDSBURG, WI 53959

LANDOWNER PHONE NO. (608) 524-4786 COUNTY SAUK

TOWNSHIP REEDSBURG T 12 N, R 04E E/W, Sec. 21

FIELD OFFICE SAUK CO. LRE DEPT. TELEPHONE NO. (608) 355-3245

DIGGERS HOTLINE

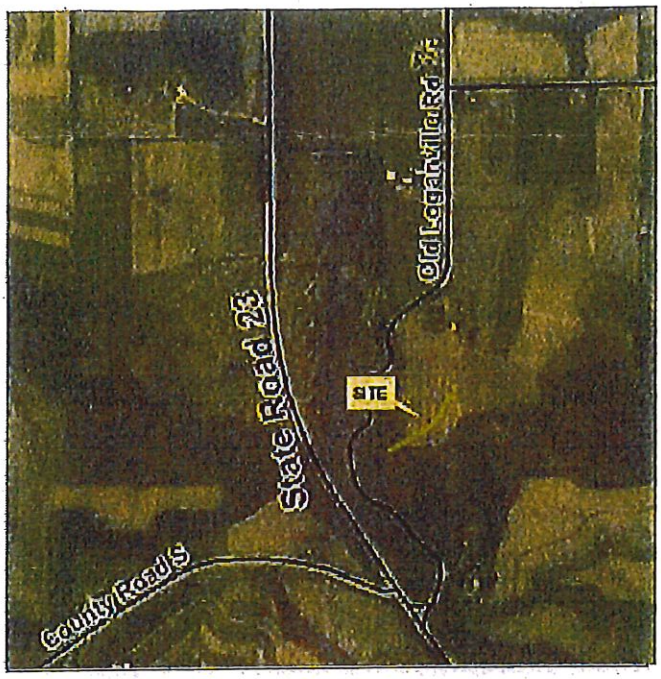
Call 3 Work Days Before You Dig!

Nationwide 811

Toll Free 1-800-242-8511

TDD 1-800-542-2289

Website www.diggershotline.com



N

Not to Scale

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.

Landowner Signature: David Allen Date: 3-30-2020

Designed by: GUS JOHNSON Date: 1/30/2020

Checked by: Kelly Neitzel Date: 2/2020

Approved by: Kelly Neitzel Date: 2/13/2020

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 EJAA- Class I (D.A. = 17.4 ac.)

COMPUTED QUANTITIES

ITEMS	UNITS	QUANTITIES	SHEET NUMBER	WI CONSTRUCTION SPE. OR JOB SHEET NUMBER
GRASSED WATERWAY	LIN. FT	550.0	2-10	W.C.S. #2 & #3
FERT\SEED\MULCH	ACRE	0.9	3, 9-10	WPS #342

SITE PREP * - INCLUDES

NONE

DAVID ALLEN
OWNER

SAUK **LCD,WI**
COUNTY

DESIGNED: _____ **CHECKED:** _____

SHEET 2 **OF** 10

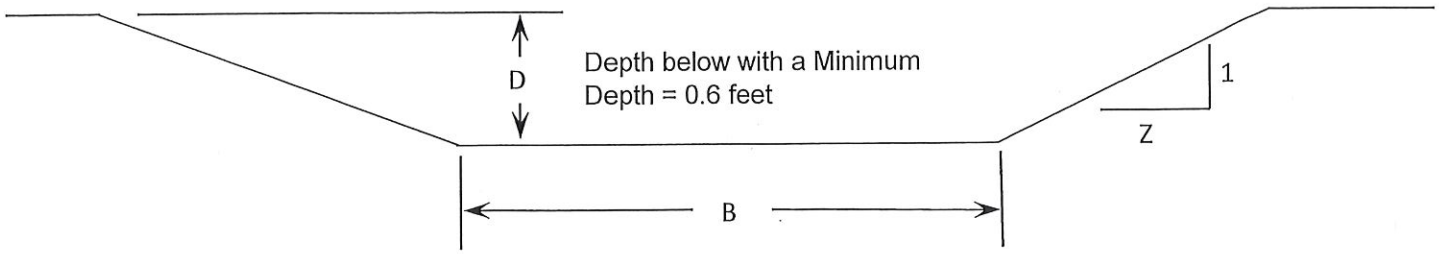
CONSTRUCTION NOTES

1. ALL UNDERGROUND HAZARDS AND UTILITIES MUST BE INVESTIGATED PRIOR TO CONSTRUCTION. NOTIFICATION OF EFFECTED UTILITY COMPANIES IS THE RESPONSIBLITY OF THE CONTRACTOR. CONTACT DIGGERS HOTLINE AT LEAST THREE DAYS PRIOR TO START OF CONSTRUCTION.
2. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED WITH SAUK COUNTY PERSONNEL, THE CONTRACTOR, AND THE LANDOWNER PRIOR TO CONSTRUCTION START-UP.
3. THE CONTRACTOR AND/OR LANDOWNER SHALL NOTIFY SAUK COUNTY AT LEAST 3 DAYS PRIOR TO START-UP OF CONSTRUCTION.
4. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH WISCONSIN NRCS CONSTRUCTION SPECIFCATIONS (ATTACHED TO THIS PLAN).
5. STRIP AND STOCKPILE TOPSOIL FOR RESPREADING ON CONSTRUCTED GRASSED WATERWAY.
6. SEED, FERTILIZE, LIME AND MULCH AS SOON AS POSSIBLE AFTER CONSTRUCTION ACCORDING TO THE SEEDING/MULCHING SHEETS IN THIS PLAN.

PLAN MAP

DAVID ALLEN
GRASSED WATERWAY (412)

Sauk County Land Resources & Environment Department
505 Broadway
Baraboo, WI 53913
(608) 355-3245



TRAPEZOIDAL CROSS SECTION

CONSTRUCTION DETAILS

WATERWAY NUMBER	REACH		CHANNEL SLOPE %	Bottom Width (B)) FEET	Depth (D) FEET	SIDE SLOPE (Z)	LENGTH FEET
	FROM	TO					
1	0+00	1+30	9.0-9.5	32	0.8	8	130
1	1+30	3+40	5.5-6.0	32	0.8	8	210
1	3+40	5+50	3.5-4.0	32	0.8	8	210

NOTES AND SPECIFICATIONS:

1. TOPSOIL SHALL BE STOCKPILED AND RESPREAD ON THE WATERWAY WHEN NEEDED TO FACILITATE REVEGETATION.
2. PLACE SPOIL WHERE IT WILL NOT INTERFERE WITH SURFACE WATER FLOW INTO THE WATERWAY.
3. NOTE: CHANNEL SLOPE % GIVEN AS RANGE TO ALLOW FOR FLEXIBILITY OF INSTALLED ELEVATION PROFILE.

USDA

TRAPEZOIDAL GRASSED WATERWAY

CLIENT: D. Allen
COUNTY: Sauk MSE4

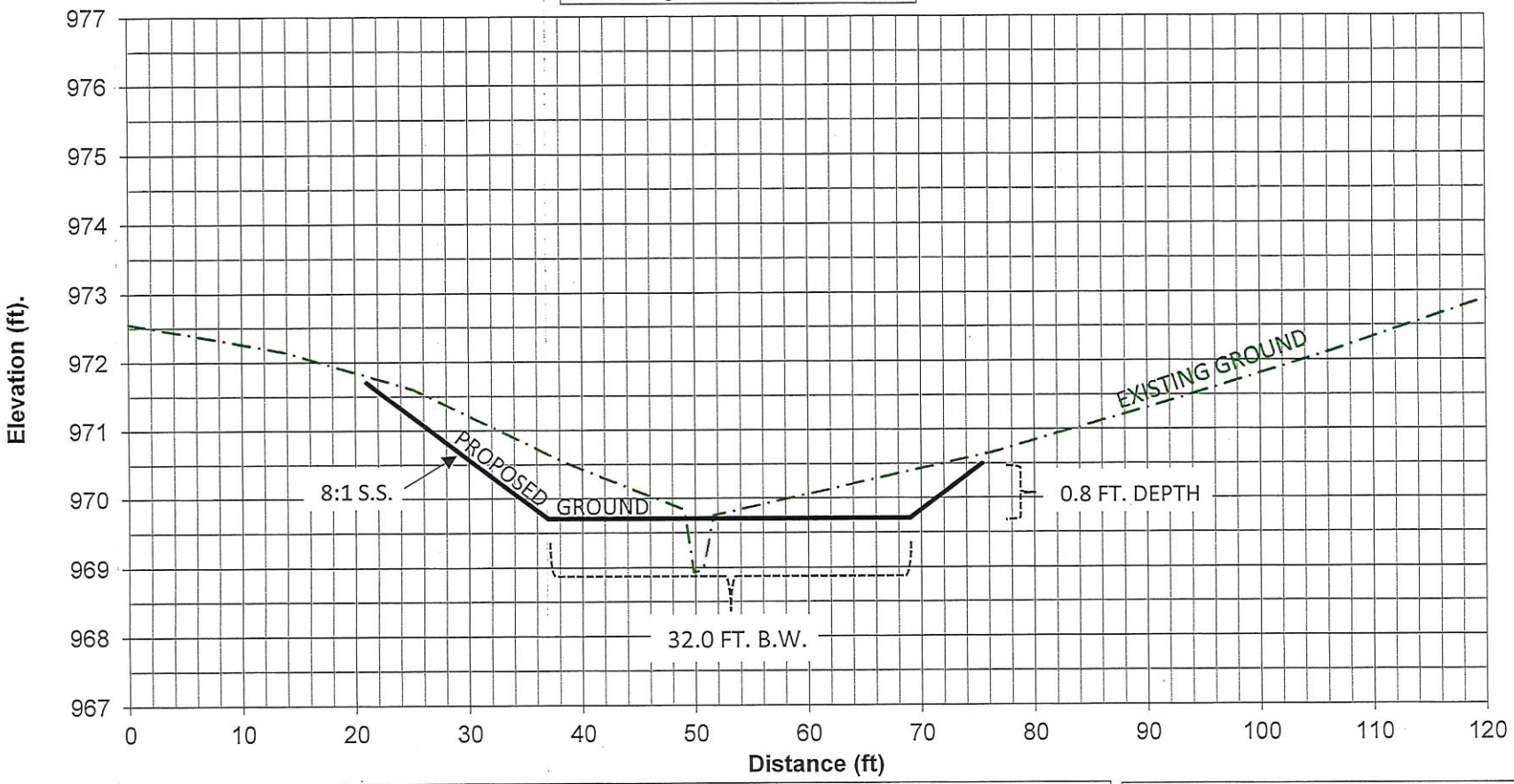
		Date
Designed:	GJ	1/7/20
Drawn:	GJ	1/7/20
Checked:		
Approved:		

File Name Date
WI-402 A ss
7-2014

Sheet 5 of 10

X-sec @ A-A

Left to Right Looking Downslope



Existing Ground

Proposed Ground

Construction Notes:

- 32.0 FT. BOTTOM WIDTH
- 8:1 SIDE SLOPES
- 0.8 FT. MINIMUM DEPTH

OWNER: **DAVID ALLEN**

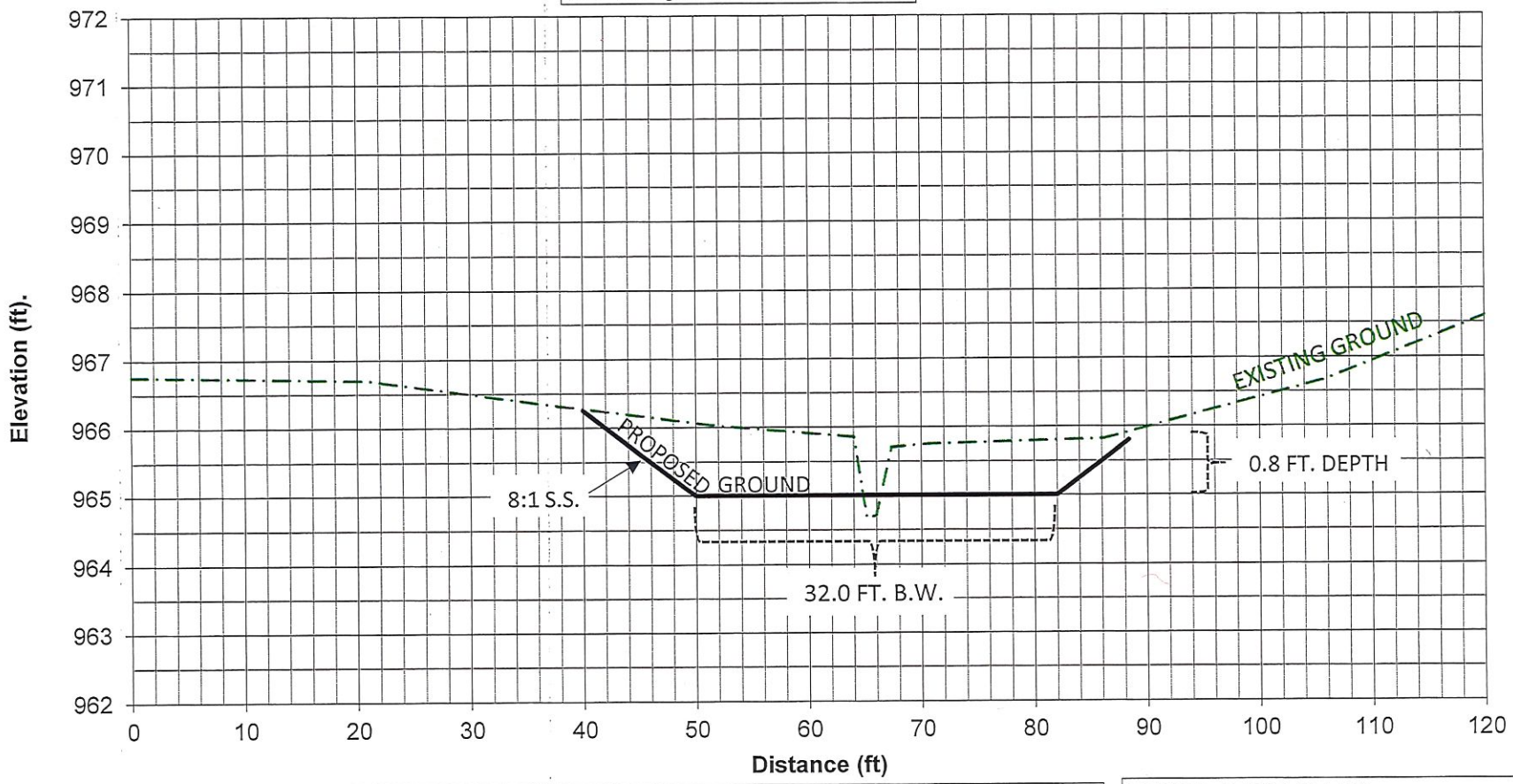
COUNTY: **SAUK CO. LRE DEPT.**

Designed: GJ Checked:

SHEET 6 OF 10

X-sec @ B-B

Left to Right Looking Downslope



Existing Ground

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Construction Notes:

- 32.0 FT. BOTTOM WIDTH
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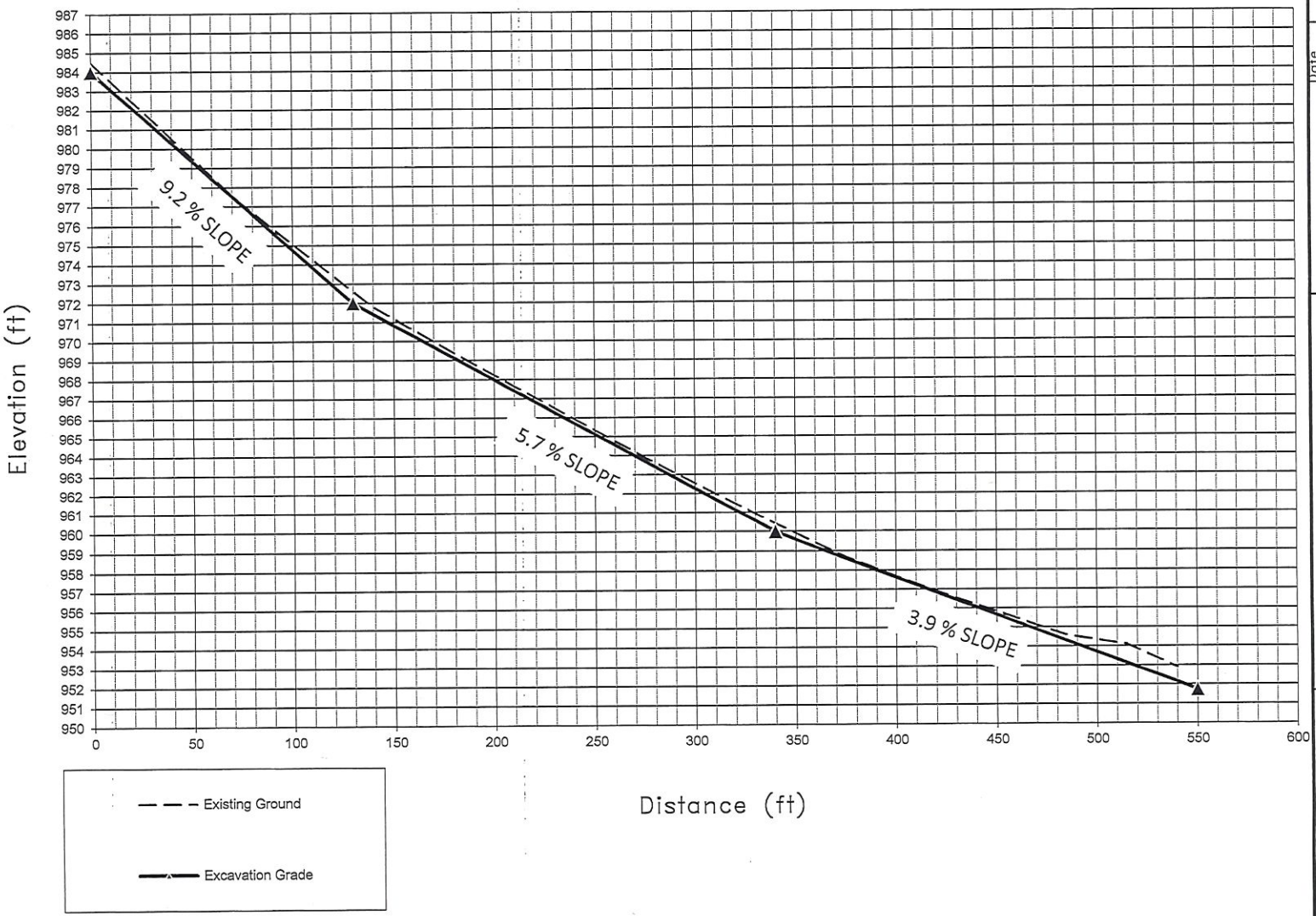
OWNER: **DAVID ALLEN**

COUNTY: **SAUK CO. LRE DEPT.**

Designed: GJ Checked:

SHEET 7 OF 10

Profile Waterway 1



Drawing Name

Date

Sheet 8 of 10

Designed GJ Date

Drawn GJ

Checked

Approved

PROFILES

CLIENT: DAVID ALLEN

COUNTY: SAUK CO. LRE DEPT.

USDA United States Department of Agriculture

Natural Resources Conservation Service

SEEDING DATES CENTRAL

TIME PERIOD	DATES			TYPE OF SEEDING
Spring	April 15	through	June 1	Permanent
Summer	June 2	through	see WI-710ss pg 2	Temporary *
Late Summer	August 1	through	August 21	Permanent
Fall	August 22	through	see WI-710ss pg 2	Temporary *
Late Fall	November 1	through	Snow Cover	Dormant
Winter	Snow Cover	through	April 14	Not Allowed

MATERIALS

If no soil test is available, apply a minimum of 150 pounds of 20-10-10 fertilizer per acre. This is equivalent to 30 pounds nitrogen (N), 15 pounds phosphate (P205), and 15 pounds potash (K2O) per acre. Apply two tons of 80-89 lime or equivalent.

* Seed a temporary cover crop of Oats at 64 # /ac (2 bu/ac)
A permanent seeding shall be completed during the next acceptable time period following a temporary seeding.

MINIMUM PURE LIVE SEED (PLS) [1] RATE PER ACRE AND TOTAL POUNDS OF SEED NEEDED

SEEDING MIX (DESIGN) 10	LOCATION: WW ACRES: 0.90	
SPECIES	RATE	POUNDS
Smooth Bromegrass	14.0	12.6
Timothy	3.0	2.7
Red Clover	3.0	2.7
Perennial Ryegrass	4.0	3.6
** Oats	64.0	57.6

SEEDING MIX (AS-BUILT)	LOCATION ACRES	
SPECIES	RATE	POUNDS

[1] PLS lbs. =
(total % Germination / 100 * % Purity / 100) * Net Weight (lbs.)

** Companion Crop

ADDITIONAL SEED PERCENT: %

Mulching Required Yes

Total % Germination may also be termed *Total %* Viable Seed on a tag. If a tag only shows % Germination, the user must *include percentage of the seed that germinated during the lab test* (% Germination) **plus** the *percentage of hard and/or dormant seed.* Hard seed and dormant seed are seeds that are still capable of germinating and producing a plant but did not germinate under the conditions of the test in the lab.

Additional native seeds may be required by permitting agencies. These addition are allowed.
Seed mixture shall meet all requirements of the WI weed laws.
Species identified as restricted or prohibited by law shall not be planted.
Certified seed shall be used, and the seeding rates will be based on pure live seed.
For dormant seedings, increase the seeds per square foot by 15%.

SEEDBED PREPARATION

Seedbed preparation shall immediately follow construction activities.
Prepare a fine, firm seedbed to a minimum depth of three inches. A seedbed is considered firm when a footprint penetrates 1/4 to 1/2 inch deep.

SEEDING

Inoculate legumes with the specific inoculum for the species in accordance with the manufacturer's recommendations. When using a hydroseeder, five times the recommended rate of inoculant shall be added to the hydroseeder. Inoculant shall not be mixed with liquid fertilizer.

Seed may be broadcast or drilled as appropriate to the site.
Seed, fertilize, and lime as soon as possible after construction.
Seeding perpendicular to direction of flow is required to limit erosion.

Seed grasses and legumes no more than 1/4 inch deep.

Consider seeding at a lower rate and making 2 passes to ensure more uniform distribution.

TEMPORARY SEEDING OPTIONS

Select one of the following species for temporary cover if:

1) The required seeds or plant stock are not available or the normal permanent seeding period for the species has passed
   - Forage Sorghum - 1/2 bushel per acre (May 15-July 15)
   - Sorghum - Sudangrass Hybrid - 1 bushel per acre (May 15-July 15)
   - Sudangrass - 1 bushel per acre (May 15-July 15)
   - Winter Wheat - 2 bushels per acre (Aug 1-Oct 1)
   - Winter Cereal Rye - 2 bushels per acre (Aug 1-Oct 15)
   - Oats - 2 bushels per acre (Apr 1-Sept 1)
   - Annual Ryegrass - 20 Pounds per acre (Apr 1-Sept 1)

2) Triazine herbicide carryover will not allow establishment of permanent cover immediately.
   - Forage Sorghum - 1/2 Bushel per acre (May 15-July 15)
   - Sorghum - Sudangrass Hybrid - 1 Bushel per acre (May 15-July 15)
   - Sudangrass - 1 Bushel per acre (May 15-July 15)

DORMANT SEEDING

Seed is broadcast and incorporated, no-tilled, or drilled into the seedbed .
Seedbed preparations and conditions are similar to conventional seeding.

MULCHING

Mulching shall be done immediately after seedbed preparation and seeding.
Mulch shall be applied immediately after final grading for areas seeded at a later date.
Mulch material shall be relatively free of disease, pesticides, chemicals, noxious weed seeds, and other pests and pathogens.

Spread straw and hay mulch uniformly and at the rate of 1.5-2.0 tons per acre (60-70 bales). This application results in a layer of 6 to 7 stems, 1 to 2 inches thick, and provides a minimum 70% ground cover. Some soil surface can be seen after the application. Crimping (disking), wood cellulose fiber, tackifiers, netting, pinning, or other acceptable methods of anchoring will be used if needed to hold the mulch in place.

If other mulch materials are used, the rate of application shall meet the manufacturer's recommendations.

BID SHEET

ITEMS	UNITS	QUANTITY	COST PER UNIT	TOTAL COST
GRASSED WATERWAY	LIN. FT	550.0		
FERT\SEED\MULCH	ACRE	0.9		
			TOTAL	

GRASSED WATERWAY
PRACTICE NAME

GENERAL CONTRACTOR

DAVID ALLEN
LANDOWNER NAME

BID PRICE

SHEET ___ OF ___