

REFERENCE	Moore Discovery Farm		
Project	Moore Discovery Farm		
Designed	S. Rose	Date	9/2014
Checked	R. Gutierrez	Date	9/2014
Approved	S. Rose	Date	9/2014



STANDARD DWG NO.	Moore Discovery Farm.dwg
SHEET	1 OF 1
DATE	September 23, 2014

Client: Moore Discovery Farm
 County: Washington mwse_4 State: AR
 Practice: Diversion
 Calculated By: S. Rose Date: 9/17/2014
 Checked By: _____ Date: _____

Drainage Area: 9 Acres (provided from RCN Calculator)
 Curve Number: 61 (provided from RCN Calculator)
 Watershed Length: 1000 Feet
 Watershed Slope: 6.2 Percent
 Time of Concentration: 0.36 Hours (calculated value)
 Rainfall Type: MWSE_4

Storm Number	1	2	3	4	5	6	7
Frequency (yrs)	1	2	5	10	25	50	100
24-Hr rainfall (in)	3.59	4.01	4.75	5.42	6.40	7.21	8.07
Ia/P Ratio	0.36	0.32	0.27	0.24	0.20	0.18	0.16
Used	0.36	0.32	0.27	0.24	0.20	0.18	0.16
Runoff (in)	0.61	0.82	1.22	1.63	2.28	2.85	3.50
(ac-ft)	0.46	0.62	0.92	1.22	1.71	2.14	2.63
Unit Peak Discharge (cfs/acre/in)	0.747	0.810	0.878	0.907	0.925	0.936	0.946
Peak Discharge (cfs)	4	6	10	13	19	24	30

Curve number Computation

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COVER DESCRIPTION	Acres (CN)			
	Hydrologic Soil Group			
	A	B	C	D
OTHER AGRICULTURAL LANDS Pasture, grassland or range good	-	9(61)	-	-
Total Area (by Hydrologic Soil Group)		9		
TOTAL DRAINAGE AREA: 9 Acres		WEIGHTED CURVE NUMBER: 61		

Channel Report

<Name>

Trapezoidal

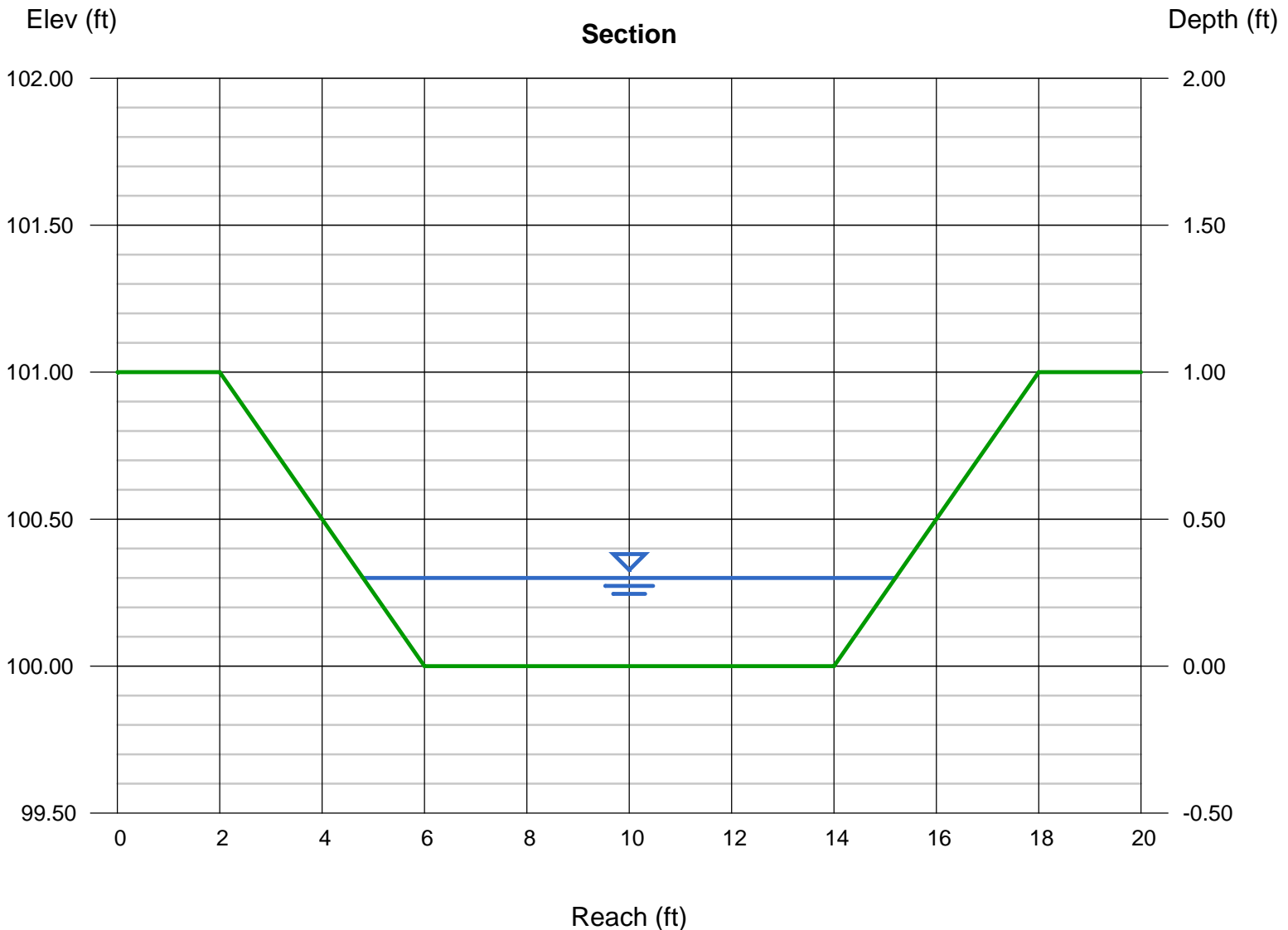
Bottom Width (ft) = 8.00
Side Slopes (z:1) = 4.00, 4.00
Total Depth (ft) = 1.00
Invert Elev (ft) = 100.00
Slope (%) = 10.00
N-Value = 0.025

Highlighted

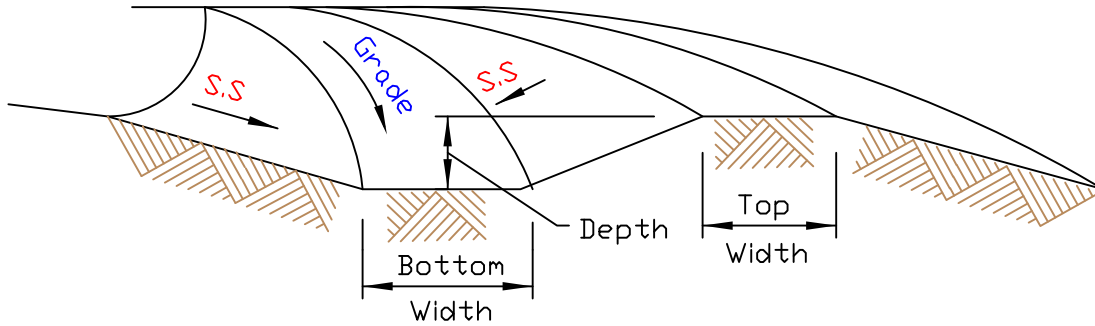
Depth (ft) = 0.30
Q (cfs) = 21.31
Area (sqft) = 2.76
Velocity (ft/s) = 7.72
Wetted Perim (ft) = 10.47
Crit Depth, Yc (ft) = 0.55
Top Width (ft) = 10.40
EGL (ft) = 1.23

Calculations

Compute by: Q vs Depth
No. Increments = 10



DIVERSION PLAN



Diversion No.	1		
From Station	0+00		
To Station	4+74		
Design Data			
Grade, %	10		
Drainage Area, Ac	9		
Construction Layout Data			
Bottom Width, Ft.	8		
Depth, Ft. (Includes Freeboard & Settlement)	1		
Side Slopes, Ft./Ft.	4:1		
Top Width (Berm), Ft.	4		
Seeding Width, Ft.	35		
Seeding Area, Sq.Ft.	25,122		

NOTES:

1. All trees stumps, brush and debris shall be removed from the construction area and disposed of properly. All old terraces, fence rows, or other obstructions that will interfere with construction or operation shall be removed. All dead furrows, ditches, or gullies to be crossed shall be filled in prior to construction or as part of construction operations.
2. When required topsoil shall be salvaged and spread uniformly over disturbed areas.
3. The diversion will be constructed to the specified lines, grades, width and depth.

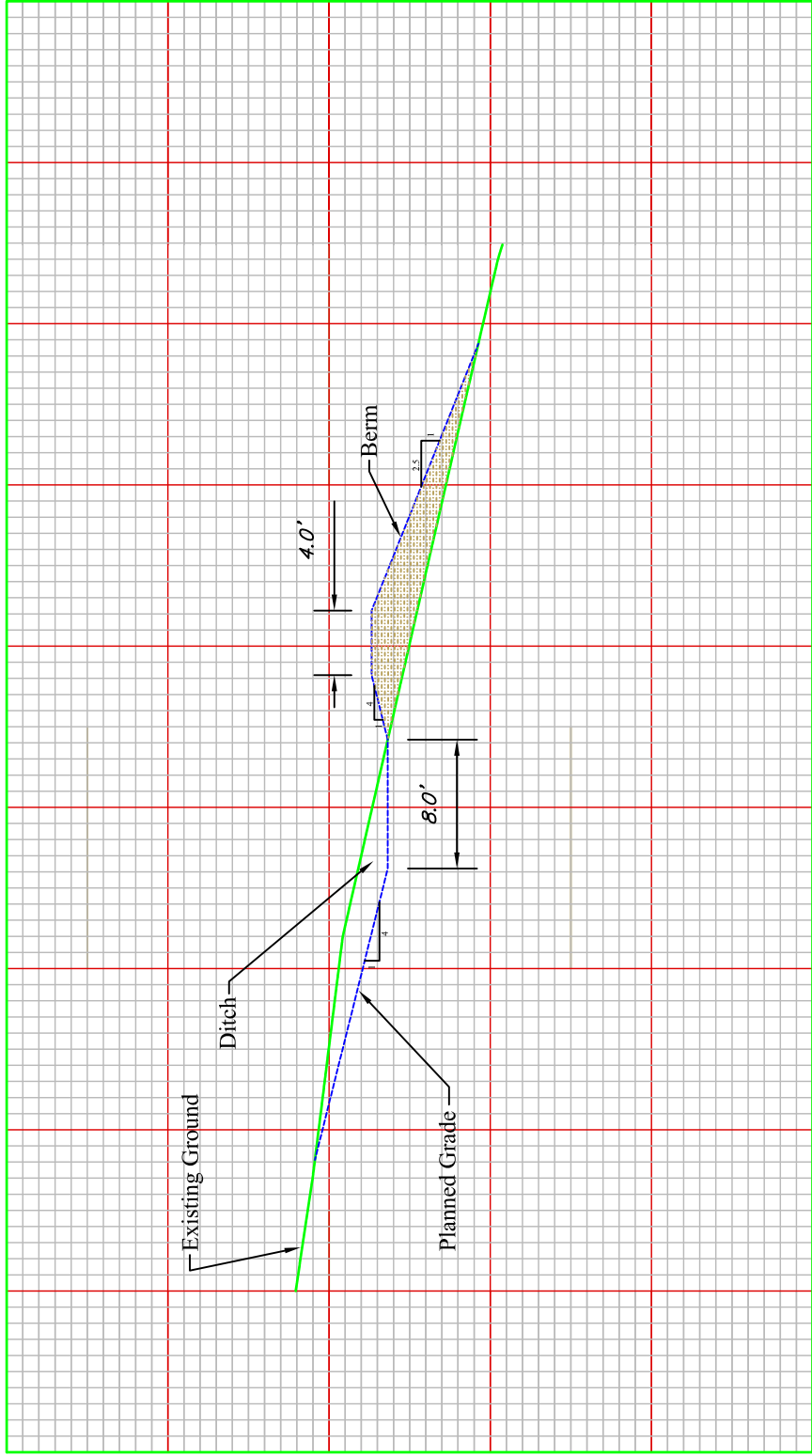
Notes: _____

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U.S. DEPARTMENT OF AGRICULTURE
 NATURAL RESOURCES CONSERVATION SERVICE
 ENGINEERING DESIGN SECTION LITTLE ROCK, ARKANSAS
 (ADOPTED FROM ILLINOIS IL-515)

STANDARD DWG. NO.
AR-ENG-507
 SHEET 1 OF 1
 DATE 5-26-93

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-0+10 0+00 0+10 0+20 0+30 0+40 0+50 0+60 0+70 0+80

Typical X-Section PROFILE