



# DITCH ANALYSIS

**PID :** 103159      **Date :** 04/17/2019      **Project :** MIA-CR 25A-3.54

**Location :** Tipp City, Ohio

**Description :** Proposed Ditch Analysis - STA. 107+00.00 to STA. 115+00.00

**Designer :** DMG

**Rainfall Area :** B

**Allowable Shears**

	<b>Seed:</b>	0.40	<b>Jute Mat:</b>	0.45	<b>Temporary Mat:</b>	1.00
<b>Permanent Mat</b>	<b>Type 1:</b>	2.00	<b>Type 2:</b>	3.00	<b>Type 3:</b>	5.00
<b>RCP</b>	<b>Type B:</b>	6.00				

(\*) Warning: Grade is steeper than allowable.

If value is parantheses, design parameters have been exceeded. - See user manual.

STATION BEGIN	STATION END	SIDE	LENGTH (ft.)	RADIUS (ft.)	IN SLOPE (ft./ft.)	BACK SLOPE (ft./ft.)	GRADE (ft./ft.)	AREA (acres)	AREA SUM (acres)	RUNOFF COEFF.	CA (Sum)	PROTECT TYPE	RAIN INT. (in./hr.)	STORM FREQ. (yrs.)	MANN. COEFF.	TIME FLOW (min.)	VEL. FLOW (fps.)	SHEAR (lbs./ sq.ft.)	DESIGN FLOW (cfs.)	DEPTH FLOW (ft.)	WIDTH FLOW (ft.)
107+00	107+50	R	50.00	2.00	3.00	3.00	0.0100	0.04	0.04	0.90	0.04	Seed	3.69	2	0.030	11.02	0.79	0.05	0.13	0.08	2.45
												Seed	4.45	5	0.040	11.12	0.72	0.06	0.16	0.10	2.58
107+50	108+00	R	50.00	2.00	3.00	3.00	0.0160	0.02	0.06	0.90	0.05	Seed	3.61	2	0.030	11.78	1.08	0.08	0.20	0.08	2.48
												Seed	4.34	5	0.040	11.98	0.94	0.11	0.23	0.11	2.64
108+00	108+50	R	50.00	2.00	3.00	3.00	0.0200	0.02	0.08	0.90	0.07	Seed	3.55	2	0.030	12.42	1.27	0.11	0.26	0.09	2.53
												Seed	4.25	5	0.040	12.72	1.13	0.14	0.31	0.12	2.69
108+50	109+00	R	50.00	2.00	3.00	3.00	0.0130	0.03	0.11	0.90	0.10	Seed	3.49	2	0.030	13.08	1.24	0.10	0.35	0.12	2.71
												Seed	4.17	5	0.040	13.48	1.07	0.13	0.41	0.16	2.93
109+00	109+50	R	50.00	2.00	3.00	3.00	0.0090	0.08	0.19	0.90	0.17	Seed	3.43	2	0.030	13.72	1.31	0.10	0.59	0.18	3.06
												Seed	4.09	5	0.040	14.22	1.12	0.13	0.70	0.23	3.39
109+50	110+00	R	50.00	2.00	3.00	3.00	0.0090	0.10	0.29	0.90	0.26	Seed	3.38	2	0.030	14.28	1.46	0.13	0.88	0.23	3.35
												Seed	4.02	5	0.040	14.87	1.28	0.16	1.05	0.29	3.72
110+00	110+50	R	50.00	2.00	3.00	3.00	0.0110	0.21	0.50	0.90	0.45	Seed	3.34	2	0.030	14.73	1.85	0.20	1.50	0.28	3.71



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STATION BEGIN	STATION END	SIDE	LENGTH (ft.)	RADIUS WIDTH (ft.)	IN SLOPE (ft./ft.)	BACK SLOPE (ft./ft.)	GRADE (ft./ft.)	AREA (acres)	AREA SUM (acres)	RUNOFF COEFF.	CA (Sum)	PROTECT TYPE	RAIN INT. (in./hr.)	STORM FREQ. (yrs.)	MANN. COEFF.	TIME FLOW (min.)	VEL. FLOW (fps.)	SHEAR (lbs./ sq.ft.)	DESIGN FLOW (cfs.)	DEPTH FLOW (ft.)	WIDTH FLOW (ft.)
												Seed	3.97	5	0.040	15.39	1.59	0.25	1.79	0.36	4.18
110+50	111+00	R	50.00	2.00	3.00	3.00	0.0160	0.31	0.81	0.90	0.73	Seed	3.31	2	0.030	15.07	2.43	0.33	2.41	0.33	3.99
												Seed	3.93	5	0.040	15.79	2.08	0.42	2.86	0.42	4.53
111+00	111+50	R	50.00	2.00	3.00	3.00	0.0120	0.16	0.97	0.90	0.87	Seed	3.28	2	0.030	15.43	2.31	0.29	2.86	0.39	4.34
												Seed	3.89	5	0.040	16.21	1.96	0.37	3.39	0.50	4.97
111+50	112+00	R	50.00	2.00	3.00	3.00	0.0100	0.17	1.14	0.90	1.03	Seed	3.25	2	0.030	15.80	2.26	0.28	3.34	0.44	4.66
												Seed	3.85	5	0.040	16.65	1.92	0.35	3.95	0.56	5.35
112+00	112+50	R	50.00	2.00	3.00	3.00	0.0080	0.17	1.31	0.90	1.18	Seed	3.22	2	0.030	16.18	2.16	0.25	3.80	0.50	5.01
												Seed	3.81	5	0.040	17.10	1.83	0.31	4.49	0.63	5.78
112+50	113+00	R	50.00	2.00	3.00	3.00	0.0130	0.08	1.39	0.90	1.25	Seed	3.20	2	0.030	16.50	2.61	0.37	4.00	0.46	4.73
												Seed	3.77	5	0.040	17.47	2.22	0.46	4.72	0.57	5.43
113+00	113+50	R	50.00	2.00	3.00	3.00	0.0100	0.17	1.56	0.90	1.40	Seed	3.17	2	0.030	16.84	2.44	0.32	4.45	0.51	5.09
												Seed	3.74	5	0.040	17.88	2.08	0.40	5.25	0.64	5.86
113+50	114+00	R	50.00	2.00	3.00	3.00	0.0100	0.11	1.67	0.90	1.50	Seed	3.14	2	0.030	17.18	2.49	0.33	4.73	0.53	5.18
												Seed	3.70	5	0.040	18.27	2.11	0.41	5.56	0.66	5.97
114+00	114+50	R	50.00	2.00	3.00	3.00	0.0050	0.08	1.75	0.90	1.58	Seed	3.11	2	0.030	17.60	1.95	0.20	4.90	0.64	5.84
												Seed	3.66	5	0.040	18.78	1.65	0.25	5.76	0.80	6.78
114+50	115+00	R	50.00	2.00	3.00	3.00	0.0020	0.38	2.13	0.90	1.92	Seed	3.07	2	0.030	18.17	1.46	0.11	5.89	0.87	7.24
												Seed	3.60	5	0.040	19.45	1.23	0.13	6.91	1.07	8.45