United States Department of Agriculture

NRCS

Natural Resources Conservation Service
210 Walnut Street, Room 693
Des Moines, IA 50309-2180

April 3, 2008

NATIONAL ENGINEERING HANDBOOK
210-VI

SUBJECT: ENG – AGRICULTURAL WASTE MANAGEMENT FIELD HANDBOOK, PART 651, AMENDMENT IA-2

PURPOSE: This notice transmits pages IA10C-31 (1-8) dated April 2008.

Effective Date: This Amendment is effective upon receipt.

Filing Instructions: The following pages should be filed in the Animal Waste Management Field Handbook as indicated below:

Remove Pages

IA10C-31 (1-8) dated March 2008

Insert Pages

IA10C-31 (1-8) dated April 2008

This amendment corrects Amendment IA-1 in which the original pages over-estimated runoff from paved and unpaved lot situations.

The corrected pages are available in .pdf format and can be downloaded at:

..\..\..\..\..\..\..\..\NRCS_statewide_shared\Iowa Bulletins and Manuals\AWMFH Amendments\4-3-08_AWMFH_AmendmentIA-2_April2008.pdf

If you have any questions pertaining to this distribution, please contact Mark Garrison, Environmental Engineer, at (515) 284-4357

/s/Al Garner
Acting State Conservationist

Attachment

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EN2
DSC
SCE's Central Region

An Equal Opportunity Provider and Employer

Precipitation and Runoff Tables

The precipitation table notes the monthly and annual precipitation, in inches, for the counties of Iowa. The runoff tables for unpaved lots and paved lots note runoff expressed, in inches, for each month and on an annual basis. They are to be used for determining runoff from normal precipitation in lieu of the present procedure shown in Part VI of Chapter 12 of the AWMFH. For designing roof runoff control structures (standard 558) a table of 10- and 25-year, 5-minute storm event depth (inches) by county is included.

Normal Annual and Monthly Precipitation (inches)

County	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Adair	34.86	0.89	1.01	2.23	3.50	4.40	4.48	4.51	3.92	3.83	2.56	2.12	1.19
Adams	35.31	0.83	1.01	2.27	3.39	4.52	4.48	4.58	3.96	4.09	2.63	2.18	1.15
Allamakee	33.72	0.92	0.92	1.90	3.61	3.80	4.44	4.35	4.59	3.29	2.28	2.22	1.17
Appanoose	37.17	1.01	1.13	2.31	3.47	4.74	4.49	5.03	3.98	4.02	2.87	2.46	1.45
Audubon	33.60	0.85	0.91	2.25	3.38	4.24	4.53	4.36	3.79	3.57	2.59	1.86	1.06
Benton	35.19	1.01	1.04	2.17	3.40	4.18	4.79	4.16	4.44	3.52	2.57	2.35	1.34
Black Hawk	34.53	0.93	1.02	2.11	3.34	4.16	4.99	4.26	4.35	3.22	2.52	2.22	1.21
Boone	34.13	0.88	0.91	2.16	3.30	4.27	5.04	4.34	4.22	3.11	2.50	2.03	1.16
Bremer	35.21	0.97	0.96	2.08	3.49	4.20	4.97	4.36	4.81	3.22	2.52	2.25	1.17
Buchanan	35.13	1.02	1.04	2.05	3.37	4.08	4.86	4.15	4.80	3.43	2.49	2.31	1.30
Buena Vista	31.83	0.67	0.63	2.05	3.32	3.84	4.85	4.13	4.31	3.12	2.19	1.67	0.84
Butler	34.40	0.88	0.90	2.05	3.34	4.20	5.12	4.42	4.42	3.23	2.51	2.12	1.12
Calhoun	32.06	0.79	0.71	2.08	3.21	4.17	4.66	4.06	3.90	3.23	2.33	1.71	0.98
Carroll	32.70	0.84	0.82	2.24	3.32	4.20	4.65	4.23	3.67	3.32	2.43	1.76	1.01
Cass	34.57	0.82	0.95	2.26	3.39	4.44	4.57	4.56	3.89	3.85	2.60	1.95	1.08
Cedar	36.24	1.29	1.28	2.48	3.42	4.23	4.42	3.96	4.54	3.47	2.61	2.52	1.80
Cerro Gordo	34.00	0.90	0.79	2.05	3.29	4.15	5.02	4.38	4.46	3.24	2.44	1.97	1.08
Cherokee	29.64	0.65	0.63	1.98	3.00	3.73	4.54	3.85	3.76	2.89	2.02	1.60	0.79
Chickasaw	35.34	0.98	0.93	2.08	3.59	4.16	4.84	4.42	4.87	3.26	2.50	2.25	1.24
Clarke	35.95	0.89	1.10	2.21	3.55	4.62	4.49	4.62	4.05	3.96	2.67	2.30	1.26
Clay	30.18	0.62	0.57	1.95	3.10	3.65	4.61	4.00	4.18	2.86	2.03	1.63	0.75
Clayton	34.23	1.03	1.10	2.05	3.54	3.88	4.52	4.10	4.66	3.21	2.35	2.32	1.26
Clinton	35.82	1.35	1.36	2.51	3.38	4.04	4.47	3.61	4.56	3.26	2.62	2.57	1.88
Crawford	31.32	0.75	0.72	2.17	3.16	4.12	4.45	3.99	3.57	3.29	2.33	1.61	0.95
Dallas	33.80	0.87	0.94	2.14	3.32	4.31	4.73	4.27	4.05	3.29	2.5	2.01	1.15
Davis	37.41	1.17	1.22	2.42	3.48	4.77	4.31	4.76	4.03	4.02	2.81	2.58	1.63
Decatur	36.53	0.89	1.14	2.32	3.51	4.67	4.40	4.77	3.95	4.07	2.92	2.35	1.32
Delaware	35.13	1.07	1.11	2.10	3.40	4.06	4.58	4.00	4.95	3.41	2.50	2.39	1.35
Des Moines	36.75	1.30	1.41	2.67	3.49	4.35	4.22	4.25	3.89	3.60	2.71	2.67	1.97
Dickinson	29.27	0.64	0.58	1.91	3.00	3.63	4.61	3.75	3.86	2.73	2.01	1.64	0.71
Dubuque	34.80	1.16	1.25	2.29	3.36	3.83	4.45	3.83	4.58	3.46	2.42	2.44	1.52
Emmet	30.04	0.73	0.59	1.86	3.08	3.65	4.64	3.92	4.01	2.74	2.14	1.68	0.77
Fayette	35.17	1.02	1.05	2.04	3.57	4.05	4.68	4.20	4.97	3.35	2.47	2.25	1.30
Floyd	34.57	0.94	0.84	2.01	3.39	4.18	5.06	4.40	4.57	3.31	2.46	2.07	1.12
Franklin	33.84	0.85	0.82	2.04	3.21	4.19	5.15	4.36	4.32	3.16	2.44	1.98	1.10
Fremont	34.03	0.77	0.91	2.35	3.27	4.51	4.37	4.79	3.81	3.49	2.52	1.98	1.04
Greene	33.02	0.87	0.87	2.14	3.23	4.19	4.80	4.23	3.94	3.13	2.42	1.88	1.11
Grundy	34.61	0.89	0.97	2.18	3.26	4.26	5.25	4.34	4.16	3.10	2.56	2.23	1.20
Guthrie	34.19	0.87	0.96	2.24	3.36	4.34	4.68	4.36	4.11	3.43	2.51	1.95	1.16
Hamilton	33.78	0.87	0.83	2.02	3.13	4.05	5.37	4.31	4.44	3.09	2.43	1.92	1.11
Hancock	32.15	0.80	0.72	1.93	3.21	3.89	4.81	4.23	4.22	3.02	2.26	1.83	1.01
Hardin	34.22	0.91	0.90	2.13	3.19	4.20	5.29	4.23	4.24	3.14	2.51	2.15	1.13
Harrison	31.69	0.73	0.75	2.25	3.15	4.33	4.42	4.03	3.42	3.37	2.39	1.68	0.94
Henry	36.96	1.28	1.32	2.59	3.40	4.47	4.17	4.45	3.99	3.89	2.69	2.66	1.84
Howard	34.80	0.98	0.87	2.04	3.48	3.97	4.66	4.47	4.89	3.44	2.4	2.19	1.19
Humboldt	32.37	0.83	0.72	2.05	3.20	3.94	4.77	4.22	4.20	3.12	2.28	1.80	1.02
Ida	30.71	0.77	0.67	2.11	3.14	3.97	4.59	3.85	3.78	3.01	2.17	1.57	0.89
Iowa	35.84	1.05	1.06	2.20	3.41	4.39	4.61	4.25	4.51	3.65	2.61	2.46	1.42
Jackson	35.24	1.21	1.32	2.36	3.34	3.91	4.48	3.55	4.54	3.52	2.51	2.56	1.71
Jasper	35.08	0.97	1.05	2.18	3.35	4.45	4.65	4.27	4.32	3.46	2.67	2.28	1.22

Normal Annual and Monthly Precipitation (inches)

County	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Jefferson	36.48	1.22	1.23	2.46	3.39	4.55	4.08	4.45	4.00	3.87	2.77	2.55	1.70
Johnson	35.85	1.09	1.12	2.31	3.47	4.26	4.57	4.22	4.53	3.51	2.59	2.42	1.55
Jones	35.32	1.20	1.22	2.34	3.36	4.02	4.49	3.85	4.62	3.43	2.50	2.50	1.59
Keokuk	35.74	1.07	1.10	2.35	3.37	4.40	4.28	4.31	4.20	3.79	2.70	2.52	1.44
Kossuth	31.25	0.74	0.65	1.89	3.11	3.86	4.71	4.20	4.13	2.85	2.24	1.78	0.88
Lee	37.89	1.39	1.46	2.79	3.52	4.72	4.18	4.34	3.72	3.81	2.79	2.88	2.08
Linn	35.37	1.08	1.09	2.18	3.40	4.16	4.65	4.12	4.58	3.52	2.50	2.41	1.46
Louisa	36.19	1.24	1.32	2.58	3.44	4.29	4.11	4.17	4.17	3.57	2.67	2.57	1.85
Lucas	36.36	0.92	1.15	2.23	3.52	4.60	4.57	4.67	3.99	4.05	2.84	2.35	1.25
Lyon	27.16	0.53	0.55	1.87	2.71	3.35	4.24	3.43	3.58	2.52	1.94	1.54	0.67
Madison	34.86	0.94	1.05	2.20	3.53	4.39	4.56	4.37	3.98	3.70	2.56	2.18	1.20
Mahaska	35.87	1.02	1.14	2.18	3.40	4.49	4.38	4.37	4.18	3.83	2.73	2.56	1.36
Marion	35.49	0.92	1.10	2.11	3.64	4.49	4.47	4.38	4.17	3.68	2.75	2.33	1.23
Marshall	35.05	0.94	0.97	2.19	3.20	4.36	5.01	4.44	4.45	3.22	2.56	2.26	1.23
Mills	33.42	0.73	0.85	2.26	3.27	4.61	4.54	4.51	3.76	3.42	2.42	1.85	0.99
Mitchell	34.17	0.98	0.80	1.99	3.38	4.09	4.78	4.37	4.65	3.37	2.40	2.03	1.14
Monona	30.32	0.66	0.65	2.15	3.14	4.11	4.33	3.87	3.47	3.06	2.28	1.54	0.84
Monroe	36.72	1.05	1.17	2.26	3.51	4.63	4.45	4.84	3.94	4.03	2.72	2.52	1.40
Montgomery	35.36	0.85	1.03	2.29	3.45	4.63	4.62	4.63	3.93	3.9	2.58	2.08	1.13
Muscatine	36.08	1.27	1.30	2.53	3.38	4.18	4.32	4.09	4.32	3.46	2.63	2.54	1.83
O'Brien	29.38	0.65	0.65	1.89	2.98	3.58	4.59	3.90	4.00	2.68	1.95	1.57	0.71
Osceola	28.61	0.58	0.57	1.92	2.92	3.52	4.49	3.58	3.85	2.80	1.95	1.52	0.68
Page	35.37	0.86	1.00	2.34	3.30	4.59	4.54	4.78	3.98	3.82	2.63	2.21	1.10
Palo Alto	31.09	0.74	0.64	1.95	3.13	3.71	4.70	4.17	4.17	2.88	2.19	1.76	0.85
Plymouth	27.23	0.59	0.57	1.91	2.8	3.61	4.12	3.48	3.21	2.56	2.02	1.45	0.71
Pocahontas	32.00	0.81	0.70	2.07	3.20	3.90	4.66	4.20	4.23	3.11	2.20	1.77	0.93
Polk	34.40	0.89	1.02	2.15	3.35	4.32	4.81	4.30	4.29	3.24	2.55	2.09	1.19
Pottawattamie	33.30	0.76	0.84	2.28	3.30	4.50	4.55	4.48	3.57	3.60	2.41	1.80	0.99
Poweshiek	35.74	1.05	1.11	2.19	3.44	4.36	4.53	4.25	4.43	3.72	2.70	2.43	1.31
Ringgold	35.80	0.83	1.06	2.31	3.26	4.53	4.44	4.73	4.00	4.03	2.91	2.25	1.24
Sac	32.02	0.77	0.71	2.19	3.28	4.07	4.70	4.06	3.90	3.19	2.30	1.69	0.97
Scott	35.82	1.34	1.35	2.56	3.41	4.04	4.50	3.78	4.37	3.19	2.60	2.56	1.91
Shelby	33.11	0.78	0.81	2.21	3.28	4.26	4.48	4.22	3.69	3.86	2.53	1.77	1.00
Sioux	27.67	0.60	0.59	1.92	2.77	3.46	4.27	3.56	3.52	2.54	1.99	1.53	0.72
Story	34.61	0.87	0.91	2.14	3.19	4.21	5.19	4.62	4.40	3.10	2.48	2.14	1.14
Tama	35.48	0.99	1.05	2.20	3.33	4.27	5.07	4.37	4.37	3.43	2.62	2.32	1.26
Taylor	36.01	0.88	1.04	2.32	3.27	4.62	4.50	4.87	4.00	4.02	2.84	2.27	1.17
Union	35.15	0.87	1.05	2.21	3.45	4.48	4.45	4.55	3.8	3.96	2.64	2.27	1.21
Van Buren	37.14	1.30	1.28	2.49	3.51	4.69	4.16	4.55	3.72	3.93	2.79	2.65	1.84
Wapello	36.30	1.09	1.17	2.36	3.38	4.56	4.31	4.59	3.99	3.9	2.72	2.51	1.49
Warren	35.13	0.95	1.10	2.16	3.58	4.48	4.59	4.35	3.97	3.62	2.70	2.19	1.23
Washington	35.62	1.18	1.16	2.38	3.27	4.37	4.19	4.27	4.15	3.68	2.63	2.47	1.66
Wayne	36.91	0.95	1.14	2.31	3.52	4.63	4.42	4.95	3.97	4.10	2.93	2.41	1.35
Webster	33.39	0.86	0.79	2.10	3.27	4.16	4.98	4.31	4.22	3.17	2.37	1.86	1.08
Winnebago	32.44	0.84	0.67	1.90	3.19	3.92	4.83	4.27	4.51	2.95	2.30	1.86	0.99
Winneshiek	34.31	0.94	0.90	1.96	3.60	3.82	4.56	4.33	4.85	3.42	2.35	2.17	1.19
Woodbury	28.76	0.63	0.63	2.05	3.01	3.89	4.17	3.63	3.34	2.76	2.13	1.51	0.78
Worth	33.39	0.93	0.72	2.01	3.27	4.01	4.76	4.33	4.55	3.20	2.37	1.95	1.07
Wright	33.03	0.80	0.75	1.99	3.21	4.05	5.13	4.26	4.23	3.13	2.35	1.88	1.04

Normal Annual and Monthly Unpaved Lot Runoff – CN 90 (inches)

County	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Adair	8.2	0.1	0.1	0.3	0.7	1.1	1.3	1.4	1.1	1.2	0.6	0.4	0.1
Adams	8.5	0.1	0.1	0.3	0.6	1.1	1.3	1.4	1.1	1.3	0.7	0.4	0.1
Allamakee	7.2	0.1	0.1	0.3	0.6	0.8	1.2	1.3	1.3	1.0	0.5	0.4	0.1
Appanoose	8.9	0.1	0.1	0.3	0.7	1.2	1.3	1.5	1.2	1.3	0.7	0.5	0.2
Audubon	7.9	0.1	0.1	0.3	0.6	1.1	1.4	1.3	1.1	1.1	0.6	0.4	0.1
Benton	7.9	0.1	0.1	0.3	0.7	0.9	1.3	1.2	1.3	1.1	0.6	0.4	0.1
Black Hawk	7.8	0.1	0.1	0.3	0.6	0.9	1.4	1.3	1.2	1.0	0.6	0.4	0.1
Boone	7.8	0.1	0.1	0.3	0.6	1.0	1.5	1.3	1.2	1.0	0.6	0.4	0.1
Bremer	7.7	0.1	0.1	0.3	0.6	0.9	1.4	1.3	1.3	1.0	0.5	0.4	0.1
Buchanan	7.7	0.1	0.1	0.3	0.6	0.9	1.4	1.2	1.3	1.0	0.6	0.4	0.1
Buena Vista	7.0	0.1	0.1	0.2	0.6	0.9	1.5	1.2	1.1	0.9	0.4	0.3	0.1
Butler	7.6	0.1	0.1	0.3	0.6	0.9	1.5	1.3	1.2	1.0	0.6	0.4	0.1
Calhoun	7.2	0.1	0.1	0.3	0.6	1.0	1.4	1.2	1.1	1.0	0.5	0.3	0.1
Carroll	7.5	0.1	0.1	0.3	0.6	1.1	1.4	1.3	1.0	1.0	0.5	0.3	0.1
Cass	8.1	0.1	0.1	0.3	0.6	1.1	1.4	1.4	1.1	1.2	0.7	0.4	0.1
Cedar	8.2	0.2	0.1	0.4	0.7	1.0	1.2	1.2	1.3	1.1	0.7	0.5	0.2
Cerro Gordo	7.5	0.1	0.1	0.3	0.6	0.9	1.5	1.3	1.2	0.9	0.5	0.3	0.1
Cherokee	6.5	0.1	0.1	0.2	0.5	0.8	1.4	1.2	1.0	0.8	0.4	0.2	0.1
Chickasaw	7.8	0.1	0.1	0.3	0.6	0.9	1.4	1.3	1.3	1.0	0.5	0.4	0.1
Clarke	8.6	0.1	0.1	0.3	0.7	1.2	1.3	1.4	1.2	1.3	0.7	0.5	0.1
Clay	6.5	0.1	0.1	0.2	0.6	0.8	1.4	1.2	1.1	0.8	0.4	0.2	0.1
Clayton	7.4	0.1	0.1	0.3	0.7	0.8	1.3	1.2	1.3	0.9	0.5	0.4	0.2
Clinton	7.9	0.2	0.1	0.4	0.7	0.9	1.3	1.1	1.3	1.0	0.7	0.5	0.3
Crawford	7.2	0.1	0.1	0.3	0.6	1.0	1.3	1.2	1.0	1.0	0.5	0.3	0.1
Dallas	7.9	0.1	0.1	0.3	0.6	1.0	1.4	1.3	1.1	1.0	0.6	0.4	0.1
Davis	9.0	0.2	0.1	0.4	0.7	1.1	1.2	1.4	1.2	1.3	0.7	0.5	0.2
Decatur	8.8	0.1	0.1	0.3	0.7	1.2	1.3	1.4	1.2	1.3	0.7	0.5	0.2
Delaware	7.7	0.1	0.1	0.3	0.7	0.9	1.3	1.2	1.4	1.0	0.6	0.4	0.1
Des Moines	8.6	0.2	0.1	0.4	0.7	1.0	1.2	1.3	1.1	1.1	0.7	0.5	0.3
Dickinson	6.3	0.1	0.1	0.2	0.5	0.7	1.4	1.1	1.0	0.7	0.4	0.2	0.1
Dubuque	7.7	0.1	0.1	0.3	0.7	0.8	1.2	1.1	1.3	1.0	0.6	0.4	0.2
Emmet	6.5	0.1	0.1	0.2	0.6	0.7	1.4	1.2	1.0	0.7	0.4	0.3	0.1
Fayette	7.7	0.1	0.1	0.3	0.7	0.9	1.3	1.3	1.4	1.0	0.5	0.4	0.1
Floyd	7.6	0.1	0.1	0.3	0.6	0.9	1.4	1.3	1.2	1.0	0.5	0.3	0.1
Franklin	7.6	0.1	0.1	0.3	0.6	0.9	1.5	1.3	1.2	0.9	0.5	0.3	0.1
Fremont	8.2	0.1	0.1	0.4	0.6	1.1	1.3	1.4	1.1	1.1	0.6	0.4	0.1
Greene	7.6	0.1	0.1	0.3	0.6	1.0	1.4	1.3	1.1	1.0	0.6	0.3	0.1
Grundy	7.8	0.1	0.1	0.3	0.6	0.9	1.5	1.3	1.2	0.9	0.6	0.4	0.1
Guthrie	8.0	0.1	0.1	0.3	0.6	1.1	1.4	1.3	1.2	1.1	0.6	0.4	0.1
Hamilton	7.6	0.1	0.1	0.3	0.6	0.9	1.6	1.3	1.2	0.9	0.5	0.3	0.1
Hancock	7.1	0.1	0.1	0.3	0.6	0.8	1.4	1.3	1.1	0.9	0.5	0.3	0.1
Hardin	7.7	0.1	0.1	0.3	0.6	0.9	1.6	1.3	1.2	0.9	0.6	0.4	0.1
Harrison	7.3	0.1	0.1	0.3	0.6	1.1	1.3	1.2	0.9	1.0	0.5	0.3	0.1
Henry	8.7	0.2	0.1	0.4	0.7	1.1	1.2	1.3	1.2	1.2	0.7	0.5	0.3
Howard	7.5	0.1	0.1	0.3	0.6	0.8	1.3	1.3	1.3	1.0	0.5	0.3	0.1
Humboldt	7.3	0.1	0.1	0.3	0.6	0.9	1.4	1.3	1.1	0.9	0.5	0.3	0.1
Ida	6.8	0.1	0.1	0.3	0.6	1.0	1.4	1.2	1.0	0.9	0.5	0.3	0.1
Iowa	8.2	0.1	0.1	0.3	0.7	1.0	1.3	1.3	1.3	1.1	0.7	0.5	0.2
Jackson	7.8	0.1	0.1	0.4	0.7	0.9	1.3	1.1	1.3	1.1	0.6	0.5	0.2
Jasper	8.1	0.1	0.1	0.3	0.6	1.0	1.4	1.3	1.2	1.1	0.7	0.4	0.1

Normal Annual and Monthly Unpaved Lot Runoff – CN 90 (inches)

County	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Jefferson	8.6	0.2	0.1	0.4	0.7	1.1	1.2	1.3	1.2	1.2	0.7	0.5	0.2
Johnson	8.2	0.1	0.1	0.3	0.7	1.0	1.3	1.3	1.3	1.1	0.6	0.5	0.2
Jones	7.8	0.1	0.1	0.4	0.7	0.9	1.3	1.2	1.3	1.0	0.6	0.5	0.2
Keokuk	8.4	0.1	0.1	0.4	0.7	1.0	1.2	1.3	1.2	1.2	0.7	0.5	0.2
Kossuth	6.9	0.1	0.1	0.2	0.6	0.8	1.4	1.3	1.1	0.8	0.4	0.3	0.1
Lee	9.1	0.2	0.1	0.4	0.7	1.1	1.2	1.3	1.1	1.2	0.7	0.6	0.3
Linn	8.0	0.1	0.1	0.3	0.7	0.9	1.3	1.2	1.3	1.1	0.6	0.4	0.2
Louisa	8.3	0.2	0.1	0.4	0.7	1.0	1.2	1.3	1.2	1.1	0.7	0.5	0.3
Lucas	8.7	0.1	0.1	0.3	0.7	1.1	1.4	1.4	1.2	1.3	0.7	0.5	0.2
Lyon	5.7	0.1	0.1	0.2	0.5	0.7	1.3	1.0	0.9	0.6	0.4	0.2	0.1
Madison	8.2	0.1	0.1	0.3	0.7	1.1	1.4	1.3	1.2	1.2	0.6	0.4	0.1
Mahaska	8.4	0.1	0.1	0.3	0.7	1.1	1.3	1.3	1.2	1.2	0.7	0.5	0.2
Marion	8.3	0.1	0.1	0.3	0.7	1.1	1.3	1.3	1.2	1.2	0.7	0.5	0.1
Marshall	8.1	0.1	0.1	0.3	0.6	1.0	1.5	1.3	1.2	1.0	0.6	0.4	0.1
Mills	8.0	0.1	0.1	0.3	0.6	1.2	1.4	1.4	1.1	1.1	0.6	0.4	0.1
Mitchell	7.3	0.1	0.1	0.3	0.6	0.8	1.3	1.3	1.3	1.0	0.5	0.3	0.1
Monona	6.7	0.1	0.1	0.3	0.6	1.0	1.3	1.2	0.9	0.9	0.5	0.2	0.1
Monroe	8.6	0.1	0.1	0.3	0.7	1.1	1.3	1.5	1.2	1.3	0.7	0.5	0.2
Montgomery	8.5	0.1	0.1	0.3	0.7	1.2	1.4	1.4	1.1	1.2	0.6	0.4	0.1
Muscatine	8.3	0.2	0.1	0.4	0.7	1.0	1.2	1.2	1.3	1.1	0.7	0.5	0.2
O'Brien	6.3	0.1	0.1	0.2	0.5	0.8	1.4	1.2	1.0	0.7	0.4	0.2	0.1
Osceola	6.0	0.1	0.1	0.2	0.5	0.7	1.3	1.1	1.0	0.7	0.4	0.2	0.1
Page	8.5	0.1	0.1	0.4	0.6	1.1	1.4	1.4	1.2	1.2	0.7	0.4	0.1
Palo Alto	6.8	0.1	0.1	0.2	0.6	0.8	1.4	1.3	1.1	0.8	0.4	0.3	0.1
Plymouth	5.9	0.1	0.1	0.2	0.5	0.8	1.2	1.0	0.8	0.7	0.4	0.2	0.1
Pocahontas	7.0	0.1	0.1	0.3	0.6	0.9	1.4	1.3	1.1	0.9	0.5	0.3	0.1
Polk	8.1	0.1	0.1	0.3	0.6	1.0	1.4	1.3	1.2	1.0	0.6	0.4	0.1
Pottawattamie	7.8	0.1	0.1	0.3	0.6	1.1	1.4	1.3	1.0	1.1	0.6	0.3	0.1
Poweshiek	8.2	0.1	0.1	0.3	0.7	1.0	1.3	1.3	1.3	1.2	0.7	0.5	0.2
Ringgold	8.6	0.1	0.1	0.3	0.6	1.1	1.3	1.4	1.2	1.3	0.7	0.5	0.1
Sac	7.2	0.1	0.1	0.3	0.6	1.0	1.4	1.2	1.1	0.9	0.5	0.3	0.1
Scott	7.9	0.2	0.1	0.4	0.7	0.9	1.3	1.1	1.3	1.0	0.7	0.5	0.3
Shelby	7.6	0.1	0.1	0.3	0.6	1.1	1.3	1.3	1.0	1.2	0.6	0.3	0.1
Sioux	5.8	0.1	0.1	0.2	0.5	0.7	1.3	1.1	0.9	0.6	0.4	0.2	0.1
Story	8.0	0.1	0.1	0.3	0.6	1.0	1.6	1.4	1.2	1.0	0.6	0.4	0.1
Tama	8.2	0.1	0.1	0.3	0.6	1.0	1.5	1.3	1.2	1.1	0.6	0.4	0.1
Taylor	8.6	0.1	0.1	0.3	0.6	1.2	1.4	1.5	1.2	1.3	0.7	0.5	0.1
Union	8.4	0.1	0.1	0.3	0.7	1.1	1.3	1.4	1.1	1.3	0.7	0.5	0.1
Van Buren	8.9	0.2	0.1	0.4	0.7	1.1	1.2	1.4	1.1	1.3	0.7	0.5	0.3
Wapello	8.5	0.2	0.1	0.4	0.7	1.1	1.2	1.4	1.2	1.2	0.7	0.5	0.2
Warren	8.3	0.1	0.1	0.3	0.7	1.1	1.4	1.3	1.2	1.2	0.7	0.4	0.1
Washington	8.2	0.2	0.1	0.4	0.7	1.0	1.2	1.3	1.2	1.2	0.7	0.5	0.2
Wayne	8.9	0.1	0.1	0.3	0.7	1.2	1.3	1.5	1.2	1.3	0.7	0.5	0.2
Webster	7.5	0.1	0.1	0.3	0.6	1.0	1.5	1.3	1.1	1.0	0.5	0.3	0.1
Winnebago	7.0	0.1	0.1	0.2	0.6	0.8	1.4	1.3	1.2	0.8	0.5	0.3	0.1
Winneshiek	7.4	0.1	0.1	0.3	0.6	0.8	1.3	1.3	1.3	1.0	0.5	0.3	0.1
Woodbury	6.3	0.1	0.1	0.2	0.5	0.9	1.3	1.1	0.9	0.8	0.4	0.2	0.1
Worth	7.2	0.1	0.1	0.3	0.6	0.8	1.4	1.3	1.2	0.9	0.5	0.3	0.1
Wright	7.4	0.1	0.1	0.3	0.6	0.9	1.5	1.3	1.1	0.9	0.5	0.3	0.1

Normal Annual and Monthly Paved Lot Runoff – CN 97 (inches)

County	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Adair	19.5	0.3	0.4	1.0	1.8	2.5	2.7	2.8	2.4	2.3	1.5	1.1	0.5
Adams	20.0	0.3	0.4	1.1	1.8	2.6	2.7	2.9	2.4	2.5	1.5	1.1	0.5
Allamakee	18.5	0.3	0.3	0.9	1.8	2.1	2.6	2.7	2.8	1.9	1.2	1.1	0.4
Appanoose	21.2	0.4	0.4	1.1	1.8	2.7	2.7	3.2	2.4	2.5	1.6	1.3	0.6
Audubon	18.8	0.3	0.4	1.0	1.7	2.4	2.7	2.7	2.3	2.1	1.4	0.9	0.4
Benton	19.7	0.4	0.4	1.0	1.8	2.3	2.9	2.6	2.7	2.1	1.4	1.2	0.5
Black Hawk	19.2	0.3	0.4	1.0	1.7	2.3	3.0	2.6	2.6	1.9	1.4	1.1	0.5
Boone	18.9	0.3	0.3	1.0	1.7	2.4	3.0	2.7	2.6	1.9	1.4	1.0	0.4
Bremer	19.5	0.3	0.3	0.9	1.8	2.3	3.0	2.7	2.9	1.9	1.4	1.1	0.4
Buchanan	19.5	0.4	0.4	0.9	1.7	2.2	2.9	2.6	2.9	2.1	1.4	1.2	0.5
Buena Vista	17.2	0.2	0.2	0.9	1.6	2.1	2.8	2.5	2.6	1.8	1.2	0.8	0.3
Butler	18.9	0.3	0.3	0.9	1.7	2.3	3.1	2.7	2.6	1.9	1.4	1.1	0.4
Calhoun	17.6	0.2	0.3	0.9	1.6	2.3	2.8	2.5	2.3	1.9	1.3	0.9	0.3
Carroll	18.0	0.3	0.3	1.0	1.7	2.4	2.8	2.6	2.2	2.0	1.3	0.9	0.4
Cass	19.4	0.3	0.4	1.0	1.7	2.5	2.8	2.8	2.4	2.3	1.5	1.0	0.4
Cedar	20.3	0.5	0.5	1.2	1.8	2.4	2.7	2.5	2.7	2.2	1.5	1.3	0.7
Cerro Gordo	18.5	0.3	0.3	0.9	1.7	2.3	3.0	2.7	2.7	1.9	1.3	0.9	0.4
Cherokee	15.7	0.2	0.3	0.8	1.5	2.1	2.6	2.3	2.3	1.6	1.1	0.7	0.3
Chickasaw	19.4	0.3	0.3	0.9	1.8	2.3	2.9	2.7	2.9	1.9	1.4	1.1	0.4
Clarke	20.5	0.3	0.4	1.0	1.9	2.6	2.7	2.9	2.5	2.5	1.5	1.2	0.5
Clay	16.0	0.2	0.2	0.8	1.5	2.0	2.7	2.4	2.5	1.6	1.1	0.7	0.2
Clayton	19.0	0.3	0.4	0.9	1.8	2.1	2.7	2.5	2.8	1.9	1.3	1.2	0.5
Clinton	20.1	0.5	0.5	1.2	1.8	2.2	2.7	2.2	2.7	2.0	1.5	1.3	0.8
Crawford	17.2	0.2	0.3	1.0	1.6	2.3	2.7	2.4	2.2	1.9	1.3	0.8	0.3
Dallas	18.9	0.3	0.4	1.0	1.7	2.4	2.9	2.7	2.5	2.0	1.4	1.0	0.4
Davis	21.3	0.5	0.5	1.2	1.8	2.7	2.6	3.0	2.4	2.6	1.6	1.4	0.7
Decatur	20.8	0.3	0.5	1.1	1.8	2.7	2.7	3.0	2.4	2.5	1.7	1.2	0.5
Delaware	19.5	0.4	0.4	1.0	1.8	2.2	2.7	2.5	3.0	2.1	1.4	1.2	0.5
Des Moines	20.9	0.5	0.5	1.3	1.8	2.5	2.6	2.7	2.4	2.3	1.5	1.4	0.8
Dickinson	15.5	0.2	0.2	0.8	1.5	2.0	2.7	2.3	2.3	1.5	1.1	0.7	0.2
Dubuque	19.3	0.4	0.4	1.1	1.7	2.1	2.7	2.4	2.7	2.1	1.3	1.2	0.6
Emmet	15.9	0.2	0.2	0.7	1.5	2.0	2.7	2.4	2.4	1.5	1.1	0.8	0.2
Fayette	19.5	0.3	0.4	0.9	1.8	2.2	2.8	2.6	3.0	2.0	1.3	1.1	0.5
Floyd	19.0	0.3	0.3	0.9	1.7	2.3	3.0	2.7	2.7	2.0	1.3	1.0	0.4
Franklin	18.6	0.3	0.3	0.9	1.6	2.3	3.1	2.7	2.6	1.9	1.3	1.0	0.4
Fremont	19.2	0.3	0.4	1.1	1.7	2.6	2.7	3.0	2.3	2.1	1.4	1.0	0.4
Greene	18.3	0.3	0.3	1.0	1.6	2.3	2.9	2.6	2.4	1.8	1.3	1.0	0.4
Grundy	19.2	0.3	0.3	1.0	1.7	2.4	3.2	2.7	2.5	1.9	1.4	1.1	0.5
Guthrie	19.1	0.3	0.4	1.0	1.7	2.5	2.9	2.7	2.5	2.1	1.4	1.0	0.4
Hamilton	18.7	0.3	0.3	0.9	1.6	2.2	3.2	2.7	2.7	1.8	1.3	1.0	0.4
Hancock	17.4	0.2	0.3	0.8	1.6	2.1	2.8	2.6	2.5	1.8	1.2	0.9	0.3
Hardin	19.0	0.3	0.3	1.0	1.6	2.3	3.2	2.6	2.5	1.9	1.4	1.1	0.4
Harrison	17.4	0.2	0.3	1.0	1.6	2.4	2.7	2.5	2.1	2.0	1.3	0.8	0.3
Henry	21.1	0.5	0.5	1.2	1.8	2.5	2.5	2.8	2.4	2.5	1.5	1.4	0.8
Howard	19.0	0.3	0.3	0.9	1.8	2.2	2.7	2.7	2.9	2.0	1.3	1.0	0.4
Humboldt	17.6	0.2	0.3	0.9	1.6	2.2	2.9	2.6	2.5	1.8	1.2	0.9	0.4
Ida	16.6	0.2	0.3	0.9	1.6	2.2	2.8	2.3	2.3	1.7	1.2	0.7	0.3
Iowa	20.1	0.4	0.4	1.0	1.8	2.5	2.8	2.7	2.7	2.3	1.5	1.3	0.6
Jackson	19.7	0.4	0.5	1.1	1.7	2.2	2.7	2.2	2.7	2.1	1.4	1.3	0.7
Jasper	19.6	0.3	0.4	1.0	1.7	2.5	2.8	2.7	2.6	2.1	1.5	1.2	0.5

Normal Annual and Monthly Paved Lot Runoff – CN 97 (inches)

County	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Jefferson	20.8	0.5	0.5	1.2	1.8	2.6	2.5	2.8	2.4	2.5	1.6	1.4	0.7
Johnson	20.1	0.4	0.4	1.1	1.8	2.4	2.8	2.6	2.7	2.2	1.4	1.3	0.6
Jones	19.8	0.4	0.4	1.1	1.7	2.2	2.7	2.4	2.8	2.1	1.4	1.3	0.7
Keokuk	20.2	0.4	0.4	1.1	1.8	2.5	2.6	2.7	2.5	2.4	1.4	1.3	0.6
Kossuth	16.6	0.2	0.2	0.8	1.6	2.1	2.7	2.6	2.5	1.6	1.3	0.8	0.3
Lee	21.6	0.6	0.6	1.3	1.9	2.7	2.5	2.7	2.3	2.4	1.6	1.5	0.9
Linn	19.8	0.4	0.4	1.0	1.8	2.3	2.8	2.6	2.7	2.1	1.4	1.2	0.6
Louisa	20.6	0.5	0.5	1.2	1.8	2.4	2.5	2.6	2.5	2.2	1.5	1.3	0.8
Lucas	20.7	0.3	0.4	1.1	1.8	2.6	2.8	2.9	2.4	2.5	1.6	1.2	0.5
Lyon	14.4	0.1	0.2	0.7	1.3	1.8	2.5	2.1	2.1	1.4	1.0	0.7	0.2
Madison	19.7	0.3	0.4	1.0	1.8	2.5	2.8	2.7	2.4	2.3	1.5	1.1	0.5
Mahaska	20.3	0.4	0.4	1.0	1.8	2.6	2.7	2.7	2.5	2.4	1.6	1.3	0.6
Marion	20.1	0.3	0.4	1.0	1.9	2.6	2.7	2.7	2.5	2.3	1.6	1.2	0.5
Marshall	19.6	0.3	0.4	1.0	1.6	2.4	3.1	2.8	2.7	2.0	1.4	1.2	0.5
Mills	18.7	0.3	0.3	1.0	1.7	2.6	2.7	2.8	2.3	2.1	1.4	0.9	0.4
Mitchell	18.5	0.3	0.3	0.8	1.7	2.2	2.9	2.7	2.8	2.0	1.3	1.0	0.4
Monona	16.5	0.2	0.3	0.9	1.6	2.3	2.6	2.4	2.1	1.7	1.2	0.7	0.3
Monroe	20.9	0.4	0.5	1.1	1.8	2.6	2.7	3.0	2.4	2.5	1.6	1.3	0.6
Montgomery	20.0	0.3	0.4	1.1	1.8	2.6	2.8	2.9	2.4	2.4	1.5	1.1	0.5
Muscatine	20.4	0.5	0.5	1.2	1.8	2.3	2.6	2.6	2.6	2.2	1.5	1.3	0.8
O'Brien	15.6	0.2	0.3	0.8	1.5	2.0	2.7	2.3	2.4	1.5	1.0	0.7	0.2
Osceola	15.2	0.1	0.2	0.8	1.4	1.9	2.6	2.1	2.3	1.5	1.0	0.7	0.2
Page	20.2	0.3	0.4	1.1	1.7	2.6	2.8	3.0	2.4	2.3	1.5	1.1	0.4
Palo Alto	16.5	0.2	0.2	0.8	1.5	2.0	2.7	2.5	2.5	1.6	1.2	0.8	0.3
Plymouth	14.4	0.1	0.2	0.8	1.4	2.0	2.4	2.1	1.9	1.4	1.1	0.7	0.2
Pocahontas	17.3	0.2	0.3	0.9	1.6	2.1	2.8	2.6	2.5	1.8	1.2	0.8	0.3
Polk	19.3	0.3	0.4	1.0	1.7	2.4	2.9	2.7	2.6	2.0	1.4	1.1	0.5
Pottawattamie	18.6	0.2	0.3	1.0	1.7	2.6	2.7	2.8	2.2	2.1	1.3	1.1	0.4
Poweshiek	20.0	0.4	0.4	1.0	1.8	2.5	2.8	2.7	2.7	2.3	1.5	1.3	0.5
Ringgold	20.4	0.3	0.4	1.1	1.7	2.6	2.7	3.0	2.4	2.5	1.7	1.2	0.5
Sac	17.6	0.2	0.3	0.9	1.6	2.3	2.8	2.5	2.3	1.9	1.2	0.8	0.3
Scott	20.1	0.5	0.5	1.2	1.8	2.3	2.7	2.3	2.6	2.0	1.5	1.3	0.8
Shelby	18.4	0.3	0.3	1.0	1.7	2.4	2.7	2.6	2.2	2.3	1.4	0.9	0.4
Sioux	14.7	0.2	0.2	0.8	1.3	1.9	2.5	2.1	2.1	1.4	1.0	0.7	0.2
Story	19.4	0.3	0.3	1.0	1.6	2.4	3.1	2.9	2.7	1.9	1.4	1.1	0.4
Tama	19.9	0.3	0.4	1.0	1.7	2.4	3.1	2.7	2.6	2.1	1.4	1.2	0.5
Taylor	20.5	0.3	0.4	1.1	1.7	2.6	2.7	3.1	2.4	2.5	1.6	1.2	0.5
Union	19.9	0.3	0.4	1.0	1.8	2.6	2.7	2.9	2.3	2.4	1.5	1.2	0.5
Van Buren	21.2	0.5	0.5	1.2	1.9	2.7	2.5	2.8	2.3	2.5	1.6	1.4	0.8
Wapello	20.7	0.4	0.5	1.1	1.8	2.6	2.6	2.9	2.4	2.5	1.6	1.3	0.6
Warren	19.8	0.3	0.4	1.0	1.9	2.6	2.8	2.7	2.4	2.2	1.5	1.1	0.5
Washington	20.1	0.4	0.4	1.1	1.7	2.5	2.6	2.7	2.5	2.3	1.5	1.3	0.7
Wayne	21.0	0.4	0.5	1.1	1.8	2.6	2.7	3.1	2.4	2.6	1.7	1.3	0.6
Webster	18.4	0.3	0.3	0.9	1.7	2.3	3.0	2.7	2.5	1.9	1.3	0.9	0.4
Winnebago	17.2	0.2	0.2	0.8	1.6	2.2	2.8	2.6	2.7	1.7	1.2	0.8	0.3
Winneshiek	18.9	0.3	0.3	0.9	1.8	2.1	2.7	2.6	2.9	2.0	1.3	0.9	0.4
Woodbury	15.5	0.2	0.3	0.8	1.5	2.1	2.4	2.2	2.0	1.5	1.1	0.7	0.3
Worth	18.0	0.3	0.3	0.9	1.6	2.2	2.8	2.6	2.7	1.9	1.3	0.9	0.3
Wright	18.2	0.2	0.3	0.9	1.6	2.2	3.1	2.6	2.5	1.8	1.3	0.9	0.4

10- and 25-Year – 5-Minute Precipitation Event by County (inches)

County	Precipitation Event		County	Precipitation Event	
	10 Year	25 Year		10 Year	25 Year
Adair	0.55	0.67	**Jefferson**	0.56	0.68
Adams	0.55	0.67	**Johnson**	0.53	0.65
Allamakee	0.52	0.61	**Jones**	0.53	0.65
Appanoose	0.56	0.69	**Keokuk**	0.56	0.68
Audubon	0.52	0.63	**Kossuth**	0.53	0.64
Benton	0.53	0.65	**Lee**	0.56	0.68
Black Hawk	0.52	0.61	**Linn**	0.53	0.65
Boone	0.51	0.62	**Louisa**	0.56	0.68
Bremer	0.52	0.61	**Lucas**	0.56	0.69
Buchanan	0.52	0.61	**Lyon**	0.50	0.61
Buena Vista	0.50	0.61	**Madison**	0.56	0.69
Butler	0.53	0.64	**Mahaska**	0.56	0.68
Calhoun	0.52	0.63	**Marion**	0.56	0.69
Carroll	0.52	0.63	**Marshall**	0.51	0.62
Cass	0.55	0.67	**Mills**	0.55	0.67
Cedar	0.53	0.65	**Mitchell**	0.53	0.64
Cerro Gordo	0.53	0.64	**Monona**	0.52	0.63
Cherokee	0.50	0.61	**Monroe**	0.56	0.69
Chickasaw	0.52	0.61	**Montgomery**	0.55	0.67
Clarke	0.56	0.69	**Muscatine**	0.53	0.65
Clay	0.50	0.61	**O'Brien**	0.50	0.61
Clayton	0.52	0.61	**Osceola**	0.50	0.61
Clinton	0.53	0.65	**Page**	0.55	0.67
Crawford	0.52	0.63	**Palo Alto**	0.50	0.61
Dallas	0.51	0.62	**Plymouth**	0.50	0.61
Davis	0.56	0.68	**Pocahontas**	0.50	0.61
Decatur	0.56	0.69	**Polk**	0.51	0.62
Delaware	0.52	0.61	**Pottawattamie**	0.55	0.67
Des Moines	0.56	0.68	**Poweshiek**	0.51	0.62
Dickinson	0.50	0.61	**Ringgold**	0.56	0.69
Dubuque	0.52	0.61	**Sac**	0.52	0.63
Emmet	0.50	0.61	**Scott**	0.53	0.65
Fayette	0.52	0.61	**Shelby**	0.52	0.63
Floyd	0.53	0.64	**Sioux**	0.50	0.61
Franklin	0.53	0.64	**Story**	0.51	0.62
Fremont	0.55	0.67	**Tama**	0.51	0.62
Greene	0.52	0.63	**Taylor**	0.55	0.67
Grundy	0.51	0.62	**Union**	0.56	0.69
Guthrie	0.52	0.63	**Van Buren**	0.56	0.68
Hamilton	0.51	0.62	**Wapello**	0.56	0.68
Hancock	0.53	0.64	**Warren**	0.56	0.69
Hardin	0.51	0.62	**Washington**	0.56	0.68
Harrison	0.52	0.63	**Wayne**	0.56	0.69
Henry	0.56	0.68	**Webster**	0.51	0.62
Howard	0.52	0.61	**Winnebago**	0.53	0.64
Humboldt	0.53	0.64	**Winneshiek**	0.52	0.61
Ida	0.52	0.63	**Woodbury**	0.52	0.63
Iowa	0.53	0.65	**Worth**	0.53	0.64
Jackson	0.53	0.65	**Wright**	0.53	0.64
Jasper	0.51	0.62			