



POINT PRECIPITATION FREQUENCY ESTIMATES

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PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.344 (0.312-0.379)	0.411 (0.373-0.453)	0.489 (0.443-0.539)	0.546 (0.494-0.601)	0.618 (0.557-0.680)	0.671 (0.602-0.738)	0.721 (0.643-0.794)	0.770 (0.682-0.849)	0.835 (0.732-0.923)	0.877 (0.764-0.974)
10-min	0.541 (0.491-0.596)	0.649 (0.588-0.715)	0.770 (0.698-0.850)	0.856 (0.775-0.943)	0.964 (0.869-1.06)	1.04 (0.934-1.14)	1.12 (0.994-1.23)	1.18 (1.05-1.30)	1.27 (1.11-1.40)	1.32 (1.15-1.47)
15-min	0.670 (0.609-0.739)	0.805 (0.730-0.887)	0.959 (0.868-1.06)	1.07 (0.967-1.18)	1.20 (1.08-1.33)	1.30 (1.17-1.43)	1.40 (1.24-1.54)	1.48 (1.31-1.63)	1.59 (1.39-1.76)	1.66 (1.44-1.84)
30-min	0.902 (0.819-0.994)	1.09 (0.992-1.20)	1.34 (1.21-1.48)	1.52 (1.37-1.67)	1.74 (1.57-1.92)	1.91 (1.71-2.10)	2.08 (1.85-2.28)	2.23 (1.98-2.46)	2.44 (2.14-2.70)	2.58 (2.25-2.87)
60-min	1.11 (1.01-1.23)	1.36 (1.23-1.50)	1.70 (1.54-1.87)	1.95 (1.76-2.15)	2.29 (2.06-2.52)	2.55 (2.29-2.81)	2.82 (2.51-3.10)	3.08 (2.73-3.40)	3.44 (3.01-3.80)	3.70 (3.22-4.11)
2-hr	1.37 (1.24-1.50)	1.66 (1.51-1.83)	2.10 (1.91-2.30)	2.44 (2.21-2.68)	2.91 (2.62-3.19)	3.30 (2.95-3.61)	3.69 (3.28-4.04)	4.10 (3.62-4.50)	4.67 (4.08-5.14)	5.13 (4.42-5.65)
3-hr	1.53 (1.40-1.68)	1.86 (1.70-2.04)	2.35 (2.15-2.58)	2.74 (2.49-3.00)	3.28 (2.96-3.59)	3.72 (3.34-4.06)	4.16 (3.71-4.55)	4.64 (4.10-5.07)	5.29 (4.61-5.80)	5.81 (5.02-6.40)
6-hr	2.00 (1.83-2.19)	2.42 (2.22-2.65)	3.05 (2.79-3.34)	3.56 (3.24-3.89)	4.27 (3.87-4.66)	4.87 (4.38-5.31)	5.50 (4.91-6.00)	6.18 (5.45-6.74)	7.13 (6.20-7.81)	7.92 (6.81-8.70)
12-hr	2.49 (2.26-2.76)	3.02 (2.74-3.35)	3.82 (3.46-4.24)	4.49 (4.05-4.96)	5.46 (4.88-6.01)	6.29 (5.57-6.91)	7.17 (6.30-7.88)	8.14 (7.07-8.95)	9.57 (8.16-10.5)	10.8 (9.05-11.9)
24-hr	2.80 (2.57-3.07)	3.39 (3.12-3.72)	4.35 (3.99-4.76)	5.17 (4.72-5.64)	6.40 (5.80-6.98)	7.47 (6.72-8.14)	8.65 (7.71-9.44)	9.98 (8.79-10.9)	12.0 (10.4-13.1)	13.7 (11.7-15.1)
2-day	3.30 (3.04-3.62)	4.00 (3.68-4.38)	5.11 (4.69-5.59)	6.04 (5.53-6.60)	7.42 (6.74-8.08)	8.58 (7.75-9.37)	9.86 (8.83-10.8)	11.3 (9.98-12.3)	13.3 (11.6-14.7)	15.1 (13.0-16.7)
3-day	3.48 (3.20-3.78)	4.21 (3.88-4.58)	5.35 (4.93-5.82)	6.30 (5.79-6.85)	7.69 (7.02-8.35)	8.86 (8.03-9.62)	10.1 (9.10-11.0)	11.5 (10.2-12.6)	13.5 (11.9-14.8)	15.2 (13.2-16.8)
4-day	3.65 (3.37-3.96)	4.41 (4.08-4.78)	5.59 (5.16-6.06)	6.56 (6.04-7.10)	7.96 (7.29-8.61)	9.13 (8.31-9.88)	10.4 (9.38-11.3)	11.7 (10.5-12.8)	13.7 (12.1-15.0)	15.4 (13.4-16.9)
7-day	4.30 (4.00-4.64)	5.17 (4.81-5.58)	6.43 (5.97-6.93)	7.46 (6.92-8.04)	8.95 (8.25-9.64)	10.2 (9.34-11.0)	11.5 (10.5-12.4)	12.9 (11.6-14.0)	14.9 (13.3-16.2)	16.6 (14.5-18.1)
10-day	4.95 (4.63-5.30)	5.91 (5.54-6.33)	7.24 (6.77-7.75)	8.32 (7.77-8.90)	9.86 (9.16-10.6)	11.1 (10.3-11.9)	12.5 (11.4-13.4)	13.9 (12.6-14.9)	15.8 (14.2-17.1)	17.5 (15.5-19.0)
20-day	6.68 (6.28-7.12)	7.93 (7.46-8.45)	9.47 (8.89-10.1)	10.7 (10.0-11.4)	12.3 (11.5-13.1)	13.6 (12.6-14.5)	14.9 (13.8-15.9)	16.2 (14.9-17.3)	17.9 (16.3-19.2)	19.3 (17.4-20.8)
30-day	8.34 (7.88-8.83)	9.84 (9.30-10.4)	11.5 (10.9-12.2)	12.8 (12.0-13.5)	14.4 (13.6-15.3)	15.7 (14.7-16.6)	16.9 (15.8-18.0)	18.1 (16.9-19.3)	19.6 (18.2-21.0)	20.8 (19.1-22.3)
45-day	10.6 (10.0-11.2)	12.5 (11.8-13.1)	14.4 (13.6-15.2)	15.8 (14.9-16.7)	17.7 (16.7-18.7)	19.1 (17.9-20.1)	20.4 (19.1-21.6)	21.7 (20.3-23.0)	23.3 (21.7-24.8)	24.5 (22.7-26.1)
60-day	12.7 (12.1-13.4)	14.9 (14.1-15.7)	17.0 (16.2-18.0)	18.6 (17.6-19.6)	20.6 (19.5-21.7)	22.0 (20.8-23.3)	23.4 (22.1-24.7)	24.6 (23.2-26.1)	26.2 (24.5-27.8)	27.3 (25.4-29.0)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

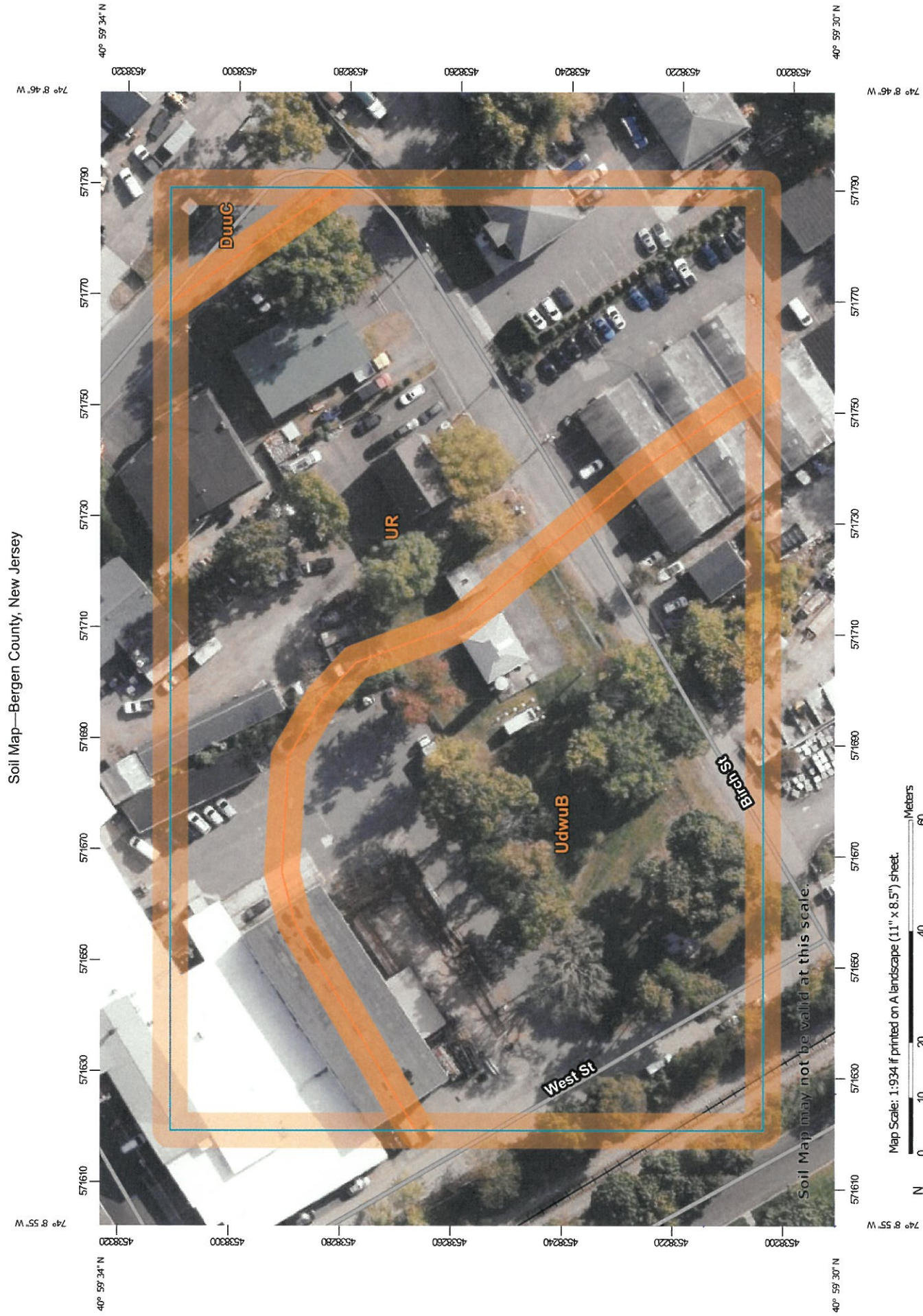
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PFAS Treatment Designs
Wortendyke Facility
Bergen _ D County, New Jersey

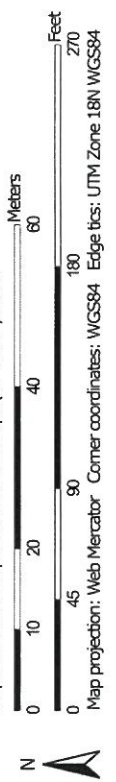
Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Ex-1	Open space; grass cover > 75% (good)	D	.18	80
	Paved parking lots, roofs, driveways	D	.08	98
	Total Area / Weighted Curve Number			.26 ===
Pr-1	Open space; grass cover > 75% (good)	D	.11	80
	Paved parking lots, roofs, driveways	D	.15	98
	Total Area / Weighted Curve Number			.26 ===

Soil Map—Bergen County, New Jersey












































Map Scale: 1:934 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soils	 Stony Spot
 Soil Map Unit Polygons	 Very Stony Spot
 Soil Map Unit Lines	 Wet Spot
 Soil Map Unit Points	 Other
 Special Point Features	 Special Line Features
 Blowout	 Water Features
 Borrow Pit	 Streams and Canals
 Clay Spot	 Transportation
 Closed Depression	 Rails
 Gravel Pit	 Interstate Highways
 Gravelly Spot	 US Routes
 Landfill	 Major Roads
 Lava Flow	 Local Roads
 Marsh or swamp	 Background
 Mine or Quarry	 Aerial Photography
 Miscellaneous Water	
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bergen County, New Jersey
Survey Area Data: Version 20, Aug 28, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 10, 2022—Oct 16, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DuuC	Dunellen-Urban land complex, 8 to 15 percent slopes	0.1	1.7%
UdwuB	Udorthents, wet substratum- Urban land complex	2.1	46.1%
UR	Urban land	2.4	52.2%
Totals for Area of Interest		4.5	100.0%