

**NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER QUALITY**

**INSTRUCTIONS**

**Form RF:  
Alternative Discharge Information Form (ADI Form)**

As the directions in the Alternative Discharge Information Form (ADI Form) note, certain applicants must complete the ADI Form instead of the Pollutant Analysis Summary (PAS) in Items 11A and 11B of Form RF. Some other applicants may choose to submit the ADI Form instead of the PAS, even though the ADI Form requires more discharge information (including pollutant concentrations and loadings based on flow-weighted composite samples) than is required for the PAS (which was developed as a substitute for the ADI Form).

The Department does **not** need to be contacted in advance of the decision to complete the PAS or the ADI Form. However, the Department may require you to conduct additional analyses to further characterize your discharges. If you complete the ADI Form, do not complete the PAS, but do complete the rest of Form RF (Items 1 through 10, and Items 12 through 15), and attach the ADI Form to the rest of Form RF.

Above Part A of the ADI Form, provide the name of your facility as it appears in Item 1 of Form RF. (Also provide this name on the top of each subsequent page of the ADI Form.) If you sample more than one discharge location, make copies of blank pages of the ADI Form to complete the ADI Form for each sampled discharge location.

Most applicants who use the ADI Form must collect and report data on pollutants discharged from each stormwater outfall and from each drainage area not served by an outfall (DANS) listed in Item 4 of Form RF (for exceptions, see the discussions below of "NEW SOURCE OR NEW DISCHARGE" and "GROUP APPLICATIONS"). Parts A, B, C, and D of the ADI Form each address a different set of pollutants (or other storm event data), and must be completed in accordance with the specific instructions for that part. The following general instructions for the ADI Form apply to most or all of Parts A, B, C, and D. The Form RF *General Sampling and Reporting Guidance* contains general instructions and guidance applicable to both the ADI Form and the PAS.

**SAMPLING.** Except as discussed below under "NEW SOURCE OR NEW DISCHARGE," samples of stormwater must be collected and analyzed to complete the ADI Form. (In regard to use of previously collected "group application" sampling data, see the discussions below of "GROUP APPLICATIONS.")

Except as noted in the discussion below of "site-specific sampling procedures or requirements" (which pertains to this paragraph and other sampling instructions), all samples must be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in your area. You may use the "Rain Zones of the United States" map in these Instructions, or other information, to estimate the duration and total rainfall of average or median rainfall events in New Jersey. (If you use that map, you may use the storm event statistics for the North East, North East-Coastal, or Midatlantic Rain Zones regardless of where your facility is located in New Jersey.)

Parts A, B, and C and their instructions refer to grab samples and flow-weighted composite samples. (When those instructions would otherwise require you to analyze both a grab sample and a flow-weighted composite sample, you may instead take a minimum of one grab sample if the discharge is from a holding

pond or other impoundment with a retention period of greater than 24 hours.) Grab and flow-weighted composite samples are defined as follows:

**GRAB SAMPLE** - An individual sample of at least 100 milliliters collected during the first thirty minutes (or as soon thereafter as practicable) of the discharge. This sample is to be analyzed separately from the flow-weighted composite sample.

**FLOW-WEIGHTED COMPOSITE SAMPLE** - A sample composed of continuous samples or several discrete samples combined in a flow proportional manner for the entire storm event or for the first three hours of the storm event.

A flow-weighted composite sample may be taken with a continuous sampler that proportions the amount of sample collected with the flow rate, or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire storm event (or for the first three hours of the event), with each aliquot being at least 100 milliliters and collected with a minimum period of fifteen minutes between aliquot collections. Either the time interval between each aliquot or the volume of each aliquot must be proportional to either the flow at the time of sampling or the total flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. Only one analysis for the composite sample is required. Where feasible, grab and flow-weighted composite samples should be taken from the same storm event for a given stormwater outfall or DANS.

On a case-by-case basis, the Department may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rainfall), protocols for collecting samples that may differ from protocols for collecting samples under 40 CFR Part 136 or N.J.A.C. 7:18, time duration between the collection of sample aliquots in flow-composite samples, and additional time for submitting data. Site-specific sampling procedures or requirements include but are not limited to the "Pollutant Analysis Summary" (PAS) in Items 11A and 11B of Form RF (and corresponding Instructions), which are appropriate for some facilities.

**NEW SOURCE OR NEW DISCHARGE.** For a new source or new discharge of stormwater, provide estimates for the pollutants addressed by Parts A, B, and C instead of actual sampling data, along with the source of each estimate. Examples of such sources include engineering studies, professional estimates, actual data from pilot operations, and data from similar facilities. You must also provide quantitative data (including Part D data) for the pollutants addressed by Parts A, B, and C within two years after commencement of discharge, unless such data has already been reported by then under the monitoring requirements of the NJPDES-DSW permit for the discharge. Label estimates with the abbreviation "(est.)."

**GROUP APPLICATIONS.** If your facility was approved by the USEPA as a member of a group application pursuant to 40 CFR 122.26(e)(2), the Department may accept the quantitative data in Part 2 of that group application in lieu of quantitative data collected at your facility, provided that:

- You name that group in the space provided in Part E of the ADI Form;
- The quantitative data in Part 2 of that group application is submitted to the Department either by you (in Parts A, B, C, and D of the ADI Form, or in an attachment to the ADI Form), or by the entity that prepared the group application (attach to the ADI Form the original or a copy of the cover letter from that entity to the Department); and
- The USEPA has not informed the entity that prepared the group application that the quantitative data in Part 2 that was submitted to the Department is inaccurate or incomplete.

**REPORTING.** Complete Parts A, B, C, and D for each stormwater outfall and DANS listed in Item 4 of Form RF. On each page containing those parts, report information for the single stormwater outfall or DANS whose number you specify on that page.

All pollutant levels reported in Parts A, B, and C must be reported as concentration and loading, with the following exceptions:

- Grab samples are not reported in terms of loading, but are reported in terms of concentration (except as provided in the next sentence).
- For pollutants which cannot be appropriately expressed in terms of concentration or loading, levels must be reported in units appropriate to the pollutant (even though such pollutants are reported for convenience under the "concentration" or "loading" column). Express pH in "standard units."

If you analyze only one grab sample and one flow-weighted composite sample from one storm event for a given stormwater outfall or DANS, complete the "Maximum Values" columns only, and insert "1" or "2" in the "Number of Storm Events Sampled" column (depending on whether that grab sample and flow-weighted composite sample were taken from the same storm event). The Department may require you to conduct additional analyses to further characterize your discharges.

If you analyze (for a given pollutant) more than one value for a grab sample or a flow-weighted composite sample for a given stormwater outfall or DANS, and if those values are representative of your discharge, you must report the highest of those values in the "Maximum Values" columns, and you must report the average of those values (except for pH) under the "Average Values" columns. (For pH, do not try to calculate an average, but instead report the lowest of those pH values under the "Minimum" column.) You must also report the total number of storm events sampled under the "Number of Storm Events Sampled" columns, and describe your method of testing and data analysis.

Report sources (see the Form RF *General Sampling and Reporting Guidance*) for each Part A pollutant (except pH) and each pollutant you list in Parts B or C (including each pollutant listed in Part C but not analyzed).

**Part A** - Follow directions in Part A of the form. You must analyze for "Oil and Grease" (rather than for "Petroleum Hydrocarbons") unless the oil and grease in the discharge is petroleum-based only, in which case you must analyze either for "Oil and Grease" or "Petroleum Hydrocarbons" (check the appropriate box to identify which analysis you performed).

For oil and grease or petroleum hydrocarbons, and for pH, collect and analyze a grab sample as described in the general instructions above. Do not collect and analyze a flow-weighted composite sample for these pollutants. For all other listed pollutants, analyze both a grab sample and a flow-weighted composite sample (or a minimum of one grab sample for discharges from certain impoundments) as described in the general instructions above.

**Part B** - Follow directions in Part B of the form. In accordance with those directions, the pollutants that must be listed in Part B may include one or more pollutants shown in Appendix RF-2, RF-3, RF-4, or other pollutants. (Appendix RF-2, RF-3, RF-4 are in the main Instructions for Form RF.) Do not, however, list any Part A pollutants. See 40 CFR Subchapter N to determine which pollutants are directly or indirectly limited in effluent guidelines. (For example, if iron and aluminum are indirectly limited by an applicable effluent guideline limitation through use of total suspended solids as an indicator, you must analyze for iron and aluminum, and report the data in Part B.)

For each of the following pollutants (if any) that you list in Part B, collect and analyze a grab sample (as described in the general instructions above): residual chlorine, chlorine produced oxidants, fecal coliform, fecal streptococcus, other bacterial indicators, temperature, cyanide, total phenols, and volatile organics. Do not collect and analyze a flow-weighted composite sample for those pollutants. For all other pollutants

(if any) that you list in Part B, analyze both a grab sample and a flow-weighted composite sample (or a minimum of one grab sample for discharges from certain impoundments) as described in the general instructions above.

**Part C** - Follow directions in Part C of the form, which requires you to list each pollutant shown in Appendix RF-2, RF-3, or RF-4 that you know or have reason to believe is discharged (see the Form RF *General Sampling and Reporting Guidance*), even if you list that pollutant in Part B. As set forth in the following instructions concerning Appendix RF-2, RF-3, and RF-4, Part C does **not** require you in some instances to analyze a sample for a pollutant you list in Part C. (In some of those instances, however, Part B may require you to analyze for that pollutant. See the Part B instructions above.) Pollutants shown in each Appendix are addressed differently.

For each of the following pollutants (if any) for which you do report analyses under Part C, collect and analyze a grab sample (as described in the general instructions above): residual chlorine, fecal coliform, total cyanide, total phenols, and volatile organics. Do not collect and analyze a flow-weighted composite sample for those pollutants. For all other pollutants (if any) for which you report analyses under Part C, analyze both a grab sample and a flow-weighted composite sample (or a minimum of one grab sample for discharges from certain impoundments) as described in the general instructions above.

APPENDIX RF-2 (CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS) - For each pollutant shown in Appendix RF-2 that you know or have reason to believe is discharged, Part C requires you to either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

APPENDIX RF-3 (TOXIC POLLUTANTS AND TOTAL PHENOLS) - For each pollutant shown in Appendix RF-3 (other than acrolein, acrylonitrile, 2,4-dinitrophenol, and 4,6-dinitro-o-cresol) that you know or have reason to believe is discharged in concentrations of 10 µg/L or greater, Part C requires you to submit quantitative data. For acrolein, acrylonitrile, 2,4-dinitrophenol, and 4,6-dinitro-o-cresol, you must submit quantitative data if any of these four pollutants is expected to be discharged in concentrations of 100 µg/L or greater. For every pollutant expected to be discharged in concentrations of less than 10 µg/L (or 100 µg/L for the four pollutants listed above), you must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

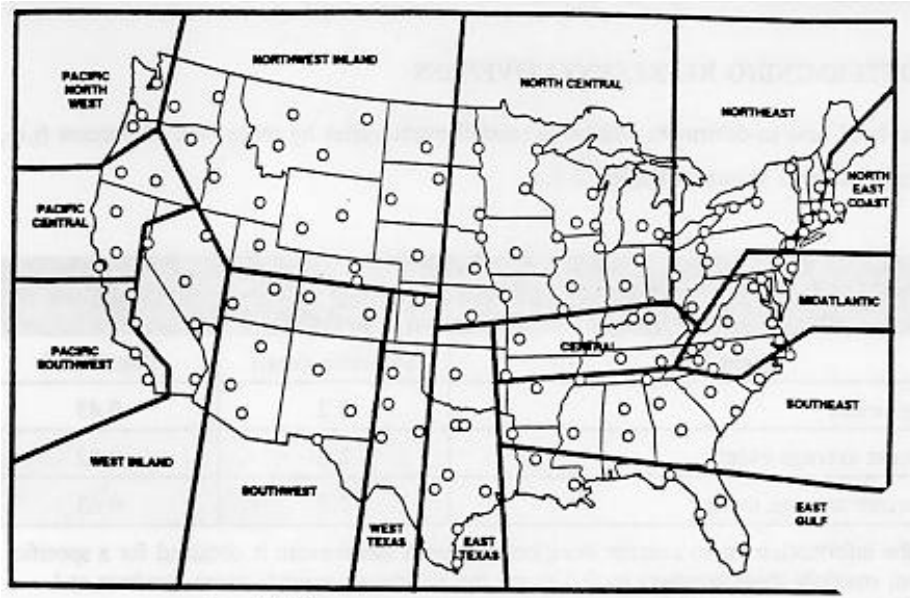
If you qualify as a **small business**, you are exempt from the Part C requirements (but not the Part B requirements) to submit quantitative data for the pollutants shown in Appendix RF-3, with the exception of all of the toxic metals, total cyanide, and total phenols (the first 15 pollutants shown in Appendix RF-3). You qualify if gross total annual sales for an average of the most recent three years is less than \$100,000 per year (in second quarter 1980 dollars). If you want this exemption and feel you qualify for it, check the corresponding box in Part C and submit sales data for those years to the Department (see the Form RF *General Sampling and Reporting Guidance*).

APPENDIX RF-4 (TOXIC POLLUTANT (ASBESTOS) AND HAZARDOUS SUBSTANCES) - For each pollutant shown in Appendix RF-4 that you know or have reason to believe is discharged, Part C requires you to describe briefly the reasons the pollutant is expected to be discharged, and report any quantitative data you have for that pollutant.

**Part D** - Follow directions in Part D of the form. In the "Total Rainfall During Storm Event" column, provide (except as noted in the Form RF *General Sampling and Reporting Guidance*) measurements or estimates of the total rainfall during the storm event(s) sampled (including the liquid equivalent of any snow or other frozen precipitation during that storm event). The "Previous Measurable Rain Event" is the previous rain event with greater than 0.1 inch rainfall. (For purposes of the preceding sentence, "rainfall" does not include the liquid equivalent of snow or other frozen precipitation that did not melt during the rain event.)

**Part E** - Follow directions in Part E of the form.

## RAIN ZONES OF THE UNITED STATES



<u>RAIN ZONE</u>	Annual Statistics				Independent Storm Event Statistics							
	No. of Storms		Precip.		Duration		Intensity		Volume		DELTA	
	Avg	COV	Avg	COV	Avg	COV	Avg	COV	Avg	COV	Avg	COV
			(in)	(hr)	(in/hr)	(in)	(hr)					
NORTH EAST	70	0.13	34.6	0.18	11.2	0.81	0.067	1.23	0.50	0.95	126	0.94
NORTH EAST-COASTAL	63	0.12	41.4	0.21	11.7	0.77	0.071	1.05	0.66	1.03	140	0.87
MIDATLANTIC	62	0.13	39.5	0.18	10.1	0.84	0.092	1.20	0.64	1.01	143	0.97
CENTRAL	68	0.14	41.9	0.19	9.2	0.85	0.097	1.09	0.62	1.00	133	0.99
NORTH CENTRAL	55	0.16	29.8	0.22	9.5	0.83	0.087	1.20	0.55	1.01	167	1.17
SOUTHEAST	65	0.15	49.0	0.20	8.7	0.92	0.122	1.09	0.75	1.10	136	1.03
EAST GULF	68	0.17	53.7	0.23	6.4	1.05	0.178	1.03	0.80	1.19	130	1.25
EAST TEXAS	41	0.22	31.2	0.29	8.0	0.97	0.137	1.08	0.76	1.18	213	1.28
WEST TEXAS	30	0.27	17.3	0.33	7.4	0.98	0.121	1.13	0.57	1.07	302	1.53
SOUTHWEST	20	0.30	7.4	0.37	7.8	0.88	0.079	1.16	0.37	0.88	473	1.46
WEST INLAND	14	0.38	4.9	0.43	9.4	0.75	0.055	1.06	0.36	0.87	786	1.54
PACIFIC SOUTH	19	0.36	10.2	0.42	11.6	0.78	0.054	0.76	0.54	0.98	476	2.09
NORTHWEST INLAND	31	0.23	11.5	0.29	10.4	0.82	0.057	1.20	0.37	0.93	304	1.43
PACIFIC CENTRAL	32	0.25	18.4	0.33	13.7	0.80	0.048	0.85	0.58	1.05	265	2.00
PACIFIC NORTHWEST	71	0.15	35.7	0.19	15.9	0.80	0.035	0.73	0.50	1.09	123	1.50

COV = Coefficient of Variation = Standard Deviation/Mean

DELTA = Interval Between Storm Midpoints

o = Rain Gauge Stations

Source: Urban Targeting and BMP Selection, U.S. EPA Region 5, November 1990.

Source: U.S. Environmental Protection Agency (1992). *NPDES Storm Water Sampling Guidance Document*. EPA 833-B-92-001. U.S. Environmental Protection Agency, Office of Water.