



Leo Holm P.E.  
Associated General Contractors



# National Mall and Memorial Parks

U.S. Department of the Interior  
National Park Service



## What's Happening?

National Mall and Memorial Parks is restoring the Mall lawn and making other improvements between 3rd Street and 7th Street. The work includes the installation of engineered soil medium to resist soil compaction, durable turf varieties and granite edging. New sustainable systems to improve soil drainage and collect stormwater for irrigation will reduce the use of potable water and help improve regional water quality. This contract work is to be completed by December 2012.

With assistance from the Trust for the National Mall





UNITED STATES

Environmental  
Protection  
Agency

West Building  
1301 Constitution Ave., NW

Visitors →

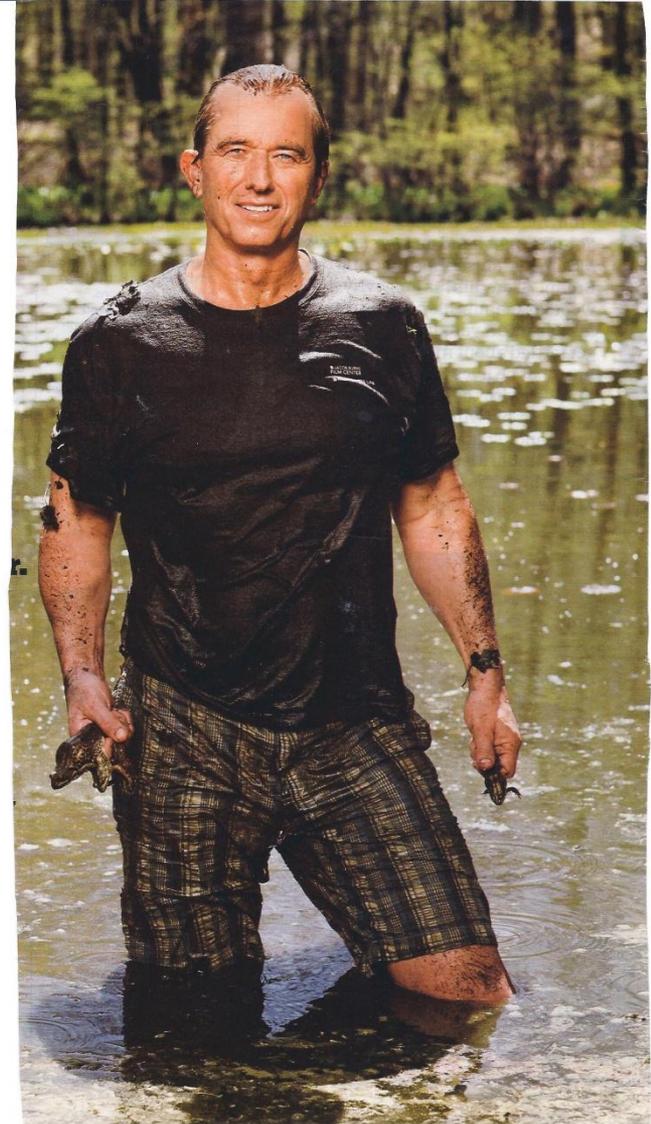


# Jessie Pritts and Greg Schaner from EPA



# Who are some of the other major players?

- **Robert Kennedy Jr**
- **Founder of the Water Keeper Alliance Org.**



# Issues reported by Watershed Districts

**EPA proposed effluent standard on brown water discharge from projects**



# Jessie Pritts

Chief author of EPA general Permit



# An example of the first proposed effluent standard of 13 NTU



# Example of second effluent standard of 280 NTU



# EPA Proposal Would Change How Contractors Manage Stormwater Runoff



AGC of America  
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA  
Quality People. Quality Projects.

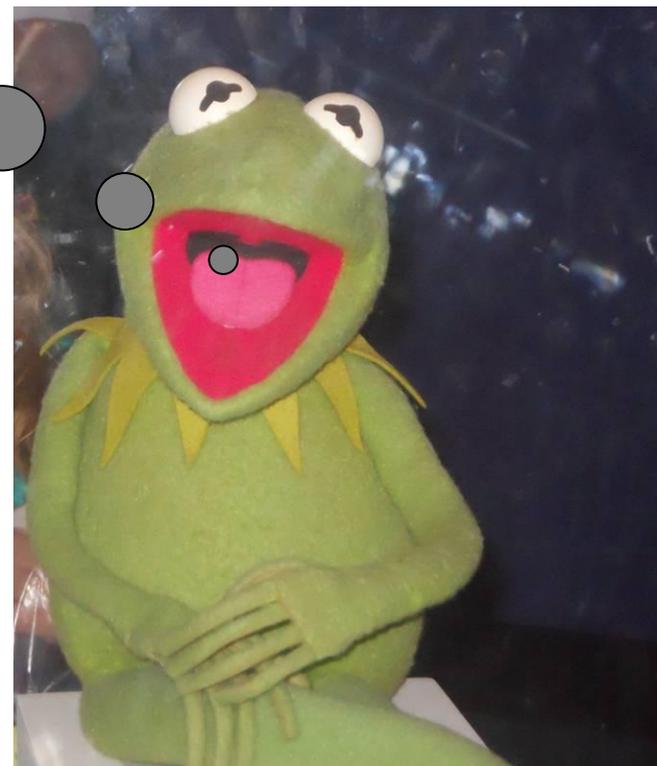


## Leah Pilconis Environmental Council for AGC

# What took the place of the effluent standard?

- Lots more documentation on projects
- Rigorous site inspections and reports
- Corrective action requirements and corrective action reports
- Rigorous requirements if near or discharging to impaired waters, special waters
- Requirements for buffers
- Signing/certification of forms and SWPPP
- Emphasis on pollution prevention and use of any chemicals
- Training requirements

Are you ready  
for the  
requirements  
enacted by the  
EPA ?



# How does this affect you?

- EPA requirements are directly applicable on Native American lands and projects
- Affects future provisions the next time the storm water permit are revised in states
- Minnesota is in the process of revising its permit and must incorporate various provisions

# The EPA storm water permit

- 164 pages
- 24 pages on buffers
- Training
- Site inspections
- Site inspection documentation
- Corrective action/reports
- Detailed requirements when using chemicals for storm water management
- Real emphasis on pollution prevention

### 1.3. Types of Discharges Authorized Under the CGP.

The following is a list of discharges that are allowed under the permit provided that appropriate stormwater controls are designed, installed, and maintained:

- c. Stormwater discharges from construction support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided:
  - i. The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;
  - ii. The support activity is not a commercial operation, nor does it serve multiple unrelated construction projects;
  - iii. The support activity does not continue to operate beyond the completion of the construction activity at the project it supports; and
  - iv. Stormwater controls are implemented in accordance with Part 2 and, if applicable, Part 3, for discharges from the support activity areas.



## STAFF TRAINING REQUIREMENTS.

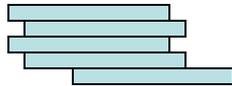
Prior to the commencement of earth-disturbing activities or pollutant-generating activities, whichever occurs first, you must ensure that the following personnel understand the requirements of this permit and their specific responsibilities with respect to those requirements:

- Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention measures);
- Personnel responsible for the application and storage of treatment chemicals (if applicable);
- Personnel who are responsible for conducting inspections as required in Part 4.1.1; and
- Personnel who are responsible for taking corrective actions as required in Part 5.



# Tight restrictions on Flocculants

- Chitosan
- Polyacrylamide



## Use of Cationic Treatment Chemicals.

If you plan to use cationic treatment chemicals (as defined in Appendix A), you are ineligible for coverage under this permit, unless you notify your applicable EPA Regional Office in advance and the EPA office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

# 'FlocClear' Polymer

FlocClear is a derivative of a high molecular weight biopolymer that is water soluble. The product is derived from chitosan, a polysaccharide obtained from chitin that found in the exoskeleton of shellfish like shrimp or crabs. FlocClear is formed through a chemical derivatization of the chitosan molecule.



[WWW.CLEARCREEKSYSTEMS.COM](http://WWW.CLEARCREEKSYSTEMS.COM)

STORM WATER TREATMENT  
SEDIMENT REMOVAL  
FILTRATION AIDE



TURBIDITY REDUCTION  
HEAVY METALS REMOVAL

2.1.3.3 ***Use of Treatment Chemicals.*** If you are using polymers, flocculants, or other treatment chemicals at your site, you must comply with the following minimum requirements:

- Use erosion and sediment controls prior to and after application of treatment chemicals
- Select appropriate treatment chemicals based on soils/turbidity
- Minimize risk of discharge from any stored chemicals
- Comply with other state/local requirements
- Use in accordance with good engineering practices, specifications and dosing rate
- Ensure proper training of all personnel handling/using the chemicals
- Comply with any additional requirements herein regarding cationic flocculants
- Provide documentation in the SWPPP on when treated, chemicals used, treatment methods and dosing

Must test water pH and flocculent prior to use



2.1.3.4 **Dewatering Practices.** You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls.<sup>14</sup> Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.



# More wordage on material and chemical use and storage



# Pollution prevention and leaks



You are required to comply with the pollution prevention standards in this Part if you conduct any of the following activities at your site or at any construction support activity areas covered by this permit (see Part 1.3.c):

- Fueling and maintenance of equipment or vehicles;
- Washing of equipment and vehicles;
- Storage, handling, and disposal of construction materials, products, and wastes; and
- Washing of applicators and containers used for paint, concrete, or other materials.



You are prohibited from discharging the following from your construction site:

- 2.3.1.1 Wastewater from washout of concrete, unless managed by an appropriate control as described in Part 2.3.3.4;
- 2.3.1.2 Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials, unless managed by an appropriate control as described in Part 2.3.3.4;
- 2.3.1.3 Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- 2.3.1.4 Soaps, solvents, or detergents used in vehicle and equipment washing; and
- 2.3.1.5 Toxic or hazardous substances from a spill or other release.



2.3.3.4 **Washing of Applicators and Containers used for Paint, Concrete, or Other Materials.** To comply with the prohibition in Parts 2.3.1.1 and 2.3.1.2, you must provide an effective means of eliminating the discharge of water from the washout and cleanout of stucco, paint, concrete, form release oils, curing compounds, and other construction materials. To comply with this requirement, you must:

- a. Direct all washwater into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation;
- b. Handle washout or cleanout wastes as follows:
  - i. Do not dump liquid wastes in storm sewers;
  - ii. Dispose of liquid wastes in accordance with applicable requirements in Part 2.3.3.3; and
  - iii. Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes in Part 2.3.3.3; and
- c. Locate any washout or cleanout activities as far away as possible from surface waters and stormwater inlets or conveyances, and, to the extent practicable, designate areas to be used for these activities and conduct such activities only in these areas.

# Mass grading stage



# Perimeter control is required



# Buffer requirements

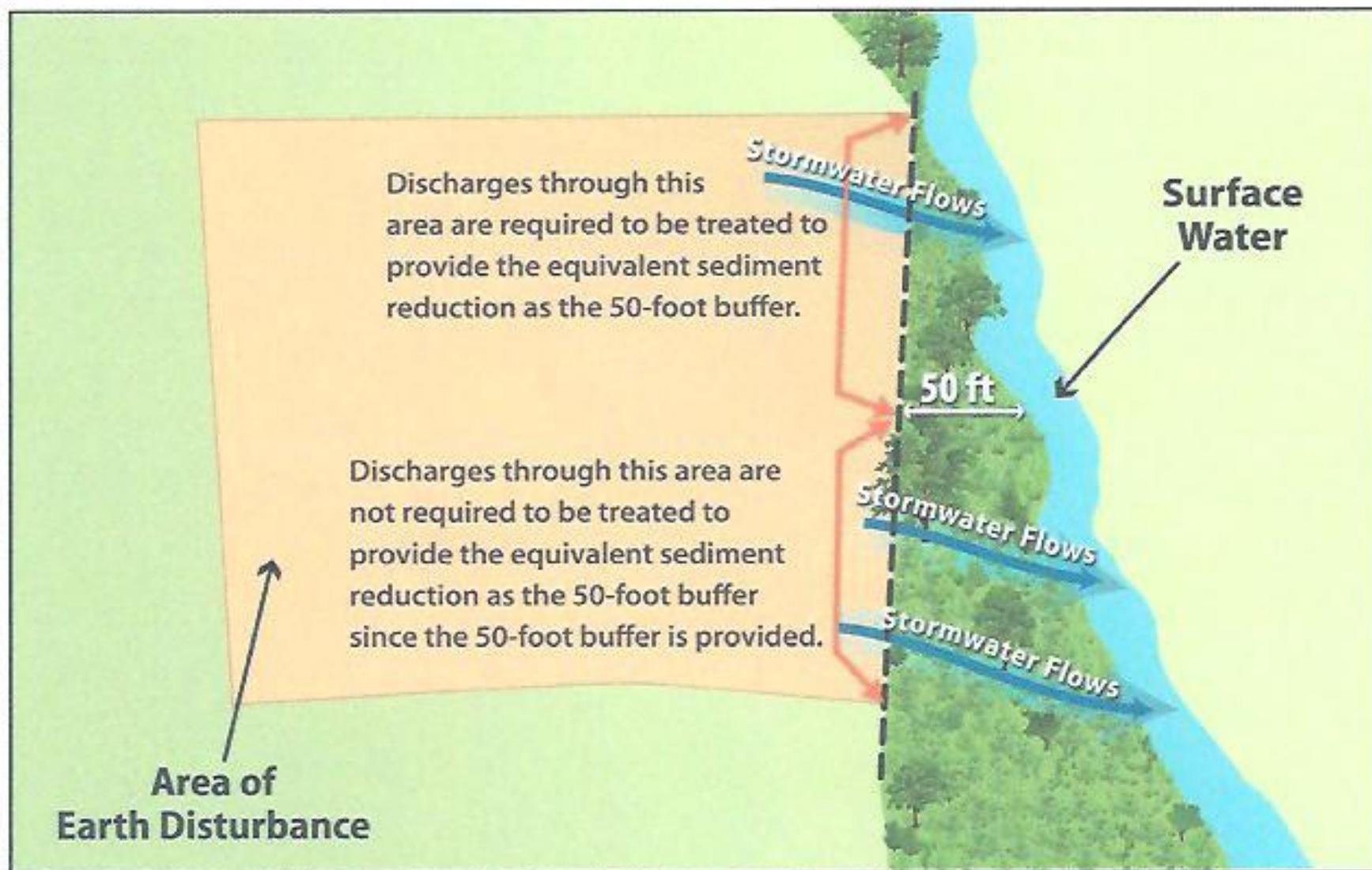
- Retain 50 ft natural buffer next to surface water bodies
- Measured beyond ordinary high water mark or top of bank whichever distance is greater
- Utilize equivalent BMPs for buffer widths less than 50 ft



# Exemptions

- Surface water is more than 50 ft away
- There is no drainage or discharge toward the surface water
- No natural buffer exists due to prior development
- There is no space on linear projects due to right-of-way constraints
- Water crossing or water conveyance structures
- Construction in an area of the project approved under terms of a 404 permit

Figure G - 4 Example of how to comply with the requirement to provide the equivalent sediment reduction when only a portion of your earth-disturbances discharge to a buffer of less than 50-feet.



# EPA estimated buffer efficiency based on their RUSLE 2 calculations

**Table G - 9. Estimated 50-foot Buffer Performance in Massachusetts and New Hampshire\***

Type of Buffer Vegetation**	Estimated % Sediment Removal				
	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Warm-season Grass (i.e., Switchgrass, Lemongrass)	79	90	90	90	90
Cool-season Dense Grass (Kentucky Bluegrass, Smooth Bromegrass, Timothy)	78	90	90	90	90
Tall Fescue Grass	76	90	81	89	90
Medium-density Weeds	66	76	60	72	66

\* Applicable for sites with less than nine percent slope

\*\* Characterization focuses on the under-story vegetation

# EPA example chart of equivalent BMPs to use in reduced buffer width situations

Table G - 7. Alternative 2 Requirements<sup>2</sup>

Risk Level Based on Estimated Soil Erosion	Retain $\geq$ 50' Buffer	Retain $<$ 50' and $>$ 30' Buffer	Retain $\leq$ 30' and $>$ 10' Buffer	Retain $\leq$ 10' Buffer
Low Risk	No Additional Requirements	No Additional Requirements	Double Perimeter Control	Double Perimeter Control
Moderate Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization
High Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization	Double Perimeter Control and 7-Day Site Stabilization

# Must minimize generation of dust



Must preserve native topsoil on the site



# Must minimize soil compaction

Reduce equipment use in areas

Properly condition/loosen the soil



# Sequential stabilization requirements

- Initiate soil stabilization practices immediately when soil disturbing activities have temporarily or permanently ceased on portions of site for 14 or more days
- Stabilize areas within the 14 day time frame



# Stockpile protection and inlet protection provisions



# Requirements to use site access BMPs



# Maintenance of controls

- Must ensure that all controls are installed properly and remain in effective operating condition at all times
- If controls need to be replaced or maintained must fix the problem immediately and complete the work by end of the next work day
- If significant repair or replacement is required, must complete the work in 7 days

# Site inspections

- Must be done by “qualified” person
- Must conduct inspections at least  
Once every 7 days

**OR**

Every 7 days and within 24 hrs of rain events  
0.25 inches or greater

If the site discharges to special or impaired waters must  
conduct inspections every 7 days and within 24hrs of  
rain events 0.25 inches or greater

# Site inspections continued

- Stabilized areas..... Once per month
  - Arid areas..... Once per month and within 24 hrs of rain events 0.25 inches and greater
  - Frozen conditions... may suspend inspections if
    - Runoff is unlikely based on historical data
    - Land disturbance is suspended
    - All disturbed areas are temporarily stabilized
- If conducting work during frozen conditions must inspect at least once each month

- 4.1.6.6 If a discharge is occurring during your inspection, you are required to:
- Identify all points of the property from which there is a discharge;
  - Observe and document the visual quality of the discharge, and take note of the characteristics of the stormwater discharge, including color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollutants; and
  - Document whether your stormwater controls are operating effectively, and describe any such controls that are clearly not operating as intended or are in need of maintenance.
- 4.1.6.7 Based on the results of your inspection, initiate corrective action under Part 5.
- 



#### 4.1.7. Inspection Report.

- 4.1.7.1 **Requirement to Complete Inspection Report.** You must complete an inspection report within 24 hours of completing any site inspection. Each inspection report must include the following:
- a. The inspection date;
  - b. Names and titles of personnel making the inspection;
  - c. A summary of your inspection findings, covering at a minimum the observations you made in accordance with Part 4.1.6;
  - d. If you are inspecting your site at the frequency specified in Part 4.1.2.2, Part 4.1.3, or Part 4.1.4.2, and you conducted an inspection because of rainfall measuring 0.25 inches or greater, you must include the applicable rain gauge or weather station readings that triggered the inspection; and
  - e. If you have determined that it is unsafe to inspect a portion of your site, you must describe the reason you found it to be unsafe and specify the locations that this condition applied to.
- 4.1.7.2 **Signature Requirements.** Each inspection report must be signed in accordance with Appendix I, Part I.11 of this permit.

## 5. CORRECTIVE ACTIONS.

### 5.1. "CORRECTIVE ACTIONS" DEFINED.

Corrective actions are actions you take in compliance with this Part to:

- Repair, modify, or replace any stormwater control used at the site;
- Clean up and properly dispose of spills, releases, or other deposits; or

#### 5.4.1. Within 24 hours of discovering the occurrence of one of the triggering conditions in Part 5.2.1 at your site, you must complete a report of the following:

5.4.1.1 Which condition was identified at your site;

5.4.1.2 The nature of the condition identified; and

5.4.1.3 The date and time of the condition identified and how it was identified.

#### 5.4.2. Within 7 calendar days of discovering the occurrence of one of the triggering conditions in Part 5.2.1 at your site, you must complete a report of the following:

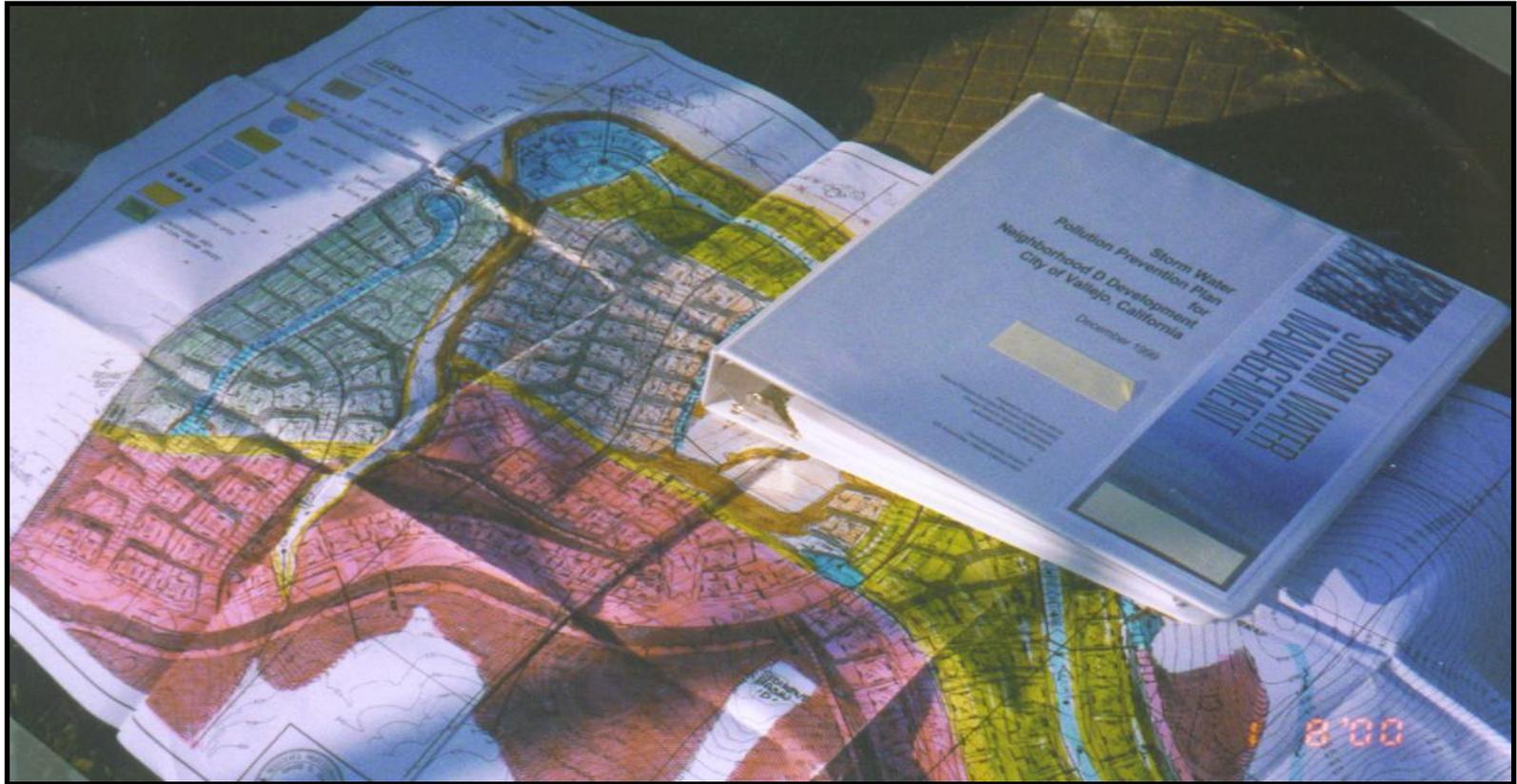
5.4.2.1 Any follow-up actions taken to review the design, installation, and maintenance of stormwater controls, including the dates such actions occurred;

5.4.2.2 A summary of stormwater control modifications taken or to be taken, including a schedule of activities necessary to implement changes, and the date the modifications are completed or expected to be completed; and

5.4.2.3 Notice of whether SWPPP modifications are required as a result of the condition identified or corrective action.

#### 5.4.3. **Signature Requirements.** Each corrective action report must be signed and certified in accordance with Appendix I, Part I.11 of this permit.

# What is required in the SWPPP?



# SWPPP content

- Identification of the storm water team
- Description of the construction activity
- Identification of site operators
- Sequence and dates of construction activities
- Site map
- Listing of chemicals to be used
- Any sources of non-storm water discharge
- Buffer descriptions, locations and documentation
- Storm water control measures to be used
- Stabilization BMPs and sequencing
- Storm water treatment chemicals
- Pollution prevention procedures/ storage/waste
- Procedures for inspection/corrective action
- Maintenance of BMPs
- Staff training
- Must sign and certify the SWPPP

## Site Map.

The SWPPP must include a legible site map, or series of maps, showing the following features of your project:

*Note: Included in the project site are any construction support activities covered by this permit (see Part 1.3.c).*

- 7.2.6.1 Boundaries of the property and of the locations where construction activities will occur, including:
  - a. Locations where earth-disturbing activities will occur, noting any phasing of construction activities;
  - b. Approximate slopes before and after major grading activities. Note areas of steep slopes, as defined in Appendix A;
  - c. Locations where sediment, soil, or other construction materials will be stockpiled;
  - d. Locations of any crossings of surface waters;
  - e. Designated points on the site where vehicles will exit onto paved roads;
  - f. Locations of structures and other impervious surfaces upon completion of construction; and
  - g. Locations of construction support activity areas covered by this permit (see Part 1.3.c).



# Site map continued

- 7.2.6.2 Locations of all surface waters, including wetlands, that exist within or in the immediate vicinity of the site. Indicate which waterbodies are listed as impaired, and which are identified by your state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 waters;
- 7.2.6.3 The boundary lines of any natural buffers provided consistent with Part 2.1.2.1a;
- 7.2.6.4 Areas of federally-listed critical habitat for endangered or threatened species;
- 7.2.6.5 Topography of the site, existing vegetative cover (e.g., forest, pasture, pavement, structures), and drainage pattern(s) of stormwater and authorized non-stormwater flow onto, over, and from the site property before and after major grading activities;
- 7.2.6.6 Stormwater and allowable non-stormwater discharge locations, including:
  - a. Locations of any storm drain inlets on the site and in the immediate vicinity of the site; and
    - Note: The requirement to show storm drain inlets in the immediate vicinity of the site on your site map only applies to those inlets that are easily identifiable from your site or from a publicly accessible area immediately adjacent to your site.*
  - b. Locations where stormwater or allowable non-stormwater will be discharged to surface waters (including wetlands) on or near the site.
- 7.2.6.7 Locations of all potential pollutant-generating activities identified in Part 7.2.7;
- 7.2.6.8 Locations of stormwater control measures; and
- 7.2.6.9 Locations where polymers, flocculants, or other treatment chemicals will be used and stored.

### 7.2.5. Sequence and Estimated Dates of Construction Activities.

The SWPPP must include a description of the intended sequence of construction activities, including a schedule of the estimated start dates and the duration of the activity, for the following activities:

- 7.2.5.1 Installation of stormwater control measures, and when they will be made operational, including an explanation of how the sequence and schedule for installation of stormwater control measures complies with Part 2.1.1.3a and of any departures from manufacturer specifications pursuant to Part 2.1.1.3b;
- 7.2.5.2 Commencement and duration of earth-disturbing activities, including clearing and grubbing, mass grading, site preparation (i.e., excavating, cutting and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization;
- 7.2.5.3 Cessation, temporarily or permanently, of construction activities on the site, or in designated portions of the site;
- 7.2.5.4 Final or temporary stabilization of areas of exposed soil. The dates for stabilization must reflect the applicable deadlines to which you are subject in Part 2.2.1; and
- 7.2.5.5 Removal of temporary stormwater conveyances/channels and other stormwater control measures, removal of construction equipment and vehicles, and cessation of any pollutant-generating activities.



# Sunset from your friends in Washington

