



# Construction Stormwater General Permit How to Achieve Compliance and Contaminated Sites

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DEPARTMENT OF  
**ECOLOGY**  
State of Washington

2/28/2023

## S4.B Site Inspections

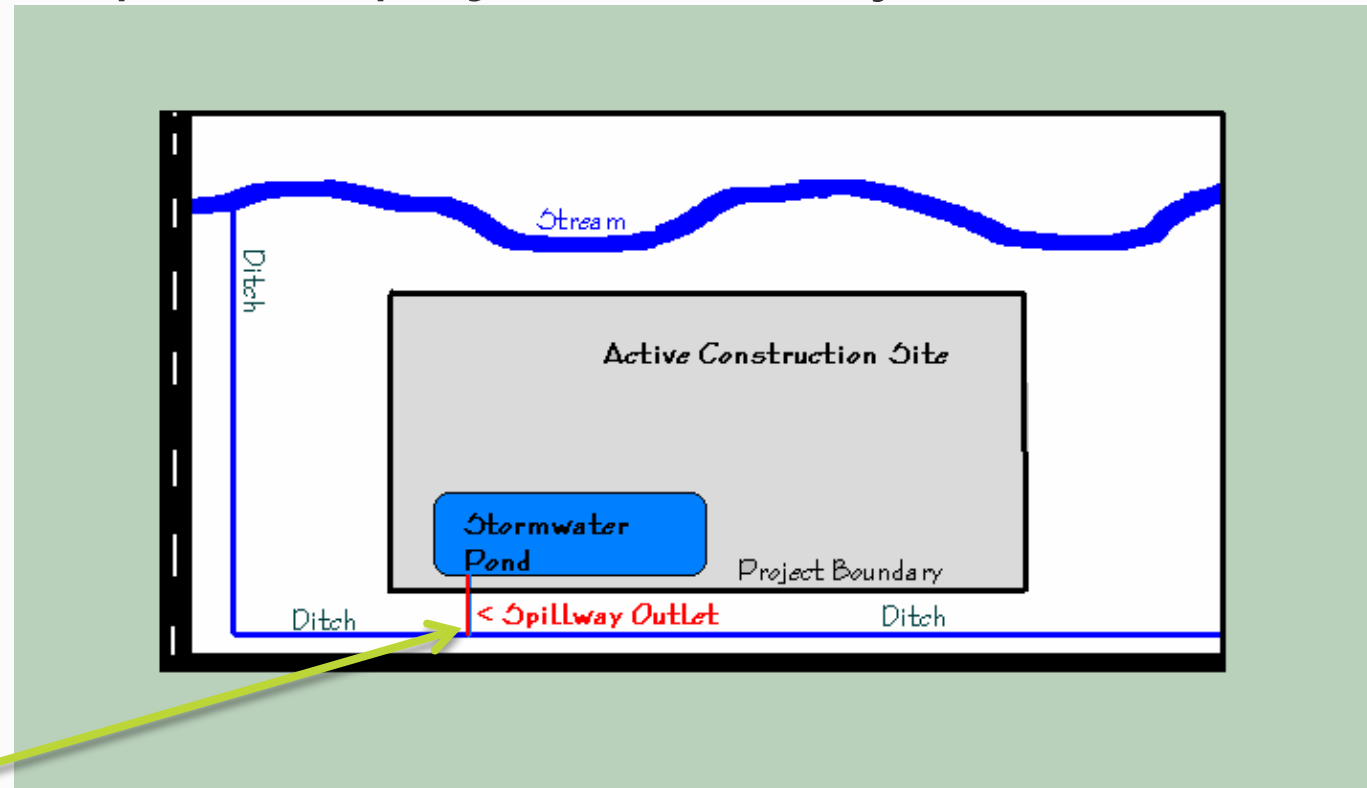
- Must be conducted once every calendar week and within 24 hours of any discharge from the site.  
**Multiple inspections may be required in a given week.**
- Must be conducted by the site's CESCL
- Should include all areas disturbed by construction activities, all BMPs and all stormwater discharge points
- DO A THOROUGH WALKTHROUGH of the site EACH WEEK.

# Stormwater Sampling

- Sampling is required at least once every calendar week when there is stormwater (or authorized non-stormwater) discharge from the site.
- When there is no discharge during a calendar week, sampling is not required. “No Discharge” should be recorded for the week. However, a visual inspection of the sampling location should still occur even if it is not raining.

# Sampling Locations

Common stormwater sampling location: discharge from stormwater pond at project boundary.



Sample point is located at the discharge point where stormwater leaves the site (end-of-pipe).

# Turbidity/Transparency Sampling

**Turbidity Meter (>5 acre):**    **Transparency Tube (1-5 acres):**

Sample is collected and transferred into sample jar sized for the meter. Sample is inserted and the meter will provide a numeric value.



Turbidity  
Range:

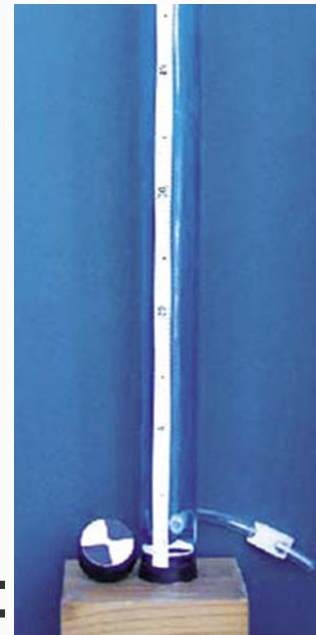
0 to 1,000 NTU

Must calibrate regularly.

Water is released from the outlet valve until the black and white target at the bottom of the tube is visible.

Numeric value is read off the meter on the side of tube.

Transparency Range:  
0 to 60 cm



# Water Quality Sampling



# Adaptive Management

## Steps to take when turbidity reaches 26-249 NTU/ Transparency 30-7 cm:

1. Review the SWPPP and revise within 7 days; and
2. Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but within 10 days; and
3. Document BMP implementation and maintenance in the site log book.

# Adaptive Management

## What happens when Turbidity is 250 NTU or greater/ Transparency 6 cm or less:

1. Notify the appropriate Ecology region office (NWRO 206-594-000) by phone; and
2. Continue to sample discharges daily until:
  - a. turbidity is 25 NTU (or lower); or
  - b. transparency is 33 cm (or greater); or
  - c. the CESCL has demonstrated compliance with water quality standard for turbidity (5 over background <50 NTU/ 10% over background >50 NTU); or
  - d. the discharge stops or is eliminated.



# Non-Compliance Notification



- In the event that the Permittee is unable to comply with any of the terms and conditions of this permit which may cause a threat to human health or the environment, the permittee must:
  - Immediately notify Ecology of failure to comply.
  - Immediately take action to prevent the discharge/pollution, otherwise stop or correct the non-compliance.
  - Submit a detailed report to Ecology within 5 days which includes a description of the non-compliance, dates & times, the non-compliance has been corrected, steps taken and planned to reduce, eliminate, and prevent reoccurrence.

# pH Sampling

- pH sampling of stormwater is required on a weekly basis when there is greater than 1,000 cubic yards of poured or recycled concrete during the project.
- pH monitoring period begins when the concrete is first exposed to precipitation



- Methods to measure pH include: calibrated pH meter, pH test kit, or wide range pH indicator paper (above)

# pH Adaptive Management

- The effluent limitation for pH is 6.5 to 8.5. If stormwater is outside this range, the following is required:
  - Prevent the affected water from entering waters of the state, including ground water; and
  - If necessary, adjust or neutralize high pH water using an approved treatment BMP such as CO<sub>2</sub> sparging or dry ice.

Keep 0-14 range pH strips in your pocket



pH monitoring should be documented on the DMR along with turbidity results.

# Stormwater vs Process Water

Know the difference between process water and stormwater!

**Stormwater** is rain that falls out of the sky or snowmelt.

**Process water** is water that has been used in a process such as:

- Water in a 5-gallon bucket used to wash off concrete forming tools,
- Concrete mixer truck washout,
- Spraying down wet concrete, etc.,

# Discharge Monitoring Reports:

- Sample and record weekly.
- Submit the Discharge Monitoring Report (DMR) to Ecology monthly.
- DMR forms must be submitted to Ecology within 15 days following the end of each month.
- DMRs are submitted through the [WQPortal](#).
- If there was not a discharge during a given period, a DMR is still required. The words “no discharge” should be entered in the place of the monitoring results for the specific week(s).
- **S5.E** Any additional sampling should be included in DMRs.

# Access to Plans and Records

The following documents are required to be on-site or provided within a reasonable timeframe upon request by Ecology or the local jurisdiction.

- General Permit
- Permit Coverage letter
  - Also Transfer, Modification, or AO if applicable
- Stormwater Pollution Prevention Plan (SWPPP)
- Site Log Book: Inspection Reports (BMP installation, maintenance, adaptive management), Sampling Results, Calibration Records

# S9: The Stormwater Pollution Prevention Plan (SWPPP)

- Narrative and drawings with all BMPs to prevent erosion and sedimentation, and to identify, reduce, eliminate or prevent stormwater contamination and water pollution from construction activity.
- To control peak volumetric flow rates and velocities of stormwater discharges.
- Contingency plan for additional treatment and/or storage of stormwater when BMP performance goals are not achieved.
- Phasing/sequence and BMP implementation schedule.

# 13 Elements of the SWPPP

1. Mark Clearing Limits
2. Establish Construction Access
3. Control Flow Rates
4. Install Sediment Controls
5. Stabilize Soils
6. Protect Slopes
7. Protect Drain Inlets
8. Stabilize Channels & Outlets
9. Control Pollutants
10. Control De-watering
11. Maintain BMPs
12. Manage the Project
13. Protect Low Impact Development (LID) BMPs



# S9.D1: Preserve Vegetation Mark Clearing Limits

## Not Clearly Marked



## Clearly Marked



- a) Before beginning land-disturbing activities, including clearing and grading, clearly mark all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area.
- b) Retain the duff layer, native topsoil, and natural vegetation in an undisturbed state to the maximum degree practicable. <sup>17</sup>

# S9.D2: Establish Construction Access

## Stabilized



## Not Stabilized



- Limit construction vehicle access and exit to one route, if possible.
- Stabilize access points with a pad of quarry spalls, crushed rock, or equivalent BMPs, to minimize tracking sediment onto roads.
- If sediment is tracked off site, clean the affected roadway thoroughly at the end of each day, or more frequently as necessary (for example, during wet weather).

# Individual Construction Entrances



Individual building lot access points should be stabilized to prevent tracking of sediments on-site.

All subcontractors should keep vehicles on the rock.

# Other Approved Alternatives



# S9.D3: Control Flow Rates



- Protect properties and waterways from erosion at all times.
- Stormwater retention or detention facilities must be constructed as one of the first steps of grading.
- If permanent infiltration ponds are used for flow control, they must be protected from siltation during construction.

# Control Flow Rates



- All stormwater discharges must be managed and controlled on-site.
- Make sure that the site has enough **CAPACITY!!!**



# S9.D4: Install Sediment Controls

## Adequately Protected



## Not Adequately Protected



- a. Stormwater runoff from disturbed areas must pass through a sediment pond or other appropriate sediment removal BMP, prior to leaving the site.
- b. Sediment control BMPs must be constructed as one of the first steps of grading.
- c. Sediment control BMPs must be functional before other land use activities take place.

# S9.D5: Stabilize Soils

## Adequately stabilized



## Not Adequately stabilized



- Exposed and un-worked soils must be stabilized by application of effective BMPs that prevent erosion. Examples include: temporary and permanent seeding, sodding, mulching, plastic covering, erosion control fabrics and matting, soil application of polyacrylamide (PAM), the early application of gravel base on areas to be paved, and dust control.
- Soils must be covered and stabilized within 2 days during the wet season (Oct. 1 – April 30) and within 7 days during the dry season (May 1 – Sept. 30).
- BMPs must be installed correctly and MAINTAINED.



# Stockpiles



- Stabilize stockpiles from erosion and protect with sediment trapping measures.
- Locate away from storm drains.

# S9.D6: Protect Slopes

## Protected slopes



## Slopes not protected



- Design and cut slopes in a manner that minimizes erosion (reducing slope steepness, roughening slope surfaces, installing interceptor dikes, etc).
- Stormwater run-on must be diverted away from slopes in disturbed areas.
- At the top of slopes, collect drainage in pipe slope drains or protected channels to prevent erosion.

# S9.D7: Protect Drain Inlets

**Adequately protected**



**Not Adequately protected**



All storm drain inlets must be protected so that stormwater runoff does not enter into the conveyance system without first being filtered or treated to remove sediment. Inlet protection is required. Replace or maintain when 1/3 full.

# S9.D8 Stabilize Channels and Outlets

## Ditch Not Stabilized



## Stabilize Channel



Provide stabilization - including armoring material - adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches at the outlets of all conveyance systems.

# S9.D9: Control Pollutants



- All pollutants, including waste materials and demolition debris, that occur on-site must be handled and disposed of in a manner that does not cause contamination of stormwater.
- Cover dumpsters and locate them away from drainage inlets.

## S9.D9: Control Pollutants

### Adequate chemical handling



### Inadequate chemical handling



- a. Chemicals stored on-site must be kept in secondary containment at all times, and under cover if possible.
- b. SPILL KITS ON-SITE!

## S9.D9: Control Pollutants

### Adequate concrete handling



### Not adequate concrete handling



On-site concrete  
washout area

Discharge of concrete  
washout onto bare  
ground

# S9.D10: Control De-Watering

## Clean & Controlled



## Needs Treatment



- De-watering must be controlled and meet S9.D3 flow control requirements.
- Clean, non-turbid de-watering can be discharged to surface waters of the state.
- Foundation, vault, and trench dewatering water similar to stormwater runoff must reduce sedimentation before discharge.



# S9.D11: Maintenance



Maintenance of BMPs is required throughout the ENTIRE course of the project.

# S9.D12: Manage the Project

Scheduling & Phasing

Creek



# S9.D13: Protect Low Impact Development (LID) BMPs

- LID BMPs are permanent facilities.
  - Bioretention facilities
  - Rain Gardens
  - Permeable pavements
- Restore the BMPs to their fully functioning condition if they accumulate sediment during construction.
- Avoid introducing sediment from surrounding land uses onto permeable pavements.





# Contaminated Sites

## Required documents



# S2.A.1.e: Known Contamination

## Notice of Intent (NOI)

Section Help

**Project Information**

Type of Construction Activity: *(check all that apply)*

Highway or Road (city, county, state)    
  Residential    
  Commercial    
  Industrial

Utilities    
  Other (specify):

Project/Site Size:  acres    
 Soil Disturbance Size:  acres

The total size of the project site in acres. This is all land that is owned or controlled by the permittee.

Total area of soil disturbance for your site/project over the life of the project. Include grading, equipment staging, excavation, borrow pit, material storage areas, dump areas, haul roads, side-cast areas, off-site construction support areas, and all other soil disturbance acreage associated with the project. (Note: 1 acre = 43,560 ft<sup>2</sup>).

Estimated Project Start Date:     
 Estimated Project End Date:


Will 1,000 cubic yards or more of poured concrete or recycled concrete be used over the life of the project?    
 Yes     No

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**Site Conditions**

Are you aware of contaminated soils present on the site?    
 Yes     No

Are you aware of groundwater contamination located within the site boundary?    
 Yes     No


**Will any contaminated soils be disturbed or will any contaminated groundwater be discharged due to the proposed construction activity?**    
 Yes     No

If yes, please provide detailed information (as known and readily available) on the nature and extent of the contamination (concentrations, locations, and depth) as well as pollution prevention and/or treatment Best Management Practices (BMPs) proposed to control the discharge of soil and/or groundwater contaminants in stormwater. This should include information that would be included in related portions of the Stormwater Pollution Prevention Plan (SWPPP) that describe how contaminated and potentially contaminated construction stormwater and dewatering water will be managed. You may attach this information separately, if needed.

I will attach a file (description not needed).

## When to check yes on NOI?

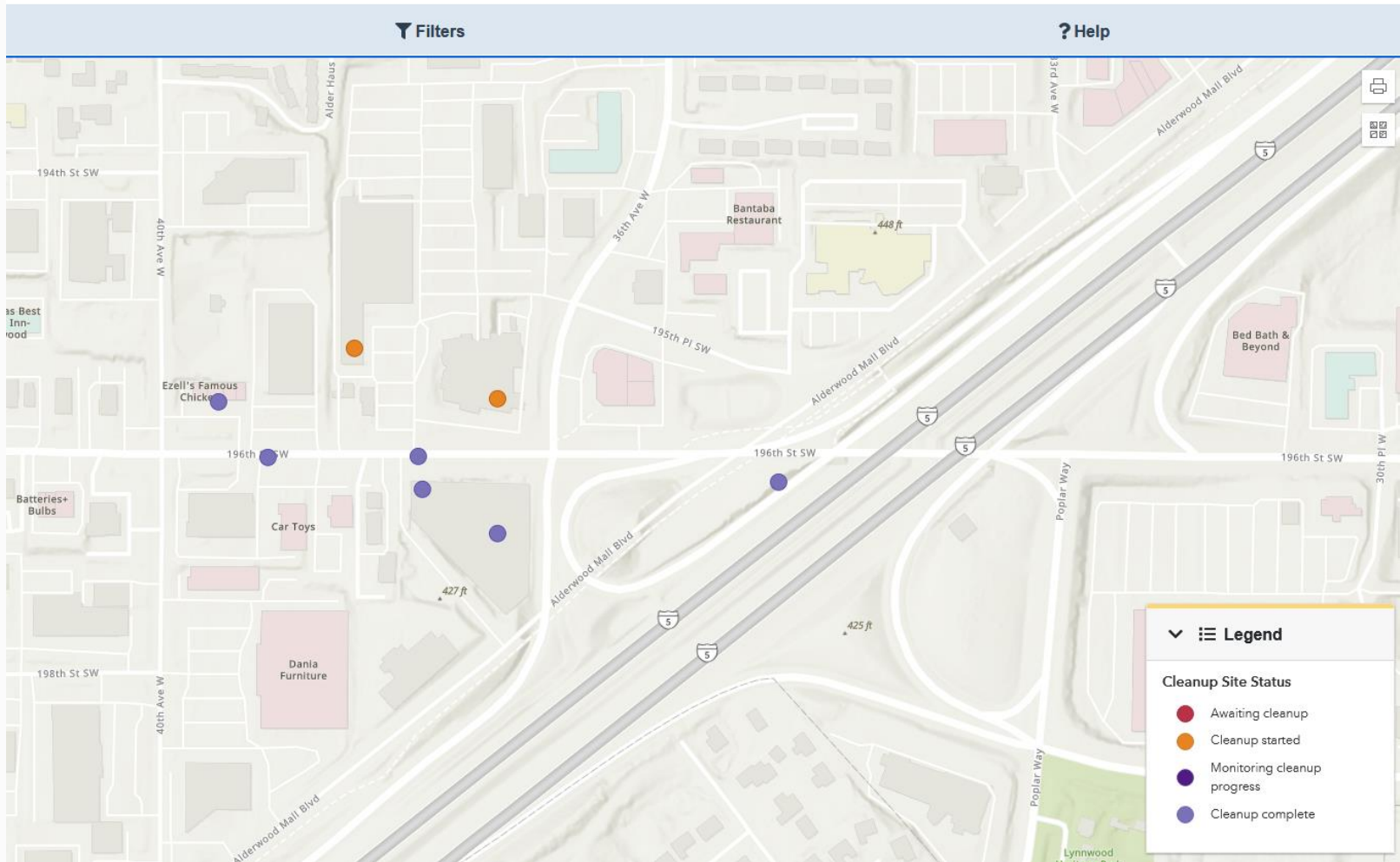
- If project has known or likely soil/groundwater contamination

## Sources of sampling data:

- [What's In My Neighborhood](#)
- Environmental Reports
- Hazardous Materials Management Plan
- Technical Memos
- Your consultant

# What's in My Neighborhood

## What's in My Neighborhood: Toxics Cleanup



## S2.A.1.e: Documents Needed

- e. Applicants must notify Ecology if they are aware of contaminated soils and/or groundwater associated with the construction activity. Provide detailed information with the NOI (as known and readily available) on the nature and extent of the contamination (concentrations, locations, and depth), as well as pollution prevention and/or treatment BMPs proposed to control the discharge of soil and/or groundwater contaminants in stormwater. Examples of such detail may include, but are not limited to:
  - i. List or table of all known contaminants with laboratory test results showing concentration and depth,
  - ii. Map with sample locations,
  - iii. Related portions of the Stormwater Pollution Prevention Plan (SWPPP) that address the management of contaminated and potentially contaminated construction stormwater and dewatering water,
  - iv. Dewatering plan and/or dewatering contingency plan.

## S2.A.1.e: Documents Needed (cont.)

- i. List or table of all known contaminants with laboratory test results showing concentration and depth,
- ii. Map with sample locations,

### Common Issues:

- Just summary tables
- Only portions of reports
- No laboratory data
- Only comparing to Model Toxics Control Act (MTCA)
  - MCTA is not Water Quality standards
- Not submitting all portions of an investigation
  - If final report summarizes all previous investigations and includes data plus analytical reports then acceptable.

**Submit the whole report! Almost always prevents above issues.**



## S2.A.1.e: Documents Needed (cont.)

- iii. Related portions of the Stormwater Pollution Prevention Plan (SWPPP) that address the management of contaminated and potentially contaminated construction stormwater and dewatering water,
- iv. Dewatering plan and/or dewatering contingency plan.

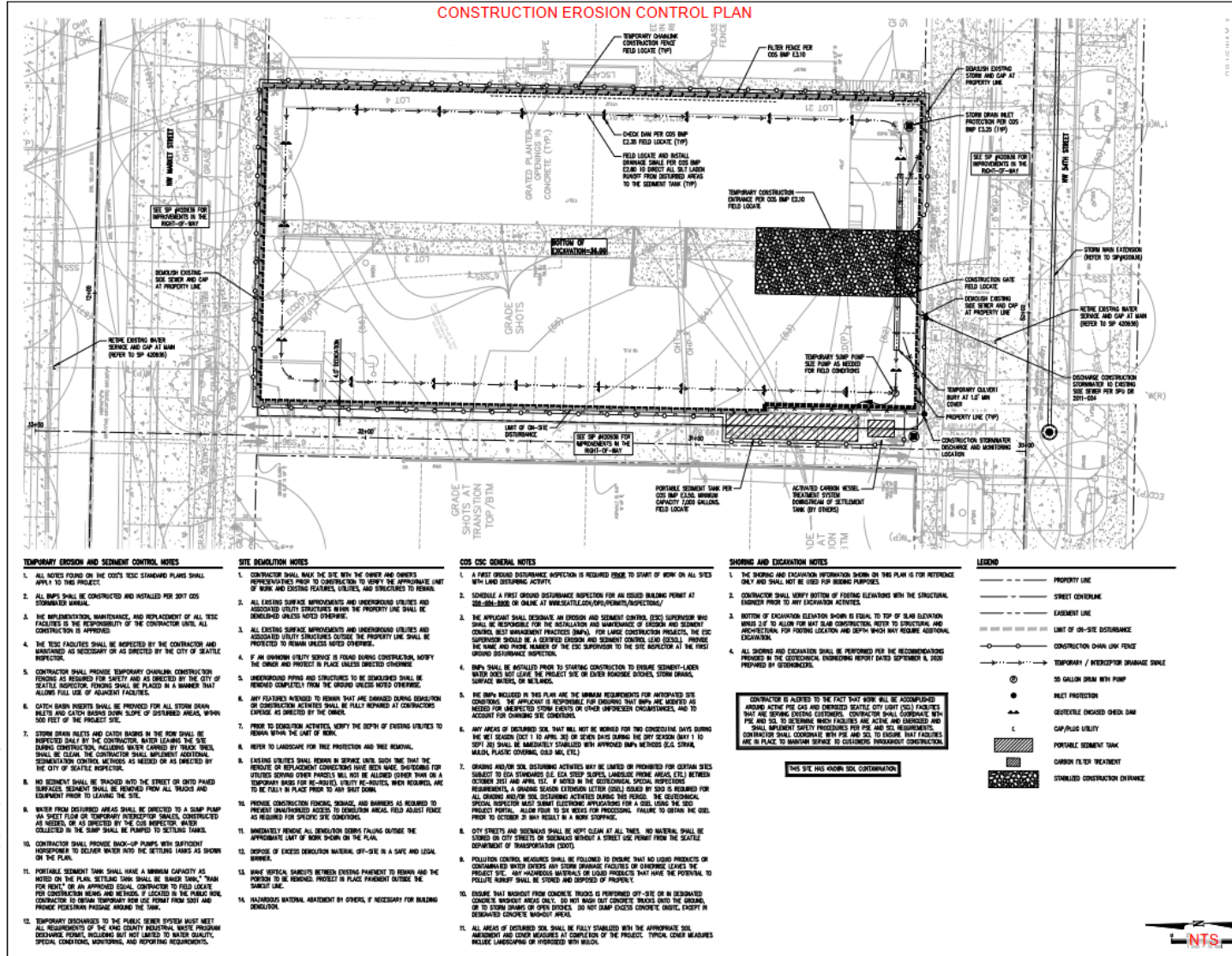
Temporary Erosion and Sediment Control Plan/Demolition drawings typically do not have information required to fulfill requirement listed above.

What if my SWPPP will be prepared after my permit is issued?

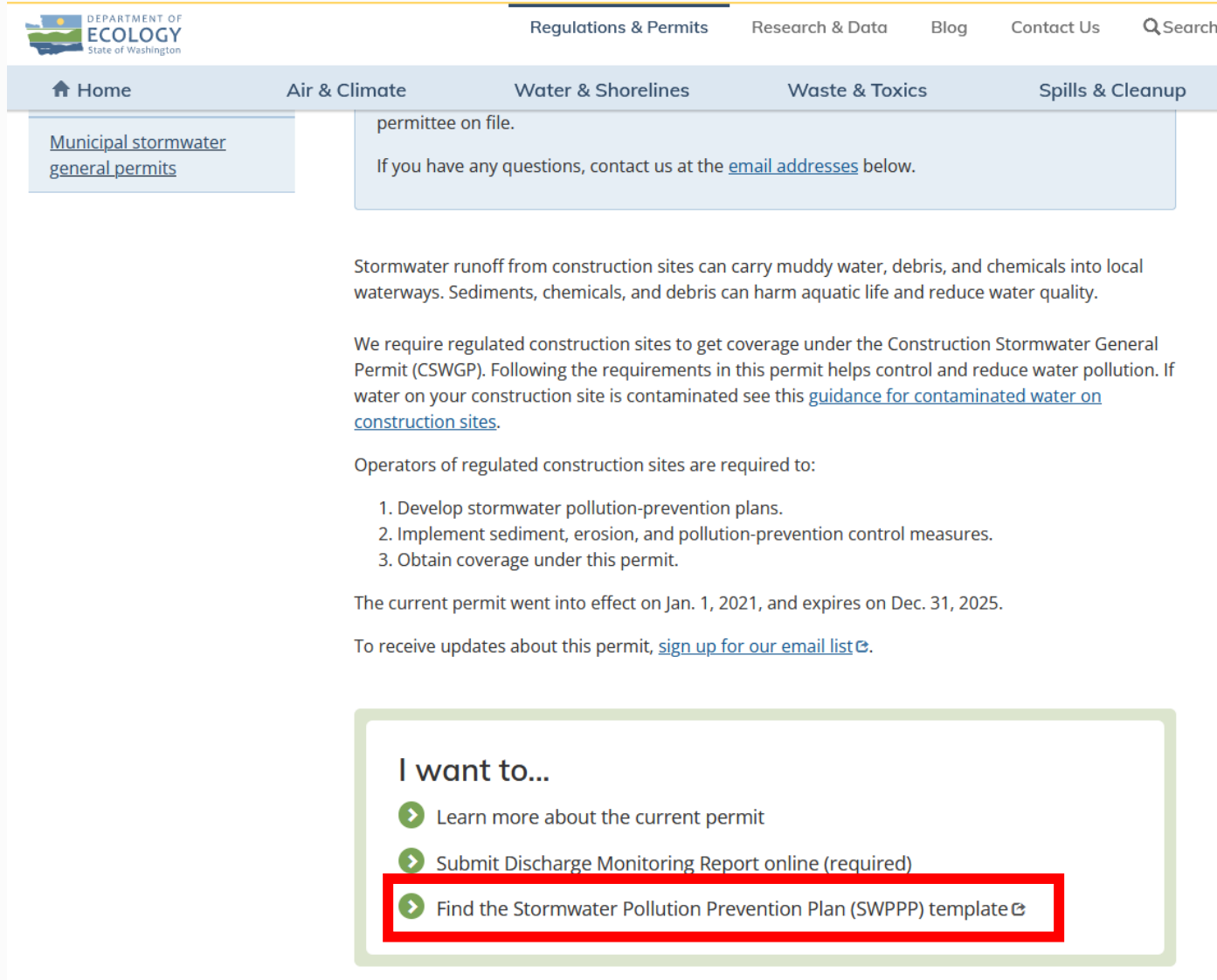
- You still need to know how the site will manage contaminated soil and/or water (stormwater, groundwater, dewatering)

**Remember, you need a SWPPP before you break ground!**

# S2.A.1.e: Documents Needed (cont.)



# S2.A.1.e: Documents Needed (cont.)



The screenshot shows the Department of Ecology website. The top navigation bar includes 'Regulations & Permits', 'Research & Data', 'Blog', 'Contact Us', and a search icon. Below this is a secondary navigation bar with 'Home', 'Air & Climate', 'Water & Shorelines', 'Waste & Toxics', and 'Spills & Cleanup'. The main content area is titled 'Municipal stormwater general permits'. It contains a sub-header 'permittee on file.' and a paragraph: 'If you have any questions, contact us at the [email addresses](#) below.' Below this is a paragraph about stormwater runoff from construction sites. Another paragraph states: 'We require regulated construction sites to get coverage under the Construction Stormwater General Permit (CSWGP). Following the requirements in this permit helps control and reduce water pollution. If water on your construction site is contaminated see this [guidance for contaminated water on construction sites](#).' A list of requirements for operators of regulated construction sites is provided: 1. Develop stormwater pollution-prevention plans. 2. Implement sediment, erosion, and pollution-prevention control measures. 3. Obtain coverage under this permit. A paragraph follows: 'The current permit went into effect on Jan. 1, 2021, and expires on Dec. 31, 2025.' Another paragraph says: 'To receive updates about this permit, [sign up for our email list](#).' At the bottom, a box titled 'I want to...' contains three items: 'Learn more about the current permit', 'Submit Discharge Monitoring Report online (required)', and 'Find the Stormwater Pollution Prevention Plan (SWPPP) template' (which is highlighted with a red box).

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[Municipal stormwater general permits](#)

permittee on file.

If you have any questions, contact us at the [email addresses](#) below.

Stormwater runoff from construction sites can carry muddy water, debris, and chemicals into local waterways. Sediments, chemicals, and debris can harm aquatic life and reduce water quality.

We require regulated construction sites to get coverage under the Construction Stormwater General Permit (CSWGP). Following the requirements in this permit helps control and reduce water pollution. If water on your construction site is contaminated see this [guidance for contaminated water on construction sites](#).

Operators of regulated construction sites are required to:

1. Develop stormwater pollution-prevention plans.
2. Implement sediment, erosion, and pollution-prevention control measures.
3. Obtain coverage under this permit.

The current permit went into effect on Jan. 1, 2021, and expires on Dec. 31, 2025.

To receive updates about this permit, [sign up for our email list](#).

**I want to...**

- Learn more about the current permit
- Submit Discharge Monitoring Report online (required)
- Find the Stormwater Pollution Prevention Plan (SWPPP) template

## S2.A.1.e: Documents Needed (cont.)

- iii. Related portions of the Stormwater Pollution Prevention Plan (SWPPP) that address the management of contaminated and potentially contaminated construction stormwater and dewatering water,

### Element 9: Control Pollutants (2.1.9)

The following pollutants are anticipated to be present on-site:

**Table 2 – Pollutants**

Pollutant (and source, if applicable)
[List pollutants here]

Describe how you will handle and dispose of all pollutants, including waste materials and demolition debris, in a manner that does not cause contamination of stormwater.

Describe how you will cover, contain, and protect from vandalism all chemicals, liquid products, petroleum products, and other polluting materials.

Describe how you will manage known contaminants to prevent their discharge with stormwater to waters of the State (i.e. treatment system, off-site disposal).

List and describe BMPs: [Insert text here]

Installation Schedules: [Insert text here]

Inspection and Maintenance plan: [Insert text here]

Responsible Staff: [Insert text here]

# S2.A.1.e: Documents Needed (cont.)

iv. Dewatering plan and/or dewatering contingency plan.

**Element 10: Control Dewatering (2.1.10)**

Describe where dewatering will occur, including source of the water to be removed. State clearly if dewatering water is contaminated or has the potential to be contaminated.

Water from foundations, vaults, and trenches with characteristics similar to stormwater runoff shall be discharged into a controlled conveyance system before discharging to a sediment trap or sediment pond. Clean dewatering water will not be routed through stormwater sediment ponds.

Only clean, non-turbid dewatering water (such as well-point groundwater) may be discharged to systems tributary to, or directly into, surface waters of the State, provided the dewatering flow does not cause erosion or flooding of receiving waters.

Describe how you will manage dewatering water to prevent the discharge of contaminants to waters of the State, including dewatering water that has come along with stormwater (i.e. treatment system, off-site disposal).

[Insert text here]

Check treatment of disposal option for dewatering water, if applicable:

**Table 4 – Dewatering BMPs**

	Infiltration
	Transport off-site in a vehicle (vacuum truck for legal disposal)
	Ecology-approved on-site chemical treatment or other suitable treatment technologies
	Sanitary or combined sewer discharge with local sewer district approval (last resort)
	Use of sedimentation bag with discharge to ditch or swale (small volumes of localized dewatering)

But what if I don't need to dewater?

- Explicitly say that dewatering will not be needed or likely needed for this project and why.



**Thank you**  
Questions?