

# Stormwater Regulatory Update

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Overview of CGP Renewal and Best Management Practices

**REISSUANCE AND AMENDMENT OF GENERAL PERMIT 3-9020  
FOR STORMWATER RUNOFF FROM CONSTRUCTION SITES  
DRAFT GENERAL PERMIT 3-9020 (2019)**

Winn Wilson  
VT DEC



# Outline

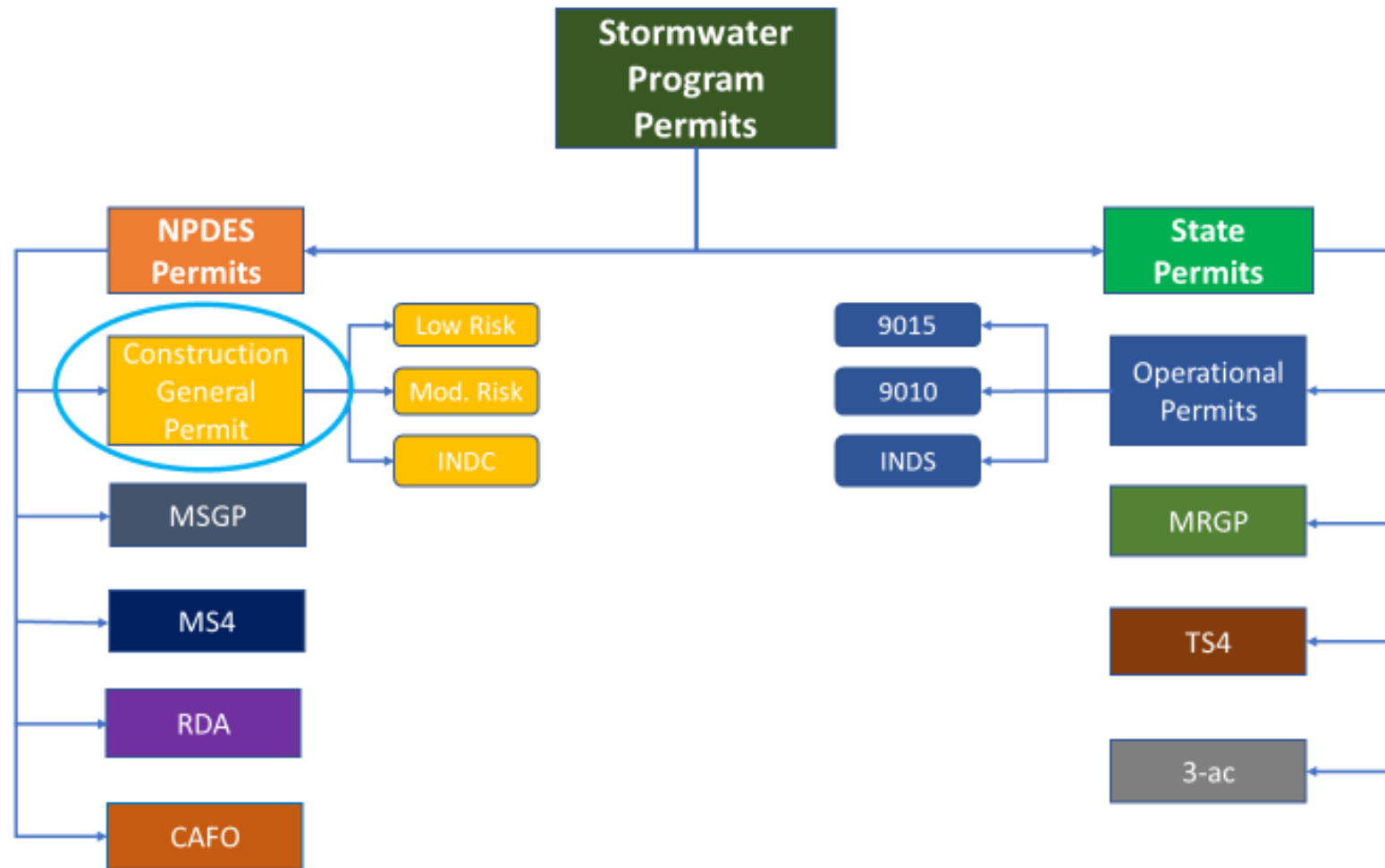
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## Part I.

1. Program Overview
2. Current Regulations
3. Construction General Permit Update and Reissuance
  - A.) Proposed changes
  - B.) What is not changing

## Part II.

1. Best Management Practices
  - A.) Permit compliance
  - B.) Common issues
2. Review and Questions



# Current Regulations

Jurisdictional Trigger:

1-ac of earth disturbance

Risk based approach- complete a questionnaire (Appendix A) to determine permit type (Low, Moderate, Individual) and permit conditions.

Considers total and concurrent earth disturbance, stabilization schedule, slopes, soil erodibility, proximity to surface waters, status of receiving body (high quality or impaired), and the presence or absence of buffers, and assigns a risk category for the project.

Projects are categorized as:

Low Risk- generally small sites that can completed in 1 or 2 construction seasons. Must comply with the Low Risk Handbook, no site specific plan required.

Moderate Risk- sites that do not meet Low Risk criteria due to site physical characteristics or management techniques. Site specific EPSC plan required.

Individual Permits- sites that are not eligible for coverage under the general permit due to relative risk to water quality. Max. concurrent disturbance or stabilization schedule outside of GP requirements or site conditions that warrant additional permit conditions beyond the GP. Program can craft additional/custom conditions.

# Construction Permit Requirements

## Maximum Concurrent Disturbance:

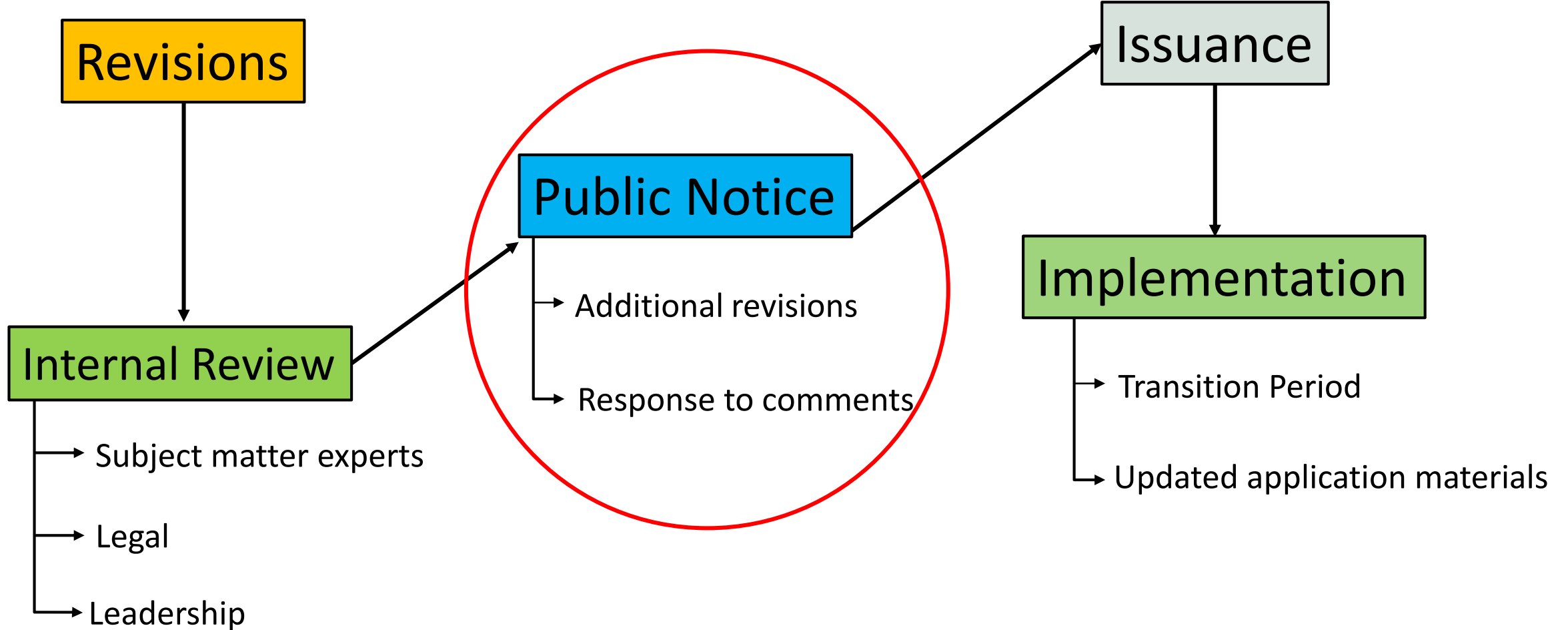
- Each project is authorized for a specific amount of total earth disturbance and a maximum amount of concurrent disturbance.
- Max 5 or 7-ac for concurrent disturbance
- Can be larger under an individual permit

## Stabilization Schedule:

- How long a project may have exposed soils after initial disturbance before temporary or final stabilization is required.
- Current regs- variable, but max 21 days
- Can be longer under an individual permit



# Reissuance of the Construction General Permit



# CGP Revisions- What's Changing

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- Risk Scoring/Appendix A
- Permit Conditions
- EPSC Practices
- Application Requirements
- Public Comment Period





# What's Changing: Risk Scoring and Appendix A

- Fewer questions
- Less site management questions
- Appendix A Tool

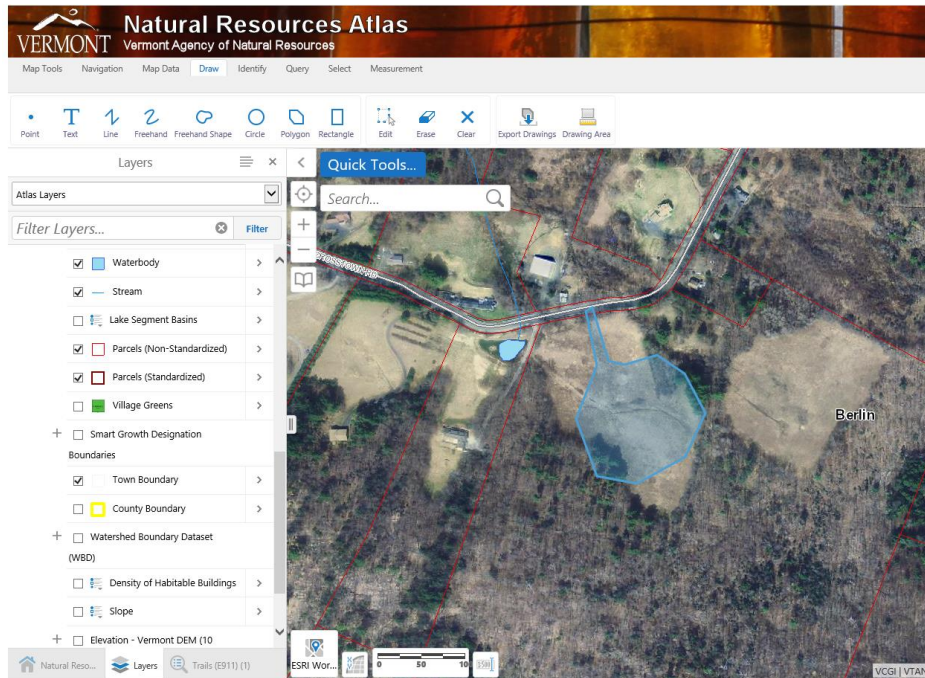
Detailed Risk Evaluation – Identify Risk Factors				
Criteria		Answer	Score Direction	Enter Score
A.	Will the proposed project have earth disturbance within 100 ft. (horizontal) upslope of any lake, pond, wetland, river, or stream?	YES / NO	If YES, enter 1, if NO enter 0	___
B.	Is the project located within the watershed of a Class A Water or in the watershed of an Outstanding Resource Water?	YES / NO	If YES, enter 1, if NO enter 0	___
C.	Will the project include more than one acre of disturbance on soil that is greater than 15% slope?	YES / NO	If YES, enter 1, if NO enter 0	___
D.	Will the project disturb more than one acre of soil with an erodibility rating greater than K=0.36?	YES / NO	If YES, enter 1, if NO enter 0	___
E.	Total Score for Risk Factors (add A through D)			___

Detailed Risk Evaluation – Identify Risk Mitigation Factors				
Criteria		Answer	Score Direction	Enter Score
F.	Will stormwater from the construction site pass through at least 50-ft. of established vegetated buffer before entering a receiving water or conveyance to a receiving water?	YES / NO	If YES, enter 1, if NO enter 0	___
G.	Will the project be limited to two acres or less of earth disturbance at any one time?	YES / NO	If YES, enter 1, if NO enter 0	___
H.	Will the project remain at or below two acres of disturbance on slopes greater than 5%?	YES / NO	If YES, enter 1, if NO enter 0	___
I.	Will disturbance of soil with an erodibility rating greater than K=0.17 remain at or below two acres?	YES / NO	If YES, enter 1, if NO enter 0	___
J.	Total Score for Risk Mitigation Factors (add F through I.)			___



# What's Changing: Application Materials

- Site plan for low risk sites
- Erodibility Calculator



## Appendix A - Soils Selection

Add header

Project Name:

0

### Site Erodibility Calculator

Project County:

Lamoille

Total disturbed soil within LOD (ac):

Is there > 1 acre of disturbance where  $K_W > 0.36$ ?

0

Risk Score Q.6

Is there < 2 acres of disturbance where  $K_W > 0.17$ ?

NO

Risk Score Q.9

### Soil 1

Series Name:

BkC - Berkshire fine sandy loam, 8 to 15 percent slopes, very stony

Estimated Depth of Earth Disturbance (in):

65

Area of soil within LOD (ac):

24

Layer	Layer Top (in)	Layer Bottom (in)	$K_W$
1	0	4	0.32
2	4	5	0.37
3	5	13	0.32
4	13	21	0.43
5	21	33	0.49
6	33	65	0.55
7	0	0	0.00
8	0	0	0.00
9	0	0	0.00
10	0	0	0.00
11	0	0	0.00

Average  $K_W$  (depth weighted):

0.48

# What's Changing: Permit Conditions

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## Standardized:

- Max. Concurrent Disturbance- 5-ac
- Stabilization Schedule- 14-days

## Revised:

- Stabilization exemptions
- Additional requirements for Low Risk activities

All areas of earth disturbance must have temporary or final stabilization within 14 days of the initial disturbance.  
After this time, disturbed areas must be temporarily or permanently stabilized in advance of any runoff producing event.

# What's Changing: EPSC Practices

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- Incorporation of new practices
- Expansion of interchangeable practices
- Updates to the Low Risk Handbook
- Active stormwater treatment under mod risk





# CGP Revision- What's not Changing

Jurisdictional threshold- 1-ac

Application review process

Fees

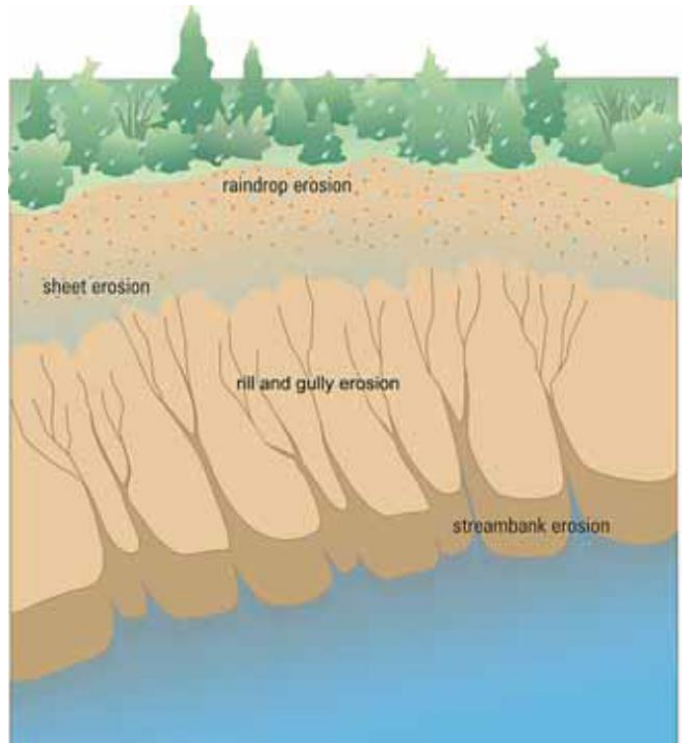
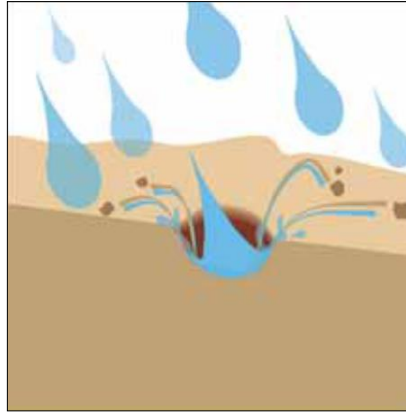
Permittee requirements

- Land owner
- Principal operator



# Part II: Site Compliance

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# Erosion Prevention and Pre-Construction Planning

Sediment washing into streams from construction sites can be a significant problem for water quality in Vermont.

Most construction sites are cleared of vegetation that normally would act to hold sediment in place and protect it from erosive forces.

There are a number of simple practices that can be implemented to prevent soil erosion and contain soil on the site.

# Pre-Construction Site Preparation

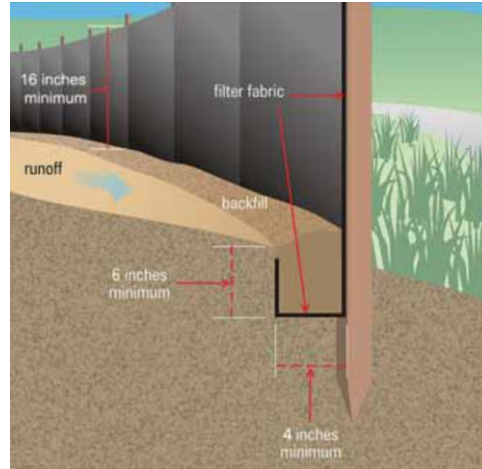
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## Demarcation of Limits of Disturbance (LOD)

- Helps keep natural vegetation intact during construction phase
- Silt Fence should not be used as LOD marker





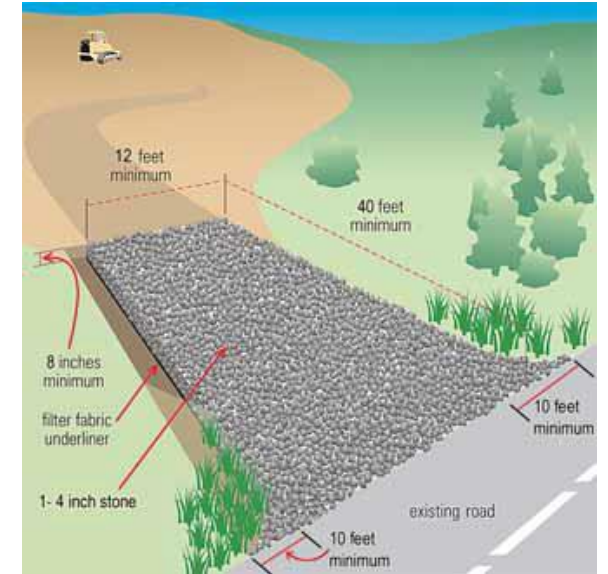


# Perimeter Control

- Silt Fence
  - Compost Filter Socks
  - Erosion Control Berms
  - Straw Wattles
- Differ is drainage area and slope length and steepness allowances

# Construction Entrance

- Mud tracked onto roads is a common complaint
- A matrix of 1"-4" stone 8" deep on top of a layer of filter fabric helps reduce tracking offsite
- Rock should be raked or replaced as fine sediment begins to fill the voids



# Mulching and Erosion Prevention

<b>Interchangeable Practices</b>	<b>Condition where practice applies</b>	
	Slopes shallower than 3:1	Slopes 3:1 or steeper
Seeding and Mulching	x	
Erosion Control Matting and Blankets	x	x
Turf Reinforcement Mats	x	x
Sodding	x	
Bonded Fiber Matrices	x	x

The most effective method of erosion prevention on most sites is covering bare soil with mulch, erosion control matting or blankets, or other products as soon as possible after initial earth disturbance (14 days under Low and Moderate Risk Authorizations).

The practices used in the table can be used interchangeably on the appropriate slopes for soil stabilization.

\*Bonded plastic mesh shall not be used, whether the mesh is biodegradable or not

# Simplified RUSLE Example

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-Revised Universal Soil Loss Equation

$$A = R \times K \times LS \times C \times P$$

A - average soil loss from a uniform area, typically in tons/acre/year

R - Runoff Erosivity Factor

K - Soil Erodibility Factor

LS - Slope length and steepness

C - Cover management factor

P - Erosion Control Practice Factor

Solve for a uniform parcel with 3% slope of 100' of soil with a K value of 0.26.

A = 7.5 ton/acre/year as bare soil

with 0.5 ton of Hay mulch C = 0.25

A = 1.87 ton/acre/year

This is a simplified example with basic assumptions, but shows the value of erosion prevention with temporary stabilization.



# Temporary Stabilization



# Additional Slope Protection

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For slopes that are too steep or have too much upslope run-on for matting alone

In these cases a diversion swale would be ideal if there is offsite runoff coming onto bare soil

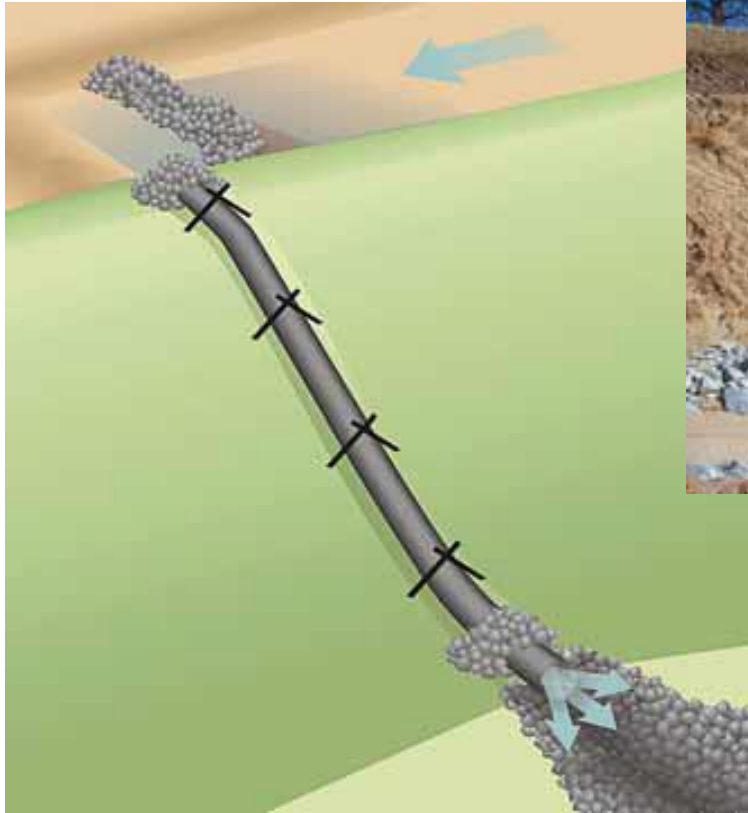
If this is not possible it may be necessary to pipe runoff down a steep slope or provide a stone lined channel to the bottom of the slope

Examples of these are shown on the following slides



# Slope drain pipe and stone lined channel

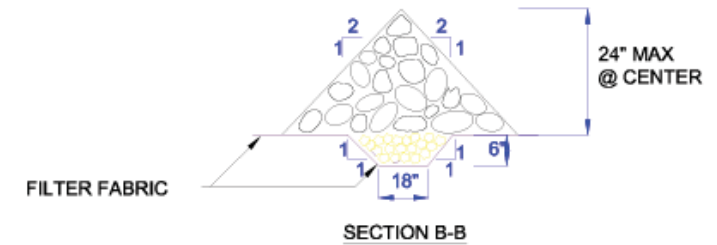
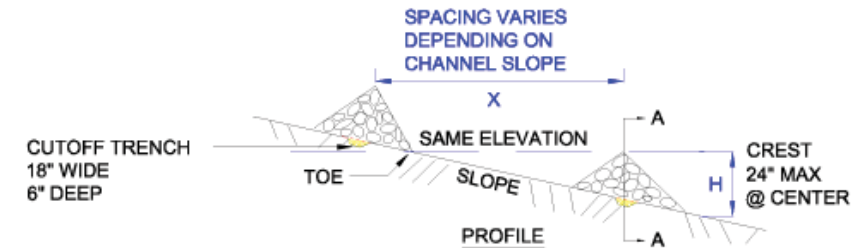
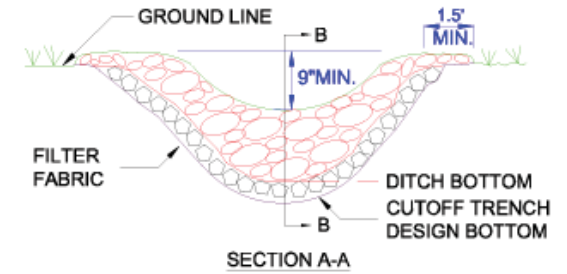
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# Check Dams

- Effective way to slow water velocity and stabilize drainage ditches, both stone lined or grassed waterways
- Slopes that are too steep may require stone-lined channel and check dams

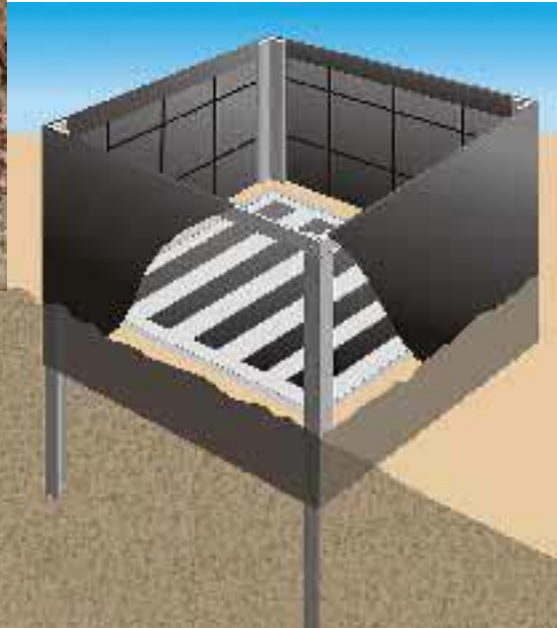


# Excavated and stone and block drop inlet protection

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Good examples of various inlet protections, sediment is kept out of inlet



# Outlet Protection

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Examples of stabilized rock outfall and use of stone to create a ponding dam to slow outlet velocity







# Concrete Washout

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# Common Noncompliance Items

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UNMAINTAINED  
PERIMETER  
CONTROL



LACK OF  
TEMPORARY  
STABILIZATION



UNMAINTAINED  
CONSTRUCTION  
ENTRANCE



FAILURE TO POST  
NOTICE OF  
AUTHORIZATION



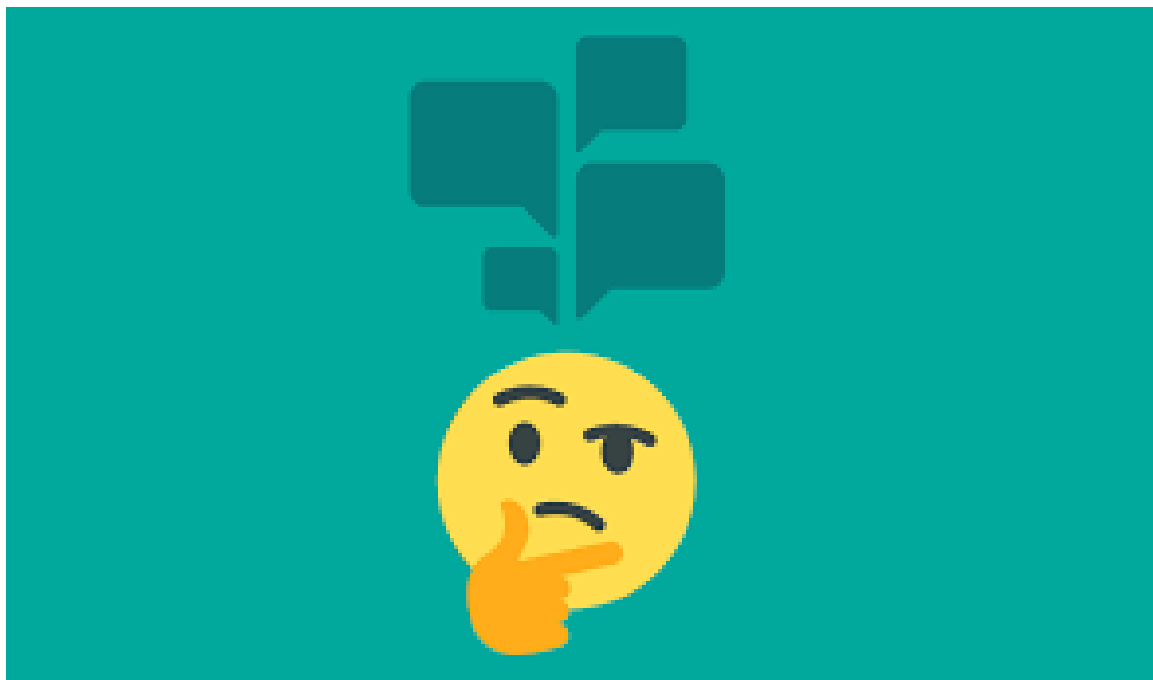
FAILURE TO  
DEMARCATÉ LIMITS  
OF DISTURBANCE

# Review

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## 2019 CGP Update

- To be issued in the coming month or two
  - Still addressing public comments, public comment period is closed
- Changes to Application Material, Low Risk Requirements and EPSC Practices Available
- Permit Compliance



# Questions

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