General Construction Permit

October 15, 2009

Presented by
Rosanna Lacarra
NPDES/Water Quality

PBS&J

Construction Compliance Update Agenda

- California General Construction Permit
  - Permit Overview
  - Technical requirements and challenges
  - Timeline

Permit's History

- Issued August 1999 (WQO 99-08-DWQ)
- Blue Ribbon Panel – Final Report June 2006
- Draft and Public Workshops Spring 2008
- SWRCB Public Hearing – June 4, 2008
- April 22, 2009 Final Draft Issued
- September 2nd Adoption Hearing

Permit Facts

- NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities
- Fact Sheet (46 pages) – Total 285 pages!
- Fact Sheet and Permit are repetitive.
- In effect on July 1, 2010.
- Expires September 2, 2014.
- All NOIs under No. 99-08-DWQ and 2003-0007-DWQ are terminated

General Construction Permit Applicability

- Applies to construction projects 1 acre or greater
- Any construction or demolition activity, including clearing, grading, grubbing, or excavation, or any other activity that results in land disturbance
- **Applies to Linear Projects – Infrastructure and Utilities**
- Maintenance Projects Exempt: maintain original line and grade, hydraulic capacity or original purpose of the facility; updating existing lines; and repairing leaks.

Linear Underground/Overhead Projects (LUPs)

- Any conveyance and pipeline – gas, liquid, slurry… including water and wastewater for municipal services
- Any cable line or wire – electrical energy, cable or wire for communications, and associated facilities.
- Includes: substructures and other facilities; potholing, concrete structures, boring, excavation, drilling, trenching, etc.

Permit Registration Documents (PRDs)

- Electronic Filing - SMARTs
- NOI
- Risk Assessment
- Site Map
- SWPPP
- Annual Fee
- Signed Certification Statement

Obtaining Coverage

- Permit coverage obtained once:
  - PRDs are received
  - Fee is received
  - WDID number is issued by SMARTS

SWPPP Preparation and Implementation

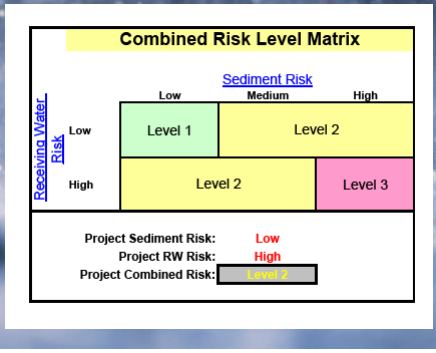
- Qualified SWPPP Developer (QSD)
  - Registered civil engineer, geologist, engr. geologist, landscape architect, hydrologist
  - Certified Professional with CPESC,CPSWQ ,or NICET
  - Requires training course offered by SWRCB within two years

SWPPP Preparation and Implementation

- Qualified SWPPP Practitioner (QSP)
  - Within two years of adoption
  - Certified inspector through Enviro Cert International, Inc. or CISEC, Inc.
  - Requires training course offered by SWRCB within two years
- Legally Responsible Party (LRP)
  - Or LRP's Approved Signatory – principal executive officer or ranking elected official
  - Submits the PRDs via SMARTS

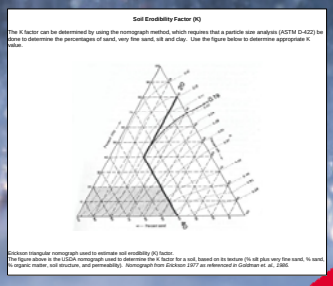
Risk Level Matrix and Assessment

- **Sediment Risk** *for the project site*
  - *Low, Medium or High*
- **Receiving Water Risk** *sensitivity of sorts*
  - *Low or High*
- ***Result:***
  - *Level 1, 2 or 3*



Sediment Risk Factor Worksheet

- **R Factor**
  - **Soil loss factor directly proportional to the rainfall factor composed of the total Kinetic times the maximum 30-min intensity.**
- **K Factor – Soil:**
  - **Erosion susceptibility**
  - **Sediment transportability**
  - **Amount and rate of runoff**



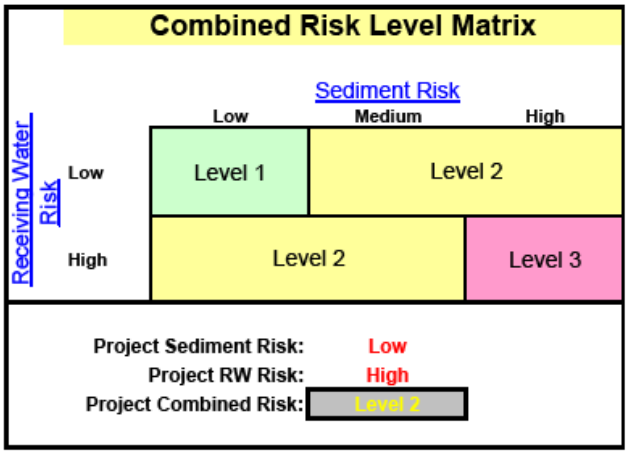
Sediment Risk Factor Worksheet

- **LS Factor – Topography Factor**
  Hill slope-length (L) & Hill slope gradient (S)
  - **Weighted average, by area, for all slopes**
  - **Account for the effect of topography**
  - **Increasing Length (L) = Higher soil loss and soil loss per unit area**
  - **Increasing gradient (S) = Higher velocity and erosivity of runoff**

Sediment Risk Level Assessment

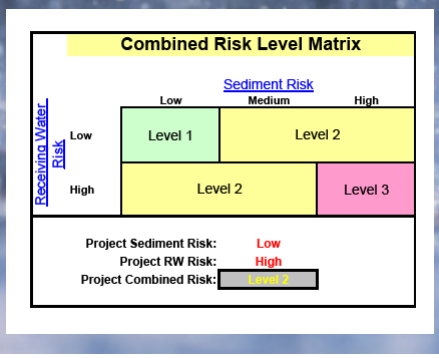
	A	B	C
1	**Sediment Risk Factor Worksheet**		**Entry**
2	A) R Factor		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5	**R Factor Value**		34.66
6	**B) K Factor (weighted average, by area, for all site soils)**		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9	**K Factor Value**		0.19
10	**C) LS Factor (weighted average, by area, for all slopes)**		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13	**LS Factor Value**		0.48
14			
15	**Watershed Erosion Estimate (=RxKxLS) in tons/acre**		3.160992
16	**Site Sediment Risk Factor**		
17	Low Sediment Risk: < 15 tons/acre		**Low**
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			

Sediment Risk Level Assessment



Receiving Water Risk Factor Worksheet

- Watershed characteristics
  - Project site discharge to a 303(d) listed waterbody impaired by sediment?
  - Beneficial use of COLD, SPAWN or MIIGRATORY?
  - YES to either = HIGH Risk



Linear Underground/Overhead Projects (LUPs)

- Type 1, 2 or 3 determination based on:
  - Equal or greater than 70% of construction on paved surfaces
  - Disturbed areas returned to pre-construction condition at the end of the day
  - Sediment Sensitive Watershed
  - Sediment Sensitive Receiving Water Body

Good News!

- Grandfathering
  - Projects with an existing WDID shall obtain permit coverage at Risk Level 1
  - Existing dischargers are exempt from the Risk Assessment for two years after permit adoption
- Small Construction Rainfall Erosivity Waiver
  - Rainfall Erosivity Factor <5
  - Sediment Project Risk Form in SMARTS
  - Complete NOI and Waiver Certification

Risk Determination

- Improved Sediment Risk Assessment
- Simplified Watershed Risk Assessment
- Removed Risk Assessment linkage to use of Active Treatment Systems
- NOTE: Each Risk Level has different requirements found in Attachments C, D and E:
  - Housekeeping
  - Inspection
  - Monitoring
  - Reporting

Three Precedent Setting Technical Items

- Numeric Action Levels
- Numeric Effluent Limits
  - Applied to storm water
  - Applied for traditional BMPs that are highly variable and efficiency data not available
  - Defined as technology-based – 5 year, 24 hour Compliance Storm Event (San Diego County ranges from 2 to 4.5 inches)
- Hydromodification Requirements

Effluent Limits for Projects

- Numeric Action Levels (NALs)
  - Risk Levels 2 and 3, or LUP Type 2 and 3
  - pH - 6.5 and 8.5
  - Turbidity – 250 NTU
- Numeric Effluent Limitations (NELs)
  - Risk Level 3, or LUP Type 3
  - pH - 6.0 and 9.0
  - Turbidity - 500 NTU
- All NAL and NEL violations reported through SMARTs

Significance of NAL's and NEL's

- For Turbidity
  - Excessive and multiple layers of BMPs
  - Detention basins
  - Chemical Treatment (Advance Treatment Systems or ATS)
  - NEL violations
    - Site owners and operators
    - $3,000 minimum mandatory penalty
    - $37,500 per day, per violation

Sediment Controls

- Traditional BMPs
- Sedimentation Basins
- Active Treatment Systems (ATS)
  - Polymer aided sediment removal
  - Daily Flow-Weighted Average 10 NTU
  - Any Single Sample 20 NTU
  - 10 year, 24 hour Compliance Storm Event

REAP & Inspections

- Responsibility of the QSP "The Practitioner"
- REAP required for Risk Levels 2 and 3 (LUPs exempt)
- Within 48 hours of any likely precipitation even with a 50% or greater probability

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-SW Discharge	Pre-Storm Event		Daily Storm BMP	Post Storm	SW Discharge	Receiving Water
		Baseline	REAP				
1	X	X		X	X		
2	X	X	X	X	X	X	
3	X	X	X	X	X	X	X*

* If NEL exceeded

Monitoring

- Visual - All Risk Levels within two business days after qualifying event
- Non-visible Pollutants - as needed all Risk Levels
- Other Pollutants – based on site “history”
- Effluent Monitoring based on Risk Level
  - Minimum of 3 samples per day/qualifying rain event
  - pH and Turbidity – Risk Level 2
  - pH, Turbidity and SSC – Risk Level 3

Monitoring

- Sedimentation Basin
  - Soil particle analysis
  - Percent sand, very fine sand, clay

Receiving Water Monitoring

- Risk Level 3 and LUP Type 3
  - pH, Turbidity and SSC if NEL exceeded
- Bioassessment
  - Equal or greater than 30 acres
  - Direct discharges to receiving waters
  - Before and after site completion
- ATS users
  - pH, Turbidity and SSC if NEL exceeded

Annual Reporting

- Electronically
- No later than September 1 of each year
- Includes:
  - Storm Water Monitoring including a summary of sampling and analysis methods and results
  - Copies of laboratory reports
  - All corrective actions taken or not taken
  - Summary of all violations
  - Names of all field inspectors and all reports

Notice of Termination

- NOT within 90 days of completion or transfer
- No construction material on-site
- Post-Construction BMPs demonstrated
- No temporary BMPs on site
- Demonstrate stabilization (photos, testing or results)
  - 70% Vegetative Cover Method
  - C Factor (RUSLE or RUSLE 2 of 0.003 or less)
  - Custom Method

Last Few Items

- Cost to Comply
  - Construction Sites $26 - $40K per acre
  - Local Agency Enforcement $9.7 Million Annually
- Reopener: EPA adopts final effluent limitation guidelines for construction activities
- Timeline
  - If no objection from EPA Regional Administrator
  - IN EFFECT JULY 1, 2010!

Questions

Rosanna Lacarra
NPDES/Water Quality

Contact Information
Phone Number (760) 603-6082
RMLacarra@pbsj.com