RBF CONSULTING

QSP Training
Module 3
SWPPP Implementation

Learning Objectives

To Understand:

- The Role of the SWPPP
- Proper BMP use and installation, by Category and Risk/Type Level
- SWPP Inspection Requirements
- Rain Event Action Plan (REAP) Requirements
- General Advanced Treatment System (ATS) Requirements
- Differences in requirements for traditional vs. Linear utility projects as they arise.

Resources

- Construction General Permit Order 2009-0009-DWQ
- Attachments A, C, D, & E
- CASQA BMP Manual
- Caltrans BMP Manual

Glossary of Acronyms

- ATS - Advanced Treatment System
- BMP - Best Management Practice
- CESSWI - Certified Erosion Sediment & Stormwater Inspector (EnviroCert)

- CGP - Construction General Permit
- CISEC - Certified Inspector of Sediment & Erosion Control
- CPESC - Certified Professional Erosion & Sediment Control (EnviroCert)

- CPSWQ - Certified Professional Storwater Quality (EnviroCert)
- DIs - Drainage Inlets
- DSAs - Disturbed Soil Areas
- EPA - Environmental Protection Agency

Glossary of Acronyms

- ESAs - Environmentally Sensitive Areas
- LRP - Legally Responsible Person
- LUPs - Linear Utility Projects
- NICET - National Institute for Certification in Engineering Technology
- NOAA* - National Oceanic & Atmospheric Administration
- NOC - Notice of Correction
- NOI - Notice of Intent
- NOT - Notice of Termination
- NOV - Notice of Violation
- PPE - Personal Protective Equipment
- REAP - Rain Event Action Plan
- RECP - Rolled Erosion Control Product

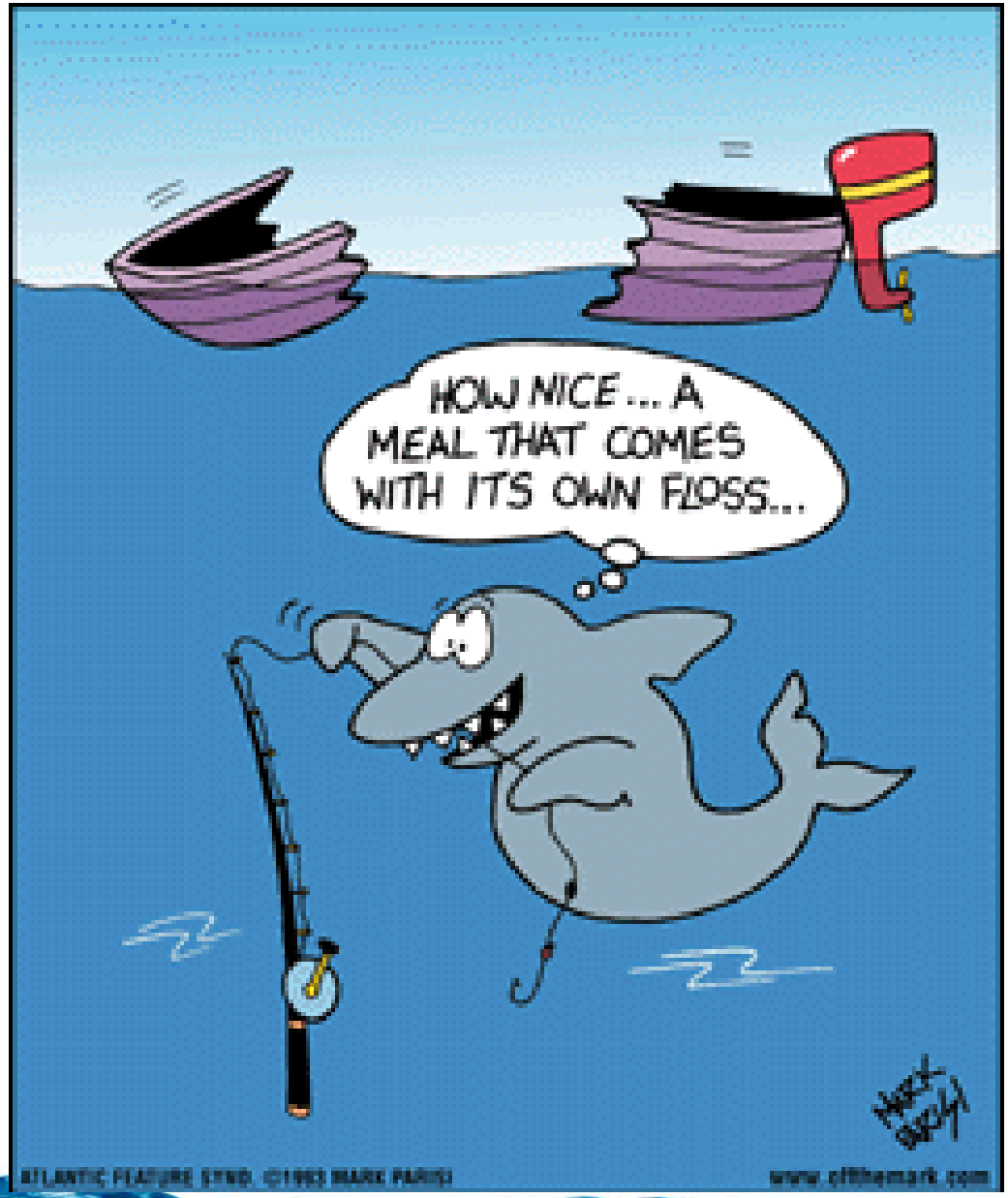
** Only weather reports from NOAA are accepted*

Glossary of Acronyms

- RWQCB - Regional Water Quality Control Board
- SWPPP - Storm Water Pollution Prevention Plan
- SWRCB - State Water Resources Control Board
- QA / QC - Quality Assurance / Quality Control
- QSD - Qualified SWPPP Developer
- QSP - Qualified SWPPP Practitioner
- WDID - Water Discharge Identification (Number)
- WPCD - Water Pollution Control Plan

Agenda

- Regulatory Responsibilities
- General Construction NPDES Permit & Storm Water Pollution Prevention Plan (SWPPP) Refresher
- Construction Site Inspection & Enforcement
- Construction Site Practices – What To Look For and What is Wrong


HOW NICE... A MEAL THAT COMES WITH ITS OWN FLOSS...
ATLANTIC FEATURE SYND. ©1993 MARK PARISI
www.offthemark.com

Stormwater Regulations & Construction Activity

- State Water Board requires construction projects to receive coverage under the General Permit
  - i.e, submit Notice of Intent, develop SWPPP, use BMPs to contain pollutants, prevent soil erosion, control sediment, monitor, inspect, and submit Notice of Termination.

- Regional Water Board also regulates construction activity through the MS4 Stormwater Permit
  - Permit requires MS4 permit holder to monitor construction activity (public & private) and achieve compliance through local policy and enforcement, i.e., requiring Erosion Control Plan (ECP)

Construction Responsibilities

- Property owners (LRP):
  - Obtain coverage under General Permit, i.e. submit NOI
  - Develop *and maintain* SWPPP
  - Inspect, monitor, sample, repair, report
  - Submit a Notice of Termination to State when project is complete
- The MS4:
  - Enforce Municipal Stormwater Permit
  - Accept an approved Erosion Control Plan (ECP)
  - Verify that stormwater is managed on site
  - Verify that pollutants are contained, sediment is controlled, and any runoff from site is clean to MEP standards
  - Enforce City codes and ordinances

Construction NPDES Permit - What is Covered?

- Construction activity that disturbs one (1) or more acres of soil
- Construction activity includes:
  - Clearing and grubbing, demolition (land disturbance)
  - Grading / excavation
  - Stockpiling
  - Structure construction
- Sites < 1 acre also included if part of a larger common development (that exceeds one acre total) or if Regional Board requests coverage

General Permit Requirements

- Apply for Coverage Under General Permit
- Develop and Implement a SWPPP
  - Identify pollutant sources
  - Identify / implement BMPs
- Eliminate or Control Non-Storm Water Discharges
  - E.g. pipe flushing, street cleaning, dewatering
- Inspections, reporting, repair, good housekeeping
- Sampling
- Initial and Annual certification

What Time of the Year do Permit Requirements Apply?

- SWPPP Must Be Implemented **Year-round**
  - Non-storm water discharges controlled
  - BMPs implemented at all times
  - Stockpile materials for sediment and erosion control as well as for spill control
  - Inspections

Storm Water Pollution Prevention Plan (SWPPP)

- Purpose:
  - Prevent discharge of potential pollutants during construction
- Potential pollutants include:
  - Sediment (erosion)
  - Litter, trash, and debris
  - Paint, plaster, concrete and stucco
  - Fuel, oil, grease and solvents
  - Pesticides and fertilizers
  - Others – See CASQA Construction Handbook

Common Construction Site Pollutants

List of Common Potential Non-visible Pollutants at Construction Projects

Category	Potential Pollutant Source	Field Indicator of Pollutant Release	Laboratory Analysis
Line flushing	Chlorinated water	Colormetric kit	Residual chlorine
Portable toilets	Bacteria, disinfectants	NA	Total/fecal coliform
Concrete & Masonry	Acid wash	pH meter	pH
	Curing compounds	pH meter	pH, alkalinity, volatile organic compounds (VOCs)
	Concrete rinse water	ph meter	pH
Painting	Resins	NA	Semi-volatile organic compounds (SVOCs)
	Thinners	Phenols kit	Phenols, VOCs
	Paint Strippers	NA	VOCs
	Solvents	Phenols kit	Phenols, VOCs
	Adhesives	Phenols kit	Phenols, SVOCs
	Sealants	N/A	SVOCs
Cleaning	Detergents	Colorimetric kit	MBAS, phosphates
	Bleaches	Colorimetric kit	Residual chlorine
	Solvents	Phenols kit	VOCs
Landscaping	Pesticides/Herbicides	NA	Check with analytical laboratory
	Fertilizers	NA	$NO_3/NH_3/P$
	Lime and gypsum	pH meter	Acidity/alkalinity
	Aluminum sulfate, sulfur	Total dissolved solids (TDS), pH	TDS, alkalinity
Treated wood	Copper, arsenic, selenium	Metals test kits may be available	Metals
Soil amendments & dust control	Lime, gypsum	pH meter	pH
	Plant gums	NA	Biochemical oxygen demand (BOD)
	Magnesium chloride	TDS	Alkalinity, TDS
	Calcium chloride	TDS	Alkalinity, TDS
	Natural brines	TDS	Alkalinity, TDS
	Lignosulfonates	TDS	Alkalinity, TDS

SWPPP Requirements

- SWPPP document must be available at project site
- Must have map showing BMPs
- Required inspections and documentation
  - Before anticipated storm events
  - After storm events
  - Once each 24-hour period during extended storms
- Include name & number of QSP and QSD

SWPPP Contents

- Site / Vicinity Maps
- Pollution Source and BMP Identification
- Erosion Control and Sediment Control BMPs
- Non-Storm Water Management
- Post Construction Controls
- Maintenance, Inspection and Repair
- Construction Site Monitoring Plan (CSMP)
- Certification

The SWPPP is prepared by a QSD

SWPPP Maps

- SWPPP must have map showing where and what BMPs are being implemented
- Must be updated to reflect changing site conditions
- Must be on-site

Let’s quickly review…

…with a Quiz!

Question 1
You are required to file an NOI for:

a. Each construction project, regardless of ownership

b. Only projects for which you are the owner

c. 1 or more acres total size

d. 1 or more acres disturbed area

ANSWER:

b and d are both correct.

Question 2
True or False?

Some projects sites that disturb less than one acre might need a Construction NPDES Permit?

ANSWER:

True, if they are part of a larger common plan of development that will exceed 1 acre of soil disturbance or the RWQCB requires coverage.

Question 3
The SWPPP must:

a. Be reviewed and approved by the MS4.

b. Be submitted to the SWRCB.

c. Be kept at the project site.

d. Contain a CSMP

ANSWER:

b, c. and d. are correct

Question 4
Who Can Enforce the CGP?

a. City staff

b. Board staff

c. Federal (EPA) agency staff

d. Private citizens

e. All of the above

ANSWER:

a. Board staff, c EPA – indirectly, all of the above

SWPPP Basics - Elements

- Identifies the WDID # Author, their credential and has a signed Certification Statement by the LRP
- Calls out BMPs on the Plan
- Details proper installation
- Identify the run-on & run-off (discharge points) for monitoring & inspection
- Provide custom inspection checklists that meet the appropriate Attachment based on the Risk/Type Level
- REAPs must be on site and available for review
- The SWPPP is a “living document” that is amended/updated to reflect conditions & reduce pollutants. All amendments/updates are to be in the SWPPP

SWPPP Basics – Strategies

Typical Strategies:

- Prevent stormwater contact with disturbed soil
- Protect Disturbed Soil Areas (DSAs) from erosion
- Minimize sediment in storm water before discharging
- Prevent storm water contact with other pollutants
- Prevent non-stormwater discharges
- Project understanding
- Permit understanding

Site Planning and Management

- The best plan for water quality is to minimize disturbance, maximize natural features and perform grading operations during dry weather
- Preserve existing vegetation
- Clearing Limits/Buffer Zones
- Protect trees & ESAs
- Scheduling / Sequencing

BMP Implementation and Maintenance

- By Risk/Type Level

  The Permit identifies 5 categories of year-round minimum BMPs:

  1. Good site management / housekeeping
  2. Non-Stormwater Management
  3. Erosion Control
  4. Sediment Control
  5. Run-on / Run-off Controls
  6. Unique Situations

Good Site Management – "Housekeeping"

For Construction materials:

A. Inventory of products used
B. Cover & Berm loose stockpiled materials (spoils, aggregate, fly-ash, stucco, lime, etc)
C. Store chemicals in watertight containers with proper secondary containment or in a storage shed
D. Minimize exposure of construction materials to precipitation
E. Implement BMPs to prevent off-site tracking

Develop a Spill Response Plan

- Part of SWPPP
- Prior to Construction
- Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly
- Appropriate spill response personnel are assigned & trained

Non-Stormwater Management

- Authorized vs. Unauthorized Non-Stormwater
- Non-stormwater discharges are allowed, but must meet the following criteria:
  - Infeasible to eliminate
  - Comply with BMPs as described in the SWPPP
  - Filter or treat sed basin discharges
  - Meet NELs and NALs
  - Not cause or contribute to a violation of water quality standards (Basin Plan)
- Check with Regional Board for additional permits

Erosion Controls & Sediment Controls

- Permit requires both
- Erosion controls 80%
- Sediment controls 20%
- Must be appropriate to construction activity and time of year

Perimeter Controls

- Designed to control sediment leaving the site
  - Baffles
  - Cut Back Curb
  - Drain Inlet Protection
  - Fiber Rolls (straw wattle)
  - Sediment Bags
  - Sediment Basins / Traps
  - Silt Fence
  - Sediment Ditch Check

Run-On / Run-Off Controls

Dischargers shall:

- Effectively manage all run-on, all run-off within the site and all run-off that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

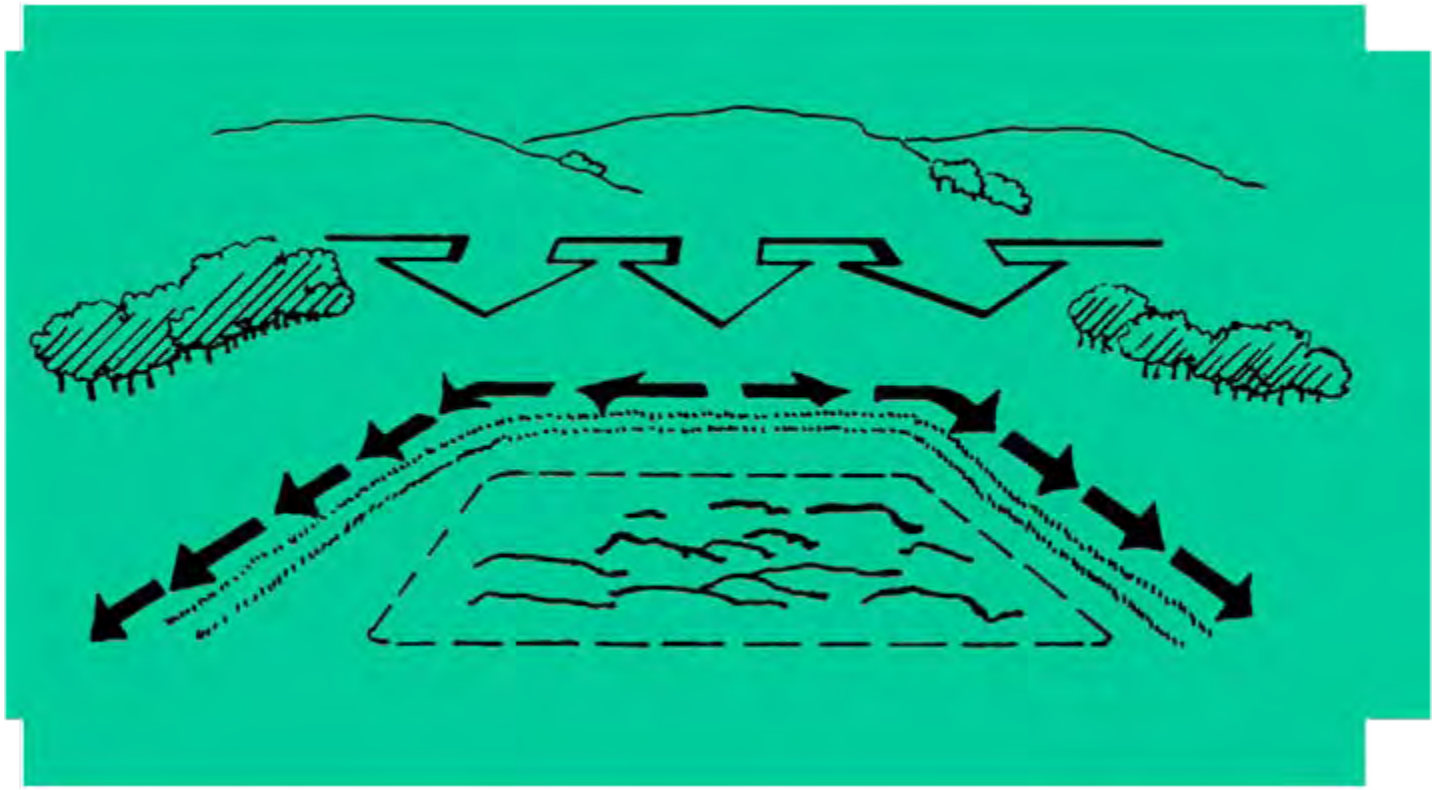
- Per Attachment A: run-on & run-off controls are not required for Type 1 LUPs unless the evaluation of quantity and quality of run-on and run-off deems them necessary or visual inspections show that the site requires such controls

Run-On / Run-Off Controls

- Diversions
- Gabions
- Inlet Protection
- Pipe Slope Drain
- Retaining Wall
- Rip Rap
- Rock Check Drain
- Swales

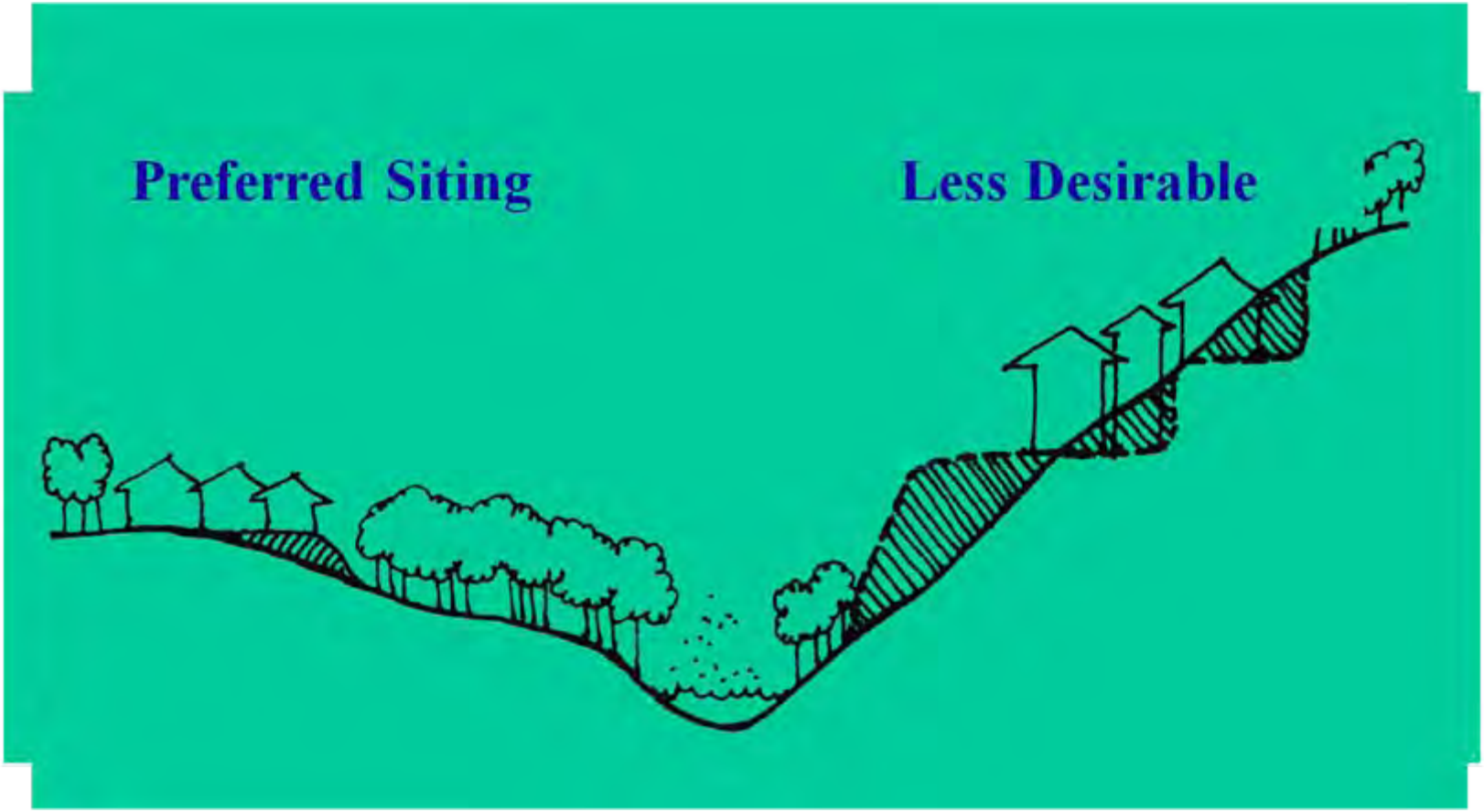
Don’t let this be your site….

Diversion of Runoff Away From Construction Area

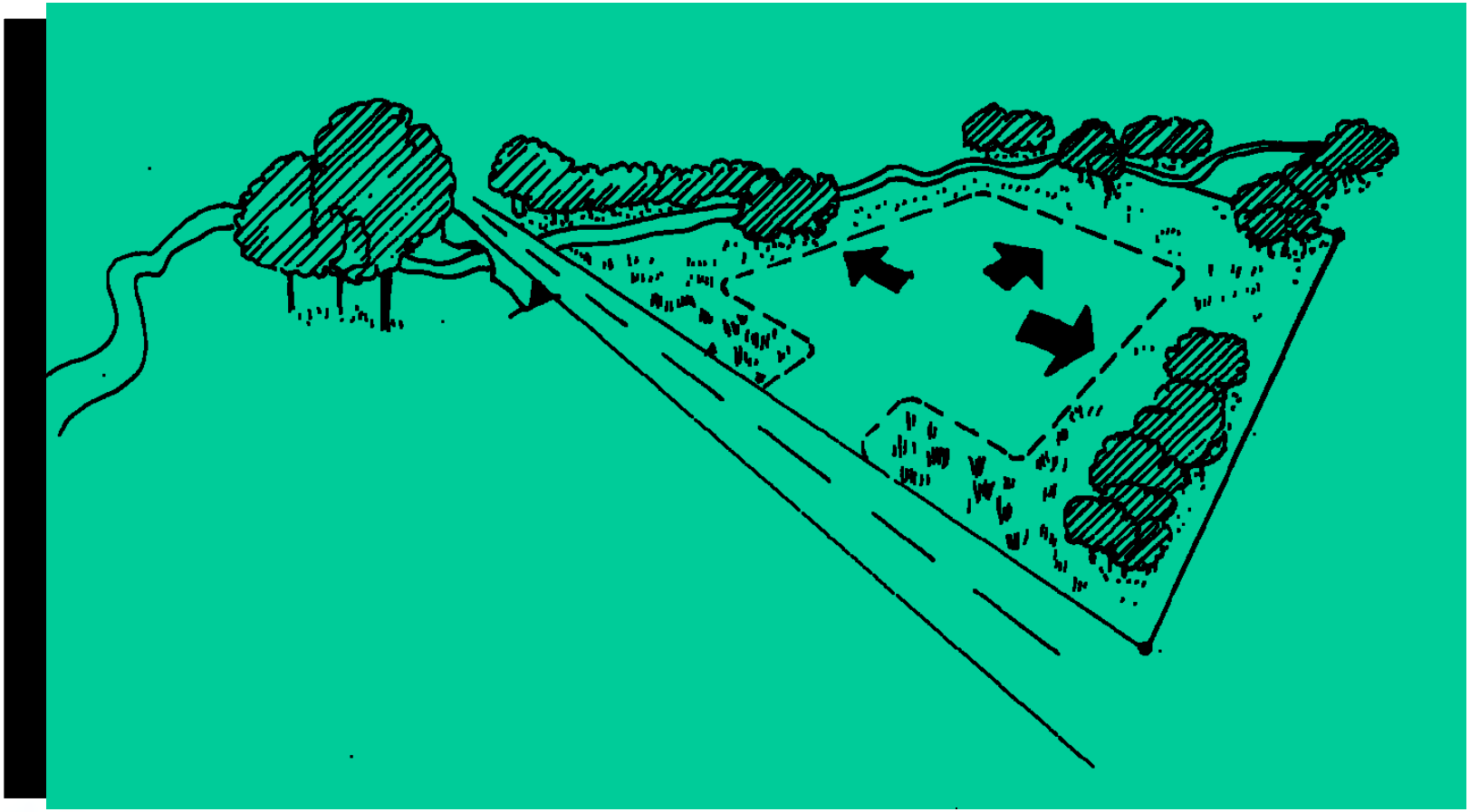


Flow Must Be Discharged Appropriately Downstream of Site

Examples of Siting



Conservative Site Clearing



Permit Requirements

Overview

- Permit took effect on July 1, 2010, adopted on September 2nd, 2009
- Four phases of construction: Grading, Streets/utilities, Vertical, Post Construction
- Exempt: Repaving except where underlying soil is disturbed or surrounding soil cleared
- LUP's: The permit includes Linear Underground/Overhead Projects – modestly different filing, inspection and reporting requirements

Permit Findings

- Prohibited: Discharge of any debris (including trash)
- NAL: Turbidity 250 NTU, pH 6.5 – 8.5
- NEL: Turbidity 500 NTU, pH 6 – 9
- Design Storm: 5 year, 24 hr for NEL compliance (RL 3) – 10 Yr. ATS
- Exceedance of NEL is a violation of the permit!

What Will an Exceedence Mean?

- Superior court can apply civil liability up to $25,000/day and $25/gallon
- CWA penalty is $37,500/day
- State or Regional Board may administratively apply a penalty of $10,000/day and $10/gallon
- MMP – The mandatory minimum penalty applies to the NEL exceedance. On the 4th exceedance within 6 months, a fine of $3,000 must be assessed.

Order – Section II Conditions

- Electronic Filing of PRDs
  - NOI
  - Risk Assessment
  - Site Map
  - SWPPP
  - Signed Certification Statement
- 7 Days prior to construction
- Send fee via mail AFTER submitting PRDs
- Site not covered until you receive WDID #
- LRP or LRP designee (Approved Signatory) must certify
- All Existing Projects after July 1, 2010 – Risk 1 until 9/2/2011

Changes to LRP and Approved Signatory

- To obtain coverage, the LRP or the LRP's Approved Signatory or other entity described above must file Permit Registration Documents (PRDs) prior to the commencement of construction activity.
- The definitions of the Approved Signatory and the LRP have been changed.

Approved Signatory

A person who has legal authority to sign, certify, and electronically submit Permit Registration Documents and Notices of Termination on behalf of the Legally Responsible Person. The Approved Signatory must be one of the following:

•For a corporation: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

•For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

•For a municipality, State, Federal, or other public agency: a principle executive officer, ranking elected official, city manager, council president, or other public employee with managerial responsibility over the construction or land disturbance project (including, but not limited to, project manager, project superintendent, or resident engineer);

•For the military: any military officer who has been designated;

•For a public university: an authorized university official;

LRP

A person, company, agency, or other entity that possesses a real property interest (including, but not limited to, fee simple ownership, easement, leasehold, or rights of way) in the land upon which the construction or land disturbance activities will occur for the regulated site. If the land is controlled by an estate or similar entity, the person who has day-to-day control over the land (including, but not limited to, a bankruptcy trustee, receiver, or conservator) is considered to possess a real property interest. The Legally Responsible Person will typically be the project proponent. A contractor who does not possess a real property interest is not qualified to be a Legally Responsible Person.

Order, Con't

- Small Site Erosivity Waiver
  - 1 to 5 acres disturbed area
  - R less than 5, submit waiver through SMARTS, pay fee
- Final Stabilization
  - 2.D.1.a. "not pose any additional sediment discharge risk than it did prior to the commencement of the construction activity" (photos)
  - 70% coverage rule still applies, or:
  - RUSLE2 Method
  - Custom Method (undefined)

Order – Section II

- Changes to permit coverage? File a COI in SMARTS
- File NOT within 90 days of completion
- Need post-construction BMP maintenance plan
- Non-stormwater discharge must be monitored for NAL and NEL compliance

Order Section VII - Training

Qualified SWPPP Developer (QSD)

- Writes and prepares SWPPP (generally a consultant)
- Must obtain registrations/certifications by **7/1/2010**
- Must attend three-day training by **9/2/2011**
- **Must pass QSD exam by 9/2/2011**

Qualified SWPPP Practitioner (QSP)

- Responsible for the implementation of the SWPPP and REAP (generally a consultant, may be a contractor)
- Must obtain registrations/certifications by **9/2/2011**
- Must attend two-day training by **9/2/2011**
- **Must pass QSP exam by 9/2/2011**

Order Section VIII – Risk Determination/Requirements

- Three Risk Categories – based on sediment and receiving water risk
- Risk computation/determination greatly simplified:
  - Assess Site Sediment Risk: Compute R, K and LS for project
  - Assess RW: 303(d) listed or COLD, SPAWN and MIGRATORY
- For Risk 3, must be ‘high’ for site and RW Risk

Risk Categories

Table 7 - Combined Risk Level Matrix

Combined Risk Level Matrix				
		Sediment Risk		
Receiving Water Risk		Low	Medium	High
	Low	Level 1	Level 2	
	High	Level 2		Level 3

Order Section VIII – Risk Determination/Requirements Risk Level 1

- Risk Determination – Appendix 1
- Risk Level 1 Requirements (Attachment C)
  - No NELs or NALs
- B. Housekeeping
  - Cover stockpiled materials not ‘actively’ being used
  - Must store chemicals under cover (watertight)
  - Cover waste containers – end of day and before rain
  - Concrete washouts must be water tight
  - BMPs to prevent trackout.

Risk Level 1 – Con't

- Discontinue application of any erodible landscape material within 2 days before a forecasted rain
- Street washing is effectively prohibited
- Soil cover required for inactive areas (14 days)
- Design sediment basins to CASQA stds.
- Run-on: It appears that you own it

Run-on (Attch C, Section F.)

- "Risk Level 1 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off-site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit."

Risk Level 1 – Con't

- Permit Section G. Inspection and Repair:
- Done by a QSP, each formally documented
- Inspect weekly (checklist), during rain events – other text indicates before/after inspections also required (48 hrs).
- 72 hrs to effect repairs + document repairs
- No REAP required
- Inspection during business hours only
- Quarterly non-stormwater inspection

Risk Level II

- Additional Risk Level II Requirements
  - pH NAL 6.5 – 8.5
  - Turbidity NAL 250 NTU
  - REAPs are required – all phases or inactive
  - Provide effective soil cover for inactive areas (14 days) AND ‘appropriate’ erosion control BMPs (soil stabilization) for active areas
  - Required sediment controls at top/toe and face of slopes to segment them (assumed ‘finished’ slopes)

Risk II Additional Requirements Con't

- Limit traffic to designated entrances/exits
- Inspect all access roads daily for track out
- REAP developed 48 hrs prior to forecast event and on site 24 hrs prior to event
- MUST collect effluent samples
  - Collect 3 samples per day
  - pH and Turbidity

Rain Event Action Plan (REAP)

- Risk Level 2 and 3 only
- Develop plan 48 hrs prior to a ‘likely’ rain event (50% chance of rain)
- REAP must be on site, and implementation starting 24 hours prior to likely rain event
- Prepared by the QSP
- Reflect construction stage of site – 4 stages

Rain Event Action Plan (REAP)

Date:		WDID Number:	
Date Rain Predicted to Occur:		Predicted % chance of rain:	

Site Information:

_____

Site Name, City and Zip Code Project Risk Level: ▫ Risk Level 2 ▫ Risk Level 3

Site Stormwater Manager Information:

_____

Name, Company, Emergency Phone Number (24/7)

Erosion and Sediment Control Contractor – Labor Force contracted for the site:

_____

Name, Company, Emergency Phone Number (24/7)

Stormwater Sampling Agent:

_____

Name, Company, Emergency Phone Number (24/7)

Current Phase of Construction

Check ALL the boxes below that apply to your site.

❑ Grading and Land Development	❑ Vertical Construction	❑ Inactive Site
❑ Streets and Utilities	❑ Final Landscaping and Site Stabilization	❑ Other:

Activities Associated with Current Phase(s)

Check ALL the boxes below that apply to your site (some apply to all Phases).

Grading and Land Development:

❑ Demolition	❑ Vegetation Removal	❑ Vegetation Salvage-Harvest
❑ Rough Grade	❑ Finish Grade	❑ Blasting
❑ Soil Amendment(s):	❑ Excavation (_____ ft)	❑ Soils Testing
❑ Rock Crushing	❑ Erosion and Sediment Control	❑ Surveying
❑ Equip. Maintenance/Fueling	❑ Material Delivery and Storage	❑ Other:

Streets and Utilities:

❑ Finish Grade	❑ Utility Install: water-sewer-gas	❑ Paving Operations
❑ Equip. Maintenance/Fueling	❑ Storm Drain Installation	❑ Material Delivery & Storage
❑ Curb and Gutter/Concrete Pour	❑ Masonry	❑ Other:

Vertical Construction:

Risk Level II Sampling Con't

- Characterize entire disturbed area
- All points discharging offsite
- Pick up the 'worst' discharges
- No sampling if 'dangerous' or outside of business hours, but have to document the reasons
- Must train personnel to SWAMP QAPP stds.
- Must sample NSW that discharges off site.
- Non-visible sampling requirements
- Can substitute for a regional monitoring program (RB discretion)

Risk II NAL Exceedences

- What is required if NAL exceedence:
  - Submit all sampling results to SB w/in 10 days after storm event conclusion
  - RB may require a NAL Exceedence Report which describes the problem and corrective actions taken
  - Examine BMPs and take action to reduce value to less than NAL – this is a continuous loop for NAL exceedence

Risk Level III

- Risk Level III Requirements
  - NAL and NEL compliance required
  - Erosion and sediment controls (‘appropriate’) required for all areas during active construction

Risk III Additional Requirements

- Regional Board can require additional site specific measures
- If violate an NEL (pH or turbidity) then sample the receiving waters for pH, turbidity, SSC and others (at Board discretion) for remainder of permit coverage (if direct discharge)
- Project greater than 30 acres of DSA and direct discharge will participate in benthic macroinvertebrate bioassessment.
  - Sample u/s and d/s of project during index period

Risk III Additional Requirements Con't

- Sampling on inactive sites is required
- NAL Exceedence Report is similar to RL 2, is a RB discretionary item
- Submit all sampling data within 5 days of event to SB
- NEL violation report (QSD – submitted by LRP):
  - Submit data to SB within 24 hrs after violation identified
  - Document the violation, and the corrective actions
  - Document the rainfall depth (compliance storm)

Active Treatment Systems

Stormwater RBF CONSULTING

Active Treatment Systems

- Will effectively require a site operator
- Requires a written plan and design approved by CPESC, CPSWQ, PE or any other registered engineer
- Operator must have 5 years of experience or be a Class A contractor
- Provide ATS plan electronically to Board 14 days prior to operation of ATS.

ATS Plan

- ATS operation and maintenance plan
- Sampling and reporting plan, QC plan
- Spill prevention plan
- Health and Safety plan
- Conduct jar tests to determine coagulant dosage

ATS Design

- The ATS shall be designed to capture and treat a volume equivalent to the runoff from a 10-year, 24-hour storm event in a 72-hour period with a runoff coefficient of 1.0.
- This is a significant requirement!
- Must have a filter following coagulation
- Filter must be monitored by pressure differential

ATS Instrumentation

- Turbidity
- pH
- Residual Chemicals
- Flow
- Volume (also cumulative daily)
- Data logger – 15 mins max interval, store 7 days
- Auto-shutoff if NELs exceeded

ATS Effluent

- Discharge not exceed 20 NTUs for any single sample and 10 NTUs for daily flow weighted average
- Residual chemical less than 10% MATC

ATS Monitoring Requirements

Table 1 – Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
Turbidity	EPA 0180.1 and/or field test with portable instrument	For ATS discharges	Not specified	NTU	N/A	10 NTU for Daily Flow-Weighted Average & 20 NTU for Any Single Sample

ATS Operator Training

- Training shall include a minimum of eight hours classroom and 32 hours field training. The course shall cover the following topics:
  - Coagulation Basics –Chemistry and physical processes
  - ATS System Design and Operating Principles
  - ATS Control Systems
  - Coagulant Selection – Jar testing, dose determination, etc.
  - Aquatic Safety/Toxicity of Coagulants, proper handling and safety
  - Monitoring, Sampling, and Analysis
  - Reporting and Recordkeeping
  - Emergency Response

ATS Reporting

- Acute toxicity monitoring required
- Reporting every 30 days using the SMARTS electronic filing
- Exceed NEL, report to Board w/in 24 hrs

What is ATS? – 2 Approaches

- Batch Treatment
  [Pump, Treat, Hold, and Test Before Releasing]

- Flow-through Treatment
  [In-line treatment, continuous monitoring]

Source: R. Wright, WashDOT, M.Hromatka, Clearwater Compliance, CASQA 2007

Source: R. Wright, WashDOT, M.Hromatka, Clearwater Compliance, CASQA 2007

Linear Construction

Linear Construction = LUP (Linear Underground/Overhead Project)

- 2009 CGP addresses LUP in Attachment A
- Definition of LUP:
  - Any conveyance, pipe, or pipeline for the transportation of any gaseous or liquid substance
- Construction activities include:
  - Installation of underground linear facilities (pipelines and ancillary facilities)
  - Utility mark-out, potholing, concrete/asphalt cutting/removal, trenching, excavation, boring, drilling, access roads, welding, pavement repair, stockpile/borrow locations
  - Activities during planning, design or route selection are not included as construction and do not need to be permitted

Linear Construction

Old Small Linear Construction Permit

- 2003-0007-DWQ, Small Linear Underground/Overhead Permit (SLUP)
- Applied to linear construction projects from one to five acres
- SLUP expired on July 1, 2010
- All projects with SLUP coverage were required to recertify under 2009 CGP by July 1, 2010

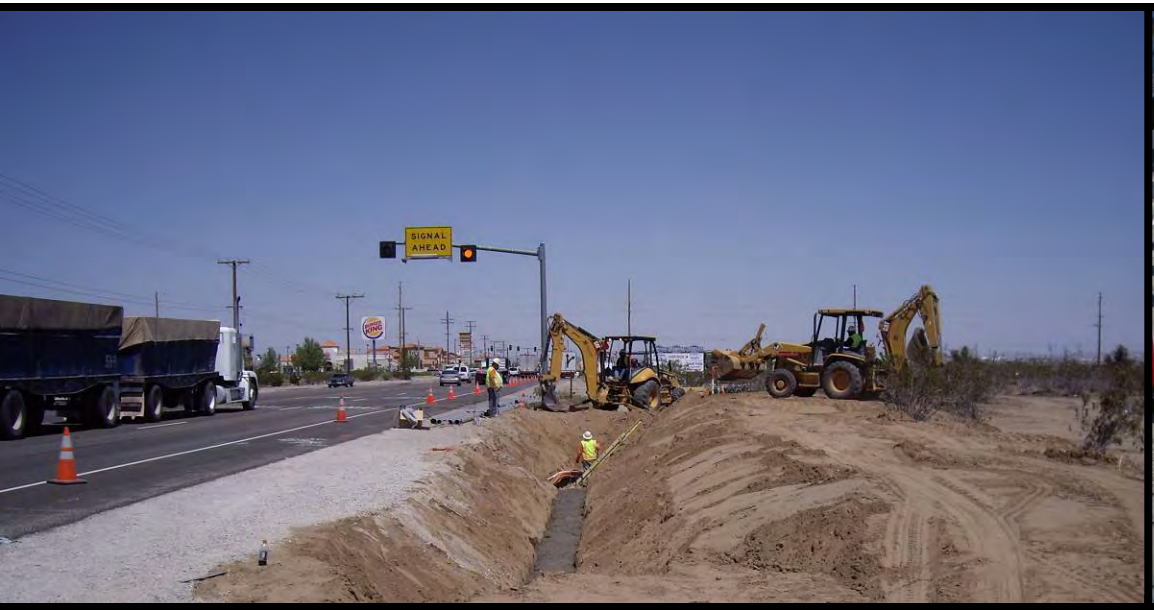
How do I know which permit my current project is under?

- Check your WDID

WDID	Which Permit?
8 33C281570	CGP
7 07L998760	SLUP

Urban/Suburban

Rural



Long Linear

How is Linear Construction the Same?

- Disturbed area (includes laydown area) one acre or more requires CGP coverage
- Linear projects must conduct risk assessment
- Risk 1, 2, 3 similar to LUP Type 1, 2, 3
- SWPPP (For LUP Type 1, 2, 3)
- Training requirements for QSD and QSP
- Erosivity waiver (1-5 Acres, R<5)
- LUP Type does not change over the project duration, even when areas are stabilized
- NAL/NEL for pH and turbidity
- Minimum BMPs

Linear	Traditional
LUP Type 1	Risk Level 1
LUP Type 2	Risk Level 2
LUP Type 3	Risk Level 3

How is Linear Construction Different from Traditional?

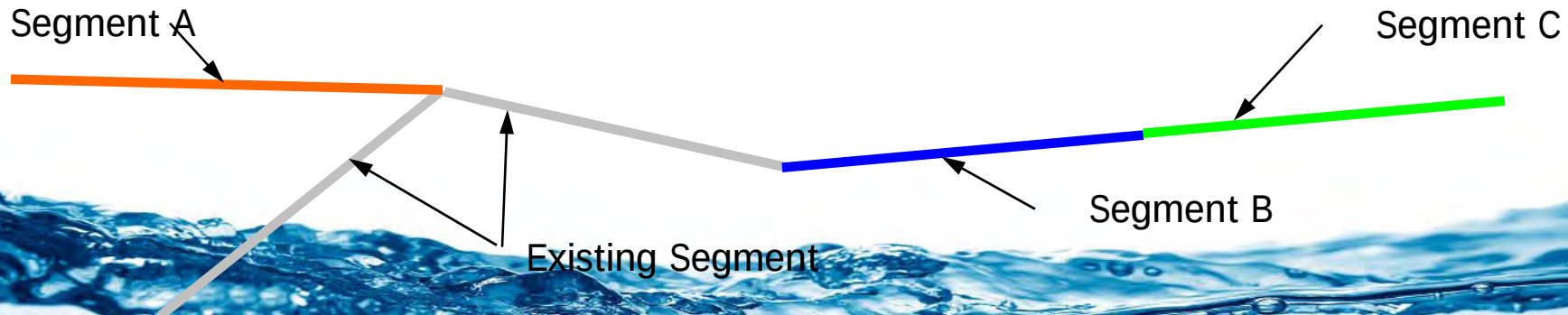
1. Logical permit segments
2. Homeland security exemption
3. LUP risk assessment
4. Sampling for an LUP project
5. Post construction

1. Logical Permit Segments

- Use for efficient management of long linear projects
- Segments may have different LUP Type
- Key is to choose “logical” segment, must be able to justify the relationship between segments and the project as a whole
- Suggested segment justifications: different phases, different contractors, different watersheds, different Project Manager

LUP Multiple Segment Example

- Each segment should perform a separate risk evaluation
- Segments A, B, and C may be permitted under one WDID number
- Segments A, B, and C may be permitted under separate WDID numbers
- High risk segments should have a separate SWPPP from lower risk segments



2. Homeland Security

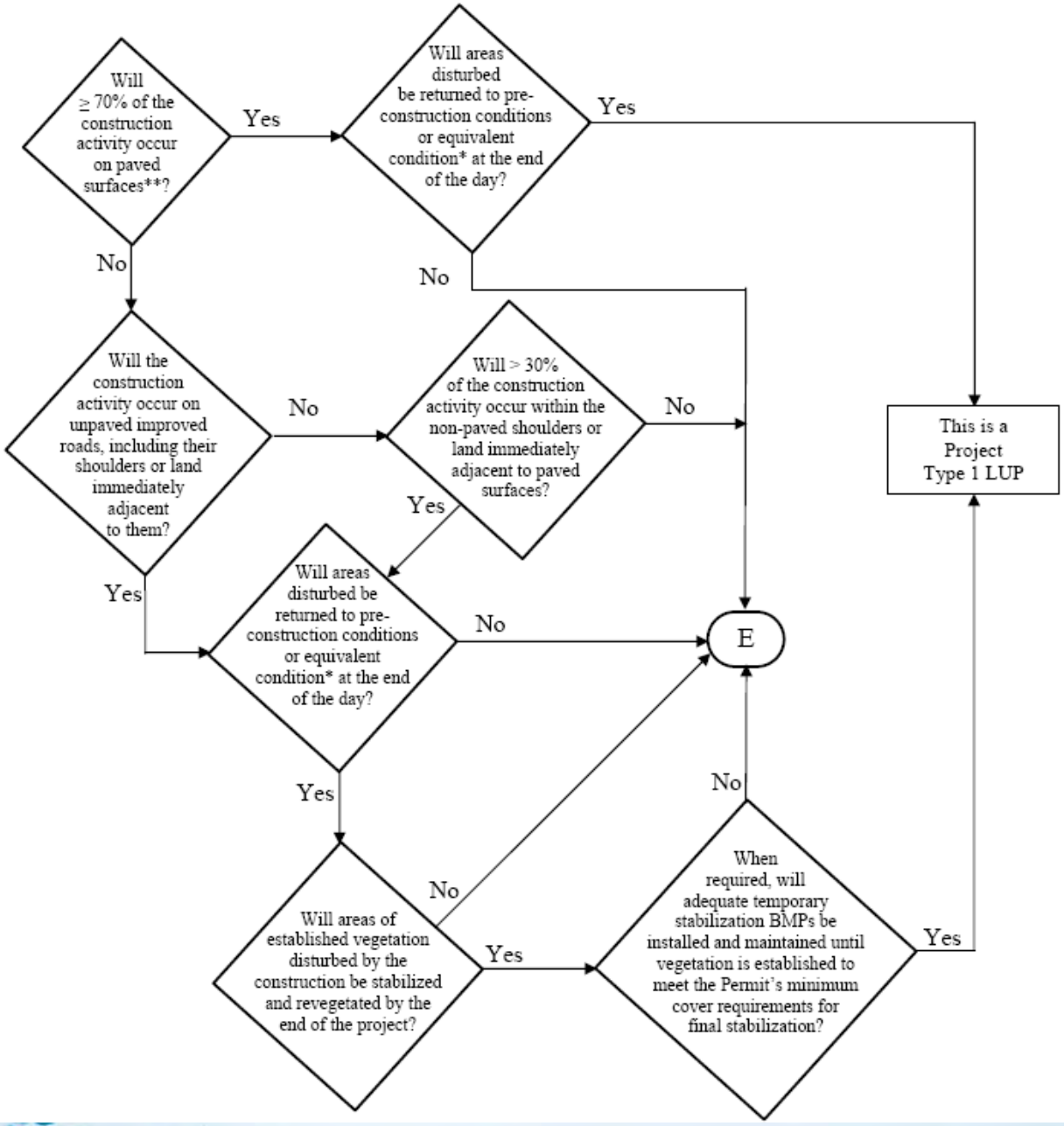
- Documents that go to the RB become public domain under Freedom of Information Act
- Many utilities have security information restrictions, based on the Federal Energy Regulatory Commission (FERC)
- When exempt a project should refrain from submitting materials including but not limited to:
  - GIS data layers
  - plot plans
  - Individual customer info
- Regional Board may request separate

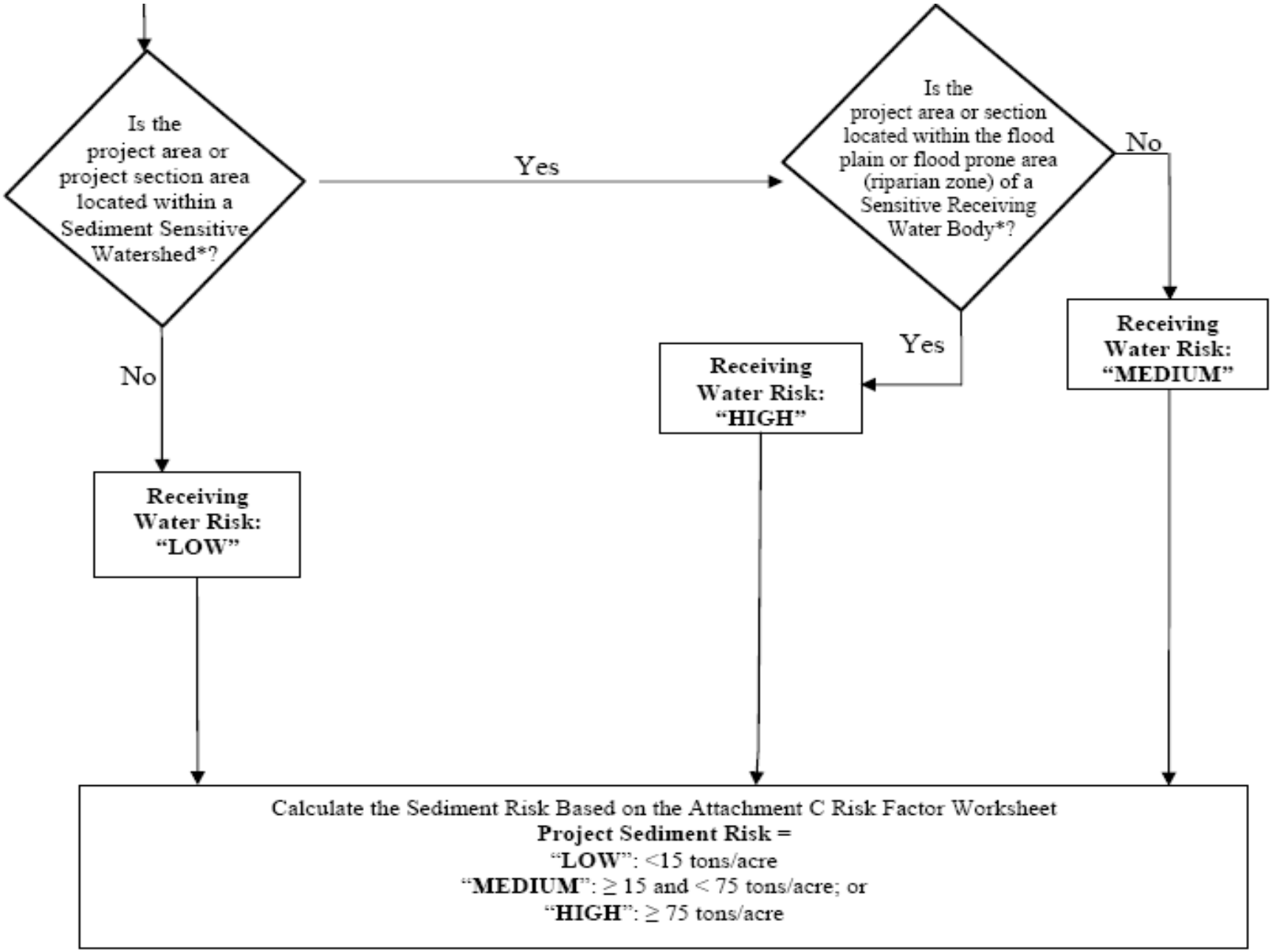
  method for BMP evaluation

3. LUP Risk Assessment

- Step 1: Follow the flow chart in Attachment A.1.
  - Projects in highly urban areas (over 70% paved) are automatically LUP Type 1
- Step 2: Proceed through the flow chart to determine Receiving Water Risk *for each segment*
- Step 3: Calculate Sediment Risk *for each segment* using Attachment C worksheet

ATTACHMENT A.1
LUP Project Area or Project Section Area Type Determination




Is the project area or project section area located within a Sediment Sensitive Watershed*?
Yes
Is the project area or section located within the flood plain or flood prone area (riparian zone) of a Sensitive Receiving Water Body*?
No
Yes
No
Receiving Water Risk: "LOW"
Receiving Water Risk: "HIGH"
Receiving Water Risk: "MEDIUM"
Calculate the Sediment Risk Based on the Attachment C Risk Factor Worksheet
Project Sediment Risk =
"LOW": <15 tons/acre
"MEDIUM": ≥ 15 and < 75 tons/acre; or
"HIGH": ≥ 75 tons/acre

Risk Assessment (continued)

		Project Sediment Risk		
		Low	**Medium**	**High**
Receiving Water Risk	**Low**	Type 1	Type 1	Type 2
	Medium	Type 1	Type 2	Type 3
	High	Type 2	Type 3	Type 3

Two ways to be Type 1 Project:

1. 70% or more of construction on paved surface and disturbed areas are returned to preconstruction conditions daily
2. Using chart above following risk assessment process

4. Sampling for LUP Projects

- Use defensible, representative sampling locations
- Sampling locations will be detailed in the SWPPP
- Document everything

5. Post Construction

- Linear construction projects are not required to meet post-construction hydrology requirements
- Must still stabilize project area after project is complete
  - Vegetative stabilization
  - Pavement

Common LUP BMPs

- Erosion Control
  - Hydroseed/tackifier
  - Rolled erosion control products
- Sediment Control
  - Fiber roll
  - Silt fence
  - Gravel bags

Common LUP BMPs (continued)

Access Road Controls

- **Overside Drain**
- Water bar
- Gravel

Common LUP BMPs (continued)

Access Road Controls

- Overside Drain
- **Water bar**
- Gravel

Common LUP BMPs (continued)

Pop Quiz

- What is the best way to reduce turbidity in runoff?

1. Perimeter controls
2. Erosion control
3. Inlet protection
4. Scheduling

Answer: #2 Erosion Control