Presentation of the Riverside County Copermittees

Jason Uhley

Chief of Watershed Protection

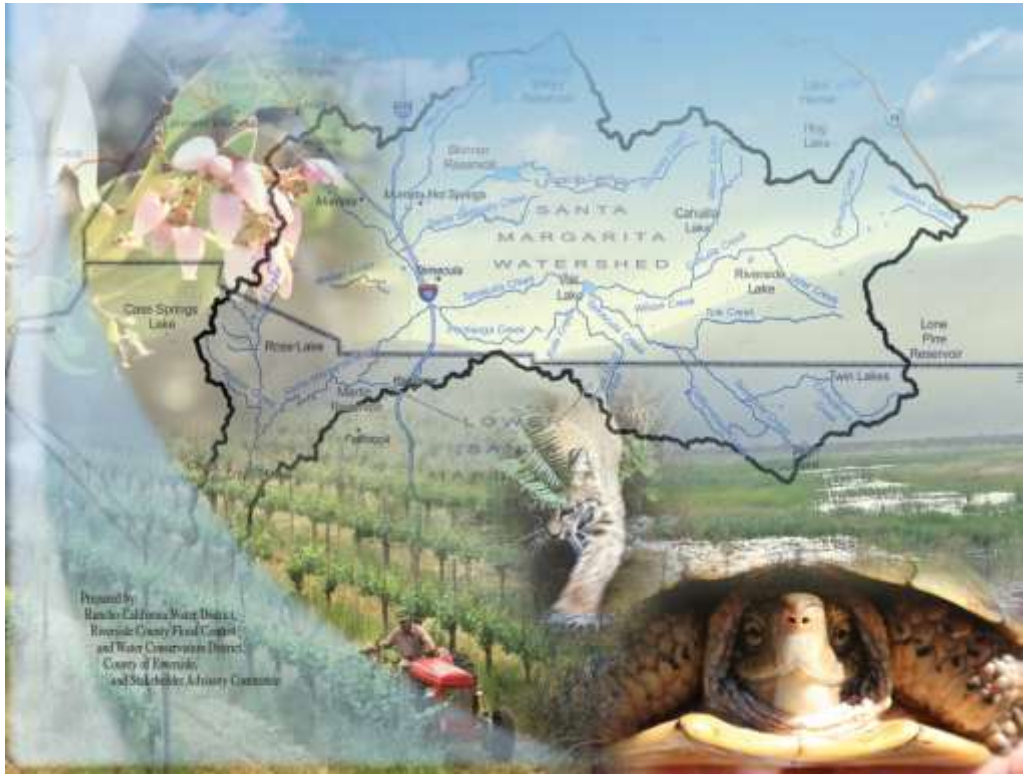
Riverside County Flood Control and Water Conservation District

ROWD

* Riverside County 2010 Permit Still Effective
* ROWD Will Potentially Reopen All Permit Issues
* Reform of the Tentative Order Will Reduce the Administrative Burden for the Board, Staff, Copermittees and other Stakeholders

Riverside County

A partner in protecting water resources



* Habitat Conservation
* Water Conservation
* Low Impact Development
* Flood Hazard Reduction

Staff's Goal: A time to be BOLD

* Adaptive
* Strategic
* Synergistic

Vision not realized

Changes are substantive

* 61 new pages of permit text due to edits
* 258 pages of response to comments
* 9 working days to review revisions

Direct Staff and Stakeholders to meet and resolve issues.

How do Permit changes stack up?

* New WQIP provisions are unnecessarily complex, cumbersome, and unattainable.

RWL Compliance Option Needs Work

(iii) Numeric goals for receiving waters that will protect the conditions of the receiving waters and attain water quality standards.

ISSUE – Allow WQIP to work

All program elements should be "adaptable", including Provisions C, D and E

* Use limited resources to achieve highest priority outcomes
* Balance Santa Ana and San Diego MS4 Permit programs where appropriate to improve program performance

WQIP revisions still subject to stakeholder and Board review

Other WQIP Comments

* Support related comments by Orange
* Water Quality Consultation Panels should advise, but not consent

How do Permit changes stack up?

* New WQIP provisions are unnecessarily complex, cumbersome, and unattainable.

* Revised Development Provisions interfere with nascent “best practice” habits

Existing vs. New Development Requirements

* Existing Permits
  * Retain Design Capture Volume onsite;
  * If infeasible; biotreat non-retained portion
  * If infeasible; consider other BMPs or alternatives

Inconsistent with statewide practice

MS4 Permit	Volume Based Biofiltration Option
2010 Riverside Co. Permit	X
2009 Orange Co. Permit	X
2009 Ventura Permit	X
2013 Phase II MS4 Permit	X
2012 Los Angeles Co. Permit	X
2009 Bay Area Permit	X

Inconsistent with statewide practice

MS4 Permit	Volume Based Biofiltration Option	Pollutant Load based Biofiltration Option
2010 Riverside Co. Permit	X	
2009 Orange Co. Permit	X	
2009 Ventura Permit	X	
2013 Phase II MS4 Permit	X	
2012 Los Angeles Co. Permit	X	
2009 Bay Area Permit	X	
This Tentative Order		X

Existing vs. New Development Requirements

* Existing Permits
  * Retain Design Capture Volume onsite;
  * If infeasible; biotreat non-retained portion
  * If infeasible; consider other BMPs or alternatives

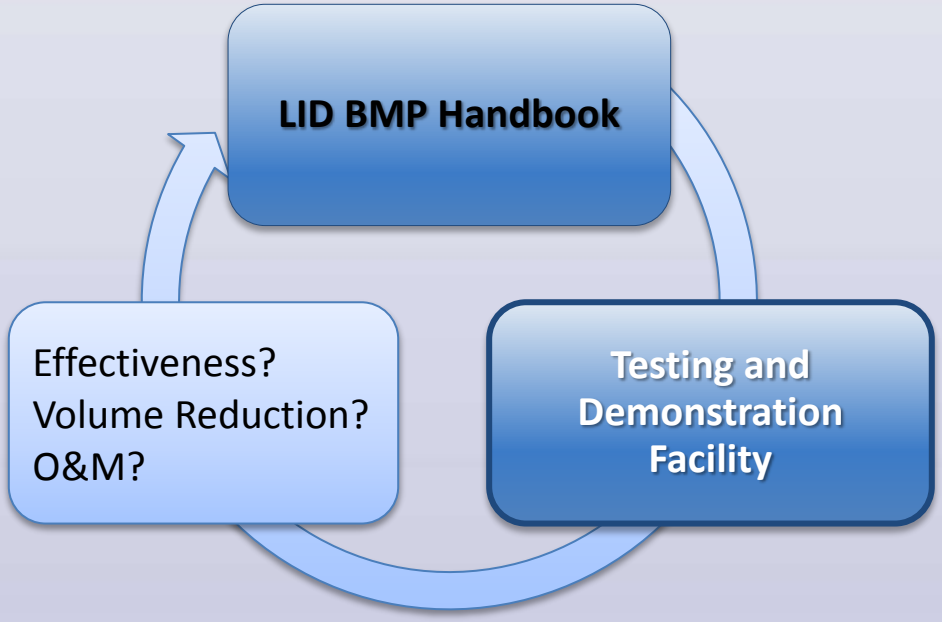
* This Permit
  * If you can't capture the water, capture the equivalent amount of pollutants

Functional equivalent to retention sounds like a simple standard - but

* Pollutant is specific to:
  * Development type
  * Downstream receiving waters
* Subject to acts of God
  * Spills
  * Illegal Activities
  * Extreme storms and weather
* Millions already invested in developing an effective development management plan IS JUST ROLLING OUT

New Development Program

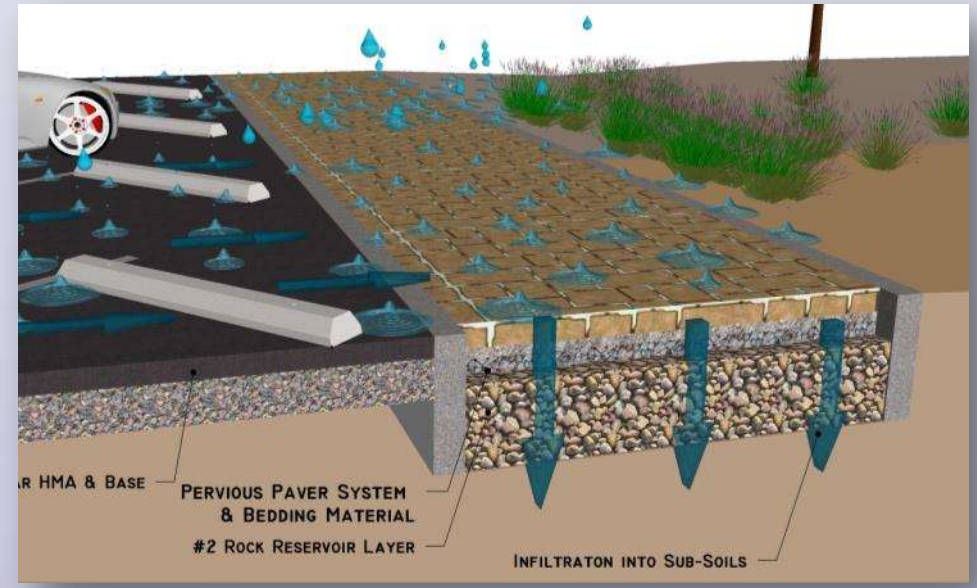
- Continuous improvement program for 2012 LID BMP Handbook



Riverside County

Multi-million dollar investment in LID

Permeable Pavers



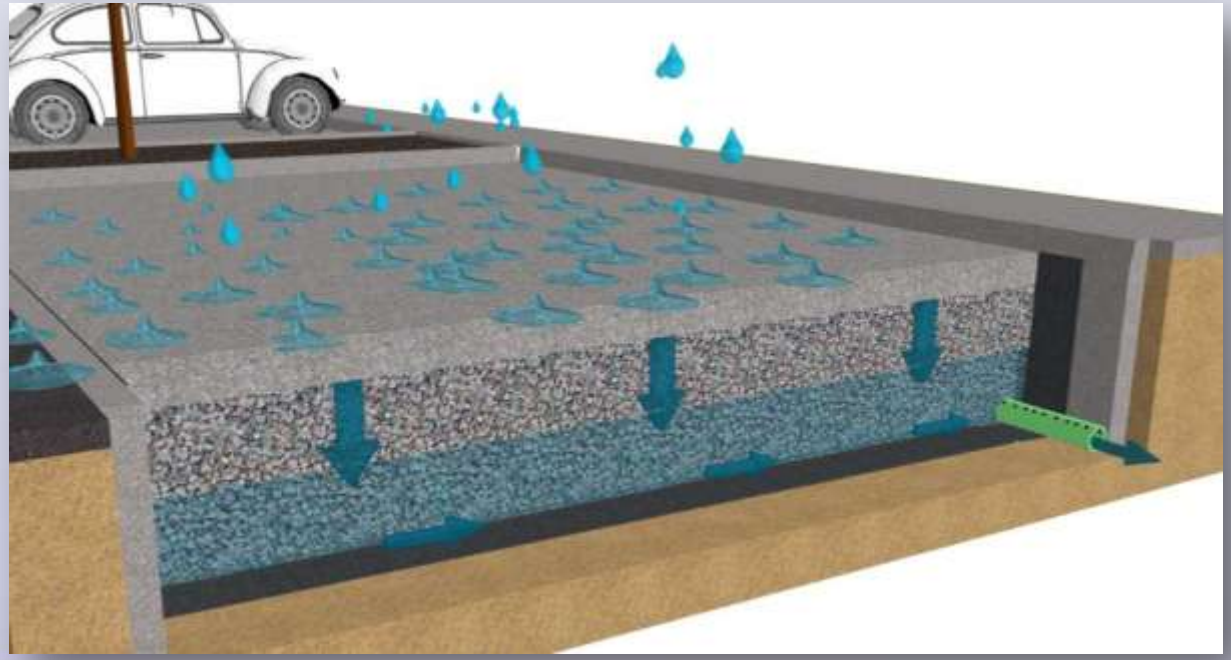
Testing / Observations:

- Design & Construction
- Durability
  - walkways vs. parking stalls vs. drive aisles
- Maintenance

Permeable Concrete (Parking stalls)

Testing / Observations:

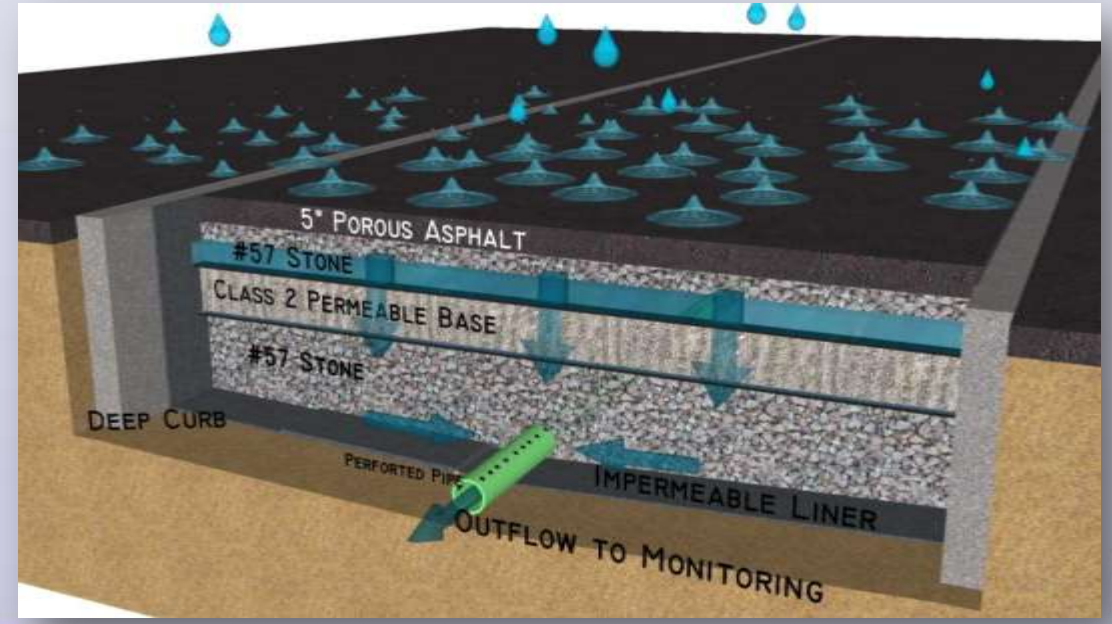
- Design & Construction
- Durability
- Maintenance
- Water Quality
- Volume / Hydrograph changes



Permeable Asphalt (drive aisle)

Testing / Observations:

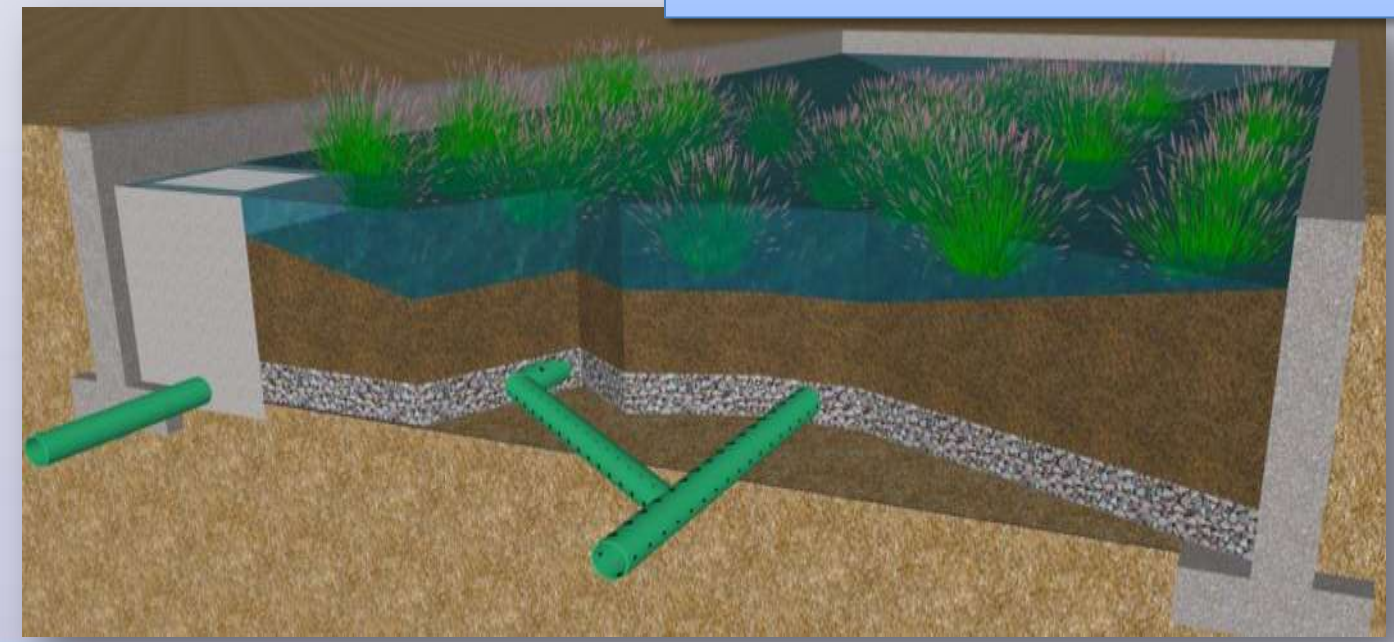
- Design & Construction
- Durability
- Maintenance
- Water Quality improvements
- Volume / Hydrograph changes



Biofiltration (in-ground)

Testing / Observations:

- Design & Construction
- Vegetation Durability
- Engineered Media performance
- Maintenance
- Water Quality (as Bioretention)
- Water Quality (as a swale)
- Volume / Hydrograph changes



Biofiltration (above-ground planter boxes)

Testing / Observations:

- Design & Construction considerations
- Vegetation Durability
- Engineered Media performance
- Maintenance considerations
- Water Quality improvements (through soil media)
- Volume / Hydrograph changes

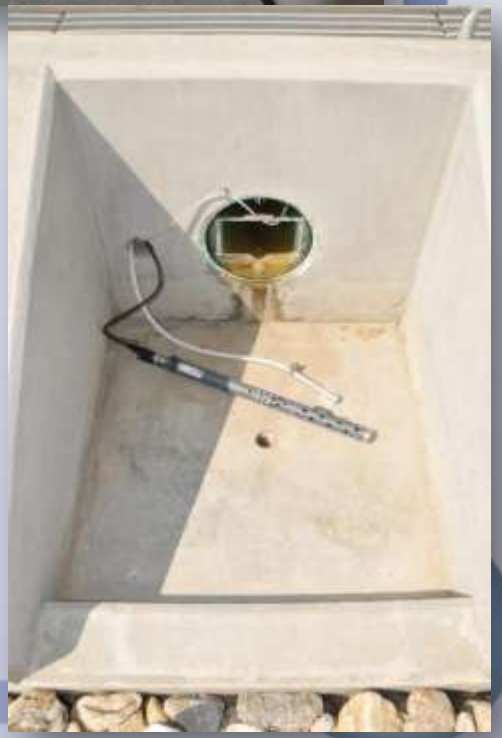
Infiltration Basin

Testing / Observations:

- Design & Construction Infiltration Characteristics over time
- Maintenance

Monitoring Station

- 10 automated composite samplers
- Flow Meters




ASCE

(1) Storm Water Pollutant Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite structural BMPs to control pollutants in storm water that may be discharged from a project as follows:

(a) Each Priority Development Project must be required to implement LID BMPs that are designed to retain (i.e. intercept, store, infiltrate, evaporate, and evapotranspire) onsite ~~100 percent of the pollutants contained in~~ the volume of storm water runoff produced from a 24-hour 85th percentile storm event (design capture volume):[25]

(b) If a Copermittee determines that implementing BMPs to retain the full design capture volume onsite for a Priority Development Project is not technically feasible, then the Copermittee may allow the Priority Development Project to utilize flow-thru treatment control BMPs to treat the design capture volume ~~to achieve the equivalent pollutant load removal~~ described in Provision E.3.c.(1)(a).

(i) Biofiltration LID BMPs must be considered as a first option before other types of flow-thru treatment control BMPs may be considered. The total volume of the Biofiltration BMPs, including pore spaces and pre-filter detention volume, shall be sized to hold at least 0.75 times the portion of the design capture volume that is not otherwise retained onsite.

~~(i)~~(ii) If Biofiltration is not feasible, a priority development project is allowed to utilize other flow-thru treatment control BMPs pursuant to Provision E.3.c.(1)(d) below.

David Garcia

Senior Civil Engineer

Riverside County Flood Control and Water Conservation District

Three items of concern

1. **Sediment Transport**

Hydromod Management BMP RequirementsE.3.c.(2)

2. **Alternative Compliance Program** to Onsite Structural BMP Implementation E.3.c.(3) page 96

3. **Proposed- Flood Control Projects Exemption**

Concern 1: Sediment Transport Hydromod Management BMP Requirements E.3.c.(2)

New Permit requirement:

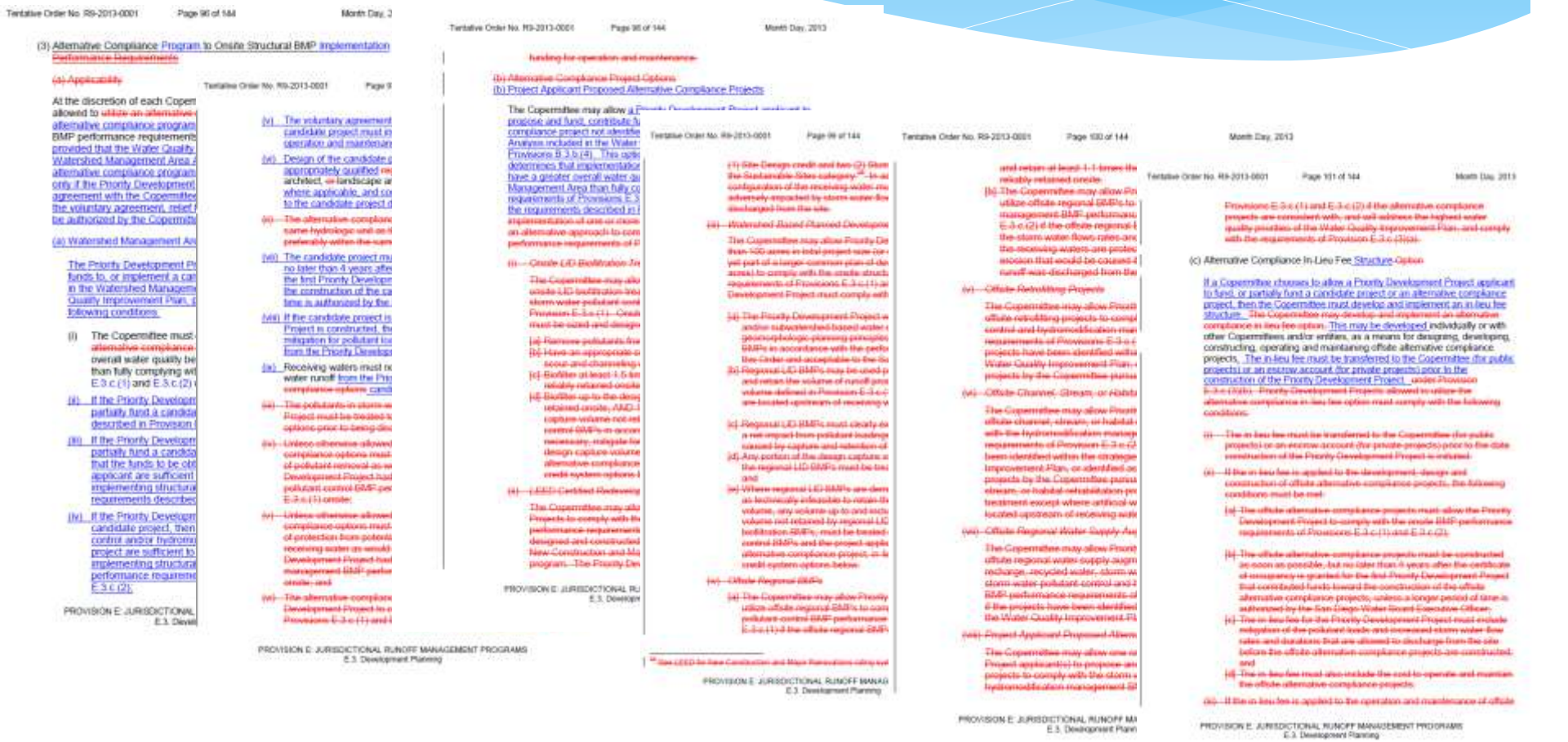
Each Priority Development Project must avoid known critical sediment yield areas or implement measures that allow coarse sediment to be discharged to receiving waters, such that the sediment supply is unaffected by the project.

Recommendation:

E.3.c.(2)(b)

(b) Each Priority Development Project must avoid impacts to receiving waters from known critical sediment yield areas or implement measures that allow coarse sediment to be discharged to receiving waters, such that the ~~sediment supply~~receiving water is unaffected by the project to the MEP.

Concern 2: Alternative Compliance Program to Onsite Structural BMP Implementation E.3.c.(3)



Alternative Compliance Program

Goal: Provide opportunity for cost effective multi-purpose, multi-function regional projects

* Leverage third party resources
* Facilitates watershed scale solutions

Complications- prescription potentially negates benefit

Alternative Compliance Issues

-No alternative compliance option for Critical Sediment Yield areas

-Temporary mitigation required

Concern 2: Recommendations

E.3.c.(2)(c) and (d)

(c) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the performance requirements of Provision E.3.c.(2)(a)-(b). The Priority Development Project must mitigate for the post-project runoff conditions not fully managed onsite if Provision E.3.(c)(3) is utilized.

(d) Exemptions

Each Copermittee has the discretion to exempt a Priority Development Project from the hydromodification management BMP performance requirements of Provisions E.3.c.(2)(a)-(b) where the project discharges storm water runoff to:

Remove E.3.c.(3)(a) viii and ix

~~(viii) If the candidate project is constructed after the Priority Development Project is constructed, the Copermittee must require temporal mitigation for pollutant loads and altered flows that are discharged from the Priority Development Project; and~~

~~(ix) Receiving waters must not be utilized to convey untreated storm water runoff from the Priority Development Project to the candidate project;~~

Concern 3: Need Flood Control Project Exemption

Our mission: Protect our watersheds

Flood control projects are watershed protection projects, they consist of:

-Flood risk reduction
-Protection from catastrophic environmental disasters.
-Erosion mitigation
-Stream restoration
-Slope stability
-Water reclamation

Concern 3: Need Flood Control Project Exemption

Response to comments (E3B-3) Pg. 166

The San Diego Water Board further disagrees that there should be exemptions for emergency projects or flood control projects….The San Diego Water Board believes that it may be suitable to relax the structural BMP standards for, or exempt flood control projects, but not before projects are evaluated on a case-by-case basis.

* We do not see the flexibility provided for in the permit

Concern 3: Recommendations

Proposed E.3.b.(3)(c)

~~(b)~~(c) Flood control and watershed management projects that have minimized the need for impervious surfaces to the MEP, consistent with requirements to protect public health and safety.

Concern 3: Recommendations cont..

Maintenance is critical

Add Language from LA Permit to the Attachment C: Definition of "Redevelopment:

Redevelopment - The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing existing roadways; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; ~~and~~ routine replacement of damaged pavement, such as pothole repair; and routine maintenance to maintain original line and grade, hydraulic capacity or original purpose of facility; and emergency construction activities required to immediately protect public health and safety.

Patricia Romo

Assistant Director
Riverside County Transportation and Land Management Agency

Transportation Projects

- Linear
- Publicly funded
- Limited public right of way

Transportation Projects

- **Add "Redevelopment" Projects to Provision E.3.(b)(3)(b) – PDP**

- **Exemptions - Provide for USEPA Green Streets Guidance**
  - Redevelopment Projects
    - Constraints
      - Limited ROW
      - Linear in Nature
      - Utilities
      - Strict Timelines on State and Federal Funding
      - Improvements required for Public Safety

Transportation Projects

* **Consistency with Provisions of Riverside County MS4 Permit (R9-2010-0016) and other So. Cal. Existing MS4 Permits**
  - Riv. Co. WQMP/TPG submitted July 2, 2012
  - Provides for certainty in 2015

* **Benefits of TPG**
  - Would incorporate LID BMPs to the MEP
  - Allows time sensitive projects to proceed without delay
  - Ensures projects do not get "shelved" due to costly individual projects
  - Eliminates need to condemn property for the purpose of treating runoff from site specific project
  - Meets Public expectation – Safe Roads
  - Reduces costly litigation from delaying needed road enhancements

Final Request

* Direct Staff and stakeholders to meet to resolve remaining permit issues and develop a broadly supported order.

* Consider specific redline provisions provided.

* Build Permit that is not only adaptive, strategic and synergistic; but also reasonable, cost effective and science-based.

(3) Priority Development Project Exemptions

Each Copermittee has the discretion to exempt the following projects from being defined as Priority Development Projects:

(a) New or retrofit paved sidewalks, bicycle lanes, or trails that meet the following criteria:

(i) Designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas; OR

(ii) Designed and constructed to be hydraulically disconnected from paved streets or roads; OR

(iii) Designed and constructed with permeable pavements or surfaces in accordance with USEPA Green Streets guidance.[23]

(b) New development, ~~R~~retrofitting or redevelopment of existing paved alleys, streets or roads that are designed and constructed in accordance with the USEPA Green Streets guidance.[24]

~~(b)~~(c) Flood control and watershed management projects that have minimized the need for impervious surfaces to the MEP, consistent with requirements to protect public health and safety.

c. PRIORITY DEVELOPMENT PROJECT STRUCTURAL BMP PERFORMANCE REQUIREMENTS

In addition to the BMP requirements listed for all development projects under Provision E.3.a, Priority Development Projects must also implement structural BMPs that conform to performance requirements described below.

(1) Storm Water Pollutant Control BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite structural BMPs to control pollutants in storm water that may be discharged from a project as follows:

(a) Each Priority Development Project must be required to implement LID BMPs that are designed to retain (i.e. intercept, store, infiltrate, evaporate, and evapotranspire) onsite ~~100 percent of the pollutants contained in~~ the volume of storm water runoff produced from a 24-hour 85th percentile storm event (design capture volume);[25]

[23] See "Managing Wet Weather with Green Infrastructure – Municipal Handbook: Green Streets" (USEPA, 2008).
[24] Ibid.
[25] This volume is not a single volume to be applied to all areas covered by this Order. The size of the 85th percentile storm event is different for various parts of the San Diego Region. The Copermittees are

(b) If a Copermittee determines that implementing BMPs to retain the full design capture volume onsite for a Priority Development Project is not technically feasible, then the Copermittee may allow the Priority Development Project to utilize flow-thru treatment control BMPs to treat the design capture volume ~~to achieve the equivalent pollutant load removal~~ described in Provision E.3.c.(1)(a).

(i) Biofiltration LID BMPs must be considered as a first option before other types of flow-thru treatment control BMPs may be considered. The total volume of the Biofiltration BMPs, including pore spaces and pre-filter detention volume, shall be sized to hold at least 0.75 times the portion of the design capture volume that is not otherwise retained onsite.

~~(i)~~(ii) If Biofiltration is not feasible, a priority development project is allowed to utilize other flow-thru treatment control BMPs pursuant to Provision E.3.c.(1)(d) below.

~~(b)~~(c) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the storm water pollutant control BMP performance requirements of Provision E.3.c.(1)(a). The Priority Development Project alternative compliance project must mitigate for the portion of the pollutant load in the design capture volume not retained onsite if Provision E.3.(c)(3) is utilized.

~~(c)~~(d) ~~If a Priority Development project is allowed to utilize alternative compliance, flow-thru treatment control BMPs must be implemented to treat the portion of the design capture volume that is not retained onsite.~~ Flow-thru treatment control BMPs must be sized and designed to:

(i) Remove pollutants from storm water to the MEP;

(ii) Filter or treat either: 1) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event, or 2) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two;

(iii) Be ranked with high or medium pollutant removal efficiency for the Priority Development Project's most significant pollutants of concern. Flow-thru treatment control BMPs with a low removal efficiency ranking must only be approved by a Copermittee when a feasibility

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to areas where insufficient data exists in order to determine the volume of the local 85th percentile storm event in such areas. Where the Copermittees will use isopluvial maps to determine the 85th percentile storm event in areas lacking rain data, the Copermittees must describe their method for using isopluvial maps in its BMP Design Manuals.

analysis has been conducted which exhibits that implementation of flow-thru treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.

(2) Hydromodification Management BMP Requirements

Each Copermittee must require each Priority Development Project to implement onsite BMPs to manage hydromodification that may be caused by storm water runoff discharged from a project as follows:

(a) Post-project runoff conditions (flow rates and durations) must not exceed pre-development runoff conditions by more than 10 percent (for the range of flows that result in increased potential for erosion, or degraded instream habitat downstream of Priority Development Projects).

(i) In evaluating the range of flows that results in increased potential for erosion of natural (non-hardened) channels, the lower boundary must correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks.

(ii) The Copermittees may use monitoring results collected pursuant to Provision D.1.a.(2) to re-define the range of flows resulting in increased potential for erosion, or degraded instream habitat conditions, as warranted by the data.

(b) Each Priority Development Project must avoid impacts to receiving waters from known critical sediment yield areas or implement measures that allow coarse sediment to be discharged to receiving waters, such that the ~~sediment supply~~receiving water is unaffected by the project to the MEP.

(c) A Priority Development Project may be allowed to utilize alternative compliance under Provision E.3.c.(3) in lieu of complying with the performance requirements of Provision E.3.c.(2)(a)-(b). The Priority Development Project must mitigate for the post-project runoff conditions not fully managed onsite if Provision E.3.(c)(3) is utilized.

(d) Exemptions

Each Copermittee has the discretion to exempt a Priority Development Project from the hydromodification management BMP performance requirements of Provisions E.3.c.(2)(a)-(b) where the project discharges storm water runoff to:

(i) Existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific

(v) The voluntary agreement to fund, partially fund, or implement a candidate project must include reliable sources of funding for operation and maintenance of the candidate project;

(vi) Design of the candidate project must be conducted under an appropriately qualified engineer, geologist, architect, landscape architect, or other professional, licenses where applicable, and competent and proficient in the fields pertinent to the candidate project design; and

(vii) The candidate project must be constructed as soon as possible, but no later than 4 years after the certificate of occupancy is granted for the first Priority Development Project that contributed funds toward the construction of the candidate project, unless a longer period of time is authorized by the San Diego Water Board Executive Officer.; and

~~(viii) If the candidate project is constructed after the Priority Development Project is constructed, the Copermittee must require temporal mitigation for pollutant loads and altered flows that are discharged from the Priority Development Project; and~~

~~(ix) Receiving waters must not be utilized to convey untreated storm water runoff from the Priority Development Project to the candidate project;~~

(b) Project Applicant Proposed Alternative Compliance Projects

The Copermittee may allow a Priority Development Project applicant to propose and fund, contribute funds to, or implement an alternative compliance project not identified by the Watershed Management Area Analysis included in the Water Quality Improvement Plan pursuant to Provisions B.3.b.(4). This option is allowed provided the Copermittee determines that implementation of the alternative compliance project will have a greater overall water quality benefit for the Watershed Management Area than fully complying with the performance requirements of Provisions E.3.c.(1) and E.3.c.(2) onsite, and is subject to the requirements described in Provisions E.3.c.(3)(a)(ii)-(~~ix~~vii).

(c) Alternative Compliance In-Lieu Fee Structure

If a Copermittee chooses to allow a Priority Development Project applicant to fund, or partially fund a candidate project or an alternative compliance project, then the Copermittee must develop and implement an in-lieu fee structure. This may be developed individually or with other Copermittees and/or entities, as a means for designing, developing, constructing, operating and maintaining offsite alternative compliance projects. The in-lieu fee must be transferred to the Copermittee (for public projects) or an escrow account (for private projects) prior to the construction of the

Receiving Water Limitations - Waste discharge requirements issued by the San Diego Water Board typically include both: (1) "Effluent Limitations" (or "Discharge Limitations") that specify the technology-based or water-quality-based effluent limitations; and (2) "Receiving Water Limitations" that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the "Receiving Water Limitations" provision is the provision used to implement the requirements of CWA section 402(p)(3)(B).

Redevelopment - The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing existing roadways; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; ~~and~~ routine replacement of damaged pavement, such as pothole repair; and routine maintenance to maintain original line and grade, hydraulic capacity or original purpose of facility; and emergency construction activities required to immediately protect public health and safety.

Regional Clearinghouse – A central location for the collection and distribution of information developed and maintained by the Copermittees including, but not limited to, plans, reports, manuals, data, contact information, and/or links to such documents and information.

Rehabilitation - Remedial measures or activities for the purpose of improving or restoring the beneficial uses of streams, channels or river systems. Techniques may vary from in-stream restoration techniques to off-linestormwater management practices installed in the system corridor or upland areas, or a combination of in-stream and out of stream techniques. Rehabilitation techniques may include, but are not limited to the following: riparian zone restoration, constructed wetlands, channel modifications that improve habitat and stability, and daylighting of drainage systems.

Reporting Period – The period of information that is reported in the Water Quality Improvement Plan Annual Report. The reporting period consists of two components: 1) July 1 to June 30, consistent with the fiscal year, for the implementation of the jurisdictional runoff management programs, and 2) October 1 to September 30, consistent with the monitoring year for the monitoring and assessment programs. Together, these two time periods constitute the reporting year for the Water Quality Improvement Plan Annual Report due January 31 following the end of the monitoring year.

Retain –Keep or hold in a particular place, condition, or position without discharge to surface waters.

Retrofitting – Storm water management practice put into place after development has occurred in watersheds where the practices previously did not exist or are ineffective. Retrofitting of developed areas is intended to improve water quality, protect downstream channels, reduce flooding, or meet other specific objectives. Retrofitting developed areas may include, but is not limited to replacing roofs with green roofs, disconnecting downspouts or impervious surfaces to drain to pervious surfaces, replacing impervious surfaces with pervious surfaces, installing rain barrels, installing rain gardens, and trash area enclosures.

Runoff - All flows in a storm water conveyance system that consists of the following